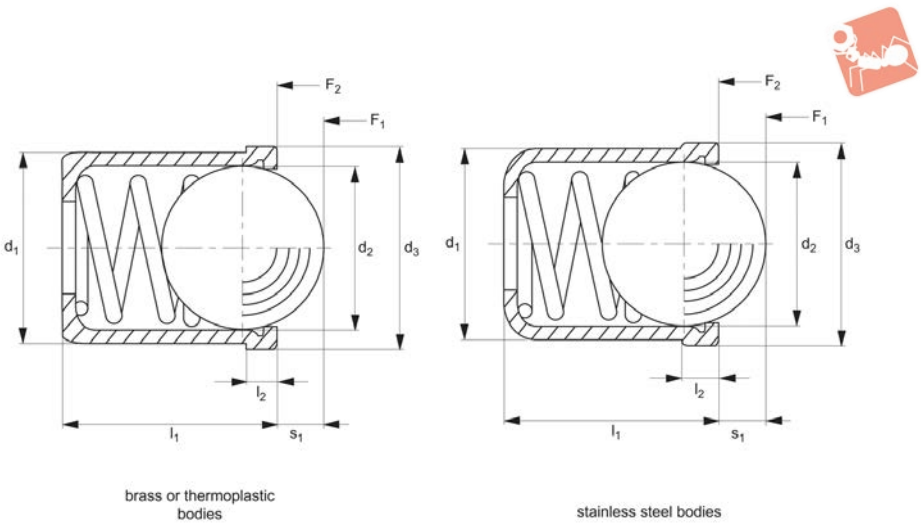
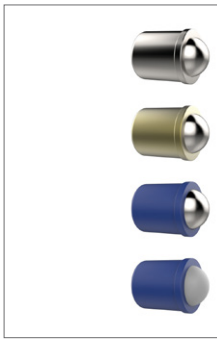




32300

Material

Body: stainless steel 1.4303 (AISI 305), brass, or thermoplastic POM, blue.
Ball: ball bearing steel 1.3505 (100Cr6) hardened or thermoplastic POM, white.
Spring: stainless steel 1.4568 (X7CrNiAl17-7).

Technical Notes

Used for locating, applying pressure or lifting off.
Spring loads * = statistical average values.
Thermo type temperature range -30°C to +50°C.
Stainless and brass type, temperature range max. 250°C.
For calculation of indexing resistance please refer to spring plunger technical pages.

Tips

These are press fit spring plungers. Typical hole tolerance is H7 for manual assembly.
These fit tolerances vary with type of material so a trial hole is recommended.
Light spring load- marked with one line.
Standard spring load- no marking.
Heavy spring load- marked with two lines.
Special types available on request.

Order No.	Spring load	Finish	d_1 -0|+0.1	d_2	d_3	l_1	l_2 ≈	s_1	Spring load F_1 N ≈	Spring load F_2 N ≈	Temperature °C max.	Weight g
32300.W1004	Light	Body & Ball Stainless	4	3,00	4,6	5,0	0,90	1,00	0,4	1,0	250	0,30
32300.W1005	Light	Body & Ball Stainless	5	4,00	5,6	6,0	0,90	1,40	0,5	4,7	250	0,60
32300.W1006	Light	Body & Ball Stainless	6	5,00	6,5	7,0	1,00	1,80	2,3	6,5	250	1,00
32300.W1008	Light	Body & Ball Stainless	8	6,50	8,5	9,0	1,10	2,40	4,0	9,0	250	2,10
32300.W1010	Light	Body & Ball Stainless	10	8,50	11,0	13,0	1,50	3,30	3,9	10,0	250	4,40
32300.W1012	Light	Body & Ball Stainless	12	10,00	13,0	16,0	2,30	4,00	6,2	14,6	250	7,30
32300.W0003	Standard	Body & Ball Stainless	3	2,38	3,5	4,0	0,60	0,70	1,8	3,5	+250	0,20
32300.W0004	Standard	Body & Ball Stainless	4	3,00	4,6	5,0	0,90	1,00	2,5	6,0	+250	0,30
32300.W0005	Standard	Body & Ball Stainless	5	4,00	5,6	6,0	0,90	1,40	3,0	6,5	+250	0,60
32300.W0006	Standard	Body & Ball Stainless	6	5,00	6,5	7,0	1,00	1,80	5,5	11,5	+250	1,00
32300.W0008	Standard	Body & Ball Stainless	8	6,50	8,5	9,0	1,10	2,40	7,0	12,5	+250	2,10
32300.W0010	Standard	Body & Ball Stainless	10	8,50	11,0	13,0	1,50	3,30	8,5	18,5	+250	4,40
32300.W0012	Standard	Body & Ball Stainless	12	10,00	13,0	16,0	2,30	4,00	12,0	26,5	+250	7,30
32300.W0203	Standard	Body Brass, Ball Stainless	3	2,38	3,6	4,0	0,60	0,60	1,8	3,5	+250	0,20
32300.W0204	Standard	Body Brass, Ball Stainless	4	3,00	4,5	5,0	1,00	0,80	3,0	6,0	+250	0,50
32300.W0205	Standard	Body Brass, Ball Stainless	5	4,00	5,5	6,0	1,00	1,00	4,0	6,5	+250	0,80
32300.W0206	Standard	Body Brass, Ball Stainless	6	5,00	6,5	7,0	1,00	1,60	6,0	11,5	+250	1,30
32300.W0208	Standard	Body Brass, Ball Stainless	8	6,50	8,5	9,0	1,00	1,90	8,0	12,5	+250	2,80
32300.W0403	Standard	Body Thermo, Ball S/S	3	2,00	3,6	4,0	0,60	0,55	1,7	3,5	-30/+50	0,09
32300.W0404	Standard	Body Thermo, Ball S/S	4	3,00	4,6	5,0	1,00	0,80	3,0	6,5	-30/+50	0,20
32300.W0405	Standard	Body Thermo, Ball S/S	5	4,00	5,6	6,0	1,00	1,00	6,0	9,4	-30/+50	0,40
32300.W0406	Standard	Body Thermo, Ball S/S	6	5,00	6,5	7,0	1,00	1,60	6,2	12,6	-30/+50	0,70
32300.W0408	Standard	Body Thermo, Ball S/S	8	6,50	8,5	9,0	1,00	1,90	10,0	20,4	-30/+50	1,50
32300.W0410	Standard	Body Thermo, Ball S/S	10	8,00	11,0	13,5	1,50	2,40	11,9	22,3	-30/+50	3,20
32300.W0412	Standard	Body Thermo, Ball S/S	12	10,00	13,0	16,0	1,50	3,30	14,0	25,0	-30/+50	5,80
32300.W0604	Standard	Body & Ball Thermoplast	4	3,00	4,6	5,0	1,00	0,80	3,0	6,5	-30/+50	0,10

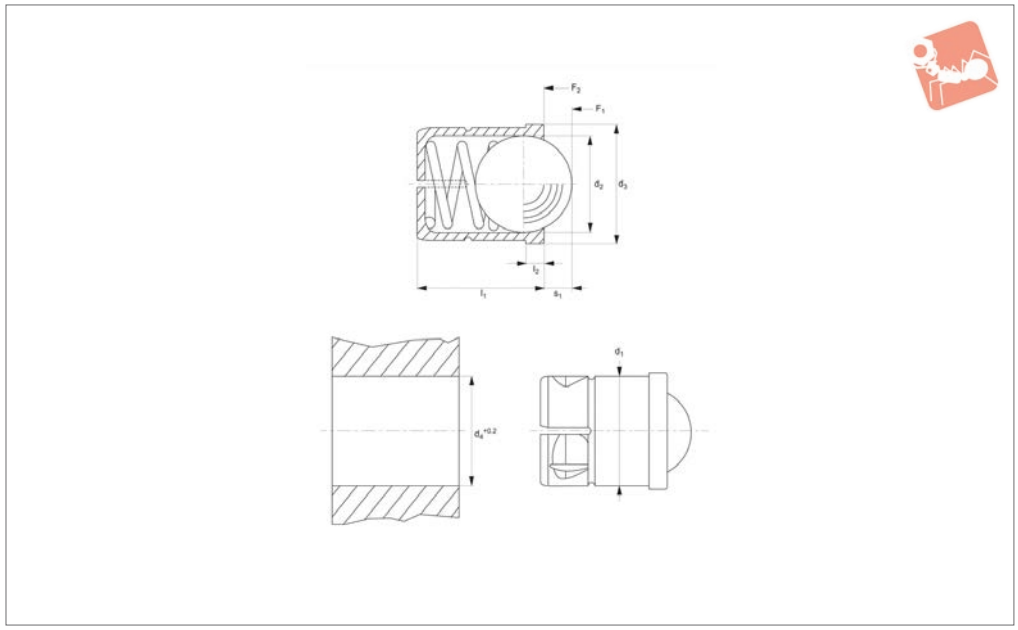
Spring Plungers

smooth model, with collar and ball- stainless steel

Order No.	Spring load	Finish	d_1 -0|+0.1	d_2	d_3	l_1	l_2 ≈	s_1	Spring load F_1 N ≈	Spring load F_2 N ≈	Temperature °C max.	Weight g
32300.W0605	Standard	Body & Ball Thermoplast	5	4,00	5,6	6,0	1,00	1,00	6,0	9,4	-30/+50	0,20
32300.W0606	Standard	Body & Ball Thermoplast	6	5,00	6,5	7,0	1,00	1,60	6,2	12,6	-30/+50	0,30
32300.W0608	Standard	Body & Ball Thermoplast	8	6,50	8,5	9,0	1,00	1,90	10,0	20,4	-30/+50	0,60
32300.W0610	Standard	Body & Ball Thermoplast	10	8,00	11,0	13,5	1,50	2,40	11,9	22,3	-30/+50	1,50
32300.W0612	Standard	Body & Ball Thermoplast	12	10,00	13,0	16,0	1,50	3,30	14,0	25,0	-30/+50	2,50
32300.W2004	Heavy	Body & Ball Stainless	4	3,00	4,6	5,0	0,90	1,00	5,0	10,4	+250	0,30
32300.W2005	Heavy	Body & Ball Stainless	5	4,00	5,6	6,0	0,90	1,40	6,0	12,0	+250	0,60
32300.W2006	Heavy	Body & Ball Stainless	6	5,00	6,5	7,0	1,00	1,80	7,3	19,0	+250	1,00
32300.W2008	Heavy	Body & Ball Stainless	8	6,50	8,5	9,0	1,10	2,40	11,0	25,0	+250	2,10
32300.W2010	Heavy	Body & Ball Stainless	10	8,50	11,0	13,0	1,50	3,30	17,0	37,0	+250	4,40
32300.W2012	Heavy	Body & Ball Stainless	12	10,00	13,0	16,0	2,30	4,00	30,0	54,0	+250	7,30

Expander Fit Spring Plunger

smooth body - thermoplastic



32302

Material

Body: thermoplastic POM, black.
Ball: ball bearing steel 1.3505 (100Cr6) hardened or thermoplastic POM, white.
Spring: stainless steel.

Technical Notes

Unique body design flexes to expand and contract to fit in location bore tolerances as wide as + 0,2mm of d_4. Especially suited to installation in plastic moulded components where hole and bore precision is not high.
Guarantees a secure overhead installation.
Simple push fit design, no special tooling necessary.
For calculation of indexing resistance please refer to spring plunger technical pages.

