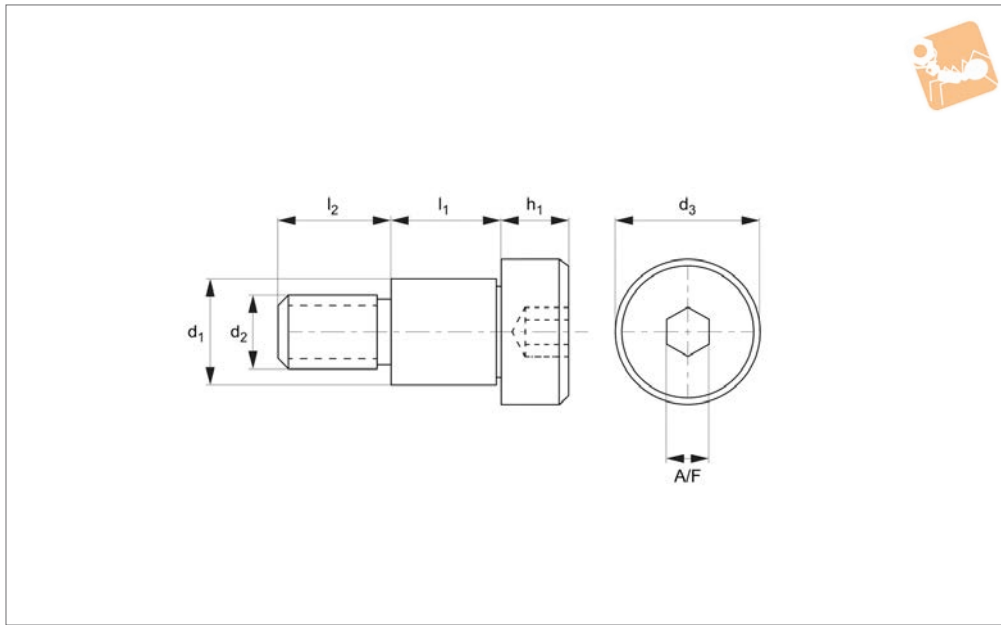




# Shoulder Screws - Cap Head

hex drive - 303 stainless

## Shoulder Screws



**P0130.A2**

SHOULDER SCREWS

### Material

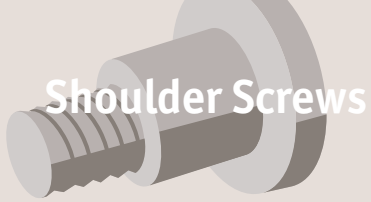
Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.

### Technical Notes

303 series stainless steel provides good resistance to corrosion. It is mildly magnetic.

For torx drive versions please see P0145. Special lengths and diameters produced to drawings.

Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0130.030-002-A2	3	2	M 2	5	4	2	1.5
P0130.030-003-A2	3	3	M 2	5	4	2	1.5
P0130.030-004-A2	3	4	M 2	5	4	2	1.5
P0130.030-005-A2	3	5	M 2	5	4	2	1.5
P0130.030-006-A2	3	6	M 2	5	4	2	1.5
P0130.030-007-A2	3	7	M 2	5	4	2	1.5
P0130.030-008-A2	3	8	M 2	5	4	2	1.5
P0130.030-010-A2	3	10	M 2	5	4	2	1.5
P0130.030-012-A2	3	12	M 2	5	4	2	1.5
P0130.030-014-A2	3	14	M 2	5	4	2	1.5
P0130.030-016-A2	3	16	M 2	5	4	2	1.5
P0130.030-018-A2	3	18	M 2	5	4	2	1.5
P0130.030-020-A2	3	20	M 2	5	4	2	1.5
P0130.030-025-A2	3	25	M 2	5	4	2	1.5
P0130.040-002-A2	4	2	M 3	6	4	3	2.0
P0130.040-003-A2	4	3	M 3	6	4	3	2.0
P0130.040-004-A2	4	4	M 3	6	4	3	2.0
P0130.040-005-A2	4	5	M 3	6	4	3	2.0
P0130.040-006-A2	4	6	M 3	6	4	3	2.0
P0130.040-007-A2	4	7	M 3	6	4	3	2.0
P0130.040-008-A2	4	8	M 3	6	4	3	2.0
P0130.040-010-A2	4	10	M 3	6	4	3	2.0
P0130.040-012-A2	4	12	M 3	6	4	3	2.0
P0130.040-014-A2	4	14	M 3	6	4	3	2.0
P0130.040-016-A2	4	16	M 3	6	4	3	2.0
P0130.040-018-A2	4	18	M 3	6	4	3	2.0
P0130.040-020-A2	4	20	M 3	6	4	3	2.0
P0130.040-025-A2	4	25	M 3	6	4	3	2.0
P0130.040-030-A2	4	30	M 3	6	4	3	2.0
P0130.040-035-A2	4	35	M 3	6	4	3	2.0
P0130.040-040-A2	4	40	M 3	6	4	3	2.0
P0130.040-045-A2	4	45	M 3	6	4	3	2.0
P0130.040-050-A2	4	50	M 3	6	4	3	2.0
P0130.050-002-A2	5	2	M 4	8	5	4	2.5



# Shoulder Screws

# Shoulder Screws - Cap Head

hex drive - 303 stainless



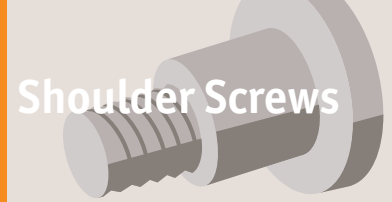
SHOULDER SCREWS

Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0130.050-003-A2	5	3	M 4	8	5	4	2.5
P0130.050-004-A2	5	4	M 4	8	5	4	2.5
P0130.050-005-A2	5	5	M 4	8	5	4	2.5
P0130.050-006-A2	5	6	M 4	8	5	4	2.5
P0130.050-007-A2	5	7	M 4	8	5	4	2.5
P0130.050-008-A2	5	8	M 4	8	5	4	2.5
P0130.050-010-A2	5	10	M 4	8	5	4	2.5
P0130.050-012-A2	5	12	M 4	8	5	4	2.5
P0130.050-014-A2	5	14	M 4	8	5	4	2.5
P0130.050-016-A2	5	16	M 4	8	5	4	2.5
P0130.050-018-A2	5	18	M 4	8	5	4	2.5
P0130.050-020-A2	5	20	M 4	8	5	4	2.5
P0130.050-025-A2	5	25	M 4	8	5	4	2.5
P0130.050-030-A2	5	30	M 4	8	5	4	2.5
P0130.050-035-A2	5	35	M 4	8	5	4	2.5
P0130.050-040-A2	5	40	M 4	8	5	4	2.5
P0130.050-045-A2	5	45	M 4	8	5	4	2.5
P0130.050-050-A2	5	50	M 4	8	5	4	2.5
P0130.060-002-A2	6	2	M 5	10	6	5	3.0
P0130.060-003-A2	6	3	M 5	10	6	5	3.0
P0130.060-004-A2	6	4	M 5	10	6	5	3.0
P0130.060-005-A2	6	5	M 5	10	6	5	3.0
P0130.060-006-A2	6	6	M 5	10	6	5	3.0
P0130.060-007-A2	6	7	M 5	10	6	5	3.0
P0130.060-008-A2	6	8	M 5	10	6	5	3.0
P0130.060-010-A2	6	10	M 5	10	6	5	3.0
P0130.060-012-A2	6	12	M 5	10	6	5	3.0
P0130.060-014-A2	6	14	M 5	10	6	5	3.0
P0130.060-016-A2	6	16	M 5	10	6	5	3.0
P0130.060-018-A2	6	18	M 5	10	6	5	3.0
P0130.060-020-A2	6	20	M 5	10	6	5	3.0
P0130.060-025-A2	6	25	M 5	10	6	5	3.0
P0130.060-030-A2	6	30	M 5	10	6	5	3.0
P0130.060-035-A2	6	35	M 5	10	6	5	3.0
P0130.060-040-A2	6	40	M 5	10	6	5	3.0
P0130.060-045-A2	6	45	M 5	10	6	5	3.0
P0130.060-050-A2	6	50	M 5	10	6	5	3.0
P0130.060-055-A2	6	55	M 5	10	6	5	3.0
P0130.060-060-A2	6	60	M 5	10	6	5	3.0
P0130.060-070-A2	6	70	M 5	10	6	5	3.0
P0130.060-080-A2	6	80	M 5	10	6	5	3.0
P0130.060-090-A2	6	90	M 5	10	6	5	3.0
P0130.060-100-A2	6	100	M 5	10	6	5	3.0
P0130.080-004-A2	8	4	M 6	12	11	6	4.0
P0130.080-005-A2	8	5	M 6	12	11	6	4.0
P0130.080-006-A2	8	6	M 6	12	11	6	4.0
P0130.080-007-A2	8	7	M 6	12	11	6	4.0
P0130.080-008-A2	8	8	M 6	12	11	6	4.0
P0130.080-010-A2	8	10	M 6	12	11	6	4.0
P0130.080-012-A2	8	12	M 6	12	11	6	4.0
P0130.080-014-A2	8	14	M 6	12	11	6	4.0
P0130.080-016-A2	8	16	M 6	12	11	6	4.0
P0130.080-018-A2	8	18	M 6	12	11	6	4.0
P0130.080-020-A2	8	20	M 6	12	11	6	4.0
P0130.080-025-A2	8	25	M 6	12	11	6	4.0
P0130.080-030-A2	8	30	M 6	12	11	6	4.0
P0130.080-035-A2	8	35	M 6	12	11	6	4.0
P0130.080-040-A2	8	40	M 6	12	11	6	4.0
P0130.080-045-A2	8	45	M 6	12	11	6	4.0
P0130.080-050-A2	8	50	M 6	12	11	6	4.0
P0130.080-055-A2	8	55	M 6	12	11	6	4.0
P0130.080-060-A2	8	60	M 6	12	11	6	4.0
P0130.080-065-A2	8	65	M 6	12	11	6	4.0
P0130.080-070-A2	8	70	M 6	12	11	6	4.0
P0130.080-075-A2	8	75	M 6	12	11	6	4.0
P0130.080-080-A2	8	80	M 6	12	11	6	4.0
P0130.080-090-A2	8	90	M 6	12	11	6	4.0
P0130.080-100-A2	8	100	M 6	12	11	6	4.0



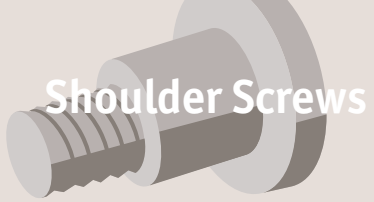
# Shoulder Screws - Cap Head

hex drive - 303 stainless



Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0130.100-008-M6	10	8	M 6	14	11	7	5.0
P0130.100-010-M6	10	10	M 6	14	11	7	5.0
P0130.100-012-M6	10	12	M 6	14	11	7	5.0
P0130.100-016-M6	10	16	M 6	14	11	7	5.0
P0130.100-008-M8	10	8	M 8	14	12	7	5.0
P0130.100-010-M8	10	10	M 8	14	12	7	5.0
P0130.100-012-M8	10	12	M 8	14	12	7	5.0
P0130.100-014-M8	10	14	M 8	14	12	7	5.0
P0130.100-016-M8	10	16	M 8	14	12	7	5.0
P0130.100-018-M8	10	18	M 8	14	12	7	5.0
P0130.100-020-M8	10	20	M 8	14	12	7	5.0
P0130.100-025-M8	10	25	M 8	14	12	7	5.0
P0130.100-030-M8	10	30	M 8	14	12	7	5.0
P0130.100-035-M8	10	35	M 8	14	12	7	5.0
P0130.100-040-M8	10	40	M 8	14	12	7	5.0
P0130.100-045-M8	10	45	M 8	14	12	7	5.0
P0130.100-050-M8	10	50	M 8	14	12	7	5.0
P0130.100-055-M8	10	55	M 8	14	12	7	5.0
P0130.100-060-M8	10	60	M 8	14	12	7	5.0
P0130.100-065-M8	10	65	M 8	14	12	7	5.0
P0130.100-070-M8	10	70	M 8	14	12	7	5.0
P0130.100-080-M8	10	80	M 8	14	12	7	5.0
P0130.100-090-M8	10	90	M 8	14	12	7	5.0
P0130.100-100-M8	10	100	M 8	14	12	7	5.0
P0130.120-008-A2	12	8	M 10	20	16	8	6.0
P0130.120-010-A2	12	10	M 10	20	16	8	6.0
P0130.120-012-A2	12	12	M 10	20	16	8	6.0
P0130.120-014-A2	12	14	M 10	20	16	8	6.0
P0130.120-016-A2	12	16	M 10	20	16	8	6.0
P0130.120-018-A2	12	18	M 10	20	16	8	6.0
P0130.120-020-A2	12	20	M 10	20	16	8	6.0
P0130.120-025-A2	12	25	M 10	20	16	8	6.0
P0130.120-030-A2	12	30	M 10	20	16	8	6.0
P0130.120-035-A2	12	35	M 10	20	16	8	6.0
P0130.120-040-A2	12	40	M 10	20	16	8	6.0
P0130.120-045-A2	12	45	M 10	20	16	8	6.0
P0130.120-050-A2	12	50	M 10	20	16	8	6.0
P0130.120-055-A2	12	55	M 10	20	16	8	6.0
P0130.120-060-A2	12	60	M 10	20	16	8	6.0
P0130.120-065-A2	12	65	M 10	20	16	8	6.0
P0130.120-070-A2	12	70	M 10	20	16	8	6.0
P0130.120-075-A2	12	75	M 10	20	16	8	6.0
P0130.120-080-A2	12	80	M 10	20	16	8	6.0
P0130.120-090-A2	12	90	M 10	20	16	8	6.0
P0130.120-100-A2	12	100	M 10	20	16	8	6.0
P0130.160-025-A2	16	25	M 12	24	18	11	8.0
P0130.160-030-A2	16	30	M 12	24	18	11	8.0
P0130.160-035-A2	16	35	M 12	24	18	11	8.0
P0130.160-040-A2	16	40	M 12	24	18	11	8.0
P0130.160-045-A2	16	45	M 12	24	18	11	8.0
P0130.160-050-A2	16	50	M 12	24	18	11	8.0
P0130.160-055-A2	16	55	M 12	24	18	11	8.0
P0130.160-060-A2	16	60	M 12	24	18	11	8.0
P0130.160-065-A2	16	65	M 12	24	18	11	8.0
P0130.160-070-A2	16	70	M 12	24	18	11	8.0
P0130.160-075-A2	16	75	M 12	24	18	11	8.0
P0130.160-080-A2	16	80	M 12	24	18	11	8.0
P0130.160-090-A2	16	90	M 12	24	18	11	8.0
P0130.160-100-A2	16	100	M 12	24	18	11	8.0
P0130.200-030-A2	20	30	M 16	30	22	14	10.0
P0130.200-035-A2	20	35	M 16	30	22	14	10.0
P0130.200-040-A2	20	40	M 16	30	22	14	10.0
P0130.200-045-A2	20	45	M 16	30	22	14	10.0
P0130.200-050-A2	20	50	M 16	30	22	14	10.0
P0130.200-055-A2	20	55	M 16	30	22	14	10.0
P0130.200-060-A2	20	60	M 16	30	22	14	10.0
P0130.200-065-A2	20	65	M 16	30	22	14	10.0
P0130.200-070-A2	20	70	M 16	30	22	14	10.0

SHOULDER SCREWS



# Shoulder Screws

## Shoulder Screws - Cap Head hex drive - 303 stainless



Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0130.200-075-A2	20	75	M 16	30	22	14	10.0
P0130.200-080-A2	20	80	M 16	30	22	14	10.0
P0130.200-090-A2	20	90	M 16	30	22	14	10.0
P0130.200-100-A2	20	100	M 16	30	22	14	10.0

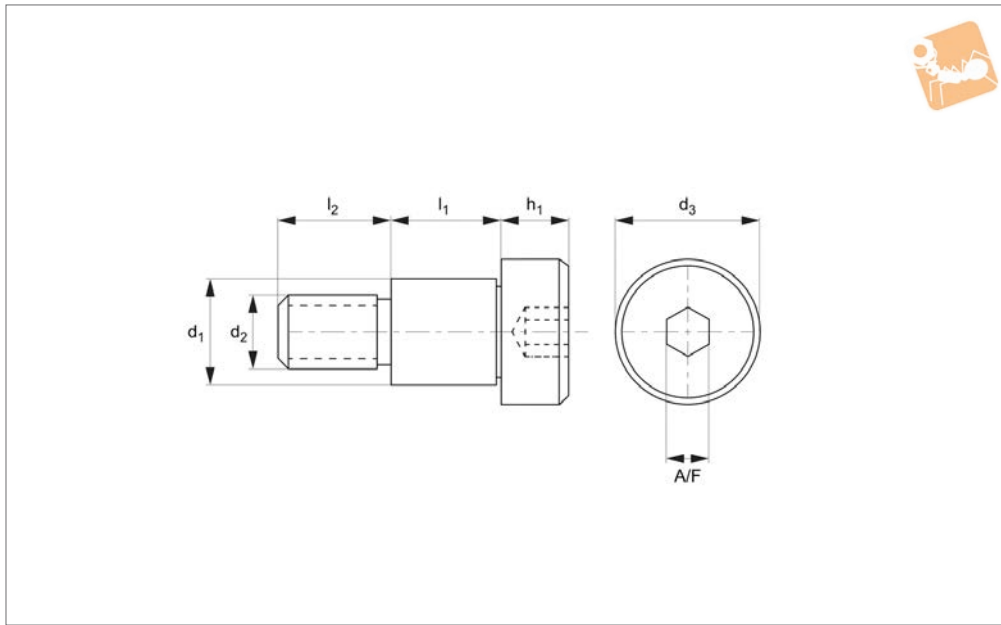
SHOULDER SCREWS



# Shoulder Screws - Cap Head

hex drive - 316 stainless

## Shoulder Screws



**P0130.A4**

SHOULDER SCREWS

**Material**

Stainless steel (AISI 316, 1.440).  
Tensile strength 480 N/mm<sup>2</sup>.  
Proof stress min. 200 N/mm<sup>2</sup>, austenitic

stainless steel.

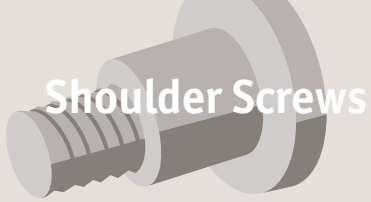
**Technical Notes**

Highly resistant to corrosion (including

from salt water).

Shim washers can be used to reduce shoulder length if required. It is non-magnetic.

Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0130.030-003-A4	3	3	M 2	5	4	2.0	1.5
P0130.030-004-A4	3	4	M 2	5	4	2.0	1.5
P0130.030-005-A4	3	5	M 2	5	4	2.0	1.5
P0130.030-006-A4	3	6	M 2	5	4	2.0	1.5
P0130.030-007-A4	3	7	M 2	5	4	2.0	1.5
P0130.030-008-A4	3	8	M 2	5	4	2.0	1.5
P0130.030-010-A4	3	10	M 2	5	4	2.0	1.5
P0130.040-004-A4	4	4	M 3	6	4	3.0	2.0
P0130.040-005-A4	4	5	M 3	6	4	3.0	2.0
P0130.040-006-A4	4	6	M 3	6	4	3.0	2.0
P0130.040-007-A4	4	7	M 3	6	4	3.0	2.0
P0130.040-008-A4	4	8	M 3	6	4	3.0	2.0
P0130.040-010-A4	4	10	M 3	6	4	3.0	2.0
P0130.040-012-A4	4	12	M 3	6	4	3.0	2.0
P0130.040-014-A4	4	14	M 3	6	4	3.0	2.0
P0130.040-016-A4	4	16	M 3	6	4	3.0	2.0
P0130.040-018-A4	4	18	M 3	6	4	3.0	2.0
P0130.040-020-A4	4	20	M 3	6	4	3.0	2.0
P0130.050-005-A4	5	5	M 4	8	5	4.0	2.5
P0130.050-006-A4	5	6	M 4	8	5	4.0	2.5
P0130.050-007-A4	5	7	M 4	8	5	4.0	2.5
P0130.050-008-A4	5	8	M 4	8	5	4.0	2.5
P0130.050-010-A4	5	10	M 4	8	5	4.0	2.5
P0130.050-012-A4	5	12	M 4	8	5	4.0	2.5
P0130.050-014-A4	5	14	M 4	8	5	4.0	2.5
P0130.050-016-A4	5	16	M 4	8	5	4.0	2.5
P0130.050-018-A4	5	18	M 4	8	5	4.0	2.5
P0130.050-020-A4	5	20	M 4	8	5	4.0	2.5
P0130.050-025-A4	5	25	M 4	8	5	4.0	2.5
P0130.050-030-A4	5	30	M 4	8	5	4.0	2.5
P0130.060-006-A4	6	6	M 5	10	6	5.0	3.0
P0130.060-007-A4	6	7	M 5	10	6	5.0	3.0
P0130.060-008-A4	6	8	M 5	10	6	5.0	3.0
P0130.060-010-A4	6	10	M 5	10	6	5.0	3.0



# Shoulder Screws

# Shoulder Screws - Cap Head

hex drive - 316 stainless



SHOULDER SCREWS

Order No.	$d_1$ +0 -0.025	$l_1$ +0.05 -0.0	$d_2$	$d_3$	$l_2$	$h_1$	A/F
P0130.060-012-A4	6	12	M 5	10	6	5.0	3.0
P0130.060-014-A4	6	14	M 5	10	6	5.0	3.0
P0130.060-016-A4	6	16	M 5	10	6	5.0	3.0
P0130.060-018-A4	6	18	M 5	10	6	5.0	3.0
P0130.060-020-A4	6	20	M 5	10	6	5.0	3.0
P0130.060-025-A4	6	25	M 5	10	6	5.0	3.0
P0130.060-030-A4	6	30	M 5	10	6	5.0	3.0
P0130.060-035-A4	6	35	M 5	10	6	5.0	3.0
P0130.060-040-A4	6	40	M 5	10	6	5.0	3.0
P0130.060-045-A4	6	45	M 5	10	6	5.0	3.0
P0130.060-050-A4	6	50	M 5	10	6	5.0	3.0
P0130.080-008-A4	8	8	M 6	12	11	6.0	4.0
P0130.080-010-A4	8	10	M 6	12	11	6.0	4.0
P0130.080-012-A4	8	12	M 6	12	11	6.0	4.0
P0130.080-014-A4	8	14	M 6	12	11	6.0	4.0
P0130.080-016-A4	8	16	M 6	12	11	6.0	4.0
P0130.080-018-A4	8	18	M 6	12	11	6.0	4.0
P0130.080-020-A4	8	20	M 6	12	11	6.0	4.0
P0130.080-025-A4	8	25	M 6	12	11	6.0	4.0
P0130.080-030-A4	8	30	M 6	12	11	6.0	4.0
P0130.080-035-A4	8	35	M 6	12	11	6.0	4.0
P0130.080-040-A4	8	40	M 6	12	11	6.0	4.0
P0130.080-045-A4	8	45	M 6	12	11	6.0	4.0
P0130.080-050-A4	8	50	M 6	12	11	6.0	4.0
P0130.100-008-A4	10	8	M 8	14	12	7.0	5.0
P0130.100-010-A4	10	10	M 8	14	12	7.0	5.0
P0130.100-012-A4	10	12	M 8	14	12	7.0	5.0
P0130.100-014-A4	10	14	M 8	14	12	7.0	5.0
P0130.100-016-A4	10	16	M 8	14	12	7.0	5.0
P0130.100-020-A4	10	20	M 8	14	12	7.0	5.0
P0130.100-025-A4	10	25	M 8	14	12	7.0	5.0
P0130.100-030-A4	10	30	M 8	14	12	7.0	5.0
P0130.100-035-A4	10	35	M 8	14	12	7.0	5.0
P0130.100-040-A4	10	40	M 8	14	12	7.0	5.0
P0130.100-045-A4	10	45	M 8	14	12	7.0	5.0
P0130.100-050-A4	10	50	M 8	14	12	7.0	5.0
P0130.100-055-A4	10	55	M 8	14	12	7.0	5.0
P0130.100-060-A4	10	60	M 8	14	12	7.0	5.0
P0130.100-065-A4	10	65	M 8	14	12	7.0	5.0
P0130.100-070-A4	10	70	M 8	14	12	7.0	5.0
P0130.120-008-A4	12	8	M 10	20	16	8.0	6.0
P0130.120-010-A4	12	10	M 10	20	16	8.0	6.0
P0130.120-012-A4	12	12	M 10	20	16	8.0	6.0
P0130.120-014-A4	12	14	M 10	20	16	8.0	6.0
P0130.120-016-A4	12	16	M 10	20	16	8.0	6.0
P0130.120-018-A4	12	18	M 10	20	16	8.0	6.0
P0130.120-020-A4	12	20	M 10	20	16	8.0	6.0
P0130.120-025-A4	12	25	M 10	20	16	8.0	6.0
P0130.120-030-A4	12	30	M 10	20	16	8.0	6.0
P0130.120-035-A4	12	35	M 10	20	16	8.0	6.0
P0130.120-040-A4	12	40	M 10	20	16	8.0	6.0
P0130.120-045-A4	12	45	M 10	20	16	8.0	6.0
P0130.120-050-A4	12	50	M 10	20	16	8.0	6.0
P0130.120-055-A4	12	55	M 10	20	16	8.0	6.0
P0130.120-060-A4	12	60	M 10	20	16	8.0	6.0
P0130.120-065-A4	12	65	M 10	20	16	8.0	6.0
P0130.120-070-A4	12	70	M 10	20	16	8.0	6.0
P0130.160-025-A4	16	25	M 12	24	18	11.0	8.0
P0130.160-030-A4	16	30	M 12	24	18	11.0	8.0
P0130.160-035-A4	16	35	M 12	24	18	11.0	8.0
P0130.160-040-A4	16	40	M 12	24	18	11.0	8.0
P0130.160-045-A4	16	45	M 12	24	18	11.0	8.0
P0130.160-050-A4	16	50	M 12	24	18	11.0	8.0
P0130.160-055-A4	16	55	M 12	24	18	11.0	8.0
P0130.160-060-A4	16	60	M 12	24	18	11.0	8.0
P0130.160-065-A4	16	65	M 12	24	18	11.0	8.0
P0130.160-070-A4	16	70	M 12	24	18	11.0	8.0
P0130.160-075-A4	16	75	M 12	24	18	11.0	8.0



# Shoulder Screws - Cap Head

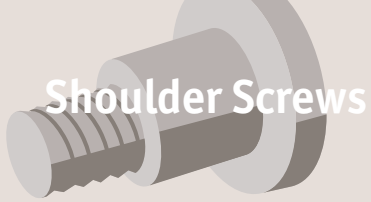
hex drive - 316 stainless

## Shoulder Screws



Order No.	$d_1$ +0 -0.025	$l_1$ +0.05 -0.0	$d_2$	$d_3$	$l_2$	$h_1$	A/F
P0130.160-080-A4	16	80	M 12	24	18	11.0	8.0
P0130.160-090-A4	16	90	M 12	24	18	11.0	8.0
P0130.160-100-A4	16	100	M 12	24	18	11.0	8.0
P0130.200-030-A4	20	30	M 16	30	22	14.0	10.0
P0130.200-035-A4	20	35	M 16	30	22	14.0	10.0
P0130.200-040-A4	20	40	M 16	30	22	14.0	10.0
P0130.200-045-A4	20	45	M 16	30	22	14.0	10.0
P0130.200-050-A4	20	50	M 16	30	22	14.0	10.0

SHOULDER SCREWS



# Shoulder Screws

## Ultra Low Head - Shoulder Screw

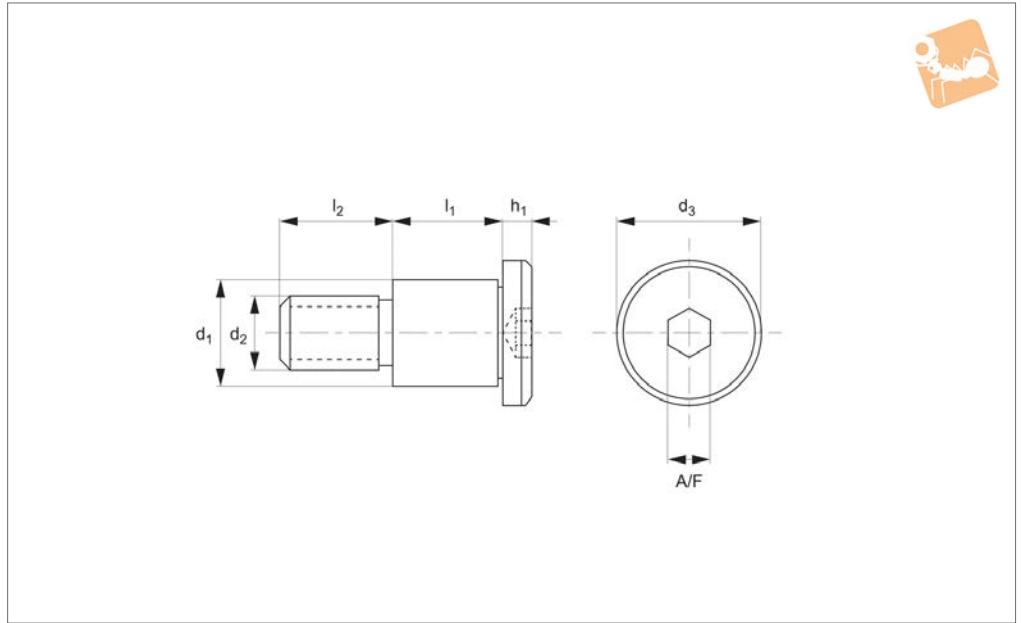
hex drive - 303 stainless



SHOULDER SCREWS



**P0134.A2**



### Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.

### Technical Notes

These very low profile socket shoulder

screws have a head height approximately 1/3 that of normal shoulder screws (P0130).

303 Series stainless is suitable for pharmaceutical and other applications. Stainless steel suitable for marine and other appli-

cations.

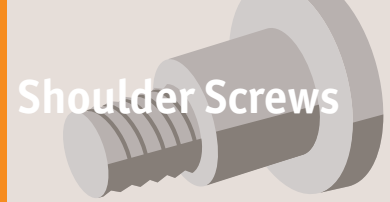
Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0134.040-004-A2	4	4	M 3	6	4	1.3	2
P0134.040-005-A2	4	5	M 3	6	4	1.3	2
P0134.040-006-A2	4	6	M 3	6	4	1.3	2
P0134.040-008-A2	4	8	M 3	6	4	1.3	2
P0134.040-010-A2	4	10	M 3	6	4	1.3	2
P0134.040-012-A2	4	12	M 3	6	4	1.3	2
P0134.040-016-A2	4	16	M 3	6	4	1.3	2
P0134.040-020-A2	4	20	M 3	6	4	1.3	2
P0134.050-004-A2	5	4	M 4	9	5	1.3	2.5
P0134.050-005-A2	5	5	M 4	9	5	1.3	2.5
P0134.050-006-A2	5	6	M 4	9	5	1.3	2.5
P0134.050-008-A2	5	8	M 4	9	5	1.3	2.5
P0134.050-010-A2	5	10	M 4	9	5	1.3	2.5
P0134.050-012-A2	5	12	M 4	9	5	1.3	2.5
P0134.050-016-A2	5	16	M 4	9	5	1.3	2.5
P0134.050-020-A2	5	20	M 4	9	5	1.3	2.5
P0134.050-025-A2	5	25	M 4	9	5	1.3	2.5
P0134.050-030-A2	5	30	M 4	9	5	1.3	2.5
P0134.050-040-A2	5	40	M 4	9	5	1.3	2.5
P0134.060-004-A2	6	4	M 5	10	6	1.7	3
P0134.060-005-A2	6	5	M 5	10	6	1.7	3
P0134.060-006-A2	6	6	M 5	10	6	1.7	3
P0134.060-008-A2	6	8	M 5	10	6	1.7	3
P0134.060-010-A2	6	10	M 5	10	6	1.7	3
P0134.060-012-A2	6	12	M 5	10	6	1.7	3
P0134.060-016-A2	6	16	M 5	10	6	1.7	3
P0134.060-020-A2	6	20	M 5	10	6	1.7	3
P0134.060-025-A2	6	25	M 5	10	6	1.7	3
P0134.060-030-A2	6	30	M 5	10	6	1.7	3
P0134.060-040-A2	6	40	M 5	10	6	1.7	3
P0134.080-006-A2	8	6	M 6	13	11	2.0	4





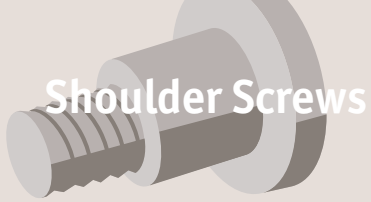
# Ultra Low Head - Shoulder Screw

hex drive - 303 stainless



Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0134.080-008-A2	8	8	M 6	13	11	2.0	4
P0134.080-010-A2	8	10	M 6	13	11	2.0	4
P0134.080-012-A2	8	12	M 6	13	11	2.0	4
P0134.080-016-A2	8	16	M 6	13	11	2.0	4
P0134.080-020-A2	8	20	M 6	13	11	2.0	4
P0134.080-025-A2	8	25	M 6	13	11	2.0	4
P0134.080-030-A2	8	30	M 6	13	11	2.0	4
P0134.080-040-A2	8	40	M 6	13	11	2.0	4
P0134.100-008-A2	10	8	M 8	14	12	2.7	5
P0134.100-010-A2	10	10	M 8	14	12	2.7	5
P0134.100-012-A2	10	12	M 8	14	12	2.7	5
P0134.100-016-A2	10	16	M 8	14	12	2.7	5
P0134.100-020-A2	10	20	M 8	14	12	2.7	5
P0134.100-025-A2	10	25	M 8	14	12	2.7	5
P0134.100-030-A2	10	30	M 8	14	12	2.7	5
P0134.100-040-A2	10	40	M 8	14	12	2.7	5
P0134.100-050-A2	10	50	M 8	14	12	2.7	5
P0134.120-010-A2	12	10	M10	20	16	3.5	6
P0134.120-012-A2	12	12	M10	20	16	3.5	6
P0134.120-016-A2	12	16	M10	20	16	3.5	6
P0134.120-020-A2	12	20	M10	20	16	3.5	6
P0134.120-025-A2	12	25	M10	20	16	3.5	6
P0134.120-030-A2	12	30	M10	20	16	3.5	6
P0134.120-040-A2	12	40	M10	20	16	3.5	6
P0134.120-050-A2	12	50	M10	20	16	3.5	6

SHOULDER SCREWS



# Shoulder Screws

## Ultra Low Head - Shoulder Screw

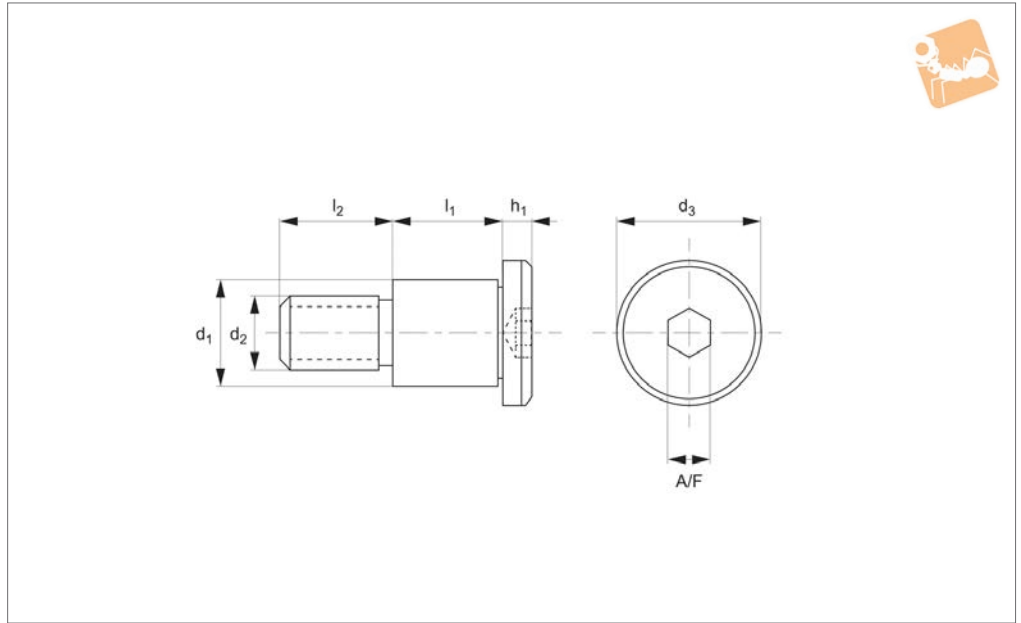
hex drive - 316 stainless



SHOULDER SCREWS



### P0134.A4



#### Material

Stainless steel (AISI 316, 1.440). Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.

screws have a head height approximately 1/3 that of normal shoulder screws (P0130).

316 Series stainless have excellent corrosion resistance. Stainless steel suitable for marine and other applications.

#### Technical Notes

These very low profile socket shoulder

Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0134.040-004-A4	4	4	M 3	6	4	1.3	2
P0134.040-005-A4	4	5	M 3	6	4	1.3	2
P0134.040-006-A4	4	6	M 3	6	4	1.3	2
P0134.040-008-A4	4	8	M 3	6	4	1.3	2
P0134.040-010-A4	4	10	M 3	6	4	1.3	2
P0134.040-012-A4	4	12	M 3	6	4	1.3	2
P0134.040-016-A4	4	16	M 3	6	4	1.3	2
P0134.040-020-A4	4	20	M 3	6	4	1.3	2
P0134.050-004-A4	5	4	M 4	9	5	1.3	2.5
P0134.050-005-A4	5	5	M 4	9	5	1.3	2.5
P0134.050-006-A4	5	6	M 4	9	5	1.3	2.5
P0134.050-008-A4	5	8	M 4	9	5	1.3	2.5
P0134.050-010-A4	5	10	M 4	9	5	1.3	2.5
P0134.050-012-A4	5	12	M 4	9	5	1.3	2.5
P0134.050-016-A4	5	16	M 4	9	5	1.3	2.5
P0134.050-020-A4	5	20	M 4	9	5	1.3	2.5
P0134.050-025-A4	5	25	M 4	9	5	1.3	2.5
P0134.050-030-A4	5	30	M 4	9	5	1.3	2.5
P0134.050-040-A4	5	40	M 4	9	5	1.3	2.5
P0134.060-004-A4	6	4	M 5	10	6	1.7	3
P0134.060-005-A4	6	5	M 5	10	6	1.7	3
P0134.060-006-A4	6	6	M 5	10	6	1.7	3
P0134.060-008-A4	6	8	M 5	10	6	1.7	3
P0134.060-010-A4	6	10	M 5	10	6	1.7	3
P0134.060-012-A4	6	12	M 5	10	6	1.7	3
P0134.060-016-A4	6	16	M 5	10	6	1.7	3
P0134.060-020-A4	6	20	M 5	10	6	1.7	3
P0134.060-025-A4	6	25	M 5	10	6	1.7	3
P0134.060-030-A4	6	30	M 5	10	6	1.7	3
P0134.060-040-A4	6	40	M 5	10	6	1.7	3
P0134.080-006-A4	8	6	M 6	13	11	2.0	4



# Ultra Low Head - Shoulder Screw

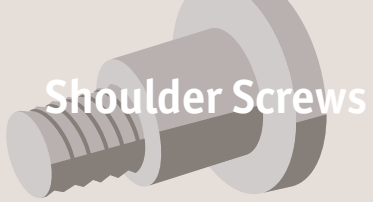
hex drive - 316 stainless

## Shoulder Screws



Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0134.080-008-A4	8	8	M 6	13	11	2.0	4
P0134.080-010-A4	8	10	M 6	13	11	2.0	4
P0134.080-012-A4	8	12	M 6	13	11	2.0	4
P0134.080-016-A4	8	16	M 6	13	11	2.0	4
P0134.080-020-A4	8	20	M 6	13	11	2.0	4
P0134.080-025-A4	8	25	M 6	13	11	2.0	4
P0134.080-030-A4	8	30	M 6	13	11	2.0	4
P0134.080-040-A4	8	40	M 6	13	11	2.0	4
P0134.100-008-A4	10	8	M 8	14	12	2.7	5
P0134.100-010-A4	10	10	M 8	14	12	2.7	5
P0134.100-012-A4	10	12	M 8	14	12	2.7	5
P0134.100-016-A4	10	16	M 8	14	12	2.7	5
P0134.100-020-A4	10	20	M 8	14	12	2.7	5
P0134.100-025-A4	10	25	M 8	14	12	2.7	5
P0134.100-030-A4	10	30	M 8	14	12	2.7	5
P0134.100-040-A4	10	40	M 8	14	12	2.7	5
P0134.100-050-A4	10	50	M 8	14	12	2.7	5
P0134.120-010-A4	12	10	M10	20	16	3.5	6
P0134.120-012-A4	12	12	M10	20	16	3.5	6
P0134.120-016-A4	12	16	M10	20	16	3.5	6
P0134.120-020-A4	12	20	M10	20	16	3.5	6
P0134.120-025-A4	12	25	M10	20	16	3.5	6
P0134.120-030-A4	12	30	M10	20	16	3.5	6
P0134.120-040-A4	12	40	M10	20	16	3.5	6
P0134.120-050-A4	12	50	M10	20	16	3.5	6

SHOULDER SCREWS



# Shoulder Screws

## Shoulder Screws - Headless

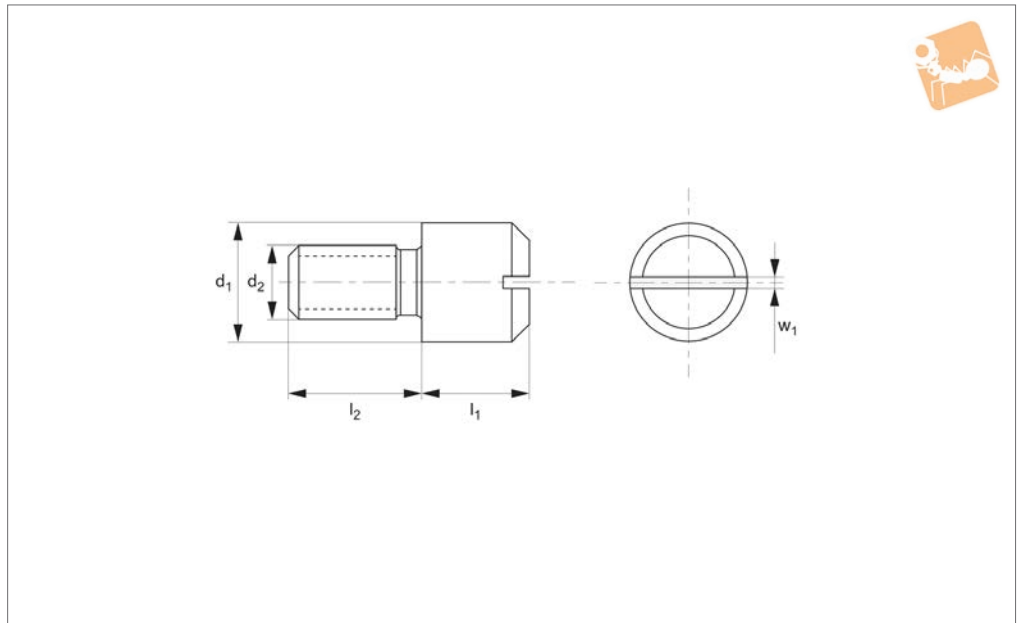
slot drive - 303 stainless



SHOULDER SCREWS



### P0126.A2



#### Material

Austenitic stainless steel  
(AISI 303, 1.4305)

#### Technical Notes

303 series stainless steel provides good resistance to corrosion.  
It is mildly magnetic.

Special lengths and diameters produced to drawings.

$l_1+l_2$  tolerance js15.

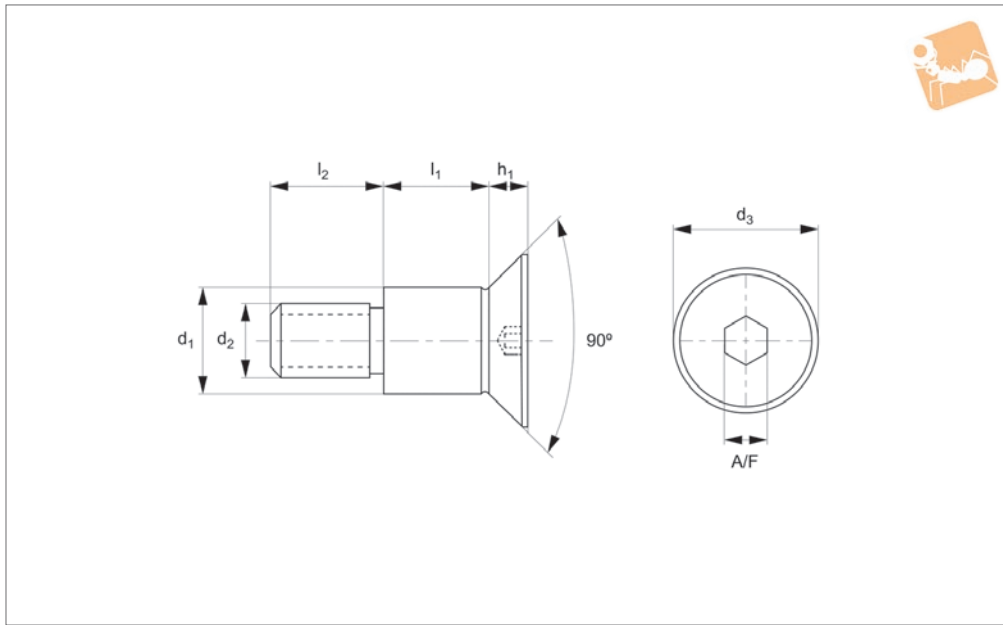
Order No.	$d_1$ h9	$l_1$	$d_2$	$l_2$ +0.3/-0.0	$w_1$
P0126.040-025-A2	4.0	2.5	M 3	4.5	0.5
P0126.040-030-A2	4.0	3.0	M 3	4.5	0.5
P0126.040-040-A2	4.0	4.0	M 3	4.5	0.5
P0126.040-050-A2	4.0	5.0	M 3	4.5	0.5
P0126.040-060-A2	4.0	6.0	M 3	4.5	0.5
P0126.055-030-A2	5.5	3.0	M 4	6.0	0.6
P0126.055-040-A2	5.5	4.0	M 4	6.0	0.6
P0126.055-050-A2	5.5	5.0	M 4	6.0	0.6
P0126.055-060-A2	5.5	6.0	M 4	6.0	0.6
P0126.055-080-A2	5.5	8.0	M 4	6.0	0.6
P0126.065-040-A2	6.5	4.0	M 5	7.0	0.8
P0126.065-050-A2	6.5	5.0	M 5	7.0	0.8
P0126.065-060-A2	6.5	6.0	M 5	7.0	0.8
P0126.065-080-A2	6.5	8.0	M 5	7.0	0.8
P0126.065-100-A2	6.5	10.0	M 5	7.0	0.8
P0126.080-040-A2	8.0	4.0	M 6	8.0	1.0
P0126.080-050-A2	8.0	5.0	M 6	8.0	1.0
P0126.080-060-A2	8.0	6.0	M 6	8.0	1.0
P0126.080-080-A2	8.0	8.0	M 6	8.0	1.0
P0126.080-100-A2	8.0	10.0	M 6	8.0	1.0



# Shoulder Screws - Countersunk

hex drive - 303 stainless

## Shoulder Screws



**P0128.A2**

SHOULDER SCREWS

**Material**

Stainless steel (AISI 303, 1.4305).  
Tensile strength 550 N/mm<sup>2</sup>.  
Proof stress min. 190 N/mm<sup>2</sup>, austenitic

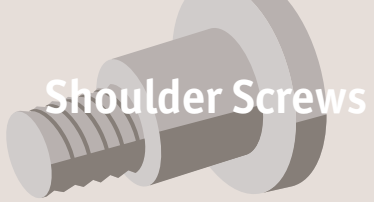
stainless steel.

**Technical Notes**

303 stainless steel provides good resi-

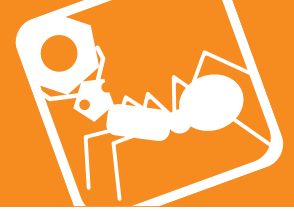
stance to corrosion. It is mildly magnetic.  
Special lengths and diameters produced to drawings.

Order No.	$d_1$ +0.000 -0.025	$l_1$ +0.05 -0.00	$d_2$ tol. G6	$d_3$	$l_2$ +0.05 -0.00	$h_1$ +0.00 -0.05	A/F
P0128.040-010-A2	4	10	M 3	8	4	2.0	2
P0128.040-012-A2	4	12	M 3	8	4	2.0	2
P0128.040-014-A2	4	14	M 3	8	4	2.0	2
P0128.040-016-A2	4	16	M 3	8	4	2.0	2
P0128.040-018-A2	4	18	M 3	8	4	2.0	2
P0128.040-020-A2	4	20	M 3	8	4	2.0	2
P0128.040-025-A2	4	25	M 3	8	4	2.0	2
P0128.040-030-A2	4	30	M 3	8	4	2.0	2
P0128.050-010-A2	5	10	M 4	10	5	2.5	2.5
P0128.050-012-A2	5	12	M 4	10	5	2.5	2.5
P0128.050-016-A2	5	16	M 4	10	5	2.5	2.5
P0128.050-020-A2	5	20	M 4	10	5	2.5	2.5
P0128.050-025-A2	5	25	M 4	10	5	2.5	2.5
P0128.050-030-A2	5	30	M 4	10	5	2.5	2.5
P0128.050-035-A2	5	35	M 4	10	5	2.5	2.5
P0128.050-040-A2	5	40	M 4	10	5	2.5	2.5
P0128.060-010-A2	6	10	M 5	12	6	3.0	3
P0128.060-012-A2	6	12	M 5	12	6	3.0	3
P0128.060-016-A2	6	16	M 5	12	6	3.0	3
P0128.060-020-A2	6	20	M 5	12	6	3.0	3
P0128.060-025-A2	6	25	M 5	12	6	3.0	3
P0128.060-030-A2	6	30	M 5	12	6	3.0	3
P0128.060-035-A2	6	35	M 5	12	6	3.0	3
P0128.060-040-A2	6	40	M 5	12	6	3.0	3
P0128.080-010-A2	8	10	M 6	16	11	4.0	4
P0128.080-012-A2	8	12	M 6	16	11	4.0	4
P0128.080-016-A2	8	16	M 6	16	11	4.0	4
P0128.080-020-A2	8	20	M 6	16	11	4.0	4
P0128.080-025-A2	8	25	M 6	16	11	4.0	4
P0128.080-030-A2	8	30	M 6	16	11	4.0	4
P0128.080-035-A2	8	35	M 6	16	11	4.0	4
P0128.080-040-A2	8	40	M 6	16	11	4.0	4
P0128.100-012-A2	10	12	M 8	20	12	5.0	5
P0128.100-016-A2	10	16	M 8	20	12	5.0	5



# Shoulder Screws

## Shoulder Screws - Countersunk hex drive - 303 stainless



SHOULDER SCREWS

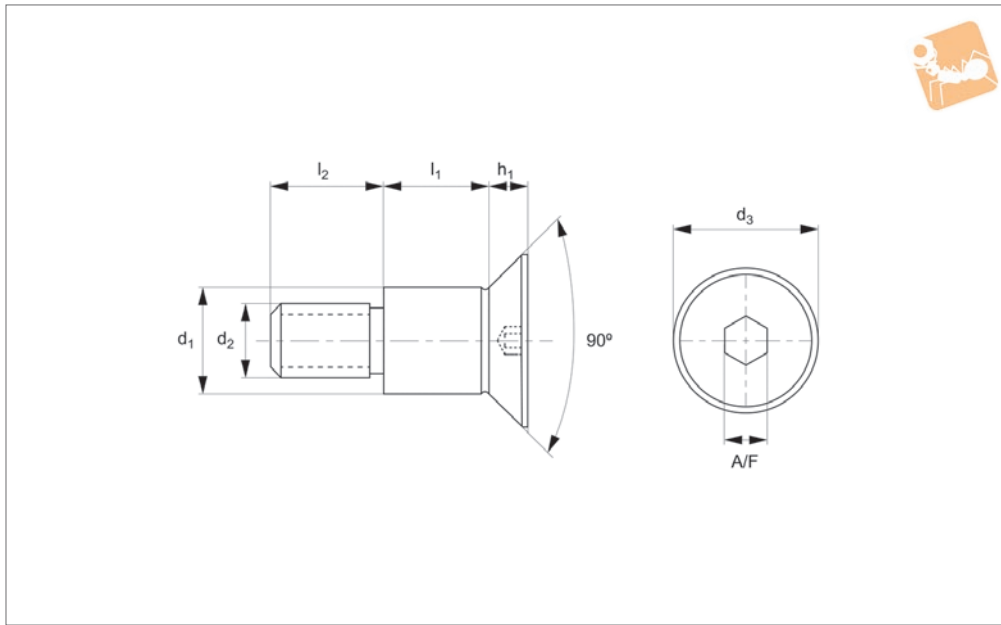
Order No.	$d_1$ +0.000 -0.025	$l_1$ +0.05 -0.00	$d_2$ tol. G6	$d_3$	$l_2$ +0.05 -0.00	$h_1$ +0.00 -0.05	A/F
P0128.100-020-A2	10	20	M 8	20	12	5.0	5
P0128.100-025-A2	10	25	M 8	20	12	5.0	5
P0128.100-030-A2	10	30	M 8	20	12	5.0	5
P0128.100-040-A2	10	40	M 8	20	12	5.0	5
P0128.100-050-A2	10	50	M 8	20	12	5.0	5
P0128.120-012-A2	12	12	M10	24	16	6.0	6
P0128.120-016-A2	12	16	M10	24	16	6.0	6
P0128.120-020-A2	12	20	M10	24	16	6.0	6
P0128.120-025-A2	12	25	M10	24	16	6.0	6
P0128.120-030-A2	12	30	M10	24	16	6.0	6
P0128.120-040-A2	12	40	M10	24	16	6.0	6
P0128.120-050-A2	12	50	M10	24	16	6.0	6



# Shoulder Screws - Countersunk

hex drive - 316 stainless

## Shoulder Screws



**P0128.A4**

SHOULDER SCREWS

### Material

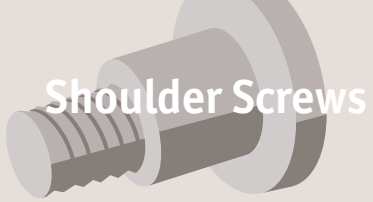
Stainless steel (AISI 316, 1.440).  
Tensile strength 480 N/mm<sup>2</sup>.  
Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.

### Technical Notes

316 Stainless provides excellent corrosion resistance for use in highly caustic or marine environments. For more standard applications please see our A2 range which

is more cost effective.  
Non-magnetic.

Order No.	$d_1$ +0.000 -0.025	$l_1$ +0.05 -0.00	$d_2$ tol. G6	$d_3$	$l_2$ +0.05 -0.00	$h_1$ +0.00 -0.05	A/F
P0128.040-010-A4	4	10	M 3	8	4	2.0	2
P0128.040-012-A4	4	12	M 3	8	4	2.0	2
P0128.040-014-A4	4	14	M 3	8	4	2.0	2
P0128.040-016-A4	4	16	M 3	8	4	2.0	2
P0128.040-018-A4	4	18	M 3	8	4	2.0	2
P0128.040-020-A4	4	20	M 3	8	4	2.0	2
P0128.040-025-A4	4	25	M 3	8	4	2.0	2
P0128.040-030-A4	4	30	M 3	8	4	2.0	2
P0128.050-010-A4	5	10	M 4	10	5	2.5	2.5
P0128.050-012-A4	5	12	M 4	10	5	2.5	2.5
P0128.050-016-A4	5	16	M 4	10	5	2.5	2.5
P0128.050-020-A4	5	20	M 4	10	5	2.5	2.5
P0128.050-025-A4	5	25	M 4	10	5	2.5	2.5
P0128.050-030-A4	5	30	M 4	10	5	2.5	2.5
P0128.050-035-A4	5	35	M 4	10	5	2.5	2.5
P0128.050-040-A4	5	40	M 4	10	5	2.5	2.5
P0128.060-010-A4	6	10	M 5	12	6	3.0	3
P0128.060-012-A4	6	12	M 5	12	6	3.0	3
P0128.060-016-A4	6	16	M 5	12	6	3.0	3
P0128.060-020-A4	6	20	M 5	12	6	3.0	3
P0128.060-025-A4	6	25	M 5	12	6	3.0	3
P0128.060-030-A4	6	30	M 5	12	6	3.0	3
P0128.060-035-A4	6	35	M 5	12	6	3.0	3
P0128.060-040-A4	6	40	M 5	12	6	3.0	3
P0128.080-010-A4	8	10	M 6	16	11	4.0	4
P0128.080-012-A4	8	12	M 6	16	11	4.0	4
P0128.080-016-A4	8	16	M 6	16	11	4.0	4
P0128.080-020-A4	8	20	M 6	16	11	4.0	4
P0128.080-025-A4	8	25	M 6	16	11	4.0	4
P0128.080-030-A4	8	30	M 6	16	11	4.0	4
P0128.080-035-A4	8	35	M 6	16	11	4.0	4
P0128.080-040-A4	8	40	M 6	16	11	4.0	4
P0128.100-012-A4	10	12	M 8	20	12	5.0	5



# Shoulder Screws

## Shoulder Screws - Countersunk hex drive - 316 stainless



SHOULDER SCREWS

Order No.	$d_1$ +0.000 -0.025	$l_1$ +0.05 -0.00	$d_2$ tol. G6	$d_3$	$l_2$ +0.05 -0.00	$h_1$ +0.00 -0.05	A/F
P0128.100-016-A4	10	16	M 8	20	12	5.0	5
P0128.100-020-A4	10	20	M 8	20	12	5.0	5
P0128.100-025-A4	10	25	M 8	20	12	5.0	5
P0128.100-030-A4	10	30	M 8	20	12	5.0	5
P0128.100-040-A4	10	40	M 8	20	12	5.0	5
P0128.100-050-A4	10	50	M 8	20	12	5.0	5
P0128.120-012-A4	12	12	M10	24	16	6.0	6
P0128.120-016-A4	12	16	M10	24	16	6.0	6
P0128.120-020-A4	12	20	M10	24	16	6.0	6
P0128.120-025-A4	12	25	M10	24	16	6.0	6
P0128.120-030-A4	12	30	M10	24	16	6.0	6
P0128.120-040-A4	12	40	M10	24	16	6.0	6
P0128.120-050-A4	12	50	M10	24	16	6.0	6





# Shoulder Nuts - Cap Head

hex drive - 303 stainless

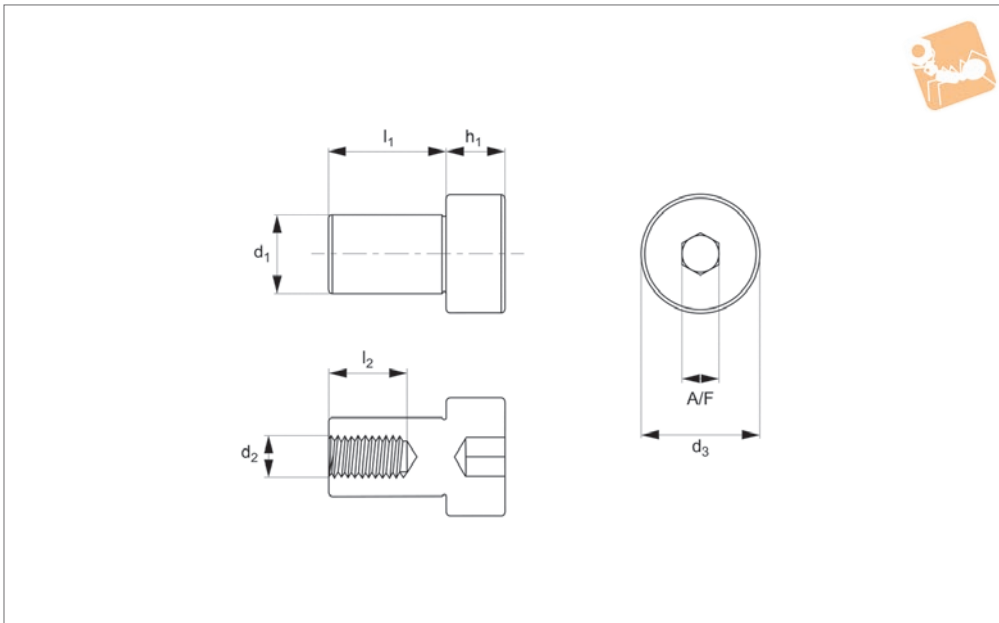
# Shoulder Screws



**P0127.A2**

MADE IN BRITAIN

SHOULDER SCREWS



**Material**

Stainless steel (AISI 303, 1.4305).  
Tensile strength 550 N/mm<sup>2</sup>.  
Proof stress min. 190 N/mm<sup>2</sup>, austenitic

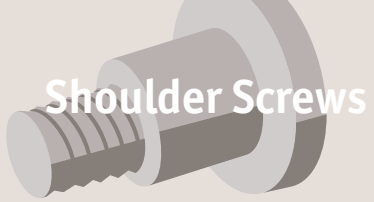
stainless steel.

**Technical Notes**

303 stainless steel provides good resi-

stance to corrosion, it is mildly magnetic.

Order No.	d <sub>1</sub> +0.000 -0.025	l <sub>1</sub> +0.05 -0.00	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0127.040-006-A2	4	6	M 2	6	4	3	2
P0127.040-008-A2	4	8	M 2	6	4	3	2
P0127.040-010-A2	4	10	M 2	6	4	3	2
P0127.040-012-A2	4	12	M 2	6	4	3	2
P0127.040-014-A2	4	14	M 2	6	4	3	2
P0127.040-016-A2	4	16	M 2	6	4	3	2
P0127.040-018-A2	4	18	M 2	6	4	3	2
P0127.040-020-A2	4	20	M 2	6	4	3	2
P0127.050-008-A2	5	8	M 2,5	8	5	4	2,5
P0127.050-010-A2	5	10	M 2,5	8	5	4	2,5
P0127.050-012-A2	5	12	M 2,5	8	5	4	2,5
P0127.050-016-A2	5	16	M 2,5	8	5	4	2,5
P0127.050-020-A2	5	20	M 2,5	8	5	4	2,5
P0127.050-025-A2	5	25	M 2,5	8	5	4	2,5
P0127.060-008-A2	6	8	M 3	10	6	5	3
P0127.060-010-A2	6	10	M 3	10	6	5	3
P0127.060-012-A2	6	12	M 3	10	6	5	3
P0127.060-016-A2	6	16	M 3	10	6	5	3
P0127.060-020-A2	6	20	M 3	10	6	5	3
P0127.060-025-A2	6	25	M 3	10	6	5	3
P0127.060-030-A2	6	30	M 3	10	6	5	3
P0127.060-040-A2	6	40	M 3	10	6	5	3
P0127.060-050-A2	6	50	M 3	10	6	5	3
P0127.080-016-A2	8	16	M 3,5	12	11	6	4
P0127.080-020-A2	8	20	M 3,5	12	11	6	4
P0127.080-025-A2	8	25	M 3,5	12	11	6	4
P0127.080-030-A2	8	30	M 3,5	12	11	6	4
P0127.080-040-A2	8	40	M 3,5	12	11	6	4
P0127.080-050-A2	8	50	M 3,5	12	11	6	4
P0127.100-016-A2	10	16	M 4	14	12	7	5
P0127.100-020-A2	10	20	M 4	14	12	7	5
P0127.100-025-A2	10	25	M 4	14	12	7	5
P0127.100-030-A2	10	30	M 4	14	12	7	5
P0127.100-040-A2	10	40	M 4	14	12	7	5



# Shoulder Screws

# Shoulder Nuts - Cap Head

hex drive - 303 stainless



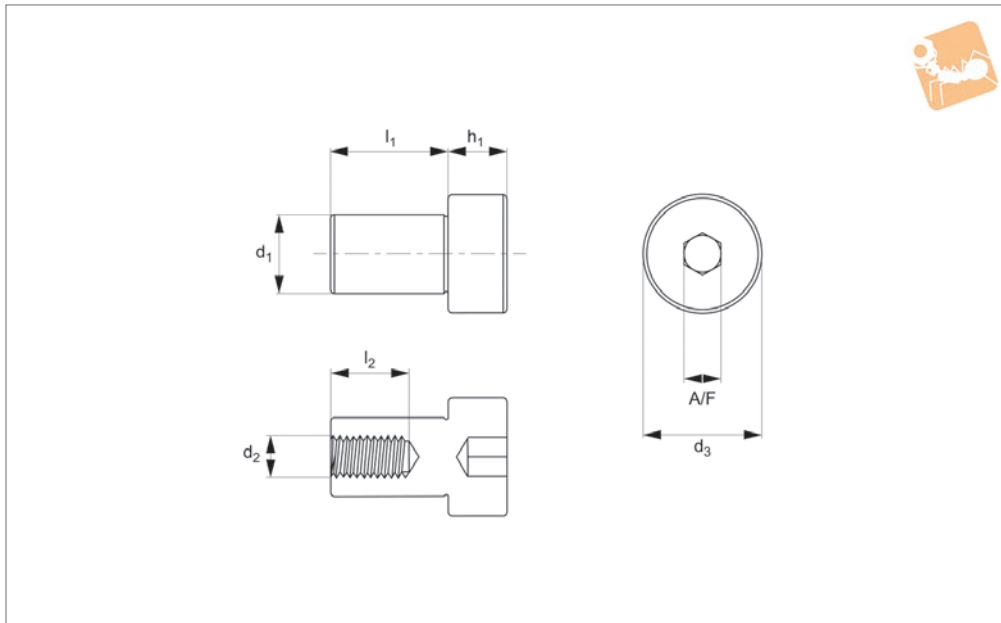
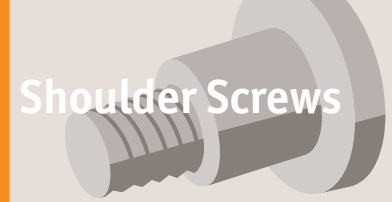
Order No.	$d_1$ +0.000 -0.025	$l_1$ +0.05 -0.00	$d_2$	$d_3$	$l_2$	$h_1$	A/F
P0127.120-025-A2	12	25	M 5	20	16	8	6
P0127.120-030-A2	12	30	M 5	20	16	8	6
P0127.120-040-A2	12	40	M 5	20	16	8	6
P0127.120-050-A2	12	50	M 5	20	16	8	6

SHOULDER SCREWS



# Shoulder Nuts - Cap Head

hex drive - 316 stainless



**P0127.A4**

SHOULDER SCREWS

### Material

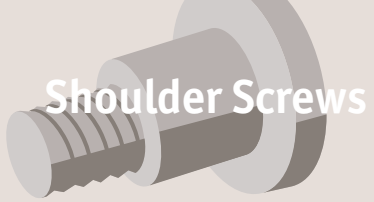
Stainless steel (AISI 316, 1.440).  
Tensile strength 480 N/mm<sup>2</sup>.  
Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.

### Technical Notes

316 stainless provides excellent corrosion resistance for use in highly caustic or marine environments and it is non-magnetic.

For more standard applications please see our A2 range which is more cost effective.

Order No.	$d_1$ +0.000 -0.025	$l_1$ +0.05 -0.00	$d_2$	$d_3$	$l_2$	$h_1$	A/F
P0127.040-006-A4	4	6	M 2	6	4	3	2
P0127.040-008-A4	4	8	M 2	6	4	3	2
P0127.040-010-A4	4	10	M 2	6	4	3	2
P0127.040-012-A4	4	12	M 2	6	4	3	2
P0127.040-014-A4	4	14	M 2	6	4	3	2
P0127.040-016-A4	4	16	M 2	6	4	3	2
P0127.040-018-A4	4	18	M 2	6	4	3	2
P0127.040-020-A4	4	20	M 2	6	4	3	2
P0127.050-008-A4	5	8	M 2,5	8	5	4	2,5
P0127.050-010-A4	5	10	M 2,5	8	5	4	2,5
P0127.050-012-A4	5	12	M 2,5	8	5	4	2,5
P0127.050-016-A4	5	16	M 2,5	8	5	4	2,5
P0127.050-020-A4	5	20	M 2,5	8	5	4	2,5
P0127.050-025-A4	5	25	M 2,5	8	5	4	2,5
P0127.060-008-A4	6	8	M 3	10	6	5	3
P0127.060-010-A4	6	10	M 3	10	6	5	3
P0127.060-012-A4	6	12	M 3	10	6	5	3
P0127.060-016-A4	6	16	M 3	10	6	5	3
P0127.060-020-A4	6	20	M 3	10	6	5	3
P0127.060-025-A4	6	25	M 3	10	6	5	3
P0127.060-030-A4	6	30	M 3	10	6	5	3
P0127.060-040-A4	6	40	M 3	10	6	5	3
P0127.060-050-A4	6	50	M 3	10	6	5	3
P0127.080-016-A4	8	16	M 3,5	12	11	6	4
P0127.080-020-A4	8	20	M 3,5	12	11	6	4
P0127.080-025-A4	8	25	M 3,5	12	11	6	4
P0127.080-030-A4	8	30	M 3,5	12	11	6	4
P0127.080-040-A4	8	40	M 3,5	12	11	6	4
P0127.080-050-A4	8	50	M 3,5	12	11	6	4
P0127.100-016-A4	10	16	M 4	14	12	7	5
P0127.100-020-A4	10	20	M 4	14	12	7	5
P0127.100-025-A4	10	25	M 4	14	12	7	5
P0127.100-030-A4	10	30	M 4	14	12	7	5



# Shoulder Screws

# Shoulder Nuts - Cap Head

hex drive - 316 stainless



Order No.	$d_1$ +0.000 -0.025	$l_1$ +0.05 -0.00	$d_2$	$d_3$	$l_2$	$h_1$	A/F
P0127.100-040-A4	10	40	M 4	14	12	7	5
P0127.120-025-A4	12	25	M 5	20	16	8	6
P0127.120-030-A4	12	30	M 5	20	16	8	6
P0127.120-040-A4	12	40	M 5	20	16	8	6
P0127.120-050-A4	12	50	M 5	20	16	8	6

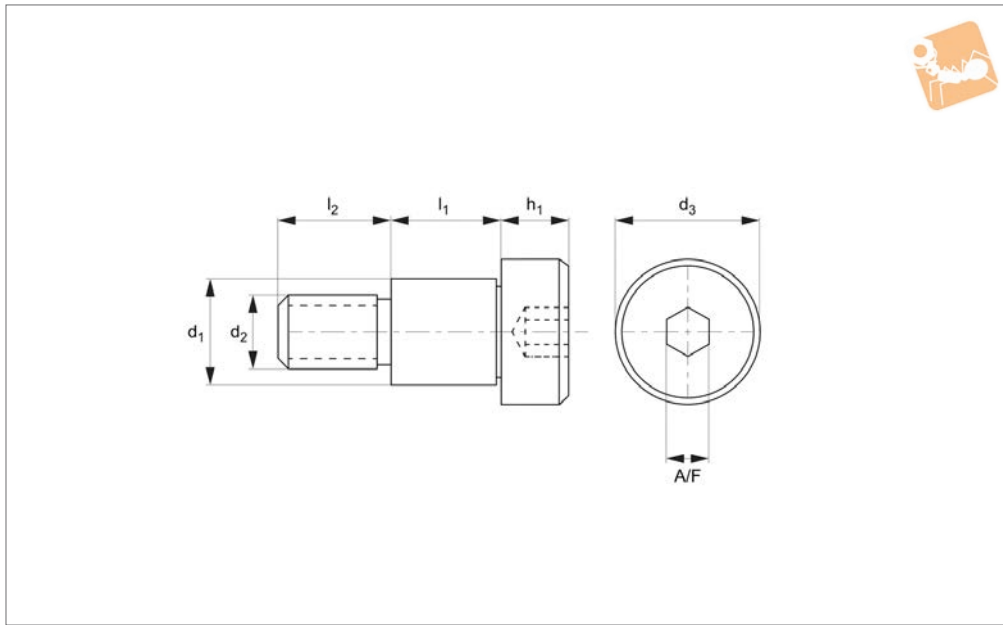
SHOULDER SCREWS



# Shoulder Screws - Cap Head

hex drive - 416 stainless

## Shoulder Screws



**P0131**

SHOULDER SCREWS

### Material

Stainless steel (AISI 416, 1.4005). Tensile strength 650 N/mm<sup>2</sup>. Proof stress min. 450 N/mm<sup>2</sup>, martensitic stainless steel.

stronger grade of stainless steel than the 303 stainless alternatives. They are magnetic and slightly less resistant to corrosion than the 303 alternative (see P0130 or P0132).

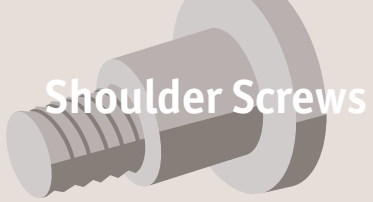
atmosphere, fresh water and mild alkalis and acids. Special lengths and diameters produced to drawings.

### Technical Notes

Stainless steel 416 series is a harder,

For corrosion resistance it is suited to dry

Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0131.040-004-A6	4	4	M 3	6	4	3	2
P0131.040-005-A6	4	5	M 3	6	4	3	2
P0131.040-006-A6	4	6	M 3	6	4	3	2
P0131.040-008-A6	4	8	M 3	6	4	3	2
P0131.040-010-A6	4	10	M 3	6	4	3	2
P0131.050-004-A6	5	4	M 4	8	5	4	2.5
P0131.050-005-A6	5	5	M 4	8	5	4	2.5
P0131.050-006-A6	5	6	M 4	8	5	4	2.5
P0131.050-008-A6	5	8	M 4	8	5	4	2.5
P0131.050-010-A6	5	10	M 4	8	5	4	2.5
P0131.050-012-A6	5	12	M 4	8	5	4	2.5
P0131.050-014-A6	5	14	M 4	8	5	4	2.5
P0131.050-016-A6	5	16	M 4	8	5	4	2.5
P0131.050-020-A6	5	20	M 4	8	5	4	2.5
P0131.050-025-A6	5	25	M 4	8	5	4	2.5
P0131.050-030-A6	5	30	M 4	8	5	4	2.5
P0131.060-004-A6	6	4	M 5	10	6	5	3
P0131.060-005-A6	6	5	M 5	10	6	5	3
P0131.060-006-A6	6	6	M 5	10	6	5	3
P0131.060-008-A6	6	8	M 5	10	6	5	3
P0131.060-010-A6	6	10	M 5	10	6	5	3
P0131.060-012-A6	6	12	M 5	10	6	5	3
P0131.060-014-A6	6	14	M 5	10	6	5	3
P0131.060-016-A6	6	16	M 5	10	6	5	3
P0131.060-020-A6	6	20	M 5	10	6	5	3
P0131.060-025-A6	6	25	M 5	10	6	5	3
P0131.060-030-A6	6	30	M 5	10	6	5	3
P0131.080-006-A6	8	6	M 6	12	11	6	4
P0131.080-008-A6	8	8	M 6	12	11	6	4
P0131.080-010-A6	8	10	M 6	12	11	6	4
P0131.080-012-A6	8	12	M 6	12	11	6	4



# Shoulder Screws

## Shoulder Screws - Cap Head

hex drive - 416 stainless



SHOULDER SCREWS

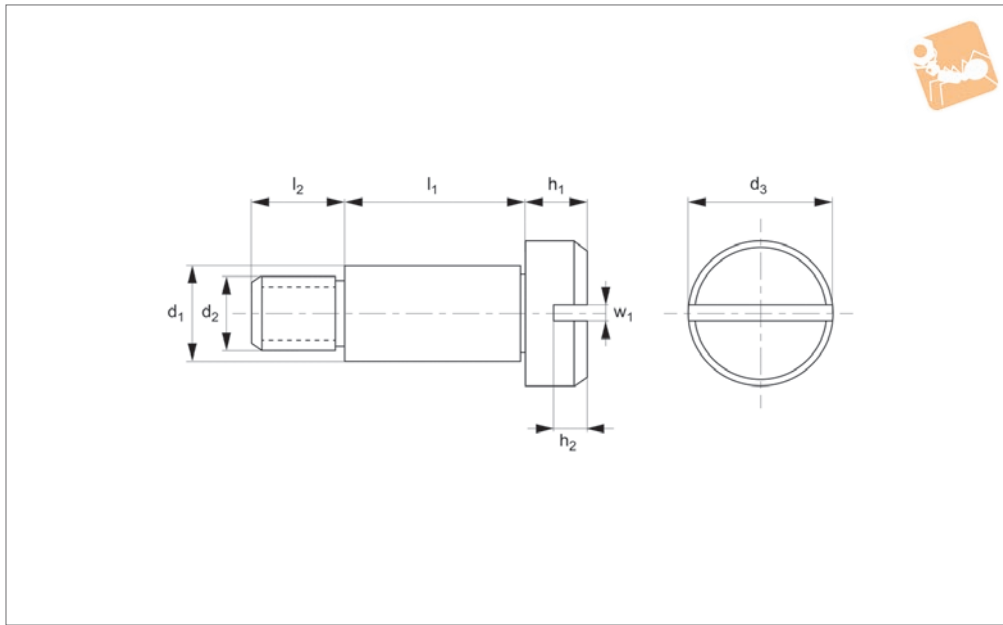
Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0131.080-014-A6	8	14	M 6	12	11	6	4
P0131.080-016-A6	8	16	M 6	12	11	6	4
P0131.080-020-A6	8	20	M 6	12	11	6	4
P0131.080-025-A6	8	25	M 6	12	11	6	4
P0131.080-030-A6	8	30	M 6	12	11	6	4
P0131.100-008-M6	10	8	M 6	14	11	6	4
P0131.100-010-M6	10	10	M 6	14	11	6	4
P0131.100-012-M6	10	12	M 6	14	11	6	4
P0131.100-016-M6	10	16	M 6	14	11	6	4
P0131.100-008-M8	10	8	M 8	14	12	7	5
P0131.100-010-M8	10	10	M 8	14	12	7	5
P0131.100-012-M8	10	12	M 8	14	12	7	5
P0131.100-016-M8	10	16	M 8	14	12	7	5
P0131.120-012-A6	12	12	M10	20	16	8	6
P0131.120-016-A6	12	16	M10	20	16	8	6
P0131.120-020-A6	12	20	M10	20	16	8	6
P0131.120-025-A6	12	25	M10	20	16	8	6
P0131.120-030-A6	12	30	M10	20	16	8	6



# Shoulder Screw - Cap Head

slot drive - 303 stainless

## Shoulder Screws



**P0132.A2**

SHOULDER SCREWS

### Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.

### Technical Notes

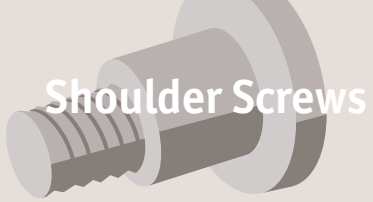
303 series stainless steel provides good

resistance to corrosion. It is mildly magnetic. screws are less expensive than the 416 steel grade (see part no. P0133), which are harder but less resistant to corrosion.

For Ø16 (and above) stainless steel

shoulder screws see part no. P0137. Special lengths and diameters produced to drawings.

Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	h <sub>2</sub>	w <sub>1</sub>
P0132.040-004-A2	4	4	M 3	6	4	3	0.9	0.8
P0132.040-005-A2	4	5	M 3	6	4	3	0.9	0.8
P0132.040-006-A2	4	6	M 3	6	4	3	0.9	0.8
P0132.040-008-A2	4	8	M 3	6	4	3	0.9	0.8
P0132.040-010-A2	4	10	M 3	6	4	3	0.9	0.8
P0132.040-012-A2	4	12	M 3	6	4	3	0.9	0.8
P0132.040-016-A2	4	16	M 3	6	4	3	0.9	0.8
P0132.040-020-A2	4	20	M 3	6	4	3	0.9	0.8
P0132.050-004-A2	5	4	M 4	8	5	4	1.2	1.0
P0132.050-005-A2	5	5	M 4	8	5	4	1.2	1.0
P0132.050-006-A2	5	6	M 4	8	5	4	1.2	1.0
P0132.050-008-A2	5	8	M 4	8	5	4	1.2	1.0
P0132.050-010-A2	5	10	M 4	8	5	4	1.2	1.0
P0132.050-012-A2	5	12	M 4	8	5	4	1.2	1.0
P0132.050-014-A2	5	14	M 4	8	5	4	1.2	1.0
P0132.050-016-A2	5	16	M 4	8	5	4	1.2	1.0
P0132.050-020-A2	5	20	M 4	8	5	4	1.2	1.0
P0132.050-025-A2	5	25	M 4	8	5	4	1.2	1.0
P0132.050-030-A2	5	30	M 4	8	5	4	1.2	1.0
P0132.060-004-A2	6	4	M 5	10	6	5	1.3	1.2
P0132.060-005-A2	6	5	M 5	10	6	5	1.3	1.2
P0132.060-006-A2	6	6	M 5	10	6	5	1.3	1.2
P0132.060-008-A2	6	8	M 5	10	6	5	1.3	1.2
P0132.060-010-A2	6	10	M 5	10	6	5	1.3	1.2
P0132.060-012-A2	6	12	M 5	10	6	5	1.3	1.2
P0132.060-014-A2	6	14	M 5	10	6	5	1.3	1.2
P0132.060-016-A2	6	16	M 5	10	6	5	1.3	1.2
P0132.060-020-A2	6	20	M 5	10	6	5	1.3	1.2
P0132.060-025-A2	6	25	M 5	10	6	5	1.3	1.2
P0132.060-030-A2	6	30	M 5	10	6	5	1.3	1.2
P0132.080-006-A2	8	6	M 6	12	11	6	1.5	1.6



# Shoulder Screws

## Shoulder Screw - Cap Head slot drive - 303 stainless



SHOULDER SCREWS

Order No.	$d_1$ +0 -0.025	$l_1$ +0.05 -0.0	$d_2$	$d_3$	$l_2$	$h_1$	$h_2$	$w_1$
P0132.080-008-A2	8	8	M 6	12	11	6	1.5	1.6
P0132.080-010-A2	8	10	M 6	12	11	6	1.5	1.6
P0132.080-012-A2	8	12	M 6	12	11	6	1.5	1.6
P0132.080-016-A2	8	16	M 6	12	11	6	1.5	1.6
P0132.080-020-A2	8	20	M 6	12	11	6	1.5	1.6
P0132.100-008-M6	10	8	M 6	14	11	6	1.5	1.6
P0132.100-012-M6	10	12	M 6	14	11	6	1.5	1.6
P0132.100-008-M8	10	8	M 8	14	12	7	1.9	2.0
P0132.100-010-M8	10	10	M 8	14	12	7	1.9	2.0
P0132.100-012-M8	10	12	M 8	14	12	7	1.9	2.0
P0132.100-016-M8	10	16	M 8	14	12	7	1.9	2.0
P0132.120-008-A2	12	8	M10	20	16	8	2.4	2.5
P0132.120-010-A2	12	10	M10	20	16	8	2.4	2.5
P0132.120-012-A2	12	12	M10	20	16	8	2.4	2.5
P0132.120-016-A2	12	16	M10	20	16	8	2.4	2.5
P0132.120-020-A2	12	20	M10	20	16	8	2.4	2.5
P0132.120-025-A2	12	25	M10	20	16	8	2.4	2.5

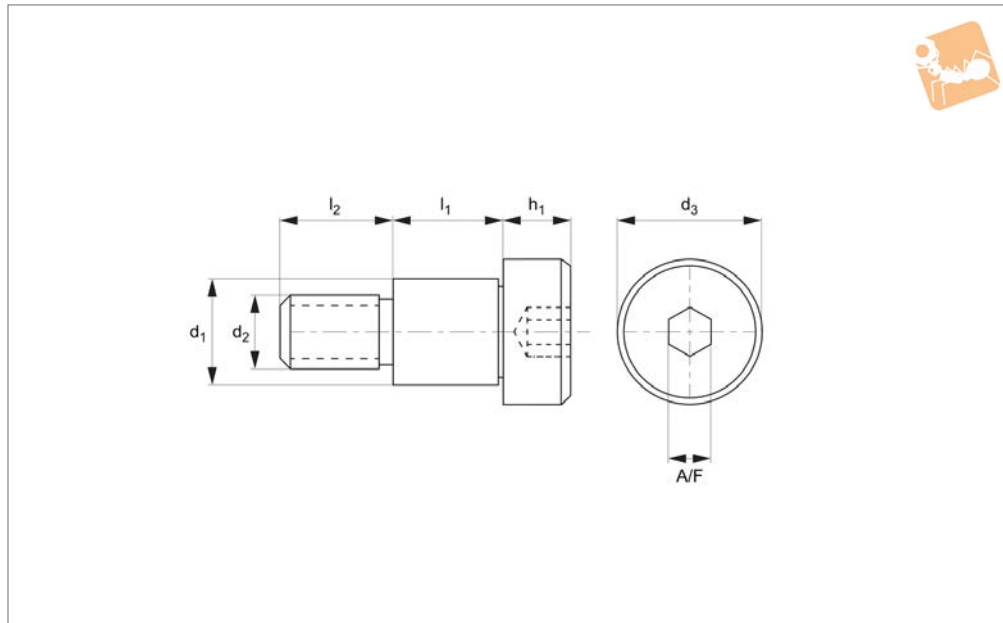




# Inch Shoulder Screws - Cap Head

hex drive - 303 stainless

## Shoulder Screws



**P0130.i**

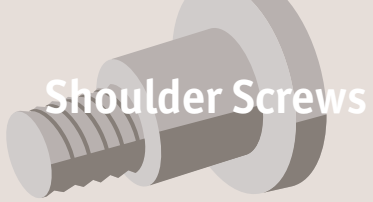
SHOULDER SCREWS

### Material

Stainless steel (AISI 303, 1.4305).  
Tensile strength 550 N/mm<sup>2</sup>.

Proof stress min. 190 N/mm<sup>2</sup>,  
austenitic stainless steel.

Order No.	$d_1$ +0 -0.001	$l_1$ +0.002 -0.000	$d_2$	$d_3$	$l_2$	$h_1$	A/F
P0130.125-012	(1/8") 0.1245	(1/8") 0.1255	#4-40 UNC	1/4"	5/32"	1/8"	5/64"
P0130.125-018	(1/8") 0.1245	(3/16") 0.1880	#4-40 UNC	1/4"	5/32"	1/8"	5/64"
P0130.125-025	(1/8") 0.1245	(1/4") 0.2505	#4-40 UNC	1/4"	5/32"	1/8"	5/64"
P0130.125-031	(1/8") 0.1245	(5/16") 0.3130	#4-40 UNC	1/4"	5/32"	1/8"	5/64"
P0130.125-037	(1/8") 0.1245	(3/8") 0.3755	#4-40 UNC	1/4"	5/32"	1/8"	5/64"
P0130.187-012	(3/16") 0.1870	(1/8") 0.1255	#8-32 UNC	5/16"	3/16"	5/32"	3/32"
P0130.187-018	(3/16") 0.1870	(3/16") 0.1880	#8-32 UNC	5/16"	3/16"	5/32"	3/32"
P0130.187-025	(3/16") 0.1870	(1/4") 0.2505	#8-32 UNC	5/16"	3/16"	5/32"	3/32"
P0130.187-031	(3/16") 0.1870	(5/16") 0.3130	#8-32 UNC	5/16"	3/16"	5/32"	3/32"
P0130.187-037	(3/16") 0.1870	(3/8") 0.3755	#8-32 UNC	5/16"	3/16"	5/32"	3/32"
P0130.187-050	(3/16") 0.1870	(1/2") 0.5005	#8-32 UNC	5/16"	3/16"	5/32"	3/32"
P0130.187-062	(3/16") 0.1870	(5/8") 0.6255	#8-32 UNC	5/16"	3/16"	5/32"	3/32"
P0130.187-075	(3/16") 0.1870	(3/4") 0.7505	#8-32 UNC	5/16"	3/16"	5/32"	3/32"
P0130.187-100	(3/16") 0.1870	(1") 1.0005	#8-32 UNC	5/16"	3/16"	5/32"	3/32"
P0130.187-125	(3/16") 0.1870	(1 1/4") 1.2505	#8-32 UNC	5/16"	3/16"	5/32"	3/32"
P0130.187-150	(3/16") 0.1870	(1 1/2") 1.5005	#8-32 UNC	5/16"	3/16"	5/32"	3/32"
P0130.250-012	(1/4") 0.2495	(1/8") 0.1255	#10-32 UNF	3/8"	1/4"	3/16"	1/8"
P0130.250-018	(1/4") 0.2495	(3/16") 0.1880	#10-32 UNF	3/8"	1/4"	3/16"	1/8"
P0130.250-025	(1/4") 0.2495	(1/4") 0.2505	#10-32 UNF	3/8"	1/4"	3/16"	1/8"
P0130.250-031	(1/4") 0.2495	(5/16") 0.3130	#10-32 UNF	3/8"	1/4"	3/16"	1/8"
P0130.250-037	(1/4") 0.2495	(3/8") 0.3755	#10-32 UNF	3/8"	1/4"	3/16"	1/8"
P0130.250-050	(1/4") 0.2495	(1/2") 0.5005	#10-32 UNF	3/8"	1/4"	3/16"	1/8"
P0130.250-062	(1/4") 0.2495	(5/8") 0.6255	#10-32 UNF	3/8"	1/4"	3/16"	1/8"
P0130.250-075	(1/4") 0.2495	(3/4") 0.7505	#10-32 UNF	3/8"	1/4"	3/16"	1/8"
P0130.250-100	(1/4") 0.2495	(1") 1.0005	#10-32 UNF	3/8"	1/4"	3/16"	1/8"
P0130.250-125	(1/4") 0.2495	(1 1/4") 1.2505	#10-32 UNF	3/8"	1/4"	3/16"	1/8"
P0130.250-150	(1/4") 0.2495	(1 1/2") 1.5005	#10-32 UNF	3/8"	1/4"	3/16"	1/8"
P0130.312-025	(5/16") 0.3120	(1/4") 0.2505	1/4-20 UNC	1/2"	7/16"	7/32"	5/32"
P0130.312-031	(5/16") 0.3120	(5/16") 0.3130	1/4-20 UNC	1/2"	7/16"	7/32"	5/32"
P0130.312-037	(5/16") 0.3120	(3/8") 0.3755	1/4-20 UNC	1/2"	7/16"	7/32"	5/32"
P0130.312-050	(5/16") 0.3120	(1/2") 0.5005	1/4-20 UNC	1/2"	7/16"	7/32"	5/32"
P0130.312-062	(5/16") 0.3120	(5/8") 0.6255	1/4-20 UNC	1/2"	7/16"	7/32"	5/32"
P0130.312-075	(5/16") 0.3120	(3/4") 0.7505	1/4-20 UNC	1/2"	7/16"	7/32"	5/32"
P0130.374-031	(3/8") 0.3745	(5/16") 0.3130	1/4-20 UNC	1/2"	7/16"	7/32"	5/32"



# Shoulder Screws

## Inch Shoulder Screws - Cap Head hex drive - 303 stainless



SHOULDER SCREWS

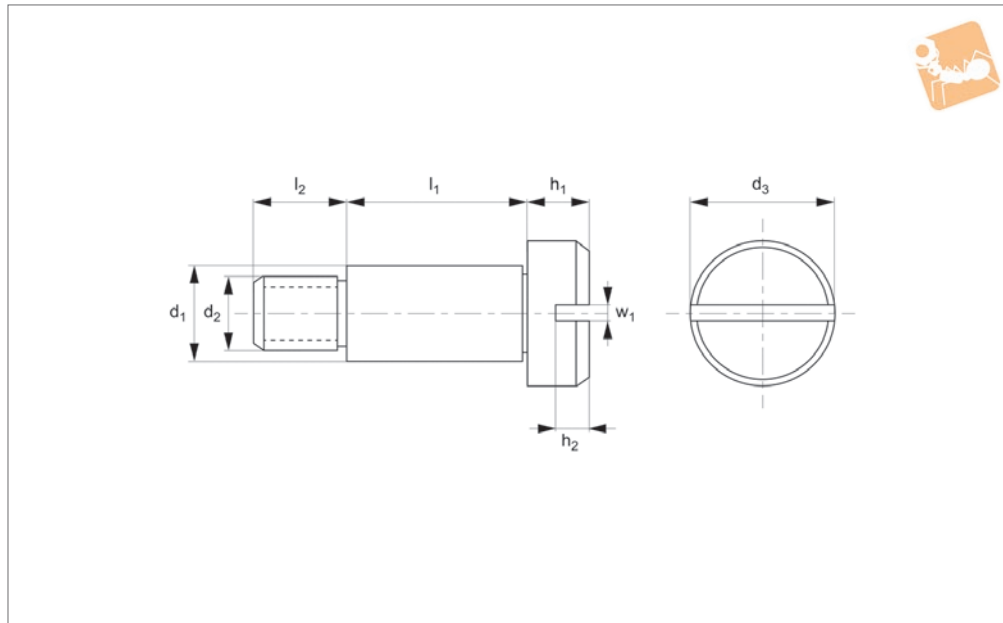
Order No.	$d_1$ +0 -0.001	$l_1$ +0.002 -0.000	$d_2$	$d_3$	$l_2$	$h_1$	A/F
<b>P0130.374-037</b>	(3/8") 0.3745	(3/8") 0.3755	1/4-20 UNC	1/2"	7/16"	7/32"	5/32"
<b>P0130.374-050</b>	(3/8") 0.3745	(1/2") 0.5005	1/4-20 UNC	1/2"	7/16"	7/32"	5/32"
<b>P0130.374-062</b>	(3/8") 0.3745	(5/8") 0.6255	1/4-20 UNC	1/2"	7/16"	7/32"	5/32"
<b>P0130.375-031</b>	(3/8") 0.3745	(5/16") 0.3130	5/6-18 UNC	9/16"	1/2"	1/4"	3/16"
<b>P0130.375-037</b>	(3/8") 0.3745	(3/8") 0.3755	5/6-18 UNC	9/16"	1/2"	1/4"	3/16"
<b>P0130.375-050</b>	(3/8") 0.3745	(1/2") 0.5005	5/6-18 UNC	9/16"	1/2"	1/4"	3/16"
<b>P0130.375-062</b>	(3/8") 0.3745	(5/8") 0.6255	5/6-18 UNC	9/16"	1/2"	1/4"	3/16"
<b>P0130.500-050</b>	(1/2") 0.4995	(1/2") 0.5005	3/8-16 UNC	3/4"	5/8"	5/16"	1/4"
<b>P0130.500-062</b>	(1/2") 0.4995	(5/8") 0.6255	3/8-16 UNC	3/4"	5/8"	5/16"	1/4"
<b>P0130.500-075</b>	(1/2") 0.4995	(3/4") 0.7505	3/8-16 UNC	3/4"	5/8"	5/16"	1/4"
<b>P0130.500-100</b>	(1/2") 0.4995	(1") 1.0005	3/8-16 UNC	3/4"	5/8"	5/16"	1/4"



# Inch Shoulder Screws - Cap Head

slot drive - series 303 stainless

## Shoulder Screws



**P0132.i**

SHOULDER SCREWS

### Material

Stainless steel (AISI 303, 1.4305).  
Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.

stance to corrosion and is non-magnetic. These 303 shoulder screws are less expensive than the 416 stainless steel grade versions (see part no. P0133), which are stronger and harder, but are magnetic.

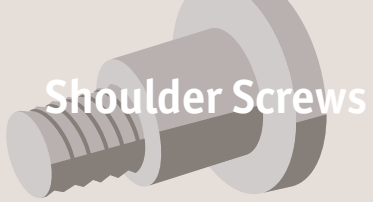
### Tips

Typically used for food and pharmaceutical applications. For Ø16 stainless steel shoulder screws see part no. P0137.

### Technical Notes

303 stainless steel provides good resi-

Order No.	$d_1$ +0,-0.001	$l_1$ +0.002 -0.000	$d_2$	$d_3$	$l_2$	$h_1$
P0132.125-012	(1/8") 0,1245	(1/8") 0,1255	#4-40 UNC	1/4"	5/32"	1/8"
P0132.187-012	(3/16") 0,1870	(1/8") 0,1255	#8-32 UNC	5/16"	3/16"	5/32"
P0132.187-018	(3/16") 0,1870	(3/16") 0,1880	#8-32 UNC	5/16"	3/16"	5/32"
P0132.187-025	(3/16") 0,1870	(1/4") 0,2505	#8-32 UNC	5/16"	3/16"	5/32"
P0132.187-031	(3/16") 0,1870	(5/16") 0,3130	#8-32 UNC	5/16"	3/16"	5/32"
P0132.187-037	(3/16") 0,1870	(3/8") 0,3755	#8-32 UNC	5/16"	3/16"	5/32"
P0132.187-050	(3/16") 0,1870	(1/2") 0,5005	#8-32 UNC	5/16"	3/16"	5/32"
P0132.187-062	(3/16") 0,1870	(5/8") 0,6255	#8-32 UNC	5/16"	3/16"	5/32"
P0132.187-075	(3/16") 0,1870	(3/4") 0,7505	#8-32 UNC	5/16"	3/16"	5/32"
P0132.187-100	(3/16") 0,1870	(1") 1,0005	#8-32 UNC	5/16"	3/16"	5/32"
P0132.187-125	(3/16") 0,1870	(1 1/4") 1,2505	#8-32 UNC	5/16"	3/16"	5/32"
P0132.187-150	(3/16") 0,1870	(1 1/2") 1,5005	#8-32 UNC	5/16"	3/16"	5/32"
P0132.250-012	(1/4") 0,2495	(1/8") 0,1255	#10-32 UNF	3/8"	1/4"	3/16"
P0132.250-018	(1/4") 0,2495	(3/16") 0,1880	#10-32 UNF	3/8"	1/4"	3/16"
P0132.250-025	(1/4") 0,2495	(1/4") 0,2505	#10-32 UNF	3/8"	1/4"	3/16"
P0132.250-031	(1/4") 0,2495	(5/16") 0,3130	#10-32 UNF	3/8"	1/4"	3/16"
P0132.250-037	(1/4") 0,2495	(3/8") 0,3755	#10-32 UNF	3/8"	1/4"	3/16"
P0132.250-050	(1/4") 0,2495	(1/2") 0,5005	#10-32 UNF	3/8"	1/4"	3/16"
P0132.250-062	(1/4") 0,2495	(5/8") 0,6255	#10-32 UNF	3/8"	1/4"	3/16"
P0132.250-075	(1/4") 0,2495	(3/4") 0,7505	#10-32 UNF	3/8"	1/4"	3/16"
P0132.250-100	(1/4") 0,2495	(1") 1,0005	#10-32 UNF	3/8"	1/4"	3/16"
P0132.250-125	(1/4") 0,2495	(1 1/4") 1,2505	#10-32 UNF	3/8"	1/4"	3/16"
P0132.250-150	(1/4") 0,2495	(1 1/2") 1,5005	#10-32 UNF	3/8"	1/4"	3/16"
P0132.312-025	(5/16") 0,3120	(1/4") 0,2505	1/4-20 UNC	1/2"	7/16"	7/32"
P0132.312-031	(5/16") 0,3120	(5/16") 0,3130	1/4-20 UNC	1/2"	7/16"	7/32"
P0132.312-037	(5/16") 0,3120	(3/8") 0,3755	1/4-20 UNC	1/2"	7/16"	7/32"
P0132.312-050	(5/16") 0,3120	(1/2") 0,5005	1/4-20 UNC	1/2"	7/16"	7/32"
P0132.312-062	(5/16") 0,3120	(5/8") 0,6255	1/4-20 UNC	1/2"	7/16"	7/32"
P0132.312-075	(5/16") 0,3120	(3/4") 0,7505	1/4-20 UNC	1/2"	7/16"	7/32"
P0132.374-031	(3/8") 0,3745	(5/16") 0,3130	1/4-20 UNC	1/2"	7/16"	7/32"



# Shoulder Screws

## Inch Shoulder Screws - Cap Head slot drive - series 303 stainless



SHOULDER SCREWS

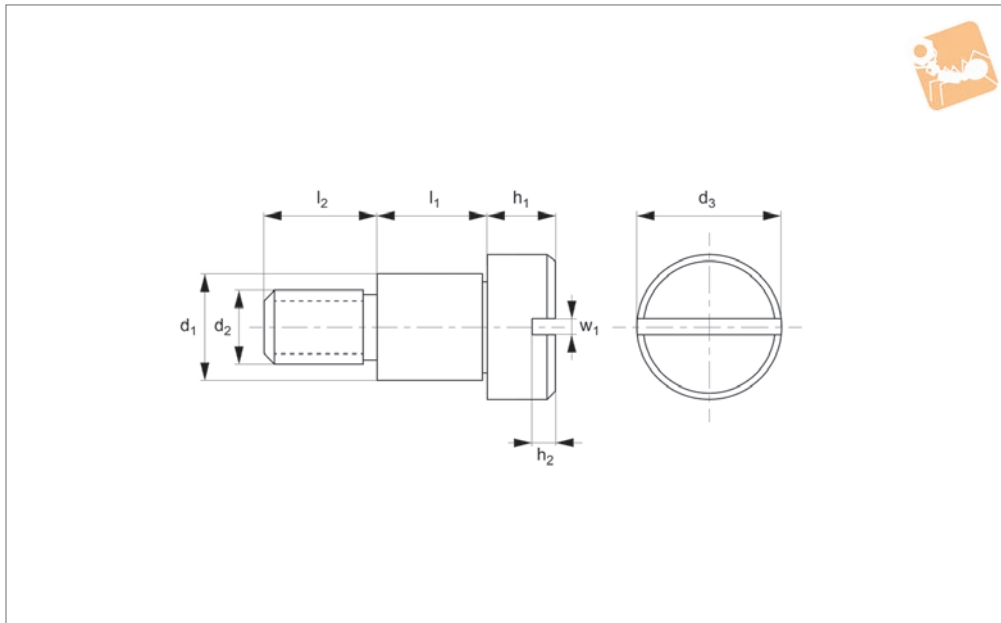
Order No.	$d_1$ +0,-0.001	$l_1$ +0.002 -0.000	$d_2$	$d_3$	$l_2$	$h_1$
<b>P0132.374-037</b>	(3/8") 0,3745	(3/8") 0,3755	1/4-20 UNC	1/2"	7/16"	7/32"
<b>P0132.374-050</b>	(3/8") 0,3745	(1/2") 0,5005	1/4-20 UNC	1/2"	7/16"	7/32"
<b>P0132.374-062</b>	(3/8") 0,3745	(5/8") 0,6255	1/4-20 UNC	1/2"	7/16"	7/32"
<b>P0132.375-031</b>	(3/8") 0,3745	(5/16") 0,3130	5/16-18 UNC	9/16"	1/2"	1/4"
<b>P0132.375-037</b>	(3/8") 0,3745	(3/8") 0,3755	5/16-18 UNC	9/16"	1/2"	1/4"
<b>P0132.375-050</b>	(3/8") 0,3745	(1/2") 0,5005	5/16-18 UNC	9/16"	1/2"	1/4"
<b>P0132.375-062</b>	(3/8") 0,3745	(5/8") 0,6255	5/16-18 UNC	9/16"	1/2"	1/4"
<b>P0132.500-050</b>	(1/2") 0,4995	(1/2") 0,5005	3/8-16 UNC	3/4"	5/8"	5/16"
<b>P0132.500-062</b>	(1/2") 0,4995	(5/8") 0,6255	3/8-16 UNC	3/4"	5/8"	5/16"
<b>P0132.500-075</b>	(1/2") 0,4995	(3/4") 0,7505	3/8-16 UNC	3/4"	5/8"	5/16"
<b>P0132.500-100</b>	(1/2") 0,4995	(1") 1,0005	3/8-16 UNC	3/4"	5/8"	5/16"



# Shoulder Screws - Slot Head

slot drive - 416 stainless

# Shoulder Screws



**P0133**

SHOULDER SCREWS

**Material**

Stainless steel (AISI 416, 1.4005). Tensile strength 650 N/mm<sup>2</sup>. Proof stress min. 450 N/mm<sup>2</sup>, martensitic stainless steel.

**Technical Notes**

Stainless steel 416 is a harder, stronger

grade of stainless steel than the 303 stainless alternatives.

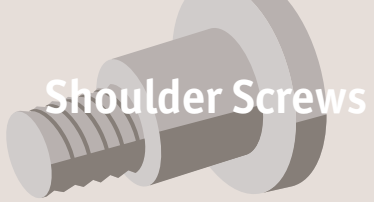
They are magnetic and slightly less resistant to corrosion than the 303 alternative (see P0130 or P0132).

For corrosion resistance it is suited to dry

atmosphere, fresh water and mild alkalis and acids.

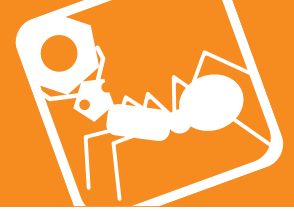
Special lengths and diameters produced to drawings.

Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	h <sub>2</sub>	w <sub>1</sub>
P0133.040-004-A6	4	4	M 3	6	4	3	0.3	0.4
P0133.040-005-A6	4	5	M 3	6	4	3	0.3	0.4
P0133.040-006-A6	4	6	M 3	6	4	3	0.3	0.4
P0133.040-008-A6	4	8	M 3	6	4	3	0.3	0.4
P0133.040-010-A6	4	10	M 3	6	4	3	0.3	0.4
P0133.050-004-A6	5	4	M 4	8	5	4	0.9	0.8
P0133.050-005-A6	5	5	M 4	8	5	4	0.9	0.8
P0133.050-006-A6	5	6	M 4	8	5	4	0.9	0.8
P0133.050-008-A6	5	8	M 4	8	5	4	0.9	0.8
P0133.050-010-A6	5	10	M 4	8	5	4	0.9	0.8
P0133.050-012-A6	5	12	M 4	8	5	4	0.9	0.8
P0133.050-014-A6	5	14	M 4	8	5	4	0.9	0.8
P0133.050-016-A6	5	16	M 4	8	5	4	0.9	0.8
P0133.050-020-A6	5	20	M 4	8	5	4	0.9	0.8
P0133.050-030-A6	5	30	M 4	8	5	4	0.9	0.8
P0133.060-004-A6	6	4	M 5	10	6	5	1.2	1.0
P0133.060-005-A6	6	5	M 5	10	6	5	1.2	1.0
P0133.060-006-A6	6	6	M 5	10	6	5	1.2	1.0
P0133.060-008-A6	6	8	M 5	10	6	5	1.2	1.0
P0133.060-010-A6	6	10	M 5	10	6	5	1.2	1.0
P0133.060-014-A6	6	14	M 5	10	6	5	1.2	1.0
P0133.060-016-A6	6	16	M 5	10	6	5	1.2	1.0
P0133.060-020-A6	6	20	M 5	10	6	5	1.2	1.0
P0133.060-025-A6	6	25	M 5	10	6	5	1.2	1.0
P0133.060-030-A6	6	30	M 5	10	6	5	1.2	1.0
P0133.080-006-A6	8	6	M 6	12	11	6	1.3	1.2
P0133.080-008-A6	8	8	M 6	12	11	6	1.3	1.2
P0133.080-010-A6	8	10	M 6	12	11	6	1.3	1.2
P0133.080-012-A6	8	12	M 6	12	11	6	1.3	1.2
P0133.080-016-A6	8	16	M 6	12	11	6	1.3	1.2
P0133.100-008-M6	10	8	M 6	12	11	6	1.5	1.6



# Shoulder Screws

## Shoulder Screws - Slot Head slot drive - 416 stainless



Order No.	$d_1$ +0 -0.025	$l_1$ +0.05 -0.0	$d_2$	$d_3$	$l_2$	$h_1$	$h_2$	$w_1$
P0133.100-012-M6	10	12	M 6	12	11	6	1.5	1.6
P0133.100-016-M6	10	16	M 6	12	11	6	1.5	1.6
P0133.101-008-M8	10	8	M 8	14	12	7	1.9	2.0
P0133.101-012-M8	10	12	M 8	14	12	7	1.9	2.0
P0133.101-016-M8	10	16	M 8	14	12	7	1.9	2.0
P0133.120-012-A6	12	12	M10	20	16	8	2.4	2.5
P0133.120-016-A6	12	16	M10	20	16	8	2.4	2.5
P0133.120-025-A6	12	26	M10	20	16	8	2.4	2.5

SHOULDER SCREWS



# Shoulder Screws - Hex. Socket Head

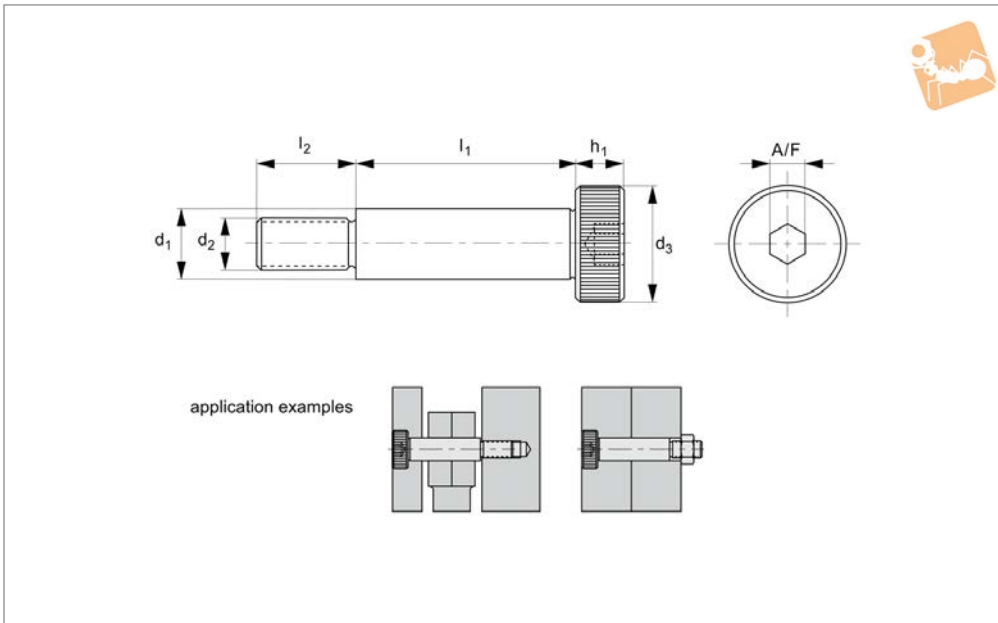
Large sizes A2 stainless

## Shoulder Screws



**P0137**

SHOULDER SCREWS



### Material

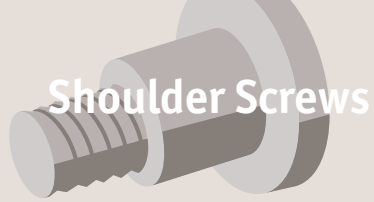
Stainless steel (A2, AISI 303).  
Tensile strength 580 N/mm<sup>2</sup>, yield strength 200 N/mm<sup>2</sup>.

### Technical Notes

To ISO 7379. These are generally larger sizes than the other stainless shoulder screws (P0130 and P0132). Straight knur-

ling on screw head.  
Mildly magnetic.

Order No.	d <sub>1</sub> tol. ±9	l <sub>1</sub> +0.25	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0137.040-004-A2	4	4	M 3	7	7	3	2
P0137.040-005-A2	4	5	M 3	7	7	3	2
P0137.040-008-A2	4	8	M 3	7	7	3	2
P0137.040-010-A2	4	10	M 3	7	7	3	2
P0137.040-012-A2	4	12	M 3	7	7	3	2
P0137.040-016-A2	4	16	M 3	7	7	3	2
P0137.050-006-A2	5	6	M 4	9	8	4	2.5
P0137.050-008-A2	5	8	M 4	9	8	4	2.5
P0137.050-010-A2	5	10	M 4	9	8	4	2.5
P0137.050-012-A2	5	12	M 4	9	8	4	2.5
P0137.050-016-A2	5	16	M 4	9	8	4	2.5
P0137.050-020-A2	5	20	M 4	9	8	4	2.5
P0137.050-025-A2	5	25	M 4	9	8	4	2.5
P0137.050-030-A2	5	30	M 4	9	8	4	2.5
P0137.060-006-A2	6	6	M 5	10	9.5	4.5	3
P0137.060-008-A2	6	8	M 5	10	9.5	4.5	3
P0137.060-010-A2	6	10	M 5	10	9.5	4.5	3
P0137.060-012-A2	6	12	M 5	10	9.5	4.5	3
P0137.060-016-A2	6	16	M 5	10	9.5	4.5	3
P0137.060-020-A2	6	20	M 5	10	9.5	4.5	3
P0137.060-025-A2	6	25	M 5	10	9.5	4.5	3
P0137.060-030-A2	6	30	M 5	10	9.5	4.5	3
P0137.060-035-A2	6	35	M 5	10	9.5	4.5	3
P0137.060-040-A2	6	40	M 5	10	9.5	4.5	3
P0137.060-045-A2	6	45	M 5	10	9.5	4.5	3
P0137.060-050-A2	6	50	M 5	10	9.5	4.5	3
P0137.060-055-A2	6	55	M 5	10	9.5	4.5	3
P0137.060-060-A2	6	60	M 5	10	9.5	4.5	3
P0137.060-065-A2	6	65	M 5	10	9.5	4.5	3
P0137.060-070-A2	6	70	M 5	10	9.5	4.5	3
P0137.060-075-A2	6	75	M 5	10	9.5	4.5	3
P0137.060-080-A2	6	80	M 5	10	9.5	4.5	3
P0137.060-090-A2	6	90	M 5	10	9.5	4.5	3
P0137.060-100-A2	6	100	M 5	10	9.5	4.5	3



# Shoulder Screws

# Shoulder Screws - Hex. Socket Head

Large sizes A2 stainless



SHOULDER SCREWS

Order No.	d <sub>1</sub> tol. f9	l <sub>1</sub> +0.25	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0137.080-008-A2	8	8	M 6	13	11	5.5	4
P0137.080-010-A2	8	10	M 6	13	11	5.5	4
P0137.080-012-A2	8	12	M 6	13	11	5.5	4
P0137.080-016-A2	8	16	M 6	13	11	5.5	4
P0137.080-020-A2	8	20	M 6	13	11	5.5	4
P0137.080-025-A2	8	25	M 6	13	11	5.5	4
P0137.080-030-A2	8	30	M 6	13	11	5.5	4
P0137.080-035-A2	8	35	M 6	13	11	5.5	4
P0137.080-040-A2	8	40	M 6	13	11	5.5	4
P0137.080-045-A2	8	45	M 6	13	11	5.5	4
P0137.080-050-A2	8	50	M 6	13	11	5.5	4
P0137.080-055-A2	8	55	M 6	13	11	5.5	4
P0137.080-060-A2	8	60	M 6	13	11	5.5	4
P0137.080-065-A2	8	65	M 6	13	11	5.5	4
P0137.080-070-A2	8	70	M 6	13	11	5.5	4
P0137.080-075-A2	8	75	M 6	13	11	5.5	4
P0137.080-080-A2	8	80	M 6	13	11	5.5	4
P0137.080-090-A2	8	90	M 6	13	11	5.5	4
P0137.080-100-A2	8	100	M 6	13	11	5.5	4
P0137.100-010-A2	10	10	M 8	16	13	7	5
P0137.100-012-A2	10	12	M 8	16	13	7	5
P0137.100-016-A2	10	16	M 8	16	13	7	5
P0137.100-020-A2	10	20	M 8	16	13	7	5
P0137.100-025-A2	10	25	M 8	16	13	7	5
P0137.100-030-A2	10	30	M 8	16	13	7	5
P0137.100-035-A2	10	35	M 8	16	13	7	5
P0137.100-040-A2	10	40	M 8	16	13	7	5
P0137.100-045-A2	10	45	M 8	16	13	7	5
P0137.100-050-A2	10	50	M 8	16	13	7	5
P0137.100-055-A2	10	55	M 8	16	13	7	5
P0137.100-060-A2	10	60	M 8	16	13	7	5
P0137.100-065-A2	10	65	M 8	16	13	7	5
P0137.100-070-A2	10	70	M 8	16	13	7	5
P0137.100-075-A2	10	75	M 8	16	13	7	5
P0137.100-080-A2	10	80	M 8	16	13	7	5
P0137.100-090-A2	10	90	M 8	16	13	7	5
P0137.100-100-A2	10	100	M 8	16	13	7	5
P0137.120-016-A2	12	16	M10	18	16	9	6
P0137.120-020-A2	12	20	M10	18	16	9	6
P0137.120-025-A2	12	25	M10	18	16	9	6
P0137.120-030-A2	12	30	M10	18	16	9	6
P0137.120-035-A2	12	35	M10	18	16	9	6
P0137.120-040-A2	12	40	M10	18	16	9	6
P0137.120-045-A2	12	45	M10	18	16	9	6
P0137.120-050-A2	12	50	M10	18	16	9	6
P0137.120-055-A2	12	55	M10	18	16	9	6
P0137.120-060-A2	12	60	M10	18	16	9	6
P0137.120-065-A2	12	65	M10	18	16	9	6
P0137.120-070-A2	12	70	M10	18	16	9	6
P0137.120-075-A2	12	75	M10	18	16	9	6
P0137.120-080-A2	12	80	M10	18	16	9	6
P0137.120-090-A2	12	90	M10	18	16	9	6
P0137.120-100-A2	12	100	M10	18	16	9	6
P0137.160-025-A2	16	25	M12	24	18	11	8
P0137.160-030-A2	16	30	M12	24	18	11	8
P0137.160-035-A2	16	35	M12	24	18	11	8
P0137.160-040-A2	16	40	M12	24	18	11	8
P0137.160-045-A2	16	45	M12	24	18	11	8
P0137.160-050-A2	16	50	M12	24	18	11	8
P0137.160-055-A2	16	55	M12	24	18	11	8
P0137.160-060-A2	16	60	M12	24	18	11	8
P0137.160-065-A2	16	65	M12	24	18	11	8
P0137.160-070-A2	16	70	M12	24	18	11	8
P0137.160-075-A2	16	75	M12	24	18	11	8
P0137.160-080-A2	16	80	M12	24	18	11	8
P0137.160-090-A2	16	90	M12	24	18	11	8
P0137.160-100-A2	16	100	M12	24	18	11	8
P0137.200-030-A2	20	30	M16	30	22	14	10





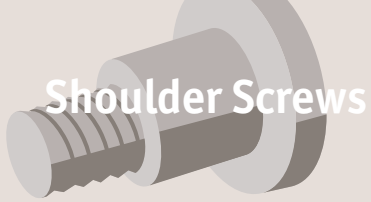
# Shoulder Screws - Hex. Socket Head

Large sizes A2 stainless

## Shoulder Screws



Order No.	d <sub>1</sub> tol. f9	l <sub>1</sub> +0.25	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0137.200-035-A2	20	35	M16	30	22	14	10
P0137.200-040-A2	20	40	M16	30	22	14	10
P0137.200-045-A2	20	45	M16	30	22	14	10
P0137.200-050-A2	20	50	M16	30	22	14	10
P0137.200-055-A2	20	55	M16	30	22	14	10
P0137.200-060-A2	20	60	M16	30	22	14	10
P0137.200-065-A2	20	65	M16	30	22	14	10
P0137.200-070-A2	20	70	M16	30	22	14	10
P0137.200-075-A2	20	75	M16	30	22	14	10
P0137.200-080-A2	20	80	M16	30	22	14	10
P0137.200-090-A2	20	90	M16	30	22	14	10
P0137.200-100-A2	20	100	M16	30	22	14	10
P0137.200-120-A2	20	120	M16	30	22	14	10
P0137.200-140-A2	20	140	M16	30	22	14	10



# Shoulder Screws

## Pan Head Shoulder Screws

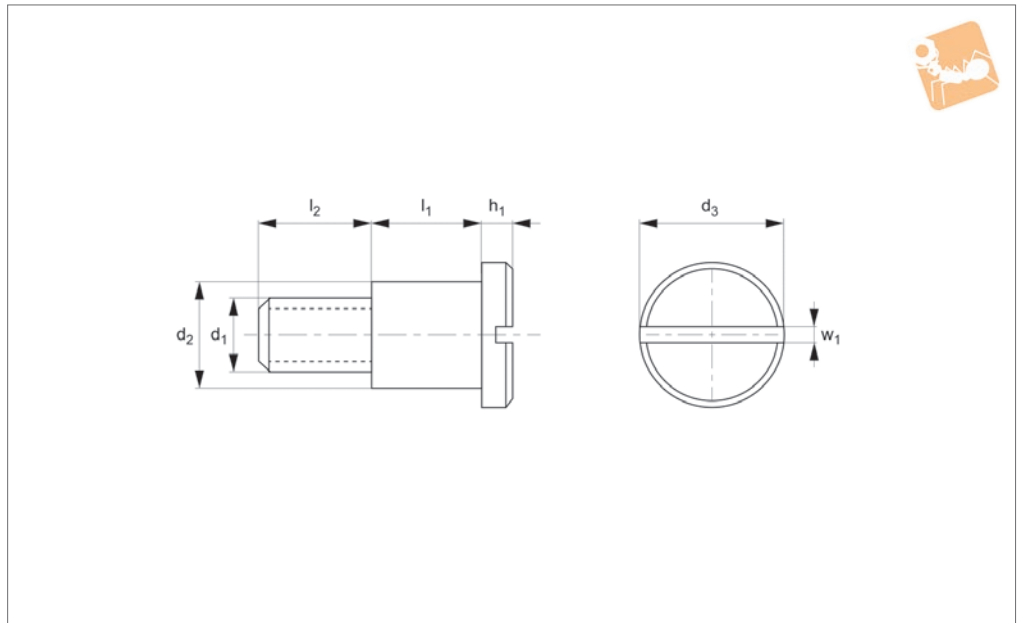
A2 stainless



SHOULDER SCREWS



**P0144.A2**



### Material

Stainless steel (A2, AISI 303).

### Technical Notes

DIN 923. Mildly magnetic, available on request in A4 stainless steel.

Order No.	d <sub>1</sub>	l <sub>1</sub>	d <sub>2</sub> tol. h9	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	w <sub>1</sub>
P0144.030-003-A2	M3	3	4.0	7.0	4.5	1.8	0.8
P0144.030-004-A2	M3	4	4.0	7.0	4.5	1.8	0.8
P0144.030-005-A2	M3	5	4.0	7.0	4.5	1.8	0.8
P0144.030-006-A2	M3	6	4.0	7.0	4.5	1.8	0.8
P0144.030-008-A2	M3	8	4.0	7.0	4.5	1.8	0.8
P0144.030-010-A2	M3	10	4.0	7.0	4.5	1.8	0.8
P0144.030-012-A2	M3	12	4.0	7.0	4.5	1.8	0.8
P0144.040-003-A2	M4	3	5.5	8.5	6.0	2.4	1.0
P0144.040-004-A2	M4	4	5.5	8.5	6.0	2.4	1.0
P0144.040-005-A2	M4	5	5.5	8.5	6.0	2.4	1.0
P0144.040-006-A2	M4	6	5.5	8.5	6.0	2.4	1.0
P0144.040-008-A2	M4	8	5.5	8.5	6.0	2.4	1.0
P0144.040-010-A2	M4	10	5.5	8.5	6.0	2.4	1.0
P0144.040-012-A2	M4	12	5.5	8.5	6.0	2.4	1.0
P0144.040-016-A2	M4	16	5.5	8.5	6.0	2.4	1.0
P0144.040-020-A2	M4	20	5.5	8.5	6.0	2.4	1.0
P0144.050-003-A2	M5	3	7.0	11.0	7.0	2.7	1.2
P0144.050-004-A2	M5	4	7.0	11.0	7.0	2.7	1.2
P0144.050-005-A2	M5	5	7.0	11.0	7.0	2.7	1.2
P0144.050-006-A2	M5	6	7.0	11.0	7.0	2.7	1.2
P0144.050-008-A2	M5	8	7.0	11.0	7.0	2.7	1.2
P0144.050-010-A2	M5	10	7.0	11.0	7.0	2.7	1.2
P0144.050-012-A2	M5	12	7.0	11.0	7.0	2.7	1.2
P0144.050-016-A2	M5	16	7.0	11.0	7.0	2.7	1.2
P0144.050-020-A2	M5	20	7.0	11.0	7.0	2.7	1.2
P0144.060-003-A2	M6	3	8.0	13.0	9.0	3.1	1.6
P0144.060-004-A2	M6	4	8.0	13.0	9.0	3.1	1.6
P0144.060-005-A2	M6	5	8.0	13.0	9.0	3.1	1.6
P0144.060-006-A2	M6	6	8.0	13.0	9.0	3.1	1.6
P0144.060-008-A2	M6	8	8.0	13.0	9.0	3.1	1.6
P0144.060-010-A2	M6	10	8.0	13.0	9.0	3.1	1.6
P0144.060-012-A2	M6	12	8.0	13.0	9.0	3.1	1.6
P0144.060-016-A2	M6	16	8.0	13.0	9.0	3.1	1.6
P0144.060-020-A2	M6	20	8.0	13.0	9.0	3.1	1.6



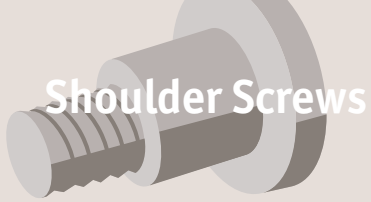
# Pan Head Shoulder Screws

A2 stainless

## Shoulder Screws



Order No.	$d_1$	$l_1$	$d_2$ tol. h9	$d_3$	$l_2$	$h_1$	$w_1$
P0144.080-006-A2	M8	6	10.0	16.0	11.0	3.8	2.0
P0144.080-008-A2	M8	8	10.0	16.0	11.0	3.8	2.0
P0144.080-010-A2	M8	10	10.0	16.0	11.0	3.8	2.0
P0144.080-012-A2	M8	12	10.0	16.0	11.0	3.8	2.0
P0144.080-016-A2	M8	16	10.0	16.0	11.0	3.8	2.0
P0144.080-020-A2	M8	20	10.0	16.0	11.0	3.8	2.0



# Shoulder Screws

# Shoulder Screws - Cap Head

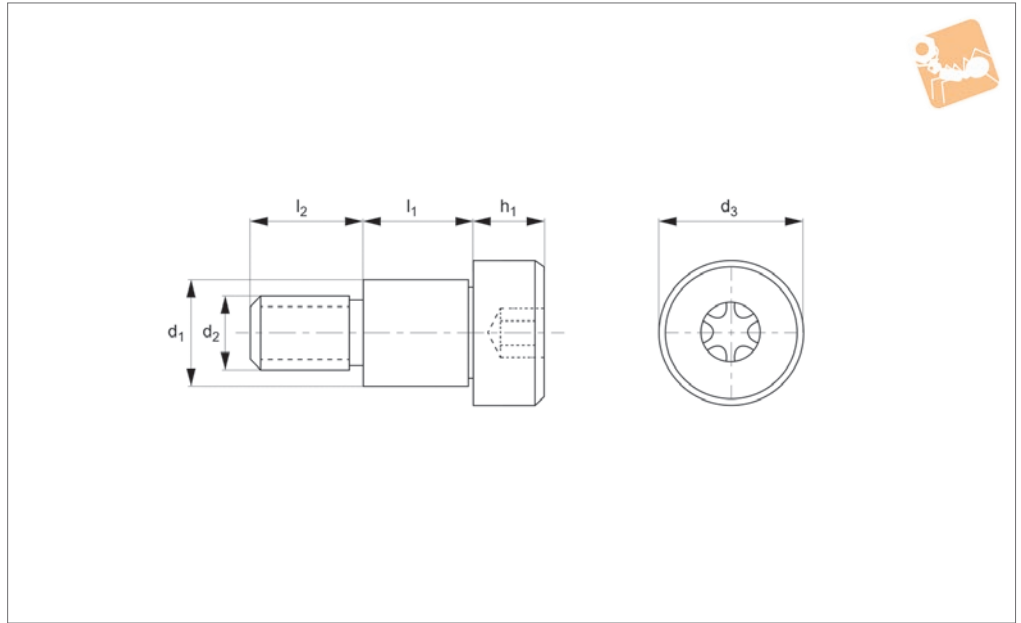
TX drive - 303 stainless



SHOULDER SCREWS



**P0145.A2**



**Material**

Stainless steel (AISI 303, 1.4305).  
Tensile strength 550 N/mm<sup>2</sup>.  
Proof stress min. 190 N/mm<sup>2</sup>, austenitic

stainless steel.

**Technical Notes**

303 series stainless steel provides good

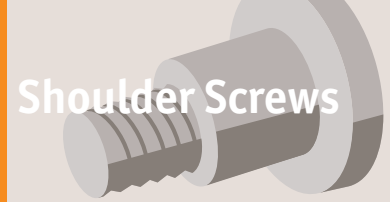
resistance to corrosion. It is mildly magnetic.

Order No.	d <sub>1</sub> +0.0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	TX size
P0145.040-002-A2	4	2	M 3	6	4	3	TX-10
P0145.040-003-A2	4	3	M 3	6	4	3	TX-10
P0145.040-004-A2	4	4	M 3	6	4	3	TX-10
P0145.040-005-A2	4	5	M 3	6	4	3	TX-10
P0145.040-006-A2	4	6	M 3	6	4	3	TX-10
P0145.040-007-A2	4	7	M 3	6	4	3	TX-10
P0145.040-008-A2	4	8	M 3	6	4	3	TX-10
P0145.040-010-A2	4	10	M 3	6	4	3	TX-10
P0145.040-012-A2	4	12	M 3	6	4	3	TX-10
P0145.040-014-A2	4	14	M 3	6	4	3	TX-10
P0145.040-016-A2	4	16	M 3	6	4	3	TX-10
P0145.040-018-A2	4	18	M 3	6	4	3	TX-10
P0145.040-020-A2	4	20	M 3	6	4	3	TX-10
P0145.040-025-A2	4	25	M 3	6	4	3	TX-10
P0145.040-030-A2	4	30	M 3	6	4	3	TX-10
P0145.040-035-A2	4	35	M 3	6	4	3	TX-10
P0145.040-040-A2	4	40	M 3	6	4	3	TX-10
P0145.040-045-A2	4	45	M 3	6	4	3	TX-10
P0145.040-050-A2	4	50	M 3	6	4	3	TX-10
P0145.050-002-A2	5	2	M 4	8	5	4	TX-20
P0145.050-003-A2	5	3	M 4	8	5	4	TX-20
P0145.050-004-A2	5	4	M 4	8	5	4	TX-20
P0145.050-005-A2	5	5	M 4	8	5	4	TX-20
P0145.050-006-A2	5	6	M 4	8	5	4	TX-20
P0145.050-007-A2	5	7	M 4	8	5	4	TX-20
P0145.050-008-A2	5	8	M 4	8	5	4	TX-20
P0145.050-010-A2	5	10	M 4	8	5	4	TX-20
P0145.050-012-A2	5	12	M 4	8	5	4	TX-20
P0145.050-014-A2	5	14	M 4	8	5	4	TX-20
P0145.050-016-A2	5	16	M 4	8	5	4	TX-20
P0145.050-018-A2	5	18	M 4	8	5	4	TX-20
P0145.050-020-A2	5	20	M 4	8	5	4	TX-20
P0145.050-025-A2	5	25	M 4	8	5	4	TX-20
P0145.050-030-A2	5	30	M 4	8	5	4	TX-20



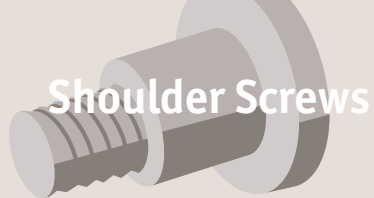
# Shoulder Screws - Cap Head

TX drive - 303 stainless



Order No.	d <sub>1</sub> +0.0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	TX size
P0145.050-035-A2	5	35	M 4	8	5	4	TX-20
P0145.050-040-A2	5	40	M 4	8	5	4	TX-20
P0145.050-045-A2	5	45	M 4	8	5	4	TX-20
P0145.050-050-A2	5	50	M 4	8	5	4	TX-20
P0145.060-002-A2	6	2	M 5	10	6	5	TX-25
P0145.060-003-A2	6	3	M 5	10	6	5	TX-25
P0145.060-004-A2	6	4	M 5	10	6	5	TX-25
P0145.060-005-A2	6	5	M 5	10	6	5	TX-25
P0145.060-006-A2	6	6	M 5	10	6	5	TX-25
P0145.060-007-A2	6	7	M 5	10	6	5	TX-25
P0145.060-008-A2	6	8	M 5	10	6	5	TX-25
P0145.060-010-A2	6	10	M 5	10	6	5	TX-25
P0145.060-012-A2	6	12	M 5	10	6	5	TX-25
P0145.060-014-A2	6	14	M 5	10	6	5	TX-25
P0145.060-016-A2	6	16	M 5	10	6	5	TX-25
P0145.060-018-A2	6	18	M 5	10	6	5	TX-25
P0145.060-020-A2	6	20	M 5	10	6	5	TX-25
P0145.060-025-A2	6	25	M 5	10	6	5	TX-25
P0145.060-030-A2	6	30	M 5	10	6	5	TX-25
P0145.060-035-A2	6	35	M 5	10	6	5	TX-25
P0145.060-040-A2	6	40	M 5	10	6	5	TX-25
P0145.060-045-A2	6	45	M 5	10	6	5	TX-25
P0145.060-050-A2	6	50	M 5	10	6	5	TX-25
P0145.060-055-A2	6	55	M 5	10	6	5	TX-25
P0145.060-060-A2	6	60	M 5	10	6	5	TX-25
P0145.060-070-A2	6	70	M 5	10	6	5	TX-25
P0145.060-080-A2	6	80	M 5	10	6	5	TX-25
P0145.060-090-A2	6	90	M 5	10	6	5	TX-25
P0145.060-100-A2	6	100	M 5	10	6	5	TX-25
P0145.080-004-A2	8	4	M 6	12	11	6	TX-30
P0145.080-005-A2	8	5	M 6	12	11	6	TX-30
P0145.080-006-A2	8	6	M 6	12	11	6	TX-30
P0145.080-007-A2	8	7	M 6	12	11	6	TX-30
P0145.080-008-A2	8	8	M 6	12	11	6	TX-30
P0145.080-010-A2	8	10	M 6	12	11	6	TX-30
P0145.080-012-A2	8	12	M 6	12	11	6	TX-30
P0145.080-014-A2	8	14	M 6	12	11	6	TX-30
P0145.080-016-A2	8	16	M 6	12	11	6	TX-30
P0145.080-018-A2	8	18	M 6	12	11	6	TX-30
P0145.080-020-A2	8	20	M 6	12	11	6	TX-30
P0145.080-025-A2	8	25	M 6	12	11	6	TX-30
P0145.080-030-A2	8	30	M 6	12	11	6	TX-30
P0145.080-035-A2	8	35	M 6	12	11	6	TX-30
P0145.080-040-A2	8	40	M 6	12	11	6	TX-30
P0145.080-045-A2	8	45	M 6	12	11	6	TX-30
P0145.080-050-A2	8	50	M 6	12	11	6	TX-30
P0145.080-055-A2	8	55	M 6	12	11	6	TX-30
P0145.080-060-A2	8	60	M 6	12	11	6	TX-30
P0145.080-065-A2	8	65	M 6	12	11	6	TX-30
P0145.080-070-A2	8	70	M 6	12	11	6	TX-30
P0145.080-075-A2	8	75	M 6	12	11	6	TX-30
P0145.080-080-A2	8	80	M 6	12	11	6	TX-30
P0145.080-090-A2	8	90	M 6	12	11	6	TX-30
P0145.080-100-A2	8	100	M 6	12	11	6	TX-30
P0145.100-008-A2	10	8	M 8	14	12	7	TX-45
P0145.100-010-A2	10	10	M 8	14	12	7	TX-45
P0145.100-012-A2	10	12	M 8	14	12	7	TX-45
P0145.100-014-A2	10	14	M 8	14	12	7	TX-45
P0145.100-016-A2	10	16	M 8	14	12	7	TX-45
P0145.100-018-A2	10	18	M 8	14	12	7	TX-45
P0145.100-020-A2	10	20	M 8	14	12	7	TX-45
P0145.100-025-A2	10	25	M 8	14	12	7	TX-45
P0145.100-030-A2	10	30	M 8	14	12	7	TX-45
P0145.100-035-A2	10	35	M 8	14	12	7	TX-45
P0145.100-040-A2	10	40	M 8	14	12	7	TX-45
P0145.100-045-A2	10	45	M 8	14	12	7	TX-45
P0145.100-050-A2	10	50	M 8	14	12	7	TX-45
P0145.100-055-A2	10	55	M 8	14	12	7	TX-45

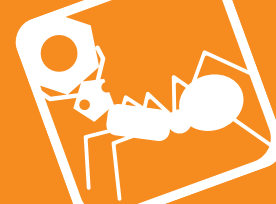
SHOULDER SCREWS



# Shoulder Screws

## Shoulder Screws - Cap Head

TX drive - 303 stainless



SHOULDER SCREWS

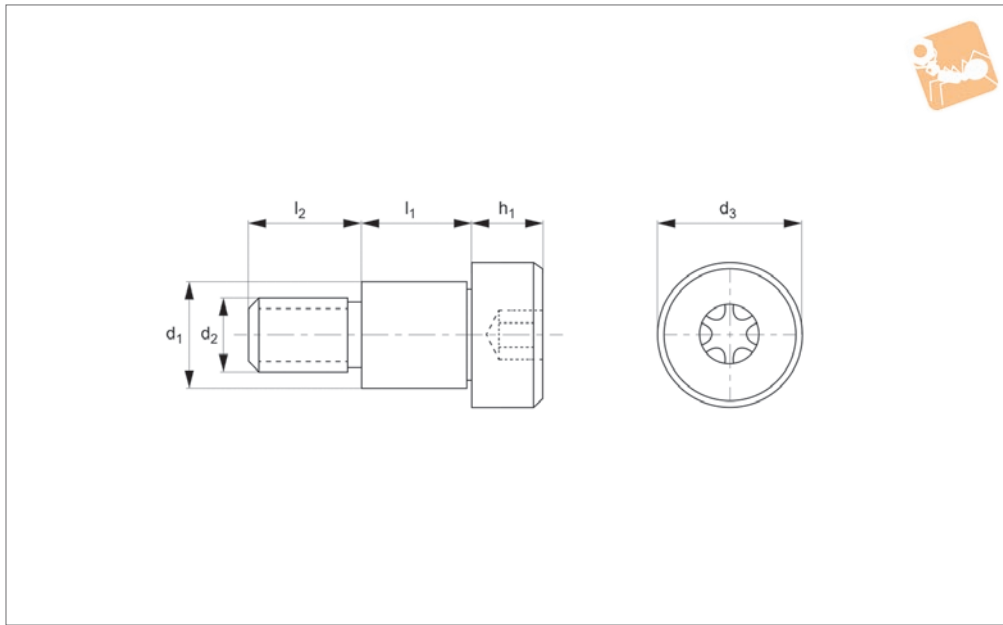
Order No.	d <sub>1</sub> +0.0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	TX size
P0145.100-060-A2	10	60	M 8	14	12	7	TX-45
P0145.100-065-A2	10	65	M 8	14	12	7	TX-45
P0145.100-070-A2	10	70	M 8	14	12	7	TX-45
P0145.100-080-A2	10	80	M 8	14	12	7	TX-45
P0145.100-090-A2	10	90	M 8	14	12	7	TX-45
P0145.100-100-A2	10	100	M 8	14	12	7	TX-45
P0145.120-008-A2	12	8	M10	20	16	8	TX-50
P0145.120-010-A2	12	10	M10	20	16	8	TX-50
P0145.120-012-A2	12	12	M10	20	16	8	TX-50
P0145.120-014-A2	12	14	M10	20	16	8	TX-50
P0145.120-016-A2	12	16	M10	20	16	8	TX-50
P0145.120-018-A2	12	18	M10	20	16	8	TX-50
P0145.120-020-A2	12	20	M10	20	16	8	TX-50
P0145.120-025-A2	12	25	M10	20	16	8	TX-50
P0145.120-030-A2	12	30	M10	20	16	8	TX-50
P0145.120-035-A2	12	35	M10	20	16	8	TX-50
P0145.120-040-A2	12	40	M10	20	16	8	TX-50
P0145.120-045-A2	12	45	M10	20	16	8	TX-50
P0145.120-050-A2	12	50	M10	20	16	8	TX-50
P0145.120-055-A2	12	55	M10	20	16	8	TX-50
P0145.120-060-A2	12	60	M10	20	16	8	TX-50
P0145.120-065-A2	12	65	M10	20	16	8	TX-50
P0145.120-070-A2	12	70	M10	20	16	8	TX-50
P0145.120-075-A2	12	75	M10	20	16	8	TX-50
P0145.120-080-A2	12	80	M10	20	16	8	TX-50
P0145.120-090-A2	12	90	M10	20	16	8	TX-50
P0145.120-100-A2	12	100	M10	20	16	8	TX-50
P0145.160-025-A2	16	25	M12	24	18	11	TX-60
P0145.160-030-A2	16	30	M12	24	18	11	TX-60
P0145.160-035-A2	16	35	M12	24	18	11	TX-60
P0145.160-040-A2	16	40	M12	24	18	11	TX-60
P0145.160-045-A2	16	45	M12	24	18	11	TX-60
P0145.160-050-A2	16	50	M12	24	18	11	TX-60
P0145.160-055-A2	16	55	M12	24	18	11	TX-60
P0145.160-060-A2	16	60	M12	24	18	11	TX-60
P0145.160-065-A2	16	65	M12	24	18	11	TX-60
P0145.160-070-A2	16	70	M12	24	18	11	TX-60
P0145.160-075-A2	16	75	M12	24	18	11	TX-60
P0145.160-080-A2	16	80	M12	24	18	11	TX-60
P0145.160-090-A2	16	90	M12	24	18	11	TX-60
P0145.160-100-A2	16	100	M12	24	18	11	TX-60
P0145.200-030-A2	20	30	M16	30	22	14	TX-70
P0145.200-035-A2	20	35	M16	30	22	14	TX-70
P0145.200-040-A2	20	40	M16	30	22	14	TX-70
P0145.200-045-A2	20	45	M16	30	22	14	TX-70
P0145.200-050-A2	20	50	M16	30	22	14	TX-70
P0145.200-055-A2	20	55	M16	30	22	14	TX-70
P0145.200-060-A2	20	60	M16	30	22	14	TX-70
P0145.200-065-A2	20	65	M16	30	22	14	TX-70
P0145.200-070-A2	20	70	M16	30	22	14	TX-70
P0145.200-075-A2	20	75	M16	30	22	14	TX-70
P0145.200-080-A2	20	80	M16	30	22	14	TX-70
P0145.200-090-A2	20	90	M16	30	22	14	TX-70
P0145.200-100-A2	20	100	M16	30	22	14	TX-70



# Shoulder Screws - Cap Head

TX drive - 316 stainless

## Shoulder Screws



**P0145.A4**

SHOULDER SCREWS

**Material**

Stainless steel (AISI 316, 1.440).  
316 series tensile strength 480 N/mm<sup>2</sup>,  
proof stress min. 200 N/mm<sup>2</sup>, austenitic

stainless steel.

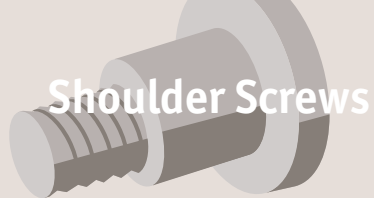
**Technical Notes**

Highly resistant to corrosion (including

from salt water).

Shim washers can be used to reduce  
shoulder length if required. It is non-  
magnetic.

Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	TX size
P0145.040-002-A4	4	2	M 3	6	4	3	TX-10
P0145.040-003-A4	4	3	M 3	6	4	3	TX-10
P0145.040-004-A4	4	4	M 3	6	4	3	TX-10
P0145.040-005-A4	4	5	M 3	6	4	3	TX-10
P0145.040-006-A4	4	6	M 3	6	4	3	TX-10
P0145.040-007-A4	4	7	M 3	6	4	3	TX-10
P0145.040-008-A4	4	8	M 3	6	4	3	TX-10
P0145.040-010-A4	4	10	M 3	6	4	3	TX-10
P0145.040-012-A4	4	12	M 3	6	4	3	TX-10
P0145.040-014-A4	4	14	M 3	6	4	3	TX-10
P0145.040-016-A4	4	16	M 3	6	4	3	TX-10
P0145.040-018-A4	4	18	M 3	6	4	3	TX-10
P0145.040-020-A4	4	20	M 3	6	4	3	TX-10
P0145.040-025-A4	4	25	M 3	6	4	3	TX-10
P0145.040-030-A4	4	30	M 3	6	4	3	TX-10
P0145.040-035-A4	4	35	M 3	6	4	3	TX-10
P0145.040-040-A4	4	40	M 3	6	4	3	TX-10
P0145.040-045-A4	4	45	M 3	6	4	3	TX-10
P0145.040-050-A4	4	50	M 3	6	4	3	TX-10
P0145.050-002-A4	5	2	M 4	8	5	4	TX-20
P0145.050-003-A4	5	3	M 4	8	5	4	TX-20
P0145.050-004-A4	5	4	M 4	8	5	4	TX-20
P0145.050-005-A4	5	5	M 4	8	5	4	TX-20
P0145.050-006-A4	5	6	M 4	8	5	4	TX-20
P0145.050-007-A4	5	7	M 4	8	5	4	TX-20
P0145.050-008-A4	5	8	M 4	8	5	4	TX-20
P0145.050-010-A4	5	10	M 4	8	5	4	TX-20
P0145.050-012-A4	5	12	M 4	8	5	4	TX-20
P0145.050-014-A4	5	14	M 4	8	5	4	TX-20
P0145.050-016-A4	5	16	M 4	8	5	4	TX-20
P0145.050-018-A4	5	18	M 4	8	5	4	TX-20
P0145.050-020-A4	5	20	M 4	8	5	4	TX-20
P0145.050-025-A4	5	25	M 4	8	5	4	TX-20
P0145.050-030-A4	5	30	M 4	8	5	4	TX-20



# Shoulder Screws

# Shoulder Screws - Cap Head

TX drive - 316 stainless



SHOULDER SCREWS

Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	TX size
P0145.050-035-A4	5	35	M 4	8	5	4	TX-20
P0145.050-040-A4	5	40	M 4	8	5	4	TX-20
P0145.050-045-A4	5	45	M 4	8	5	4	TX-20
P0145.050-050-A4	5	50	M 4	8	5	4	TX-20
P0145.060-002-A4	6	2	M 5	10	6	5	TX-25
P0145.060-003-A4	6	3	M 5	10	6	5	TX-25
P0145.060-004-A4	6	4	M 5	10	6	5	TX-25
P0145.060-005-A4	6	5	M 5	10	6	5	TX-25
P0145.060-006-A4	6	6	M 5	10	6	5	TX-25
P0145.060-007-A4	6	7	M 5	10	6	5	TX-25
P0145.060-008-A4	6	8	M 5	10	6	5	TX-25
P0145.060-010-A4	6	10	M 5	10	6	5	TX-25
P0145.060-012-A4	6	12	M 5	10	6	5	TX-25
P0145.060-014-A4	6	14	M 5	10	6	5	TX-25
P0145.060-016-A4	6	16	M 5	10	6	5	TX-25
P0145.060-018-A4	6	18	M 5	10	6	5	TX-25
P0145.060-020-A4	6	20	M 5	10	6	5	TX-25
P0145.060-025-A4	6	25	M 5	10	6	5	TX-25
P0145.060-030-A4	6	30	M 5	10	6	5	TX-25
P0145.060-035-A4	6	35	M 5	10	6	5	TX-25
P0145.060-040-A4	6	40	M 5	10	6	5	TX-25
P0145.060-045-A4	6	45	M 5	10	6	5	TX-25
P0145.060-050-A4	6	50	M 5	10	6	5	TX-25
P0145.060-055-A4	6	55	M 5	10	6	5	TX-25
P0145.060-060-A4	6	60	M 5	10	6	5	TX-25
P0145.060-070-A4	6	70	M 5	10	6	5	TX-25
P0145.060-080-A4	6	80	M 5	10	6	5	TX-25
P0145.060-090-A4	6	90	M 5	10	6	5	TX-25
P0145.060-100-A4	6	100	M 5	10	6	5	TX-25
P0145.080-004-A4	8	4	M 6	12	11	6	TX-30
P0145.080-005-A4	8	5	M 6	12	11	6	TX-30
P0145.080-006-A4	8	6	M 6	12	11	6	TX-30
P0145.080-007-A4	8	7	M 6	12	11	6	TX-30
P0145.080-008-A4	8	8	M 6	12	11	6	TX-30
P0145.080-010-A4	8	10	M 6	12	11	6	TX-30
P0145.080-012-A4	8	12	M 6	12	11	6	TX-30
P0145.080-014-A4	8	14	M 6	12	11	6	TX-30
P0145.080-016-A4	8	16	M 6	12	11	6	TX-30
P0145.080-018-A4	8	18	M 6	12	11	6	TX-30
P0145.080-020-A4	8	20	M 6	12	11	6	TX-30
P0145.080-025-A4	8	25	M 6	12	11	6	TX-30
P0145.080-030-A4	8	30	M 6	12	11	6	TX-30
P0145.080-035-A4	8	35	M 6	12	11	6	TX-30
P0145.080-040-A4	8	40	M 6	12	11	6	TX-30
P0145.080-045-A4	8	45	M 6	12	11	6	TX-30
P0145.080-050-A4	8	50	M 6	12	11	6	TX-30
P0145.080-055-A4	8	55	M 6	12	11	6	TX-30
P0145.080-060-A4	8	60	M 6	12	11	6	TX-30
P0145.080-065-A4	8	65	M 6	12	11	6	TX-30
P0145.080-070-A4	8	70	M 6	12	11	6	TX-30
P0145.080-075-A4	8	75	M 6	12	11	6	TX-30
P0145.080-080-A4	8	80	M 6	12	11	6	TX-30
P0145.080-090-A4	8	90	M 6	12	11	6	TX-30
P0145.080-100-A4	8	100	M 6	12	11	6	TX-30
P0145.100-008-A4	10	8	M 8	14	12	7	TX-45
P0145.100-010-A4	10	10	M 8	14	12	7	TX-45
P0145.100-012-A4	10	12	M 8	14	12	7	TX-45
P0145.100-014-A4	10	14	M 8	14	12	7	TX-45
P0145.100-016-A4	10	16	M 8	14	12	7	TX-45
P0145.100-018-A4	10	18	M 8	14	12	7	TX-45
P0145.100-020-A4	10	20	M 8	14	12	7	TX-45
P0145.100-025-A4	10	25	M 8	14	12	7	TX-45
P0145.100-030-A4	10	30	M 8	14	12	7	TX-45
P0145.100-035-A4	10	35	M 8	14	12	7	TX-45
P0145.100-040-A4	10	40	M 8	14	12	7	TX-45
P0145.100-045-A4	10	45	M 8	14	12	7	TX-45
P0145.100-050-A4	10	50	M 8	14	12	7	TX-45
P0145.100-055-A4	10	55	M 8	14	12	7	TX-45





# Shoulder Screws - Cap Head

TX drive - 316 stainless

## Shoulder Screws



Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	TX size
P0145.100-060-A4	10	60	M 8	14	12	7	TX-45
P0145.100-065-A4	10	65	M 8	14	12	7	TX-45
P0145.100-070-A4	10	70	M 8	14	12	7	TX-45
P0145.100-080-A4	10	80	M 8	14	12	7	TX-45
P0145.100-090-A4	10	90	M 8	14	12	7	TX-45
P0145.100-100-A4	10	100	M 8	14	12	7	TX-45
P0145.120-008-A4	12	8	M10	20	16	8	TX-50
P0145.120-010-A4	12	10	M10	20	16	8	TX-50
P0145.120-012-A4	12	12	M10	20	16	8	TX-50
P0145.120-014-A4	12	14	M10	20	16	8	TX-50
P0145.120-016-A4	12	16	M10	20	16	8	TX-50
P0145.120-018-A4	12	18	M10	20	16	8	TX-50
P0145.120-020-A4	12	20	M10	20	16	8	TX-50
P0145.120-025-A4	12	25	M10	20	16	8	TX-50
P0145.120-030-A4	12	30	M10	20	16	8	TX-50
P0145.120-035-A4	12	35	M10	20	16	8	TX-50
P0145.120-040-A4	12	40	M10	20	16	8	TX-50
P0145.120-045-A4	12	45	M10	20	16	8	TX-50
P0145.120-050-A4	12	50	M10	20	16	8	TX-50
P0145.120-055-A4	12	55	M10	20	16	8	TX-50
P0145.120-060-A4	12	60	M10	20	16	8	TX-50
P0145.120-065-A4	12	65	M10	20	16	8	TX-50
P0145.120-070-A4	12	70	M10	20	16	8	TX-50
P0145.120-075-A4	12	75	M10	20	16	8	TX-50
P0145.120-080-A4	12	80	M10	20	16	8	TX-50
P0145.120-090-A4	12	90	M10	20	16	8	TX-50
P0145.120-100-A4	12	100	M10	20	16	8	TX-50
P0145.160-025-A4	16	25	M12	24	18	11	TX-60
P0145.160-030-A4	16	30	M12	24	18	11	TX-60
P0145.160-035-A4	16	35	M12	24	18	11	TX-60
P0145.160-040-A4	16	40	M12	24	18	11	TX-60
P0145.160-045-A4	16	45	M12	24	18	11	TX-60
P0145.160-050-A4	16	50	M12	24	18	11	TX-60
P0145.160-055-A4	16	55	M12	24	18	11	TX-60
P0145.160-060-A4	16	60	M12	24	18	11	TX-60
P0145.160-065-A4	16	65	M12	24	18	11	TX-60
P0145.160-070-A4	16	70	M12	24	18	11	TX-60
P0145.160-075-A4	16	75	M12	24	18	11	TX-60
P0145.160-080-A4	16	80	M12	24	18	11	TX-60
P0145.160-090-A4	16	90	M12	24	18	11	TX-60
P0145.160-100-A4	16	100	M12	24	18	11	TX-60
P0145.200-030-A4	20	30	M16	30	22	14	TX-70
P0145.200-035-A4	20	35	M16	30	22	14	TX-70
P0145.200-040-A4	20	40	M16	30	22	14	TX-70
P0145.200-045-A4	20	45	M16	30	22	14	TX-70
P0145.200-050-A4	20	50	M16	30	22	14	TX-70
P0145.200-055-A4	20	55	M16	30	22	14	TX-70
P0145.200-060-A4	20	60	M16	30	22	14	TX-70
P0145.200-065-A4	20	65	M16	30	22	14	TX-70
P0145.200-070-A4	20	70	M16	30	22	14	TX-70
P0145.200-075-A4	20	75	M16	30	22	14	TX-70
P0145.200-080-A4	20	80	M16	30	22	14	TX-70
P0145.200-090-A4	20	90	M16	30	22	14	TX-70
P0145.200-100-A4	20	100	M16	30	22	14	TX-70

SHOULDER SCREWS



SHOULDER SCREWS

### Steel shoulder screws

These are our least expensive option. They are produced to ISO 7379 standards.

