

P0144.ZP

Material

Steel, zinc-plated.

Technical notes

To DIN 923.

| Order no. | d_1 | $d_{2\ h9}$ | l_1 | d_3 | l_2 | h | w |
|------------------|-------|-------------|-------|-------|-------|-----|-----|
| P0144.020-002-ZP | M 2 | 2,8 | 2 | 4,5 | 3,0 | 1,2 | 0,5 |
| P0144.020-003-ZP | M 2 | 2,8 | 3 | 4,5 | 3,0 | 1,2 | 0,5 |
| P0144.020-004-ZP | M 2 | 2,8 | 4 | 4,5 | 3,0 | 1,2 | 0,5 |
| P0144.020-005-ZP | M 2 | 2,8 | 5 | 4,5 | 3,0 | 1,2 | 0,5 |
| P0144.020-006-ZP | M 2 | 2,8 | 6 | 4,5 | 3,0 | 1,2 | 0,5 |
| P0144.020-008-ZP | M 2 | 2,8 | 8 | 4,5 | 3,0 | 1,2 | 0,5 |
| P0144.030-003-ZP | M 3 | 4,0 | 3 | 7,0 | 4,5 | 1,8 | 0,8 |
| P0144.030-004-ZP | M 3 | 4,0 | 4 | 7,0 | 4,5 | 1,8 | 0,8 |
| P0144.030-005-ZP | M 3 | 4,0 | 5 | 7,0 | 4,5 | 1,8 | 0,8 |
| P0144.030-006-ZP | M 3 | 4,0 | 6 | 7,0 | 4,5 | 1,8 | 0,8 |
| P0144.030-008-ZP | M 3 | 4,0 | 8 | 7,0 | 4,5 | 1,8 | 0,8 |
| P0144.040-003-ZP | M 4 | 5,5 | 3 | 8,5 | 6,0 | 2,4 | 1,0 |
| P0144.040-004-ZP | M 4 | 5,5 | 4 | 8,5 | 6,0 | 2,4 | 1,0 |
| P0144.040-005-ZP | M 4 | 5,5 | 5 | 8,5 | 6,0 | 2,4 | 1,0 |
| P0144.040-006-ZP | M 4 | 5,5 | 6 | 8,5 | 6,0 | 2,4 | 1,0 |
| P0144.040-008-ZP | M 4 | 5,5 | 8 | 8,5 | 6,0 | 2,4 | 1,0 |
| P0144.040-010-ZP | M 4 | 5,5 | 10 | 8,5 | 6,0 | 2,4 | 1,0 |
| P0144.040-012-ZP | M 4 | 5,5 | 12 | 8,5 | 6,0 | 2,4 | 1,0 |
| P0144.040-016-ZP | M 4 | 5,5 | 16 | 8,5 | 6,0 | 2,4 | 1,0 |
| P0144.040-020-ZP | M 4 | 5,5 | 20 | 8,5 | 6,0 | 2,4 | 1,0 |
| P0144.050-003-ZP | M 5 | 7,0 | 3 | 11,0 | 7,0 | 2,7 | 1,2 |
| P0144.050-004-ZP | M 5 | 7,0 | 4 | 11,0 | 7,0 | 2,7 | 1,2 |
| P0144.050-005-ZP | M 5 | 7,0 | 5 | 11,0 | 7,0 | 2,7 | 1,2 |
| P0144.050-006-ZP | M 5 | 7,0 | 6 | 11,0 | 7,0 | 2,7 | 1,2 |
| P0144.050-008-ZP | M 5 | 7,0 | 8 | 11,0 | 7,0 | 2,7 | 1,2 |
| P0144.050-010-ZP | M 5 | 7,0 | 10 | 11,0 | 7,0 | 2,7 | 1,2 |
| P0144.050-012-ZP | M 5 | 7,0 | 12 | 11,0 | 7,0 | 2,7 | 1,2 |
| P0144.050-016-ZP | M 5 | 7,0 | 16 | 11,0 | 7,0 | 2,7 | 1,2 |
| P0144.050-020-ZP | M 5 | 7,0 | 20 | 11,0 | 7,0 | 2,7 | 1,2 |
| P0144.060-003-ZP | M 6 | 8,0 | 3 | 13,0 | 9,0 | 3,1 | 1,6 |
| P0144.060-004-ZP | M 6 | 8,0 | 4 | 13,0 | 9,0 | 3,1 | 1,6 |