Tips

Spring load* - statistical average value.
Temperature range -30°C to +50°C

See Wixroyd.com for:
32305 - Spring plungers - INCH

Order No.	Finish	d_1 +0.1	d_2	d_3	d_4 +0.2	l_1 ±0.2	l_2 ≈	s_1	Spring load F_1 N ≈	Spring load F_2 N ≈	Temperature °C max.	Weight g
32302.W0704	Body Thermo & Ball Stainless	4	3,0	4,6	4	5,0	1,0	0,8	3,0	6,5	-30/+50	0,12
32302.W0705	Body Thermo & Ball Stainless	5	4,0	5,6	5	6,0	1,0	1,0	6,0	9,4	-30/+50	0,34
32302.W0706	Body Thermo & Ball Stainless	6	5,0	6,5	6	7,0	1,0	1,6	6,2	12,6	-30/+50	0,63
32302.W0708	Body Thermo & Ball Stainless	8	6,5	8,5	8	9,0	1,0	1,9	10,0	20,4	-30/+50	1,40
32302.W0710	Body Thermo & Ball Stainless	10	8,0	11,0	10	13,5	1,5	2,4	11,9	22,3	-30/+50	2,90
32302.W0804	Body & Ball Thermo	4	3,0	4,6	4	5,0	1,0	0,8	3,0	6,5	-30/+50	0,06
32302.W0805	Body & Ball Thermo	5	4,0	5,6	5	6,0	1,0	1,0	6,0	9,4	-30/+50	0,17
32302.W0806	Body & Ball Thermo	6	5,0	6,5	6	7,0	1,0	1,6	6,2	12,6	-30/+50	0,23
32302.W0808	Body & Ball Thermo	8	6,5	8,5	8	9,0	1,0	1,9	10,0	20,4	-30/+50	0,57
32302.W0810	Body & Ball Thermo	10	8,0	11,0	10	13,5	1,5	2,4	11,9	22,3	-30/+50	1,21

Wixroyd Expander Fit Spring Plunger

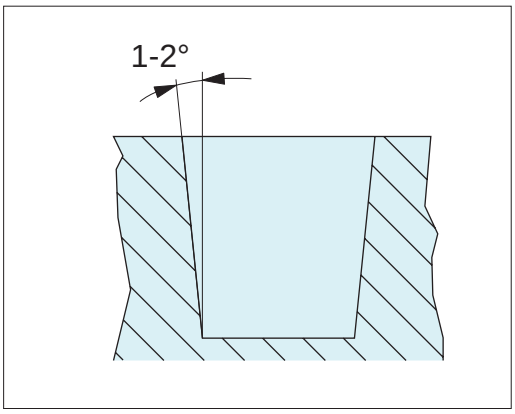
smooth body

Struggle with inconsistent location bore tolerances and wide material variation?

Looking to reduce machining costs?

Our smooth body expander fit spring plunger offers a simple and accommodating solution - with the capacity to accommodate location bore tolerances as wide as +0.2mm.

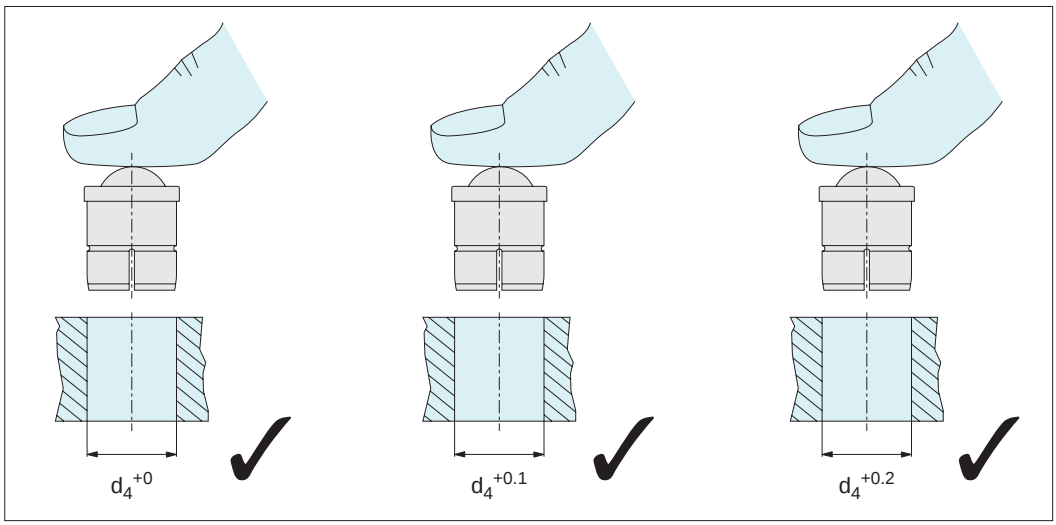
Unique Expander Fit Design



Typically, unmachined plastic injection moulded holes can vary widely in accuracy, with sidewall variation of ± 1 to 2°.

Unique body design flexes to expand and contract to fit in location bore tolerances as wide as +0,2mm.

Especially suited to installation in plastic moulded components where hole and bore precision is not high.



Expands/contracts to fit a range of hole tolerances from +0 to +0,2.

Unique Advantages

- Speed and flexibility in production and assembly.
- Removes need and cost of high tolerance machining and workpiece preparation.
- Easy push fit installation, no special tools or punches required.

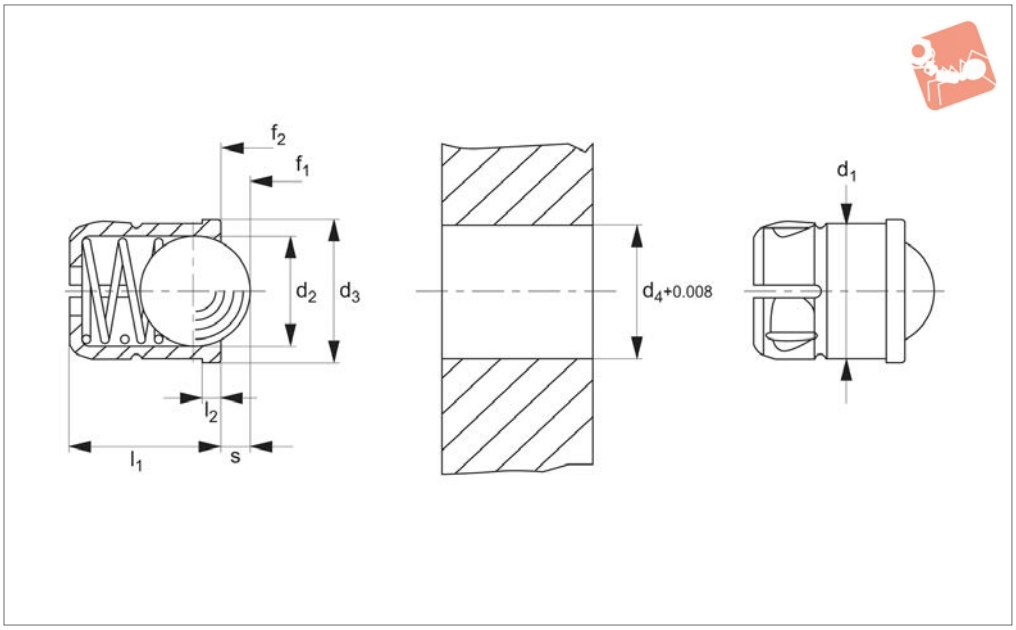
Important Note

Important Note: It is not recommended to repeatedly install and uninstall expander fit spring plungers between locating bores of different tolerances, as such repeated action can lead to reduction of its capacity to expand into holes of wider tolerances (due to slight plastic fatigue).

As with all our smooth bodied spring plungers, best results are achieved when used as a single one-off installation.

Expander Fit Spring Plungers

smooth body, with collar and ball- stainless steel



32305.web

Material

Body: thermoplastic POM, black.
Ball: stainless steel hardened.
Spring: stainless steel.

Technical Notes

Used for locating, applying pressure, detent or ejection.
Spring loads * = statistical average values.
Temperature range -5°C to +50°C.

Tips

Typical location hole tolerance is 0,008 inch due to flexible body.

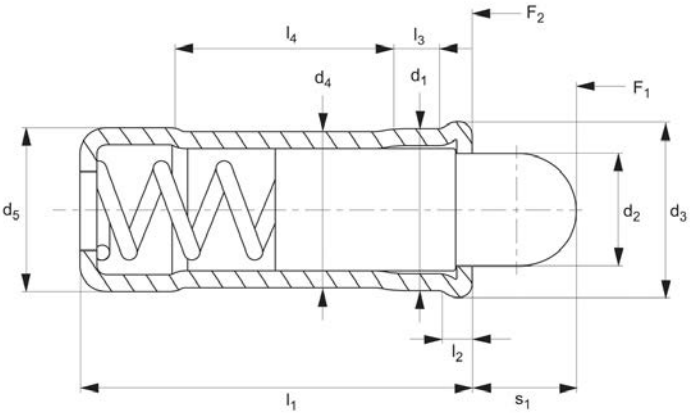
Special types available on request.

Order No.	d_1 +0.004	d_2	d_3 inch	d_4 +0.008	l_1 ±0.01	l_2	Stroke s inch	Spring load f_1 lb	Spring load f_2 lb	Weight oz
32305.W0050	3/16	0.157	0.220	3/16	0.236	0.039	0.039	1.3	2.1	0.01
32305.W0060	1/4	0.197	0.276	1/4	0.276	0.039	0.059	1.4	2.8	0.02
32305.W0080	5/16	0.256	0.335	5/16	0.354	0.039	0.075	1.9	4.5	0.05
32305.W0090	3/8	0.315	0.433	3/8	0.531	0.059	0.091	2.7	5.0	0.10
32305.W0120	1/2	0.394	0.551	1/2	0.630	0.059	0.126	3.1	5.6	0.18

Spring Plunger - Pin End - Smooth

stainless steel - with collar

32282



Material

Body: stainless steel 1.4303 (AISI 305).
Pin: stainless steel 1.4305 (AISI 303), or thermoplastic POM white.
Spring: stainless steel

Technical Notes

Used for locating, applying pressure or lifting off.
Thermoplastic type temperature range -30°C to +50°C.
Stainless type, temperature range max. 250°C.
Spring load * = statistical average value.

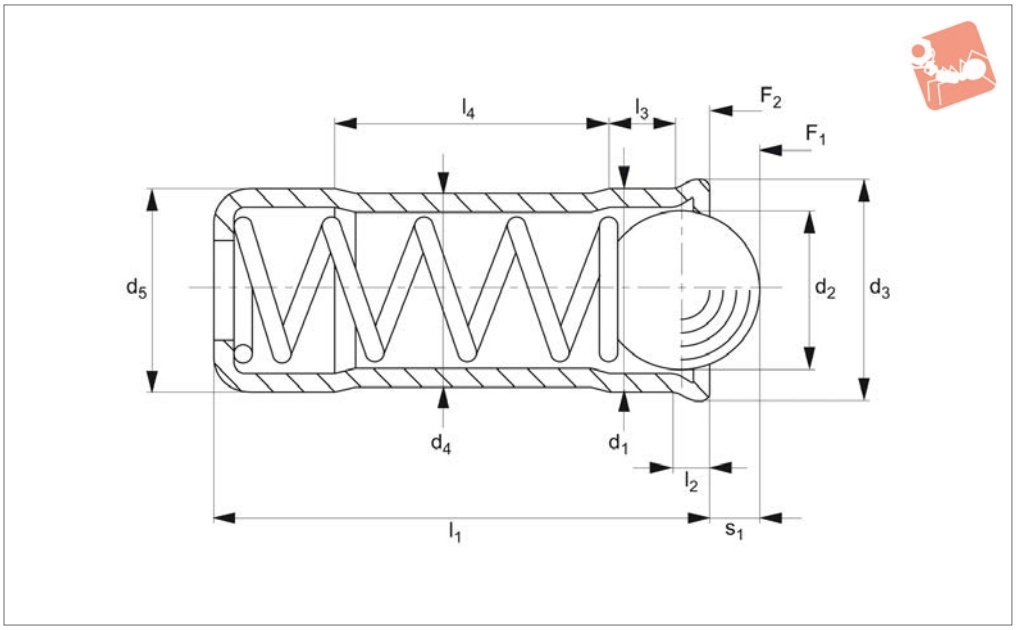
Tips

Special types available on request.
A tolerance of H7 is recommended for the locating hole of d_1.