Thread sizes from Ø4 M3 to Ø24 M20. We manufacture special shoulder screws to customer drawings with a minimum batch size.



### Stainless steel shoulder screws

We have three different grades of stainless steel shoulder screws:

**303 series** – these are our standard grade of stainless (P0130.A2). They are strong and resistant to corrosion but not to very harsh environments such as salt water.




**416 series** – these are made from harder stainless steel with improved shear strengths but the parts are more prone to corrosion (see part no. P0131 and P0133).

**316 series** – these shoulder screws (P0130.A4) are very resistant to corrosion but are considerably more expensive than other stainless versions.



### Shoulder bolts

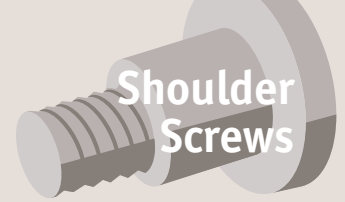
Our range of precision shoulder bolts with hexagonal heads come in both steel (grades 8.8 and 10.9) and stainless steel (303 and 316 stainless). These bolts are manufactured to DIN 609 and DIN 610. We also have shoulder bolts for construction, manufactured to DIN 7968.

	DIN 609 standard length thread	DIN 610 short length thread	DIN 7968 construction
<b>Grade 8.8 steel</b> 	P0138.SC	P0140.SC	P0142
<b>Grade 10.9 steel</b> 	P0139	P0141	-
<b>303 stainless steel</b> 	P0138.A2	P0140.A2	-



# Product Overview

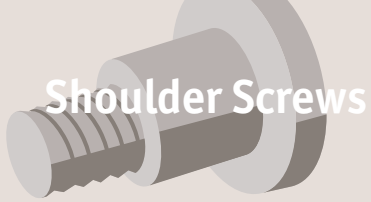
## Shoulder Screws & Shoulder Bolts



# Shoulder Screw from Automotion Components

SHOULDER SCREWS

Part No.		Material	Head	Corrosion resistance	Strength	Ø/thread	DIN/ISO
P0130		303 stainless steel	Hex socket	✓✓	✓	Min: Ø4/M3 Max: Ø20/M16	-
P0130.A4		316 stainless steel	Hex socket	✓✓✓	✓	Min: Ø4/M3 Max: Ø20/M16	ISO 7379
P0131		416 stainless steel	Hex socket	✓	✓✓	Min: Ø4/M3 Max: Ø12/M10	-
P0132		303 stainless steel	Slotted	✓✓	✓	Min: Ø4/M3 Max: Ø12/M10	-
P0133		416 stainless steel	Slotted	✓	✓✓	Min: Ø4/M3 Max: Ø12/M10	-
P0134		303 stainless steel	Hex socket	✓✓	✓	Min: Ø4/M3 Max: Ø8/M6	-
P0135		303 stainless steel	Hex head	✓✓	✓	Min: Ø4/M3 Max: Ø12/M10	-
P0136		Steel 12,9	Hex socket	✗	✓✓	Min: Ø4/M3 Max: Ø24/M20	ISO 7379
P0137		304 stainless steel	Hex socket	✓✓	✓	Min: Ø6/M5 Max: Ø20/M16	ISO 7379
P0138		Steel 8,8	Hex head (long thread)	✗	✓	Min: Ø9/M8 Max: Ø44/M42	DIN 610
P0139		Steel 10,9	Hex head (long thread)	✗	✓✓	Min: Ø9/M8 Max: Ø38/M36	DIN 610
P0140		Steel 8,8	Hex socket (short thread)	✗	✓✓	Min: Ø9/M8 Max: Ø44/M42	DIN 609
P0141		Steel 10,9	Hex socket (short thread)	✗	✓✓	Min: Ø9/M8 Max: Ø38/M36	DIN 609
P0142		Steel 8,8	Hex head	✗	✓✓	Min: Ø12/M12 Max: Ø27/M27	DIN 7968
P0144		303 stainless steel	Pan head	✓✓	✓✓	Min: Ø4/M3 Max: Ø10/M8	DIN 923



# Shoulder Screws

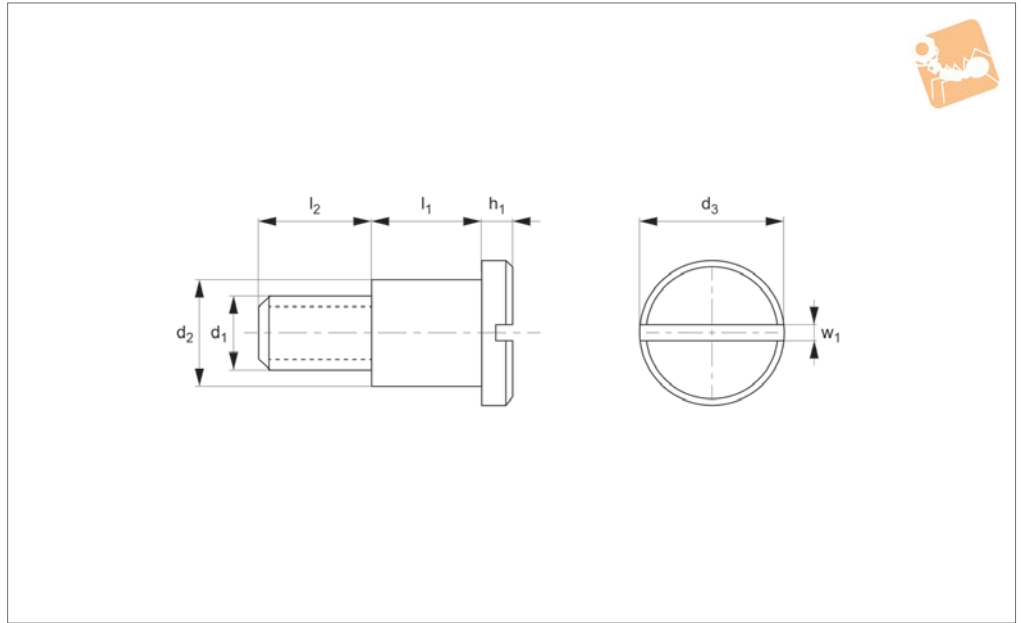
## Pan Head Shoulder Screws steel, zinc-plated



SHOULDER SCREWS



**P0144.ZP**



**Material**  
Steel, zinc-plated.

**Technical Notes**  
To DIN 923.

Order No.	d <sub>1</sub>	l <sub>1</sub>	d <sub>2</sub> tol. h9	d <sub>3</sub>	h <sub>1</sub>	l <sub>2</sub>	w <sub>1</sub>
P0144.020-002-ZP	M 2	2	2.8	4.5	1.2	3.0	0.5
P0144.020-003-ZP	M 2	3	2.8	4.5	1.2	3.0	0.5
P0144.020-004-ZP	M 2	4	2.8	4.5	1.2	3.0	0.5
P0144.020-005-ZP	M 2	5	2.8	4.5	1.2	3.0	0.5
P0144.020-006-ZP	M 2	6	2.8	4.5	1.2	3.0	0.5
P0144.020-008-ZP	M 2	8	2.8	4.5	1.2	3.0	0.5
P0144.020-012-ZP	M 2	12	2.8	4.5	1.2	3.0	0.5
P0144.025-003-ZP	M2,5	3	2.8	4.5	1.2	3.0	0.5
P0144.025-004-ZP	M2,5	4	2.8	4.5	1.2	3.0	0.5
P0144.025-005-ZP	M2,5	5	2.8	4.5	1.2	3.0	0.5
P0144.025-006-ZP	M2,5	6	2.8	4.5	1.2	3.0	0.5
P0144.025-008-ZP	M2,5	8	2.8	4.5	1.2	3.0	0.5
P0144.030-001-ZP	M 3	1	4.0	7.0	1.8	4.5	0.8
P0144.030-002-ZP	M 3	2	4.0	7.0	1.8	4.5	0.8
P0144.030-003-ZP	M 3	3	4.0	7.0	1.8	4.5	0.8
P0144.030-004-ZP	M 3	4	4.0	7.0	1.8	4.5	0.8
P0144.030-005-ZP	M 3	5	4.0	7.0	1.8	4.5	0.8
P0144.030-006-ZP	M 3	6	4.0	7.0	1.8	4.5	0.8
P0144.030-008-ZP	M 3	8	4.0	7.0	1.8	4.5	0.8
P0144.030-010-ZP	M 3	10	4.0	7.0	1.8	4.5	0.8
P0144.030-012-ZP	M 3	12	4.0	7.0	1.8	4.5	0.8
P0144.030-016-ZP	M 3	16	4.0	7.0	1.8	4.5	0.8
P0144.030-030-ZP	M 3	30	4.0	7.0	1.8	4.5	0.8
P0144.040-002-ZP	M 4	2	5.5	8.5	2.4	6.0	1.0
P0144.040-003-ZP	M 4	3	5.5	8.5	2.4	6.0	1.0
P0144.040-004-ZP	M 4	4	5.5	8.5	2.4	6.0	1.0
P0144.040-005-ZP	M 4	5	5.5	8.5	2.4	6.0	1.0
P0144.040-006-ZP	M 4	6	5.5	8.5	2.4	6.0	1.0
P0144.040-008-ZP	M 4	8	5.5	8.5	2.4	6.0	1.0
P0144.040-010-ZP	M 4	10	5.5	8.5	2.4	6.0	1.0
P0144.040-012-ZP	M 4	12	5.5	8.5	2.4	6.0	1.0
P0144.040-016-ZP	M 4	16	5.5	8.5	2.4	6.0	1.0
P0144.040-020-ZP	M 4	20	5.5	8.5	2.4	6.0	1.0
P0144.040-030-ZP	M 4	30	5.5	8.5	2.4	6.0	1.0



# Pan Head Shoulder Screws

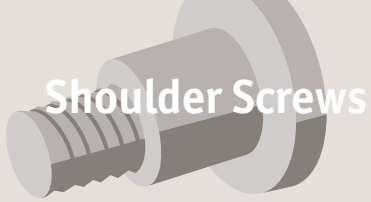
steel, zinc-plated

## Shoulder Screws



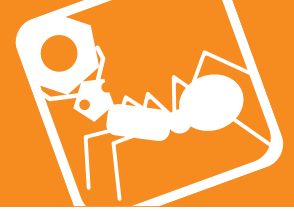
Order No.	d <sub>1</sub>	l <sub>1</sub>	d <sub>2</sub> tol. h9	d <sub>3</sub>	h <sub>1</sub>	l <sub>2</sub>	w <sub>1</sub>
P0144.050-002-ZP	M 5	2	7.0	11.0	2.7	7.0	1.2
P0144.050-003-ZP	M 5	3	7.0	11.0	2.7	7.0	1.2
P0144.050-004-ZP	M 5	4	7.0	11.0	2.7	7.0	1.2
P0144.050-005-ZP	M 5	5	7.0	11.0	2.7	7.0	1.2
P0144.050-006-ZP	M 5	6	7.0	11.0	2.7	7.0	1.2
P0144.050-008-ZP	M 5	8	7.0	11.0	2.7	7.0	1.2
P0144.050-010-ZP	M 5	10	7.0	11.0	2.7	7.0	1.2
P0144.050-012-ZP	M 5	12	7.0	11.0	2.7	7.0	1.2
P0144.050-016-ZP	M 5	16	7.0	11.0	2.7	7.0	1.2
P0144.050-020-ZP	M 5	20	7.0	11.0	2.7	7.0	1.2
P0144.050-025-ZP	M 5	25	7.0	11.0	2.7	7.0	1.2
P0144.060-002-ZP	M 6	2	8.0	13.0	3.1	9.0	1.6
P0144.060-003-ZP	M 6	3	8.0	13.0	3.1	9.0	1.6
P0144.060-004-ZP	M 6	4	8.0	13.0	3.1	9.0	1.6
P0144.060-005-ZP	M 6	5	8.0	13.0	3.1	9.0	1.6
P0144.060-006-ZP	M 6	6	8.0	13.0	3.1	9.0	1.6
P0144.060-008-ZP	M 6	8	8.0	13.0	3.1	9.0	1.6
P0144.060-010-ZP	M 6	10	8.0	13.0	3.1	9.0	1.6
P0144.060-012-ZP	M 6	12	8.0	13.0	3.1	9.0	1.6
P0144.060-016-ZP	M 6	16	8.0	13.0	3.1	9.0	1.6
P0144.060-020-ZP	M 6	16	8.0	13.0	3.1	9.0	1.6
P0144.060-025-ZP	M 6	25	8.0	13.0	3.1	9.0	1.6
P0144.080-004-ZP	M 8	4	10.0	16.0	3.8	11.0	2.0
P0144.080-005-ZP	M 8	5	10.0	16.0	3.8	11.0	2.0
P0144.080-006-ZP	M 8	6	10.0	16.0	3.8	11.0	2.0
P0144.080-008-ZP	M 8	8	10.0	16.0	3.8	11.0	2.0
P0144.080-010-ZP	M 8	10	10.0	16.0	3.8	11.0	2.0
P0144.080-012-ZP	M 8	12	10.0	16.0	3.8	11.0	2.0
P0144.080-016-ZP	M 8	16	10.0	16.0	3.8	11.0	2.0
P0144.080-020-ZP	M 8	20	10.0	16.0	3.8	11.0	2.0
P0144.080-025-ZP	M 8	25	10.0	16.0	3.8	11.0	2.0
P0144.100-005-ZP	M10	5	13.0	20.0	4.6	13.5	2.5
P0144.100-006-ZP	M10	6	13.0	20.0	4.6	13.5	2.5
P0144.100-008-ZP	M10	8	13.0	20.0	4.6	13.5	2.5
P0144.100-010-ZP	M10	10	13.0	20.0	4.6	13.5	2.5
P0144.100-012-ZP	M10	12	13.0	20.0	4.6	13.5	2.5
P0144.100-016-ZP	M10	16	13.0	20.0	4.6	13.5	2.5
P0144.100-020-ZP	M10	20	13.0	20.0	4.6	13.5	2.5
P0144.100-025-ZP	M10	25	13.0	20.0	4.6	13.5	2.5

SHOULDER SCREWS



# Shoulder Screws

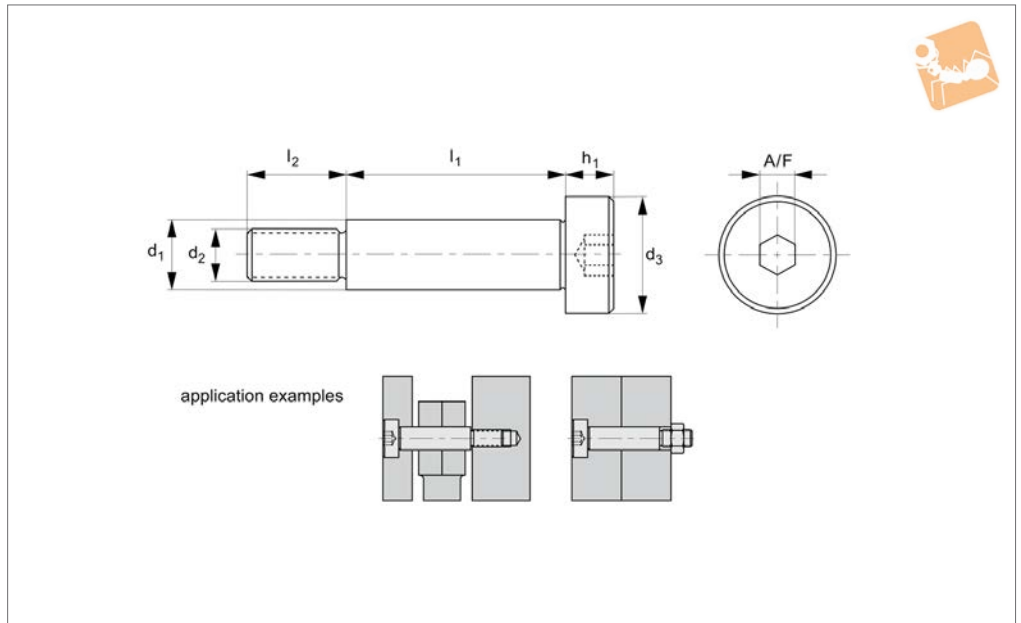
## Shoulder Screws - Hex. Socket Head steel- blackened



SHOULDER SCREWS



**P0136**



**Material**

Blackened alloy steel, high grade strength 012,9.  
Hardness 38 HRC, tensile strength 1200 N/mm<sup>2</sup>.

+300°C.

**Tips**

Torque to:  
M5 = 7,5 Nm. M6 = 13 Nm. M8 = 33 Nm.  
M10 = 60 Nm. M12 = 120 Nm. M16 = 270 Nm.

**Technical Notes**

To ISO 7379. Temperature range -50°C to

Order No.	d <sub>1</sub> tol. f9	l <sub>1</sub> +0.25	d <sub>2</sub>	d <sub>3</sub>	h <sub>1</sub>	l <sub>2</sub>	A/F
P0136.040-005	4	5	M 3	7	3	7	2
P0136.040-008	4	8	M 3	7	3	7	2
P0136.040-010	4	10	M 3	7	3	7	2
P0136.040-012	4	12	M 3	7	3	7	2
P0136.040-016	4	16	M 3	7	3	7	2
P0136.040-020	4	20	M 3	7	3	7	2
P0136.040-025	4	25	M 3	7	3	7	2
P0136.040-030	4	30	M 3	7	3	7	2
P0136.050-006	5	6	M 4	9	4	8	2.5
P0136.050-008	5	8	M 4	9	4	8	2.5
P0136.050-010	5	10	M 4	9	4	8	2.5
P0136.050-012	5	12	M 4	9	4	8	2.5
P0136.050-016	5	16	M 4	9	4	8	2.5
P0136.050-020	5	20	M 4	9	4	8	2.5
P0136.050-025	5	25	M 4	9	4	8	2.5
P0136.050-030	5	30	M 4	9	4	8	2.5
P0136.060-006	6	6	M 5	10	4.5	9.5	3
P0136.060-008	6	8	M 5	10	4.5	9.5	3
P0136.060-010	6	10	M 5	10	4.5	9.5	3
P0136.060-012	6	12	M 5	10	4.5	9.5	3
P0136.060-016	6	16	M 5	10	4.5	9.5	3
P0136.060-020	6	20	M 5	10	4.5	9.5	3
P0136.060-025	6	25	M 5	10	4.5	9.5	3
P0136.060-030	6	30	M 5	10	4.5	9.5	3
P0136.060-035	6	35	M 5	10	4.5	9.5	3
P0136.060-040	6	40	M 5	10	4.5	9.5	3
P0136.060-045	6	45	M 5	10	4.5	9.5	3
P0136.060-050	6	50	M 5	10	4.5	9.5	3
P0136.060-055	6	55	M 5	10	4.5	9.5	3
P0136.060-060	6	60	M 5	10	4.5	9.5	3



# Shoulder Screws - Hex. Socket Head

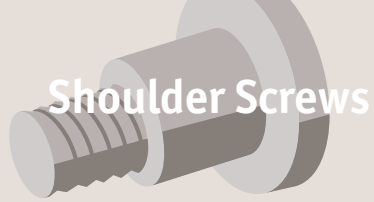
steel- blackened

## Shoulder Screws



Order No.	d <sub>1</sub> tol. f9	l <sub>1</sub> +0,25	d <sub>2</sub>	d <sub>3</sub>	h <sub>1</sub>	l <sub>2</sub>	A/F
P0136.060-065	6	65	M 5	10	4.5	9.5	3
P0136.060-070	6	70	M 5	10	4.5	9.5	3
P0136.060-075	6	75	M 5	10	4.5	9.5	3
P0136.060-080	6	80	M 5	10	4.5	9.5	3
P0136.060-090	6	90	M 5	10	4.5	9.5	3
P0136.060-100	6	100	M 5	10	4.5	9.5	3
P0136.080-008	8	8	M 6	13	5.5	11	4
P0136.080-010	8	10	M 6	13	5.5	11	4
P0136.080-012	8	12	M 6	13	5.5	11	4
P0136.080-016	8	16	M 6	13	5.5	11	4
P0136.080-020	8	20	M 6	13	5.5	11	4
P0136.080-025	8	25	M 6	13	5.5	11	4
P0136.080-030	8	30	M 6	13	5.5	11	4
P0136.080-035	8	35	M 6	13	5.5	11	4
P0136.080-040	8	40	M 6	13	5.5	11	4
P0136.080-045	8	45	M 6	13	5.5	11	4
P0136.080-050	8	50	M 6	13	5.5	11	4
P0136.080-055	8	55	M 6	13	5.5	11	4
P0136.080-060	8	60	M 6	13	5.5	11	4
P0136.080-065	8	65	M 6	13	5.5	11	4
P0136.080-070	8	70	M 6	13	5.5	11	4
P0136.080-075	8	75	M 6	13	5.5	11	4
P0136.080-080	8	80	M 6	13	5.5	11	4
P0136.080-090	8	90	M 6	13	5.5	11	4
P0136.080-100	8	100	M 6	13	5.5	11	4
P0136.100-010	10	10	M 8	16	7	13	5
P0136.100-012	10	12	M 8	16	7	13	5
P0136.100-016	10	16	M 8	16	7	13	5
P0136.100-020	10	20	M 8	16	7	13	5
P0136.100-025	10	25	M 8	16	7	13	5
P0136.100-030	10	30	M 8	16	7	13	5
P0136.100-035	10	35	M 8	16	7	13	5
P0136.100-040	10	40	M 8	16	7	13	5
P0136.100-045	10	45	M 8	16	7	13	5
P0136.100-050	10	50	M 8	16	7	13	5
P0136.100-055	10	55	M 8	16	7	13	5
P0136.100-060	10	60	M 8	16	7	13	5
P0136.100-065	10	65	M 8	16	7	13	5
P0136.100-070	10	70	M 8	16	7	13	5
P0136.100-075	10	75	M 8	16	7	13	5
P0136.100-080	10	80	M 8	16	7	13	5
P0136.100-090	10	90	M 8	16	7	13	5
P0136.100-100	10	100	M 8	16	7	13	5
P0136.100-120	10	120	M 8	16	7	13	5
P0136.120-012	12	12	M10	18	9	16	6
P0136.120-016	12	16	M10	18	9	16	6
P0136.120-020	12	20	M10	18	9	16	6
P0136.120-025	12	25	M10	18	9	16	6
P0136.120-030	12	30	M10	18	9	16	6
P0136.120-035	12	35	M10	18	9	16	6
P0136.120-040	12	40	M10	18	9	16	6
P0136.120-045	12	45	M10	18	9	16	6
P0136.120-050	12	50	M10	18	9	16	6
P0136.120-055	12	55	M10	18	9	16	6
P0136.120-060	12	60	M10	18	9	16	6
P0136.120-065	12	65	M10	18	9	16	6
P0136.120-070	12	70	M10	18	9	16	6
P0136.120-075	12	75	M10	18	9	16	6
P0136.120-080	12	80	M10	18	9	16	6
P0136.120-090	12	90	M10	18	9	16	6
P0136.120-100	12	100	M10	18	9	16	6
P0136.120-110	12	110	M10	18	9	16	6
P0136.160-020	16	20	M12	24	11	18	8
P0136.160-025	16	25	M12	24	11	18	8
P0136.160-030	16	30	M12	24	11	18	8
P0136.160-035	16	35	M12	24	11	18	8
P0136.160-040	16	40	M12	24	11	18	8
P0136.160-045	16	45	M12	24	11	18	8

SHOULDER SCREWS



# Shoulder Screws

## Shoulder Screws - Hex. Socket Head steel- blackened



SHOULDER SCREWS

Order No.	d <sub>1</sub> tol. f9	l <sub>1</sub> +0.25	d <sub>2</sub>	d <sub>3</sub>	h <sub>1</sub>	l <sub>2</sub>	A/F
P0136.160-050	16	50	M12	24	11	18	8
P0136.160-055	16	55	M12	24	11	18	8
P0136.160-060	16	60	M12	24	11	18	8
P0136.160-065	16	65	M12	24	11	18	8
P0136.160-070	16	70	M12	24	11	18	8
P0136.160-075	16	75	M12	24	11	18	8
P0136.160-080	16	80	M12	24	11	18	8
P0136.160-090	16	90	M12	24	11	18	8
P0136.160-100	16	100	M12	24	11	18	8
P0136.160-120	16	120	M12	24	11	18	8
P0136.200-020	20	20	M16	30	14	22	10
P0136.200-025	20	25	M16	30	14	22	10
P0136.200-030	20	30	M16	30	14	22	10
P0136.200-035	20	35	M16	30	14	22	10
P0136.200-040	20	40	M16	30	14	22	10
P0136.200-045	20	45	M16	30	14	22	10
P0136.200-050	20	50	M16	30	14	22	10
P0136.200-055	20	55	M16	30	14	22	10
P0136.200-060	20	60	M16	30	14	22	10
P0136.200-065	20	65	M16	30	14	22	10
P0136.200-070	20	70	M16	30	14	22	10
P0136.200-075	20	75	M16	30	14	22	10
P0136.200-080	20	80	M16	30	14	22	10
P0136.200-090	20	90	M16	30	14	22	10
P0136.200-100	20	100	M16	30	14	22	10
P0136.200-120	20	120	M16	30	14	22	10
P0136.240-020	24	20	M20	36	16	27	12
P0136.240-025	24	25	M20	36	16	27	12
P0136.240-030	24	30	M20	36	16	27	12
P0136.240-035	24	35	M20	36	16	27	12
P0136.240-040	24	40	M20	36	16	27	12
P0136.240-045	24	45	M20	36	16	27	12
P0136.240-050	24	50	M20	36	16	27	12
P0136.240-055	24	55	M20	36	16	27	12
P0136.240-060	24	60	M20	36	16	27	12
P0136.240-065	24	65	M20	36	16	27	12
P0136.240-070	24	70	M20	36	16	27	12
P0136.240-075	24	75	M20	36	16	27	12
P0136.240-080	24	80	M20	36	16	27	12
P0136.240-090	24	90	M20	36	16	27	12
P0136.240-100	24	100	M20	36	16	27	12
P0136.240-120	24	120	M20	36	16	27	12

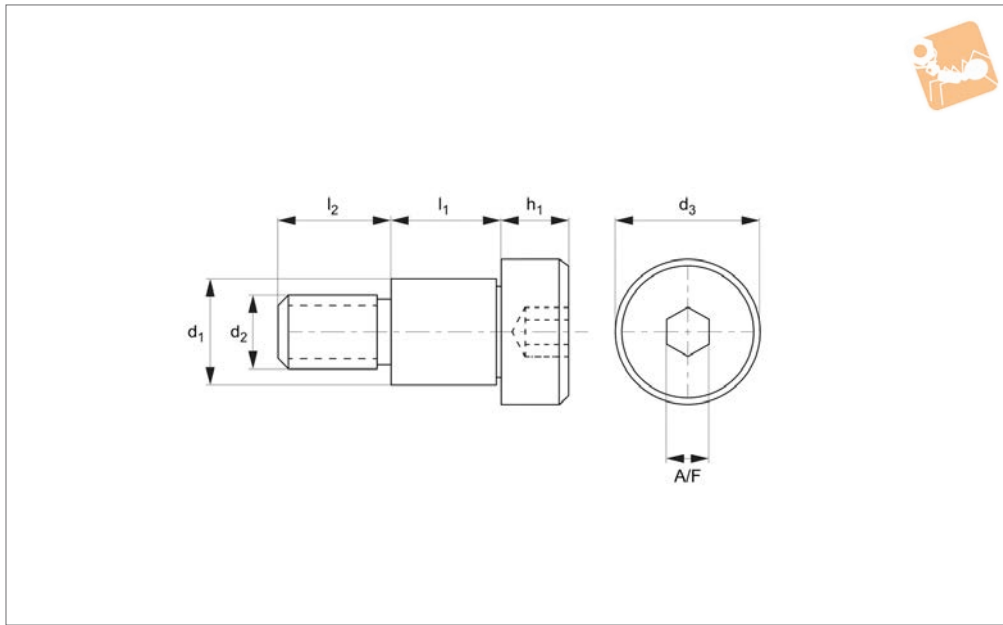




# Shoulder Screws - Cap Head

hex drive - grade 2 titanium

## Shoulder Screws



**P0130.T2**

SHOULDER SCREWS

### Material

Titanium (ASTM B348 grade 2, pure titanium). Tensile strength 345-450 N/mm<sup>2</sup>, yield strength 270 N/mm<sup>2</sup>, hardness 160HB/30Rc.

### Technical Notes

Titanium has a lower density than stainless

steel and excellent corrosion resistance properties.

Titanium has a high strength:weight ratio - per unit weight, titanium is 45% stronger than stainless steel. Ideal for use in light-weight applications in the automobile, aerospace, medical and robotic industries.

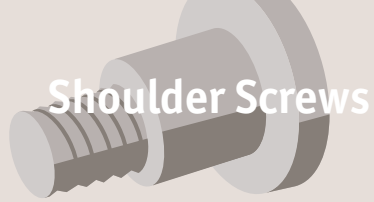
T5 also available on request.

Replace -T2 with -T5 at the end of part number.

### Tips

Special lengths and diameters produced to drawings.

Order No.	$d_1$ +0.000 -0.025	$l_1$ +0.05 -0.00	$d_2$	$d_3$	$l_2$	$h_1$	A/F
P0130.030-002-T2	3	2	M 2	5	4	2	1.5
P0130.030-003-T2	3	3	M 2	5	4	2	1.5
P0130.030-004-T2	3	4	M 2	5	4	2	1.5
P0130.030-005-T2	3	5	M 2	5	4	2	1.5
P0130.030-006-T2	3	6	M 2	5	4	2	1.5
P0130.030-007-T2	3	7	M 2	5	4	2	1.5
P0130.030-008-T2	3	8	M 2	5	4	2	1.5
P0130.030-010-T2	3	10	M 2	5	4	2	1.5
P0130.030-012-T2	3	12	M 2	5	4	2	1.5
P0130.030-014-T2	3	14	M 2	5	4	2	1.5
P0130.030-016-T2	3	16	M 2	5	4	2	1.5
P0130.030-018-T2	3	18	M 2	5	4	2	1.5
P0130.030-020-T2	3	20	M 2	5	4	2	1.5
P0130.030-025-T2	3	25	M 2	5	4	2	1.5
P0130.040-002-T2	4	2	M 3	6	4	3	2.0
P0130.040-003-T2	4	3	M 3	6	4	3	2.0
P0130.040-004-T2	4	4	M 3	6	4	3	2.0
P0130.040-005-T2	4	5	M 3	6	4	3	2.0
P0130.040-006-T2	4	6	M 3	6	4	3	2.0
P0130.040-007-T2	4	7	M 3	6	4	3	2.0
P0130.040-008-T2	4	8	M 3	6	4	3	2.0
P0130.040-010-T2	4	10	M 3	6	4	3	2.0
P0130.040-012-T2	4	12	M 3	6	4	3	2.0
P0130.040-014-T2	4	14	M 3	6	4	3	2.0
P0130.040-016-T2	4	16	M 3	6	4	3	2.0
P0130.040-018-T2	4	18	M 3	6	4	3	2.0
P0130.040-020-T2	4	20	M 3	6	4	3	2.0
P0130.040-025-T2	4	25	M 3	6	4	3	2.0
P0130.040-030-T2	4	30	M 3	6	4	3	2.0
P0130.040-035-T2	4	35	M 3	6	4	3	2.0



# Shoulder Screws

## Shoulder Screws - Cap Head

hex drive - grade 2 titanium



SHOULDER SCREWS

Order No.	d <sub>1</sub> +0.000 -0.025	l <sub>1</sub> +0.05 -0.00	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0130.040-040-T2	4	40	M 3	6	4	3	2.0
P0130.040-045-T2	4	45	M 3	6	4	3	2.0
P0130.040-050-T2	4	50	M 3	6	4	3	2.0
P0130.050-002-T2	5	2	M 4	8	5	4	2.5
P0130.050-003-T2	5	3	M 4	8	5	4	2.5
P0130.050-004-T2	5	4	M 4	8	5	4	2.5
P0130.050-005-T2	5	5	M 4	8	5	4	2.5
P0130.050-006-T2	5	6	M 4	8	5	4	2.5
P0130.050-007-T2	5	7	M 4	8	5	4	2.5
P0130.050-008-T2	5	8	M 4	8	5	4	2.5
P0130.050-010-T2	5	10	M 4	8	5	4	2.5
P0130.050-012-T2	5	12	M 4	8	5	4	2.5
P0130.050-014-T2	5	14	M 4	8	5	4	2.5
P0130.050-016-T2	5	16	M 4	8	5	4	2.5
P0130.050-018-T2	5	18	M 4	8	5	4	2.5
P0130.050-020-T2	5	20	M 4	8	5	4	2.5
P0130.050-025-T2	5	25	M 4	8	5	4	2.5
P0130.050-030-T2	5	30	M 4	8	5	4	2.5
P0130.050-035-T2	5	35	M 4	8	5	4	2.5
P0130.050-040-T2	5	40	M 4	8	5	4	2.5
P0130.050-045-T2	5	45	M 4	8	5	4	2.5
P0130.050-050-T2	5	50	M 4	8	5	4	2.5
P0130.060-002-T2	6	2	M 5	10	6	5	3.0
P0130.060-003-T2	6	3	M 5	10	6	5	3.0
P0130.060-004-T2	6	4	M 5	10	6	5	3.0
P0130.060-005-T2	6	5	M 5	10	6	5	3.0
P0130.060-006-T2	6	6	M 5	10	6	5	3.0
P0130.060-007-T2	6	7	M 5	10	6	5	3.0
P0130.060-008-T2	6	8	M 5	10	6	5	3.0
P0130.060-010-T2	6	10	M 5	10	6	5	3.0
P0130.060-012-T2	6	12	M 5	10	6	5	3.0
P0130.060-014-T2	6	14	M 5	10	6	5	3.0
P0130.060-016-T2	6	16	M 5	10	6	5	3.0
P0130.060-018-T2	6	18	M 5	10	6	5	3.0
P0130.060-020-T2	6	20	M 5	10	6	5	3.0
P0130.060-025-T2	6	25	M 5	10	6	5	3.0
P0130.060-030-T2	6	30	M 5	10	6	5	3.0
P0130.060-035-T2	6	35	M 5	10	6	5	3.0
P0130.060-040-T2	6	40	M 5	10	6	5	3.0
P0130.060-045-T2	6	45	M 5	10	6	5	3.0
P0130.060-050-T2	6	50	M 5	10	6	5	3.0
P0130.060-055-T2	6	55	M 5	10	6	5	3.0
P0130.060-060-T2	6	60	M 5	10	6	5	3.0
P0130.060-070-T2	6	70	M 5	10	6	5	3.0
P0130.060-080-T2	6	80	M 5	10	6	5	3.0
P0130.060-090-T2	6	90	M 5	10	6	5	3.0
P0130.060-100-T2	6	100	M 5	10	6	5	3.0
P0130.080-004-T2	8	4	M 6	12	11	6	4.0
P0130.080-005-T2	8	5	M 6	12	11	6	4.0
P0130.080-006-T2	8	6	M 6	12	11	6	4.0
P0130.080-007-T2	8	7	M 6	12	11	6	4.0
P0130.080-008-T2	8	8	M 6	12	11	6	4.0
P0130.080-010-T2	8	10	M 6	12	11	6	4.0
P0130.080-012-T2	8	12	M 6	12	11	6	4.0
P0130.080-014-T2	8	14	M 6	12	11	6	4.0
P0130.080-016-T2	8	16	M 6	12	11	6	4.0
P0130.080-018-T2	8	18	M 6	12	11	6	4.0
P0130.080-020-T2	8	20	M 6	12	11	6	4.0
P0130.080-025-T2	8	25	M 6	12	11	6	4.0
P0130.080-030-T2	8	30	M 6	12	11	6	4.0
P0130.080-035-T2	8	35	M 6	12	11	6	4.0
P0130.080-040-T2	8	40	M 6	12	11	6	4.0
P0130.080-045-T2	8	45	M 6	12	11	6	4.0
P0130.080-050-T2	8	50	M 6	12	11	6	4.0
P0130.080-055-T2	8	55	M 6	12	11	6	4.0
P0130.080-060-T2	8	60	M 6	12	11	6	4.0
P0130.080-065-T2	8	65	M 6	12	11	6	4.0
P0130.080-070-T2	8	70	M 6	12	11	6	4.0



# Shoulder Screws - Cap Head

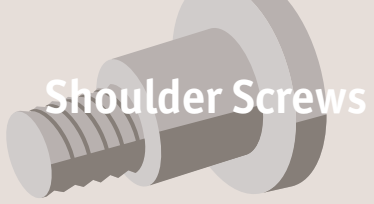
hex drive - grade 2 titanium

## Shoulder Screws



Order No.	d <sub>1</sub> +0.000 -0.025	l <sub>1</sub> +0.05 -0.00	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0130.080-075-T2	8	75	M 6	12	11	6	4.0
P0130.080-080-T2	8	80	M 6	12	11	6	4.0
P0130.080-090-T2	8	90	M 6	12	11	6	4.0
P0130.080-100-T2	8	100	M 6	12	11	6	4.0
P0130.100-008-T2	10	8	M 8	14	12	7	5.0
P0130.100-010-T2	10	10	M 8	14	12	7	5.0
P0130.100-012-T2	10	12	M 8	14	12	7	5.0
P0130.100-014-T2	10	14	M 8	14	12	7	5.0
P0130.100-016-T2	10	16	M 8	14	12	7	5.0
P0130.100-018-T2	10	18	M 8	14	12	7	5.0
P0130.100-020-T2	10	20	M 8	14	12	7	5.0
P0130.100-025-T2	10	25	M 8	14	12	7	5.0
P0130.100-030-T2	10	30	M 8	14	12	7	5.0
P0130.100-035-T2	10	35	M 8	14	12	7	5.0
P0130.100-040-T2	10	40	M 8	14	12	7	5.0
P0130.100-045-T2	10	45	M 8	14	12	7	5.0
P0130.100-050-T2	10	50	M 8	14	12	7	5.0
P0130.100-055-T2	10	55	M 8	14	12	7	5.0
P0130.100-060-T2	10	60	M 8	14	12	7	5.0
P0130.100-065-T2	10	65	M 8	14	12	7	5.0
P0130.100-070-T2	10	70	M 8	14	12	7	5.0
P0130.100-080-T2	10	80	M 8	14	12	7	5.0
P0130.100-090-T2	10	90	M 8	14	12	7	5.0
P0130.100-100-T2	10	100	M 8	14	12	7	5.0
P0130.120-008-T2	12	8	M 10	20	16	8	6.0
P0130.120-010-T2	12	10	M 10	20	16	8	6.0
P0130.120-012-T2	12	12	M 10	20	16	8	6.0
P0130.120-014-T2	12	14	M 10	20	16	8	6.0
P0130.120-016-T2	12	16	M 10	20	16	8	6.0
P0130.120-018-T2	12	18	M 10	20	16	8	6.0
P0130.120-020-T2	12	20	M 10	20	16	8	6.0
P0130.120-025-T2	12	25	M 10	20	16	8	6.0
P0130.120-030-T2	12	30	M 10	20	16	8	6.0
P0130.120-035-T2	12	35	M 10	20	16	8	6.0
P0130.120-040-T2	12	40	M 10	20	16	8	6.0
P0130.120-045-T2	12	45	M 10	20	16	8	6.0
P0130.120-050-T2	12	50	M 10	20	16	8	6.0
P0130.120-055-T2	12	55	M 10	20	16	8	6.0
P0130.120-060-T2	12	60	M 10	20	16	8	6.0
P0130.120-065-T2	12	65	M 10	20	16	8	6.0
P0130.120-070-T2	12	70	M 10	20	16	8	6.0
P0130.120-075-T2	12	75	M 10	20	16	8	6.0
P0130.120-080-T2	12	80	M 10	20	16	8	6.0
P0130.120-090-T2	12	90	M 10	20	16	8	6.0
P0130.120-100-T2	12	100	M 10	20	16	8	6.0
P0130.160-025-T2	16	25	M 12	24	18	11	8.0
P0130.160-030-T2	16	30	M 12	24	18	11	8.0
P0130.160-035-T2	16	35	M 12	24	18	11	8.0
P0130.160-040-T2	16	40	M 12	24	18	11	8.0
P0130.160-045-T2	16	45	M 12	24	18	11	8.0
P0130.160-050-T2	16	50	M 12	24	18	11	8.0
P0130.160-055-T2	16	55	M 12	24	18	11	8.0
P0130.160-060-T2	16	60	M 12	24	18	11	8.0
P0130.160-065-T2	16	65	M 12	24	18	11	8.0
P0130.160-070-T2	16	70	M 12	24	18	11	8.0
P0130.160-075-T2	16	75	M 12	24	18	11	8.0
P0130.160-080-T2	16	80	M 12	24	18	11	8.0
P0130.160-090-T2	16	90	M 12	24	18	11	8.0
P0130.160-100-T2	16	100	M 12	24	18	11	8.0
P0130.200-030-T2	20	30	M 16	30	22	14	10.0
P0130.200-035-T2	20	35	M 16	30	22	14	10.0
P0130.200-040-T2	20	40	M 16	30	22	14	10.0
P0130.200-045-T2	20	45	M 16	30	22	14	10.0
P0130.200-050-T2	20	50	M 16	30	22	14	10.0
P0130.200-055-T2	20	55	M 16	30	22	14	10.0
P0130.200-060-T2	20	60	M 16	30	22	14	10.0
P0130.200-065-T2	20	65	M 16	30	22	14	10.0
P0130.200-070-T2	20	70	M 16	30	22	14	10.0

SHOULDER SCREWS



# Shoulder Screws

## Shoulder Screws - Cap Head

hex drive - grade 2 titanium



Order No.	$d_1$ +0.000 -0.025	$l_1$ +0.05 -0.00	$d_2$	$d_3$	$l_2$	$h_1$	A/F
P0130.200-075-T2	20	75	M 16	30	22	14	10.0
P0130.200-080-T2	20	80	M 16	30	22	14	10.0
P0130.200-090-T2	20	90	M 16	30	22	14	10.0
P0130.200-100-T2	20	100	M 16	30	22	14	10.0

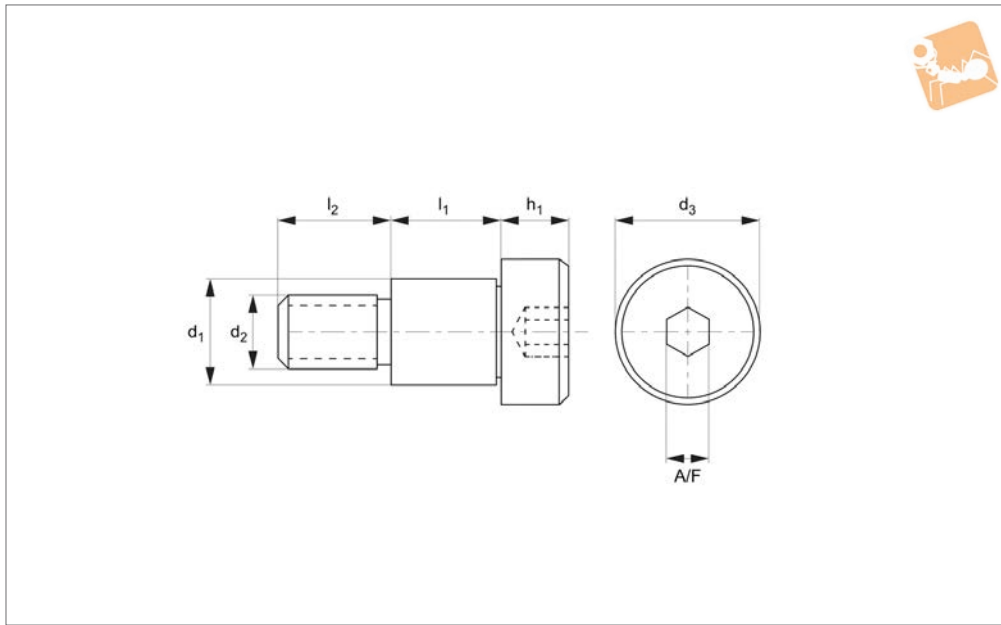
SHOULDER SCREWS



# Shoulder Screws - Cap Head

hex drive - grade 5 titanium

## Shoulder Screws



**P0130.T5**

SHOULDER SCREWS

### Material

Titanium alloy (ATSM B348 grade 5; Ti6Al4V). Tensile strength 895-1100 N/mm<sup>2</sup>, yield strength 820 N/mm<sup>2</sup>, hardness 334HB/36Rc.

### Technical Notes

Titanium has a lower density than stainless

steel and excellent corrosion resistance properties.

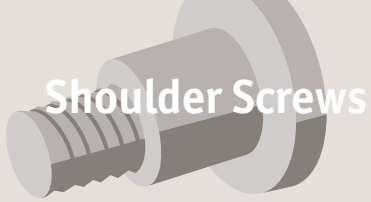
Titanium has a high strength:weight ratio - per unit weight titanium is 45% stronger than stainless steel. Ideal for use in light-weight applications in the automobile, aerospace, medical and robotic industries.

Grade 5 titanium alloy is stronger than grade 2 (pure) titanium. Withstands temperatures of up to 400 °C.

### Tips

Special lengths and diameters produced to drawings.

Order No.	$d_1$ +0.000 -0.025	$l_1$ +0.05 -0.00	$d_2$	$d_3$	$l_2$	$h_1$	A/F
P0130.030-002-T5	3	2	M 2	5	4	2	1.5
P0130.030-003-T5	3	3	M 2	5	4	2	1.5
P0130.030-004-T5	3	4	M 2	5	4	2	1.5
P0130.030-005-T5	3	5	M 2	5	4	2	1.5
P0130.030-006-T5	3	6	M 2	5	4	2	1.5
P0130.030-007-T5	3	7	M 2	5	4	2	1.5
P0130.030-008-T5	3	8	M 2	5	4	2	1.5
P0130.030-010-T5	3	10	M 2	5	4	2	1.5
P0130.030-012-T5	3	12	M 2	5	4	2	1.5
P0130.030-014-T5	3	14	M 2	5	4	2	1.5
P0130.030-016-T5	3	16	M 2	5	4	2	1.5
P0130.030-018-T5	3	18	M 2	5	4	2	1.5
P0130.030-020-T5	3	20	M 2	5	4	2	1.5
P0130.030-025-T5	3	25	M 2	5	4	2	1.5
P0130.040-002-T5	4	2	M 3	6	4	3	2.0
P0130.040-003-T5	4	3	M 3	6	4	3	2.0
P0130.040-004-T5	4	4	M 3	6	4	3	2.0
P0130.040-005-T5	4	5	M 3	6	4	3	2.0
P0130.040-006-T5	4	6	M 3	6	4	3	2.0
P0130.040-007-T5	4	7	M 3	6	4	3	2.0
P0130.040-008-T5	4	8	M 3	6	4	3	2.0
P0130.040-010-T5	4	10	M 3	6	4	3	2.0
P0130.040-012-T5	4	12	M 3	6	4	3	2.0
P0130.040-014-T5	4	14	M 3	6	4	3	2.0
P0130.040-016-T5	4	16	M 3	6	4	3	2.0
P0130.040-018-T5	4	18	M 3	6	4	3	2.0
P0130.040-020-T5	4	20	M 3	6	4	3	2.0
P0130.040-025-T5	4	25	M 3	6	4	3	2.0
P0130.040-030-T5	4	30	M 3	6	4	3	2.0
P0130.040-035-T5	4	35	M 3	6	4	3	2.0



# Shoulder Screws

## Shoulder Screws - Cap Head

hex drive - grade 5 titanium



SHOULDER SCREWS

Order No.	d <sub>1</sub> +0.000 -0.025	l <sub>1</sub> +0.05 -0.00	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0130.040-040-T5	4	40	M 3	6	4	3	2.0
P0130.040-045-T5	4	45	M 3	6	4	3	2.0
P0130.040-050-T5	4	50	M 3	6	4	3	2.0
P0130.050-002-T5	5	2	M 4	8	5	4	2.5
P0130.050-003-T5	5	3	M 4	8	5	4	2.5
P0130.050-004-T5	5	4	M 4	8	5	4	2.5
P0130.050-005-T5	5	5	M 4	8	5	4	2.5
P0130.050-006-T5	5	6	M 4	8	5	4	2.5
P0130.050-007-T5	5	7	M 4	8	5	4	2.5
P0130.050-008-T5	5	8	M 4	8	5	4	2.5
P0130.050-010-T5	5	10	M 4	8	5	4	2.5
P0130.050-012-T5	5	12	M 4	8	5	4	2.5
P0130.050-014-T5	5	14	M 4	8	5	4	2.5
P0130.050-016-T5	5	16	M 4	8	5	4	2.5
P0130.050-018-T5	5	18	M 4	8	5	4	2.5
P0130.050-020-T5	5	20	M 4	8	5	4	2.5
P0130.050-025-T5	5	25	M 4	8	5	4	2.5
P0130.050-030-T5	5	30	M 4	8	5	4	2.5
P0130.050-035-T5	5	35	M 4	8	5	4	2.5
P0130.050-040-T5	5	40	M 4	8	5	4	2.5
P0130.050-045-T5	5	45	M 4	8	5	4	2.5
P0130.050-050-T5	5	50	M 4	8	5	4	2.5
P0130.060-002-T5	6	2	M 5	10	6	5	3.0
P0130.060-003-T5	6	3	M 5	10	6	5	3.0
P0130.060-004-T5	6	4	M 5	10	6	5	3.0
P0130.060-005-T5	6	5	M 5	10	6	5	3.0
P0130.060-006-T5	6	6	M 5	10	6	5	3.0
P0130.060-007-T5	6	7	M 5	10	6	5	3.0
P0130.060-008-T5	6	8	M 5	10	6	5	3.0
P0130.060-010-T5	6	10	M 5	10	6	5	3.0
P0130.060-012-T5	6	12	M 5	10	6	5	3.0
P0130.060-014-T5	6	14	M 5	10	6	5	3.0
P0130.060-016-T5	6	16	M 5	10	6	5	3.0
P0130.060-018-T5	6	18	M 5	10	6	5	3.0
P0130.060-020-T5	6	20	M 5	10	6	5	3.0
P0130.060-025-T5	6	25	M 5	10	6	5	3.0
P0130.060-030-T5	6	30	M 5	10	6	5	3.0
P0130.060-035-T5	6	35	M 5	10	6	5	3.0
P0130.060-040-T5	6	40	M 5	10	6	5	3.0
P0130.060-045-T5	6	45	M 5	10	6	5	3.0
P0130.060-050-T5	6	50	M 5	10	6	5	3.0
P0130.060-055-T5	6	55	M 5	10	6	5	3.0
P0130.060-060-T5	6	60	M 5	10	6	5	3.0
P0130.060-070-T5	6	70	M 5	10	6	5	3.0
P0130.060-080-T5	6	80	M 5	10	6	5	3.0
P0130.060-090-T5	6	90	M 5	10	6	5	3.0
P0130.060-100-T5	6	100	M 5	10	6	5	3.0
P0130.080-004-T5	8	4	M 6	12	11	6	4.0
P0130.080-005-T5	8	5	M 6	12	11	6	4.0
P0130.080-006-T5	8	6	M 6	12	11	6	4.0
P0130.080-007-T5	8	7	M 6	12	11	6	4.0
P0130.080-008-T5	8	8	M 6	12	11	6	4.0
P0130.080-010-T5	8	10	M 6	12	11	6	4.0
P0130.080-012-T5	8	12	M 6	12	11	6	4.0
P0130.080-014-T5	8	14	M 6	12	11	6	4.0
P0130.080-016-T5	8	16	M 6	12	11	6	4.0
P0130.080-018-T5	8	18	M 6	12	11	6	4.0
P0130.080-020-T5	8	20	M 6	12	11	6	4.0
P0130.080-025-T5	8	25	M 6	12	11	6	4.0
P0130.080-030-T5	8	30	M 6	12	11	6	4.0
P0130.080-035-T5	8	35	M 6	12	11	6	4.0
P0130.080-040-T5	8	40	M 6	12	11	6	4.0
P0130.080-045-T5	8	45	M 6	12	11	6	4.0
P0130.080-050-T5	8	50	M 6	12	11	6	4.0
P0130.080-055-T5	8	55	M 6	12	11	6	4.0
P0130.080-060-T5	8	60	M 6	12	11	6	4.0
P0130.080-065-T5	8	65	M 6	12	11	6	4.0
P0130.080-070-T5	8	70	M 6	12	11	6	4.0



# Shoulder Screws - Cap Head

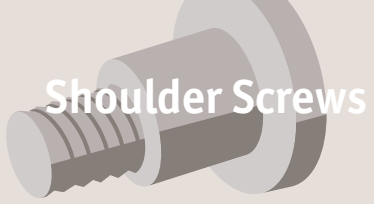
hex drive - grade 5 titanium

## Shoulder Screws



Order No.	d <sub>1</sub> +0.000 -0.025	l <sub>1</sub> +0.05 -0.00	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0130.080-075-T5	8	75	M 6	12	11	6	4.0
P0130.080-080-T5	8	80	M 6	12	11	6	4.0
P0130.080-090-T5	8	90	M 6	12	11	6	4.0
P0130.080-100-T5	8	100	M 6	12	11	6	4.0
P0130.100-008-T5	10	8	M 8	14	12	7	5.0
P0130.100-010-T5	10	10	M 8	14	12	7	5.0
P0130.100-012-T5	10	12	M 8	14	12	7	5.0
P0130.100-014-T5	10	14	M 8	14	12	7	5.0
P0130.100-016-T5	10	16	M 8	14	12	7	5.0
P0130.100-018-T5	10	18	M 8	14	12	7	5.0
P0130.100-020-T5	10	20	M 8	14	12	7	5.0
P0130.100-025-T5	10	25	M 8	14	12	7	5.0
P0130.100-030-T5	10	30	M 8	14	12	7	5.0
P0130.100-035-T5	10	35	M 8	14	12	7	5.0
P0130.100-040-T5	10	40	M 8	14	12	7	5.0
P0130.100-045-T5	10	45	M 8	14	12	7	5.0
P0130.100-050-T5	10	50	M 8	14	12	7	5.0
P0130.100-055-T5	10	55	M 8	14	12	7	5.0
P0130.100-060-T5	10	60	M 8	14	12	7	5.0
P0130.100-065-T5	10	65	M 8	14	12	7	5.0
P0130.100-070-T5	10	70	M 8	14	12	7	5.0
P0130.100-080-T5	10	80	M 8	14	12	7	5.0
P0130.100-090-T5	10	90	M 8	14	12	7	5.0
P0130.100-100-T5	10	100	M 8	14	12	7	5.0
P0130.120-008-T5	12	8	M 10	20	16	8	6.0
P0130.120-010-T5	12	10	M 10	20	16	8	6.0
P0130.120-012-T5	12	12	M 10	20	16	8	6.0
P0130.120-014-T5	12	14	M 10	20	16	8	6.0
P0130.120-016-T5	12	16	M 10	20	16	8	6.0
P0130.120-018-T5	12	18	M 10	20	16	8	6.0
P0130.120-020-T5	12	20	M 10	20	16	8	6.0
P0130.120-025-T5	12	25	M 10	20	16	8	6.0
P0130.120-030-T5	12	30	M 10	20	16	8	6.0
P0130.120-035-T5	12	35	M 10	20	16	8	6.0
P0130.120-040-T5	12	40	M 10	20	16	8	6.0
P0130.120-045-T5	12	45	M 10	20	16	8	6.0
P0130.120-050-T5	12	50	M 10	20	16	8	6.0
P0130.120-055-T5	12	55	M 10	20	16	8	6.0
P0130.120-060-T5	12	60	M 10	20	16	8	6.0
P0130.120-065-T5	12	65	M 10	20	16	8	6.0
P0130.120-070-T5	12	70	M 10	20	16	8	6.0
P0130.120-075-T5	12	75	M 10	20	16	8	6.0
P0130.120-080-T5	12	80	M 10	20	16	8	6.0
P0130.120-090-T5	12	90	M 10	20	16	8	6.0
P0130.120-100-T5	12	100	M 10	20	16	8	6.0
P0130.160-025-T5	16	25	M 12	24	18	11	8.0
P0130.160-030-T5	16	30	M 12	24	18	11	8.0
P0130.160-035-T5	16	35	M 12	24	18	11	8.0
P0130.160-040-T5	16	40	M 12	24	18	11	8.0
P0130.160-045-T5	16	45	M 12	24	18	11	8.0
P0130.160-050-T5	16	50	M 12	24	18	11	8.0
P0130.160-055-T5	16	55	M 12	24	18	11	8.0
P0130.160-060-T5	16	60	M 12	24	18	11	8.0
P0130.160-065-T5	16	65	M 12	24	18	11	8.0
P0130.160-070-T5	16	70	M 12	24	18	11	8.0
P0130.160-075-T5	16	75	M 12	24	18	11	8.0
P0130.160-080-T5	16	80	M 12	24	18	11	8.0
P0130.160-090-T5	16	90	M 12	24	18	11	8.0
P0130.160-100-T5	16	100	M 12	24	18	11	8.0
P0130.200-030-T5	20	30	M16	30	22	14	10.0
P0130.200-035-T5	20	35	M16	30	22	14	10.0
P0130.200-040-T5	20	40	M16	30	22	14	10.0
P0130.200-045-T5	20	45	M16	30	22	14	10.0
P0130.200-050-T5	20	50	M16	30	22	14	10.0
P0130.200-055-T5	20	55	M16	30	22	14	10.0
P0130.200-060-T5	20	60	M16	30	22	14	10.0
P0130.200-065-T5	20	65	M16	30	22	14	10.0
P0130.200-070-T5	20	70	M16	30	22	14	10.0

SHOULDER SCREWS



# Shoulder Screws

## Shoulder Screws - Cap Head

hex drive - grade 5 titanium



Order No.	$d_1$ +0.000 -0.025	$l_1$ +0.05 -0.00	$d_2$	$d_3$	$l_2$	$h_1$	A/F
<b>P0130.200-075-T5</b>	20	75	M16	30	22	14	10.0
<b>P0130.200-080-T5</b>	20	80	M16	30	22	14	10.0
<b>P0130.200-090-T5</b>	20	90	M16	30	22	14	10.0
<b>P0130.200-100-T5</b>	20	100	M16	30	22	14	10.0

SHOULDER SCREWS

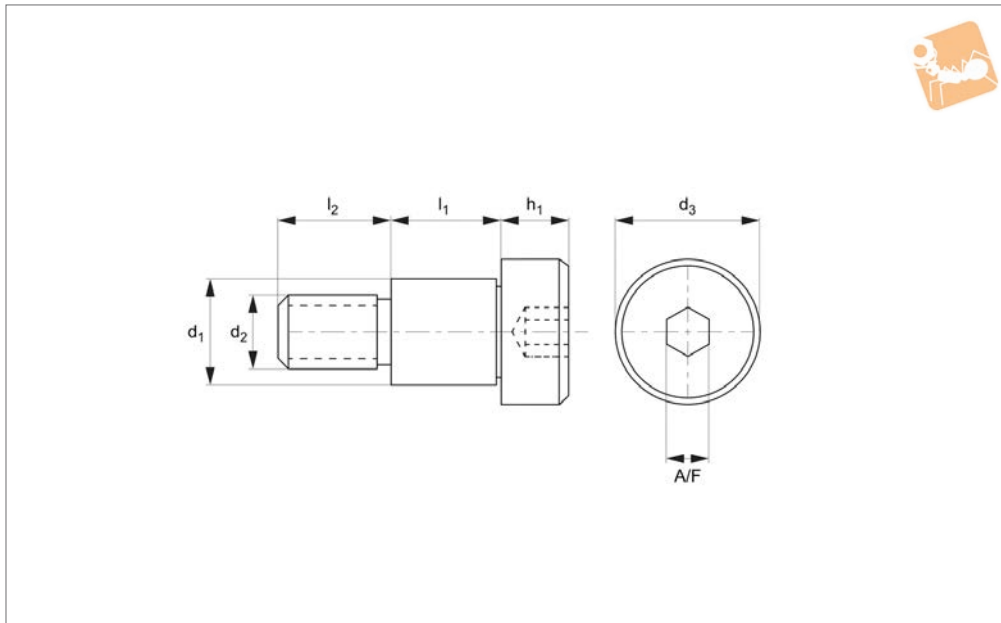




# Shoulder Screws - Cap Head

hex drive - 303 stainless, blackened

## Shoulder Screws



**P0130.B2**

SHOULDER SCREWS

### Material

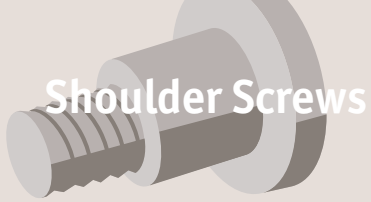
Stainless steel (AISI 303, 1.4305), black oxide coating. Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.

### Technical Notes

303 series stainless steel provides good resistance to corrosion. It is mildly magnetic. For torx drive versions please see P0145.

Special lengths and diameters produced to drawings.

Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0130.030-002-B2	3	2	M 2	5	4	2	1.5
P0130.030-003-B2	3	3	M 2	5	4	2	1.5
P0130.030-004-B2	3	4	M 2	5	4	2	1.5
P0130.030-005-B2	3	5	M 2	5	4	2	1.5
P0130.030-006-B2	3	6	M 2	5	4	2	1.5
P0130.030-007-B2	3	7	M 2	5	4	2	1.5
P0130.030-008-B2	3	8	M 2	5	4	2	1.5
P0130.030-010-B2	3	10	M 2	5	4	2	1.5
P0130.030-012-B2	3	12	M 2	5	4	2	1.5
P0130.030-014-B2	3	14	M 2	5	4	2	1.5
P0130.030-016-B2	3	16	M 2	5	4	2	1.5
P0130.030-018-B2	3	18	M 2	5	4	2	1.5
P0130.030-020-B2	3	20	M 2	5	4	2	1.5
P0130.030-025-B2	3	25	M 2	5	4	2	1.5
P0130.040-002-B2	4	2	M 3	6	4	3	2.0
P0130.040-003-B2	4	3	M 3	6	4	3	2.0
P0130.040-004-B2	4	4	M 3	6	4	3	2.0
P0130.040-005-B2	4	5	M 3	6	4	3	2.0
P0130.040-006-B2	4	6	M 3	6	4	3	2.0
P0130.040-007-B2	4	7	M 3	6	4	3	2.0
P0130.040-008-B2	4	8	M 3	6	4	3	2.0
P0130.040-010-B2	4	10	M 3	6	4	3	2.0
P0130.040-012-B2	4	12	M 3	6	4	3	2.0
P0130.040-014-B2	4	14	M 3	6	4	3	2.0
P0130.040-016-B2	4	16	M 3	6	4	3	2.0
P0130.040-018-B2	4	18	M 3	6	4	3	2.0
P0130.040-020-B2	4	20	M 3	6	4	3	2.0
P0130.040-025-B2	4	25	M 3	6	4	3	2.0
P0130.040-030-B2	4	30	M 3	6	4	3	2.0
P0130.040-035-B2	4	35	M 3	6	4	3	2.0
P0130.040-040-B2	4	40	M 3	6	4	3	2.0
P0130.040-045-B2	4	45	M 3	6	4	3	2.0
P0130.040-050-B2	4	50	M 3	6	4	3	2.0



# Shoulder Screws

## Shoulder Screws - Cap Head hex drive - 303 stainless, blackened



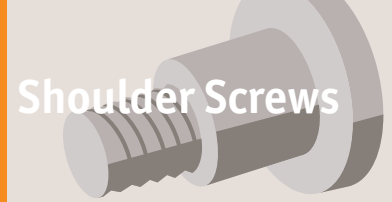
SHOULDER SCREWS

Order No.	$d_1$ +0 -0.025	$l_1$ +0.05 -0.0	$d_2$	$d_3$	$l_2$	$h_1$	A/F
P0130.050-002-B2	5	2	M 4	8	5	4	2.5
P0130.050-003-B2	5	3	M 4	8	5	4	2.5
P0130.050-004-B2	5	4	M 4	8	5	4	2.5
P0130.050-005-B2	5	5	M 4	8	5	4	2.5
P0130.050-006-B2	5	6	M 4	8	5	4	2.5
P0130.050-007-B2	5	7	M 4	8	5	4	2.5
P0130.050-008-B2	5	8	M 4	8	5	4	2.5
P0130.050-010-B2	5	10	M 4	8	5	4	2.5
P0130.050-012-B2	5	12	M 4	8	5	4	2.5
P0130.050-014-B2	5	14	M 4	8	5	4	2.5
P0130.050-016-B2	5	16	M 4	8	5	4	2.5
P0130.050-018-B2	5	18	M 4	8	5	4	2.5
P0130.050-020-B2	5	20	M 4	8	5	4	2.5
P0130.050-025-B2	5	25	M 4	8	5	4	2.5
P0130.050-030-B2	5	30	M 4	8	5	4	2.5
P0130.050-035-B2	5	35	M 4	8	5	4	2.5
P0130.050-040-B2	5	40	M 4	8	5	4	2.5
P0130.050-045-B2	5	45	M 4	8	5	4	2.5
P0130.050-050-B2	5	50	M 4	8	5	4	2.5
P0130.060-002-B2	6	2	M 5	10	6	5	3.0
P0130.060-003-B2	6	3	M 5	10	6	5	3.0
P0130.060-004-B2	6	4	M 5	10	6	5	3.0
P0130.060-005-B2	6	5	M 5	10	6	5	3.0
P0130.060-006-B2	6	6	M 5	10	6	5	3.0
P0130.060-007-B2	6	7	M 5	10	6	5	3.0
P0130.060-008-B2	6	8	M 5	10	6	5	3.0
P0130.060-010-B2	6	10	M 5	10	6	5	3.0
P0130.060-012-B2	6	12	M 5	10	6	5	3.0
P0130.060-014-B2	6	14	M 5	10	6	5	3.0
P0130.060-016-B2	6	16	M 5	10	6	5	3.0
P0130.060-018-B2	6	18	M 5	10	6	5	3.0
P0130.060-020-B2	6	20	M 5	10	6	5	3.0
P0130.060-025-B2	6	25	M 5	10	6	5	3.0
P0130.060-030-B2	6	30	M 5	10	6	5	3.0
P0130.060-035-B2	6	35	M 5	10	6	5	3.0
P0130.060-040-B2	6	40	M 5	10	6	5	3.0
P0130.060-045-B2	6	45	M 5	10	6	5	3.0
P0130.060-050-B2	6	50	M 5	10	6	5	3.0
P0130.060-055-B2	6	55	M 5	10	6	5	3.0
P0130.060-060-B2	6	60	M 5	10	6	5	3.0
P0130.060-070-B2	6	70	M 5	10	6	5	3.0
P0130.060-080-B2	6	80	M 5	10	6	5	3.0
P0130.060-090-B2	6	90	M 5	10	6	5	3.0
P0130.060-100-B2	6	100	M 5	10	6	5	3.0
P0130.080-004-B2	8	4	M 6	12	11	6	4.0
P0130.080-005-B2	8	5	M 6	12	11	6	4.0
P0130.080-006-B2	8	6	M 6	12	11	6	4.0
P0130.080-007-B2	8	7	M 6	12	11	6	4.0
P0130.080-008-B2	8	8	M 6	12	11	6	4.0
P0130.080-010-B2	8	10	M 6	12	11	6	4.0
P0130.080-012-B2	8	12	M 6	12	11	6	4.0
P0130.080-014-B2	8	14	M 6	12	11	6	4.0
P0130.080-016-B2	8	16	M 6	12	11	6	4.0
P0130.080-018-B2	8	18	M 6	12	11	6	4.0
P0130.080-020-B2	8	20	M 6	12	11	6	4.0
P0130.080-025-B2	8	25	M 6	12	11	6	4.0
P0130.080-030-B2	8	30	M 6	12	11	6	4.0
P0130.080-035-B2	8	35	M 6	12	11	6	4.0
P0130.080-040-B2	8	40	M 6	12	11	6	4.0
P0130.080-045-B2	8	45	M 6	12	11	6	4.0
P0130.080-050-B2	8	50	M 6	12	11	6	4.0
P0130.080-055-B2	8	55	M 6	12	11	6	4.0
P0130.080-060-B2	8	60	M 6	12	11	6	4.0
P0130.080-065-B2	8	65	M 6	12	11	6	4.0
P0130.080-070-B2	8	70	M 6	12	11	6	4.0
P0130.080-075-B2	8	75	M 6	12	11	6	4.0
P0130.080-080-B2	8	80	M 6	12	11	6	4.0
P0130.080-090-B2	8	90	M 6	12	11	6	4.0



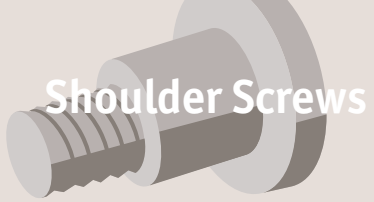
# Shoulder Screws - Cap Head

hex drive - 303 stainless, blackened



Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0130.080-100-B2	8	100	M 6	12	11	6	4.0
P0130.100-008-B6	10	8	M 6	14	11	6	4.0
P0130.100-010-B6	10	10	M 6	14	11	6	4.0
P0130.100-012-B6	10	12	M 6	14	11	6	4.0
P0130.100-016-B6	10	16	M 6	14	11	6	4.0
P0130.100-008-B8	10	8	M 8	14	12	7	5.0
P0130.100-010-B8	10	10	M 8	14	12	7	5.0
P0130.100-012-B8	10	12	M 8	14	12	7	5.0
P0130.100-014-B8	10	14	M 8	14	12	7	5.0
P0130.100-016-B8	10	16	M 8	14	12	7	5.0
P0130.100-018-B8	10	18	M 8	14	12	7	5.0
P0130.100-020-B8	10	20	M 8	14	12	7	5.0
P0130.100-025-B8	10	25	M 8	14	12	7	5.0
P0130.100-030-B8	10	30	M 8	14	12	7	5.0
P0130.100-035-B8	10	35	M 8	14	12	7	5.0
P0130.100-040-B8	10	40	M 8	14	12	7	5.0
P0130.100-045-B8	10	45	M 8	14	12	7	5.0
P0130.100-050-B8	10	50	M 8	14	12	7	5.0
P0130.100-055-B8	10	55	M 8	14	12	7	5.0
P0130.100-060-B8	10	60	M 8	14	12	7	5.0
P0130.100-065-B8	10	65	M 8	14	12	7	5.0
P0130.100-070-B8	10	70	M 8	14	12	7	5.0
P0130.100-080-B8	10	80	M 8	14	12	7	5.0
P0130.100-090-B8	10	90	M 8	14	12	7	5.0
P0130.100-100-B8	10	100	M 8	14	12	7	5.0
P0130.120-008-B2	12	8	M 10	20	16	8	6.0
P0130.120-010-B2	12	10	M 10	20	16	8	6.0
P0130.120-012-B2	12	12	M 10	20	16	8	6.0
P0130.120-014-B2	12	14	M 10	20	16	8	6.0
P0130.120-016-B2	12	16	M 10	20	16	8	6.0
P0130.120-018-B2	12	18	M 10	20	16	8	6.0
P0130.120-020-B2	12	20	M 10	20	16	8	6.0
P0130.120-025-B2	12	25	M 10	20	16	8	6.0
P0130.120-030-B2	12	30	M 10	20	16	8	6.0
P0130.120-035-B2	12	35	M 10	20	16	8	6.0
P0130.120-040-B2	12	40	M 10	20	16	8	6.0
P0130.120-045-B2	12	45	M 10	20	16	8	6.0
P0130.120-050-B2	12	50	M 10	20	16	8	6.0
P0130.120-055-B2	12	55	M 10	20	16	8	6.0
P0130.120-060-B2	12	60	M 10	20	16	8	6.0
P0130.120-065-B2	12	65	M 10	20	16	8	6.0
P0130.120-070-B2	12	70	M 10	20	16	8	6.0
P0130.120-075-B2	12	75	M 10	20	16	8	6.0
P0130.120-080-B2	12	80	M 10	20	16	8	6.0
P0130.120-090-B2	12	90	M 10	20	16	8	6.0
P0130.120-100-B2	12	100	M 10	20	16	8	6.0
P0130.160-025-B2	16	25	M 12	24	18	11	8.0
P0130.160-030-B2	16	30	M 12	24	18	11	8.0
P0130.160-035-B2	16	35	M 12	24	18	11	8.0
P0130.160-040-B2	16	40	M 12	24	18	11	8.0
P0130.160-045-B2	16	45	M 12	24	18	11	8.0
P0130.160-050-B2	16	50	M 12	24	18	11	8.0
P0130.160-055-B2	16	55	M 12	24	18	11	8.0
P0130.160-060-B2	16	60	M 12	24	18	11	8.0
P0130.160-065-B2	16	65	M 12	24	18	11	8.0
P0130.160-070-B2	16	70	M 12	24	18	11	8.0
P0130.160-075-B2	16	75	M 12	24	18	11	8.0
P0130.160-080-B2	16	80	M 12	24	18	11	8.0
P0130.160-090-B2	16	90	M 12	24	18	11	8.0
P0130.160-100-B2	16	100	M 12	24	18	11	8.0
P0130.200-030-B2	20	30	M 16	30	22	14	10.0
P0130.200-035-B2	20	35	M 16	30	22	14	10.0
P0130.200-040-B2	20	40	M 16	30	22	14	10.0
P0130.200-045-B2	20	45	M 16	30	22	14	10.0
P0130.200-050-B2	20	50	M 16	30	22	14	10.0
P0130.200-055-B2	20	55	M 16	30	22	14	10.0
P0130.200-060-B2	20	60	M 16	30	22	14	10.0
P0130.200-065-B2	20	65	M 16	30	22	14	10.0

SHOULDER SCREWS



# Shoulder Screws

## Shoulder Screws - Cap Head

hex drive - 303 stainless, blackened



Order No.	$d_1$ +0 -0.025	$l_1$ +0.05 -0.0	$d_2$	$d_3$	$l_2$	$h_1$	A/F
P0130.200-070-B2	20	70	M 16	30	22	14	10.0
P0130.200-075-B2	20	75	M 16	30	22	14	10.0
P0130.200-080-B2	20	80	M 16	30	22	14	10.0
P0130.200-090-B2	20	90	M 16	30	22	14	10.0
P0130.200-100-B2	20	100	M 16	30	22	14	10.0

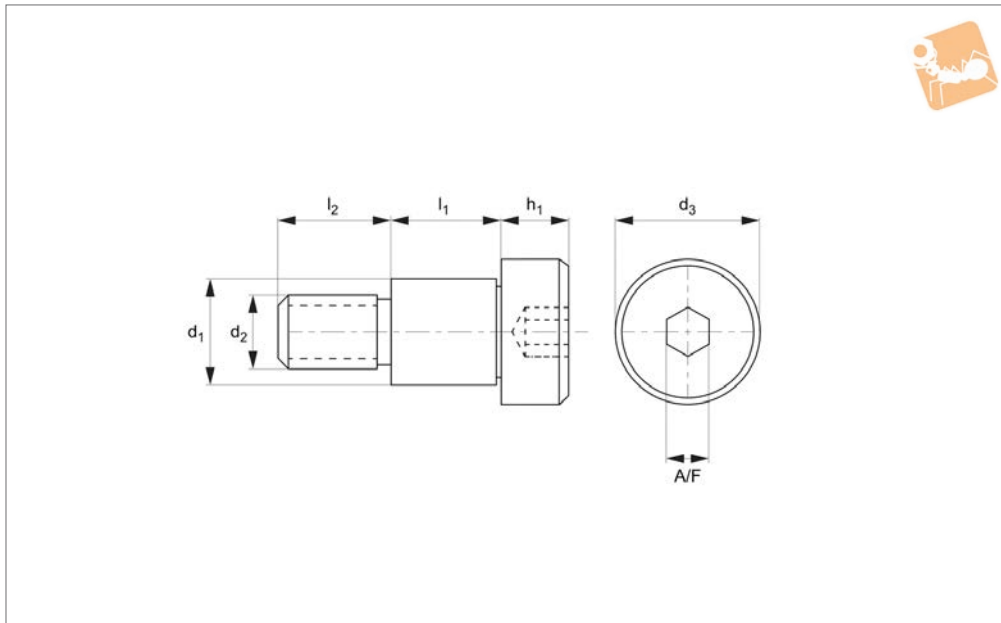
SHOULDER SCREWS



# Shoulder Screws - Cap Head

hex drive - 316 stainless, blackened

## Shoulder Screws



**P0130.B4**

SHOULDER SCREWS

### Material

Stainless steel (AISI 316, 1.440) black oxide coating.  
Tensile strength 480 N/mm<sup>2</sup>.  
Proof stress min. 200 N/mm<sup>2</sup>, austenitic

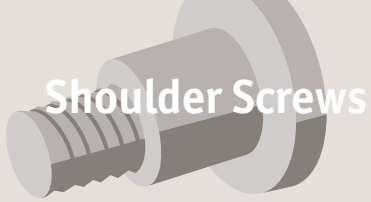
stainless steel.

### Technical Notes

Highly resistant to corrosion (including from salt water).

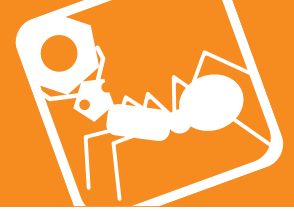
Shim washers can be used to reduce shoulder length if required. It is non-magnetic.

Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0130.030-003-B4	3	3	M 2	5	4	2	1.5
P0130.030-004-B4	3	4	M 2	5	4	2	1.5
P0130.030-005-B4	3	5	M 2	5	4	2	1.5
P0130.030-006-B4	3	6	M 2	5	4	2	1.5
P0130.030-007-B4	3	7	M 2	5	4	2	1.5
P0130.030-008-B4	3	8	M 2	5	4	2	1.5
P0130.030-010-B4	3	10	M 2	5	4	2	1.5
P0130.040-004-B4	4	4	M 3	6	4	3	2.0
P0130.040-005-B4	4	5	M 3	6	4	3	2.0
P0130.040-006-B4	4	6	M 3	6	4	3	2.0
P0130.040-007-B4	4	7	M 3	6	4	3	2.0
P0130.040-008-B4	4	8	M 3	6	4	3	2.0
P0130.040-010-B4	4	10	M 3	6	4	3	2.0
P0130.040-012-B4	4	12	M 3	6	4	3	2.0
P0130.040-014-B4	4	14	M 3	6	4	3	2.0
P0130.040-016-B4	4	16	M 3	6	4	3	2.0
P0130.040-018-B4	4	18	M 3	6	4	3	2.0
P0130.040-020-B4	4	20	M 3	6	4	3	2.0
P0130.050-005-B4	5	5	M 4	8	5	4	2.5
P0130.050-006-B4	5	6	M 4	8	5	4	2.5
P0130.050-007-B4	5	7	M 4	8	5	4	2.5
P0130.050-008-B4	5	8	M 4	8	5	4	2.5
P0130.050-010-B4	5	10	M 4	8	5	4	2.5
P0130.050-012-B4	5	12	M 4	8	5	4	2.5
P0130.050-014-B4	5	14	M 4	8	5	4	2.5
P0130.050-016-B4	5	16	M 4	8	5	4	2.5
P0130.050-018-B4	5	18	M 4	8	5	4	2.5
P0130.050-020-B4	5	20	M 4	8	5	4	2.5
P0130.050-025-B4	5	25	M 4	8	5	4	2.5
P0130.050-030-B4	5	30	M 4	8	5	4	2.5
P0130.060-006-B4	6	6	M 5	10	6	5	3.0
P0130.060-007-B4	6	7	M 5	10	6	5	3.0
P0130.060-008-B4	6	8	M 5	10	6	5	3.0



# Shoulder Screws

## Shoulder Screws - Cap Head hex drive - 316 stainless, blackened



SHOULDER SCREWS

Order No.	$d_1$ +0 -0.025	$l_1$ +0.05 -0.0	$d_2$	$d_3$	$l_2$	$h_1$	A/F
P0130.060-010-B4	6	10	M 5	10	6	5	3.0
P0130.060-012-B4	6	12	M 5	10	6	5	3.0
P0130.060-014-B4	6	14	M 5	10	6	5	3.0
P0130.060-016-B4	6	16	M 5	10	6	5	3.0
P0130.060-018-B4	6	18	M 5	10	6	5	3.0
P0130.060-020-B4	6	20	M 5	10	6	5	3.0
P0130.060-025-B4	6	25	M 5	10	6	5	3.0
P0130.060-030-B4	6	30	M 5	10	6	5	3.0
P0130.060-035-B4	6	35	M 5	10	6	5	3.0
P0130.060-040-B4	6	40	M 5	10	6	5	3.0
P0130.060-045-B4	6	45	M 5	10	6	5	3.0
P0130.060-050-B4	6	50	M 5	10	6	5	3.0
P0130.080-008-B4	8	8	M 6	12	11	6	4.0
P0130.080-010-B4	8	10	M 6	12	11	6	4.0
P0130.080-012-B4	8	12	M 6	12	11	6	4.0
P0130.080-014-B4	8	14	M 6	12	11	6	4.0
P0130.080-016-B4	8	16	M 6	12	11	6	4.0
P0130.080-018-B4	8	18	M 6	12	11	6	4.0
P0130.080-020-B4	8	20	M 6	12	11	6	4.0
P0130.080-025-B4	8	25	M 6	12	11	6	4.0
P0130.080-030-B4	8	30	M 6	12	11	6	4.0
P0130.080-035-B4	8	35	M 6	12	11	6	4.0
P0130.080-040-B4	8	40	M 6	12	11	6	4.0
P0130.080-045-B4	8	45	M 6	12	11	6	4.0
P0130.080-050-B4	8	50	M 6	12	11	6	4.0
P0130.100-008-B4	10	8	M 8	14	12	7	5.0
P0130.100-010-B4	10	10	M 8	14	12	7	5.0
P0130.100-012-B4	10	12	M 8	14	12	7	5.0
P0130.100-014-B4	10	14	M 8	14	12	7	5.0
P0130.100-016-B4	10	16	M 8	14	12	7	5.0
P0130.100-020-B4	10	20	M 8	14	12	7	5.0
P0130.100-025-B4	10	25	M 8	14	12	7	5.0
P0130.100-030-B4	10	30	M 8	14	12	7	5.0
P0130.100-035-B4	10	35	M 8	14	12	7	5.0
P0130.100-040-B4	10	40	M 8	14	12	7	5.0
P0130.100-045-B4	10	45	M 8	14	12	7	5.0
P0130.100-050-B4	10	50	M 8	14	12	7	5.0
P0130.100-055-B4	10	55	M 8	14	12	7	5.0
P0130.100-060-B4	10	60	M 8	14	12	7	5.0
P0130.100-065-B4	10	65	M 8	14	12	7	5.0
P0130.100-070-B4	10	70	M 8	14	12	7	5.0
P0130.120-008-B4	12	8	M 10	20	16	8	6.0
P0130.120-010-B4	12	10	M 10	20	16	8	6.0
P0130.120-012-B4	12	12	M 10	20	16	8	6.0
P0130.120-014-B4	12	14	M 10	20	16	8	6.0
P0130.120-016-B4	12	16	M 10	20	16	8	6.0
P0130.120-018-B4	12	18	M 10	20	16	8	6.0
P0130.120-020-B4	12	20	M 10	20	16	8	6.0
P0130.120-025-B4	12	25	M 10	20	16	8	6.0
P0130.120-030-B4	12	30	M 10	20	16	8	6.0
P0130.120-035-B4	12	35	M 10	20	16	8	6.0
P0130.120-040-B4	12	40	M 10	20	16	8	6.0
P0130.120-045-B4	12	45	M 10	20	16	8	6.0
P0130.120-050-B4	12	50	M 10	20	16	8	6.0
P0130.120-055-B4	12	55	M 10	20	16	8	6.0
P0130.120-060-B4	12	60	M 10	20	16	8	6.0
P0130.120-065-B4	12	65	M 10	20	16	8	6.0
P0130.120-070-B4	12	70	M 10	20	16	8	6.0
P0130.160-025-B4	16	25	M 12	24	18	11	8.0
P0130.160-030-B4	16	30	M 12	24	18	11	8.0
P0130.160-035-B4	16	35	M 12	24	18	11	8.0
P0130.160-040-B4	16	40	M 12	24	18	11	8.0
P0130.160-045-B4	16	45	M 12	24	18	11	8.0
P0130.160-050-B4	16	50	M 12	24	18	11	8.0
P0130.160-055-B4	16	55	M 12	24	18	11	8.0
P0130.160-060-B4	16	60	M 12	24	18	11	8.0
P0130.160-065-B4	16	65	M 12	24	18	11	8.0
P0130.160-070-B4	16	70	M 12	24	18	11	8.0



## Shoulder Screws - Cap Head

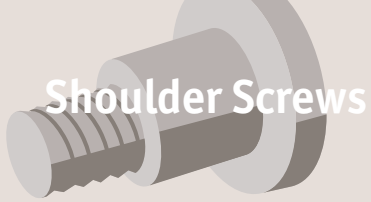
hex drive - 316 stainless, blackened

## Shoulder Screws



Order No.	$d_1$ +0 -0.025	$l_1$ +0.05 -0.0	$d_2$	$d_3$	$l_2$	$h_1$	A/F
P0130.160-075-B4	16	75	M 12	24	18	11	8.0
P0130.160-080-B4	16	80	M 12	24	18	11	8.0
P0130.160-090-B4	16	90	M 12	24	18	11	8.0
P0130.160-100-B4	16	100	M 12	24	18	11	8.0
P0130.200-030-B4	20	30	M 16	30	22	14	10.0
P0130.200-035-B4	20	35	M 16	30	22	14	10.0
P0130.200-040-B4	20	40	M 16	30	22	14	10.0
P0130.200-045-B4	20	45	M 16	30	22	14	10.0
P0130.200-050-B4	20	50	M 16	30	22	14	10.0

SHOULDER SCREWS



# Shoulder Screws

# Shoulder Screws - Countersunk

hex drive - 303 stainless - blackened

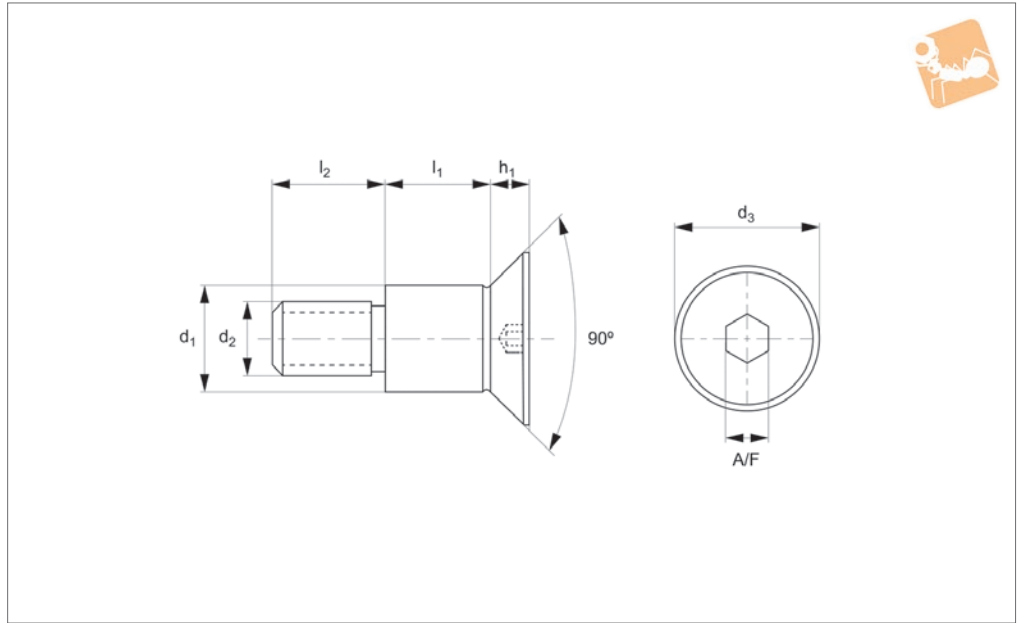


SHOULDER SCREWS



MADE IN BRITAIN

## P0128.B2



### Material

Stainless steel (AISI 303, 1.4305), blackened.

Tensile strength 550 N/mm<sup>2</sup>.

Proof stress min. 190 N/mm<sup>2</sup>, austenitic

stainless steel.

### Technical Notes

303 stainless steel provides good resistance to corrosion, it is soft and mildly

magnetic.

Blackening provides some further corrosion resistance

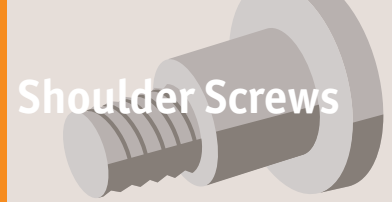
Order No.	d <sub>1</sub> +0.000 -0.025	l <sub>1</sub> +0.05 -0.00	d <sub>2</sub> tol. G6	d <sub>3</sub>	l <sub>2</sub> +0.05 -0.00	h <sub>1</sub> +0.00 -0.05	A/F
P0128.040-010-B2	4	10	M 3	8	4	2.0	2
P0128.040-012-B2	4	12	M 3	8	4	2.0	2
P0128.040-014-B2	4	14	M 3	8	4	2.0	2
P0128.040-016-B2	4	16	M 3	8	4	2.0	2
P0128.040-018-B2	4	18	M 3	8	4	2.0	2
P0128.040-020-B2	4	20	M 3	8	4	2.0	2
P0128.040-025-B2	4	25	M 3	8	4	2.0	2
P0128.040-030-B2	4	30	M 3	8	4	2.0	2
P0128.050-010-B2	5	10	M 4	10	5	2.5	2.5
P0128.050-012-B2	5	12	M 4	10	5	2.5	2.5
P0128.050-016-B2	5	16	M 4	10	5	2.5	2.5
P0128.050-020-B2	5	20	M 4	10	5	2.5	2.5
P0128.050-025-B2	5	25	M 4	10	5	2.5	2.5
P0128.050-030-B2	5	30	M 4	10	5	2.5	2.5
P0128.050-035-B2	5	35	M 4	10	5	2.5	2.5
P0128.050-040-B2	5	40	M 4	10	5	2.5	2.5
P0128.060-010-B2	6	10	M 5	12	6	3.0	3
P0128.060-012-B2	6	12	M 5	12	6	3.0	3
P0128.060-016-B2	6	16	M 5	12	6	3.0	3
P0128.060-020-B2	6	20	M 5	12	6	3.0	3
P0128.060-025-B2	6	25	M 5	12	6	3.0	3
P0128.060-030-B2	6	30	M 5	12	6	3.0	3
P0128.060-035-B2	6	35	M 5	12	6	3.0	3
P0128.060-040-B2	6	40	M 5	12	6	3.0	3
P0128.080-010-B2	8	10	M 6	16	11	4.0	4
P0128.080-012-B2	8	12	M 6	16	11	4.0	4
P0128.080-016-B2	8	16	M 6	16	11	4.0	4
P0128.080-020-B2	8	20	M 6	16	11	4.0	4
P0128.080-025-B2	8	25	M 6	16	11	4.0	4
P0128.080-030-B2	8	30	M 6	16	11	4.0	4
P0128.080-035-B2	8	35	M 6	16	11	4.0	4
P0128.080-040-B2	8	40	M 6	16	11	4.0	4
P0128.100-012-B2	10	12	M 8	20	12	5.0	5





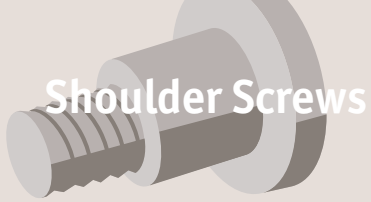
# Shoulder Screws - Countersunk

hex drive - 303 stainless - blackened



Order No.	$d_1$ +0.000 -0.025	$l_1$ +0.05 -0.00	$d_2$ tol. G6	$d_3$	$l_2$ +0.05 -0.00	$h_1$ +0.00 -0.05	A/F
P0128.100-016-B2	10	16	M 8	20	12	5.0	5
P0128.100-020-B2	10	20	M 8	20	12	5.0	5
P0128.100-025-B2	10	25	M 8	20	12	5.0	5
P0128.100-030-B2	10	30	M 8	20	12	5.0	5
P0128.100-040-B2	10	40	M 8	20	12	5.0	5
P0128.100-050-B2	10	50	M 8	20	12	5.0	5
P0128.120-012-B2	12	12	M10	24	16	6.0	6
P0128.120-016-B2	12	16	M10	24	16	6.0	6
P0128.120-020-B2	12	20	M10	24	16	6.0	6
P0128.120-025-B2	12	25	M10	24	16	6.0	6
P0128.120-030-B2	12	30	M10	24	16	6.0	6
P0128.120-040-B2	12	40	M10	24	16	6.0	6
P0128.120-050-B2	12	50	M10	24	16	6.0	6

SHOULDER SCREWS



# Shoulder Screws

## Shoulder Screws - Countersunk

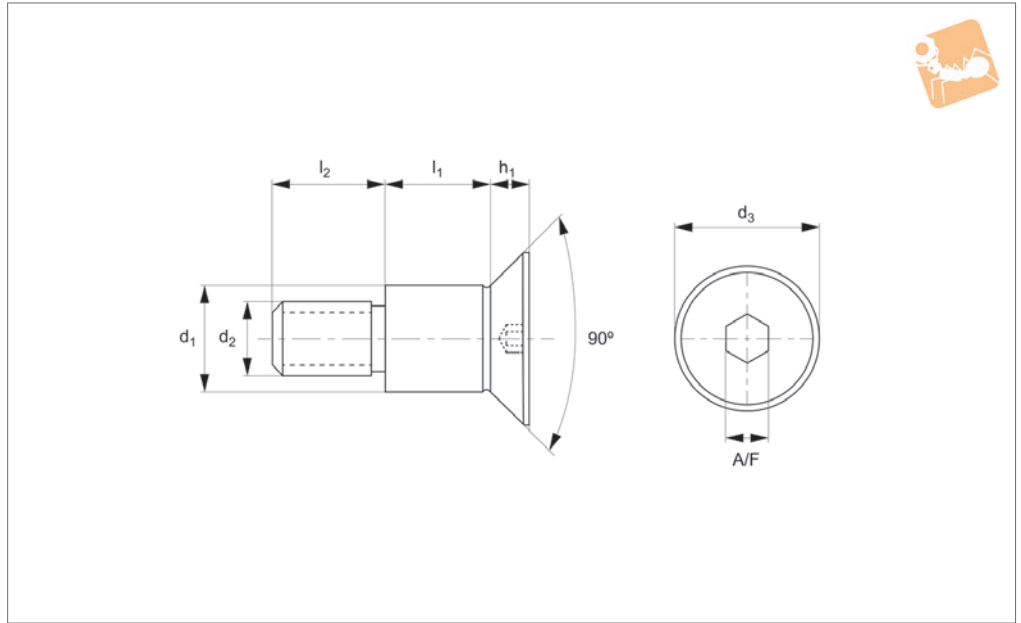
hex drive - 316 stainless - blackened



SHOULDER SCREWS



### P0128.B4



#### Material

Stainless steel (AISI 316, 1.440), blackened.

Tensile strength 480 N/mm<sup>2</sup>.

Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.

#### Technical Notes

316 Stainless provides excellent corrosion resistance for use in highly caustic or marine environments. For more standard applications please see our A2 range which is more cost effective.

Non-magnetic.

Blackening provides some further corrosion resistance

Order No.	d <sub>1</sub> +0.000 -0.025	l <sub>1</sub> +0.05 -0.00	d <sub>2</sub> tol. G6	d <sub>3</sub>	l <sub>2</sub> +0.05 -0.00	h <sub>1</sub> +0.00 -0.05	A/F
P0128.040-010-B4	4	10	M 3	8	4	2.0	2
P0128.040-012-B4	4	12	M 3	8	4	2.0	2
P0128.040-014-B4	4	14	M 3	8	4	2.0	2
P0128.040-016-B4	4	16	M 3	8	4	2.0	2
P0128.040-018-B4	4	18	M 3	8	4	2.0	2
P0128.040-020-B4	4	20	M 3	8	4	2.0	2
P0128.040-025-B4	4	25	M 3	8	4	2.0	2
P0128.040-030-B4	4	30	M 3	8	4	2.0	2
P0128.050-010-B4	5	10	M 4	10	5	2.5	2.5
P0128.050-012-B4	5	12	M 4	10	5	2.5	2.5
P0128.050-016-B4	5	16	M 4	10	5	2.5	2.5
P0128.050-020-B4	5	20	M 4	10	5	2.5	2.5
P0128.050-025-B4	5	25	M 4	10	5	2.5	2.5
P0128.050-030-B4	5	30	M 4	10	5	2.5	2.5
P0128.050-035-B4	5	35	M 4	10	5	2.5	2.5
P0128.050-040-B4	5	40	M 4	10	5	2.5	2.5
P0128.060-010-B4	6	10	M 5	12	6	3.0	3
P0128.060-012-B4	6	12	M 5	12	6	3.0	3
P0128.060-016-B4	6	16	M 5	12	6	3.0	3
P0128.060-020-B4	6	20	M 5	12	6	3.0	3
P0128.060-025-B4	6	25	M 5	12	6	3.0	3
P0128.060-030-B4	6	30	M 5	12	6	3.0	3
P0128.060-035-B4	6	35	M 5	12	6	3.0	3
P0128.060-040-B4	6	40	M 5	12	6	3.0	3
P0128.080-010-B4	8	10	M 6	16	11	4.0	4
P0128.080-012-B4	8	12	M 6	16	11	4.0	4
P0128.080-016-B4	8	16	M 6	16	11	4.0	4
P0128.080-020-B4	8	20	M 6	16	11	4.0	4
P0128.080-025-B4	8	25	M 6	16	11	4.0	4
P0128.080-030-B4	8	30	M 6	16	11	4.0	4
P0128.080-035-B4	8	35	M 6	16	11	4.0	4
P0128.080-040-B4	8	40	M 6	16	11	4.0	4



# Shoulder Screws - Countersunk

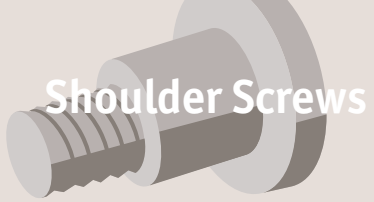
hex drive - 316 stainless - blackened

## Shoulder Screws



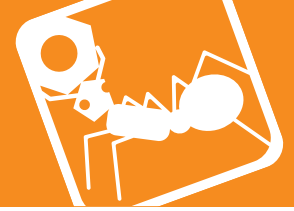
Order No.	$d_1$ +0.000 -0.025	$l_1$ +0.05 -0.00	$d_2$ tol. G6	$d_3$	$l_2$ +0.05 -0.00	$h_1$ +0.00 -0.05	A/F
P0128.100-012-B4	10	12	M 8	20	12	5.0	5
P0128.100-016-B4	10	16	M 8	20	12	5.0	5
P0128.100-020-B4	10	20	M 8	20	12	5.0	5
P0128.100-025-B4	10	25	M 8	20	12	5.0	5
P0128.100-030-B4	10	30	M 8	20	12	5.0	5
P0128.100-040-B4	10	40	M 8	20	12	5.0	5
P0128.100-050-B4	10	50	M 8	20	12	5.0	5
P0128.120-012-B4	12	12	M10	24	16	6.0	6
P0128.120-016-B4	12	16	M10	24	16	6.0	6
P0128.120-020-B4	12	20	M10	24	16	6.0	6
P0128.120-025-B4	12	25	M10	24	16	6.0	6
P0128.120-030-B4	12	30	M10	24	16	6.0	6
P0128.120-040-B4	12	40	M10	24	16	6.0	6
P0128.120-050-B4	12	50	M10	24	16	6.0	6

SHOULDER SCREWS



# Shoulder Nuts - Cap Head

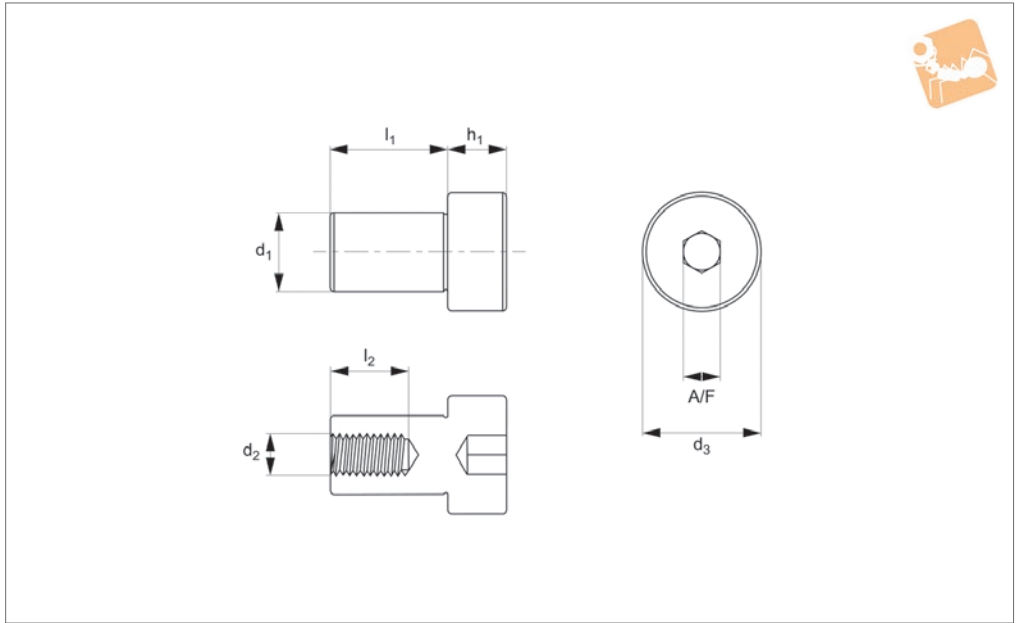
hex drive - 303 stainless - blackened



SHOULDER SCREWS



**P0127.B2**



**Material**

Stainless steel (AISI 303, 1.4305), black oxide coating.  
Tensile strength 550 N/mm<sup>2</sup>.

Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.

**Technical Notes**

303 stainless steel provides good resistance to corrosion, it is mildly magnetic. Blackening provides some further corro-

Order No.	$d_1$ +0.000 -0.025	$l_1$ +0.05 -0.00	$d_2$	$d_3$	$l_2$	$h_1$	A/F
P0127.040-006-B2	4	6	M 2	6	4	3	2
P0127.040-008-B2	4	8	M 2	6	4	3	2
P0127.040-010-B2	4	10	M 2	6	4	3	2
P0127.040-012-B2	4	12	M 2	6	4	3	2
P0127.040-014-B2	4	14	M 2	6	4	3	2
P0127.040-016-B2	4	16	M 2	6	4	3	2
P0127.040-018-B2	4	18	M 2	6	4	3	2
P0127.040-020-B2	4	20	M 2	6	4	3	2
P0127.050-008-B2	5	8	M 2,5	8	5	4	2.5
P0127.050-010-B2	5	10	M 2,5	8	5	4	2.5
P0127.050-012-B2	5	12	M 2,5	8	5	4	2.5
P0127.050-016-B2	5	16	M 2,5	8	5	4	2.5
P0127.050-020-B2	5	20	M 2,5	8	5	4	2.5
P0127.050-025-B2	5	25	M 2,5	8	5	4	2.5
P0127.060-008-B2	6	8	M 3	10	6	5	3
P0127.060-010-B2	6	10	M 3	10	6	5	3
P0127.060-012-B2	6	12	M 3	10	6	5	3
P0127.060-016-B2	6	16	M 3	10	6	5	3
P0127.060-020-B2	6	20	M 3	10	6	5	3
P0127.060-025-B2	6	25	M 3	10	6	5	3
P0127.060-030-B2	6	30	M 3	10	6	5	3
P0127.060-040-B2	6	40	M 3	10	6	5	3
P0127.060-050-B2	6	50	M 3	10	6	5	3
P0127.080-016-B2	8	16	M 3,5	12	11	6	4
P0127.080-020-B2	8	20	M 3,5	12	11	6	4
P0127.080-025-B2	8	25	M 3,5	12	11	6	4
P0127.080-030-B2	8	30	M 3,5	12	11	6	4
P0127.080-040-B2	8	40	M 3,5	12	11	6	4
P0127.080-050-B2	8	50	M 3,5	12	11	6	4
P0127.100-016-B2	10	16	M 4	14	12	7	5
P0127.100-020-B2	10	20	M 4	14	12	7	5
P0127.100-025-B2	10	25	M 4	14	12	7	5
P0127.100-030-B2	10	30	M 4	14	12	7	5
P0127.100-040-B2	10	40	M 4	14	12	7	5



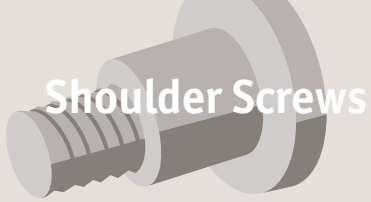
# Shoulder Nuts - Cap Head

hex drive - 303 stainless - blackened

# Shoulder Screws



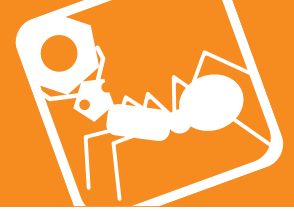
Order No.	$d_1$ +0.000 -0.025	$l_1$ +0.05 -0.00	$d_2$	$d_3$	$l_2$	$h_1$	A/F
P0127.120-025-B2	12	25	M 5	20	16	8	6
P0127.120-030-B2	12	30	M 5	20	16	8	6
P0127.120-040-B2	12	40	M 5	20	16	8	6
P0127.120-050-B2	12	50	M 5	20	16	8	6



# Shoulder Screws

# Shoulder Nuts - Cap Head

hex drive - 316 stainless - blackened

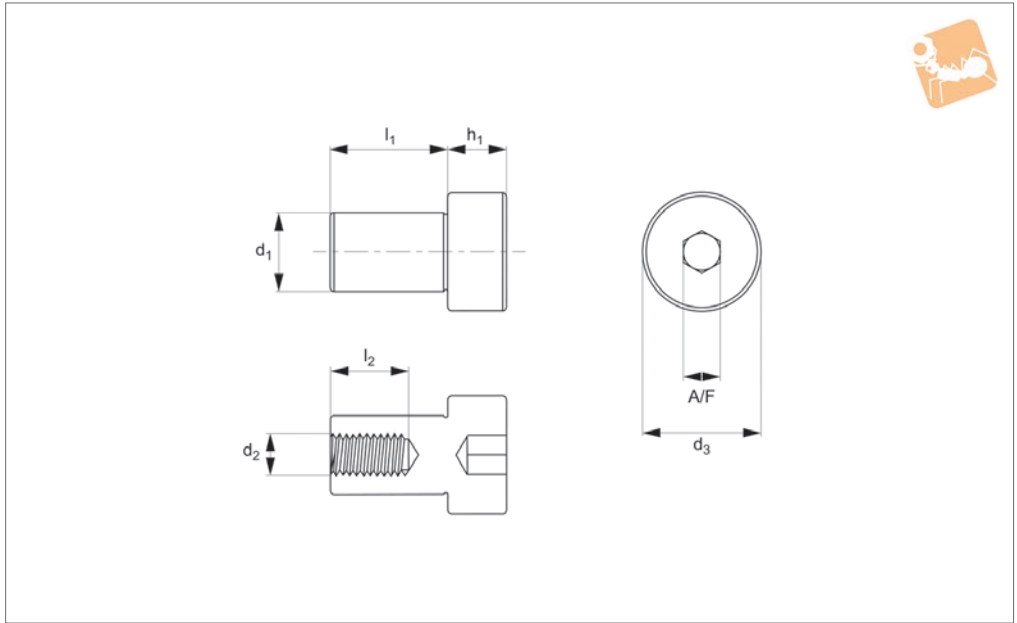


SHOULDER SCREWS



MADE IN BRITAIN

## P0127.B4



### Material

Stainless steel (AISI 316, 1.440), black oxide coating.  
Tensile strength 480 N/mm<sup>2</sup>.

Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.

### Technical Notes

It is non-magnetic.  
Blackening provides some further corrosion resistance.

Order No.	$d_1$ +0.000 -0.025	$l_1$ +0.05 -0.00	$d_2$	$d_3$	$l_2$	$h_1$	A/F
P0127.040-006-B4	4	6	M 2	6	4	3	2
P0127.040-008-B4	4	8	M 2	6	4	3	2
P0127.040-010-B4	4	10	M 2	6	4	3	2
P0127.040-012-B4	4	12	M 2	6	4	3	2
P0127.040-014-B4	4	14	M 2	6	4	3	2
P0127.040-016-B4	4	16	M 2	6	4	3	2
P0127.040-018-B4	4	18	M 2	6	4	3	2
P0127.040-020-B4	4	20	M 2	6	4	3	2
P0127.050-008-B4	5	8	M 2,5	8	5	4	2.5
P0127.050-010-B4	5	10	M 2,5	8	5	4	2.5
P0127.050-012-B4	5	12	M 2,5	8	5	4	2.5
P0127.050-016-B4	5	16	M 2,5	8	5	4	2.5
P0127.050-020-B4	5	20	M 2,5	8	5	4	2.5
P0127.050-025-B4	5	25	M 2,5	8	5	4	2.5
P0127.060-008-B4	6	8	M 3	10	6	5	3
P0127.060-010-B4	6	10	M 3	10	6	5	3
P0127.060-012-B4	6	12	M 3	10	6	5	3
P0127.060-016-B4	6	16	M 3	10	6	5	3
P0127.060-020-B4	6	20	M 3	10	6	5	3
P0127.060-025-B4	6	25	M 3	10	6	5	3
P0127.060-030-B4	6	30	M 3	10	6	5	3
P0127.060-040-B4	6	40	M 3	10	6	5	3
P0127.060-050-B4	6	50	M 3	10	6	5	3
P0127.080-016-B4	8	16	M 3,5	12	11	6	4
P0127.080-020-B4	8	20	M 3,5	12	11	6	4
P0127.080-025-B4	8	25	M 3,5	12	11	6	4
P0127.080-030-B4	8	30	M 3,5	12	11	6	4
P0127.080-040-B4	8	40	M 3,5	12	11	6	4
P0127.080-050-B4	8	50	M 3,5	12	11	6	4
P0127.100-016-B4	10	16	M 4	14	12	7	5
P0127.100-020-B4	10	20	M 4	14	12	7	5
P0127.100-025-B4	10	25	M 4	14	12	7	5
P0127.100-030-B4	10	30	M 4	14	12	7	5
P0127.100-040-B4	10	40	M 4	14	12	7	5



# Shoulder Nuts - Cap Head

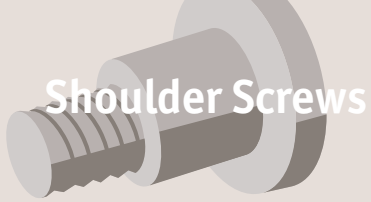
hex drive - 316 stainless - blackened

# Shoulder Screws



Order No.	$d_1$ +0.000 -0.025	$l_1$ +0.05 -0.00	$d_2$	$d_3$	$l_2$	$h_1$	A/F
P0127.120-025-B4	12	25	M 5	20	16	8	6
P0127.120-030-B4	12	30	M 5	20	16	8	6
P0127.120-040-B4	12	40	M 5	20	16	8	6
P0127.120-050-B4	12	50	M 5	20	16	8	6

SHOULDER SCREWS



# Shoulder Screws

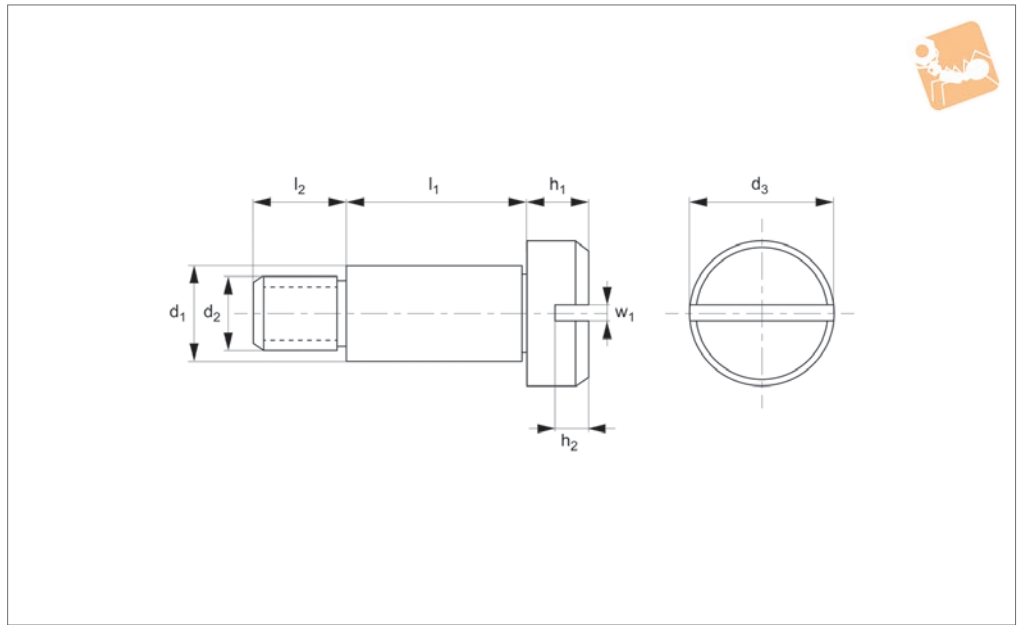
## Shoulder Screw - Cap Head slot drive - 303 stainless, blackened



SHOULDER SCREWS



**P0132.B2**



**Material**

Stainless steel (AISI 303, 1.4305) black oxide coating. Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.

resistance to corrosion. It is mildly magnetic.

These shoulder screws are less expensive than the 416 steel grade (see part no. P0133), which are harder but less resistant to corrosion.

For Ø16 (and above) stainless steel shoulder screws see part no. P0137.

Special lengths and diameters produced to drawings.

**Technical Notes**

303 series stainless steel provides good

Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	h <sub>2</sub>	w <sub>1</sub>
P0132.040-004-B2	4	4	M 3	6	4.0	3	0.9	0.8
P0132.040-005-B2	4	5	M 3	6	4.0	3	0.9	0.8
P0132.040-006-B2	4	6	M 3	6	4.0	3	0.9	0.8
P0132.040-008-B2	4	8	M 3	6	4.0	3	0.9	0.8
P0132.040-010-B2	4	10	M 3	6	4.0	3	0.9	0.8
P0132.040-012-B2	4	12	M 3	6	4.0	3	0.9	0.8
P0132.040-016-B2	4	16	M 3	6	4.0	3	0.9	0.8
P0132.040-020-B2	4	20	M 3	6	4.0	3	0.9	0.8
P0132.050-004-B2	5	4	M 4	8	5.0	4	1.2	1.0
P0132.050-005-B2	5	5	M 4	8	5.0	4	1.2	1.0
P0132.050-006-B2	5	6	M 4	8	5.0	4	1.2	1.0
P0132.050-008-B2	5	8	M 4	8	5.0	4	1.2	1.0
P0132.050-010-B2	5	10	M 4	8	5.0	4	1.2	1.0
P0132.050-012-B2	5	12	M 4	8	5.0	4	1.2	1.0
P0132.050-014-B2	5	14	M 4	8	5.0	4	1.2	1.0
P0132.050-016-B2	5	16	M 4	8	5.0	4	1.2	1.0
P0132.050-020-B2	5	20	M 4	8	5.0	4	1.2	1.0
P0132.050-025-B2	5	25	M 4	8	5.0	4	1.2	1.0
P0132.050-030-B2	5	30	M 4	8	5.0	4	1.2	1.0
P0132.060-004-B2	6	4	M 5	10	6.0	5	1.3	1.2
P0132.060-005-B2	6	5	M 5	10	6.0	5	1.3	1.2
P0132.060-006-B2	6	6	M 5	10	6.0	5	1.3	1.2
P0132.060-008-B2	6	8	M 5	10	6.0	5	1.3	1.2
P0132.060-010-B2	6	10	M 5	10	6.0	5	1.3	1.2
P0132.060-012-B2	6	12	M 5	10	6.0	5	1.3	1.2
P0132.060-014-B2	6	14	M 5	10	6.0	5	1.3	1.2
P0132.060-016-B2	6	16	M 5	10	6.0	5	1.3	1.2
P0132.060-020-B2	6	20	M 5	10	6.0	5	1.3	1.2
P0132.060-025-B2	6	25	M 5	10	6.0	5	1.3	1.2
P0132.060-030-B2	6	30	M 5	10	6.0	5	1.3	1.2





# Shoulder Screw - Cap Head

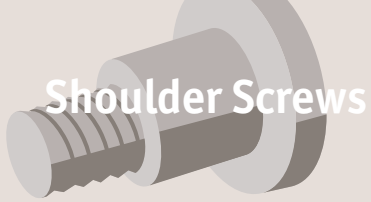
slot drive - 303 stainless, blackened

## Shoulder Screws



Order No.	$d_1$ +0 -0.025	$l_1$ +0.05 -0.0	$d_2$	$d_3$	$l_2$	$h_1$	$h_2$	$w_1$
P0132.080-006-B2	8	6	M 6	12	11.0	6	1.5	1.6
P0132.080-008-B2	8	8	M 6	12	11.0	6	1.5	1.6
P0132.080-010-B2	8	10	M 6	12	11.0	6	1.5	1.6
P0132.080-012-B2	8	12	M 6	12	11.0	6	1.5	1.6
P0132.080-016-B2	8	16	M 6	12	11.0	6	1.5	1.6
P0132.080-020-B2	8	20	M 6	12	11.0	6	1.5	1.6
P0132.100-008-B2	10	8	M 6	14	11.0	6	1.5	1.6
P0132.100-012-B2	10	12	M 6	14	11.0	6	1.5	1.6
P0132.101-008-B2	10	8	M 8	14	12.0	7	1.9	2.0
P0132.101-010-B2	10	10	M 8	14	12.0	7	1.9	2.0
P0132.101-012-B2	10	12	M 8	14	12.0	7	1.9	2.0
P0132.101-016-B2	10	16	M 8	14	12.0	7	1.9	2.0
P0132.120-008-B2	12	8	M10	20	16.0	8	2.4	2.5
P0132.120-010-B2	12	10	M10	20	16.0	8	2.4	2.5
P0132.120-012-B2	12	12	M10	20	16.0	8	2.4	2.5
P0132.120-016-B2	12	16	M10	20	16.0	8	2.4	2.5
P0132.120-020-B2	12	20	M10	20	16.0	8	2.4	2.5
P0132.120-025-B2	12	25	M10	20	16.0	8	2.4	2.5

SHOULDER SCREWS



# Shoulder Screws

## Ultra Low Head - Shoulder Screw

hex drive - 303 stainless, blackened

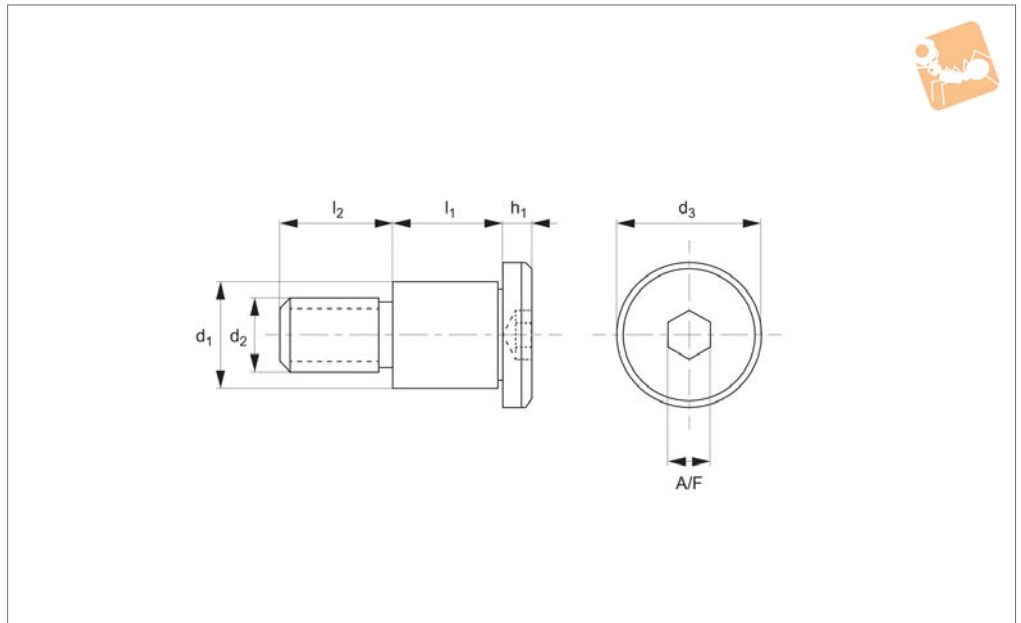


SHOULDER SCREWS



MADE IN BRITAIN

### P0134.B2



#### Material

Stainless steel (AISI 303, 1.4305), black oxide coating. Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.

#### Technical Notes

These very low profile socket shoulder screws have a head height approximately 1/3 that of normal shoulder screws (P0130).

303 Series stainless is suitable for pharmaceutical and other applications. Stainless steel suitable for marine and other applications.

Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0134.040-004-B2	4	4	M 3	6	4	1.3	2
P0134.040-005-B2	4	5	M 3	6	4	1.3	2
P0134.040-006-B2	4	6	M 3	6	4	1.3	2
P0134.040-008-B2	4	8	M 3	6	4	1.3	2
P0134.040-010-B2	4	10	M 3	6	4	1.3	2
P0134.040-012-B2	4	12	M 3	6	4	1.3	2
P0134.040-016-B2	4	16	M 3	6	4	1.3	2
P0134.040-020-B2	4	20	M 3	6	4	1.3	2
P0134.050-004-B2	5	4	M 4	9	5	1.3	2.5
P0134.050-005-B2	5	5	M 4	9	5	1.3	2.5
P0134.050-006-B2	5	6	M 4	9	5	1.3	2.5
P0134.050-008-B2	5	8	M 4	9	5	1.3	2.5
P0134.050-010-B2	5	10	M 4	9	5	1.3	2.5
P0134.050-012-B2	5	12	M 4	9	5	1.3	2.5
P0134.050-016-B2	5	16	M 4	9	5	1.3	2.5
P0134.050-020-B2	5	20	M 4	9	5	1.3	2.5
P0134.050-025-B2	5	25	M 4	9	5	1.3	2.5
P0134.050-030-B2	5	30	M 4	9	5	1.3	2.5
P0134.050-040-B2	5	40	M 4	9	5	1.3	2.5
P0134.060-004-B2	6	4	M 5	10	6	1.7	3
P0134.060-005-B2	6	5	M 5	10	6	1.7	3
P0134.060-006-B2	6	6	M 5	10	6	1.7	3
P0134.060-008-B2	6	8	M 5	10	6	1.7	3
P0134.060-010-B2	6	10	M 5	10	6	1.7	3
P0134.060-012-B2	6	12	M 5	10	6	1.7	3
P0134.060-016-B2	6	16	M 5	10	6	1.7	3
P0134.060-020-B2	6	20	M 5	10	6	1.7	3
P0134.060-025-B2	6	25	M 5	10	6	1.7	3
P0134.060-030-B2	6	30	M 5	10	6	1.7	3
P0134.060-040-B2	6	40	M 5	10	6	1.7	3
P0134.080-006-B2	8	6	M 6	13	11	2.0	4
P0134.080-008-B2	8	8	M 6	13	11	2.0	4
P0134.080-010-B2	8	10	M 6	13	11	2.0	4



# Ultra Low Head - Shoulder Screw

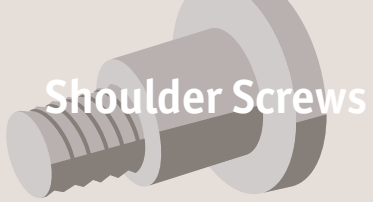
hex drive - 303 stainless, blackened

## Shoulder Screws



Order No.	$d_1$ +0 -0.025	$l_1$ +0.05 -0.0	$d_2$	$d_3$	$l_2$	$h_1$	A/F
P0134.080-012-B2	8	12	M 6	13	11	2.0	4
P0134.080-016-B2	8	16	M 6	13	11	2.0	4
P0134.080-020-B2	8	20	M 6	13	11	2.0	4
P0134.080-025-B2	8	25	M 6	13	11	2.0	4
P0134.080-030-B2	8	30	M 6	13	11	2.0	4
P0134.080-040-B2	8	40	M 6	13	11	2.0	4
P0134.100-008-B2	10	8	M 8	14	12	2.7	5
P0134.100-010-B2	10	10	M 8	14	12	2.7	5
P0134.100-012-B2	10	12	M 8	14	12	2.7	5
P0134.100-016-B2	10	16	M 8	14	12	2.7	5
P0134.100-020-B2	10	20	M 8	14	12	2.7	5
P0134.100-025-B2	10	25	M 8	14	12	2.7	5
P0134.100-030-B2	10	30	M 8	14	12	2.7	5
P0134.100-040-B2	10	40	M 8	14	12	2.7	5
P0134.100-050-B2	10	50	M 8	14	12	2.7	5
P0134.120-010-B2	12	10	M10	20	16	3.5	6
P0134.120-012-B2	12	12	M10	20	16	3.5	6
P0134.120-016-B2	12	16	M10	20	16	3.5	6
P0134.120-020-B2	12	20	M10	20	16	3.5	6
P0134.120-025-B2	12	25	M10	20	16	3.5	6
P0134.120-030-B2	12	30	M10	20	16	3.5	6
P0134.120-040-B2	12	40	M10	20	16	3.5	6
P0134.120-050-B2	12	50	M10	20	16	3.5	6

SHOULDER SCREWS



# Shoulder Screws

## Ultra Low Head - Shoulder Screw

hex drive - 316 stainless, blackened

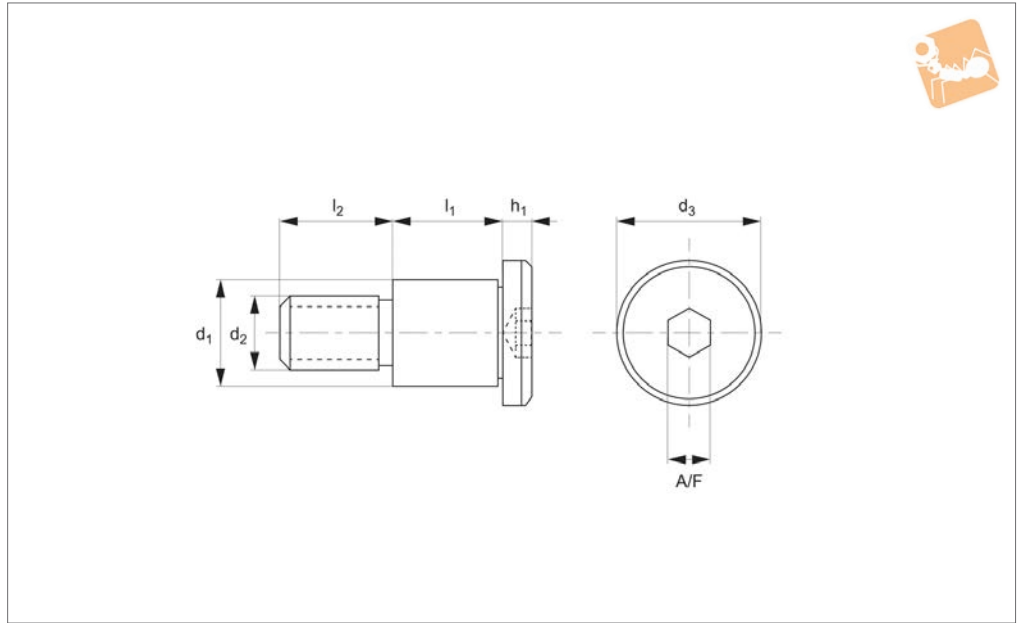


SHOULDER SCREWS



MADE IN BRITAIN

### P0134.B4



#### Material

Stainless steel (AISI 316, 1.440), black oxide coating. Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.

#### Technical Notes

These very low profile socket shoulder screws have a head height approximately 1/3 that of normal shoulder screws (P0130).

316 Series stainless have excellent corrosion resistance. Stainless steel suitable for marine and other applications.

Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0134.040-004-B4	4	4	M 3	6	4	1.3	2
P0134.040-005-B4	4	5	M 3	6	4	1.3	2
P0134.040-006-B4	4	6	M 3	6	4	1.3	2
P0134.040-008-B4	4	8	M 3	6	4	1.3	2
P0134.040-010-B4	4	10	M 3	6	4	1.3	2
P0134.040-012-B4	4	12	M 3	6	4	1.3	2
P0134.040-016-B4	4	16	M 3	6	4	1.3	2
P0134.040-020-B4	4	20	M 3	6	4	1.3	2
P0134.050-004-B4	5	4	M 4	9	5	1.3	2.5
P0134.050-005-B4	5	5	M 4	9	5	1.3	2.5
P0134.050-006-B4	5	6	M 4	9	5	1.3	2.5
P0134.050-008-B4	5	8	M 4	9	5	1.3	2.5
P0134.050-010-B4	5	10	M 4	9	5	1.3	2.5
P0134.050-012-B4	5	12	M 4	9	5	1.3	2.5
P0134.050-016-B4	5	16	M 4	9	5	1.3	2.5
P0134.050-020-B4	5	20	M 4	9	5	1.3	2.5
P0134.050-025-B4	5	25	M 4	9	5	1.3	2.5
P0134.050-030-B4	5	30	M 4	9	5	1.3	2.5
P0134.050-040-B4	5	40	M 4	9	5	1.3	2.5
P0134.060-004-B4	6	4	M 5	10	6	1.7	3
P0134.060-005-B4	6	5	M 5	10	6	1.7	3
P0134.060-006-B4	6	6	M 5	10	6	1.7	3
P0134.060-008-B4	6	8	M 5	10	6	1.7	3
P0134.060-010-B4	6	10	M 5	10	6	1.7	3
P0134.060-012-B4	6	12	M 5	10	6	1.7	3
P0134.060-016-B4	6	16	M 5	10	6	1.7	3
P0134.060-020-B4	6	20	M 5	10	6	1.7	3
P0134.060-025-B4	6	25	M 5	10	6	1.7	3
P0134.060-030-B4	6	30	M 5	10	6	1.7	3
P0134.060-040-B4	6	40	M 5	10	6	1.7	3
P0134.080-006-B4	8	6	M 6	13	11	2.0	4
P0134.080-008-B4	8	8	M 6	13	11	2.0	4
P0134.080-010-B4	8	10	M 6	13	11	2.0	4



# Ultra Low Head - Shoulder Screw

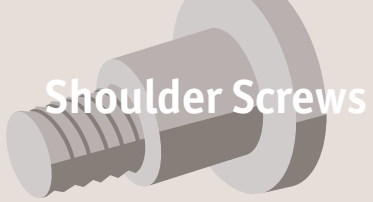
hex drive - 316 stainless, blackened

## Shoulder Screws



Order No.	$d_1$ +0 -0.025	$l_1$ +0.05 -0.0	$d_2$	$d_3$	$l_2$	$h_1$	A/F
P0134.080-012-B4	8	12	M 6	13	11	2.0	4
P0134.080-016-B4	8	16	M 6	13	11	2.0	4
P0134.080-020-B4	8	20	M 6	13	11	2.0	4
P0134.080-025-B4	8	25	M 6	13	11	2.0	4
P0134.080-030-B4	8	30	M 6	13	11	2.0	4
P0134.080-040-B4	8	40	M 6	13	11	2.0	4
P0134.100-008-B4	10	8	M 8	14	12	2.7	5
P0134.100-010-B4	10	10	M 8	14	12	2.7	5
P0134.100-012-B4	10	12	M 8	14	12	2.7	5
P0134.100-016-B4	10	16	M 8	14	12	2.7	5
P0134.100-020-B4	10	20	M 8	14	12	2.7	5
P0134.100-025-B4	10	25	M 8	14	12	2.7	5
P0134.100-030-B4	10	30	M 8	14	12	2.7	5
P0134.100-040-B4	10	40	M 8	14	12	2.7	5
P0134.100-050-B4	10	50	M 8	14	12	2.7	5
P0134.120-010-B4	12	10	M10	20	16	3.5	6
P0134.120-012-B4	12	12	M10	20	16	3.5	6
P0134.120-016-B4	12	16	M10	20	16	3.5	6
P0134.120-020-B4	12	20	M10	20	16	3.5	6
P0134.120-025-B4	12	25	M10	20	16	3.5	6
P0134.120-030-B4	12	30	M10	20	16	3.5	6
P0134.120-040-B4	12	40	M10	20	16	3.5	6
P0134.120-050-B4	12	50	M10	20	16	3.5	6

SHOULDER SCREWS



# Shoulder Screws

## Shoulder Screws - Cap Head

TX drive - 303 stainless - blackened

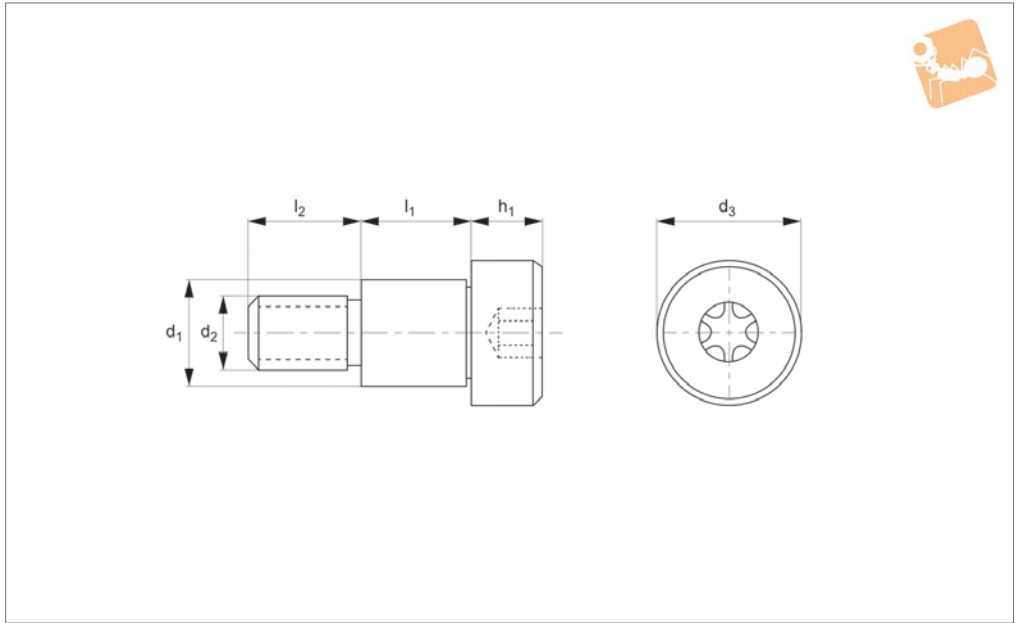


SHOULDER SCREWS



MADE IN BRITAIN

**P0145.B2**



**Material**

Stainless steel (AISI 303, 1.4305) black oxide coating.  
Tensile strength 550 N/mm<sup>2</sup>.

Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.

**Technical Notes**

303 series stainless steel provides good resistance to corrosion. It is mildly magnetic.

Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	TX size
P0145.040-002-B2	4	2	M 3	6	4	3	TX-10
P0145.040-003-B2	4	3	M 3	6	4	3	TX-10
P0145.040-004-B2	4	4	M 3	6	4	3	TX-10
P0145.040-005-B2	4	5	M 3	6	4	3	TX-10
P0145.040-006-B2	4	6	M 3	6	4	3	TX-10
P0145.040-007-B2	4	7	M 3	6	4	3	TX-10
P0145.040-008-B2	4	8	M 3	6	4	3	TX-10
P0145.040-010-B2	4	10	M 3	6	4	3	TX-10
P0145.040-012-B2	4	12	M 3	6	4	3	TX-10
P0145.040-014-B2	4	14	M 3	6	4	3	TX-10
P0145.040-016-B2	4	16	M 3	6	4	3	TX-10
P0145.040-018-B2	4	18	M 3	6	4	3	TX-10
P0145.040-020-B2	4	20	M 3	6	4	3	TX-10
P0145.040-025-B2	4	25	M 3	6	4	3	TX-10
P0145.040-030-B2	4	30	M 3	6	4	3	TX-10
P0145.040-035-B2	4	35	M 3	6	4	3	TX-10
P0145.040-040-B2	4	40	M 3	6	4	3	TX-10
P0145.040-045-B2	4	45	M 3	6	4	3	TX-10
P0145.040-050-B2	4	50	M 3	6	4	3	TX-10
P0145.050-002-B2	5	2	M 4	8	5	4	TX-20
P0145.050-003-B2	5	3	M 4	8	5	4	TX-20
P0145.050-004-B2	5	4	M 4	8	5	4	TX-20
P0145.050-005-B2	5	5	M 4	8	5	4	TX-20
P0145.050-006-B2	5	6	M 4	8	5	4	TX-20
P0145.050-007-B2	5	7	M 4	8	5	4	TX-20
P0145.050-008-B2	5	8	M 4	8	5	4	TX-20
P0145.050-010-B2	5	10	M 4	8	5	4	TX-20
P0145.050-012-B2	5	12	M 4	8	5	4	TX-20
P0145.050-014-B2	5	14	M 4	8	5	4	TX-20
P0145.050-016-B2	5	16	M 4	8	5	4	TX-20
P0145.050-018-B2	5	18	M 4	8	5	4	TX-20
P0145.050-020-B2	5	20	M 4	8	5	4	TX-20
P0145.050-025-B2	5	25	M 4	8	5	4	TX-20
P0145.050-030-B2	5	30	M 4	8	5	4	TX-20



# Shoulder Screws - Cap Head

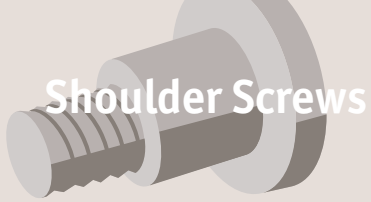
TX drive - 303 stainless - blackened

## Shoulder Screws



Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	TX size
P0145.050-035-B2	5	35	M 4	8	5	4	TX-20
P0145.050-040-B2	5	40	M 4	8	5	4	TX-20
P0145.050-045-B2	5	45	M 4	8	5	4	TX-20
P0145.050-050-B2	5	50	M 4	8	5	4	TX-20
P0145.060-002-B2	6	2	M 5	10	6	5	TX-25
P0145.060-003-B2	6	3	M 5	10	6	5	TX-25
P0145.060-004-B2	6	4	M 5	10	6	5	TX-25
P0145.060-005-B2	6	5	M 5	10	6	5	TX-25
P0145.060-006-B2	6	6	M 5	10	6	5	TX-25
P0145.060-007-B2	6	7	M 5	10	6	5	TX-25
P0145.060-008-B2	6	8	M 5	10	6	5	TX-25
P0145.060-010-B2	6	10	M 5	10	6	5	TX-25
P0145.060-012-B2	6	12	M 5	10	6	5	TX-25
P0145.060-014-B2	6	14	M 5	10	6	5	TX-25
P0145.060-016-B2	6	16	M 5	10	6	5	TX-25
P0145.060-018-B2	6	18	M 5	10	6	5	TX-25
P0145.060-020-B2	6	20	M 5	10	6	5	TX-25
P0145.060-025-B2	6	25	M 5	10	6	5	TX-25
P0145.060-030-B2	6	30	M 5	10	6	5	TX-25
P0145.060-035-B2	6	35	M 5	10	6	5	TX-25
P0145.060-040-B2	6	40	M 5	10	6	5	TX-25
P0145.060-045-B2	6	45	M 5	10	6	5	TX-25
P0145.060-050-B2	6	50	M 5	10	6	5	TX-25
P0145.060-055-B2	6	55	M 5	10	6	5	TX-25
P0145.060-060-B2	6	60	M 5	10	6	5	TX-25
P0145.060-070-B2	6	70	M 5	10	6	5	TX-25
P0145.060-080-B2	6	80	M 5	10	6	5	TX-25
P0145.060-090-B2	6	90	M 5	10	6	5	TX-25
P0145.060-100-B2	6	100	M 5	10	6	5	TX-25
P0145.080-004-B2	8	4	M 6	12	11	6	TX-30
P0145.080-005-B2	8	5	M 6	12	11	6	TX-30
P0145.080-006-B2	8	6	M 6	12	11	6	TX-30
P0145.080-007-B2	8	7	M 6	12	11	6	TX-30
P0145.080-008-B2	8	8	M 6	12	11	6	TX-30
P0145.080-010-B2	8	10	M 6	12	11	6	TX-30
P0145.080-012-B2	8	12	M 6	12	11	6	TX-30
P0145.080-014-B2	8	14	M 6	12	11	6	TX-30
P0145.080-016-B2	8	16	M 6	12	11	6	TX-30
P0145.080-018-B2	8	18	M 6	12	11	6	TX-30
P0145.080-020-B2	8	20	M 6	12	11	6	TX-30
P0145.080-025-B2	8	25	M 6	12	11	6	TX-30
P0145.080-030-B2	8	30	M 6	12	11	6	TX-30
P0145.080-035-B2	8	35	M 6	12	11	6	TX-30
P0145.080-040-B2	8	40	M 6	12	11	6	TX-30
P0145.080-045-B2	8	45	M 6	12	11	6	TX-30
P0145.080-050-B2	8	50	M 6	12	11	6	TX-30
P0145.080-055-B2	8	55	M 6	12	11	6	TX-30
P0145.080-060-B2	8	60	M 6	12	11	6	TX-30
P0145.080-065-B2	8	65	M 6	12	11	6	TX-30
P0145.080-070-B2	8	70	M 6	12	11	6	TX-30
P0145.080-075-B2	8	75	M 6	12	11	6	TX-30
P0145.080-080-B2	8	80	M 6	12	11	6	TX-30
P0145.080-090-B2	8	90	M 6	12	11	6	TX-30
P0145.080-100-B2	8	100	M 6	12	11	6	TX-30
P0145.100-008-B2	10	8	M 8	14	12	7	TX-45
P0145.100-010-B2	10	10	M 8	14	12	7	TX-45
P0145.100-012-B2	10	12	M 8	14	12	7	TX-45
P0145.100-014-B2	10	14	M 8	14	12	7	TX-45
P0145.100-016-B2	10	16	M 8	14	12	7	TX-45
P0145.100-018-B2	10	18	M 8	14	12	7	TX-45
P0145.100-020-B2	10	20	M 8	14	12	7	TX-45
P0145.100-025-B2	10	25	M 8	14	12	7	TX-45
P0145.100-030-B2	10	30	M 8	14	12	7	TX-45
P0145.100-035-B2	10	35	M 8	14	12	7	TX-45
P0145.100-040-B2	10	40	M 8	14	12	7	TX-45
P0145.100-045-B2	10	45	M 8	14	12	7	TX-45
P0145.100-050-B2	10	50	M 8	14	12	7	TX-45
P0145.100-055-B2	10	55	M 8	14	12	7	TX-45

SHOULDER SCREWS



# Shoulder Screws

## Shoulder Screws - Cap Head

TX drive - 303 stainless - blackened



SHOULDER SCREWS

Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	TX size
P0145.100-060-B2	10	60	M 8	14	12	7	TX-45
P0145.100-065-B2	10	65	M 8	14	12	7	TX-45
P0145.100-070-B2	10	70	M 8	14	12	7	TX-45
P0145.100-080-B2	10	80	M 8	14	12	7	TX-45
P0145.100-090-B2	10	90	M 8	14	12	7	TX-45
P0145.100-100-B2	10	100	M 8	14	12	7	TX-45
P0145.120-008-B2	12	8	M10	20	16	8	TX-50
P0145.120-010-B2	12	10	M10	20	16	8	TX-50
P0145.120-012-B2	12	12	M10	20	16	8	TX-50
P0145.120-014-B2	12	14	M10	20	16	8	TX-50
P0145.120-016-B2	12	16	M10	20	16	8	TX-50
P0145.120-018-B2	12	18	M10	20	16	8	TX-50
P0145.120-020-B2	12	20	M10	20	16	8	TX-50
P0145.120-025-B2	12	25	M10	20	16	8	TX-50
P0145.120-030-B2	12	30	M10	20	16	8	TX-50
P0145.120-035-B2	12	35	M10	20	16	8	TX-50
P0145.120-040-B2	12	40	M10	20	16	8	TX-50
P0145.120-045-B2	12	45	M10	20	16	8	TX-50
P0145.120-050-B2	12	50	M10	20	16	8	TX-50
P0145.120-055-B2	12	55	M10	20	16	8	TX-50
P0145.120-060-B2	12	60	M10	20	16	8	TX-50
P0145.120-065-B2	12	65	M10	20	16	8	TX-50
P0145.120-070-B2	12	70	M10	20	16	8	TX-50
P0145.120-075-B2	12	75	M10	20	16	8	TX-50
P0145.120-080-B2	12	80	M10	20	16	8	TX-50
P0145.120-090-B2	12	90	M10	20	16	8	TX-50
P0145.120-100-B2	12	100	M10	20	16	8	TX-50
P0145.160-025-B2	16	25	M12	24	18	11	TX-60
P0145.160-030-B2	16	30	M12	24	18	11	TX-60
P0145.160-035-B2	16	35	M12	24	18	11	TX-60
P0145.160-040-B2	16	40	M12	24	18	11	TX-60
P0145.160-045-B2	16	45	M12	24	18	11	TX-60
P0145.160-050-B2	16	50	M12	24	18	11	TX-60
P0145.160-055-B2	16	55	M12	24	18	11	TX-60
P0145.160-060-B2	16	60	M12	24	18	11	TX-60
P0145.160-065-B2	16	65	M12	24	18	11	TX-60
P0145.160-070-B2	16	70	M12	24	18	11	TX-60
P0145.160-075-B2	16	75	M12	24	18	11	TX-60
P0145.160-080-B2	16	80	M12	24	18	11	TX-60
P0145.160-090-B2	16	90	M12	24	18	11	TX-60
P0145.160-100-B2	16	100	M12	24	18	11	TX-60
P0145.200-030-B2	20	30	M16	30	22	14	TX-70
P0145.200-035-B2	20	35	M16	30	22	14	TX-70
P0145.200-040-B2	20	40	M16	30	22	14	TX-70
P0145.200-045-B2	20	45	M16	30	22	14	TX-70
P0145.200-050-B2	20	50	M16	30	22	14	TX-70
P0145.200-055-B2	20	55	M16	30	22	14	TX-70
P0145.200-060-B2	20	60	M16	30	22	14	TX-70
P0145.200-065-B2	20	65	M16	30	22	14	TX-70
P0145.200-070-B2	20	70	M16	30	22	14	TX-70
P0145.200-075-B2	20	75	M16	30	22	14	TX-70
P0145.200-080-B2	20	80	M16	30	22	14	TX-70
P0145.200-090-B2	20	90	M16	30	22	14	TX-70
P0145.200-100-B2	20	100	M16	30	22	14	TX-70

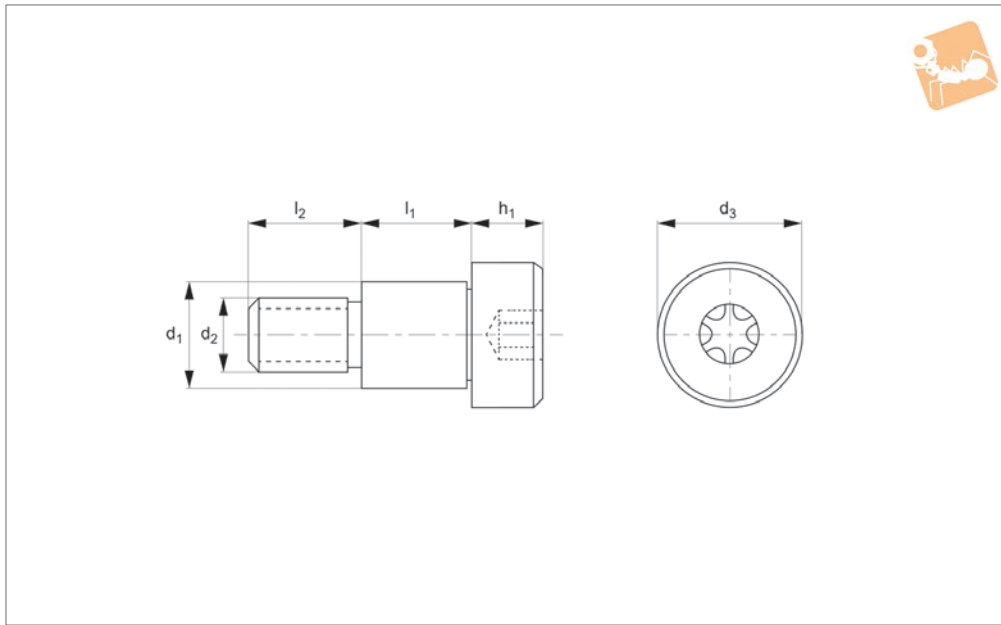




# Shoulder Screws - Cap Head

TX drive - 316 stainless - blackened

## Shoulder Screws



**P0145.B4**

SHOULDER SCREWS

### Material

Stainless steel (AISI 316, 1.440) black oxide coating.  
316 series tensile strength 480 N/mm<sup>2</sup>, proof stress min. 200 N/mm<sup>2</sup>, austenitic

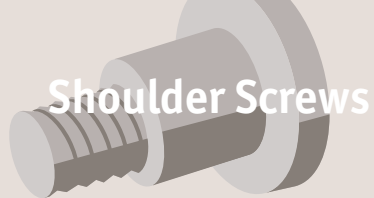
stainless steel.