| Order no. | d ₁ | d ₂ h ₉ | l ₁ | d ₃ | l ₂ | h | w |
|------------------|----------------|-------------------------------|----------------|----------------|----------------|-----|-----|
| P0144.060-005-ZP | M 6 | 8,0 | 5 | 13,0 | 9,0 | 3,1 | 1,6 |
| P0144.060-006-ZP | M 6 | 8,0 | 6 | 13,0 | 9,0 | 3,1 | 1,6 |
| P0144.060-008-ZP | M 6 | 8,0 | 8 | 13,0 | 9,0 | 3,1 | 1,6 |
| P0144.060-010-ZP | M 6 | 8,0 | 10 | 13,0 | 9,0 | 3,1 | 1,6 |
| P0144.060-012-ZP | M 6 | 8,0 | 12 | 13,0 | 9,0 | 3,1 | 1,6 |
| P0144.060-016-ZP | M 6 | 8,0 | 16 | 13,0 | 9,0 | 3,1 | 1,6 |
| P0144.080-004-ZP | M 8 | 10,0 | 4 | 16,0 | 11,0 | 3,8 | 2,0 |
| P0144.080-005-ZP | M 8 | 10,0 | 5 | 16,0 | 11,0 | 3,8 | 2,0 |
| P0144.080-006-ZP | M 8 | 10,0 | 6 | 16,0 | 11,0 | 3,8 | 2,0 |
| P0144.080-008-ZP | M 8 | 10,0 | 8 | 16,0 | 11,0 | 3,8 | 2,0 |
| P0144.080-010-ZP | M 8 | 10,0 | 10 | 16,0 | 11,0 | 3,8 | 2,0 |
| P0144.080-012-ZP | M 8 | 10,0 | 12 | 16,0 | 11,0 | 3,8 | 2,0 |
| P0144.080-016-ZP | M 8 | 10,0 | 16 | 16,0 | 11,0 | 3,8 | 2,0 |
| P0144.080-020-ZP | M 8 | 10,0 | 20 | 16,0 | 11,0 | 3,8 | 2,0 |
| P0144.100-005-ZP | M10 | 13,0 | 5 | 20,0 | 13,5 | 4,6 | 2,5 |
| P0144.100-006-ZP | M10 | 13,0 | 6 | 20,0 | 13,5 | 4,6 | 2,5 |
| P0144.100-008-ZP | M10 | 13,0 | 8 | 20,0 | 13,5 | 4,6 | 2,5 |
| P0144.100-010-ZP | M10 | 13,0 | 10 | 20,0 | 13,5 | 4,6 | 2,5 |
| P0144.100-012-ZP | M10 | 13,0 | 12 | 20,0 | 13,5 | 4,6 | 2,5 |
| P0144.100-016-ZP | M10 | 13,0 | 16 | 20,0 | 13,5 | 4,6 | 2,5 |
| P0144.100-020-ZP | M10 | 13,0 | 20 | 20,0 | 13,5 | 4,6 | 2,5 |

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

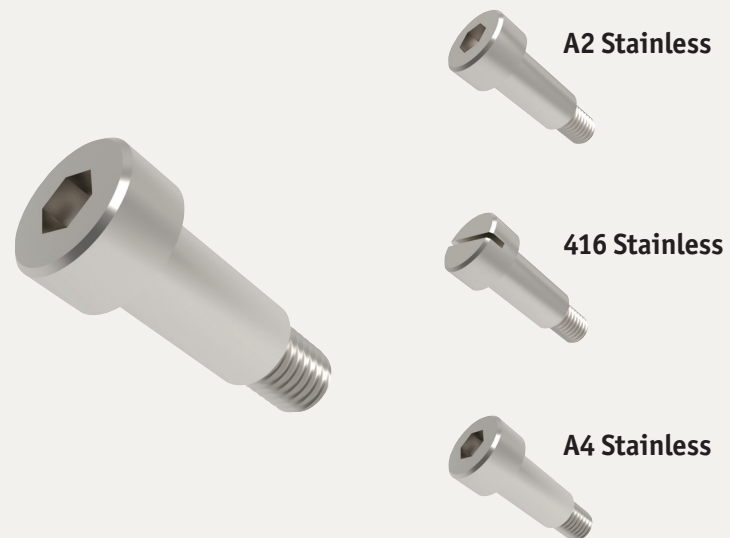
We have three different grades of stainless steel shoulder screws:

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

For standard sizes Ø6 M5 up to Ø16 M12, see our part no P0137. For miniature sizes down to Ø4 M3 see parts numbers P0130 and P0132.