Order No.	Pin type	d_1 +0.1 | +0.04	d_2	d_3	d_4	d_5 ±0.04	l_1	l_2 ≈	l_3 ≈	l_4 ≈	s_1	Spring load F_1 N ≈	Spring load F_2 N ≈	Temperature °C max.	Weight g
32282.W0104	Stainless	4	2,8	4,6	3,85	4	10,7	0,9	1,8	5,6	2,7	3,0	8,2	+250	0,7
32282.W0105	Stainless	5	3,8	5,6	4,85	5	12,0	0,9	2,1	6,0	4,0	3,3	9,0	+250	1,2
32282.W0106	Stainless	6	4,8	6,5	5,85	6	15,0	1,0	2,3	8,2	5,5	6,1	12,0	+250	2,2
32282.W0108	Stainless	8	6,2	8,5	7,55	8	18,0	1,1	2,9	9,5	6,5	9,0	20,1	+250	4,2
32282.W0110	Stainless	10	8,1	11,0	9,55	10	26,0	1,5	4,2	14,3	8,0	16,2	29,0	+250	9,0
32282.W0124	Plastic	4	2,8	4,6	3,85	4	10,7	0,9	1,8	5,6	2,7	3,0	8,2	-30/+50	0,5
32282.W0125	Plastic	5	3,8	5,6	4,85	5	12,0	0,9	2,1	6,0	4,0	3,3	9,0	-30/+50	0,8
32282.W0126	Plastic	6	4,8	6,5	5,85	6	15,0	1,0	2,3	8,2	5,5	6,1	12,0	-30/+50	1,3
32282.W0128	Plastic	8	6,2	8,5	7,55	8	18,0	1,1	2,9	9,5	6,5	9,0	20,1	-30/+50	2,5
32282.W0130	Plastic	10	8,1	11,0	9,55	10	26,0	1,5	4,2	15,0	8,0	16,2	29,0	-30/+50	5,0

Spring Plunger - Ball End - Smooth

stainless steel - with collar



32284

Material
Body: stainless steel 1.4303 (AISI 303).
Pin: stainless steel 1.4303 (AISI 303),
Spring: stainless steel.

Technical Notes
Used for locating, applying pressure or lifting off.
Temperature range max. 250°C.
Spring load * = statistical average value.

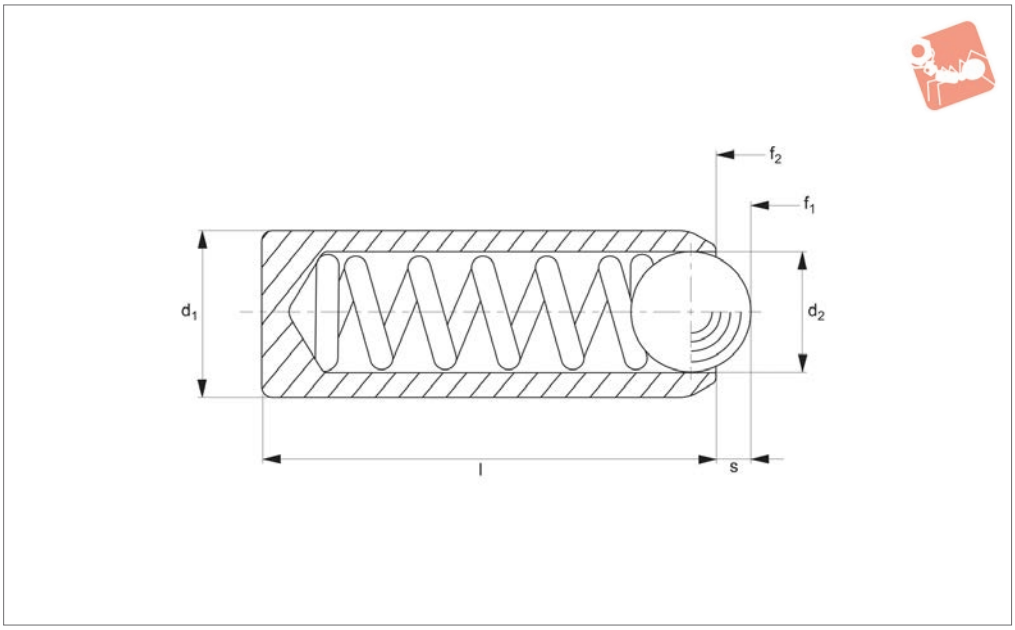
Tips
Special types available on request.
A tolerance of H7 is recommended for the locating hole of d_1.

Order No.	d_1 +0.10|+0.04	d_2	d_3	d_4	d_5 ±0.04	l_1	l_2 ≈	l_3 ≈	l_4 ≈	Spring load F_1 N ≈	Spring load F_2 N ≈	Stroke s_1	Weight g
32284.W1104	4	3.0	4.6	3.85	4	10.7	0.9	1.8	5.6	12.9	19.0	0.9	0.6
32284.W1105	5	4.0	5.6	4.85	5	12.0	0.9	2.1	6.0	19.3	29.2	1.3	1.0
32284.W1106	6	5.0	6.5	5.85	6	15.0	1.0	2.3	8.2	28.0	47.5	1.7	2.0
32284.W1108	8	6.5	8.5	7.55	8	18.0	1.1	2.9	9.5	40.0	67.3	2.3	4.0
32284.W1110	10	8.5	11.0	9.55	10	26.0	1.5	4.2	14.3	66.0	105.0	3.1	8.0

Spring Plungers

smooth model, without collar - stainless steel

32280



Material

Body: stainless steel 1.4305 (AISI 303).
Ball: ball bearing steel 1.3505 (100Cr6) hardened.
Spring: stainless steel

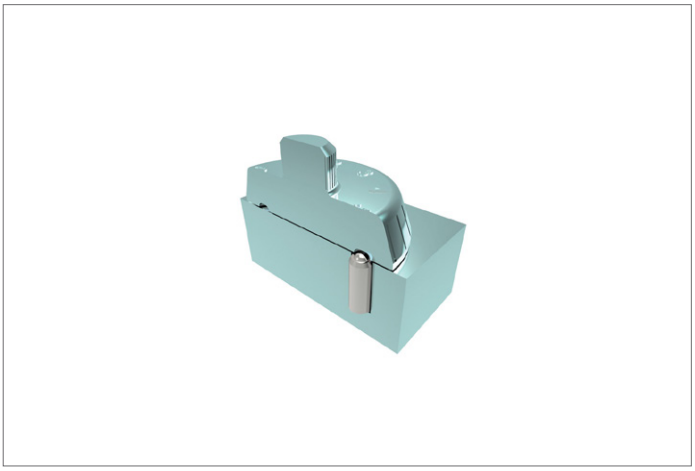
Technical Notes

Used for locating, applying pressure or lifting off.
Temperature range up to +250°C. Spring load * = statistical average value.

Tips

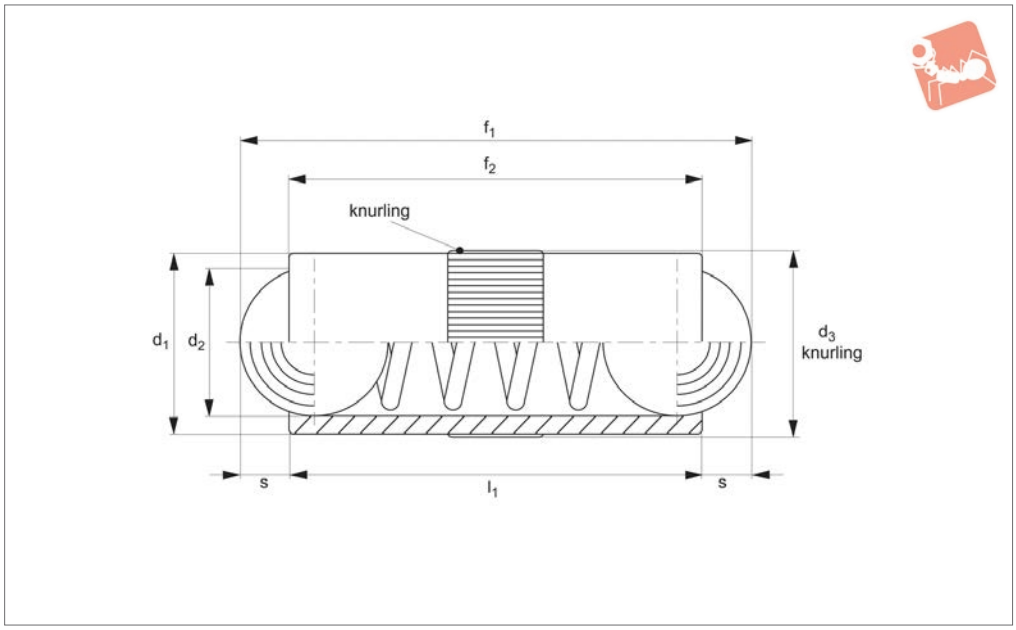
These are press fit spring plungers, use tolerance of F8 for easy fit, or H9 when tight fit required. These tolerances vary with material type, hence a trial hole is recommended.
Special types available on request.

Order No.	Pressure	d_1 ±0.04	d_2	l_1	s_1	Spring load F_1 N ≈	Spring load F_2 N ≈	Weight g
32280.W0306	Standard pressure	2.0	1.0	3.5	0.3	0.8	1.5	0.1
32280.W0308	Standard pressure	2.5	1.5	5.0	0.40	2.8	4.7	0.2
32280.W0310	Standard pressure	3.0	2.0	7.0	0.7	4.5	7.5	0.4
32280.W0312	Standard pressure	3.5	2.5	9.0	0.8	6.0	14.5	0.6
32280.W0315	Standard pressure	4.0	3.0	11.0	0.9	8.0	14.0	0.8
32280.W0317	Standard pressure	4.5	3.2	12.0	1.0	9.5	16.5	1.1
32280.W0320	Standard pressure	5.0	3.5	13.0	1.0	11.0	18.0	1.5
32280.W0322	Standard pressure	5.5	4.0	14.0	1.2	15.5	25.0	1.9
32280.W0325	Standard pressure	6.0	4.5	15.0	1.5	18.0	31.0	2.3
32280.W0327	Standard pressure	8.0	6.0	18.0	2.0	24.0	45.0	5.0
32280.W0330	Standard pressure	10.0	8.0	20.0	2.5	26.0	49.0	8.3
32280.W0332	Standard pressure	12.0	10.0	22.0	3.5	41.0	86.0	12
32280.W0356	High pressure	2.0	1.0	3.5	0.3	1.3	2.2	0.1
32280.W0358	High pressure	2.5	1.5	5.0	2.5	4.7	7.1	0.2
32280.W0360	High pressure	3.0	2.0	7.0	0.7	7.8	11.6	0.3
32280.W0362	High pressure	3.5	2.5	9.0	0.8	12.0	18.0	0.5
32280.W0365	High pressure	4.0	3.0	11.0	0.9	15.0	22.0	0.7
32280.W0367	High pressure	4.5	3.2	12.0	1.0	18.7	25.1	1.0
32280.W0370	High pressure	5.0	3.5	13.0	1.0	19.3	26.6	1.4
32280.W0372	High pressure	5.5	4.0	14.0	1.2	25.1	39.2	1.8
32280.W0375	High pressure	6.0	4.5	15.0	1.5	36.0	60.5	2.3
32280.W0377	High pressure	8.0	6.0	18.0	2.0	57.0	103.5	5.2
32280.W0380	High pressure	10.0	8.0	20.0	2.5	61.0	110.0	8.5
32280.W0382	High pressure	12.0	10.0	22.0	3.5	68.0	143.0	13