### Technical Notes

Highly resistant to corrosion (including from salt water).

Shim washers can be used to reduce shoulder length if required. It is non-magnetic.

Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	TX size
P0145.040-002-B4	4	2	M 3	6	4	3	TX-10
P0145.040-003-B4	4	3	M 3	6	4	3	TX-10
P0145.040-004-B4	4	4	M 3	6	4	3	TX-10
P0145.040-005-B4	4	5	M 3	6	4	3	TX-10
P0145.040-006-B4	4	6	M 3	6	4	3	TX-10
P0145.040-007-B4	4	7	M 3	6	4	3	TX-10
P0145.040-008-B4	4	8	M 3	6	4	3	TX-10
P0145.040-010-B4	4	10	M 3	6	4	3	TX-10
P0145.040-012-B4	4	12	M 3	6	4	3	TX-10
P0145.040-014-B4	4	14	M 3	6	4	3	TX-10
P0145.040-016-B4	4	16	M 3	6	4	3	TX-10
P0145.040-018-B4	4	18	M 3	6	4	3	TX-10
P0145.040-020-B4	4	20	M 3	6	4	3	TX-10
P0145.040-025-B4	4	25	M 3	6	4	3	TX-10
P0145.040-030-B4	4	30	M 3	6	4	3	TX-10
P0145.040-035-B4	4	35	M 3	6	4	3	TX-10
P0145.040-040-B4	4	40	M 3	6	4	3	TX-10
P0145.040-045-B4	4	45	M 3	6	4	3	TX-10
P0145.040-050-B4	4	50	M 3	6	4	3	TX-10
P0145.050-002-B4	5	2	M 4	8	5	4	TX-20
P0145.050-003-B4	5	3	M 4	8	5	4	TX-20
P0145.050-004-B4	5	4	M 4	8	5	4	TX-20
P0145.050-005-B4	5	5	M 4	8	5	4	TX-20
P0145.050-006-B4	5	6	M 4	8	5	4	TX-20
P0145.050-007-B4	5	7	M 4	8	5	4	TX-20
P0145.050-008-B4	5	8	M 4	8	5	4	TX-20
P0145.050-010-B4	5	10	M 4	8	5	4	TX-20
P0145.050-012-B4	5	12	M 4	8	5	4	TX-20
P0145.050-014-B4	5	14	M 4	8	5	4	TX-20
P0145.050-016-B4	5	16	M 4	8	5	4	TX-20
P0145.050-018-B4	5	18	M 4	8	5	4	TX-20
P0145.050-020-B4	5	20	M 4	8	5	4	TX-20
P0145.050-025-B4	5	25	M 4	8	5	4	TX-20



# Shoulder Screws

## Shoulder Screws - Cap Head

TX drive - 316 stainless - blackened



SHOULDER SCREWS

Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	TX size
P0145.050-030-B4	5	30	M 4	8	5	4	TX-20
P0145.050-035-B4	5	35	M 4	8	5	4	TX-20
P0145.050-040-B4	5	40	M 4	8	5	4	TX-20
P0145.050-045-B4	5	45	M 4	8	5	4	TX-20
P0145.050-050-B4	5	50	M 4	8	5	4	TX-20
P0145.060-002-B4	6	2	M 5	10	6	5	TX-25
P0145.060-003-B4	6	3	M 5	10	6	5	TX-25
P0145.060-004-B4	6	4	M 5	10	6	5	TX-25
P0145.060-005-B4	6	5	M 5	10	6	5	TX-25
P0145.060-006-B4	6	6	M 5	10	6	5	TX-25
P0145.060-007-B4	6	7	M 5	10	6	5	TX-25
P0145.060-008-B4	6	8	M 5	10	6	5	TX-25
P0145.060-010-B4	6	10	M 5	10	6	5	TX-25
P0145.060-012-B4	6	12	M 5	10	6	5	TX-25
P0145.060-014-B4	6	14	M 5	10	6	5	TX-25
P0145.060-016-B4	6	16	M 5	10	6	5	TX-25
P0145.060-018-B4	6	18	M 5	10	6	5	TX-25
P0145.060-020-B4	6	20	M 5	10	6	5	TX-25
P0145.060-025-B4	6	25	M 5	10	6	5	TX-25
P0145.060-030-B4	6	30	M 5	10	6	5	TX-25
P0145.060-035-B4	6	35	M 5	10	6	5	TX-25
P0145.060-040-B4	6	40	M 5	10	6	5	TX-25
P0145.060-045-B4	6	45	M 5	10	6	5	TX-25
P0145.060-050-B4	6	50	M 5	10	6	5	TX-25
P0145.060-055-B4	6	55	M 5	10	6	5	TX-25
P0145.060-060-B4	6	60	M 5	10	6	5	TX-25
P0145.060-070-B4	6	70	M 5	10	6	5	TX-25
P0145.060-080-B4	6	80	M 5	10	6	5	TX-25
P0145.060-090-B4	6	90	M 5	10	6	5	TX-25
P0145.060-100-B4	6	100	M 5	10	6	5	TX-25
P0145.080-004-B4	8	4	M 6	12	11	6	TX-30
P0145.080-005-B4	8	5	M 6	12	11	6	TX-30
P0145.080-006-B4	8	6	M 6	12	11	6	TX-30
P0145.080-007-B4	8	7	M 6	12	11	6	TX-30
P0145.080-008-B4	8	8	M 6	12	11	6	TX-30
P0145.080-010-B4	8	10	M 6	12	11	6	TX-30
P0145.080-012-B4	8	12	M 6	12	11	6	TX-30
P0145.080-014-B4	8	14	M 6	12	11	6	TX-30
P0145.080-016-B4	8	16	M 6	12	11	6	TX-30
P0145.080-018-B4	8	18	M 6	12	11	6	TX-30
P0145.080-020-B4	8	20	M 6	12	11	6	TX-30
P0145.080-025-B4	8	25	M 6	12	11	6	TX-30
P0145.080-030-B4	8	30	M 6	12	11	6	TX-30
P0145.080-035-B4	8	35	M 6	12	11	6	TX-30
P0145.080-040-B4	8	40	M 6	12	11	6	TX-30
P0145.080-045-B4	8	45	M 6	12	11	6	TX-30
P0145.080-050-B4	8	50	M 6	12	11	6	TX-30
P0145.080-055-B4	8	55	M 6	12	11	6	TX-30
P0145.080-060-B4	8	60	M 6	12	11	6	TX-30
P0145.080-065-B4	8	65	M 6	12	11	6	TX-30
P0145.080-070-B4	8	70	M 6	12	11	6	TX-30
P0145.080-075-B4	8	75	M 6	12	11	6	TX-30
P0145.080-080-B4	8	80	M 6	12	11	6	TX-30
P0145.080-090-B4	8	90	M 6	12	11	6	TX-30
P0145.080-100-B4	8	100	M 6	12	11	6	TX-30
P0145.100-008-B4	10	8	M 8	14	12	7	TX-45
P0145.100-010-B4	10	10	M 8	14	12	7	TX-45
P0145.100-012-B4	10	12	M 8	14	12	7	TX-45
P0145.100-014-B4	10	14	M 8	14	12	7	TX-45
P0145.100-016-B4	10	16	M 8	14	12	7	TX-45
P0145.100-018-B4	10	18	M 8	14	12	7	TX-45
P0145.100-020-B4	10	20	M 8	14	12	7	TX-45
P0145.100-025-B4	10	25	M 8	14	12	7	TX-45
P0145.100-030-B4	10	30	M 8	14	12	7	TX-45
P0145.100-035-B4	10	35	M 8	14	12	7	TX-45
P0145.100-040-B4	10	40	M 8	14	12	7	TX-45
P0145.100-045-B4	10	45	M 8	14	12	7	TX-45
P0145.100-050-B4	10	50	M 8	14	12	7	TX-45



# Shoulder Screws - Cap Head

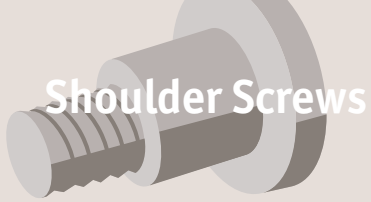
TX drive - 316 stainless - blackened

## Shoulder Screws



Order No.	d <sub>1</sub> +0 -0.025	l <sub>1</sub> +0.05 -0.0	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	h <sub>1</sub>	TX size
P0145.100-055-B4	10	55	M 8	14	12	7	TX-45
P0145.100-060-B4	10	60	M 8	14	12	7	TX-45
P0145.100-065-B4	10	65	M 8	14	12	7	TX-45
P0145.100-070-B4	10	70	M 8	14	12	7	TX-45
P0145.100-080-B4	10	80	M 8	14	12	7	TX-45
P0145.100-090-B4	10	90	M 8	14	12	7	TX-45
P0145.100-100-B4	10	100	M 8	14	12	7	TX-45
P0145.120-008-B4	12	8	M10	20	16	8	TX-50
P0145.120-010-B4	12	10	M10	20	16	8	TX-50
P0145.120-012-B4	12	12	M10	20	16	8	TX-50
P0145.120-014-B4	12	14	M10	20	16	8	TX-50
P0145.120-016-B4	12	16	M10	20	16	8	TX-50
P0145.120-018-B4	12	18	M10	20	16	8	TX-50
P0145.120-020-B4	12	20	M10	20	16	8	TX-50
P0145.120-025-B4	12	25	M10	20	16	8	TX-50
P0145.120-030-B4	12	30	M10	20	16	8	TX-50
P0145.120-035-B4	12	35	M10	20	16	8	TX-50
P0145.120-040-B4	12	40	M10	20	16	8	TX-50
P0145.120-045-B4	12	45	M10	20	16	8	TX-50
P0145.120-050-B4	12	50	M10	20	16	8	TX-50
P0145.120-055-B4	12	55	M10	20	16	8	TX-50
P0145.120-060-B4	12	60	M10	20	16	8	TX-50
P0145.120-065-B4	12	65	M10	20	16	8	TX-50
P0145.120-070-B4	12	70	M10	20	16	8	TX-50
P0145.120-075-B4	12	75	M10	20	16	8	TX-50
P0145.120-080-B4	12	80	M10	20	16	8	TX-50
P0145.120-090-B4	12	90	M10	20	16	8	TX-50
P0145.120-100-B4	12	100	M10	20	16	8	TX-50
P0145.160-025-B4	16	25	M12	24	18	11	TX-60
P0145.160-030-B4	16	30	M12	24	18	11	TX-60
P0145.160-035-B4	16	35	M12	24	18	11	TX-60
P0145.160-040-B4	16	40	M12	24	18	11	TX-60
P0145.160-045-B4	16	45	M12	24	18	11	TX-60
P0145.160-050-B4	16	50	M12	24	18	11	TX-60
P0145.160-055-B4	16	55	M12	24	18	11	TX-60
P0145.160-060-B4	16	60	M12	24	18	11	TX-60
P0145.160-065-B4	16	65	M12	24	18	11	TX-60
P0145.160-070-B4	16	70	M12	24	18	11	TX-60
P0145.160-075-B4	16	75	M12	24	18	11	TX-60
P0145.160-080-B4	16	80	M12	24	18	11	TX-60
P0145.160-090-B4	16	90	M12	24	18	11	TX-60
P0145.160-100-B4	16	100	M12	24	18	11	TX-60
P0145.200-030-B4	20	30	M16	30	22	14	TX-70
P0145.200-035-B4	20	35	M16	30	22	14	TX-70
P0145.200-040-B4	20	40	M16	30	22	14	TX-70
P0145.200-045-B4	20	45	M16	30	22	14	TX-70
P0145.200-050-B4	20	50	M16	30	22	14	TX-70
P0145.200-055-B4	20	55	M16	30	22	14	TX-70
P0145.200-060-B4	20	60	M16	30	22	14	TX-70
P0145.200-065-B4	20	65	M16	30	22	14	TX-70
P0145.200-070-B4	20	70	M16	30	22	14	TX-70
P0145.200-075-B4	20	75	M16	30	22	14	TX-70
P0145.200-080-B4	20	80	M16	30	22	14	TX-70
P0145.200-090-B4	20	90	M16	30	22	14	TX-70
P0145.200-100-B4	20	100	M16	30	22	14	TX-70

SHOULDER SCREWS



# Shoulder Screws

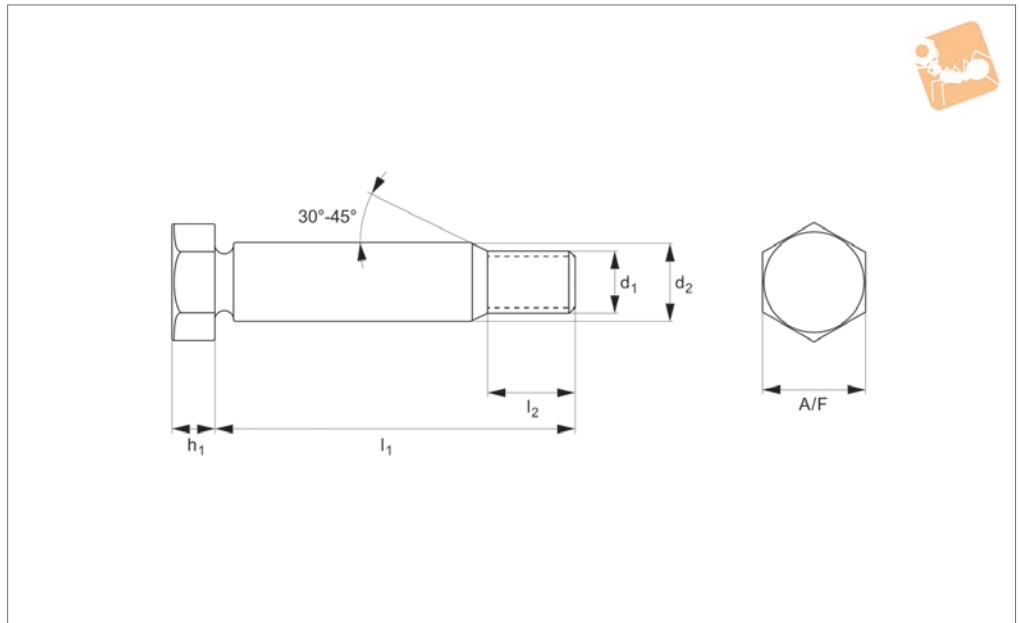
## Steel Shoulder Bolts - Hex. Head std thread, steel 8.8



SHOULDER SCREWS



**P0138.SC**



**Material**

Black alloy steel, strength 8.8. Hardness 38 HRC, tensile strength 830 N/mm<sup>2</sup>.

**Technical Notes**

To DIN 609. Longer thread than P0140

(DIN 610).

For strength 10.9 see part P0139.

**Tips**

Do not tighten to standard strength class 8,8 torque; as the tightening torque is

limited,

by the presence of the reduced diameter undercut under the head and at the shoulder/thread area.

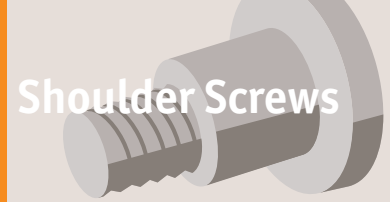
Drill hole to H7 tolerance.

Order No.	d <sub>1</sub>	d <sub>2</sub> tol. k6	l <sub>1</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0138.080-025-SC	M 8	9	25	14.5	5.3	13
P0138.080-024-SC	M 8	9	24	14.5	5.3	13
P0138.080-032-SC	M 8	9	32	14.5	5.3	13
P0138.080-035-SC	M 8	9	35	14.5	5.3	13
P0138.080-038-SC	M 8	9	38	14.5	5.3	13
P0138.080-040-SC	M 8	9	40	14.5	5.3	13
P0138.080-042-SC	M 8	9	42	14.5	5.3	13
P0138.080-045-SC	M 8	9	45	14.5	5.3	13
P0138.080-048-SC	M 8	9	48	14.5	5.3	13
P0138.080-050-SC	M 8	9	50	14.5	5.3	13
P0138.080-055-SC	M 8	9	55	16.5	5.3	13
P0138.080-060-SC	M 8	9	60	16.5	5.3	13
P0138.080-065-SC	M 8	9	65	16.5	5.3	13
P0138.080-070-SC	M 8	9	70	16.5	5.3	13
P0138.080-080-SC	M 8	9	80	16.5	5.3	13
P0138.100-030-SC	M10	11	30	17.5	6.4	17
P0138.100-032-SC	M10	11	32	17.5	6.4	17
P0138.100-035-SC	M10	11	35	17.5	6.4	17
P0138.100-038-SC	M10	11	38	17.5	6.4	17
P0138.100-040-SC	M10	11	40	17.5	6.4	17
P0138.100-042-SC	M10	11	42	17.5	6.4	17
P0138.100-045-SC	M10	11	45	17.5	6.4	17
P0138.100-048-SC	M10	11	48	17.5	6.4	17
P0138.100-050-SC	M10	11	50	17.5	6.4	17
P0138.100-055-SC	M10	11	55	19.5	6.4	17
P0138.100-060-SC	M10	11	60	19.5	6.4	17
P0138.100-065-SC	M10	11	65	19.5	6.4	17
P0138.100-070-SC	M10	11	70	19.5	6.4	17
P0138.100-075-SC	M10	11	75	19.5	6.4	17
P0138.100-080-SC	M10	11	80	19.5	6.4	17
P0138.100-085-SC	M10	11	85	19.5	6.4	17
P0138.100-090-SC	M10	11	90	19.5	6.4	17



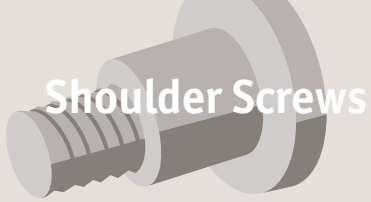
# Steel Shoulder Bolts - Hex. Head

std thread, steel 8.8



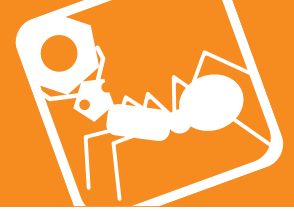
Order No.	d <sub>1</sub>	d <sub>2</sub> tol. k6	l <sub>1</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0138.100-100-SC	M10	11	100	19.5	6.4	17
P0138.100-110-SC	M10	11	110	19.5	6.4	17
P0138.100-120-SC	M10	11	120	19.5	6.4	17
P0138.120-030-SC	M12	13	30	20.5	7.5	19
P0138.120-032-SC	M12	13	32	20.5	7.5	19
P0138.120-035-SC	M12	13	35	20.5	7.5	19
P0138.120-038-SC	M12	13	38	20.5	7.5	19
P0138.120-040-SC	M12	13	40	20.5	7.5	19
P0138.120-042-SC	M12	13	42	20.5	7.5	19
P0138.120-045-SC	M12	13	45	20.5	7.5	19
P0138.120-048-SC	M12	13	48	20.5	7.5	19
P0138.120-050-SC	M12	13	50	20.5	7.5	19
P0138.120-055-SC	M12	13	55	22.5	7.5	19
P0138.120-060-SC	M12	13	60	22.5	7.5	19
P0138.120-065-SC	M12	13	65	22.5	7.5	19
P0138.120-070-SC	M12	13	70	22.5	7.5	19
P0138.120-075-SC	M12	13	75	22.5	7.5	19
P0138.120-080-SC	M12	13	80	22.5	7.5	19
P0138.120-085-SC	M12	13	85	22.5	7.5	19
P0138.120-090-SC	M12	13	90	22.5	7.5	19
P0138.120-095-SC	M12	13	95	22.5	7.5	19
P0138.120-100-SC	M12	13	100	22.5	7.5	19
P0138.140-032-SC	M14	15	32	22.0	8.8	22
P0138.140-035-SC	M14	15	35	22.0	8.8	22
P0138.140-040-SC	M14	15	40	22.0	8.8	22
P0138.140-042-SC	M14	15	42	22.0	8.8	22
P0138.140-045-SC	M14	15	45	22.0	8.8	22
P0138.140-050-SC	M14	15	50	22.0	8.8	22
P0138.140-055-SC	M14	15	55	24.0	8.8	22
P0138.140-060-SC	M14	15	60	24.0	8.8	22
P0138.140-065-SC	M14	15	65	24.0	8.8	22
P0138.140-070-SC	M14	15	70	24.0	8.8	22
P0138.140-075-SC	M14	15	75	24.0	8.8	22
P0138.140-080-SC	M14	15	80	24.0	8.8	22
P0138.140-090-SC	M14	15	90	24.0	8.8	22
P0138.160-040-SC	M16	17	40	25.0	10	24
P0138.160-042-SC	M16	17	42	25.0	10	24
P0138.160-045-SC	M16	17	45	25.0	10	24
P0138.160-048-SC	M16	17	48	25.0	10	24
P0138.160-050-SC	M16	17	50	25.0	10	24
P0138.160-055-SC	M16	17	55	27.0	10	24
P0138.160-060-SC	M16	17	60	27.0	10	24
P0138.160-065-SC	M16	17	65	27.0	10	24
P0138.160-070-SC	M16	17	70	27.0	10	24
P0138.160-075-SC	M16	17	75	27.0	10	24
P0138.160-080-SC	M16	17	80	27.0	10	24
P0138.160-085-SC	M16	17	85	27.0	10	24
P0138.160-090-SC	M16	17	90	27.0	10	24
P0138.160-100-SC	M16	17	100	27.0	10	24
P0138.160-105-SC	M16	17	105	27.0	10	24
P0138.160-110-SC	M16	17	110	27.0	10	24
P0138.160-115-SC	M16	17	115	27.0	10	24
P0138.160-120-SC	M16	17	120	27.0	10	24
P0138.160-125-SC	M16	17	125	27.0	10	24
P0138.160-130-SC	M16	17	130	27.0	10	24
P0138.160-135-SC	M16	17	135	27.0	10	24
P0138.160-140-SC	M16	17	140	27.0	10	24
P0138.160-150-SC	M16	17	150	27.0	10	24
P0138.160-160-SC	M16	17	160	27.0	10	24
P0138.160-180-SC	M16	17	180	27.0	10	24
P0138.160-200-SC	M16	17	200	27.0	10	24
P0138.180-045-SC	M18	19	45	27.5	11.5	27
P0138.180-050-SC	M18	19	50	27.5	11.5	27
P0138.180-055-SC	M18	19	55	29.5	11.5	27
P0138.180-060-SC	M18	19	60	29.5	11.5	27
P0138.180-065-SC	M18	19	65	29.5	11.5	27
P0138.180-070-SC	M18	19	70	29.5	11.5	27
P0138.180-075-SC	M18	19	75	29.5	11.5	27

SHOULDER SCREWS



# Shoulder Screws

## Steel Shoulder Bolts - Hex. Head std thread, steel 8.8



SHOULDER SCREWS

Order No.	d <sub>1</sub>	d <sub>2</sub> tol. k6	l <sub>1</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0138.180-080-SC	M18	19	80	29.5	11.5	27
P0138.180-085-SC	M18	19	85	29.5	11.5	27
P0138.180-090-SC	M18	19	90	29.5	11.5	27
P0138.180-100-SC	M18	19	100	29.5	11.5	27
P0138.180-110-SC	M18	19	110	29.5	11.5	27
P0138.180-120-SC	M18	19	120	29.5	11.5	27
P0138.200-045-SC	M20	21	45	28.5	12.5	30
P0138.200-050-SC	M20	21	50	28.5	12.5	30
P0138.200-055-SC	M20	21	55	30.5	12.5	30
P0138.200-060-SC	M20	21	60	30.5	12.5	30
P0138.200-065-SC	M20	21	65	30.5	12.5	30
P0138.200-070-SC	M20	21	70	30.5	12.5	30
P0138.200-075-SC	M20	21	75	30.5	12.5	30
P0138.200-080-SC	M20	21	80	30.5	12.5	30
P0138.200-085-SC	M20	21	85	30.5	12.5	30
P0138.200-090-SC	M20	21	90	30.5	12.5	30
P0138.200-100-SC	M20	21	100	30.5	12.5	30
P0138.200-105-SC	M20	21	105	30.5	12.5	30
P0138.200-110-SC	M20	21	110	30.5	12.5	30
P0138.200-115-SC	M20	21	115	30.5	12.5	30
P0138.200-120-SC	M20	21	120	30.5	12.5	30
P0138.200-125-SC	M20	21	125	30.5	12.5	30
P0138.200-130-SC	M20	21	130	30.5	12.5	30
P0138.200-135-SC	M20	21	135	30.5	12.5	30
P0138.200-140-SC	M20	21	140	30.5	12.5	30
P0138.200-145-SC	M20	21	145	30.5	12.5	30
P0138.200-150-SC	M20	21	150	30.5	12.5	30
P0138.200-160-SC	M20	21	160	35.5	12.5	30
P0138.200-170-SC	M20	21	170	35.5	12.5	30
P0138.200-180-SC	M20	21	180	35.5	12.5	30
P0138.200-190-SC	M20	21	190	35.5	12.5	30
P0138.200-200-SC	M20	21	200	35.5	12.5	30
P0138.200-220-SC	M20	21	220	35.5	12.5	30
P0138.200-240-SC	M20	21	240	35.5	12.5	30
P0138.201-045-SC	M20x2	21	45	28.5	12.5	30
P0138.201-050-SC	M20x2	21	50	28.5	12.5	30
P0138.201-055-SC	M20x2	21	55	30.5	12.5	30
P0138.201-060-SC	M20x2	21	60	30.5	12.5	30
P0138.201-065-SC	M20x2	21	65	30.5	12.5	30
P0138.201-070-SC	M20x2	21	70	30.5	12.5	30
P0138.201-075-SC	M20x2	21	75	30.5	12.5	30
P0138.201-080-SC	M20x2	21	80	30.5	12.5	30
P0138.201-085-SC	M20x2	21	85	30.5	12.5	30
P0138.201-090-SC	M20x2	21	90	30.5	12.5	30
P0138.201-095-SC	M20x2	21	95	30.5	12.5	30
P0138.201-100-SC	M20x2	21	100	30.5	12.5	30
P0138.201-105-SC	M20x2	21	105	30.5	12.5	30
P0138.201-110-SC	M20x2	21	110	30.5	12.5	30
P0138.201-120-SC	M20x2	21	120	30.5	12.5	30
P0138.201-130-SC	M20x2	21	130	30.5	12.5	30
P0138.201-135-SC	M20x2	21	135	30.5	12.5	30
P0138.201-140-SC	M20x2	21	140	30.5	12.5	30
P0138.201-145-SC	M20x2	21	145	30.5	12.5	30
P0138.201-160-SC	M20x2	21	160	35.5	12.5	30
P0138.201-180-SC	M20x2	21	180	35.5	12.5	30
P0138.220-045-SC	M22	23	45	32.5	14.0	34
P0138.220-050-SC	M22	23	50	32.5	14.0	34
P0138.220-055-SC	M22	23	55	34.5	14.0	34
P0138.220-060-SC	M22	23	60	34.5	14.0	34
P0138.220-065-SC	M22	23	65	34.5	14.0	34
P0138.220-070-SC	M22	23	70	34.5	14.0	34
P0138.220-075-SC	M22	23	75	34.5	14.0	34
P0138.220-080-SC	M22	23	80	34.5	14.0	34
P0138.220-085-SC	M22	23	85	34.5	14.0	34
P0138.220-090-SC	M22	23	90	34.5	14.0	34
P0138.220-100-SC	M22	23	100	34.5	14.0	34
P0138.220-105-SC	M22	23	105	34.5	14.0	34
P0138.220-110-SC	M22	23	110	34.5	14.0	34



# Steel Shoulder Bolts - Hex. Head

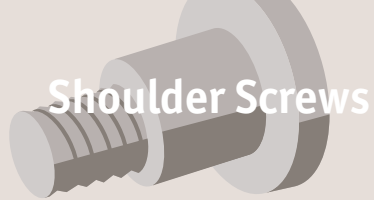
std thread, steel 8.8

## Shoulder Screws



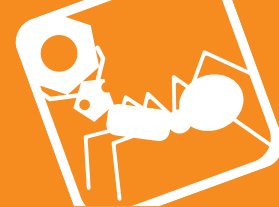
Order No.	d <sub>1</sub>	d <sub>2</sub> tol. k6	l <sub>1</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0138.220-120-SC	M22	23	120	34.5	14.0	34
P0138.220-130-SC	M22	23	130	34.5	14.0	34
P0138.220-140-SC	M22	23	140	34.5	14.0	34
P0138.220-150-SC	M22	23	150	34.5	14.0	34
P0138.240-055-SC	M24	25	55	36.5	15.0	36
P0138.240-060-SC	M24	25	60	36.5	15.0	36
P0138.240-065-SC	M24	25	65	36.5	15.0	36
P0138.240-070-SC	M24	25	70	36.5	15.0	36
P0138.240-075-SC	M24	25	75	36.5	15.0	36
P0138.240-080-SC	M24	25	80	36.5	15.0	36
P0138.240-085-SC	M24	25	85	36.5	15.0	36
P0138.240-090-SC	M24	25	90	36.5	15.0	36
P0138.240-100-SC	M24	25	100	36.5	15.0	36
P0138.240-105-SC	M24	25	105	36.5	15.0	36
P0138.240-110-SC	M24	25	110	36.5	15.0	36
P0138.240-115-SC	M24	25	115	36.5	15.0	36
P0138.240-120-SC	M24	25	120	36.5	15.0	36
P0138.240-125-SC	M24	25	125	36.5	15.0	36
P0138.240-130-SC	M24	25	130	36.5	15.0	36
P0138.240-135-SC	M24	25	135	36.5	15.0	36
P0138.240-140-SC	M24	25	140	36.5	15.0	36
P0138.240-145-SC	M24	25	145	36.5	15.0	36
P0138.240-150-SC	M24	25	150	36.5	15.0	36
P0138.240-160-SC	M24	25	160	41.5	15.0	36
P0138.240-170-SC	M24	25	170	41.5	15.0	36
P0138.240-180-SC	M24	25	180	41.5	15.0	36
P0138.240-190-SC	M24	25	190	41.5	15.0	36
P0138.240-200-SC	M24	25	200	41.5	15.0	36
P0138.240-220-SC	M24	25	220	41.5	15.0	36
P0138.240-240-SC	M24	25	240	41.5	15.0	36
P0138.241-055-SC	M24x2	25	55	36.5	15.0	36
P0138.241-060-SC	M24x2	25	60	36.5	15.0	36
P0138.241-065-SC	M24x2	25	65	36.5	15.0	36
P0138.241-070-SC	M24x2	25	70	36.5	15.0	36
P0138.241-075-SC	M24x2	25	75	36.5	15.0	36
P0138.241-080-SC	M24x2	25	80	36.5	15.0	36
P0138.241-085-SC	M24x2	25	85	36.5	15.0	36
P0138.241-090-SC	M24x2	25	90	36.5	15.0	36
P0138.241-095-SC	M24x2	25	95	36.5	15.0	36
P0138.241-100-SC	M24x2	25	100	36.5	15.0	36
P0138.241-105-SC	M24x2	25	105	36.5	15.0	36
P0138.241-110-SC	M24x2	25	110	36.5	15.0	36
P0138.241-115-SC	M24x2	25	115	36.5	15.0	36
P0138.241-120-SC	M24x2	25	120	36.5	15.0	36
P0138.241-130-SC	M24x2	25	130	36.5	15.0	36
P0138.241-135-SC	M24x2	25	135	36.5	15.0	36
P0138.241-140-SC	M24x2	25	140	36.5	15.0	36
P0138.241-150-SC	M24x2	25	150	36.5	15.0	36
P0138.270-060-SC	M27	28	60	39.5	17.0	41
P0138.270-065-SC	M27	28	65	39.5	17.0	41
P0138.270-070-SC	M27	28	70	39.5	17.0	41
P0138.270-075-SC	M27	28	75	39.5	17.0	41
P0138.270-080-SC	M27	28	80	39.5	17.0	41
P0138.270-085-SC	M27	28	85	39.5	17.0	41
P0138.270-090-SC	M27	28	90	39.5	17.0	41
P0138.270-100-SC	M27	28	100	39.5	17.0	41
P0138.270-105-SC	M27	28	105	39.5	17.0	41
P0138.270-110-SC	M27	28	110	39.5	17.0	41
P0138.270-115-SC	M27	28	115	39.5	17.0	41
P0138.270-120-SC	M27	28	120	39.5	17.0	41
P0138.270-125-SC	M27	28	125	39.5	17.0	41
P0138.270-130-SC	M27	28	130	39.5	17.0	41
P0138.270-135-SC	M27	28	135	39.5	17.0	41
P0138.270-140-SC	M27	28	140	39.5	17.0	41
P0138.270-145-SC	M27	28	145	39.5	17.0	41
P0138.270-150-SC	M27	28	150	39.5	17.0	41
P0138.270-160-SC	M27	28	160	44.5	17.0	41
P0138.270-170-SC	M27	28	170	44.5	17.0	41

SHOULDER SCREWS



# Shoulder Screws

## Steel Shoulder Bolts - Hex. Head std thread, steel 8.8



SHOULDER SCREWS

Order No.	d <sub>1</sub>	d <sub>2</sub> tol. k6	l <sub>1</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0138.270-180-SC	M27	28	180	44.5	17.0	41
P0138.270-200-SC	M27	28	200	44.5	17.0	41
P0138.300-065-SC	M30	32	65	43.0	19.0	46
P0138.300-070-SC	M30	32	70	43.0	19.0	46
P0138.300-075-SC	M30	32	75	43.0	19.0	46
P0138.300-080-SC	M30	32	80	43.0	19.0	46
P0138.300-085-SC	M30	32	85	43.0	19.0	46
P0138.300-090-SC	M30	32	90	43.0	19.0	46
P0138.300-100-SC	M30	32	100	43.0	19.0	46
P0138.300-105-SC	M30	32	105	43.0	19.0	46
P0138.300-110-SC	M30	32	110	43.0	19.0	46
P0138.300-115-SC	M30	32	115	43.0	19.0	46
P0138.300-120-SC	M30	32	120	43.0	19.0	46
P0138.300-125-SC	M30	32	125	43.0	19.0	46
P0138.300-130-SC	M30	32	130	43.0	19.0	46
P0138.300-135-SC	M30	32	135	43.0	19.0	46
P0138.300-140-SC	M30	32	140	43.0	19.0	46
P0138.300-145-SC	M30	32	145	43.0	19.0	46
P0138.300-150-SC	M30	32	150	43.0	19.0	46
P0138.300-160-SC	M30	32	160	48.0	19.0	46
P0138.300-170-SC	M30	32	170	48.0	19.0	46
P0138.300-180-SC	M30	32	180	48.0	19.0	46
P0138.300-190-SC	M30	32	190	48.0	19.0	46
P0138.300-200-SC	M30	32	200	48.0	19.0	46
P0138.301-065-SC	M30x2	32	65	43.0	19.0	46
P0138.301-080-SC	M30x2	32	80	43.0	19.0	46
P0138.301-085-SC	M30x2	32	85	43.0	19.0	46
P0138.301-090-SC	M30x2	32	90	43.0	19.0	46
P0138.301-095-SC	M30x2	32	95	43.0	19.0	46
P0138.301-100-SC	M30x2	32	100	43.0	19.0	46
P0138.301-105-SC	M30x2	32	105	43.0	19.0	46
P0138.301-110-SC	M30x2	32	110	43.0	19.0	46
P0138.301-115-SC	M30x2	32	115	43.0	19.0	46
P0138.301-125-SC	M30x2	32	125	43.0	19.0	46
P0138.301-130-SC	M30x2	32	130	43.0	19.0	46
P0138.301-140-SC	M30x2	32	140	43.0	19.0	46
P0138.301-150-SC	M30x2	32	150	43.0	19.0	46
P0138.301-170-SC	M30x2	32	170	48.0	19.0	46
P0138.301-180-SC	M30x2	32	180	48.0	19.0	46
P0138.301-185-SC	M30x2	32	185	48.0	19.0	46
P0138.301-190-SC	M30x2	32	190	48.0	19.0	46
P0138.360-070-SC	M36	38	70	49.0	22.0	55
P0138.360-075-SC	M36	38	75	49.0	22.0	55
P0138.360-080-SC	M36	38	80	49.0	22.0	55
P0138.360-085-SC	M36	38	85	49.0	22.0	55
P0138.360-090-SC	M36	38	90	49.0	22.0	55
P0138.360-100-SC	M36	38	100	49.0	22.0	55
P0138.360-105-SC	M36	38	105	49.0	22.0	55
P0138.360-110-SC	M36	38	110	49.0	22.0	55
P0138.360-115-SC	M36	38	115	49.0	22.0	55
P0138.360-120-SC	M36	38	120	49.0	22.0	55
P0138.360-125-SC	M36	38	125	49.0	22.0	55
P0138.360-130-SC	M36	38	130	49.0	22.0	55
P0138.360-135-SC	M36	38	135	49.0	22.0	55
P0138.360-140-SC	M36	38	140	49.0	22.0	55
P0138.360-145-SC	M36	38	145	49.0	22.0	55
P0138.360-150-SC	M36	38	150	49.0	22.0	55
P0138.360-160-SC	M36	38	160	54.0	22.0	55
P0138.360-170-SC	M36	38	170	54.0	22.0	55
P0138.360-180-SC	M36	38	180	54.0	22.0	55
P0138.360-190-SC	M36	38	190	54.0	22.0	55
P0138.360-200-SC	M36	38	200	54.0	22.0	55
P0138.390-160-SC	M39	40	160	56.0	25.0	60
P0138.390-320-SC	M39	40	320	56.0	25.0	60
P0138.420-100-SC	M42	44	100	56.0	26.0	65
P0138.420-110-SC	M42	44	110	56.0	26.0	65
P0138.420-120-SC	M42	44	120	56.0	26.0	65
P0138.420-130-SC	M42	44	130	56.0	26.0	65





# Steel Shoulder Bolts - Hex. Head

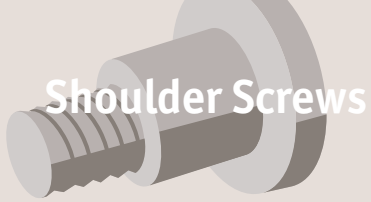
std thread, steel 8.8

## Shoulder Screws



Order No.	d <sub>1</sub>	d <sub>2</sub> tol. k6	l <sub>1</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0138.420-140-SC	M42	44	140	56.0	26.0	65
P0138.420-150-SC	M42	44	150	56.0	26.0	65
P0138.420-160-SC	M42	44	160	61.0	26.0	65
P0138.420-170-SC	M42	44	170	61.0	26.0	65
P0138.420-180-SC	M42	44	180	61.0	26.0	65
P0138.420-190-SC	M42	44	190	61.0	26.0	65
P0138.420-200-SC	M42	44	200	61.0	26.0	65
P0138.420-240-SC	M42	44	240	61.0	26.0	65
P0138.420-370-SC	M42	44	370	61.0	26.0	65

SHOULDER SCREWS



# Shoulder Screws

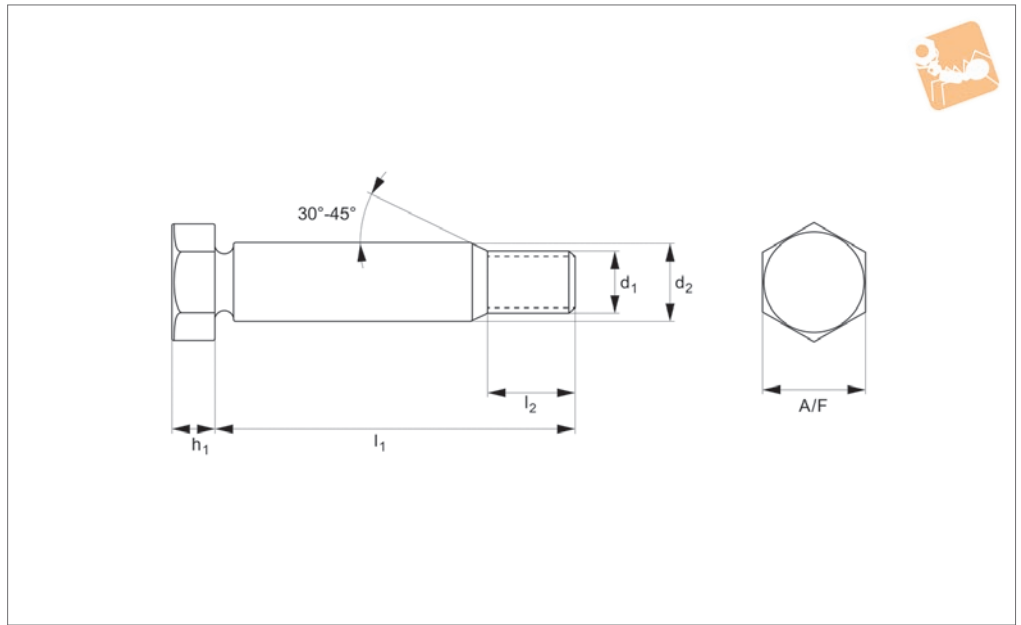
## Steel Shoulder Bolts - Hex. Head std thread, steel 10.9



SHOULDER SCREWS



**P0139**



**Material**

Black alloy steel, strength 10.9. Hardness 38 HRC, tensile strength 830 N/mm<sup>2</sup>.

**Technical Notes**

To DIN 609.

For strength 8.8 see part P0138.SC

**Tips**

Do not tighten to standard strength class 10,9 torque; as the tightening torque is limited,

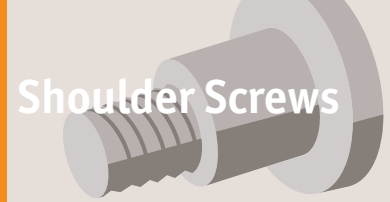
by the presence of the reduced diameter undercut under the head and at the shoulder/thread area.  
Drill hole to H7 tolerance.

Order No.	d <sub>1</sub>	d <sub>2</sub> tol. k6	l <sub>1</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0139.080-025-SC	M 8	9	25	14.5	5.3	13
P0139.080-028-SC	M 8	9	28	14.5	5.3	13
P0139.080-035-SC	M 8	9	35	14.5	5.3	13
P0139.080-038-SC	M 8	9	38	14.5	5.3	13
P0139.080-040-SC	M 8	9	40	14.5	5.3	13
P0139.080-048-SC	M 8	9	48	14.5	5.3	13
P0139.080-060-SC	M 8	9	60	16.5	5.3	13
P0139.080-080-SC	M 8	9	80	16.5	5.3	13
P0139.100-030-SC	M10	11	30	17.5	6.4	17
P0139.100-032-SC	M10	11	32	17.5	6.4	17
P0139.100-035-SC	M10	11	35	17.5	6.4	17
P0139.100-038-SC	M10	11	38	17.5	6.4	17
P0139.100-040-SC	M10	11	40	17.5	6.4	17
P0139.100-042-SC	M10	11	42	17.5	6.4	17
P0139.100-045-SC	M10	11	45	17.5	6.4	17
P0139.100-048-SC	M10	11	48	17.5	6.4	17
P0139.100-050-SC	M10	11	50	17.5	6.4	17
P0139.100-055-SC	M10	11	55	19.5	6.4	17
P0139.100-060-SC	M10	11	60	19.5	6.4	17
P0139.100-065-SC	M10	11	65	19.5	6.4	17
P0139.100-070-SC	M10	11	70	19.5	6.4	17
P0139.100-075-SC	M10	11	75	19.5	6.4	17
P0139.100-080-SC	M10	11	80	19.5	6.4	17
P0139.120-030-SC	M12	13	30	20.5	7.5	19
P0139.120-032-SC	M12	13	32	20.5	7.5	19
P0139.120-035-SC	M12	13	35	20.5	7.5	19
P0139.120-038-SC	M12	13	38	20.5	7.5	19
P0139.120-040-SC	M12	13	40	20.5	7.5	19
P0139.120-045-SC	M12	13	45	20.5	7.5	19
P0139.120-048-SC	M12	13	48	20.5	7.5	19
P0139.120-050-SC	M12	13	50	20.5	7.5	19
P0139.120-055-SC	M12	13	55	22.5	7.5	19



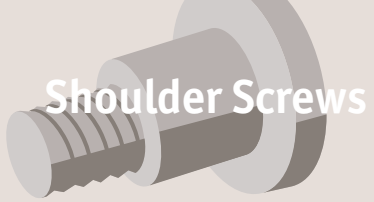
# Steel Shoulder Bolts - Hex. Head

std thread, steel 10.9



Order No.	d <sub>1</sub>	d <sub>2</sub> tol. k6	l <sub>1</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0139.120-060-SC	M12	13	60	22.5	7.5	19
P0139.120-065-SC	M12	13	65	22.5	7.5	19
P0139.120-070-SC	M12	13	70	22.5	7.5	19
P0139.120-075-SC	M12	13	75	22.5	7.5	19
P0139.120-090-SC	M12	13	90	22.5	7.5	19
P0139.120-110-SC	M12	13	110	22.5	7.5	19
P0139.140-035-SC	M14	15	35	22.0	8.8	22
P0139.140-040-SC	M14	15	40	22.0	8.8	22
P0139.140-042-SC	M14	15	42	22.0	8.8	22
P0139.140-045-SC	M14	15	45	22.0	8.8	22
P0139.140-050-SC	M14	15	50	22.0	8.8	22
P0139.140-055-SC	M14	15	55	24.0	8.8	22
P0139.140-060-SC	M14	15	60	24.0	8.8	22
P0139.140-080-SC	M14	15	80	24.0	8.8	22
P0139.160-040-SC	M16	17	40	25.0	10	24
P0139.160-042-SC	M16	17	42	25.0	10	24
P0139.160-045-SC	M16	17	45	25.0	10	24
P0139.160-048-SC	M16	17	48	25.0	10	24
P0139.160-050-SC	M16	17	50	25.0	10	24
P0139.160-055-SC	M16	17	55	27.0	10	24
P0139.160-060-SC	M16	17	60	27.0	10	24
P0139.160-065-SC	M16	17	65	27.0	10	24
P0139.160-070-SC	M16	17	70	27.0	10	24
P0139.160-075-SC	M16	17	75	27.0	10	24
P0139.160-080-SC	M16	17	80	27.0	10	24
P0139.160-085-SC	M16	17	85	27.0	10	24
P0139.160-090-SC	M16	17	90	27.0	10	24
P0139.160-100-SC	M16	17	100	27.0	10	24
P0139.160-110-SC	M16	17	110	27.0	10	24
P0139.160-120-SC	M16	17	120	27.0	10	24
P0139.160-150-SC	M16	17	150	27.0	10	24
P0139.200-045-SC	M20	21	45	28.5	12.5	30
P0139.200-050-SC	M20	21	50	28.5	12.5	30
P0139.200-055-SC	M20	21	55	30.5	12.5	30
P0139.200-060-SC	M20	21	60	30.5	12.5	30
P0139.200-065-SC	M20	21	65	30.5	12.5	30
P0139.200-070-SC	M20	21	70	30.5	12.5	30
P0139.200-075-SC	M20	21	75	30.5	12.5	30
P0139.200-080-SC	M20	21	80	30.5	12.5	30
P0139.200-085-SC	M20	21	85	30.5	12.5	30
P0139.200-090-SC	M20	21	90	30.5	12.5	30
P0139.200-100-SC	M20	21	100	30.5	12.5	30
P0139.200-105-SC	M20	21	105	30.5	12.5	30
P0139.200-110-SC	M20	21	110	30.5	12.5	30
P0139.200-120-SC	M20	21	120	30.5	12.5	30
P0139.200-130-SC	M20	21	130	30.5	12.5	30
P0139.200-140-SC	M20	21	140	30.5	12.5	30
P0139.200-150-SC	M20	21	150	30.5	12.5	30
P0139.200-160-SC	M20	21	160	35.5	12.5	30
P0139.240-055-SC	M24	25	55	36.5	15.0	36
P0139.240-060-SC	M24	25	60	36.5	15.0	36
P0139.240-065-SC	M24	25	65	36.5	15.0	36
P0139.240-070-SC	M24	25	70	36.5	15.0	36
P0139.240-075-SC	M24	25	75	36.5	15.0	36
P0139.240-080-SC	M24	25	80	36.5	15.0	36
P0139.240-085-SC	M24	25	85	36.5	15.0	36
P0139.240-090-SC	M24	25	90	36.5	15.0	36
P0139.240-100-SC	M24	25	100	36.5	15.0	36
P0139.240-105-SC	M24	25	105	36.5	15.0	36
P0139.240-110-SC	M24	25	110	36.5	15.0	36
P0139.240-120-SC	M24	25	120	36.5	15.0	36
P0139.240-125-SC	M24	25	125	36.5	15.0	36
P0139.240-130-SC	M24	25	130	36.5	15.0	36
P0139.240-140-SC	M24	25	140	36.5	15.0	36
P0139.240-150-SC	M24	25	150	36.5	15.0	36
P0139.240-160-SC	M24	25	160	41.5	15.0	36
P0139.240-170-SC	M24	25	170	41.5	15.0	36
P0139.240-180-SC	M24	25	180	41.5	15.0	36

SHOULDER SCREWS



# Shoulder Screws

## Steel Shoulder Bolts - Hex. Head std thread, steel 10.9



SHOULDER SCREWS

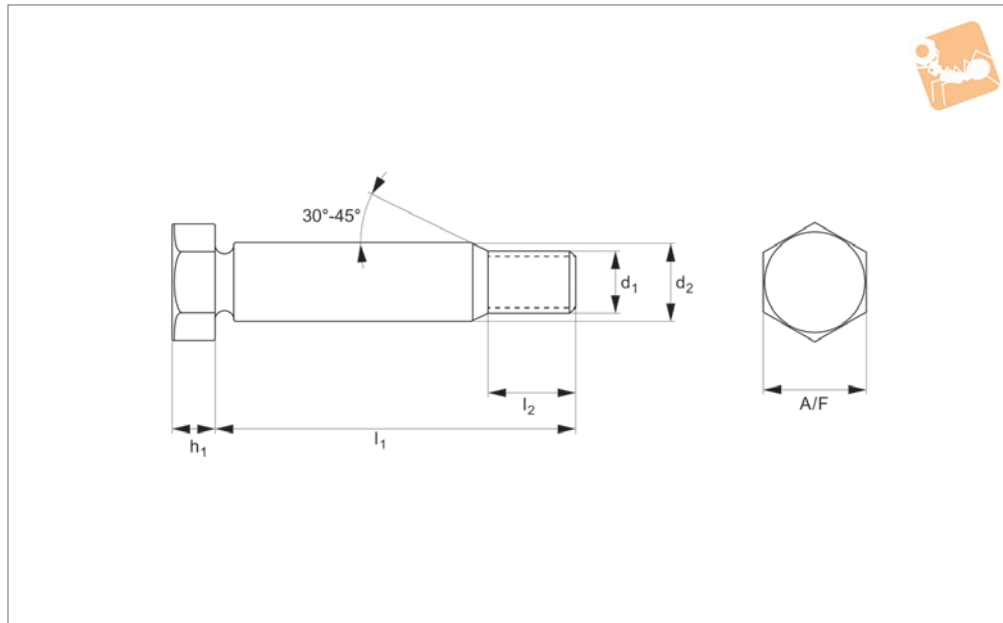
Order No.	d <sub>1</sub>	d <sub>2</sub> tol. k6	l <sub>1</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0139.300-080-SC	M30	32	80	43.0	19.0	46
P0139.300-090-SC	M30	32	90	43.0	19.0	46
P0139.300-100-SC	M30	32	100	43.0	19.0	46
P0139.300-105-SC	M30	32	105	43.0	19.0	46
P0139.300-110-SC	M30	32	110	43.0	19.0	46
P0139.300-120-SC	M30	32	120	43.0	19.0	46
P0139.300-130-SC	M30	32	130	43.0	19.0	46
P0139.300-140-SC	M30	32	140	43.0	19.0	46
P0139.360-120-SC	M36	38	120	49.0	22.0	55
P0139.360-130-SC	M36	38	130	49.0	22.0	55
P0139.360-200-SC	M36	38	200	54.0	22.0	55



# Steel Shoulder Bolts - Hex. Head

short thread, steel 8.8

## Shoulder Screws



**P0140.SC**

SHOULDER SCREWS

**Material**

Black alloy steel, strength 8,8. Hardness 38 HRC, tensile strength 830 N/mm<sup>2</sup>.

**Technical Notes**

To DIN 610. Shorter thread than P0138.SC

(DIN 609).

For strength 10,9 see part P0141.

**Tips**

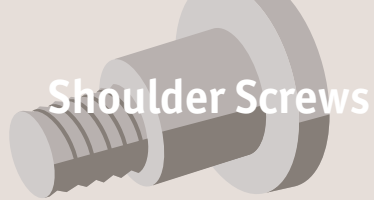
Do not tighten to standard strength class 8,8 torque; as the tightening torque is

limited,

by the presence of the reduced diameter undercut under the head and at the shoulder/thread area.

Drill hole to H7 tolerance.

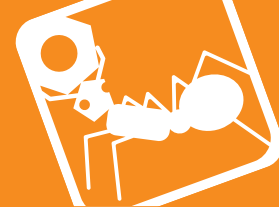
Order No.	d <sub>1</sub>	d <sub>2</sub> tol. k6	l <sub>1</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0140.080-025-SC	M 8	9	25	11.5	5.3	13
P0140.080-028-SC	M 8	9	28	11.5	5.3	13
P0140.080-030-SC	M 8	9	30	11.5	5.3	13
P0140.080-032-SC	M 8	9	32	11.5	5.3	13
P0140.080-035-SC	M 8	9	35	11.5	5.3	13
P0140.080-038-SC	M 8	9	38	11.5	5.3	13
P0140.080-040-SC	M 8	9	40	11.5	5.3	13
P0140.080-042-SC	M 8	9	42	11.5	5.3	13
P0140.080-045-SC	M 8	9	45	11.5	5.3	13
P0140.080-048-SC	M 8	9	48	11.5	5.3	13
P0140.080-050-SC	M 8	9	50	11.5	5.3	13
P0140.080-055-SC	M 8	9	55	13.5	5.3	13
P0140.080-060-SC	M 8	9	60	13.5	5.3	13
P0140.080-065-SC	M 8	9	65	13.5	5.3	13
P0140.080-070-SC	M 8	9	70	13.5	5.3	13
P0140.080-080-SC	M 8	9	80	13.5	5.3	13
P0140.100-030-SC	M10	11	30	13.5	6.4	17
P0140.100-032-SC	M10	11	32	13.5	6.4	17
P0140.100-035-SC	M10	11	35	13.5	6.4	17
P0140.100-038-SC	M10	11	38	13.5	6.4	17
P0140.100-040-SC	M10	11	40	13.5	6.4	17
P0140.100-042-SC	M10	11	42	13.5	6.4	17
P0140.100-045-SC	M10	11	45	13.5	6.4	17
P0140.100-048-SC	M10	11	48	13.5	6.4	17
P0140.100-050-SC	M10	11	50	13.5	6.4	17
P0140.100-055-SC	M10	11	55	15.5	6.4	17
P0140.100-060-SC	M10	11	60	15.5	6.4	17
P0140.100-065-SC	M10	11	65	15.5	6.4	17
P0140.100-070-SC	M10	11	70	15.5	6.4	17
P0140.100-075-SC	M10	11	75	15.5	6.4	17
P0140.100-080-SC	M10	11	80	15.5	6.4	17
P0140.100-085-SC	M10	11	85	15.5	6.4	17



# Shoulder Screws

## Steel Shoulder Bolts - Hex. Head

short thread, steel 8.8



SHOULDER SCREWS

Order No.	d <sub>1</sub>	d <sub>2</sub> tol. k6	l <sub>1</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0140.100-090-SC	M10	11	90	15.5	6.4	17
P0140.100-100-SC	M10	11	100	15.5	6.4	17
P0140.100-110-SC	M10	11	110	15.5	6.4	17
P0140.100-120-SC	M10	11	120	15.5	6.4	17
P0140.120-030-SC	M12	13	30	15.5	7.5	19
P0140.120-032-SC	M12	13	32	15.5	7.5	19
P0140.120-035-SC	M12	13	35	15.5	7.5	19
P0140.120-038-SC	M12	13	38	15.5	7.5	19
P0140.120-040-SC	M12	13	40	15.5	7.5	19
P0140.120-042-SC	M12	13	42	15.5	7.5	19
P0140.120-045-SC	M12	13	45	15.5	7.5	19
P0140.120-048-SC	M12	13	48	15.5	7.5	19
P0140.120-050-SC	M12	13	50	15.5	7.5	19
P0140.120-055-SC	M12	13	55	17.5	7.5	19
P0140.120-060-SC	M12	13	60	17.5	7.5	19
P0140.120-065-SC	M12	13	65	17.5	7.5	19
P0140.120-070-SC	M12	13	70	17.5	7.5	19
P0140.120-075-SC	M12	13	75	17.5	7.5	19
P0140.120-080-SC	M12	13	80	17.5	7.5	19
P0140.120-085-SC	M12	13	85	17.5	7.5	19
P0140.120-090-SC	M12	13	90	17.5	7.5	19
P0140.120-095-SC	M12	13	95	17.5	7.5	19
P0140.120-100-SC	M12	13	100	17.5	7.5	19
P0140.140-032-SC	M14	15	32	17.0	8.8	22
P0140.140-035-SC	M14	15	35	17.0	8.8	22
P0140.140-040-SC	M14	15	40	17.0	8.8	22
P0140.140-042-SC	M14	15	42	17.0	8.8	22
P0140.140-045-SC	M14	15	45	17.0	8.8	22
P0140.140-050-SC	M14	15	50	17.0	8.8	22
P0140.140-055-SC	M14	15	55	19.0	8.8	22
P0140.140-060-SC	M14	15	60	19.0	8.8	22
P0140.140-065-SC	M14	15	65	19.0	8.8	22
P0140.140-070-SC	M14	15	70	19.0	8.8	22
P0140.140-075-SC	M14	15	75	19.0	8.8	22
P0140.140-080-SC	M14	15	80	19.0	8.8	22
P0140.140-090-SC	M14	15	90	19.0	8.8	22
P0140.160-040-SC	M16	17	40	19.0	10	24
P0140.160-042-SC	M16	17	42	19.0	10	24
P0140.160-045-SC	M16	17	45	19.0	10	24
P0140.160-048-SC	M16	17	48	19.0	10	24
P0140.160-050-SC	M16	17	50	19.0	10	24
P0140.160-055-SC	M16	17	55	21.0	10	24
P0140.160-060-SC	M16	17	60	21.0	10	24
P0140.160-065-SC	M16	17	65	21.0	10	24
P0140.160-070-SC	M16	17	70	21.0	10	24
P0140.160-075-SC	M16	17	75	21.0	10	24
P0140.160-080-SC	M16	17	80	21.0	10	24
P0140.160-085-SC	M16	17	85	21.0	10	24
P0140.160-090-SC	M16	17	90	21.0	10	24
P0140.160-095-SC	M16	17	95	21.0	10	24
P0140.160-100-SC	M16	17	100	21.0	10	24
P0140.160-105-SC	M16	17	105	21.0	10	24
P0140.160-110-SC	M16	17	110	21.0	10	24
P0140.160-115-SC	M16	17	115	21.0	10	24
P0140.160-120-SC	M16	17	120	21.0	10	24
P0140.160-125-SC	M16	17	125	21.0	10	24
P0140.160-130-SC	M16	17	130	21.0	10	24
P0140.160-135-SC	M16	17	135	21.0	10	24
P0140.160-140-SC	M16	17	140	21.0	10	24
P0140.160-150-SC	M16	17	150	21.0	10	24
P0140.160-160-SC	M16	17	160	26.0	10	24
P0140.160-180-SC	M16	17	180	26.0	10	24
P0140.160-200-SC	M16	17	200	26.0	10	24
P0140.180-045-SC	M18	19	45	21.5	11.5	27
P0140.180-050-SC	M18	19	50	21.5	11.5	27
P0140.180-055-SC	M18	19	55	23.5	11.5	27
P0140.180-060-SC	M18	19	60	23.5	11.5	27
P0140.180-065-SC	M18	19	65	23.5	11.5	27



# Steel Shoulder Bolts - Hex. Head

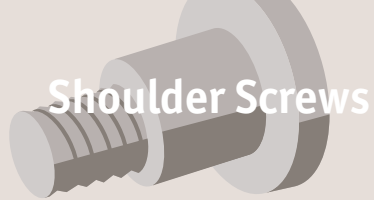
short thread, steel 8.8

## Shoulder Screws



Order No.	d <sub>1</sub>	d <sub>2</sub> tol. k6	l <sub>1</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0140.180-070-SC	M18	19	70	23.5	11.5	27
P0140.180-075-SC	M18	19	75	23.5	11.5	27
P0140.180-080-SC	M18	19	80	23.5	11.5	27
P0140.180-085-SC	M18	19	85	23.5	11.5	27
P0140.180-090-SC	M18	19	90	23.5	11.5	27
P0140.180-095-SC	M18	19	95	23.5	11.5	27
P0140.180-100-SC	M18	19	100	23.5	11.5	27
P0140.180-110-SC	M18	19	110	23.5	11.5	27
P0140.180-120-SC	M18	19	120	23.5	11.5	27
P0140.200-045-SC	M20	21	45	22.5	12.5	30
P0140.200-050-SC	M20	21	50	22.5	12.5	30
P0140.200-055-SC	M20	21	55	24.5	12.5	30
P0140.200-060-SC	M20	21	60	24.5	12.5	30
P0140.200-065-SC	M20	21	65	24.5	12.5	30
P0140.200-070-SC	M20	21	70	24.5	12.5	30
P0140.200-075-SC	M20	21	75	24.5	12.5	30
P0140.200-080-SC	M20	21	80	24.5	12.5	30
P0140.200-085-SC	M20	21	85	24.5	12.5	30
P0140.200-090-SC	M20	21	90	24.5	12.5	30
P0140.200-095-SC	M20	21	95	24.5	12.5	30
P0140.200-100-SC	M20	21	100	24.5	12.5	30
P0140.200-105-SC	M20	21	105	24.5	12.5	30
P0140.200-110-SC	M20	21	110	24.5	12.5	30
P0140.200-115-SC	M20	21	115	24.5	12.5	30
P0140.200-120-SC	M20	21	120	24.5	12.5	30
P0140.200-125-SC	M20	21	125	24.5	12.5	30
P0140.200-130-SC	M20	21	130	24.5	12.5	30
P0140.200-135-SC	M20	21	135	24.5	12.5	30
P0140.200-140-SC	M20	21	140	24.5	12.5	30
P0140.200-145-SC	M20	21	145	24.5	12.5	30
P0140.200-150-SC	M20	21	150	24.5	12.5	30
P0140.200-160-SC	M20	21	160	29.5	12.5	30
P0140.200-170-SC	M20	21	170	29.5	12.5	30
P0140.200-180-SC	M20	21	180	29.5	12.5	30
P0140.200-185-SC	M20	21	185	29.5	12.5	30
P0140.200-190-SC	M20	21	190	29.5	12.5	30
P0140.200-200-SC	M20	21	200	29.5	12.5	30
P0140.200-220-SC	M20	21	220	29.5	12.5	30
P0140.200-240-SC	M20	21	240	29.5	12.5	30
P0140.201-045-SC	M20x2	21	45	22.5	12.5	30
P0140.201-050-SC	M20x2	21	50	22.5	12.5	30
P0140.201-055-SC	M20x2	21	55	24.5	12.5	30
P0140.201-060-SC	M20x2	21	60	24.5	12.5	30
P0140.201-065-SC	M20x2	21	65	24.5	12.5	30
P0140.201-070-SC	M20x2	21	70	24.5	12.5	30
P0140.201-075-SC	M20x2	21	75	24.5	12.5	30
P0140.201-080-SC	M20x2	21	80	24.5	12.5	30
P0140.201-085-SC	M20x2	21	85	24.5	12.5	30
P0140.201-090-SC	M20x2	21	90	24.5	12.5	30
P0140.201-095-SC	M20x2	21	95	24.5	12.5	30
P0140.201-100-SC	M20x2	21	100	24.5	12.5	30
P0140.201-105-SC	M20x2	21	105	24.5	12.5	30
P0140.201-110-SC	M20x2	21	110	24.5	12.5	30
P0140.201-120-SC	M20x2	21	120	24.5	12.5	30
P0140.201-130-SC	M20x2	21	130	24.5	12.5	30
P0140.201-135-SC	M20x2	21	135	24.5	12.5	30
P0140.201-140-SC	M20x2	21	140	24.5	12.5	30
P0140.201-145-SC	M20x2	21	145	24.5	12.5	30
P0140.201-160-SC	M20x2	21	160	29.5	12.5	30
P0140.201-180-SC	M20x2	21	180	29.5	12.5	30
P0140.220-045-SC	M22	23	45	24.5	14.0	34
P0140.220-050-SC	M22	23	50	24.5	14.0	34
P0140.220-055-SC	M22	23	55	26.5	14.0	34
P0140.220-060-SC	M22	23	60	26.5	14.0	34
P0140.220-065-SC	M22	23	65	26.5	14.0	34
P0140.220-070-SC	M22	23	70	26.5	14.0	34
P0140.220-075-SC	M22	23	75	26.5	14.0	34
P0140.220-080-SC	M22	23	80	26.5	14.0	34

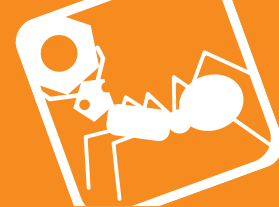
SHOULDER SCREWS



# Shoulder Screws

## Steel Shoulder Bolts - Hex. Head

short thread, steel 8.8



SHOULDER SCREWS

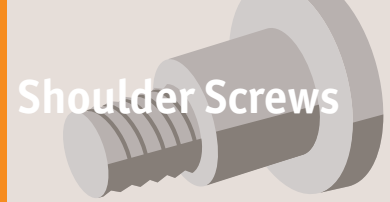
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P0140.220-085-SC	M22	23	85	26.5	14.0	34
P0140.220-090-SC	M22	23	90	26.5	14.0	34
P0140.220-095-SC	M22	23	95	26.5	14.0	34
P0140.220-100-SC	M22	23	100	26.5	14.0	34
P0140.220-105-SC	M22	23	105	26.5	14.0	34
P0140.220-110-SC	M22	23	110	26.5	14.0	34
P0140.220-120-SC	M22	23	120	26.5	14.0	34
P0140.220-130-SC	M22	23	130	26.5	14.0	34
P0140.220-140-SC	M22	23	140	26.5	14.0	34
P0140.220-150-SC	M22	23	150	26.5	14.0	34
P0140.220-180-SC	M22	23	180	31.5	14.0	34
P0140.240-055-SC	M24	25	55	28.5	15.0	36
P0140.240-060-SC	M24	25	60	28.5	15.0	36
P0140.240-065-SC	M24	25	65	28.5	15.0	36
P0140.240-070-SC	M24	25	70	28.5	15.0	36
P0140.240-075-SC	M24	25	75	28.5	15.0	36
P0140.240-080-SC	M24	25	80	28.5	15.0	36
P0140.240-085-SC	M24	25	85	28.5	15.0	36
P0140.240-090-SC	M24	25	90	28.5	15.0	36
P0140.240-095-SC	M24	25	95	28.5	15.0	36
P0140.240-100-SC	M24	25	100	28.5	15.0	36
P0140.240-105-SC	M24	25	105	28.5	15.0	36
P0140.240-110-SC	M24	25	110	28.5	15.0	36
P0140.240-115-SC	M24	25	115	28.5	15.0	36
P0140.240-120-SC	M24	25	120	28.5	15.0	36
P0140.240-125-SC	M24	25	125	28.5	15.0	36
P0140.240-130-SC	M24	25	130	28.5	15.0	36
P0140.240-135-SC	M24	25	135	28.5	15.0	36
P0140.240-140-SC	M24	25	140	28.5	15.0	36
P0140.240-145-SC	M24	25	145	28.5	15.0	36
P0140.240-150-SC	M24	25	150	28.5	15.0	36
P0140.240-160-SC	M24	25	160	33.5	15.0	36
P0140.240-170-SC	M24	25	170	33.5	15.0	36
P0140.240-180-SC	M24	25	180	33.5	15.0	36
P0140.240-185-SC	M24	25	185	33.5	15.0	36
P0140.240-190-SC	M24	25	190	33.5	15.0	36
P0140.240-200-SC	M24	25	200	33.5	15.0	36
P0140.240-220-SC	M24	25	220	33.5	15.0	36
P0140.240-240-SC	M24	25	240	33.5	15.0	36
P0140.241-055-SC	M24x2	25	55	28.5	15.0	36
P0140.241-060-SC	M24x2	25	60	28.5	15.0	36
P0140.241-065-SC	M24x2	25	65	28.5	15.0	36
P0140.241-070-SC	M24x2	25	70	28.5	15.0	36
P0140.241-075-SC	M24x2	25	75	28.5	15.0	36
P0140.241-080-SC	M24x2	25	80	28.5	15.0	36
P0140.241-085-SC	M24x2	25	85	28.5	15.0	36
P0140.241-090-SC	M24x2	25	90	28.5	15.0	36
P0140.241-095-SC	M24x2	25	95	28.5	15.0	36
P0140.241-100-SC	M24x2	25	100	28.5	15.0	36
P0140.241-105-SC	M24x2	25	105	28.5	15.0	36
P0140.241-110-SC	M24x2	25	110	28.5	15.0	36
P0140.241-115-SC	M24x2	25	115	28.5	15.0	36
P0140.241-120-SC	M24x2	25	120	28.5	15.0	36
P0140.241-130-SC	M24x2	25	130	28.5	15.0	36
P0140.241-135-SC	M24x2	25	135	28.5	15.0	36
P0140.241-140-SC	M24x2	25	140	28.5	15.0	36
P0140.241-150-SC	M24x2	25	150	28.5	15.0	36
P0140.270-060-SC	M27	28	60	31.5	17.0	41
P0140.270-065-SC	M27	28	65	31.5	17.0	41
P0140.270-070-SC	M27	28	70	31.5	17.0	41
P0140.270-075-SC	M27	28	75	31.5	17.0	41
P0140.270-080-SC	M27	28	80	31.5	17.0	41
P0140.270-085-SC	M27	28	85	31.5	17.0	41
P0140.270-090-SC	M27	28	90	31.5	17.0	41
P0140.270-095-SC	M27	28	95	31.5	17.0	41
P0140.270-100-SC	M27	28	100	31.5	17.0	41
P0140.270-105-SC	M27	28	105	31.5	17.0	41
P0140.270-110-SC	M27	28	110	31.5	17.0	41





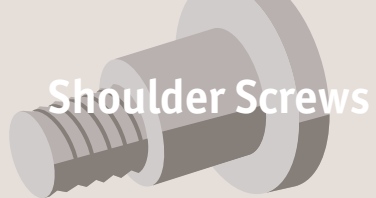
# Steel Shoulder Bolts - Hex. Head

short thread, steel 8.8



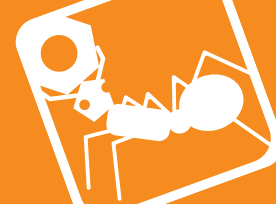
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P0140.270-115-SC	M27	28	115	31.5	17.0	41
P0140.270-120-SC	M27	28	120	31.5	17.0	41
P0140.270-125-SC	M27	28	125	31.5	17.0	41
P0140.270-130-SC	M27	28	130	31.5	17.0	41
P0140.270-135-SC	M27	28	135	31.5	17.0	41
P0140.270-140-SC	M27	28	140	31.5	17.0	41
P0140.270-145-SC	M27	28	145	31.5	17.0	41
P0140.270-150-SC	M27	28	150	31.5	17.0	41
P0140.270-160-SC	M27	28	160	36.5	17.0	41
P0140.270-170-SC	M27	28	170	36.5	17.0	41
P0140.270-180-SC	M27	28	180	36.5	17.0	41
P0140.270-200-SC	M27	28	200	36.5	17.0	41
P0140.300-065-SC	M30	32	65	34.0	19.0	46
P0140.300-070-SC	M30	32	70	34.0	19.0	46
P0140.300-075-SC	M30	32	75	34.0	19.0	46
P0140.300-080-SC	M30	32	80	34.0	19.0	46
P0140.300-085-SC	M30	32	85	34.0	19.0	46
P0140.300-090-SC	M30	32	90	34.0	19.0	46
P0140.300-100-SC	M30	32	100	34.0	19.0	46
P0140.300-105-SC	M30	32	105	34.0	19.0	46
P0140.300-110-SC	M30	32	110	34.0	19.0	46
P0140.300-115-SC	M30	32	115	34.0	19.0	46
P0140.300-120-SC	M30	32	120	34.0	19.0	46
P0140.300-125-SC	M30	32	125	34.0	19.0	46
P0140.300-130-SC	M30	32	130	34.0	19.0	46
P0140.300-135-SC	M30	32	135	34.0	19.0	46
P0140.300-140-SC	M30	32	140	34.0	19.0	46
P0140.300-145-SC	M30	32	145	34.0	19.0	46
P0140.300-150-SC	M30	32	150	34.0	19.0	46
P0140.300-160-SC	M30	32	160	39.0	19.0	46
P0140.300-170-SC	M30	32	170	39.0	19.0	46
P0140.300-180-SC	M30	32	180	39.0	19.0	46
P0140.300-185-SC	M30	32	185	39.0	19.0	46
P0140.300-190-SC	M30	32	190	39.0	19.0	46
P0140.300-200-SC	M30	32	200	39.0	19.0	46
P0140.301-065-SC	M30x2	32	65	34.0	19.0	46
P0140.301-080-SC	M30x2	32	80	34.0	19.0	46
P0140.301-085-SC	M30x2	32	85	34.0	19.0	46
P0140.301-090-SC	M30x2	32	90	34.0	19.0	46
P0140.301-095-SC	M30x2	32	95	34.0	19.0	46
P0140.301-100-SC	M30x2	32	100	34.0	19.0	46
P0140.301-105-SC	M30x2	32	105	34.0	19.0	46
P0140.301-110-SC	M30x2	32	110	34.0	19.0	46
P0140.301-115-SC	M30x2	32	115	34.0	19.0	46
P0140.301-125-SC	M30x2	32	125	34.0	19.0	46
P0140.301-130-SC	M30x2	32	130	34.0	19.0	46
P0140.301-140-SC	M30x2	32	140	34.0	19.0	46
P0140.301-150-SC	M30x2	32	150	34.0	19.0	46
P0140.301-170-SC	M30x2	32	170	39.0	19.0	46
P0140.301-180-SC	M30x2	32	180	39.0	19.0	46
P0140.301-185-SC	M30x2	32	185	39.0	19.0	46
P0140.301-190-SC	M30x2	32	190	39.0	19.0	46
P0140.360-070-SC	M36	38	70	40.0	22.0	55
P0140.360-075-SC	M36	38	75	40.0	22.0	55
P0140.360-080-SC	M36	38	80	40.0	22.0	55
P0140.360-085-SC	M36	38	85	40.0	22.0	55
P0140.360-090-SC	M36	38	90	40.0	22.0	55
P0140.360-095-SC	M36	38	95	40.0	22.0	55
P0140.360-100-SC	M36	38	100	40.0	22.0	55
P0140.360-105-SC	M36	38	105	40.0	22.0	55
P0140.360-110-SC	M36	38	110	40.0	22.0	55
P0140.360-115-SC	M36	38	115	40.0	22.0	55
P0140.360-120-SC	M36	38	120	40.0	22.0	55
P0140.360-125-SC	M36	38	125	40.0	22.0	55
P0140.360-130-SC	M36	38	130	40.0	22.0	55
P0140.360-135-SC	M36	38	135	40.0	22.0	55
P0140.360-140-SC	M36	38	140	40.0	22.0	55
P0140.360-145-SC	M36	38	145	40.0	22.0	55

SHOULDER SCREWS



# Shoulder Screws

## Steel Shoulder Bolts - Hex. Head short thread, steel 8.8



SHOULDER SCREWS

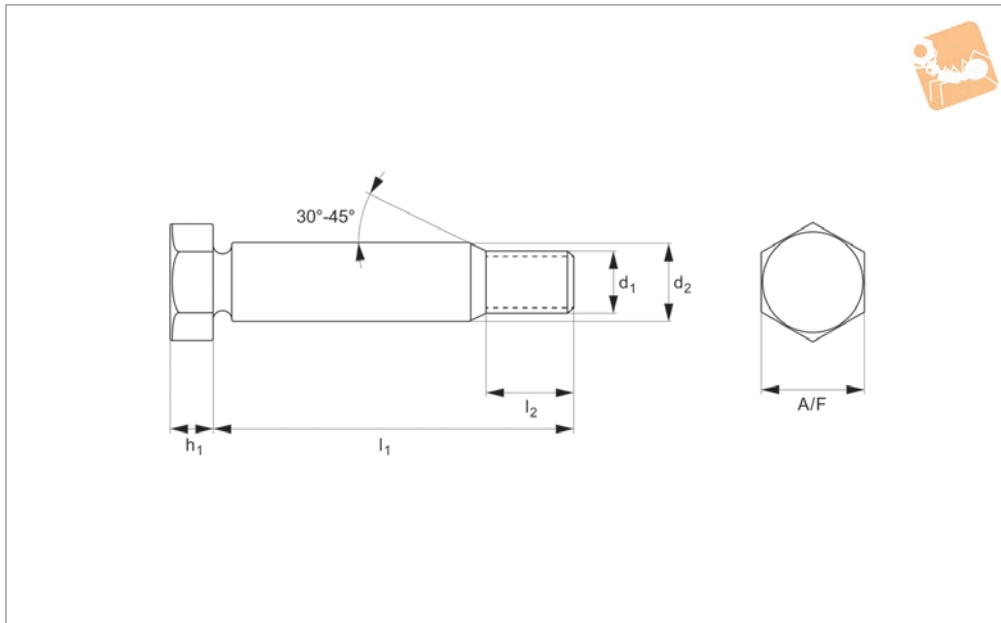
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P0140.360-150-SC	M36	38	150	40.0	22.0	55
P0140.360-160-SC	M36	38	160	45.0	22.0	55
P0140.360-170-SC	M36	38	170	45.0	22.0	55
P0140.360-180-SC	M36	38	180	45.0	22.0	55
P0140.360-185-SC	M36	38	185	45.0	22.0	55
P0140.360-190-SC	M36	38	190	45.0	22.0	55
P0140.360-200-SC	M36	38	200	45.0	22.0	55
P0140.390-160-SC	M39	40	160	47.0	25.0	60
P0140.390-320-SC	M39	40	320	47.0	25.0	60
P0140.420-100-SC	M42	44	100	46.0	26.0	65
P0140.420-110-SC	M42	44	110	46.0	26.0	65
P0140.420-120-SC	M42	44	120	46.0	26.0	65
P0140.420-130-SC	M42	44	130	46.0	26.0	65
P0140.420-140-SC	M42	44	140	46.0	26.0	65
P0140.420-150-SC	M42	44	150	46.0	26.0	65
P0140.420-160-SC	M42	44	160	51.0	26.0	65
P0140.420-170-SC	M42	44	170	51.0	26.0	65
P0140.420-180-SC	M42	44	180	51.0	26.0	65
P0140.420-185-SC	M42	44	185	51.0	26.0	65
P0140.420-190-SC	M42	44	190	51.0	26.0	65
P0140.420-200-SC	M42	44	200	51.0	26.0	65
P0140.420-240-SC	M42	44	240	51.0	26.0	65
P0140.420-280-SC	M42	44	280	51.0	26.0	65
P0140.420-370-SC	M42	44	370	51.0	26.0	65



# Steel Shoulder Bolts - Hex. Head

short thread, steel 10.9

## Shoulder Screws



**P0141.SC**

SHOULDER SCREWS

### Material

Black alloy steel, strength 10,9. Hardness 38 HRC, tensile strength 830 N/mm<sup>2</sup>.

### Technical Notes

To DIN 610.

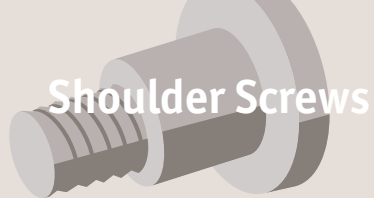
For strength 8.8 see part P0140.SC

### Tips

Do not tighten to standard strength class 10,9 torque; as the tightening torque is limited,

by the presence of the reduced diameter undercut under the head and at the shoulder/thread area.  
Drill hole to H7 tolerance.

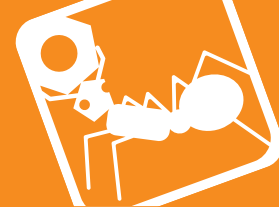
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P0141.080-025-SC	M 8	9	25	11.5	5.3	13
P0141.080-024-SC	M 8	9	24	11.5	5.3	13
P0141.080-035-SC	M 8	9	35	11.5	5.3	13
P0141.080-038-SC	M 8	9	38	11.5	5.3	13
P0141.080-040-SC	M 8	9	40	11.5	5.3	13
P0141.080-048-SC	M 8	9	48	11.5	5.3	13
P0141.080-060-SC	M 8	9	60	13.5	5.3	13
P0141.080-080-SC	M 8	9	80	13.5	5.3	13
P0141.100-030-SC	M10	11	30	13.5	6.4	17
P0141.100-032-SC	M10	11	32	13.5	6.4	17
P0141.100-035-SC	M10	11	35	13.5	6.4	17
P0141.100-038-SC	M10	11	38	13.5	6.4	17
P0141.100-040-SC	M10	11	40	13.5	6.4	17
P0141.100-042-SC	M10	11	42	13.5	6.4	17
P0141.100-045-SC	M10	11	45	13.5	6.4	17
P0141.100-048-SC	M10	11	48	13.5	6.4	17
P0141.100-050-SC	M10	11	50	13.5	6.4	17
P0141.100-055-SC	M10	11	55	15.5	6.4	17
P0141.100-060-SC	M10	11	60	15.5	6.4	17
P0141.100-065-SC	M10	11	65	15.5	6.4	17
P0141.100-070-SC	M10	11	70	15.5	6.4	17
P0141.100-075-SC	M10	11	75	15.5	6.4	17
P0141.100-080-SC	M10	11	80	15.5	6.4	17
P0141.120-030-SC	M12	13	30	15.5	7.5	19
P0141.120-032-SC	M12	13	32	15.5	7.5	19
P0141.120-035-SC	M12	13	35	15.5	7.5	19
P0141.120-038-SC	M12	13	38	15.5	7.5	19
P0141.120-040-SC	M12	13	40	15.5	7.5	19
P0141.120-045-SC	M12	13	45	15.5	7.5	19
P0141.120-048-SC	M12	13	48	15.5	7.5	19
P0141.120-050-SC	M12	13	50	15.5	7.5	19
P0141.120-055-SC	M12	13	55	17.5	7.5	19



# Shoulder Screws

## Steel Shoulder Bolts - Hex. Head

short thread, steel 10.9



SHOULDER SCREWS

Order No.	d <sub>1</sub>	d <sub>2</sub> tol. k6	l <sub>1</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0141.120-060-SC	M12	13	60	17.5	7.5	19
P0141.120-065-SC	M12	13	65	17.5	7.5	19
P0141.120-070-SC	M12	13	70	17.5	7.5	19
P0141.120-075-SC	M12	13	75	17.5	7.5	19
P0141.120-090-SC	M12	13	90	17.5	7.5	19
P0141.120-110-SC	M12	13	110	17.5	7.5	19
P0141.140-035-SC	M14	15	35	17.0	8.8	22
P0141.140-040-SC	M14	15	40	17.0	8.8	22
P0141.140-042-SC	M14	15	42	17.0	8.8	22
P0141.140-045-SC	M14	15	45	17.0	8.8	22
P0141.140-050-SC	M14	15	50	17.0	8.8	22
P0141.140-055-SC	M14	15	55	19.0	8.8	22
P0141.140-060-SC	M14	15	60	19.0	8.8	22
P0141.140-080-SC	M14	15	80	19.0	8.8	22
P0141.160-040-SC	M16	17	40	19.0	10	24
P0141.160-042-SC	M16	17	42	19.0	10	24
P0141.160-045-SC	M16	17	45	19.0	10	24
P0141.160-048-SC	M16	17	48	19.0	10	24
P0141.160-050-SC	M16	17	50	19.0	10	24
P0141.160-055-SC	M16	17	55	21.0	10	24
P0141.160-060-SC	M16	17	60	21.0	10	24
P0141.160-065-SC	M16	17	65	21.0	10	24
P0141.160-070-SC	M16	17	70	21.0	10	24
P0141.160-075-SC	M16	17	75	21.0	10	24
P0141.160-080-SC	M16	17	80	21.0	10	24
P0141.160-085-SC	M16	17	85	21.0	10	24
P0141.160-090-SC	M16	17	90	21.0	10	24
P0141.160-100-SC	M16	17	100	21.0	10	24
P0141.160-110-SC	M16	17	110	21.0	10	24
P0141.160-120-SC	M16	17	120	21.0	10	24
P0141.160-150-SC	M16	17	150	21.0	10	24
P0141.200-045-SC	M20	21	45	22.5	12.5	30
P0141.200-050-SC	M20	21	50	22.5	12.5	30
P0141.200-055-SC	M20	21	55	24.5	12.5	30
P0141.200-060-SC	M20	21	60	24.5	12.5	30
P0141.200-065-SC	M20	21	65	24.5	12.5	30
P0141.200-070-SC	M20	21	70	24.5	12.5	30
P0141.200-075-SC	M20	21	75	24.5	12.5	30
P0141.200-080-SC	M20	21	80	24.5	12.5	30
P0141.200-085-SC	M20	21	85	24.5	12.5	30
P0141.200-090-SC	M20	21	90	24.5	12.5	30
P0141.200-100-SC	M20	21	100	24.5	12.5	30
P0141.200-105-SC	M20	21	105	24.5	12.5	30
P0141.200-110-SC	M20	21	110	24.5	12.5	30
P0141.200-120-SC	M20	21	120	24.5	12.5	30
P0141.200-130-SC	M20	21	130	24.5	12.5	30
P0141.200-140-SC	M20	21	140	24.5	12.5	30
P0141.200-150-SC	M20	21	150	24.5	12.5	30
P0141.200-160-SC	M20	21	160	29.5	12.5	30
P0141.240-055-SC	M24	25	55	28.5	15.0	36
P0141.240-060-SC	M24	25	60	28.5	15.0	36
P0141.240-065-SC	M24	25	65	28.5	15.0	36
P0141.240-070-SC	M24	25	70	28.5	15.0	36
P0141.240-075-SC	M24	25	75	28.5	15.0	36
P0141.240-080-SC	M24	25	80	28.5	15.0	36
P0141.240-085-SC	M24	25	85	28.5	15.0	36
P0141.240-090-SC	M24	25	90	28.5	15.0	36
P0141.240-100-SC	M24	25	100	28.5	15.0	36
P0141.240-105-SC	M24	25	105	28.5	15.0	36
P0141.240-110-SC	M24	25	110	28.5	15.0	36
P0141.240-120-SC	M24	25	120	28.5	15.0	36
P0141.240-125-SC	M24	25	125	28.5	15.0	36
P0141.240-130-SC	M24	25	130	28.5	15.0	36
P0141.240-140-SC	M24	25	140	28.5	15.0	36
P0141.240-150-SC	M24	25	150	28.5	15.0	36
P0141.240-160-SC	M24	25	160	33.5	15.0	36
P0141.240-170-SC	M24	25	170	33.5	15.0	36
P0141.240-180-SC	M24	25	180	33.5	15.0	36



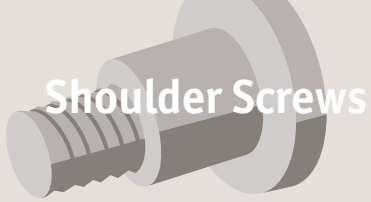
## Steel Shoulder Bolts - Hex. Head

short thread, steel 10.9

## Shoulder Screws

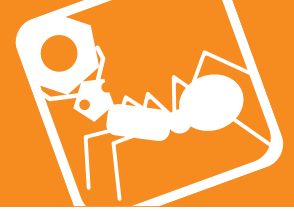


Order No.	d <sub>1</sub>	d <sub>2</sub> tol. k6	l <sub>1</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0141.300-080-SC	M30	32	80	34.0	19.0	46
P0141.300-090-SC	M30	32	90	34.0	19.0	46
P0141.300-100-SC	M30	32	100	34.0	19.0	46
P0141.300-105-SC	M30	32	105	34.0	19.0	46
P0141.300-110-SC	M30	32	110	34.0	19.0	46
P0141.300-120-SC	M30	32	120	34.0	19.0	46
P0141.300-130-SC	M30	32	130	34.0	19.0	46
P0141.300-140-SC	M30	32	140	34.0	19.0	46
P0141.360-120-SC	M36	38	120	40.0	22.0	55
P0141.360-130-SC	M36	38	130	40.0	22.0	55
P0141.360-200-SC	M36	38	200	45.0	22.0	55



# Shoulder Screws

## Steel Shoulder Bolts - Hex. Head construction grade

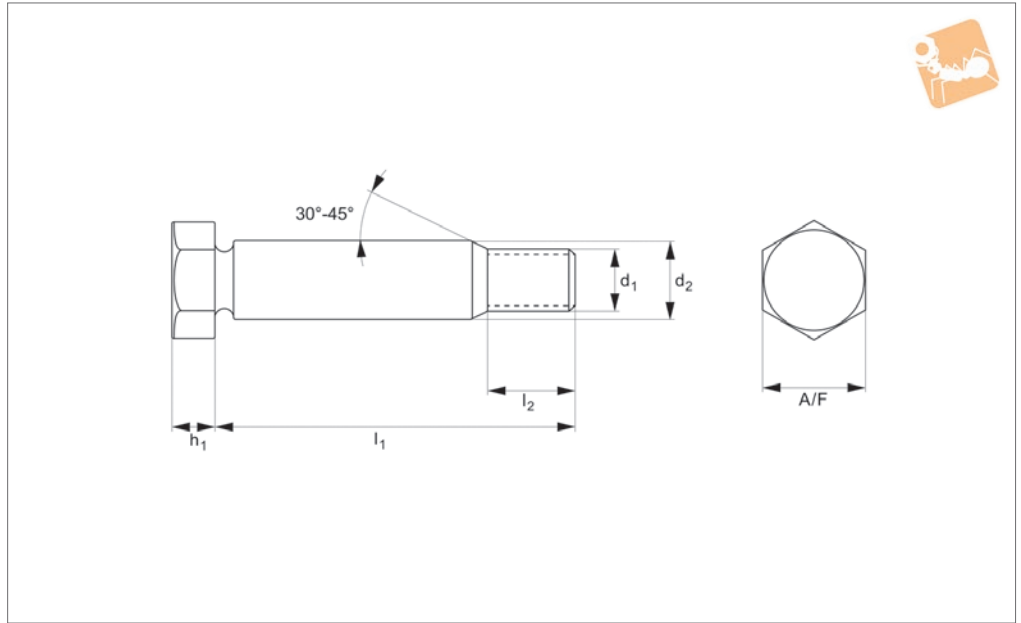


SHOULDER SCREWS



MADE IN BRITAIN

### P0142.SC



#### Material

Black alloy steel, strength 8,8. Hardness 38 HRC, tensile strength 830 N/mm<sup>2</sup>.

#### Technical Notes

To DIN 7968

#### Tips

Do not tighten to standard strength class 8,8 torque; as the tightening torque is limited, by the presence of the reduced diameter

undercut under the head and at the shoulder/thread area.

Order No.	d <sub>1</sub>	d <sub>2</sub> tol. h11	l <sub>1</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0142.120-035-SC	M12	12.74	35	20.5	8	18
P0142.120-040-SC	M12	12.74	40	20.5	8	18
P0142.120-045-SC	M12	12.74	45	20.5	8	18
P0142.120-050-SC	M12	12.74	50	20.5	8	18
P0142.120-055-SC	M12	12.74	55	20.5	8	18
P0142.120-060-SC	M12	12.74	60	20.5	8	18
P0142.120-070-SC	M12	12.74	70	20.5	8	18
P0142.120-075-SC	M12	12.74	75	20.5	8	18
P0142.160-040-SC	M16	16.74	40	24.5	10	24
P0142.160-045-SC	M16	16.74	45	24.5	10	24
P0142.160-050-SC	M16	16.74	50	24.5	10	24
P0142.160-055-SC	M16	16.74	55	24.5	10	24
P0142.160-060-SC	M16	16.74	60	24.5	10	24
P0142.160-065-SC	M16	16.74	65	24.5	10	24
P0142.160-070-SC	M16	16.74	70	24.5	10	24
P0142.160-080-SC	M16	16.74	80	24.5	10	24
P0142.160-085-SC	M16	16.74	85	24.5	10	24
P0142.200-050-SC	M20	20.71	50	28.5	13	30
P0142.200-055-SC	M20	20.71	55	28.5	13	30
P0142.200-060-SC	M20	20.71	60	28.5	13	30
P0142.200-065-SC	M20	20.71	65	28.5	13	30
P0142.200-070-SC	M20	20.71	70	28.5	13	30
P0142.200-075-SC	M20	20.71	75	28.5	13	30
P0142.200-080-SC	M20	20.71	80	28.5	13	30
P0142.200-090-SC	M20	20.71	90	28.5	13	30
P0142.200-100-SC	M20	20.71	100	28.5	13	30
P0142.200-110-SC	M20	20.71	110	28.5	13	30
P0142.240-060-SC	M24	24.71	60	33.0	15	36
P0142.240-065-SC	M24	24.71	65	33.0	15	36
P0142.240-070-SC	M24	24.71	70	33.0	15	36
P0142.240-075-SC	M24	24.71	75	33.0	15	36
P0142.240-080-SC	M24	24.71	80	33.0	15	36



# Steel Shoulder Bolts - Hex. Head

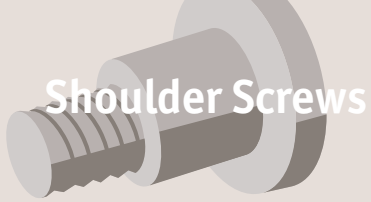
construction grade

## Shoulder Screws



Order No.	d <sub>1</sub>	d <sub>2</sub> tol. h11	l <sub>1</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0142.240-085-SC	M24	24.71	85	33.0	15	36
P0142.240-090-SC	M24	24.71	90	33.0	15	36
P0142.240-100-SC	M24	24.71	100	33.0	15	36
P0142.240-120-SC	M24	24.71	120	33.0	15	36
P0142.240-165-SC	M24	24.71	160	33.0	15	36
P0142.240-195-SC	M24	24.71	195	33.0	15	36
P0142.270-090-SC	M27	27.71	90	33.5	17	41
P0142.270-100-SC	M27	27.71	100	33.5	17	41
P0142.270-110-SC	M27	27.71	110	33.5	17	41

SHOULDER SCREWS



# Shoulder Screws

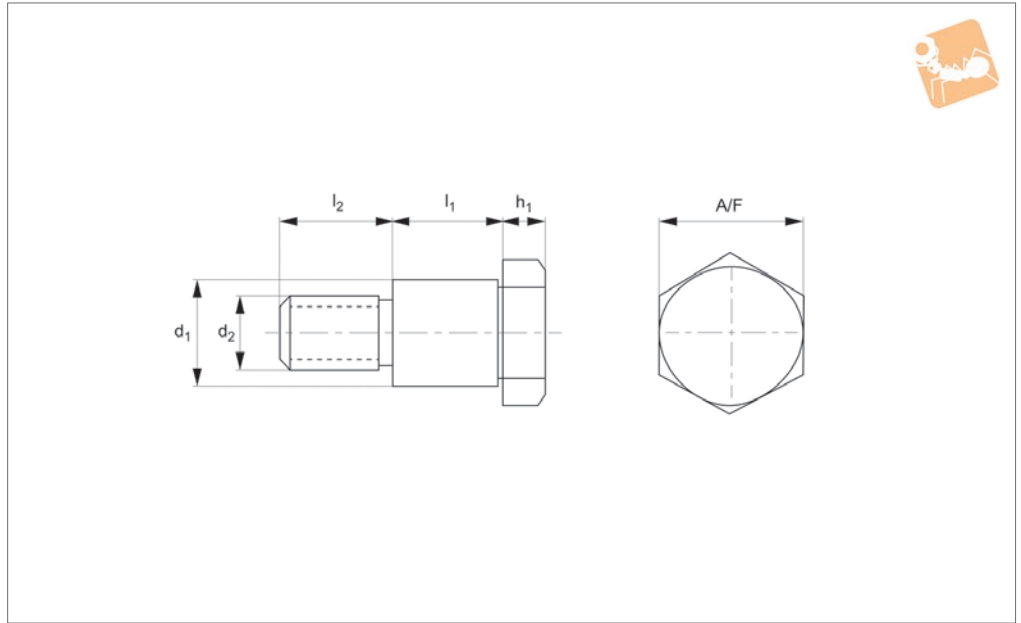
## Stainless Shoulder Bolts - Hex. Head Small sizes A2 Stainless



SHOULDER SCREWS



**P0135**



**Material**

Stainless steel (A2, AISI 303). Tensile strength 550 N/mm<sup>2</sup>.

**Technical Notes**

A2 stainless steel provides good resistance

to corrosion, it is soft and non-magnetic.

For Ø16 (and above) stainless steel shoulder bolts see part no. P0139 and P0141.

Special lengths and diameters produced to

drawings.

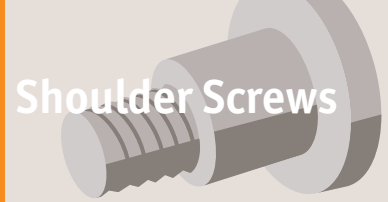
Order No.	d <sub>1</sub> +0.0 -0.025	l <sub>1</sub> +0.0 -0.05	d <sub>2</sub>	l <sub>2</sub>	h <sub>1</sub>	A/F
P0135.040-004	4	4	M 3	4	2.1	5.5
P0135.040-005	4	5	M 3	4	2.1	5.5
P0135.040-006	4	6	M 3	4	2.1	5.5
P0135.040-008	4	8	M 3	4	2.1	5.5
P0135.040-010	4	10	M 3	4	2.1	5.5
P0135.050-004	5	4	M 4	5	2.9	7
P0135.050-005	5	5	M 4	5	2.9	7
P0135.050-006	5	6	M 4	5	2.9	7
P0135.050-008	5	8	M 4	5	2.9	7
P0135.050-010	5	10	M 4	5	2.9	7
P0135.050-012	5	12	M 4	5	2.9	7
P0135.050-014	5	14	M 4	5	2.9	7
P0135.050-016	5	16	M 4	5	2.9	7
P0135.050-020	5	20	M 4	5	2.9	7
P0135.050-025	5	25	M 4	5	2.9	7
P0135.050-030	5	30	M 4	5	2.9	7
P0135.060-004	6	4	M 5	6	3.6	8
P0135.060-005	6	5	M 5	6	3.6	8
P0135.060-006	6	6	M 5	6	3.6	8
P0135.060-008	6	8	M 5	6	3.6	8
P0135.060-010	6	10	M 5	6	3.6	8
P0135.060-012	6	12	M 5	6	3.6	8
P0135.060-014	6	14	M 5	6	3.6	8
P0135.060-016	6	16	M 5	6	3.6	8
P0135.060-020	6	20	M 5	6	3.6	8
P0135.060-025	6	25	M 5	6	3.6	8
P0135.060-030	6	30	M 5	6	3.6	8
P0135.080-006	8	6	M 6	11	4.1	10
P0135.080-008	8	8	M 6	11	4.1	10
P0135.080-010	8	10	M 6	11	4.1	10
P0135.080-012	8	12	M 6	11	4.1	10
P0135.080-016	8	16	M 6	11	4.1	10





# Stainless Shoulder Bolts - Hex. Head

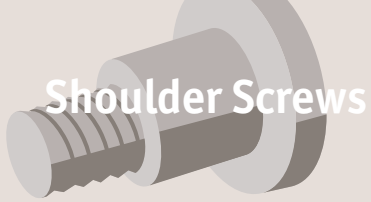
Small sizes A2 Stainless



## Shoulder Screws

Order No.	$d_1$ +0.0 -0.025	$l_1$ +0.0 -0.05	$d_2$	$l_2$	$h_1$	A/F
P0135.080-020	8	20	M 6	11	4.1	10
P0135.100-008	10	8	M 6	11	5.4	13
P0135.100-010	10	10	M 6	11	5.4	13
P0135.100-012	10	12	M 6	11	5.4	13
P0135.100-016	10	16	M 6	11	5.4	13
P0135.101-008	10	8	M 8	12	5.4	13
P0135.101-010	10	10	M 8	12	5.4	13
P0135.101-012	10	12	M 8	12	5.4	13
P0135.101-016	10	16	M 8	12	5.4	13
P0135.120-012	12	12	M10	16	6.6	17
P0135.120-016	12	16	M10	16	6.6	17
P0135.120-020	12	20	M10	16	6.6	17
P0135.120-025	12	25	M10	16	6.6	17

SHOULDER SCREWS



# Shoulder Screws

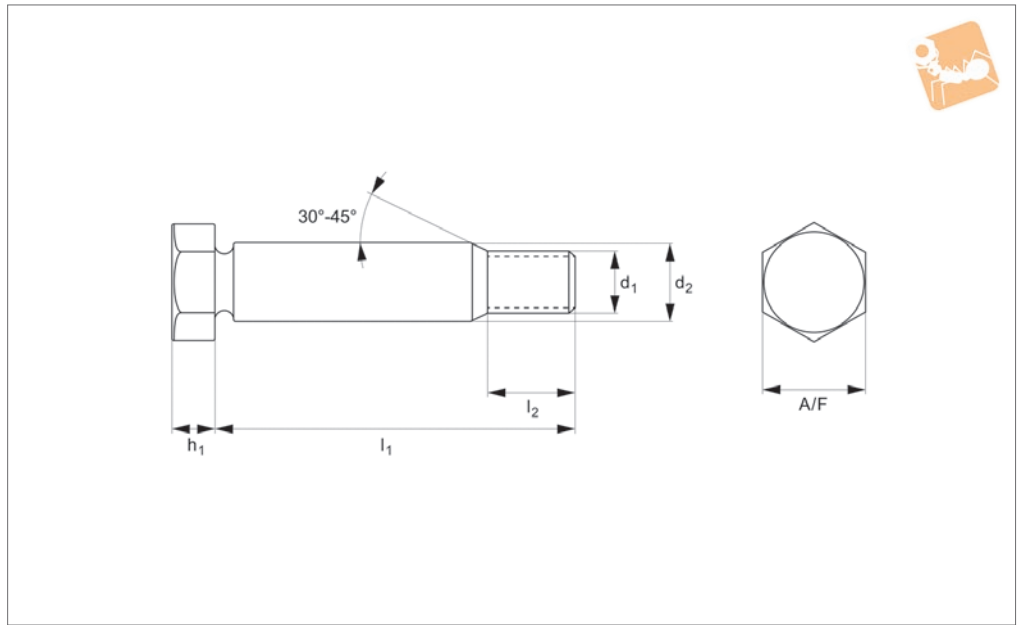
## Stainless Shoulder Bolts - Hex. Head Long thread A2 stainless



SHOULDER SCREWS



**P0138.A2**



### Material

Stainless steel (A2, AISI 303).  
Tensile strength 550 N/mm<sup>2</sup>.

### Technical Notes

To DIN 609. Longer thread than P0140  
(DIN 610). Mildly magnetic.

Drill hole to H7 tolerance.

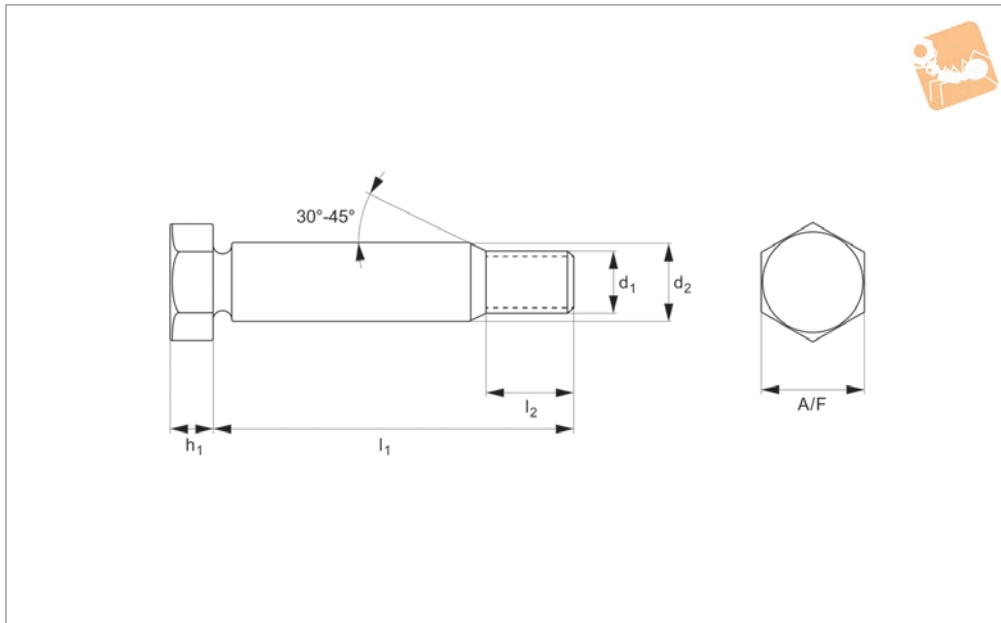
Order No.	d <sub>1</sub>	l <sub>1</sub>	d <sub>2</sub> tol. k6	l <sub>2</sub>	h <sub>1</sub>	A/F
P0138.080-025-A2	M 8	25	9	14.5	5.3	13
P0138.080-030-A2	M 8	30	9	14.5	5.3	13
P0138.080-040-A2	M 8	40	9	14.5	5.3	13
P0138.080-045-A2	M 8	45	9	14.5	5.3	13
P0138.080-060-A2	M 8	60	9	16.5	5.3	13
P0138.080-080-A2	M 8	80	9	16.5	5.3	13
P0138.100-030-A2	M10	30	11	17.5	6.4	17
P0138.100-040-A2	M10	40	11	17.5	6.4	17
P0138.100-045-A2	M10	45	11	17.5	6.4	17
P0138.100-050-A2	M10	50	11	17.5	6.4	17
P0138.100-060-A2	M10	60	11	19.5	6.4	17
P0138.100-070-A2	M10	70	11	19.5	6.4	17
P0138.100-080-A2	M10	80	11	19.5	6.4	17
P0138.120-040-A2	M12	40	13	20.5	10.0	18
P0138.120-045-A2	M12	45	13	20.5	10.0	18
P0138.120-050-A2	M12	50	13	20.5	10.0	18
P0138.120-055-A2	M12	55	13	22.5	10.0	18
P0138.120-060-A2	M12	60	13	22.5	10.0	18
P0138.120-065-A2	M12	65	13	22.5	10.0	18
P0138.120-080-A2	M12	80	13	22.5	10.0	18
P0138.160-040-A2	M16	40	17	25.0	11.5	24
P0138.160-045-A2	M16	45	17	25.0	11.5	24
P0138.160-050-A2	M16	50	17	25.0	11.5	24
P0138.160-055-A2	M16	55	17	27.0	11.5	24
P0138.160-060-A2	M16	60	17	27.0	11.5	24
P0138.160-065-A2	M16	65	17	27.0	11.5	24
P0138.160-070-A2	M16	70	17	27.0	11.5	24
P0138.160-080-A2	M16	80	17	27.0	11.5	24
P0138.160-095-A2	M16	95	17	27.0	11.5	24



# Stainless Shoulder Bolts - Hex. Head

short thread, A2 stainless

## Shoulder Screws



**P0140.A2**

SHOULDER SCREWS

**Material**

Stainless steel (A2, AISI 303).  
Tensile strength 550 N/mm<sup>2</sup>.

(DIN 609). Mildly magnetic.

**Tips**

Do not tighten to standard strength class 8,8 torque; as the tightening torque is limited,

by the presence of the reduced diameter undercut under the head and at the shoulder/thread area.  
Drill hole to H7 tolerance.

**Technical Notes**

To DIN 610. Shorter thread than P0138

Order No.	d <sub>1</sub>	l <sub>1</sub>	d <sub>2</sub> tol. k6	l <sub>2</sub>	h <sub>1</sub>	A/F
P0140.080-025-A2	M 8	25	9	11.5	5.3	13
P0140.080-030-A2	M 8	30	9	11.5	5.3	13
P0140.080-040-A2	M 8	40	9	11.5	5.3	13
P0140.080-045-A2	M 8	45	9	11.5	5.3	13
P0140.100-040-A2	M10	40	11	13.5	6.4	16
P0140.100-045-A2	M10	45	11	13.5	6.4	16
P0140.100-050-A2	M10	50	11	13.5	6.4	16
P0140.100-060-A2	M10	60	11	15.5	6.4	16
P0140.100-080-A2	M10	80	11	15.5	6.4	16
P0140.100-100-A2	M10	100	11	15.5	6.4	16
P0140.120-030-A2	M12	30	13	15.5	10.0	18
P0140.120-035-A2	M12	35	13	15.5	10.0	18
P0140.120-040-A2	M12	40	13	15.5	10.0	18
P0140.120-045-A2	M12	45	13	15.5	10.0	18
P0140.120-050-A2	M12	50	13	15.5	10.0	18
P0140.120-080-A2	M12	80	13	17.5	10.0	18
P0140.120-120-A2	M12	120	13	17.5	10.0	18
P0140.160-040-A2	M16	40	17	19.0	11.5	24
P0140.160-045-A2	M16	45	17	19.0	11.5	24
P0140.160-050-A2	M16	50	17	19.0	11.5	24
P0140.160-055-A2	M16	55	17	21.0	11.5	24
P0140.160-060-A2	M16	60	17	21.0	11.5	24
P0140.160-065-A2	M16	65	17	21.0	11.5	24
P0140.160-070-A2	M16	70	17	21.0	11.5	24
P0140.160-080-A2	M16	80	17	21.0	11.5	24



Automotion produce a wide range of fasteners designed for application where it is important that fasteners are not separated from equipment (e.g. cover panels etc). This is now important to ensure that equipment complies with Machinery Directive 200642/EC - requiring that fasteners remain attached to fixed guards or equipment when guards are removed.






Our captive panel screws are manufactured mainly from stainless steel (A2, AISI 303 grade), but they can also be produced in stainless steel (A4, AISI 316), aluminium, brass or zinc-plated steel.

Many finishes can be applied - black-oxide finish, anodizing etc.

The main options are as follows:

Finish	Notes
<b>Black Chrome (MIL-C-1458B)</b>	Black chrome is a hard, non-reflective coating which is resistant to abrasion, heat and corrosion. The black chrome surface is a dull, dark grey and may be waxed or oiled to darken surface.
<b>Black Oxide Coating (MIL-C-13924B)</b>	Black oxide is a uniform black coating for ferrous metals. Generally it is considered a decorative coating and provides only very limited corrosion protection under mild corrosion conditions.
<b>Cadmium</b>	Cadmium is a bright, silvery white plating. Supplementary treatments for Type II can be golden, iridescent, amber, black or olive drab.
<b>Passivate (QQ-P-35/MIL S-5005C)</b>	Passivation is a process designed to remove foreign metals from the surface of stainless and corrosion resistant steels.
<b>Phosphate Coating Light (TT-C-00490B)</b>	Phosphate coating is a light coating for use as a base paint.
<b>Gold (MIL-G-45204B)</b>	Yellow to orange colour depending on proprietary process used. Will range from matt to bright finish depending on base metal. Good corrosion resistance and high tarnish resistance.
<b>Nickel (QQ-N-290A)</b>	Nickel is a corrosion protective plating for steel, zinc and zinc alloys as well as copper and copper alloys.
<b>Zinc (QQ-Z-325C)</b>	The primary use of chromate finishes on zinc is to retard or prevent formation of white corrosion products on zinc surfaces.

The available head sockets include:

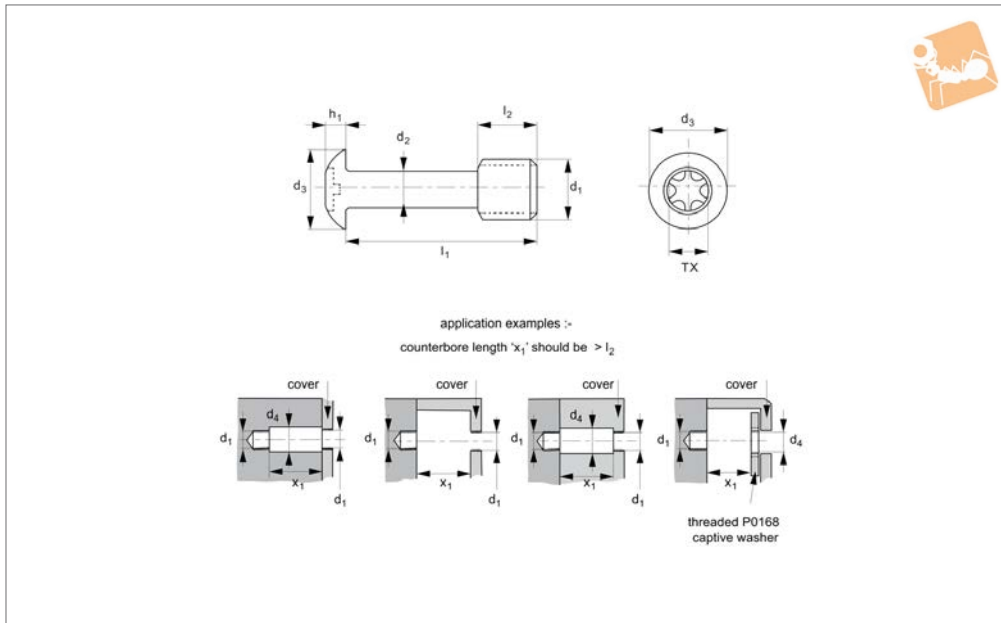
Schematic	Drive Types	Uses
	Hexagonal Recess	Ideal for precision assembly. Most recommended where less surface area is available.
	Crosshead (Phillips®)	Provides good control in driving. Always use a driver bit of the proper size which is in good condition.
	Star Head (Torx®)	Positive-engaging, fast-locating method which transmits drive torque with less required downward pressure. Good fastening appearance.
	Slotted	Accepts standard blade screwdriver. Requires less downward pressure to drive parts than those with recessed openings. Use a proper fitting blade to minimize slippage.
	Security	These screws are impossible to remove without the special matching screw driver.



# Captive Screws - Button Head

TX drive - 303 stainless

Captive Screws



P0149.A2

MADE IN BRITAIN

CAPTIVE SCREWS

### Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel. Also available with blackened finish (P0149.B2), in marine grade stainless steel (AISI 316 series; P0149.A4), in titanium (P0149.Ti), or in other materials such as steel, brass, aluminium etc. on request.

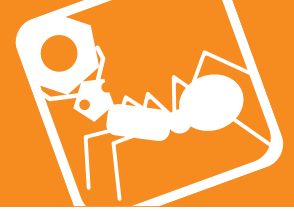
### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Generally to ISO 7380-1. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

### Important Notes

This product was formerly known as P0151. TX. Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> 0,25	d <sub>2</sub> 0,12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> -0,2	TX size
P0149.025-008-A2	M 2,5	8	1.7	4.5	2.8	1.50	3.7	TX- 8
P0149.025-010-A2	M 2,5	10	1.7	4.5	2.8	1.50	3.7	TX- 8
P0149.025-012-A2	M 2,5	12	1.7	4.5	2.8	1.50	3.7	TX- 8
P0149.025-016-A2	M 2,5	16	1.7	4.5	2.8	1.50	3.7	TX- 8
P0149.025-020-A2	M 2,5	20	1.7	4.5	2.8	1.50	3.7	TX- 8
P0149.030-010-A2	M 3	10	2.0	5.7	3.5	1.65	4.5	TX-10
P0149.030-016-A2	M 3	16	2.0	5.7	3.5	1.65	4.5	TX-10
P0149.030-020-A2	M 3	20	2.0	5.7	3.5	1.65	4.5	TX-10
P0149.030-025-A2	M 3	25	2.0	5.7	3.5	1.65	4.5	TX-10
P0149.030-030-A2	M 3	30	2.0	5.7	3.5	1.65	4.5	TX-10
P0149.030-040-A2	M 3	40	2.0	5.7	3.5	1.65	5.0	TX-10
P0149.040-012-A2	M 4	12	2.8	7.6	4.5	3.10	6.0	TX-20
P0149.040-016-A2	M 4	16	2.8	7.6	4.5	3.10	6.0	TX-20
P0149.040-020-A2	M 4	20	2.8	7.6	4.5	3.10	6.0	TX-20
P0149.040-025-A2	M 4	25	2.8	7.6	4.5	3.10	6.0	TX-20
P0149.040-030-A2	M 4	30	2.8	7.6	4.5	3.10	6.0	TX-20
P0149.040-040-A2	M 4	40	2.8	7.6	4.5	3.10	6.0	TX-20
P0149.040-050-A2	M 4	50	2.8	7.6	4.5	3.10	6.0	TX-20
P0149.040-060-A2	M 4	60	2.8	7.6	4.5	3.10	6.0	TX-20
P0149.050-012-A2	M 5	12	3.7	9.5	5.5	3.70	7.5	TX-25
P0149.050-016-A2	M 5	16	3.7	9.5	5.5	3.70	7.5	TX-25
P0149.050-020-A2	M 5	20	3.7	9.5	5.5	3.70	7.5	TX-25
P0149.050-025-A2	M 5	25	3.7	9.5	5.5	3.70	7.5	TX-25
P0149.050-030-A2	M 5	30	3.7	9.5	5.5	3.70	7.5	TX-25
P0149.050-040-A2	M 5	40	3.7	9.5	5.5	3.70	7.5	TX-25
P0149.050-050-A2	M 5	50	3.7	9.5	5.5	3.70	7.5	TX-25
P0149.050-060-A2	M 5	60	3.7	9.5	5.5	3.70	7.5	TX-25



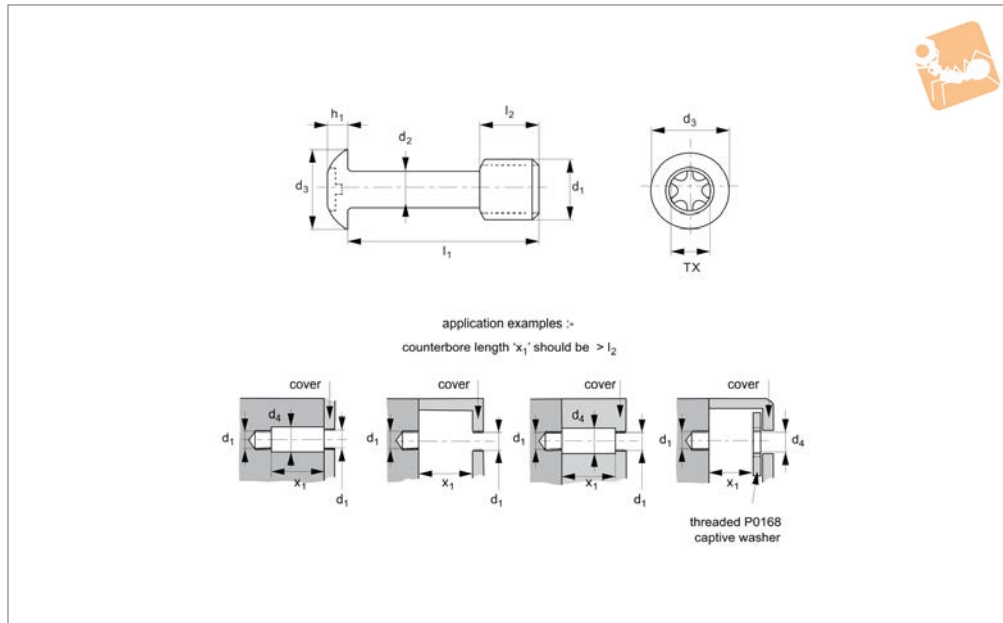
Order No.	d <sub>1</sub>	l <sub>1</sub> 0,25	d <sub>2</sub> 0,12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> -0,2	TX size
P0149.060-016-A2	M 6	16	4.2	10.5	6.5	4.70	7.5	TX-30
P0149.060-020-A2	M 6	20	4.2	10.5	6.5	4.70	7.5	TX-30
P0149.060-025-A2	M 6	25	4.2	10.5	6.5	4.70	7.5	TX-30
P0149.060-030-A2	M 6	30	4.2	10.5	6.5	4.70	7.5	TX-30
P0149.060-040-A2	M 6	40	4.2	10.5	6.5	4.70	7.5	TX-30
P0149.060-050-A2	M 6	50	4.2	10.5	6.5	4.70	7.5	TX-30
P0149.060-060-A2	M 6	60	4.2	10.5	6.5	4.70	7.5	TX-30
P0149.060-080-A2	M 6	80	4.2	10.5	6.5	4.70	7.5	TX-30



# Captive Screws - Button Head

TX drive - 316 stainless

Captive Screws



P0149.A4

MADE IN BRITAIN

CAPTIVE SCREWS

## Material

Stainless steel (AISI 316, 1.4401). Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel. Also available in titanium (P0149.Ti), the less expensive AISI 303 series stainless steel (P0149.A2), or in steel (anodised, black oxide or zinc plated), brass, aluminium etc.

## Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Generally to ISO 7380. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

## Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> 0,25	d <sub>2</sub> 0,12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> -0,2	TX size
P0149.025-008-A4	M 2,5	8	1.7	4.5	2.8	1.5	3.7	TX- 8
P0149.025-010-A4	M 2,5	10	1.7	4.5	2.8	1.5	3.7	TX- 8
P0149.025-012-A4	M 2,5	12	1.7	4.5	2.8	1.5	3.7	TX- 8
P0149.025-016-A4	M 2,5	16	1.7	4.5	2.8	1.5	3.7	TX- 8
P0149.025-020-A4	M 2,5	20	1.7	4.5	2.8	1.5	3.7	TX- 8
P0149.030-010-A4	M 3	10	2.0	5.7	3.5	1.65	4.5	TX-10
P0149.030-016-A4	M 3	16	2.0	5.7	3.5	1.65	4.5	TX-10
P0149.030-020-A4	M 3	20	2.0	5.7	3.5	1.65	4.5	TX-10
P0149.030-025-A4	M 3	25	2.0	5.7	3.5	1.65	4.5	TX-10
P0149.030-030-A4	M 3	30	2.0	5.7	3.5	1.65	4.5	TX-10
P0149.030-040-A4	M 3	40	2.0	5.7	3.5	1.65	5.0	TX-10
P0149.040-012-A4	M 4	12	2.8	7.6	4.5	3.1	6.0	TX-20
P0149.040-016-A4	M 4	16	2.8	7.6	4.5	3.1	6.0	TX-20
P0149.040-020-A4	M 4	20	2.8	7.6	4.5	3.1	6.0	TX-20
P0149.040-025-A4	M 4	25	2.8	7.6	4.5	3.1	6.0	TX-20
P0149.040-030-A4	M 4	30	2.8	7.6	4.5	3.1	6.0	TX-20
P0149.040-040-A4	M 4	40	2.8	7.6	4.5	3.1	6.0	TX-20
P0149.040-050-A4	M 4	50	2.8	7.6	4.5	3.1	6.0	TX-20
P0149.040-060-A4	M 4	60	2.8	7.6	4.5	3.1	6.0	TX-20
P0149.050-012-A4	M 5	12	3.7	9.5	5.5	3.7	7.5	TX-25
P0149.050-016-A4	M 5	16	3.7	9.5	5.5	3.7	7.5	TX-25
P0149.050-020-A4	M 5	20	3.7	9.5	5.5	3.7	7.5	TX-25
P0149.050-025-A4	M 5	25	3.7	9.5	5.5	3.7	7.5	TX-25
P0149.050-030-A4	M 5	30	3.7	9.5	5.5	3.7	7.5	TX-25
P0149.050-040-A4	M 5	40	3.7	9.5	5.5	3.7	7.5	TX-25
P0149.050-050-A4	M 5	50	3.7	9.5	5.5	3.7	7.5	TX-25
P0149.050-060-A4	M 5	60	3.7	9.5	5.5	3.7	7.5	TX-25
P0149.060-016-A4	M 6	16	4.2	10.5	6.5	4.7	7.5	TX-30



Order No.	d <sub>1</sub>	l <sub>1</sub> 0,25	d <sub>2</sub> 0,12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> -0,2	TX size
P0149.060-020-A4	M 6	20	4.2	10.5	6.5	4.7	7.5	TX-30
P0149.060-025-A4	M 6	25	4.2	10.5	6.5	4.7	7.5	TX-30
P0149.060-030-A4	M 6	30	4.2	10.5	6.5	4.7	7.5	TX-30
P0149.060-040-A4	M 6	40	4.2	10.5	6.5	4.7	7.5	TX-30
P0149.060-050-A4	M 6	50	4.2	10.5	6.5	4.7	7.5	TX-30
P0149.060-060-A4	M 6	60	4.2	10.5	6.5	4.7	7.5	TX-30
P0149.060-080-A4	M 6	80	4.2	10.5	6.5	4.7	7.5	TX-30



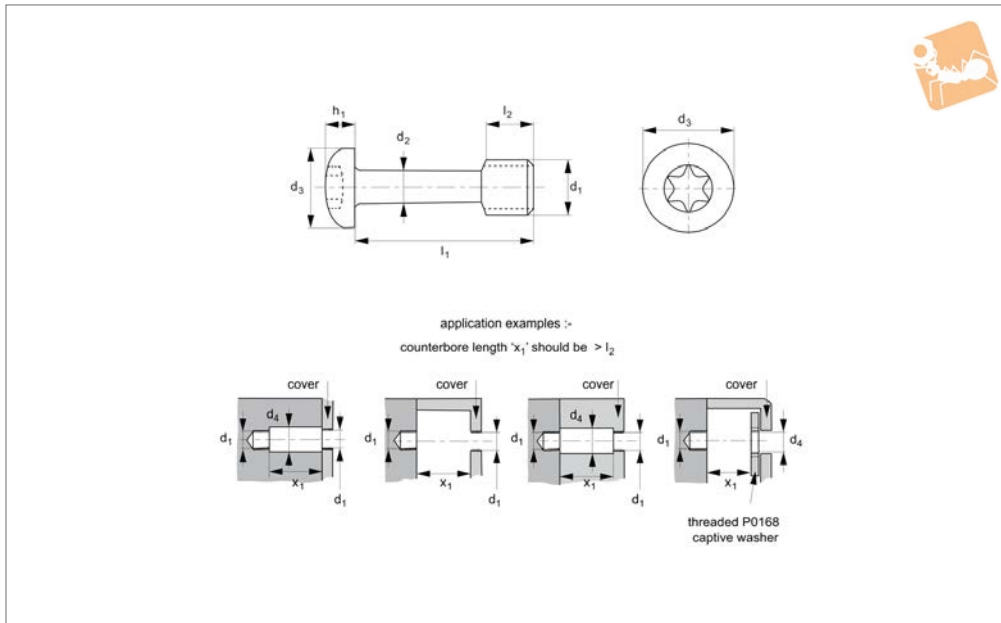


# Captive Screws - Pan Head

TX drive - 303 stainless



Captive Screws



**P0150.A2**

MADE IN BRITAIN

CAPTIVE SCREWS

### Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 14583. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

\*M 8 sizes have a reduced TX size.

reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

### Important Notes

Please note that these screws have a

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	TX size
P0150.030-008-A2	M 3	8	2.0	6	3.5	2.5	4.5	TX-10
P0150.030-010-A2	M 3	10	2.0	6	3.5	2.5	4.5	TX-10
P0150.030-016-A2	M 3	16	2.0	6	3.5	2.5	4.5	TX-10
P0150.030-020-A2	M 3	20	2.0	6	3.5	2.5	4.5	TX-10
P0150.030-025-A2	M 3	25	2.0	6	3.5	2.5	4.5	TX-10
P0150.030-030-A2	M 3	30	2.0	6	3.5	2.5	4.5	TX-10
P0150.040-008-A2	M 4	8	2.8	8	4.5	3.2	6.0	TX-20
P0150.040-010-A2	M 4	10	2.8	8	4.5	3.2	6.0	TX-20
P0150.040-012-A2	M 4	12	2.8	8	4.5	3.2	6.0	TX-20
P0150.040-016-A2	M 4	16	2.8	8	4.5	3.2	6.0	TX-20
P0150.040-020-A2	M 4	20	2.8	8	4.5	3.2	6.0	TX-20
P0150.040-025-A2	M 4	25	2.8	8	4.5	3.2	6.0	TX-20
P0150.040-030-A2	M 4	30	2.8	8	4.5	3.2	6.0	TX-20
P0150.040-040-A2	M 4	40	2.8	8	4.5	3.2	6.0	TX-20
P0150.040-050-A2	M 4	50	2.8	8	4.5	3.2	6.0	TX-20
P0150.050-010-A2	M 5	10	3.7	10	5.5	3.9	7.5	TX-25
P0150.050-012-A2	M 5	12	3.7	10	5.5	3.9	7.5	TX-25
P0150.050-016-A2	M 5	16	3.7	10	5.5	3.9	7.5	TX-25
P0150.050-020-A2	M 5	20	3.7	10	5.5	3.9	7.5	TX-25
P0150.050-025-A2	M 5	25	3.7	10	5.5	3.9	7.5	TX-25
P0150.050-030-A2	M 5	30	3.7	10	5.5	3.9	7.5	TX-25
P0150.050-040-A2	M 5	40	3.7	10	5.5	3.9	7.5	TX-25
P0150.050-050-A2	M 5	50	3.7	10	5.5	3.9	7.5	TX-25
P0150.060-010-A2	M 6	10	4.2	12	6.5	4.7	7.5	TX-30
P0150.060-012-A2	M 6	12	4.2	12	6.5	4.7	7.5	TX-30
P0150.060-016-A2	M 6	16	4.2	12	6.5	4.7	7.5	TX-30



CAPTIVE SCREWS

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	TX size
P0150.060-020-A2	M 6	20	4.2	12	6.5	4.7	7.5	TX-30
P0150.060-025-A2	M 6	25	4.2	12	6.5	4.7	7.5	TX-30
P0150.060-030-A2	M 6	30	4.2	12	6.5	4.7	7.5	TX-30
P0150.060-040-A2	M 6	40	4.2	12	6.5	4.7	7.5	TX-30
P0150.060-050-A2	M 6	50	4.2	12	6.5	4.7	7.5	TX-30
P0150.060-060-A2	M 6	60	4.2	12	6.5	4.7	7.5	TX-30
P0150.060-080-A2	M 6	80	4.2	12	6.5	4.7	7.5	TX-30
P0150.080-012-A2	M 8	12	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-016-A2	M 8	16	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-020-A2	M 8	20	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-025-A2	M 8	25	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-030-A2	M 8	30	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-035-A2	M 8	35	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-040-A2	M 8	40	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-045-A2	M 8	45	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-050-A2	M 8	50	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-060-A2	M 8	60	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-080-A2	M 8	80	6.0	16	8.5	6.1	10.0	TX-30*

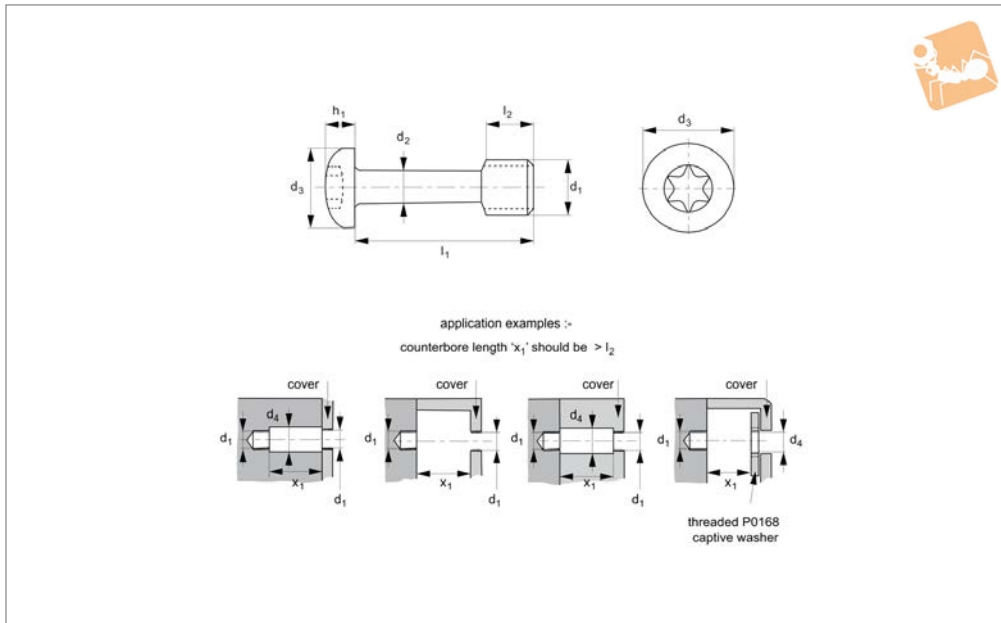


# Captive Screws - Pan Head

TX drive - 316 stainless



Captive Screws



**P0150.A4**

CAPTIVE SCREWS

### Material

Stainless steel (AISI 316, 1.440). Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 303, 1.4305), brass, aluminium etc.

tive 2006/42/EC. Generally to ISO 14583. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

\*M 8 sizes have a reduced TX size.

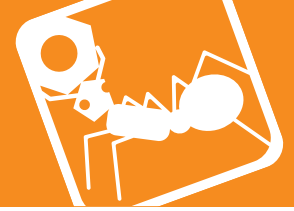
### Technical Notes

Used to comply with the Machinery Direc-

### Important Notes

Please note that these screws have a

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	TX size
P0150.030-008-A4	M 3	8	2.0	6	3.5	2.5	4.5	TX-10
P0150.030-010-A4	M 3	10	2.0	6	3.5	2.5	4.5	TX-10
P0150.030-016-A4	M 3	16	2.0	6	3.5	2.5	4.5	TX-10
P0150.030-020-A4	M 3	20	2.0	6	3.5	2.5	4.5	TX-10
P0150.030-025-A4	M 3	25	2.0	6	3.5	2.5	4.5	TX-10
P0150.030-030-A4	M 3	30	2.0	6	3.5	2.5	4.5	TX-10
P0150.040-008-A4	M 4	8	2.8	8	4.5	3.2	6.0	TX-20
P0150.040-010-A4	M 4	10	2.8	8	4.5	3.2	6.0	TX-20
P0150.040-012-A4	M 4	12	2.8	8	4.5	3.2	6.0	TX-20
P0150.040-016-A4	M 4	16	2.8	8	4.5	3.2	6.0	TX-20
P0150.040-020-A4	M 4	20	2.8	8	4.5	3.2	6.0	TX-20
P0150.040-025-A4	M 4	25	2.8	8	4.5	3.2	6.0	TX-20
P0150.040-030-A4	M 4	30	2.8	8	4.5	3.2	6.0	TX-20
P0150.040-040-A4	M 4	40	2.8	8	4.5	3.2	6.0	TX-20
P0150.040-050-A4	M 4	50	2.8	8	4.5	3.2	6.0	TX-20
P0150.050-010-A4	M 5	10	3.7	10	5.5	3.9	7.5	TX-25
P0150.050-012-A4	M 5	12	3.7	10	5.5	3.9	7.5	TX-25
P0150.050-016-A4	M 5	16	3.7	10	5.5	3.9	7.5	TX-25
P0150.050-020-A4	M 5	20	3.7	10	5.5	3.9	7.5	TX-25
P0150.050-025-A4	M 5	25	3.7	10	5.5	3.9	7.5	TX-25
P0150.050-030-A4	M 5	30	3.7	10	5.5	3.9	7.5	TX-25
P0150.050-040-A4	M 5	40	3.7	10	5.5	3.9	7.5	TX-25
P0150.050-050-A4	M 5	50	3.7	10	5.5	3.9	7.5	TX-25
P0150.060-010-A4	M 6	10	4.2	12	6.5	4.7	7.5	TX-30
P0150.060-012-A4	M 6	12	4.2	12	6.5	4.7	7.5	TX-30
P0150.060-016-A4	M 6	16	4.2	12	6.5	4.7	7.5	TX-30



CAPTIVE SCREWS

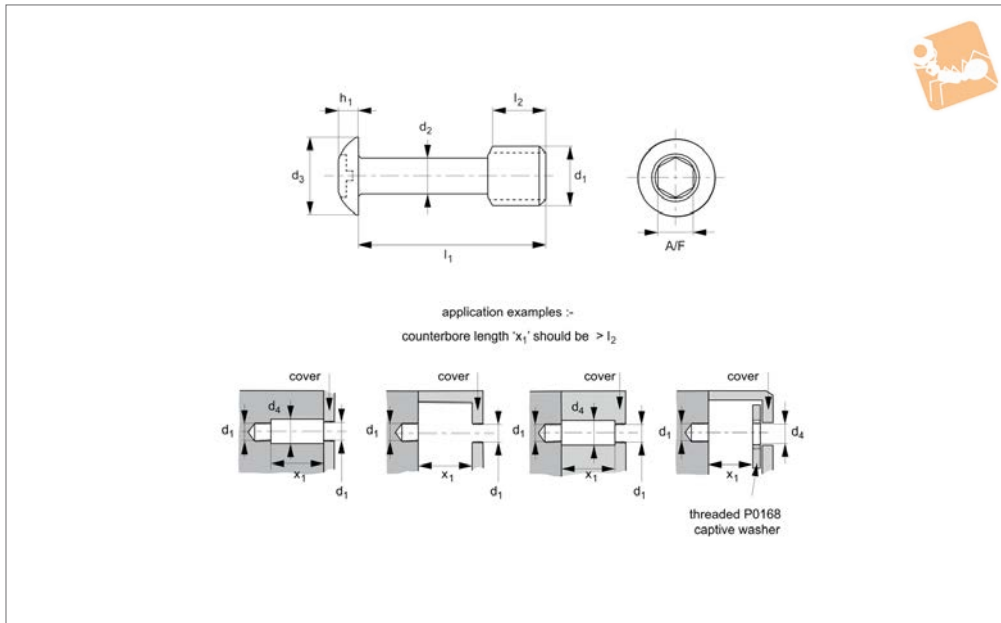
Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	TX size
P0150.060-020-A4	M 6	20	4.2	12	6.5	4.7	7.5	TX-30
P0150.060-025-A4	M 6	25	4.2	12	6.5	4.7	7.5	TX-30
P0150.060-030-A4	M 6	30	4.2	12	6.5	4.7	7.5	TX-30
P0150.060-040-A4	M 6	40	4.2	12	6.5	4.7	7.5	TX-30
P0150.060-050-A4	M 6	50	4.2	12	6.5	4.7	7.5	TX-30
P0150.060-060-A4	M 6	60	4.2	12	6.5	4.7	7.5	TX-30
P0150.060-080-A4	M 6	80	4.2	12	6.5	4.7	7.5	TX-30
P0150.080-012-A4	M 8	12	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-016-A4	M 8	16	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-020-A4	M 8	20	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-025-A4	M 8	25	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-030-A4	M 8	30	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-035-A4	M 8	35	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-040-A4	M 8	40	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-045-A4	M 8	45	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-050-A4	M 8	50	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-060-A4	M 8	60	6.0	16	8.5	6.1	10.0	TX-30*
P0150.080-080-A4	M 8	80	6.0	16	8.5	6.1	10.0	TX-30*



# Captive Screws - Button Head

hex drive - 303 stainless

Captive Screws



P0151.A2

MADE IN BRITAIN

CAPTIVE SCREWS

### Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc.

### Technical Notes

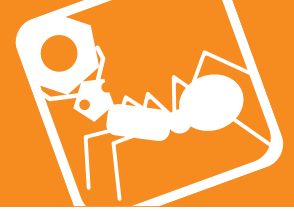
Used to comply with the Machinery Directive 2006/42/EC. Generally to ISO 7380-1. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded

holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	A/F
P0151.025-008-A2	M 2,5	8	1.7	4.5	2.8	1.50	3.7	1.5
P0151.025-010-A2	M 2,5	10	1.7	4.5	2.8	1.50	3.7	1.5
P0151.025-012-A2	M 2,5	12	1.7	4.5	2.8	1.50	3.7	1.5
P0151.025-016-A2	M 2,5	16	1.7	4.5	2.8	1.50	3.7	1.5
P0151.025-020-A2	M 2,5	20	1.7	4.5	2.8	1.50	3.7	1.5
P0151.030-008-A2	M 3	8	2.0	5.7	3.5	1.53	4.5	2
P0151.030-010-A2	M 3	10	2.0	5.7	3.5	1.53	4.5	2
P0151.030-016-A2	M 3	16	2.0	5.7	3.5	1.53	4.5	2
P0151.030-020-A2	M 3	20	2.0	5.7	3.5	1.53	4.5	2
P0151.030-025-A2	M 3	25	2.0	5.7	3.5	1.53	4.5	2
P0151.030-030-A2	M 3	30	2.0	5.7	3.5	1.53	4.5	2
P0151.030-040-A2	M 3	40	2.0	5.7	3.5	1.53	4.5	2
P0151.040-010-A2	M 4	10	2.8	7.6	4.5	2.10	6.0	2.5
P0151.040-012-A2	M 4	12	2.8	7.6	4.5	2.10	6.0	2.5
P0151.040-016-A2	M 4	16	2.8	7.6	4.5	2.10	6.0	2.5
P0151.040-020-A2	M 4	20	2.8	7.6	4.5	2.10	6.0	2.5
P0151.040-025-A2	M 4	25	2.8	7.6	4.5	2.10	6.0	2.5
P0151.040-030-A2	M 4	30	2.8	7.6	4.5	2.10	6.0	2.5
P0151.040-035-A2	M 4	35	2.8	7.6	4.5	2.10	6.0	2.5
P0151.040-040-A2	M 4	40	2.8	7.6	4.5	2.10	6.0	2.5
P0151.040-050-A2	M 4	50	2.8	7.6	4.5	2.10	6.0	2.5
P0151.040-060-A2	M 4	60	2.8	7.6	4.5	2.10	6.0	2.5
P0151.050-012-A2	M 5	12	3.7	9.5	5.5	2.63	7.5	3
P0151.050-016-A2	M 5	16	3.7	9.5	5.5	2.63	7.5	3
P0151.050-020-A2	M 5	20	3.7	9.5	5.5	2.63	7.5	3
P0151.050-025-A2	M 5	25	3.7	9.5	5.5	2.63	7.5	3
P0151.050-030-A2	M 5	30	3.7	9.5	5.5	2.63	7.5	3
P0151.050-040-A2	M 5	40	3.7	9.5	5.5	2.63	7.5	3
P0151.050-050-A2	M 5	50	3.7	9.5	5.5	2.63	7.5	3



CAPTIVE SCREWS

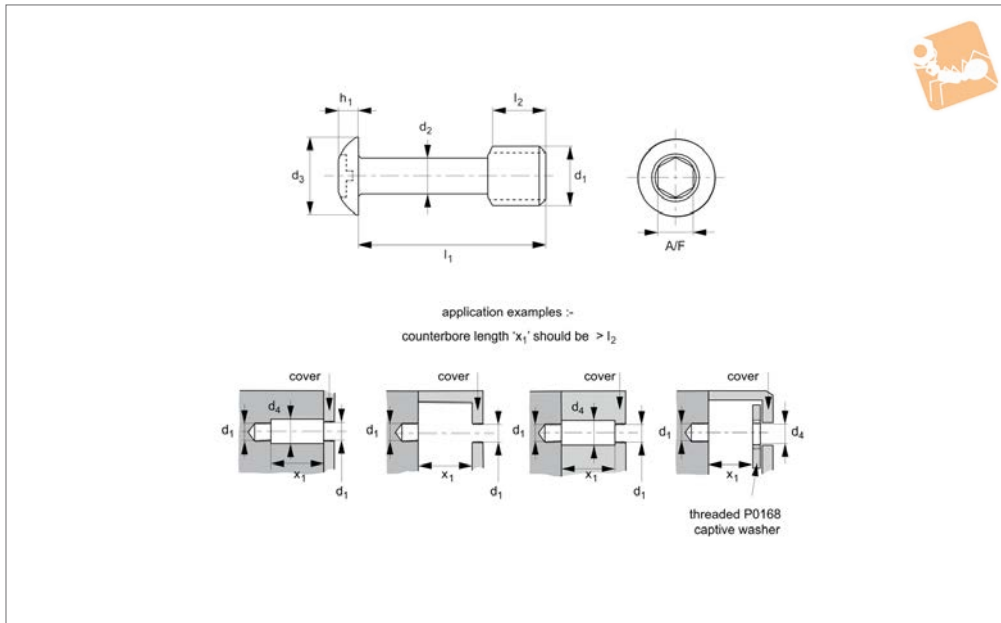
Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	A/F
P0151.050-060-A2	M 5	60	3.7	9.5	5.5	2.63	7.5	3
P0151.060-012-A2	M 6	12	4.2	10.5	6.5	3.10	7.5	4
P0151.060-016-A2	M 6	16	4.2	10.5	6.5	3.10	7.5	4
P0151.060-020-A2	M 6	20	4.2	10.5	6.5	3.10	7.5	4
P0151.060-025-A2	M 6	25	4.2	10.5	6.5	3.10	7.5	4
P0151.060-030-A2	M 6	30	4.2	10.5	6.5	3.10	7.5	4
P0151.060-035-A2	M 6	35	4.2	10.5	6.5	3.10	7.5	4
P0151.060-040-A2	M 6	40	4.2	10.5	6.5	3.10	7.5	4
P0151.060-050-A2	M 6	50	4.2	10.5	6.5	3.10	7.5	4
P0151.060-060-A2	M 6	60	4.2	10.5	6.5	3.10	7.5	4
P0151.060-080-A2	M 6	80	4.2	10.5	6.5	3.10	7.5	4
P0151.080-016-A2	M 8	16	6.0	14.0	8.5	4.46	10.0	5
P0151.080-020-A2	M 8	20	6.0	14.0	8.5	4.46	10.0	5
P0151.080-025-A2	M 8	25	6.0	14.0	8.5	4.46	10.0	5
P0151.080-030-A2	M 8	30	6.0	14.0	8.5	4.46	10.0	5
P0151.080-035-A2	M 8	35	6.0	14.0	8.5	4.46	10.0	5
P0151.080-040-A2	M 8	40	6.0	14.0	8.5	4.46	10.0	5
P0151.080-045-A2	M 8	45	6.0	14.0	8.5	4.46	10.0	5
P0151.080-050-A2	M 8	50	6.0	14.0	8.5	4.46	10.0	5
P0151.080-060-A2	M 8	60	6.0	14.0	8.5	4.46	10.0	5
P0151.080-080-A2	M 8	80	6.0	14.0	8.5	4.46	10.0	5
P0151.100-020-A2	M 10	20	7.5	17.5	10.6	5.5	12.5	6
P0151.100-025-A2	M 10	25	7.5	17.5	10.6	5.5	12.5	6
P0151.100-030-A2	M 10	30	7.5	17.5	10.6	5.5	12.5	6
P0151.100-035-A2	M 10	35	7.5	17.5	10.6	5.5	12.5	6
P0151.100-040-A2	M 10	40	7.5	17.5	10.6	5.5	12.5	6
P0151.100-045-A2	M 10	45	7.5	17.5	10.6	5.5	12.5	6
P0151.100-050-A2	M 10	50	7.5	17.5	10.6	5.5	12.5	6
P0151.100-060-A2	M 10	60	7.5	17.5	10.6	5.5	12.5	6
P0151.100-080-A2	M 10	80	7.5	17.5	10.6	5.5	12.5	6



# Captive Screws - Button Head

hex drive - 316 stainless

Captive Screws



P0151.A4

MADE IN BRITAIN

CAPTIVE SCREWS

### Material

Stainless steel (AISI 316, 1.440). Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 303, 1.4305), brass, aluminium etc.