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).

A4 series – these shoulder screws (P0143) are very resistant to corrosion but are considerably more expensive than other stainless versions.



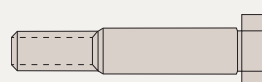
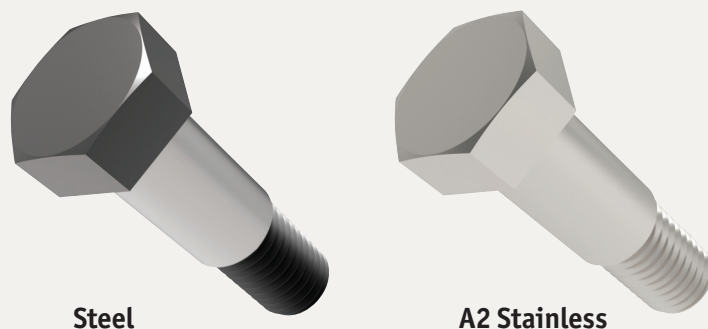
Shoulder bolts

Our range of precision shoulder bolts with hexagonal heads come in both steel and stainless steel.

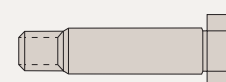
Steel – our standard part number P0138 is produced to DIN 609. We also have the same part with slightly longer thread size (P0140) – which is to DIN 610 standards.

Stainless – our standard part number P0139 is produced to DIN 609. We also have the same part with slightly longer thread size (P0141) – which is to DIN 610 standards.

Two different versions. Our most popular version is to DIN 609.



P0138 + P0139
DIN 609 (long thread)



P0140 + P0141
DIN 610 (short thread)

| Part No. | | Material | Head | Corrosion resistance | Strength | Ø/thread | DIN/ISO |
|----------|---|---------------|---------------------------|----------------------|----------|----------------------------|----------|
| P0130 |  | Stainless A2 | Hex socket | 3 3 | 3 | Min: Ø4/M3 Max: Ø12/M10 | - |
| P0131 |  | Stainless 416 | Hex socket | 3 | 3 3 | Min: Ø4/M3 Max: Ø12/M10 | - |
| P0132 |  | Stainless A2 | Slotted | 3 3 | 3 | Min: Ø4/M3 Max: Ø12/M10 | - |
| P0133 |  | Stainless 416 | Slotted | 3 | 3 3 | Min: Ø4/M3 Max: Ø12/M10 | - |
| P0136 |  | Steel | Hex socket | 7 | 3 3 | Min: Ø4/M3 Max: Ø24/M20 | ISO 7379 |
| P0137 |  | Stainless A2 | Hex socket | 3 3 | 3 | Min: Ø6/M5 Max: Ø16/M12 | ISO 7379 |
| P0138 |  | Steel | Hex head | 7 | 3 | Min: Ø9/M8 Max: Ø44/M42 | DIN 610 |
| P0139 |  | Stainless A2 | Hex head (long thread) | 3 3 | 3 | Min: Ø9/M8 Max: Ø17/M16 | DIN 610 |
| P0140 |  | Steel | Hex socket (short thread) | 7 | 3 3 | Min: Ø9/M8 Max: Ø44/M42 | DIN 609 |
| P0141 |  | Stainless A2 | Hex socket (short thread) | 3 3 | 3 | Min: Ø9/M8 Max: Ø17/M16 | DIN 609 |
| P0143 |  | Stainless A4 | Hex Socket | 3 3 3 | 3 | Min: Ø4/M3 Max: Ø24/M20 | ISO 7379 |
| P0144 |  | Stainless A2 | Pan Head | 3 3 | 3 3 | Min: Ø4/M3 Max: Ø13/M10 | DIN 923 |