Spring Plungers
double ended

32350

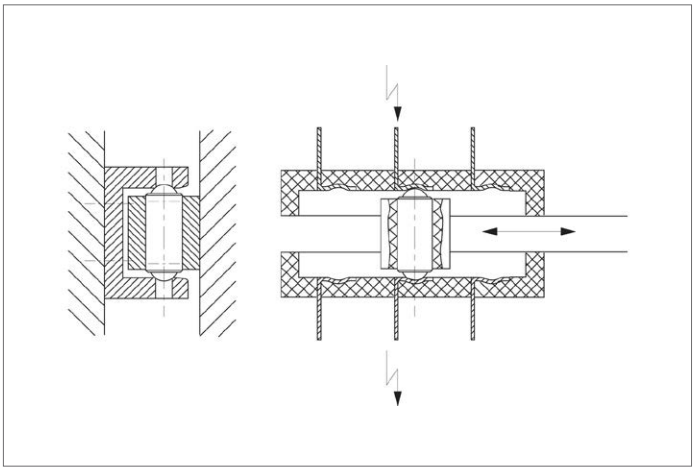


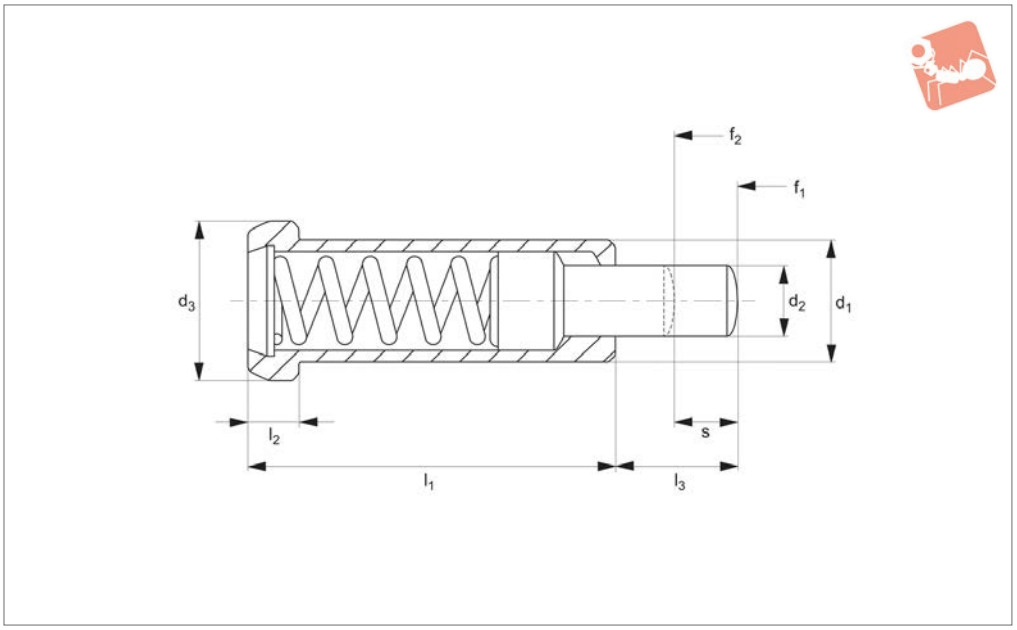
Material
Body: brass.
Ball: stainless steel, hardened.
Spring: stainless steel.

Technical Notes
Double ended spring plungers are used for axial locations and securing of bolts, as well as a means of electrical contact (see diagram). Spring loads * = statistical average value.
For calculation of indexing resistance please refer to spring plunger technical pages.
Temperature resistance up to 250°C

Tips
Suggested hole tolerance for these spring plungers is H8.
Special types available on request.

Order No.	d_1 tol. h10	d_2	d_3 +0.05	l_1	s	Spring load F_1 N ≈	Spring load F_2 N ≈	Weight g
32350.W0025	2.5	2.0	2.52	5.3	0.65	1.3	2.5	0.22
32350.W0030	3.0	2.5	3.02	7.3	0.80	2.0	4.5	0.34
32350.W0040	4.0	3.0	4.03	9.0	0.90	2.5	7.5	0.65
32350.W0050	5.0	4.0	5.03	10.8	1.20	3.5	8.0	1.27
32350.W0060	6.0	5.0	6.03	12.6	1.60	3.5	10.5	1.99
32350.W0070	7.0	6.0	7.03	14.0	2.00	4.0	12.0	3.00
32350.W0080	8.0	6.5	8.03	18.0	2.10	6.0	15.0	5.10





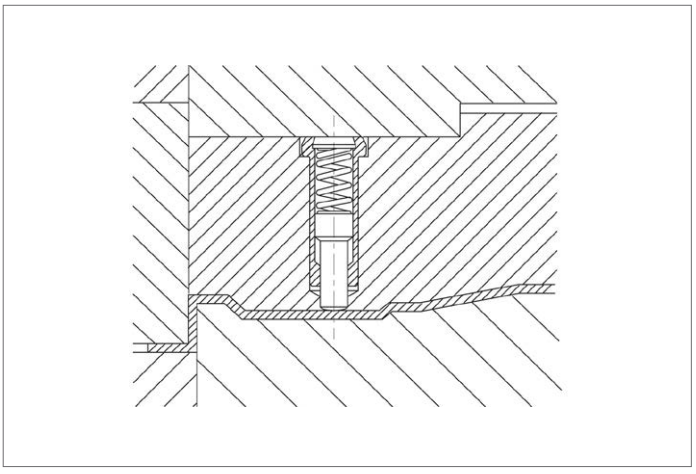
32400

Material
Body: free cutting steel, blackened.
Pin: case hardened steel, blackened.
Spring: stainless steel.

Technical Notes
Used as pulling off pins and spring stops in tool making. No part of the spring plunger can come out of the retaining bore. Recommended installation hole tolerance H7.
Temperature range up to 250°C.
Spring load * = statistical average values.

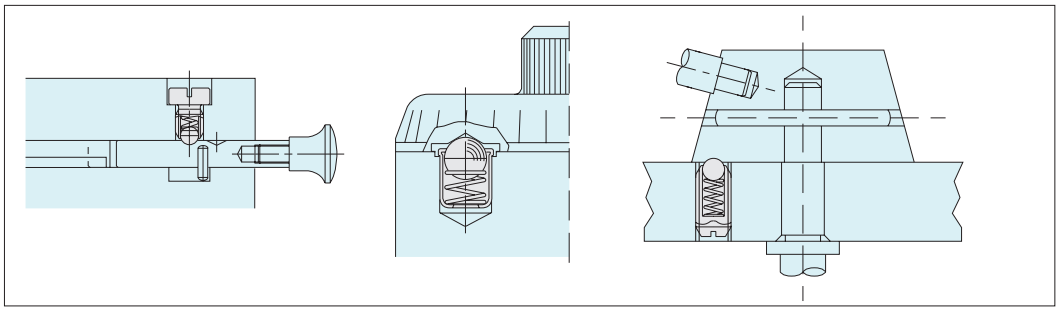
Tips
Do not push pin beyond spring range ‚s', as this will damage spring and result in reduction of spring load.
Special types available on request.

Order No.	d_1 0|-0.05	d_2	d_3	l_1	l_2	l_3	Spring load F_1 N ≈	Spring load F_2 N ≈	s spring range	Weight g
32400.W0010	10	5.9	13	30	4.0	10	42	110	5.5	16.0
32400.W0006	6	2.7	8	20	3.2	6	10	22	3.5	4.2
32400.W0008	8	3.9	10	24	3.2	8	30	88	4.5	7.7
32400.W0012	12	7.9	16	36	5.0	12	50	130	6.5	27.0



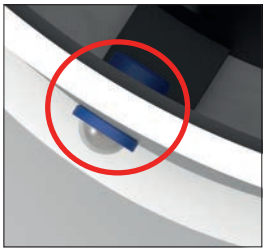
Wixroyd Spring Plungers - A Range of Endless Possibilities

Made of high quality steel and stainless steel, Wixroyd's Spring Plunger range is proven to be reliable for millions of repetitions in securing, positioning, positive locking, indexing and quick release. Their application is limited only by the imagination!



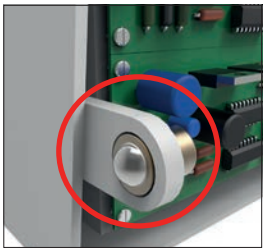
Commercial Lighting

Three push-fit spring plungers no. 32000 have been added to the design of this recessed commercial light fitting. The push-fit design of the plunger makes for easy assembly during production. Their use greatly simplifies the mounting and servicing of the units, reducing handling costs and saving valuable operator time.



Medical Applications

Used in conjunction with a simple hinge, Wixroyd spring plunger 32300 provides an easy and secure means to positively position and secure the back panel of a blood gas analysis machine. With both brass and stainless steel varieties, our spring plungers have a wide range of application in the medical, pharmaceutical, food and drink processing industries.



Applications

Uses

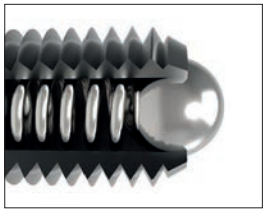
- For location, applying pressure and "lifting off".
- Securing and positioning.
- Positive locking and indexing.
- Quick release.

Industry Sectors

- Machine and fixture design.
- Measuring equipment.
- Electronic components.
- Lighting equipment.
- Lighting equipment.
- Medical, optics and orthopaedics.

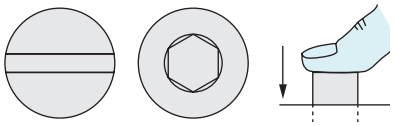
Wixroyd Spring Plungers - Uses and Mounting Options

Ball Type



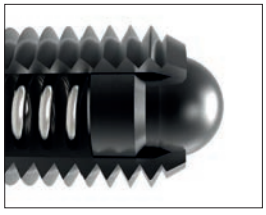
- 31400
- 31420
- 31500
- 32000
- 32100
- 32102
- 32280
- 32300
- 32302
- 32350

Mounting Options



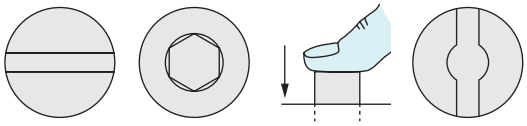
Rear slot | Rear hexagon | Push fit

Pin Head Type



- 31000
- 31600
- 32150
- 32200
- 32220
- 32282
- 32400
- 32420

Mounting Options



Rear slot | Rear hexagon | Push fit | Front slot

ov-W31400-A-T-W32420-A-T-a-Inh - Updated - 27-10-2022

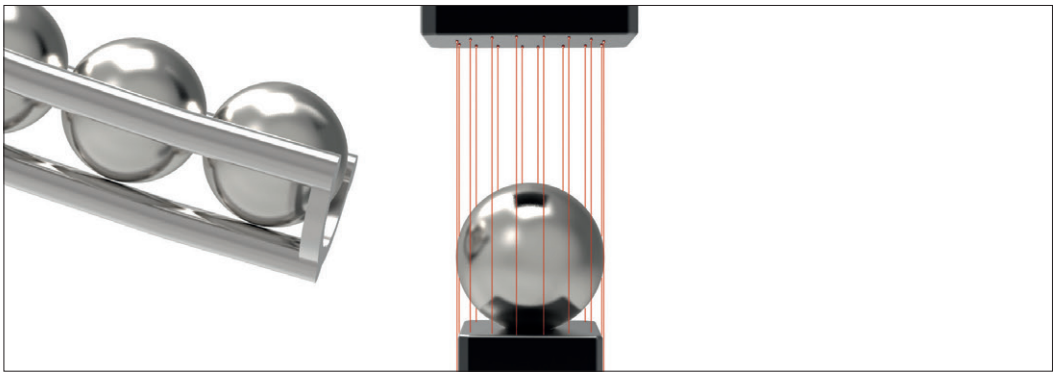
Quality products every time

- Every spring plunger that is produced on the Wixroyd assembly line is individually tested. That is how we guarantee the quality of our products.
- A Wixroyd spring plunger is tested against four key criteria during manufacture.