### Technical Notes

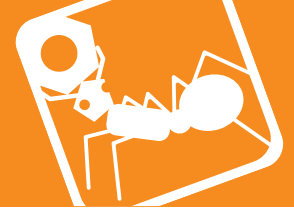
Used to comply with the Machinery Directive 2006/42/EC. Generally to ISO 7380-1. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded

holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	A/F
P0151.025-008-A4	M 2,5	8	1.7	4.5	2.8	1.50	3.7	1.5
P0151.025-010-A4	M 2,5	10	1.7	4.5	2.8	1.50	3.7	1.5
P0151.025-012-A4	M 2,5	12	1.7	4.5	2.8	1.50	3.7	1.5
P0151.025-016-A4	M 2,5	16	1.7	4.5	2.8	1.50	3.7	1.5
P0151.025-020-A4	M 2,5	20	1.7	4.5	2.8	1.50	3.7	1.5
P0151.030-008-A4	M 3	8	2.0	5.7	3.5	1.53	4.5	2
P0151.030-010-A4	M 3	10	2.0	5.7	3.5	1.53	4.5	2
P0151.030-016-A4	M 3	16	2.0	5.7	3.5	1.53	4.5	2
P0151.030-020-A4	M 3	20	2.0	5.7	3.5	1.53	4.5	2
P0151.030-025-A4	M 3	25	2.0	5.7	3.5	1.53	4.5	2
P0151.030-030-A4	M 3	30	2.0	5.7	3.5	1.53	4.5	2
P0151.030-040-A4	M 3	40	2.0	5.7	3.5	1.53	4.5	2
P0151.040-010-A4	M 4	10	2.8	7.6	4.5	2.10	6.0	2.5
P0151.040-012-A4	M 4	12	2.8	7.6	4.5	2.10	6.0	2.5
P0151.040-016-A4	M 4	16	2.8	7.6	4.5	2.10	6.0	2.5
P0151.040-020-A4	M 4	20	2.8	7.6	4.5	2.10	6.0	2.5
P0151.040-025-A4	M 4	25	2.8	7.6	4.5	2.10	6.0	2.5
P0151.040-030-A4	M 4	30	2.8	7.6	4.5	2.10	6.0	2.5
P0151.040-035-A4	M 4	35	2.8	7.6	4.5	2.10	6.0	2.5
P0151.040-040-A4	M 4	40	2.8	7.6	4.5	2.10	6.0	2.5
P0151.040-050-A4	M 4	50	2.8	7.6	4.5	2.10	6.0	2.5
P0151.040-060-A4	M 4	60	2.8	7.6	4.5	2.10	6.0	2.5
P0151.050-012-A4	M 5	12	3.7	9.5	5.5	2.63	7.5	3
P0151.050-016-A4	M 5	16	3.7	9.5	5.5	2.63	7.5	3
P0151.050-020-A4	M 5	20	3.7	9.5	5.5	2.63	7.5	3
P0151.050-025-A4	M 5	25	3.7	9.5	5.5	2.63	7.5	3
P0151.050-030-A4	M 5	30	3.7	9.5	5.5	2.63	7.5	3
P0151.050-040-A4	M 5	40	3.7	9.5	5.5	2.63	7.5	3
P0151.050-050-A4	M 5	50	3.7	9.5	5.5	2.63	7.5	3



CAPTIVE SCREWS

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	A/F
P0151.050-060-A4	M 5	60	3.7	9.5	5.5	2.63	7.5	3
P0151.060-012-A4	M 6	12	4.2	10.5	6.5	3.10	7.5	4
P0151.060-016-A4	M 6	16	4.2	10.5	6.5	3.10	7.5	4
P0151.060-020-A4	M 6	20	4.2	10.5	6.5	3.10	7.5	4
P0151.060-025-A4	M 6	25	4.2	10.5	6.5	3.10	7.5	4
P0151.060-030-A4	M 6	30	4.2	10.5	6.5	3.10	7.5	4
P0151.060-035-A4	M 6	35	4.2	10.5	6.5	3.10	7.5	4
P0151.060-040-A4	M 6	40	4.2	10.5	6.5	3.10	7.5	4
P0151.060-050-A4	M 6	50	4.2	10.5	6.5	3.10	7.5	4
P0151.060-060-A4	M 6	60	4.2	10.5	6.5	3.10	7.5	4
P0151.060-080-A4	M 6	80	4.2	10.5	6.5	3.10	7.5	4
P0151.080-016-A4	M 8	16	6.0	14.0	8.5	4.46	10.0	5
P0151.080-020-A4	M 8	20	6.0	14.0	8.5	4.46	10.0	5
P0151.080-025-A4	M 8	25	6.0	14.0	8.5	4.46	10.0	5
P0151.080-030-A4	M 8	30	6.0	14.0	8.5	4.46	10.0	5
P0151.080-035-A4	M 8	35	6.0	14.0	8.5	4.46	10.0	5
P0151.080-040-A4	M 8	40	6.0	14.0	8.5	4.46	10.0	5
P0151.080-045-A4	M 8	45	6.0	14.0	8.5	4.46	10.0	5
P0151.080-050-A4	M 8	50	6.0	14.0	8.5	4.46	10.0	5
P0151.080-060-A4	M 8	60	6.0	14.0	8.5	4.46	10.0	5
P0151.080-080-A4	M 8	80	6.0	14.0	8.5	4.46	10.0	5
P0151.100-020-A4	M 10	20	7.5	17.5	10.6	5.5	12.5	6
P0151.100-025-A4	M 10	25	7.5	17.5	10.6	5.5	12.5	6
P0151.100-030-A4	M 10	30	7.5	17.5	10.6	5.5	12.5	6
P0151.100-035-A4	M 10	35	7.5	17.5	10.6	5.5	12.5	6
P0151.100-040-A4	M 10	40	7.5	17.5	10.6	5.5	12.5	6
P0151.100-045-A4	M 10	45	7.5	17.5	10.6	5.5	12.5	6
P0151.100-050-A4	M 10	50	7.5	17.5	10.6	5.5	12.5	6
P0151.100-060-A4	M 10	60	7.5	17.5	10.6	5.5	12.5	6
P0151.100-080-A4	M 10	80	7.5	17.5	10.6	5.5	12.5	6

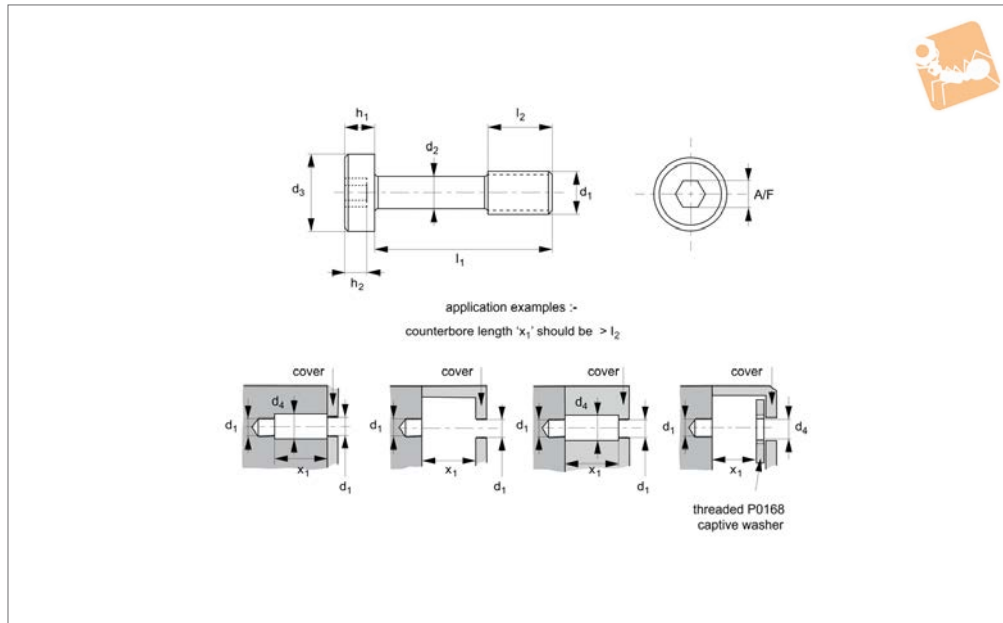




# Captive Screws - Cheese Head

hex drive - 303 stainless

## Captive Screws



**P0152.A2**

CAPTIVE SCREWS

### Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 1207. Often used with our captive washers (P0168) or retaining flanges (P0169.A2 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a

reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	l <sub>2</sub> ±0.25	A/F
P0152.020-010-A2	M 2	10	1.2	3.8	2.5	1.3	0.85	3.0	1.3
P0152.020-012-A2	M 2	12	1.2	3.8	2.5	1.3	0.85	3.0	1.3
P0152.020-016-A2	M 2	16	1.2	3.8	2.5	1.3	0.85	3.0	1.3
P0152.020-020-A2	M 2	20	1.2	3.8	2.5	1.3	0.85	3.0	1.3
P0152.025-008-A2	M 2,5	8	1.7	4.5	2.8	1.6	1.00	3.7	1.5
P0152.025-010-A2	M 2,5	10	1.7	4.5	2.8	1.6	1.00	3.7	1.5
P0152.025-016-A2	M 2,5	16	1.7	4.5	2.8	1.6	1.00	3.7	1.5
P0152.025-020-A2	M 2,5	20	1.7	4.5	2.8	1.6	1.00	3.7	1.5
P0152.025-025-A2	M 2,5	25	1.7	4.5	2.8	1.6	1.00	3.7	1.5
P0152.025-030-A2	M 2,5	30	1.7	4.5	2.8	1.6	1.00	3.7	1.5
P0152.030-010-A2	M 3	10	2.0	5.5	3.5	2.0	1.30	4.5	2
P0152.030-011-A2	M 3	11	2.0	5.5	3.5	2.0	1.30	4.5	2
P0152.030-013-A2	M 3	13	2.0	5.5	3.5	2.0	1.30	4.5	2
P0152.030-016-A2	M 3	16	2.0	5.5	3.5	2.0	1.30	4.5	2
P0152.030-018-A2	M 3	18	2.0	5.5	3.5	2.0	1.30	4.5	2
P0152.030-020-A2	M 3	20	2.0	5.5	3.5	2.0	1.30	4.5	2
P0152.030-025-A2	M 3	25	2.0	5.5	3.5	2.0	1.30	4.5	2
P0152.030-030-A2	M 3	30	2.0	5.5	3.5	2.0	1.30	4.5	2
P0152.030-040-A2	M 3	40	2.0	5.5	3.5	2.0	1.30	4.5	2
P0152.035-010-A2	M 3,5	10	2.3	6.0	3.8	2.4	1.4	5.2	2.5
P0152.035-016-A2	M 3,5	16	2.3	6.0	3.8	2.4	1.4	5.2	2.5
P0152.035-020-A2	M 3,5	20	2.3	6.0	3.8	2.4	1.4	5.2	2.5
P0152.035-025-A2	M 3,5	25	2.3	6.0	3.8	2.4	1.4	5.2	2.5
P0152.035-030-A2	M 3,5	30	2.3	6.0	3.8	2.4	1.4	5.2	2.5
P0152.035-040-A2	M 3,5	40	2.3	6.0	3.8	2.4	1.4	5.2	2.5
P0152.040-010-A2	M 4	10	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.040-012-A2	M 4	12	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.040-016-A2	M 4	16	2.8	7.0	4.5	2.6	1.6	6.0	2.5



CAPTIVE SCREWS

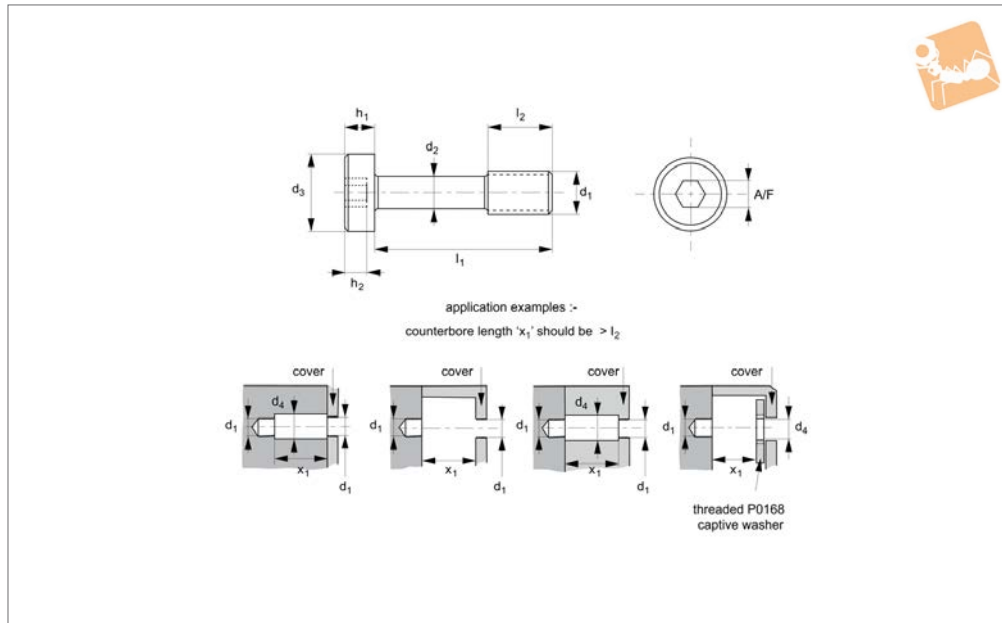
Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	l <sub>2</sub> ±0.25	A/F
P0152.040-018-A2	M 4	18	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.040-019-A2	M 4	19	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.040-020-A2	M 4	20	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.040-025-A2	M 4	25	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.040-030-A2	M 4	30	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.040-040-A2	M 4	40	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.040-050-A2	M 4	50	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.040-060-A2	M 4	60	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.050-010-A2	M 5	10	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-012-A2	M 5	12	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-016-A2	M 5	16	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-018-A2	M 5	18	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-020-A2	M 5	20	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-022-A2	M 5	22	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-025-A2	M 5	25	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-030-A2	M 5	30	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-040-A2	M 5	40	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-050-A2	M 5	50	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-060-A2	M 5	60	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-080-A2	M 5	80	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.060-016-A2	M 6	16	4.2	10.0	6.5	3.9	2.3	7.5	4
P0152.060-020-A2	M 6	20	4.2	10.0	6.5	3.9	2.3	7.5	4
P0152.060-025-A2	M 6	25	4.2	10.0	6.5	3.9	2.3	7.5	4
P0152.060-030-A2	M 6	30	4.2	10.0	6.5	3.9	2.3	7.5	4
P0152.060-040-A2	M 6	40	4.2	10.0	6.5	3.9	2.3	7.5	4
P0152.060-050-A2	M 6	50	4.2	10.0	6.5	3.9	2.3	7.5	4
P0152.060-060-A2	M 6	60	4.2	10.0	6.5	3.9	2.3	7.5	4
P0152.060-080-A2	M 6	80	4.2	10.0	6.5	3.9	2.3	7.5	4



# Captive Screws - Cheese Head

hex drive - 316 stainless

Captive Screws



**P0152.A4**

CAPTIVE SCREWS

### Material

Stainless steel (AISI 316, 1.4401). This grade of stainless steel is highly resistant to corrosion and is suitable for outdoor, medical and marine applications. Tensile strength 550 N/mm<sup>2</sup>. Also available on request in titanium, steel (anodised, black oxide coated or zinc plated), brass, aluminium etc.

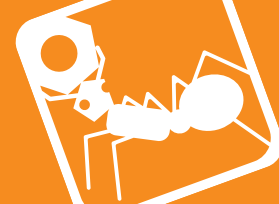
### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Generally to ISO 1207. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	l <sub>2</sub> ±0.25	A/F
P0152.020-010-A4	M 2	10	1.2	3.8	2.5	1.3	0.85	3.0	1.3
P0152.020-012-A4	M 2	12	1.2	3.8	2.5	1.3	0.85	3.0	1.3
P0152.020-016-A4	M 2	16	1.2	3.8	2.5	1.3	0.85	3.0	1.3
P0152.020-020-A4	M 2	20	1.2	3.8	2.5	1.3	0.85	3.0	1.3
P0152.025-008-A4	M 2,5	8	1.7	4.5	2.8	1.6	1.00	3.7	1.5
P0152.025-010-A4	M 2,5	10	1.7	4.5	2.8	1.6	1.00	3.7	1.5
P0152.025-016-A4	M 2,5	16	1.7	4.5	2.8	1.6	1.00	3.7	1.5
P0152.025-020-A4	M 2,5	20	1.7	4.5	2.8	1.6	1.00	3.7	1.5
P0152.025-025-A4	M 2,5	25	1.7	4.5	2.8	1.6	1.00	3.7	1.5
P0152.025-030-A4	M 2,5	30	1.7	4.5	2.8	1.6	1.00	3.7	1.5
P0152.030-010-A4	M 3	10	2.0	5.5	3.5	2.0	1.30	4.5	2
P0152.030-011-A4	M 3	11	2.0	5.5	3.5	2.0	1.30	4.5	2
P0152.030-013-A4	M 3	13	2.0	5.5	3.5	2.0	1.30	4.5	2
P0152.030-016-A4	M 3	16	2.0	5.5	3.5	2.0	1.30	4.5	2
P0152.030-018-A4	M 3	18	2.0	5.5	3.5	2.0	1.30	4.5	2
P0152.030-020-A4	M 3	20	2.0	5.5	3.5	2.0	1.30	4.5	2
P0152.030-025-A4	M 3	25	2.0	5.5	3.5	2.0	1.30	4.5	2
P0152.030-030-A4	M 3	30	2.0	5.5	3.5	2.0	1.30	4.5	2
P0152.030-040-A4	M 3	40	2.0	5.5	3.5	2.0	1.30	4.5	2
P0152.035-010-A4	M 3,5	10	2.3	6.0	3.8	2.4	1.4	5.2	2.5
P0152.035-016-A4	M 3,5	16	2.3	6.0	3.8	2.4	1.4	5.2	2.5
P0152.035-020-A4	M 3,5	20	2.3	6.0	3.8	2.4	1.4	5.2	2.5
P0152.035-025-A4	M 3,5	25	2.3	6.0	3.8	2.4	1.4	5.2	2.5
P0152.035-030-A4	M 3,5	30	2.3	6.0	3.8	2.4	1.4	5.2	2.5
P0152.035-040-A4	M 3,5	40	2.3	6.0	3.8	2.4	1.4	5.2	2.5
P0152.040-010-A4	M 4	10	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.040-012-A4	M 4	12	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.040-016-A4	M 4	16	2.8	7.0	4.5	2.6	1.6	6.0	2.5



CAPTIVE SCREWS

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	l <sub>2</sub> ±0.25	A/F
P0152.040-018-A4	M 4	18	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.040-019-A4	M 4	19	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.040-020-A4	M 4	20	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.040-025-A4	M 4	25	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.040-030-A4	M 4	30	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.040-040-A4	M 4	40	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.040-050-A4	M 4	50	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.040-060-A4	M 4	60	2.8	7.0	4.5	2.6	1.6	6.0	2.5
P0152.050-010-A4	M 5	10	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-012-A4	M 5	12	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-016-A4	M 5	16	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-018-A4	M 5	18	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-020-A4	M 5	20	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-022-A4	M 5	22	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-025-A4	M 5	25	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-030-A4	M 5	30	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-040-A4	M 5	40	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-050-A4	M 5	50	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-060-A4	M 5	60	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.050-080-A4	M 5	80	3.7	8.5	5.5	3.3	2.0	7.5	3
P0152.060-016-A4	M 6	16	4.2	10.0	6.5	3.9	2.3	7.5	4
P0152.060-020-A4	M 6	20	4.2	10.0	6.5	3.9	2.3	7.5	4
P0152.060-025-A4	M 6	25	4.2	10.0	6.5	3.9	2.3	7.5	4
P0152.060-030-A4	M 6	30	4.2	10.0	6.5	3.9	2.3	7.5	4
P0152.060-040-A4	M 6	40	4.2	10.0	6.5	3.9	2.3	7.5	4
P0152.060-050-A4	M 6	50	4.2	10.0	6.5	3.9	2.3	7.5	4
P0152.060-060-A4	M 6	60	4.2	10.0	6.5	3.9	2.3	7.5	4
P0152.060-080-A4	M 6	80	4.2	10.0	6.5	3.9	2.3	7.5	4

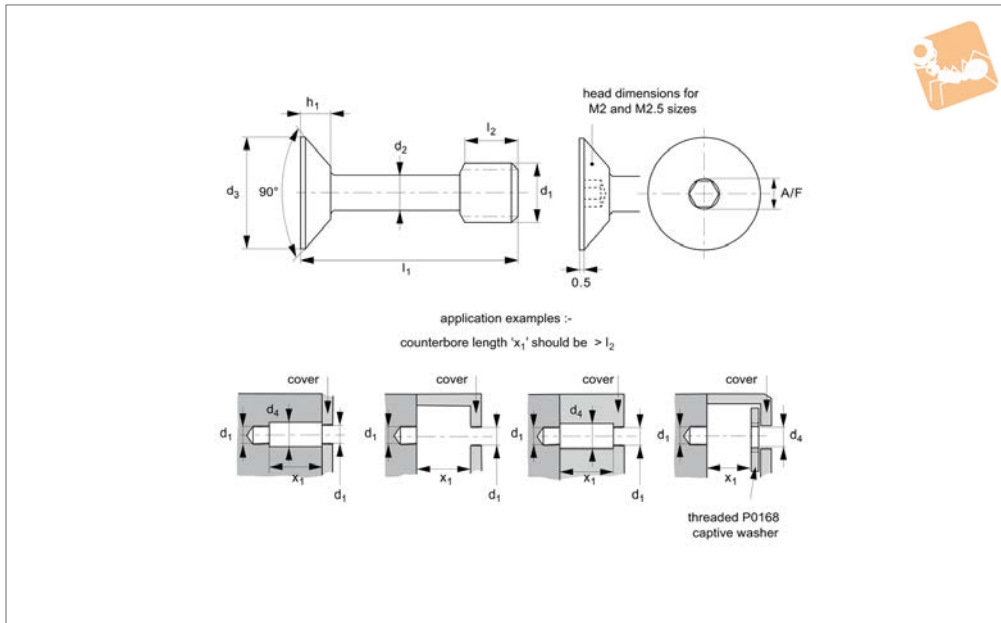


# Captive Screws - Countersunk

hex drive - 303 stainless



Captive Screws



MADE IN BRITAIN

P0153.A2

CAPTIVE SCREWS

### Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

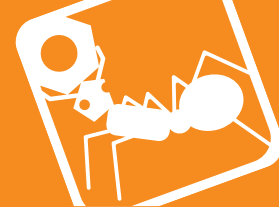
tive 2006/42/EC. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be

tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>. To accommodate the slight undercut at the top of the shank, the hex socket is smaller than on a similar threaded machine screw.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	A/F
P0153.020-010-A2	M 2	10	1.2	3.8	2.5	1.20	3.5	1.0
P0153.020-012-A2	M 2	12	1.2	3.8	2.5	1.20	3.5	1.0
P0153.020-016-A2	M 2	16	1.2	3.8	2.5	1.20	3.5	1.0
P0153.020-020-A2	M 2	20	1.2	3.8	2.5	1.20	3.5	1.0
P0153.025-010-A2	M 2,5	10	1.7	4.7	2.8	1.80	3.7	1.3
P0153.025-012-A2	M 2,5	12	1.7	4.7	2.8	1.80	3.7	1.3
P0153.025-016-A2	M 2,5	16	1.7	4.7	2.8	1.80	3.7	1.3
P0153.025-020-A2	M 2,5	20	1.7	4.7	2.8	1.80	3.7	1.3
P0153.030-008-A2	M 3	8	2.0	5.6	3.5	1.65	4.5	1.5
P0153.030-010-A2	M 3	10	2.0	5.6	3.5	1.65	4.5	1.5
P0153.030-012-A2	M 3	12	2.0	5.6	3.5	1.65	4.5	1.5
P0153.030-016-A2	M 3	16	2.0	5.6	3.5	1.65	4.5	1.5
P0153.030-020-A2	M 3	20	2.0	5.6	3.5	1.65	4.5	1.5
P0153.030-025-A2	M 3	25	2.0	5.6	3.5	1.65	4.5	1.5
P0153.030-030-A2	M 3	30	2.0	5.6	3.5	1.65	4.5	1.5
P0153.030-035-A2	M 3	35	2.0	5.6	3.5	1.65	4.5	1.5
P0153.030-040-A2	M 3	40	2.0	5.6	3.5	1.65	4.5	1.5
P0153.040-010-A2	M 4	10	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-012-A2	M 4	12	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-014-A2	M 4	14	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-016-A2	M 4	16	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-020-A2	M 4	20	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-025-A2	M 4	25	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-030-A2	M 4	30	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-035-A2	M 4	35	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-040-A2	M 4	40	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-050-A2	M 4	50	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-060-A2	M 4	60	2.8	7.5	4.5	2.20	6.0	2.0



CAPTIVE SCREWS

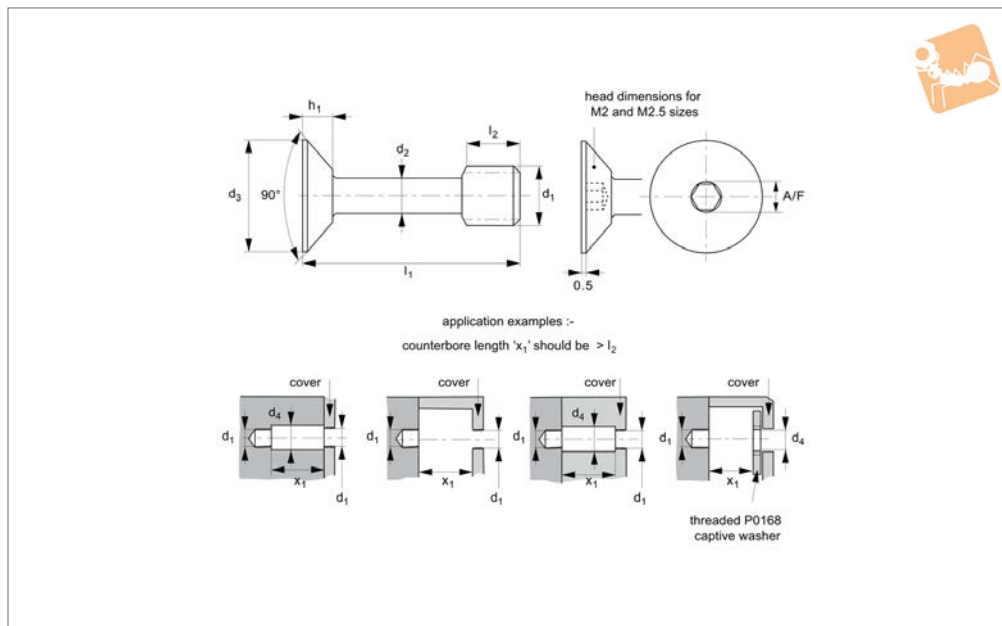
Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	A/F
P0153.050-012-A2	M 5	12	3.7	9.2	5.5	2.50	7.5	2.5
P0153.050-014-A2	M 5	14	3.7	9.2	5.5	2.50	7.5	2.5
P0153.050-016-A2	M 5	16	3.7	9.2	5.5	2.50	7.5	2.5
P0153.050-020-A2	M 5	20	3.7	9.2	5.5	2.50	7.5	2.5
P0153.050-025-A2	M 5	25	3.7	9.2	5.5	2.50	7.5	2.5
P0153.050-030-A2	M 5	30	3.7	9.2	5.5	2.50	7.5	2.5
P0153.050-035-A2	M 5	35	3.7	9.2	5.5	2.50	7.5	2.5
P0153.050-040-A2	M 5	40	3.7	9.2	5.5	2.50	7.5	2.5
P0153.050-050-A2	M 5	50	3.7	9.2	5.5	2.50	7.5	2.5
P0153.050-060-A2	M 5	60	3.7	9.2	5.5	2.50	7.5	2.5
P0153.060-016-A2	M 6	16	4.2	11.0	6.5	3.00	8.0	3.0
P0153.060-020-A2	M 6	20	4.2	11.0	6.5	3.00	8.0	3.0
P0153.060-025-A2	M 6	25	4.2	11.0	6.5	3.00	8.0	3.0
P0153.060-030-A2	M 6	30	4.2	11.0	6.5	3.00	8.0	3.0
P0153.060-035-A2	M 6	35	4.2	11.0	6.5	3.00	8.0	3.0
P0153.060-040-A2	M 6	40	4.2	11.0	6.5	3.00	8.0	3.0
P0153.060-050-A2	M 6	50	4.2	11.0	6.5	3.00	8.0	3.0
P0153.060-060-A2	M 6	60	4.2	11.0	6.5	3.00	8.0	3.0
P0153.080-020-A2	M 8	20	6.0	15.0	8.5	4.10	10.0	4.0
P0153.080-025-A2	M 8	25	6.0	15.0	8.5	4.10	10.0	4.0
P0153.080-030-A2	M 8	30	6.0	15.0	8.5	4.10	10.0	4.0
P0153.080-040-A2	M 8	40	6.0	15.0	8.5	4.10	10.0	4.0
P0153.080-050-A2	M 8	50	6.0	15.0	8.5	4.10	10.0	4.0
P0153.080-060-A2	M 8	60	6.0	15.0	8.5	4.10	10.0	4.0



# Captive Screws - Countersunk

hex drive - 316 stainless

## Captive Screws



**P0153.A4**

CAPTIVE SCREWS

### Material

Stainless steel (AISI 316, 1.440).  
Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.  
Also available on request in steel (anodised, black oxide or zinc plated), brass, aluminium etc.

tive 2006/42/EC. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>. To accommodate the slight undercut at the top of the shank, the hex socket is smaller than on a similar threaded machine screw.

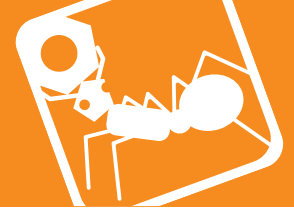
### Technical Notes

Used to comply with the Machinery Direc-

### Important Notes

Please note that these screws have a reduced diameter shank and should not be

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	A/F
P0153.020-010-A4	M 2	10	1.2	3.8	2.5	1.20	3.5	1.0
P0153.020-012-A4	M 2	12	1.2	3.8	2.5	1.20	3.5	1.0
P0153.020-016-A4	M 2	16	1.2	3.8	2.5	1.20	3.5	1.0
P0153.020-020-A4	M 2	20	1.2	3.8	2.5	1.20	3.5	1.0
P0153.025-010-A4	M 2,5	10	1.7	4.7	2.8	1.80	3.7	1.3
P0153.025-012-A4	M 2,5	12	1.7	4.7	2.8	1.80	3.7	1.3
P0153.025-016-A4	M 2,5	16	1.7	4.7	2.8	1.80	3.7	1.3
P0153.025-020-A4	M 2,5	20	1.7	4.7	2.8	1.80	3.7	1.3
P0153.030-008-A4	M 3	8	2.0	5.6	3.5	1.65	4.5	1.5
P0153.030-010-A4	M 3	10	2.0	5.6	3.5	1.65	4.5	1.5
P0153.030-012-A4	M 3	12	2.0	5.6	3.5	1.65	4.5	1.5
P0153.030-016-A4	M 3	16	2.0	5.6	3.5	1.65	4.5	1.5
P0153.030-020-A4	M 3	20	2.0	5.6	3.5	1.65	4.5	1.5
P0153.030-025-A4	M 3	25	2.0	5.6	3.5	1.65	4.5	1.5
P0153.030-030-A4	M 3	30	2.0	5.6	3.5	1.65	4.5	1.5
P0153.030-035-A4	M 3	35	2.0	5.6	3.5	1.65	4.5	1.5
P0153.030-040-A4	M 3	40	2.0	5.6	3.5	1.65	4.5	1.5
P0153.040-010-A4	M 4	10	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-012-A4	M 4	12	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-014-A4	M 4	14	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-016-A4	M 4	16	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-020-A4	M 4	20	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-025-A4	M 4	25	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-030-A4	M 4	30	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-035-A4	M 4	35	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-040-A4	M 4	40	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-050-A4	M 4	50	2.8	7.5	4.5	2.20	6.0	2.0
P0153.040-060-A4	M 4	60	2.8	7.5	4.5	2.20	6.0	2.0



Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	A/F
P0153.050-012-A4	M 5	12	3.7	9.2	5.5	2.50	7.5	2.5
P0153.050-014-A4	M 5	12	3.7	9.2	5.5	2.50	7.5	2.5
P0153.050-016-A4	M 5	16	3.7	9.2	5.5	2.50	7.5	2.5
P0153.050-020-A4	M 5	20	3.7	9.2	5.5	2.50	7.5	2.5
P0153.050-025-A4	M 5	25	3.7	9.2	5.5	2.50	7.5	2.5
P0153.050-030-A4	M 5	30	3.7	9.2	5.5	2.50	7.5	2.5
P0153.050-035-A4	M 5	35	3.7	9.2	5.5	2.50	7.5	2.5
P0153.050-040-A4	M 5	40	3.7	9.2	5.5	2.50	7.5	2.5
P0153.050-050-A4	M 5	50	3.7	9.2	5.5	2.50	7.5	2.5
P0153.050-060-A4	M 5	60	3.7	9.2	5.5	2.50	7.5	2.5
P0153.060-016-A4	M 6	16	4.2	11.0	6.5	3.00	8.0	3.0
P0153.060-020-A4	M 6	20	4.2	11.0	6.5	3.00	8.0	3.0
P0153.060-025-A4	M 6	25	4.2	11.0	6.5	3.00	8.0	3.0
P0153.060-030-A4	M 6	30	4.2	11.0	6.5	3.00	8.0	3.0
P0153.060-035-A4	M 6	35	4.2	11.0	6.5	3.00	8.0	3.0
P0153.060-040-A4	M 6	40	4.2	11.0	6.5	3.00	8.0	3.0
P0153.060-050-A4	M 6	50	4.2	11.0	6.5	3.00	8.0	3.0
P0153.060-060-A4	M 6	60	4.2	11.0	6.5	3.00	8.0	3.0
P0153.080-020-A4	M 8	20	6.0	15.0	8.5	4.10	10.0	4.0
P0153.080-025-A4	M 8	25	6.0	15.0	8.5	4.10	10.0	4.0
P0153.080-030-A4	M 8	30	6.0	15.0	8.5	4.10	10.0	4.0
P0153.080-040-A4	M 8	40	6.0	15.0	8.5	4.10	10.0	4.0
P0153.080-050-A4	M 8	50	6.0	15.0	8.5	4.10	10.0	4.0
P0153.080-060-A4	M 8	60	6.0	15.0	8.5	4.10	10.0	4.0

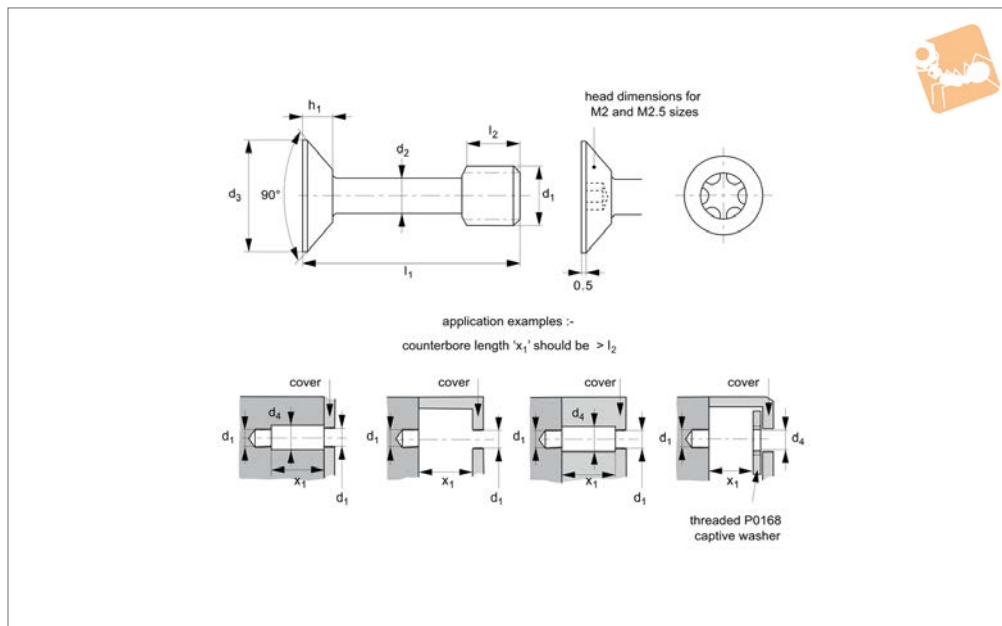




# Captive Screws - Countersunk

## TX drive- 303 stainless

Captive Screws



**P0153.TX**

CAPTIVE SCREWS

### Material

Stainless steel (AISI 303, 1.4305).  
Tensile strength 550 N/mm<sup>2</sup>.  
Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Generally to ISO 10642.

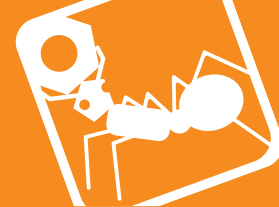
Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a

reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>. To accommodate the slight undercut at the top of the shank, the torx drive is smaller than on a similar threaded machine screw.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	TX size
P0153.020-010-TX	M 2	10	1.2	3.8	2.5	1.20	3.5	TX-5
P0153.020-012-TX	M 2	12	1.2	3.8	2.5	1.20	3.5	TX-5
P0153.020-016-TX	M 2	16	1.2	3.8	2.5	1.20	3.5	TX-5
P0153.020-020-TX	M 2	20	1.2	3.8	2.5	1.20	3.5	TX-5
P0153.025-010-TX	M 2,5	10	1.7	4.7	2.8	1.80	3.7	TX-6
P0153.025-012-TX	M 2,5	12	1.7	4.7	2.8	1.80	3.7	TX-6
P0153.025-016-TX	M 2,5	16	1.7	4.7	2.8	1.80	3.7	TX-6
P0153.025-020-TX	M 2,5	20	1.7	4.7	2.8	1.80	3.7	TX-6
P0153.030-008-TX	M 3	8	2.0	5.6	3.5	1.65	4.5	TX-8
P0153.030-010-TX	M 3	10	2.0	5.6	3.5	1.65	4.5	TX-8
P0153.030-012-TX	M 3	12	2.0	5.6	3.5	1.65	4.5	TX-8
P0153.030-016-TX	M 3	16	2.0	5.6	3.5	1.65	4.5	TX-8
P0153.030-020-TX	M 3	20	2.0	5.6	3.5	1.65	4.5	TX-8
P0153.030-025-TX	M 3	25	2.0	5.6	3.5	1.65	4.5	TX-8
P0153.030-030-TX	M 3	30	2.0	5.6	3.5	1.65	4.5	TX-8
P0153.030-035-TX	M 3	35	2.0	5.6	3.5	1.65	4.5	TX-8
P0153.030-040-TX	M 3	40	2.0	5.6	3.5	1.65	4.5	TX-8
P0153.040-010-TX	M 4	10	2.8	7.5	4.5	2.20	6.0	TX-10
P0153.040-012-TX	M 4	12	2.8	7.5	4.5	2.20	6.0	TX-10
P0153.040-014-TX	M 4	14	2.8	7.5	4.5	2.20	6.0	TX-10
P0153.040-016-TX	M 4	16	2.8	7.5	4.5	2.20	6.0	TX-10
P0153.040-020-TX	M 4	20	2.8	7.5	4.5	2.20	6.0	TX-10
P0153.040-025-TX	M 4	25	2.8	7.5	4.5	2.20	6.0	TX-10
P0153.040-030-TX	M 4	30	2.8	7.5	4.5	2.20	6.0	TX-10
P0153.040-035-TX	M 4	35	2.8	7.5	4.5	2.20	6.0	TX-10
P0153.040-040-TX	M 4	40	2.8	7.5	4.5	2.20	6.0	TX-10
P0153.040-050-TX	M 4	50	2.8	7.5	4.5	2.20	6.0	TX-10
P0153.040-060-TX	M 4	60	2.8	7.5	4.5	2.20	6.0	TX-10
P0153.050-012-TX	M 5	12	3.7	9.2	5.5	2.50	7.5	TX-20



CAPTIVE SCREWS

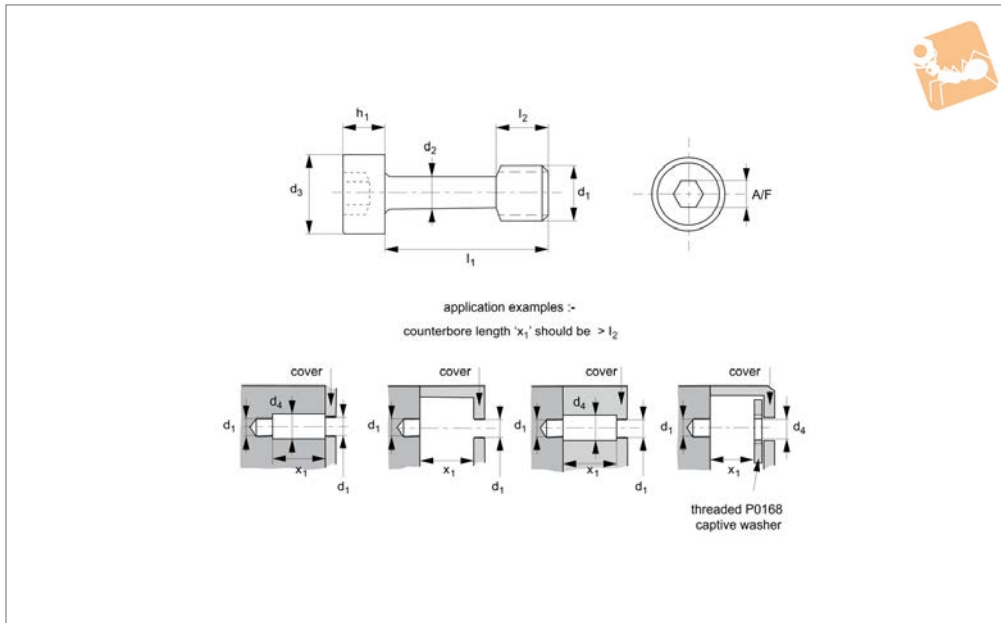
Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	TX size
P0153.050-014-TX	M 5	14	3.7	9.2	5.5	2.50	7.5	TX-20
P0153.050-016-TX	M 5	16	3.7	9.2	5.5	2.50	7.5	TX-20
P0153.050-020-TX	M 5	20	3.7	9.2	5.5	2.50	7.5	TX-20
P0153.050-025-TX	M 5	25	3.7	9.2	5.5	2.50	7.5	TX-20
P0153.050-030-TX	M 5	30	3.7	9.2	5.5	2.50	7.5	TX-20
P0153.050-035-TX	M 5	35	3.7	9.2	5.5	2.50	7.5	TX-20
P0153.050-040-TX	M 5	40	3.7	9.2	5.5	2.50	7.5	TX-20
P0153.050-050-TX	M 5	50	3.7	9.2	5.5	2.50	7.5	TX-20
P0153.050-060-TX	M 5	60	3.7	9.2	5.5	2.50	7.5	TX-20
P0153.060-016-TX	M 6	16	4.2	11.0	6.5	3.00	8.0	TX-25
P0153.060-020-TX	M 6	20	4.2	11.0	6.5	3.00	8.0	TX-25
P0153.060-025-TX	M 6	25	4.2	11.0	6.5	3.00	8.0	TX-25
P0153.060-030-TX	M 6	30	4.2	11.0	6.5	3.00	8.0	TX-25
P0153.060-035-TX	M 6	35	4.2	11.0	6.5	3.00	8.0	TX-25
P0153.060-040-TX	M 6	40	4.2	11.0	6.5	3.00	8.0	TX-25
P0153.060-050-TX	M 6	50	4.2	11.0	6.5	3.00	8.0	TX-25
P0153.060-060-TX	M 6	60	4.2	11.0	6.5	3.00	8.0	TX-25
P0153.080-020-TX	M 8	20	6.0	15.0	8.5	4.10	10.0	TX-30
P0153.080-025-TX	M 8	25	6.0	15.0	8.5	4.10	10.0	TX-30
P0153.080-030-TX	M 8	30	6.0	15.0	8.5	4.10	10.0	TX-30
P0153.080-040-TX	M 8	40	6.0	15.0	8.5	4.10	10.0	TX-30
P0153.080-050-TX	M 8	50	6.0	15.0	8.5	4.10	10.0	TX-30
P0153.080-060-TX	M 8	60	6.0	15.0	8.5	4.10	10.0	TX-30



# Captive Screws - Cap Head

hex drive - 303 stainless

## Captive Screws



**P0154.A2**

CAPTIVE SCREWS

### Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 4762. Often used with our captive washers (P0168) or retaining flanges (P0169.A2 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

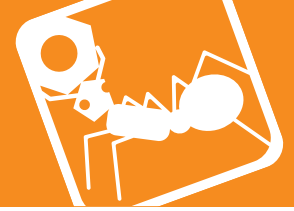
### Tips

TX drive style also available.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	A/F
P0154.025-005-A2	M 2,5	5	1.8	4.5	2.8	2.5	3.0	2
P0154.025-008-A2	M 2,5	8	1.8	4.5	2.8	2.5	3.0	2
P0154.025-010-A2	M 2,5	10	1.8	4.5	2.8	2.5	3.0	2
P0154.025-012-A2	M 2,5	12	1.8	4.5	2.8	2.5	3.0	2
P0154.030-008-A2	M 3	8	2.0	5.5	3.5	3.0	4.5	2.5
P0154.030-010-A2	M 3	10	2.0	5.5	3.5	3.0	4.5	2.5
P0154.030-012-A2	M 3	12	2.0	5.5	3.5	3.0	4.5	2.5
P0154.030-016-A2	M 3	16	2.0	5.5	3.5	3.0	4.5	2.5
P0154.030-020-A2	M 3	20	2.0	5.5	3.5	3.0	4.5	2.5
P0154.030-025-A2	M 3	25	2.0	5.5	3.5	3.0	4.5	2.5
P0154.030-030-A2	M 3	30	2.0	5.5	3.5	3.0	4.5	2.5
P0154.040-010-A2	M 4	10	2.8	7.0	4.5	4.0	6.0	3
P0154.040-012-A2	M 4	12	2.8	7.0	4.5	4.0	6.0	3
P0154.040-016-A2	M 4	16	2.8	7.0	4.5	4.0	6.0	3
P0154.040-020-A2	M 4	20	2.8	7.0	4.5	4.0	6.0	3
P0154.040-025-A2	M 4	25	2.8	7.0	4.5	4.0	6.0	3
P0154.040-030-A2	M 4	30	2.8	7.0	4.5	4.0	6.0	3
P0154.040-035-A2	M 4	35	2.8	7.0	4.5	4.0	6.0	3
P0154.040-040-A2	M 4	40	2.8	7.0	4.5	4.0	6.0	3
P0154.040-050-A2	M 4	50	2.8	7.0	4.5	4.0	6.0	3
P0154.050-012-A2	M 5	12	3.7	8.5	5.5	5.0	7.5	4
P0154.050-016-A2	M 5	16	3.7	8.5	5.5	5.0	7.5	4
P0154.050-020-A2	M 5	20	3.7	8.5	5.5	5.0	7.5	4
P0154.050-025-A2	M 5	25	3.7	8.5	5.5	5.0	7.5	4
P0154.050-030-A2	M 5	30	3.7	8.5	5.5	5.0	7.5	4
P0154.050-035-A2	M 5	35	3.7	8.5	5.5	5.0	7.5	4



CAPTIVE SCREWS

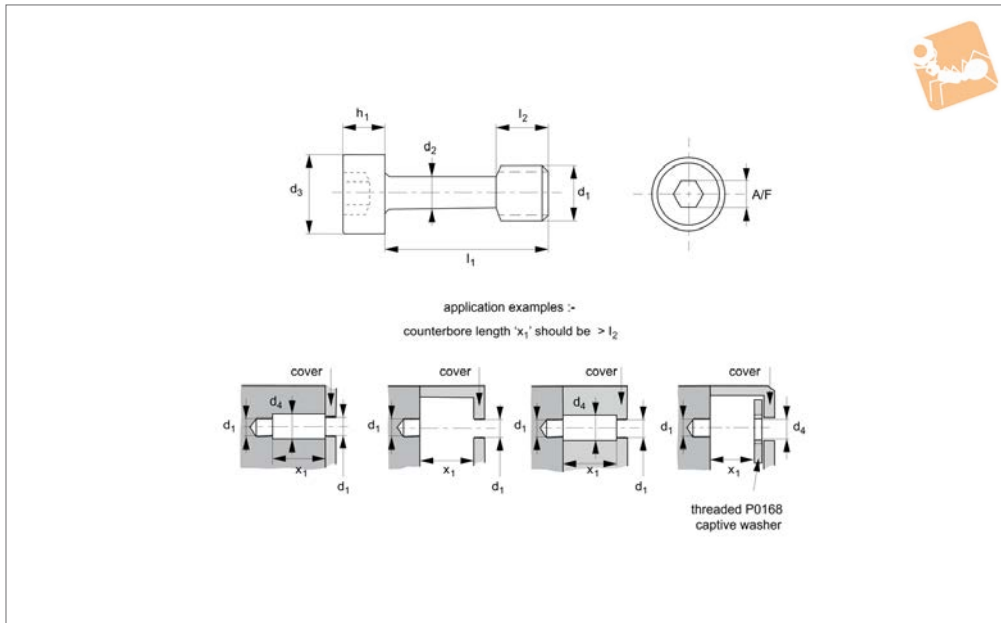
Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	A/F
P0154.050-040-A2	M 5	40	3.7	8.5	5.5	5.0	7.5	4
P0154.050-050-A2	M 5	50	3.7	8.5	5.5	5.0	7.5	4
P0154.060-012-A2	M 6	12	4.2	10.0	6.5	6.0	7.5	5
P0154.060-016-A2	M 6	16	4.2	10.0	6.5	6.0	7.5	5
P0154.060-020-A2	M 6	20	4.2	10.0	6.5	6.0	7.5	5
P0154.060-025-A2	M 6	25	4.2	10.0	6.5	6.0	7.5	5
P0154.060-030-A2	M 6	30	4.2	10.0	6.5	6.0	7.5	5
P0154.060-035-A2	M 6	35	4.2	10.0	6.5	6.0	7.5	5
P0154.060-040-A2	M 6	40	4.2	10.0	6.5	6.0	7.5	5
P0154.060-050-A2	M 6	50	4.2	10.0	6.5	6.0	7.5	5
P0154.060-060-A2	M 6	60	4.2	10.0	6.5	6.0	7.5	5
P0154.060-080-A2	M 6	80	4.2	10.0	6.5	6.0	7.5	5
P0154.080-016-A2	M 8	16	6.0	13.0	8.5	8.0	10.0	6
P0154.080-020-A2	M 8	20	6.0	13.0	8.5	8.0	10.0	6
P0154.080-025-A2	M 8	25	6.0	13.0	8.5	8.0	10.0	6
P0154.080-030-A2	M 8	30	6.0	13.0	8.5	8.0	10.0	6
P0154.080-035-A2	M 8	35	6.0	13.0	8.5	8.0	10.0	6
P0154.080-040-A2	M 8	40	6.0	13.0	8.5	8.0	10.0	6
P0154.080-045-A2	M 8	45	6.0	13.0	8.5	8.0	10.0	6
P0154.080-050-A2	M 8	50	6.0	13.0	8.5	8.0	10.0	6
P0154.080-060-A2	M 8	60	6.0	13.0	8.5	8.0	10.0	6
P0154.080-080-A2	M 8	80	6.0	13.0	8.5	8.0	10.0	6
P0154.100-020-A2	M10	20	7.5	16.0	10.6	10.0	12.5	8
P0154.100-025-A2	M10	25	7.5	16.0	10.6	10.0	12.5	8
P0154.100-030-A2	M10	30	7.5	16.0	10.6	10.0	12.5	8
P0154.100-035-A2	M10	35	7.5	16.0	10.6	10.0	12.5	8
P0154.100-040-A2	M10	40	7.5	16.0	10.6	10.0	12.5	8
P0154.100-045-A2	M10	45	7.5	16.0	10.6	10.0	12.5	8
P0154.100-050-A2	M10	50	7.5	16.0	10.6	10.0	12.5	8
P0154.100-060-A2	M10	60	7.5	16.0	10.6	10.0	12.5	8
P0154.100-080-A2	M10	80	7.5	16.0	10.6	10.0	12.5	8
P0154.120-025-A2	M12	25	8.0	18.0	13.2	12.0	15.0	10
P0154.120-030-A2	M12	30	8.0	18.0	13.2	12.0	15.0	10
P0154.120-035-A2	M12	35	8.0	18.0	13.2	12.0	15.0	10
P0154.120-040-A2	M12	40	8.0	18.0	13.2	12.0	15.0	10
P0154.120-045-A2	M12	45	8.0	18.0	13.2	12.0	15.0	10
P0154.120-050-A2	M12	50	8.0	18.0	13.2	12.0	15.0	10
P0154.120-060-A2	M12	60	8.0	18.0	13.2	12.0	15.0	10
P0154.120-080-A2	M12	80	8.0	18.0	13.2	12.0	15.0	10
P0154.160-030-A2	M16	30	12.0	24.0	17.5	16.0	20.0	14
P0154.160-035-A2	M16	35	12.0	24.0	17.5	16.0	20.0	14
P0154.160-040-A2	M16	40	12.0	24.0	17.5	16.0	20.0	14
P0154.160-045-A2	M16	45	12.0	24.0	17.5	16.0	20.0	14
P0154.160-050-A2	M16	50	12.0	24.0	17.5	16.0	20.0	14
P0154.160-060-A2	M16	60	12.0	24.0	17.5	16.0	20.0	14
P0154.160-080-A2	M16	80	12.0	24.0	17.5	16.0	20.0	14
P0154.160-100-A2	M16	100	12.0	24.0	17.5	16.0	20.0	14
P0154.200-040-A2	M20	40	16.0	30.0	22.0	20.0	25.0	19
P0154.200-060-A2	M20	60	16.0	30.0	22.0	20.0	25.0	19
P0154.200-080-A2	M20	80	16.0	30.0	22.0	20.0	25.0	19
P0154.200-100-A2	M20	100	16.0	30.0	22.0	20.0	25.0	19
P0154.200-120-A2	M20	120	16.0	30.0	22.0	20.0	25.0	19



# Captive Screws - Cap Head

hex drive - 316 stainless

Captive Screws



P0154.A4

MADE IN BRITAIN

CAPTIVE SCREWS

### Material

Stainless steel (AISI 316, 1.440).  
Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.  
Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 303, 1.4305), brass, aluminium etc.

tive 2006/42/EC. Generally to ISO 4762. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers (P0168) should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

### Technical Notes

Used to comply with the Machinery Direc-

### Tips

For TX drive style, see P0156.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	A/F
P0154.025-005-A4	M 2,5	5	1.8	4.5	2.8	2.5	3.0	2
P0154.025-008-A4	M 2,5	8	1.8	4.5	2.8	2.5	3.0	2
P0154.025-010-A4	M 2,5	10	1.8	4.5	2.8	2.5	3.0	2
P0154.025-012-A4	M 2,5	12	1.8	4.5	2.8	2.5	3.0	2
P0154.030-008-A4	M 3	8	2.0	5.5	3.5	3.0	4.5	2.5
P0154.030-010-A4	M 3	10	2.0	5.5	3.5	3.0	4.5	2.5
P0154.030-012-A4	M 3	12	2.0	5.5	3.5	3.0	4.5	2.5
P0154.030-016-A4	M 3	16	2.0	5.5	3.5	3.0	4.5	2.5
P0154.030-020-A4	M 3	20	2.0	5.5	3.5	3.0	4.5	2.5
P0154.030-025-A4	M 3	25	2.0	5.5	3.5	3.0	4.5	2.5
P0154.030-030-A4	M 3	30	2.0	5.5	3.5	3.0	4.5	2.5
P0154.040-010-A4	M 4	10	2.8	7.0	4.5	4.0	6.0	3
P0154.040-012-A4	M 4	12	2.8	7.0	4.5	4.0	6.0	3
P0154.040-016-A4	M 4	16	2.8	7.0	4.5	4.0	6.0	3
P0154.040-020-A4	M 4	20	2.8	7.0	4.5	4.0	6.0	3
P0154.040-025-A4	M 4	25	2.8	7.0	4.5	4.0	6.0	3
P0154.040-030-A4	M 4	30	2.8	7.0	4.5	4.0	6.0	3
P0154.040-035-A4	M 4	35	2.8	7.0	4.5	4.0	6.0	3
P0154.040-040-A4	M 4	40	2.8	7.0	4.5	4.0	6.0	3
P0154.040-050-A4	M 4	50	2.8	7.0	4.5	4.0	6.0	3
P0154.050-012-A4	M 5	12	3.7	8.5	5.5	5.0	7.5	4
P0154.050-016-A4	M 5	16	3.7	8.5	5.5	5.0	7.5	4
P0154.050-020-A4	M 5	20	3.7	8.5	5.5	5.0	7.5	4
P0154.050-025-A4	M 5	25	3.7	8.5	5.5	5.0	7.5	4
P0154.050-030-A4	M 5	30	3.7	8.5	5.5	5.0	7.5	4
P0154.050-035-A4	M 5	35	3.7	8.5	5.5	5.0	7.5	4



CAPTIVE SCREWS

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	A/F
P0154.050-040-A4	M 5	40	3.7	8.5	5.5	5.0	7.5	4
P0154.050-050-A4	M 5	50	3.7	8.5	5.5	5.0	7.5	4
P0154.060-012-A4	M 6	12	4.2	10.0	6.5	6.0	7.5	5
P0154.060-016-A4	M 6	16	4.2	10.0	6.5	6.0	7.5	5
P0154.060-020-A4	M 6	20	4.2	10.0	6.5	6.0	7.5	5
P0154.060-025-A4	M 6	25	4.2	10.0	6.5	6.0	7.5	5
P0154.060-030-A4	M 6	30	4.2	10.0	6.5	6.0	7.5	5
P0154.060-035-A4	M 6	35	4.2	10.0	6.5	6.0	7.5	5
P0154.060-040-A4	M 6	40	4.2	10.0	6.5	6.0	7.5	5
P0154.060-050-A4	M 6	50	4.2	10.0	6.5	6.0	7.5	5
P0154.060-060-A4	M 6	60	4.2	10.0	6.5	6.0	7.5	5
P0154.060-080-A4	M 6	80	4.2	10.0	6.5	6.0	7.5	5
P0154.080-016-A4	M 8	16	6.0	13.0	8.5	8.0	10.0	6
P0154.080-020-A4	M 8	20	6.0	13.0	8.5	8.0	10.0	6
P0154.080-025-A4	M 8	25	6.0	13.0	8.5	8.0	10.0	6
P0154.080-030-A4	M 8	30	6.0	13.0	8.5	8.0	10.0	6
P0154.080-035-A4	M 8	35	6.0	13.0	8.5	8.0	10.0	6
P0154.080-040-A4	M 8	40	6.0	13.0	8.5	8.0	10.0	6
P0154.080-045-A4	M 8	45	6.0	13.0	8.5	8.0	10.0	6
P0154.080-050-A4	M 8	50	6.0	13.0	8.5	8.0	10.0	6
P0154.080-060-A4	M 8	60	6.0	13.0	8.5	8.0	10.0	6
P0154.080-080-A4	M 8	80	6.0	13.0	8.5	8.0	10.0	6
P0154.100-020-A4	M10	20	7.5	16.0	10.6	10.0	12.5	8
P0154.100-025-A4	M10	25	7.5	16.0	10.6	10.0	12.5	8
P0154.100-030-A4	M10	30	7.5	16.0	10.6	10.0	12.5	8
P0154.100-035-A4	M10	35	7.5	16.0	10.6	10.0	12.5	8
P0154.100-040-A4	M10	40	7.5	16.0	10.6	10.0	12.5	8
P0154.100-045-A4	M10	45	7.5	16.0	10.6	10.0	12.5	8
P0154.100-050-A4	M10	50	7.5	16.0	10.6	10.0	12.5	8
P0154.100-060-A4	M10	60	7.5	16.0	10.6	10.0	12.5	8
P0154.100-080-A4	M10	80	7.5	16.0	10.6	10.0	12.5	8
P0154.120-025-A4	M12	25	8.0	18.0	13.2	12.0	15.0	10
P0154.120-030-A4	M12	30	8.0	18.0	13.2	12.0	15.0	10
P0154.120-035-A4	M12	35	8.0	18.0	13.2	12.0	15.0	10
P0154.120-040-A4	M12	40	8.0	18.0	13.2	12.0	15.0	10
P0154.120-045-A4	M12	45	8.0	18.0	13.2	12.0	15.0	10
P0154.120-050-A4	M12	50	8.0	18.0	13.2	12.0	15.0	10
P0154.120-060-A4	M12	60	8.0	18.0	13.2	12.0	15.0	10
P0154.120-080-A4	M12	80	8.0	18.0	13.2	12.0	15.0	10
P0154.160-030-A4	M16	30	12.0	24.0	17.5	16.0	20.0	14
P0154.160-035-A4	M16	35	12.0	24.0	17.5	16.0	20.0	14
P0154.160-040-A4	M16	40	12.0	24.0	17.5	16.0	20.0	14
P0154.160-045-A4	M16	45	12.0	24.0	17.5	16.0	20.0	14
P0154.160-050-A4	M16	50	12.0	24.0	17.5	16.0	20.0	14
P0154.160-060-A4	M16	60	12.0	24.0	17.5	16.0	20.0	14
P0154.160-080-A4	M16	80	12.0	24.0	17.5	16.0	20.0	14
P0154.160-100-A4	M16	100	12.0	24.0	17.5	16.0	20.0	14
P0154.200-040-A4	M20	40	16.0	30.0	22.0	20.0	25.0	19
P0154.200-060-A4	M20	60	16.0	30.0	22.0	20.0	25.0	19
P0154.200-080-A4	M20	80	16.0	30.0	22.0	20.0	25.0	19
P0154.200-100-A4	M20	100	16.0	30.0	22.0	20.0	25.0	19
P0154.200-120-A4	M20	120	16.0	30.0	22.0	20.0	25.0	19

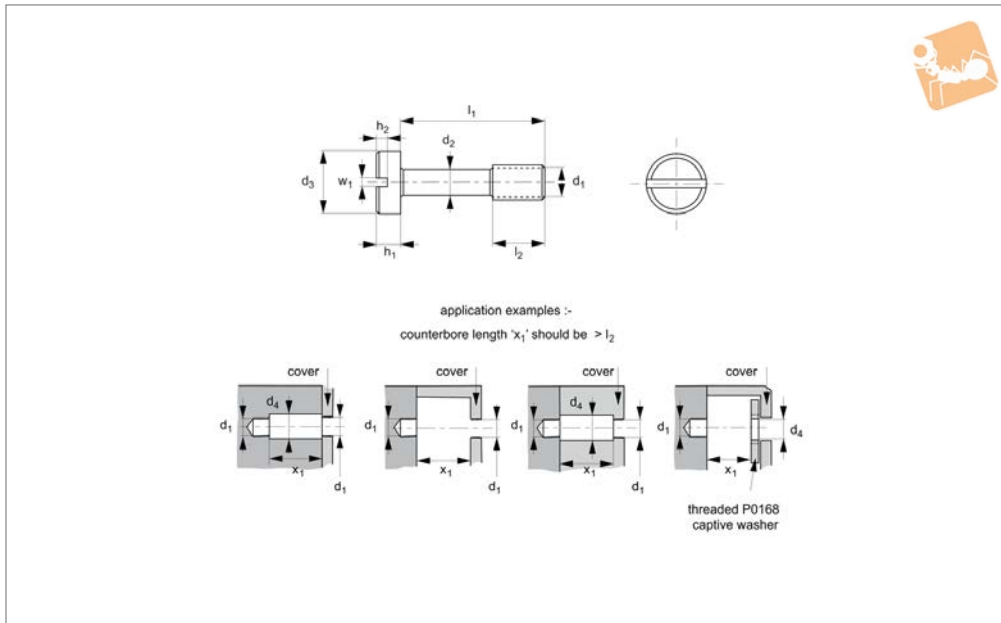


# Captive Screws - Cheese Head

slot drive - 303 stainless



Captive Screws



MADE IN BRITAIN

P0155.A2

CAPTIVE SCREWS

### Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

ive 2006/42/EC. Generally to ISO 1207. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

### Tips

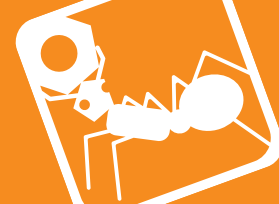
Other head drive styles - add suffix:  
-TX for Torx (hexalobular).

-PZ for Pozidrive.  
-SE for snake-eye security.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	l <sub>2</sub> ±0.25	w <sub>1</sub>
P0155.020-010-A2	M 2	10	1.2	3.8	2.5	1.3	0.85	3.0	0.5
P0155.020-012-A2	M 2	12	1.2	3.8	2.5	1.3	0.85	3.0	0.5
P0155.020-016-A2	M 2	16	1.2	3.8	2.5	1.3	0.85	3.0	0.5
P0155.020-020-A2	M 2	20	1.2	3.8	2.5	1.3	0.85	3.0	0.5
P0155.025-010-A2	M 2,5	10	1.7	4.5	2.8	1.6	1.00	3.7	0.6
P0155.025-012-A2	M 2,5	12	1.7	4.5	2.8	1.6	1.00	3.7	0.6
P0155.025-016-A2	M 2,5	16	1.7	4.5	2.8	1.6	1.00	3.7	0.6
P0155.025-020-A2	M 2,5	20	1.7	4.5	2.8	1.6	1.00	3.7	0.6
P0155.025-025-A2	M 2,5	25	1.7	4.5	2.8	1.6	1.00	3.7	0.6
P0155.025-030-A2	M 2,5	30	1.7	4.5	2.8	1.6	1.00	3.7	0.6
P0155.030-006-A2	M 3	6	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-008-A2	M 3	8	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-010-A2	M 3	10	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-011-A2	M 3	11	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-013-A2	M 3	13	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-016-A2	M 3	16	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-018-A2	M 3	18	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-020-A2	M 3	20	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-025-A2	M 3	25	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-030-A2	M 3	30	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-040-A2	M 3	40	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.035-010-A2	M3,5	10	2.3	6.0	3.8	2.4	1.4	5.2	1.0
P0155.035-016-A2	M3,5	16	2.3	6.0	3.8	2.4	1.4	5.2	1.0
P0155.035-020-A2	M3,5	20	2.3	6.0	3.8	2.4	1.4	5.2	1.0
P0155.035-025-A2	M3,5	25	2.3	6.0	3.8	2.4	1.4	5.2	1.0
P0155.035-030-A2	M3,5	30	2.3	6.0	3.8	2.4	1.4	5.2	1.0



CAPTIVE SCREWS

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	l <sub>2</sub> ±0.25	w <sub>1</sub>
P0155.035-040-A2	M3,5	40	2.3	6.0	3.8	2.4	1.4	5.2	1.0
P0155.040-010-A2	M 4	10	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-012-A2	M 4	12	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-016-A2	M 4	16	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-018-A2	M 4	18	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-019-A2	M 4	19	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-020-A2	M 4	20	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-025-A2	M 4	25	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-030-A2	M 4	30	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-040-A2	M 4	40	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-050-A2	M 4	50	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-060-A2	M 4	60	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.050-010-A2	M 5	10	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-012-A2	M 5	12	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-016-A2	M 5	16	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-018-A2	M 5	18	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-020-A2	M 5	20	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-022-A2	M 5	22	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-025-A2	M 5	25	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-030-A2	M 5	30	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-040-A2	M 5	40	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-050-A2	M 5	50	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-060-A2	M 5	60	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-080-A2	M 5	80	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.060-010-A2	M 6	10	4.2	10.0	6.5	3.9	2.3	7.5	1.6
P0155.060-012-A2	M 6	12	4.2	10.0	6.5	3.9	2.3	7.5	1.6
P0155.060-016-A2	M 6	16	4.2	10.0	6.5	3.9	2.3	7.5	1.6
P0155.060-020-A2	M 6	20	4.2	10.0	6.5	3.9	2.3	7.5	1.6
P0155.060-025-A2	M 6	25	4.2	10.0	6.5	3.9	2.3	7.5	1.6
P0155.060-030-A2	M 6	30	4.2	10.0	6.5	3.9	2.3	7.5	1.6
P0155.060-040-A2	M 6	40	4.2	10.0	6.5	3.9	2.3	7.5	1.6
P0155.060-050-A2	M 6	50	4.2	10.0	6.5	3.9	2.3	7.5	1.6
P0155.060-060-A2	M 6	60	4.2	10.0	6.5	3.9	2.3	7.5	1.6
P0155.060-080-A2	M 6	80	4.2	10.0	6.5	3.9	2.3	7.5	1.6



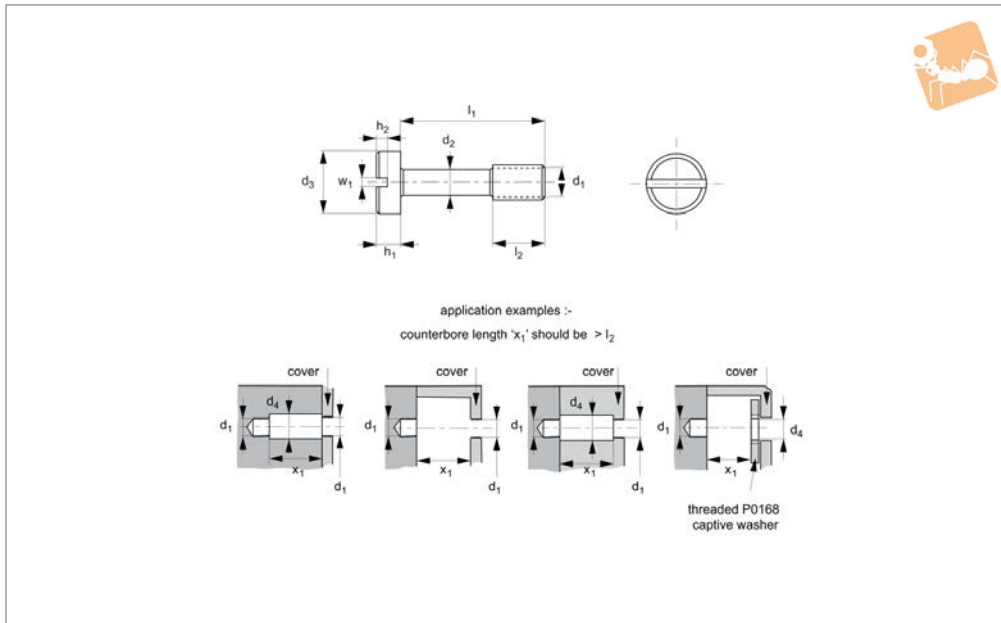


# Captive Screws - Cheese Head

slot drive - 316 stainless



Captive Screws



P0155.A4

CAPTIVE SCREWS

### Material

Stainless steel (AISI 316, 1.440).  
Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.  
Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 303, 1.4305), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 1207. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

### Tips

Other head drive styles - add suffix:  
-TX for Torx (hexalobular).

-PZ for Pozidrive.  
-SE for snake-eye security.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	l <sub>2</sub> ±0.25	w <sub>1</sub>
P0155.020-010-A4	M 2	10	1.2	3.8	2.5	1.3	0.85	3.0	0.5
P0155.020-012-A4	M 2	12	1.2	3.8	2.5	1.3	0.85	3.0	0.5
P0155.020-016-A4	M 2	16	1.2	3.8	2.5	1.3	0.85	3.0	0.5
P0155.020-020-A4	M 2	20	1.2	3.8	2.5	1.3	0.85	3.0	0.5
P0155.025-010-A4	M 2,5	10	1.7	4.5	2.8	1.6	1.00	3.7	0.6
P0155.025-012-A4	M 2,5	12	1.7	4.5	2.8	1.6	1.00	3.7	0.6
P0155.025-016-A4	M 2,5	16	1.7	4.5	2.8	1.6	1.00	3.7	0.6
P0155.025-020-A4	M 2,5	20	1.7	4.5	2.8	1.6	1.00	3.7	0.6
P0155.025-025-A4	M 2,5	25	1.7	4.5	2.8	1.6	1.00	3.7	0.6
P0155.025-030-A4	M 2,5	30	1.7	4.5	2.8	1.6	1.00	3.7	0.6
P0155.030-006-A4	M 3	6	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-008-A4	M 3	8	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-010-A4	M 3	10	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-011-A4	M 3	11	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-013-A4	M 3	13	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-016-A4	M 3	16	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-018-A4	M 3	18	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-020-A4	M 3	20	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-025-A4	M 3	25	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-030-A4	M 3	30	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.030-040-A4	M 3	40	2.0	5.5	3.5	2.0	1.30	4.5	0.8
P0155.035-010-A4	M3,5	10	2.3	6.0	3.8	2.4	1.4	5.2	1.0
P0155.035-016-A4	M3,5	16	2.3	6.0	3.8	2.4	1.4	5.2	1.0
P0155.035-020-A4	M3,5	20	2.3	6.0	3.8	2.4	1.4	5.2	1.0
P0155.035-025-A4	M3,5	25	2.3	6.0	3.8	2.4	1.4	5.2	1.0
P0155.035-030-A4	M3,5	30	2.3	6.0	3.8	2.4	1.4	5.2	1.0



CAPTIVE SCREWS

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	l <sub>2</sub> ±0.25	w <sub>1</sub>
P0155.035-040-A4	M3,5	40	2.3	6.0	3.8	2.4	1.4	5.2	1.0
P0155.040-010-A4	M 4	10	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-012-A4	M 4	12	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-016-A4	M 4	16	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-018-A4	M 4	18	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-019-A4	M 4	19	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-020-A4	M 4	20	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-025-A4	M 4	25	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-030-A4	M 4	30	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-040-A4	M 4	40	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-050-A4	M 4	50	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.040-060-A4	M 4	60	2.8	7.0	4.5	2.6	1.6	6.0	1.2
P0155.050-010-A4	M 5	10	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-012-A4	M 5	12	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-016-A4	M 5	16	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-018-A4	M 5	18	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-020-A4	M 5	20	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-022-A4	M 5	22	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-025-A4	M 5	25	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-030-A4	M 5	30	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-040-A4	M 5	40	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-050-A4	M 5	50	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-060-A4	M 5	60	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.050-080-A4	M 5	80	3.7	8.5	5.5	3.3	2.0	7.5	1.2
P0155.060-010-A4	M 6	10	4.2	10.0	6.5	3.9	2.3	7.5	1.6
P0155.060-012-A4	M 6	12	4.2	10.0	6.5	3.9	2.3	7.5	1.6
P0155.060-016-A4	M 6	16	4.2	10.0	6.5	3.9	2.3	7.5	1.6
P0155.060-020-A4	M 6	20	4.2	10.0	6.5	3.9	2.3	7.5	1.6
P0155.060-025-A4	M 6	25	4.2	10.0	6.5	3.9	2.3	7.5	1.6
P0155.060-030-A4	M 6	30	4.2	10.0	6.5	3.9	2.3	7.5	1.6
P0155.060-040-A4	M 6	40	4.2	10.0	6.5	3.9	2.3	7.5	1.6
P0155.060-050-A4	M 6	50	4.2	10.0	6.5	3.9	2.3	7.5	1.6
P0155.060-060-A4	M 6	60	4.2	10.0	6.5	3.9	2.3	7.5	1.6
P0155.060-080-A4	M 6	80	4.2	10.0	6.5	3.9	2.3	7.5	1.6

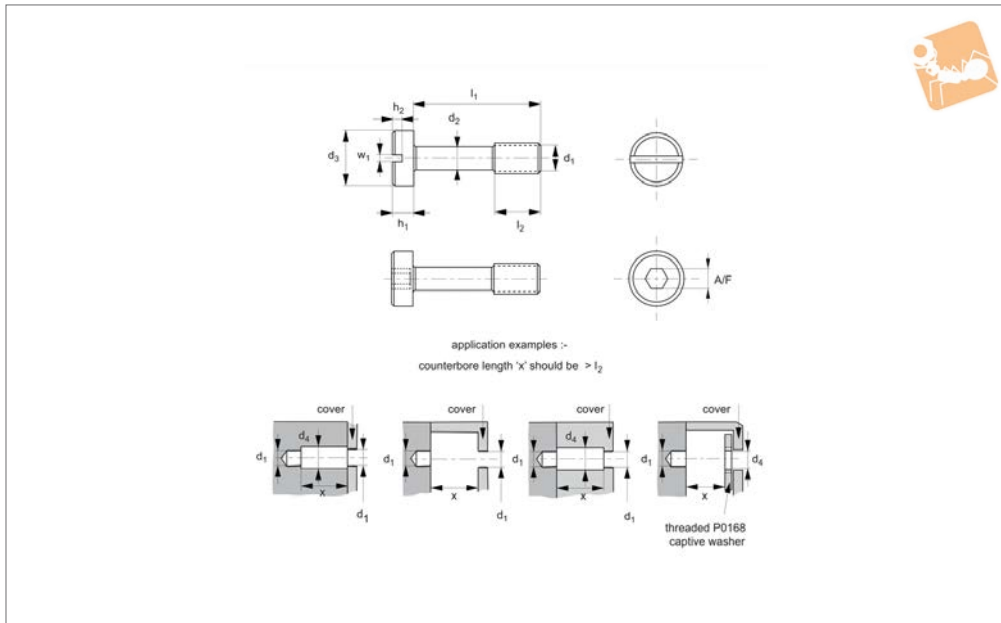


# Captive Screws - Cheese Head

slot and hex drive - 303 stainless



Captive Screws



P0155.i.A2

CAPTIVE SCREWS

### Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm<sup>2</sup>.

Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 1207. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

### Tips

Other head drive styles - add suffix:

-TX for Torx (hexalobular).

-PZ for Pozidrive.

-SE for snake-eye security.

**All dimensions are in inches.**

### Important Notes

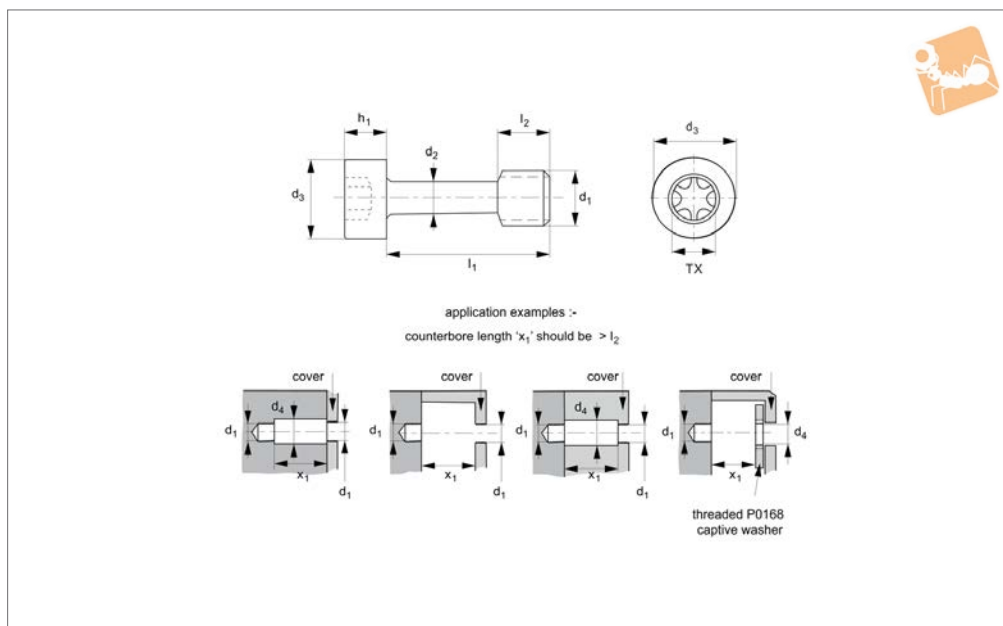
Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	Type	d <sub>1</sub>	l <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	l <sub>2</sub>	A/F
P0155.i04-07-SA2	Slotted	#4- 40	0.281	0.072	1/4	2.5	1/8	0.187	-
P0155.i04-08-SA2	Slotted	#4- 40	0.343	0.072	1/4	2.5	1/8	0.187	-
P0155.i06-07-SA2	Slotted	#6- 32	0.312	0.086	9/32	2.5	1/8	0.218	-
P0155.i06-09-SA2	Slotted	#6- 32	0.375	0.086	9/32	2.5	1/8	0.218	-
P0155.i06-11-SA2	Slotted	#6- 32	0.437	0.086	9/32	2.8	1/8	0.218	-
P0155.i08-10-SA2	Slotted	#8- 32	0.406	0.114	5/16	2.8	5/32	0.250	-
P0155.i08-12-SA2	Slotted	#8- 32	0.468	0.114	5/16	2.8	5/32	0.250	-
P0155.i08-13-SA2	Slotted	#8- 32	0.531	0.114	5/16	2.8	5/32	0.250	-
P0155.i10-13-SA2	Slotted	#10-32	0.531	0.136	3/8	2.8	3/16	0.312	-
P0155.i10-14-SA2	Slotted	#10-32	0.593	0.136	3/8	2.8	3/16	0.312	-
P0155.i04-07-HA2	Hex Socket	#4- 40	0.281	0.072	1/4	3.5	1/8	0.187	5/64
P0155.i04-08-HA2	Hex Socket	#4- 40	0.343	0.072	1/4	3.5	1/8	0.187	5/64
P0155.i06-07-HA2	Hex Socket	#6- 32	0.312	0.086	9/32	3.5	1/8	0.218	5/64
P0155.i06-09-HA2	Hex Socket	#6- 32	0.375	0.086	9/32	3.5	1/8	0.218	5/64
P0155.i06-11-HA2	Hex Socket	#6- 32	0.437	0.086	9/32	3.5	1/8	0.218	5/64
P0155.i08-10-HA2	Hex Socket	#8- 32	0.406	0.114	5/16	3.5	5/32	0.250	3/32
P0155.i08-12-HA2	Hex Socket	#8- 32	0.468	0.114	5/16	3.5	5/32	0.250	3/32
P0155.i08-13-HA2	Hex Socket	#8- 32	0.531	0.114	5/16	3.5	5/32	0.250	3/32
P0155.i10-13-HA2	Hex Socket	#10-32	0.531	0.136	3/8	3.5	3/16	0.312	1/8
P0155.i10-14-HA2	Hex Socket	#10-32	0.593	0.136	3/8	3.5	3/16	0.312	1/8



MADE IN BRITAIN

## P0156.A2



### Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 4762. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

\* M 8 sizes have a reduced TX size.

### Important Notes

Please note that these screws have a

reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	TX size
P0156.030-008-A2	M 3	8	2.0	5.5	3.5	3	4.5	TX-10
P0156.030-010-A2	M 3	10	2.0	5.5	3.5	3	4.5	TX-10
P0156.030-016-A2	M 3	16	2.0	5.5	3.5	3	4.5	TX-10
P0156.030-020-A2	M 3	20	2.0	5.5	3.5	3	4.5	TX-10
P0156.030-025-A2	M 3	25	2.0	5.5	3.5	3	4.5	TX-10
P0156.030-030-A2	M 3	30	2.0	5.5	3.5	3	4.5	TX-10
P0156.040-008-A2	M 4	8	2.8	7.0	4.5	4	6.0	TX-20
P0156.040-010-A2	M 4	10	2.8	7.0	4.5	4	6.0	TX-20
P0156.040-012-A2	M 4	12	2.8	7.0	4.5	4	6.0	TX-20
P0156.040-016-A2	M 4	16	2.8	7.0	4.5	4	6.0	TX-20
P0156.040-020-A2	M 4	20	2.8	7.0	4.5	4	6.0	TX-20
P0156.040-025-A2	M 4	25	2.8	7.0	4.5	4	6.0	TX-20
P0156.040-030-A2	M 4	30	2.8	7.0	4.5	4	6.0	TX-20
P0156.040-040-A2	M 4	40	2.8	7.0	4.5	4	6.0	TX-20
P0156.040-050-A2	M 4	50	2.8	7.0	4.5	4	6.0	TX-20
P0156.050-010-A2	M 5	10	3.7	8.5	5.5	5	7.5	TX-25
P0156.050-012-A2	M 5	12	3.7	8.5	5.5	5	7.5	TX-25
P0156.050-016-A2	M 5	16	3.7	8.5	5.5	5	7.5	TX-25
P0156.050-020-A2	M 5	20	3.7	8.5	5.5	5	7.5	TX-25
P0156.050-025-A2	M 5	25	3.7	8.5	5.5	5	7.5	TX-25
P0156.050-030-A2	M 5	30	3.7	8.5	5.5	5	7.5	TX-25
P0156.050-040-A2	M 5	40	3.7	8.5	5.5	5	7.5	TX-25
P0156.050-050-A2	M 5	50	3.7	8.5	5.5	5	7.5	TX-25
P0156.060-010-A2	M 6	10	4.2	10.0	6.5	6	7.5	TX-30
P0156.060-012-A2	M 6	12	4.2	10.0	6.5	6	7.5	TX-30
P0156.060-016-A2	M 6	16	4.2	10.0	6.5	6	7.5	TX-30



# Captive Screws - Cap Head

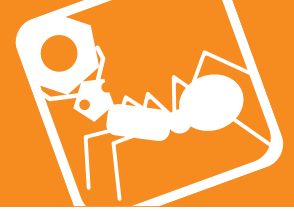
TX drive - 303 stainless



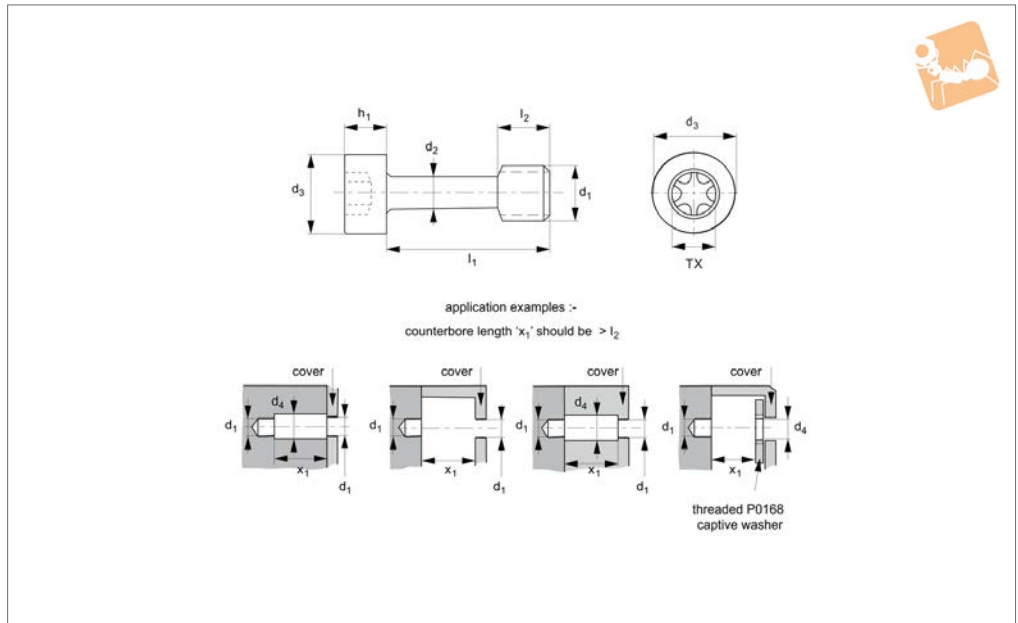
Captive Screws

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	TX size
P0156.060-020-A2	M 6	20	4.2	10.0	6.5	6	7.5	TX-30
P0156.060-025-A2	M 6	25	4.2	10.0	6.5	6	7.5	TX-30
P0156.060-030-A2	M 6	30	4.2	10.0	6.5	6	7.5	TX-30
P0156.060-040-A2	M 6	40	4.2	10.0	6.5	6	7.5	TX-30
P0156.060-050-A2	M 6	50	4.2	10.0	6.5	6	7.5	TX-30
P0156.060-060-A2	M 6	60	4.2	10.0	6.5	6	7.5	TX-30
P0156.060-080-A2	M 6	80	4.2	10.0	6.5	6	7.5	TX-30
P0156.080-012-A2	M 8	12	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-016-A2	M 8	16	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-020-A2	M 8	20	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-025-A2	M 8	25	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-030-A2	M 8	30	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-035-A2	M 8	35	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-040-A2	M 8	40	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-045-A2	M 8	45	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-050-A2	M 8	50	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-060-A2	M 8	60	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-080-A2	M 8	80	6.0	13.0	8.5	8	10.0	TX-30*

CAPTIVE SCREWS



## P0156.A4



### Material

Stainless steel (AISI 316, 1.440).  
Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.  
Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 303, 1.4305), brass, aluminium etc.

tive 2006/42/EC. Generally to ISO 4762. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

\* M 8 sizes have a reduced TX size.

### Technical Notes

Used to comply with the Machinery Direc-

### Important Notes

Please note that these screws have a

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	TX size
P0156.030-008-A4	M 3	8	2.0	5.5	3.5	3	4.5	TX-10
P0156.030-010-A4	M 3	10	2.0	5.5	3.5	3	4.5	TX-10
P0156.030-016-A4	M 3	16	2.0	5.5	3.5	3	4.5	TX-10
P0156.030-020-A4	M 3	20	2.0	5.5	3.5	3	4.5	TX-10
P0156.030-025-A4	M 3	25	2.0	5.5	3.5	3	4.5	TX-10
P0156.030-030-A4	M 3	30	2.0	5.5	3.5	3	4.5	TX-10
P0156.040-008-A4	M 4	8	2.8	7.0	4.5	4	6.0	TX-20
P0156.040-010-A4	M 4	10	2.8	7.0	4.5	4	6.0	TX-20
P0156.040-012-A4	M 4	12	2.8	7.0	4.5	4	6.0	TX-20
P0156.040-016-A4	M 4	16	2.8	7.0	4.5	4	6.0	TX-20
P0156.040-020-A4	M 4	20	2.8	7.0	4.5	4	6.0	TX-20
P0156.040-025-A4	M 4	25	2.8	7.0	4.5	4	6.0	TX-20
P0156.040-030-A4	M 4	30	2.8	7.0	4.5	4	6.0	TX-20
P0156.040-040-A4	M 4	40	2.8	7.0	4.5	4	6.0	TX-20
P0156.040-050-A4	M 4	50	2.8	7.0	4.5	4	6.0	TX-20
P0156.050-010-A4	M 5	10	3.7	8.5	5.5	5	7.5	TX-25
P0156.050-012-A4	M 5	12	3.7	8.5	5.5	5	7.5	TX-25
P0156.050-016-A4	M 5	16	3.7	8.5	5.5	5	7.5	TX-25
P0156.050-020-A4	M 5	20	3.7	8.5	5.5	5	7.5	TX-25
P0156.050-025-A4	M 5	25	3.7	8.5	5.5	5	7.5	TX-25
P0156.050-030-A4	M 5	30	3.7	8.5	5.5	5	7.5	TX-25
P0156.050-040-A4	M 5	40	3.7	8.5	5.5	5	7.5	TX-25
P0156.050-050-A4	M 5	50	3.7	8.5	5.5	5	7.5	TX-25
P0156.060-010-A4	M 6	10	4.2	10.0	6.5	6	7.5	TX-30
P0156.060-012-A4	M 6	12	4.2	10.0	6.5	6	7.5	TX-30
P0156.060-016-A4	M 6	16	4.2	10.0	6.5	6	7.5	TX-30



# Captive Screws - Cap Head

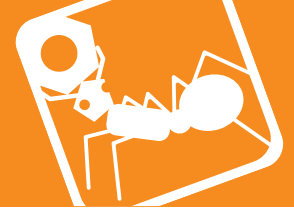
TX drive - 316 stainless



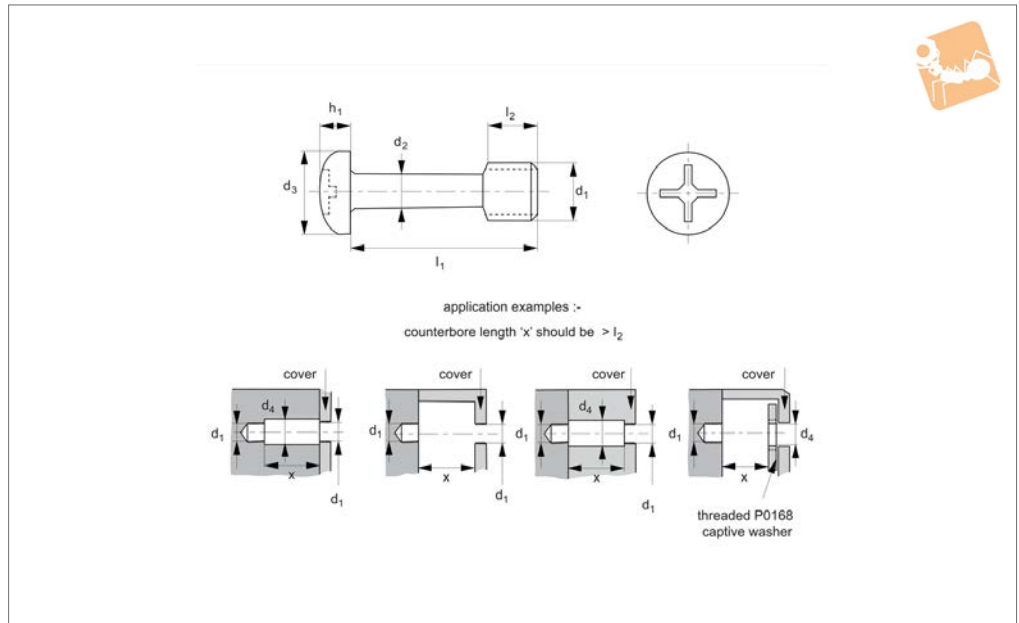
Captive Screws

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	TX size
P0156.060-020-A4	M 6	20	4.2	10.0	6.5	6	7.5	TX-30
P0156.060-025-A4	M 6	25	4.2	10.0	6.5	6	7.5	TX-30
P0156.060-030-A4	M 6	30	4.2	10.0	6.5	6	7.5	TX-30
P0156.060-040-A4	M 6	40	4.2	10.0	6.5	6	7.5	TX-30
P0156.060-050-A4	M 6	50	4.2	10.0	6.5	6	7.5	TX-30
P0156.060-060-A4	M 6	60	4.2	10.0	6.5	6	7.5	TX-30
P0156.060-080-A4	M 6	80	4.2	10.0	6.5	6	7.5	TX-30
P0156.080-012-A4	M 8	12	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-016-A4	M 8	16	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-020-A4	M 8	20	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-025-A4	M 8	25	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-030-A4	M 8	30	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-035-A4	M 8	35	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-040-A4	M 8	40	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-045-A4	M 8	45	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-050-A4	M 8	50	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-060-A4	M 8	60	6.0	13.0	8.5	8	10.0	TX-30*
P0156.080-080-A4	M 8	80	6.0	13.0	8.5	8	10.0	TX-30*

CAPTIVE SCREWS



## P0157.A2



### Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 14583. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

### Tips

Other head drive styles - add suffix:  
-TX for Torx (hexalobular).

-PZ for Pozidrive.  
-SE for snake-eye security.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> max.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	Drive #
P0157.025-008-A2	M 2,5	8	1.7	5.0	3.5	2.1	3.7	1
P0157.025-010-A2	M 2,5	10	1.7	5.0	3.5	2.1	3.7	1
P0157.025-012-A2	M 2,5	12	1.7	5.0	3.5	2.1	3.7	1
P0157.025-016-A2	M 2,5	16	1.7	5.0	3.5	2.1	3.7	1
P0157.025-020-A2	M 2,5	20	1.7	5.0	3.5	2.1	3.7	1
P0157.030-010-A2	M 3	10	2.0	5.6	4.5	2.4	4.5	1
P0157.030-016-A2	M 3	16	2.0	5.6	4.5	2.4	4.5	1
P0157.030-020-A2	M 3	20	2.0	5.6	4.5	2.4	4.5	1
P0157.030-025-A2	M 3	25	2.0	5.6	4.5	2.4	4.5	1
P0157.030-030-A2	M 3	30	2.0	5.6	4.5	2.4	4.5	1
P0157.030-040-A2	M 3	40	2.0	5.6	4.5	2.4	4.5	1
P0157.040-010-A2	M 4	10	2.8	8.0	5.5	3.1	6.0	2
P0157.040-012-A2	M 4	12	2.8	8.0	5.5	3.1	6.0	2
P0157.040-016-A2	M 4	16	2.8	8.0	5.5	3.1	6.0	2
P0157.040-020-A2	M 4	20	2.8	8.0	5.5	3.1	6.0	2
P0157.040-025-A2	M 4	25	2.8	8.0	5.5	3.1	6.0	2
P0157.040-030-A2	M 4	30	2.8	8.0	5.5	3.1	6.0	2
P0157.040-040-A2	M 4	40	2.8	8.0	5.5	3.1	6.0	2
P0157.040-050-A2	M 4	50	2.8	8.0	5.5	3.1	6.0	2
P0157.040-060-A2	M 4	60	2.8	8.0	5.5	3.1	6.0	2
P0157.050-010-A2	M 5	10	3.7	9.5	6.5	3.7	7.5	2
P0157.050-012-A2	M 5	12	3.7	9.5	6.5	3.7	7.5	2
P0157.050-016-A2	M 5	16	3.7	9.5	6.5	3.7	7.5	2
P0157.050-020-A2	M 5	20	3.7	9.5	6.5	3.7	7.5	2
P0157.050-025-A2	M 5	25	3.7	9.5	6.5	3.7	7.5	2
P0157.050-030-A2	M 5	30	3.7	9.5	6.5	3.7	7.5	2





# Captive Screws - Pan Head

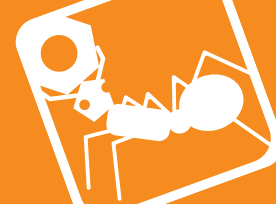
phillips drive, 303 stainless



Captive Screws

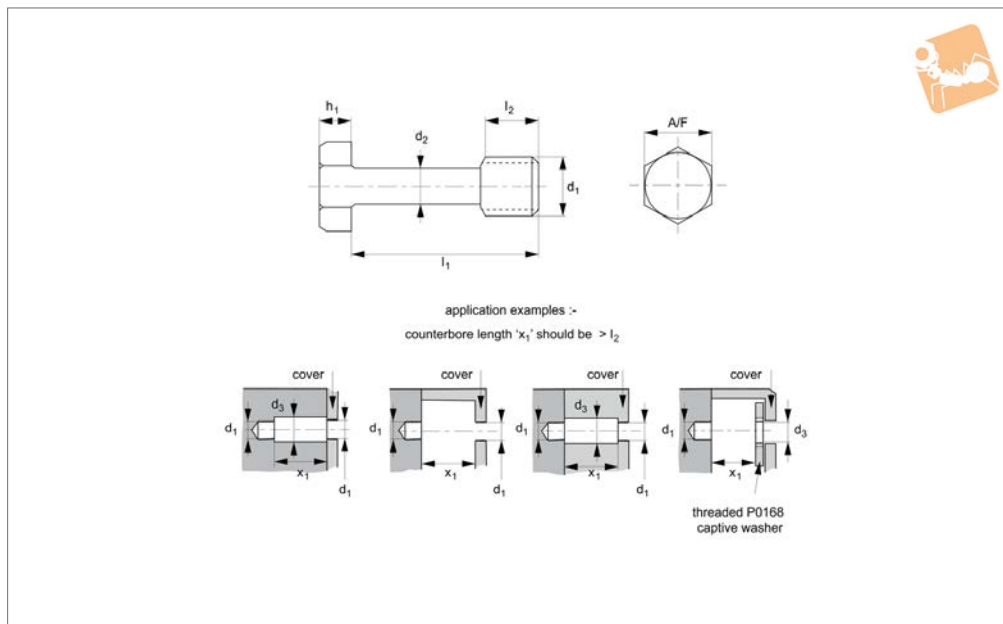
Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> max.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	Drive #
P0157.050-040-A2	M 5	40	3.7	9.5	6.5	3.7	7.5	2
P0157.050-050-A2	M 5	50	3.7	9.5	6.5	3.7	7.5	2
P0157.050-060-A2	M 5	60	3.7	9.5	6.5	3.7	7.5	2
P0157.060-012-A2	M 6	12	4.2	12.0	8.5	4.7	7.5	3
P0157.060-016-A2	M 6	16	4.2	12.0	8.5	4.7	7.5	3
P0157.060-020-A2	M 6	20	4.2	12.0	8.5	4.7	7.5	3
P0157.060-025-A2	M 6	25	4.2	12.0	8.5	4.7	7.5	3
P0157.060-030-A2	M 6	30	4.2	12.0	8.5	4.7	7.5	3
P0157.060-040-A2	M 6	40	4.2	12.0	8.5	4.7	7.5	3
P0157.060-050-A2	M 6	50	4.2	12.0	8.5	4.7	7.5	3
P0157.060-060-A2	M 6	60	4.2	12.0	8.5	4.7	7.5	3
P0157.060-080-A2	M 6	80	4.2	12.0	8.5	4.7	7.5	3

CAPTIVE SCREWS



MADE IN BRITAIN

## P0158.A2



### Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	A/F
P0158.030-010-A2	M 3	10	2.0	3.5	2.2	4.5	6
P0158.030-016-A2	M 3	16	2.0	3.5	2.2	4.5	6
P0158.030-020-A2	M 3	20	2.0	3.5	2.2	4.5	6
P0158.030-025-A2	M 3	25	2.0	3.5	2.2	4.5	6
P0158.030-030-A2	M 3	30	2.0	3.5	2.2	4.5	6
P0158.030-040-A2	M 3	40	2.0	3.5	2.2	4.5	6
P0158.040-012-A2	M 4	12	2.8	4.5	2.9	6.0	7
P0158.040-016-A2	M 4	16	2.8	4.5	2.9	6.0	7
P0158.040-020-A2	M 4	20	2.8	4.5	2.9	6.0	7
P0158.040-025-A2	M 4	25	2.8	4.5	2.9	6.0	7
P0158.040-030-A2	M 4	30	2.8	4.5	2.9	8.0	7
P0158.040-035-A2	M 4	35	2.8	4.5	2.9	8.0	7
P0158.040-040-A2	M 4	40	2.8	4.5	2.9	8.0	7
P0158.040-050-A2	M 4	50	2.8	4.5	2.9	8.0	7
P0158.040-060-A2	M 4	60	2.8	4.5	2.9	8.0	7
P0158.050-012-A2	M 5	12	3.7	5.5	3.6	7.5	8
P0158.050-016-A2	M 5	16	3.7	5.5	3.6	7.5	8
P0158.050-020-A2	M 5	20	3.7	5.5	3.6	7.5	8
P0158.050-025-A2	M 5	25	3.7	5.5	3.6	7.5	8
P0158.050-030-A2	M 5	30	3.7	5.5	3.6	10.0	8
P0158.050-035-A2	M 5	35	3.7	5.5	3.6	10.0	8
P0158.050-040-A2	M 5	40	3.7	5.5	3.6	10.0	8
P0158.050-050-A2	M 5	50	3.7	5.5	3.6	10.0	8
P0158.050-060-A2	M 5	60	3.7	5.5	3.6	10.0	8
P0158.060-012-A2	M 6	12	4.2	6.5	4.1	7.5	10
P0158.060-016-A2	M 6	16	4.2	6.5	4.1	7.5	10
P0158.060-020-A2	M 6	20	4.2	6.5	4.1	7.5	10
P0158.060-025-A2	M 6	25	4.2	6.5	4.1	7.5	10
P0158.060-030-A2	M 6	30	4.2	6.5	4.1	7.5	10



# Captive Screws - Hex Bolts

303 stainless

## Captive Screws



Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	A/F
P0158.060-035-A2	M 6	35	4.2	6.5	4.1	7.5	10
P0158.060-040-A2	M 6	40	4.2	6.5	4.1	7.5	10
P0158.060-050-A2	M 6	50	4.2	6.5	4.1	7.5	10
P0158.060-060-A2	M 6	60	4.2	6.5	4.1	7.5	10
P0158.060-080-A2	M 6	80	4.2	6.5	4.1	7.5	10
P0158.080-016-A2	M 8	16	6.0	8.5	5.3	10.0	13
P0158.080-020-A2	M 8	20	6.0	8.5	5.3	10.0	13
P0158.080-025-A2	M 8	25	6.0	8.5	5.3	10.0	13
P0158.080-030-A2	M 8	30	6.0	8.5	5.3	10.0	13
P0158.080-035-A2	M 8	35	6.0	8.5	5.3	10.0	13
P0158.080-040-A2	M 8	40	6.0	8.5	5.3	10.0	13
P0158.080-050-A2	M 8	50	6.0	8.5	5.3	10.0	13
P0158.080-060-A2	M 8	60	6.0	8.5	5.3	10.0	13
P0158.080-080-A2	M 8	80	6.0	8.5	5.3	10.0	13
P0158.100-020-A2	M10	20	7.5	10.6	6.4	12.5	17
P0158.100-025-A2	M10	25	7.5	10.6	6.4	12.5	17
P0158.100-030-A2	M10	30	7.5	10.6	6.4	12.5	17
P0158.100-035-A2	M10	35	7.5	10.6	6.4	12.0	17
P0158.100-040-A2	M10	40	7.5	10.6	6.4	12.5	17
P0158.100-050-A2	M10	50	7.5	10.6	6.4	12.5	17
P0158.100-060-A2	M10	60	7.5	10.6	6.4	12.5	17
P0158.100-080-A2	M10	80	7.5	10.6	6.4	12.5	17
P0158.120-025-A2	M12	25	8.0	13.2	7.5	15.0	19
P0158.120-030-A2	M12	30	8.0	13.2	7.5	15.0	19
P0158.120-035-A2	M12	35	8.0	13.2	7.5	15.0	19
P0158.120-040-A2	M12	40	8.0	13.2	7.5	15.0	19
P0158.120-050-A2	M12	50	8.0	13.2	7.5	15.0	19
P0158.120-060-A2	M12	60	8.0	13.2	7.5	15.0	19
P0158.120-080-A2	M12	80	8.0	13.2	7.5	15.0	19

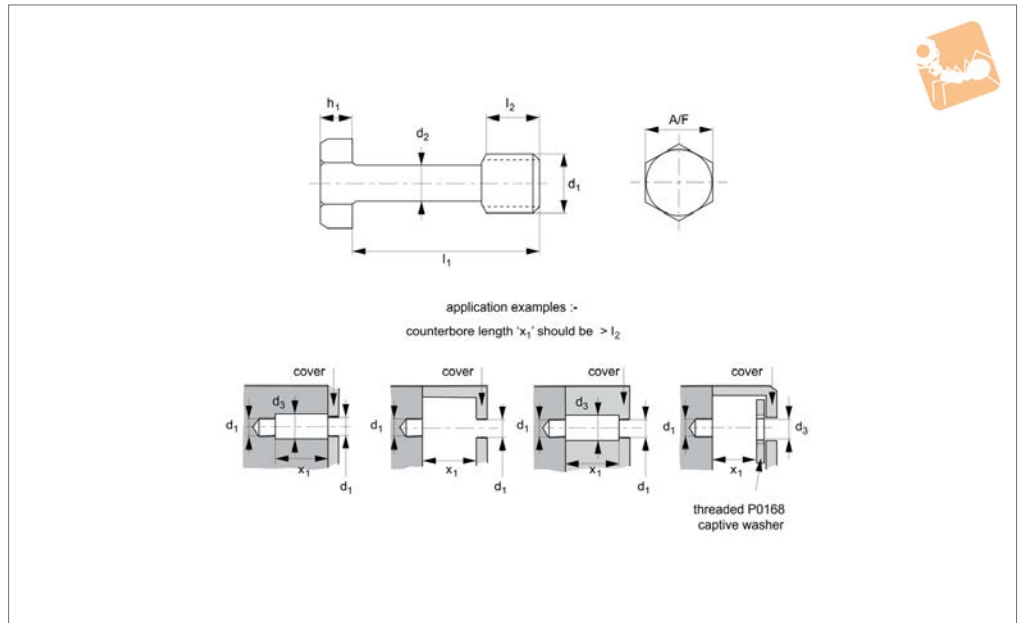
CAPTIVE SCREWS



CAPTIVE SCREWS



## P0158.A4



### Material

Stainless steel (AISI 316, 1.440).  
Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.  
Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 303, 1.4305), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	A/F
P0158.030-010-A4	M 3	10	2.0	3.5	2.2	4.5	6
P0158.030-016-A4	M 3	16	2.0	3.5	2.2	4.5	6
P0158.030-020-A4	M 3	20	2.0	3.5	2.2	4.5	6
P0158.030-025-A4	M 3	25	2.0	3.5	2.2	4.5	6
P0158.030-030-A4	M 3	30	2.0	3.5	2.2	4.5	6
P0158.030-040-A4	M 3	40	2.0	3.5	2.2	4.5	6
P0158.040-012-A4	M 4	12	2.8	4.5	2.9	6.0	7
P0158.040-016-A4	M 4	16	2.8	4.5	2.9	6.0	7
P0158.040-020-A4	M 4	20	2.8	4.5	2.9	6.0	7
P0158.040-030-A4	M 4	30	2.8	4.5	2.9	8.0	7
P0158.040-040-A4	M 4	40	2.8	4.5	2.9	8.0	7
P0158.040-050-A4	M 4	50	2.8	4.5	2.9	8.0	7
P0158.040-060-A4	M 4	60	2.8	4.5	2.9	8.0	7
P0158.050-012-A4	M 5	12	3.7	5.5	3.6	7.5	8
P0158.050-016-A4	M 5	16	3.7	5.5	3.6	7.5	8
P0158.050-020-A4	M 5	20	3.7	5.5	3.6	7.5	8
P0158.050-030-A4	M 5	30	3.7	5.5	3.6	10.0	8
P0158.050-040-A4	M 5	40	3.7	5.5	3.6	10.0	8
P0158.050-050-A4	M 5	50	3.7	5.5	3.6	10.0	8
P0158.050-060-A4	M 5	60	3.7	5.5	3.6	10.0	8
P0158.060-012-A4	M 6	12	4.2	6.5	4.1	7.5	10
P0158.060-016-A4	M 6	16	4.2	6.5	4.1	7.5	10
P0158.060-020-A4	M 6	20	4.2	6.5	4.1	7.5	10
P0158.060-030-A4	M 6	30	4.2	6.5	4.1	7.5	10
P0158.060-040-A4	M 6	40	4.2	6.5	4.1	7.5	10
P0158.060-050-A4	M 6	50	4.2	6.5	4.1	7.5	10
P0158.060-060-A4	M 6	60	4.2	6.5	4.1	7.5	10
P0158.060-080-A4	M 6	80	4.2	6.5	4.1	7.5	10
P0158.080-016-A4	M 8	16	6.0	8.5	5.3	10.0	13



# Captive Screws - Hex Bolts

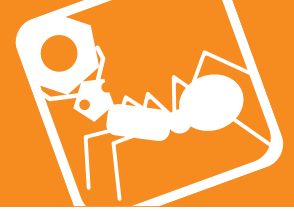
316 stainless

Captive Screws



Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> min.	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	A/F
P0158.080-020-A4	M 8	20	6.0	8.5	5.3	10.0	13
P0158.080-025-A4	M 8	25	6.0	8.5	5.3	10.0	13
P0158.080-030-A4	M 8	30	6.0	8.5	5.3	10.0	13
P0158.080-035-A4	M 8	35	6.0	8.5	5.3	10.0	13
P0158.080-040-A4	M 8	40	6.0	8.5	5.3	10.0	13
P0158.080-050-A4	M 8	50	6.0	8.5	5.3	10.0	13
P0158.080-060-A4	M 8	60	6.0	8.5	5.3	10.0	13
P0158.080-080-A4	M 8	80	6.0	8.5	5.3	10.0	13
P0158.100-020-A4	M10	20	7.5	10.6	6.4	12.5	17
P0158.100-025-A4	M10	25	7.5	10.6	6.4	12.5	17
P0158.100-030-A4	M10	30	7.5	10.6	6.4	12.5	17
P0158.100-035-A4	M10	35	7.5	10.6	6.4	12.0	17
P0158.100-040-A4	M10	40	7.5	10.6	6.4	12.5	17
P0158.100-050-A4	M10	50	7.5	10.6	6.4	12.5	17
P0158.100-060-A4	M10	60	7.5	10.6	6.4	12.5	17
P0158.100-080-A4	M10	80	7.5	10.6	6.4	12.5	17
P0158.120-025-A4	M12	25	8.0	13.2	7.5	15.0	19
P0158.120-030-A4	M12	30	8.0	13.2	7.5	15.0	19
P0158.120-035-A4	M12	35	8.0	13.2	7.5	15.0	19
P0158.120-040-A4	M12	40	8.0	13.2	7.5	15.0	19
P0158.120-050-A4	M12	50	8.0	13.2	7.5	15.0	19
P0158.120-060-A4	M12	60	8.0	13.2	7.5	15.0	19
P0158.120-080-A4	M12	80	8.0	13.2	7.5	15.0	19

CAPTIVE SCREWS



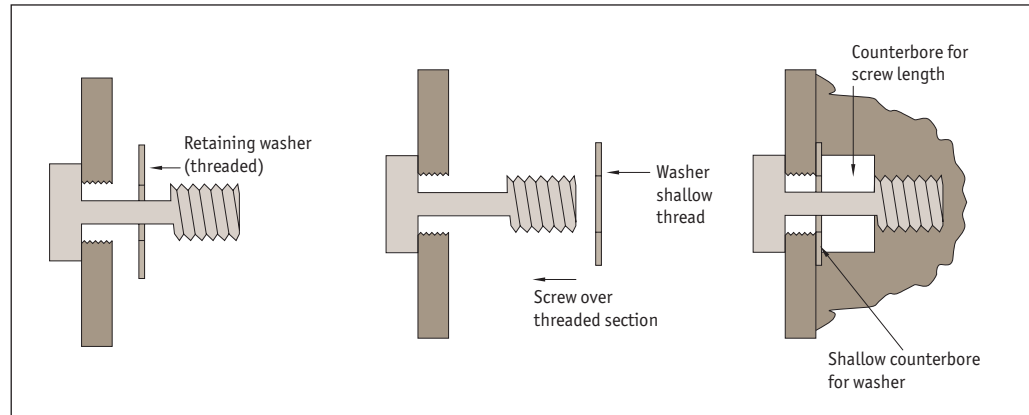
Other options to retain screws to panels are either our retaining washers or our retaining flanges.

### Retaining washers

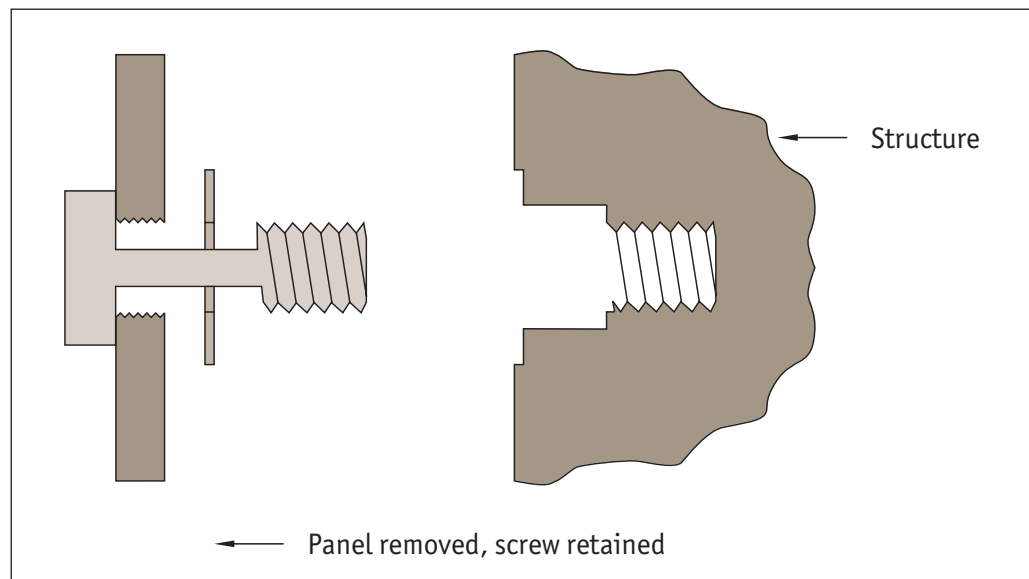
These are simple but effective when used with our captive screws. The captive screws have a normal thread then a reduced diameter for the rest of the screw length.

The washer has a small length of thread on the internal diameter and once screwed on to the captive screw is effectively captive.

### Example



Screw the thin retaining washer onto the captive screw and the screw is therefore retained to the panel.



Captive Screws from Automation Components

CAPTIVE SCREWS

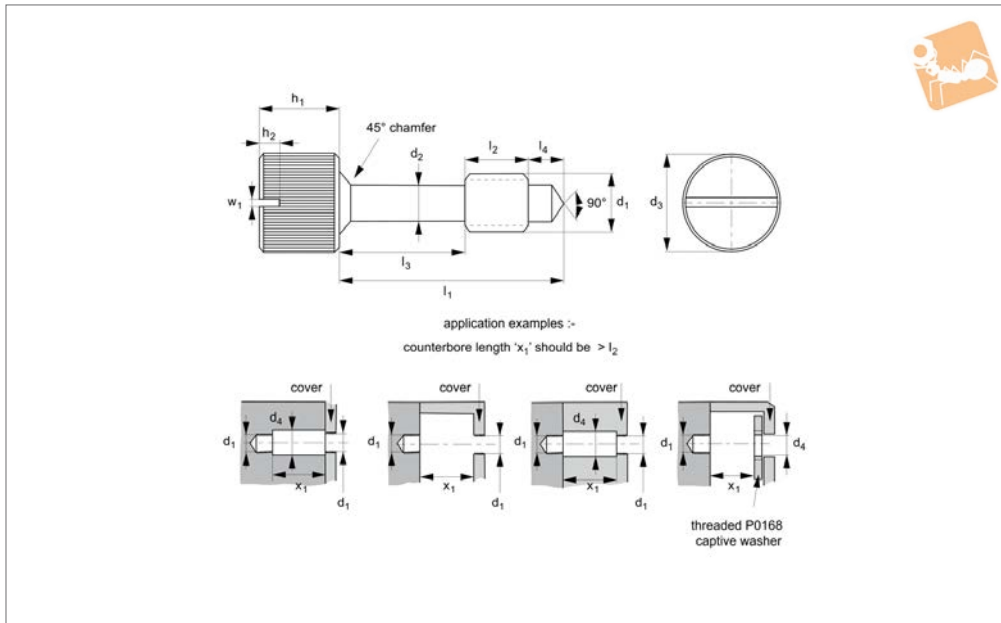


# Captive Panel Thumb Screws

slot drive - 303 stainless



Captive Screws



P0159.A2

CAPTIVE SCREWS

### Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated),

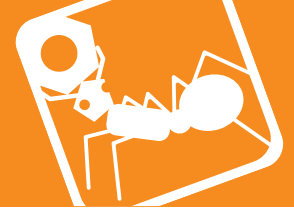
stainless steel (AISI 316, 1.440), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our

captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	l <sub>2</sub> ±0.25	l <sub>3</sub>	l <sub>4</sub>	w <sub>1</sub>
P0159.030-010-A2	M 3	10	2	6.5	3.5	6.5	2.0	3.2	4.8	2.0	1.2
P0159.030-014-A2	M 3	14	2	6.5	3.5	6.5	2.0	3.2	8.8	2.0	1.2
P0159.030-016-A2	M 3	16	2	6.5	3.5	6.5	2.0	3.2	10.8	2.0	1.2
P0159.030-020-A2	M 3	20	2	6.5	3.5	6.5	2.0	3.2	14.8	2.0	1.2
P0159.030-022-A2	M 3	22	2	6.5	3.5	6.5	2.0	3.2	16.8	2.0	1.2
P0159.030-024-A2	M 3	24	2	6.5	3.5	6.5	2.0	3.2	18.8	2.0	1.2
P0159.030-026-A2	M 3	26	2	6.5	3.5	6.5	2.0	3.2	20.8	2.0	1.2
P0159.031-010-A2	M 3	10	2	8	3.5	8.0	2.0	3.2	4.8	2.0	1.2
P0159.031-014-A2	M 3	14	2	8	3.5	8.0	2.0	3.2	8.8	2.0	1.2
P0159.031-016-A2	M 3	16	2	8	3.5	8.0	2.0	3.2	10.8	2.0	1.2
P0159.031-020-A2	M 3	20	2	8	3.5	8.0	2.0	3.2	14.8	2.0	1.2
P0159.031-022-A2	M 3	22	2	8	3.5	8.0	2.0	3.2	16.8	2.0	1.2
P0159.031-024-A2	M 3	24	2	8	3.5	8.0	2.0	3.2	18.8	2.0	1.2
P0159.040-010-A2	M 4	10	3	8	4.5	8.0	2.0	5.5	2.0	2.5	1.2
P0159.040-014-A2	M 4	14	3	8	4.5	8.0	2.0	5.5	6.0	2.5	1.2
P0159.040-016-A2	M 4	16	3	8	4.5	8.0	2.0	5.5	8.0	2.5	1.2
P0159.040-020-A2	M 4	20	3	8	4.5	8.0	2.0	5.5	12.0	2.5	1.2
P0159.040-022-A2	M 4	22	3	8	4.5	8.0	2.0	5.5	14.0	2.5	1.2
P0159.040-024-A2	M 4	24	3	8	4.5	8.0	2.0	5.5	16.0	2.5	1.2
P0159.040-027-A2	M 4	27	3	8	4.5	8.0	2.0	5.5	19.0	2.5	1.2
P0159.040-032-A2	M 4	32	3	8	4.5	8.0	2.0	5.5	24.0	2.5	1.2
P0159.050-014-A2	M 5	14	3.5	10	5.5	10.0	2.5	6.5	3.5	4.0	1.5
P0159.050-016-A2	M 5	16	3.5	10	5.5	10.0	2.5	6.5	5.5	4.0	1.5
P0159.050-020-A2	M 5	20	3.5	10	5.5	10.0	2.5	6.5	9.5	4.0	1.5
P0159.050-022-A2	M 5	22	3.5	10	5.5	10.0	2.5	6.5	11.5	4.0	1.5
P0159.050-024-A2	M 5	24	3.5	10	5.5	10.0	2.5	6.5	13.5	4.0	1.5
P0159.050-027-A2	M 5	27	3.5	10	5.5	10.0	2.5	6.5	16.5	4.0	1.5
P0159.050-032-A2	M 5	32	3.5	10	5.5	10.0	2.5	6.5	21.5	4.0	1.5
P0159.050-035-A2	M 5	35	3.5	10	5.5	10.0	2.5	6.5	24.5	4.0	1.5
P0159.050-040-A2	M 5	40	3.5	10	5.5	10.0	2.5	6.5	29.5	4.0	1.5
P0159.060-016-A2	M 6	16	4.5	12	6.5	15.0	2.5	8.0	3.0	5.0	2.0
P0159.060-020-A2	M 6	20	4.5	12	6.5	15.0	2.5	8.0	7.0	5.0	2.0



Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	l <sub>2</sub> ±0.25	l <sub>3</sub>	l <sub>4</sub>	w <sub>1</sub>
P0159.060-022-A2	M 6	22	4.5	12	6.5	15.0	2.5	8.0	9.0	5.0	2.0
P0159.060-024-A2	M 6	24	4.5	12	6.5	15.0	2.5	8.0	11.0	5.0	2.0
P0159.060-027-A2	M 6	27	4.5	12	6.5	15.0	2.5	8.0	14.0	5.0	2.0
P0159.060-032-A2	M 6	32	4.5	12	6.5	15.0	2.5	8.0	19.0	5.0	2.0
P0159.060-035-A2	M 6	35	4.5	12	6.5	15.0	2.5	8.0	22.0	5.0	2.0
P0159.060-040-A2	M 6	40	4.5	12	6.5	15.0	2.5	8.0	27.0	8.5	2.0
P0159.060-045-A2	M 6	45	4.5	12	6.5	15.0	2.5	8.0	32.0	8.5	2.0
P0159.060-050-A2	M 6	50	4.5	12	6.5	15.0	2.5	8.0	37.0	8.5	2.0



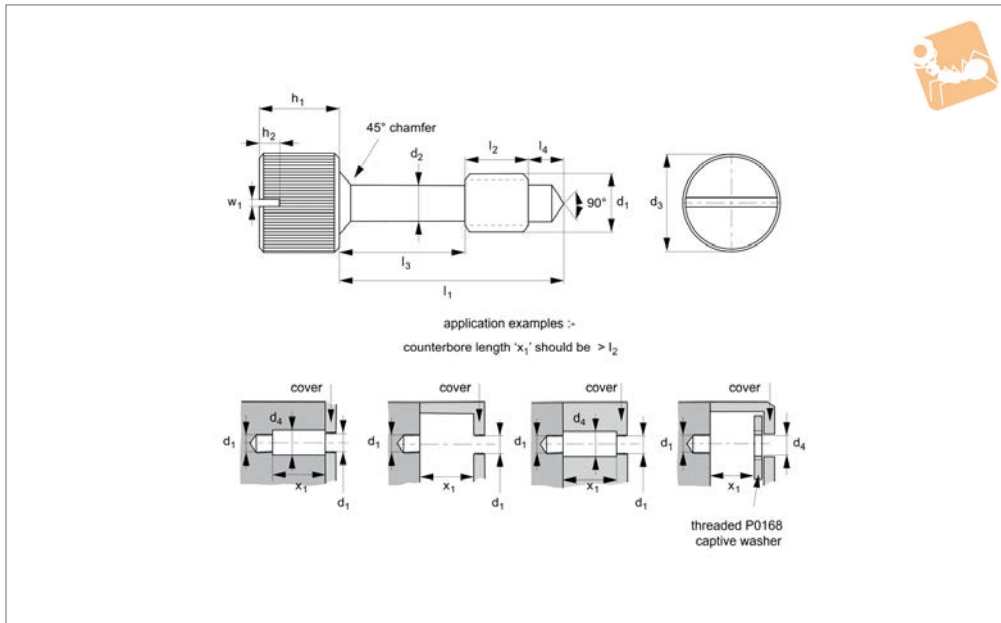


# Captive Panel Thumb Screws

slot drive - 316 stainless



Captive Screws



P0159.A4

CAPTIVE SCREWS

### Material

Stainless steel (AISI 316, 1.440).  
Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.  
Also available on request in steel (anodised, black oxide or zinc plated),

stainless steel (AISI 303, 1.4305), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our

captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	l <sub>2</sub> ±0.25	l <sub>3</sub>	l <sub>4</sub>	w <sub>1</sub>
P0159.030-010-A4	M 3	10	2	6.5	3.5	6.5	2.0	3.2	4.8	2.0	1.2
P0159.030-014-A4	M 3	14	2	6.5	3.5	6.5	2.0	3.2	8.8	2.0	1.2
P0159.030-016-A4	M 3	16	2	6.5	3.5	6.5	2.0	3.2	10.8	2.0	1.2
P0159.030-020-A4	M 3	20	2	6.5	3.5	6.5	2.0	3.2	14.8	2.0	1.2
P0159.030-022-A4	M 3	22	2	6.5	3.5	6.5	2.0	3.2	16.8	2.0	1.2
P0159.030-024-A4	M 3	24	2	6.5	3.5	6.5	2.0	3.2	18.8	2.0	1.2
P0159.030-026-A4	M 3	26	2	6.5	3.5	6.5	2.0	3.2	20.8	2.0	1.2
P0159.031-010-A4	M 3	10	2	8	3.5	8.0	2.0	3.2	4.8	2.0	1.2
P0159.031-014-A4	M 3	14	2	8	3.5	8.0	2.0	3.2	8.8	2.0	1.2
P0159.031-016-A4	M 3	16	2	8	3.5	8.0	2.0	3.2	10.8	2.0	1.2
P0159.031-020-A4	M 3	20	2	8	3.5	8.0	2.0	3.2	14.8	2.0	1.2
P0159.031-022-A4	M 3	22	2	8	3.5	8.0	2.0	3.2	16.8	2.0	1.2
P0159.031-024-A4	M 3	24	2	8	3.5	8.0	2.0	3.2	18.8	2.0	1.2
P0159.040-010-A4	M 4	10	3	8	4.5	8.0	2.0	5.5	2.0	2.5	1.2
P0159.040-014-A4	M 4	14	3	8	4.5	8.0	2.0	5.5	6.0	2.5	1.2
P0159.040-016-A4	M 4	16	3	8	4.5	8.0	2.0	5.5	8.0	2.5	1.2
P0159.040-020-A4	M 4	20	3	8	4.5	8.0	2.0	5.5	12.0	2.5	1.2
P0159.040-022-A4	M 4	22	3	8	4.5	8.0	2.0	5.5	14.0	2.5	1.2
P0159.040-024-A4	M 4	24	3	8	4.5	8.0	2.0	5.5	16.0	2.5	1.2
P0159.040-027-A4	M 4	27	3	8	4.5	8.0	2.0	5.5	19.0	2.5	1.2
P0159.040-032-A4	M 4	32	3	8	4.5	8.0	2.0	5.5	24.0	2.5	1.2
P0159.050-014-A4	M 5	14	3.5	10	5.5	10.0	2.5	6.5	3.5	4.0	1.5
P0159.050-016-A4	M 5	16	3.5	10	5.5	10.0	2.5	6.5	5.5	4.0	1.5
P0159.050-020-A4	M 5	20	3.5	10	5.5	10.0	2.5	6.5	9.5	4.0	1.5
P0159.050-022-A4	M 5	22	3.5	10	5.5	10.0	2.5	6.5	11.5	4.0	1.5
P0159.050-024-A4	M 5	24	3.5	10	5.5	10.0	2.5	6.5	13.5	4.0	1.5
P0159.050-027-A4	M 5	27	3.5	10	5.5	10.0	2.5	6.5	16.5	4.0	1.5
P0159.050-032-A4	M 5	32	3.5	10	5.5	10.0	2.5	6.5	21.5	4.0	1.5
P0159.050-035-A4	M 5	35	3.5	10	5.5	10.0	2.5	6.5	24.5	4.0	1.5
P0159.050-040-A4	M 5	40	3.5	10	5.5	10.0	2.5	6.5	29.5	4.0	1.5
P0159.060-016-A4	M 6	16	4.5	12	6.5	15.0	2.5	8.0	3.0	5.0	2.0
P0159.060-020-A4	M 6	20	4.5	12	6.5	15.0	2.5	8.0	7.0	5.0	2.0



Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	l <sub>2</sub> ±0.25	l <sub>3</sub>	l <sub>4</sub>	w <sub>1</sub>
P0159.060-022-A4	M 6	22	4.5	12	6.5	15.0	2.5	8.0	9.0	5.0	2.0
P0159.060-024-A4	M 6	24	4.5	12	6.5	15.0	2.5	8.0	11.0	5.0	2.0
P0159.060-027-A4	M 6	27	4.5	12	6.5	15.0	2.5	8.0	14.0	5.0	2.0
P0159.060-032-A4	M 6	32	4.5	12	6.5	15.0	2.5	8.0	19.0	5.0	2.0
P0159.060-035-A4	M 6	35	4.5	12	6.5	15.0	2.5	8.0	22.0	5.0	2.0
P0159.060-040-A4	M 6	40	4.5	12	6.5	15.0	2.5	8.0	27.0	8.5	2.0
P0159.060-045-A4	M 6	45	4.5	12	6.5	15.0	2.5	8.0	32.0	8.5	2.0
P0159.060-050-A4	M 6	50	4.5	12	6.5	15.0	2.5	8.0	37.0	8.5	2.0



Automotion provides a wide range of captive screws to aid customers to comply with the Machinery Directive 2006/42/EC.

In general there is a requirement that fixings for fixed guards shall remain attached to the guard or machinery when the guard is removed. This was implemented mainly to ensure that as far as possible fasteners are not lost when the guard is removed and the guard is therefore re-installed with all required fixings.

A wide range of captive screws and thumb screws are provided...



**P0151**  
Button Head - Hex  
Security and Torx Options



**P0154**  
Socket Head - Cap Screw  
Security and Torx Options



**P0158**  
Hexagon Head Bolt



**P0159**  
Captive Panel Screw



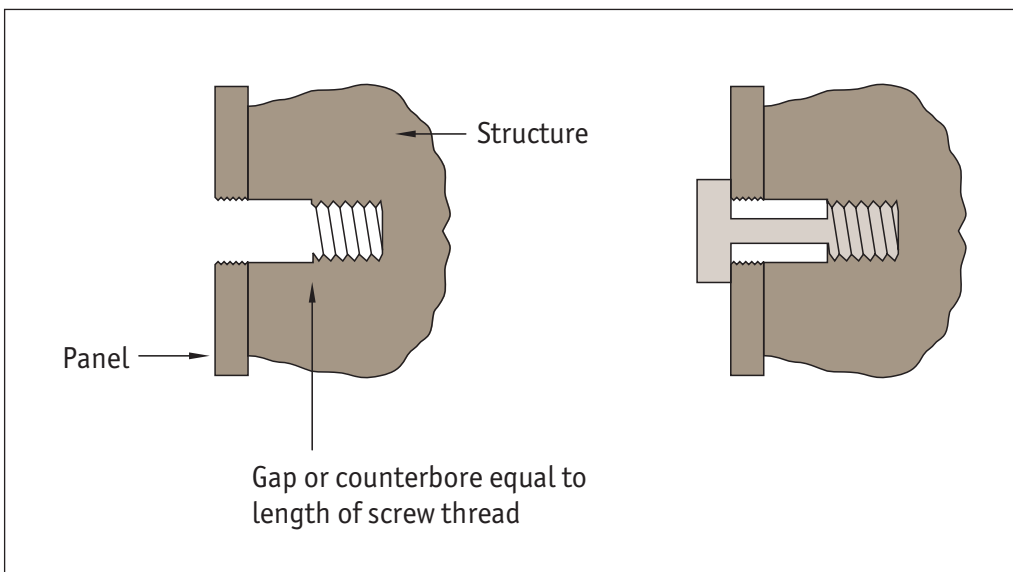
**P0160**  
Thin Head Thumb Screws



**P0161**  
Thumb Screws

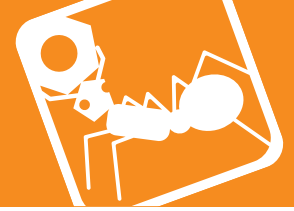
### Installation

To work effectively the captive screw when installed needs to have a space or counterbore between the thread and cover at least equal to the length of the thread.



Captive Screws from Automotion Components

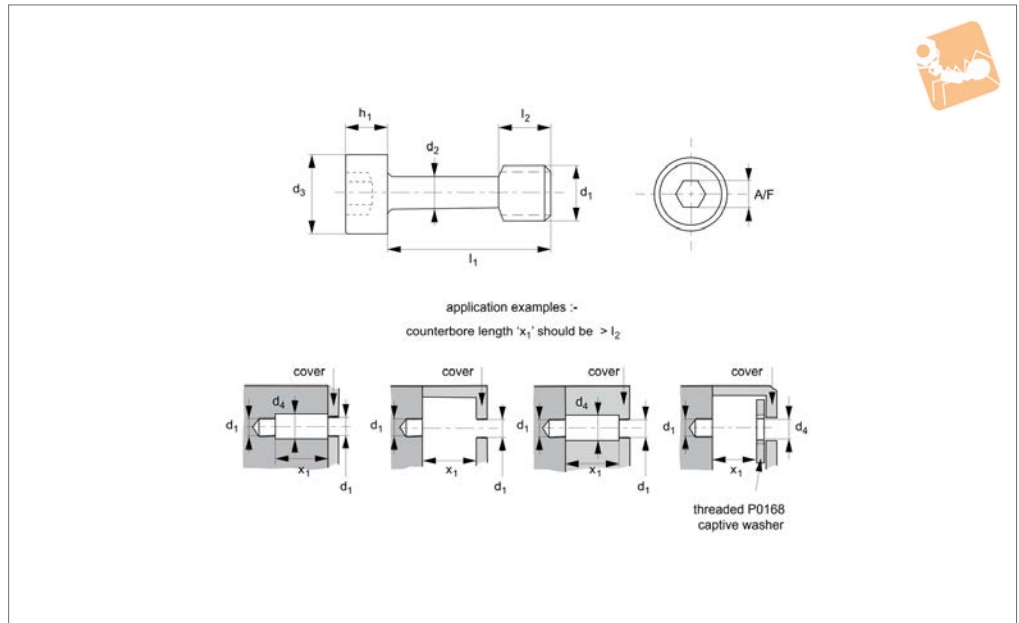
CAPTIVE SCREWS



CAPTIVE SCREWS



### P0154.ZP



#### Material

Steel, white zinc-plated.  
Tensile strength 550 N/mm<sup>2</sup>.  
Also available on request in steel (anodised or black oxide), stainless steel (AISI 316, 1.440 or AISI 303, 1.4305), brass, aluminium etc.

#### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 4762.

Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

#### Tips

For TX drive style, see P0156.

#### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F
P0154.025-005-ZP	M 2,5	5	1.8	3.0	4.5	2.8	2.5	2
P0154.025-008-ZP	M 2,5	8	1.8	3.0	4.5	2.8	2.5	2
P0154.025-010-ZP	M 2,5	10	1.8	3.0	4.5	2.8	2.5	2
P0154.025-012-ZP	M 2,5	12	1.8	3.0	4.5	2.8	2.5	2
P0154.030-008-ZP	M 3	8	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-010-ZP	M 3	10	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-012-ZP	M 3	12	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-016-ZP	M 3	16	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-020-ZP	M 3	20	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-025-ZP	M 3	25	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-030-ZP	M 3	30	2.0	4.5	5.5	3.5	3.0	2.5
P0154.040-010-ZP	M 4	10	2.8	6.0	7.0	4.5	4.0	3
P0154.040-012-ZP	M 4	12	2.8	6.0	7.0	4.5	4.0	3
P0154.040-016-ZP	M 4	16	2.8	6.0	7.0	4.5	4.0	3
P0154.040-020-ZP	M 4	20	2.8	6.0	7.0	4.5	4.0	3
P0154.040-025-ZP	M 4	25	2.8	6.0	7.0	4.5	4.0	3
P0154.040-030-ZP	M 4	30	2.8	6.0	7.0	4.5	4.0	3
P0154.040-035-ZP	M 4	35	2.8	6.0	7.0	4.5	4.0	3
P0154.040-040-ZP	M 4	40	2.8	6.0	7.0	4.5	4.0	3
P0154.040-050-ZP	M 4	50	2.8	6.0	7.0	4.5	4.0	3
P0154.050-012-ZP	M 5	12	3.7	7.5	8.5	5.5	5.0	4
P0154.050-016-ZP	M 5	16	3.7	7.5	8.5	5.5	5.0	4
P0154.050-020-ZP	M 5	20	3.7	7.5	8.5	5.5	5.0	4
P0154.050-025-ZP	M 5	25	3.7	7.5	8.5	5.5	5.0	4
P0154.050-030-ZP	M 5	30	3.7	7.5	8.5	5.5	5.0	4
P0154.050-035-ZP	M 5	35	3.7	7.5	8.5	5.5	5.0	4
P0154.050-040-ZP	M 5	40	3.7	7.5	8.5	5.5	5.0	4
P0154.050-050-ZP	M 5	50	3.7	7.5	8.5	5.5	5.0	4



# Captive Screws - Cap Head

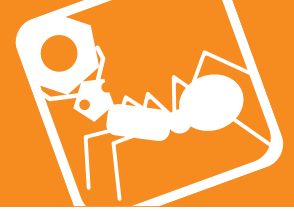
hex drive - steel, zinc-plated



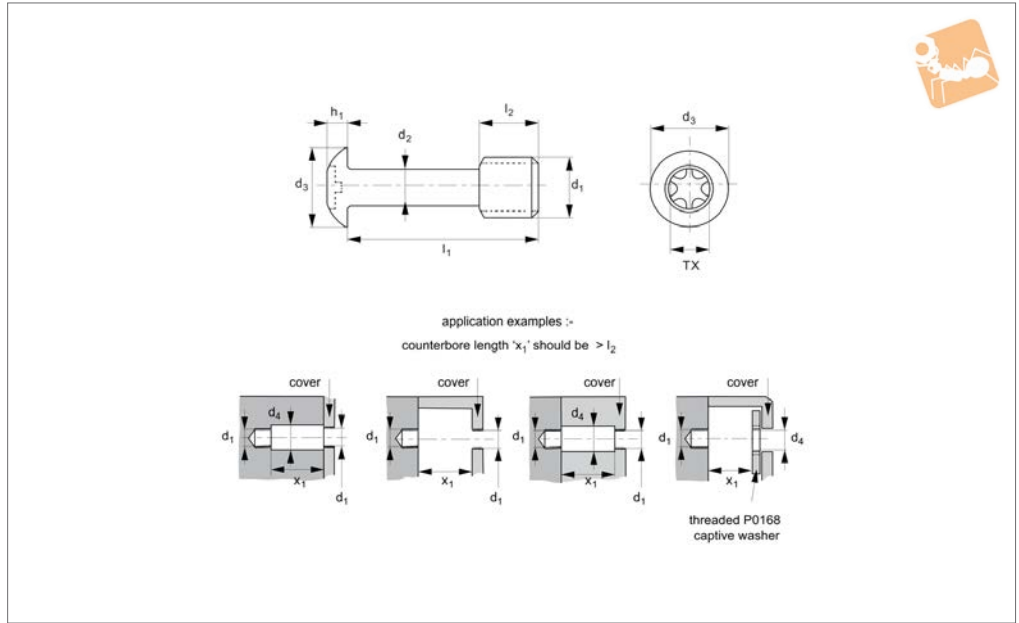
Captive Screws

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F
P0154.060-012-ZP	M 6	12	4.2	7.5	10.0	6.5	6.0	5
P0154.060-016-ZP	M 6	16	4.2	7.5	10.0	6.5	6.0	5
P0154.060-020-ZP	M 6	20	4.2	7.5	10.0	6.5	6.0	5
P0154.060-025-ZP	M 6	25	4.2	7.5	10.0	6.5	6.0	5
P0154.060-030-ZP	M 6	30	4.2	7.5	10.0	6.5	6.0	5
P0154.060-035-ZP	M 6	35	4.2	7.5	10.0	6.5	6.0	5
P0154.060-040-ZP	M 6	40	4.2	7.5	10.0	6.5	6.0	5
P0154.060-050-ZP	M 6	50	4.2	7.5	10.0	6.5	6.0	5
P0154.060-060-ZP	M 6	60	4.2	7.5	10.0	6.5	6.0	5
P0154.060-080-ZP	M 6	80	4.2	7.5	10.0	6.5	6.0	5
P0154.080-016-ZP	M 8	16	6.0	10.0	13.0	8.5	8.0	6
P0154.080-020-ZP	M 8	20	6.0	10.0	13.0	8.5	8.0	6
P0154.080-025-ZP	M 8	25	6.0	10.0	13.0	8.5	8.0	6
P0154.080-030-ZP	M 8	30	6.0	10.0	13.0	8.5	8.0	6
P0154.080-035-ZP	M 8	35	6.0	10.0	13.0	8.5	8.0	6
P0154.080-040-ZP	M 8	40	6.0	10.0	13.0	8.5	8.0	6
P0154.080-045-ZP	M 8	45	6.0	10.0	13.0	8.5	8.0	6
P0154.080-050-ZP	M 8	50	6.0	10.0	13.0	8.5	8.0	6
P0154.080-060-ZP	M 8	60	6.0	10.0	13.0	8.5	8.0	6
P0154.080-080-ZP	M 8	80	6.0	10.0	13.0	8.5	8.0	6
P0154.100-020-ZP	M10	20	7.5	12.5	16.0	10.6	10.0	8
P0154.100-025-ZP	M10	25	7.5	12.5	16.0	10.6	10.0	8
P0154.100-030-ZP	M10	30	7.5	12.5	16.0	10.6	10.0	8
P0154.100-035-ZP	M10	35	7.5	12.5	16.0	10.6	10.0	8
P0154.100-040-ZP	M10	40	7.5	12.5	16.0	10.6	10.0	8
P0154.100-045-ZP	M10	45	7.5	12.5	16.0	10.6	10.0	8
P0154.100-050-ZP	M10	50	7.5	12.5	16.0	10.6	10.0	8
P0154.100-060-ZP	M10	60	7.5	12.5	16.0	10.6	10.0	8
P0154.100-080-ZP	M10	80	7.5	12.5	16.0	10.6	10.0	8
P0154.120-025-ZP	M12	25	8.0	15.0	18.0	13.2	12.0	10
P0154.120-030-ZP	M12	30	8.0	15.0	18.0	13.2	12.0	10
P0154.120-035-ZP	M12	35	8.0	15.0	18.0	13.2	12.0	10
P0154.120-040-ZP	M12	40	8.0	15.0	18.0	13.2	12.0	10
P0154.120-045-ZP	M12	45	8.0	15.0	18.0	13.2	12.0	10
P0154.120-050-ZP	M12	50	8.0	15.0	18.0	13.2	12.0	10
P0154.120-060-ZP	M12	60	8.0	15.0	18.0	13.2	12.0	10
P0154.120-080-ZP	M12	80	8.0	15.0	18.0	13.2	12.0	10
P0154.160-030-ZP	M16	30	12.0	20.0	24.0	17.5	16.0	14
P0154.160-035-ZP	M16	35	12.0	20.0	24.0	17.5	16.0	14
P0154.160-040-ZP	M16	40	12.0	20.0	24.0	17.5	16.0	14
P0154.160-045-ZP	M16	45	12.0	20.0	24.0	17.5	16.0	14
P0154.160-050-ZP	M16	50	12.0	20.0	24.0	17.5	16.0	14
P0154.160-060-ZP	M16	60	12.0	20.0	24.0	17.5	16.0	14
P0154.160-080-ZP	M16	80	12.0	20.0	24.0	17.5	16.0	14
P0154.160-100-ZP	M16	100	12.0	20.0	24.0	17.5	16.0	14
P0154.200-040-ZP	M20	40	16.0	25.0	30.0	22.0	20.0	19
P0154.200-060-ZP	M20	60	16.0	25.0	30.0	22.0	20.0	19
P0154.200-080-ZP	M20	80	16.0	25.0	30.0	22.0	20.0	19
P0154.200-100-ZP	M20	100	16.0	25.0	30.0	22.0	20.0	19
P0154.200-120-ZP	M20	120	16.0	25.0	30.0	22.0	20.0	19

CAPTIVE SCREWS



## P0149.B2



### Material

Stainless steel (AISI 303, 1.4305), black oxide coating. Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.  
 Also available in marine grade stainless steel (AISI 316 series; P0149.B4), titanium (P0149.Ti) and on request in steel (anodised, black oxide or zinc plated)

brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Generally to ISO 7380-1. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered

when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> 0,25	d <sub>2</sub> 0,12	l <sub>2</sub> -0,2	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	TX size
P0149.025-008-B2	M 2,5	8	1.7	3.7	4.5	2.8	1.5	TX- 8
P0149.025-010-B2	M 2,5	10	1.7	3.7	4.5	2.8	1.5	TX- 8
P0149.025-012-B2	M 2,5	12	1.7	3.7	4.5	2.8	1.5	TX- 8
P0149.025-016-B2	M 2,5	16	1.7	3.7	4.5	2.8	1.5	TX- 8
P0149.025-020-B2	M 2,5	20	1.7	3.7	4.5	2.8	1.5	TX- 8
P0149.030-010-B2	M 3	10	2.0	4.5	5.7	3.5	1.65	TX-10
P0149.030-016-B2	M 3	16	2.0	4.5	5.7	3.5	1.65	TX-10
P0149.030-020-B2	M 3	20	2.0	4.5	5.7	3.5	1.65	TX-10
P0149.030-025-B2	M 3	25	2.0	4.5	5.7	3.5	1.65	TX-10
P0149.030-030-B2	M 3	30	2.0	4.5	5.7	3.5	1.65	TX-10
P0149.030-040-B2	M 3	40	2.0	5.0	5.7	3.5	1.65	TX-10
P0149.040-012-B2	M 4	12	2.8	6.0	7.6	4.5	3.1	TX-20
P0149.040-016-B2	M 4	16	2.8	6.0	7.6	4.5	3.1	TX-20
P0149.040-020-B2	M 4	20	2.8	6.0	7.6	4.5	3.1	TX-20
P0149.040-025-B2	M 4	25	2.8	6.0	7.6	4.5	3.1	TX-20
P0149.040-030-B2	M 4	30	2.8	6.0	7.6	4.5	3.1	TX-20
P0149.040-040-B2	M 4	40	2.8	6.0	7.6	4.5	3.1	TX-20
P0149.040-050-B2	M 4	50	2.8	6.0	7.6	4.5	3.1	TX-20
P0149.040-060-B2	M 4	60	2.8	6.0	7.6	4.5	3.1	TX-20
P0149.050-012-B2	M 5	12	3.7	7.5	9.5	5.5	3.7	TX-25
P0149.050-016-B2	M 5	16	3.7	7.5	9.5	5.5	3.7	TX-25
P0149.050-020-B2	M 5	20	3.7	7.5	9.5	5.5	3.7	TX-25
P0149.050-025-B2	M 5	25	3.7	7.5	9.5	5.5	3.7	TX-25
P0149.050-030-B2	M 5	30	3.7	7.5	9.5	5.5	3.7	TX-25
P0149.050-040-B2	M 5	40	3.7	7.5	9.5	5.5	3.7	TX-25
P0149.050-050-B2	M 5	50	3.7	7.5	9.5	5.5	3.7	TX-25
P0149.050-060-B2	M 5	60	3.7	7.5	9.5	5.5	3.7	TX-25
P0149.060-016-B2	M 6	16	4.2	7.5	10.5	6.5	4.7	TX-30



# Captive Screws - Button Head

TX drive - 303 stainless, blackened



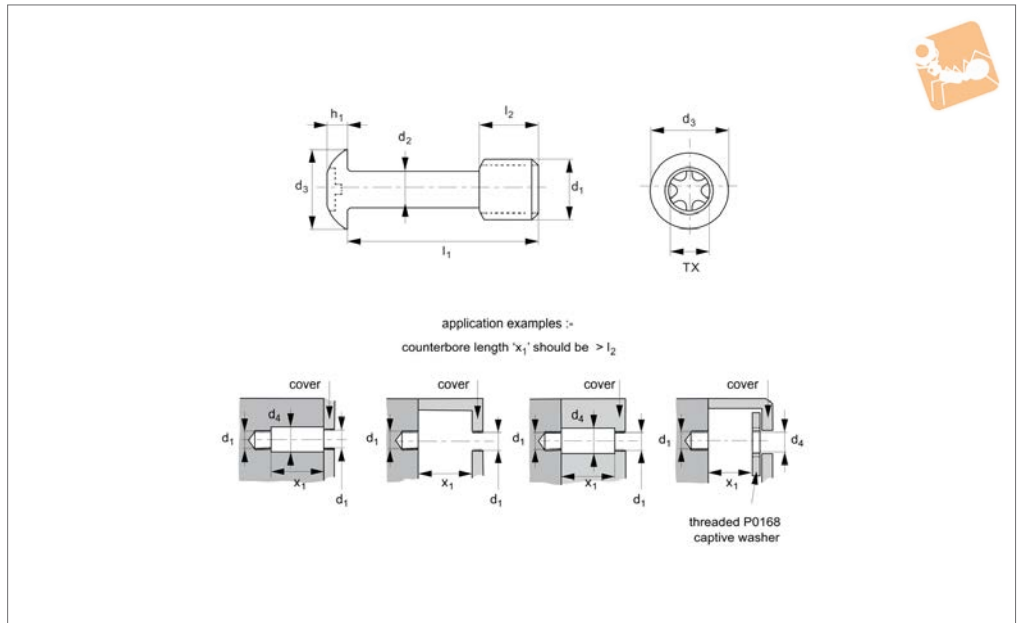
Order No.	d <sub>1</sub>	l <sub>1</sub> 0,25	d <sub>2</sub> 0,12	l <sub>2</sub> -0.2	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	TX size
P0149.060-020-B2	M 6	20	4.2	7.5	10.5	6.5	4.7	TX-30
P0149.060-025-B2	M 6	25	4.2	7.5	10.5	6.5	4.7	TX-30
P0149.060-030-B2	M 6	30	4.2	7.5	10.5	6.5	4.7	TX-30
P0149.060-040-B2	M 6	40	4.2	7.5	10.5	6.5	4.7	TX-30
P0149.060-050-B2	M 6	50	4.2	7.5	10.5	6.5	4.7	TX-30
P0149.060-060-B2	M 6	60	4.2	7.5	10.5	6.5	4.7	TX-30
P0149.060-080-B2	M 6	80	4.2	7.5	10.5	6.5	4.7	TX-30

CAPTIVE SCREWS



MADE IN BRITAIN

## P0149.B4



### Material

Stainless steel (AISI 316, 1.4401), black oxide coating. Tensile strength 550 N/mm<sup>2</sup>.

For version without black oxide coating, see P0149.A4, or for a cheaper version in 303 series stainless steel, see P0149.A2. Also available in titanium (P0149.Ti) and on request in steel, brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Generally to ISO 7380-1. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> 0,25	d <sub>2</sub> 0,12	l <sub>2</sub> -0,2	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	TX size
P0149.025-008-B4	M 2,5	8	1.7	3.7	4.5	2.8	1.5	TX- 8
P0149.025-010-B4	M 2,5	10	1.7	3.7	4.5	2.8	1.5	TX- 8
P0149.025-012-B4	M 2,5	12	1.7	3.7	4.5	2.8	1.5	TX- 8
P0149.025-016-B4	M 2,5	16	1.7	3.7	4.5	2.8	1.5	TX- 8
P0149.025-020-B4	M 2,5	20	1.7	3.7	4.5	2.8	1.5	TX- 8
P0149.030-010-B4	M 3	10	2.0	4.5	5.7	3.5	1.65	TX-10
P0149.030-016-B4	M 3	16	2.0	4.5	5.7	3.5	1.65	TX-10
P0149.030-020-B4	M 3	20	2.0	4.5	5.7	3.5	1.65	TX-10
P0149.030-025-B4	M 3	25	2.0	4.5	5.7	3.5	1.65	TX-10
P0149.030-030-B4	M 3	30	2.0	4.5	5.7	3.5	1.65	TX-10
P0149.030-040-B4	M 3	40	2.0	5.0	5.7	3.5	1.65	TX-10
P0149.040-012-B4	M 4	12	2.8	6.0	7.6	4.5	3.1	TX-20
P0149.040-016-B4	M 4	16	2.8	6.0	7.6	4.5	3.1	TX-20
P0149.040-020-B4	M 4	20	2.8	6.0	7.6	4.5	3.1	TX-20
P0149.040-025-B4	M 4	25	2.8	6.0	7.6	4.5	3.1	TX-20
P0149.040-030-B4	M 4	30	2.8	6.0	7.6	4.5	3.1	TX-20
P0149.040-040-B4	M 4	40	2.8	6.0	7.6	4.5	3.1	TX-20
P0149.040-050-B4	M 4	50	2.8	6.0	7.6	4.5	3.1	TX-20
P0149.040-060-B4	M 4	60	2.8	6.0	7.6	4.5	3.1	TX-20
P0149.050-012-B4	M 5	12	3.7	7.5	9.5	5.5	3.7	TX-25
P0149.050-016-B4	M 5	16	3.7	7.5	9.5	5.5	3.7	TX-25
P0149.050-020-B4	M 5	20	3.7	7.5	9.5	5.5	3.7	TX-25
P0149.050-025-B4	M 5	25	3.7	7.5	9.5	5.5	3.7	TX-25
P0149.050-030-B4	M 5	30	3.7	7.5	9.5	5.5	3.7	TX-25
P0149.050-040-B4	M 5	40	3.7	7.5	9.5	5.5	3.7	TX-25
P0149.050-050-B4	M 5	50	3.7	7.5	9.5	5.5	3.7	TX-25
P0149.050-060-B4	M 5	60	3.7	7.5	9.5	5.5	3.7	TX-25
P0149.060-016-B4	M 6	16	4.2	7.5	10.5	6.5	4.7	TX-30





# Captive Screws - Button Head

TX drive - 316 stainless, blackened



Captive Screws

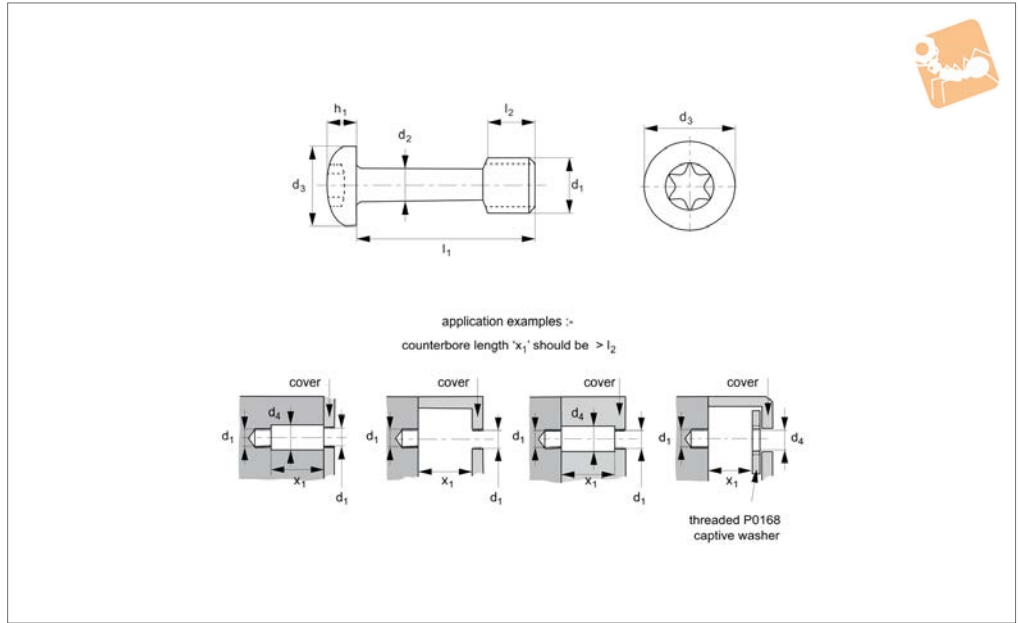
Order No.	d <sub>1</sub>	l <sub>1</sub> 0,25	d <sub>2</sub> 0,12	l <sub>2</sub> -0.2	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	TX size
P0149.060-020-B4	M 6	20	4.2	7.5	10.5	6.5	4.7	TX-30
P0149.060-025-B4	M 6	25	4.2	7.5	10.5	6.5	4.7	TX-30
P0149.060-030-B4	M 6	30	4.2	7.5	10.5	6.5	4.7	TX-30
P0149.060-040-B4	M 6	40	4.2	7.5	10.5	6.5	4.7	TX-30
P0149.060-050-B4	M 6	50	4.2	7.5	10.5	6.5	4.7	TX-30
P0149.060-060-B4	M 6	60	4.2	7.5	10.5	6.5	4.7	TX-30
P0149.060-080-B4	M 6	80	4.2	7.5	10.5	6.5	4.7	TX-30

CAPTIVE SCREWS



MADE IN BRITAIN

### P0150.B2



#### Material

Stainless steel (AISI 303, 1.4305), black oxide coating. Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.  
Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc.

#### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Generally to ISO 14583. Often used with our captive washer (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washer should be considered when fitted in panels with unthreaded holes.  
\* M 8 sizes have a reduced TX size.

#### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	TX size
P0150.030-008-B2	M 3	8	2.0	4.5	6	3.5	2.5	TX-10
P0150.030-010-B2	M 3	10	2.0	4.5	6	3.5	2.5	TX-10
P0150.030-016-B2	M 3	16	2.0	4.5	6	3.5	2.5	TX-10
P0150.030-020-B2	M 3	20	2.0	4.5	6	3.5	2.5	TX-10
P0150.030-025-B2	M 3	25	2.0	4.5	6	3.5	2.5	TX-10
P0150.030-030-B2	M 3	30	2.0	4.5	6	3.5	2.5	TX-10
P0150.040-008-B2	M 4	8	2.8	6.0	8	4.5	3.2	TX-20
P0150.040-010-B2	M 4	10	2.8	6.0	8	4.5	3.2	TX-20
P0150.040-012-B2	M 4	12	2.8	6.0	8	4.5	3.2	TX-20
P0150.040-016-B2	M 4	16	2.8	6.0	8	4.5	3.2	TX-20
P0150.040-020-B2	M 4	20	2.8	6.0	8	4.5	3.2	TX-20
P0150.040-025-B2	M 4	25	2.8	6.0	8	4.5	3.2	TX-20
P0150.040-030-B2	M 4	30	2.8	6.0	8	4.5	3.2	TX-20
P0150.040-040-B2	M 4	40	2.8	6.0	8	4.5	3.2	TX-20
P0150.040-050-B2	M 4	50	2.8	6.0	8	4.5	3.2	TX-20
P0150.050-010-B2	M 5	10	3.7	7.5	10	5.5	3.9	TX-25
P0150.050-012-B2	M 5	12	3.7	7.5	10	5.5	3.9	TX-25
P0150.050-016-B2	M 5	16	3.7	7.5	10	5.5	3.9	TX-25
P0150.050-020-B2	M 5	20	3.7	7.5	10	5.5	3.9	TX-25
P0150.050-025-B2	M 5	25	3.7	7.5	10	5.5	3.9	TX-25
P0150.050-030-B2	M 5	30	3.7	7.5	10	5.5	3.9	TX-25
P0150.050-040-B2	M 5	40	3.7	7.5	10	5.5	3.9	TX-25
P0150.050-050-B2	M 5	50	3.7	7.5	10	5.5	3.9	TX-25
P0150.060-010-B2	M 6	10	4.2	7.5	12	6.5	4.7	TX-30
P0150.060-012-B2	M 6	12	4.2	7.5	12	6.5	4.7	TX-30
P0150.060-016-B2	M 6	16	4.2	7.5	12	6.5	4.7	TX-30
P0150.060-020-B2	M 6	20	4.2	7.5	12	6.5	4.7	TX-30
P0150.060-025-B2	M 6	25	4.2	7.5	12	6.5	4.7	TX-30



# Captive Screws - Pan Head

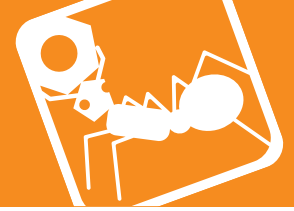
TX drive - 303 stainless, blackened



Captive Screws

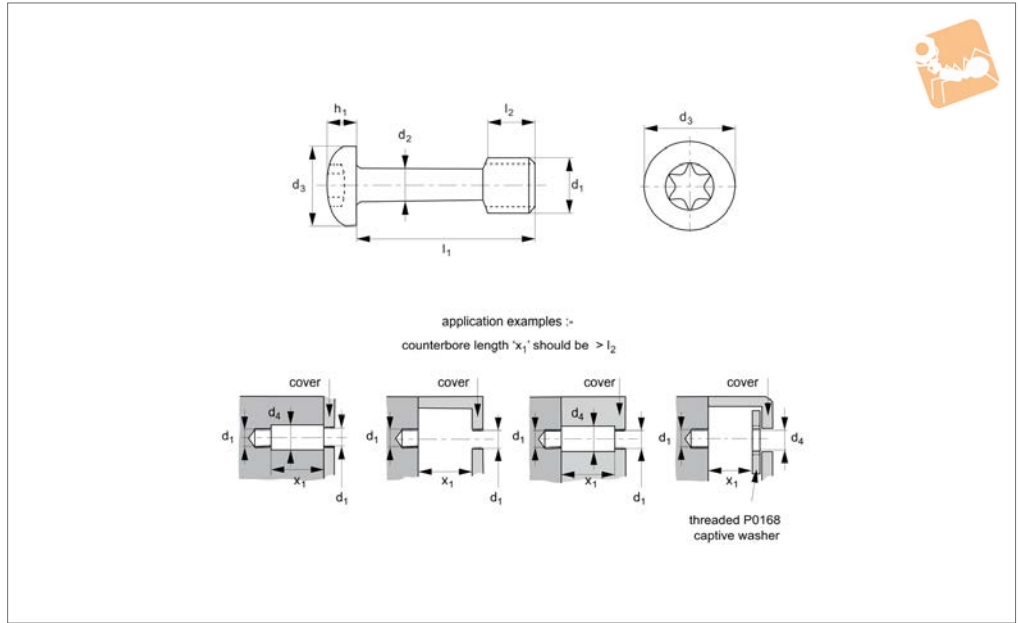
Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	TX size
P0150.060-030-B2	M 6	30	4.2	7.5	12	6.5	4.7	TX-30
P0150.060-040-B2	M 6	40	4.2	7.5	12	6.5	4.7	TX-30
P0150.060-050-B2	M 6	50	4.2	7.5	12	6.5	4.7	TX-30
P0150.060-060-B2	M 6	60	4.2	7.5	12	6.5	4.7	TX-30
P0150.060-080-B2	M 6	80	4.2	7.5	12	6.5	4.7	TX-30
P0150.080-012-B2	M 8	12	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-016-B2	M 8	16	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-020-B2	M 8	20	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-025-B2	M 8	25	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-030-B2	M 8	30	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-035-B2	M 8	35	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-040-B2	M 8	40	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-045-B2	M 8	45	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-050-B2	M 8	50	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-060-B2	M 8	60	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-080-B2	M 8	80	6.0	10.0	16	8.5	6.1	TX-30*

CAPTIVE SCREWS



MADE IN BRITAIN

### P0150.B4



#### Material

Stainless steel (AISI 316, 1.440), black oxide coating. Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.  
Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 303, 1.4305), brass, aluminium etc.

#### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Generally to ISO 14583. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

\*M 8 sizes have a reduced TX size.

#### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	TX size
P0150.030-008-B4	M 3	8	2.0	4.5	6	3.5	2.5	TX-10
P0150.030-010-B4	M 3	10	2.0	4.5	6	3.5	2.5	TX-10
P0150.030-016-B4	M 3	16	2.0	4.5	6	3.5	2.5	TX-10
P0150.030-020-B4	M 3	20	2.0	4.5	6	3.5	2.5	TX-10
P0150.030-025-B4	M 3	25	2.0	4.5	6	3.5	2.5	TX-10
P0150.030-030-B4	M 3	30	2.0	4.5	6	3.5	2.5	TX-10
P0150.040-008-B4	M 4	8	2.8	6.0	8	4.5	3.2	TX-20
P0150.040-010-B4	M 4	10	2.8	6.0	8	4.5	3.2	TX-20
P0150.040-012-B4	M 4	12	2.8	6.0	8	4.5	3.2	TX-20
P0150.040-016-B4	M 4	16	2.8	6.0	8	4.5	3.2	TX-20
P0150.040-020-B4	M 4	20	2.8	6.0	8	4.5	3.2	TX-20
P0150.040-025-B4	M 4	25	2.8	6.0	8	4.5	3.2	TX-20
P0150.040-030-B4	M 4	30	2.8	6.0	8	4.5	3.2	TX-20
P0150.040-040-B4	M 4	40	2.8	6.0	8	4.5	3.2	TX-20
P0150.040-050-B4	M 4	50	2.8	6.0	8	4.5	3.2	TX-20
P0150.050-010-B4	M 5	10	3.7	7.5	10	5.5	3.9	TX-25
P0150.050-012-B4	M 5	12	3.7	7.5	10	5.5	3.9	TX-25
P0150.050-016-B4	M 5	16	3.7	7.5	10	5.5	3.9	TX-25
P0150.050-020-B4	M 5	20	3.7	7.5	10	5.5	3.9	TX-25
P0150.050-025-B4	M 5	25	3.7	7.5	10	5.5	3.9	TX-25
P0150.050-030-B4	M 5	30	3.7	7.5	10	5.5	3.9	TX-25
P0150.050-040-B4	M 5	40	3.7	7.5	10	5.5	3.9	TX-25
P0150.050-050-B4	M 5	50	3.7	7.5	10	5.5	3.9	TX-25
P0150.060-010-B4	M 6	10	4.2	7.5	12	6.5	4.7	TX-30
P0150.060-012-B4	M 6	12	4.2	7.5	12	6.5	4.7	TX-30
P0150.060-016-B4	M 6	16	4.2	7.5	12	6.5	4.7	TX-30
P0150.060-020-B4	M 6	20	4.2	7.5	12	6.5	4.7	TX-30
P0150.060-025-B4	M 6	25	4.2	7.5	12	6.5	4.7	TX-30



## Captive Screws - Pan Head

TX drive - 316 stainless, blackened



Captive Screws

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	TX size
P0150.060-030-B4	M 6	30	4.2	7.5	12	6.5	4.7	TX-30
P0150.060-040-B4	M 6	40	4.2	7.5	12	6.5	4.7	TX-30
P0150.060-050-B4	M 6	50	4.2	7.5	12	6.5	4.7	TX-30
P0150.060-060-B4	M 6	60	4.2	7.5	12	6.5	4.7	TX-30
P0150.060-080-B4	M 6	80	4.2	7.5	12	6.5	4.7	TX-30
P0150.080-012-B4	M 8	12	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-016-B4	M 8	16	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-020-B4	M 8	20	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-025-B4	M 8	25	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-030-B4	M 8	30	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-035-B4	M 8	35	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-040-B4	M 8	40	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-045-B4	M 8	45	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-050-B4	M 8	50	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-060-B4	M 8	60	6.0	10.0	16	8.5	6.1	TX-30*
P0150.080-080-B4	M 8	80	6.0	10.0	16	8.5	6.1	TX-30*

CAPTIVE SCREWS

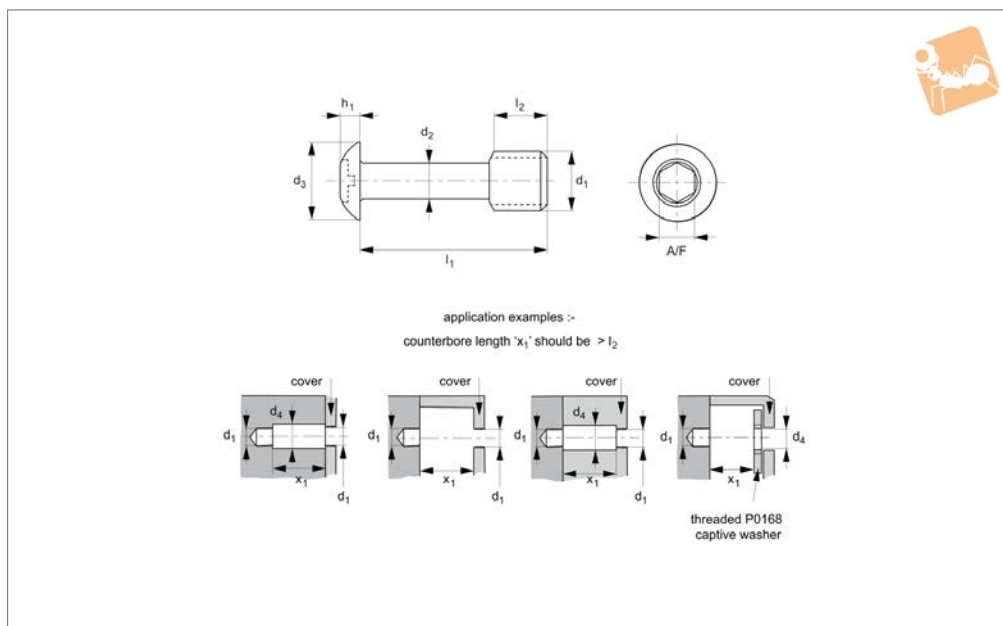


CAPTIVE SCREWS



MADE IN BRITAIN

## P0151.B2



### Material

Stainless steel (AISI 303, 1.4305), black oxide coating. Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 316, 1.440), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Generally to ISO 7380-1. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F
P0151.025-008-B2	M 2,5	8	1.7	3.7	4.5	2.8	1.50	1.5
P0151.025-010-B2	M 2,5	10	1.7	3.7	4.5	2.8	1.50	1.5
P0151.025-012-B2	M 2,5	12	1.7	3.7	4.5	2.8	1.50	1.5
P0151.025-016-B2	M 2,5	16	1.7	3.7	4.5	2.8	1.50	1.5
P0151.025-020-B2	M 2,5	20	1.7	3.7	4.5	2.8	1.50	1.5
P0151.030-008-B2	M 3	8	2.0	4.5	5.7	3.5	1.53	2
P0151.030-010-B2	M 3	10	2.0	4.5	5.7	3.5	1.53	2
P0151.030-016-B2	M 3	16	2.0	4.5	5.7	3.5	1.53	2
P0151.030-020-B2	M 3	20	2.0	4.5	5.7	3.5	1.53	2
P0151.030-025-B2	M 3	25	2.0	4.5	5.7	3.5	1.53	2
P0151.030-030-B2	M 3	30	2.0	4.5	5.7	3.5	1.53	2
P0151.030-040-B2	M 3	40	2.0	4.5	5.7	3.5	1.53	2
P0151.040-010-B2	M 4	10	2.8	6.0	7.6	4.5	2.10	2.5
P0151.040-012-B2	M 4	12	2.8	6.0	7.6	4.5	2.10	2.5
P0151.040-016-B2	M 4	16	2.8	6.0	7.6	4.5	2.10	2.5
P0151.040-020-B2	M 4	20	2.8	6.0	7.6	4.5	2.10	2.5
P0151.040-025-B2	M 4	25	2.8	6.0	7.6	4.5	2.10	2.5
P0151.040-030-B2	M 4	30	2.8	6.0	7.6	4.5	2.10	2.5
P0151.040-035-B2	M 4	35	2.8	6.0	7.6	4.5	2.10	2.5
P0151.040-040-B2	M 4	40	2.8	6.0	7.6	4.5	2.10	2.5
P0151.040-050-B2	M 4	50	2.8	6.0	7.6	4.5	2.10	2.5
P0151.040-060-B2	M 4	60	2.8	6.0	7.6	4.5	2.10	2.5
P0151.050-012-B2	M 5	12	3.7	7.5	9.5	5.5	2.63	3
P0151.050-016-B2	M 5	16	3.7	7.5	9.5	5.5	2.63	3
P0151.050-020-B2	M 5	20	3.7	7.5	9.5	5.5	2.63	3
P0151.050-025-B2	M 5	25	3.7	7.5	9.5	5.5	2.63	3
P0151.050-030-B2	M 5	30	3.7	7.5	9.5	5.5	2.63	3
P0151.050-040-B2	M 5	40	3.7	7.5	9.5	5.5	2.63	3



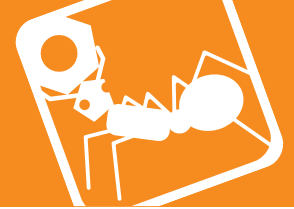
# Captive Screws - Button Head

hex drive - 303 stainless, blackened



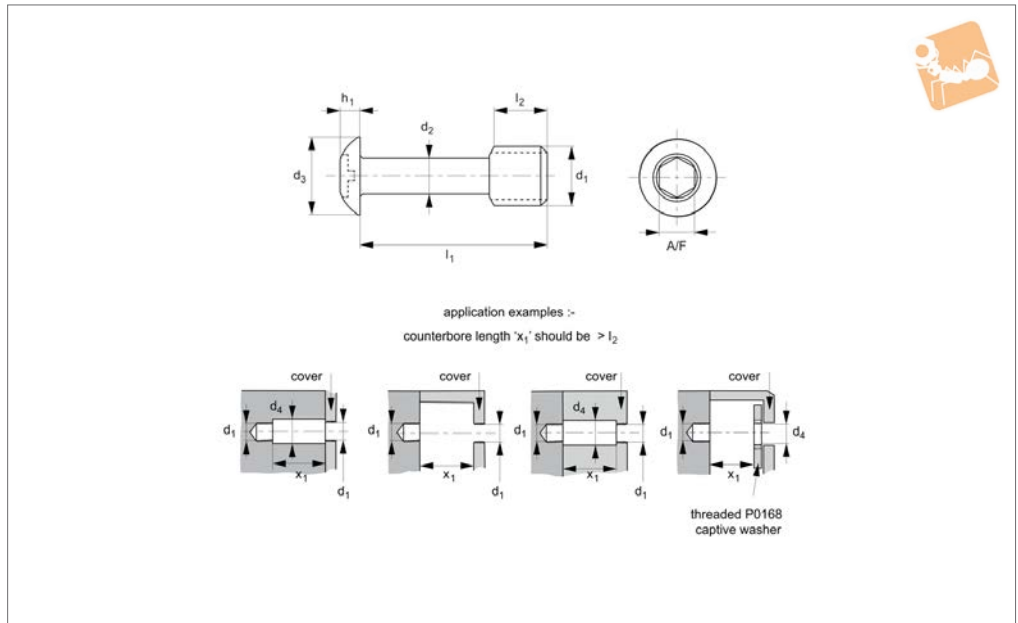
Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F
P0151.050-050-B2	M 5	50	3.7	7.5	9.5	5.5	2.63	3
P0151.050-060-B2	M 5	60	3.7	7.5	9.5	5.5	2.63	3
P0151.060-012-B2	M 6	12	4.2	7.5	10.5	6.5	3.10	4
P0151.060-016-B2	M 6	16	4.2	7.5	10.5	6.5	3.10	4
P0151.060-020-B2	M 6	20	4.2	7.5	10.5	6.5	3.10	4
P0151.060-025-B2	M 6	25	4.2	7.5	10.5	6.5	3.10	4
P0151.060-030-B2	M 6	30	4.2	7.5	10.5	6.5	3.10	4
P0151.060-035-B2	M 6	35	4.2	7.5	10.5	6.5	3.10	4
P0151.060-040-B2	M 6	40	4.2	7.5	10.5	6.5	3.10	4
P0151.060-050-B2	M 6	50	4.2	7.5	10.5	6.5	3.10	4
P0151.060-060-B2	M 6	60	4.2	7.5	10.5	6.5	3.10	4
P0151.060-080-B2	M 6	80	4.2	7.5	10.5	6.5	3.10	4
P0151.080-016-B2	M 8	16	6.0	10.0	14.0	8.5	4.46	5
P0151.080-020-B2	M 8	20	6.0	10.0	14.0	8.5	4.46	5
P0151.080-025-B2	M 8	25	6.0	10.0	14.0	8.5	4.46	5
P0151.080-030-B2	M 8	30	6.0	10.0	14.0	8.5	4.46	5
P0151.080-035-B2	M 8	35	6.0	10.0	14.0	8.5	4.46	5
P0151.080-040-B2	M 8	40	6.0	10.0	14.0	8.5	4.46	5
P0151.080-045-B2	M 8	45	6.0	10.0	14.0	8.5	4.46	5
P0151.080-050-B2	M 8	50	6.0	10.0	14.0	8.5	4.46	5
P0151.080-060-B2	M 8	60	6.0	10.0	14.0	8.5	4.46	5
P0151.080-080-B2	M 8	80	6.0	10.0	14.0	8.5	4.46	5
P0151.100-020-B2	M 10	20	7.5	12.5	17.5	10.6	5.5	6
P0151.100-025-B2	M 10	25	7.5	12.5	17.5	10.6	5.5	6
P0151.100-030-B2	M 10	30	7.5	12.5	17.5	10.6	5.5	6
P0151.100-035-B2	M 10	35	7.5	12.5	17.5	10.6	5.5	6
P0151.100-040-B2	M 10	40	7.5	12.5	17.5	10.6	5.5	6
P0151.100-045-B2	M 10	45	7.5	12.5	17.5	10.6	5.5	6
P0151.100-050-B2	M 10	50	7.5	12.5	17.5	10.6	5.5	6
P0151.100-060-B2	M 10	60	7.5	12.5	17.5	10.6	5.5	6
P0151.100-080-B2	M 10	80	7.5	12.5	17.5	10.6	5.5	6

CAPTIVE SCREWS



MADE IN BRITAIN

## P0151.B4



### Material

Stainless steel (AISI 316, 1.440), black oxide coating. Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.  
Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 303, 1.4305), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Generally to ISO 7380-1. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F
P0151.025-008-B4	M 2,5	8	1.7	3.7	4.5	2.8	1.50	1.5
P0151.025-010-B4	M 2,5	10	1.7	3.7	4.5	2.8	1.50	1.5
P0151.025-012-B4	M 2,5	12	1.7	3.7	4.5	2.8	1.50	1.5
P0151.025-016-B4	M 2,5	16	1.7	3.7	4.5	2.8	1.50	1.5
P0151.025-020-B4	M 2,5	20	1.7	3.7	4.5	2.8	1.50	1.5
P0151.030-008-B4	M 3	8	2.0	4.5	5.7	3.5	1.53	2
P0151.030-010-B4	M 3	10	2.0	4.5	5.7	3.5	1.53	2
P0151.030-016-B4	M 3	16	2.0	4.5	5.7	3.5	1.53	2
P0151.030-020-B4	M 3	20	2.0	4.5	5.7	3.5	1.53	2
P0151.030-025-B4	M 3	25	2.0	4.5	5.7	3.5	1.53	2
P0151.030-030-B4	M 3	30	2.0	4.5	5.7	3.5	1.53	2
P0151.030-040-B4	M 3	40	2.0	4.5	5.7	3.5	1.53	2
P0151.040-010-B4	M 4	10	2.8	6.0	7.6	4.5	2.10	2.5
P0151.040-012-B4	M 4	12	2.8	6.0	7.6	4.5	2.10	2.5
P0151.040-016-B4	M 4	16	2.8	6.0	7.6	4.5	2.10	2.5
P0151.040-020-B4	M 4	20	2.8	6.0	7.6	4.5	2.10	2.5
P0151.040-025-B4	M 4	25	2.8	6.0	7.6	4.5	2.10	2.5
P0151.040-030-B4	M 4	30	2.8	6.0	7.6	4.5	2.10	2.5
P0151.040-035-B4	M 4	35	2.8	6.0	7.6	4.5	2.10	2.5
P0151.040-040-B4	M 4	40	2.8	6.0	7.6	4.5	2.10	2.5
P0151.040-050-B4	M 4	50	2.8	6.0	7.6	4.5	2.10	2.5
P0151.040-060-B4	M 4	60	2.8	6.0	7.6	4.5	2.10	2.5
P0151.050-012-B4	M 5	12	3.7	7.5	9.5	5.5	2.63	3
P0151.050-016-B4	M 5	16	3.7	7.5	9.5	5.5	2.63	3
P0151.050-020-B4	M 5	20	3.7	7.5	9.5	5.5	2.63	3
P0151.050-025-B4	M 5	25	3.7	7.5	9.5	5.5	2.63	3
P0151.050-030-B4	M 5	30	3.7	7.5	9.5	5.5	2.63	3
P0151.050-040-B4	M 5	40	3.7	7.5	9.5	5.5	2.63	3





# Captive Screws - Button Head

hex drive - 316 stainless, blackened



Captive Screws

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F
P0151.050-050-B4	M 5	50	3.7	7.5	9.5	5.5	2.63	3
P0151.050-060-B4	M 5	60	3.7	7.5	9.5	5.5	2.63	3
P0151.060-012-B4	M 6	12	4.2	7.5	10.5	6.5	3.10	4
P0151.060-016-B4	M 6	16	4.2	7.5	10.5	6.5	3.10	4
P0151.060-020-B4	M 6	20	4.2	7.5	10.5	6.5	3.10	4
P0151.060-025-B4	M 6	25	4.2	7.5	10.5	6.5	3.10	4
P0151.060-030-B4	M 6	30	4.2	7.5	10.5	6.5	3.10	4
P0151.060-035-B4	M 6	35	4.2	7.5	10.5	6.5	3.10	4
P0151.060-040-B4	M 6	40	4.2	7.5	10.5	6.5	3.10	4
P0151.060-050-B4	M 6	50	4.2	7.5	10.5	6.5	3.10	4
P0151.060-060-B4	M 6	60	4.2	7.5	10.5	6.5	3.10	4
P0151.060-080-B4	M 6	80	4.2	7.5	10.5	6.5	3.10	4
P0151.080-016-B4	M 8	16	6.0	10.0	14.0	8.5	4.46	5
P0151.080-020-B4	M 8	20	6.0	10.0	14.0	8.5	4.46	5
P0151.080-025-B4	M 8	25	6.0	10.0	14.0	8.5	4.46	5
P0151.080-030-B4	M 8	30	6.0	10.0	14.0	8.5	4.46	5
P0151.080-035-B4	M 8	35	6.0	10.0	14.0	8.5	4.46	5
P0151.080-040-B4	M 8	40	6.0	10.0	14.0	8.5	4.46	5
P0151.080-045-B4	M 8	45	6.0	10.0	14.0	8.5	4.46	5
P0151.080-050-B4	M 8	50	6.0	10.0	14.0	8.5	4.46	5
P0151.080-060-B4	M 8	60	6.0	10.0	14.0	8.5	4.46	5
P0151.080-080-B4	M 8	80	6.0	10.0	14.0	8.5	4.46	5
P0151.100-020-B4	M 10	20	7.5	12.5	17.5	10.6	5.5	6
P0151.100-025-B4	M 10	25	7.5	12.5	17.5	10.6	5.5	6
P0151.100-030-B4	M 10	30	7.5	12.5	17.5	10.6	5.5	6
P0151.100-035-B4	M 10	35	7.5	12.5	17.5	10.6	5.5	6
P0151.100-040-B4	M 10	40	7.5	12.5	17.5	10.6	5.5	6
P0151.100-045-B4	M 10	45	7.5	12.5	17.5	10.6	5.5	6
P0151.100-050-B4	M 10	50	7.5	12.5	17.5	10.6	5.5	6
P0151.100-060-B4	M 10	60	7.5	12.5	17.5	10.6	5.5	6
P0151.100-080-B4	M 10	80	7.5	12.5	17.5	10.6	5.5	6

CAPTIVE SCREWS

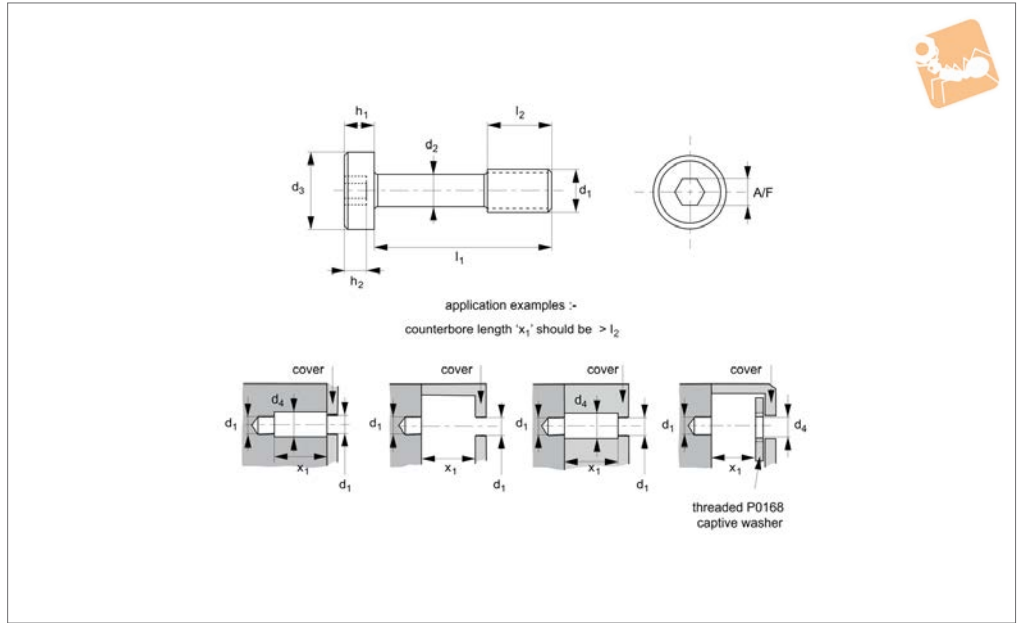


CAPTIVE SCREWS



**MADE IN BRITAIN**

## P0152.B2



### Material

Stainless steel (AISI 303, 1.4305), black oxide coated. Tensile strength 550 N/mm<sup>2</sup>.

A marine grade stainless steel (AISI 316, 1.4401) version of this product is also available. Available on request in titanium, steel (anodised, black oxide or zinc plated), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Generally to ISO 1207. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	A/F
P0152.020-010-B2	M 2	10	1.2	3.0	3.8	2.5	1.3	0.85	1.3
P0152.020-012-B2	M 2	12	1.2	3.0	3.8	2.5	1.3	0.85	1.3
P0152.020-016-B2	M 2	16	1.2	3.0	3.8	2.5	1.3	0.85	1.3
P0152.020-020-B2	M 2	20	1.2	3.0	3.8	2.5	1.3	0.85	1.3
P0152.025-008-B2	M 2,5	8	1.7	3.7	4.5	2.8	1.6	1.00	1.5
P0152.025-010-B2	M 2,5	10	1.7	3.7	4.5	2.8	1.6	1.00	1.5
P0152.025-016-B2	M 2,5	16	1.7	3.7	4.5	2.8	1.6	1.00	1.5
P0152.025-020-B2	M 2,5	20	1.7	3.7	4.5	2.8	1.6	1.00	1.5
P0152.025-025-B2	M 2,5	25	1.7	3.7	4.5	2.8	1.6	1.00	1.5
P0152.025-030-B2	M 2,5	30	1.7	3.7	4.5	2.8	1.6	1.00	1.5
P0152.030-010-B2	M 3	10	2.0	4.5	5.5	3.5	2.0	1.30	2
P0152.030-011-B2	M 3	11	2.0	4.5	5.5	3.5	2.0	1.30	2
P0152.030-013-B2	M 3	13	2.0	4.5	5.5	3.5	2.0	1.30	2
P0152.030-016-B2	M 3	16	2.0	4.5	5.5	3.5	2.0	1.30	2
P0152.030-018-B2	M 3	18	2.0	4.5	5.5	3.5	2.0	1.30	2
P0152.030-020-B2	M 3	20	2.0	4.5	5.5	3.5	2.0	1.30	2
P0152.030-025-B2	M 3	25	2.0	4.5	5.5	3.5	2.0	1.30	2
P0152.030-030-B2	M 3	30	2.0	4.5	5.5	3.5	2.0	1.30	2
P0152.030-040-B2	M 3	40	2.0	4.5	5.5	3.5	2.0	1.30	2
P0152.035-010-B2	M 3,5	10	2.3	5.2	6.0	3.8	2.4	1.4	2.5
P0152.035-016-B2	M 3,5	16	2.3	5.2	6.0	3.8	2.4	1.4	2.5
P0152.035-020-B2	M 3,5	20	2.3	5.2	6.0	3.8	2.4	1.4	2.5
P0152.035-025-B2	M 3,5	25	2.3	5.2	6.0	3.8	2.4	1.4	2.5
P0152.035-030-B2	M 3,5	30	2.3	5.2	6.0	3.8	2.4	1.4	2.5
P0152.035-040-B2	M 3,5	40	2.3	5.2	6.0	3.8	2.4	1.4	2.5
P0152.040-010-B2	M 4	10	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.040-012-B2	M 4	12	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.040-016-B2	M 4	16	2.8	6.0	7.0	4.5	2.6	1.6	2.5



# Captive Screws - Cheese Head

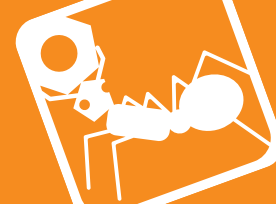
hex drive - 303 stainless - blackened

Captive Screws



Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	A/F
P0152.040-018-B2	M 4	18	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.040-019-B2	M 4	19	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.040-020-B2	M 4	20	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.040-025-B2	M 4	25	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.040-030-B2	M 4	30	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.040-040-B2	M 4	40	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.040-050-B2	M 4	50	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.040-060-B2	M 4	60	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.050-010-B2	M 5	10	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-012-B2	M 5	12	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-016-B2	M 5	16	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-018-B2	M 5	18	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-020-B2	M 5	20	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-022-B2	M 5	22	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-025-B2	M 5	25	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-030-B2	M 5	30	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-040-B2	M 5	40	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-050-B2	M 5	50	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-060-B2	M 5	60	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-080-B2	M 5	80	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.060-016-B2	M 6	16	4.2	7.5	10.0	6.5	3.9	2.3	4
P0152.060-020-B2	M 6	20	4.2	7.5	10.0	6.5	3.9	2.3	4
P0152.060-025-B2	M 6	25	4.2	7.5	10.0	6.5	3.9	2.3	4
P0152.060-030-B2	M 6	30	4.2	7.5	10.0	6.5	3.9	2.3	4
P0152.060-040-B2	M 6	40	4.2	7.5	10.0	6.5	3.9	2.3	4
P0152.060-050-B2	M 6	50	4.2	7.5	10.0	6.5	3.9	2.3	4
P0152.060-060-B2	M 6	60	4.2	7.5	10.0	6.5	3.9	2.3	4
P0152.060-080-B2	M 6	80	4.2	7.5	10.0	6.5	3.9	2.3	4

CAPTIVE SCREWS

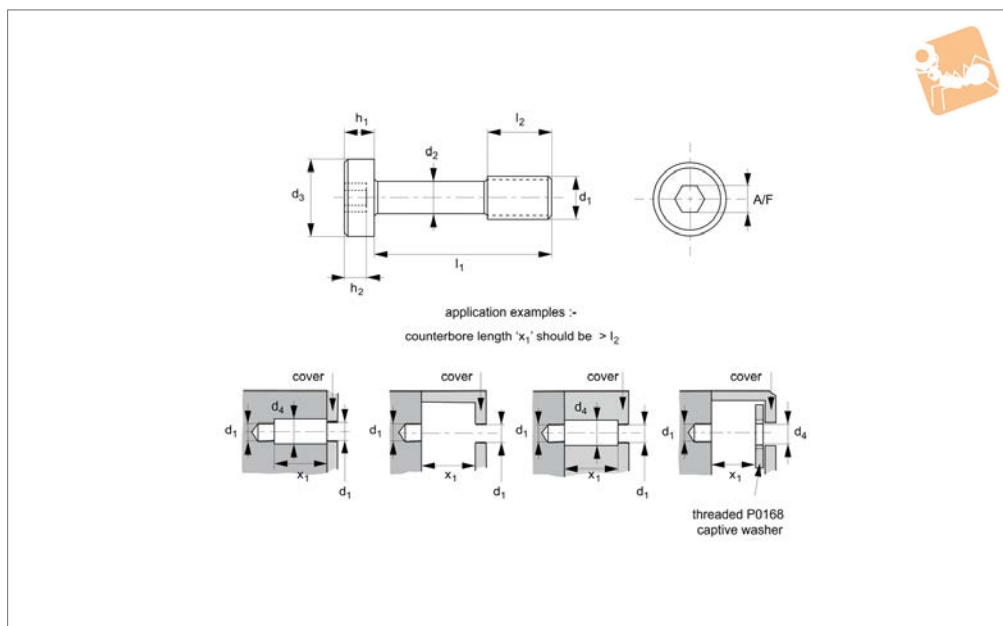


CAPTIVE SCREWS



MADE IN BRITAIN

### P0152.B4



#### Material

Stainless steel (AISI 316, 1.4401), black oxide coated. This grade of stainless steel is highly resistant to corrosion and is suitable for outdoor, medical and marine applications. Tensile strength 550 N/mm<sup>2</sup>. Also available on request in titanium, steel (anodised, black oxide coated or zinc plated), brass, aluminium etc.

#### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Generally to ISO 1207. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

#### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	A/F
P0152.020-010-B4	M 2	10	1.2	3.0	3.8	2.5	1.3	0.85	1.3
P0152.020-012-B4	M 2	12	1.2	3.0	3.8	2.5	1.3	0.85	1.3
P0152.020-016-B4	M 2	16	1.2	3.0	3.8	2.5	1.3	0.85	1.3
P0152.020-020-B4	M 2	20	1.2	3.0	3.8	2.5	1.3	0.85	1.3
P0152.025-008-B4	M 2,5	8	1.7	3.7	4.5	2.8	1.6	1.00	1.5
P0152.025-010-B4	M 2,5	10	1.7	3.7	4.5	2.8	1.6	1.00	1.5
P0152.025-016-B4	M 2,5	16	1.7	3.7	4.5	2.8	1.6	1.00	1.5
P0152.025-020-B4	M 2,5	20	1.7	3.7	4.5	2.8	1.6	1.00	1.5
P0152.025-025-B4	M 2,5	25	1.7	3.7	4.5	2.8	1.6	1.00	1.5
P0152.025-030-B4	M 2,5	30	1.7	3.7	4.5	2.8	1.6	1.00	1.5
P0152.030-010-B4	M 3	10	2.0	4.5	5.5	3.5	2.0	1.30	2
P0152.030-011-B4	M 3	11	2.0	4.5	5.5	3.5	2.0	1.30	2
P0152.030-013-B4	M 3	13	2.0	4.5	5.5	3.5	2.0	1.30	2
P0152.030-016-B4	M 3	16	2.0	4.5	5.5	3.5	2.0	1.30	2
P0152.030-018-B4	M 3	18	2.0	4.5	5.5	3.5	2.0	1.30	2
P0152.030-020-B4	M 3	20	2.0	4.5	5.5	3.5	2.0	1.30	2
P0152.030-025-B4	M 3	25	2.0	4.5	5.5	3.5	2.0	1.30	2
P0152.030-030-B4	M 3	30	2.0	4.5	5.5	3.5	2.0	1.30	2
P0152.030-040-B4	M 3	40	2.0	4.5	5.5	3.5	2.0	1.30	2
P0152.035-010-B4	M 3,5	10	2.3	5.2	6.0	3.8	2.4	1.4	2.5
P0152.035-016-B4	M 3,5	16	2.3	5.2	6.0	3.8	2.4	1.4	2.5
P0152.035-020-B4	M 3,5	20	2.3	5.2	6.0	3.8	2.4	1.4	2.5
P0152.035-025-B4	M 3,5	25	2.3	5.2	6.0	3.8	2.4	1.4	2.5
P0152.035-030-B4	M 3,5	30	2.3	5.2	6.0	3.8	2.4	1.4	2.5
P0152.035-040-B4	M 3,5	40	2.3	5.2	6.0	3.8	2.4	1.4	2.5
P0152.040-010-B4	M 4	10	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.040-012-B4	M 4	12	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.040-016-B4	M 4	16	2.8	6.0	7.0	4.5	2.6	1.6	2.5



# Captive Screws - Cheese Head

hex drive - 316 stainless - blackened



Captive Screws

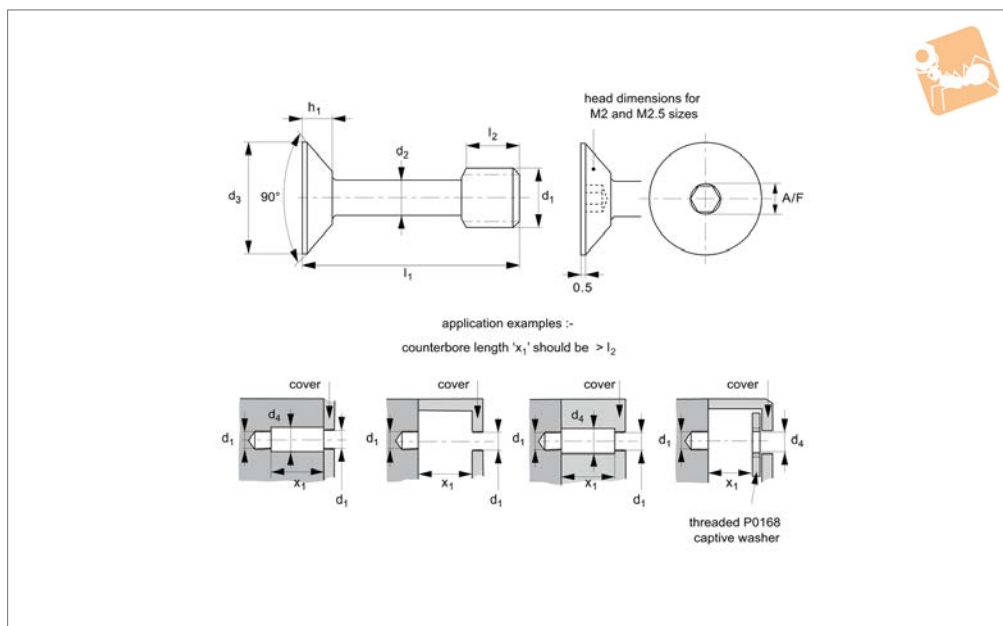
Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	A/F
P0152.040-018-B4	M 4	18	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.040-019-B4	M 4	19	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.040-020-B4	M 4	20	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.040-025-B4	M 4	25	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.040-030-B4	M 4	30	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.040-040-B4	M 4	40	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.040-050-B4	M 4	50	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.040-060-B4	M 4	60	2.8	6.0	7.0	4.5	2.6	1.6	2.5
P0152.050-010-B4	M 5	10	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-012-B4	M 5	12	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-016-B4	M 5	16	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-018-B4	M 5	18	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-020-B4	M 5	20	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-022-B4	M 5	22	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-025-B4	M 5	25	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-030-B4	M 5	30	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-040-B4	M 5	40	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-050-B4	M 5	50	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-060-B4	M 5	60	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.050-080-B4	M 5	80	3.7	7.5	8.5	5.5	3.3	2.0	3
P0152.060-016-B4	M 6	16	4.2	7.5	10.0	6.5	3.9	2.3	4
P0152.060-020-B4	M 6	20	4.2	7.5	10.0	6.5	3.9	2.3	4
P0152.060-025-B4	M 6	25	4.2	7.5	10.0	6.5	3.9	2.3	4
P0152.060-030-B4	M 6	30	4.2	7.5	10.0	6.5	3.9	2.3	4
P0152.060-040-B4	M 6	40	4.2	7.5	10.0	6.5	3.9	2.3	4
P0152.060-050-B4	M 6	50	4.2	7.5	10.0	6.5	3.9	2.3	4
P0152.060-060-B4	M 6	60	4.2	7.5	10.0	6.5	3.9	2.3	4
P0152.060-080-B4	M 6	80	4.2	7.5	10.0	6.5	3.9	2.3	4

CAPTIVE SCREWS



MADE IN BRITAIN

### P0153.B2



#### Material

Stainless steel (AISI 303, 1.4305), black oxide coating. Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.

Also available on request in steel (anodised, black oxide or zinc plated), brass, aluminium etc.

#### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

#### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for

an equivalent machine screw of size d<sub>1</sub>. To accommodate the slight undercut at the top of the shank, the hex socket is smaller than on a similar threaded machine screw.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F
P0153.020-010-B2	M 2	10	1.2	3.5	3.8	2.5	1.20	1.0
P0153.020-012-B2	M 2	12	1.2	3.5	3.8	2.5	1.20	1.0
P0153.020-016-B2	M 2	16	1.2	3.5	3.8	2.5	1.20	1.0
P0153.020-020-B2	M 2	20	1.2	3.5	3.8	2.5	1.20	1.0
P0153.025-010-B2	M 2,5	10	1.7	3.7	4.7	2.8	1.80	1.3
P0153.025-012-B2	M 2,5	12	1.7	3.7	4.7	2.8	1.80	1.3
P0153.025-016-B2	M 2,5	16	1.7	3.7	4.7	2.8	1.80	1.3
P0153.025-020-B2	M 2,5	20	1.7	3.7	4.7	2.8	1.80	1.3
P0153.030-008-B2	M 3	10	2.0	4.5	5.6	3.5	1.65	1.5
P0153.030-010-B2	M 3	10	2.0	4.5	5.6	3.5	1.65	1.5
P0153.030-012-B2	M 3	12	2.0	4.5	5.6	3.5	1.65	1.5
P0153.030-016-B2	M 3	16	2.0	4.5	5.6	3.5	1.65	1.5
P0153.030-020-B2	M 3	20	2.0	4.5	5.6	3.5	1.65	1.5
P0153.030-025-B2	M 3	25	2.0	4.5	5.6	3.5	1.65	1.5
P0153.030-030-B2	M 3	30	2.0	4.5	5.6	3.5	1.65	1.5
P0153.030-035-B2	M 3	35	2.0	4.5	5.6	3.5	1.65	1.5
P0153.030-040-B2	M 3	40	2.0	4.5	5.6	3.5	1.65	1.5
P0153.040-010-B2	M 4	10	2.8	6.0	7.5	4.5	2.20	2.0
P0153.040-012-B2	M 4	12	2.8	6.0	7.5	4.5	2.20	2.0
P0153.040-014-B2	M 4	14	2.8	6.0	7.5	4.5	2.20	2.0
P0153.040-016-B2	M 4	16	2.8	6.0	7.5	4.5	2.20	2.0
P0153.040-020-B2	M 4	20	2.8	6.0	7.5	4.5	2.20	2.0
P0153.040-025-B2	M 4	25	2.8	6.0	7.5	4.5	2.20	2.0
P0153.040-030-B2	M 4	30	2.8	6.0	7.5	4.5	2.20	2.0
P0153.040-035-B2	M 4	35	2.8	6.0	7.5	4.5	2.20	2.0
P0153.040-040-B2	M 4	40	2.8	6.0	7.5	4.5	2.20	2.0



# Captive Screws - Countersunk

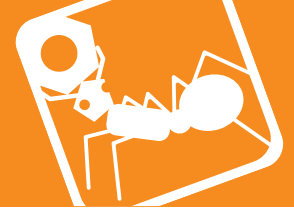
hex drive - 303 stainless, blackened

Captive Screws



Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F
P0153.040-050-B2	M 4	50	2.8	6.0	7.5	4.5	2.20	2.0
P0153.040-060-B2	M 4	60	2.8	6.0	7.5	4.5	2.20	2.0
P0153.050-012-B2	M 5	12	3.7	7.5	9.2	5.5	2.50	2.5
P0153.050-014-B2	M 5	14	3.7	7.5	9.2	5.5	2.50	2.5
P0153.050-016-B2	M 5	16	3.7	7.5	9.2	5.5	2.50	2.5
P0153.050-020-B2	M 5	20	3.7	7.5	9.2	5.5	2.50	2.5
P0153.050-025-B2	M 5	25	3.7	7.5	9.2	5.5	2.50	2.5
P0153.050-030-B2	M 5	30	3.7	7.5	9.2	5.5	2.50	2.5
P0153.050-035-B2	M 5	35	3.7	7.5	9.2	5.5	2.50	2.5
P0153.050-040-B2	M 5	40	3.7	7.5	9.2	5.5	2.50	2.5
P0153.050-050-B2	M 5	50	3.7	7.5	9.2	5.5	2.50	2.5
P0153.050-060-B2	M 5	60	3.7	7.5	9.2	5.5	2.50	2.5
P0153.060-016-B2	M 6	16	4.2	8.0	11.0	6.5	3.00	3.0
P0153.060-020-B2	M 6	20	4.2	8.0	11.0	6.5	3.00	3.0
P0153.060-025-B2	M 6	25	4.2	8.0	11.0	6.5	3.00	3.0
P0153.060-030-B2	M 6	30	4.2	8.0	11.0	6.5	3.00	3.0
P0153.060-035-B2	M 6	35	4.2	8.0	11.0	6.5	3.00	3.0
P0153.060-040-B2	M 6	40	4.2	8.0	11.0	6.5	3.00	3.0
P0153.060-050-B2	M 6	50	4.2	8.0	11.0	6.5	3.00	3.0
P0153.060-060-B2	M 6	60	4.2	8.0	11.0	6.5	3.00	3.0
P0153.080-020-B2	M 8	20	6.0	10.0	15.0	8.5	4.10	4.0
P0153.080-025-B2	M 8	25	6.0	10.0	15.0	8.5	4.10	4.0
P0153.080-030-B2	M 8	30	6.0	10.0	15.0	8.5	4.10	4.0
P0153.080-040-B2	M 8	40	6.0	10.0	15.0	8.5	4.10	4.0
P0153.080-050-B2	M 8	50	6.0	10.0	15.0	8.5	4.10	4.0
P0153.080-060-B2	M 8	60	6.0	10.0	15.0	8.5	4.10	4.0

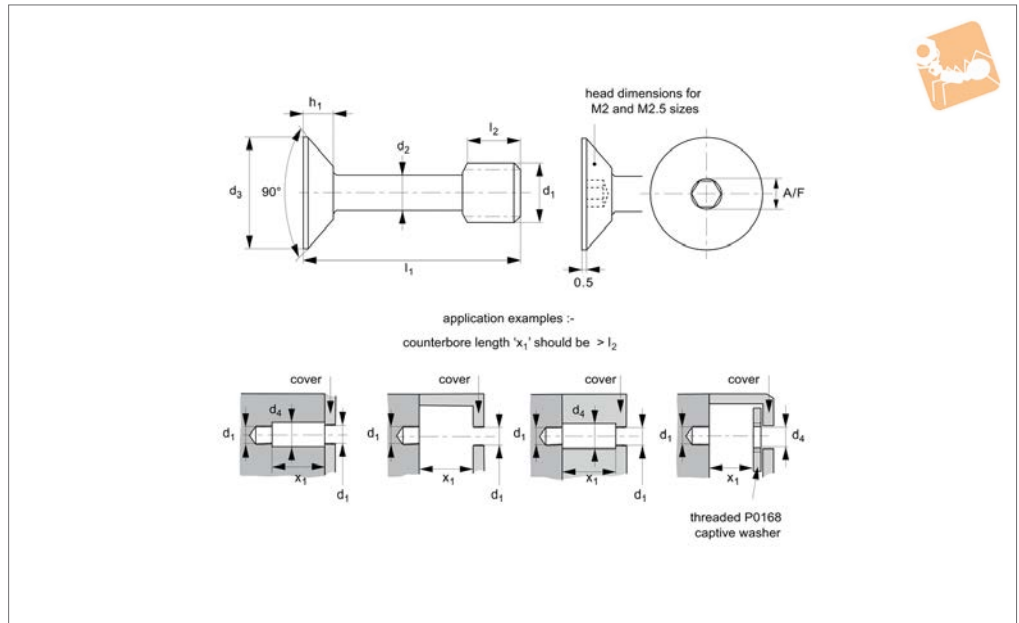
CAPTIVE SCREWS



CAPTIVE SCREWS



## P0153.B4



### Material

Stainless steel (AISI 316, 1.440), black oxide coating. Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for

an equivalent machine screw of size d<sub>1</sub>. To accommodate the slight undercut at the top of the shank, the hex socket is smaller than on a similar threaded machine screw.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F
P0153.020-010-B4	M 2	10	1.2	3.5	3.8	2.5	1.20	1.0
P0153.020-012-B4	M 2	12	1.2	3.5	3.8	2.5	1.20	1.0
P0153.020-016-B4	M 2	16	1.2	3.5	3.8	2.5	1.20	1.0
P0153.020-020-B4	M 2	20	1.2	3.5	3.8	2.5	1.20	1.0
P0153.025-010-B4	M 2,5	10	1.7	3.7	4.7	2.8	1.80	1.3
P0153.025-012-B4	M 2,5	12	1.7	3.7	4.7	2.8	1.80	1.3
P0153.025-016-B4	M 2,5	16	1.7	3.7	4.7	2.8	1.80	1.3
P0153.025-020-B4	M 2,5	20	1.7	3.7	4.7	2.8	1.80	1.3
P0153.030-008-B4	M 3	8	2.0	4.5	5.6	3.5	1.65	1.5
P0153.030-010-B4	M 3	10	2.0	4.5	5.6	3.5	1.65	1.5
P0153.030-012-B4	M 3	12	2.0	4.5	5.6	3.5	1.65	1.5
P0153.030-016-B4	M 3	16	2.0	4.5	5.6	3.5	1.65	1.5
P0153.030-020-B4	M 3	20	2.0	4.5	5.6	3.5	1.65	1.5
P0153.030-025-B4	M 3	25	2.0	4.5	5.6	3.5	1.65	1.5
P0153.030-030-B4	M 3	30	2.0	4.5	5.6	3.5	1.65	1.5
P0153.030-035-B4	M 3	35	2.0	4.5	5.6	3.5	1.65	1.5
P0153.030-040-B4	M 3	40	2.0	4.5	5.6	3.5	1.65	1.5
P0153.040-010-B4	M 4	10	2.8	6.0	7.5	4.5	2.20	2.0
P0153.040-012-B4	M 4	12	2.8	6.0	7.5	4.5	2.20	2.0
P0153.040-014-B4	M 4	14	2.8	6.0	7.5	4.5	2.20	2.0
P0153.040-016-B4	M 4	16	2.8	6.0	7.5	4.5	2.20	2.0
P0153.040-020-B4	M 4	20	2.8	6.0	7.5	4.5	2.20	2.0
P0153.040-025-B4	M 4	25	2.8	6.0	7.5	4.5	2.20	2.0
P0153.040-030-B4	M 4	30	2.8	6.0	7.5	4.5	2.20	2.0
P0153.040-035-B4	M 4	35	2.8	6.0	7.5	4.5	2.20	2.0
P0153.040-040-B4	M 4	40	2.8	6.0	7.5	4.5	2.20	2.0





# Captive Screws - Countersunk

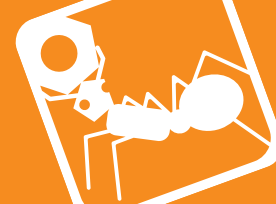
hex drive - 316 stainless, blackened



Captive Screws

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F
P0153.040-050-B4	M 4	50	2.8	6.0	7.5	4.5	2.20	2.0
P0153.040-060-B4	M 4	60	2.8	6.0	7.5	4.5	2.20	2.0
P0153.050-012-B4	M 5	12	3.7	7.5	9.2	5.5	2.50	2.5
P0153.050-014-B4	M 5	14	3.7	7.5	9.2	5.5	2.50	2.5
P0153.050-016-B4	M 5	16	3.7	7.5	9.2	5.5	2.50	2.5
P0153.050-020-B4	M 5	20	3.7	7.5	9.2	5.5	2.50	2.5
P0153.050-025-B4	M 5	25	3.7	7.5	9.2	5.5	2.50	2.5
P0153.050-030-B4	M 5	30	3.7	7.5	9.2	5.5	2.50	2.5
P0153.050-035-B4	M 5	35	3.7	7.5	9.2	5.5	2.50	2.5
P0153.050-040-B4	M 5	40	3.7	7.5	9.2	5.5	2.50	2.5
P0153.050-050-B4	M 5	50	3.7	7.5	9.2	5.5	2.50	2.5
P0153.050-060-B4	M 5	60	3.7	7.5	9.2	5.5	2.50	2.5
P0153.060-016-B4	M 6	16	4.2	8.0	11.0	6.5	3.00	3.0
P0153.060-020-B4	M 6	20	4.2	8.0	11.0	6.5	3.00	3.0
P0153.060-025-B4	M 6	25	4.2	8.0	11.0	6.5	3.00	3.0
P0153.060-030-B4	M 6	30	4.2	8.0	11.0	6.5	3.00	3.0
P0153.060-035-B4	M 6	35	4.2	8.0	11.0	6.5	3.00	3.0
P0153.060-040-B4	M 6	40	4.2	8.0	11.0	6.5	3.00	3.0
P0153.060-050-B4	M 6	50	4.2	8.0	11.0	6.5	3.00	3.0
P0153.060-060-B4	M 6	60	4.2	8.0	11.0	6.5	3.00	3.0
P0153.080-020-B4	M 8	20	6.0	10.0	15.0	8.5	4.10	4.0
P0153.080-025-B4	M 8	25	6.0	10.0	15.0	8.5	4.10	4.0
P0153.080-030-B4	M 8	30	6.0	10.0	15.0	8.5	4.10	4.0
P0153.080-040-B4	M 8	40	6.0	10.0	15.0	8.5	4.10	4.0
P0153.080-050-B4	M 8	50	6.0	10.0	15.0	8.5	4.10	4.0
P0153.080-060-B4	M 8	60	6.0	10.0	15.0	8.5	4.10	4.0

CAPTIVE SCREWS

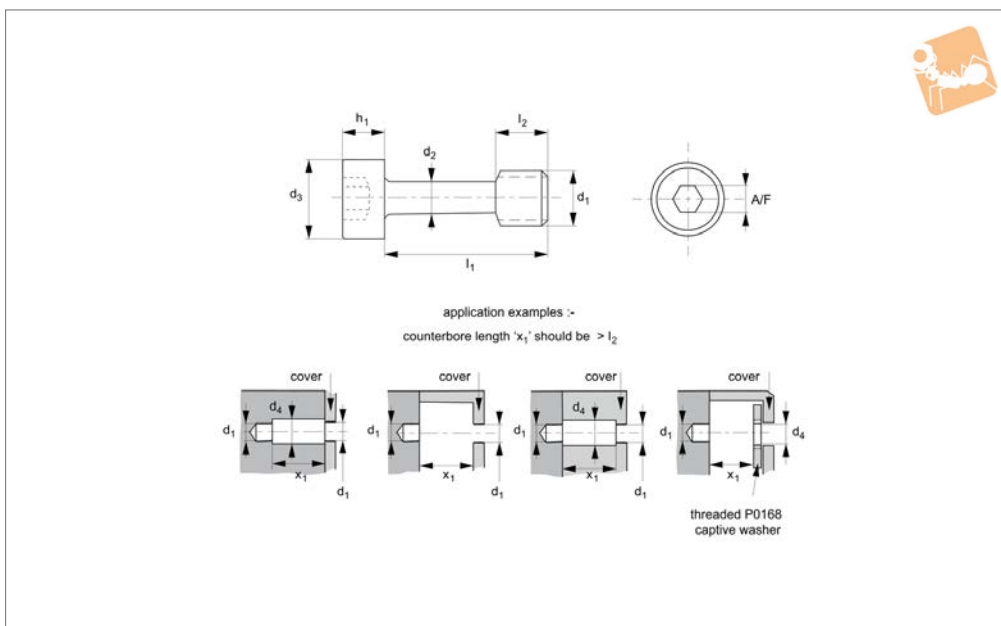


CAPTIVE SCREWS



MADE IN BRITAIN

### P0154.B2



#### Material

Stainless steel (AISI 303, 1.4305), black oxide coating. Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 316, 1.440), brass, aluminium etc.

#### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Generally to ISO 4762. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

#### Tips

For TX drive style, see P0156.

#### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F
P0154.025-005-B2	M 2,5	5	1.8	3.0	4.5	2.8	2.5	2
P0154.025-008-B2	M 2,5	8	1.8	3.0	4.5	2.8	2.5	2
P0154.025-010-B2	M 2,5	10	1.8	3.0	4.5	2.8	2.5	2
P0154.025-012-B2	M 2,5	12	1.8	3.0	4.5	2.8	2.5	2
P0154.030-008-B2	M 3	8	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-010-B2	M 3	10	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-012-B2	M 3	12	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-016-B2	M 3	16	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-020-B2	M 3	20	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-025-B2	M 3	25	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-030-B2	M 3	30	2.0	4.5	5.5	3.5	3.0	2.5
P0154.040-010-B2	M 4	10	2.8	6.0	7.0	4.5	4.0	3
P0154.040-012-B2	M 4	12	2.8	6.0	7.0	4.5	4.0	3
P0154.040-016-B2	M 4	16	2.8	6.0	7.0	4.5	4.0	3
P0154.040-020-B2	M 4	20	2.8	6.0	7.0	4.5	4.0	3
P0154.040-025-B2	M 4	25	2.8	6.0	7.0	4.5	4.0	3
P0154.040-030-B2	M 4	30	2.8	6.0	7.0	4.5	4.0	3
P0154.040-035-B2	M 4	35	2.8	6.0	7.0	4.5	4.0	3
P0154.040-040-B2	M 4	40	2.8	6.0	7.0	4.5	4.0	3
P0154.040-050-B2	M 4	50	2.8	6.0	7.0	4.5	4.0	3
P0154.050-012-B2	M 5	12	3.7	7.5	8.5	5.5	5.0	4
P0154.050-016-B2	M 5	16	3.7	7.5	8.5	5.5	5.0	4
P0154.050-020-B2	M 5	20	3.7	7.5	8.5	5.5	5.0	4
P0154.050-025-B2	M 5	25	3.7	7.5	8.5	5.5	5.0	4
P0154.050-030-B2	M 5	30	3.7	7.5	8.5	5.5	5.0	4
P0154.050-035-B2	M 5	35	3.7	7.5	8.5	5.5	5.0	4
P0154.050-040-B2	M 5	40	3.7	7.5	8.5	5.5	5.0	4
P0154.050-050-B2	M 5	50	3.7	7.5	8.5	5.5	5.0	4



# Captive Screws - Cap Head

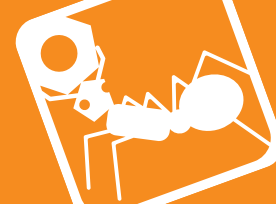
hex drive - 303 stainless, blackened



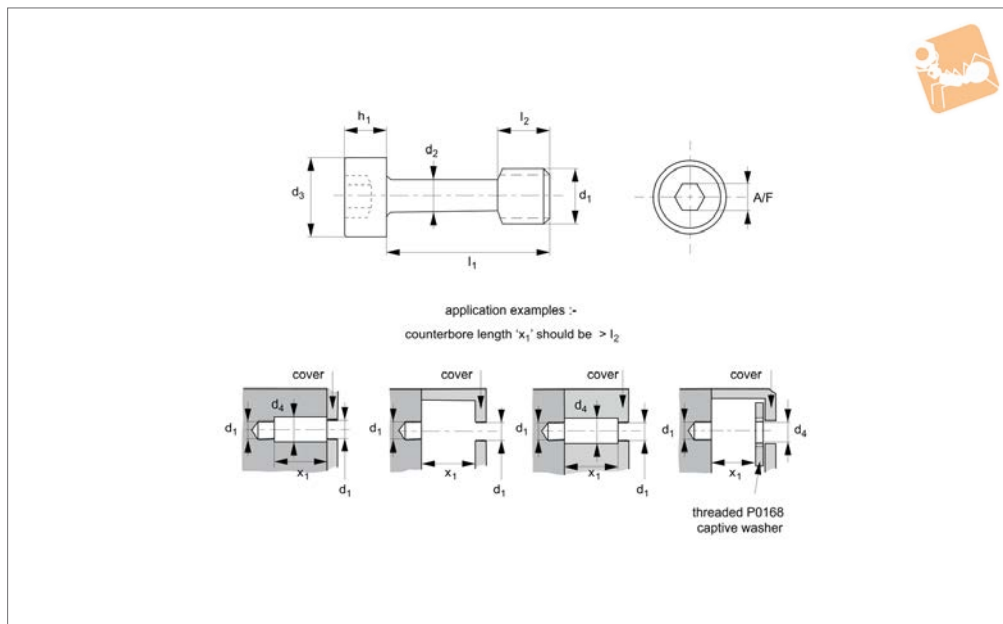
Captive Screws

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F
P0154.060-012-B2	M 6	12	4.2	7.5	10.0	6.5	6.0	5
P0154.060-016-B2	M 6	16	4.2	7.5	10.0	6.5	6.0	5
P0154.060-020-B2	M 6	20	4.2	7.5	10.0	6.5	6.0	5
P0154.060-025-B2	M 6	25	4.2	7.5	10.0	6.5	6.0	5
P0154.060-030-B2	M 6	30	4.2	7.5	10.0	6.5	6.0	5
P0154.060-035-B2	M 6	35	4.2	7.5	10.0	6.5	6.0	5
P0154.060-040-B2	M 6	40	4.2	7.5	10.0	6.5	6.0	5
P0154.060-050-B2	M 6	50	4.2	7.5	10.0	6.5	6.0	5
P0154.060-060-B2	M 6	60	4.2	7.5	10.0	6.5	6.0	5
P0154.060-080-B2	M 6	80	4.2	7.5	10.0	6.5	6.0	5
P0154.080-016-B2	M 8	16	6.0	10.0	13.0	8.5	8.0	6
P0154.080-020-B2	M 8	20	6.0	10.0	13.0	8.5	8.0	6
P0154.080-025-B2	M 8	25	6.0	10.0	13.0	8.5	8.0	6
P0154.080-030-B2	M 8	30	6.0	10.0	13.0	8.5	8.0	6
P0154.080-035-B2	M 8	35	6.0	10.0	13.0	8.5	8.0	6
P0154.080-040-B2	M 8	40	6.0	10.0	13.0	8.5	8.0	6
P0154.080-045-B2	M 8	45	6.0	10.0	13.0	8.5	8.0	6
P0154.080-050-B2	M 8	50	6.0	10.0	13.0	8.5	8.0	6
P0154.080-060-B2	M 8	60	6.0	10.0	13.0	8.5	8.0	6
P0154.080-080-B2	M 8	80	6.0	10.0	13.0	8.5	8.0	6
P0154.100-020-B2	M10	20	7.5	12.5	16.0	10.6	10.0	8
P0154.100-025-B2	M10	25	7.5	12.5	16.0	10.6	10.0	8
P0154.100-030-B2	M10	30	7.5	12.5	16.0	10.6	10.0	8
P0154.100-035-B2	M10	35	7.5	12.5	16.0	10.6	10.0	8
P0154.100-040-B2	M10	40	7.5	12.5	16.0	10.6	10.0	8
P0154.100-045-B2	M10	45	7.5	12.5	16.0	10.6	10.0	8
P0154.100-050-B2	M10	50	7.5	12.5	16.0	10.6	10.0	8
P0154.100-060-B2	M10	60	7.5	12.5	16.0	10.6	10.0	8
P0154.100-080-B2	M10	80	7.5	12.5	16.0	10.6	10.0	8
P0154.120-025-B2	M12	25	8.0	15.0	18.0	13.2	12.0	10
P0154.120-030-B2	M12	30	8.0	15.0	18.0	13.2	12.0	10
P0154.120-035-B2	M12	35	8.0	15.0	18.0	13.2	12.0	10
P0154.120-040-B2	M12	40	8.0	15.0	18.0	13.2	12.0	10
P0154.120-045-B2	M12	45	8.0	15.0	18.0	13.2	12.0	10
P0154.120-050-B2	M12	50	8.0	15.0	18.0	13.2	12.0	10
P0154.120-060-B2	M12	60	8.0	15.0	18.0	13.2	12.0	10
P0154.120-080-B2	M12	80	8.0	15.0	18.0	13.2	12.0	10
P0154.160-030-B2	M16	30	12.0	20.0	24.0	17.5	16.0	14
P0154.160-035-B2	M16	35	12.0	20.0	24.0	17.5	16.0	14
P0154.160-040-B2	M16	40	12.0	20.0	24.0	17.5	16.0	14
P0154.160-045-B2	M16	45	12.0	20.0	24.0	17.5	16.0	14
P0154.160-050-B2	M16	50	12.0	20.0	24.0	17.5	16.0	14
P0154.160-060-B2	M16	60	12.0	20.0	24.0	17.5	16.0	14
P0154.160-080-B2	M16	80	12.0	20.0	24.0	17.5	16.0	14
P0154.160-100-B2	M16	100	12.0	20.0	24.0	17.5	16.0	14
P0154.200-040-B2	M20	40	16.0	25.0	30.0	22.0	20.0	19
P0154.200-060-B2	M20	60	16.0	25.0	30.0	22.0	20.0	19
P0154.200-080-B2	M20	80	16.0	25.0	30.0	22.0	20.0	19
P0154.200-100-B2	M20	100	16.0	25.0	30.0	22.0	20.0	19
P0154.200-120-B2	M20	120	16.0	25.0	30.0	22.0	20.0	19

CAPTIVE SCREWS



### P0154.B4



#### Material

Stainless steel (AISI 316, 1.440), black oxide coating. Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 303, 1.4305), brass, aluminium etc.

#### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Generally to ISO 4762. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

#### Tips

For TX drive style, see P0156.

#### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F
P0154.025-005-B4	M 2,5	5	1.8	3.0	4.5	2.8	2.5	2
P0154.025-008-B4	M 2,5	8	1.8	3.0	4.5	2.8	2.5	2
P0154.025-010-B4	M 2,5	10	1.8	3.0	4.5	2.8	2.5	2
P0154.025-012-B4	M 2,5	12	1.8	3.0	4.5	2.8	2.5	2
P0154.030-008-B4	M 3	8	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-010-B4	M 3	10	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-012-B4	M 3	12	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-016-B4	M 3	16	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-020-B4	M 3	20	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-025-B4	M 3	25	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-030-B4	M 3	30	2.0	4.5	5.5	3.5	3.0	2.5
P0154.040-010-B4	M 4	10	2.8	6.0	7.0	4.5	4.0	3
P0154.040-016-B4	M 4	16	2.8	6.0	7.0	4.5	4.0	3
P0154.040-020-B4	M 4	20	2.8	6.0	7.0	4.5	4.0	3
P0154.040-025-B4	M 4	25	2.8	6.0	7.0	4.5	4.0	3
P0154.040-030-B4	M 4	30	2.8	6.0	7.0	4.5	4.0	3
P0154.040-035-B4	M 4	35	2.8	6.0	7.0	4.5	4.0	3
P0154.040-040-B4	M 4	40	2.8	6.0	7.0	4.5	4.0	3
P0154.040-050-B4	M 4	50	2.8	6.0	7.0	4.5	4.0	3
P0154.050-012-B4	M 5	12	3.7	7.5	8.5	5.5	5.0	4
P0154.050-016-B4	M 5	16	3.7	7.5	8.5	5.5	5.0	4
P0154.050-020-B4	M 5	20	3.7	7.5	8.5	5.5	5.0	4
P0154.050-025-B4	M 5	25	3.7	7.5	8.5	5.5	5.0	4
P0154.050-030-B4	M 5	30	3.7	7.5	8.5	5.5	5.0	4
P0154.050-035-B4	M 5	35	3.7	7.5	8.5	5.5	5.0	4
P0154.050-040-B4	M 5	40	3.7	7.5	8.5	5.5	5.0	4
P0154.050-050-B4	M 5	50	3.7	7.5	8.5	5.5	5.0	4
P0154.060-012-B4	M 6	12	4.2	7.5	10.0	6.5	6.0	5



# Captive Screws - Cap Head

hex drive - 316 stainless, blackened



Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F
P0154.060-016-B4	M 6	16	4.2	7.5	10.0	6.5	6.0	5
P0154.060-020-B4	M 6	20	4.2	7.5	10.0	6.5	6.0	5
P0154.060-025-B4	M 6	25	4.2	7.5	10.0	6.5	6.0	5
P0154.060-030-B4	M 6	30	4.2	7.5	10.0	6.5	6.0	5
P0154.060-035-B4	M 6	35	4.2	7.5	10.0	6.5	6.0	5
P0154.060-040-B4	M 6	40	4.2	7.5	10.0	6.5	6.0	5
P0154.060-050-B4	M 6	50	4.2	7.5	10.0	6.5	6.0	5
P0154.060-060-B4	M 6	60	4.2	7.5	10.0	6.5	6.0	5
P0154.060-080-B4	M 6	80	4.2	7.5	10.0	6.5	6.0	5
P0154.080-016-B4	M 8	16	6.0	10.0	13.0	8.5	8.0	6
P0154.080-020-B4	M 8	20	6.0	10.0	13.0	8.5	8.0	6
P0154.080-025-B4	M 8	25	6.0	10.0	13.0	8.5	8.0	6
P0154.080-030-B4	M 8	30	6.0	10.0	13.0	8.5	8.0	6
P0154.080-035-B4	M 8	35	6.0	10.0	13.0	8.5	8.0	6
P0154.080-040-B4	M 8	40	6.0	10.0	13.0	8.5	8.0	6
P0154.080-045-B4	M 8	45	6.0	10.0	13.0	8.5	8.0	6
P0154.080-050-B4	M 8	50	6.0	10.0	13.0	8.5	8.0	6
P0154.080-060-B4	M 8	60	6.0	10.0	13.0	8.5	8.0	6
P0154.080-080-B4	M 8	80	6.0	10.0	13.0	8.5	8.0	6
P0154.100-020-B4	M10	20	7.5	12.5	16.0	10.6	10.0	8
P0154.100-025-B4	M10	25	7.5	12.5	16.0	10.6	10.0	8
P0154.100-030-B4	M10	30	7.5	12.5	16.0	10.6	10.0	8
P0154.100-035-B4	M10	35	7.5	12.5	16.0	10.6	10.0	8
P0154.100-040-B4	M10	40	7.5	12.5	16.0	10.6	10.0	8
P0154.100-045-B4	M10	45	7.5	12.5	16.0	10.6	10.0	8
P0154.100-050-B4	M10	50	7.5	12.5	16.0	10.6	10.0	8
P0154.100-060-B4	M10	60	7.5	12.5	16.0	10.6	10.0	8
P0154.100-080-B4	M10	80	7.5	12.5	16.0	10.6	10.0	8
P0154.120-025-B4	M12	25	8.0	15.0	18.0	13.2	12.0	10
P0154.120-030-B4	M12	30	8.0	15.0	18.0	13.2	12.0	10
P0154.120-035-B4	M12	35	8.0	15.0	18.0	13.2	12.0	10
P0154.120-040-B4	M12	40	8.0	15.0	18.0	13.2	12.0	10
P0154.120-045-B4	M12	45	8.0	15.0	18.0	13.2	12.0	10
P0154.120-050-B4	M12	50	8.0	15.0	18.0	13.2	12.0	10
P0154.120-060-B4	M12	60	8.0	15.0	18.0	13.2	12.0	10
P0154.120-080-B4	M12	80	8.0	15.0	18.0	13.2	12.0	10
P0154.160-030-B4	M16	30	12.0	20.0	24.0	17.5	16.0	14
P0154.160-035-B4	M16	35	12.0	20.0	24.0	17.5	16.0	14
P0154.160-040-B4	M16	40	12.0	20.0	24.0	17.5	16.0	14
P0154.160-045-B4	M16	45	12.0	20.0	24.0	17.5	16.0	14
P0154.160-050-B4	M16	50	12.0	20.0	24.0	17.5	16.0	14
P0154.160-060-B4	M16	60	12.0	20.0	24.0	17.5	16.0	14
P0154.160-080-B4	M16	80	12.0	20.0	24.0	17.5	16.0	14
P0154.160-100-B4	M16	100	12.0	20.0	24.0	17.5	16.0	14
P0154.200-040-B4	M20	40	16.0	25.0	30.0	22.0	20.0	19
P0154.200-060-B4	M20	60	16.0	25.0	30.0	22.0	20.0	19
P0154.200-080-B4	M20	80	16.0	25.0	30.0	22.0	20.0	19
P0154.200-100-B4	M20	100	16.0	25.0	30.0	22.0	20.0	19
P0154.200-120-B4	M20	120	16.0	25.0	30.0	22.0	20.0	19

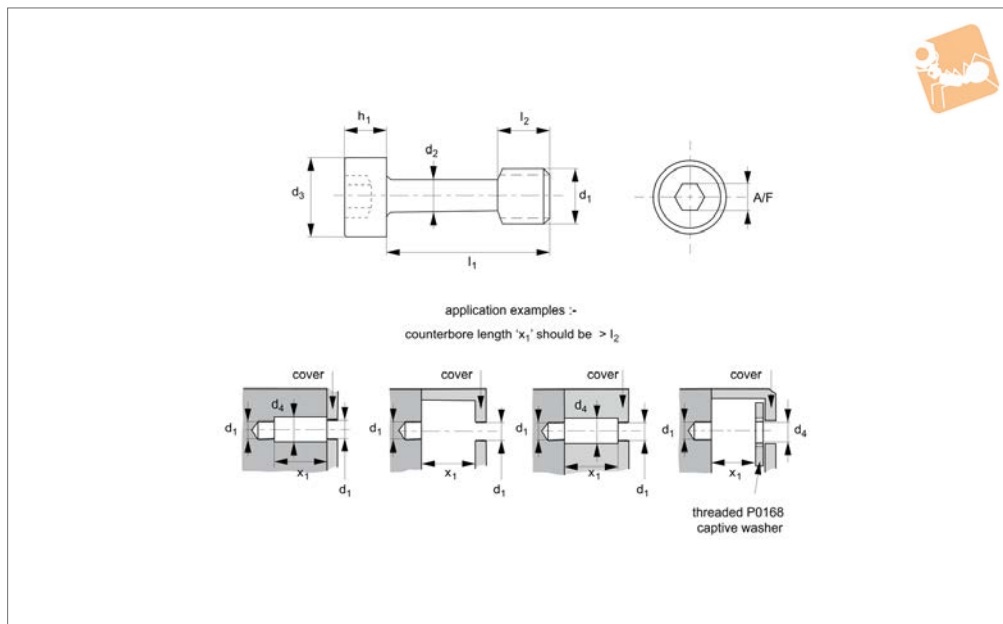
CAPTIVE SCREWS



CAPTIVE SCREWS



## P0154.BL



### Material

Steel blackened.

Tensile strength 550 N/mm<sup>2</sup>.

Also available on request in steel (anodised or zinc plated), stainless steel (AISI 316, 1.440 or AISI 303, 1.4305), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 4762.

Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

### Tips

For TX drive style, see P0156.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F
P0154.025-005-BL	M 2,5	5	1.8	3.0	4.5	2.8	2.5	2
P0154.025-008-BL	M 2,5	8	1.8	3.0	4.5	2.8	2.5	2
P0154.025-010-BL	M 2,5	10	1.8	3.0	4.5	2.8	2.5	2
P0154.025-012-BL	M 2,5	12	1.8	3.0	4.5	2.8	2.5	2
P0154.030-008-BL	M 3	8	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-010-BL	M 3	10	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-012-BL	M 3	12	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-016-BL	M 3	16	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-020-BL	M 3	20	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-025-BL	M 3	25	2.0	4.5	5.5	3.5	3.0	2.5
P0154.030-030-BL	M 3	30	2.0	4.5	5.5	3.5	3.0	2.5
P0154.040-010-BL	M 4	10	2.8	6.0	7.0	4.5	4.0	3
P0154.040-012-BL	M 4	12	2.8	6.0	7.0	4.5	4.0	3
P0154.040-016-BL	M 4	16	2.8	6.0	7.0	4.5	4.0	3
P0154.040-020-BL	M 4	20	2.8	6.0	7.0	4.5	4.0	3
P0154.040-025-BL	M 4	25	2.8	6.0	7.0	4.5	4.0	3
P0154.040-030-BL	M 4	30	2.8	6.0	7.0	4.5	4.0	3
P0154.040-035-BL	M 4	35	2.8	6.0	7.0	4.5	4.0	3
P0154.040-040-BL	M 4	40	2.8	6.0	7.0	4.5	4.0	3
P0154.040-050-BL	M 4	50	2.8	6.0	7.0	4.5	4.0	3
P0154.050-012-BL	M 5	12	3.7	7.5	8.5	5.5	5.0	4
P0154.050-016-BL	M 5	16	3.7	7.5	8.5	5.5	5.0	4
P0154.050-020-BL	M 5	20	3.7	7.5	8.5	5.5	5.0	4
P0154.050-025-BL	M 5	25	3.7	7.5	8.5	5.5	5.0	4
P0154.050-030-BL	M 5	30	3.7	7.5	8.5	5.5	5.0	4
P0154.050-035-BL	M 5	35	3.7	7.5	8.5	5.5	5.0	4
P0154.050-040-BL	M 5	40	3.7	7.5	8.5	5.5	5.0	4
P0154.050-050-BL	M 5	50	3.7	7.5	8.5	5.5	5.0	4



# Captive Screws - Cap Head

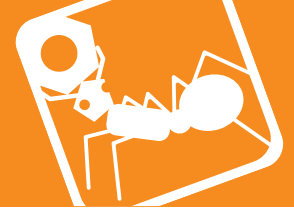
hex drive - steel, blackened



Captive Screws

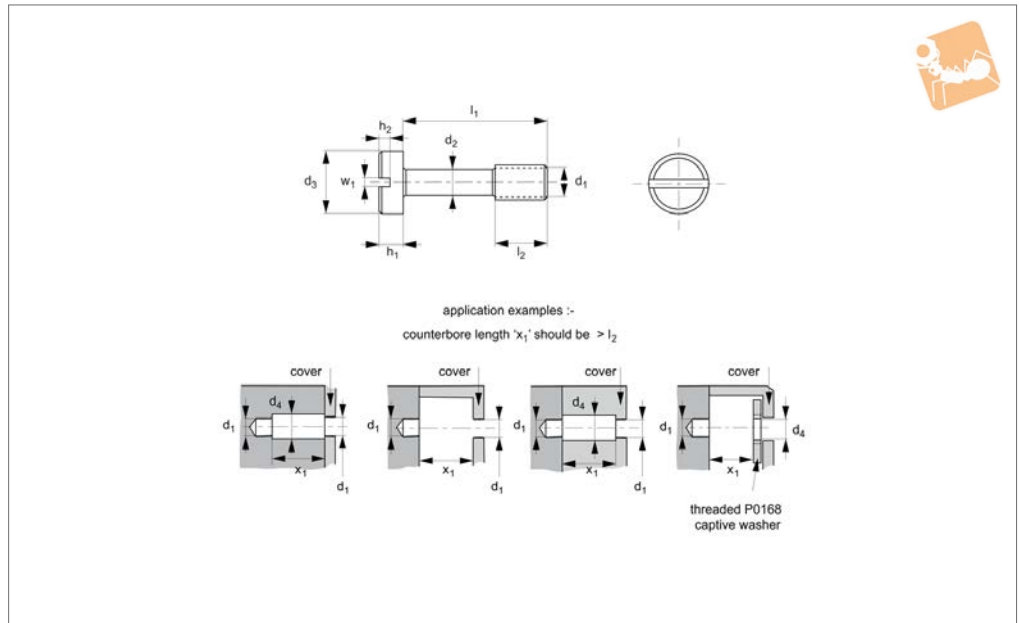
Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F
P0154.060-012-BL	M 6	12	4.2	7.5	10.0	6.5	6.0	5
P0154.060-016-BL	M 6	16	4.2	7.5	10.0	6.5	6.0	5
P0154.060-020-BL	M 6	20	4.2	7.5	10.0	6.5	6.0	5
P0154.060-025-BL	M 6	25	4.2	7.5	10.0	6.5	6.0	5
P0154.060-030-BL	M 6	30	4.2	7.5	10.0	6.5	6.0	5
P0154.060-035-BL	M 6	35	4.2	7.5	10.0	6.5	6.0	5
P0154.060-040-BL	M 6	40	4.2	7.5	10.0	6.5	6.0	5
P0154.060-050-BL	M 6	50	4.2	7.5	10.0	6.5	6.0	5
P0154.060-060-BL	M 6	60	4.2	7.5	10.0	6.5	6.0	5
P0154.060-080-BL	M 6	80	4.2	7.5	10.0	6.5	6.0	5
P0154.080-016-BL	M 8	16	6.0	10.0	13.0	8.5	8.0	6
P0154.080-020-BL	M 8	20	6.0	10.0	13.0	8.5	8.0	6
P0154.080-025-BL	M 8	25	6.0	10.0	13.0	8.5	8.0	6
P0154.080-030-BL	M 8	30	6.0	10.0	13.0	8.5	8.0	6
P0154.080-035-BL	M 8	35	6.0	10.0	13.0	8.5	8.0	6
P0154.080-040-BL	M 8	40	6.0	10.0	13.0	8.5	8.0	6
P0154.080-045-BL	M 8	45	6.0	10.0	13.0	8.5	8.0	6
P0154.080-050-BL	M 8	50	6.0	10.0	13.0	8.5	8.0	6
P0154.080-060-BL	M 8	60	6.0	10.0	13.0	8.5	8.0	6
P0154.080-080-BL	M 8	80	6.0	10.0	13.0	8.5	8.0	6
P0154.100-020-BL	M10	20	7.5	12.5	16.0	10.6	10.0	8
P0154.100-025-BL	M10	25	7.5	12.5	16.0	10.6	10.0	8
P0154.100-030-BL	M10	30	7.5	12.5	16.0	10.6	10.0	8
P0154.100-035-BL	M10	35	7.5	12.5	16.0	10.6	10.0	8
P0154.100-040-BL	M10	40	7.5	12.5	16.0	10.6	10.0	8
P0154.100-045-BL	M10	45	7.5	12.5	16.0	10.6	10.0	8
P0154.100-050-BL	M10	50	7.5	12.5	16.0	10.6	10.0	8
P0154.100-060-BL	M10	60	7.5	12.5	16.0	10.6	10.0	8
P0154.100-080-BL	M10	80	7.5	12.5	16.0	10.6	10.0	8
P0154.120-025-BL	M12	25	8.0	15.0	18.0	13.2	12.0	10
P0154.120-030-BL	M12	30	8.0	15.0	18.0	13.2	12.0	10
P0154.120-035-BL	M12	35	8.0	15.0	18.0	13.2	12.0	10
P0154.120-040-BL	M12	40	8.0	15.0	18.0	13.2	12.0	10
P0154.120-045-BL	M12	45	8.0	15.0	18.0	13.2	12.0	10
P0154.120-050-BL	M12	50	8.0	15.0	18.0	13.2	12.0	10
P0154.120-060-BL	M12	60	8.0	15.0	18.0	13.2	12.0	10
P0154.120-080-BL	M12	80	8.0	15.0	18.0	13.2	12.0	10
P0154.160-030-BL	M16	30	12.0	20.0	24.0	17.5	16.0	14
P0154.160-035-BL	M16	35	12.0	20.0	24.0	17.5	16.0	14
P0154.160-040-BL	M16	40	12.0	20.0	24.0	17.5	16.0	14
P0154.160-045-BL	M16	45	12.0	20.0	24.0	17.5	16.0	14
P0154.160-050-BL	M16	50	12.0	20.0	24.0	17.5	16.0	14
P0154.160-060-BL	M16	60	12.0	20.0	24.0	17.5	16.0	14
P0154.160-080-BL	M16	80	12.0	20.0	24.0	17.5	16.0	14
P0154.160-100-BL	M16	100	12.0	20.0	24.0	17.5	16.0	14
P0154.200-040-BL	M20	40	16.0	25.0	30.0	22.0	20.0	19
P0154.200-060-BL	M20	60	16.0	25.0	30.0	22.0	20.0	19
P0154.200-080-BL	M20	80	16.0	25.0	30.0	22.0	20.0	19
P0154.200-100-BL	M20	100	16.0	25.0	30.0	22.0	20.0	19
P0154.200-120-BL	M20	120	16.0	25.0	30.0	22.0	20.0	19

CAPTIVE SCREWS



**P0155.B2**

MADE IN BRITAIN



**Material**

Stainless steel (AISI 303, 1.4305), black oxide coating. Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.  
Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 316, 1.440), brass, aluminium etc.

**Technical Notes**

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 1207. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

**Tips**

Other head drive styles - add suffix:  
-TX for Torx (hexalobular).  
-PZ for Pozidrive.

-SE for snake-eye security.

**Important Notes**

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	w <sub>1</sub>
P0155.020-010-B2	M 2	10	1.2	3.0	3.8	2.5	1.3	0.85	0.5
P0155.020-012-B2	M 2	12	1.2	3.0	3.8	2.5	1.3	0.85	0.5
P0155.020-016-B2	M 2	16	1.2	3.0	3.8	2.5	1.3	0.85	0.5
P0155.020-020-B2	M 2	20	1.2	3.0	3.8	2.5	1.3	0.85	0.5
P0155.025-010-B2	M 2,5	10	1.7	3.7	4.5	2.8	1.6	1.00	0.6
P0155.025-012-B2	M 2,5	12	1.7	3.7	4.5	2.8	1.6	1.00	0.6
P0155.025-016-B2	M 2,5	16	1.7	3.7	4.5	2.8	1.6	1.00	0.6
P0155.025-020-B2	M 2,5	20	1.7	3.7	4.5	2.8	1.6	1.00	0.6
P0155.025-025-B2	M 2,5	25	1.7	3.7	4.5	2.8	1.6	1.00	0.6
P0155.025-030-B2	M 2,5	30	1.7	3.7	4.5	2.8	1.6	1.00	0.6
P0155.030-006-B2	M 3	6	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-008-B2	M 3	8	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-010-B2	M 3	10	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-011-B2	M 3	11	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-013-B2	M 3	13	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-016-B2	M 3	16	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-018-B2	M 3	18	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-020-B2	M 3	20	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-025-B2	M 3	25	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-030-B2	M 3	30	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-040-B2	M 3	40	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.035-010-B2	M3,5	10	2.3	5.2	6.0	3.8	2.4	1.4	1.0
P0155.035-016-B2	M3,5	16	2.3	5.2	6.0	3.8	2.4	1.4	1.0
P0155.035-020-B2	M3,5	20	2.3	5.2	6.0	3.8	2.4	1.4	1.0
P0155.035-025-B2	M3,5	25	2.3	5.2	6.0	3.8	2.4	1.4	1.0





# Captive Screws - Cheese Head

slot drive - 303 stainless, blackened



Captive Screws

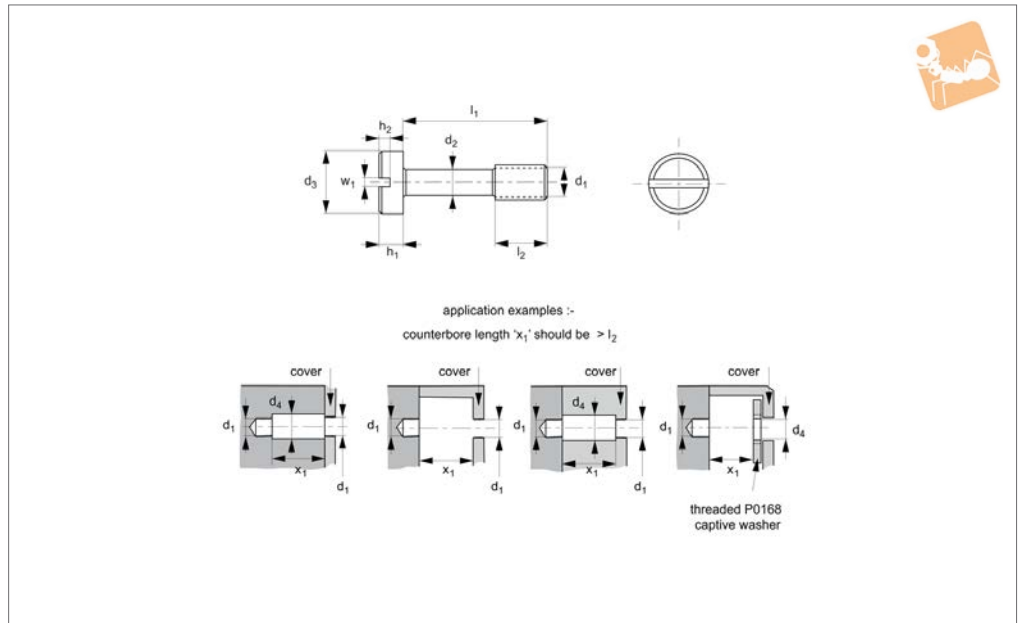
Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	w <sub>1</sub>
P0155.035-030-B2	M3,5	30	2.3	5.2	6.0	3.8	2.4	1.4	1.0
P0155.035-040-B2	M3,5	40	2.3	5.2	6.0	3.8	2.4	1.4	1.0
P0155.040-010-B2	M 4	10	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-012-B2	M 4	12	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-016-B2	M 4	16	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-018-B2	M 4	18	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-019-B2	M 4	19	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-020-B2	M 4	20	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-025-B2	M 4	25	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-030-B2	M 4	30	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-040-B2	M 4	40	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-050-B2	M 4	50	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-060-B2	M 4	60	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.050-010-B2	M 5	10	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-012-B2	M 5	12	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-016-B2	M 5	16	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-018-B2	M 5	18	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-020-B2	M 5	20	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-022-B2	M 5	22	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-025-B2	M 5	25	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-030-B2	M 5	30	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-040-B2	M 5	40	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-050-B2	M 5	50	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-060-B2	M 5	60	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-080-B2	M 5	80	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.060-010-B2	M 6	10	4.2	7.5	10.0	6.5	3.9	2.3	1.6
P0155.060-012-B2	M 6	12	4.2	7.5	10.0	6.5	3.9	2.3	1.6
P0155.060-016-B2	M 6	16	4.2	7.5	10.0	6.5	3.9	2.3	1.6
P0155.060-020-B2	M 6	20	4.2	7.5	10.0	6.5	3.9	2.3	1.6
P0155.060-025-B2	M 6	25	4.2	7.5	10.0	6.5	3.9	2.3	1.6
P0155.060-030-B2	M 6	30	4.2	7.5	10.0	6.5	3.9	2.3	1.6
P0155.060-040-B2	M 6	40	4.2	7.5	10.0	6.5	3.9	2.3	1.6
P0155.060-050-B2	M 6	50	4.2	7.5	10.0	6.5	3.9	2.3	1.6
P0155.060-060-B2	M 6	60	4.2	7.5	10.0	6.5	3.9	2.3	1.6
P0155.060-080-B2	M 6	80	4.2	7.5	10.0	6.5	3.9	2.3	1.6

CAPTIVE SCREWS



## P0155.B4

MADE IN BRITAIN



### Material

Stainless steel (AISI 316, 1.440), black oxide coating. Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 303, 1.4305), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 1207. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

### Tips

Other head drive styles - add suffix:  
-TX for Torx (hexalobular).  
-PZ for Pozidrive.

-SE for snake-eye security.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	w <sub>1</sub>
P0155.020-010-B4	M 2	10	1.2	3.0	3.8	2.5	1.3	0.85	0.5
P0155.020-012-B4	M 2	12	1.2	3.0	3.8	2.5	1.3	0.85	0.5
P0155.020-016-B4	M 2	16	1.2	3.0	3.8	2.5	1.3	0.85	0.5
P0155.020-020-B4	M 2	20	1.2	3.0	3.8	2.5	1.3	0.85	0.5
P0155.025-010-B4	M 2,5	10	1.7	3.7	4.5	2.8	1.6	1.00	0.6
P0155.025-012-B4	M 2,5	12	1.7	3.7	4.5	2.8	1.6	1.00	0.6
P0155.025-016-B4	M 2,5	16	1.7	3.7	4.5	2.8	1.6	1.00	0.6
P0155.025-020-B4	M 2,5	20	1.7	3.7	4.5	2.8	1.6	1.00	0.6
P0155.025-025-B4	M 2,5	25	1.7	3.7	4.5	2.8	1.6	1.00	0.6
P0155.025-030-B4	M 2,5	30	1.7	3.7	4.5	2.8	1.6	1.00	0.6
P0155.030-006-B4	M 3	6	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-008-B4	M 3	8	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-010-B4	M 3	10	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-011-B4	M 3	11	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-013-B4	M 3	13	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-016-B4	M 3	16	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-018-B4	M 3	18	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-020-B4	M 3	20	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-025-B4	M 3	25	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-030-B4	M 3	30	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.030-040-B4	M 3	40	2.0	4.5	5.5	3.5	2.0	1.30	0.8
P0155.035-010-B4	M3,5	10	2.3	5.2	6.0	3.8	2.4	1.4	1.0
P0155.035-016-B4	M3,5	16	2.3	5.2	6.0	3.8	2.4	1.4	1.0
P0155.035-020-B4	M3,5	20	2.3	5.2	6.0	3.8	2.4	1.4	1.0
P0155.035-025-B4	M3,5	25	2.3	5.2	6.0	3.8	2.4	1.4	1.0



# Captive Screws - Cheese Head

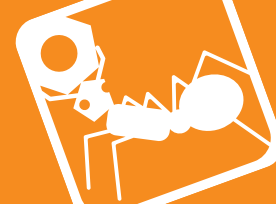
slot drive - 316 stainless, blackened



Captive Screws

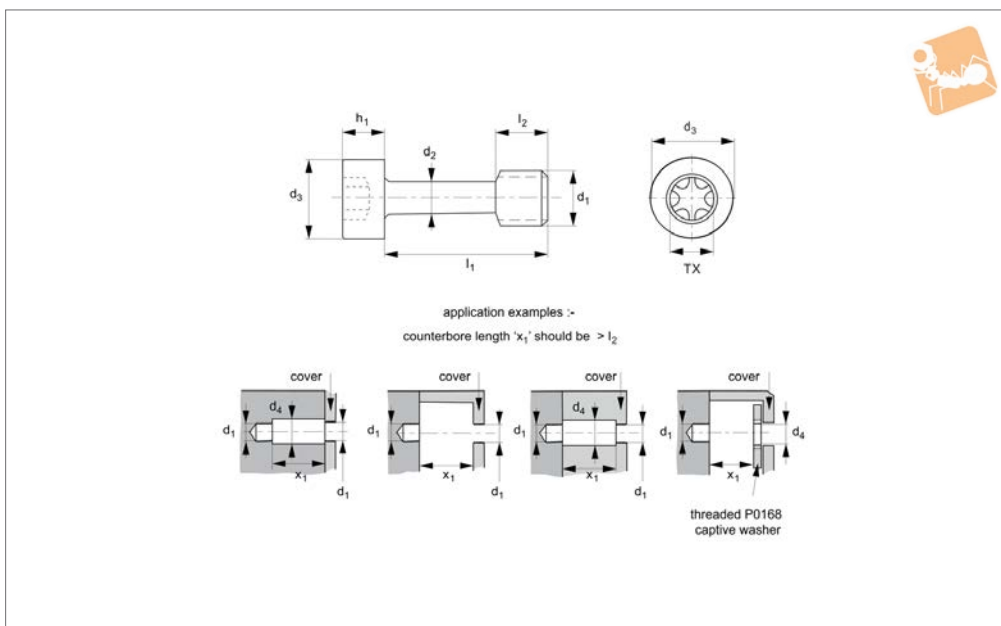
Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	w <sub>1</sub>
P0155.035-030-B4	M3,5	30	2.3	5.2	6.0	3.8	2.4	1.4	1.0
P0155.035-040-B4	M3,5	40	2.3	5.2	6.0	3.8	2.4	1.4	1.0
P0155.040-010-B4	M 4	10	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-012-B4	M 4	12	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-016-B4	M 4	16	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-018-B4	M 4	18	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-019-B4	M 4	19	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-020-B4	M 4	20	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-025-B4	M 4	25	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-030-B4	M 4	30	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-040-B4	M 4	40	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-050-B4	M 4	50	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.040-060-B4	M 4	60	2.8	6.0	7.0	4.5	2.6	1.6	1.2
P0155.050-010-B4	M 5	10	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-012-B4	M 5	12	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-016-B4	M 5	16	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-018-B4	M 5	18	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-020-B4	M 5	20	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-022-B4	M 5	22	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-025-B4	M 5	25	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-030-B4	M 5	30	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-040-B4	M 5	40	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-050-B4	M 5	50	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-060-B4	M 5	60	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.050-080-B4	M 5	80	3.7	7.5	8.5	5.5	3.3	2.0	1.2
P0155.060-010-B4	M 6	10	4.2	7.5	10.0	6.5	3.9	2.3	1.6
P0155.060-012-B4	M 6	12	4.2	7.5	10.0	6.5	3.9	2.3	1.6
P0155.060-016-B4	M 6	16	4.2	7.5	10.0	6.5	3.9	2.3	1.6
P0155.060-020-B4	M 6	20	4.2	7.5	10.0	6.5	3.9	2.3	1.6
P0155.060-025-B4	M 6	25	4.2	7.5	10.0	6.5	3.9	2.3	1.6
P0155.060-030-B4	M 6	30	4.2	7.5	10.0	6.5	3.9	2.3	1.6
P0155.060-040-B4	M 6	40	4.2	7.5	10.0	6.5	3.9	2.3	1.6
P0155.060-050-B4	M 6	50	4.2	7.5	10.0	6.5	3.9	2.3	1.6
P0155.060-060-B4	M 6	60	4.2	7.5	10.0	6.5	3.9	2.3	1.6
P0155.060-080-B4	M 6	80	4.2	7.5	10.0	6.5	3.9	2.3	1.6

CAPTIVE SCREWS



### P0156.B2

MADE IN BRITAIN



#### Material

Stainless steel (AISI 303, 1.4305), black oxide coating. Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 316, 1.440), brass, aluminium etc.

#### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Generally to ISO 4762. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

\* M 8 sizes have a reduced TX size.

#### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	TX size
P0156.030-008-B2	M 3	8	2.0	4.5	5.5	3.5	3	TX-10
P0156.030-010-B2	M 3	10	2.0	4.5	5.5	3.5	3	TX-10
P0156.030-016-B2	M 3	16	2.0	4.5	5.5	3.5	3	TX-10
P0156.030-020-B2	M 3	20	2.0	4.5	5.5	3.5	3	TX-10
P0156.030-025-B2	M 3	25	2.0	4.5	5.5	3.5	3	TX-10
P0156.030-030-B2	M 3	30	2.0	4.5	5.5	3.5	3	TX-10
P0156.040-008-B2	M 4	8	2.8	6.0	7.0	4.5	4	TX-20
P0156.040-010-B2	M 4	10	2.8	6.0	7.0	4.5	4	TX-20
P0156.040-012-B2	M 4	12	2.8	6.0	7.0	4.5	4	TX-20
P0156.040-016-B2	M 4	16	2.8	6.0	7.0	4.5	4	TX-20
P0156.040-020-B2	M 4	20	2.8	6.0	7.0	4.5	4	TX-20
P0156.040-025-B2	M 4	25	2.8	6.0	7.0	4.5	4	TX-20
P0156.040-030-B2	M 4	30	2.8	6.0	7.0	4.5	4	TX-20
P0156.040-040-B2	M 4	40	2.8	6.0	7.0	4.5	4	TX-20
P0156.040-050-B2	M 4	50	2.8	6.0	7.0	4.5	4	TX-20
P0156.050-010-B2	M 5	10	3.7	7.5	8.5	5.5	5	TX-25
P0156.050-012-B2	M 5	12	3.7	7.5	8.5	5.5	5	TX-25
P0156.050-016-B2	M 5	16	3.7	7.5	8.5	5.5	5	TX-25
P0156.050-020-B2	M 5	20	3.7	7.5	8.5	5.5	5	TX-25
P0156.050-025-B2	M 5	25	3.7	7.5	8.5	5.5	5	TX-25
P0156.050-030-B2	M 5	30	3.7	7.5	8.5	5.5	5	TX-25
P0156.050-040-B2	M 5	40	3.7	7.5	8.5	5.5	5	TX-25
P0156.050-050-B2	M 5	50	3.7	7.5	8.5	5.5	5	TX-25
P0156.060-010-B2	M 6	10	4.2	7.5	10.0	6.5	6	TX-30
P0156.060-012-B2	M 6	12	4.2	7.5	10.0	6.5	6	TX-30
P0156.060-016-B2	M 6	16	4.2	7.5	10.0	6.5	6	TX-30
P0156.060-020-B2	M 6	20	4.2	7.5	10.0	6.5	6	TX-30
P0156.060-025-B2	M 6	25	4.2	7.5	10.0	6.5	6	TX-30



# Captive Screws - Cap Head

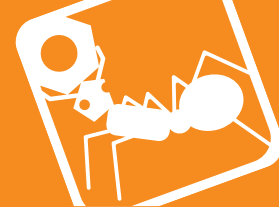
TX drive - 303 stainless, blackened



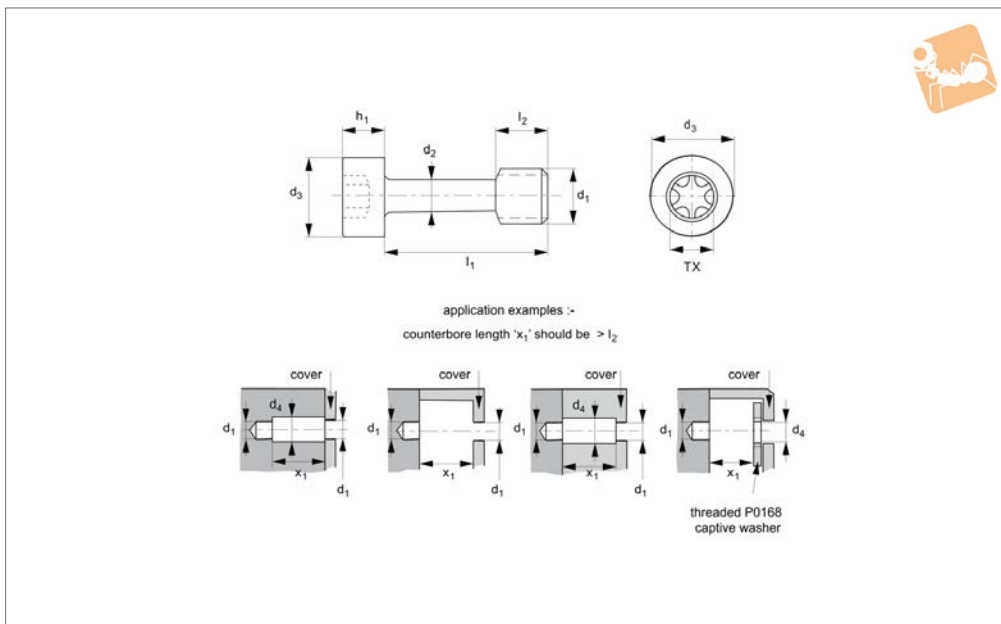
Captive Screws

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	TX size
P0156.060-030-B2	M 6	30	4.2	7.5	10.0	6.5	6	TX-30
P0156.060-040-B2	M 6	40	4.2	7.5	10.0	6.5	6	TX-30
P0156.060-050-B2	M 6	50	4.2	7.5	10.0	6.5	6	TX-30
P0156.060-060-B2	M 6	60	4.2	7.5	10.0	6.5	6	TX-30
P0156.060-080-B2	M 6	80	4.2	7.5	10.0	6.5	6	TX-30
P0156.080-012-B2	M 8	12	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-016-B2	M 8	16	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-020-B2	M 8	20	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-025-B2	M 8	25	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-030-B2	M 8	30	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-035-B2	M 8	35	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-040-B2	M 8	40	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-045-B2	M 8	45	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-050-B2	M 8	50	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-060-B2	M 8	60	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-080-B2	M 8	80	6.0	10.0	13.0	8.5	8	TX-30*

CAPTIVE SCREWS



### P0156.B4



#### Material

Stainless steel (AISI 316, 1.440), black oxide coating. Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 303, 1.4305), brass, aluminium etc.

#### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Generally to ISO 4762. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

\* M 8 sizes have a reduced TX size.

#### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	TX size
P0156.030-008-B4	M 3	8	2.0	4.5	5.5	3.5	3	TX-10
P0156.030-010-B4	M 3	10	2.0	4.5	5.5	3.5	3	TX-10
P0156.030-016-B4	M 3	16	2.0	4.5	5.5	3.5	3	TX-10
P0156.030-020-B4	M 3	20	2.0	4.5	5.5	3.5	3	TX-10
P0156.030-025-B4	M 3	25	2.0	4.5	5.5	3.5	3	TX-10
P0156.030-030-B4	M 3	30	2.0	4.5	5.5	3.5	3	TX-10
P0156.040-008-B4	M 4	8	2.8	6.0	7.0	4.5	4	TX-20
P0156.040-010-B4	M 4	10	2.8	6.0	7.0	4.5	4	TX-20
P0156.040-012-B4	M 4	12	2.8	6.0	7.0	4.5	4	TX-20
P0156.040-016-B4	M 4	16	2.8	6.0	7.0	4.5	4	TX-20
P0156.040-020-B4	M 4	20	2.8	6.0	7.0	4.5	4	TX-20
P0156.040-025-B4	M 4	25	2.8	6.0	7.0	4.5	4	TX-20
P0156.040-030-B4	M 4	30	2.8	6.0	7.0	4.5	4	TX-20
P0156.040-040-B4	M 4	40	2.8	6.0	7.0	4.5	4	TX-20
P0156.040-050-B4	M 4	50	2.8	6.0	7.0	4.5	4	TX-20
P0156.050-010-B4	M 5	10	3.7	7.5	8.5	5.5	5	TX-25
P0156.050-012-B4	M 5	12	3.7	7.5	8.5	5.5	5	TX-25
P0156.050-016-B4	M 5	16	3.7	7.5	8.5	5.5	5	TX-25
P0156.050-020-B4	M 5	20	3.7	7.5	8.5	5.5	5	TX-25
P0156.050-025-B4	M 5	25	3.7	7.5	8.5	5.5	5	TX-25
P0156.050-030-B4	M 5	30	3.7	7.5	8.5	5.5	5	TX-25
P0156.050-040-B4	M 5	40	3.7	7.5	8.5	5.5	5	TX-25
P0156.050-050-B4	M 5	50	3.7	7.5	8.5	5.5	5	TX-25
P0156.060-010-B4	M 6	10	4.2	7.5	10.0	6.5	6	TX-30
P0156.060-012-B4	M 6	12	4.2	7.5	10.0	6.5	6	TX-30
P0156.060-016-B4	M 6	16	4.2	7.5	10.0	6.5	6	TX-30
P0156.060-020-B4	M 6	20	4.2	7.5	10.0	6.5	6	TX-30
P0156.060-025-B4	M 6	25	4.2	7.5	10.0	6.5	6	TX-30



# Captive Screws - Cap Head

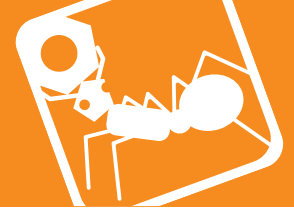
TX drive - 316 stainless, blackened



Captive Screws

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	TX size
P0156.060-030-B4	M 6	30	4.2	7.5	10.0	6.5	6	TX-30
P0156.060-040-B4	M 6	40	4.2	7.5	10.0	6.5	6	TX-30
P0156.060-050-B4	M 6	50	4.2	7.5	10.0	6.5	6	TX-30
P0156.060-060-B4	M 6	60	4.2	7.5	10.0	6.5	6	TX-30
P0156.060-080-B4	M 6	80	4.2	7.5	10.0	6.5	6	TX-30
P0156.080-012-B4	M 8	12	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-016-B4	M 8	16	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-020-B4	M 8	20	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-025-B4	M 8	25	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-030-B4	M 8	30	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-035-B4	M 8	35	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-040-B4	M 8	40	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-045-B4	M 8	45	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-050-B4	M 8	50	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-060-B4	M 8	60	6.0	10.0	13.0	8.5	8	TX-30*
P0156.080-080-B4	M 8	80	6.0	10.0	13.0	8.5	8	TX-30*

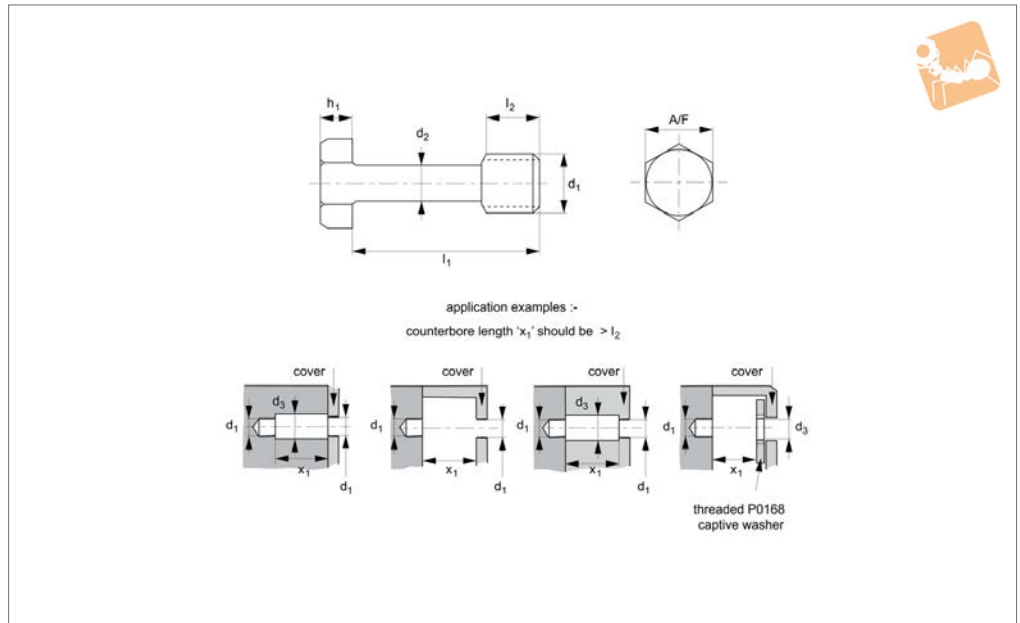
CAPTIVE SCREWS



CAPTIVE SCREWS



## P0158.B2



### Material

Stainless steel (AISI 303, 1.4305), black oxide coating. Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.  
Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 316, 1.440), brass,

aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers

should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> min.	h <sub>1</sub> max.	A/F
P0158.030-010-B2	M 3	10	2.0	4.5	3.5	2.2	6
P0158.030-016-B2	M 3	16	2.0	4.5	3.5	2.2	6
P0158.030-020-B2	M 3	20	2.0	4.5	3.5	2.2	6
P0158.030-025-B2	M 3	25	2.0	4.5	3.5	2.2	6
P0158.030-030-B2	M 3	30	2.0	4.5	3.5	2.2	6
P0158.030-040-B2	M 3	40	2.0	4.5	3.5	2.2	6
P0158.040-012-B2	M 4	12	2.8	6.0	4.5	2.9	7
P0158.040-016-B2	M 4	16	2.8	6.0	4.5	2.9	7
P0158.040-020-B2	M 4	20	2.8	6.0	4.5	2.9	7
P0158.040-025-B2	M 4	25	2.8	6.0	4.5	2.9	7
P0158.040-030-B2	M 4	30	2.8	8.0	4.5	2.9	7
P0158.040-035-B2	M 4	35	2.8	8.0	4.5	2.9	7
P0158.040-040-B2	M 4	40	2.8	8.0	4.5	2.9	7
P0158.040-050-B2	M 4	50	2.8	8.0	4.5	2.9	7
P0158.040-060-B2	M 4	60	2.8	8.0	4.5	2.9	7
P0158.050-012-B2	M 5	12	3.7	7.5	5.5	3.6	8
P0158.050-016-B2	M 5	16	3.7	7.5	5.5	3.6	8
P0158.050-020-B2	M 5	20	3.7	7.5	5.5	3.6	8
P0158.050-025-B2	M 5	25	3.7	7.5	5.5	3.6	8
P0158.050-030-B2	M 5	30	3.7	10.0	5.5	3.6	8
P0158.050-035-B2	M 5	35	3.7	10.0	5.5	3.6	8
P0158.050-040-B2	M 5	40	3.7	10.0	5.5	3.6	8
P0158.050-050-B2	M 5	50	3.7	10.0	5.5	3.6	8
P0158.050-060-B2	M 5	60	3.7	10.0	5.5	3.6	8
P0158.060-012-B2	M 6	12	4.2	7.5	6.5	4.1	10
P0158.060-016-B2	M 6	16	4.2	7.5	6.5	4.1	10
P0158.060-020-B2	M 6	20	4.2	7.5	6.5	4.1	10
P0158.060-025-B2	M 6	25	4.2	7.5	6.5	4.1	10
P0158.060-030-B2	M 6	30	4.2	7.5	6.5	4.1	10





# Captive Screws - Hex Bolts

303 stainless, blackened

## Captive Screws

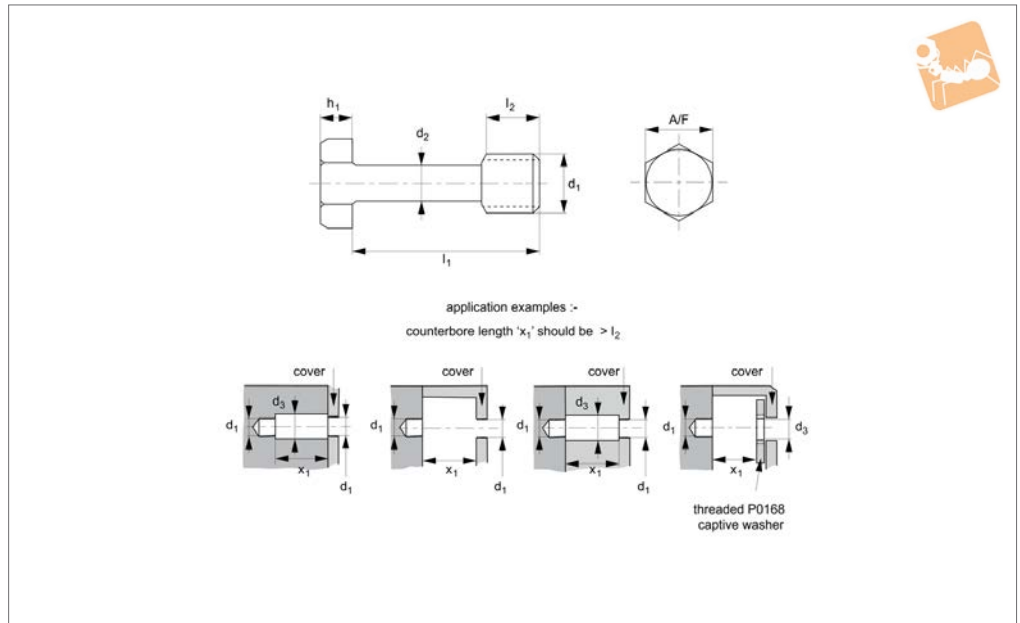


Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> min.	h <sub>1</sub> max.	A/F
P0158.060-035-B2	M 6	35	4.2	7.5	6.5	4.1	10
P0158.060-040-B2	M 6	40	4.2	7.5	6.5	4.1	10
P0158.060-050-B2	M 6	50	4.2	7.5	6.5	4.1	10
P0158.060-060-B2	M 6	60	4.2	7.5	6.5	4.1	10
P0158.060-080-B2	M 6	80	4.2	7.5	6.5	4.1	10
P0158.080-016-B2	M 8	16	6.0	10.0	8.5	5.3	13
P0158.080-020-B2	M 8	20	6.0	10.0	8.5	5.3	13
P0158.080-025-B2	M 8	25	6.0	10.0	8.5	5.3	13
P0158.080-030-B2	M 8	30	6.0	10.0	8.5	5.3	13
P0158.080-035-B2	M 8	35	6.0	10.0	8.5	5.3	13
P0158.080-040-B2	M 8	40	6.0	10.0	8.5	5.3	13
P0158.080-050-B2	M 8	50	6.0	10.0	8.5	5.3	13
P0158.080-060-B2	M 8	60	6.0	10.0	8.5	5.3	13
P0158.080-080-B2	M 8	80	6.0	10.0	8.5	5.3	13
P0158.100-020-B2	M10	20	7.5	12.5	10.6	6.4	17
P0158.100-025-B2	M10	25	7.5	12.5	10.6	6.4	17
P0158.100-030-B2	M10	30	7.5	12.5	10.6	6.4	17
P0158.100-035-B2	M10	35	7.5	12.0	10.6	6.4	17
P0158.100-040-B2	M10	40	7.5	12.5	10.6	6.4	17
P0158.100-050-B2	M10	50	7.5	12.5	10.6	6.4	17
P0158.100-060-B2	M10	60	7.5	12.5	10.6	6.4	17
P0158.100-080-B2	M10	80	7.5	12.5	10.6	6.4	17
P0158.120-025-B2	M12	25	8.0	15.0	13.2	7.5	19
P0158.120-030-B2	M12	30	8.0	15.0	13.2	7.5	19
P0158.120-035-B2	M12	35	8.0	15.0	13.2	7.5	19
P0158.120-040-B2	M12	40	8.0	15.0	13.2	7.5	19
P0158.120-050-B2	M12	50	8.0	15.0	13.2	7.5	19
P0158.120-060-B2	M12	60	8.0	15.0	13.2	7.5	19
P0158.120-080-B2	M12	80	8.0	15.0	13.2	7.5	19

CAPTIVE SCREWS



## P0158.B4



### Material

Stainless steel (AISI 316, 1.440), black oxide coating. Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 303, 1.4305), brass,

aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers

should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> min.	h <sub>1</sub> max.	A/F
P0158.030-010-B4	M 3	10	2.0	4.5	3.5	2.2	6
P0158.030-016-B4	M 3	16	2.0	4.5	3.5	2.2	6
P0158.030-020-B4	M 3	20	2.0	4.5	3.5	2.2	6
P0158.030-025-B4	M 3	25	2.0	4.5	3.5	2.2	6
P0158.030-030-B4	M 3	30	2.0	4.5	3.5	2.2	6
P0158.030-040-B4	M 3	40	2.0	4.5	3.5	2.2	6
P0158.040-012-B4	M 4	12	2.8	6.0	4.5	2.9	7
P0158.040-016-B4	M 4	16	2.8	6.0	4.5	2.9	7
P0158.040-020-B4	M 4	20	2.8	6.0	4.5	2.9	7
P0158.040-025-B4	M 4	25	2.8	6.0	4.5	2.9	7
P0158.040-030-B4	M 4	30	2.8	8.0	4.5	2.9	7
P0158.040-035-B4	M 4	35	2.8	8.0	4.5	2.9	7
P0158.040-040-B4	M 4	40	2.8	8.0	4.5	2.9	7
P0158.040-050-B4	M 4	50	2.8	8.0	4.5	2.9	7
P0158.040-060-B4	M 4	60	2.8	8.0	4.5	2.9	7
P0158.050-012-B4	M 5	12	3.7	7.5	5.5	3.6	8
P0158.050-016-B4	M 5	16	3.7	7.5	5.5	3.6	8
P0158.050-020-B4	M 5	20	3.7	7.5	5.5	3.6	8
P0158.050-025-B4	M 5	25	3.7	7.5	5.5	3.6	8
P0158.050-030-B4	M 5	30	3.7	10.0	5.5	3.6	8
P0158.050-035-B4	M 5	35	3.7	10.0	5.5	3.6	8
P0158.050-040-B4	M 5	40	3.7	10.0	5.5	3.6	8
P0158.050-050-B4	M 5	50	3.7	10.0	5.5	3.6	8
P0158.050-060-B4	M 5	60	3.7	10.0	5.5	3.6	8
P0158.060-012-B4	M 6	12	4.2	7.5	6.5	4.1	10
P0158.060-016-B4	M 6	16	4.2	7.5	6.5	4.1	10
P0158.060-020-B4	M 6	20	4.2	7.5	6.5	4.1	10
P0158.060-025-B4	M 6	25	4.2	7.5	6.5	4.1	10
P0158.060-030-B4	M 6	30	4.2	7.5	6.5	4.1	10



# Captive Screws - Hex Bolts

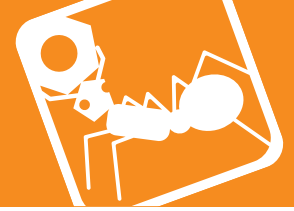
316 stainless, blackened

## Captive Screws



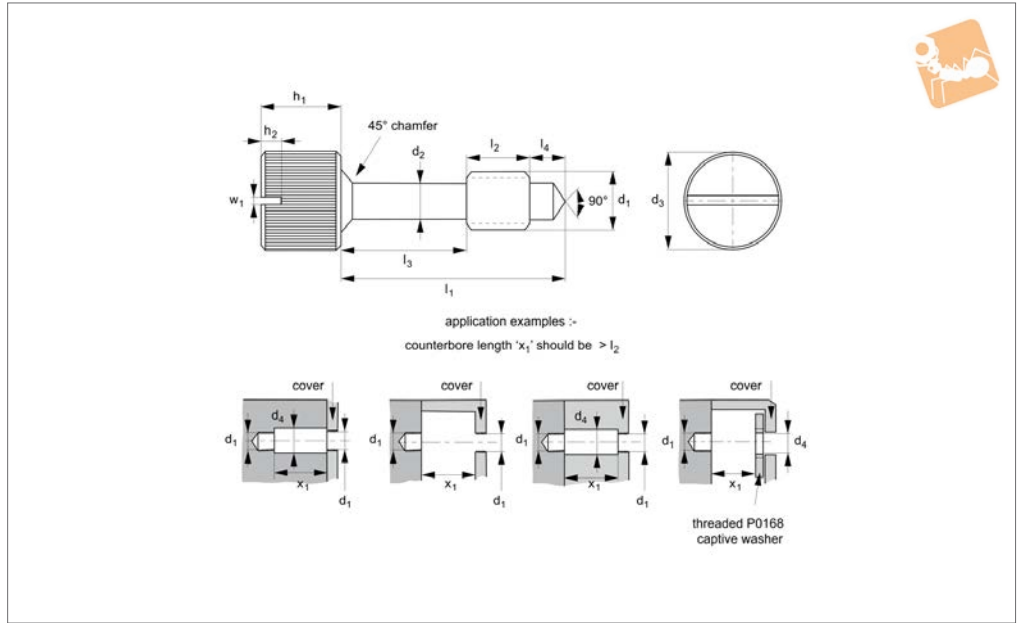
Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> min.	h <sub>1</sub> max.	A/F
P0158.060-035-B4	M 6	35	4.2	7.5	6.5	4.1	10
P0158.060-040-B4	M 6	40	4.2	7.5	6.5	4.1	10
P0158.060-050-B4	M 6	50	4.2	7.5	6.5	4.1	10
P0158.060-060-B4	M 6	60	4.2	7.5	6.5	4.1	10
P0158.060-080-B4	M 6	80	4.2	7.5	6.5	4.1	10
P0158.080-016-B4	M 8	16	6.0	10.0	8.5	5.3	13
P0158.080-020-B4	M 8	20	6.0	10.0	8.5	5.3	13
P0158.080-025-B4	M 8	25	6.0	10.0	8.5	5.3	13
P0158.080-030-B4	M 8	30	6.0	10.0	8.5	5.3	13
P0158.080-035-B4	M 8	35	6.0	10.0	8.5	5.3	13
P0158.080-040-B4	M 8	40	6.0	10.0	8.5	5.3	13
P0158.080-050-B4	M 8	50	6.0	10.0	8.5	5.3	13
P0158.080-060-B4	M 8	60	6.0	10.0	8.5	5.3	13
P0158.080-080-B4	M 8	80	6.0	10.0	8.5	5.3	13
P0158.100-020-B4	M10	20	7.5	12.5	10.6	6.4	17
P0158.100-025-B4	M10	25	7.5	12.5	10.6	6.4	17
P0158.100-030-B4	M10	30	7.5	12.5	10.6	6.4	17
P0158.100-035-B4	M10	35	7.5	12.0	10.6	6.4	17
P0158.100-040-B4	M10	40	7.5	12.5	10.6	6.4	17
P0158.100-050-B4	M10	50	7.5	12.5	10.6	6.4	17
P0158.100-060-B4	M10	60	7.5	12.5	10.6	6.4	17
P0158.100-080-B4	M10	80	7.5	12.5	10.6	6.4	17
P0158.120-025-B4	M12	25	8.0	15.0	13.2	7.5	19
P0158.120-030-B4	M12	30	8.0	15.0	13.2	7.5	19
P0158.120-035-B4	M12	35	8.0	15.0	13.2	7.5	19
P0158.120-040-B4	M12	40	8.0	15.0	13.2	7.5	19
P0158.120-050-B4	M12	50	8.0	15.0	13.2	7.5	19
P0158.120-060-B4	M12	60	8.0	15.0	13.2	7.5	19
P0158.120-080-B4	M12	80	8.0	15.0	13.2	7.5	19

CAPTIVE SCREWS



MADE IN BRITAIN

## P0159.B2



CAPTIVE SCREWS

### Material

Stainless steel (AISI 303, 1.4305), black oxide coating. Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel. Also available on request in steel

(anodised, black oxide or zinc plated) stainless steel (AISI 316, 1.440), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	w <sub>1</sub>
P0159.030-010-B2	M 3	10	2	3.2	6.5	3.5	6.5	2.0	4.8	2.0	1.2
P0159.030-014-B2	M 3	14	2	3.2	6.5	3.5	6.5	2.0	8.8	2.0	1.2
P0159.030-016-B2	M 3	16	2	3.2	6.5	3.5	6.5	2.0	10.8	2.0	1.2
P0159.030-020-B2	M 3	20	2	3.2	6.5	3.5	6.5	2.0	14.8	2.0	1.2
P0159.030-022-B2	M 3	22	2	3.2	6.5	3.5	6.5	2.0	16.8	2.0	1.2
P0159.030-024-B2	M 3	24	2	3.2	6.5	3.5	6.5	2.0	18.8	2.0	1.2
P0159.030-026-B2	M 3	26	2	3.2	6.5	3.5	6.5	2.0	20.8	2.0	1.2
P0159.031-010-B2	M 3	10	2	3.2	8	3.5	8.0	2.0	4.8	2.0	1.2
P0159.031-014-B2	M 3	14	2	3.2	8	3.5	8.0	2.0	8.8	2.0	1.2
P0159.031-016-B2	M 3	16	2	3.2	8	3.5	8.0	2.0	10.8	2.0	1.2
P0159.031-020-B2	M 3	20	2	3.2	8	3.5	8.0	2.0	14.8	2.0	1.2
P0159.031-022-B2	M 3	22	2	3.2	8	3.5	8.0	2.0	16.8	2.0	1.2
P0159.031-024-B2	M 3	24	2	3.2	8	3.5	8.0	2.0	18.8	2.0	1.2
P0159.040-010-B2	M 4	10	3	5.5	8	4.5	8.0	2.0	2.0	2.5	1.2
P0159.040-014-B2	M 4	14	3	5.5	8	4.5	8.0	2.0	6.0	2.5	1.2
P0159.040-016-B2	M 4	16	3	5.5	8	4.5	8.0	2.0	8.0	2.5	1.2
P0159.040-020-B2	M 4	20	3	5.5	8	4.5	8.0	2.0	12.0	2.5	1.2
P0159.040-022-B2	M 4	22	3	5.5	8	4.5	8.0	2.0	14.0	2.5	1.2
P0159.040-024-B2	M 4	24	3	5.5	8	4.5	8.0	2.0	16.0	2.5	1.2
P0159.040-027-B2	M 4	27	3	5.5	8	4.5	8.0	2.0	19.0	2.5	1.2
P0159.040-032-B2	M 4	32	3	5.5	8	4.5	8.0	2.0	24.0	2.5	1.2
P0159.050-014-B2	M 5	14	3.5	6.5	10	5.5	10.0	2.5	3.5	4.0	1.5
P0159.050-016-B2	M 5	16	3.5	6.5	10	5.5	10.0	2.5	5.5	4.0	1.5
P0159.050-020-B2	M 5	20	3.5	6.5	10	5.5	10.0	2.5	9.5	4.0	1.5
P0159.050-022-B2	M 5	22	3.5	6.5	10	5.5	10.0	2.5	11.5	4.0	1.5
P0159.050-024-B2	M 5	24	3.5	6.5	10	5.5	10.0	2.5	13.5	4.0	1.5
P0159.050-027-B2	M 5	27	3.5	6.5	10	5.5	10.0	2.5	16.5	4.0	1.5
P0159.050-032-B2	M 5	32	3.5	6.5	10	5.5	10.0	2.5	21.5	4.0	1.5
P0159.050-035-B2	M 5	35	3.5	6.5	10	5.5	10.0	2.5	24.5	4.0	1.5
P0159.050-040-B2	M 5	40	3.5	6.5	10	5.5	10.0	2.5	29.5	4.0	1.5
P0159.060-016-B2	M 6	16	4.5	8.0	12	6.5	15.0	2.5	3.0	5.0	2.0
P0159.060-020-B2	M 6	20	4.5	8.0	12	6.5	15.0	2.5	7.0	5.0	2.0



# Captive Panel Thumb Screws

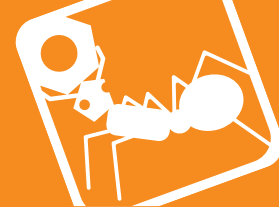
slot drive - 303 stainless, blackened



Captive Screws

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	w <sub>1</sub>
P0159.060-022-B2	M 6	22	4.5	8.0	12	6.5	15.0	2.5	9.0	5.0	2.0
P0159.060-024-B2	M 6	24	4.5	8.0	12	6.5	15.0	2.5	11.0	5.0	2.0
P0159.060-027-B2	M 6	27	4.5	8.0	12	6.5	15.0	2.5	14.0	5.0	2.0
P0159.060-032-B2	M 6	32	4.5	8.0	12	6.5	15.0	2.5	19.0	5.0	2.0
P0159.060-035-B2	M 6	35	4.5	8.0	12	6.5	15.0	2.5	22.0	5.0	2.0
P0159.060-040-B2	M 6	40	4.5	8.0	12	6.5	15.0	2.5	27.0	8.5	2.0
P0159.060-045-B2	M 6	45	4.5	8.0	12	6.5	15.0	2.5	32.0	8.5	2.0
P0159.060-050-B2	M 6	50	4.5	8.0	12	6.5	15.0	2.5	37.0	8.5	2.0

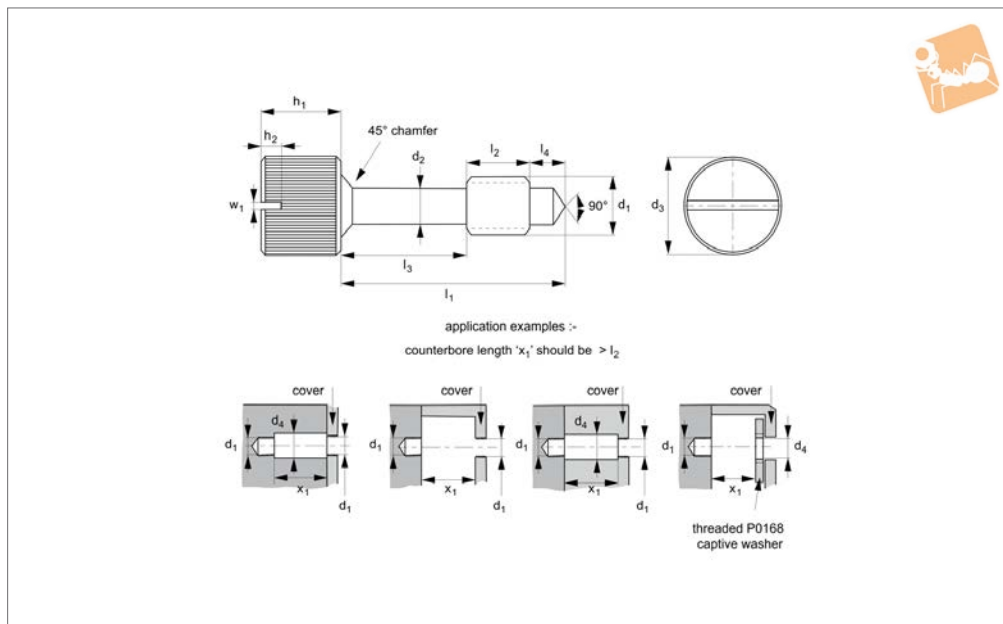
CAPTIVE SCREWS



CAPTIVE SCREWS



## P0159.B4



### Material

Stainless steel (AISI 316, 1.440), black oxide coating. Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.

Also available on request in steel

(anodised, black oxide or zinc plated) stainless steel (AISI 303, 1.4305), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	w <sub>1</sub>
P0159.030-010-B4	M 3	10	2	3.2	6.5	3.5	6.5	2.0	4.8	2.0	1.2
P0159.030-014-B4	M 3	14	2	3.2	6.5	3.5	6.5	2.0	8.8	2.0	1.2
P0159.030-016-B4	M 3	16	2	3.2	6.5	3.5	6.5	2.0	10.8	2.0	1.2
P0159.030-020-B4	M 3	20	2	3.2	6.5	3.5	6.5	2.0	14.8	2.0	1.2
P0159.030-022-B4	M 3	22	2	3.2	6.5	3.5	6.5	2.0	16.8	2.0	1.2
P0159.030-024-B4	M 3	24	2	3.2	6.5	3.5	6.5	2.0	18.8	2.0	1.2
P0159.030-026-B4	M 3	26	2	3.2	6.5	3.5	6.5	2.0	20.8	2.0	1.2
P0159.031-010-B4	M 3	10	2	3.2	8	3.5	8.0	2.0	4.8	2.0	1.2
P0159.031-014-B4	M 3	14	2	3.2	8	3.5	8.0	2.0	8.8	2.0	1.2
P0159.031-016-B4	M 3	16	2	3.2	8	3.5	8.0	2.0	10.8	2.0	1.2
P0159.031-020-B4	M 3	20	2	3.2	8	3.5	8.0	2.0	14.8	2.0	1.2
P0159.031-022-B4	M 3	22	2	3.2	8	3.5	8.0	2.0	16.8	2.0	1.2
P0159.031-024-B4	M 3	24	2	3.2	8	3.5	8.0	2.0	18.8	2.0	1.2
P0159.040-010-B4	M 4	10	3	5.5	8	4.5	8.0	2.0	2.0	2.5	1.2
P0159.040-014-B4	M 4	14	3	5.5	8	4.5	8.0	2.0	6.0	2.5	1.2
P0159.040-016-B4	M 4	16	3	5.5	8	4.5	8.0	2.0	8.0	2.5	1.2
P0159.040-020-B4	M 4	20	3	5.5	8	4.5	8.0	2.0	12.0	2.5	1.2
P0159.040-022-B4	M 4	22	3	5.5	8	4.5	8.0	2.0	14.0	2.5	1.2
P0159.040-024-B4	M 4	24	3	5.5	8	4.5	8.0	2.0	16.0	2.5	1.2
P0159.040-027-B4	M 4	27	3	5.5	8	4.5	8.0	2.0	19.0	2.5	1.2
P0159.040-032-B4	M 4	32	3	5.5	8	4.5	8.0	2.0	24.0	2.5	1.2
P0159.050-014-B4	M 5	14	3.5	6.5	10	5.5	10.0	2.5	3.5	4.0	1.5
P0159.050-016-B4	M 5	16	3.5	6.5	10	5.5	10.0	2.5	5.5	4.0	1.5
P0159.050-020-B4	M 5	20	3.5	6.5	10	5.5	10.0	2.5	9.5	4.0	1.5
P0159.050-022-B4	M 5	22	3.5	6.5	10	5.5	10.0	2.5	11.5	4.0	1.5
P0159.050-024-B4	M 5	24	3.5	6.5	10	5.5	10.0	2.5	13.5	4.0	1.5
P0159.050-027-B4	M 5	27	3.5	6.5	10	5.5	10.0	2.5	16.5	4.0	1.5
P0159.050-032-B4	M 5	32	3.5	6.5	10	5.5	10.0	2.5	21.5	4.0	1.5
P0159.050-035-B4	M 5	35	3.5	6.5	10	5.5	10.0	2.5	24.5	4.0	1.5
P0159.050-040-B4	M 5	40	3.5	6.5	10	5.5	10.0	2.5	29.5	4.0	1.5
P0159.060-016-B4	M 6	16	4.5	8.0	12	6.5	15.0	2.5	3.0	5.0	2.0
P0159.060-020-B4	M 6	20	4.5	8.0	12	6.5	15.0	2.5	7.0	5.0	2.0



# Captive Panel Thumb Screws

slot drive- 316 stainless, blackened



Captive Screws

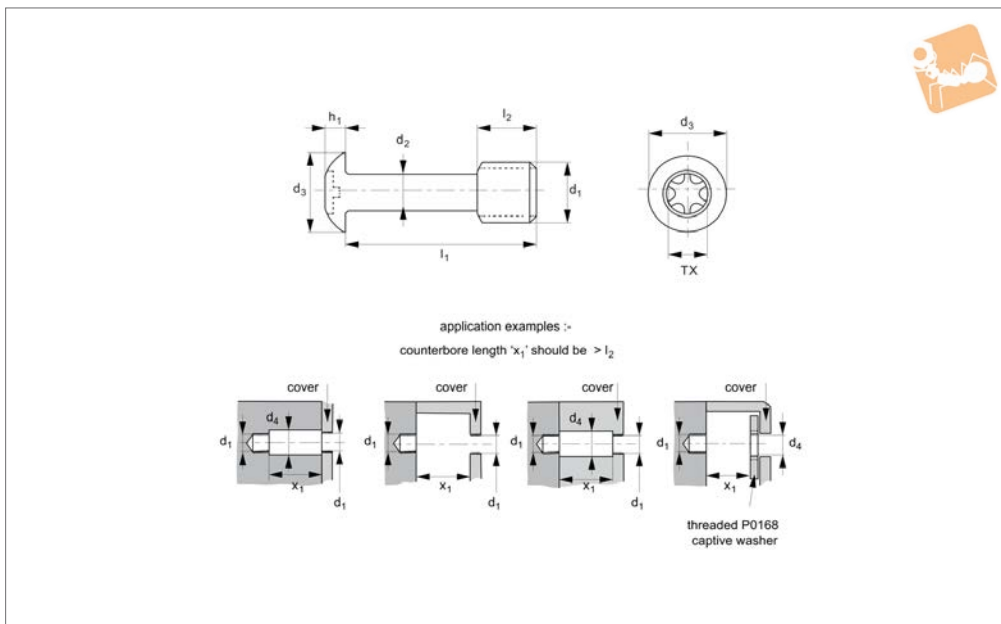
Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	w <sub>1</sub>
P0159.060-022-B4	M 6	22	4.5	8.0	12	6.5	15.0	2.5	9.0	5.0	2.0
P0159.060-024-B4	M 6	24	4.5	8.0	12	6.5	15.0	2.5	11.0	5.0	2.0
P0159.060-027-B4	M 6	27	4.5	8.0	12	6.5	15.0	2.5	14.0	5.0	2.0
P0159.060-032-B4	M 6	32	4.5	8.0	12	6.5	15.0	2.5	19.0	5.0	2.0
P0159.060-035-B4	M 6	35	4.5	8.0	12	6.5	15.0	2.5	22.0	5.0	2.0
P0159.060-040-B4	M 6	40	4.5	8.0	12	6.5	15.0	2.5	27.0	8.5	2.0
P0159.060-045-B4	M 6	45	4.5	8.0	12	6.5	15.0	2.5	32.0	8.5	2.0
P0159.060-050-B4	M 6	50	4.5	8.0	12	6.5	15.0	2.5	37.0	8.5	2.0

CAPTIVE SCREWS



## P0149.Ti

MADE IN BRITAIN



### Material

Titanium grade 2 (tensile strength 345 N/mm<sup>2</sup>), or grade 5 (alloy; tensile strength 900 N/mm<sup>2</sup>).

Also available in stainless steel (see the rest of the P0149 range), or on request in steel (anodised, black oxide or zinc plated), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 7380-1.

Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

T5 also available on request.