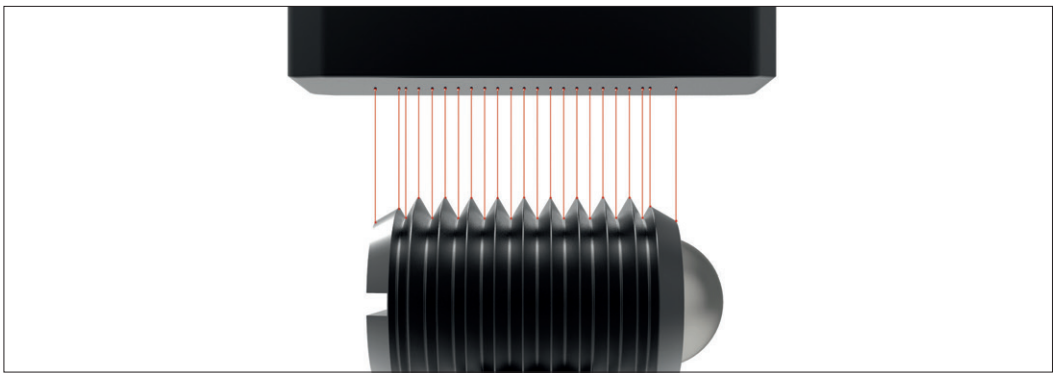
100% Testing

Accuracy of 'S' Stroke/ Spring Range

Accuracy of f_1 and f_2 Spring Forces



Accuracy of Ball Diameter



Accuracy of Thread

Wixroyd Spring Plungers

metric thread

Thread Details

All Wixroyd metric spring plungers have a coarse thread.

ISO metric coarse threads (mm)

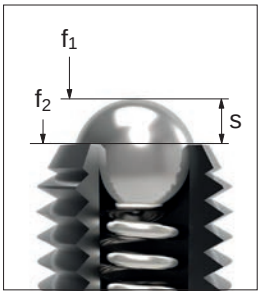
Thread (D)	3	3,5	4	4,5	5	6	7	8	10	12	14	16	18	20	22	24
Pitch	0,5	0,6	0,7	0,75	0,8	1,0	1,0	1,25	1,5	1,75	2,00	2,0	2,5	2,5	2,5	3,0

Spring Loads

s Stroke, or movement of plunger's ball or pin.

f_1 The force required in Newtons (N) to over come the static strength of the spring and achieve initial movement of the plunger's ball or pin.

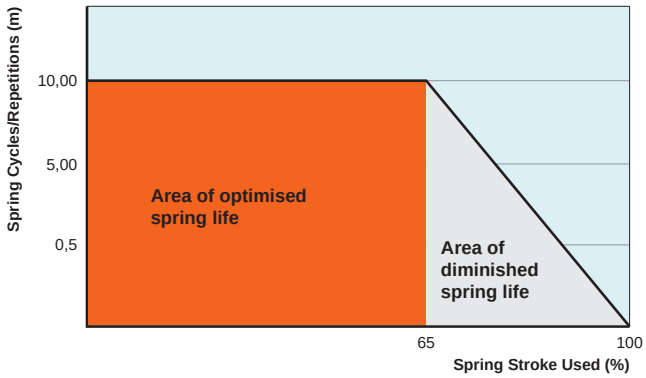
f_2 The force required in Newtons (N) to fully compress the spring until the ball or pin is fully depressed against the plunger's body.



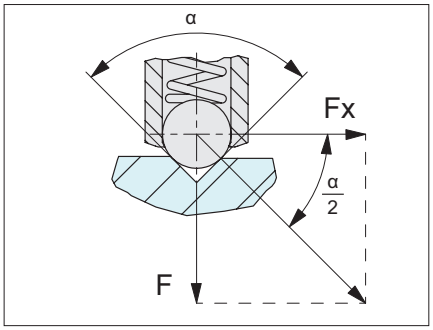
Typical Spring Repetitions

Although dependent upon a number of application specific factors, we are able to give the following guide relating to the maximum number of spring repetitions or cycles of our spring plungers.

- 100% or full stroke "s" used: approx. 300,000 cycles.
- 65% of stroke "s" used: approx 10,000,000 cycles.



Calculating Indexing Resistance



We are able to provide the following formula as an approximation of the pull or push force (N) required to 'release' a ball plunger from its indexing counterpart.

$$Fx = \frac{F}{\tan\frac{\alpha}{2}}$$

Fx = pull or push force (N)

F = plungers spring force (see relevant product table)

α = angle of the indexing counter part face

For example:

For Spring plunger 31500.W0010;

F = 24N (see product table)

If α = 90°

$$Fx = \frac{24}{\tan\frac{90}{2}} = 24N$$

If α = 60°

$$Fx = \frac{24}{\tan\frac{60}{2}} = 41,5N$$

If α = 120°

$$Fx = \frac{24}{\tan\frac{120}{2}} = 13,8N$$

Important Note: This is only an approximation formula. For more accurate calculation the roughness of the counterpart surface as well as any variation in the plungers spring force(due to age or high repetitions) should be considered.

Electrical Conductivity

We are often asked the electrical conductivity of our spring plungers, unfortunately we are unable to provide any reliable information related to this as there are many factors in an application. We recommend you study the specific material properties of the spring plunger's component parts to make your own calculations, alternatively if in doubt make a test application.

Specials to Your Own Design

Manufacturing exactly to your specific requirements is also our strength. If you need a variation in spring pressure, plunger body or pin design we can assist with a special design item for volumes as low as 1,000 units.

For further information, or to request a quotation, please call our sales office on 0333 207 4497.

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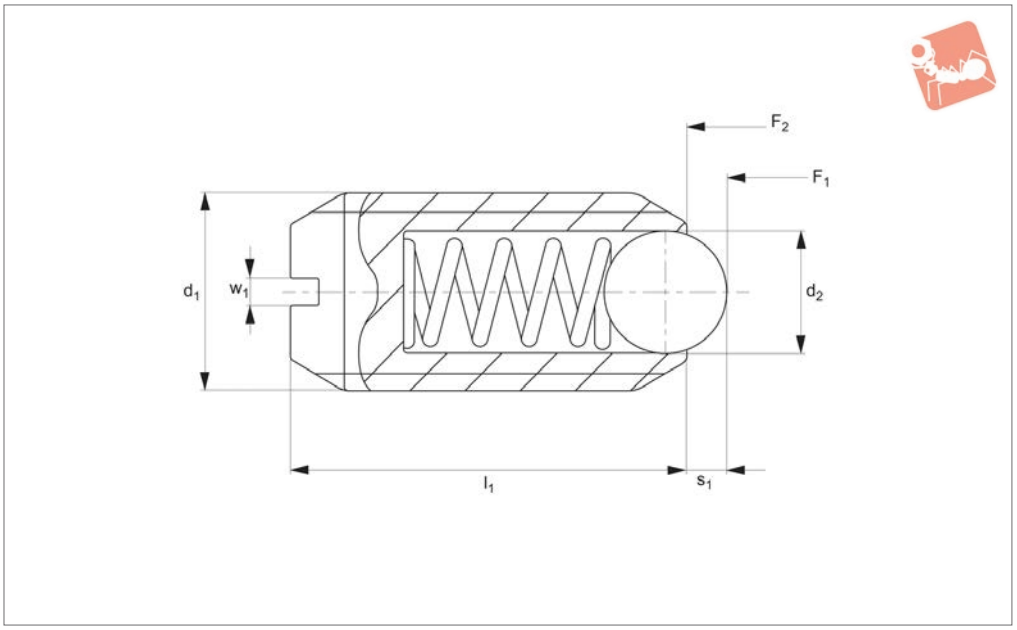


32100

Material

Free cutting steel type-
Body: free cutting steel, blackened.
Ball: ball bearing steel 1.3505 (100Cr6) hardened.
Spring: stainless steel.
Stainless steel type-
Body: stainless steel 1.4305 (AISI 303).
Ball: stainless steel 1.3505 (100Cr6), hardened.
Spring: stainless steel.

Technical Notes

These spring plungers may be used for location, for applying pressure or lifting off.
Temperature range up to 250°C. Spring load * = statistical average value.
For calculation of indexing resistance please refer to spring plunger technical pages.

Tips

Spring load identifier:
Normal spring load - no marking.
Increased spring load - body marked with two lines.
Special types available on request.

Important Notes

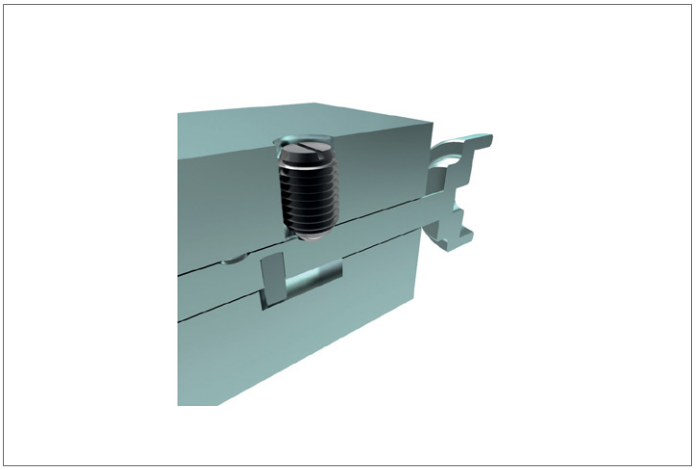
All metric Wixroyd spring plungers have a coarse thread, see appendix five for thread details.

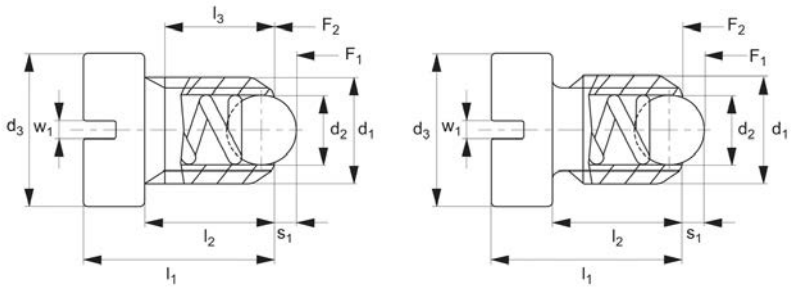
Order No.	Material	Spring load	d_1	d_2	l_1	Spring load F_1 N ≈	Spring load F_2 N ≈	Stroke s_1	A/F	Weight g
32100.W0003	Steel	Normal	M 3	1.5	7	3.0	4.5	0.4	0.40	0.2
32100.W0004	Steel	Normal	M 4	2.5	9	8.5	14.0	0.8	0.60	0.4
32100.W0005	Steel	Normal	M 5	3.0	12	8.0	14.0	0.9	0.80	1.0
32100.W0006	Steel	Normal	M 6	3.5	14	11.0	18.0	1.0	1.00	1.7
32100.W0008	Steel	Normal	M 8	4.5	16	18.0	31.0	1.5	1.20	3.5
32100.W0010	Steel	Normal	M10	6.0	19	24.0	45.0	2.0	1.50	6.6
32100.W0012	Steel	Normal	M12	8.0	22	26.0	49.0	2.5	2.00	11.0
32100.W0016	Steel	Normal	M16	10.0	24	41.0	86.0	3.5	2.00	23.0
32100.W0020	Steel	Normal	M20	12.0	30	56.0	111.0	4.5	2.50	45.0
32100.W0024	Steel	Normal	M24	15.0	34	81.0	151.0	5.5	3.00	72.0
32100.W0205	Steel	Increased	M 5	3.0	12	15.0	22.0	0.9	0.80	1.0
32100.W0206	Steel	Increased	M 6	3.5	14	19.0	28.0	1.0	1.00	1.7
32100.W0208	Steel	Increased	M 8	4.5	16	36.0	62.0	1.5	1.20	3.6
32100.W0210	Steel	Increased	M10	6.0	19	57.0	104.0	2.0	1.50	6.6
32100.W0212	Steel	Increased	M12	8.0	22	61.0	110.0	2.5	2.00	11.0
32100.W0216	Steel	Increased	M16	10.0	24	68.0	142.0	3.5	2.00	23.0
32100.W0220	Steel	Increased	M20	12.0	30	84.0	166.0	4.5	2.50	43.0
32100.W0224	Steel	Increased	M24	15.0	34	127.0	237.0	5.5	3.00	72.0
32100.W0402	Stainless	Normal	M 2	1.0	4	0.8	1.5	0.3	0.25	0.1
32100.W0403	Stainless	Normal	M 3	1.5	7	3.0	4.5	0.4	0.40	0.2
32100.W0404	Stainless	Normal	M 4	2.5	9	8.5	14.0	0.8	0.60	0.4
32100.W0405	Stainless	Normal	M 5	3.0	12	8.0	14.0	0.9	0.80	1.0