Replace -T2 with -T5 at the end of part number.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> 0,25	d <sub>2</sub> 0,12	l <sub>2</sub> -0,2	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	TX size	Material
P0149.025-008-T2	M 2,5	8	1.7	3.7	4.5	2.8	1.50	TX- 8	Grade 2
P0149.025-010-T2	M 2,5	10	1.7	3.7	4.5	2.8	1.50	TX- 8	Grade 2
P0149.025-012-T2	M 2,5	12	1.7	3.7	4.5	2.8	1.50	TX- 8	Grade 2
P0149.025-016-T2	M 2,5	16	1.7	3.7	4.5	2.8	1.50	TX- 8	Grade 2
P0149.025-020-T2	M 2,5	20	1.7	3.7	4.5	2.8	1.50	TX- 8	Grade 2
P0149.030-010-T2	M 3	10	2.0	4.5	5.7	3.5	1.65	TX-10	Grade 2
P0149.030-016-T2	M 3	16	2.0	4.5	5.7	3.5	1.65	TX-10	Grade 2
P0149.030-020-T2	M 3	20	2.0	4.5	5.7	3.5	1.65	TX-10	Grade 2
P0149.030-025-T2	M 3	25	2.0	4.5	5.7	3.5	1.65	TX-10	Grade 2
P0149.030-030-T2	M 3	30	2.0	4.5	5.7	3.5	1.65	TX-10	Grade 2
P0149.030-040-T2	M 3	40	2.0	5.0	5.7	3.5	1.65	TX-10	Grade 2
P0149.040-012-T2	M 4	12	2.8	6.0	7.6	4.5	3.10	TX-20	Grade 2
P0149.040-016-T2	M 4	16	2.8	6.0	7.6	4.5	3.10	TX-20	Grade 2
P0149.040-020-T2	M 4	20	2.8	6.0	7.6	4.5	3.10	TX-20	Grade 2
P0149.040-025-T2	M 4	25	2.8	6.0	7.6	4.5	3.10	TX-20	Grade 2
P0149.040-030-T2	M 4	30	2.8	6.0	7.6	4.5	3.10	TX-20	Grade 2
P0149.040-040-T2	M 4	40	2.8	6.0	7.6	4.5	3.10	TX-20	Grade 2
P0149.040-050-T2	M 4	50	2.8	6.0	7.6	4.5	3.10	TX-20	Grade 2
P0149.040-060-T2	M 4	60	2.8	6.0	7.6	4.5	3.10	TX-20	Grade 2
P0149.050-012-T2	M 5	12	3.7	7.5	9.5	5.5	3.70	TX-25	Grade 2
P0149.050-016-T2	M 5	16	3.7	7.5	9.5	5.5	3.70	TX-25	Grade 2
P0149.050-020-T2	M 5	20	3.7	7.5	9.5	5.5	3.70	TX-25	Grade 2
P0149.050-025-T2	M 5	25	3.7	7.5	9.5	5.5	3.70	TX-25	Grade 2
P0149.050-030-T2	M 5	30	3.7	7.5	9.5	5.5	3.70	TX-25	Grade 2
P0149.050-040-T2	M 5	40	3.7	7.5	9.5	5.5	3.70	TX-25	Grade 2
P0149.050-050-T2	M 5	50	3.7	7.5	9.5	5.5	3.70	TX-25	Grade 2





# Captive Screws - Button Head

TX drive - titanium



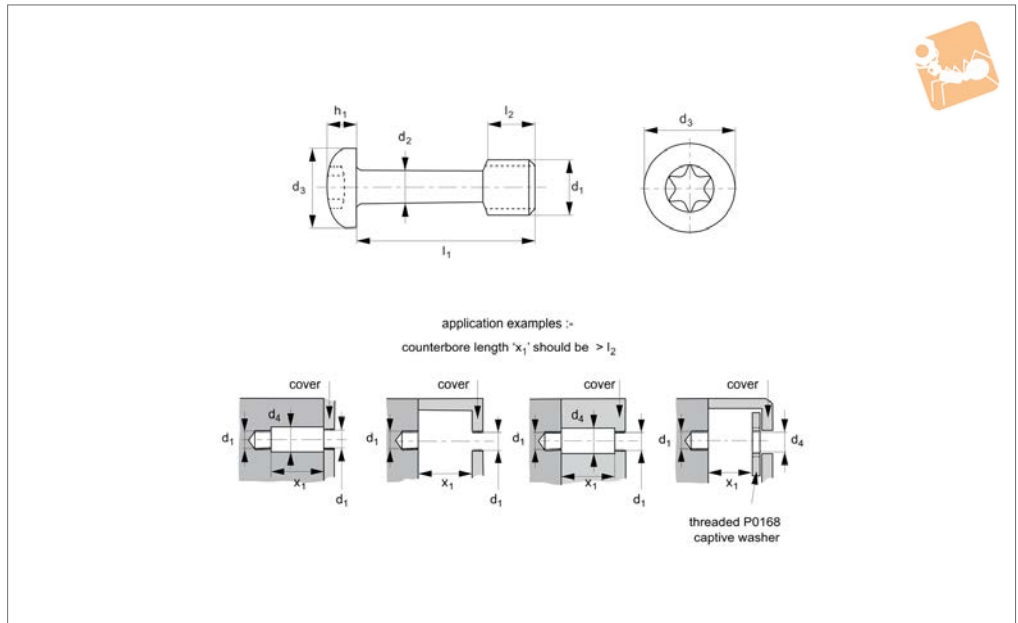
Order No.	d <sub>1</sub>	l <sub>1</sub> 0,25	d <sub>2</sub> 0,12	l <sub>2</sub> -0.2	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	TX size	Material
P0149.050-060-T2	M 5	60	3.7	7.5	9.5	5.5	3.70	TX-25	Grade 2
P0149.060-016-T2	M 6	16	4.2	7.5	10.5	6.5	4.70	TX-30	Grade 2
P0149.060-020-T2	M 6	20	4.2	7.5	10.5	6.5	4.70	TX-30	Grade 2
P0149.060-025-T2	M 6	25	4.2	7.5	10.5	6.5	4.70	TX-30	Grade 2
P0149.060-030-T2	M 6	30	4.2	7.5	10.5	6.5	4.70	TX-30	Grade 2
P0149.060-040-T2	M 6	40	4.2	7.5	10.5	6.5	4.70	TX-30	Grade 2
P0149.060-050-T2	M 6	50	4.2	7.5	10.5	6.5	4.70	TX-30	Grade 2
P0149.060-060-T2	M 6	60	4.2	7.5	10.5	6.5	4.70	TX-30	Grade 2
P0149.060-080-T2	M 6	80	4.2	7.5	10.5	6.5	4.70	TX-30	Grade 2
P0149.025-008-T5	M 2,5	8	1.7	3.7	4.5	2.8	1.50	TX- 8	Grade 5
P0149.025-010-T5	M 2,5	10	1.7	3.7	4.5	2.8	1.50	TX- 8	Grade 5
P0149.025-012-T5	M 2,5	12	1.7	3.7	4.5	2.8	1.50	TX- 8	Grade 5
P0149.025-016-T5	M 2,5	16	1.7	3.7	4.5	2.8	1.50	TX- 8	Grade 5
P0149.025-020-T5	M 2,5	20	1.7	3.7	4.5	2.8	1.50	TX- 8	Grade 5
P0149.030-010-T5	M 3	10	2.0	4.5	5.7	3.5	1.65	TX-10	Grade 5
P0149.030-016-T5	M 3	16	2.0	4.5	5.7	3.5	1.65	TX-10	Grade 5
P0149.030-020-T5	M 3	20	2.0	4.5	5.7	3.5	1.65	TX-10	Grade 5
P0149.030-025-T5	M 3	25	2.0	4.5	5.7	3.5	1.65	TX-10	Grade 5
P0149.030-030-T5	M 3	30	2.0	4.5	5.7	3.5	1.65	TX-10	Grade 5
P0149.030-040-T5	M 3	40	2.0	5.0	5.7	3.5	1.65	TX-10	Grade 5
P0149.040-012-T5	M 4	12	2.8	6.0	7.6	4.5	3.10	TX-20	Grade 5
P0149.040-016-T5	M 4	16	2.8	6.0	7.6	4.5	3.10	TX-20	Grade 5
P0149.040-020-T5	M 4	20	2.8	6.0	7.6	4.5	3.10	TX-20	Grade 5
P0149.040-025-T5	M 4	25	2.8	6.0	7.6	4.5	3.10	TX-20	Grade 5
P0149.040-030-T5	M 4	30	2.8	6.0	7.6	4.5	3.10	TX-20	Grade 5
P0149.040-040-T5	M 4	40	2.8	6.0	7.6	4.5	3.10	TX-20	Grade 5
P0149.040-050-T5	M 4	50	2.8	6.0	7.6	4.5	3.10	TX-20	Grade 5
P0149.040-060-T5	M 4	60	2.8	6.0	7.6	4.5	3.10	TX-20	Grade 5
P0149.050-012-T5	M 5	12	3.7	7.5	9.5	5.5	3.70	TX-25	Grade 5
P0149.050-016-T5	M 5	16	3.7	7.5	9.5	5.5	3.70	TX-25	Grade 5
P0149.050-020-T5	M 5	20	3.7	7.5	9.5	5.5	3.70	TX-25	Grade 5
P0149.050-025-T5	M 5	25	3.7	7.5	9.5	5.5	3.70	TX-25	Grade 5
P0149.050-030-T5	M 5	30	3.7	7.5	9.5	5.5	3.70	TX-25	Grade 5
P0149.050-040-T5	M 5	40	3.7	7.5	9.5	5.5	3.70	TX-25	Grade 5
P0149.050-050-T5	M 5	50	3.7	7.5	9.5	5.5	3.70	TX-25	Grade 5
P0149.050-060-T5	M 5	60	3.7	7.5	9.5	5.5	3.70	TX-25	Grade 5
P0149.060-016-T5	M 6	16	4.2	7.5	10.5	6.5	4.70	TX-30	Grade 5
P0149.060-020-T5	M 6	20	4.2	7.5	10.5	6.5	4.70	TX-30	Grade 5
P0149.060-025-T5	M 6	25	4.2	7.5	10.5	6.5	4.70	TX-30	Grade 5
P0149.060-030-T5	M 6	30	4.2	7.5	10.5	6.5	4.70	TX-30	Grade 5
P0149.060-040-T5	M 6	40	4.2	7.5	10.5	6.5	4.70	TX-30	Grade 5
P0149.060-050-T5	M 6	50	4.2	7.5	10.5	6.5	4.70	TX-30	Grade 5
P0149.060-060-T5	M 6	60	4.2	7.5	10.5	6.5	4.70	TX-30	Grade 5
P0149.060-080-T5	M 6	80	4.2	7.5	10.5	6.5	4.70	TX-30	Grade 5

CAPTIVE SCREWS



## P0150.Ti

MADE IN BRITAIN



### Material

Titanium grade 2 (tensile strength 345 N/mm<sup>2</sup>), or grade 5 (tensile strength 900 N/mm<sup>2</sup>). Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440 or AISI 303, 1.4305), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 14583. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

\* M 8 sizes have a reduced TX size.  
T5 also available on request.

Replace -T2 with -T5 at the end of part number.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	TX size	Material
P0150.030-008-T2	M 3	8	2.0	4.5	6	3.5	2.5	TX-10	Grade 2
P0150.030-010-T2	M 3	10	2.0	4.5	6	3.5	2.5	TX-10	Grade 2
P0150.030-016-T2	M 3	16	2.0	4.5	6	3.5	2.5	TX-10	Grade 2
P0150.030-020-T2	M 3	20	2.0	4.5	6	3.5	2.5	TX-10	Grade 2
P0150.030-025-T2	M 3	25	2.0	4.5	6	3.5	2.5	TX-10	Grade 2
P0150.030-030-T2	M 3	30	2.0	4.5	6	3.5	2.5	TX-10	Grade 2
P0150.040-008-T2	M 4	8	2.8	6.0	8	4.5	3.2	TX-20	Grade 2
P0150.040-010-T2	M 4	10	2.8	6.0	8	4.5	3.2	TX-20	Grade 2
P0150.040-012-T2	M 4	12	2.8	6.0	8	4.5	3.2	TX-20	Grade 2
P0150.040-016-T2	M 4	16	2.8	6.0	8	4.5	3.2	TX-20	Grade 2
P0150.040-020-T2	M 4	20	2.8	6.0	8	4.5	3.2	TX-20	Grade 2
P0150.040-025-T2	M 4	25	2.8	6.0	8	4.5	3.2	TX-20	Grade 2
P0150.040-030-T2	M 4	30	2.8	6.0	8	4.5	3.2	TX-20	Grade 2
P0150.040-040-T2	M 4	40	2.8	6.0	8	4.5	3.2	TX-20	Grade 2
P0150.040-050-T2	M 4	50	2.8	6.0	8	4.5	3.2	TX-20	Grade 2
P0150.050-010-T2	M 5	10	3.7	7.5	10	5.5	3.9	TX-25	Grade 2
P0150.050-012-T2	M 5	12	3.7	7.5	10	5.5	3.9	TX-25	Grade 2
P0150.050-016-T2	M 5	16	3.7	7.5	10	5.5	3.9	TX-25	Grade 2
P0150.050-020-T2	M 5	20	3.7	7.5	10	5.5	3.9	TX-25	Grade 2
P0150.050-025-T2	M 5	25	3.7	7.5	10	5.5	3.9	TX-25	Grade 2
P0150.050-030-T2	M 5	30	3.7	7.5	10	5.5	3.9	TX-25	Grade 2
P0150.050-040-T2	M 5	40	3.7	7.5	10	5.5	3.9	TX-25	Grade 2
P0150.050-050-T2	M 5	50	3.7	7.5	10	5.5	3.9	TX-25	Grade 2
P0150.060-010-T2	M 6	10	4.2	7.5	12	6.5	4.7	TX-30	Grade 2
P0150.060-012-T2	M 6	12	4.2	7.5	12	6.5	4.7	TX-30	Grade 2
P0150.060-016-T2	M 6	16	4.2	7.5	12	6.5	4.7	TX-30	Grade 2
P0150.060-020-T2	M 6	20	4.2	7.5	12	6.5	4.7	TX-30	Grade 2
P0150.060-025-T2	M 6	25	4.2	7.5	12	6.5	4.7	TX-30	Grade 2



# Captive Screws - Pan Head

TX drive - titanium



Captive Screws

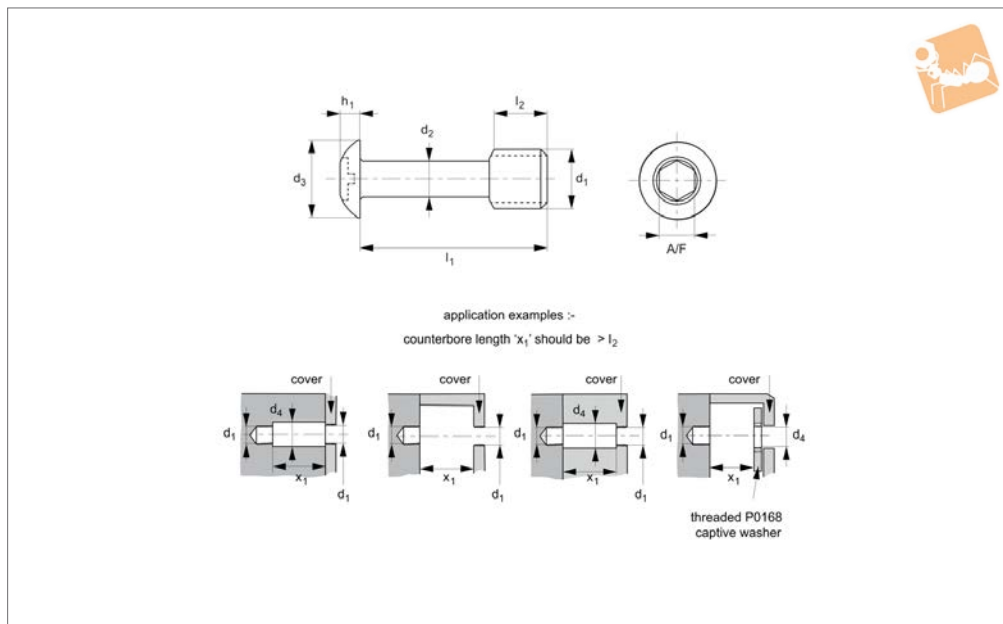
Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	TX size	Material
P0150.060-030-T2	M 6	30	4.2	7.5	12	6.5	4.7	TX-30	Grade 2
P0150.060-040-T2	M 6	40	4.2	7.5	12	6.5	4.7	TX-30	Grade 2
P0150.060-050-T2	M 6	50	4.2	7.5	12	6.5	4.7	TX-30	Grade 2
P0150.060-060-T2	M 6	60	4.2	7.5	12	6.5	4.7	TX-30	Grade 2
P0150.060-080-T2	M 6	80	4.2	7.5	12	6.5	4.7	TX-30	Grade 2
P0150.080-012-T2	M 8	12	6.0	10.0	16	8.5	6.1	TX-30*	Grade 2
P0150.080-016-T2	M 8	16	6.0	10.0	16	8.5	6.1	TX-30*	Grade 2
P0150.080-020-T2	M 8	20	6.0	10.0	16	8.5	6.1	TX-30*	Grade 2
P0150.080-025-T2	M 8	25	6.0	10.0	16	8.5	6.1	TX-30*	Grade 2
P0150.080-030-T2	M 8	30	6.0	10.0	16	8.5	6.1	TX-30*	Grade 2
P0150.080-035-T2	M 8	35	6.0	10.0	16	8.5	6.1	TX-30*	Grade 2
P0150.080-040-T2	M 8	40	6.0	10.0	16	8.5	6.1	TX-30*	Grade 2
P0150.080-045-T2	M 8	45	6.0	10.0	16	8.5	6.1	TX-30*	Grade 2
P0150.080-050-T2	M 8	50	6.0	10.0	16	8.5	6.1	TX-30*	Grade 2
P0150.080-060-T2	M 8	60	6.0	10.0	16	8.5	6.1	TX-30*	Grade 2
P0150.080-080-T2	M 8	80	6.0	10.0	16	8.5	6.1	TX-30*	Grade 2
P0150.030-008-T5	M 3	8	2.0	4.5	6	3.5	2.5	TX-10	Grade 5
P0150.030-010-T5	M 3	10	2.0	4.5	6	3.5	2.5	TX-10	Grade 5
P0150.030-016-T5	M 3	16	2.0	4.5	6	3.5	2.5	TX-10	Grade 5
P0150.030-020-T5	M 3	20	2.0	4.5	6	3.5	2.5	TX-10	Grade 5
P0150.030-025-T5	M 3	25	2.0	4.5	6	3.5	2.5	TX-10	Grade 5
P0150.030-030-T5	M 3	30	2.0	4.5	6	3.5	2.5	TX-10	Grade 5
P0150.040-008-T5	M 4	8	2.8	6.0	8	4.5	3.2	TX-20	Grade 5
P0150.040-010-T5	M 4	10	2.8	6.0	8	4.5	3.2	TX-20	Grade 5
P0150.040-012-T5	M 4	12	2.8	6.0	8	4.5	3.2	TX-20	Grade 5
P0150.040-016-T5	M 4	16	2.8	6.0	8	4.5	3.2	TX-20	Grade 5
P0150.040-020-T5	M 4	20	2.8	6.0	8	4.5	3.2	TX-20	Grade 5
P0150.040-025-T5	M 4	25	2.8	6.0	8	4.5	3.2	TX-20	Grade 5
P0150.040-030-T5	M 4	30	2.8	6.0	8	4.5	3.2	TX-20	Grade 5
P0150.040-040-T5	M 4	40	2.8	6.0	8	4.5	3.2	TX-20	Grade 5
P0150.040-050-T5	M 4	50	2.8	6.0	8	4.5	3.2	TX-20	Grade 5
P0150.050-010-T5	M 5	10	3.7	7.5	10	5.5	3.9	TX-25	Grade 5
P0150.050-012-T5	M 5	12	3.7	7.5	10	5.5	3.9	TX-25	Grade 5
P0150.050-016-T5	M 5	16	3.7	7.5	10	5.5	3.9	TX-25	Grade 5
P0150.050-020-T5	M 5	20	3.7	7.5	10	5.5	3.9	TX-25	Grade 5
P0150.050-025-T5	M 5	25	3.7	7.5	10	5.5	3.9	TX-25	Grade 5
P0150.050-030-T5	M 5	30	3.7	7.5	10	5.5	3.9	TX-25	Grade 5
P0150.050-040-T5	M 5	40	3.7	7.5	10	5.5	3.9	TX-25	Grade 5
P0150.050-050-T5	M 5	50	3.7	7.5	10	5.5	3.9	TX-25	Grade 5
P0150.060-010-T5	M 6	10	4.2	7.5	12	6.5	4.7	TX-30	Grade 5
P0150.060-012-T5	M 6	12	4.2	7.5	12	6.5	4.7	TX-30	Grade 5
P0150.060-016-T5	M 6	16	4.2	7.5	12	6.5	4.7	TX-30	Grade 5
P0150.060-020-T5	M 6	20	4.2	7.5	12	6.5	4.7	TX-30	Grade 5
P0150.060-025-T5	M 6	25	4.2	7.5	12	6.5	4.7	TX-30	Grade 5
P0150.060-030-T5	M 6	30	4.2	7.5	12	6.5	4.7	TX-30	Grade 5
P0150.060-040-T5	M 6	40	4.2	7.5	12	6.5	4.7	TX-30	Grade 5
P0150.060-050-T5	M 6	50	4.2	7.5	12	6.5	4.7	TX-30	Grade 5
P0150.060-060-T5	M 6	60	4.2	7.5	12	6.5	4.7	TX-30	Grade 5
P0150.060-080-T5	M 6	80	4.2	7.5	12	6.5	4.7	TX-30	Grade 5
P0150.080-012-T5	M 8	12	6.0	10.0	16	8.5	6.1	TX-30*	Grade 5
P0150.080-016-T5	M 8	16	6.0	10.0	16	8.5	6.1	TX-30*	Grade 5
P0150.080-020-T5	M 8	20	6.0	10.0	16	8.5	6.1	TX-30*	Grade 5
P0150.080-025-T5	M 8	25	6.0	10.0	16	8.5	6.1	TX-30*	Grade 5
P0150.080-030-T5	M 8	30	6.0	10.0	16	8.5	6.1	TX-30*	Grade 5
P0150.080-035-T5	M 8	35	6.0	10.0	16	8.5	6.1	TX-30*	Grade 5
P0150.080-040-T5	M 8	40	6.0	10.0	16	8.5	6.1	TX-30*	Grade 5
P0150.080-045-T5	M 8	45	6.0	10.0	16	8.5	6.1	TX-30*	Grade 5
P0150.080-050-T5	M 8	50	6.0	10.0	16	8.5	6.1	TX-30*	Grade 5
P0150.080-060-T5	M 8	60	6.0	10.0	16	8.5	6.1	TX-30*	Grade 5
P0150.080-080-T5	M 8	80	6.0	10.0	16	8.5	6.1	TX-30*	Grade 5

CAPTIVE SCREWS



## P0151.Ti

MADE IN BRITAIN



### Material

Titanium grade 2 (tensile strength 345 N/mm<sup>2</sup>), or grade 5 (tensile strength 900 N/mm<sup>2</sup>).

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 316, 1.440 or AISI 303, 1.4305), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 7380-1. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

T5 also available on request.

Replace -T2 with -T5 at the end of part number.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F	Material
P0151.025-008-T2	M 2,5	8	1.7	3.7	4.5	2.8	1.50	1.5	Grade 2
P0151.025-010-T2	M 2,5	10	1.7	3.7	4.5	2.8	1.50	1.5	Grade 2
P0151.025-012-T2	M 2,5	12	1.7	3.7	4.5	2.8	1.50	1.5	Grade 2
P0151.025-016-T2	M 2,5	16	1.7	3.7	4.5	2.8	1.50	1.5	Grade 2
P0151.025-020-T2	M 2,5	20	1.7	3.7	4.5	2.8	1.50	1.5	Grade 2
P0151.030-008-T2	M 3	8	2.0	4.5	5.7	3.5	1.53	2	Grade 2
P0151.030-010-T2	M 3	10	2.0	4.5	5.7	3.5	1.53	2	Grade 2
P0151.030-016-T2	M 3	16	2.0	4.5	5.7	3.5	1.53	2	Grade 2
P0151.030-020-T2	M 3	20	2.0	4.5	5.7	3.5	1.53	2	Grade 2
P0151.030-025-T2	M 3	25	2.0	4.5	5.7	3.5	1.53	2	Grade 2
P0151.030-030-T2	M 3	30	2.0	4.5	5.7	3.5	1.53	2	Grade 2
P0151.030-040-T2	M 3	40	2.0	4.5	5.7	3.5	1.53	2	Grade 2
P0151.040-010-T2	M 4	10	2.8	6.0	7.6	4.5	2.10	2.5	Grade 2
P0151.040-012-T2	M 4	12	2.8	6.0	7.6	4.5	2.10	2.5	Grade 2
P0151.040-016-T2	M 4	16	2.8	6.0	7.6	4.5	2.10	2.5	Grade 2
P0151.040-020-T2	M 4	20	2.8	6.0	7.6	4.5	2.10	2.5	Grade 2
P0151.040-025-T2	M 4	25	2.8	6.0	7.6	4.5	2.10	2.5	Grade 2
P0151.040-030-T2	M 4	30	2.8	6.0	7.6	4.5	2.10	2.5	Grade 2
P0151.040-035-T2	M 4	35	2.8	6.0	7.6	4.5	2.10	2.5	Grade 2
P0151.040-040-T2	M 4	40	2.8	6.0	7.6	4.5	2.10	2.5	Grade 2
P0151.040-050-T2	M 4	50	2.8	6.0	7.6	4.5	2.10	2.5	Grade 2
P0151.040-060-T2	M 4	60	2.8	6.0	7.6	4.5	2.10	2.5	Grade 2
P0151.050-012-T2	M 5	12	3.7	7.5	9.5	5.5	2.63	3	Grade 2
P0151.050-016-T2	M 5	16	3.7	7.5	9.5	5.5	2.63	3	Grade 2
P0151.050-020-T2	M 5	20	3.7	7.5	9.5	5.5	2.63	3	Grade 2
P0151.050-025-T2	M 5	25	3.7	7.5	9.5	5.5	2.63	3	Grade 2



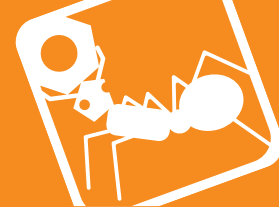
# Captive Screws - Button Head

hex drive - titanium



Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F	Material
P0151.050-030-T2	M 5	30	3.7	7.5	9.5	5.5	2.63	3	Grade 2
P0151.050-040-T2	M 5	40	3.7	7.5	9.5	5.5	2.63	3	Grade 2
P0151.050-050-T2	M 5	50	3.7	7.5	9.5	5.5	2.63	3	Grade 2
P0151.050-060-T2	M 5	60	3.7	7.5	9.5	5.5	2.63	3	Grade 2
P0151.060-012-T2	M 6	12	4.2	7.5	10.5	6.5	3.10	4	Grade 2
P0151.060-016-T2	M 6	16	4.2	7.5	10.5	6.5	3.10	4	Grade 2
P0151.060-020-T2	M 6	20	4.2	7.5	10.5	6.5	3.10	4	Grade 2
P0151.060-025-T2	M 6	25	4.2	7.5	10.5	6.5	3.10	4	Grade 2
P0151.060-030-T2	M 6	30	4.2	7.5	10.5	6.5	3.10	4	Grade 2
P0151.060-035-T2	M 6	35	4.2	7.5	10.5	6.5	3.10	4	Grade 2
P0151.060-040-T2	M 6	40	4.2	7.5	10.5	6.5	3.10	4	Grade 2
P0151.060-050-T2	M 6	50	4.2	7.5	10.5	6.5	3.10	4	Grade 2
P0151.060-060-T2	M 6	60	4.2	7.5	10.5	6.5	3.10	4	Grade 2
P0151.060-080-T2	M 6	80	4.2	7.5	10.5	6.5	3.10	4	Grade 2
P0151.080-016-T2	M 8	16	6.0	10.0	14.0	8.5	4.46	5	Grade 2
P0151.080-020-T2	M 8	20	6.0	10.0	14.0	8.5	4.46	5	Grade 2
P0151.080-025-T2	M 8	25	6.0	10.0	14.0	8.5	4.46	5	Grade 2
P0151.080-030-T2	M 8	30	6.0	10.0	14.0	8.5	4.46	5	Grade 2
P0151.080-035-T2	M 8	35	6.0	10.0	14.0	8.5	4.46	5	Grade 2
P0151.080-040-T2	M 8	40	6.0	10.0	14.0	8.5	4.46	5	Grade 2
P0151.080-045-T2	M 8	45	6.0	10.0	14.0	8.5	4.46	5	Grade 2
P0151.080-050-T2	M 8	50	6.0	10.0	14.0	8.5	4.46	5	Grade 2
P0151.080-060-T2	M 8	60	6.0	10.0	14.0	8.5	4.46	5	Grade 2
P0151.080-080-T2	M 8	80	6.0	10.0	14.0	8.5	4.46	5	Grade 2
P0151.100-020-T2	M 10	20	7.5	12.5	17.5	10.6	5.5	6	Grade 2
P0151.100-025-T2	M 10	25	7.5	12.5	17.5	10.6	5.5	6	Grade 2
P0151.100-030-T2	M 10	30	7.5	12.5	17.5	10.6	5.5	6	Grade 2
P0151.100-035-T2	M 10	35	7.5	12.5	17.5	10.6	5.5	6	Grade 2
P0151.100-040-T2	M 10	40	7.5	12.5	17.5	10.6	5.5	6	Grade 2
P0151.100-045-T2	M 10	45	7.5	12.5	17.5	10.6	5.5	6	Grade 2
P0151.100-050-T2	M 10	50	7.5	12.5	17.5	10.6	5.5	6	Grade 2
P0151.100-060-T2	M 10	60	7.5	12.5	17.5	10.6	5.5	6	Grade 2
P0151.100-080-T2	M 10	80	7.5	12.5	17.5	10.6	5.5	6	Grade 2
P0151.025-008-T5	M 2,5	8	1.7	3.7	4.5	2.8	1.50	1.5	Grade 5
P0151.025-010-T5	M 2,5	10	1.7	3.7	4.5	2.8	1.50	1.5	Grade 5
P0151.025-012-T5	M 2,5	12	1.7	3.7	4.5	2.8	1.50	1.5	Grade 5
P0151.025-016-T5	M 2,5	16	1.7	3.7	4.5	2.8	1.50	1.5	Grade 5
P0151.025-020-T5	M 2,5	20	1.7	3.7	4.5	2.8	1.50	1.5	Grade 5
P0151.030-008-T5	M 3	8	2.0	4.5	5.7	3.5	1.53	2	Grade 5
P0151.030-010-T5	M 3	10	2.0	4.5	5.7	3.5	1.53	2	Grade 5
P0151.030-016-T5	M 3	16	2.0	4.5	5.7	3.5	1.53	2	Grade 5
P0151.030-020-T5	M 3	20	2.0	4.5	5.7	3.5	1.53	2	Grade 5
P0151.030-025-T5	M 3	25	2.0	4.5	5.7	3.5	1.53	2	Grade 5
P0151.030-030-T5	M 3	30	2.0	4.5	5.7	3.5	1.53	2	Grade 5
P0151.030-040-T5	M 3	40	2.0	4.5	5.7	3.5	1.53	2	Grade 5
P0151.040-010-T5	M 4	10	2.8	6.0	7.6	4.5	2.10	2.5	Grade 5
P0151.040-012-T5	M 4	12	2.8	6.0	7.6	4.5	2.10	2.5	Grade 5
P0151.040-016-T5	M 4	16	2.8	6.0	7.6	4.5	2.10	2.5	Grade 5
P0151.040-020-T5	M 4	20	2.8	6.0	7.6	4.5	2.10	2.5	Grade 5
P0151.040-025-T5	M 4	25	2.8	6.0	7.6	4.5	2.10	2.5	Grade 5
P0151.040-030-T5	M 4	30	2.8	6.0	7.6	4.5	2.10	2.5	Grade 5
P0151.040-035-T5	M 4	35	2.8	6.0	7.6	4.5	2.10	2.5	Grade 5
P0151.040-040-T5	M 4	40	2.8	6.0	7.6	4.5	2.10	2.5	Grade 5
P0151.040-050-T5	M 4	50	2.8	6.0	7.6	4.5	2.10	2.5	Grade 5
P0151.040-060-T5	M 4	60	2.8	6.0	7.6	4.5	2.10	2.5	Grade 5
P0151.050-012-T5	M 5	12	3.7	7.5	9.5	5.5	2.63	3	Grade 5
P0151.050-016-T5	M 5	16	3.7	7.5	9.5	5.5	2.63	3	Grade 5
P0151.050-020-T5	M 5	20	3.7	7.5	9.5	5.5	2.63	3	Grade 5
P0151.050-025-T5	M 5	25	3.7	7.5	9.5	5.5	2.63	3	Grade 5
P0151.050-030-T5	M 5	30	3.7	7.5	9.5	5.5	2.63	3	Grade 5
P0151.050-040-T5	M 5	40	3.7	7.5	9.5	5.5	2.63	3	Grade 5
P0151.050-050-T5	M 5	50	3.7	7.5	9.5	5.5	2.63	3	Grade 5
P0151.050-060-T5	M 5	60	3.7	7.5	9.5	5.5	2.63	3	Grade 5
P0151.060-012-T5	M 6	12	4.2	7.5	10.5	6.5	3.10	4	Grade 5
P0151.060-016-T5	M 6	16	4.2	7.5	10.5	6.5	3.10	4	Grade 5
P0151.060-020-T5	M 6	20	4.2	7.5	10.5	6.5	3.10	4	Grade 5
P0151.060-025-T5	M 6	25	4.2	7.5	10.5	6.5	3.10	4	Grade 5
P0151.060-030-T5	M 6	30	4.2	7.5	10.5	6.5	3.10	4	Grade 5

CAPTIVE SCREWS



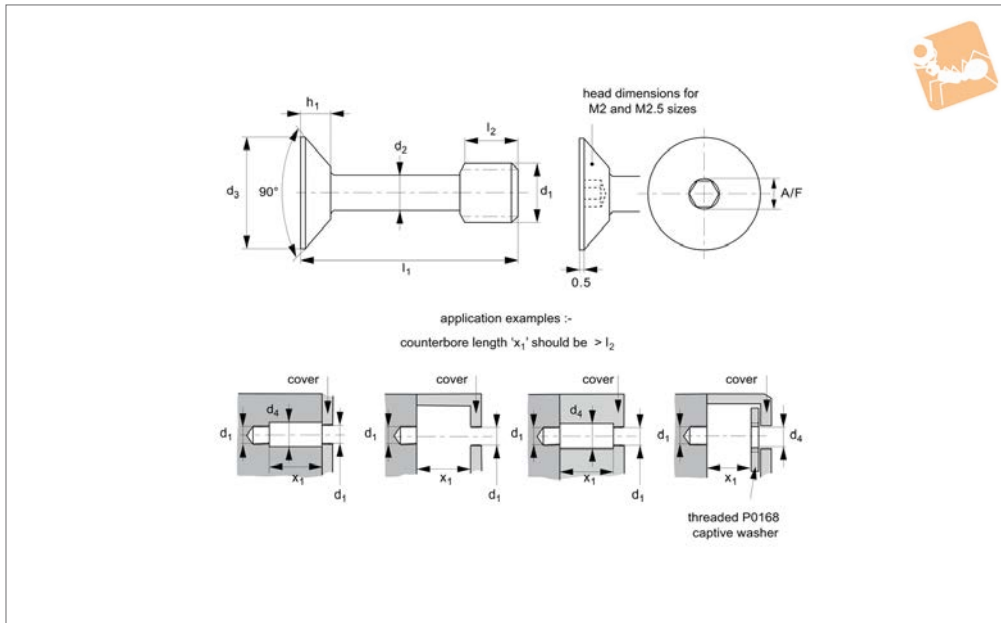
CAPTIVE SCREWS

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F	Material
P0151.060-035-T5	M 6	35	4.2	7.5	10.5	6.5	3.10	4	Grade 5
P0151.060-040-T5	M 6	40	4.2	7.5	10.5	6.5	3.10	4	Grade 5
P0151.060-050-T5	M 6	50	4.2	7.5	10.5	6.5	3.10	4	Grade 5
P0151.060-060-T5	M 6	60	4.2	7.5	10.5	6.5	3.10	4	Grade 5
P0151.060-080-T5	M 6	80	4.2	7.5	10.5	6.5	3.10	4	Grade 5
P0151.080-016-T5	M 8	16	6.0	10.0	14.0	8.5	4.46	5	Grade 5
P0151.080-020-T5	M 8	20	6.0	10.0	14.0	8.5	4.46	5	Grade 5
P0151.080-025-T5	M 8	25	6.0	10.0	14.0	8.5	4.46	5	Grade 5
P0151.080-030-T5	M 8	30	6.0	10.0	14.0	8.5	4.46	5	Grade 5
P0151.080-035-T5	M 8	35	6.0	10.0	14.0	8.5	4.46	5	Grade 5
P0151.080-040-T5	M 8	40	6.0	10.0	14.0	8.5	4.46	5	Grade 5
P0151.080-045-T5	M 8	45	6.0	10.0	14.0	8.5	4.46	5	Grade 5
P0151.080-050-T5	M 8	50	6.0	10.0	14.0	8.5	4.46	5	Grade 5
P0151.080-060-T5	M 8	60	6.0	10.0	14.0	8.5	4.46	5	Grade 5
P0151.080-080-T5	M 8	80	6.0	10.0	14.0	8.5	4.46	5	Grade 5
P0151.100-020-T5	M 10	20	7.5	12.5	17.5	10.6	5.5	6	Grade 5
P0151.100-025-T5	M 10	25	7.5	12.5	17.5	10.6	5.5	6	Grade 5
P0151.100-030-T5	M 10	30	7.5	12.5	17.5	10.6	5.5	6	Grade 5
P0151.100-035-T5	M 10	35	7.5	12.5	17.5	10.6	5.5	6	Grade 5
P0151.100-040-T5	M 10	40	7.5	12.5	17.5	10.6	5.5	6	Grade 5
P0151.100-045-T5	M 10	45	7.5	12.5	17.5	10.6	5.5	6	Grade 5
P0151.100-050-T5	M 10	50	7.5	12.5	17.5	10.6	5.5	6	Grade 5
P0151.100-060-T5	M 10	60	7.5	12.5	17.5	10.6	5.5	6	Grade 5
P0151.100-080-T5	M 10	80	7.5	12.5	17.5	10.6	5.5	6	Grade 5



# Captive Screws - Countersunk

hex drive - titanium



**P0153.Ti**

CAPTIVE SCREWS

### Material

Titanium grade 2 (tensile strength 345 N/mm<sup>2</sup>), or grade 5 (tensile strength 900 N/mm<sup>2</sup>).

Also available on request in steel (anodised, black oxide or zinc plated), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

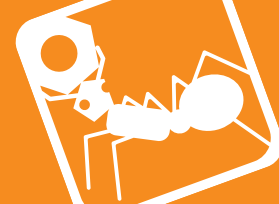
tive 2006/42/EC. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded hole.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be

tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>. To accommodate the slight undercut at the top of the shank, the hex socket is smaller than on a similar threaded machine screw.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F	Material
P0153.020-010-T2	M 2	10	1.2	3.5	3.8	2.5	1.20	1.0	Grade 2
P0153.020-012-T2	M 2	12	1.2	3.5	3.8	2.5	1.20	1.0	Grade 2
P0153.020-016-T2	M 2	16	1.2	3.5	3.8	2.5	1.20	1.0	Grade 2
P0153.020-020-T2	M 2	20	1.2	3.5	3.8	2.5	1.20	1.0	Grade 2
P0153.025-010-T2	M 2,5	10	1.7	3.7	4.7	2.8	1.80	1.3	Grade 2
P0153.025-012-T2	M 2,5	12	1.7	3.7	4.7	2.8	1.80	1.3	Grade 2
P0153.025-016-T2	M 2,5	16	1.7	3.7	4.7	2.8	1.80	1.3	Grade 2
P0153.025-020-T2	M 2,5	20	1.7	3.7	4.7	2.8	1.80	1.3	Grade 2
P0153.030-008-T2	M 3	8	2.0	4.5	5.6	3.5	1.65	1.5	Grade 2
P0153.030-010-T2	M 3	10	2.0	4.5	5.6	3.5	1.65	1.5	Grade 2
P0153.030-012-T2	M 3	12	2.0	4.5	5.6	3.5	1.65	1.5	Grade 2
P0153.030-016-T2	M 3	16	2.0	4.5	5.6	3.5	1.65	1.5	Grade 2
P0153.030-020-T2	M 3	20	2.0	4.5	5.6	3.5	1.65	1.5	Grade 2
P0153.030-025-T2	M 3	25	2.0	4.5	5.6	3.5	1.65	1.5	Grade 2
P0153.030-030-T2	M 3	30	2.0	4.5	5.6	3.5	1.65	1.5	Grade 2
P0153.030-035-T2	M 3	35	2.0	4.5	5.6	3.5	1.65	1.5	Grade 2
P0153.030-040-T2	M 3	40	2.0	4.5	5.6	3.5	1.65	1.5	Grade 2
P0153.040-010-T2	M 4	10	2.8	6.0	7.5	4.5	2.20	2.0	Grade 2
P0153.040-012-T2	M 4	12	2.8	6.0	7.5	4.5	2.20	2.0	Grade 2
P0153.040-014-T2	M 4	14	2.8	6.0	7.5	4.5	2.20	2.0	Grade 2
P0153.040-016-T2	M 4	16	2.8	6.0	7.5	4.5	2.20	2.0	Grade 2
P0153.040-020-T2	M 4	20	2.8	6.0	7.5	4.5	2.20	2.0	Grade 2
P0153.040-025-T2	M 4	25	2.8	6.0	7.5	4.5	2.20	2.0	Grade 2
P0153.040-030-T2	M 4	30	2.8	6.0	7.5	4.5	2.20	2.0	Grade 2
P0153.040-035-T2	M 4	35	2.8	6.0	7.5	4.5	2.20	2.0	Grade 2
P0153.040-040-T2	M 4	40	2.8	6.0	7.5	4.5	2.20	2.0	Grade 2
P0153.040-050-T2	M 4	50	2.8	6.0	7.5	4.5	2.20	2.0	Grade 2
P0153.040-060-T2	M 4	60	2.8	6.0	7.5	4.5	2.20	2.0	Grade 2



Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F	Material
P0153.050-012-T2	M 5	12	3.7	7.5	9.2	5.5	2.50	2.5	Grade 2
P0153.050-014-T2	M 5	14	3.7	7.5	9.2	5.5	2.50	2.5	Grade 2
P0153.050-016-T2	M 5	16	3.7	7.5	9.2	5.5	2.50	2.5	Grade 2
P0153.050-020-T2	M 5	20	3.7	7.5	9.2	5.5	2.50	2.5	Grade 2
P0153.050-025-T2	M 5	25	3.7	7.5	9.2	5.5	2.50	2.5	Grade 2
P0153.050-030-T2	M 5	30	3.7	7.5	9.2	5.5	2.50	2.5	Grade 2
P0153.050-035-T2	M 5	35	3.7	7.5	9.2	5.5	2.50	2.5	Grade 2
P0153.050-040-T2	M 5	40	3.7	7.5	9.2	5.5	2.50	2.5	Grade 2
P0153.050-050-T2	M 5	50	3.7	7.5	9.2	5.5	2.50	2.5	Grade 2
P0153.050-060-T2	M 5	60	3.7	7.5	9.2	5.5	2.50	2.5	Grade 2
P0153.060-016-T2	M 6	16	4.2	8.0	11.0	6.5	3.00	3.0	Grade 2
P0153.060-020-T2	M 6	20	4.2	8.0	11.0	6.5	3.00	3.0	Grade 2
P0153.060-025-T2	M 6	25	4.2	8.0	11.0	6.5	3.00	3.0	Grade 2
P0153.060-030-T2	M 6	30	4.2	8.0	11.0	6.5	3.00	3.0	Grade 2
P0153.060-035-T2	M 6	35	4.2	8.0	11.0	6.5	3.00	3.0	Grade 2
P0153.060-040-T2	M 6	40	4.2	8.0	11.0	6.5	3.00	3.0	Grade 2
P0153.060-050-T2	M 6	50	4.2	8.0	11.0	6.5	3.00	3.0	Grade 2
P0153.060-060-T2	M 6	60	4.2	8.0	11.0	6.5	3.00	3.0	Grade 2
P0153.080-020-T2	M 8	20	6.0	10.0	15.0	8.5	4.10	4.0	Grade 2
P0153.080-025-T2	M 8	25	6.0	10.0	15.0	8.5	4.10	4.0	Grade 2
P0153.080-030-T2	M 8	30	6.0	10.0	15.0	8.5	4.10	4.0	Grade 2
P0153.080-040-T2	M 8	40	6.0	10.0	15.0	8.5	4.10	4.0	Grade 2
P0153.080-050-T2	M 8	50	6.0	10.0	15.0	8.5	4.10	4.0	Grade 2
P0153.080-060-T2	M 8	60	6.0	10.0	15.0	8.5	4.10	4.0	Grade 2
P0153.020-010-T5	M 2	10	1.2	3.5	3.8	2.5	1.20	1.0	Grade 5
P0153.020-012-T5	M 2	12	1.2	3.5	3.8	2.5	1.20	1.0	Grade 5
P0153.020-016-T5	M 2	16	1.2	3.5	3.8	2.5	1.20	1.0	Grade 5
P0153.020-020-T5	M 2	20	1.2	3.5	3.8	2.5	1.20	1.0	Grade 5
P0153.025-010-T5	M 2,5	10	1.7	3.7	4.7	2.8	1.80	1.3	Grade 5
P0153.025-012-T5	M 2,5	12	1.7	3.7	4.7	2.8	1.80	1.3	Grade 5
P0153.025-016-T5	M 2,5	16	1.7	3.7	4.7	2.8	1.80	1.3	Grade 5
P0153.025-020-T5	M 2,5	20	1.7	3.7	4.7	2.8	1.80	1.3	Grade 5
P0153.030-008-T5	M 3	8	2.0	4.5	5.6	3.5	1.65	1.5	Grade 5
P0153.030-010-T5	M 3	10	2.0	4.5	5.6	3.5	1.65	1.5	Grade 5
P0153.030-012-T5	M 3	12	2.0	4.5	5.6	3.5	1.65	1.5	Grade 5
P0153.030-016-T5	M 3	16	2.0	4.5	5.6	3.5	1.65	1.5	Grade 5
P0153.030-020-T5	M 3	20	2.0	4.5	5.6	3.5	1.65	1.5	Grade 5
P0153.030-025-T5	M 3	25	2.0	4.5	5.6	3.5	1.65	1.5	Grade 5
P0153.030-030-T5	M 3	30	2.0	4.5	5.6	3.5	1.65	1.5	Grade 5
P0153.030-035-T5	M 3	35	2.0	4.5	5.6	3.5	1.65	1.5	Grade 5
P0153.030-040-T5	M 3	40	2.0	4.5	5.6	3.5	1.65	1.5	Grade 5
P0153.040-010-T5	M 4	10	2.8	6.0	7.5	4.5	2.20	2.0	Grade 5
P0153.040-012-T5	M 4	12	2.8	6.0	7.5	4.5	2.20	2.0	Grade 5
P0153.040-014-T5	M 4	14	2.8	6.0	7.5	4.5	2.20	2.0	Grade 5
P0153.040-016-T5	M 4	16	2.8	6.0	7.5	4.5	2.20	2.0	Grade 5
P0153.040-020-T5	M 4	20	2.8	6.0	7.5	4.5	2.20	2.0	Grade 5
P0153.040-025-T5	M 4	25	2.8	6.0	7.5	4.5	2.20	2.0	Grade 5
P0153.040-030-T5	M 4	30	2.8	6.0	7.5	4.5	2.20	2.0	Grade 5
P0153.040-035-T5	M 4	35	2.8	6.0	7.5	4.5	2.20	2.0	Grade 5
P0153.040-040-T5	M 4	40	2.8	6.0	7.5	4.5	2.20	2.0	Grade 5
P0153.040-050-T5	M 4	50	2.8	6.0	7.5	4.5	2.20	2.0	Grade 5
P0153.040-060-T5	M 4	60	2.8	6.0	7.5	4.5	2.20	2.0	Grade 5
P0153.050-012-T5	M 5	12	3.7	7.5	9.2	5.5	2.50	2.5	Grade 5
P0153.050-014-T5	M 5	12	3.7	7.5	9.2	5.5	2.50	2.5	Grade 5
P0153.050-016-T5	M 5	16	3.7	7.5	9.2	5.5	2.50	2.5	Grade 5
P0153.050-020-T5	M 5	20	3.7	7.5	9.2	5.5	2.50	2.5	Grade 5
P0153.050-025-T5	M 5	25	3.7	7.5	9.2	5.5	2.50	2.5	Grade 5
P0153.050-030-T5	M 5	30	3.7	7.5	9.2	5.5	2.50	2.5	Grade 5
P0153.050-035-T5	M 5	35	3.7	7.5	9.2	5.5	2.50	2.5	Grade 5
P0153.050-040-T5	M 5	40	3.7	7.5	9.2	5.5	2.50	2.5	Grade 5
P0153.050-050-T5	M 5	50	3.7	7.5	9.2	5.5	2.50	2.5	Grade 5
P0153.050-060-T5	M 5	60	3.7	7.5	9.2	5.5	2.50	2.5	Grade 5
P0153.060-016-T5	M 6	16	4.2	8.0	11.0	6.5	3.00	3.0	Grade 5
P0153.060-020-T5	M 6	20	4.2	8.0	11.0	6.5	3.00	3.0	Grade 5
P0153.060-025-T5	M 6	25	4.2	8.0	11.0	6.5	3.00	3.0	Grade 5
P0153.060-030-T5	M 6	30	4.2	8.0	11.0	6.5	3.00	3.0	Grade 5
P0153.060-035-T5	M 6	35	4.2	8.0	11.0	6.5	3.00	3.0	Grade 5
P0153.060-040-T5	M 6	40	4.2	8.0	11.0	6.5	3.00	3.0	Grade 5





# Captive Screws - Countersunk

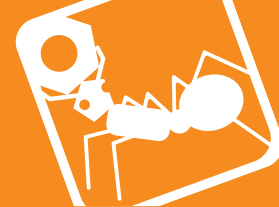
hex drive - titanium

## Captive Screws



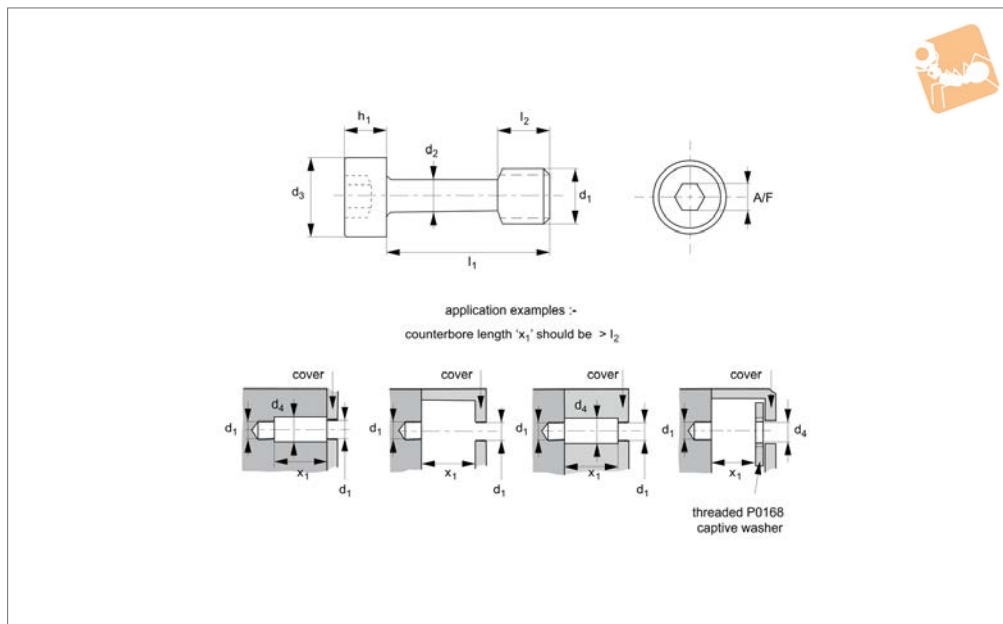
Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F	Material
P0153.060-050-T5	M 6	50	4.2	8.0	11.0	6.5	3.00	3.0	Grade 5
P0153.060-060-T5	M 6	60	4.2	8.0	11.0	6.5	3.00	3.0	Grade 5
P0153.080-020-T5	M 8	20	6.0	10.0	15.0	8.5	4.10	4.0	Grade 5
P0153.080-025-T5	M 8	25	6.0	10.0	15.0	8.5	4.10	4.0	Grade 5
P0153.080-030-T5	M 8	30	6.0	10.0	15.0	8.5	4.10	4.0	Grade 5
P0153.080-040-T5	M 8	40	6.0	10.0	15.0	8.5	4.10	4.0	Grade 5
P0153.080-050-T5	M 8	50	6.0	10.0	15.0	8.5	4.10	4.0	Grade 5
P0153.080-060-T5	M 8	60	6.0	10.0	15.0	8.5	4.10	4.0	Grade 5

CAPTIVE SCREWS



## P0154.Ti

MADE IN BRITAIN



### Material

Titanium grade 2 (tensile strength 345 N/mm<sup>2</sup>), or grade 5 (tensile strength 900 N/mm<sup>2</sup>).

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 316, 1.440 or AISI 303, 1.4305), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 4762.

Often used with our captive washer (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washer should be considered when fitted in panels with unthreaded holes. T5 also available on request. Replace -T2 with -T5 at the end of part number.

### Tips

For TX drive style, see P0156.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F	Material
P0154.025-005-T2	M 2,5	5	1.8	3.0	4.5	2.8	2.5	2	Grade 2
P0154.025-008-T2	M 2,5	8	1.8	3.0	4.5	2.8	2.5	2	Grade 2
P0154.025-010-T2	M 2,5	10	1.8	3.0	4.5	2.8	2.5	2	Grade 2
P0154.025-012-T2	M 2,5	12	1.8	3.0	4.5	2.8	2.5	2	Grade 2
P0154.030-008-T2	M 3	8	2.0	4.5	5.5	3.5	3.0	2.5	Grade 2
P0154.030-010-T2	M 3	10	2.0	4.5	5.5	3.5	3.0	2.5	Grade 2
P0154.030-012-T2	M 3	12	2.0	4.5	5.5	3.5	3.0	2.5	Grade 2
P0154.030-016-T2	M 3	16	2.0	4.5	5.5	3.5	3.0	2.5	Grade 2
P0154.030-020-T2	M 3	20	2.0	4.5	5.5	3.5	3.0	2.5	Grade 2
P0154.030-025-T2	M 3	25	2.0	4.5	5.5	3.5	3.0	2.5	Grade 2
P0154.030-030-T2	M 3	30	2.0	4.5	5.5	3.5	3.0	2.5	Grade 2
P0154.040-010-T2	M 4	10	2.8	6.0	7.0	4.5	4.0	3	Grade 2
P0154.040-012-T2	M 4	12	2.8	6.0	7.0	4.5	4.0	3	Grade 2
P0154.040-016-T2	M 4	16	2.8	6.0	7.0	4.5	4.0	3	Grade 2
P0154.040-020-T2	M 4	20	2.8	6.0	7.0	4.5	4.0	3	Grade 2
P0154.040-025-T2	M 4	25	2.8	6.0	7.0	4.5	4.0	3	Grade 2
P0154.040-030-T2	M 4	30	2.8	6.0	7.0	4.5	4.0	3	Grade 2
P0154.040-035-T2	M 4	35	2.8	6.0	7.0	4.5	4.0	3	Grade 2
P0154.040-040-T2	M 4	40	2.8	6.0	7.0	4.5	4.0	3	Grade 2
P0154.040-050-T2	M 4	50	2.8	6.0	7.0	4.5	4.0	3	Grade 2
P0154.050-012-T2	M 5	12	3.7	7.5	8.5	5.5	5.0	4	Grade 2
P0154.050-016-T2	M 5	16	3.7	7.5	8.5	5.5	5.0	4	Grade 2
P0154.050-020-T2	M 5	20	3.7	7.5	8.5	5.5	5.0	4	Grade 2
P0154.050-025-T2	M 5	25	3.7	7.5	8.5	5.5	5.0	4	Grade 2
P0154.050-030-T2	M 5	30	3.7	7.5	8.5	5.5	5.0	4	Grade 2
P0154.050-035-T2	M 5	35	3.7	7.5	8.5	5.5	5.0	4	Grade 2



# Captive Screws - Cap Head

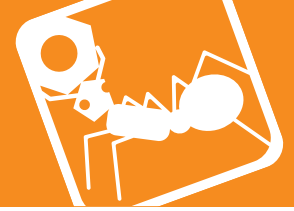
## hex drive - titanium



Captive Screws

CAPTIVE SCREWS

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F	Material
P0154.050-040-T2	M 5	40	3.7	7.5	8.5	5.5	5.0	4	Grade 2
P0154.050-050-T2	M 5	50	3.7	7.5	8.5	5.5	5.0	4	Grade 2
P0154.060-012-T2	M 6	12	4.2	7.5	10.0	6.5	6.0	5	Grade 2
P0154.060-016-T2	M 6	16	4.2	7.5	10.0	6.5	6.0	5	Grade 2
P0154.060-020-T2	M 6	20	4.2	7.5	10.0	6.5	6.0	5	Grade 2
P0154.060-025-T2	M 6	25	4.2	7.5	10.0	6.5	6.0	5	Grade 2
P0154.060-030-T2	M 6	30	4.2	7.5	10.0	6.5	6.0	5	Grade 2
P0154.060-035-T2	M 6	35	4.2	7.5	10.0	6.5	6.0	5	Grade 2
P0154.060-040-T2	M 6	40	4.2	7.5	10.0	6.5	6.0	5	Grade 2
P0154.060-050-T2	M 6	50	4.2	7.5	10.0	6.5	6.0	5	Grade 2
P0154.060-060-T2	M 6	60	4.2	7.5	10.0	6.5	6.0	5	Grade 2
P0154.060-080-T2	M 6	80	4.2	7.5	10.0	6.5	6.0	5	Grade 2
P0154.080-016-T2	M 8	16	6.0	10.0	13.0	8.5	8.0	6	Grade 2
P0154.080-020-T2	M 8	20	6.0	10.0	13.0	8.5	8.0	6	Grade 2
P0154.080-025-T2	M 8	25	6.0	10.0	13.0	8.5	8.0	6	Grade 2
P0154.080-030-T2	M 8	30	6.0	10.0	13.0	8.5	8.0	6	Grade 2
P0154.080-035-T2	M 8	35	6.0	10.0	13.0	8.5	8.0	6	Grade 2
P0154.080-040-T2	M 8	40	6.0	10.0	13.0	8.5	8.0	6	Grade 2
P0154.080-045-T2	M 8	45	6.0	10.0	13.0	8.5	8.0	6	Grade 2
P0154.080-050-T2	M 8	50	6.0	10.0	13.0	8.5	8.0	6	Grade 2
P0154.080-060-T2	M 8	60	6.0	10.0	13.0	8.5	8.0	6	Grade 2
P0154.080-080-T2	M 8	80	6.0	10.0	13.0	8.5	8.0	6	Grade 2
P0154.100-020-T2	M10	20	7.5	12.5	16.0	10.6	10.0	8	Grade 2
P0154.100-025-T2	M10	25	7.5	12.5	16.0	10.6	10.0	8	Grade 2
P0154.100-030-T2	M10	30	7.5	12.5	16.0	10.6	10.0	8	Grade 2
P0154.100-035-T2	M10	35	7.5	12.5	16.0	10.6	10.0	8	Grade 2
P0154.100-040-T2	M10	40	7.5	12.5	16.0	10.6	10.0	8	Grade 2
P0154.100-045-T2	M10	45	7.5	12.5	16.0	10.6	10.0	8	Grade 2
P0154.100-050-T2	M10	50	7.5	12.5	16.0	10.6	10.0	8	Grade 2
P0154.100-060-T2	M10	60	7.5	12.5	16.0	10.6	10.0	8	Grade 2
P0154.100-080-T2	M10	80	7.5	12.5	16.0	10.6	10.0	8	Grade 2
P0154.120-025-T2	M12	25	8.0	15.0	18.0	13.2	12.0	10	Grade 2
P0154.120-030-T2	M12	30	8.0	15.0	18.0	13.2	12.0	10	Grade 2
P0154.120-035-T2	M12	35	8.0	15.0	18.0	13.2	12.0	10	Grade 2
P0154.120-040-T2	M12	40	8.0	15.0	18.0	13.2	12.0	10	Grade 2
P0154.120-045-T2	M12	45	8.0	15.0	18.0	13.2	12.0	10	Grade 2
P0154.120-050-T2	M12	50	8.0	15.0	18.0	13.2	12.0	10	Grade 2
P0154.120-060-T2	M12	60	8.0	15.0	18.0	13.2	12.0	10	Grade 2
P0154.120-080-T2	M12	80	8.0	15.0	18.0	13.2	12.0	10	Grade 2
P0154.160-030-T2	M16	30	12.0	20.0	24.0	17.5	16.0	14	Grade 2
P0154.160-035-T2	M16	35	12.0	20.0	24.0	17.5	16.0	14	Grade 2
P0154.160-040-T2	M16	40	12.0	20.0	24.0	17.5	16.0	14	Grade 2
P0154.160-045-T2	M16	45	12.0	20.0	24.0	17.5	16.0	14	Grade 2
P0154.160-050-T2	M16	50	12.0	20.0	24.0	17.5	16.0	14	Grade 2
P0154.160-060-T2	M16	60	12.0	20.0	24.0	17.5	16.0	14	Grade 2
P0154.160-080-T2	M16	80	12.0	20.0	24.0	17.5	16.0	14	Grade 2
P0154.160-100-T2	M16	100	12.0	20.0	24.0	17.5	16.0	14	Grade 2
P0154.200-040-T2	M20	40	16.0	25.0	30.0	22.0	20.0	19	Grade 2
P0154.200-060-T2	M20	60	16.0	25.0	30.0	22.0	20.0	19	Grade 2
P0154.200-080-T2	M20	80	16.0	25.0	30.0	22.0	20.0	19	Grade 2
P0154.200-100-T2	M20	100	16.0	25.0	30.0	22.0	20.0	19	Grade 2
P0154.200-120-T2	M20	120	16.0	25.0	30.0	22.0	20.0	19	Grade 2
P0154.025-005-T5	M 2,5	5	1.8	3.0	4.5	2.8	2.5	2	Grade 5
P0154.025-008-T5	M 2,5	8	1.8	3.0	4.5	2.8	2.5	2	Grade 5
P0154.025-010-T5	M 2,5	10	1.8	3.0	4.5	2.8	2.5	2	Grade 5
P0154.025-012-T5	M 2,5	12	1.8	3.0	4.5	2.8	2.5	2	Grade 5
P0154.030-008-T5	M 3	8	2.0	4.5	5.5	3.5	3.0	3	Grade 5
P0154.030-010-T5	M 3	10	2.0	4.5	5.5	3.5	3.0	3	Grade 5
P0154.030-012-T5	M 3	12	2.0	4.5	5.5	3.5	3.0	3	Grade 5
P0154.030-016-T5	M 3	16	2.0	4.5	5.5	3.5	3.0	3	Grade 5
P0154.030-020-T5	M 3	20	2.0	4.5	5.5	3.5	3.0	3	Grade 5
P0154.030-025-T5	M 3	25	2.0	4.5	5.5	3.5	3.0	3	Grade 5
P0154.030-030-T5	M 3	30	2.0	4.5	5.5	3.5	3.0	3	Grade 5
P0154.040-010-T5	M 4	10	2.8	6.0	7.0	4.5	4.0	3	Grade 5
P0154.040-012-T5	M 4	12	2.8	6.0	7.0	4.5	4.0	3	Grade 5
P0154.040-016-T5	M 4	16	2.8	6.0	7.0	4.5	4.0	3	Grade 5
P0154.040-020-T5	M 4	20	2.8	6.0	7.0	4.5	4.0	3	Grade 5
P0154.040-025-T5	M 4	25	2.8	6.0	7.0	4.5	4.0	3	Grade 5



CAPTIVE SCREWS

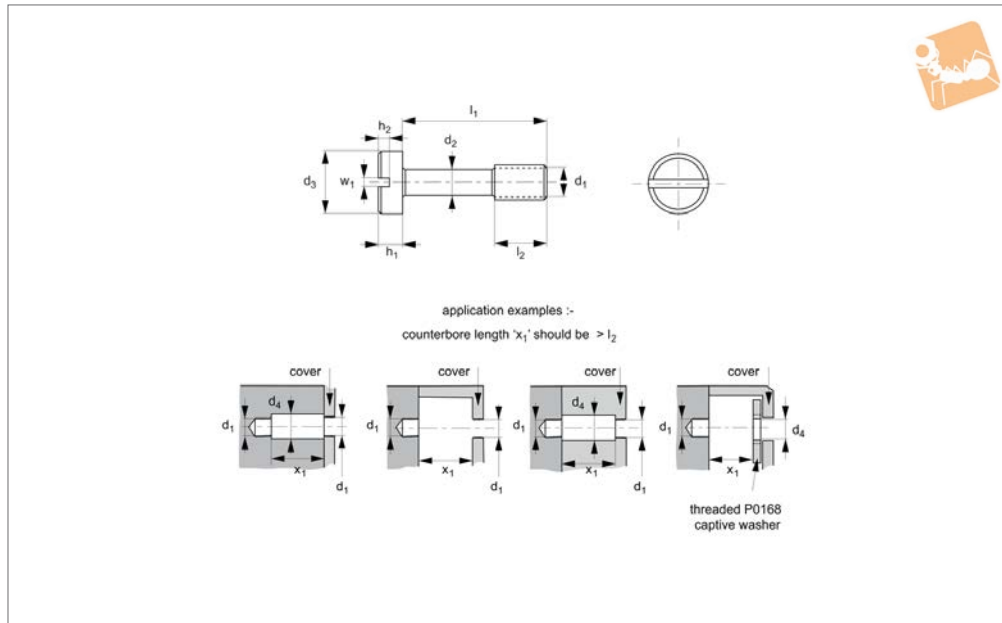
Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	A/F	Material
P0154.040-030-T5	M 4	30	2.8	6.0	7.0	4.5	4.0	3	Grade 5
P0154.040-035-T5	M 4	35	2.8	6.0	7.0	4.5	4.0	3	Grade 5
P0154.040-040-T5	M 4	40	2.8	6.0	7.0	4.5	4.0	3	Grade 5
P0154.040-050-T5	M 4	50	2.8	6.0	7.0	4.5	4.0	3	Grade 5
P0154.050-012-T5	M 5	12	3.7	7.5	8.5	5.5	5.0	4	Grade 5
P0154.050-016-T5	M 5	16	3.7	7.5	8.5	5.5	5.0	4	Grade 5
P0154.050-020-T5	M 5	20	3.7	7.5	8.5	5.5	5.0	4	Grade 5
P0154.050-025-T5	M 5	25	3.7	7.5	8.5	5.5	5.0	4	Grade 5
P0154.050-030-T5	M 5	30	3.7	7.5	8.5	5.5	5.0	4	Grade 5
P0154.050-035-T5	M 5	35	3.7	7.5	8.5	5.5	5.0	4	Grade 5
P0154.050-040-T5	M 5	40	3.7	7.5	8.5	5.5	5.0	4	Grade 5
P0154.050-050-T5	M 5	50	3.7	7.5	8.5	5.5	5.0	4	Grade 5
P0154.060-012-T5	M 6	12	4.2	7.5	10.0	6.5	6.0	5	Grade 5
P0154.060-016-T5	M 6	16	4.2	7.5	10.0	6.5	6.0	5	Grade 5
P0154.060-020-T5	M 6	20	4.2	7.5	10.0	6.5	6.0	5	Grade 5
P0154.060-025-T5	M 6	25	4.2	7.5	10.0	6.5	6.0	5	Grade 5
P0154.060-030-T5	M 6	30	4.2	7.5	10.0	6.5	6.0	5	Grade 5
P0154.060-035-T5	M 6	35	4.2	7.5	10.0	6.5	6.0	5	Grade 5
P0154.060-040-T5	M 6	40	4.2	7.5	10.0	6.5	6.0	5	Grade 5
P0154.060-050-T5	M 6	50	4.2	7.5	10.0	6.5	6.0	5	Grade 5
P0154.060-060-T5	M 6	60	4.2	7.5	10.0	6.5	6.0	5	Grade 5
P0154.060-080-T5	M 6	80	4.2	7.5	10.0	6.5	6.0	5	Grade 5
P0154.080-016-T5	M 8	16	6.0	10.0	13.0	8.5	8.0	6	Grade 5
P0154.080-020-T5	M 8	20	6.0	10.0	13.0	8.5	8.0	6	Grade 5
P0154.080-025-T5	M 8	25	6.0	10.0	13.0	8.5	8.0	6	Grade 5
P0154.080-030-T5	M 8	30	6.0	10.0	13.0	8.5	8.0	6	Grade 5
P0154.080-035-T5	M 8	35	6.0	10.0	13.0	8.5	8.0	6	Grade 5
P0154.080-040-T5	M 8	40	6.0	10.0	13.0	8.5	8.0	6	Grade 5
P0154.080-045-T5	M 8	45	6.0	10.0	13.0	8.5	8.0	6	Grade 5
P0154.080-050-T5	M 8	50	6.0	10.0	13.0	8.5	8.0	6	Grade 5
P0154.080-060-T5	M 8	60	6.0	10.0	13.0	8.5	8.0	6	Grade 5
P0154.080-080-T5	M 8	80	6.0	10.0	13.0	8.5	8.0	6	Grade 5
P0154.100-020-T5	M10	20	7.5	12.5	16.0	10.6	10.0	8	Grade 5
P0154.100-025-T5	M10	25	7.5	12.5	16.0	10.6	10.0	8	Grade 5
P0154.100-030-T5	M10	30	7.5	12.5	16.0	10.6	10.0	8	Grade 5
P0154.100-035-T5	M10	35	7.5	12.5	16.0	10.6	10.0	8	Grade 5
P0154.100-040-T5	M10	40	7.5	12.5	16.0	10.6	10.0	8	Grade 5
P0154.100-045-T5	M10	45	7.5	12.5	16.0	10.6	10.0	8	Grade 5
P0154.100-050-T5	M10	50	7.5	12.5	16.0	10.6	10.0	8	Grade 5
P0154.100-060-T5	M10	60	7.5	12.5	16.0	10.6	10.0	8	Grade 5
P0154.100-080-T5	M10	80	7.5	12.5	16.0	10.6	10.0	8	Grade 5
P0154.120-025-T5	M12	25	8.0	15.0	18.0	13.2	12.0	10	Grade 5
P0154.120-030-T5	M12	30	8.0	15.0	18.0	13.2	12.0	10	Grade 5
P0154.120-035-T5	M12	35	8.0	15.0	18.0	13.2	12.0	10	Grade 5
P0154.120-040-T5	M12	40	8.0	15.0	18.0	13.2	12.0	10	Grade 5
P0154.120-045-T5	M12	45	8.0	15.0	18.0	13.2	12.0	10	Grade 5
P0154.120-050-T5	M12	50	8.0	15.0	18.0	13.2	12.0	10	Grade 5
P0154.120-060-T5	M12	60	8.0	15.0	18.0	13.2	12.0	10	Grade 5
P0154.120-080-T5	M12	80	8.0	15.0	18.0	13.2	12.0	10	Grade 5
P0154.160-030-T5	M16	30	12.0	20.0	24.0	17.5	16.0	14	Grade 5
P0154.160-035-T5	M16	35	12.0	20.0	24.0	17.5	16.0	14	Grade 5
P0154.160-040-T5	M16	40	12.0	20.0	24.0	17.5	16.0	14	Grade 5
P0154.160-045-T5	M16	45	12.0	20.0	24.0	17.5	16.0	14	Grade 5
P0154.160-050-T5	M16	50	12.0	20.0	24.0	17.5	16.0	14	Grade 5
P0154.160-060-T5	M16	60	12.0	20.0	24.0	17.5	16.0	14	Grade 5
P0154.160-080-T5	M16	80	12.0	20.0	24.0	17.5	16.0	14	Grade 5
P0154.160-100-T5	M16	100	12.0	20.0	24.0	17.5	16.0	14	Grade 5
P0154.200-040-T5	M20	40	16.0	25.0	30.0	22.0	20.0	19	Grade 5
P0154.200-060-T5	M20	60	16.0	25.0	30.0	22.0	20.0	19	Grade 5
P0154.200-080-T5	M20	80	16.0	25.0	30.0	22.0	20.0	19	Grade 5
P0154.200-100-T5	M20	100	16.0	25.0	30.0	22.0	20.0	19	Grade 5
P0154.200-120-T5	M20	120	16.0	25.0	30.0	22.0	20.0	19	Grade 5



# Captive Screws - Cheese Head slot drive - titanium



Captive Screws



P0155.Ti

CAPTIVE SCREWS

## Material

Titanium grade 2 (tensile strength 345 N/mm<sup>2</sup>), or grade 5 (tensile strength 900 N/mm<sup>2</sup>).

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 316, 1.440 or AISI 303, 1.4305), brass, aluminium etc.

## Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 1207. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

## Tips

Other head drive styles - add suffix:  
-TX for Torx (hexalobular).

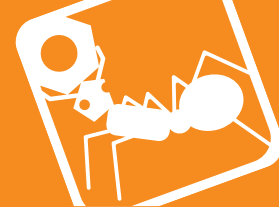
-PZ for Pozidrive.

-SE for snake-eye security.

## Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	w <sub>1</sub>	Material
P0155.020-010-T2	M 2	10	1.2	3.0	3.8	2.5	1.3	0.85	0.5	Grade 2
P0155.020-012-T2	M 2	12	1.2	3.0	3.8	2.5	1.3	0.85	0.5	Grade 2
P0155.020-016-T2	M 2	16	1.2	3.0	3.8	2.5	1.3	0.85	0.5	Grade 2
P0155.020-020-T2	M 2	20	1.2	3.0	3.8	2.5	1.3	0.85	0.5	Grade 2
P0155.025-010-T2	M 2,5	10	1.7	3.7	4.5	2.8	1.6	1.00	0.6	Grade 2
P0155.025-012-T2	M 2,5	12	1.7	3.7	4.5	2.8	1.6	1.00	0.6	Grade 2
P0155.025-016-T2	M 2,5	16	1.7	3.7	4.5	2.8	1.6	1.00	0.6	Grade 2
P0155.025-020-T2	M 2,5	20	1.7	3.7	4.5	2.8	1.6	1.00	0.6	Grade 2
P0155.025-025-T2	M 2,5	25	1.7	3.7	4.5	2.8	1.6	1.00	0.6	Grade 2
P0155.025-030-T2	M 2,5	30	1.7	3.7	4.5	2.8	1.6	1.00	0.6	Grade 2
P0155.030-006-T2	M 3	6	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 2
P0155.030-008-T2	M 3	8	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 2
P0155.030-010-T2	M 3	10	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 2
P0155.030-011-T2	M 3	11	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 2
P0155.030-013-T2	M 3	13	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 2
P0155.030-016-T2	M 3	16	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 2
P0155.030-018-T2	M 3	18	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 2
P0155.030-020-T2	M 3	20	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 2
P0155.030-025-T2	M 3	25	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 2
P0155.030-030-T2	M 3	30	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 2
P0155.030-040-T2	M 3	40	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 2
P0155.035-010-T2	M3,5	10	2.3	5.2	6.0	3.8	2.4	1.4	1.0	Grade 2
P0155.035-016-T2	M3,5	16	2.3	5.2	6.0	3.8	2.4	1.4	1.0	Grade 2
P0155.035-020-T2	M3,5	20	2.3	5.2	6.0	3.8	2.4	1.4	1.0	Grade 2
P0155.035-025-T2	M3,5	25	2.3	5.2	6.0	3.8	2.4	1.4	1.0	Grade 2
P0155.035-030-T2	M3,5	30	2.3	5.2	6.0	3.8	2.4	1.4	1.0	Grade 2



CAPTIVE SCREWS

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	w <sub>1</sub>	Material
P0155.035-040-T2	M3,5	40	2.3	5.2	6.0	3.8	2.4	1.4	1.0	Grade 2
P0155.040-010-T2	M 4	10	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 2
P0155.040-012-T2	M 4	12	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 2
P0155.040-016-T2	M 4	16	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 2
P0155.040-018-T2	M 4	18	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 2
P0155.040-019-T2	M 4	19	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 2
P0155.040-020-T2	M 4	20	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 2
P0155.040-025-T2	M 4	25	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 2
P0155.040-030-T2	M 4	30	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 2
P0155.040-040-T2	M 4	40	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 2
P0155.040-050-T2	M 4	50	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 2
P0155.040-060-T2	M 4	60	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 2
P0155.050-010-T2	M 5	10	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 2
P0155.050-012-T2	M 5	12	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 2
P0155.050-016-T2	M 5	16	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 2
P0155.050-018-T2	M 5	18	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 2
P0155.050-020-T2	M 5	20	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 2
P0155.050-022-T2	M 5	22	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 2
P0155.050-025-T2	M 5	25	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 2
P0155.050-030-T2	M 5	30	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 2
P0155.050-040-T2	M 5	40	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 2
P0155.050-050-T2	M 5	50	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 2
P0155.050-060-T2	M 5	60	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 2
P0155.050-080-T2	M 5	80	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 2
P0155.060-010-T2	M 6	10	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 2
P0155.060-012-T2	M 6	12	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 2
P0155.060-016-T2	M 6	16	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 2
P0155.060-020-T2	M 6	20	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 2
P0155.060-025-T2	M 6	25	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 2
P0155.060-030-T2	M 6	30	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 2
P0155.060-040-T2	M 6	40	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 2
P0155.060-050-T2	M 6	50	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 2
P0155.060-060-T2	M 6	60	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 2
P0155.060-080-T2	M 6	80	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 2
P0155.020-010-T5	M 2	10	1.2	3.0	3.8	2.5	1.3	0.85	0.5	Grade 5
P0155.020-012-T5	M 2	12	1.2	3.0	3.8	2.5	1.3	0.85	0.5	Grade 5
P0155.020-016-T5	M 2	16	1.2	3.0	3.8	2.5	1.3	0.85	0.5	Grade 5
P0155.020-020-T5	M 2	20	1.2	3.0	3.8	2.5	1.3	0.85	0.5	Grade 5
P0155.025-010-T5	M 2,5	10	1.7	3.7	4.5	2.8	1.6	1.00	0.6	Grade 5
P0155.025-012-T5	M 2,5	12	1.7	3.7	4.5	2.8	1.6	1.00	0.6	Grade 5
P0155.025-016-T5	M 2,5	16	1.7	3.7	4.5	2.8	1.6	1.00	0.6	Grade 5
P0155.025-020-T5	M 2,5	20	1.7	3.7	4.5	2.8	1.6	1.00	0.6	Grade 5
P0155.025-025-T5	M 2,5	25	1.7	3.7	4.5	2.8	1.6	1.00	0.6	Grade 5
P0155.025-030-T5	M 2,5	30	1.7	3.7	4.5	2.8	1.6	1.00	0.6	Grade 5
P0155.030-006-T5	M 3	6	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 5
P0155.030-008-T5	M 3	8	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 5
P0155.030-010-T5	M 3	10	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 5
P0155.030-011-T5	M 3	11	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 5
P0155.030-013-T5	M 3	13	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 5
P0155.030-016-T5	M 3	16	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 5
P0155.030-018-T5	M 3	18	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 5
P0155.030-020-T5	M 3	20	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 5
P0155.030-025-T5	M 3	25	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 5
P0155.030-030-T5	M 3	30	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 5
P0155.030-040-T5	M 3	40	2.0	4.5	5.5	3.5	2.0	1.30	0.8	Grade 5
P0155.035-010-T5	M3,5	10	2.3	5.2	6.0	3.8	2.4	1.4	1.0	Grade 5
P0155.035-016-T5	M3,5	16	2.3	5.2	6.0	3.8	2.4	1.4	1.0	Grade 5
P0155.035-020-T5	M3,5	20	2.3	5.2	6.0	3.8	2.4	1.4	1.0	Grade 5
P0155.035-025-T5	M3,5	25	2.3	5.2	6.0	3.8	2.4	1.4	1.0	Grade 5
P0155.035-030-T5	M3,5	30	2.3	5.2	6.0	3.8	2.4	1.4	1.0	Grade 5
P0155.035-040-T5	M3,5	40	2.3	5.2	6.0	3.8	2.4	1.4	1.0	Grade 5
P0155.040-010-T5	M 4	10	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 5
P0155.040-012-T5	M 4	12	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 5
P0155.040-016-T5	M 4	16	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 5
P0155.040-018-T5	M 4	18	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 5
P0155.040-019-T5	M 4	19	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 5
P0155.040-020-T5	M 4	20	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 5
P0155.040-025-T5	M 4	25	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 5

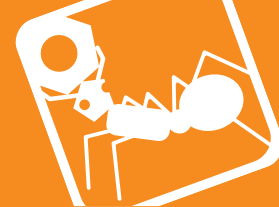


# Captive Screws - Cheese Head slot drive - titanium



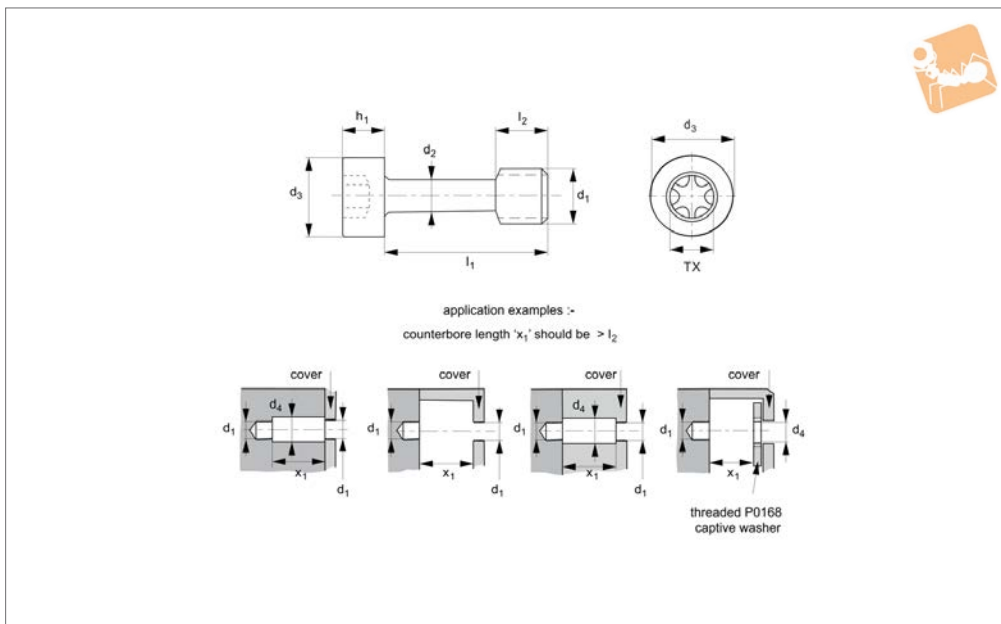
Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	w <sub>1</sub>	Material
P0155.040-030-T5	M 4	30	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 5
P0155.040-040-T5	M 4	40	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 5
P0155.040-050-T5	M 4	50	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 5
P0155.040-060-T5	M 4	60	2.8	6.0	7.0	4.5	2.6	1.6	1.2	Grade 5
P0155.050-010-T5	M 5	10	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 5
P0155.050-012-T5	M 5	12	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 5
P0155.050-016-T5	M 5	16	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 5
P0155.050-018-T5	M 5	18	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 5
P0155.050-020-T5	M 5	20	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 5
P0155.050-022-T5	M 5	22	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 5
P0155.050-025-T5	M 5	25	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 5
P0155.050-030-T5	M 5	30	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 5
P0155.050-040-T5	M 5	40	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 5
P0155.050-050-T5	M 5	50	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 5
P0155.050-060-T5	M 5	60	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 5
P0155.050-080-T5	M 5	80	3.7	7.5	8.5	5.5	3.3	2.0	1.2	Grade 5
P0155.060-010-T5	M 6	10	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 5
P0155.060-012-T5	M 6	12	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 5
P0155.060-016-T5	M 6	16	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 5
P0155.060-020-T5	M 6	20	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 5
P0155.060-025-T5	M 6	25	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 5
P0155.060-030-T5	M 6	30	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 5
P0155.060-040-T5	M 6	40	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 5
P0155.060-050-T5	M 6	50	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 5
P0155.060-060-T5	M 6	60	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 5
P0155.060-080-T5	M 6	80	4.2	7.5	10.0	6.5	3.9	2.3	1.6	Grade 5

CAPTIVE SCREWS



## P0156.Ti

MADE IN BRITAIN



### Material

Titanium grade 2 (tensile strength 345 N/mm<sup>2</sup>), or grade 5 (tensile strength 900 N/mm<sup>2</sup>).

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 316, 1.440 or AISI 303, 1.4305), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Generally to ISO 4762. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

\* M 8 sizes have a reduced TX size.  
T5 also available on request.  
Replace -T2 with -T5 at the end of part

number.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	TX size	Material
P0156.030-008-T2	M 3	8	2.0	4.5	5.5	3.5	3	TX-10	Grade 2
P0156.030-010-T2	M 3	10	2.0	4.5	5.5	3.5	3	TX-10	Grade 2
P0156.030-016-T2	M 3	16	2.0	4.5	5.5	3.5	3	TX-10	Grade 2
P0156.030-020-T2	M 3	20	2.0	4.5	5.5	3.5	3	TX-10	Grade 2
P0156.030-025-T2	M 3	25	2.0	4.5	5.5	3.5	3	TX-10	Grade 2
P0156.030-030-T2	M 3	30	2.0	4.5	5.5	3.5	3	TX-10	Grade 2
P0156.040-008-T2	M 4	8	2.8	6.0	7.0	4.5	4	TX-20	Grade 2
P0156.040-010-T2	M 4	10	2.8	6.0	7.0	4.5	4	TX-20	Grade 2
P0156.040-012-T2	M 4	12	2.8	6.0	7.0	4.5	4	TX-20	Grade 2
P0156.040-016-T2	M 4	16	2.8	6.0	7.0	4.5	4	TX-20	Grade 2
P0156.040-020-T2	M 4	20	2.8	6.0	7.0	4.5	4	TX-20	Grade 2
P0156.040-025-T2	M 4	25	2.8	6.0	7.0	4.5	4	TX-20	Grade 2
P0156.040-030-T2	M 4	30	2.8	6.0	7.0	4.5	4	TX-20	Grade 2
P0156.040-040-T2	M 4	40	2.8	6.0	7.0	4.5	4	TX-20	Grade 2
P0156.040-050-T2	M 4	50	2.8	6.0	7.0	4.5	4	TX-20	Grade 2
P0156.050-010-T2	M 5	10	3.7	7.5	8.5	5.5	5	TX-25	Grade 2
P0156.050-012-T2	M 5	12	3.7	7.5	8.5	5.5	5	TX-25	Grade 2
P0156.050-016-T2	M 5	16	3.7	7.5	8.5	5.5	5	TX-25	Grade 2
P0156.050-020-T2	M 5	20	3.7	7.5	8.5	5.5	5	TX-25	Grade 2
P0156.050-025-T2	M 5	25	3.7	7.5	8.5	5.5	5	TX-25	Grade 2
P0156.050-030-T2	M 5	30	3.7	7.5	8.5	5.5	5	TX-25	Grade 2
P0156.050-040-T2	M 5	40	3.7	7.5	8.5	5.5	5	TX-25	Grade 2
P0156.050-050-T2	M 5	50	3.7	7.5	8.5	5.5	5	TX-25	Grade 2
P0156.060-010-T2	M 6	10	4.2	7.5	10.0	6.5	6	TX-30	Grade 2
P0156.060-012-T2	M 6	12	4.2	7.5	10.0	6.5	6	TX-30	Grade 2
P0156.060-016-T2	M 6	16	4.2	7.5	10.0	6.5	6	TX-30	Grade 2





# Captive Screws - Cap Head

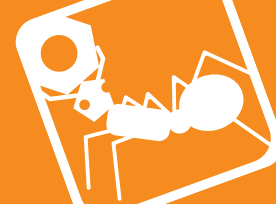
TX drive - titanium

Captive Screws



Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> max.	d <sub>4</sub> min.	h <sub>1</sub> max.	TX size	Material
P0156.060-020-T2	M 6	20	4.2	7.5	10.0	6.5	6	TX-30	Grade 2
P0156.060-025-T2	M 6	25	4.2	7.5	10.0	6.5	6	TX-30	Grade 2
P0156.060-030-T2	M 6	30	4.2	7.5	10.0	6.5	6	TX-30	Grade 2
P0156.060-040-T2	M 6	40	4.2	7.5	10.0	6.5	6	TX-30	Grade 2
P0156.060-050-T2	M 6	50	4.2	7.5	10.0	6.5	6	TX-30	Grade 2
P0156.060-060-T2	M 6	60	4.2	7.5	10.0	6.5	6	TX-30	Grade 2
P0156.060-080-T2	M 6	80	4.2	7.5	10.0	6.5	6	TX-30	Grade 2
P0156.080-012-T2	M 8	12	6.0	10.0	13.0	8.5	8	TX-30*	Grade 2
P0156.080-016-T2	M 8	16	6.0	10.0	13.0	8.5	8	TX-30*	Grade 2
P0156.080-020-T2	M 8	20	6.0	10.0	13.0	8.5	8	TX-30*	Grade 2
P0156.080-025-T2	M 8	25	6.0	10.0	13.0	8.5	8	TX-30*	Grade 2
P0156.080-030-T2	M 8	30	6.0	10.0	13.0	8.5	8	TX-30*	Grade 2
P0156.080-035-T2	M 8	35	6.0	10.0	13.0	8.5	8	TX-30*	Grade 2
P0156.080-040-T2	M 8	40	6.0	10.0	13.0	8.5	8	TX-30*	Grade 2
P0156.080-045-T2	M 8	45	6.0	10.0	13.0	8.5	8	TX-30*	Grade 2
P0156.080-050-T2	M 8	50	6.0	10.0	13.0	8.5	8	TX-30*	Grade 2
P0156.080-060-T2	M 8	60	6.0	10.0	13.0	8.5	8	TX-30*	Grade 2
P0156.080-080-T2	M 8	80	6.0	10.0	13.0	8.5	8	TX-30*	Grade 2
P0156.030-008-T5	M 3	8	2.0	4.5	5.5	3.5	3	TX-10	Grade 5
P0156.030-010-T5	M 3	10	2.0	4.5	5.5	3.5	3	TX-10	Grade 5
P0156.030-016-T5	M 3	16	2.0	4.5	5.5	3.5	3	TX-10	Grade 5
P0156.030-020-T5	M 3	20	2.0	4.5	5.5	3.5	3	TX-10	Grade 5
P0156.030-025-T5	M 3	25	2.0	4.5	5.5	3.5	3	TX-10	Grade 5
P0156.030-030-T5	M 3	30	2.0	4.5	5.5	3.5	3	TX-10	Grade 5
P0156.040-008-T5	M 4	8	2.8	6.0	7.0	4.5	4	TX-20	Grade 5
P0156.040-010-T5	M 4	10	2.8	6.0	7.0	4.5	4	TX-20	Grade 5
P0156.040-012-T5	M 4	12	2.8	6.0	7.0	4.5	4	TX-20	Grade 5
P0156.040-016-T5	M 4	16	2.8	6.0	7.0	4.5	4	TX-20	Grade 5
P0156.040-020-T5	M 4	20	2.8	6.0	7.0	4.5	4	TX-20	Grade 5
P0156.040-025-T5	M 4	25	2.8	6.0	7.0	4.5	4	TX-20	Grade 5
P0156.040-030-T5	M 4	30	2.8	6.0	7.0	4.5	4	TX-20	Grade 5
P0156.040-040-T5	M 4	40	2.8	6.0	7.0	4.5	4	TX-20	Grade 5
P0156.040-050-T5	M 4	50	2.8	6.0	7.0	4.5	4	TX-20	Grade 5
P0156.050-010-T5	M 5	10	3.7	7.5	8.5	5.5	5	TX-25	Grade 5
P0156.050-012-T5	M 5	12	3.7	7.5	8.5	5.5	5	TX-25	Grade 5
P0156.050-016-T5	M 5	16	3.7	7.5	8.5	5.5	5	TX-25	Grade 5
P0156.050-020-T5	M 5	20	3.7	7.5	8.5	5.5	5	TX-25	Grade 5
P0156.050-025-T5	M 5	25	3.7	7.5	8.5	5.5	5	TX-25	Grade 5
P0156.050-030-T5	M 5	30	3.7	7.5	8.5	5.5	5	TX-25	Grade 5
P0156.050-040-T5	M 5	40	3.7	7.5	8.5	5.5	5	TX-25	Grade 5
P0156.050-050-T5	M 5	50	3.7	7.5	8.5	5.5	5	TX-25	Grade 5
P0156.060-010-T5	M 6	10	4.2	7.5	10.0	6.5	6	TX-30	Grade 5
P0156.060-012-T5	M 6	12	4.2	7.5	10.0	6.5	6	TX-30	Grade 5
P0156.060-016-T5	M 6	16	4.2	7.5	10.0	6.5	6	TX-30	Grade 5
P0156.060-020-T5	M 6	20	4.2	7.5	10.0	6.5	6	TX-30	Grade 5
P0156.060-025-T5	M 6	25	4.2	7.5	10.0	6.5	6	TX-30	Grade 5
P0156.060-030-T5	M 6	30	4.2	7.5	10.0	6.5	6	TX-30	Grade 5
P0156.060-040-T5	M 6	40	4.2	7.5	10.0	6.5	6	TX-30	Grade 5
P0156.060-050-T5	M 6	50	4.2	7.5	10.0	6.5	6	TX-30	Grade 5
P0156.060-060-T5	M 6	60	4.2	7.5	10.0	6.5	6	TX-30	Grade 5
P0156.060-080-T5	M 6	80	4.2	7.5	10.0	6.5	6	TX-30	Grade 5
P0156.080-012-T5	M 8	12	6.0	10.0	13.0	8.5	8	TX-30*	Grade 5
P0156.080-016-T5	M 8	16	6.0	10.0	13.0	8.5	8	TX-30*	Grade 5
P0156.080-020-T5	M 8	20	6.0	10.0	13.0	8.5	8	TX-30*	Grade 5
P0156.080-025-T5	M 8	25	6.0	10.0	13.0	8.5	8	TX-30*	Grade 5
P0156.080-030-T5	M 8	30	6.0	10.0	13.0	8.5	8	TX-30*	Grade 5
P0156.080-035-T5	M 8	35	6.0	10.0	13.0	8.5	8	TX-30*	Grade 5
P0156.080-040-T5	M 8	40	6.0	10.0	13.0	8.5	8	TX-30*	Grade 5
P0156.080-045-T5	M 8	45	6.0	10.0	13.0	8.5	8	TX-30*	Grade 5
P0156.080-050-T5	M 8	50	6.0	10.0	13.0	8.5	8	TX-30*	Grade 5
P0156.080-060-T5	M 8	60	6.0	10.0	13.0	8.5	8	TX-30*	Grade 5
P0156.080-080-T5	M 8	80	6.0	10.0	13.0	8.5	8	TX-30*	Grade 5

CAPTIVE SCREWS

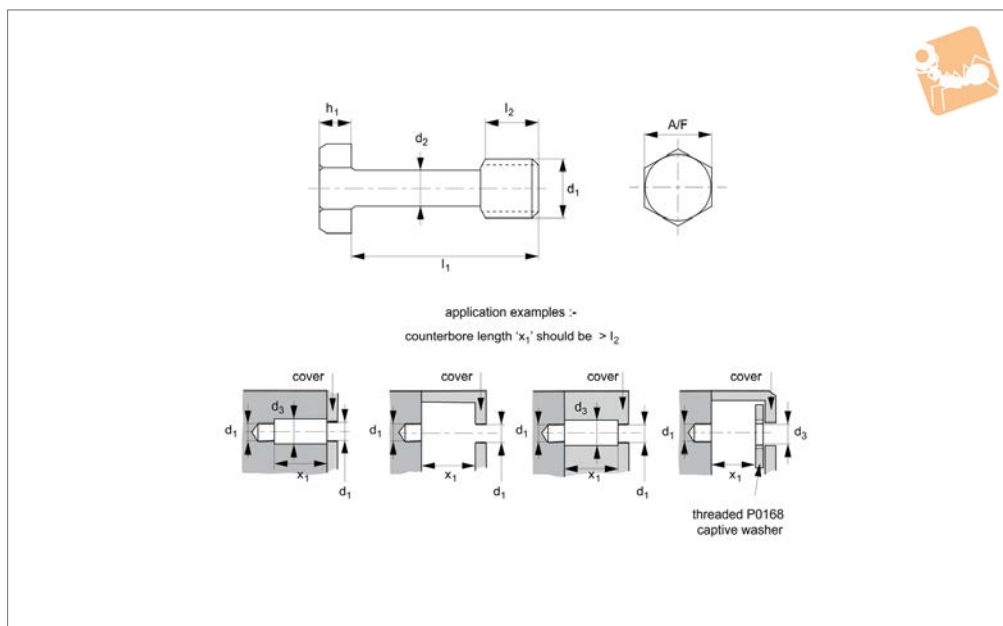


CAPTIVE SCREWS



MADE IN BRITAIN

## P0158.Ti



### Material

Titanium grade 2 (tensile strength 345 N/mm<sup>2</sup>), or grade 5 (tensile strength 900 N/mm<sup>2</sup>).

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 316, 1.440 or AISI 303, 1.4305), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Often used with our captive washer (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washer should be considered when fitted in panels with unthreaded holes.

T5 also available on request.

Replace -T2 with -T5 at the end of part number.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> min.	h <sub>1</sub> max.	A/F	Material
P0158.030-010-T2	M 3	10	2.0	4.5	3.5	2.2	6	Grade 2
P0158.030-016-T2	M 3	16	2.0	4.5	3.5	2.2	6	Grade 2
P0158.030-020-T2	M 3	20	2.0	4.5	3.5	2.2	6	Grade 2
P0158.030-025-T2	M 3	25	2.0	4.5	3.5	2.2	6	Grade 2
P0158.030-030-T2	M 3	30	2.0	4.5	3.5	2.2	6	Grade 2
P0158.030-040-T2	M 3	40	2.0	4.5	3.5	2.2	6	Grade 2
P0158.040-012-T2	M 4	12	2.8	6.0	4.5	2.9	7	Grade 2
P0158.040-016-T2	M 4	16	2.8	6.0	4.5	2.9	7	Grade 2
P0158.040-020-T2	M 4	20	2.8	6.0	4.5	2.9	7	Grade 2
P0158.040-025-T2	M 4	25	2.8	6.0	4.5	2.9	7	Grade 2
P0158.040-030-T2	M 4	30	2.8	8.0	4.5	2.9	7	Grade 2
P0158.040-035-T2	M 4	35	2.8	8.0	4.5	2.9	7	Grade 2
P0158.040-040-T2	M 4	40	2.8	8.0	4.5	2.9	7	Grade 2
P0158.040-050-T2	M 4	50	2.8	8.0	4.5	2.9	7	Grade 2
P0158.040-060-T2	M 4	60	2.8	8.0	4.5	2.9	7	Grade 2
P0158.050-012-T2	M 5	12	3.7	7.5	5.5	3.6	8	Grade 2
P0158.050-016-T2	M 5	16	3.7	7.5	5.5	3.6	8	Grade 2
P0158.050-020-T2	M 5	20	3.7	7.5	5.5	3.6	8	Grade 2
P0158.050-025-T2	M 5	25	3.7	7.5	5.5	3.6	8	Grade 2
P0158.050-030-T2	M 5	30	3.7	10.0	5.5	3.6	8	Grade 2
P0158.050-035-T2	M 5	35	3.7	10.0	5.5	3.6	8	Grade 2
P0158.050-040-T2	M 5	40	3.7	10.0	5.5	3.6	8	Grade 2
P0158.050-050-T2	M 5	50	3.7	10.0	5.5	3.6	8	Grade 2
P0158.050-060-T2	M 5	60	3.7	10.0	5.5	3.6	8	Grade 2
P0158.060-012-T2	M 6	12	4.2	7.5	6.5	4.1	10	Grade 2
P0158.060-016-T2	M 6	16	4.2	7.5	6.5	4.1	10	Grade 2



# Captive Screws - Hex Bolts

## titanium

Captive Screws



Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> min.	h <sub>1</sub> max.	A/F	Material
P0158.060-020-T2	M 6	20	4.2	7.5	6.5	4.1	10	Grade 2
P0158.060-025-T2	M 6	25	4.2	7.5	6.5	4.1	10	Grade 2
P0158.060-030-T2	M 6	30	4.2	7.5	6.5	4.1	10	Grade 2
P0158.060-035-T2	M 6	35	4.2	7.5	6.5	4.1	10	Grade 2
P0158.060-040-T2	M 6	40	4.2	7.5	6.5	4.1	10	Grade 2
P0158.060-050-T2	M 6	50	4.2	7.5	6.5	4.1	10	Grade 2
P0158.060-060-T2	M 6	60	4.2	7.5	6.5	4.1	10	Grade 2
P0158.060-080-T2	M 6	80	4.2	7.5	6.5	4.1	10	Grade 2
P0158.080-016-T2	M 8	16	6.0	10.0	8.5	5.3	13	Grade 2
P0158.080-020-T2	M 8	20	6.0	10.0	8.5	5.3	13	Grade 2
P0158.080-025-T2	M 8	25	6.0	10.0	8.5	5.3	13	Grade 2
P0158.080-030-T2	M 8	30	6.0	10.0	8.5	5.3	13	Grade 2
P0158.080-035-T2	M 8	35	6.0	10.0	8.5	5.3	13	Grade 2
P0158.080-040-T2	M 8	40	6.0	10.0	8.5	5.3	13	Grade 2
P0158.080-050-T2	M 8	50	6.0	10.0	8.5	5.3	13	Grade 2
P0158.080-060-T2	M 8	60	6.0	10.0	8.5	5.3	13	Grade 2
P0158.080-080-T2	M 8	80	6.0	10.0	8.5	5.3	13	Grade 2
P0158.100-020-T2	M10	20	7.5	12.5	10.6	6.4	17	Grade 2
P0158.100-025-T2	M10	25	7.5	12.5	10.6	6.4	17	Grade 2
P0158.100-030-T2	M10	30	7.5	12.5	10.6	6.4	17	Grade 2
P0158.100-035-T2	M10	35	7.5	12.0	10.6	6.4	17	Grade 2
P0158.100-040-T2	M10	40	7.5	12.5	10.6	6.4	17	Grade 2
P0158.100-050-T2	M10	50	7.5	12.5	10.6	6.4	17	Grade 2
P0158.100-060-T2	M10	60	7.5	12.5	10.6	6.4	17	Grade 2
P0158.100-080-T2	M10	80	7.5	12.5	10.6	6.4	17	Grade 2
P0158.120-025-T2	M12	25	8.0	15.0	13.2	7.5	19	Grade 2
P0158.120-030-T2	M12	30	8.0	15.0	13.2	7.5	19	Grade 2
P0158.120-035-T2	M12	35	8.0	15.0	13.2	7.5	19	Grade 2
P0158.120-040-T2	M12	40	8.0	15.0	13.2	7.5	19	Grade 2
P0158.120-050-T2	M12	50	8.0	15.0	13.2	7.5	19	Grade 2
P0158.120-060-T2	M12	60	8.0	15.0	13.2	7.5	19	Grade 2
P0158.120-080-T2	M12	80	8.0	15.0	13.2	7.5	19	Grade 2
P0158.030-010-T5	M 3	10	2.0	4.5	3.5	2.2	6	Grade 5
P0158.030-016-T5	M 3	16	2.0	4.5	3.5	2.2	6	Grade 5
P0158.030-020-T5	M 3	20	2.0	4.5	3.5	2.2	6	Grade 5
P0158.030-025-T5	M 3	25	2.0	4.5	3.5	2.2	6	Grade 5
P0158.030-030-T5	M 3	30	2.0	4.5	3.5	2.2	6	Grade 5
P0158.030-040-T5	M 3	40	2.0	4.5	3.5	2.2	6	Grade 5
P0158.040-012-T5	M 4	12	2.8	6.0	4.5	2.9	7	Grade 5
P0158.040-016-T5	M 4	16	2.8	6.0	4.5	2.9	7	Grade 5
P0158.040-020-T5	M 4	20	2.8	6.0	4.5	2.9	7	Grade 5
P0158.040-025-T5	M 4	25	2.8	6.0	4.5	2.9	7	Grade 5
P0158.040-030-T5	M 4	30	2.8	8.0	4.5	2.9	7	Grade 5
P0158.040-035-T5	M 4	35	2.8	8.0	4.5	2.9	7	Grade 5
P0158.040-040-T5	M 4	40	2.8	8.0	4.5	2.9	7	Grade 5
P0158.040-050-T5	M 4	50	2.8	8.0	4.5	2.9	7	Grade 5
P0158.040-060-T5	M 4	60	2.8	8.0	4.5	2.9	7	Grade 5
P0158.050-012-T5	M 5	12	3.7	7.5	5.5	3.6	8	Grade 5
P0158.050-016-T5	M 5	16	3.7	7.5	5.5	3.6	8	Grade 5
P0158.050-020-T5	M 5	20	3.7	7.5	5.5	3.6	8	Grade 5
P0158.050-025-T5	M 5	25	3.7	7.5	5.5	3.6	8	Grade 5
P0158.050-030-T5	M 5	30	3.7	10.0	5.5	3.6	8	Grade 5
P0158.050-035-T5	M 5	35	3.7	10.0	5.5	3.6	8	Grade 5
P0158.050-040-T5	M 5	40	3.7	10.0	5.5	3.6	8	Grade 5
P0158.050-050-T5	M 5	50	3.7	10.0	5.5	3.6	8	Grade 5
P0158.050-060-T5	M 5	60	3.7	10.0	5.5	3.6	8	Grade 5
P0158.060-012-T5	M 6	12	4.2	7.5	6.5	4.1	10	Grade 5
P0158.060-016-T5	M 6	16	4.2	7.5	6.5	4.1	10	Grade 5
P0158.060-020-T5	M 6	20	4.2	7.5	6.5	4.1	10	Grade 5
P0158.060-025-T5	M 6	25	4.2	7.5	6.5	4.1	10	Grade 5
P0158.060-030-T5	M 6	30	4.2	7.5	6.5	4.1	10	Grade 5
P0158.060-035-T5	M 6	35	4.2	7.5	6.5	4.1	10	Grade 5
P0158.060-040-T5	M 6	40	4.2	7.5	6.5	4.1	10	Grade 5
P0158.060-050-T5	M 6	50	4.2	7.5	6.5	4.1	10	Grade 5
P0158.060-060-T5	M 6	60	4.2	7.5	6.5	4.1	10	Grade 5
P0158.060-080-T5	M 6	80	4.2	7.5	6.5	4.1	10	Grade 5
P0158.080-016-T5	M 8	16	6.0	10.0	8.5	5.3	13	Grade 5
P0158.080-020-T5	M 8	20	6.0	10.0	8.5	5.3	13	Grade 5

CAPTIVE SCREWS



CAPTIVE SCREWS

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub> min.	h <sub>1</sub> max.	A/F	Material
P0158.080-025-T5	M 8	25	6.0	10.0	8.5	5.3	13	Grade 5
P0158.080-030-T5	M 8	30	6.0	10.0	8.5	5.3	13	Grade 5
P0158.080-035-T5	M 8	35	6.0	10.0	8.5	5.3	13	Grade 5
P0158.080-040-T5	M 8	40	6.0	10.0	8.5	5.3	13	Grade 5
P0158.080-050-T5	M 8	50	6.0	10.0	8.5	5.3	13	Grade 5
P0158.080-060-T5	M 8	60	6.0	10.0	8.5	5.3	13	Grade 5
P0158.080-080-T5	M 8	80	6.0	10.0	8.5	5.3	13	Grade 5
P0158.100-020-T5	M10	20	7.5	12.5	10.6	6.4	17	Grade 5
P0158.100-025-T5	M10	25	7.5	12.5	10.6	6.4	17	Grade 5
P0158.100-030-T5	M10	30	7.5	12.5	10.6	6.4	17	Grade 5
P0158.100-035-T5	M10	35	7.5	12.0	10.6	6.4	17	Grade 5
P0158.100-040-T5	M10	40	7.5	12.5	10.6	6.4	17	Grade 5
P0158.100-050-T5	M10	50	7.5	12.5	10.6	6.4	17	Grade 5
P0158.100-060-T5	M10	60	7.5	12.5	10.6	6.4	17	Grade 5
P0158.100-080-T5	M10	80	7.5	12.5	10.6	6.4	17	Grade 5
P0158.120-025-T5	M12	25	8.0	15.0	13.2	7.5	19	Grade 5
P0158.120-030-T5	M12	30	8.0	15.0	13.2	7.5	19	Grade 5
P0158.120-035-T5	M12	35	8.0	15.0	13.2	7.5	19	Grade 5
P0158.120-040-T5	M12	40	8.0	15.0	13.2	7.5	19	Grade 5
P0158.120-050-T5	M12	50	8.0	15.0	13.2	7.5	19	Grade 5
P0158.120-060-T5	M12	60	8.0	15.0	13.2	7.5	19	Grade 5
P0158.120-080-T5	M12	80	8.0	15.0	13.2	7.5	19	Grade 5

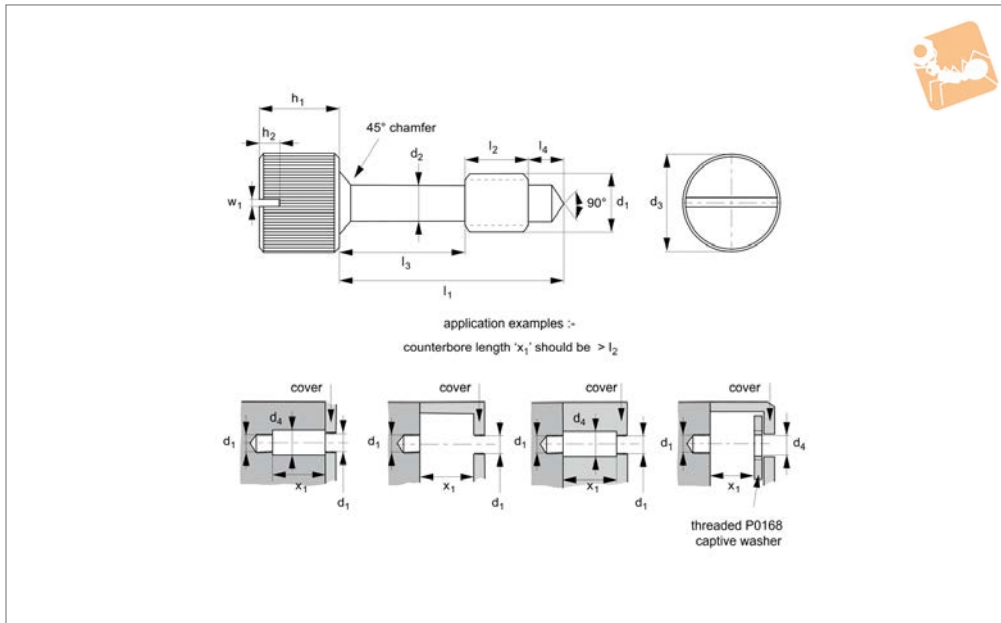


# Captive Panel Thumb Screws

slot drive - titanium



Captive Screws



P0159.Ti

MADE IN BRITAIN

CAPTIVE SCREWS

### Material

Titanium grade 2 (tensile strength 345 N/mm<sup>2</sup>), or grade 5 (tensile strength 900 N/mm<sup>2</sup>).

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 316, 1.440 or AISI

303, 1.4305), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washer (P0168) or retaining flanges (P0169 - for sheet metal applica-

tions). The use of our captive washer should be considered when fitted in panels with unthreaded holes.

T5 also available on request.

Replace -T2 with -T5 at the end of part number.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	w <sub>1</sub>	Material
P0159.030-010-T2	M 3	10	2	3.2	6.5	3.5	6.5	2.0	4.8	2.0	1.2	Grade 2
P0159.030-014-T2	M 3	14	2	3.2	6.5	3.5	6.5	2.0	8.8	2.0	1.2	Grade 2
P0159.030-016-T2	M 3	16	2	3.2	6.5	3.5	6.5	2.0	10.8	2.0	1.2	Grade 2
P0159.030-020-T2	M 3	20	2	3.2	6.5	3.5	6.5	2.0	14.8	2.0	1.2	Grade 2
P0159.030-022-T2	M 3	22	2	3.2	6.5	3.5	6.5	2.0	16.8	2.0	1.2	Grade 2
P0159.030-024-T2	M 3	24	2	3.2	6.5	3.5	6.5	2.0	18.8	2.0	1.2	Grade 2
P0159.030-026-T2	M 3	26	2	3.2	6.5	3.5	6.5	2.0	20.8	2.0	1.2	Grade 2
P0159.031-010-T2	M 3	10	2	3.2	8	3.5	8.0	2.0	4.8	2.0	1.2	Grade 2
P0159.031-014-T2	M 3	14	2	3.2	8	3.5	8.0	2.0	8.8	2.0	1.2	Grade 2
P0159.031-016-T2	M 3	16	2	3.2	8	3.5	8.0	2.0	10.8	2.0	1.2	Grade 2
P0159.031-020-T2	M 3	20	2	3.2	8	3.5	8.0	2.0	14.8	2.0	1.2	Grade 2
P0159.031-022-T2	M 3	22	2	3.2	8	3.5	8.0	2.0	16.8	2.0	1.2	Grade 2
P0159.031-024-T2	M 3	24	2	3.2	8	3.5	8.0	2.0	18.8	2.0	1.2	Grade 2
P0159.040-010-T2	M 4	10	3	5.5	8	4.5	8.0	2.0	2.0	2.5	1.2	Grade 2
P0159.040-014-T2	M 4	14	3	5.5	8	4.5	8.0	2.0	6.0	2.5	1.2	Grade 2
P0159.040-016-T2	M 4	16	3	5.5	8	4.5	8.0	2.0	8.0	2.5	1.2	Grade 2
P0159.040-020-T2	M 4	20	3	5.5	8	4.5	8.0	2.0	12.0	2.5	1.2	Grade 2
P0159.040-022-T2	M 4	22	3	5.5	8	4.5	8.0	2.0	14.0	2.5	1.2	Grade 2
P0159.040-024-T2	M 4	24	3	5.5	8	4.5	8.0	2.0	16.0	2.5	1.2	Grade 2
P0159.040-027-T2	M 4	27	3	5.5	8	4.5	8.0	2.0	19.0	2.5	1.2	Grade 2
P0159.040-032-T2	M 4	32	3	5.5	8	4.5	8.0	2.0	24.0	2.5	1.2	Grade 2
P0159.050-014-T2	M 5	14	3.5	6.5	10	5.5	10.0	2.5	3.5	4.0	1.5	Grade 2
P0159.050-016-T2	M 5	16	3.5	6.5	10	5.5	10.0	2.5	5.5	4.0	1.5	Grade 2
P0159.050-020-T2	M 5	20	3.5	6.5	10	5.5	10.0	2.5	9.5	4.0	1.5	Grade 2
P0159.050-022-T2	M 5	22	3.5	6.5	10	5.5	10.0	2.5	11.5	4.0	1.5	Grade 2
P0159.050-024-T2	M 5	24	3.5	6.5	10	5.5	10.0	2.5	13.5	4.0	1.5	Grade 2
P0159.050-027-T2	M 5	27	3.5	6.5	10	5.5	10.0	2.5	16.5	4.0	1.5	Grade 2
P0159.050-032-T2	M 5	32	3.5	6.5	10	5.5	10.0	2.5	21.5	4.0	1.5	Grade 2
P0159.050-035-T2	M 5	35	3.5	6.5	10	5.5	10.0	2.5	24.5	4.0	1.5	Grade 2
P0159.050-040-T2	M 5	40	3.5	6.5	10	5.5	10.0	2.5	29.5	4.0	1.5	Grade 2
P0159.060-016-T2	M 6	16	4.5	8.0	12	6.5	15.0	2.5	3.0	5.0	2.0	Grade 2



CAPTIVE SCREWS

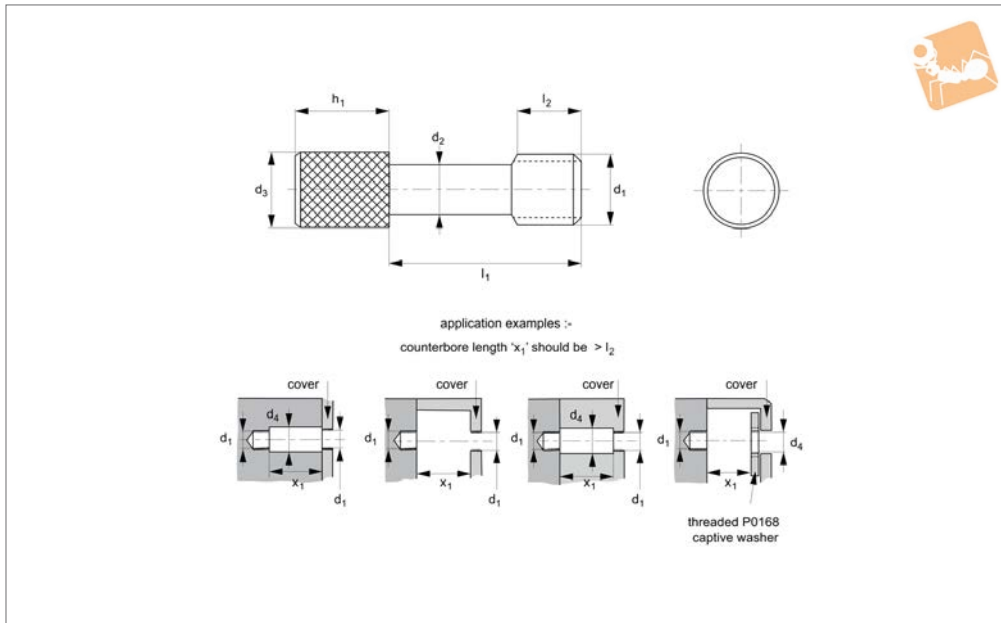
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P0159.060-020-T2	M 6	20	4.5	8.0	12	6.5	15.0	2.5	7.0	5.0	2.0	Grade 2
P0159.060-022-T2	M 6	22	4.5	8.0	12	6.5	15.0	2.5	9.0	5.0	2.0	Grade 2
P0159.060-024-T2	M 6	24	4.5	8.0	12	6.5	15.0	2.5	11.0	5.0	2.0	Grade 2
P0159.060-027-T2	M 6	27	4.5	8.0	12	6.5	15.0	2.5	14.0	5.0	2.0	Grade 2
P0159.060-032-T2	M 6	32	4.5	8.0	12	6.5	15.0	2.5	19.0	5.0	2.0	Grade 2
P0159.060-035-T2	M 6	35	4.5	8.0	12	6.5	15.0	2.5	22.0	5.0	2.0	Grade 2
P0159.060-040-T2	M 6	40	4.5	8.0	12	6.5	15.0	2.5	27.0	8.5	2.0	Grade 2
P0159.060-045-T2	M 6	45	4.5	8.0	12	6.5	15.0	2.5	32.0	8.5	2.0	Grade 2
P0159.060-050-T2	M 6	50	4.5	8.0	12	6.5	15.0	2.5	37.0	8.5	2.0	Grade 2
P0159.030-010-T5	M 3	10	2	3.2	6.5	3.5	6.5	2.0	4.8	2.0	1.2	Grade 5
P0159.030-014-T5	M 3	14	2	3.2	6.5	3.5	6.5	2.0	8.8	2.0	1.2	Grade 5
P0159.030-016-T5	M 3	16	2	3.2	6.5	3.5	6.5	2.0	10.8	2.0	1.2	Grade 5
P0159.030-020-T5	M 3	20	2	3.2	6.5	3.5	6.5	2.0	14.8	2.0	1.2	Grade 5
P0159.030-022-T5	M 3	22	2	3.2	6.5	3.5	6.5	2.0	16.8	2.0	1.2	Grade 5
P0159.030-024-T5	M 3	24	2	3.2	6.5	3.5	6.5	2.0	18.8	2.0	1.2	Grade 5
P0159.030-026-T5	M 3	26	2	3.2	6.5	3.5	6.5	2.0	20.8	2.0	1.2	Grade 5
P0159.031-010-T5	M 3	10	2	3.2	8	3.5	8.0	2.0	4.8	2.0	1.2	Grade 5
P0159.031-014-T5	M 3	14	2	3.2	8	3.5	8.0	2.0	8.8	2.0	1.2	Grade 5
P0159.031-016-T5	M 3	16	2	3.2	8	3.5	8.0	2.0	10.8	2.0	1.2	Grade 5
P0159.031-020-T5	M 3	20	2	3.2	8	3.5	8.0	2.0	14.8	2.0	1.2	Grade 5
P0159.031-022-T5	M 3	22	2	3.2	8	3.5	8.0	2.0	16.8	2.0	1.2	Grade 5
P0159.031-024-T5	M 3	24	2	3.2	8	3.5	8.0	2.0	18.8	2.0	1.2	Grade 5
P0159.040-010-T5	M 4	10	3	5.5	8	4.5	8.0	2.0	2.0	2.5	1.2	Grade 5
P0159.040-014-T5	M 4	14	3	5.5	8	4.5	8.0	2.0	6.0	2.5	1.2	Grade 5
P0159.040-016-T5	M 4	16	3	5.5	8	4.5	8.0	2.0	8.0	2.5	1.2	Grade 5
P0159.040-020-T5	M 4	20	3	5.5	8	4.5	8.0	2.0	12.0	2.5	1.2	Grade 5
P0159.040-022-T5	M 4	22	3	5.5	8	4.5	8.0	2.0	14.0	2.5	1.2	Grade 5
P0159.040-024-T5	M 4	24	3	5.5	8	4.5	8.0	2.0	16.0	2.5	1.2	Grade 5
P0159.040-027-T5	M 4	27	3	5.5	8	4.5	8.0	2.0	19.0	2.5	1.2	Grade 5
P0159.040-032-T5	M 4	32	3	5.5	8	4.5	8.0	2.0	24.0	2.5	1.2	Grade 5
P0159.050-014-T5	M 5	14	3.5	6.5	10	5.5	10.0	2.5	3.5	4.0	1.5	Grade 5
P0159.050-016-T5	M 5	16	3.5	6.5	10	5.5	10.0	2.5	5.5	4.0	1.5	Grade 5
P0159.050-020-T5	M 5	20	3.5	6.5	10	5.5	10.0	2.5	9.5	4.0	1.5	Grade 5
P0159.050-022-T5	M 5	22	3.5	6.5	10	5.5	10.0	2.5	11.5	4.0	1.5	Grade 5
P0159.050-024-T5	M 5	24	3.5	6.5	10	5.5	10.0	2.5	13.5	4.0	1.5	Grade 5
P0159.050-027-T5	M 5	27	3.5	6.5	10	5.5	10.0	2.5	16.5	4.0	1.5	Grade 5
P0159.050-032-T5	M 5	32	3.5	6.5	10	5.5	10.0	2.5	21.5	4.0	1.5	Grade 5
P0159.050-035-T5	M 5	35	3.5	6.5	10	5.5	10.0	2.5	24.5	4.0	1.5	Grade 5
P0159.050-040-T5	M 5	40	3.5	6.5	10	5.5	10.0	2.5	29.5	4.0	1.5	Grade 5
P0159.060-016-T5	M 6	16	4.5	8.0	12	6.5	15.0	2.5	3.0	5.0	2.0	Grade 5
P0159.060-020-T5	M 6	20	4.5	8.0	12	6.5	15.0	2.5	7.0	5.0	2.0	Grade 5
P0159.060-022-T5	M 6	22	4.5	8.0	12	6.5	15.0	2.5	9.0	5.0	2.0	Grade 5
P0159.060-024-T5	M 6	24	4.5	8.0	12	6.5	15.0	2.5	11.0	5.0	2.0	Grade 5
P0159.060-027-T5	M 6	27	4.5	8.0	12	6.5	15.0	2.5	14.0	5.0	2.0	Grade 5
P0159.060-032-T5	M 6	32	4.5	8.0	12	6.5	15.0	2.5	19.0	5.0	2.0	Grade 5
P0159.060-035-T5	M 6	35	4.5	8.0	12	6.5	15.0	2.5	22.0	5.0	2.0	Grade 5
P0159.060-040-T5	M 6	40	4.5	8.0	12	6.5	15.0	2.5	27.0	8.5	2.0	Grade 5
P0159.060-045-T5	M 6	45	4.5	8.0	12	6.5	15.0	2.5	32.0	8.5	2.0	Grade 5
P0159.060-050-T5	M 6	50	4.5	8.0	12	6.5	15.0	2.5	37.0	8.5	2.0	Grade 5



# Captive Thumb Screws

303 stainless

## Captive Screws



## P0160.A2

CAPTIVE SCREWS

### Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc.

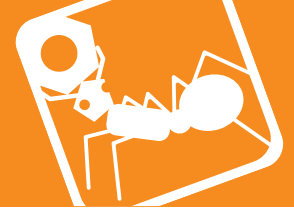
### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washers (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washers should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>
P0160.030-016-A2	M 3	2.0	16	8.0	5	3.5	10
P0160.030-020-A2	M 3	2.0	20	10.0	5	3.5	10
P0160.030-025-A2	M 3	2.0	25	12.5	5	3.5	10
P0160.030-030-A2	M 3	2.0	30	15.0	5	3.5	10
P0160.030-035-A2	M 3	2.0	35	17.5	5	3.5	10
P0160.030-040-A2	M 3	2.0	40	20.0	5	3.5	10
P0160.030-050-A2	M 3	2.0	50	25.0	5	3.5	10
P0160.035-016-A2	M 3.5	2.3	16	8.0	5	3.8	10
P0160.035-020-A2	M 3.5	2.3	20	10.0	5	3.8	10
P0160.035-025-A2	M 3.5	2.3	25	12.5	5	3.8	10
P0160.035-030-A2	M 3.5	2.3	30	15.0	5	3.8	10
P0160.035-035-A2	M 3.5	2.3	35	17.5	5	3.8	10
P0160.035-040-A2	M 3.5	2.3	40	20.0	5	3.8	10
P0160.035-050-A2	M 3.5	2.3	50	25.0	5	3.8	10
P0160.040-016-A2	M 4	2.8	16	8.0	5	4.5	10
P0160.040-020-A2	M 4	2.8	20	10.0	5	4.5	10
P0160.040-025-A2	M 4	2.8	25	12.5	5	4.5	10
P0160.040-030-A2	M 4	2.8	30	15.0	5	4.5	10
P0160.040-035-A2	M 4	2.8	35	17.5	5	4.5	10
P0160.040-040-A2	M 4	2.8	40	20.0	5	4.5	10
P0160.040-050-A2	M 4	2.8	50	25.0	5	4.5	10
P0160.050-016-A2	M 5	3.7	16	8.0	6	5.5	12
P0160.050-020-A2	M 5	3.7	20	10.0	6	5.5	12
P0160.050-025-A2	M 5	3.7	25	12.5	6	5.5	12
P0160.050-030-A2	M 5	3.7	30	15.0	6	5.5	12
P0160.050-035-A2	M 5	3.7	35	17.5	6	5.5	12
P0160.050-040-A2	M 5	3.7	40	24.0	6	5.5	12
P0160.050-050-A2	M 5	3.7	50	25.0	6	5.5	12
P0160.060-016-A2	M 6	4.2	16	8.0	8	6.5	12



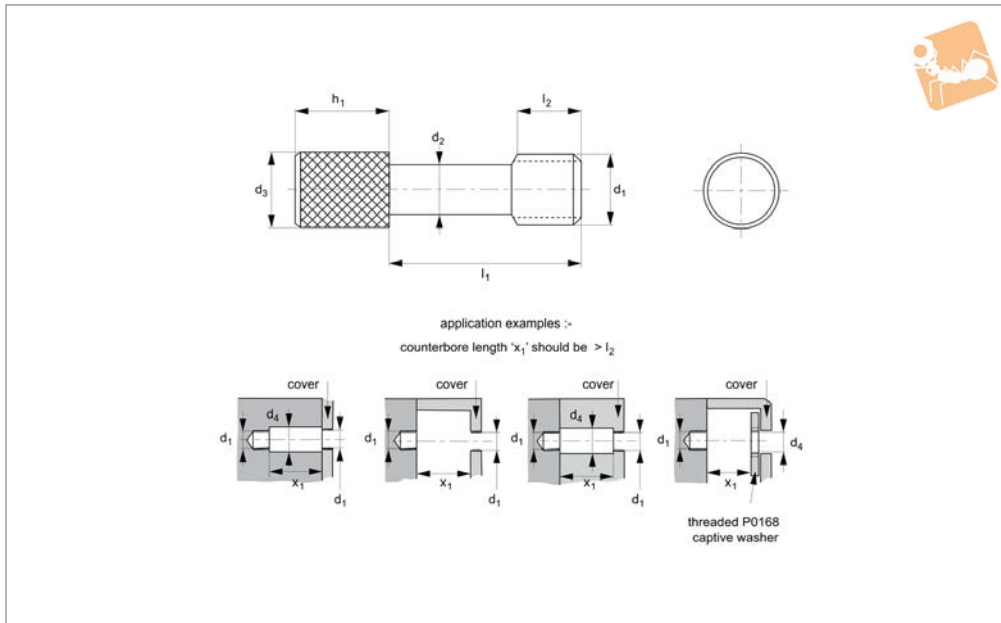
Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>
P0160.060-020-A2	M 6	4.2	20	10.0	8	6.5	12
P0160.060-025-A2	M 6	4.2	25	12.5	8	6.5	12
P0160.060-030-A2	M 6	4.2	30	15.0	8	6.5	12
P0160.060-035-A2	M 6	4.2	35	17.5	8	6.5	12
P0160.060-040-A2	M 6	4.2	40	20.0	8	6.5	12
P0160.060-050-A2	M 6	4.2	50	25.0	8	6.5	12
P0160.080-016-A2	M 8	6.0	16	8.0	10	8.5	16
P0160.080-020-A2	M 8	6.0	20	10.0	10	8.5	16
P0160.080-025-A2	M 8	6.0	25	12.5	10	8.5	16
P0160.080-030-A2	M 8	6.0	30	15.0	10	8.5	16
P0160.080-035-A2	M 8	6.0	35	17.5	10	8.5	16
P0160.080-040-A2	M 8	6.0	40	20.0	10	8.5	16
P0160.080-050-A2	M 8	6.0	50	25.0	10	8.5	16





# Captive Thumb Screws

316 stainless



**P0160.A4**

CAPTIVE SCREWS

### Material

Stainless steel (AISI 316, 1.440).  
Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.  
Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 303, 1.4305), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washer (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washer should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>
P0160.030-016-A4	M 3	2.0	16	8.0	5	3.5	10
P0160.030-020-A4	M 3	2.0	20	10.0	5	3.5	10
P0160.030-025-A4	M 3	2.0	25	12.5	5	3.5	10
P0160.030-030-A4	M 3	2.0	30	15.0	5	3.5	10
P0160.030-035-A4	M 3	2.0	35	17.5	5	3.5	10
P0160.030-040-A4	M 3	2.0	40	20.0	5	3.5	10
P0160.030-050-A4	M 3	2.0	50	25.0	5	3.5	10
P0160.035-016-A4	M 3.5	2.3	16	8.0	5	3.8	10
P0160.035-020-A4	M 3.5	2.3	20	10.0	5	3.8	10
P0160.035-025-A4	M 3.5	2.3	25	12.5	5	3.8	10
P0160.035-030-A4	M 3.5	2.3	30	15.0	5	3.8	10
P0160.035-035-A4	M 3.5	2.3	35	17.5	5	3.8	10
P0160.035-040-A4	M 3.5	2.3	40	20.0	5	3.8	10
P0160.035-050-A4	M 3.5	2.3	50	25.0	5	3.8	10
P0160.040-016-A4	M 4	2.8	16	8.0	5	4.5	10
P0160.040-020-A4	M 4	2.8	20	10.0	5	4.5	10
P0160.040-025-A4	M 4	2.8	25	12.5	5	4.5	10
P0160.040-030-A4	M 4	2.8	30	15.0	5	4.5	10
P0160.040-035-A4	M 4	2.8	35	17.5	5	4.5	10
P0160.040-040-A4	M 4	2.8	40	20.0	5	4.5	10
P0160.040-050-A4	M 4	2.8	50	25.0	5	4.5	10
P0160.050-016-A4	M 5	3.7	16	8.0	6	5.5	12
P0160.050-020-A4	M 5	3.7	20	10.0	6	5.5	12
P0160.050-025-A4	M 5	3.7	25	12.5	6	5.5	12
P0160.050-030-A4	M 5	3.7	30	15.0	6	5.5	12
P0160.050-035-A4	M 5	3.7	35	17.5	6	5.5	12
P0160.050-040-A4	M 5	3.7	40	24.0	6	5.5	12
P0160.050-050-A4	M 5	3.7	50	25.0	6	5.5	12
P0160.060-016-A4	M 6	4.2	16	8.0	8	6.5	12



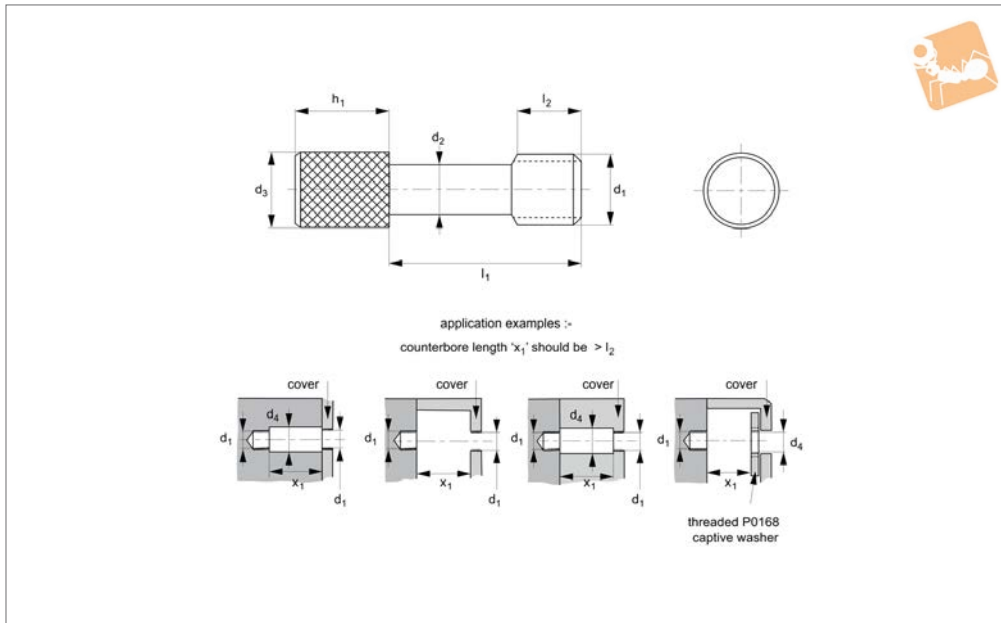
Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>
P0160.060-020-A4	M 6	4.2	20	10.0	8	6.5	12
P0160.060-025-A4	M 6	4.2	25	12.5	8	6.5	12
P0160.060-030-A4	M 6	4.2	30	15.0	8	6.5	12
P0160.060-035-A4	M 6	4.2	35	17.5	8	6.5	12
P0160.060-040-A4	M 6	4.2	40	20.0	8	6.5	12
P0160.060-050-A4	M 6	4.2	50	25.0	8	6.5	12



# Captive Thumb Screws

303 stainless, blackened

Captive Screws



**P0160.B2**

CAPTIVE SCREWS

### Material

Stainless steel (AISI 303, 1.4305), black oxide coating. Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 316, 1.440), brass,

aluminium etc.

### Technical Notes

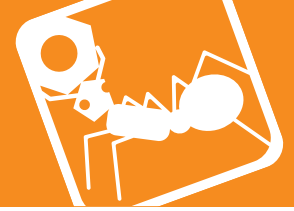
Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washer (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washer

should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>
P0160.030-016-B2	M 3	2.0	16	8.0	5	3.5	10
P0160.030-020-B2	M 3	2.0	20	10.0	5	3.5	10
P0160.030-025-B2	M 3	2.0	25	12.5	5	3.5	10
P0160.030-030-B2	M 3	2.0	30	15.0	5	3.5	10
P0160.030-035-B2	M 3	2.0	35	17.5	5	3.5	10
P0160.030-040-B2	M 3	2.0	40	20.0	5	3.5	10
P0160.030-050-B2	M 3	2.0	50	25.0	5	3.5	10
P0160.035-016-B2	M 3,5	2.3	16	8.0	5	3.8	10
P0160.035-020-B2	M 3,5	2.3	20	10.0	5	3.8	10
P0160.035-025-B2	M 3,5	2.3	25	12.5	5	3.8	10
P0160.035-030-B2	M 3,5	2.3	30	15.0	5	3.8	10
P0160.035-035-B2	M 3,5	2.3	35	17.5	5	3.8	10
P0160.035-040-B2	M 3,5	2.3	40	20.0	5	3.8	10
P0160.035-050-B2	M 3,5	2.3	50	25.0	5	3.8	10
P0160.040-016-B2	M 4	2.8	16	8.0	5	4.5	10
P0160.040-020-B2	M 4	2.8	20	10.0	5	4.5	10
P0160.040-025-B2	M 4	2.8	25	12.5	5	4.5	10
P0160.040-030-B2	M 4	2.8	30	15.0	5	4.5	10
P0160.040-035-B2	M 4	2.8	35	17.5	5	4.5	10
P0160.040-040-B2	M 4	2.8	40	20.0	5	4.5	10
P0160.040-050-B2	M 4	2.8	50	25.0	5	4.5	10
P0160.050-016-B2	M 5	3.7	16	8.0	6	5.5	12
P0160.050-020-B2	M 5	3.7	20	10.0	6	5.5	12
P0160.050-025-B2	M 5	3.7	25	12.5	6	5.5	12
P0160.050-030-B2	M 5	3.7	30	15.0	6	5.5	12
P0160.050-035-B2	M 5	3.7	35	17.5	6	5.5	12
P0160.050-040-B2	M 5	3.7	40	24.0	6	5.5	12
P0160.050-050-B2	M 5	3.7	50	25.0	6	5.5	12
P0160.060-016-B2	M 6	4.2	16	8.0	8	6.5	12



Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>
P0160.060-020-B2	M 6	4.2	20	10.0	8	6.5	12
P0160.060-025-B2	M 6	4.2	25	12.5	8	6.5	12
P0160.060-030-B2	M 6	4.2	30	15.0	8	6.5	12
P0160.060-035-B2	M 6	4.2	35	17.5	8	6.5	12
P0160.060-040-B2	M 6	4.2	40	20.0	8	6.5	12
P0160.060-050-B2	M 6	4.2	50	25.0	8	6.5	12

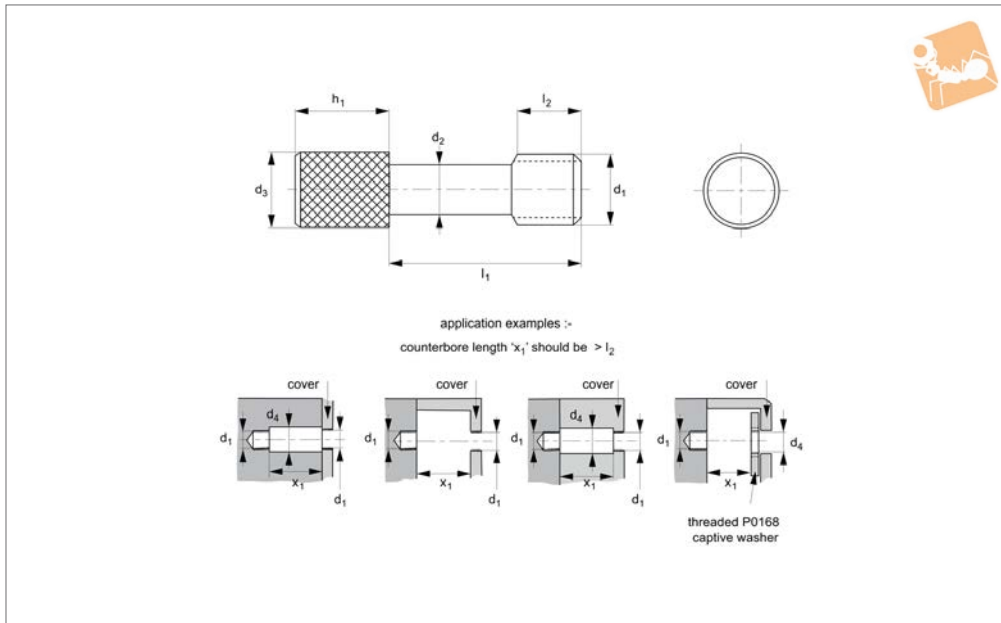


# Captive Thumb Screws

316 stainless, blackened



Captive Screws



**P0160.B4**

CAPTIVE SCREWS

### Material

Stainless steel (AISI 316, 1.440), black oxide coating. Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 303, 1.4305), brass,

aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washer (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washer

should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>
P0160.030-016-B4	M 3	2.0	16	8.0	5	3.5	10
P0160.030-020-B4	M 3	2.0	20	10.0	5	3.5	10
P0160.030-025-B4	M 3	2.0	25	12.5	5	3.5	10
P0160.030-030-B4	M 3	2.0	30	15.0	5	3.5	10
P0160.030-035-B4	M 3	2.0	35	17.5	5	3.5	10
P0160.030-040-B4	M 3	2.0	40	20.0	5	3.5	10
P0160.030-050-B4	M 3	2.0	50	25.0	5	3.5	10
P0160.035-016-B4	M 3,5	2.3	16	8.0	5	3.8	10
P0160.035-020-B4	M 3,5	2.3	20	10.0	5	3.8	10
P0160.035-025-B4	M 3,5	2.3	25	12.5	5	3.8	10
P0160.035-030-B4	M 3,5	2.3	30	15.0	5	3.8	10
P0160.035-035-B4	M 3,5	2.3	35	17.5	5	3.8	10
P0160.035-040-B4	M 3,5	2.3	40	20.0	5	3.8	10
P0160.035-050-B4	M 3,5	2.3	50	25.0	5	3.8	10
P0160.040-016-B4	M 4	2.8	16	8.0	5	4.5	10
P0160.040-020-B4	M 4	2.8	20	10.0	5	4.5	10
P0160.040-025-B4	M 4	2.8	25	12.5	5	4.5	10
P0160.040-030-B4	M 4	2.8	30	15.0	5	4.5	10
P0160.040-035-B4	M 4	2.8	35	17.5	5	4.5	10
P0160.040-040-B4	M 4	2.8	40	20.0	5	4.5	10
P0160.040-050-B4	M 4	2.8	50	25.0	5	4.5	10
P0160.050-016-B4	M 5	3.7	16	8.0	6	5.5	12
P0160.050-020-B4	M 5	3.7	20	10.0	6	5.5	12
P0160.050-025-B4	M 5	3.7	25	12.5	6	5.5	12
P0160.050-030-B4	M 5	3.7	30	15.0	6	5.5	12
P0160.050-035-B4	M 5	3.7	35	17.5	6	5.5	12
P0160.050-040-B4	M 5	3.7	40	24.0	6	5.5	12
P0160.050-050-B4	M 5	3.7	50	25.0	6	5.5	12
P0160.060-016-B4	M 6	4.2	16	8.0	8	6.5	12

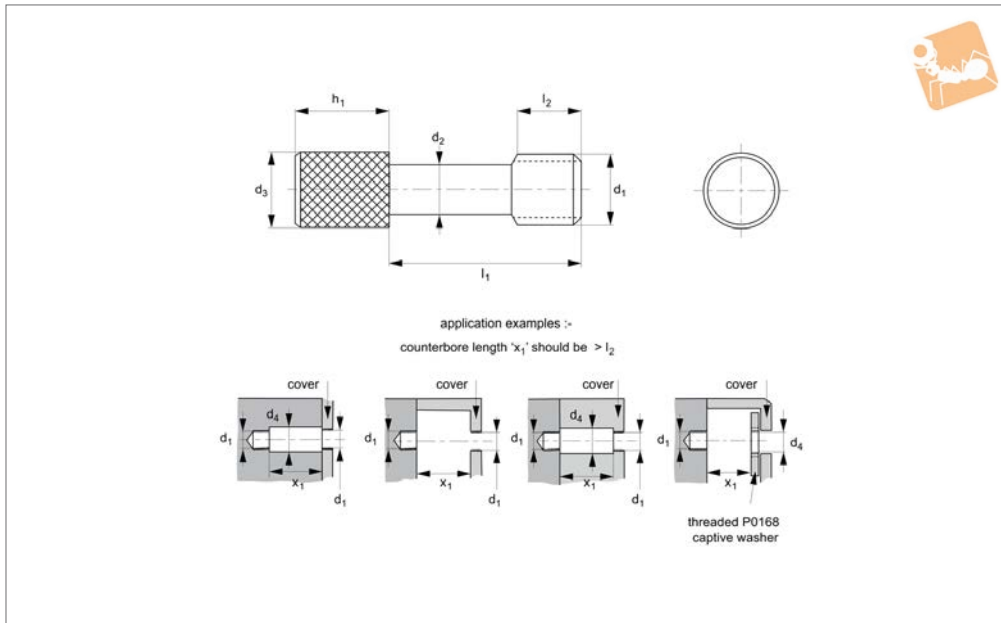


Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>
P0160.060-020-B4	M 6	4.2	20	10.0	8	6.5	12
P0160.060-025-B4	M 6	4.2	25	12.5	8	6.5	12
P0160.060-030-B4	M 6	4.2	30	15.0	8	6.5	12
P0160.060-035-B4	M 6	4.2	35	17.5	8	6.5	12
P0160.060-040-B4	M 6	4.2	40	20.0	8	6.5	12
P0160.060-050-B4	M 6	4.2	50	25.0	8	6.5	12

# Captive Thumb Screws

titanium

## Captive Screws



## P0160.Ti

CAPTIVE SCREWS

### Material

Titanium grade 2 (tensile strength 345 N/mm<sup>2</sup>), or grade 5 (tensile strength 900 N/mm<sup>2</sup>).

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 316, 1.440 or AISI 303, 1.4305), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

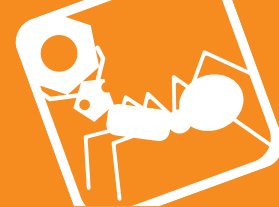
tive 2006/42/EC. Often used with our captive washer (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washer should be considered when fitted in panels with unthreaded holes.

T5 also available on request.  
Replace -T2 with -T5 at the end of part number.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	Material
P0160.030-016-T2	M 3	2.0	16	8.0	5	3.5	10	Grade 2
P0160.030-020-T2	M 3	2.0	20	10.0	5	3.5	10	Grade 2
P0160.030-025-T2	M 3	2.0	25	12.5	5	3.5	10	Grade 2
P0160.030-030-T2	M 3	2.0	30	15.0	5	3.5	10	Grade 2
P0160.030-035-T2	M 3	2.0	35	17.5	5	3.5	10	Grade 2
P0160.030-040-T2	M 3	2.0	40	20.0	5	3.5	10	Grade 2
P0160.030-050-T2	M 3	2.0	50	25.0	5	3.5	10	Grade 2
P0160.035-016-T2	M 3,5	2.3	16	8.0	5	3.8	10	Grade 2
P0160.035-020-T2	M 3,5	2.3	20	10.0	5	3.8	10	Grade 2
P0160.035-025-T2	M 3,5	2.3	25	12.5	5	3.8	10	Grade 2
P0160.035-030-T2	M 3,5	2.3	30	15.0	5	3.8	10	Grade 2
P0160.035-035-T2	M 3,5	2.3	35	17.5	5	3.8	10	Grade 2
P0160.035-040-T2	M 3,5	2.3	40	20.0	5	3.8	10	Grade 2
P0160.035-050-T2	M 3,5	2.3	50	25.0	5	3.8	10	Grade 2
P0160.040-016-T2	M 4	2.8	16	8.0	5	4.5	10	Grade 2
P0160.040-020-T2	M 4	2.8	20	10.0	5	4.5	10	Grade 2
P0160.040-025-T2	M 4	2.8	25	12.5	5	4.5	10	Grade 2
P0160.040-030-T2	M 4	2.8	30	15.0	5	4.5	10	Grade 2
P0160.040-035-T2	M 4	2.8	35	17.5	5	4.5	10	Grade 2
P0160.040-040-T2	M 4	2.8	40	20.0	5	4.5	10	Grade 2
P0160.040-050-T2	M 4	2.8	50	25.0	5	4.5	10	Grade 2
P0160.050-016-T2	M 5	3.7	16	8.0	6	5.5	12	Grade 2
P0160.050-020-T2	M 5	3.7	20	10.0	6	5.5	12	Grade 2
P0160.050-025-T2	M 5	3.7	25	12.5	6	5.5	12	Grade 2
P0160.050-030-T2	M 5	3.7	30	15.0	6	5.5	12	Grade 2
P0160.050-035-T2	M 5	3.7	35	17.5	6	5.5	12	Grade 2



CAPTIVE SCREWS

Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	Material
P0160.050-040-T2	M 5	3.7	40	24.0	6	5.5	12	Grade 2
P0160.050-050-T2	M 5	3.7	50	25.0	6	5.5	12	Grade 2
P0160.060-016-T2	M 6	4.2	16	8.0	8	6.5	12	Grade 2
P0160.060-020-T2	M 6	4.2	20	10.0	8	6.5	12	Grade 2
P0160.060-025-T2	M 6	4.2	25	12.5	8	6.5	12	Grade 2
P0160.060-030-T2	M 6	4.2	30	15.0	8	6.5	12	Grade 2
P0160.060-035-T2	M 6	4.2	35	17.5	8	6.5	12	Grade 2
P0160.060-040-T2	M 6	4.2	40	20.0	8	6.5	12	Grade 2
P0160.060-050-T2	M 6	4.2	50	25.0	8	6.5	12	Grade 2
P0160.030-016-T5	M 3	2.0	16	8.0	5	3.5	10	Grade 5
P0160.030-020-T5	M 3	2.0	20	10.0	5	3.5	10	Grade 5
P0160.030-025-T5	M 3	2.0	25	12.5	5	3.5	10	Grade 5
P0160.030-030-T5	M 3	2.0	30	15.0	5	3.5	10	Grade 5
P0160.030-035-T5	M 3	2.0	35	17.5	5	3.5	10	Grade 5
P0160.030-040-T5	M 3	2.0	40	20.0	5	3.5	10	Grade 5
P0160.030-050-T5	M 3	2.0	50	25.0	5	3.5	10	Grade 5
P0160.035-016-T5	M 3,5	2.3	16	8.0	5	3.8	10	Grade 5
P0160.035-020-T5	M 3,5	2.3	20	10.0	5	3.8	10	Grade 5
P0160.035-025-T5	M 3,5	2.3	25	12.5	5	3.8	10	Grade 5
P0160.035-030-T5	M 3,5	2.3	30	15.0	5	3.8	10	Grade 5
P0160.035-035-T5	M 3,5	2.3	35	17.5	5	3.8	10	Grade 5
P0160.035-040-T5	M 3,5	2.3	40	20.0	5	3.8	10	Grade 5
P0160.035-050-T5	M 3,5	2.3	50	25.0	5	3.8	10	Grade 5
P0160.040-016-T5	M 4	2.8	16	8.0	5	4.5	10	Grade 5
P0160.040-020-T5	M 4	2.8	20	10.0	5	4.5	10	Grade 5
P0160.040-025-T5	M 4	2.8	25	12.5	5	4.5	10	Grade 5
P0160.040-030-T5	M 4	2.8	30	15.0	5	4.5	10	Grade 5
P0160.040-035-T5	M 4	2.8	35	17.5	5	4.5	10	Grade 5
P0160.040-040-T5	M 4	2.8	40	20.0	5	4.5	10	Grade 5
P0160.040-050-T5	M 4	2.8	50	25.0	5	4.5	10	Grade 5
P0160.050-016-T5	M 5	3.7	16	8.0	6	5.5	12	Grade 5
P0160.050-020-T5	M 5	3.7	20	10.0	6	5.5	12	Grade 5
P0160.050-025-T5	M 5	3.7	25	12.5	6	5.5	12	Grade 5
P0160.050-030-T5	M 5	3.7	30	15.0	6	5.5	12	Grade 5
P0160.050-035-T5	M 5	3.7	35	17.5	6	5.5	12	Grade 5
P0160.050-040-T5	M 5	3.7	40	24.0	6	5.5	12	Grade 5
P0160.050-050-T5	M 5	3.7	50	25.0	6	5.5	12	Grade 5
P0160.060-016-T5	M 6	4.2	16	8.0	8	6.5	12	Grade 5
P0160.060-020-T5	M 6	4.2	20	10.0	8	6.5	12	Grade 5
P0160.060-025-T5	M 6	4.2	25	12.5	8	6.5	12	Grade 5
P0160.060-030-T5	M 6	4.2	30	15.0	8	6.5	12	Grade 5
P0160.060-035-T5	M 6	4.2	35	17.5	8	6.5	12	Grade 5
P0160.060-040-T5	M 6	4.2	40	20.0	8	6.5	12	Grade 5
P0160.060-050-T5	M 6	4.2	50	25.0	8	6.5	12	Grade 5



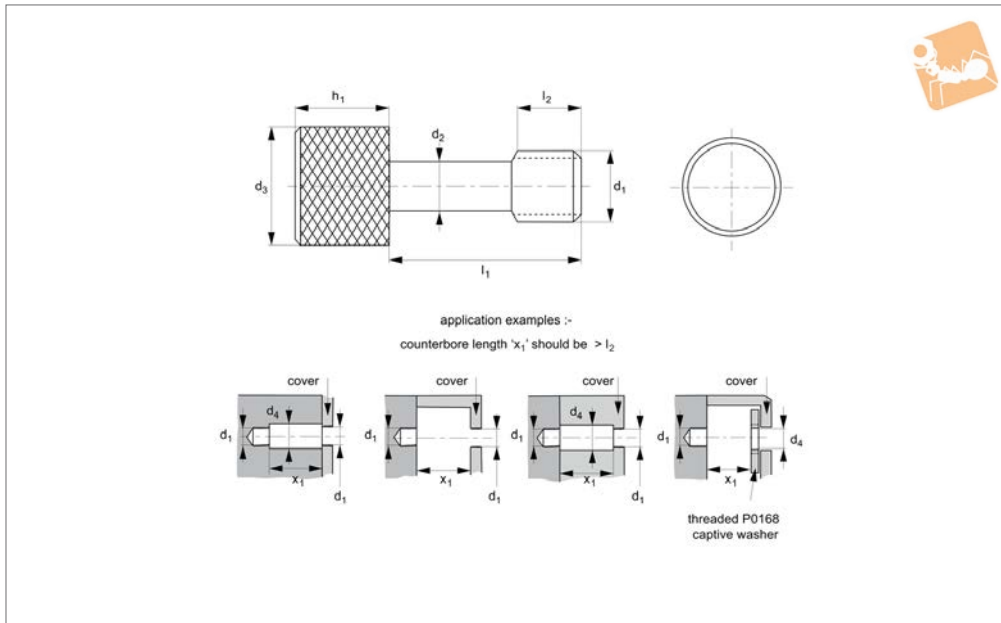


# Captive Thumb Screws

303 stainless



Captive Screws



P0161.A2

CAPTIVE SCREWS

### Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washer (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washer should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>
P0161.030-008-A2	M 3	2.0	8	4.5	8	3.5	5
P0161.030-010-A2	M 3	2.0	10	4.5	8	3.5	5
P0161.030-012-A2	M 3	2.0	12	4.5	8	3.5	5
P0161.030-014-A2	M 3	2.0	14	4.5	8	3.5	5
P0161.030-016-A2	M 3	2.0	16	4.5	8	3.5	5
P0161.035-008-A2	M 3,5	2.3	8	6.0	8	3.8	5
P0161.035-010-A2	M 3,5	2.3	10	6.0	8	3.8	5
P0161.035-012-A2	M 3,5	2.3	12	6.0	8	3.8	5
P0161.035-014-A2	M 3,5	2.3	14	6.0	8	3.8	5
P0161.035-016-A2	M 3,5	2.3	16	6.0	8	3.8	5
P0161.040-010-A2	M 4	2.8	10	6.0	10	4.5	5
P0161.040-012-A2	M 4	2.8	12	6.0	10	4.5	5
P0161.040-014-A2	M 4	2.8	14	6.0	10	4.5	5
P0161.040-016-A2	M 4	2.8	16	6.0	10	4.5	5
P0161.040-018-A2	M 4	2.8	18	6.0	10	4.5	5
P0161.040-020-A2	M 4	2.8	20	6.0	10	4.5	5
P0161.040-025-A2	M 4	2.8	25	6.0	10	4.5	5
P0161.050-010-A2	M 5	3.7	10	7.5	10	5.5	5
P0161.050-012-A2	M 5	3.7	12	7.5	10	5.5	5
P0161.050-014-A2	M 5	3.7	14	7.5	10	5.5	5
P0161.050-016-A2	M 5	3.7	16	7.5	10	5.5	5
P0161.050-018-A2	M 5	3.7	18	7.5	10	5.5	5
P0161.050-020-A2	M 5	3.7	20	7.5	10	5.5	5
P0161.050-025-A2	M 5	3.7	25	7.5	10	5.5	5
P0161.050-030-A2	M 5	3.7	30	7.5	10	5.5	5
P0161.060-012-A2	M 6	4.5	12	7.5	12	6.5	6
P0161.060-014-A2	M 6	4.5	14	7.5	12	6.5	6
P0161.060-016-A2	M 6	4.5	16	7.5	12	6.5	6
P0161.060-018-A2	M 6	4.5	18	7.5	12	6.5	6



Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>
P0161.060-020-A2	M 6	4.5	20	7.5	12	6.5	6
P0161.060-025-A2	M 6	4.5	25	7.5	12	6.5	6
P0161.060-030-A2	M 6	4.5	30	7.5	12	6.5	6
P0161.080-016-A2	M 8	6.0	16	10.0	16	8.5	8
P0161.080-018-A2	M 8	6.0	18	10.0	16	8.5	8
P0161.080-020-A2	M 8	6.0	20	10.0	16	8.5	8
P0161.080-025-A2	M 8	6.0	25	10.0	16	8.5	8
P0161.080-030-A2	M 8	6.0	30	10.0	16	8.5	8
P0161.080-035-A2	M 8	6.0	35	10.0	16	8.5	8

CAPTIVE SCREWS

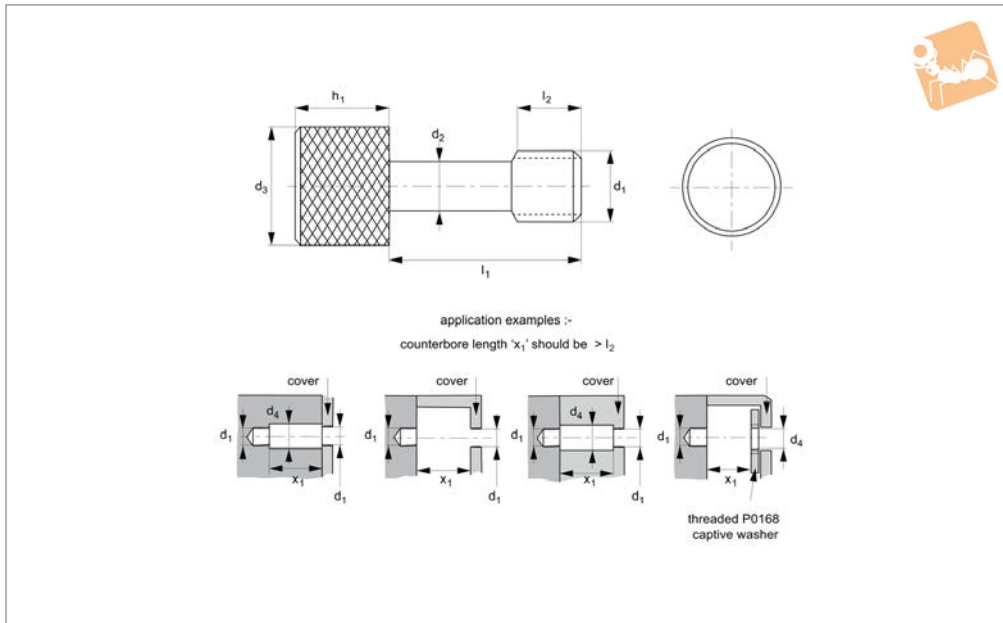


# Captive Thumb Screws

316 stainless



Captive Screws



MADE IN BRITAIN

P0161.A4

CAPTIVE SCREWS

### Material

Stainless steel (AISI 316, 1.440).  
Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.  
Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 303, 1.4305), brass, aluminium etc.

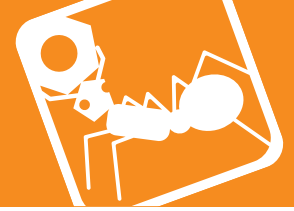
### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washer (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washer should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>
P0161.030-008-A4	M 3	2.0	8	4.5	8	3.5	5
P0161.030-010-A4	M 3	2.0	10	4.5	8	3.5	5
P0161.030-012-A4	M 3	2.0	12	4.5	8	3.5	5
P0161.030-014-A4	M 3	2.0	14	4.5	8	3.5	5
P0161.030-016-A4	M 3	2.0	16	4.5	8	3.5	5
P0161.035-008-A4	M3,5	2.3	8	6.0	8	3.8	5
P0161.035-010-A4	M3,5	2.3	10	6.0	8	3.8	5
P0161.035-012-A4	M3,5	2.3	12	6.0	8	3.8	5
P0161.035-014-A4	M3,5	2.3	14	6.0	8	3.8	5
P0161.035-016-A4	M3,5	2.3	16	6.0	8	3.8	5
P0161.040-010-A4	M 4	2.8	10	6.0	10	4.5	5
P0161.040-012-A4	M 4	2.8	12	6.0	10	4.5	5
P0161.040-014-A4	M 4	2.8	14	6.0	10	4.5	5
P0161.040-016-A4	M 4	2.8	16	6.0	10	4.5	5
P0161.040-018-A4	M 4	2.8	18	6.0	10	4.5	5
P0161.040-020-A4	M 4	2.8	20	6.0	10	4.5	5
P0161.040-025-A4	M 4	2.8	25	6.0	10	4.5	5
P0161.050-010-A4	M 5	3.7	10	7.5	10	5.5	5
P0161.050-012-A4	M 5	3.7	12	7.5	10	5.5	5
P0161.050-014-A4	M 5	3.7	14	7.5	10	5.5	5
P0161.050-016-A4	M 5	3.7	16	7.5	10	5.5	5
P0161.050-018-A4	M 5	3.7	18	7.5	10	5.5	5
P0161.050-020-A4	M 5	3.7	20	7.5	10	5.5	5
P0161.050-025-A4	M 5	3.7	25	7.5	10	5.5	5
P0161.050-030-A4	M 5	3.7	30	7.5	10	5.5	5
P0161.060-012-A4	M 6	4.5	12	7.5	12	6.5	6
P0161.060-014-A4	M 6	4.5	14	7.5	12	6.5	6
P0161.060-016-A4	M 6	4.5	16	7.5	12	6.5	6
P0161.060-018-A4	M 6	4.5	18	7.5	12	6.5	6



Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>
P0161.060-020-A4	M 6	4.5	20	7.5	12	6.5	6
P0161.060-025-A4	M 6	4.5	25	7.5	12	6.5	6
P0161.060-030-A4	M 6	4.5	30	7.5	12	6.5	6
P0161.080-016-A4	M 8	6.0	16	10.0	16	8.5	8
P0161.080-018-A4	M 8	6.0	18	10.0	16	8.5	8
P0161.080-020-A4	M 8	6.0	20	10.0	16	8.5	8
P0161.080-025-A4	M 8	6.0	25	10.0	16	8.5	8
P0161.080-030-A4	M 8	6.0	30	10.0	16	8.5	8
P0161.080-035-A4	M 8	6.0	35	10.0	16	8.5	8

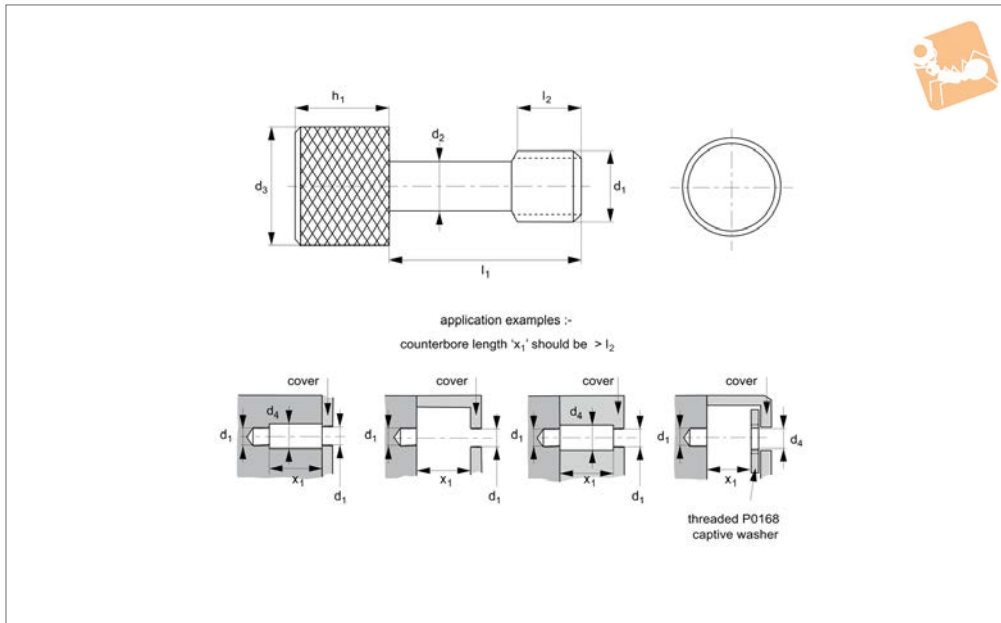


# Captive Thumb Screws

303 stainless, blackened



Captive Screws



**P0161.B2**

MADE IN BRITAIN

CAPTIVE SCREWS

### Material

Stainless steel (AISI 303, 1.4305), black oxide coating. Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 316, 1.440), brass,

aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washer (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washer

should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>
P0161.030-008-B2	M 3	2.0	8	4.5	8	3.5	5
P0161.030-010-B2	M 3	2.0	10	4.5	8	3.5	5
P0161.030-012-B2	M 3	2.0	12	4.5	8	3.5	5
P0161.030-014-B2	M 3	2.0	14	4.5	8	3.5	5
P0161.030-016-B2	M 3	2.0	16	4.5	8	3.5	5
P0161.035-008-B2	M 3,5	2.3	8	6.0	8	3.8	5
P0161.035-010-B2	M 3,5	2.3	10	6.0	8	3.8	5
P0161.035-012-B2	M 3,5	2.3	12	6.0	8	3.8	5
P0161.035-014-B2	M 3,5	2.3	14	6.0	8	3.8	5
P0161.035-016-B2	M 3,5	2.3	16	6.0	8	3.8	5
P0161.040-010-B2	M 4	2.8	10	6.0	10	4.5	5
P0161.040-012-B2	M 4	2.8	12	6.0	10	4.5	5
P0161.040-014-B2	M 4	2.8	14	6.0	10	4.5	5
P0161.040-016-B2	M 4	2.8	16	6.0	10	4.5	5
P0161.040-018-B2	M 4	2.8	18	6.0	10	4.5	5
P0161.040-020-B2	M 4	2.8	20	6.0	10	4.5	5
P0161.040-025-B2	M 4	2.8	25	6.0	10	4.5	5
P0161.050-010-B2	M 5	3.7	10	7.5	10	5.5	5
P0161.050-012-B2	M 5	3.7	12	7.5	10	5.5	5
P0161.050-014-B2	M 5	3.7	14	7.5	10	5.5	5
P0161.050-016-B2	M 5	3.7	16	7.5	10	5.5	5
P0161.050-018-B2	M 5	3.7	18	7.5	10	5.5	5
P0161.050-020-B2	M 5	3.7	20	7.5	10	5.5	5
P0161.050-025-B2	M 5	3.7	25	7.5	10	5.5	5
P0161.050-030-B2	M 5	3.7	30	7.5	10	5.5	5
P0161.060-012-B2	M 6	4.5	12	7.5	12	6.5	6
P0161.060-014-B2	M 6	4.5	14	7.5	12	6.5	6
P0161.060-016-B2	M 6	4.5	16	7.5	12	6.5	6
P0161.060-018-B2	M 6	4.5	18	7.5	12	6.5	6



Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>
P0161.060-020-B2	M 6	4.5	20	7.5	12	6.5	6
P0161.060-025-B2	M 6	4.5	25	7.5	12	6.5	6
P0161.060-030-B2	M 6	4.5	30	7.5	12	6.5	6
P0161.080-016-B2	M 8	6.0	16	10.0	16	8.5	8
P0161.080-018-B2	M 8	6.0	18	10.0	16	8.5	8
P0161.080-020-B2	M 8	6.0	20	10.0	16	8.5	8
P0161.080-025-B2	M 8	6.0	25	10.0	16	8.5	8
P0161.080-030-B2	M 8	6.0	30	10.0	16	8.5	8
P0161.080-035-B2	M 8	6.0	35	10.0	16	8.5	8

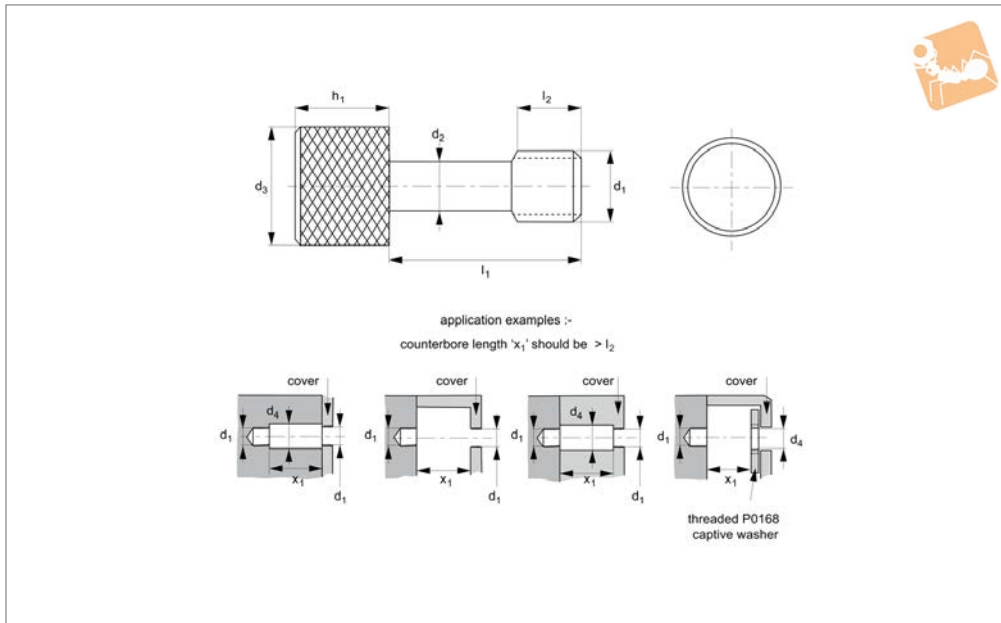


# Captive Thumb Screws

316 stainless, blackened



Captive Screws



**P0161.B4**

CAPTIVE SCREWS

### Material

Stainless steel (AISI 316, 1.440), black oxide coating. Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.  
Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 303, 1.4305), brass,

aluminium etc.

### Technical Notes

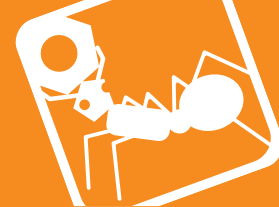
Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washer (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washer

should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>
P0161.030-008-B4	M 3	2.0	8	4.5	8	3.5	5
P0161.030-010-B4	M 3	2.0	10	4.5	8	3.5	5
P0161.030-012-B4	M 3	2.0	12	4.5	8	3.5	5
P0161.030-014-B4	M 3	2.0	14	4.5	8	3.5	5
P0161.030-016-B4	M 3	2.0	16	4.5	8	3.5	5
P0161.035-008-B4	M 3,5	2.3	8	6.0	8	3.8	5
P0161.035-010-B4	M 3,5	2.3	10	6.0	8	3.8	5
P0161.035-012-B4	M 3,5	2.3	12	6.0	8	3.8	5
P0161.035-014-B4	M 3,5	2.3	14	6.0	8	3.8	5
P0161.035-016-B4	M 3,5	2.3	16	6.0	8	3.8	5
P0161.040-010-B4	M 4	2.8	10	6.0	10	4.5	5
P0161.040-012-B4	M 4	2.8	12	6.0	10	4.5	5
P0161.040-014-B4	M 4	2.8	14	6.0	10	4.5	5
P0161.040-016-B4	M 4	2.8	16	6.0	10	4.5	5
P0161.040-018-B4	M 4	2.8	18	6.0	10	4.5	5
P0161.040-020-B4	M 4	2.8	20	6.0	10	4.5	5
P0161.040-025-B4	M 4	2.8	25	6.0	10	4.5	5
P0161.050-010-B4	M 5	3.7	10	7.5	10	5.5	5
P0161.050-012-B4	M 5	3.7	12	7.5	10	5.5	5
P0161.050-014-B4	M 5	3.7	14	7.5	10	5.5	5
P0161.050-016-B4	M 5	3.7	16	7.5	10	5.5	5
P0161.050-018-B4	M 5	3.7	18	7.5	10	5.5	5
P0161.050-020-B4	M 5	3.7	20	7.5	10	5.5	5
P0161.050-025-B4	M 5	3.7	25	7.5	10	5.5	5
P0161.050-030-B4	M 5	3.7	30	7.5	10	5.5	5
P0161.060-012-B4	M 6	4.5	12	7.5	12	6.5	6
P0161.060-014-B4	M 6	4.5	14	7.5	12	6.5	6
P0161.060-016-B4	M 6	4.5	16	7.5	12	6.5	6
P0161.060-018-B4	M 6	4.5	18	7.5	12	6.5	6



Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>
P0161.060-020-B4	M 6	4.5	20	7.5	12	6.5	6
P0161.060-025-B4	M 6	4.5	25	7.5	12	6.5	6
P0161.060-030-B4	M 6	4.5	30	7.5	12	6.5	6
P0161.080-016-B4	M 8	6.0	16	10.0	16	8.5	8
P0161.080-018-B4	M 8	6.0	18	10.0	16	8.5	8
P0161.080-020-B4	M 8	6.0	20	10.0	16	8.5	8
P0161.080-025-B4	M 8	6.0	25	10.0	16	8.5	8
P0161.080-030-B4	M 8	6.0	30	10.0	16	8.5	8
P0161.080-035-B4	M 8	6.0	35	10.0	16	8.5	8



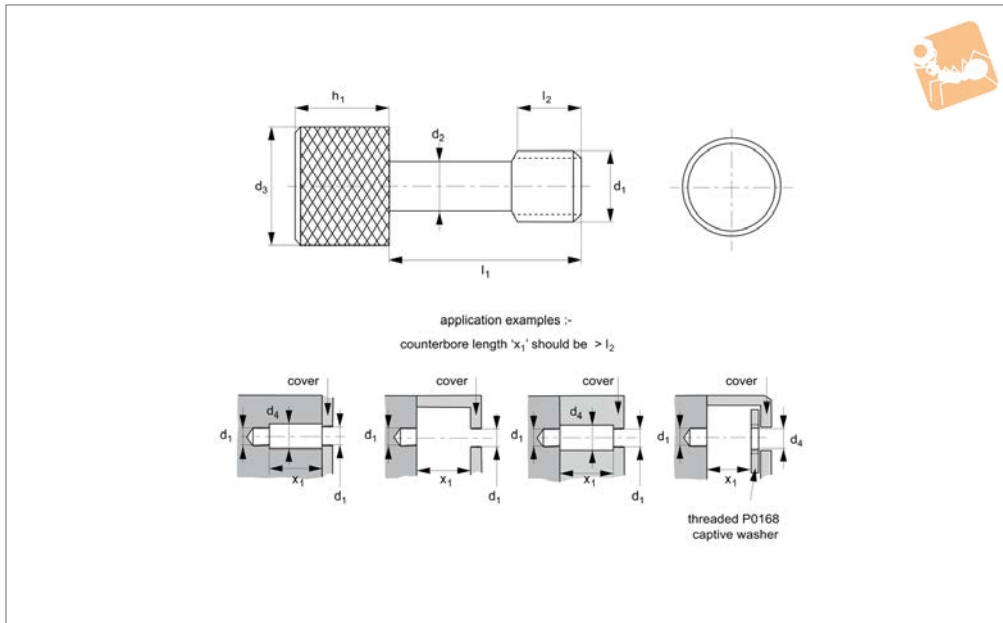


# Captive Thumb Screws

titanium



Captive Screws



**P0161.Ti**

CAPTIVE SCREWS

### Material

Titanium grade 2 (tensile strength 345 N/mm<sup>2</sup>), or grade 5 (tensile strength 900 N/mm<sup>2</sup>).

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 316, 1.440 or AISI 303, 1.4305), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Direc-

tive 2006/42/EC. Often used with our captive washer (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washer should be considered when fitted in panels with unthreaded holes. T5 also available on request. Replace -T2 with -T5 at the end of part number.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	Material
P0161.030-008-T2	M 3	2.0	8.0	4.5	8	3.5	5	Grade 2
P0161.030-010-T2	M 3	2.0	10.0	4.5	8	3.5	5	Grade 2
P0161.030-012-T2	M 3	2.0	12.0	4.5	8	3.5	5	Grade 2
P0161.030-014-T2	M 3	2.0	14.0	4.5	8	3.5	5	Grade 2
P0161.030-016-T2	M 3	2.0	16.0	4.5	8	3.5	5	Grade 2
P0161.035-008-T2	M 3,5	2.3	8.0	6.0	8	3.8	5	Grade 2
P0161.035-010-T2	M 3,5	2.3	10.0	6.0	8	3.8	5	Grade 2
P0161.035-012-T2	M 3,5	2.3	12.0	6.0	8	3.8	5	Grade 2
P0161.035-014-T2	M 3,5	2.3	14.0	6.0	8	3.8	5	Grade 2
P0161.035-016-T2	M 3,5	2.3	16.0	6.0	8	3.8	5	Grade 2
P0161.040-010-T2	M 4	2.8	10.0	6.0	10	4.5	5	Grade 2
P0161.040-012-T2	M 4	2.8	12.0	6.0	10	4.5	5	Grade 2
P0161.040-014-T2	M 4	2.8	14.0	6.0	10	4.5	5	Grade 2
P0161.040-016-T2	M 4	2.8	16.0	6.0	10	4.5	5	Grade 2
P0161.040-018-T2	M 4	2.8	18.0	6.0	10	4.5	5	Grade 2
P0161.040-020-T2	M 4	2.8	20.0	6.0	10	4.5	5	Grade 2
P0161.040-025-T2	M 4	2.8	25.0	6.0	10	4.5	5	Grade 2
P0161.050-010-T2	M 5	3.7	10.0	7.5	10	5.5	5	Grade 2
P0161.050-012-T2	M 5	3.7	12.0	7.5	10	5.5	5	Grade 2
P0161.050-014-T2	M 5	3.7	14.0	7.5	10	5.5	5	Grade 2
P0161.050-016-T2	M 5	3.7	16.0	7.5	10	5.5	5	Grade 2
P0161.050-018-T2	M 5	3.7	18.0	7.5	10	5.5	5	Grade 2
P0161.050-020-T2	M 5	3.7	20.0	7.5	10	5.5	5	Grade 2
P0161.050-025-T2	M 5	3.7	25.0	7.5	10	5.5	5	Grade 2
P0161.050-030-T2	M 5	3.7	30.0	7.5	10	5.5	5	Grade 2
P0161.060-012-T2	M 6	4.5	12.0	7.5	12	6.5	6	Grade 2



CAPTIVE SCREWS

Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	Material
P0161.060-014-T2	M 6	4.5	14.0	7.5	12	6.5	6	Grade 2
P0161.060-016-T2	M 6	4.5	16.0	7.5	12	6.5	6	Grade 2
P0161.060-018-T2	M 6	4.5	18.0	7.5	12	6.5	6	Grade 2
P0161.060-020-T2	M 6	4.5	20.0	7.5	12	6.5	6	Grade 2
P0161.060-025-T2	M 6	4.5	25.0	7.5	12	6.5	6	Grade 2
P0161.060-030-T2	M 6	4.5	30	7.5	12	6.5	6	Grade 2
P0161.030-008-T5	M 3	2.0	8.0	4.5	8	3.5	5	Grade 5
P0161.030-010-T5	M 3	2.0	10.0	4.5	8	3.5	5	Grade 5
P0161.030-012-T5	M 3	2.0	12.0	4.5	8	3.5	5	Grade 5
P0161.030-014-T5	M 3	2.0	14.0	4.5	8	3.5	5	Grade 5
P0161.030-016-T5	M 3	2.0	16.0	4.5	8	3.5	5	Grade 5
P0161.035-008-T5	M3,5	2.3	8.0	6.0	8	3.8	5	Grade 5
P0161.035-010-T5	M3,5	2.3	10.0	6.0	8	3.8	5	Grade 5
P0161.035-012-T5	M3,5	2.3	12.0	6.0	8	3.8	5	Grade 5
P0161.035-014-T5	M3,5	2.3	14.0	6.0	8	3.8	5	Grade 5
P0161.035-016-T5	M3,5	2.3	16.0	6.0	8	3.8	5	Grade 5
P0161.040-010-T5	M 4	2.8	10.0	6.0	10	4.5	5	Grade 5
P0161.040-012-T5	M 4	2.8	12.0	6.0	10	4.5	5	Grade 5
P0161.040-014-T5	M 4	2.8	14.0	6.0	10	4.5	5	Grade 5
P0161.040-016-T5	M 4	2.8	16.0	6.0	10	4.5	5	Grade 5
P0161.040-018-T5	M 4	2.8	18.0	6.0	10	4.5	5	Grade 5
P0161.040-020-T5	M 4	2.8	20.0	6.0	10	4.5	5	Grade 5
P0161.040-025-T5	M 4	2.8	25.0	6.0	10	4.5	5	Grade 5
P0161.050-010-T5	M 5	3.7	10.0	7.5	10	5.5	5	Grade 5
P0161.050-012-T5	M 5	3.7	12.0	7.5	10	5.5	5	Grade 5
P0161.050-014-T5	M 5	3.7	14.0	7.5	10	5.5	5	Grade 5
P0161.050-016-T5	M 5	3.7	16.0	7.5	10	5.5	5	Grade 5
P0161.050-018-T5	M 5	3.7	18.0	7.5	10	5.5	5	Grade 5
P0161.050-020-T5	M 5	3.7	20.0	7.5	10	5.5	5	Grade 5
P0161.050-025-T5	M 5	3.7	25.0	7.5	10	5.5	5	Grade 5
P0161.050-030-T5	M 5	3.7	30.0	7.5	10	5.5	5	Grade 5
P0161.060-012-T5	M 6	4.5	12.0	7.5	12	6.5	6	Grade 5
P0161.060-014-T5	M 6	4.5	14.0	7.5	12	6.5	6	Grade 5
P0161.060-016-T5	M 6	4.5	16.0	7.5	12	6.5	6	Grade 5
P0161.060-018-T5	M 6	4.5	18.0	7.5	12	6.5	6	Grade 5
P0161.060-020-T5	M 6	4.5	20.0	7.5	12	6.5	6	Grade 5
P0161.060-025-T5	M 6	4.5	25.0	7.5	12	6.5	6	Grade 5
P0161.060-030-T5	M 6	4.5	30	7.5	12	6.5	6	Grade 5

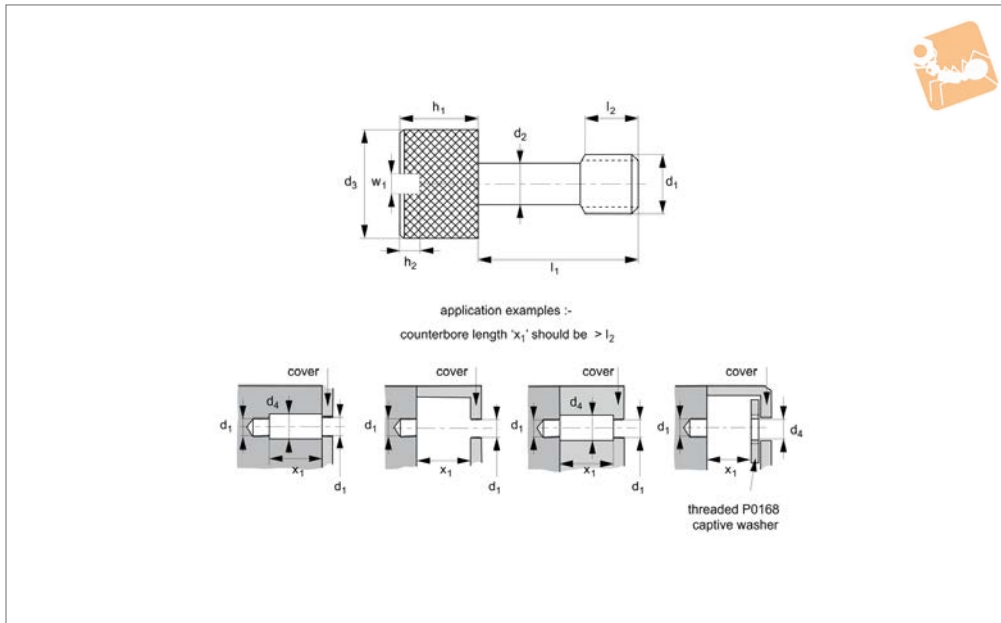


# Captive Thumb Screws

slot drive - 303 stainless



Captive Screws



P0162.A2

CAPTIVE SCREWS

### Material

Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel. Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc.

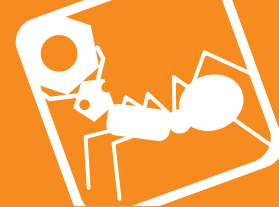
### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washer (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washer should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	w <sub>1</sub>
P0162.030-008-A2	M 3	2.0	8.0	4.5	8	3.5	5	1.8	0.8
P0162.030-010-A2	M 3	2.0	10.0	4.5	8	3.5	5	1.8	0.8
P0162.030-012-A2	M 3	2.0	12.0	4.5	8	3.5	5	1.8	0.8
P0162.030-014-A2	M 3	2.0	14.0	4.5	8	3.5	5	1.8	0.8
P0162.030-016-A2	M 3	2.0	16.0	4.5	8	3.5	5	1.8	0.8
P0162.040-010-A2	M 4	2.8	10.0	6.0	10	4.5	5	2.2	1.0
P0162.040-012-A2	M 4	2.8	12.0	6.0	10	4.5	5	2.2	1.0
P0162.040-014-A2	M 4	2.8	14.0	6.0	10	4.5	5	2.2	1.0
P0162.040-016-A2	M 4	2.8	16.0	6.0	10	4.5	5	2.2	1.0
P0162.040-018-A2	M 4	2.8	18.0	6.0	10	4.5	5	2.2	1.0
P0162.040-020-A2	M 4	2.8	20.0	6.0	10	4.5	5	2.2	1.0
P0162.040-025-A2	M 4	2.8	25.0	6.0	10	4.5	5	2.2	1.0
P0162.050-010-A2	M 5	3.7	10.0	7.5	10	5.5	5	2.8	1.2
P0162.050-012-A2	M 5	3.7	12.0	7.5	10	5.5	5	2.8	1.2
P0162.050-014-A2	M 5	3.7	14.0	7.5	10	5.5	5	2.8	1.2
P0162.050-016-A2	M 5	3.7	16.0	7.5	10	5.5	5	2.8	1.2
P0162.050-018-A2	M 5	3.7	18.0	7.5	10	5.5	5	2.8	1.2
P0162.050-020-A2	M 5	3.7	20.0	7.5	10	5.5	5	2.8	1.2
P0162.050-025-A2	M 5	3.7	25.0	7.5	10	5.5	5	2.8	1.2
P0162.050-030-A2	M 5	3.7	30.0	7.5	10	5.5	5	2.8	1.2
P0162.060-012-A2	M 6	4.5	12.0	7.5	12	6.5	6	3.5	1.6
P0162.060-014-A2	M 6	4.5	14.0	7.5	12	6.5	6	3.5	1.6
P0162.060-016-A2	M 6	4.5	16.0	7.5	12	6.5	6	3.5	1.6
P0162.060-018-A2	M 6	4.5	18.0	7.5	12	6.5	6	3.5	1.6
P0162.060-020-A2	M 6	4.5	20.0	7.5	12	6.5	6	3.5	1.6
P0162.060-025-A2	M 6	4.5	25.0	7.5	12	6.5	6	3.5	1.6
P0162.060-030-A2	M 6	4.5	30.0	7.5	12	6.5	6	3.5	1.6

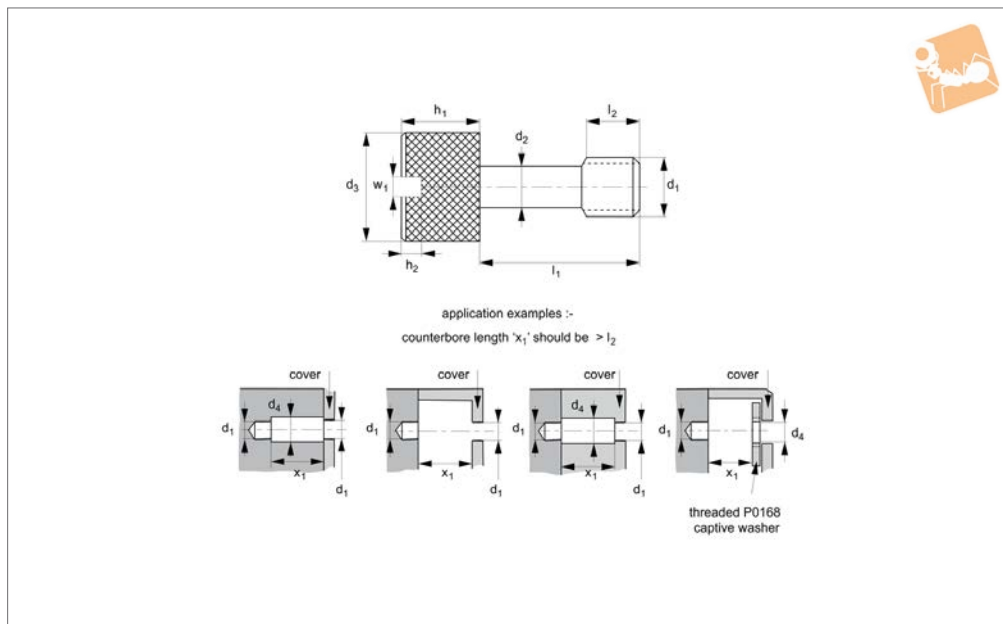


CAPTIVE SCREWS



## P0162.A4

MADE IN BRITAIN



### Material

Stainless steel (AISI 316, 1.440).  
Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.  
Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 303, 1.4305), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washer (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washer should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	w <sub>1</sub>
P0162.030-008-A4	M 3	2.0	8.0	4.5	8	3.5	5	1.8	0.8
P0162.030-010-A4	M 3	2.0	10.0	4.5	8	3.5	5	1.8	0.8
P0162.030-012-A4	M 3	2.0	12.0	4.5	8	3.5	5	1.8	0.8
P0162.030-014-A4	M 3	2.0	14.0	4.5	8	3.5	5	1.8	0.8
P0162.030-016-A4	M 3	2.0	16.0	4.5	8	3.5	5	1.8	0.8
P0162.040-010-A4	M 4	2.8	10.0	6.0	10	4.5	5	2.2	1.0
P0162.040-012-A4	M 4	2.8	12.0	6.0	10	4.5	5	2.2	1.0
P0162.040-014-A4	M 4	2.8	14.0	6.0	10	4.5	5	2.2	1.0
P0162.040-016-A4	M 4	2.8	16.0	6.0	10	4.5	5	2.2	1.0
P0162.040-018-A4	M 4	2.8	18.0	6.0	10	4.5	5	2.2	1.0
P0162.040-020-A4	M 4	2.8	20.0	6.0	10	4.5	5	2.2	1.0
P0162.040-025-A4	M 4	2.8	25.0	6.0	10	4.5	5	2.2	1.0
P0162.050-010-A4	M 5	3.7	10.0	7.5	10	5.5	5	2.8	1.2
P0162.050-012-A4	M 5	3.7	12.0	7.5	10	5.5	5	2.8	1.2
P0162.050-014-A4	M 5	3.7	14.0	7.5	10	5.5	5	2.8	1.2
P0162.050-016-A4	M 5	3.7	16.0	7.5	10	5.5	5	2.8	1.2
P0162.050-018-A4	M 5	3.7	18.0	7.5	10	5.5	5	2.8	1.2
P0162.050-020-A4	M 5	3.7	20.0	7.5	10	5.5	5	2.8	1.2
P0162.050-025-A4	M 5	3.7	25.0	7.5	10	5.5	5	2.8	1.2
P0162.050-030-A4	M 5	3.7	30.0	7.5	10	5.5	5	2.8	1.2
P0162.060-012-A4	M 6	4.5	12.0	7.5	12	6.5	6	3.5	1.6
P0162.060-014-A4	M 6	4.5	14.0	7.5	12	6.5	6	3.5	1.6
P0162.060-016-A4	M 6	4.5	16.0	7.5	12	6.5	6	3.5	1.6
P0162.060-018-A4	M 6	4.5	18.0	7.5	12	6.5	6	3.5	1.6
P0162.060-020-A4	M 6	4.5	20.0	7.5	12	6.5	6	3.5	1.6
P0162.060-025-A4	M 6	4.5	25.0	7.5	12	6.5	6	3.5	1.6
P0162.060-030-A4	M 6	4.5	30.0	7.5	12	6.5	6	3.5	1.6

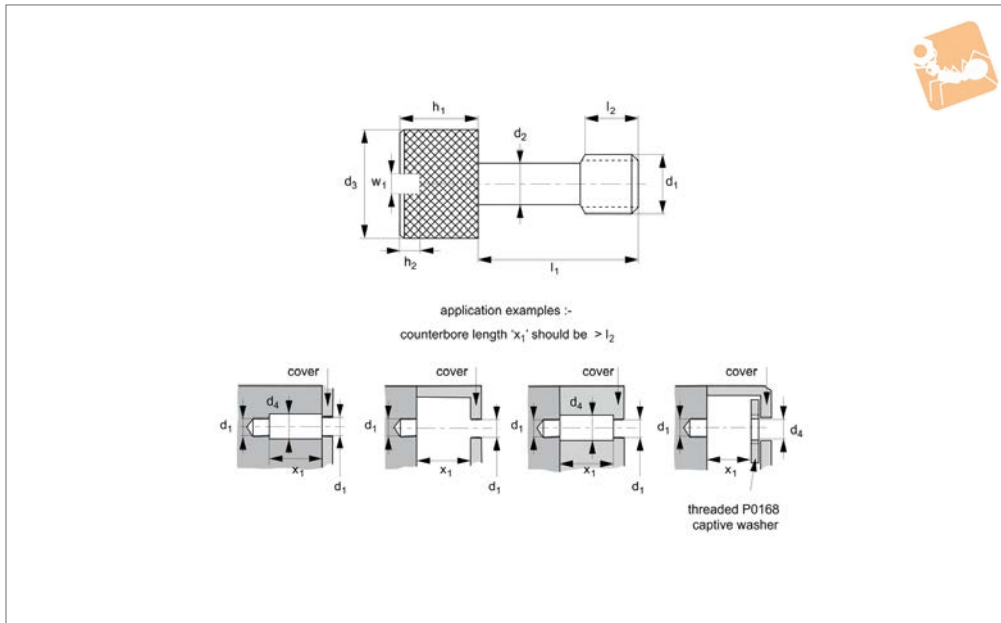


# Captive Thumb Screws

slot drive - 303 stainless, blackened



Captive Screws



P0162.B2

CAPTIVE SCREWS

### Material

Stainless steel (AISI 303, 1.4305), black oxide coating. Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 316, 1.440), brass,

aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washer (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washer

should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

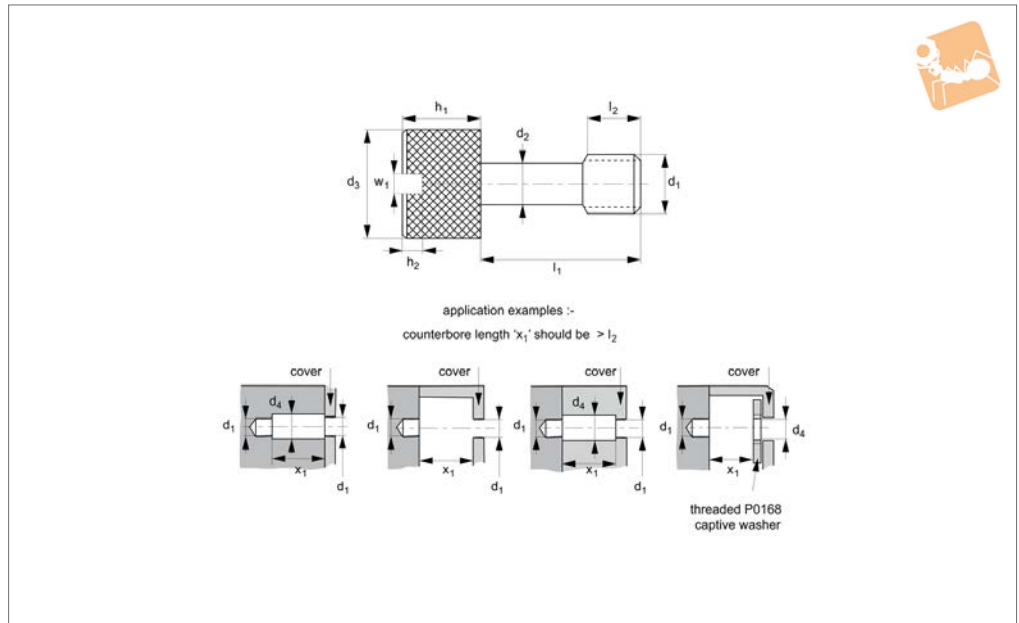
Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	w <sub>1</sub>
P0162.030-008-B2	M 3	2.0	8.0	4.5	8	3.5	5	1.8	0.8
P0162.030-010-B2	M 3	2.0	10.0	4.5	8	3.5	5	1.8	0.8
P0162.030-012-B2	M 3	2.0	12.0	4.5	8	3.5	5	1.8	0.8
P0162.030-014-B2	M 3	2.0	14.0	4.5	8	3.5	5	1.8	0.8
P0162.030-016-B2	M 3	2.0	16.0	4.5	8	3.5	5	1.8	0.8
P0162.040-010-B2	M 4	2.8	10.0	6.0	10	4.5	5	2.2	1.0
P0162.040-012-B2	M 4	2.8	12.0	6.0	10	4.5	5	2.2	1.0
P0162.040-014-B2	M 4	2.8	14.0	6.0	10	4.5	5	2.2	1.0
P0162.040-016-B2	M 4	2.8	16.0	6.0	10	4.5	5	2.2	1.0
P0162.040-018-B2	M 4	2.8	18.0	6.0	10	4.5	5	2.2	1.0
P0162.040-020-B2	M 4	2.8	20.0	6.0	10	4.5	5	2.2	1.0
P0162.040-025-B2	M 4	2.8	25.0	6.0	10	4.5	5	2.2	1.0
P0162.050-010-B2	M 5	3.7	10.0	7.5	10	5.5	5	2.8	1.2
P0162.050-012-B2	M 5	3.7	12.0	7.5	10	5.5	5	2.8	1.2
P0162.050-014-B2	M 5	3.7	14.0	7.5	10	5.5	5	2.8	1.2
P0162.050-016-B2	M 5	3.7	16.0	7.5	10	5.5	5	2.8	1.2
P0162.050-018-B2	M 5	3.7	18.0	7.5	10	5.5	5	2.8	1.2
P0162.050-020-B2	M 5	3.7	20.0	7.5	10	5.5	5	2.8	1.2
P0162.050-025-B2	M 5	3.7	25.0	7.5	10	5.5	5	2.8	1.2
P0162.050-030-B2	M 5	3.7	30.0	7.5	10	5.5	5	2.8	1.2
P0162.060-012-B2	M 6	4.5	12.0	7.5	12	6.5	6	3.5	1.6
P0162.060-014-B2	M 6	4.5	14.0	7.5	12	6.5	6	3.5	1.6
P0162.060-016-B2	M 6	4.5	16.0	7.5	12	6.5	6	3.5	1.6
P0162.060-018-B2	M 6	4.5	18.0	7.5	12	6.5	6	3.5	1.6
P0162.060-020-B2	M 6	4.5	20.0	7.5	12	6.5	6	3.5	1.6
P0162.060-025-B2	M 6	4.5	25.0	7.5	12	6.5	6	3.5	1.6
P0162.060-030-B2	M 6	4.5	30.0	7.5	12	6.5	6	3.5	1.6



MADE IN BRITAIN

## P0162.B4

CAPTIVE SCREWS



### Material

Stainless steel (AISI 316, 1.440), black oxide coating. Tensile strength 480 N/mm<sup>2</sup>. Proof stress min. 200 N/mm<sup>2</sup>, austenitic stainless steel.

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 303, 1.4305), brass,

aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washer (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washer

should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	w <sub>1</sub>
P0162.030-008-B4	M 3	2.0	8.0	4.5	8	3.5	5	1.8	0.8
P0162.030-010-B4	M 3	2.0	10.0	4.5	8	3.5	5	1.8	0.8
P0162.030-012-B4	M 3	2.0	12.0	4.5	8	3.5	5	1.8	0.8
P0162.030-014-B4	M 3	2.0	14.0	4.5	8	3.5	5	1.8	0.8
P0162.030-016-B4	M 3	2.0	16.0	4.5	8	3.5	5	1.8	0.8
P0162.040-010-B4	M 4	2.8	10.0	6.0	10	4.5	5	2.2	1.0
P0162.040-012-B4	M 4	2.8	12.0	6.0	10	4.5	5	2.2	1.0
P0162.040-014-B4	M 4	2.8	14.0	6.0	10	4.5	5	2.2	1.0
P0162.040-016-B4	M 4	2.8	16.0	6.0	10	4.5	5	2.2	1.0
P0162.040-018-B4	M 4	2.8	18.0	6.0	10	4.5	5	2.2	1.0
P0162.040-020-B4	M 4	2.8	20.0	6.0	10	4.5	5	2.2	1.0
P0162.040-025-B4	M 4	2.8	25.0	6.0	10	4.5	5	2.2	1.0
P0162.050-010-B4	M 5	3.7	10.0	7.5	10	5.5	5	2.8	1.2
P0162.050-012-B4	M 5	3.7	12.0	7.5	10	5.5	5	2.8	1.2
P0162.050-014-B4	M 5	3.7	14.0	7.5	10	5.5	5	2.8	1.2
P0162.050-016-B4	M 5	3.7	16.0	7.5	10	5.5	5	2.8	1.2
P0162.050-018-B4	M 5	3.7	18.0	7.5	10	5.5	5	2.8	1.2
P0162.050-020-B4	M 5	3.7	20.0	7.5	10	5.5	5	2.8	1.2
P0162.050-025-B4	M 5	3.7	25.0	7.5	10	5.5	5	2.8	1.2
P0162.050-030-B4	M 5	3.7	30.0	7.5	10	5.5	5	2.8	1.2
P0162.060-012-B4	M 6	4.5	12.0	7.5	12	6.5	6	3.5	1.6
P0162.060-014-B4	M 6	4.5	14.0	7.5	12	6.5	6	3.5	1.6
P0162.060-016-B4	M 6	4.5	16.0	7.5	12	6.5	6	3.5	1.6
P0162.060-018-B4	M 6	4.5	18.0	7.5	12	6.5	6	3.5	1.6
P0162.060-020-B4	M 6	4.5	20.0	7.5	12	6.5	6	3.5	1.6
P0162.060-025-B4	M 6	4.5	25.0	7.5	12	6.5	6	3.5	1.6
P0162.060-030-B4	M 6	4.5	30.0	7.5	12	6.5	6	3.5	1.6

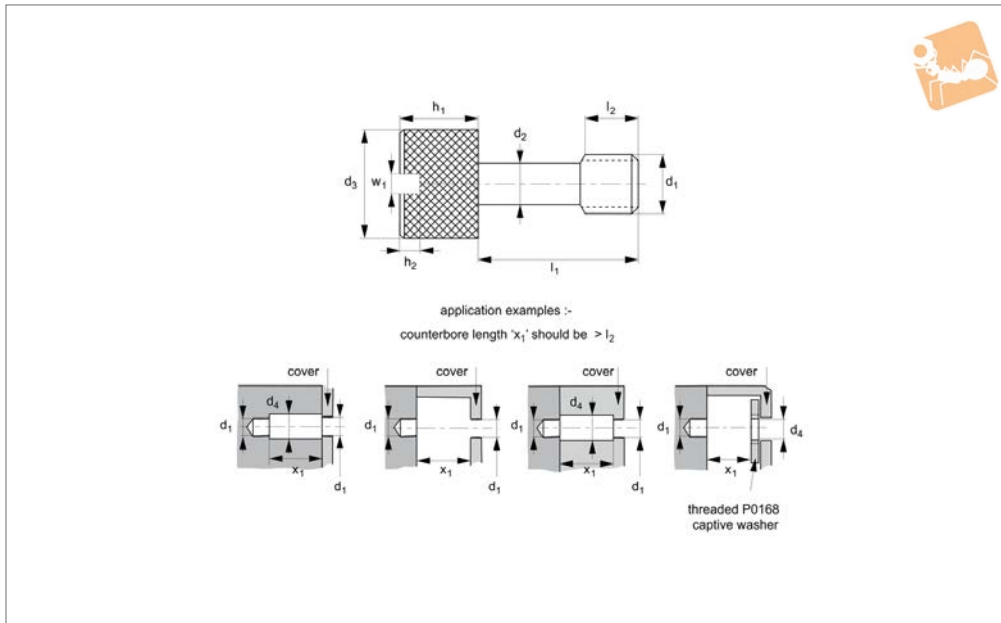


# Captive Thumb Screws

slot drive - titanium



Captive Screws



P0162.Ti

CAPTIVE SCREWS

### Material

Titanium grade 2 (tensile strength 345 N/mm<sup>2</sup>), or grade 5 (tensile strength 900 N/mm<sup>2</sup>).

Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 316, 1.440 or AISI 303, 1.4305), brass, aluminium etc.

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Often used with our captive washer (P0168) or retaining flanges (P0169 - for sheet metal applications). The use of our captive washer should be considered when fitted in panels with unthreaded holes.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	w <sub>1</sub>	Material
P0162.030-008-T2	M 3	2.0	8.0	4.5	8	3.5	5	1.8	0.8	Grade 2
P0162.030-010-T2	M 3	2.0	10.0	4.5	8	3.5	5	1.8	0.8	Grade 2
P0162.030-012-T2	M 3	2.0	12.0	4.5	8	3.5	5	1.8	0.8	Grade 2
P0162.030-014-T2	M 3	2.0	14.0	4.5	8	3.5	5	1.8	0.8	Grade 2
P0162.030-016-T2	M 3	2.0	16.0	4.5	8	3.5	5	1.8	0.8	Grade 2
P0162.040-010-T2	M 4	2.8	10.0	6.0	10	4.5	5	2.2	1.0	Grade 2
P0162.040-012-T2	M 4	2.8	12.0	6.0	10	4.5	5	2.2	1.0	Grade 2
P0162.040-014-T2	M 4	2.8	14.0	6.0	10	4.5	5	2.2	1.0	Grade 2
P0162.040-016-T2	M 4	2.8	16.0	6.0	10	4.5	5	2.2	1.0	Grade 2
P0162.040-018-T2	M 4	2.8	18.0	6.0	10	4.5	5	2.2	1.0	Grade 2
P0162.040-020-T2	M 4	2.8	20.0	6.0	10	4.5	5	2.2	1.0	Grade 2
P0162.040-025-T2	M 4	2.8	25.0	6.0	10	4.5	5	2.2	1.0	Grade 2
P0162.050-010-T2	M 5	3.7	10.0	7.5	10	5.5	5	2.8	1.2	Grade 2
P0162.050-012-T2	M 5	3.7	12.0	7.5	10	5.5	5	2.8	1.2	Grade 2
P0162.050-014-T2	M 5	3.7	14.0	7.5	10	5.5	5	2.8	1.2	Grade 2
P0162.050-016-T2	M 5	3.7	16.0	7.5	10	5.5	5	2.8	1.2	Grade 2
P0162.050-018-T2	M 5	3.7	18.0	7.5	10	5.5	5	2.8	1.2	Grade 2
P0162.050-020-T2	M 5	3.7	20.0	7.5	10	5.5	5	2.8	1.2	Grade 2
P0162.050-025-T2	M 5	3.7	25.0	7.5	10	5.5	5	2.8	1.2	Grade 2
P0162.050-030-T2	M 5	3.7	30.0	7.5	10	5.5	5	2.8	1.2	Grade 2
P0162.060-012-T2	M 6	4.5	12.0	7.5	12	6.5	6	3.5	1.6	Grade 2
P0162.060-014-T2	M 6	4.5	14.0	7.5	12	6.5	6	3.5	1.6	Grade 2
P0162.060-016-T2	M 6	4.5	16.0	7.5	12	6.5	6	3.5	1.6	Grade 2
P0162.060-018-T2	M 6	4.5	18.0	7.5	12	6.5	6	3.5	1.6	Grade 2
P0162.060-020-T2	M 6	4.5	20.0	7.5	12	6.5	6	3.5	1.6	Grade 2
P0162.060-025-T2	M 6	4.5	25.0	7.5	12	6.5	6	3.5	1.6	Grade 2
P0162.060-030-T2	M 6	4.5	30.0	7.5	12	6.5	6	3.5	1.6	Grade 2
P0162.030-008-T5	M 3	2.0	8.0	4.5	8	3.5	5	1.8	0.8	Grade 5
P0162.030-010-T5	M 3	2.0	10.0	4.5	8	3.5	5	1.8	0.8	Grade 5



CAPTIVE SCREWS

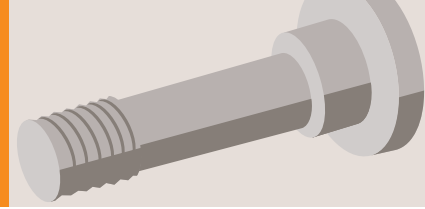
Order No.	d <sub>1</sub>	d <sub>2</sub> ±0.12	l <sub>1</sub> ±0.25	l <sub>2</sub> ±0.25	d <sub>3</sub>	d <sub>4</sub> min.	h <sub>1</sub>	h <sub>2</sub>	w <sub>1</sub>	Material
P0162.030-012-T5	M 3	2.0	12.0	4.5	8	3.5	5	1.8	0.8	Grade 5
P0162.030-014-T5	M 3	2.0	14.0	4.5	8	3.5	5	1.8	0.8	Grade 5
P0162.030-016-T5	M 3	2.0	16.0	4.5	8	3.5	5	1.8	0.8	Grade 5
P0162.040-010-T5	M 4	2.8	10.0	6.0	10	4.5	5	2.2	1.0	Grade 5
P0162.040-012-T5	M 4	2.8	12.0	6.0	10	4.5	5	2.2	1.0	Grade 5
P0162.040-014-T5	M 4	2.8	14.0	6.0	10	4.5	5	2.2	1.0	Grade 5
P0162.040-016-T5	M 4	2.8	16.0	6.0	10	4.5	5	2.2	1.0	Grade 5
P0162.040-018-T5	M 4	2.8	18.0	6.0	10	4.5	5	2.2	1.0	Grade 5
P0162.040-020-T5	M 4	2.8	20.0	6.0	10	4.5	5	2.2	1.0	Grade 5
P0162.040-025-T5	M 4	2.8	25.0	6.0	10	4.5	5	2.2	1.0	Grade 5
P0162.050-010-T5	M 5	3.7	10.0	7.5	10	5.5	5	2.8	1.2	Grade 5
P0162.050-012-T5	M 5	3.7	12.0	7.5	10	5.5	5	2.8	1.2	Grade 5
P0162.050-014-T5	M 5	3.7	14.0	7.5	10	5.5	5	2.8	1.2	Grade 5
P0162.050-016-T5	M 5	3.7	16.0	7.5	10	5.5	5	2.8	1.2	Grade 5
P0162.050-018-T5	M 5	3.7	18.0	7.5	10	5.5	5	2.8	1.2	Grade 5
P0162.050-020-T5	M 5	3.7	20.0	7.5	10	5.5	5	2.8	1.2	Grade 5
P0162.050-025-T5	M 5	3.7	25.0	7.5	10	5.5	5	2.8	1.2	Grade 5
P0162.050-030-T5	M 5	3.7	30.0	7.5	10	5.5	5	2.8	1.2	Grade 5
P0162.060-012-T5	M 6	4.5	12.0	7.5	12	6.5	6	3.5	1.6	Grade 5
P0162.060-014-T5	M 6	4.5	14.0	7.5	12	6.5	6	3.5	1.6	Grade 5
P0162.060-016-T5	M 6	4.5	16.0	7.5	12	6.5	6	3.5	1.6	Grade 5
P0162.060-018-T5	M 6	4.5	18.0	7.5	12	6.5	6	3.5	1.6	Grade 5
P0162.060-020-T5	M 6	4.5	20.0	7.5	12	6.5	6	3.5	1.6	Grade 5
P0162.060-025-T5	M 6	4.5	25.0	7.5	12	6.5	6	3.5	1.6	Grade 5
P0162.060-030-T5	M 6	4.5	30.0	7.5	12	6.5	6	3.5	1.6	Grade 5





# Captive Screws

## Ordering Options



Automation provides a wide range of captive screws to aid customers to comply with the Machinery Directive 2006/42/EC.

In general there is a requirement that fixings for fixed guards shall remain attached to the guard or machinery when the guard is removed. This was implemented mainly to ensure that as far as possible fasteners are not lost when the guard is removed and the guard is therefore re-installed with all required fixings.

A wide range of captive screws and thumb screws are provided...

Captive Screws from Automation Components



**P0151**  
Button Head - Hex  
Security and Torx Options



**P0154**  
Socket Head - Cap Screw  
Security and Torx Options



**P0158**  
Hexagon Head Bolt



**P0159**  
Captive Panel Screw



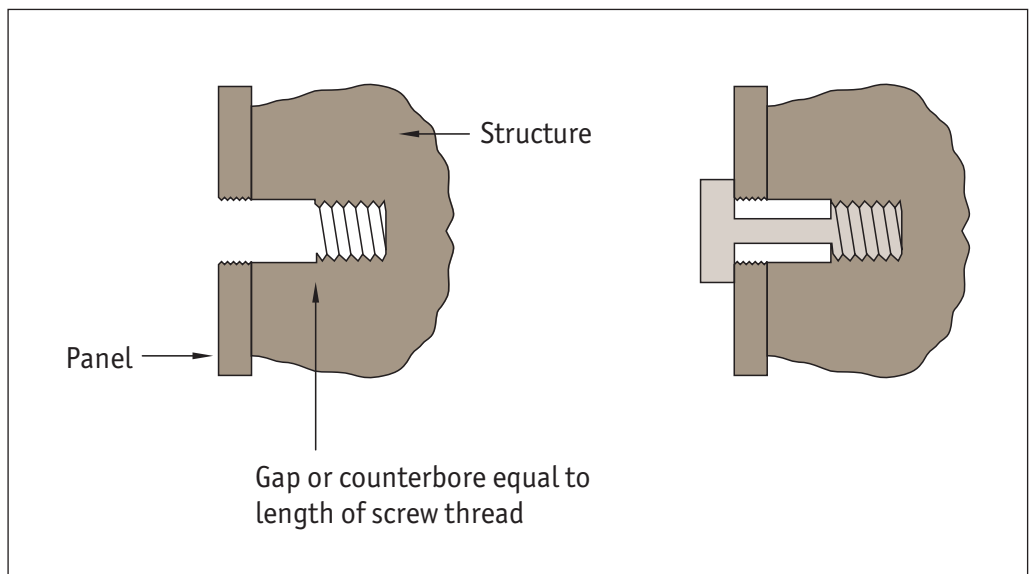
**P0160**  
Thin Head Thumb Screws



**P0161**  
Thumb Screws

### Installation

To work effectively the captive screw when installed needs to have a space or counterbore between the thread and cover at least equal to the length of the thread.



CAPTIVE SCREWS

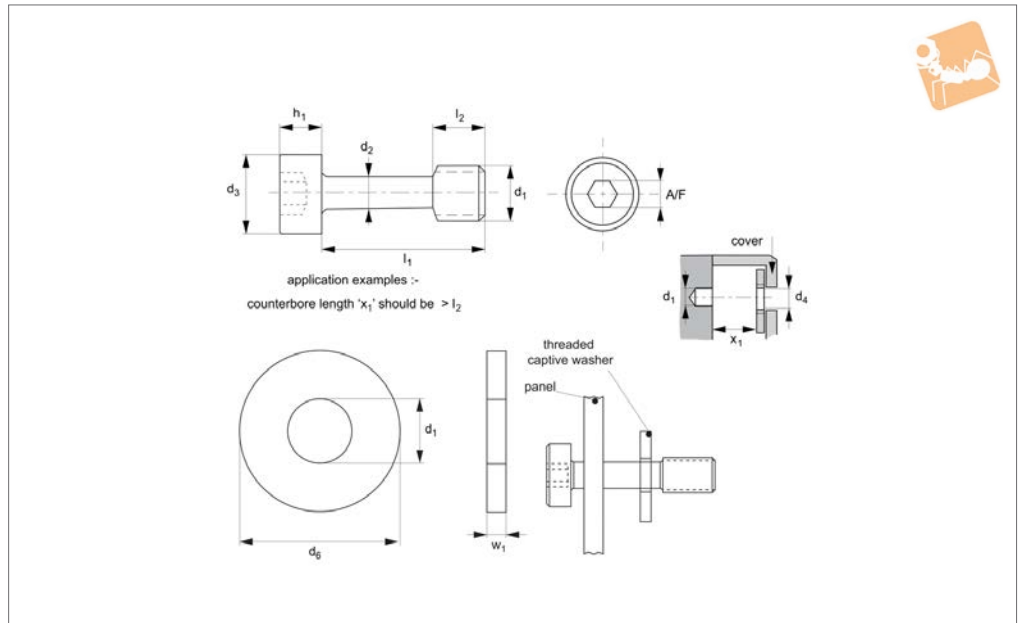
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CAPTIVE SCREWS



## P0163.A2



### Material

Screw.  
Stainless steel (AISI 303, 1.4305). Tensile strength 550 N/mm<sup>2</sup>. Proof stress min. 190 N/mm<sup>2</sup>, austenitic stainless steel.  
Also available on request in steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc.

### Washer.

Stainless steel (AISI 303, 1.4305 and AISI 316, 1.440), Also available on request in

steel (anodised, black oxide or zinc plated), stainless steel (AISI 316, 1.440), brass, aluminium etc steel (zinc-plated or black-oxide) and titanium (grade 2 and grade 5)

### Technical Notes

Used to comply with the Machinery Directive 2006/42/EC. Generally to ISO 4762.

### Tips

TX drive style also available.  
Captive washers are primarily used to retain captive screws in panels which have

unthreaded holes. The panel (onto which the screw needs to be retained) is placed onto the captive screw, the threaded washer is then threaded onto the screw, past the threaded section and the screw is therefore captive to the panel.

### Important Notes

Please note that these screws have a reduced diameter shank and should not be tightened to the recommended torque for an equivalent machine screw of size d<sub>1</sub>.

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	d <sub>6</sub>	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	w <sub>1</sub> ±0.05	A/F
P0163.025-005-A2	M 2.5	5	1.8	4.5	2.8	5.0	2.5	3.0	1.0	2.0
P0163.025-008-A2	M 2.5	8	1.8	4.5	2.8	5.0	2.5	3.0	1.0	2.0
P0163.025-010-A2	M 2.5	10	1.8	4.5	2.8	5.0	2.5	3.0	1.0	2.0
P0163.025-012-A2	M 2.5	12	1.8	4.5	2.8	5.0	2.5	3.0	1.0	2.0
P0163.030-008-A2	M 3	8	2.0	5.5	3.5	6.0	3.0	4.5	1.0	2.5
P0163.030-010-A2	M 3	10	2.0	5.5	3.5	6.0	3.0	4.5	1.0	2.5
P0163.030-012-A2	M 3	12	2.0	5.5	3.5	6.0	3.0	4.5	1.0	2.5
P0163.030-016-A2	M 3	16	2.0	5.5	3.5	6.0	3.0	4.5	1.0	2.5
P0163.030-020-A2	M 3	20	2.0	5.5	3.5	6.0	3.0	4.5	1.0	2.5
P0163.030-025-A2	M 3	25	2.0	5.5	3.5	6.0	3.0	4.5	1.0	2.5
P0163.030-030-A2	M 3	30	2.0	5.5	3.5	6.0	3.0	4.5	1.0	2.5
P0163.040-010-A2	M 4	10	2.8	7.0	4.5	8.0	4.0	6.0	1.2	3.0
P0163.040-012-A2	M 4	12	2.8	7.0	4.5	8.0	4.0	6.0	1.2	3.0
P0163.040-016-A2	M 4	16	2.8	7.0	4.5	8.0	4.0	5.0	1.2	3.0
P0163.040-020-A2	M 4	20	2.8	7.0	4.5	8.0	4.0	6.0	1.2	3.0
P0163.040-025-A2	M 4	25	2.8	7.0	4.5	8.0	4.0	6.0	1.2	3.0
P0163.040-030-A2	M 4	30	2.8	7.0	4.5	8.0	4.0	6.0	1.2	3.0
P0163.040-035-A2	M 4	35	2.8	7.0	4.5	8.0	4.0	6.0	1.2	3.0
P0163.040-040-A2	M 3	40	2.8	7.0	4.5	8.0	4.0	6.0	1.2	3.0
P0163.040-050-A2	M 4	50	2.8	7.0	4.5	8.0	4.0	6.0	1.2	3.0
P0163.050-012-A2	M 5	12	3.7	8.5	5.5	10.0	5.0	7.5	1.5	4.0
P0163.050-016-A2	M 5	16	3.7	8.5	5.5	10.0	5.0	7.5	1.5	4.0
P0163.050-020-A2	M 5	20	3.7	8.5	5.5	10.0	5.0	7.5	1.5	4.0



# Captive Screws with Washer

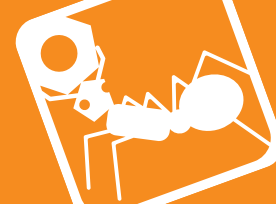
hex drive - 303 stainless



Captive Screws

Order No.	d <sub>1</sub>	l <sub>1</sub> ±0.25	d <sub>2</sub> ±0.12	d <sub>3</sub> max.	d <sub>4</sub> min.	d <sub>6</sub>	h <sub>1</sub> max.	l <sub>2</sub> ±0.25	w <sub>1</sub> ±0.05	A/F
P0163.050-025-A2	M 5	28	37	8.5	5.5	10.0	5.0	7.5	1.5	4.0
P0163.050-030-A2	M 5	30	3.7	8.5	5.5	10.0	5.0	7.5	1.5	4.0
P0163.050-035-A2	M 5	35	3.7	8.5	5.5	10.0	5.0	7.5	1.5	4.0
P0163.050-040-A2	M 5	40	3.7	8.5	5.5	10.0	5.0	7.5	1.5	4.0
P0163.050-050-A2	M 5	50	3.7	8.5	5.5	10.0	5.0	7.5	1.5	4.0
P0163.060-012-A2	M 6	12	4.2	10.0	6.5	12.0	6.0	7.5	1.6	5.0
P0163.060-016-A2	M 6	16	4.2	10.0	6.5	12.0	6.0	7.5	1.6	5.0
P0163.060-020-A2	M 6	20	4.2	10.0	6.5	12.0	6.0	7.5	1.6	5.0
P0163.060-025-A2	M 6	25	4.2	10.0	6.5	12.0	6.0	7.5	1.6	5.0
P0163.060-030-A2	M 6	30	4.2	10.0	6.5	12.0	7.5	7.5	1.6	5.0
P0163.060-035-A2	M 6	35	4.2	10.0	6.5	12.0	6.0	7.5	1.6	5.0
P0163.060-040-A2	M 6	40	4.2	10.0	6.5	12.0	6.0	7.5	1.6	5.0
P0163.060-050-A2	M 6	50	4.2	10.0	6.5	12.0	6.0	7.5	1.6	5.0
P0163.060-060-A2	M 6	60	4.2	10.0	6.5	12.0	6.0	7.5	1.6	5.0
P0163.060-080-A2	M 6	80	4.2	10.0	5.5	12.0	6.0	7.5	1.6	5.0
P0163.080-016-A2	M 8	16	6.0	13.0	8.5	16.0	8.0	10.0	2.0	6.0
P0163.080-020-A2	M 8	20	6.0	13.0	8.5	16.0	8.0	10.0	2.0	6.0
P0163.080-025-A2	M 8	25	6.0	13.0	8.5	16.0	8.0	10.0	2.0	6.0
P0163.080-030-A2	M 8	30	6.0	13.0	8.5	16.0	8.0	10.0	2.0	6.0
P0163.080-035-A2	M 8	35	6.0	13.0	8.5	16.0	8.0	10.0	2.0	6.0
P0163.080-040-A2	M 8	40	6.0	13.0	8.5	16.0	8.0	10.0	2.0	6.0
P0163.080-045-A2	M 8	45	6.0	13.0	8.5	16.0	8.0	10.0	2.0	6.0
P0163.080-050-A2	M 8	50	6.0	13.0	8.5	16.0	8.0	10.0	2.0	6.0
P0163.080-060-A2	M 8	60	6.0	13.0	8.5	16.0	8.0	10.0	2.0	6.0
P0163.080-080-A2	M 8	80	6.0	13.0	8.5	16.0	8.0	10.0	2.0	6.0
P0163.100-020-A2	M 10	20	7.5	16.0	10.6	20.0	10.0	12.5	3.0	8.0
P0163.100-025-A2	M 10	25	7.5	16.0	10.6	20.0	10.0	12.5	3.0	8.0
P0163.100-030-A2	M 10	30	7.5	16.0	10.6	20.0	10.0	12.5	3.0	8.0
P0163.100-035-A2	M 10	35	7.5	16.0	10.6	20.0	10.0	12.5	3.0	8.0
P0163.100-040-A2	M 10	40	7.5	16.0	10.6	20.0	10.0	12.5	3.0	8.0
P0163.100-045-A2	M 10	45	7.5	16.0	10.6	20.0	10.0	12.5	3.0	8.0
P0163.100-050-A2	M 10	50	7.5	16.0	10.6	20.0	10.0	12.5	3.0	8.0
P0163.100-060-A2	M 10	60	7.5	16.0	10.6	20.0	10.0	12.5	3.0	8.0
P0163.100-080-A2	M 10	80	7.5	16.0	10.6	20.0	10.0	12.5	3.0	8.0
P0163.120-025-A2	M 12	25	8.0	18.0	13.2	24.0	12.0	15.0	3.5	10.0
P0163.120-030-A2	M 12	30	8.0	18.0	13.2	24.0	12.0	15.0	3.5	10.0
P0163.120-035-A2	M 12	35	8.0	18.0	13.2	24.0	12.0	15.0	3.5	10.0
P0163.120-040-A2	M 12	40	8.0	18.0	13.2	24.0	12.0	15.0	3.5	10.0
P0163.120-045-A2	M 12	45	8.0	18.0	12.0	24.0	12.0	15.0	3.5	10.0
P0163.120-050-A2	M 12	50	8.0	18.0	13.2	24.0	12.0	15.0	3.5	10.0
P0163.120-060-A2	M 12	60	8.0	18.0	13.2	24.0	12.0	15.0	3.5	10.0
P0163.120-080-A2	M 12	80	8.0	18.0	13.2	24.0	12.0	15.0	3.5	10.0
P0163.160-030-A2	M 16	30	12.0	24.0	17.5	32.0	16.0	20.0	4.0	14.0
P0163.160-035-A2	M 16	35	12.0	24.0	17.5	32.0	16.0	20.0	4.0	14.0
P0163.160-040-A2	M 16	45	12.0	24.0	17.5	32.0	16.0	20.0	4.0	14.0
P0163.160-045-A2	M 16	40	12.0	24.0	17.5	32.0	16.0	20.0	4.0	14.0
P0163.160-050-A2	M 16	50	12.0	24.0	17.5	32.0	16.0	20.0	4.0	14.0
P0163.160-060-A2	M 16	60	12.0	24.0	17.5	32.0	16.0	20.0	4.0	14.0
P0163.160-080-A2	M 16	80	12.0	24.0	17.5	32.0	16.0	20.0	4.0	14.0
P0163.160-100-A2	M 16	100	12.0	24.0	17.5	32.0	16.0	20.0	4.0	14.0
P0163.200-040-A2	M 20	40	16.0	30.0	22.0	40.0	20.0	25.0	5.0	19.0
P0163.200-060-A2	M 20	60	16.0	30.0	22.0	40.0	20.0	25.0	5.0	19.0
P0163.200-080-A2	M 20	80	16.0	30.0	22.0	40.0	20.0	25.0	5.0	19.0
P0163.200-100-A2	M 20	100	16.0	30.0	22.0	40.0	20.0	25.0	5.0	19.0
P0163.200-120-A2	M 20	120	16.0	30.0	22.0	40.0	20.0	25.0	5.0	19.0

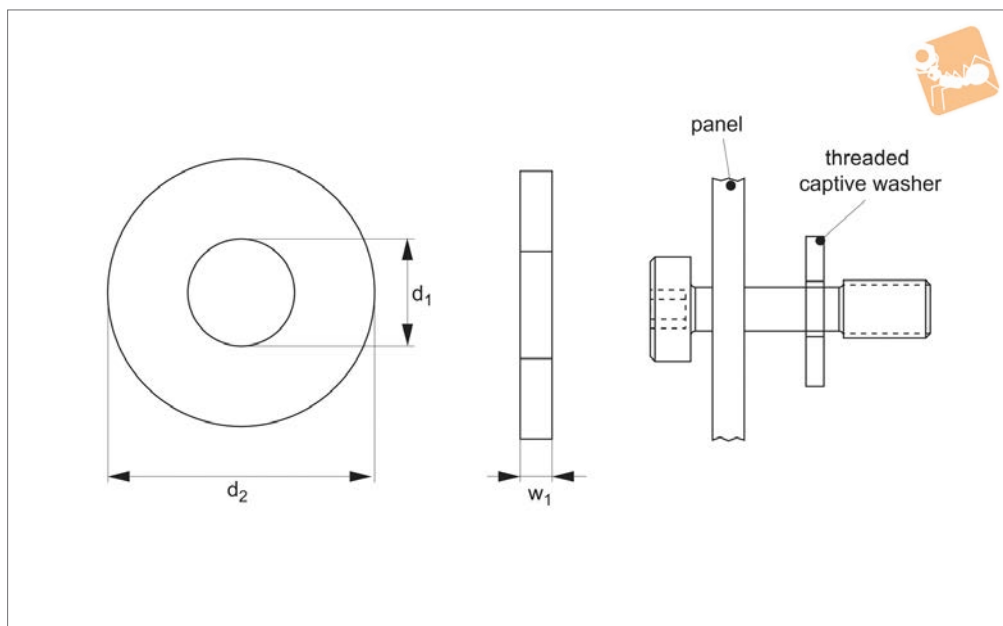
CAPTIVE SCREWS



CAPTIVE SCREWS



**P0168**



**Material**

Stainless steel (AISI 303, 1.4305 and AISI 316, 1.440), steel (zinc-plated or black-oxide) and titanium (grade 2 and grade 5).

**Technical Notes**

Captive washers have a very shallow thread on the i/d.

This enables them to be screwed on, and once past the threads they do not separate from the captive screw or bolt.

**Tips**

Captive washers are primarily used to retain captive screws in panels which have

unthreaded holes. The panel (onto which the screw needs to be retained) is placed onto the captive screw, the threaded washer is then threaded onto the screw, past the threaded section and the screw is therefore captive to the panel.

Order No.	d <sub>1</sub>	w <sub>1</sub> ±0.05	d <sub>2</sub>	Material
P0168.025-A2	M 2,5	1.0	5.0	Stainless steel 303
P0168.030-A2	M 3	1.0	6.0	Stainless steel 303
P0168.035-A2	M 3,5	1.2	8.0	Stainless steel 303
P0168.040-A2	M 4	1.2	8.0	Stainless steel 303
P0168.050-A2	M 5	1.5	10.0	Stainless steel 303
P0168.060-A2	M 6	1.6	12.0	Stainless steel 303
P0168.080-A2	M 8	2.0	16.0	Stainless steel 303
P0168.100-A2	M10	3.0	20.0	Stainless steel 303
P0168.120-A2	M12	3.5	24.0	Stainless steel 303
P0168.160-A2	M16	4.0	32.0	Stainless steel 303
P0168.200-A2	M20	5.0	40.0	Stainless steel 303
P0168.025-A4	M 2,5	1.0	5.0	Stainless steel 316
P0168.030-A4	M 3	1.0	6.0	Stainless steel 316
P0168.035-A4	M 3,5	1.2	8.0	Stainless steel 316
P0168.040-A4	M 4	1.2	8.0	Stainless steel 316
P0168.050-A4	M 5	1.5	10.0	Stainless steel 316
P0168.060-A4	M 6	1.6	12.0	Stainless steel 316
P0168.080-A4	M 8	2.0	16.0	Stainless steel 316
P0168.100-A4	M10	3.0	20.0	Stainless steel 316
P0168.120-A4	M12	3.5	24.0	Stainless steel 316
P0168.160-A4	M16	4.0	32.0	Stainless steel 316
P0168.200-A4	M20	5.0	40.0	Stainless steel 316
P0168.025-B2	M 2,5	1.0	5.0	Blackened stainless 303
P0168.030-B2	M 3	1.0	6.0	Blackened stainless 303
P0168.035-B2	M 3,5	1.2	8.0	Blackened stainless 303
P0168.040-B2	M 4	1.2	8.0	Blackened stainless 303
P0168.050-B2	M 5	1.5	10.0	Blackened stainless 303
P0168.060-B2	M 6	1.6	12.0	Blackened stainless 303
P0168.080-B2	M 8	2.0	16.0	Blackened stainless 303
P0168.100-B2	M10	3.0	20.0	Blackened stainless 303



# Threaded Captive Washers for captive screws

Captive Screws



Order No.	d <sub>1</sub>	w <sub>1</sub> ±0.05	d <sub>2</sub>	Material
P0168.120-B2	M12	3.5	24.0	Blackened stainless 303
P0168.160-B2	M16	4.0	32.0	Blackened stainless 303
P0168.200-B2	M20	5.0	40.0	Blackened stainless 303
P0168.025-B4	M 2,5	1.0	5.0	Blackened stainless 316
P0168.030-B4	M 3	1.0	6.0	Blackened stainless 316
P0168.035-B4	M 3,5	1.2	8.0	Blackened stainless 316
P0168.040-B4	M 4	1.2	8.0	Blackened stainless 316
P0168.050-B4	M 5	1.5	10.0	Blackened stainless 316
P0168.060-B4	M 6	1.6	12.0	Blackened stainless 316
P0168.080-B4	M 8	2.0	16.0	Blackened stainless 316
P0168.100-B4	M10	3.0	20.0	Blackened stainless 316
P0168.120-B4	M12	3.5	24.0	Blackened stainless 316
P0168.160-B4	M16	4.0	32.0	Blackened stainless 316
P0168.200-B4	M20	5.0	40.0	Blackened stainless 316
P0168.025-ZP	M 2,5	1.0	5.0	Zinc-plated steel
P0168.030-ZP	M 3	1.0	6.0	Zinc-plated steel
P0168.035-ZP	M 3,5	1.2	8.0	Zinc-plated steel
P0168.040-ZP	M 4	1.2	8.0	Zinc-plated steel
P0168.050-ZP	M 5	1.5	10.0	Zinc-plated steel
P0168.060-ZP	M 6	1.6	12.0	Zinc-plated steel
P0168.080-ZP	M 8	2.0	16.0	Zinc-plated steel
P0168.100-ZP	M10	3.0	20.0	Zinc-plated steel
P0168.120-ZP	M12	3.5	24.0	Zinc-plated steel
P0168.160-ZP	M16	4.0	32.0	Zinc-plated steel
P0168.200-ZP	M20	5.0	40.0	Zinc-plated steel
P0168.025-BL	M 2,5	1.0	5.0	Blackened steel
P0168.030-BL	M 3	1.0	6.0	Blackened steel
P0168.035-BL	M 3,5	1.2	8.0	Blackened steel
P0168.040-BL	M 4	1.2	8.0	Blackened steel
P0168.050-BL	M 5	1.5	10.0	Blackened steel
P0168.060-BL	M 6	1.6	12.0	Blackened steel
P0168.080-BL	M 8	2.0	16.0	Blackened steel
P0168.100-BL	M10	3.0	20.0	Blackened steel
P0168.120-BL	M12	3.5	24.0	Blackened steel
P0168.160-BL	M16	4.0	32.0	Blackened steel
P0168.200-BL	M20	5.0	40.0	Blackened steel
P0168.025-T2	M 2,5	1.0	5.0	Grade 2 titanium
P0168.030-T2	M 3	1.0	6.0	Grade 2 titanium
P0168.035-T2	M 3,5	1.2	8.0	Grade 2 titanium
P0168.040-T2	M 4	1.2	8.0	Grade 2 titanium
P0168.050-T2	M 5	1.5	10.0	Grade 2 titanium
P0168.060-T2	M 6	1.6	12.0	Grade 2 titanium
P0168.080-T2	M 8	2.0	16.0	Grade 2 titanium
P0168.100-T2	M10	3.0	20.0	Grade 2 titanium
P0168.120-T2	M12	3.5	24.0	Grade 2 titanium
P0168.160-T2	M16	4.0	32.0	Grade 2 titanium
P0168.200-T2	M20	5.0	40.0	Grade 2 titanium
P0168.025-T5	M 2,5	1.0	5.0	Grade 5 titanium
P0168.030-T5	M 3	1.0	6.0	Grade 5 titanium
P0168.035-T5	M 3,5	1.2	8.0	Grade 5 titanium
P0168.040-T5	M 4	1.2	8.0	Grade 5 titanium
P0168.050-T5	M 5	1.5	10.0	Grade 5 titanium
P0168.060-T5	M 6	1.6	12.0	Grade 5 titanium
P0168.080-T5	M 8	2.0	16.0	Grade 5 titanium
P0168.100-T5	M10	3.0	20.0	Grade 5 titanium
P0168.120-T5	M12	3.5	24.0	Grade 5 titanium
P0168.160-T5	M16	4.0	32.0	Grade 5 titanium
P0168.200-T5	M20	5.0	40.0	Grade 5 titanium

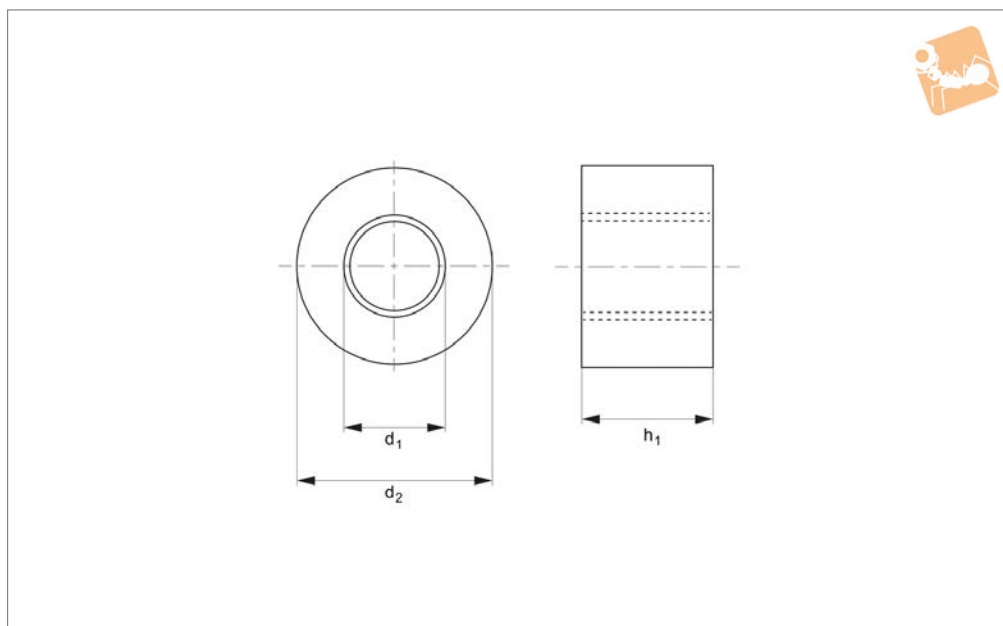
CAPTIVE SCREWS



CAPTIVE SCREWS



**P0340**



**Material**

Stainless steel (AISI 303, 1.4305).  
Available with a grey metallic or matte

black (black oxide coated) finish.

Order No.	Coarse thread $d_1$	$d_2$ +2 -0.2	$h_1$ $\pm 0.1$	Material
P0340.020-10-06-A2	M 2	10	6	Stainless steel 303
P0340.025-10-06-A2	M2,5	10	6	Stainless steel 303
P0340.030-10-06-A2	M 3	10	6	Stainless steel 303
P0340.020-10-05-B2	M 2	10	5	Blackened stainless 303
P0340.020-10-06-B2	M 2	10	6	Blackened stainless 303
P0340.020-10-08-B2	M 2	10	8	Blackened stainless 303
P0340.020-10-10-B2	M 2	10	10	Blackened stainless 303
P0340.025-10-05-B2	M2,5	10	5	Blackened stainless 303
P0340.025-10-06-B2	M2,5	10	6	Blackened stainless 303
P0340.025-10-08-B2	M2,5	10	8	Blackened stainless 303
P0340.025-10-10-B2	M2,5	10	10	Blackened stainless 303
P0340.030-10-05-B2	M 3	10	5	Blackened stainless 303
P0340.030-10-06-B2	M 3	10	6	Blackened stainless 303
P0340.030-10-08-B2	M 3	10	8	Blackened stainless 303
P0340.030-10-10-B2	M 3	10	10	Blackened stainless 303
P0340.040-10-05-B2	M 4	10	5	Blackened stainless 303
P0340.040-10-08-B2	M 4	10	8	Blackened stainless 303
P0340.040-10-10-B2	M 4	10	10	Blackened stainless 303
P0340.040-12-05-B2	M 4	12	5	Blackened stainless 303
P0340.040-12-08-B2	M 4	12	8	Blackened stainless 303
P0340.040-12-10-B2	M 4	12	10	Blackened stainless 303
P0340.040-12-15-B2	M 4	12	15	Blackened stainless 303
P0340.050-10-05-B2	M 5	10	5	Blackened stainless 303
P0340.050-10-08-B2	M 5	10	8	Blackened stainless 303
P0340.050-10-10-B2	M 5	10	10	Blackened stainless 303
P0340.050-12-05-B2	M 5	12	5	Blackened stainless 303
P0340.050-12-08-B2	M 5	12	8	Blackened stainless 303
P0340.050-12-10-B2	M 5	12	10	Blackened stainless 303
P0340.050-12-15-B2	M 5	12	15	Blackened stainless 303
P0340.050-16-05-B2	M 5	16	5	Blackened stainless 303
P0340.050-16-08-B2	M 5	16	8	Blackened stainless 303
P0340.050-16-10-B2	M 5	16	10	Blackened stainless 303
P0340.050-16-15-B2	M 5	16	15	Blackened stainless 303
P0340.060-12-05-B2	M 6	12	5	Blackened stainless 303

# Threaded Washers

## 303 stainless

Captive Screws



Order No.	Coarse thread $d_1$	$d_2$ $+2 -0.2$	$h_1$ $\pm 0.1$	Material
P0340.060-12-08-B2	M 6	12	8	Blackened stainless 303
P0340.060-12-10-B2	M 6	12	10	Blackened stainless 303
P0340.060-12-15-B2	M 6	12	15	Blackened stainless 303
P0340.060-16-05-B2	M 6	16	5	Blackened stainless 303
P0340.060-16-08-B2	M 6	16	8	Blackened stainless 303
P0340.060-16-10-B2	M 6	16	10	Blackened stainless 303
P0340.060-16-15-B2	M 6	16	15	Blackened stainless 303
P0340.060-20-08-B2	M 6	20	8	Blackened stainless 303
P0340.060-20-10-B2	M 6	20	10	Blackened stainless 303
P0340.060-20-15-B2	M 6	20	15	Blackened stainless 303
P0340.060-20-20-B2	M 6	20	20	Blackened stainless 303
P0340.080-16-05-B2	M 8	16	5	Blackened stainless 303
P0340.080-16-08-B2	M 8	16	8	Blackened stainless 303
P0340.080-16-10-B2	M 8	16	10	Blackened stainless 303
P0340.080-16-15-B2	M 8	16	15	Blackened stainless 303
P0340.080-16-20-B2	M 8	16	20	Blackened stainless 303
P0340.080-20-08-B2	M 8	20	8	Blackened stainless 303
P0340.080-20-10-B2	M 8	20	10	Blackened stainless 303
P0340.080-20-15-B2	M 8	20	15	Blackened stainless 303
P0340.080-20-20-B2	M 8	20	20	Blackened stainless 303
P0340.020-10-05-A2	M 2	10	5	Stainless steel 303
P0340.020-10-08-A2	M 2	10	8	Stainless steel 303
P0340.020-10-10-A2	M 2	10	10	Stainless steel 303
P0340.025-10-05-A2	M2,5	10	5	Stainless steel 303
P0340.025-10-08-A2	M2,5	10	8	Stainless steel 303
P0340.025-10-10-A2	M2,5	10	10	Stainless steel 303
P0340.030-10-05-A2	M 3	10	5	Stainless steel 303
P0340.030-10-08-A2	M 3	10	8	Stainless steel 303
P0340.030-10-10-A2	M 3	10	10	Stainless steel 303
P0340.040-10-05-A2	M 4	10	5	Stainless steel 303
P0340.040-10-08-A2	M 4	10	8	Stainless steel 303
P0340.040-10-10-A2	M 4	10	10	Stainless steel 303
P0340.040-12-05-A2	M 4	12	5	Stainless steel 303
P0340.040-12-08-A2	M 4	12	8	Stainless steel 303
P0340.040-12-10-A2	M 4	12	10	Stainless steel 303
P0340.040-12-15-A2	M 4	12	15	Stainless steel 303
P0340.050-10-05-A2	M 5	10	5	Stainless steel 303
P0340.050-10-08-A2	M 5	10	8	Stainless steel 303
P0340.050-10-10-A2	M 5	10	10	Stainless steel 303
P0340.050-12-05-A2	M 5	12	5	Stainless steel 303
P0340.050-12-08-A2	M 5	12	8	Stainless steel 303
P0340.050-12-10-A2	M 5	12	10	Stainless steel 303
P0340.050-12-15-A2	M 5	12	15	Stainless steel 303
P0340.050-16-05-A2	M 5	16	5	Stainless steel 303
P0340.050-16-08-A2	M 5	16	8	Stainless steel 303
P0340.050-16-10-A2	M 5	16	10	Stainless steel 303
P0340.050-16-15-A2	M 5	16	15	Stainless steel 303
P0340.060-12-05-A2	M 6	12	5	Stainless steel 303
P0340.060-12-08-A2	M 6	12	8	Stainless steel 303
P0340.060-12-10-A2	M 6	12	10	Stainless steel 303
P0340.060-12-15-A2	M 6	12	15	Stainless steel 303
P0340.060-16-05-A2	M 6	16	5	Stainless steel 303
P0340.060-16-08-A2	M 6	16	8	Stainless steel 303
P0340.060-16-10-A2	M 6	16	10	Stainless steel 303
P0340.060-16-15-A2	M 6	16	15	Stainless steel 303
P0340.060-20-08-A2	M 6	20	8	Stainless steel 303
P0340.060-20-10-A2	M 6	20	10	Stainless steel 303
P0340.060-20-15-A2	M 6	20	15	Stainless steel 303
P0340.060-20-20-A2	M 6	20	20	Stainless steel 303
P0340.080-16-05-A2	M 8	16	5	Stainless steel 303
P0340.080-16-08-A2	M 8	16	8	Stainless steel 303
P0340.080-16-10-A2	M 8	16	10	Stainless steel 303
P0340.080-16-15-A2	M 8	16	15	Stainless steel 303
P0340.080-16-20-A2	M 8	16	20	Stainless steel 303
P0340.080-20-08-A2	M 8	20	8	Stainless steel 303
P0340.080-20-10-A2	M 8	20	10	Stainless steel 303
P0340.080-20-15-A2	M 8	20	15	Stainless steel 303
P0340.080-20-20-A2	M 8	20	20	Stainless steel 303

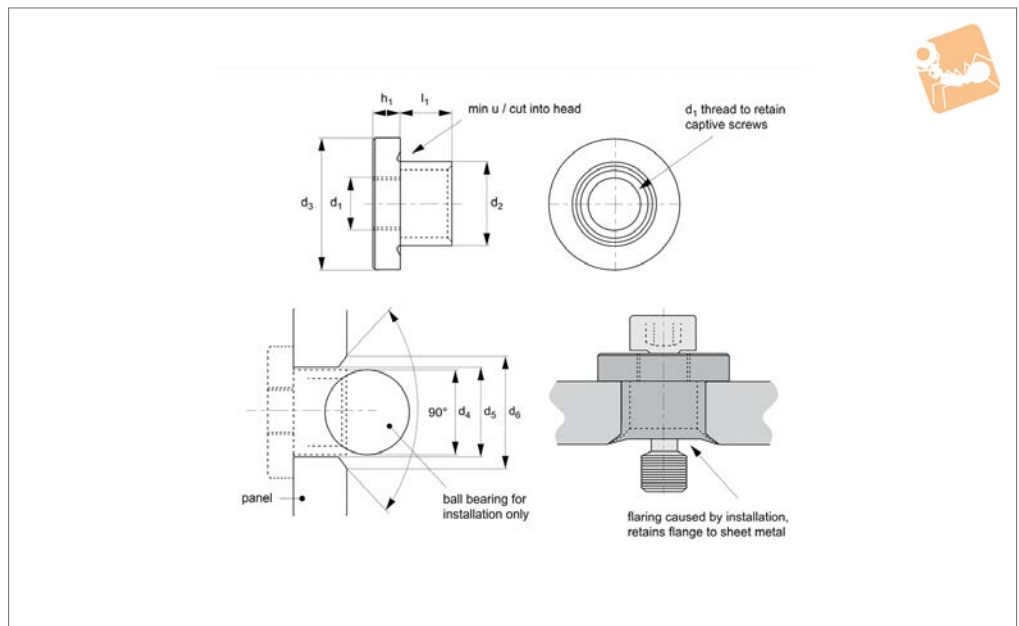
CAPTIVE SCREWS



CAPTIVE SCREWS



## P0169.A2



### Material

Stainless steel (AISI 303, 1.4305).  
Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (AISI 316, 1.440), brass.

### Technical Notes

Select the retainer flange to suit thread of

the captive screw and the thickness of the panel to be retained.

Drill and countersink hole in the panel and use the ball bearing supplied to spread the flange into the countersunk hole.

The captive screw is then screwed into the flange and the screw is retained to the

panel.

### Tips

Mounting hole diameter to H9 clearance. Countersunk  $d_6$  to  $90^\circ$ .

Order No.	For thread $d_1$	Panel $t_1$ $\pm 8\%$	$d_2$	$h_1$	$l_1$	$d_3$	Installation ball dia. $d_4$	$d_5$ tol. H9	$d_6$	Sheet metal gauge
P0169.030-007-A2	M 3	0.70	5.0	1.5	0.70	7.5	5	5.0	6.0	22
P0169.030-009-A2	M 3	0.90	5.0	1.5	0.90	7.5	5	5.0	6.0	20
P0169.030-012-A2	M 3	1.25	5.0	1.5	1.25	7.5	5	5.0	6.0	18
P0169.030-015-A2	M 3	1.50	5.0	1.5	1.50	7.5	5	5.0	6.0	16
P0169.030-020-A2	M 3	2.00	5.0	1.5	2.00	7.5	5	5.0	6.0	14
P0169.030-025-A2	M 3	2.50	5.0	1.5	2.50	7.5	5	5.0	6.0	12
P0169.030-030-A2	M 3	3.00	5.0	1.5	3.00	7.5	5	5.0	6.0	10
P0169.030-040-A2	M 3	4.00	5.0	1.5	4.00	7.5	5	5.0	6.0	8
P0169.030-050-A2	M 3	5.00	5.0	1.5	5.00	7.5	5	5.0	6.0	6
P0169.030-060-A2	M 3	6.00	5.0	1.5	6.00	7.5	5	5.0	6.0	4
P0169.040-007-A2	M 4	0.70	6.8	2.0	0.70	10.0	7	6.8	8.2	22
P0169.040-009-A2	M 4	0.90	6.8	2.0	0.90	10.0	7	6.8	8.2	20
P0169.040-012-A2	M 4	1.25	6.8	2.0	1.25	10.0	7	6.8	8.2	18
P0169.040-015-A2	M 4	1.50	6.8	2.0	1.50	10.0	7	6.8	8.2	16
P0169.040-020-A2	M 4	2.00	6.8	2.0	2.00	10.0	7	6.8	8.2	14
P0169.040-025-A2	M 4	2.50	6.8	2.0	2.50	10.0	7	6.8	8.2	12
P0169.040-030-A2	M 4	3.00	6.8	2.0	3.00	10.0	7	6.8	8.2	10
P0169.040-040-A2	M 4	4.00	6.8	2.0	4.00	10.0	7	6.8	8.2	8
P0169.040-050-A2	M 4	5.00	6.8	2.0	5.00	10.0	7	6.8	8.2	6
P0169.040-060-A2	M 4	6.00	6.8	2.0	6.00	10.0	7	6.8	8.2	4
P0169.050-007-A2	M 5	0.70	8.0	2.5	0.70	12.5	8	8.0	9.6	22
P0169.050-009-A2	M 5	0.90	8.0	2.5	0.90	12.5	8	8.0	9.6	20
P0169.050-012-A2	M 5	1.25	8.0	2.5	1.25	12.5	8	8.0	9.6	18
P0169.050-015-A2	M 5	1.50	8.0	2.5	1.50	12.5	8	8.0	9.6	16
P0169.050-020-A2	M 5	2.00	8.0	2.5	2.00	12.5	8	8.0	9.6	14
P0169.050-025-A2	M 5	2.50	8.0	2.5	2.50	12.5	8	8.0	9.6	12
P0169.050-030-A2	M 5	3.00	8.0	2.5	3.00	12.5	8	8.0	9.6	10
P0169.050-040-A2	M 5	4.00	8.0	2.5	4.00	12.5	8	8.0	9.6	8
P0169.050-050-A2	M 5	5.00	8.0	2.5	5.00	12.5	8	8.0	9.6	6
P0169.050-060-A2	M 5	6.00	8.0	2.5	6.00	12.5	8	8.0	9.6	4





# Captive Screws - Retainer Flange

303 stainless



Captive Screws

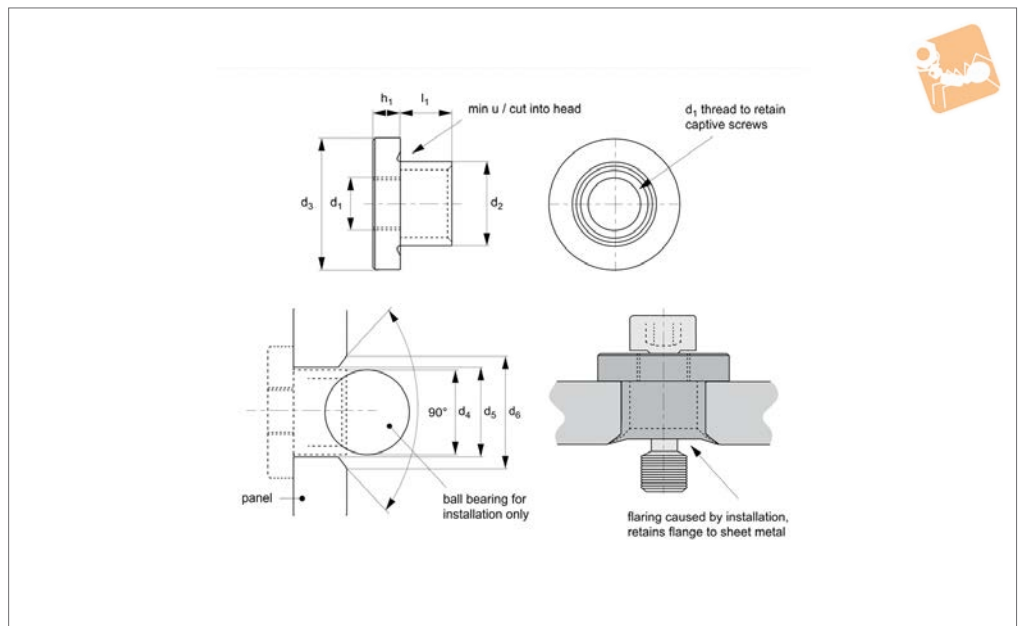
Order No.	For thread d <sub>1</sub>	Panel t <sub>1</sub> ±8%	d <sub>2</sub>	h <sub>1</sub>	l <sub>1</sub>	d <sub>3</sub>	Installation ball dia. d <sub>4</sub>	d <sub>5</sub> tol. H9	d <sub>6</sub>	Sheet metal gauge
P0169.060-007-A2	M 6	0.70	10.0	3.0	0.70	15.0	10	10.0	12.0	22
P0169.060-009-A2	M 6	0.90	10.0	3.0	0.90	15.0	10	10.0	12.0	20
P0169.060-012-A2	M 6	1.25	10.0	3.0	1.25	15.0	10	10.0	12.0	18
P0169.060-015-A2	M 6	1.50	10.0	3.0	1.50	15.0	10	10.0	12.0	16
P0169.060-020-A2	M 6	2.00	10.0	3.0	2.00	15.0	10	10.0	12.0	14
P0169.060-025-A2	M 6	2.50	10.0	3.0	2.50	15.0	10	10.0	12.0	12
P0169.060-030-A2	M 6	3.00	10.0	3.0	3.00	15.0	10	10.0	12.0	10
P0169.060-040-A2	M 6	4.00	10.0	3.0	4.00	15.0	10	10.0	12.0	8
P0169.060-050-A2	M 6	5.00	10.0	3.0	5.00	15.0	10	10.0	12.0	6
P0169.060-060-A2	M 6	6.00	10.0	3.0	6.00	15.0	10	10.0	12.0	4
P0169.080-007-A2	M 8	0.70	13.0	4.0	0.70	20.0	13	13.0	15.5	22
P0169.080-009-A2	M 8	0.90	13.0	4.0	0.90	20.0	13	13.0	15.5	20
P0169.080-012-A2	M 8	1.25	13.0	4.0	1.25	20.0	13	13.0	15.5	18
P0169.080-015-A2	M 8	1.50	13.0	4.0	1.50	20.0	13	13.0	15.5	16
P0169.080-020-A2	M 8	2.00	13.0	4.0	2.00	20.0	13	13.0	15.5	14
P0169.080-025-A2	M 8	2.50	13.0	4.0	2.50	20.0	13	13.0	15.5	12
P0169.080-030-A2	M 8	3.00	13.0	4.0	3.00	20.0	13	13.0	15.5	10
P0169.080-040-A2	M 8	4.00	13.0	4.0	4.00	20.0	13	13.0	15.5	8
P0169.080-050-A2	M 8	5.00	13.0	4.0	5.00	20.0	13	13.0	15.5	6
P0169.080-060-A2	M 8	6.00	13.0	4.0	6.00	20.0	13	13.0	15.5	4

CAPTIVE SCREWS



**P0169.AL**

MADE IN BRITAIN



**Material**

Aluminium.  
 Also available on request in steel (anodised, black oxide or zinc plated) stainless steel (A4, AISI 316), brass.  
 For stainless (A2) retainer flanges please see part no. P0169.A2.

the captive screw and the thickness of the panel to be retained.  
 Drill and countersink hole in the panel and use the ball bearing supplied to spread the flange into the countersunk hole.  
 The captive screw is then screwed into the flange and the screw is retained to the panel.

**Tips**

Mounting hole diameter to H9 clearance.  
 Countersunk  $d_6$  to 90°.

**Technical Notes**

Select the retainer flange to suit thread of

Order No.	For thread $d_1$	Panel $t_1$ $\pm 8\%$	$d_2$	$h_1$	$l_1$	$d_3$	Installation ball dia. $d_4$	$d_5$ tol. H9	$d_6$	Sheet metal gauge
P0169.030-007-AL	M3	0.7	5.0	1.5	0.7	7.5	5	5.0	6.0	22
P0169.030-009-AL	M3	0.9	5.0	1.5	0.9	7.5	5	5.0	6.0	20
P0169.030-012-AL	M3	1.25	5.0	1.5	1.25	7.5	5	5.0	6.0	18
P0169.030-015-AL	M3	1.5	5.0	1.5	1.5	7.5	5	5.0	6.0	16
P0169.030-020-AL	M3	2.0	5.0	1.5	2.0	7.5	5	5.0	6.0	14
P0169.030-025-AL	M3	2.5	5.0	1.5	2.5	7.5	5	5.0	6.0	12
P0169.030-030-AL	M3	3.0	5.0	1.5	3.0	7.5	5	5.0	6.0	10
P0169.030-040-AL	M3	4.0	5.0	1.5	4.0	7.5	5	5.0	6.0	8
P0169.030-050-AL	M3	5.0	5.0	1.5	5.0	7.5	5	5.0	6.0	6
P0169.030-060-AL	M3	6.0	5.0	1.5	6.0	7.5	5	5.0	6.0	4
P0169.040-007-AL	M4	0.7	6.8	2.0	0.7	10.0	7	6.8	8.2	22
P0169.040-009-AL	M4	0.9	6.8	2.0	0.9	10.0	7	6.8	8.2	20
P0169.040-012-AL	M4	1.25	6.8	2.0	1.25	10.0	7	6.8	8.2	18
P0169.040-015-AL	M4	1.5	6.8	2.0	1.5	10.0	7	6.8	8.2	16
P0169.040-020-AL	M4	2.0	6.8	2.0	2.0	10.0	7	6.8	8.2	14
P0169.040-025-AL	M4	2.5	6.8	2.0	2.5	10.0	7	6.8	8.2	12
P0169.040-030-AL	M4	3.0	6.8	2.0	3.0	10.0	7	6.8	8.2	10
P0169.040-040-AL	M4	4.0	6.8	2.0	4.0	10.0	7	6.8	8.2	8
P0169.040-050-AL	M4	5.0	6.8	2.0	5.0	10.0	7	6.8	8.2	6
P0169.040-060-AL	M4	6.0	6.8	2.0	6.0	10.0	7	6.8	8.2	4
P0169.050-007-AL	M5	0.7	8.0	2.5	0.7	12.5	8	8.0	9.6	22
P0169.050-009-AL	M5	0.9	8.0	2.5	0.9	12.5	8	8.0	9.6	20
P0169.050-012-AL	M5	1.25	8.0	2.5	1.25	12.5	8	8.0	9.6	18
P0169.050-015-AL	M5	1.5	8.0	2.5	1.5	12.5	8	8.0	9.6	16
P0169.050-020-AL	M5	2.0	8.0	2.5	2.0	12.5	8	8.0	9.6	14
P0169.050-025-AL	M5	2.5	8.0	2.5	2.5	12.5	8	8.0	9.6	12
P0169.050-030-AL	M5	3.0	8.0	2.5	3.0	12.5	8	8.0	9.6	10
P0169.050-040-AL	M5	4.0	8.0	2.5	4.0	12.5	8	8.0	9.6	8



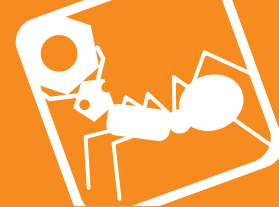
# Captive Screw Retainer Flange

aluminium



Order No.	For thread d <sub>1</sub>	Panel t <sub>1</sub> ±8%	d <sub>2</sub>	h <sub>1</sub>	l <sub>1</sub>	d <sub>3</sub>	Installation ball dia. d <sub>4</sub>	d <sub>5</sub> tol. H9	d <sub>6</sub>	Sheet metal gauge
P0169.050-050-AL	M5	5.0	8.0	2.5	5.0	12.5	8	8.0	9.6	6
P0169.050-060-AL	M5	6.0	8.0	2.5	6.0	12.5	8	8.0	9.6	4
P0169.060-007-AL	M6	0.7	10.0	3.0	0.7	15.0	10	10.0	12.0	22
P0169.060-009-AL	M6	0.9	10.0	3.0	0.9	15.0	10	10.0	12.0	20
P0169.060-012-AL	M6	1.25	10.0	3.0	1.25	15.0	10	10.0	12.0	18
P0169.060-015-AL	M6	1.5	10.0	3.0	1.5	15.0	10	10.0	12.0	16
P0169.060-020-AL	M6	2.0	10.0	3.0	2.0	15.0	10	10.0	12.0	14
P0169.060-025-AL	M6	2.5	10.0	3.0	2.5	15.0	10	10.0	12.0	12
P0169.060-030-AL	M6	3.0	10.0	3.0	3.0	15.0	10	10.0	12.0	10
P0169.060-040-AL	M6	4.0	10.0	3.0	4.0	15.0	10	10.0	12.0	8
P0169.060-050-AL	M6	5.0	10.0	3.0	5.0	15.0	10	10.0	12.0	6
P0169.060-060-AL	M6	6.0	10.0	3.0	6.0	15.0	10	10.0	12.0	4
P0169.080-007-AL	M8	0.7	13.0	4.0	0.7	20.0	13	13.0	15.5	22
P0169.080-009-AL	M8	0.9	13.0	4.0	0.9	20.0	13	13.0	15.5	20
P0169.080-012-AL	M8	1.25	13.0	4.0	1.25	20.0	13	13.0	15.5	18
P0169.080-015-AL	M8	1.5	13.0	4.0	1.5	20.0	13	13.0	15.5	16
P0169.080-020-AL	M8	2.0	13.0	4.0	2.0	20.0	13	13.0	15.5	14
P0169.080-025-AL	M8	2.5	13.0	4.0	2.5	20.0	13	13.0	15.5	12
P0169.080-030-AL	M8	3.0	13.0	4.0	3.0	20.0	13	13.0	15.5	10
P0169.080-040-AL	M8	4.0	13.0	4.0	4.0	20.0	13	13.0	15.5	8
P0169.080-050-AL	M8	5.0	13.0	4.0	5.0	20.0	13	13.0	15.5	6
P0169.080-060-AL	M8	6.0	13.0	4.0	6.0	20.0	13	13.0	15.5	4

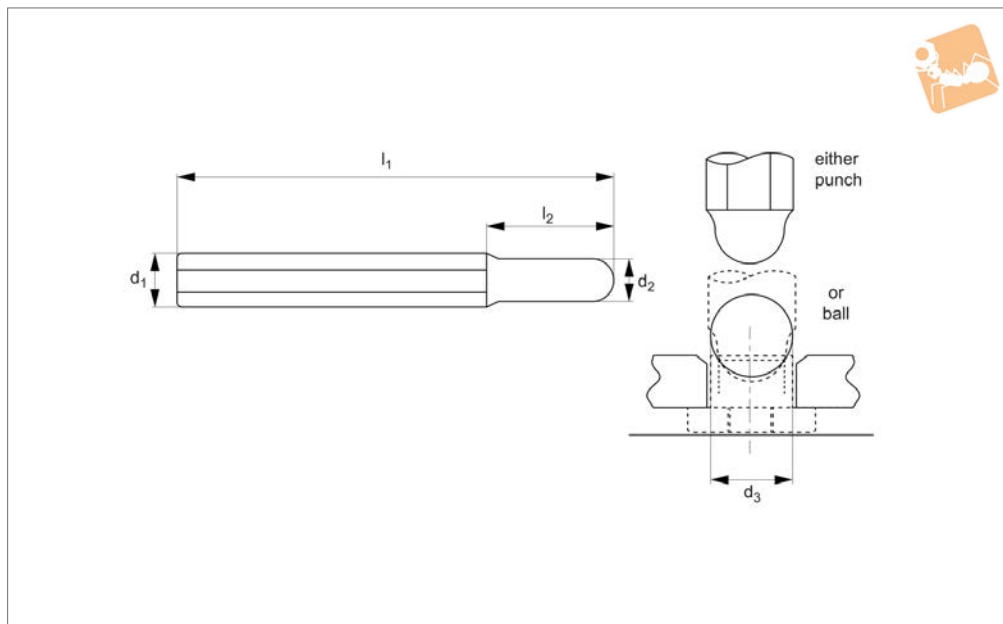
CAPTIVE SCREWS



CAPTIVE SCREWS



### P0169.TL



#### Material

Ball bearings and punches from steel.  
For small quantity installation we suggest you install the flanges using the ball bearings,  
for large quantities it is easier to purchase the retaining flange punch.

#### Technical Notes

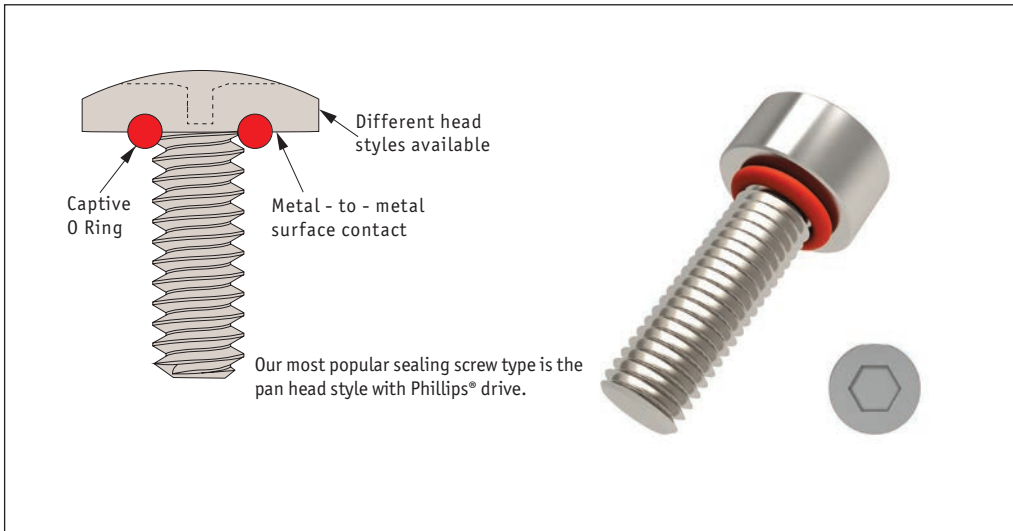
Select the retainer flange to suit thread of the captive screw and the thickness of the panel to be retained.  
Drill and countersink hole in the panel and use the ball bearing supplied to spread the flange into the countersunk hole.

The captive screw is then screwed into the flange and the screw is retained to the panel.

#### Tips

Mounting hole diameter to H9 clearance.

Order No.	Type	For flange size	$d_1$	$d_2$	$l_1$	$d_3$	$l_2$
P0169.030-BL	Ball bearing	P0169.030	-	-	-	5	-
P0169.040-BL	Ball bearing	P0169.040	-	-	-	7	-
P0169.050-BL	Ball bearing	P0169.050	-	-	-	8	-
P0169.060-BL	Ball bearing	P0169.060	-	-	-	10	-
P0169.080-BL	Ball bearing	P0169.080	-	-	-	13	-
P0169.030-PN	Punch	P0169.030	10.0	5	100	-	30
P0169.040-PN	Punch	P0169.040	11.5	7	100	-	30
P0169.050-PN	Punch	P0169.050	13.0	8	100	-	30
P0169.060-PN	Punch	P0169.060	16.0	10	100	-	30
P0169.080-PN	Punch	P0169.080	19.0	13	100	-	30



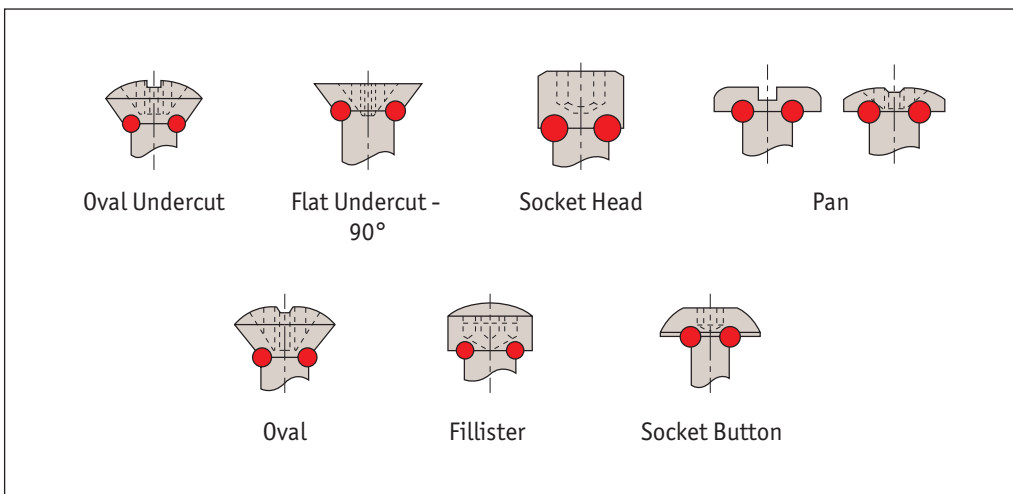
An ordinary screw lacks seal protection, allowing dirt, fluids, gases etc to infiltrate and damage sensitive devices. Sealing screws provide bi-directional sealing protection to systems where screws are used to protect them against dirt, chemicals, water or other contaminants, which (without the screw seal), may penetrate and damage, or alternatively where gases and liquids may leak out.

The seal screws incorporate an O ring underneath the screw, bolt etc which forms a sealant layer. The seal provides bi-directional sealing. The screws are very easy to use and do not need any special preparation or re-tightening.

Integral seal fasteners are designed and manufactured with a precision engineered groove beneath the head of the fastener. As the fastener is tightened, the O-ring is compressed, squeezing the O-ring between the groove and mating surface to complete the seal. The design of the groove controls the amount of compression of the O-ring. And because O-rings retain their elastic memory, the screws are reusable time after time.

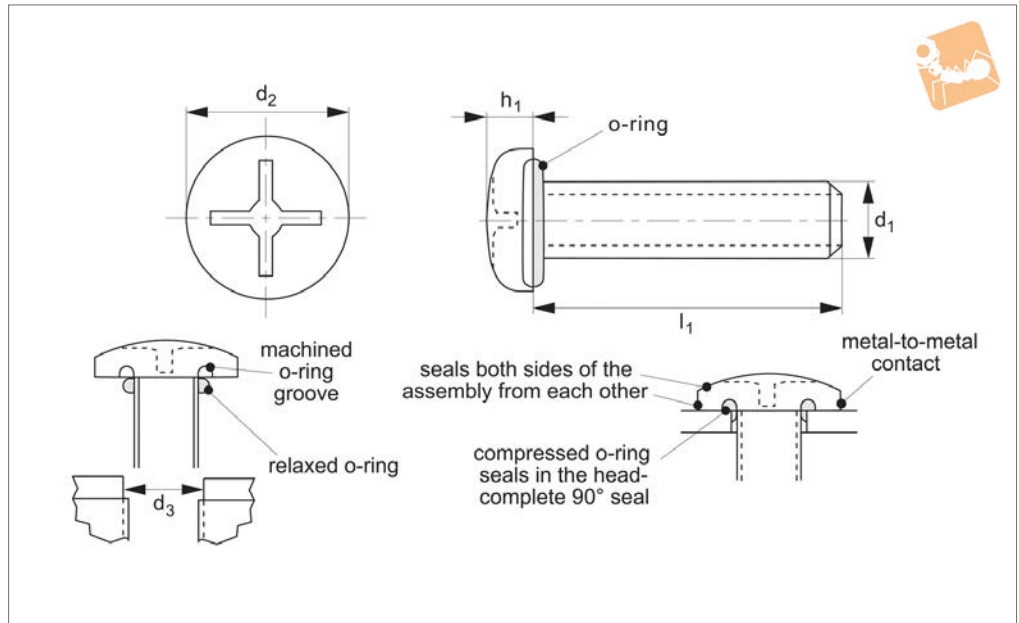
There are a range of O ring materials that can resist virtually all chemical and environmental conditions. We can also provide sealing screws (on request) to military specifications (MILSPEC).

The screws are widely used in military, medical and industrial devices. Each screw is equipped with a captive O ring which provides a total barrier seal against internal or external conditions (water, fluids, chemicals, dirt, air, contaminants etc) which could otherwise penetrate and damage systems.





### P0170



#### Material

Stainless steel (AISI 303 1.4305 tensile strength 550 N/mm<sup>2</sup>), with silicone „O“ ring as standard.

For other „O“ ring materials see technical data pages

(-FS = fluorosilicone, -EP = EPDM, -VI = viton, -NI = nitrile, -BN = Buna etc.).

Other thread lengths, and stainless steel

A4 (AISI 316) on request.

#### Technical Notes

Seals substances in and contaminants out, screws generally as DIN 7985 H, ISO 7045. Max temperature range: -100°C to +260°C, pressure range - up to 410 bar (6000 psi). Re-usable, also available (on request) with thread-locking.

#### Tips

Clearance holes recommended for maximum sealing performance (see dimensions below).

Clearance hole depth 2-3 x thread pitch, threads are metric coarse pitch.

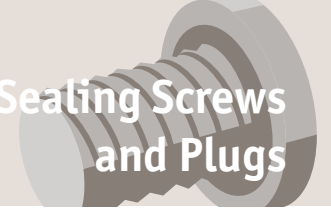
Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	d <sub>3</sub> ±0.05	Drive
P0170.020-003-SI	M 2	3	1.6	4.0	2.35	PH-1
P0170.020-004-SI	M 2	4	1.6	4.0	2.35	PH-1
P0170.020-008-SI	M 2	8	1.6	4.0	2.35	PH-1
P0170.020-010-SI	M 2	10	1.6	4.0	2.35	PH-1
P0170.020-012-SI	M 2	12	1.6	4.0	2.35	PH-1
P0170.025-006-SI	M2,5	6	2.1	4.7	2.75	PH-1
P0170.025-008-SI	M2,5	8	2.1	4.7	2.75	PH-1
P0170.025-010-SI	M2,5	10	2.1	4.7	2.75	PH-1
P0170.025-012-SI	M2,5	12	2.1	4.7	2.75	PH-1
P0170.025-016-SI	M2,5	16	2.1	4.7	2.75	PH-1
P0170.025-020-SI	M2,5	20	2.1	4.7	2.75	PH-1
P0170.025-025-SI	M2,5	25	2.1	4.7	2.75	PH-1
P0170.025-030-SI	M2,5	30	2.1	4.7	2.75	PH-1
P0170.025-035-SI	M2,5	35	2.1	4.7	2.75	PH-1
P0170.030-006-SI	M 3	6	2.4	6.0	3.6	PH-1
P0170.030-008-SI	M 3	8	2.4	6.0	3.6	PH-1
P0170.030-010-SI	M 3	10	2.4	6.0	3.6	PH-1
P0170.030-012-SI	M 3	12	2.4	6.0	3.6	PH-1
P0170.030-016-SI	M 3	16	2.4	6.0	3.6	PH-1
P0170.030-020-SI	M 3	20	2.4	6.0	3.6	PH-1
P0170.030-030-SI	M 3	30	2.4	6.0	3.6	PH-1
P0170.030-035-SI	M 3	35	2.4	6.0	3.6	PH-1
P0170.030-040-SI	M 3	40	2.4	6.0	3.6	PH-1
P0170.040-006-SI	M 4	6	3.1	8.0	4.5	PH-2
P0170.040-008-SI	M 4	8	3.1	8.0	4.5	PH-2
P0170.040-010-SI	M 4	10	3.1	8.0	4.5	PH-2
P0170.040-012-SI	M 4	12	3.1	8.0	4.5	PH-2
P0170.040-016-SI	M 4	16	3.1	8.0	4.5	PH-2



# Pan Head Seal Screws

phillips drive

# Sealing Screws and Plugs



SEALING SCREWS AND PLUGS

Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	d <sub>3</sub> ±0.05	Drive
P0170.040-020-SI	M 4	20	3.1	8.0	4.5	PH-2
P0170.040-030-SI	M 4	30	3.1	8.0	4.5	PH-2
P0170.040-035-SI	M 4	35	3.1	8.0	4.5	PH-2
P0170.040-040-SI	M 4	40	3.1	8.0	4.5	PH-2
P0170.050-008-SI	M 5	8	3.7	10.0	5.6	PH-2
P0170.050-010-SI	M 5	10	3.7	10.0	5.6	PH-2
P0170.050-012-SI	M 5	12	3.7	10.0	5.6	PH-2
P0170.050-016-SI	M 5	16	3.7	10.0	5.6	PH-2
P0170.050-020-SI	M 5	20	1.6	10.0	5.6	PH-2
P0170.050-030-SI	M 5	30	1.6	10.0	5.6	PH-2
P0170.050-035-SI	M 5	35	1.6	10.0	5.6	PH-2
P0170.050-040-SI	M 5	40	1.6	10.0	5.6	PH-2
P0170.060-012-SI	M 6	12	4.6	12.0	6.8	PH-3
P0170.060-016-SI	M 6	16	4.6	12.0	6.8	PH-3
P0170.060-020-SI	M 6	20	4.6	12.0	6.8	PH-3
P0170.060-025-SI	M 6	25	4.6	12.0	6.8	PH-3
P0170.060-030-SI	M 6	30	4.6	12.0	6.8	PH-3
P0170.060-035-SI	M 6	35	4.6	12.0	6.8	PH-3
P0170.060-040-SI	M 6	40	4.6	12.0	6.8	PH-3
P0170.060-045-SI	M 6	45	4.6	12.0	6.8	PH-3
P0170.060-050-SI	M 6	50	4.6	12.0	6.8	PH-3
P0170.080-012-SI	M 8	12	6.0	16.0	8.5	PH-4
P0170.080-016-SI	M 8	16	6.0	16.0	8.5	PH-4
P0170.080-020-SI	M 8	20	6.0	16.0	8.5	PH-4
P0170.080-025-SI	M 8	25	6.0	16.0	8.5	PH-4
P0170.080-030-SI	M 8	30	6.0	16.0	8.5	PH-4
P0170.080-040-SI	M 8	40	6.0	16.0	8.5	PH-4
P0170.080-050-SI	M 8	50	6.0	16.0	8.5	PH-4
P0170.080-060-SI	M 8	60	6.0	16.0	8.5	PH-4
P0170.100-016-SI	M10	16	7.5	20.0	10.6	PH-4
P0170.100-020-SI	M10	20	7.5	20.0	10.6	PH-4
P0170.100-025-SI	M10	25	7.5	20.0	10.6	PH-4
P0170.100-030-SI	M10	30	7.5	20.0	10.6	PH-4
P0170.100-040-SI	M10	40	7.5	20.0	10.6	PH-4
P0170.020-003-VI	M 2	3	1.6	4.0	2.35	PH-1
P0170.020-004-VI	M 2	4	1.6	4.0	2.35	PH-1
P0170.020-008-VI	M 2	8	1.6	4.0	2.35	PH-1
P0170.020-010-VI	M 2	10	1.6	4.0	2.35	PH-1
P0170.020-012-VI	M 2	12	1.6	4.0	2.35	PH-1
P0170.025-006-VI	M2,5	6	2.1	4.7	2.75	PH-1
P0170.025-008-VI	M2,5	8	2.1	4.7	2.75	PH-1
P0170.025-010-VI	M2,5	10	2.1	4.7	2.75	PH-1
P0170.025-012-VI	M2,5	12	2.1	4.7	2.75	PH-1
P0170.030-006-VI	M 3	6	2.4	6.0	3.6	PH-1
P0170.030-008-VI	M 3	8	2.4	6.0	3.6	PH-1
P0170.030-010-VI	M 3	10	2.4	6.0	3.6	PH-1
P0170.030-012-VI	M 3	12	2.4	6.0	3.6	PH-1
P0170.030-016-VI	M 3	16	2.4	6.0	3.6	PH-1
P0170.030-020-VI	M 3	20	2.4	6.0	3.6	PH-1
P0170.040-006-VI	M 4	6	3.1	8.0	4.5	PH-2
P0170.040-008-VI	M 4	8	3.1	8.0	4.5	PH-2
P0170.040-010-VI	M 4	10	3.1	8.0	4.5	PH-2
P0170.040-012-VI	M 4	12	3.1	8.0	4.5	PH-2
P0170.040-016-VI	M 4	16	3.1	8.0	4.5	PH-2
P0170.040-020-VI	M 4	20	3.1	8.0	4.5	PH-2
P0170.050-008-VI	M 5	8	3.7	10.0	5.6	PH-2
P0170.050-010-VI	M 5	10	3.7	10.0	5.6	PH-2
P0170.050-012-VI	M 5	12	3.7	10.0	5.6	PH-2
P0170.050-016-VI	M 5	16	3.7	10.0	5.6	PH-2
P0170.050-020-VI	M 5	20	1.6	10.0	5.6	PH-2
P0170.060-012-VI	M 6	12	4.6	12.0	6.8	PH-3
P0170.060-016-VI	M 6	16	4.6	12.0	6.8	PH-3
P0170.060-020-VI	M 6	20	4.6	12.0	6.8	PH-3
P0170.060-025-VI	M 6	25	4.6	12.0	6.8	PH-3
P0170.060-030-VI	M 6	30	4.6	12.0	6.8	PH-3
P0170.080-012-VI	M 8	12	6.0	16.0	8.5	PH-4
P0170.080-016-VI	M 8	16	6.0	16.0	8.5	PH-4
P0170.080-020-VI	M 8	20	6.0	16.0	8.5	PH-4



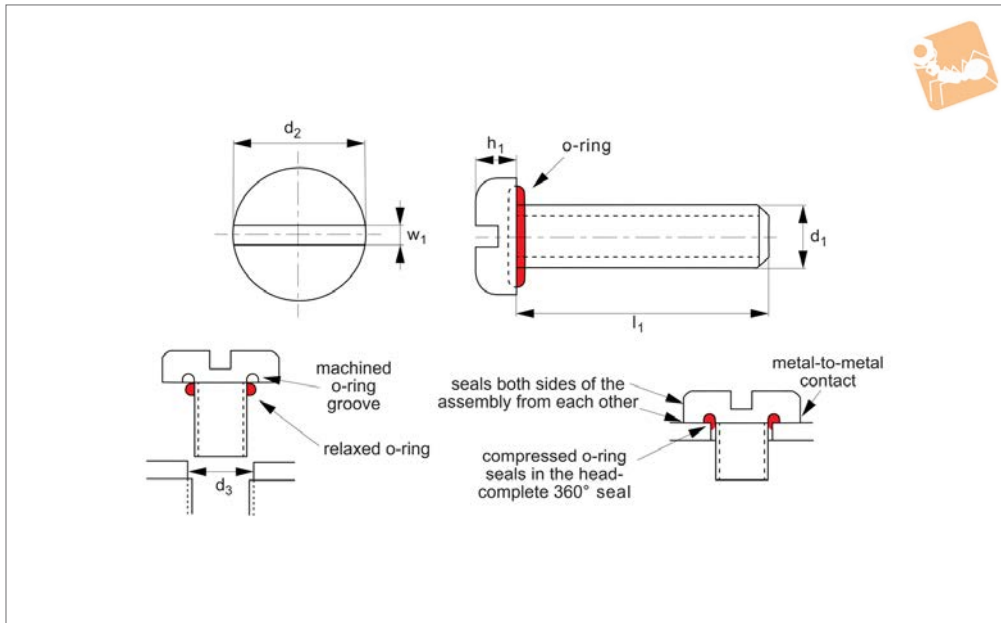
Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	d <sub>3</sub> ±0.05	Drive
P0170.080-025-VI	M 8	25	6.0	16.0	8.5	PH-4
P0170.080-030-VI	M 8	30	6.0	16.0	8.5	PH-4
P0170.100-016-VI	M10	16	7.5	20.0	10.6	PH-4
P0170.100-020-VI	M10	20	7.5	20.0	10.6	PH-4
P0170.100-025-VI	M10	25	7.5	20.0	10.6	PH-4
P0170.100-030-VI	M10	30	7.5	20.0	10.6	PH-4
P0170.100-040-VI	M10	40	7.5	20.0	10.6	PH-4





# Pan Head Seal Screws slotted

## Sealing Screws and Plugs



**P0171**

SEALING SCREWS AND PLUGS

### Material

Stainless steel (AISI 303 1.4305 tensile strength 550 N/mm<sup>2</sup>), with silicone „O“ ring as standard.

For other „O“ ring materials see technical data pages

(-FS = fluorosilicone, -EP = EPDM, -VI = viton, -NI = nitrile, -BN = Buna etc.).

Other thread lengths, and stainless steel

A4 (AISI 316) on request.

### Technical Notes

Screws generally as DIN 85 A, ISO 1580, seals substances in and contaminants out. Re-useable. Clearance holes recommended for maximum sealing.

Max temperature range: -100°C to +260°C, pressure range - up to 410 bar (6000 psi).

Also available (on request) with thread-locking.

### Tips

Clearance holes recommended for maximum sealing performance (see dimensions below).

Clearance hole depth 2-3 x thread pitch, threads are metric coarse pitch.

Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	w <sub>1</sub>	d <sub>2</sub> max.	d <sub>3</sub> ±0.05
P0171.020-004-SI	M 2	4	1.3	0.7	4.0	2.35
P0171.020-008-SI	M 2	8	1.3	0.7	4.0	2.35
P0171.020-010-SI	M 2	10	1.3	0.7	4.0	2.35
P0171.020-012-SI	M 2	12	1.3	0.7	4.0	2.35
P0171.025-006-SI	M2,5	6	1.5	0.8	5.0	2.75
P0171.025-008-SI	M2,5	8	1.5	0.8	5.0	2.75
P0171.025-010-SI	M2,5	10	1.5	0.8	5.0	2.75
P0171.025-012-SI	M2,5	12	1.5	0.8	5.0	2.75
P0171.030-006-SI	M 3	6	1.8	1.0	6.0	3.6
P0171.030-008-SI	M 3	8	1.8	1.0	6.0	3.6
P0171.030-010-SI	M 3	10	1.8	1.0	6.0	3.6
P0171.030-012-SI	M 3	12	1.8	1.0	6.0	3.6
P0171.030-020-SI	M 3	20	1.8	1.0	6.0	3.6
P0171.040-006-SI	M 4	6	2.4	1.4	8.0	4.5
P0171.040-008-SI	M 4	8	2.4	1.4	8.0	4.5
P0171.040-010-SI	M 4	10	2.4	1.4	8.0	4.5
P0171.040-012-SI	M 4	12	2.4	1.4	8.0	4.5
P0171.040-016-SI	M 4	16	2.4	1.4	8.0	4.5
P0171.040-020-SI	M 4	20	2.4	1.4	8.0	4.5
P0171.050-008-SI	M 5	8	3.0	1.6	10.0	5.6
P0171.050-010-SI	M 5	10	3.0	1.6	10.0	5.6
P0171.050-012-SI	M 5	12	3.0	1.6	10.0	5.6
P0171.050-016-SI	M 5	16	3.0	1.6	10.0	5.6
P0171.050-020-SI	M 5	20	3.0	1.6	10.0	5.6
P0171.060-012-SI	M 6	12	3.6	2.0	12.0	6.8
P0171.060-016-SI	M 6	16	3.6	2.0	12.0	6.8
P0171.060-020-SI	M 6	20	3.6	2.0	12.0	6.8
P0171.060-025-SI	M 6	25	3.6	2.0	12.0	6.8

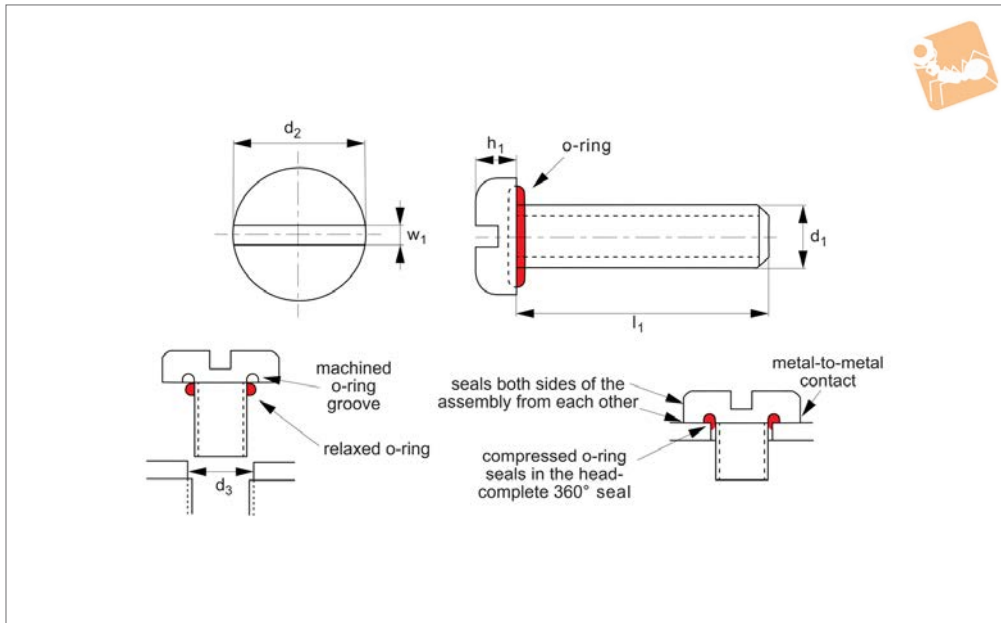


Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	w <sub>1</sub>	d <sub>2</sub> max.	d <sub>3</sub> ±0.05
P0171.060-030-SI	M 6	30	3.6	2.0	12.0	6.8
P0171.080-012-SI	M 8	12	4.8	2.5	16.0	8.5
P0171.080-016-SI	M 8	16	4.8	2.5	16.0	8.5
P0171.080-020-SI	M 8	20	4.8	2.5	16.0	8.5
P0171.080-025-SI	M 8	25	4.8	2.5	16.0	8.5
P0171.080-030-SI	M 8	30	4.8	2.5	16.0	8.5
P0171.100-016-SI	M10	16	6.0	3.0	20.0	10.6
P0171.100-020-SI	M10	20	6.0	3.0	20.0	10.6
P0171.100-025-SI	M10	25	6.0	3.0	20.0	10.6
P0171.100-030-SI	M10	30	6.0	3.0	20.0	10.6
P0171.100-040-SI	M10	40	6.0	3.0	20.0	10.6
P0171.020-004-VI	M 2	4	1.3	0.7	4.0	2.35
P0171.020-008-VI	M 2	8	1.3	0.7	4.0	2.35
P0171.020-010-VI	M 2	10	1.3	0.7	4.0	2.35
P0171.020-012-VI	M 2	12	1.3	0.7	4.0	2.35
P0171.025-006-VI	M2,5	6	1.5	0.8	5.0	2.75
P0171.025-008-VI	M2,5	8	1.5	0.8	5.0	2.75
P0171.025-010-VI	M2,5	10	1.5	0.8	5.0	2.75
P0171.025-012-VI	M2,5	12	1.5	0.8	5.0	2.75
P0171.030-006-VI	M 3	6	1.8	1.0	6.0	3.6
P0171.030-008-VI	M 3	8	1.8	1.0	6.0	3.6
P0171.030-010-VI	M 3	10	1.8	1.0	6.0	3.6
P0171.030-012-VI	M 3	12	1.8	1.0	6.0	3.6
P0171.030-020-VI	M 3	20	1.8	1.0	6.0	3.6
P0171.040-006-VI	M 4	6	2.4	1.4	8.0	4.5
P0171.040-008-VI	M 4	8	2.4	1.4	8.0	4.5
P0171.040-010-VI	M 4	10	2.4	1.4	8.0	4.5
P0171.040-012-VI	M 4	12	2.4	1.4	8.0	4.5
P0171.040-016-VI	M 4	16	2.4	1.4	8.0	4.5
P0171.040-020-VI	M 4	20	2.4	1.4	8.0	4.5
P0171.050-008-VI	M 5	8	3.0	1.6	10.0	5.6
P0171.050-010-VI	M 5	10	3.0	1.6	10.0	5.6
P0171.050-012-VI	M 5	12	3.0	1.6	10.0	5.6
P0171.050-016-VI	M 5	16	3.0	1.6	10.0	5.6
P0171.050-020-VI	M 5	20	3.0	1.6	10.0	5.6
P0171.060-012-VI	M 6	12	3.6	2.0	12.0	6.8
P0171.060-016-VI	M 6	16	3.6	2.0	12.0	6.8
P0171.060-020-VI	M 6	20	3.6	2.0	12.0	6.8
P0171.060-025-VI	M 6	25	3.6	2.0	12.0	6.8
P0171.060-030-VI	M 6	30	3.6	2.0	12.0	6.8
P0171.080-012-VI	M 8	12	4.8	2.5	16.0	8.5
P0171.080-016-VI	M 8	16	4.8	2.5	16.0	8.5
P0171.080-020-VI	M 8	20	4.8	2.5	16.0	8.5
P0171.080-025-VI	M 8	25	4.8	2.5	16.0	8.5
P0171.080-030-VI	M 8	30	4.8	2.5	16.0	8.5
P0171.100-016-VI	M10	16	6.0	3.0	20.0	10.6
P0171.100-020-VI	M10	20	6.0	3.0	20.0	10.6
P0171.100-025-VI	M10	25	6.0	3.0	20.0	10.6
P0171.100-030-VI	M10	30	6.0	3.0	20.0	10.6
P0171.100-040-VI	M10	40	6.0	3.0	20.0	10.6



# Pan Head Seal Screws - Inch slotted

## Sealing Screws and Plugs



**P0171.i**

SEALING SCREWS AND PLUGS

### Material

Stainless steel (AISI 303 1.4305 tensile strength 550 N/mm<sup>2</sup> or AISI 316 1.440 tensile strength 480 N/mm<sup>2</sup>), with silicone „O“ ring as standard.  
For other „O“ ring materials see technical data pages (-FS = fluorosilicone, -EP = EPDM, -VI = viton, -NI = nitrile, -BN = Buna etc.).

Other thread lengths, and stainless steel A4 (AISI 316) on request.

### Technical Notes

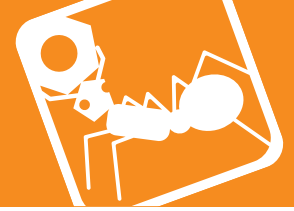
Seals substances in and contaminants out, clearance holes recommended for maximum sealing.  
Max temperature range: -100°C to +260°C, pressure range - up to 410 bar (6000 psi).

Re-usable, also available (on request) with thread-locking.

### Tips

Clearance holes recommended for maximum sealing performance (see dimensions below).  
Clearance hole depth 2-3 x thread pitch, threads are inch UNC.

Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub>	d <sub>2</sub> max.	d <sub>3</sub> +0.05
P0171.I02-025-SI	#2-56	1/4"	1.40	4.32	2.464
P0171.I02-037-SI	#2-56	3/8"	1.40	4.32	2.464
P0171.I02-050-SI	#2-56	1/2"	1.40	4.32	2.464
P0171.I02-063-SI	#2-56	5/8"	1.40	4.32	2.464
P0171.I04-025-SI	#4-40	1/4"	1.75	5.84	3.226
P0171.I04-050-SI	#4-40	1/2"	1.75	5.84	3.226
P0171.I04-075-SI	#4-40	3/4"	1.75	5.84	3.226
P0171.I04-100-SI	#4-40	1"	1.75	5.84	3.226
P0171.I06-025-SI	#6-32	1/4"	2.11	6.86	3.810
P0171.I06-050-SI	#6-32	1/2"	2.11	6.86	3.810
P0171.I06-075-SI	#6-32	3/4"	2.11	6.86	3.810
P0171.I06-100-SI	#6-32	1"	2.11	6.86	3.810
P0171.I08-025-SI	#8-32	1/4"	2.46	8.38	4.445
P0171.I08-050-SI	#8-32	1/2"	2.46	8.38	4.445
P0171.I08-075-SI	#8-32	3/4"	2.46	8.38	4.445
P0171.I08-100-SI	#8-32	1"	2.46	8.38	4.445
P0171.I10-037-SI	#10-24	3/8"	2.87	9.40	5.131
P0171.I10-050-SI	#10-24	1/2"	2.87	9.40	5.131
P0171.I10-075-SI	#10-24	3/4"	2.87	9.40	5.131
P0171.I10-100-SI	#10-24	1"	2.87	9.40	5.131
P0171.I11-037-SI	#10-32	3/8"	2.87	9.40	5.131
P0171.I11-050-SI	#10-32	1/2"	2.87	9.40	5.131
P0171.I11-075-SI	#10-32	3/4"	2.87	9.40	5.131
P0171.I11-100-SI	#10-32	1"	2.87	9.40	5.131
P0171.I12-125-SI	1/4-20	1/4"	3.76	12.45	6.682
P0171.I12-037-SI	1/4-20	3/8"	3.76	12.45	6.682
P0171.I12-050-SI	1/4-20	1/2"	3.76	12.45	6.682
P0171.I12-075-SI	1/4-20	3/4"	3.76	12.45	6.682

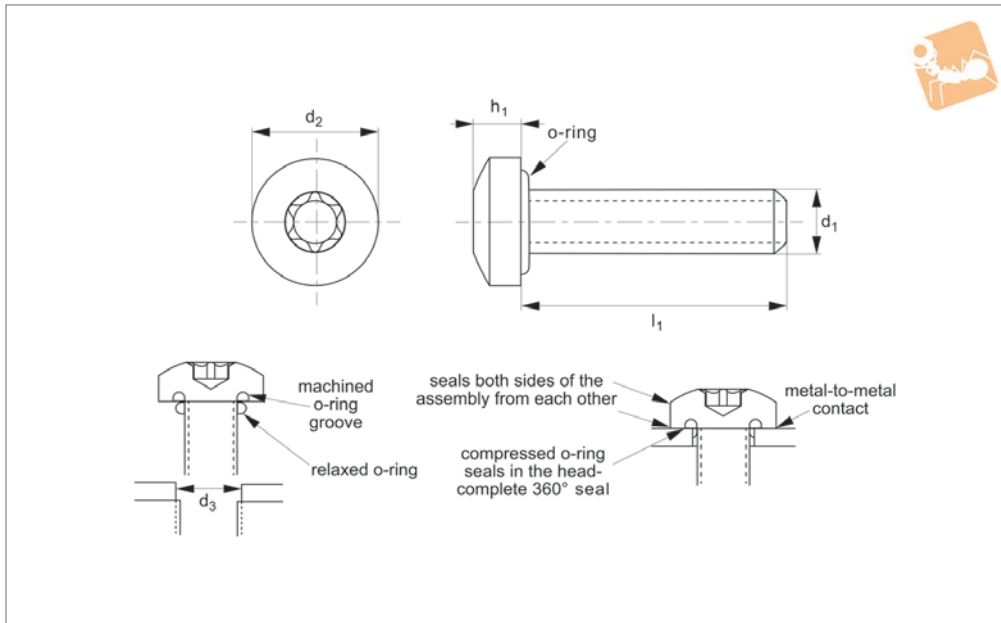


Order No.	$d_1$	$l_1$	$h_1$	$d_2$ max.	$d_3$ +0.05
P0171.I12-100-SI	1/4-20	1"	3.76	12.45	6.682
P0171.I12-025-SI	1/4-20	1/4"	3.76	12.45	6.682



# Pan Head Seal Screws torx drive

## Sealing Screws and Plugs



**P0172**

SEALING SCREWS AND PLUGS

### Material

Stainless steel (AISI 303 1.4305 tensile strength 550 N/mm<sup>2</sup>), with silicone „O“ ring as standard.

For other „O“ ring materials see technical data pages (-FS = fluorosilicone, -EP = EPDM, -VI = viton, -NI = nitrile, -BN = Buna etc.).

Other thread lengths, and stainless steel

A4 (AISI 316) on request.

### Technical Notes

Seals substances in and contaminants out. Screws generally as DIN 7985 H, ISO 7045. Re-useable.

Max temperature range: -100°C to +260°C. Pressure range - up to 410 bar (6000 psi). Also available (on request) with thread-

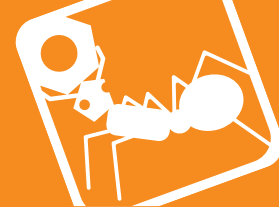
locking.

### Tips

Clearance holes recommended for maximum sealing performance (see dimensions below).

Clearance hole depth 2-3 x thread pitch. Threads are metric coarse pitch.