Spring Plungers

with ball & slot - stainless steel

Order No.	Material	Spring load	d_1	d_2	l_1	Spring load F_1 N ≈	Spring load F_2 N ≈	Stroke s_1	A/F	Weight g
32100.W0406	Stainless	Normal	M 6	3.5	14	11.0	18.0	1.0	1.00	1.7
32100.W0408	Stainless	Normal	M 8	4.5	16	18.0	31.0	1.5	1.20	3.5
32100.W0410	Stainless	Normal	M10	6.0	19	24.0	45.0	2.0	1.50	6.6
32100.W0412	Stainless	Normal	M12	8.0	22	26.0	49.0	2.5	2.00	11.0
32100.W0416	Stainless	Normal	M16	10.0	24	41.0	86.0	3.5	2.00	23.0
32100.W0420	Stainless	Normal	M20	12.0	30	56.0	111.0	4.5	2.50	45.0
32100.W0424	Stainless	Normal	M24	15.0	34	81.0	151.0	5.5	3.00	72.0
32100.W0605	Stainless	Increased	M 5	3.0	12	15.0	22.0	0.9	0.80	1.0
32100.W0606	Stainless	Increased	M 6	3.5	14	19.0	28.0	1.0	1.00	1.7
32100.W0608	Stainless	Increased	M 8	4.5	16	36.0	62.0	1.5	1.20	3.6
32100.W0610	Stainless	Increased	M10	6.0	19	57.0	104.0	2.0	1.50	6.6
32100.W0612	Stainless	Increased	M12	8.0	22	61.0	110.0	2.5	2.00	11.0
32100.W0616	Stainless	Increased	M16	10.0	24	68.0	142.0	3.5	2.00	23.0
32100.W0620	Stainless	Increased	M20	12.0	30	84.0	166.0	4.5	2.50	43.0
32100.W0624	Stainless	Increased	M24	15.0	34	127.0	237.0	5.5	3.00	72.0





31400

Material

Free cutting steel type-
Body: free cutting steel, blackened.
Ball: ball bearing steel 1.3505 (100Cr6), hardened.
Spring: stainless steel.
Stainless steel type-
Body: stainless steel 1.4305 (AISI 303).
Ball: stainless steel 1.3505 (100Cr6), hardened.
Spring: stainless steel.
For calculation of indexing resistance please refer to appendix - Technical Data.

Technical Notes

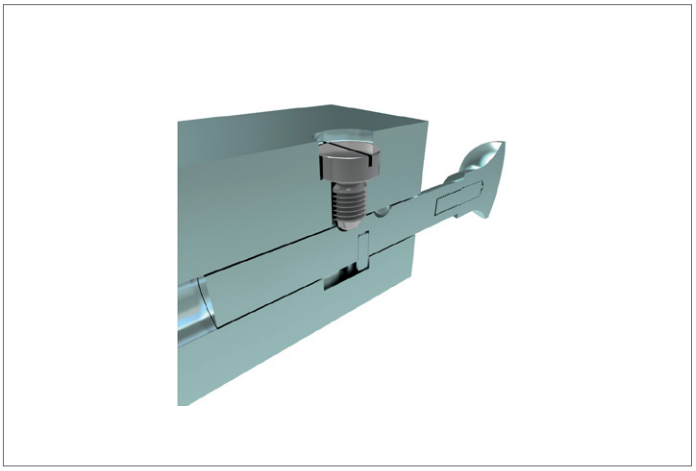
Max. temperature 250°C. Spring loads = statistical average.
For M4 and M5 threads dimension l_3 is max. screw in depth, i.e. there is no undercut.
For calculation of indexing resistance please refer to spring plunger technical pages.

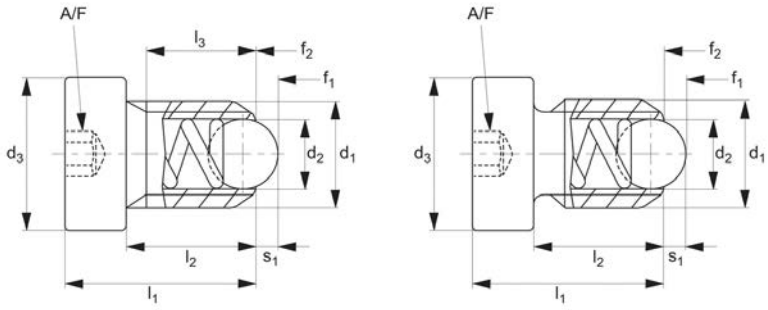
Important Notes

All metric Wixroyd spring plungers have a coarse thread, see appendix five for thread details.

Order No.	Material	d_1	d_2	d_3	l_1	l_2	l_3	Spring load F_1 N ≈	Spring load F_2 N ≈	Stroke s_1	w_1	Weight g
31400.W0940	Stainless	M 4	2.5	6	9.5	6.5	5.0	8	14	0.8	0.6	1.2
31400.W0941	Stainless	M 5	3.0	8	12.5	8.5	6.7	8	14	0.9	0.8	2.4
31400.W0942	Stainless	M 6	3.5	10	14.0	9.0	-	11	18	1.0	1.0	3.9
31400.W0943	Stainless	M 8	4.5	13	16.5	11.0	-	18	31	1.5	1.2	7.9
31400.W0944	Stainless	M10	6.0	16	20.0	14.0	-	24	45	2.0	1.5	14.0
31400.W0945	Stainless	M12	8.0	18	22.0	15.0	-	26	49	2.5	2.0	20.0
31400.W0930	Steel	M 4	2.5	6	9.5	6.5	5.0	8	14	0.8	0.6	1.2
31400.W0931	Steel	M 5	3.0	8	12.5	8.5	6.7	8	14	0.9	0.8	2.4
31400.W0932	Steel	M 6	3.5	10	14.0	9.0	-	11	18	1.0	1.0	3.9
31400.W0933	Steel	M 8	4.5	13	16.5	11.0	-	18	31	1.5	1.2	7.9
31400.W0934	Steel	M10	6.0	16	20.0	14.0	-	24	45	2.0	1.5	14.0
31400.W0935	Steel	M12	8.0	18	22.0	15.0	-	26	49	2.5	2.0	20.0

Spring Plungers
with ball & slot - headed





31420

Material

Free cutting steel type-
Body: free cutting steel, blackened.
Ball: ball bearing steel 1.3505 (100Cr6) hardened.
Spring: stainless steel.
Stainless steel type-
Body: stainless steel 1.4305 (AISI 303).
Ball: stainless steel 1.3505 (100Cr6), hardened.
Spring: stainless steel.

Technical Notes

Max. temperature 250°C. Spring loads = statistical average.
For M4 and M5 threads dimension l_3 is max. screw in depth, i.e. there is no undercut.
For calculation of indexing resistance please refer to spring plunger technical pages.

Tips

Used for locating, applying pressure or lifting off. Special types available on request.

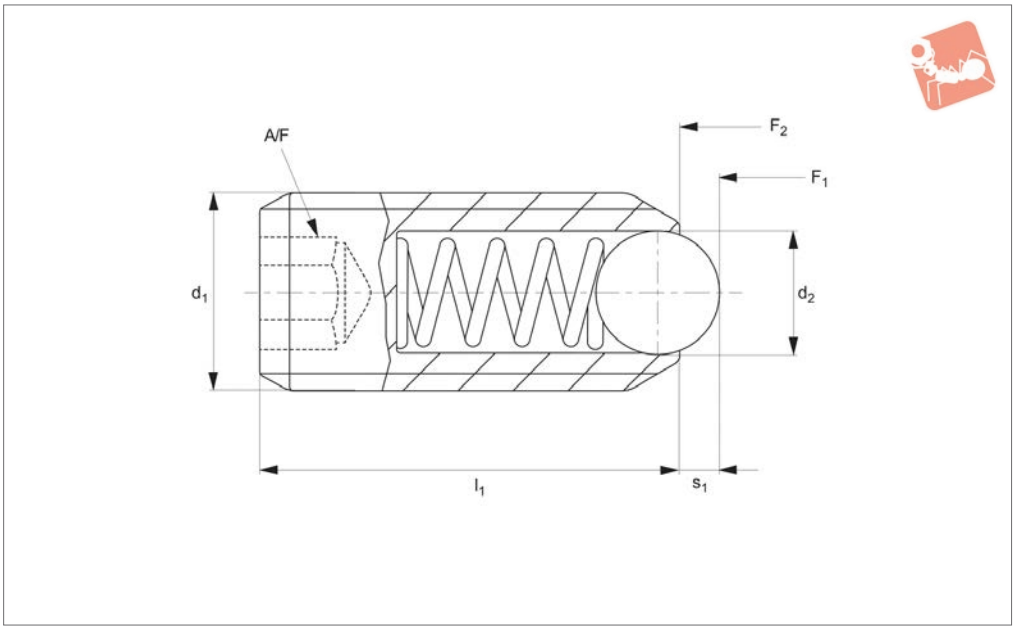
Important Notes

All metric Wixroyd spring plungers have a coarse thread, see appendix five for thread details.

Order No.	Material	d_1	d_2	d_3	l_1	l_2	l_3	Spring load F_1 N ≈	Spring load F_2 N ≈	Stroke s_1	A/F	Weight g
31420.W0940	Stainless	M 4	2.5	6	12	9.0	7.5	8	14	0.8	2.0	1.1
31420.W0941	Stainless	M 5	3.0	8	14	10.0	8.2	8	14	0.9	2.5	2.3
31420.W0942	Stainless	M 6	3.5	10	15	10.0	-	11	18	1.0	3.0	3.9
31420.W0943	Stainless	M 8	4.5	13	18	12.5	-	18	31	1.5	4.0	7.8
31420.W0944	Stainless	M10	6.0	16	23	17.0	-	24	45	2.0	5.0	14.0
31420.W0945	Stainless	M12	8.0	18	26	19.0	-	26	49	2.5	6.0	21.0
31420.W0930	Steel	M 4	2.5	6	12	9.0	7.5	8	14	0.8	2.0	1.1
31420.W0931	Steel	M 5	3.0	8	14	10.0	8.2	8	14	0.9	2.5	2.3
31420.W0932	Steel	M 6	3.5	10	15	10.0	-	11	18	1.0	3.0	3.9
31420.W0933	Steel	M 8	4.5	13	18	12.5	-	18	31	1.5	4.0	7.8
31420.W0934	Steel	M10	6.0	16	23	17.0	-	24	45	2.0	5.0	14.0
31420.W0935	Steel	M12	8.0	18	26	19.0	-	26	49	2.5	6.0	21.0

Spring Plungers
with ball end & hex. socket

31500



Material
Free cutting steel type-
Body: free cutting steel, blackened. Ball: ball bearing steel 1.3505 (100Cr6) hardened. Spring: stainless steel.
Stainless steel type-
Body: stainless steel 1.4305 (AISI 303). Ball: stainless steel 1.3505 (100Cr6), hardened.
Spring: stainless steel.

Technical Notes
These spring plungers may be used for location, for applying pressure or lifting off.
Temperature range max. 250° C.
Spring load * = statistical average value.
For calculation of indexing resistance please refer to spring plunger technical pages.

Tips
Spring load identifier:
Normal spring load - no marking.
Increased spring load - body marked with two lines.
Special types available on request.

Important Notes
All metric Wixroyd spring plungers have a coarse thread, see appendix five for thread details.

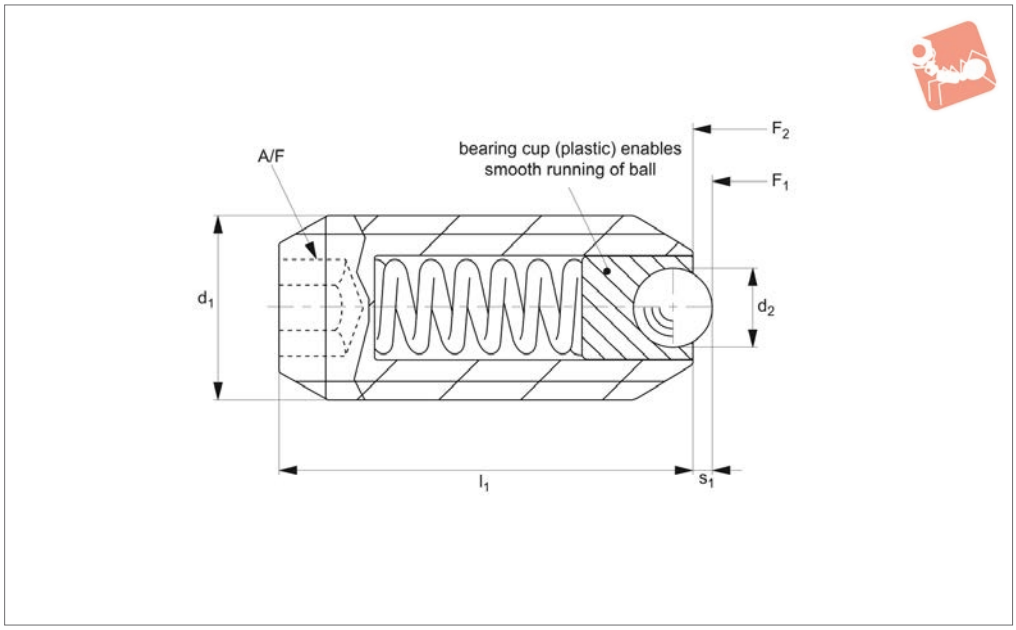
Order No.	Material	Spring load	d_1	d_2	l_1	Spring load F_1 N ≈	Spring load F_2 N ≈	Stroke s_1	A/F	Weight g
31500.W0204	Stainless	Normal	M 4	2.5	12	8.5	14.0	0.8	2.0	0.7
31500.W0203	Stainless	Normal	M 3	1.5	8	3.0	4.5	0.4	1.5	0.3
31500.W0205	Stainless	Normal	M 5	3.0	14	8.0	14.0	0.9	2.5	1.2
31500.W0206	Stainless	Normal	M 6	3.5	15	11.0	18.0	1.0	3.0	1.8
31500.W0208	Stainless	Normal	M 8	4.5	18	18.0	31.0	1.5	4.0	3.9
31500.W0210	Stainless	Normal	M10	6.0	23	24.0	45.0	2.0	5.0	8.1
31500.W0212	Stainless	Normal	M12	8.0	26	26.0	49.0	2.5	6.0	13.0
31500.W0216	Stainless	Normal	M16	10.0	33	41.0	86.0	3.5	8.0	32.0
31500.W0220	Stainless	Normal	M20	12.0	43	56.0	111.0	4.5	10.0	66.0
31500.W0224	Stainless	Normal	M24	15.0	48	81.0	151.0	5.5	12.0	106.0
31500.W0245	Stainless	Increased	M 5	3.0	14	15.0	22.0	0.9	2.5	1.2
31500.W0246	Stainless	Increased	M 6	3.5	15	19.0	28.0	1.0	3.0	1.9
31500.W0248	Stainless	Increased	M 8	4.5	18	36.0	62.0	1.5	4.0	4.2
31500.W0250	Stainless	Increased	M10	6.0	23	57.0	104.0	2.0	5.0	8.2
31500.W0252	Stainless	Increased	M12	8.0	26	61.0	110.0	2.5	6.0	13.0
31500.W0256	Stainless	Increased	M16	10.0	33	68.0	142.0	3.5	8.0	33.0
31500.W0260	Stainless	Increased	M20	12.0	43	84.0	166.0	4.5	10.0	66.0
31500.W0264	Stainless	Increased	M24	15.0	48	127.0	237.0	5.5	12.0	107.0
31500.W0004	Steel	Normal	M 4	2.5	12	8.5	14.0	0.8	2.0	0.7
31500.W0003	Steel	Normal	M 3	1.5	8	3.0	4.5	0.4	1.5	0.3
31500.W0005	Steel	Normal	M 5	3.0	14	8.0	14.0	0.9	2.5	1.2
31500.W0006	Steel	Normal	M 6	3.5	15	11.0	18.0	1.0	3.0	1.8
31500.W0008	Steel	Normal	M 8	4.5	18	18.0	31.0	1.5	4.0	3.9

Order No.	Material	Spring load	d_1	d_2	l_1	Spring load F_1 N ≈	Spring load F_2 N ≈	Stroke s_1	A/F	Weight g
31500.W0010	Steel	Normal	M10	6.0	23	24.0	45.0	2.0	5.0	8.1
31500.W0012	Steel	Normal	M12	8.0	26	26.0	49.0	2.5	6.0	13.0
31500.W0016	Steel	Normal	M16	10.0	33	41.0	86.0	3.5	8.0	32.0
31500.W0020	Steel	Normal	M20	12.0	43	56.0	111.0	4.5	10.0	66.0
31500.W0024	Steel	Normal	M24	15.0	48	81.0	151.0	5.5	12.0	106.0
31500.W0045	Steel	Increased	M 5	3.0	14	15.0	22.0	0.9	2.5	1.2
31500.W0046	Steel	Increased	M 6	3.5	15	19.0	28.0	1.0	3.0	1.9
31500.W0048	Steel	Increased	M 8	4.5	18	36.0	62.0	1.5	4.0	4.2
31500.W0050	Steel	Increased	M10	6.0	23	57.0	104.0	2.0	5.0	8.2
31500.W0052	Steel	Increased	M12	8.0	26	61.0	110.0	2.5	6.0	13.0
31500.W0056	Steel	Increased	M16	10.0	33	68.0	142.0	3.5	8.0	33.0
31500.W0060	Steel	Increased	M20	12.0	43	84.0	166.0	4.5	10.0	66.0
31500.W0064	Steel	Increased	M24	15.0	48	127.0	237.0	5.5	12.0	107.0

Smooth Running - Spring Plungers

with ball and a hex. socket - stainless steel

31610



Material

Free cutting steel type-
Body: free cutting steel, blackened.
Ball: ball bearing steel 1.3505(100Crb), hardened.
Spring: stainless steel.
Bearing cup: plastic.

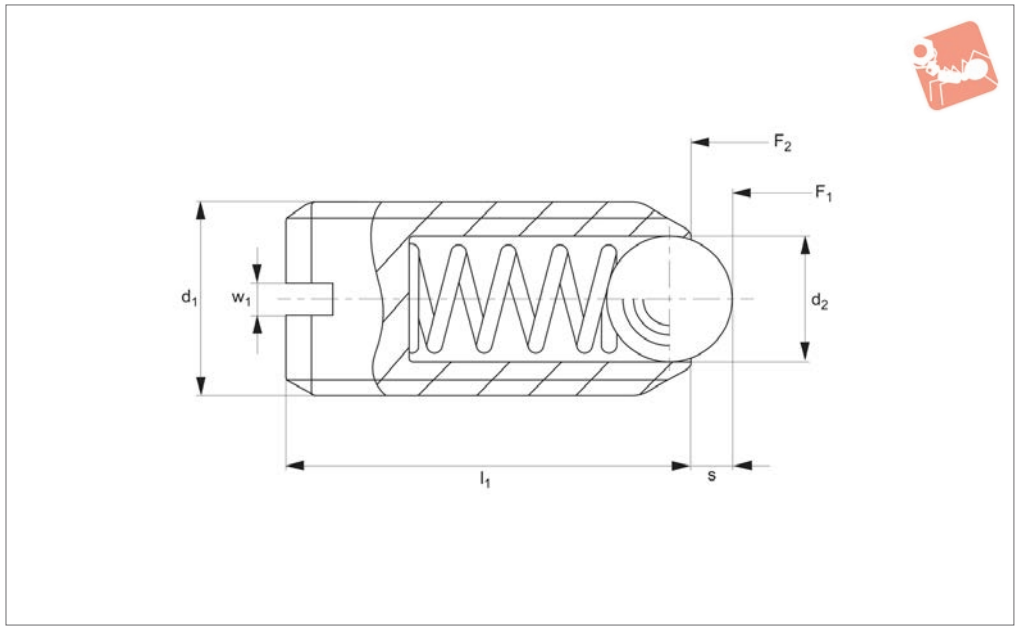
Stainless steel type-
Body: stainless steel, 1.4305(AISI 303).
Ball: ball bearing steel 1.3505(100Crb), hardened.
Spring: stainless steel.
Bearing cup: plastic.

Technical Notes

Plunger's ball bearing is mounted in a unique plastic „bearing cup", angling the smooth running of the ball.
This offers a solution with less friction, for reduced surface damage to mounting parts.
In addition the plastic cup offers electrical insulation.

Temperature range -30°C to +90°C.

Order No.	Material	Spring load	d_1	d_2	l_1	s_1	Spring load F_1 N ≈	Spring load F_2 N ≈	A/F	Weight g
31610.W0005	Steel	Normal	M 5	2.0	14	0.50	4.8	6.8	2.5	1.1
31610.W0006	Steel	Normal	M 6	2.5	15	0.70	6.3	10.0	3.0	2.1
31610.W0008	Steel	Normal	M 8	3.5	18	0.95	16.0	24.0	4.0	4.8
31610.W0010	Steel	Normal	M10	4.5	23	1.40	18.8	31.7	5.0	10.0
31610.W0012	Steel	Normal	M12	6.5	26	2.30	26.0	49.0	6.0	15.0
31610.W0016	Steel	Normal	M16	8.5	33	3.10	38.0	68.0	8.0	37.0
31610.W0045	Steel	Increased	M 5	2.0	14	0.50	10.0	14.0	2.5	1.2
31610.W0046	Steel	Increased	M 6	2.5	15	0.70	11.0	16.0	3.0	2.2
31610.W0048	Steel	Increased	M 8	3.5	18	0.95	23.0	40.0	4.0	5.0
31610.W0050	Steel	Increased	M10	4.5	23	1.40	54.3	54.3	5.0	10.0
31610.W0052	Steel	Increased	M12	6.5	26	2.30	39.5	77.3	6.0	15.0
31610.W0056	Steel	Increased	M16	8.5	33	3.10	50.0	88.7	8.0	37.0
31610.W0205	Stainless	Normal	M 5	2.0	14	0.50	4.8	6.8	2.5	1.1
31610.W0206	Stainless	Normal	M 6	2.5	15	0.70	6.3	10.0	3.0	2.1
31610.W0208	Stainless	Normal	M 8	3.5	18	0.95	16.0	24.0	4.0	4.8
31610.W0210	Stainless	Normal	M10	4.5	23	1.40	18.8	31.7	5.0	10.0
31610.W0212	Stainless	Normal	M12	6.5	26	2.30	26.0	49.0	6.0	15.0
31610.W0216	Stainless	Normal	M16	8.5	33	3.10	38.0	68.0	8.0	37.0
31610.W0245	Stainless	Increased	M 5	2.0	14	0.50	10.0	14.0	2.5	1.2
31610.W0246	Stainless	Increased	M 6	2.5	15	0.70	11.0	16.0	3.0	2.2
31610.W0248	Stainless	Increased	M 8	3.5	18	0.95	23.0	40.0	4.0	5.0
31610.W0250	Stainless	Increased	M10	4.5	23	1.40	28.0	54.3	5.0	10.0
31610.W0252	Stainless	Increased	M12	6.5	26	2.30	39.5	77.3	6.0	15.0
31610.W0256	Stainless	Increased	M16	8.5	33	3.10	50.0	88.7	8.0	37.0



32000

Material
Body: thermoplastic POM, blue.
Ball: hardened stainless steel 1.3541 or white thermoplastic POM.
Spring: stainless steel.