Order No.	$d_1$	$l_1$	$h_1$ max.	$d_2$ max.	$d_3$ $\pm 0.05$	Drive
P0172.030-006-SI	M 3	6	2.4	6.0	3.6	TX-10
P0172.030-008-SI	M 3	8	2.4	6.0	3.6	TX-10
P0172.030-010-SI	M 3	10	2.4	6.0	3.6	TX-10
P0172.030-012-SI	M 3	12	2.4	6.0	3.6	TX-10
P0172.030-020-SI	M 3	20	2.4	6.0	3.6	TX-10
P0172.040-006-SI	M 4	6	3.3	8.0	4.5	TX-20
P0172.040-008-SI	M 4	8	3.3	8.0	4.5	TX-20
P0172.040-010-SI	M 4	10	3.3	8.0	4.5	TX-20
P0172.040-012-SI	M 4	12	3.3	8.0	4.5	TX-20
P0172.040-016-SI	M 4	16	3.3	8.0	4.5	TX-20
P0172.040-020-SI	M 4	20	3.3	8.0	4.5	TX-20
P0172.050-008-SI	M 5	8	3.7	10.0	5.6	TX-25
P0172.050-010-SI	M 5	10	3.7	10.0	5.6	TX-25
P0172.050-012-SI	M 5	12	3.7	10.0	5.6	TX-25
P0172.050-016-SI	M 5	16	3.7	10.0	5.6	TX-25
P0172.050-020-SI	M 5	20	1.6	10.0	5.6	TX-25
P0172.060-012-SI	M 6	12	4.6	12.0	6.8	TX-30
P0172.060-016-SI	M 6	16	4.6	12.0	6.8	TX-30
P0172.060-020-SI	M 6	20	4.6	12.0	6.8	TX-30
P0172.060-025-SI	M 6	25	4.6	12.0	6.8	TX-30
P0172.060-030-SI	M 6	30	4.6	12.0	6.8	TX-30
P0172.080-012-SI	M 8	12	6.0	16.0	8.5	TX-40
P0172.080-016-SI	M 8	16	6.0	16.0	8.5	TX-40
P0172.080-020-SI	M 8	20	6.0	16.0	8.5	TX-40
P0172.080-025-SI	M 8	25	6.0	16.0	8.5	TX-40
P0172.080-030-SI	M 8	30	6.0	16.0	8.5	TX-40
P0172.030-006-VI	M 3	6	2.4	6.0	3.6	TX-10
P0172.030-008-VI	M 3	8	2.4	6.0	3.6	TX-10



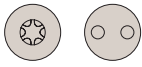
Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	d <sub>3</sub> ±0.05	Drive
P0172.030-010-VI	M 3	10	2.4	6.0	3.6	TX-10
P0172.030-012-VI	M 3	12	2.4	6.0	3.6	TX-10
P0172.030-020-VI	M 3	20	2.4	6.0	3.6	TX-10
P0172.040-006-VI	M 4	6	3.3	8.0	4.5	TX-20
P0172.040-008-VI	M 4	8	3.3	8.0	4.5	TX-20
P0172.040-010-VI	M 4	10	3.3	8.0	4.5	TX-20
P0172.040-012-VI	M 4	12	3.3	8.0	4.5	TX-20
P0172.040-016-VI	M 4	16	3.3	8.0	4.5	TX-20
P0172.040-020-VI	M 4	20	3.3	8.0	4.5	TX-20
P0172.050-008-VI	M 5	8	3.7	10.0	5.6	TX-25
P0172.050-010-VI	M 5	10	3.7	10.0	5.6	TX-25
P0172.050-012-VI	M 5	12	3.7	10.0	5.6	TX-25
P0172.050-016-VI	M 5	16	3.7	10.0	5.6	TX-25
P0172.050-020-VI	M 5	20	1.6	10.0	5.6	TX-25
P0172.060-012-VI	M 6	12	4.6	12.0	6.8	TX-30
P0172.060-016-VI	M 6	16	4.6	12.0	6.8	TX-30
P0172.060-020-VI	M 6	20	4.6	12.0	6.8	TX-30
P0172.060-025-VI	M 6	25	4.6	12.0	6.8	TX-30
P0172.060-030-VI	M 6	30	4.6	12.0	6.8	TX-30
P0172.080-012-VI	M 8	12	6.0	16.0	8.5	TX-40
P0172.080-016-VI	M 8	16	6.0	16.0	8.5	TX-40
P0172.080-020-VI	M 8	20	6.0	16.0	8.5	TX-40
P0172.080-025-VI	M 8	25	6.0	16.0	8.5	TX-40
P0172.080-030-VI	M 8	30	6.0	16.0	8.5	TX-40



# Sealing Screws from Automation Components



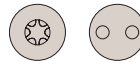
**P0170**  
Pan Head - Phillips<sup>®</sup>  
Security and Torx<sup>®</sup> Options



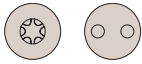
**P0171**  
Pan Head - slotted



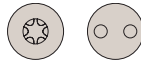
**P0173**  
Socket Head  
Security and Torx<sup>®</sup> Options



**P0174**  
Button Hex-head  
Security and Torx<sup>®</sup> Options



**P0175**  
Countersunk Hex-head  
Security and Torx<sup>®</sup> Options



**P0176**  
Hexagon Head Bolt



**P0177**  
Flanged Hexagon Nut

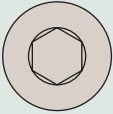

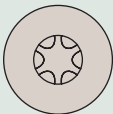
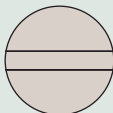
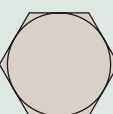
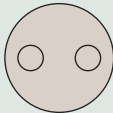


**P0178**  
Hexagon Nut



**P0179**  
Domed Nut



Schematic	Drive Types	Uses
	Hexagonal Socket	Ideal for precision assembly. Most recommended where less surface area is available.
	Cross Drive (Phillips®)	Provides good control in driving. Always use a driver bit of the proper size which is in good condition.
	Hexalobular (Torx®)	Positive-engaging, fast-locating method which transmits drive torque with less required downward pressure. Good fastening appearance.
	Slotted	Accepts standard blade screwdriver. Requires less downward pressure to drive parts than those with recessed openings. Use proper fitting blade to minimize slippage.
	Hex flange	Accepts hex wrench. Slotted drive is added to make it easier to remove the fastener (if required).
	Security	These screws are impossible to remove without the special matching screwdriver.

We can provide Torx® heads and security/tamper-proof screws, as well as special threads, grooves and cross holes for safety wires, and a further range of styles such as captive screws, anti-vibration strips on the threads etc (for extreme vibration applications).

**O Ring Selection**

Standard O rings are red silicone, but a further five O ring material types are readily available. The main factor to consider when selection an O ring type is the environment in which it will be placed, and the temperature range it will be subjected to.

Material	Notes
Silicone (SI)	Our standard O ring type with a wide temperature range -60°C to +200°C. Resistant to moderate or oxidising chemical, but not generally oil or solvent resistant.
Fluorosilicone (FS)	Widely used in the automotive and aerospace industries as it has excellent resistance to fuel, oil and solvents. Standard temperature range -50°C to +170°C.
EPDM (EP)	These O rings are very suited for outdoor environments and are good for weather and water resistance applications having excellent ozone, steam and chemical resistance. Temperature range -50°C to +110°C.
Viton-fluorocarbon (VI)	These seals are widely used on aircraft engines and automotive fuel handling systems as they have excellent fuel, oil and solvent resistance. Standard temperature range -50°C to +200°C
Nitrile (NI)	Widely used as highly resistant to petroleum based substances, water and alcohols. Temperature range -50°C to +110°C.

Other O rings types can include Neoprene, Buna N, Teflon etc.



Our standard screw material is stainless steel (A2). Other materials available are aluminium (non-magnetic and 1/3 weight of steel), brass (high electrical conductivity, non-magnetic and good corrosion resistance), titanium (low weight, very strong and highly corrosion resistant), stainless steel (A4, AISI 316).

Fasteners can be supplied to MILSPEC standards (MIL-S-82496A) on request.

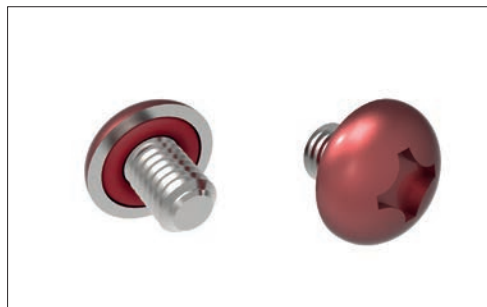
### Finishes

Finishes are dependent on the material you are wishing to coat, but include:

Finish	Notes
<b>Black Chrome (MIL-C-1458B)</b>	Black chrome is a hard, non-reflective coating which is resistant to abrasion, heat and erosion. The black chrome surface is a dull, dark grey and may be waxed or oiled to darken surface.
<b>Black Oxide Coating (MIL-C-13924B)</b>	Black oxide is a uniform black coating for ferrous metals. Generally it is considered a decorative coating and provides only very limited corrosion protection under mild corrosion conditions.
<b>Cadmium</b>	Cadmium is a bright, silvery white plating. Supplementary treatments for Type II can be golden, iridescent, amber, black or olive drab.
<b>Passivate (QQ-P-35/MIL S-500SC)</b>	Passivation is a process designed to remove foreign metals from the surface of stainless and corrosion resistant steels.
<b>Phosphate Coating Light (TT-C-00490B)</b>	Phosphate coating is a light coating for use as a base paint.
<b>Gold (MIL-G-45204B)</b>	Yellow to orange colour depending on proprietary process used. Will range from matt to bright finish depending on base metal. Good corrosion resistance and high tarnish resistance.
<b>Nickel (QQ-N-290A)</b>	Nickel is a corrosion protective plating for steel, zinc and zinc alloys as well as copper and copper alloys.
<b>Zinc (QQ-Z-325C)</b>	The primary use of chromate finishes on zinc is to retard or prevent formation of white corrosion products on zinc surfaces.



Shoulder Screws



Painted Heads



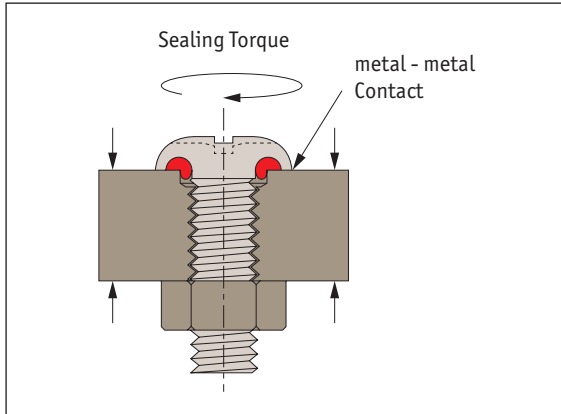
Captive Screws



Security Heads (Tamper Proof)



Standard Installation and Torque



Thread Size	Standard Installation Torque
M 3	0.6 Nm
M3.5	1.0 Nm
M 4	2.2 Nm
M 5	2.5 Nm
M 6	8.5 Nm
M 8	16 Nm
M10	30 Nm

For optimal seal screw performance we recommend creating a clearance gap in the panel into which the O ring can be fitted. This causes the O ring to create a complete seal, and the clearance hole thus prevents extrusion into the metal when the screw is under pressure.

We also have a range of sealing nuts to complement our range of sealing screws. These sealing nuts often eliminate the need for gaskets, compounds and surface preparation. They are widely used in the hydraulic, pneumatic or fuel systems industries.

They are invaluable when a vacuum needs to be created and provide a complete seal when gaseous or liquid pressure is a factor. Domed nuts are self-sealing and provide exceptional vibration resistance.

**Applications**

Some of the typical applications for our sealing screws include:

- Motors
- Cabinets and enclosures
- Sensors and instrumentation
- Internal combustion engines
- Gear pumps
- Fuel tanks
- Transmissions
- Gear boxes
- Air cylinders
- Pressure gauges
- Computer disk drives
- Motion control valves
- Missile tanks
- Wet wings

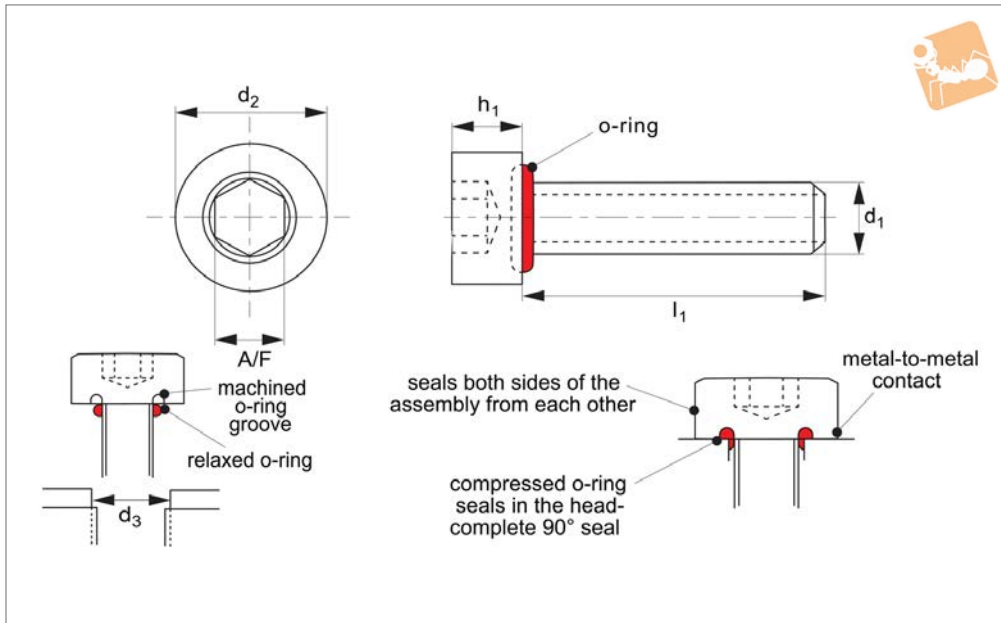
Sealing Screws from Automation Components

SEALING SCREWS AND PLUGS

# Cap Head Seal Screws

hex. socket

## Sealing Screws and Plugs



**P0173**

SEALING SCREWS AND PLUGS

### Material

Stainless steel (AISI 303 1.4305 tensile strength 550 N/mm<sup>2</sup> or AISI 316 1.440 tensile strength 480 N/mm<sup>2</sup>), with silicone „O“ ring as standard. For other „O“ ring materials see technical data pages (-FS = fluorosilicone, -EP = EPDM, -VI = viton, -NI = nitrile, -BN = Buna etc.).

Other thread lengths on request.

### Technical Notes

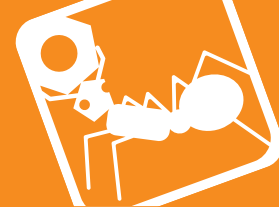
Screws generally as DIN 912, seals substances in and contaminants out. Re-useable, clearance holes recommended for maximum sealing. Max temperature range: -100°C to +260°C, pressure range - up to 410 bar (6000 psi).

Also available (on request) with thread-locking.

### Tips

Clearance holes recommended for maximum sealing performance (see dimensions below). Clearance hole depth 2-3 x thread pitch, threads are metric coarse pitch.

Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	A/F	d <sub>3</sub> ±0.05	Material
P0173.020-004-A2	M 2	4	2.0	3.8	1.5	2.35	A2 s/s
P0173.020-008-A2	M 2	8	2.0	3.8	1.5	2.35	A2 s/s
P0173.020-010-A2	M 2	10	2.0	3.8	1.5	2.35	A2 s/s
P0173.020-012-A2	M 2	12	2.0	3.8	1.5	2.35	A2 s/s
P0173.025-006-A2	M2,5	6	2.5	4.7	2.0	2.75	A2 s/s
P0173.025-008-A2	M2,5	8	2.5	4.7	2.0	2.75	A2 s/s
P0173.025-010-A2	M2,5	10	2.5	4.7	2.0	2.75	A2 s/s
P0173.025-012-A2	M2,5	12	2.5	4.7	2.0	2.75	A2 s/s
P0173.030-006-A2	M 3	6	3.0	5.5	2.5	3.6	A2 s/s
P0173.030-008-A2	M 3	8	3.0	5.5	2.5	3.6	A2 s/s
P0173.030-010-A2	M 3	10	3.0	5.5	2.5	3.6	A2 s/s
P0173.030-012-A2	M 3	12	3.0	5.5	2.5	3.6	A2 s/s
P0173.030-020-A2	M 3	20	3.0	5.5	2.5	3.6	A2 s/s
P0173.035-006-A2	M 3,5	6	3.5	6.0	2.5	4.0	A2 s/s
P0173.035-008-A2	M 3,5	8	3.5	6.0	2.5	4.0	A2 s/s
P0173.035-010-A2	M 3,5	10	3.5	6.0	2.5	4.0	A2 s/s
P0173.035-012-A2	M 3,5	12	3.5	6.0	2.5	4.0	A2 s/s
P0173.035-020-A2	M 3,5	20	3.5	6.0	2.5	4.0	A2 s/s
P0173.040-006-A2	M 4	6	4.0	7.0	3.0	4.5	A2 s/s
P0173.040-008-A2	M 4	8	4.0	7.0	3.0	4.5	A2 s/s
P0173.040-010-A2	M 4	10	4.0	7.0	3.0	4.5	A2 s/s
P0173.040-012-A2	M 4	12	4.0	7.0	3.0	4.5	A2 s/s
P0173.040-016-A2	M 4	16	4.0	7.0	3.0	4.5	A2 s/s
P0173.040-020-A2	M 4	20	4.0	7.0	3.0	4.5	A2 s/s
P0173.050-008-A2	M 5	8	5.0	8.5	4.0	5.6	A2 s/s
P0173.050-010-A2	M 5	10	5.0	8.5	4.0	5.6	A2 s/s
P0173.050-012-A2	M 5	12	5.0	8.5	4.0	5.6	A2 s/s
P0173.050-016-A2	M 5	16	5.0	8.5	4.0	5.6	A2 s/s



Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	A/F	d <sub>3</sub> ±0.05	Material
P0173.050-020-A2	M 5	20	5.0	8.5	4.0	5.6	A2 s/s
P0173.060-012-A2	M 6	12	6.0	10.0	5.0	6.8	A2 s/s
P0173.060-016-A2	M 6	16	6.0	10.0	5.0	6.8	A2 s/s
P0173.060-020-A2	M 6	20	6.0	10.0	5.0	6.8	A2 s/s
P0173.060-025-A2	M 6	25	6.0	10.0	5.0	6.8	A2 s/s
P0173.060-030-A2	M 6	30	6.0	10.0	5.0	6.8	A2 s/s
P0173.080-012-A2	M 8	12	8.0	13.0	6.0	8.5	A2 s/s
P0173.080-016-A2	M 8	16	8.0	13.0	6.0	8.5	A2 s/s
P0173.080-020-A2	M 8	20	8.0	13.0	6.0	8.5	A2 s/s
P0173.080-025-A2	M 8	25	8.0	13.0	6.0	8.5	A2 s/s
P0173.080-030-A2	M 8	30	8.0	13.0	6.0	8.5	A2 s/s
P0173.100-016-A2	M10	16	10.0	16.0	8.0	10.6	A2 s/s
P0173.100-020-A2	M10	20	10.0	16.0	8.0	10.6	A2 s/s
P0173.100-025-A2	M10	25	10.0	16.0	8.0	10.6	A2 s/s
P0173.100-030-A2	M10	30	10.0	16.0	8.0	10.6	A2 s/s
P0173.100-040-A2	M10	40	10.0	16.0	8.0	10.6	A2 s/s
P0173.120-020-A2	M12	20	12.0	18.0	10.0	12.85	A2 s/s
P0173.120-025-A2	M12	25	12.0	18.0	10.0	12.85	A2 s/s
P0173.120-030-A2	M12	30	12.0	18.0	10.0	12.85	A2 s/s
P0173.120-040-A2	M12	40	12.0	18.0	10.0	12.85	A2 s/s
P0173.120-050-A2	M12	50	12.0	18.0	10.0	12.85	A2 s/s
P0173.160-025-A2	M16	25	16.0	24.0	14.0	17.5	A2 s/s
P0173.160-030-A2	M16	30	16.0	24.0	14.0	17.5	A2 s/s
P0173.160-040-A2	M16	40	16.0	24.0	14.0	17.5	A2 s/s
P0173.160-050-A2	M16	50	16.0	24.0	14.0	17.5	A2 s/s
P0173.020-004-A4	M 2	4	2.0	3.8	1.5	2.35	A4 s/s
P0173.020-008-A4	M 2	8	2.0	3.8	1.5	2.35	A4 s/s
P0173.020-010-A4	M 2	10	2.0	3.8	1.5	2.35	A4 s/s
P0173.020-012-A4	M 2	12	2.0	3.8	1.5	2.35	A4 s/s
P0173.025-006-A4	M2,5	6	2.5	4.7	2.0	2.75	A4 s/s
P0173.025-008-A4	M2,5	8	2.5	4.7	2.0	2.75	A4 s/s
P0173.025-010-A4	M2,5	10	2.5	4.7	2.0	2.75	A4 s/s
P0173.025-012-A4	M2,5	12	2.5	4.7	2.0	2.75	A4 s/s
P0173.030-006-A4	M 3	6	3.0	5.5	2.5	3.6	A4 s/s
P0173.030-008-A4	M 3	8	3.0	5.5	2.5	3.6	A4 s/s
P0173.030-010-A4	M 3	10	3.0	5.5	2.5	3.6	A4 s/s
P0173.030-012-A4	M 3	12	3.0	5.5	2.5	3.6	A4 s/s
P0173.030-020-A4	M 3	20	3.0	5.5	2.5	3.6	A4 s/s
P0173.035-006-A4	M 3,5	6	3.5	6.0	2.5	4.0	A4 s/s
P0173.035-008-A4	M 3,5	8	3.5	6.0	2.5	4.0	A4 s/s
P0173.035-010-A4	M 3,5	10	3.5	6.0	2.5	4.0	A4 s/s
P0173.035-012-A4	M 3,5	12	3.5	6.0	2.5	4.0	A4 s/s
P0173.035-020-A4	M 3,5	20	3.5	6.0	2.5	4.0	A4 s/s
P0173.040-006-A4	M 4	6	4.0	7.0	3.0	4.5	A4 s/s
P0173.040-008-A4	M 4	8	4.0	7.0	3.0	4.5	A4 s/s
P0173.040-010-A4	M 4	10	4.0	7.0	3.0	4.5	A4 s/s
P0173.040-012-A4	M 4	12	4.0	7.0	3.0	4.5	A4 s/s
P0173.040-016-A4	M 4	16	4.0	7.0	3.0	4.5	A4 s/s
P0173.040-020-A4	M 4	20	4.0	7.0	3.0	4.5	A4 s/s
P0173.050-008-A4	M 5	8	5.0	8.5	4.0	5.6	A4 s/s
P0173.050-010-A4	M 5	10	5.0	8.5	4.0	5.6	A4 s/s
P0173.050-012-A4	M 5	12	5.0	8.5	4.0	5.6	A4 s/s
P0173.050-016-A4	M 5	16	5.0	8.5	4.0	5.6	A4 s/s
P0173.050-020-A4	M 5	20	5.0	8.5	4.0	5.6	A4 s/s
P0173.060-012-A4	M 6	12	6.0	10.0	5.0	6.8	A4 s/s
P0173.060-016-A4	M 6	16	6.0	10.0	5.0	6.8	A4 s/s
P0173.060-020-A4	M 6	20	6.0	10.0	5.0	6.8	A4 s/s
P0173.060-025-A4	M 6	25	6.0	10.0	5.0	6.8	A4 s/s
P0173.060-030-A4	M 6	30	6.0	10.0	5.0	6.8	A4 s/s
P0173.080-012-A4	M 8	12	8.0	13.0	6.0	8.5	A4 s/s
P0173.080-016-A4	M 8	16	8.0	13.0	6.0	8.5	A4 s/s
P0173.080-020-A4	M 8	20	8.0	13.0	6.0	8.5	A4 s/s
P0173.080-025-A4	M 8	25	8.0	13.0	6.0	8.5	A4 s/s
P0173.080-030-A4	M 8	30	8.0	13.0	6.0	8.5	A4 s/s
P0173.100-016-A4	M10	16	10.0	16.0	8.0	10.6	A4 s/s
P0173.100-020-A4	M10	20	10.0	16.0	8.0	10.6	A4 s/s
P0173.100-025-A4	M10	25	10.0	16.0	8.0	10.6	A4 s/s
P0173.100-030-A4	M10	30	10.0	16.0	8.0	10.6	A4 s/s

# Cap Head Seal Screws

hex. socket

## Sealing Screws and Plugs

Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	A/F	d <sub>3</sub> ±0.05	Material
P0173.100-040-A4	M10	40	10.0	16.0	8.0	10.6	A4 s/s
P0173.120-020-A4	M12	20	12.0	18.0	10.0	12.85	A4 s/s
P0173.120-025-A4	M12	25	12.0	18.0	10.0	12.85	A4 s/s
P0173.120-030-A4	M12	30	12.0	18.0	10.0	12.85	A4 s/s
P0173.120-040-A4	M12	40	12.0	18.0	10.0	12.85	A4 s/s
P0173.120-050-A4	M12	50	12.0	18.0	10.0	12.85	A4 s/s
P0173.160-025-A4	M16	25	16.0	24.0	14.0	17.5	A4 s/s
P0173.160-030-A4	M16	30	16.0	24.0	14.0	17.5	A4 s/s
P0173.160-040-A4	M16	40	16.0	24.0	14.0	17.5	A4 s/s
P0173.160-050-A4	M16	50	16.0	24.0	14.0	17.5	A4 s/s
P0173.020-004-VI	M 2	4	2.0	3.8	1.5	2.35	VI s/s
P0173.020-008-VI	M 2	8	2.0	3.8	1.5	2.35	VI s/s
P0173.020-010-VI	M 2	10	2.0	3.8	1.5	2.35	VI s/s
P0173.020-012-VI	M 2	12	2.0	3.8	1.5	2.35	VI s/s
P0173.025-006-VI	M2,5	6	2.5	4.7	2.0	2.75	VI s/s
P0173.025-008-VI	M2,5	8	2.5	4.7	2.0	2.75	VI s/s
P0173.025-010-VI	M2,5	10	2.5	4.7	2.0	2.75	VI s/s
P0173.025-012-VI	M2,5	12	2.5	4.7	2.0	2.75	VI s/s
P0173.030-006-VI	M 3	6	3.0	5.5	2.5	3.6	VI s/s
P0173.030-008-VI	M 3	8	3.0	5.5	2.5	3.6	VI s/s
P0173.030-010-VI	M 3	10	3.0	5.5	2.5	3.6	VI s/s
P0173.030-012-VI	M 3	12	3.0	5.5	2.5	3.6	VI s/s
P0173.030-020-VI	M 3	20	3.0	5.5	2.5	3.6	VI s/s
P0173.035-006-VI	M 3,5	6	3.5	6.0	2.5	4.0	VI s/s
P0173.035-008-VI	M 3,5	8	3.5	6.0	2.5	4.0	VI s/s
P0173.035-010-VI	M 3,5	10	3.5	6.0	2.5	4.0	VI s/s
P0173.035-012-VI	M 3,5	12	3.5	6.0	2.5	4.0	VI s/s
P0173.035-020-VI	M 3,5	20	3.5	6.0	2.5	4.0	VI s/s
P0173.040-006-VI	M 4	6	4.0	7.0	3.0	4.5	VI s/s
P0173.040-008-VI	M 4	8	4.0	7.0	3.0	4.5	VI s/s
P0173.040-010-VI	M 4	10	4.0	7.0	3.0	4.5	VI s/s
P0173.040-012-VI	M 4	12	4.0	7.0	3.0	4.5	VI s/s
P0173.040-016-VI	M 4	16	4.0	7.0	3.0	4.5	VI s/s
P0173.040-020-VI	M 4	20	4.0	7.0	3.0	4.5	VI s/s
P0173.050-008-VI	M 5	8	5.0	8.5	4.0	5.6	VI s/s
P0173.050-010-VI	M 5	10	5.0	8.5	4.0	5.6	VI s/s
P0173.050-012-VI	M 5	12	5.0	8.5	4.0	5.6	VI s/s
P0173.050-016-VI	M 5	16	5.0	8.5	4.0	5.6	VI s/s
P0173.050-020-VI	M 5	20	5.0	8.5	4.0	5.6	VI s/s
P0173.060-012-VI	M 6	12	6.0	10.0	5.0	6.8	VI s/s
P0173.060-016-VI	M 6	16	6.0	10.0	5.0	6.8	VI s/s
P0173.060-020-VI	M 6	20	6.0	10.0	5.0	6.8	VI s/s
P0173.060-025-VI	M 6	25	6.0	10.0	5.0	6.8	VI s/s
P0173.060-030-VI	M 6	30	6.0	10.0	5.0	6.8	VI s/s
P0173.080-012-VI	M 8	12	8.0	13.0	6.0	8.5	VI s/s
P0173.080-016-VI	M 8	16	8.0	13.0	6.0	8.5	VI s/s
P0173.080-020-VI	M 8	20	8.0	13.0	6.0	8.5	VI s/s
P0173.080-025-VI	M 8	25	8.0	13.0	6.0	8.5	VI s/s
P0173.080-030-VI	M 8	30	8.0	13.0	6.0	8.5	VI s/s
P0173.100-016-VI	M10	16	10.0	16.0	8.0	10.6	VI s/s
P0173.100-020-VI	M10	20	10.0	16.0	8.0	10.6	VI s/s
P0173.100-025-VI	M10	25	10.0	16.0	8.0	10.6	VI s/s
P0173.100-030-VI	M10	30	10.0	16.0	8.0	10.6	VI s/s
P0173.100-040-VI	M10	40	10.0	16.0	8.0	10.6	VI s/s
P0173.120-020-VI	M12	20	12.0	18.0	10.0	12.85	VI s/s
P0173.120-025-VI	M12	25	12.0	18.0	10.0	12.85	VI s/s
P0173.120-030-VI	M12	30	12.0	18.0	10.0	12.85	VI s/s
P0173.120-040-VI	M12	40	12.0	18.0	10.0	12.85	VI s/s
P0173.120-050-VI	M12	50	12.0	18.0	10.0	12.85	VI s/s
P0173.160-025-VI	M16	25	16.0	24.0	14.0	17.5	VI s/s
P0173.160-030-VI	M16	30	16.0	24.0	14.0	17.5	VI s/s
P0173.160-040-VI	M16	40	16.0	24.0	14.0	17.5	VI s/s
P0173.160-050-VI	M16	50	16.0	24.0	14.0	17.5	VI s/s
P0173.020-004-2V	M 2	4	2.0	3.8	1.5	2.35	VI s/s
P0173.020-008-2V	M 2	8	2.0	3.8	1.5	2.35	VI s/s
P0173.020-010-2V	M 2	10	2.0	3.8	1.5	2.35	VI s/s
P0173.020-012-2V	M 2	12	2.0	3.8	1.5	2.35	VI s/s
P0173.025-006-2V	M2,5	6	2.5	4.7	2.0	2.75	VI s/s

SEALING SCREWS AND PLUGS



Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	A/F	d <sub>3</sub> ±0.05	Material
P0173.025-008-2V	M2,5	8	2.5	4.7	2.0	2.75	VI s/s
P0173.025-010-2V	M2,5	10	2.5	4.7	2.0	2.75	VI s/s
P0173.025-012-2V	M2,5	12	2.5	4.7	2.0	2.75	VI s/s
P0173.030-006-2V	M 3	6	3.0	5.5	2.5	3.6	VI s/s
P0173.030-008-2V	M 3	8	3.0	5.5	2.5	3.6	VI s/s
P0173.030-010-2V	M 3	10	3.0	5.5	2.5	3.6	VI s/s
P0173.030-012-2V	M 3	12	3.0	5.5	2.5	3.6	VI s/s
P0173.030-020-2V	M 3	20	3.0	5.5	2.5	3.6	VI s/s
P0173.035-006-2V	M 3,5	6	3.5	6.0	2.5	4.0	VI s/s
P0173.035-008-2V	M 3,5	8	3.5	6.0	2.5	4.0	VI s/s
P0173.035-010-2V	M 3,5	10	3.5	6.0	2.5	4.0	VI s/s
P0173.035-012-2V	M 3,5	12	3.5	6.0	2.5	4.0	VI s/s
P0173.035-020-2V	M 3,5	20	3.5	6.0	2.5	4.0	VI s/s
P0173.040-006-2V	M 4	6	4.0	7.0	3.0	4.5	VI s/s
P0173.040-008-2V	M 4	8	4.0	7.0	3.0	4.5	VI s/s
P0173.040-010-2V	M 4	10	4.0	7.0	3.0	4.5	VI s/s
P0173.040-012-2V	M 4	12	4.0	7.0	3.0	4.5	VI s/s
P0173.040-016-2V	M 4	16	4.0	7.0	3.0	4.5	VI s/s
P0173.040-020-2V	M 4	20	4.0	7.0	3.0	4.5	VI s/s
P0173.050-008-2V	M 5	8	5.0	8.5	4.0	5.6	VI s/s
P0173.050-010-2V	M 5	10	5.0	8.5	4.0	5.6	VI s/s
P0173.050-012-2V	M 5	12	5.0	8.5	4.0	5.6	VI s/s
P0173.050-016-2V	M 5	16	5.0	8.5	4.0	5.6	VI s/s
P0173.050-020-2V	M 5	20	5.0	8.5	4.0	5.6	VI s/s
P0173.060-012-2V	M 6	12	6.0	10.0	5.0	6.8	VI s/s
P0173.060-016-2V	M 6	16	6.0	10.0	5.0	6.8	VI s/s
P0173.060-020-2V	M 6	20	6.0	10.0	5.0	6.8	VI s/s
P0173.060-025-2V	M 6	25	6.0	10.0	5.0	6.8	VI s/s
P0173.060-030-2V	M 6	30	6.0	10.0	5.0	6.8	VI s/s
P0173.080-012-2V	M 8	12	8.0	13.0	6.0	8.5	VI s/s
P0173.080-016-2V	M 8	16	8.0	13.0	6.0	8.5	VI s/s
P0173.080-020-2V	M 8	20	8.0	13.0	6.0	8.5	VI s/s
P0173.080-025-2V	M 8	25	8.0	13.0	6.0	8.5	VI s/s
P0173.080-030-2V	M 8	30	8.0	13.0	6.0	8.5	VI s/s
P0173.100-016-2V	M10	16	10.0	16.0	8.0	10.6	VI s/s
P0173.100-020-2V	M10	20	10.0	16.0	8.0	10.6	VI s/s
P0173.100-025-2V	M10	25	10.0	16.0	8.0	10.6	VI s/s
P0173.100-030-2V	M10	30	10.0	16.0	8.0	10.6	VI s/s
P0173.100-040-2V	M10	40	10.0	16.0	8.0	10.6	VI s/s
P0173.120-020-2V	M12	20	12.0	18.0	10.0	12.85	VI s/s
P0173.120-025-2V	M12	25	12.0	18.0	10.0	12.85	VI s/s
P0173.120-030-2V	M12	30	12.0	18.0	10.0	12.85	VI s/s
P0173.120-040-2V	M12	40	12.0	18.0	10.0	12.85	VI s/s
P0173.120-050-2V	M12	50	12.0	18.0	10.0	12.85	VI s/s
P0173.160-025-2V	M16	25	16.0	24.0	14.0	17.5	VI s/s
P0173.160-030-2V	M16	30	16.0	24.0	14.0	17.5	VI s/s
P0173.160-040-2V	M16	40	16.0	24.0	14.0	17.5	VI s/s
P0173.160-050-2V	M16	50	16.0	24.0	14.0	17.5	VI s/s
P0173.020-004-4V	M 2	4	2.0	3.8	1.5	2.35	VI s/s
P0173.020-008-4V	M 2	8	2.0	3.8	1.5	2.35	VI s/s
P0173.020-010-4V	M 2	10	2.0	3.8	1.5	2.35	VI s/s
P0173.020-012-4V	M 2	12	2.0	3.8	1.5	2.35	VI s/s
P0173.025-006-4V	M2,5	6	2.5	4.7	2.0	2.75	VI s/s
P0173.025-008-4V	M2,5	8	2.5	4.7	2.0	2.75	VI s/s
P0173.025-010-4V	M2,5	10	2.5	4.7	2.0	2.75	VI s/s
P0173.025-012-4V	M2,5	12	2.5	4.7	2.0	2.75	VI s/s
P0173.030-006-4V	M 3	6	3.0	5.5	2.5	3.6	VI s/s
P0173.030-008-4V	M 3	8	3.0	5.5	2.5	3.6	VI s/s
P0173.030-010-4V	M 3	10	3.0	5.5	2.5	3.6	VI s/s
P0173.030-012-4V	M 3	12	3.0	5.5	2.5	3.6	VI s/s
P0173.030-020-4V	M 3	20	3.0	5.5	2.5	3.6	VI s/s
P0173.035-006-4V	M 3,5	6	3.5	6.0	2.5	4.0	VI s/s
P0173.035-008-4V	M 3,5	8	3.5	6.0	2.5	4.0	VI s/s
P0173.035-010-4V	M 3,5	10	3.5	6.0	2.5	4.0	VI s/s
P0173.035-012-4V	M 3,5	12	3.5	6.0	2.5	4.0	VI s/s
P0173.035-020-4V	M 3,5	20	3.5	6.0	2.5	4.0	VI s/s
P0173.040-006-4V	M 4	6	4.0	7.0	3.0	4.5	VI s/s
P0173.040-008-4V	M 4	8	4.0	7.0	3.0	4.5	VI s/s

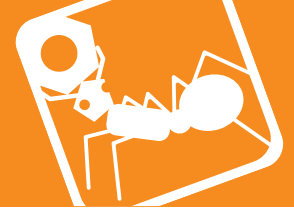


# Cap Head Seal Screws

hex. socket

## Sealing Screws and Plugs

Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	A/F	d <sub>3</sub> ±0.05	Material
P0173.040-010-4V	M 4	10	4.0	7.0	3.0	4.5	VI s/s
P0173.040-012-4V	M 4	12	4.0	7.0	3.0	4.5	VI s/s
P0173.040-016-4V	M 4	16	4.0	7.0	3.0	4.5	VI s/s
P0173.040-020-4V	M 4	20	4.0	7.0	3.0	4.5	VI s/s
P0173.050-008-4V	M 5	8	5.0	8.5	4.0	5.6	VI s/s
P0173.050-010-4V	M 5	10	5.0	8.5	4.0	5.6	VI s/s
P0173.050-012-4V	M 5	12	5.0	8.5	4.0	5.6	VI s/s
P0173.050-016-4V	M 5	16	5.0	8.5	4.0	5.6	VI s/s
P0173.050-020-4V	M 5	20	5.0	8.5	4.0	5.6	VI s/s
P0173.060-012-4V	M 6	12	6.0	10.0	5.0	6.8	VI s/s
P0173.060-016-4V	M 6	16	6.0	10.0	5.0	6.8	VI s/s
P0173.060-020-4V	M 6	20	6.0	10.0	5.0	6.8	VI s/s
P0173.060-025-4V	M 6	25	6.0	10.0	5.0	6.8	VI s/s
P0173.060-030-4V	M 6	30	6.0	10.0	5.0	6.8	VI s/s
P0173.080-012-4V	M 8	12	8.0	13.0	6.0	8.5	VI s/s
P0173.080-016-4V	M 8	16	8.0	13.0	6.0	8.5	VI s/s
P0173.080-020-4V	M 8	20	8.0	13.0	6.0	8.5	VI s/s
P0173.080-025-4V	M 8	25	8.0	13.0	6.0	8.5	VI s/s
P0173.080-030-4V	M 8	30	8.0	13.0	6.0	8.5	VI s/s
P0173.100-016-4V	M10	16	10.0	16.0	8.0	10.6	VI s/s
P0173.100-020-4V	M10	20	10.0	16.0	8.0	10.6	VI s/s
P0173.100-025-4V	M10	25	10.0	16.0	8.0	10.6	VI s/s
P0173.100-030-4V	M10	30	10.0	16.0	8.0	10.6	VI s/s
P0173.100-040-4V	M10	40	10.0	16.0	8.0	10.6	VI s/s
P0173.120-020-4V	M12	20	12.0	18.0	10.0	12.85	VI s/s
P0173.120-025-4V	M12	25	12.0	18.0	10.0	12.85	VI s/s
P0173.120-030-4V	M12	30	12.0	18.0	10.0	12.85	VI s/s
P0173.120-040-4V	M12	40	12.0	18.0	10.0	12.85	VI s/s
P0173.120-050-4V	M12	50	12.0	18.0	10.0	12.85	VI s/s
P0173.160-025-4V	M16	25	16.0	24.0	14.0	17.5	VI s/s
P0173.160-030-4V	M16	30	16.0	24.0	14.0	17.5	VI s/s
P0173.160-040-4V	M16	40	16.0	24.0	14.0	17.5	VI s/s
P0173.160-050-4V	M16	50	16.0	24.0	14.0	17.5	VI s/s
P0173.020-004-2S	M 2	4	2.0	3.8	1.5	2.35	A2 s/s
P0173.020-008-2S	M 2	8	2.0	3.8	1.5	2.35	A2 s/s
P0173.020-010-2S	M 2	10	2.0	3.8	1.5	2.35	A2 s/s
P0173.020-012-2S	M 2	12	2.0	3.8	1.5	2.35	A2 s/s
P0173.025-006-2S	M2,5	6	2.5	4.7	2.0	2.75	A2 s/s
P0173.025-008-2S	M2,5	8	2.5	4.7	2.0	2.75	A2 s/s
P0173.025-010-2S	M2,5	10	2.5	4.7	2.0	2.75	A2 s/s
P0173.025-012-2S	M2,5	12	2.5	4.7	2.0	2.75	A2 s/s
P0173.030-006-2S	M 3	6	3.0	5.5	2.5	3.6	A2 s/s
P0173.030-008-2S	M 3	8	3.0	5.5	2.5	3.6	A2 s/s
P0173.030-010-2S	M 3	10	3.0	5.5	2.5	3.6	A2 s/s
P0173.030-012-2S	M 3	12	3.0	5.5	2.5	3.6	A2 s/s
P0173.030-020-2S	M 3	20	3.0	5.5	2.5	3.6	A2 s/s
P0173.035-006-2S	M 3,5	6	3.5	6.0	2.5	4.0	A2 s/s
P0173.035-008-2S	M 3,5	8	3.5	6.0	2.5	4.0	A2 s/s
P0173.035-010-2S	M 3,5	10	3.5	6.0	2.5	4.0	A2 s/s
P0173.035-012-2S	M 3,5	12	3.5	6.0	2.5	4.0	A2 s/s
P0173.035-020-2S	M 3,5	20	3.5	6.0	2.5	4.0	A2 s/s
P0173.040-006-2S	M 4	6	4.0	7.0	3.0	4.5	A2 s/s
P0173.040-008-2S	M 4	8	4.0	7.0	3.0	4.5	A2 s/s
P0173.040-010-2S	M 4	10	4.0	7.0	3.0	4.5	A2 s/s
P0173.040-012-2S	M 4	12	4.0	7.0	3.0	4.5	A2 s/s
P0173.040-016-2S	M 4	16	4.0	7.0	3.0	4.5	A2 s/s
P0173.040-020-2S	M 4	20	4.0	7.0	3.0	4.5	A2 s/s
P0173.050-008-2S	M 5	8	5.0	8.5	4.0	5.6	A2 s/s
P0173.050-010-2S	M 5	10	5.0	8.5	4.0	5.6	A2 s/s
P0173.050-012-2S	M 5	12	5.0	8.5	4.0	5.6	A2 s/s
P0173.050-016-2S	M 5	16	5.0	8.5	4.0	5.6	A2 s/s
P0173.050-020-2S	M 5	20	5.0	8.5	4.0	5.6	A2 s/s
P0173.060-012-2S	M 6	12	6.0	10.0	5.0	6.8	A2 s/s
P0173.060-016-2S	M 6	16	6.0	10.0	5.0	6.8	A2 s/s
P0173.060-020-2S	M 6	20	6.0	10.0	5.0	6.8	A2 s/s
P0173.060-025-2S	M 6	25	6.0	10.0	5.0	6.8	A2 s/s
P0173.060-030-2S	M 6	30	6.0	10.0	5.0	6.8	A2 s/s
P0173.080-012-2S	M 8	12	8.0	13.0	6.0	8.5	A2 s/s



Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	A/F	d <sub>3</sub> ±0.05	Material
P0173.080-016-2S	M 8	16	8.0	13.0	6.0	8.5	A2 s/s
P0173.080-020-2S	M 8	20	8.0	13.0	6.0	8.5	A2 s/s
P0173.080-025-2S	M 8	25	8.0	13.0	6.0	8.5	A2 s/s
P0173.080-030-2S	M 8	30	8.0	13.0	6.0	8.5	A2 s/s
P0173.100-016-2S	M10	16	10.0	16.0	8.0	10.6	A2 s/s
P0173.100-020-2S	M10	20	10.0	16.0	8.0	10.6	A2 s/s
P0173.100-025-2S	M10	25	10.0	16.0	8.0	10.6	A2 s/s
P0173.100-030-2S	M10	30	10.0	16.0	8.0	10.6	A2 s/s
P0173.100-040-2S	M10	40	10.0	16.0	8.0	10.6	A2 s/s
P0173.120-020-2S	M12	20	12.0	18.0	10.0	12.85	A2 s/s
P0173.120-025-2S	M12	25	12.0	18.0	10.0	12.85	A2 s/s
P0173.120-030-2S	M12	30	12.0	18.0	10.0	12.85	A2 s/s
P0173.120-040-2S	M12	40	12.0	18.0	10.0	12.85	A2 s/s
P0173.120-050-2S	M12	50	12.0	18.0	10.0	12.85	A2 s/s
P0173.160-025-2S	M16	25	16.0	24.0	14.0	17.5	A2 s/s
P0173.160-030-2S	M16	30	16.0	24.0	14.0	17.5	A2 s/s
P0173.160-040-2S	M16	40	16.0	24.0	14.0	17.5	A2 s/s
P0173.160-050-2S	M16	50	16.0	24.0	14.0	17.5	A2 s/s
P0173.020-004-2F	M 2	4	2.0	3.8	1.5	2.35	VI s/s
P0173.020-008-2F	M 2	8	2.0	3.8	1.5	2.35	VI s/s
P0173.020-010-2F	M 2	10	2.0	3.8	1.5	2.35	VI s/s
P0173.020-012-2F	M 2	12	2.0	3.8	1.5	2.35	VI s/s
P0173.025-006-2F	M2,5	6	2.5	4.7	2.0	2.75	VI s/s
P0173.025-008-2F	M2,5	8	2.5	4.7	2.0	2.75	VI s/s
P0173.025-010-2F	M2,5	10	2.5	4.7	2.0	2.75	VI s/s
P0173.025-012-2F	M2,5	12	2.5	4.7	2.0	2.75	VI s/s
P0173.030-006-2F	M 3	6	3.0	5.5	2.5	3.6	VI s/s
P0173.030-008-2F	M 3	8	3.0	5.5	2.5	3.6	VI s/s
P0173.030-010-2F	M 3	10	3.0	5.5	2.5	3.6	VI s/s
P0173.030-012-2F	M 3	12	3.0	5.5	2.5	3.6	VI s/s
P0173.030-020-2F	M 3	20	3.0	5.5	2.5	3.6	VI s/s
P0173.035-006-2F	M 3,5	6	3.5	6.0	2.5	4.0	VI s/s
P0173.035-008-2F	M 3,5	8	3.5	6.0	2.5	4.0	VI s/s
P0173.035-010-2F	M 3,5	10	3.5	6.0	2.5	4.0	VI s/s
P0173.035-012-2F	M 3,5	12	3.5	6.0	2.5	4.0	VI s/s
P0173.035-020-2F	M 3,5	20	3.5	6.0	2.5	4.0	VI s/s
P0173.040-006-2F	M 4	6	4.0	7.0	3.0	4.5	VI s/s
P0173.040-008-2F	M 4	8	4.0	7.0	3.0	4.5	VI s/s
P0173.040-010-2F	M 4	10	4.0	7.0	3.0	4.5	VI s/s
P0173.040-012-2F	M 4	12	4.0	7.0	3.0	4.5	VI s/s
P0173.040-016-2F	M 4	16	4.0	7.0	3.0	4.5	VI s/s
P0173.040-020-2F	M 4	20	4.0	7.0	3.0	4.5	VI s/s
P0173.050-008-2F	M 5	8	5.0	8.5	4.0	5.6	VI s/s
P0173.050-010-2F	M 5	10	5.0	8.5	4.0	5.6	VI s/s
P0173.050-012-2F	M 5	12	5.0	8.5	4.0	5.6	VI s/s
P0173.050-016-2F	M 5	16	5.0	8.5	4.0	5.6	VI s/s
P0173.050-020-2F	M 5	20	5.0	8.5	4.0	5.6	VI s/s
P0173.060-012-2F	M 6	12	6.0	10.0	5.0	6.8	VI s/s
P0173.060-016-2F	M 6	16	6.0	10.0	5.0	6.8	VI s/s
P0173.060-020-2F	M 6	20	6.0	10.0	5.0	6.8	VI s/s
P0173.060-025-2F	M 6	25	6.0	10.0	5.0	6.8	VI s/s
P0173.060-030-2F	M 6	30	6.0	10.0	5.0	6.8	VI s/s
P0173.080-012-2F	M 8	12	8.0	13.0	6.0	8.5	VI s/s
P0173.080-016-2F	M 8	16	8.0	13.0	6.0	8.5	VI s/s
P0173.080-020-2F	M 8	20	8.0	13.0	6.0	8.5	VI s/s
P0173.080-025-2F	M 8	25	8.0	13.0	6.0	8.5	VI s/s
P0173.080-030-2F	M 8	30	8.0	13.0	6.0	8.5	VI s/s
P0173.100-016-2F	M10	16	10.0	16.0	8.0	10.6	VI s/s
P0173.100-020-2F	M10	20	10.0	16.0	8.0	10.6	VI s/s
P0173.100-025-2F	M10	25	10.0	16.0	8.0	10.6	VI s/s
P0173.100-030-2F	M10	30	10.0	16.0	8.0	10.6	VI s/s
P0173.100-040-2F	M10	40	10.0	16.0	8.0	10.6	VI s/s
P0173.120-020-2F	M12	20	12.0	18.0	10.0	12.85	VI s/s
P0173.120-025-2F	M12	25	12.0	18.0	10.0	12.85	VI s/s
P0173.120-030-2F	M12	30	12.0	18.0	10.0	12.85	VI s/s
P0173.120-040-2F	M12	40	12.0	18.0	10.0	12.85	VI s/s
P0173.120-050-2F	M12	50	12.0	18.0	10.0	12.85	VI s/s
P0173.160-025-2F	M16	25	16.0	24.0	14.0	17.5	VI s/s



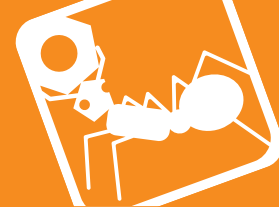
# Cap Head Seal Screws

hex. socket

## Sealing Screws and Plugs

Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	A/F	d <sub>3</sub> ±0.05	Material
P0173.160-030-2F	M16	30	16.0	24.0	14.0	17.5	VI s/s
P0173.160-040-2F	M16	40	16.0	24.0	14.0	17.5	VI s/s
P0173.160-050-2F	M16	50	16.0	24.0	14.0	17.5	VI s/s
P0173.020-004-4F	M 2	4	2.0	3.8	1.5	2.35	VI s/s
P0173.020-008-4F	M 2	8	2.0	3.8	1.5	2.35	VI s/s
P0173.020-010-4F	M 2	10	2.0	3.8	1.5	2.35	VI s/s
P0173.020-012-4F	M 2	12	2.0	3.8	1.5	2.35	VI s/s
P0173.025-006-4F	M2,5	6	2.5	4.7	2.0	2.75	VI s/s
P0173.025-008-4F	M2,5	8	2.5	4.7	2.0	2.75	VI s/s
P0173.025-010-4F	M2,5	10	2.5	4.7	2.0	2.75	VI s/s
P0173.025-012-4F	M2,5	12	2.5	4.7	2.0	2.75	VI s/s
P0173.030-006-4F	M 3	6	3.0	5.5	2.5	3.6	VI s/s
P0173.030-008-4F	M 3	8	3.0	5.5	2.5	3.6	VI s/s
P0173.030-010-4F	M 3	10	3.0	5.5	2.5	3.6	VI s/s
P0173.030-012-4F	M 3	12	3.0	5.5	2.5	3.6	VI s/s
P0173.030-020-4F	M 3	20	3.0	5.5	2.5	3.6	VI s/s
P0173.035-006-4F	M 3,5	6	3.5	6.0	2.5	4.0	VI s/s
P0173.035-008-4F	M 3,5	8	3.5	6.0	2.5	4.0	VI s/s
P0173.035-010-4F	M 3,5	10	3.5	6.0	2.5	4.0	VI s/s
P0173.035-012-4F	M 3,5	12	3.5	6.0	2.5	4.0	VI s/s
P0173.035-020-4F	M 3,5	20	3.5	6.0	2.5	4.0	VI s/s
P0173.040-006-4F	M 4	6	4.0	7.0	3.0	4.5	VI s/s
P0173.040-008-4F	M 4	8	4.0	7.0	3.0	4.5	VI s/s
P0173.040-010-4F	M 4	10	4.0	7.0	3.0	4.5	VI s/s
P0173.040-012-4F	M 4	12	4.0	7.0	3.0	4.5	VI s/s
P0173.040-016-4F	M 4	16	4.0	7.0	3.0	4.5	VI s/s
P0173.040-020-4F	M 4	20	4.0	7.0	3.0	4.5	VI s/s
P0173.050-008-4F	M 5	8	5.0	8.5	4.0	5.6	VI s/s
P0173.050-010-4F	M 5	10	5.0	8.5	4.0	5.6	VI s/s
P0173.050-012-4F	M 5	12	5.0	8.5	4.0	5.6	VI s/s
P0173.050-016-4F	M 5	16	5.0	8.5	4.0	5.6	VI s/s
P0173.050-020-4F	M 5	20	5.0	8.5	4.0	5.6	VI s/s
P0173.060-012-4F	M 6	12	6.0	10.0	5.0	6.8	VI s/s
P0173.060-016-4F	M 6	16	6.0	10.0	5.0	6.8	VI s/s
P0173.060-020-4F	M 6	20	6.0	10.0	5.0	6.8	VI s/s
P0173.060-025-4F	M 6	25	6.0	10.0	5.0	6.8	VI s/s
P0173.060-030-4F	M 6	30	6.0	10.0	5.0	6.8	VI s/s
P0173.080-012-4F	M 8	12	8.0	13.0	6.0	8.5	VI s/s
P0173.080-016-4F	M 8	16	8.0	13.0	6.0	8.5	VI s/s
P0173.080-020-4F	M 8	20	8.0	13.0	6.0	8.5	VI s/s
P0173.080-025-4F	M 8	25	8.0	13.0	6.0	8.5	VI s/s
P0173.080-030-4F	M 8	30	8.0	13.0	6.0	8.5	VI s/s
P0173.100-016-4F	M10	16	10.0	16.0	8.0	10.6	VI s/s
P0173.100-020-4F	M10	20	10.0	16.0	8.0	10.6	VI s/s
P0173.100-025-4F	M10	25	10.0	16.0	8.0	10.6	VI s/s
P0173.100-030-4F	M10	30	10.0	16.0	8.0	10.6	VI s/s
P0173.100-040-4F	M10	40	10.0	16.0	8.0	10.6	VI s/s
P0173.120-020-4F	M12	20	12.0	18.0	10.0	12.85	VI s/s
P0173.120-025-4F	M12	25	12.0	18.0	10.0	12.85	VI s/s
P0173.120-030-4F	M12	30	12.0	18.0	10.0	12.85	VI s/s
P0173.120-040-4F	M12	40	12.0	18.0	10.0	12.85	VI s/s
P0173.120-050-4F	M12	50	12.0	18.0	10.0	12.85	VI s/s
P0173.160-025-4F	M16	25	16.0	24.0	14.0	17.5	VI s/s
P0173.160-030-4F	M16	30	16.0	24.0	14.0	17.5	VI s/s
P0173.160-040-4F	M16	40	16.0	24.0	14.0	17.5	VI s/s
P0173.160-050-4F	M16	50	16.0	24.0	14.0	17.5	VI s/s
P0173.020-004-2E	M 2	4	2.0	3.8	1.5	2.35	VI s/s
P0173.020-008-2E	M 2	8	2.0	3.8	1.5	2.35	VI s/s
P0173.020-010-2E	M 2	10	2.0	3.8	1.5	2.35	VI s/s
P0173.020-012-2E	M 2	12	2.0	3.8	1.5	2.35	VI s/s
P0173.025-006-2E	M2,5	6	2.5	4.7	2.0	2.75	VI s/s
P0173.025-008-2E	M2,5	8	2.5	4.7	2.0	2.75	VI s/s
P0173.025-010-2E	M2,5	10	2.5	4.7	2.0	2.75	VI s/s
P0173.025-012-2E	M2,5	12	2.5	4.7	2.0	2.75	VI s/s
P0173.030-006-2E	M 3	6	3.0	5.5	2.5	3.6	VI s/s
P0173.030-008-2E	M 3	8	3.0	5.5	2.5	3.6	VI s/s
P0173.030-010-2E	M 3	10	3.0	5.5	2.5	3.6	VI s/s
P0173.030-012-2E	M 3	12	3.0	5.5	2.5	3.6	VI s/s

SEALING SCREWS AND PLUGS



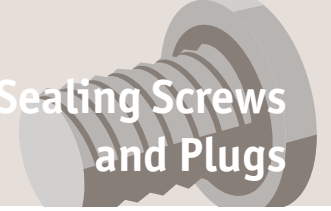
Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	A/F	d <sub>3</sub> ±0.05	Material
P0173.030-020-2E	M 3	20	3.0	5.5	2.5	3.6	VI s/s
P0173.035-006-2E	M 3,5	6	3.5	6.0	2.5	4.0	VI s/s
P0173.035-008-2E	M 3,5	8	3.5	6.0	2.5	4.0	VI s/s
P0173.035-010-2E	M 3,5	10	3.5	6.0	2.5	4.0	VI s/s
P0173.035-012-2E	M 3,5	12	3.5	6.0	2.5	4.0	VI s/s
P0173.035-020-2E	M 3,5	20	3.5	6.0	2.5	4.0	VI s/s
P0173.040-006-2E	M 4	6	4.0	7.0	3.0	4.5	VI s/s
P0173.040-008-2E	M 4	8	4.0	7.0	3.0	4.5	VI s/s
P0173.040-010-2E	M 4	10	4.0	7.0	3.0	4.5	VI s/s
P0173.040-012-2E	M 4	12	4.0	7.0	3.0	4.5	VI s/s
P0173.040-016-2E	M 4	16	4.0	7.0	3.0	4.5	VI s/s
P0173.040-020-2E	M 4	20	4.0	7.0	3.0	4.5	VI s/s
P0173.050-008-2E	M 5	8	5.0	8.5	4.0	5.6	VI s/s
P0173.050-010-2E	M 5	10	5.0	8.5	4.0	5.6	VI s/s
P0173.050-012-2E	M 5	12	5.0	8.5	4.0	5.6	VI s/s
P0173.050-016-2E	M 5	16	5.0	8.5	4.0	5.6	VI s/s
P0173.050-020-2E	M 5	20	5.0	8.5	4.0	5.6	VI s/s
P0173.060-012-2E	M 6	12	6.0	10.0	5.0	6.8	VI s/s
P0173.060-016-2E	M 6	16	6.0	10.0	5.0	6.8	VI s/s
P0173.060-020-2E	M 6	20	6.0	10.0	5.0	6.8	VI s/s
P0173.060-025-2E	M 6	25	6.0	10.0	5.0	6.8	VI s/s
P0173.060-030-2E	M 6	30	6.0	10.0	5.0	6.8	VI s/s
P0173.080-012-2E	M 8	12	8.0	13.0	6.0	8.5	VI s/s
P0173.080-016-2E	M 8	16	8.0	13.0	6.0	8.5	VI s/s
P0173.080-020-2E	M 8	20	8.0	13.0	6.0	8.5	VI s/s
P0173.080-025-2E	M 8	25	8.0	13.0	6.0	8.5	VI s/s
P0173.080-030-2E	M 8	30	8.0	13.0	6.0	8.5	VI s/s
P0173.100-016-2E	M10	16	10.0	16.0	8.0	10.6	VI s/s
P0173.100-020-2E	M10	20	10.0	16.0	8.0	10.6	VI s/s
P0173.100-025-2E	M10	25	10.0	16.0	8.0	10.6	VI s/s
P0173.100-030-2E	M10	30	10.0	16.0	8.0	10.6	VI s/s
P0173.100-040-2E	M10	40	10.0	16.0	8.0	10.6	VI s/s
P0173.120-020-2E	M12	20	12.0	18.0	10.0	12.85	VI s/s
P0173.120-025-2E	M12	25	12.0	18.0	10.0	12.85	VI s/s
P0173.120-030-2E	M12	30	12.0	18.0	10.0	12.85	VI s/s
P0173.120-040-2E	M12	40	12.0	18.0	10.0	12.85	VI s/s
P0173.120-050-2E	M12	50	12.0	18.0	10.0	12.85	VI s/s
P0173.160-025-2E	M16	25	16.0	24.0	14.0	17.5	VI s/s
P0173.160-030-2E	M16	30	16.0	24.0	14.0	17.5	VI s/s
P0173.160-040-2E	M16	40	16.0	24.0	14.0	17.5	VI s/s
P0173.160-050-2E	M16	50	16.0	24.0	14.0	17.5	VI s/s
P0173.020-004-4E	M 2	4	2.0	3.8	1.5	2.35	VI s/s
P0173.020-008-4E	M 2	8	2.0	3.8	1.5	2.35	VI s/s
P0173.020-010-4E	M 2	10	2.0	3.8	1.5	2.35	VI s/s
P0173.020-012-4E	M 2	12	2.0	3.8	1.5	2.35	VI s/s
P0173.025-006-4E	M2,5	6	2.5	4.7	2.0	2.75	VI s/s
P0173.025-008-4E	M2,5	8	2.5	4.7	2.0	2.75	VI s/s
P0173.025-010-4E	M2,5	10	2.5	4.7	2.0	2.75	VI s/s
P0173.025-012-4E	M2,5	12	2.5	4.7	2.0	2.75	VI s/s
P0173.030-006-4E	M 3	6	3.0	5.5	2.5	3.6	VI s/s
P0173.030-008-4E	M 3	8	3.0	5.5	2.5	3.6	VI s/s
P0173.030-010-4E	M 3	10	3.0	5.5	2.5	3.6	VI s/s
P0173.030-012-4E	M 3	12	3.0	5.5	2.5	3.6	VI s/s
P0173.030-020-4E	M 3	20	3.0	5.5	2.5	3.6	VI s/s
P0173.035-006-4E	M 3,5	6	3.5	6.0	2.5	4.0	VI s/s
P0173.035-008-4E	M 3,5	8	3.5	6.0	2.5	4.0	VI s/s
P0173.035-010-4E	M 3,5	10	3.5	6.0	2.5	4.0	VI s/s
P0173.035-012-4E	M 3,5	12	3.5	6.0	2.5	4.0	VI s/s
P0173.035-020-4E	M 3,5	20	3.5	6.0	2.5	4.0	VI s/s
P0173.040-006-4E	M 4	6	4.0	7.0	3.0	4.5	VI s/s
P0173.040-008-4E	M 4	8	4.0	7.0	3.0	4.5	VI s/s
P0173.040-010-4E	M 4	10	4.0	7.0	3.0	4.5	VI s/s
P0173.040-012-4E	M 4	12	4.0	7.0	3.0	4.5	VI s/s
P0173.040-016-4E	M 4	16	4.0	7.0	3.0	4.5	VI s/s
P0173.040-020-4E	M 4	20	4.0	7.0	3.0	4.5	VI s/s
P0173.050-008-4E	M 5	8	5.0	8.5	4.0	5.6	VI s/s
P0173.050-010-4E	M 5	10	5.0	8.5	4.0	5.6	VI s/s
P0173.050-012-4E	M 5	12	5.0	8.5	4.0	5.6	VI s/s



# Cap Head Seal Screws

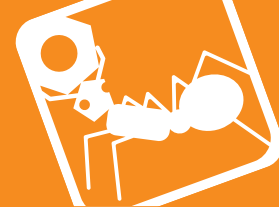
hex. socket

## Sealing Screws and Plugs



SEALING SCREWS AND PLUGS

Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	A/F	d <sub>3</sub> ±0.05	Material
P0173.050-016-4E	M 5	16	5.0	8.5	4.0	5.6	VI s/s
P0173.050-020-4E	M 5	20	5.0	8.5	4.0	5.6	VI s/s
P0173.060-012-4E	M 6	12	6.0	10.0	5.0	6.8	VI s/s
P0173.060-016-4E	M 6	16	6.0	10.0	5.0	6.8	VI s/s
P0173.060-020-4E	M 6	20	6.0	10.0	5.0	6.8	VI s/s
P0173.060-025-4E	M 6	25	6.0	10.0	5.0	6.8	VI s/s
P0173.060-030-4E	M 6	30	6.0	10.0	5.0	6.8	VI s/s
P0173.080-012-4E	M 8	12	8.0	13.0	6.0	8.5	VI s/s
P0173.080-016-4E	M 8	16	8.0	13.0	6.0	8.5	VI s/s
P0173.080-020-4E	M 8	20	8.0	13.0	6.0	8.5	VI s/s
P0173.080-025-4E	M 8	25	8.0	13.0	6.0	8.5	VI s/s
P0173.080-030-4E	M 8	30	8.0	13.0	6.0	8.5	VI s/s
P0173.100-016-4E	M10	16	10.0	16.0	8.0	10.6	VI s/s
P0173.100-020-4E	M10	20	10.0	16.0	8.0	10.6	VI s/s
P0173.100-025-4E	M10	25	10.0	16.0	8.0	10.6	VI s/s
P0173.100-030-4E	M10	30	10.0	16.0	8.0	10.6	VI s/s
P0173.100-040-4E	M10	40	10.0	16.0	8.0	10.6	VI s/s
P0173.120-020-4E	M12	20	12.0	18.0	10.0	12.85	VI s/s
P0173.120-025-4E	M12	25	12.0	18.0	10.0	12.85	VI s/s
P0173.120-030-4E	M12	30	12.0	18.0	10.0	12.85	VI s/s
P0173.120-040-4E	M12	40	12.0	18.0	10.0	12.85	VI s/s
P0173.120-050-4E	M12	50	12.0	18.0	10.0	12.85	VI s/s
P0173.160-025-4E	M16	25	16.0	24.0	14.0	17.5	VI s/s
P0173.160-030-4E	M16	30	16.0	24.0	14.0	17.5	VI s/s
P0173.160-040-4E	M16	40	16.0	24.0	14.0	17.5	VI s/s
P0173.160-050-4E	M16	50	16.0	24.0	14.0	17.5	VI s/s
P0173.020-004-2N	M 2	4	2.0	3.8	1.5	2.35	VI s/s
P0173.020-008-2N	M 2	8	2.0	3.8	1.5	2.35	VI s/s
P0173.020-010-2N	M 2	10	2.0	3.8	1.5	2.35	VI s/s
P0173.020-012-2N	M 2	12	2.0	3.8	1.5	2.35	VI s/s
P0173.025-006-2N	M2,5	6	2.5	4.7	2.0	2.75	VI s/s
P0173.025-008-2N	M2,5	8	2.5	4.7	2.0	2.75	VI s/s
P0173.025-010-2N	M2,5	10	2.5	4.7	2.0	2.75	VI s/s
P0173.025-012-2N	M2,5	12	2.5	4.7	2.0	2.75	VI s/s
P0173.030-006-2N	M 3	6	3.0	5.5	2.5	3.6	VI s/s
P0173.030-008-2N	M 3	8	3.0	5.5	2.5	3.6	VI s/s
P0173.030-010-2N	M 3	10	3.0	5.5	2.5	3.6	VI s/s
P0173.030-012-2N	M 3	12	3.0	5.5	2.5	3.6	VI s/s
P0173.030-020-2N	M 3	20	3.0	5.5	2.5	3.6	VI s/s
P0173.035-006-2N	M 3,5	6	3.5	6.0	2.5	4.0	VI s/s
P0173.035-008-2N	M 3,5	8	3.5	6.0	2.5	4.0	VI s/s
P0173.035-010-2N	M 3,5	10	3.5	6.0	2.5	4.0	VI s/s
P0173.035-012-2N	M 3,5	12	3.5	6.0	2.5	4.0	VI s/s
P0173.035-020-2N	M 3,5	20	3.5	6.0	2.5	4.0	VI s/s
P0173.040-006-2N	M 4	6	4.0	7.0	3.0	4.5	VI s/s
P0173.040-008-2N	M 4	8	4.0	7.0	3.0	4.5	VI s/s
P0173.040-010-2N	M 4	10	4.0	7.0	3.0	4.5	VI s/s
P0173.040-012-2N	M 4	12	4.0	7.0	3.0	4.5	VI s/s
P0173.040-016-2N	M 4	16	4.0	7.0	3.0	4.5	VI s/s
P0173.040-020-2N	M 4	20	4.0	7.0	3.0	4.5	VI s/s
P0173.050-008-2N	M 5	8	5.0	8.5	4.0	5.6	VI s/s
P0173.050-010-2N	M 5	10	5.0	8.5	4.0	5.6	VI s/s
P0173.050-012-2N	M 5	12	5.0	8.5	4.0	5.6	VI s/s
P0173.050-016-2N	M 5	16	5.0	8.5	4.0	5.6	VI s/s
P0173.050-020-2N	M 5	20	5.0	8.5	4.0	5.6	VI s/s
P0173.060-012-2N	M 6	12	6.0	10.0	5.0	6.8	VI s/s
P0173.060-016-2N	M 6	16	6.0	10.0	5.0	6.8	VI s/s
P0173.060-020-2N	M 6	20	6.0	10.0	5.0	6.8	VI s/s
P0173.060-025-2N	M 6	25	6.0	10.0	5.0	6.8	VI s/s
P0173.060-030-2N	M 6	30	6.0	10.0	5.0	6.8	VI s/s
P0173.080-012-2N	M 8	12	8.0	13.0	6.0	8.5	VI s/s
P0173.080-016-2N	M 8	16	8.0	13.0	6.0	8.5	VI s/s
P0173.080-020-2N	M 8	20	8.0	13.0	6.0	8.5	VI s/s
P0173.080-025-2N	M 8	25	8.0	13.0	6.0	8.5	VI s/s
P0173.080-030-2N	M 8	30	8.0	13.0	6.0	8.5	VI s/s
P0173.100-016-2N	M10	16	10.0	16.0	8.0	10.6	VI s/s
P0173.100-020-2N	M10	20	10.0	16.0	8.0	10.6	VI s/s
P0173.100-025-2N	M10	25	10.0	16.0	8.0	10.6	VI s/s



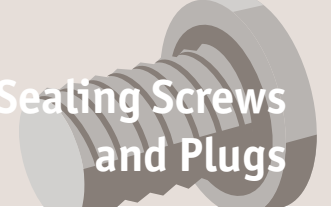
Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	A/F	d <sub>3</sub> ±0.05	Material
P0173.100-030-2N	M10	30	10.0	16.0	8.0	10.6	VI s/s
P0173.100-040-2N	M10	40	10.0	16.0	8.0	10.6	VI s/s
P0173.120-020-2N	M12	20	12.0	18.0	10.0	12.85	VI s/s
P0173.120-025-2N	M12	25	12.0	18.0	10.0	12.85	VI s/s
P0173.120-030-2N	M12	30	12.0	18.0	10.0	12.85	VI s/s
P0173.120-040-2N	M12	40	12.0	18.0	10.0	12.85	VI s/s
P0173.120-050-2N	M12	50	12.0	18.0	10.0	12.85	VI s/s
P0173.160-025-2N	M16	25	16.0	24.0	14.0	17.5	VI s/s
P0173.160-030-2N	M16	30	16.0	24.0	14.0	17.5	VI s/s
P0173.160-040-2N	M16	40	16.0	24.0	14.0	17.5	VI s/s
P0173.160-050-2N	M16	50	16.0	24.0	14.0	17.5	VI s/s
P0173.020-004-4N	M 2	4	2.0	3.8	1.5	2.35	VI s/s
P0173.020-008-4N	M 2	8	2.0	3.8	1.5	2.35	VI s/s
P0173.020-010-4N	M 2	10	2.0	3.8	1.5	2.35	VI s/s
P0173.020-012-4N	M 2	12	2.0	3.8	1.5	2.35	VI s/s
P0173.025-006-4N	M2,5	6	2.5	4.7	2.0	2.75	VI s/s
P0173.025-008-4N	M2,5	8	2.5	4.7	2.0	2.75	VI s/s
P0173.025-010-4N	M2,5	10	2.5	4.7	2.0	2.75	VI s/s
P0173.025-012-4N	M2,5	12	2.5	4.7	2.0	2.75	VI s/s
P0173.030-006-4N	M 3	6	3.0	5.5	2.5	3.6	VI s/s
P0173.030-008-4N	M 3	8	3.0	5.5	2.5	3.6	VI s/s
P0173.030-010-4N	M 3	10	3.0	5.5	2.5	3.6	VI s/s
P0173.030-012-4N	M 3	12	3.0	5.5	2.5	3.6	VI s/s
P0173.030-020-4N	M 3	20	3.0	5.5	2.5	3.6	VI s/s
P0173.035-006-4N	M 3,5	6	3.5	6.0	2.5	4.0	VI s/s
P0173.035-008-4N	M 3,5	8	3.5	6.0	2.5	4.0	VI s/s
P0173.035-010-4N	M 3,5	10	3.5	6.0	2.5	4.0	VI s/s
P0173.035-012-4N	M 3,5	12	3.5	6.0	2.5	4.0	VI s/s
P0173.035-020-4N	M 3,5	20	3.5	6.0	2.5	4.0	VI s/s
P0173.040-006-4N	M 4	6	4.0	7.0	3.0	4.5	VI s/s
P0173.040-008-4N	M 4	8	4.0	7.0	3.0	4.5	VI s/s
P0173.040-010-4N	M 4	10	4.0	7.0	3.0	4.5	VI s/s
P0173.040-012-4N	M 4	12	4.0	7.0	3.0	4.5	VI s/s
P0173.040-016-4N	M 4	16	4.0	7.0	3.0	4.5	VI s/s
P0173.040-020-4N	M 4	20	4.0	7.0	3.0	4.5	VI s/s
P0173.050-008-4N	M 5	8	5.0	8.5	4.0	5.6	VI s/s
P0173.050-010-4N	M 5	10	5.0	8.5	4.0	5.6	VI s/s
P0173.050-012-4N	M 5	12	5.0	8.5	4.0	5.6	VI s/s
P0173.050-016-4N	M 5	16	5.0	8.5	4.0	5.6	VI s/s
P0173.050-020-4N	M 5	20	5.0	8.5	4.0	5.6	VI s/s
P0173.060-012-4N	M 6	12	6.0	10.0	5.0	6.8	VI s/s
P0173.060-016-4N	M 6	16	6.0	10.0	5.0	6.8	VI s/s
P0173.060-020-4N	M 6	20	6.0	10.0	5.0	6.8	VI s/s
P0173.060-025-4N	M 6	25	6.0	10.0	5.0	6.8	VI s/s
P0173.060-030-4N	M 6	30	6.0	10.0	5.0	6.8	VI s/s
P0173.080-012-4N	M 8	12	8.0	13.0	6.0	8.5	VI s/s
P0173.080-016-4N	M 8	16	8.0	13.0	6.0	8.5	VI s/s
P0173.080-020-4N	M 8	20	8.0	13.0	6.0	8.5	VI s/s
P0173.080-025-4N	M 8	25	8.0	13.0	6.0	8.5	VI s/s
P0173.080-030-4N	M 8	30	8.0	13.0	6.0	8.5	VI s/s
P0173.100-016-4N	M10	16	10.0	16.0	8.0	10.6	VI s/s
P0173.100-020-4N	M10	20	10.0	16.0	8.0	10.6	VI s/s
P0173.100-025-4N	M10	25	10.0	16.0	8.0	10.6	VI s/s
P0173.100-030-4N	M10	30	10.0	16.0	8.0	10.6	VI s/s
P0173.100-040-4N	M10	40	10.0	16.0	8.0	10.6	VI s/s
P0173.120-020-4N	M12	20	12.0	18.0	10.0	12.85	VI s/s
P0173.120-025-4N	M12	25	12.0	18.0	10.0	12.85	VI s/s
P0173.120-030-4N	M12	30	12.0	18.0	10.0	12.85	VI s/s
P0173.120-040-4N	M12	40	12.0	18.0	10.0	12.85	VI s/s
P0173.120-050-4N	M12	50	12.0	18.0	10.0	12.85	VI s/s
P0173.160-025-4N	M16	25	16.0	24.0	14.0	17.5	VI s/s
P0173.160-030-4N	M16	30	16.0	24.0	14.0	17.5	VI s/s
P0173.160-040-4N	M16	40	16.0	24.0	14.0	17.5	VI s/s
P0173.160-050-4N	M16	50	16.0	24.0	14.0	17.5	VI s/s
P0173.020-004-2B	M 2	4	2.0	3.8	1.5	2.35	VI s/s
P0173.020-008-2B	M 2	8	2.0	3.8	1.5	2.35	VI s/s
P0173.020-010-2B	M 2	10	2.0	3.8	1.5	2.35	VI s/s
P0173.020-012-2B	M 2	12	2.0	3.8	1.5	2.35	VI s/s



# Cap Head Seal Screws

hex. socket

## Sealing Screws and Plugs

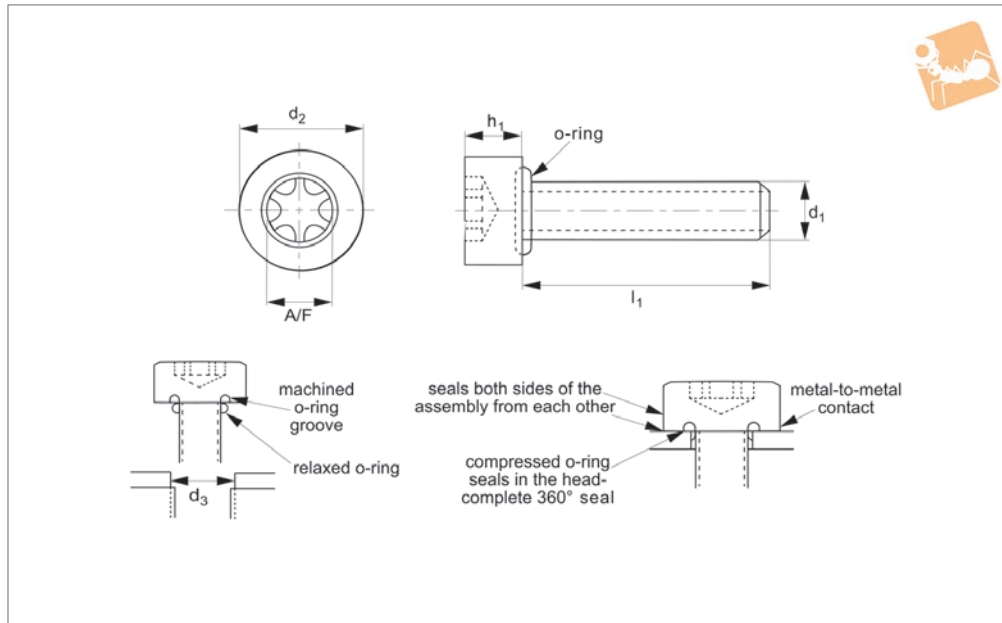


SEALING SCREWS AND PLUGS

Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	A/F	d <sub>3</sub> ±0.05	Material
P0173.025-006-2B	M2,5	6	2.5	4.7	2.0	2.75	VI s/s
P0173.025-008-2B	M2,5	8	2.5	4.7	2.0	2.75	VI s/s
P0173.025-010-2B	M2,5	10	2.5	4.7	2.0	2.75	VI s/s
P0173.025-012-2B	M2,5	12	2.5	4.7	2.0	2.75	VI s/s
P0173.030-006-2B	M 3	6	3.0	5.5	2.5	3.6	VI s/s
P0173.030-008-2B	M 3	8	3.0	5.5	2.5	3.6	VI s/s
P0173.030-010-2B	M 3	10	3.0	5.5	2.5	3.6	VI s/s
P0173.030-012-2B	M 3	12	3.0	5.5	2.5	3.6	VI s/s
P0173.030-020-2B	M 3	20	3.0	5.5	2.5	3.6	VI s/s
P0173.035-006-2B	M 3,5	6	3.5	6.0	2.5	4.0	VI s/s
P0173.035-008-2B	M 3,5	8	3.5	6.0	2.5	4.0	VI s/s
P0173.035-010-2B	M 3,5	10	3.5	6.0	2.5	4.0	VI s/s
P0173.035-012-2B	M 3,5	12	3.5	6.0	2.5	4.0	VI s/s
P0173.035-020-2B	M 3,5	20	3.5	6.0	2.5	4.0	VI s/s
P0173.040-006-2B	M 4	6	4.0	7.0	3.0	4.5	VI s/s
P0173.040-008-2B	M 4	8	4.0	7.0	3.0	4.5	VI s/s
P0173.040-010-2B	M 4	10	4.0	7.0	3.0	4.5	VI s/s
P0173.040-012-2B	M 4	12	4.0	7.0	3.0	4.5	VI s/s
P0173.040-016-2B	M 4	16	4.0	7.0	3.0	4.5	VI s/s
P0173.040-020-2B	M 4	20	4.0	7.0	3.0	4.5	VI s/s
P0173.050-008-2B	M 5	8	5.0	8.5	4.0	5.6	VI s/s
P0173.050-010-2B	M 5	10	5.0	8.5	4.0	5.6	VI s/s
P0173.050-012-2B	M 5	12	5.0	8.5	4.0	5.6	VI s/s
P0173.050-016-2B	M 5	16	5.0	8.5	4.0	5.6	VI s/s
P0173.050-020-2B	M 5	20	5.0	8.5	4.0	5.6	VI s/s
P0173.060-012-2B	M 6	12	6.0	10.0	5.0	6.8	VI s/s
P0173.060-016-2B	M 6	16	6.0	10.0	5.0	6.8	VI s/s
P0173.060-020-2B	M 6	20	6.0	10.0	5.0	6.8	VI s/s
P0173.060-025-2B	M 6	25	6.0	10.0	5.0	6.8	VI s/s
P0173.060-030-2B	M 6	30	6.0	10.0	5.0	6.8	VI s/s
P0173.080-012-2B	M 8	12	8.0	13.0	6.0	8.5	VI s/s
P0173.080-016-2B	M 8	16	8.0	13.0	6.0	8.5	VI s/s
P0173.080-020-2B	M 8	20	8.0	13.0	6.0	8.5	VI s/s
P0173.080-025-2B	M 8	25	8.0	13.0	6.0	8.5	VI s/s
P0173.080-030-2B	M 8	30	8.0	13.0	6.0	8.5	VI s/s
P0173.100-016-2B	M10	16	10.0	16.0	8.0	10.6	VI s/s
P0173.100-020-2B	M10	20	10.0	16.0	8.0	10.6	VI s/s
P0173.100-025-2B	M10	25	10.0	16.0	8.0	10.6	VI s/s
P0173.100-030-2B	M10	30	10.0	16.0	8.0	10.6	VI s/s
P0173.100-040-2B	M10	40	10.0	16.0	8.0	10.6	VI s/s
P0173.120-020-2B	M12	20	12.0	18.0	10.0	12.85	VI s/s
P0173.120-025-2B	M12	25	12.0	18.0	10.0	12.85	VI s/s
P0173.120-030-2B	M12	30	12.0	18.0	10.0	12.85	VI s/s
P0173.120-040-2B	M12	40	12.0	18.0	10.0	12.85	VI s/s
P0173.120-050-2B	M12	50	12.0	18.0	10.0	12.85	VI s/s
P0173.160-025-2B	M16	25	16.0	24.0	14.0	17.5	VI s/s
P0173.160-030-2B	M16	30	16.0	24.0	14.0	17.5	VI s/s
P0173.160-040-2B	M16	40	16.0	24.0	14.0	17.5	VI s/s
P0173.160-050-2B	M16	50	16.0	24.0	14.0	17.5	VI s/s
P0173.020-004-4B	M 2	4	2.0	3.8	1.5	2.35	VI s/s
P0173.020-008-4B	M 2	8	2.0	3.8	1.5	2.35	VI s/s
P0173.020-010-4B	M 2	10	2.0	3.8	1.5	2.35	VI s/s
P0173.020-012-4B	M 2	12	2.0	3.8	1.5	2.35	VI s/s
P0173.025-006-4B	M2,5	6	2.5	4.7	2.0	2.75	VI s/s
P0173.025-008-4B	M2,5	8	2.5	4.7	2.0	2.75	VI s/s
P0173.025-010-4B	M2,5	10	2.5	4.7	2.0	2.75	VI s/s
P0173.025-012-4B	M2,5	12	2.5	4.7	2.0	2.75	VI s/s
P0173.030-006-4B	M 3	6	3.0	5.5	2.5	3.6	VI s/s
P0173.030-008-4B	M 3	8	3.0	5.5	2.5	3.6	VI s/s
P0173.030-010-4B	M 3	10	3.0	5.5	2.5	3.6	VI s/s
P0173.030-012-4B	M 3	12	3.0	5.5	2.5	3.6	VI s/s
P0173.030-020-4B	M 3	20	3.0	5.5	2.5	3.6	VI s/s
P0173.035-006-4B	M 3,5	6	3.5	6.0	2.5	4.0	VI s/s
P0173.035-008-4B	M 3,5	8	3.5	6.0	2.5	4.0	VI s/s
P0173.035-010-4B	M 3,5	10	3.5	6.0	2.5	4.0	VI s/s
P0173.035-012-4B	M 3,5	12	3.5	6.0	2.5	4.0	VI s/s
P0173.035-020-4B	M 3,5	20	3.5	6.0	2.5	4.0	VI s/s
P0173.040-006-4B	M 4	6	4.0	7.0	3.0	4.5	VI s/s



Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	A/F	d <sub>3</sub> ±0.05	Material
P0173.040-008-4B	M 4	8	4.0	7.0	3.0	4.5	VI s/s
P0173.040-010-4B	M 4	10	4.0	7.0	3.0	4.5	VI s/s
P0173.040-012-4B	M 4	12	4.0	7.0	3.0	4.5	VI s/s
P0173.040-016-4B	M 4	16	4.0	7.0	3.0	4.5	VI s/s
P0173.040-020-4B	M 4	20	4.0	7.0	3.0	4.5	VI s/s
P0173.050-008-4B	M 5	8	5.0	8.5	4.0	5.6	VI s/s
P0173.050-010-4B	M 5	10	5.0	8.5	4.0	5.6	VI s/s
P0173.050-012-4B	M 5	12	5.0	8.5	4.0	5.6	VI s/s
P0173.050-016-4B	M 5	16	5.0	8.5	4.0	5.6	VI s/s
P0173.050-020-4B	M 5	20	5.0	8.5	4.0	5.6	VI s/s
P0173.060-012-4B	M 6	12	6.0	10.0	5.0	6.8	VI s/s
P0173.060-016-4B	M 6	16	6.0	10.0	5.0	6.8	VI s/s
P0173.060-020-4B	M 6	20	6.0	10.0	5.0	6.8	VI s/s
P0173.060-025-4B	M 6	25	6.0	10.0	5.0	6.8	VI s/s
P0173.060-030-4B	M 6	30	6.0	10.0	5.0	6.8	VI s/s
P0173.080-012-4B	M 8	12	8.0	13.0	6.0	8.5	VI s/s
P0173.080-016-4B	M 8	16	8.0	13.0	6.0	8.5	VI s/s
P0173.080-020-4B	M 8	20	8.0	13.0	6.0	8.5	VI s/s
P0173.080-025-4B	M 8	25	8.0	13.0	6.0	8.5	VI s/s
P0173.080-030-4B	M 8	30	8.0	13.0	6.0	8.5	VI s/s
P0173.100-016-4B	M10	16	10.0	16.0	8.0	10.6	VI s/s
P0173.100-020-4B	M10	20	10.0	16.0	8.0	10.6	VI s/s
P0173.100-025-4B	M10	25	10.0	16.0	8.0	10.6	VI s/s
P0173.100-030-4B	M10	30	10.0	16.0	8.0	10.6	VI s/s
P0173.100-040-4B	M10	40	10.0	16.0	8.0	10.6	VI s/s
P0173.120-020-4B	M12	20	12.0	18.0	10.0	12.85	VI s/s
P0173.120-025-4B	M12	25	12.0	18.0	10.0	12.85	VI s/s
P0173.120-030-4B	M12	30	12.0	18.0	10.0	12.85	VI s/s
P0173.120-040-4B	M12	40	12.0	18.0	10.0	12.85	VI s/s
P0173.120-050-4B	M12	50	12.0	18.0	10.0	12.85	VI s/s
P0173.160-025-4B	M16	25	16.0	24.0	14.0	17.5	VI s/s
P0173.160-030-4B	M16	30	16.0	24.0	14.0	17.5	VI s/s
P0173.160-040-4B	M16	40	16.0	24.0	14.0	17.5	VI s/s
P0173.160-050-4B	M16	50	16.0	24.0	14.0	17.5	VI s/s



## P0173.TX

SEALING SCREWS AND PLUGS

### Material

Stainless steel (AISI 303 1.4305 tensile strength 550 N/mm<sup>2</sup> or AISI 316 1.440 tensile strength 480 N/mm<sup>2</sup>), with silicone „O“ ring as standard.  
For other „O“ ring materials see technical data pages  
(-FS = fluorosilicone, -EP = EPDM, -VI = viton, -NI = nitrile, -BN = Buna etc.).

Other thread lengths on request.

### Technical Notes

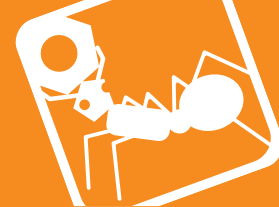
Screws generally as ISO 14759, seals substances in and contaminants out  
Re-useable, clearance holes recommended for maximum sealing.  
Max temperature range: -100°C to +260°C, pressure range - up to 410 bar (6000 psi).

Also available (on request) with thread-locking.

### Tips

Clearance holes recommended for maximum sealing performance (see dimensions below).  
Clearance hole depth 2-3 x thread pitch, threads are metric coarse pitch.

Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	Drive	d <sub>3</sub> ±0.05	Material
P0173.020-004-TX	M 2	4	2.0	3.8	TX 6	2.35	A2 s/s
P0173.020-008-TX	M 2	8	2.0	3.8	TX 6	2.35	A2 s/s
P0173.020-010-TX	M 2	10	2.0	3.8	TX 6	2.35	A2 s/s
P0173.020-012-TX	M 2	12	2.0	3.8	TX 6	2.35	A2 s/s
P0173.025-006-TX	M2,5	6	2.5	4.5	TX 8	2.75	A2 s/s
P0173.025-008-TX	M2,5	8	2.5	4.5	TX 8	2.75	A2 s/s
P0173.025-010-TX	M2,5	10	2.5	4.5	TX 8	2.75	A2 s/s
P0173.025-012-TX	M2,5	12	2.5	4.5	TX 8	2.75	A2 s/s
P0173.030-006-TX	M 3	6	3.0	5.5	TX10	3.6	A2 s/s
P0173.030-008-TX	M 3	8	3.0	5.5	TX10	3.6	A2 s/s
P0173.030-010-TX	M 3	10	3.0	5.5	TX10	3.6	A2 s/s
P0173.030-012-TX	M 3	12	3.0	5.5	TX10	3.6	A2 s/s
P0173.030-020-TX	M 3	20	3.0	5.5	TX10	3.6	A2 s/s
P0173.040-006-TX	M 4	6	4.0	7.0	TX20	4.5	A2 s/s
P0173.040-008-TX	M 4	8	4.0	7.0	TX20	4.5	A2 s/s
P0173.040-010-TX	M 4	10	4.0	7.0	TX20	4.5	A2 s/s
P0173.040-012-TX	M 4	12	4.0	7.0	TX20	4.5	A2 s/s
P0173.040-016-TX	M 4	16	4.0	7.0	TX20	4.5	A2 s/s
P0173.040-020-TX	M 4	20	4.0	7.0	TX20	4.5	A2 s/s
P0173.050-008-TX	M 5	8	5.0	8.5	TX25	5.6	A2 s/s
P0173.050-010-TX	M 5	10	5.0	8.5	TX25	5.6	A2 s/s
P0173.050-012-TX	M 5	12	5.0	8.5	TX25	5.6	A2 s/s
P0173.050-016-TX	M 5	16	5.0	8.5	TX25	5.6	A2 s/s
P0173.050-020-TX	M 5	20	5.0	8.5	TX25	5.6	A2 s/s
P0173.060-012-TX	M 6	12	6.0	10.0	TX30	6.8	A2 s/s
P0173.060-016-TX	M 6	16	6.0	10.0	TX30	6.8	A2 s/s
P0173.060-020-TX	M 6	20	6.0	10.0	TX30	6.8	A2 s/s
P0173.060-025-TX	M 6	25	6.0	10.0	TX30	6.8	A2 s/s



Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	Drive	d <sub>3</sub> ±0.05	Material
P0173.060-030-TX	M 6	30	6.0	10.0	TX30	6.8	A2 s/s
P0173.080-012-TX	M 8	12	8.0	13.0	TX45	8.5	A2 s/s
P0173.080-016-TX	M 8	16	8.0	13.0	TX45	8.5	A2 s/s
P0173.080-020-TX	M 8	20	8.0	13.0	TX45	8.5	A2 s/s
P0173.080-025-TX	M 8	25	8.0	13.0	TX45	8.5	A2 s/s
P0173.080-030-TX	M 8	30	8.0	13.0	TX45	8.5	A2 s/s
P0173.100-016-TX	M10	16	10.0	16.0	TX50	10.6	A2 s/s
P0173.100-020-TX	M10	20	10.0	16.0	TX50	10.6	A2 s/s
P0173.100-025-TX	M10	25	10.0	16.0	TX50	10.6	A2 s/s
P0173.100-030-TX	M10	30	10.0	16.0	TX50	10.6	A2 s/s
P0173.100-040-TX	M10	40	10.0	16.0	TX50	10.6	A2 s/s
P0173.120-020-TX	M12	20	12.0	18.0	TX55	12.85	A2 s/s
P0173.120-025-TX	M12	25	12.0	18.0	TX55	12.85	A2 s/s
P0173.120-030-TX	M12	30	12.0	18.0	TX55	12.85	A2 s/s
P0173.120-040-TX	M12	40	12.0	18.0	TX55	12.85	A2 s/s
P0173.120-050-TX	M12	50	12.0	18.0	TX55	12.85	A2 s/s
P0173.160-025-TX	M16	25	16.0	24.0	TX70	17.5	A2 s/s
P0173.160-030-TX	M16	30	16.0	24.0	TX70	17.5	A2 s/s
P0173.160-040-TX	M16	40	16.0	24.0	TX70	17.5	A2 s/s
P0173.160-050-TX	M16	50	16.0	24.0	TX70	17.5	A2 s/s

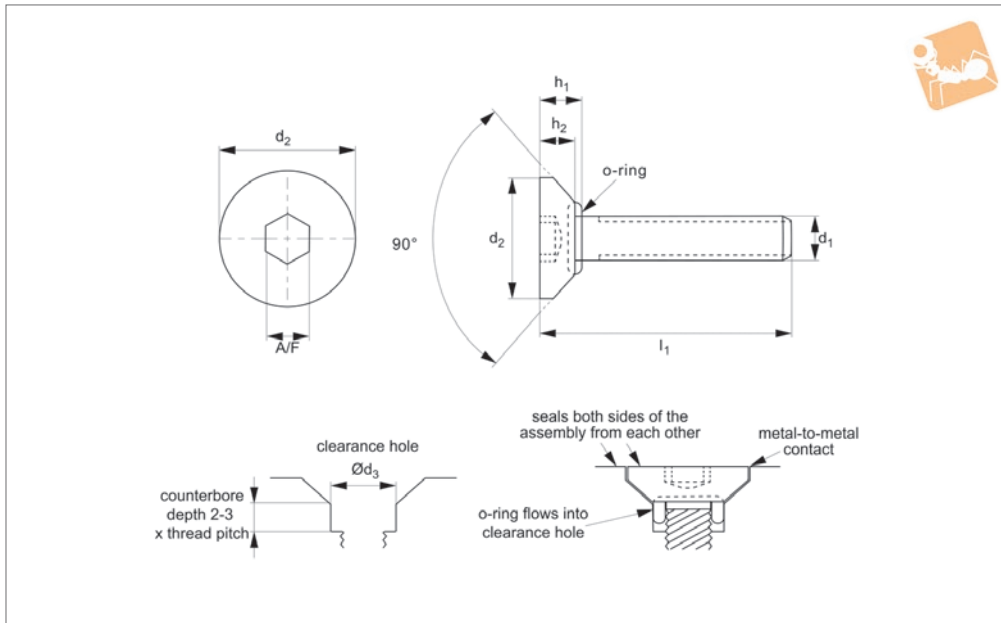




# Countersunk Seal Screws

hex. socket

## Sealing Screws and Plugs



**P0175**

SEALING SCREWS AND PLUGS

### Material

Stainless steel (AISI 303 1.4305 tensile strength 550 N/mm<sup>2</sup>), with silicone „O“ ring as standard.

For other „O“ ring materials see technical data pages

(-FS = fluorosilicone, -EP = EPDM, -VI = viton, -NI = nitrile, -BN = Buna etc.).

Other thread lengths, and stainless steel (AISI 316, 1.440) on request.

### Technical Notes

Screws generally as DIN 7991, ISO 10642, seals substances in and contaminants out. Re-useable. Clearance holes recommended for maximum sealing.

Max temperature range: -100°C to +260°C, pressure range - up to 410 bar (6000 psi). Also available (on request) with thread-locking.

### Tips

Clearance holes recommended for maximum sealing performance (see dimensions below).

Clearance hole depth 2-3 x thread pitch, threads are metric coarse pitch.

$h_1$  dimension is the intersection of the countersunk and shank.

Order No.	$d_1$	$l_1$	$h_1$	$h_2$	$d_2$	$d_3$ $\pm 0.05$	A/F
P0175.030-006-SI	M 3	6	1.86	1.1	5.8	3.6	2.0
P0175.030-008-SI	M 3	8	1.86	1.1	5.8	3.6	2.0
P0175.030-010-SI	M 3	10	1.86	1.1	5.8	3.6	2.0
P0175.030-012-SI	M 3	12	1.86	1.1	5.8	3.6	2.0
P0175.030-020-SI	M 3	20	1.86	1.1	5.8	3.6	2.0
P0175.040-006-SI	M 4	6	2.48	1.5	7.8	4.5	2.5
P0175.040-008-SI	M 4	8	2.48	1.5	7.8	4.5	2.5
P0175.040-010-SI	M 4	10	2.48	1.5	7.8	4.5	2.5
P0175.040-012-SI	M 4	12	2.48	1.5	7.8	4.5	2.5
P0175.040-016-SI	M 4	16	2.48	1.5	7.8	4.5	2.5
P0175.040-020-SI	M 4	20	2.48	1.5	7.8	4.5	2.5
P0175.050-008-SI	M 5	8	3.10	1.8	9.7	5.6	3.0
P0175.050-010-SI	M 5	10	3.10	1.8	9.7	5.6	3.0
P0175.050-012-SI	M 5	12	3.10	1.8	9.7	5.6	3.0
P0175.050-016-SI	M 5	16	3.10	1.8	9.7	5.6	3.0
P0175.050-020-SI	M 5	20	3.10	1.8	9.7	5.6	3.0
P0175.060-012-SI	M 6	12	3.72	2.4	11.8	6.8	4.0
P0175.060-016-SI	M 6	16	3.72	2.4	11.8	6.8	4.0
P0175.060-020-SI	M 6	20	3.72	2.4	11.8	6.8	4.0
P0175.060-025-SI	M 6	25	3.72	2.4	11.8	6.8	4.0
P0175.060-030-SI	M 6	30	3.72	2.4	11.8	6.8	4.0
P0175.080-012-SI	M 8	12	4.96	3.0	15.8	8.5	5.0
P0175.080-016-SI	M 8	16	4.96	3.0	15.8	8.5	5.0
P0175.080-020-SI	M 8	20	4.96	3.0	15.8	8.5	5.0
P0175.080-025-SI	M 8	25	4.96	3.0	15.8	8.5	5.0
P0175.080-030-SI	M 8	30	4.96	3.0	15.8	8.5	5.0
P0175.100-016-SI	M10	16	6.2	4.5	19.8	10.6	6.0



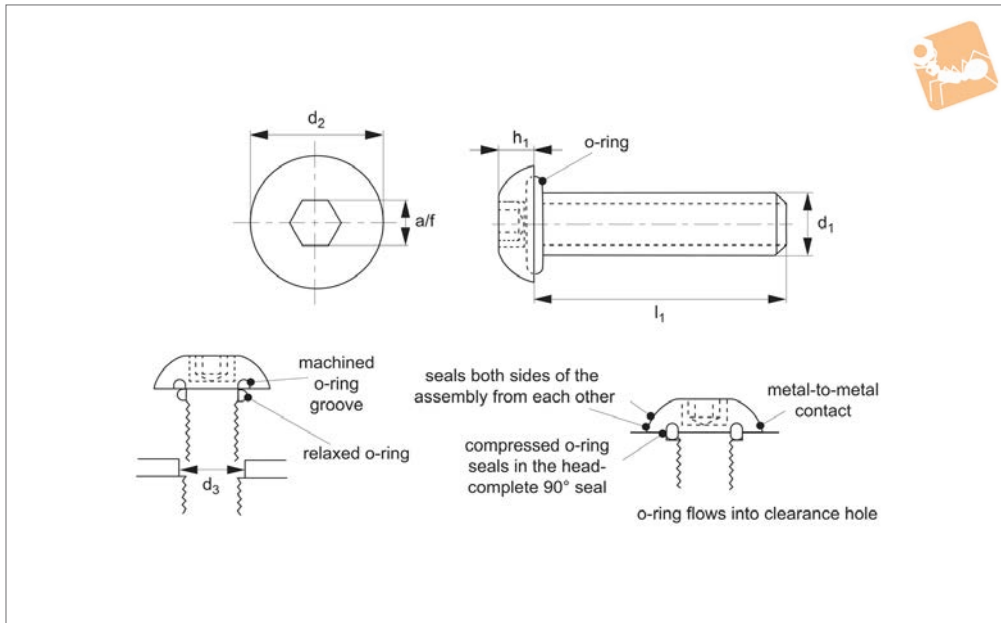
Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub>	h <sub>2</sub>	d <sub>2</sub>	d <sub>3</sub> ±0.05	A/F
P0175.100-020-SI	M10	20	6.2	4.5	19.8	10.6	6.0
P0175.100-025-SI	M10	25	6.2	4.5	19.8	10.6	6.0
P0175.100-030-SI	M10	30	6.2	4.5	19.8	10.6	6.0
P0175.100-040-SI	M10	40	6.2	4.5	19.8	10.6	6.0
P0175.030-006-VI	M 3	6	1.86	1.1	5.8	3.6	2.0
P0175.030-008-VI	M 3	8	1.86	1.1	5.8	3.6	2.0
P0175.030-010-VI	M 3	10	1.86	1.1	5.8	3.6	2.0
P0175.030-012-VI	M 3	12	1.86	1.1	5.8	3.6	2.0
P0175.030-020-VI	M 3	20	1.86	1.1	5.8	3.6	2.0
P0175.040-006-VI	M 4	6	2.48	1.5	7.8	4.5	2.5
P0175.040-008-VI	M 4	8	2.48	1.5	7.8	4.5	2.5
P0175.040-010-VI	M 4	10	2.48	1.5	7.8	4.5	2.5
P0175.040-012-VI	M 4	12	2.48	1.5	7.8	4.5	2.5
P0175.040-016-VI	M 4	16	2.48	1.5	7.8	4.5	2.5
P0175.040-020-VI	M 4	20	2.48	1.5	7.8	4.5	2.5
P0175.050-008-VI	M 5	8	3.10	1.8	9.7	5.6	3.0
P0175.050-010-VI	M 5	10	3.10	1.8	9.7	5.6	3.0
P0175.050-012-VI	M 5	12	3.10	1.8	9.7	5.6	3.0
P0175.050-016-VI	M 5	16	3.10	1.8	9.7	5.6	3.0
P0175.050-020-VI	M 5	20	3.10	1.8	9.7	5.6	3.0
P0175.060-012-VI	M 6	12	3.72	2.4	11.8	6.8	4.0
P0175.060-016-VI	M 6	16	3.72	2.4	11.8	6.8	4.0
P0175.060-020-VI	M 6	20	3.72	2.4	11.8	6.8	4.0
P0175.060-025-VI	M 6	25	3.72	2.4	11.8	6.8	4.0
P0175.060-030-VI	M 6	30	3.72	2.4	11.8	6.8	4.0
P0175.080-012-VI	M 8	12	4.96	3.0	15.8	8.5	5.0
P0175.080-016-VI	M 8	16	4.96	3.0	15.8	8.5	5.0
P0175.080-020-VI	M 8	20	4.96	3.0	15.8	8.5	5.0
P0175.080-025-VI	M 8	25	4.96	3.0	15.8	8.5	5.0
P0175.080-030-VI	M 8	30	4.96	3.0	15.8	8.5	5.0
P0175.100-016-VI	M10	16	6.2	4.5	19.8	10.6	6.0
P0175.100-020-VI	M10	20	6.2	4.5	19.8	10.6	6.0
P0175.100-025-VI	M10	25	6.2	4.5	19.8	10.6	6.0
P0175.100-030-VI	M10	30	6.2	4.5	19.8	10.6	6.0
P0175.100-040-VI	M10	40	6.2	4.5	19.8	10.6	6.0



# Button Head Seal Screws

hex. socket

## Sealing Screws and Plugs



**P0174**

SEALING SCREWS AND PLUGS

### Material

Stainless steel (AISI 303 1.4305 tensile strength 550 N/mm<sup>2</sup> or AISI 316 1.440 tensile strength 480 N/mm<sup>2</sup>), with silicone „O“ ring as standard.  
For other „O“ ring materials see technical data pages  
(-FS = fluorosilicone, -EP = EPDM, -VI = viton, -NI = nitrile, -BN = Buna etc.).

Other thread lengths on request.

### Technical Notes

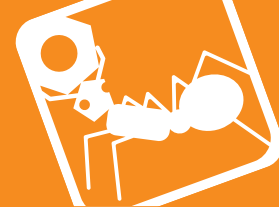
Screws generally as ISO 7380, seals substances in and contaminants out.  
Re-useable. Clearance holes recommended for maximum sealing.  
Max temperature range: -100°C to +260°C, pressure range - up to 410 bar (6000 psi).

Also available (on request) with thread-locking.

### Tips

Clearance holes recommended for maximum sealing performance (see dimensions below).  
Clearance hole depth 2-3 x thread pitch, threads are metric coarse pitch.

Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	A/F	d <sub>3</sub> ±0.05	Material
P0174.030-006-A2	M 3	6	1.7	5.7	2	3.6	A2 s/s
P0174.030-008-A2	M 3	8	1.7	5.7	2	3.6	A2 s/s
P0174.030-010-A2	M 3	10	1.7	5.7	2	3.6	A2 s/s
P0174.030-012-A2	M 3	12	1.7	5.7	2	3.6	A2 s/s
P0174.030-020-A2	M 3	20	1.7	5.7	2	3.6	A2 s/s
P0174.040-006-A2	M 4	6	2.2	7.6	2.5	4.5	A2 s/s
P0174.040-008-A2	M 4	8	2.2	7.6	2.5	4.5	A2 s/s
P0174.040-010-A2	M 4	10	2.2	7.6	2.5	4.5	A2 s/s
P0174.040-012-A2	M 4	12	2.2	7.6	2.5	4.5	A2 s/s
P0174.040-016-A2	M 4	16	2.2	7.6	2.5	4.5	A2 s/s
P0174.040-020-A2	M 4	20	2.2	7.6	2.5	4.5	A2 s/s
P0174.050-008-A2	M 5	8	2.8	9.5	3	5.6	A2 s/s
P0174.050-010-A2	M 5	10	2.8	9.5	3	5.6	A2 s/s
P0174.050-012-A2	M 5	12	2.8	9.5	3	5.6	A2 s/s
P0174.050-016-A2	M 5	16	2.8	9.5	3	5.6	A2 s/s
P0174.050-020-A2	M 5	20	2.8	9.5	3	5.6	A2 s/s
P0174.060-012-A2	M 6	12	3.3	10.5	4	6.8	A2 s/s
P0174.060-016-A2	M 6	16	3.3	10.5	4	6.8	A2 s/s
P0174.060-020-A2	M 6	20	3.3	10.5	4	6.8	A2 s/s
P0174.060-025-A2	M 6	25	3.3	10.5	4	6.8	A2 s/s
P0174.060-030-A2	M 6	30	3.3	10.5	4	6.8	A2 s/s
P0174.080-012-A2	M 8	12	4.4	14.0	5	8.5	A2 s/s
P0174.080-016-A2	M 8	16	4.4	14.0	5	8.5	A2 s/s
P0174.080-020-A2	M 8	20	4.4	14.0	5	8.5	A2 s/s
P0174.080-025-A2	M 8	25	4.4	14.0	5	8.5	A2 s/s
P0174.080-030-A2	M 8	30	4.4	14.0	5	8.5	A2 s/s
P0174.100-016-A2	M10	16	5.5	17.5	6	10.6	A2 s/s
P0174.100-020-A2	M10	20	5.5	17.5	6	10.6	A2 s/s



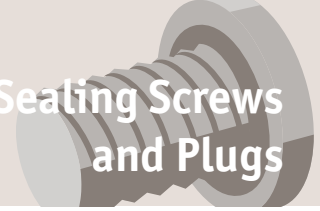
Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	A/F	d <sub>3</sub> ±0.05	Material
P0174.100-025-A2	M10	25	5.5	17.5	6	10.6	A2 s/s
P0174.100-030-A2	M10	30	5.5	17.5	6	10.6	A2 s/s
P0174.100-040-A2	M10	40	5.5	17.5	6	10.6	A2 s/s
P0174.120-020-A2	M12	20	6.6	21.0	8	12.9	A2 s/s
P0174.120-025-A2	M12	25	6.6	21.0	8	12.9	A2 s/s
P0174.120-030-A2	M12	30	6.6	21.0	8	12.9	A2 s/s
P0174.120-040-A2	M12	40	6.6	21.0	8	12.9	A2 s/s
P0174.120-050-A2	M12	50	6.6	21.0	8	12.9	A2 s/s
P0174.030-006-A4	M 3	6	1.7	5.7	2	3.6	A4 s/s
P0174.030-008-A4	M 3	8	1.7	5.7	2	3.6	A4 s/s
P0174.030-010-A4	M 3	10	1.7	5.7	2	3.6	A4 s/s
P0174.030-012-A4	M 3	12	1.7	5.7	2	3.6	A4 s/s
P0174.030-020-A4	M 3	20	1.7	5.7	2	3.6	A4 s/s
P0174.040-006-A4	M 4	6	2.2	7.6	2.5	4.5	A4 s/s
P0174.040-008-A4	M 4	8	2.2	7.6	2.5	4.5	A4 s/s
P0174.040-010-A4	M 4	10	2.2	7.6	2.5	4.5	A4 s/s
P0174.040-012-A4	M 4	12	2.2	7.6	2.5	4.5	A4 s/s
P0174.040-016-A4	M 4	16	2.2	7.6	2.5	4.5	A4 s/s
P0174.040-020-A4	M 4	20	2.2	7.6	2.5	4.5	A4 s/s
P0174.050-008-A4	M 5	8	2.8	9.5	3	5.6	A4 s/s
P0174.050-010-A4	M 5	10	2.8	9.5	3	5.6	A4 s/s
P0174.050-012-A4	M 5	12	2.8	9.5	3	5.6	A4 s/s
P0174.050-016-A4	M 5	16	2.8	9.5	3	5.6	A4 s/s
P0174.050-020-A4	M 5	20	2.8	9.5	3	5.6	A4 s/s
P0174.060-012-A4	M 6	12	3.3	10.5	4	6.8	A4 s/s
P0174.060-016-A4	M 6	16	3.3	10.5	4	6.8	A4 s/s
P0174.060-020-A4	M 6	20	3.3	10.5	4	6.8	A4 s/s
P0174.060-025-A4	M 6	25	3.3	10.5	4	6.8	A4 s/s
P0174.060-030-A4	M 6	30	3.3	10.5	4	6.8	A4 s/s
P0174.080-012-A4	M 8	12	4.4	14.0	5	8.5	A4 s/s
P0174.080-016-A4	M 8	16	4.4	14.0	5	8.5	A4 s/s
P0174.080-020-A4	M 8	20	4.4	14.0	5	8.5	A4 s/s
P0174.080-025-A4	M 8	25	4.4	14.0	5	8.5	A4 s/s
P0174.080-030-A4	M 8	30	4.4	14.0	5	8.5	A4 s/s
P0174.100-016-A4	M10	16	5.5	17.5	6	10.6	A4 s/s
P0174.100-020-A4	M10	20	5.5	17.5	6	10.6	A4 s/s
P0174.100-025-A4	M10	25	5.5	17.5	6	10.6	A4 s/s
P0174.100-030-A4	M10	30	5.5	17.5	6	10.6	A4 s/s
P0174.100-040-A4	M10	40	5.5	17.5	6	10.6	A4 s/s
P0174.120-020-A4	M12	20	6.6	21.0	8	12.9	A4 s/s
P0174.120-025-A4	M12	25	6.6	21.0	8	12.9	A4 s/s
P0174.120-030-A4	M12	30	6.6	21.0	8	12.9	A4 s/s
P0174.120-040-A4	M12	40	6.6	21.0	8	12.9	A4 s/s
P0174.120-050-A4	M12	50	6.6	21.0	8	12.9	A4 s/s
P0174.030-006-VI	M 3	6	1.7	5.7	2	3.6	VI s/s
P0174.030-008-VI	M 3	8	1.7	5.7	2	3.6	VI s/s
P0174.030-010-VI	M 3	10	1.7	5.7	2	3.6	VI s/s
P0174.030-012-VI	M 3	12	1.7	5.7	2	3.6	VI s/s
P0174.030-020-VI	M 3	20	1.7	5.7	2	3.6	VI s/s
P0174.040-006-VI	M 4	6	2.2	7.6	2.5	4.5	VI s/s
P0174.040-008-VI	M 4	8	2.2	7.6	2.5	4.5	VI s/s
P0174.040-010-VI	M 4	10	2.2	7.6	2.5	4.5	VI s/s
P0174.040-012-VI	M 4	12	2.2	7.6	2.5	4.5	VI s/s
P0174.040-016-VI	M 4	16	2.2	7.6	2.5	4.5	VI s/s
P0174.040-020-VI	M 4	20	2.2	7.6	2.5	4.5	VI s/s
P0174.050-008-VI	M 5	8	2.8	9.5	3	5.6	VI s/s
P0174.050-010-VI	M 5	10	2.8	9.5	3	5.6	VI s/s
P0174.050-012-VI	M 5	12	2.8	9.5	3	5.6	VI s/s
P0174.050-016-VI	M 5	16	2.8	9.5	3	5.6	VI s/s
P0174.050-020-VI	M 5	20	2.8	9.5	3	5.6	VI s/s
P0174.060-012-VI	M 6	12	3.3	10.5	4	6.8	VI s/s
P0174.060-016-VI	M 6	16	3.3	10.5	4	6.8	VI s/s
P0174.060-020-VI	M 6	20	3.3	10.5	4	6.8	VI s/s
P0174.060-025-VI	M 6	25	3.3	10.5	4	6.8	VI s/s
P0174.060-030-VI	M 6	30	3.3	10.5	4	6.8	VI s/s
P0174.080-012-VI	M 8	12	4.4	14.0	5	8.5	VI s/s
P0174.080-016-VI	M 8	16	4.4	14.0	5	8.5	VI s/s
P0174.080-020-VI	M 8	20	4.4	14.0	5	8.5	VI s/s



## Button Head Seal Screws

hex. socket

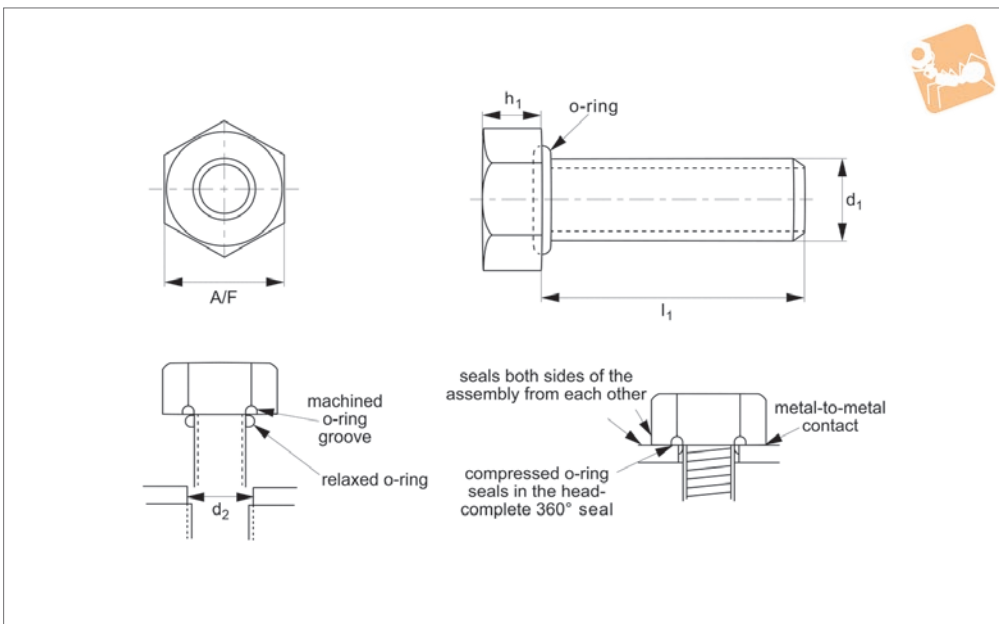
## Sealing Screws and Plugs



Order No.	d <sub>1</sub>	l <sub>1</sub>	h <sub>1</sub> max.	d <sub>2</sub> max.	A/F	d <sub>3</sub> ±0.05	Material
P0174.080-025-VI	M 8	25	4.4	14.0	5	8.5	VI s/s
P0174.080-030-VI	M 8	30	4.4	14.0	5	8.5	VI s/s
P0174.100-016-VI	M10	16	5.5	17.5	6	10.6	VI s/s
P0174.100-020-VI	M10	20	5.5	17.5	6	10.6	VI s/s
P0174.100-025-VI	M10	25	5.5	17.5	6	10.6	VI s/s
P0174.100-030-VI	M10	30	5.5	17.5	6	10.6	VI s/s
P0174.100-040-VI	M10	40	5.5	17.5	6	10.6	VI s/s
P0174.120-020-VI	M12	20	6.6	21.0	8	12.9	VI s/s
P0174.120-025-VI	M12	25	6.6	21.0	8	12.9	VI s/s
P0174.120-030-VI	M12	30	6.6	21.0	8	12.9	VI s/s
P0174.120-040-VI	M12	40	6.6	21.0	8	12.9	VI s/s
P0174.120-050-VI	M12	50	6.6	21.0	8	12.9	VI s/s



## P0176



### Material

Stainless steel (AISI 303 1.4305 tensile strength 550 N/mm<sup>2</sup> or AISI 316 1.440 tensile strength 480 N/mm<sup>2</sup>), with silicone „O” ring as standard.

For other „O” ring materials see technical data pages

(-FS = fluorosilicone, -EP = EPDM, -VI = viton, -NI = nitrile, -BN = Buna etc.).

Other thread lengths on request.

### Technical Notes

Clearance holes recommended for maximum sealing, seals substances in and contaminants out.

Max temperature range: -100°C to +260°C, pressure range - up to 410 bar (6000 psi). Re-useable, also available (on request)

with thread-locking.

### Tips

Clearance holes recommended for maximum sealing performance (see dimensions below).

Clearance hole depth 2-3 x thread pitch, threads are metric coarse pitch.

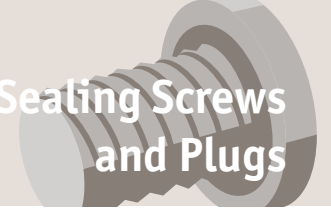
Order No.	d <sub>1</sub>	l <sub>1</sub>	A/F	h <sub>1</sub> max.	d <sub>2</sub> ±0.05	Material
P0176.020-004-A2	M 2	4	4.0	1.6	2.35	A2 s/s
P0176.020-008-A2	M 2	8	4.0	1.6	2.35	A2 s/s
P0176.020-010-A2	M 2	10	4.0	1.6	2.35	A2 s/s
P0176.020-012-A2	M 2	12	4.0	1.6	2.35	A2 s/s
P0176.020-020-A2	M 2	20	4.0	1.6	2.35	A2 s/s
P0176.030-006-A2	M 3	6	5.5	2.2	3.6	A2 s/s
P0176.030-008-A2	M 3	8	5.5	2.2	3.6	A2 s/s
P0176.030-010-A2	M 3	10	5.5	2.2	3.6	A2 s/s
P0176.030-012-A2	M 3	12	5.5	2.2	3.6	A2 s/s
P0176.030-020-A2	M 3	20	5.5	2.2	3.6	A2 s/s
P0176.040-006-A2	M 4	6	7.0	3.0	4.5	A2 s/s
P0176.040-008-A2	M 4	8	7.0	3.0	4.5	A2 s/s
P0176.040-010-A2	M 4	10	7.0	3.0	4.5	A2 s/s
P0176.040-012-A2	M 4	12	7.0	3.0	4.5	A2 s/s
P0176.040-016-A2	M 4	16	7.0	3.0	4.5	A2 s/s
P0176.040-020-A2	M 4	20	7.0	3.0	4.5	A2 s/s
P0176.050-008-A2	M 5	8	8.0	3.7	5.6	A2 s/s
P0176.050-010-A2	M 5	10	8.0	3.7	5.6	A2 s/s
P0176.050-012-A2	M 5	12	8.0	3.7	5.6	A2 s/s
P0176.050-016-A2	M 5	16	8.0	3.7	5.6	A2 s/s
P0176.050-020-A2	M 5	20	8.0	3.7	5.6	A2 s/s
P0176.060-012-A2	M 6	12	10.0	4.2	6.8	A2 s/s
P0176.060-016-A2	M 6	16	10.0	4.2	6.8	A2 s/s
P0176.060-020-A2	M 6	20	10.0	4.2	6.8	A2 s/s
P0176.060-025-A2	M 6	25	10.0	4.2	6.8	A2 s/s
P0176.060-030-A2	M 6	30	10.0	4.2	6.8	A2 s/s
P0176.080-012-A2	M 8	12	13.0	5.5	8.5	A2 s/s
P0176.080-016-A2	M 8	16	13.0	5.5	8.5	A2 s/s



# Integral Seal Bolts

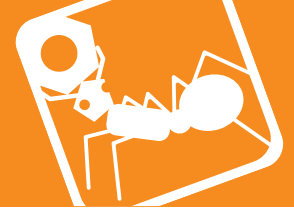
hexagon head

# Sealing Screws and Plugs



SEALING SCREWS AND PLUGS

Order No.	d <sub>1</sub>	l <sub>1</sub>	A/F	h <sub>1</sub> max.	d <sub>2</sub> ±0.05	Material
P0176.080-020-A2	M 8	20	13.0	5.5	8.5	A2 s/s
P0176.080-025-A2	M 8	25	13.0	5.5	8.5	A2 s/s
P0176.080-030-A2	M 8	30	13.0	5.5	8.5	A2 s/s
P0176.080-040-A2	M 8	40	13.0	5.5	8.5	A2 s/s
P0176.100-016-A2	M10	16	16.0	6.6	10.6	A2 s/s
P0176.100-020-A2	M10	20	16.0	6.6	10.6	A2 s/s
P0176.100-025-A2	M10	25	16.0	6.6	10.6	A2 s/s
P0176.100-030-A2	M10	30	16.0	6.6	10.6	A2 s/s
P0176.100-040-A2	M10	40	16.0	6.6	10.6	A2 s/s
P0176.100-050-A2	M10	50	16.0	6.6	10.6	A2 s/s
P0176.120-020-A2	M12	20	18.0	7.7	12.85	A2 s/s
P0176.120-025-A2	M12	25	18.0	7.7	12.85	A2 s/s
P0176.120-030-A2	M12	30	18.0	7.7	12.85	A2 s/s
P0176.120-040-A2	M12	40	18.0	7.7	12.85	A2 s/s
P0176.120-050-A2	M12	50	18.0	7.7	12.85	A2 s/s
P0176.020-004-A4	M 2	4	4.0	1.6	2.35	A4 s/s
P0176.020-008-A4	M 2	8	4.0	1.6	2.35	A4 s/s
P0176.020-010-A4	M 2	10	4.0	1.6	2.35	A4 s/s
P0176.020-012-A4	M 2	12	4.0	1.6	2.35	A4 s/s
P0176.020-020-A4	M 2	20	4.0	1.6	2.35	A4 s/s
P0176.030-006-A4	M 3	6	5.5	2.2	3.6	A4 s/s
P0176.030-008-A4	M 3	8	5.5	2.2	3.6	A4 s/s
P0176.030-010-A4	M 3	10	5.5	2.2	3.6	A4 s/s
P0176.030-012-A4	M 3	12	5.5	2.2	3.6	A4 s/s
P0176.030-020-A4	M 3	20	5.5	2.2	3.6	A4 s/s
P0176.040-006-A4	M 4	6	7.0	3.0	4.5	A4 s/s
P0176.040-008-A4	M 4	8	7.0	3.0	4.5	A4 s/s
P0176.040-010-A4	M 4	10	7.0	3.0	4.5	A4 s/s
P0176.040-012-A4	M 4	12	7.0	3.0	4.5	A4 s/s
P0176.040-016-A4	M 4	16	7.0	3.0	4.5	A4 s/s
P0176.040-020-A4	M 4	20	7.0	3.0	4.5	A4 s/s
P0176.050-008-A4	M 5	8	8.0	3.7	5.6	A4 s/s
P0176.050-010-A4	M 5	10	8.0	3.7	5.6	A4 s/s
P0176.050-012-A4	M 5	12	8.0	3.7	5.6	A4 s/s
P0176.050-016-A4	M 5	16	8.0	3.7	5.6	A4 s/s
P0176.050-020-A4	M 5	20	8.0	3.7	5.6	A4 s/s
P0176.060-012-A4	M 6	12	10.0	4.2	6.8	A4 s/s
P0176.060-016-A4	M 6	16	10.0	4.2	6.8	A4 s/s
P0176.060-020-A4	M 6	20	10.0	4.2	6.8	A4 s/s
P0176.060-025-A4	M 6	25	10.0	4.2	6.8	A4 s/s
P0176.060-030-A4	M 6	30	10.0	4.2	6.8	A4 s/s
P0176.080-012-A4	M 8	12	13.0	5.5	8.5	A4 s/s
P0176.080-016-A4	M 8	16	13.0	5.5	8.5	A4 s/s
P0176.080-020-A4	M 8	20	13.0	5.5	8.5	A4 s/s
P0176.080-025-A4	M 8	25	13.0	5.5	8.5	A4 s/s
P0176.080-030-A4	M 8	30	13.0	5.5	8.5	A4 s/s
P0176.080-040-A4	M 8	40	13.0	5.5	8.5	A4 s/s
P0176.100-016-A4	M10	16	16.0	6.6	10.6	A4 s/s
P0176.100-020-A4	M10	20	16.0	6.6	10.6	A4 s/s
P0176.100-025-A4	M10	25	16.0	6.6	10.6	A4 s/s
P0176.100-030-A4	M10	30	16.0	6.6	10.6	A4 s/s
P0176.100-040-A4	M10	40	16.0	6.6	10.6	A4 s/s
P0176.100-050-A4	M10	50	16.0	6.6	10.6	A4 s/s
P0176.120-020-A4	M12	20	18.0	7.7	12.85	A4 s/s
P0176.120-025-A4	M12	25	18.0	7.7	12.85	A4 s/s
P0176.120-030-A4	M12	30	18.0	7.7	12.85	A4 s/s
P0176.120-040-A4	M12	40	18.0	7.7	12.85	A4 s/s
P0176.120-050-A4	M12	50	18.0	7.7	12.85	A4 s/s
P0176.020-004-VI	M 2	4	4.0	1.6	2.35	VI s/s
P0176.020-008-VI	M 2	8	4.0	1.6	2.35	VI s/s
P0176.020-010-VI	M 2	10	4.0	1.6	2.35	VI s/s
P0176.020-012-VI	M 2	12	4.0	1.6	2.35	VI s/s
P0176.020-020-VI	M 2	20	4.0	1.6	2.35	VI s/s
P0176.030-006-VI	M 3	6	5.5	2.2	3.6	VI s/s
P0176.030-008-VI	M 3	8	5.5	2.2	3.6	VI s/s
P0176.030-010-VI	M 3	10	5.5	2.2	3.6	VI s/s
P0176.030-012-VI	M 3	12	5.5	2.2	3.6	VI s/s
P0176.030-020-VI	M 3	20	5.5	2.2	3.6	VI s/s



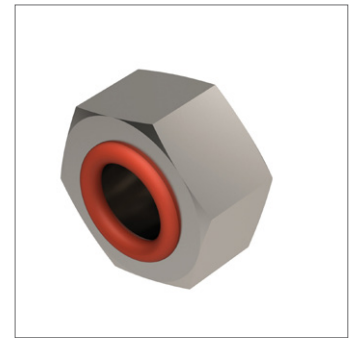
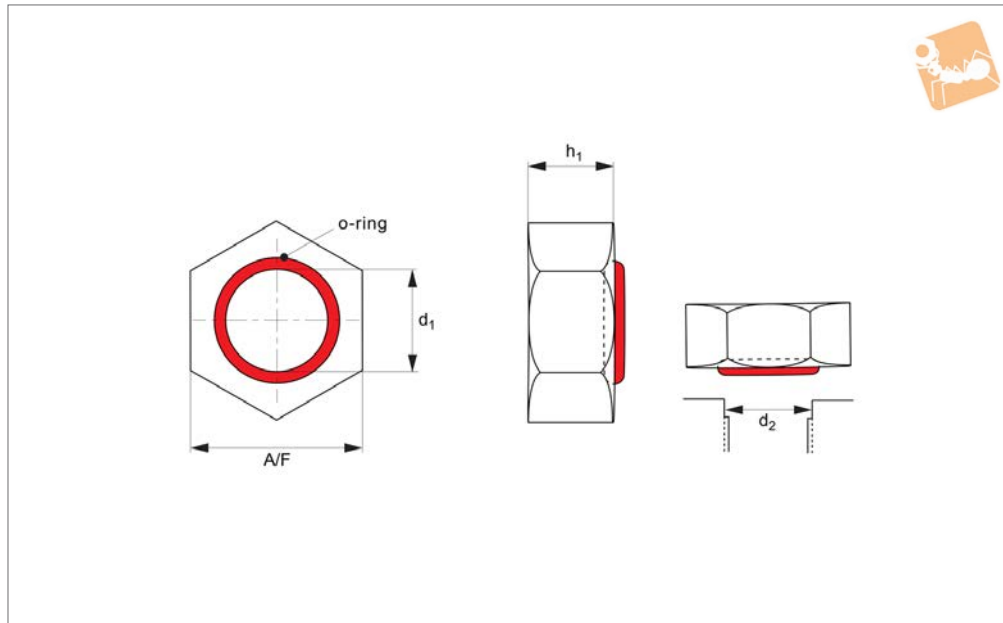
Order No.	d <sub>1</sub>	l <sub>1</sub>	A/F	h <sub>1</sub> max.	d <sub>2</sub> ±0.05	Material
P0176.040-006-VI	M 4	6	7.0	3.0	4.5	VI s/s
P0176.040-008-VI	M 4	8	7.0	3.0	4.5	VI s/s
P0176.040-010-VI	M 4	10	7.0	3.0	4.5	VI s/s
P0176.040-012-VI	M 4	12	7.0	3.0	4.5	VI s/s
P0176.040-016-VI	M 4	16	7.0	3.0	4.5	VI s/s
P0176.040-020-VI	M 4	20	7.0	3.0	4.5	VI s/s
P0176.050-008-VI	M 5	8	8.0	3.7	5.6	VI s/s
P0176.050-010-VI	M 5	10	8.0	3.7	5.6	VI s/s
P0176.050-012-VI	M 5	12	8.0	3.7	5.6	VI s/s
P0176.050-016-VI	M 5	16	8.0	3.7	5.6	VI s/s
P0176.050-020-VI	M 5	20	8.0	3.7	5.6	VI s/s
P0176.060-012-VI	M 6	12	10.0	4.2	6.8	VI s/s
P0176.060-016-VI	M 6	16	10.0	4.2	6.8	VI s/s
P0176.060-020-VI	M 6	20	10.0	4.2	6.8	VI s/s
P0176.060-025-VI	M 6	25	10.0	4.2	6.8	VI s/s
P0176.060-030-VI	M 6	30	10.0	4.2	6.8	VI s/s
P0176.080-012-VI	M 8	12	13.0	5.5	8.5	VI s/s
P0176.080-016-VI	M 8	16	13.0	5.5	8.5	VI s/s
P0176.080-020-VI	M 8	20	13.0	5.5	8.5	VI s/s
P0176.080-025-VI	M 8	25	13.0	5.5	8.5	VI s/s
P0176.080-030-VI	M 8	30	13.0	5.5	8.5	VI s/s
P0176.080-040-VI	M 8	40	13.0	5.5	8.5	VI s/s
P0176.100-016-VI	M10	16	16.0	6.6	10.6	VI s/s
P0176.100-020-VI	M10	20	16.0	6.6	10.6	VI s/s
P0176.100-025-VI	M10	25	16.0	6.6	10.6	VI s/s
P0176.100-030-VI	M10	30	16.0	6.6	10.6	VI s/s
P0176.100-040-VI	M10	40	16.0	6.6	10.6	VI s/s
P0176.100-050-VI	M10	50	16.0	6.6	10.6	VI s/s
P0176.120-020-VI	M12	20	18.0	7.7	12.85	VI s/s
P0176.120-025-VI	M12	25	18.0	7.7	12.85	VI s/s
P0176.120-030-VI	M12	30	18.0	7.7	12.85	VI s/s
P0176.120-040-VI	M12	40	18.0	7.7	12.85	VI s/s
P0176.120-050-VI	M12	50	18.0	7.7	12.85	VI s/s





# Integral Seal Hex. Nuts Stainless

## Sealing Screws and Plugs



**P0178**

SEALING SCREWS AND PLUGS

### Material

Stainless steel (AISI 303 1.4305 tensile strength 550 N/mm<sup>2</sup> or AISI 316 1.440 tensile strength 480 N/mm<sup>2</sup>), with silicone „O“ ring as standard.  
For other „O“ ring materials see technical data pages,  
(-FS = fluorosilicone, -EP = EPDM, -VI =

viton, -NI = nitrile, -BN = Buna etc.).

### Technical Notes

Seals substances in and contaminants out, re-useable.  
Max temperature range: -100°C to +260°C,  
pressure range - up to 410 bar (6000 psi).

### Tips

Clearance holes recommended for maximum sealing performance (see dimensions below).  
Clearance hole depth 2-3 x thread pitch, threads are metric coarse pitch.

Order No.	d <sub>1</sub>	A/F	d <sub>2</sub> ±0.05	h <sub>1</sub> max.	Material
P0178.020-A2-SI	M 2	4	2.35	1.6	A2 s/s
P0178.025-A2-SI	M2,5	5	2.75	2.0	A2 s/s
P0178.030-A2-SI	M 3	5.5	3.6	2.4	A2 s/s
P0178.040-A2-SI	M 4	7	4.5	3.2	A2 s/s
P0178.050-A2-SI	M 5	8	5.6	4.7	A2 s/s
P0178.060-A2-SI	M 6	10	6.8	5.2	A2 s/s
P0178.080-A2-SI	M 8	13	8.5	6.8	A2 s/s
P0178.100-A2-SI	M10	16	10.6	8.4	A2 s/s
P0178.120-A2-SI	M12	18	12.85	10.8	A2 s/s
P0178.140-A2-SI	M14	21	15.1	12.8	A2 s/s
P0178.160-A2-SI	M16	24	17.5	14.8	A2 s/s
P0178.020-A4-SI	M 2	4	2.35	1.6	A4 s/s
P0178.025-A4-SI	M2,5	5	2.75	2.0	A4 s/s
P0178.030-A4-SI	M 3	5.5	3.6	2.4	A4 s/s
P0178.040-A4-SI	M 4	7	4.5	3.2	A4 s/s
P0178.050-A4-SI	M 5	8	5.6	4.7	A4 s/s
P0178.060-A4-SI	M 6	10	6.8	5.2	A4 s/s
P0178.080-A4-SI	M 8	13	8.5	6.8	A4 s/s
P0178.100-A4-SI	M10	16	10.6	8.4	A4 s/s
P0178.120-A4-SI	M12	18	12.85	10.8	A4 s/s
P0178.140-A4-SI	M14	21	15.1	12.8	A4 s/s
P0178.160-A4-SI	M16	24	17.5	14.8	A4 s/s
P0178.020-A2-VI	M 2	4	2.35	1.6	A2 s/s
P0178.025-A2-VI	M2,5	5	2.75	2.0	A2 s/s
P0178.030-A2-VI	M 3	5.5	3.6	2.4	A2 s/s
P0178.040-A2-VI	M 4	7	4.5	3.2	A2 s/s
P0178.050-A2-VI	M 5	8	5.6	4.7	A2 s/s
P0178.060-A2-VI	M 6	10	6.8	5.2	A2 s/s
P0178.080-A2-VI	M 8	13	8.5	6.8	A2 s/s



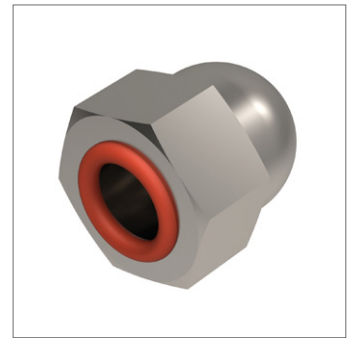
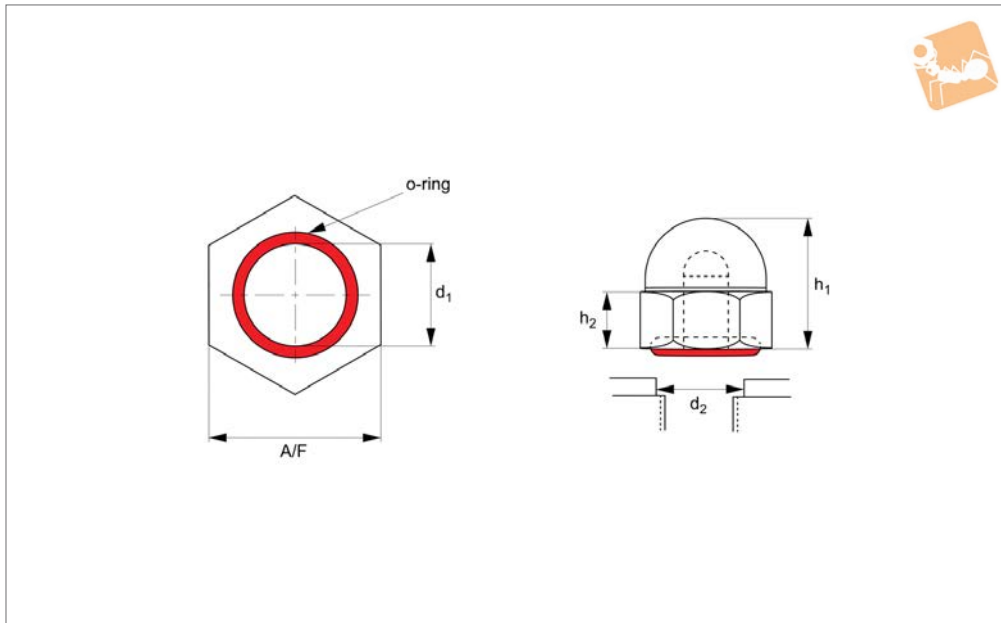
Order No.	d <sub>1</sub>	A/F	d <sub>2</sub> ±0.05	h <sub>1</sub> max.	Material
P0178.100-A2-VI	M10	16	10.6	8.4	A2 s/s
P0178.120-A2-VI	M12	18	12.85	10.8	A2 s/s
P0178.140-A2-VI	M14	21	15.1	12.8	A2 s/s
P0178.160-A2-VI	M16	24	17.5	14.8	A2 s/s
P0178.020-A4-VI	M 2	4	2.35	1.6	A4 s/s
P0178.025-A4-VI	M2,5	5	2.75	2.0	A4 s/s
P0178.030-A4-VI	M 3	5.5	3.6	2.4	A4 s/s
P0178.040-A4-VI	M 4	7	4.5	3.2	A4 s/s
P0178.050-A4-VI	M 5	8	5.6	4.7	A4 s/s
P0178.060-A4-VI	M 6	10	6.8	5.2	A4 s/s
P0178.080-A4-VI	M 8	13	8.5	6.8	A4 s/s
P0178.100-A4-VI	M10	16	10.6	8.4	A4 s/s
P0178.120-A4-VI	M12	18	12.85	10.8	A4 s/s
P0178.140-A4-VI	M14	21	15.1	12.8	A4 s/s
P0178.160-A4-VI	M16	24	17.5	14.8	A4 s/s



# Integral Seal Domed Nuts

A2 stainless

## Sealing Screws and Plugs



**P0179**

SEALING SCREWS AND PLUGS

### Material

Stainless steel (AISI 303 1.4305 tensile strength 550 N/mm<sup>2</sup>), with silicone „O“ ring as standard.

For other „O“ ring materials see technical data pages,  
(-FS = fluorosilicone, -EP = EPDM, -VI =

viton, -NI = nitrile etc.).

### Technical Notes

Seals substances in and contaminants out.  
Re-useable.

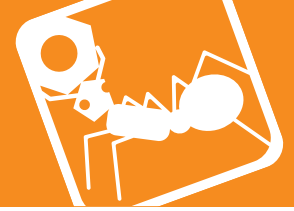
Max temperature range: -100°C to +260°C,  
pressure range - up to 410 bar (6000 psi).

### Tips

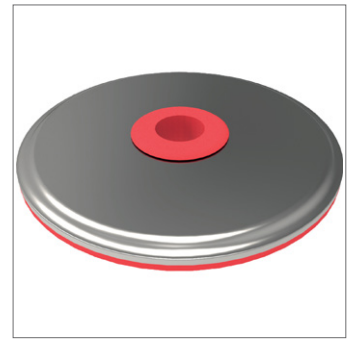
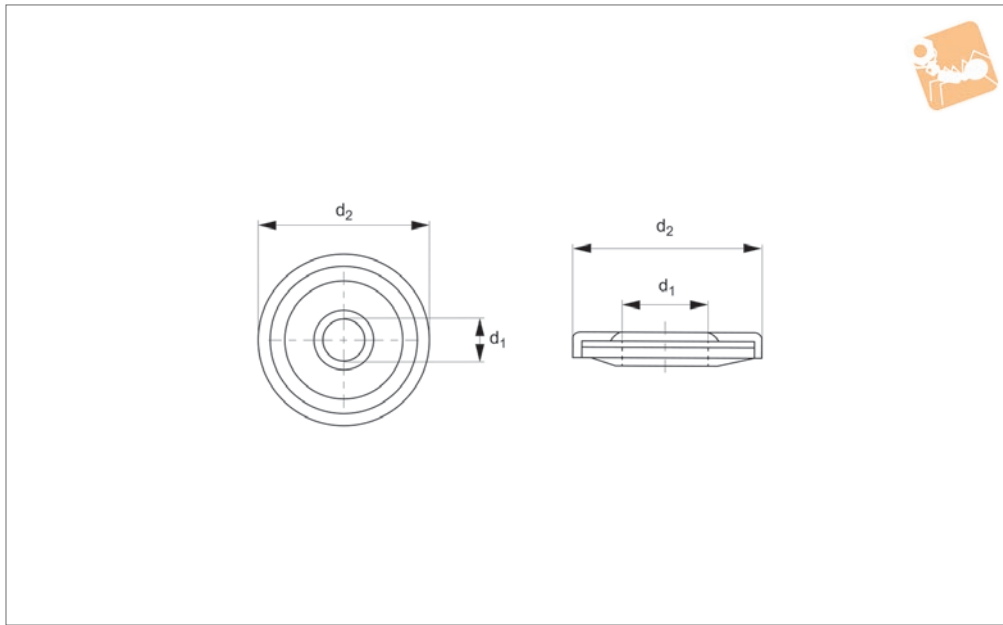
Clearance holes recommended for maximum sealing performance (see dimensions below).

Clearance hole depth 2-3 x thread pitch, threads are metric coarse pitch.

Order No.	d <sub>1</sub>	A/F	d <sub>2</sub> ±0.05	h <sub>1</sub>	h <sub>2</sub>	Material
P0179.030-A2-SI	M 3	5.5	3.6	6	2.4	A2 s/s
P0179.040-A2-SI	M 4	7	4.5	8	3.2	A2 s/s
P0179.050-A2-SI	M 5	8	5.6	10	4.0	A2 s/s
P0179.060-A2-SI	M 6	10	6.8	12	5.0	A2 s/s
P0179.080-A2-SI	M 8	13	8.5	15	6.5	A2 s/s
P0179.100-A2-SI	M10	17	10.6	18	8.0	A2 s/s
P0179.120-A2-SI	M12	19	12.85	22	10.0	A2 s/s
P0179.160-A2-SI	M16	24	17.5	28	13.0	A2 s/s
P0179.030-A4-SI	M 3	5.5	3.6	6	2.4	A4 s/s
P0179.040-A4-SI	M 4	7	4.5	8	3.2	A4 s/s
P0179.050-A4-SI	M 5	8	5.6	10	4.0	A4 s/s
P0179.060-A4-SI	M 6	10	6.8	12	5.0	A4 s/s
P0179.080-A4-SI	M 8	13	8.5	15	6.5	A4 s/s
P0179.100-A4-SI	M10	17	10.6	18	8.0	A4 s/s
P0179.120-A4-SI	M12	19	12.85	22	10.0	A4 s/s
P0179.160-A4-SI	M16	24	17.5	28	13.0	A4 s/s
P0179.030-A2-VI	M 3	5.5	3.6	6	2.4	A2 s/s
P0179.040-A2-VI	M 4	7	4.5	8	3.2	A2 s/s
P0179.050-A2-VI	M 5	8	5.6	10	4.0	A2 s/s
P0179.060-A2-VI	M 6	10	6.8	12	5.0	A2 s/s
P0179.080-A2-VI	M 8	13	8.5	15	6.5	A2 s/s
P0179.100-A2-VI	M10	17	10.6	18	8.0	A2 s/s
P0179.120-A2-VI	M12	19	12.85	22	10.0	A2 s/s
P0179.160-A2-VI	M16	24	17.5	28	13.0	A2 s/s
P0179.030-A4-VI	M 3	5.5	3.6	6	2.4	A4 s/s
P0179.040-A4-VI	M 4	7	4.5	8	3.2	A4 s/s
P0179.050-A4-VI	M 5	8	5.6	10	4.0	A4 s/s
P0179.060-A4-VI	M 6	10	6.8	12	5.0	A4 s/s
P0179.080-A4-VI	M 8	13	8.5	15	6.5	A4 s/s
P0179.100-A4-VI	M10	17	10.6	18	8.0	A4 s/s
P0179.120-A4-VI	M12	19	12.85	22	10.0	A4 s/s



Order No.	d <sub>1</sub>	A/F	d <sub>2</sub> ±0.05	h <sub>1</sub>	h <sub>2</sub>	Material
P0179.160-A4-VI	M16	24	17.5	28	13.0	A4 s/s



## P0180

SEALING SCREWS AND PLUGS

### Material

Stainless steel (A4, AISI 316), with ribbed silicone rubber bonded sealing element.

### Technical Notes

Seals substances in and contaminants out.

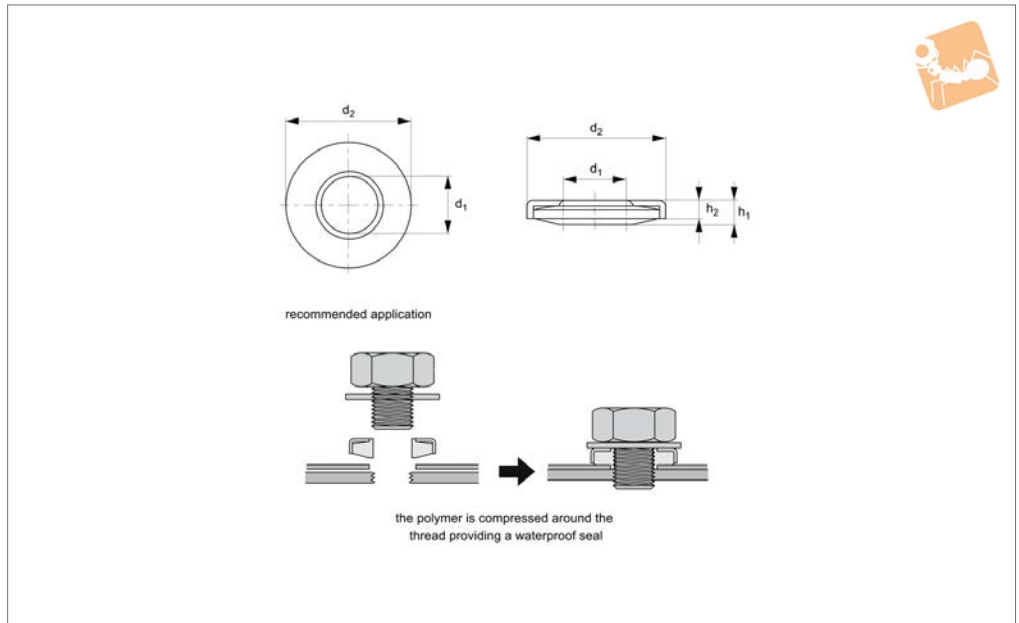
The silicone contact surface has continuous ridge which forms a 360.C seal around periphery of the washer when compressed. The silicone also forms a seal under the head of its fastener making full contact

with the threads/ shank thereby are fully re-usable. Max. temperature range: -75C to +205C. IP 66/68 rated, pressure range: exceeds 100 psi internal and external.

Order No.	For thread $d_1$	$d_2$
P0180.030-012-A4	M 3	14.5
P0180.030-025-A4	M 3	25.5
P0180.040-025-A4	M 4	25.5
P0180.050-012-A4	M 5	14.5
P0180.050-025-A4	M 5	25.5
P0180.060-025-A4	M 6	25.5
P0180.080-025-A4	M 8	25.5
P0180.100-025-A4	M10	25.5
P0180.120-025-A4	M12	25.5



**P0181**



**Material**

Stainless steel (AISI 304, 1.4301), with thermoplastic elastomer (TPE) insert.

**Technical Notes**

Seals substances in and contaminants out. For watertight applications, the seal is best

placed against a smooth material, ensuring a tight seal is created.

**Tips**

We recommend installing a flat washer above the sealing washer to ensure that uniform pressure is applied to the elas-

tomer inside the washer. We recommend that you test the sealing washer in your application to determine the optimum tightening torque. For use at -30 °C to 90 °C.

Order No.	For thread	d <sub>1</sub>	d <sub>2</sub>	h <sub>1</sub>	h <sub>2</sub>	Recommended tightening torque Nm	Rated pressure (liquids) Bar max.	Rated pressure (gases) Bar max.	Weight g
P0181.030-A2	M 3	3.0	8	3.1	2.5	0,3-0,6	7	7	0.4
P0181.040-A2	M 4	4.1	10	3.5	3.0	0,8-1,5	7	7	0.6
P0181.050-A2	M 5	5.1	12	3.5	3.0	1,5-3,0	7	7	1.0
P0181.060-A2	M 6	6.1	14	3.5	3.0	2,5-5,0	7	7	1.0
P0181.080-A2	M 8	8.1	18	4.0	3.0	6,2-12	7	7	2.0
P0181.100-A2	M10	10.1	23	4.0	3.0	24-12	7	7	3.0
P0181.120-A2	M12	12.1	25	4.0	3.0	21-42	7	7	4.0
P0181.160-A2	M16	16.1	30	4.5	3.0	53-106	7	7	6.0
P0181.200-A2	M20	20.1	37	4.5	3.0	103 min.	7	7	9.0