Technical Notes
Used for locating, applying pressure or lifting off.

Temperature range -30°C to +50°C.
Spring loads * = statistical average value.
For calculation of indexing resistance please refer to spring plunger technical pages.

Tips
May be used where electrical conductivity is not required.

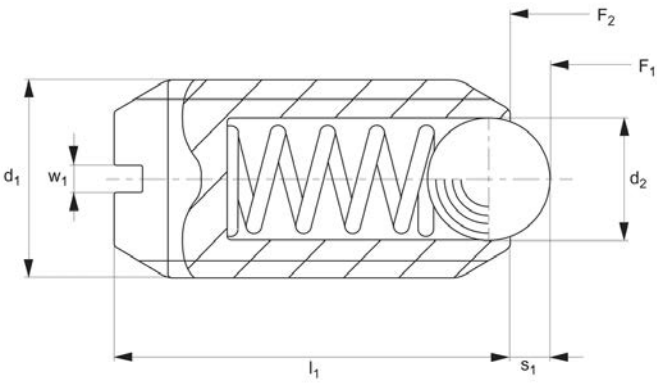
Special types available on request.

Important Notes
All metric Wixroyd spring plungers have a coarse thread, see appendix five for thread details.

Order No.	Ball finish	d_1	d_2	l_1	s	Spring load F_1 N ≈	Spring load F_2 N ≈	w_1	Weight g
32000.W0006	Stainless	M 6	3.5	14	0.9	12	17	1.0	0.6
32000.W0008	Stainless	M 8	5.0	16	1.5	20	35	1.2	1.3
32000.W0010	Stainless	M10	6.0	19	1.9	25	45	1.5	2.6
32000.W0406	Thermo	M 6	3.5	14	0.9	12	17	1.0	0.5
32000.W0408	Thermo	M 8	5.0	16	1.5	20	35	1.2	1.0
32000.W0410	Thermo	M10	6.0	19	1.9	25	45	1.5	1.8

Spring Plunger
with ceramic ball and slot - stainless steel

32102

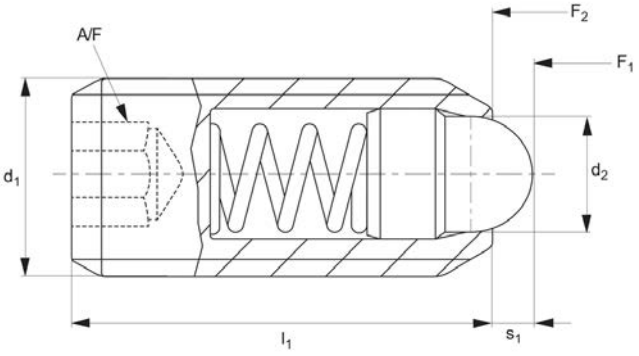


Material
Body: stainless steel A4, passivated.
Ball: ceramic (silicone nitride), black.
Spring: stainless steel A4, passivated

Technical Notes
To be used for locating or for applying pressure, as a detent or for ejection. The version from stainless steel A4 guarantees the highest corrosion protection.
Ceramic ball: abrasion resistant, antimagnetic, electically isolating.
Temperature range up to max. 250°C.
Spring load * = Statistical average value.
For calculation of indexing resistance please refer to spring plunger technical pages.

Tips
Spring load identifier:
Normal spring load - no marking.
Increased spring load - body marked with two lines.
Special types available on request.

Order No.	Spring load	d_1	d_2	l_1	s_1	Spring load F_1 N ≈	Spring load F_2 N ≈	w_1	Weight g
32102.W1404	Normal	M 4	2.5	9	0.8	8.5	14	0.6	0.4
32102.W1405	Normal	M 5	3.0	12	0.9	8.0	14	0.8	0.9
32102.W1406	Normal	M 6	3.5	14	1.0	11.0	18	1.0	1.6
32102.W1408	Normal	M 8	4.5	16	1.5	18.0	31	1.2	3.5
32102.W1410	Normal	M10	6.0	19	2.0	24.0	45	1.5	6.2
32102.W1412	Normal	M12	8.0	22	2.5	26.0	49	2.0	9.8
32102.W1416	Normal	M16	10.0	24	3.5	41.0	86	2.0	19.8
32102.W1605	Increased	M 5	3.0	12	0.9	15.0	22	0.8	1.1
32102.W1606	Increased	M 6	3.5	14	1.0	19.0	28	1.0	1.8
32102.W1608	Increased	M 8	4.5	16	1.5	36.0	62	1.2	3.4
32102.W1610	Increased	M10	6.0	19	2.0	57.0	104	1.5	6.1
32102.W1612	Increased	M12	8.0	22	2.5	61.0	110	2.0	9.8
32102.W1616	Increased	M16	10.0	24	3.5	68.0	142	2.0	19.8



31600

Material

Free cutting steel type-
Body: free cutting steel, blackened.
Pin: free cutting steel, hardened, blackened.
Spring: stainless steel.
Stainless steel type-
Body: stainless steel 1.4305 (AISI 303).
Pin: stainless steel 1.4305 (AISI 303).
Spring: stainless steel.

Technical Notes

These spring plungers may be used for locating, for applying pressure or lifting off.
Temperature range max. 250° C. Spring load * = statistical average value.

Tips

Spring load identifier:
Normal spring load - no marking.
Increased spring load - body marked with two lines.
Special types available on request.

Important Notes

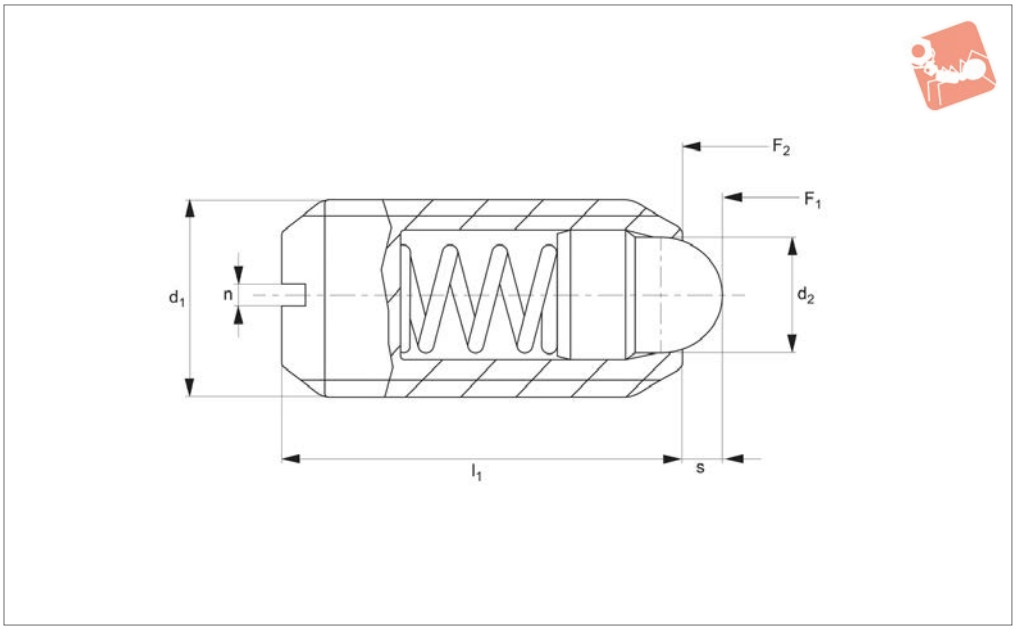
All metric Wixroyd spring plungers have a coarse thread, see appendix five for thread details.

Order No.	Material	Spring load	d_1	d_2	l_1	Spring load F_1 N ≈	Spring load F_2 N ≈	Stroke s_1	A/F	Weight g
31600.W0104	Steel	Normal	M 4	1.8	12	4.5	12.5	1.5	2.0	0.6
31600.W0105	Steel	Normal	M 5	2.4	14	5.0	13.0	2.0	2.5	1.3
31600.W0106	Steel	Normal	M 6	2.7	15	6.0	17.0	2.0	3.0	1.9
31600.W0108	Steel	Normal	M 8	3.8	18	16.0	33.0	2.0	4.0	4.2
31600.W0110	Steel	Normal	M10	4.5	23	19.0	42.0	2.5	5.0	8.5
31600.W0112	Steel	Normal	M12	6.2	26	22.0	57.0	3.5	6.0	13.0
31600.W0116	Steel	Normal	M16	8.5	33	38.0	78.0	4.5	8.0	32.0
31600.W0120	Steel	Normal	M20	10.0	43	39.0	81.0	6.5	10.0	67.0
31600.W0124	Steel	Normal	M24	13.0	48	72.0	155.0	8.0	12.0	106.0
31600.W0146	Steel	Increased	M 6	2.7	15	11.0	25.0	2.0	3.0	2.0
31600.W0148	Steel	Increased	M 8	3.8	18	23.0	59.0	2.0	4.0	4.2
31600.W0150	Steel	Increased	M10	4.5	23	20.0	54.0	2.5	5.0	8.5
31600.W0152	Steel	Increased	M12	6.2	26	38.0	96.0	3.5	6.0	13.0
31600.W0156	Steel	Increased	M16	8.5	33	50.0	100.0	4.5	8.0	32.0
31600.W0160	Steel	Increased	M20	10.0	43	52.0	133.0	6.5	10.0	67.0
31600.W0164	Steel	Increased	M24	13.0	48	91.0	223.0	8.0	12.0	106.0
31600.W0304	Stainless	Normal	M 4	1.8	12	4.5	12.5	1.5	2.0	0.6
31600.W0305	Stainless	Normal	M 5	2.4	14	5.0	13.0	2.0	2.5	1.3
31600.W0306	Stainless	Normal	M 6	2.7	15	6.0	17.0	2.0	3.0	1.9
31600.W0308	Stainless	Normal	M 8	3.8	18	16.0	33.0	2.0	4.0	4.2
31600.W0310	Stainless	Normal	M10	4.5	23	19.0	42.0	2.5	5.0	8.5
31600.W0312	Stainless	Normal	M12	6.2	26	22.0	57.0	3.5	6.0	13.0
31600.W0316	Stainless	Normal	M16	8.5	33	38.0	78.0	4.5	8.0	32.0
31600.W0320	Stainless	Normal	M20	10.0	43	39.0	81.0	6.5	10.0	67.0
31600.W0324	Stainless	Normal	M24	13.0	48	72.0	155.0	8.0	12.0	106.0
31600.W0346	Stainless	Increased	M 6	2.7	15	11.0	25.0	2.0	3.0	2.0

Spring Plungers

with round-ended pin & hex. socket

Order No.	Material	Spring load	d_1	d_2	l_1	Spring load F_1 N ≈	Spring load F_2 N ≈	Stroke s_1	A/F	Weight g
31600.W0348	Stainless	Increased	M 8	3.8	18	23.0	59.0	2.0	4.0	4.2
31600.W0350	Stainless	Increased	M10	4.5	23	20.0	54.0	2.5	5.0	8.5
31600.W0352	Stainless	Increased	M12	6.2	26	38.0	96.0	3.5	6.0	13.0
31600.W0356	Stainless	Increased	M16	8.5	33	50.0	100.0	4.5	8.0	32.0
31600.W0360	Stainless	Increased	M20	10.0	43	52.0	133.0	6.5	10.0	67.0
31600.W0364	Stainless	Increased	M24	13.0	48	91.0	223.0	8.0	12.0	106.0



32150

Material

Free cutting steel type-
Body: free cutting steel, blackened.
Pin: free cutting steel, hardened, blackened.
Spring: stainless steel.
Stainless steel type-
Body: stainless steel 1.4305 (AISI 303).
Pin: stainless steel, 1.4305 (AISI 303).
Spring: stainless steel.

Technical Notes

These spring plungers may be used for location, for applying pressure or lifting off.
Temperature range up to 250°C. Spring load * = statistical average value.

Tips

Spring load identifier:
Normal spring load - no marking.
Increased spring load - body marked with two lines.
Special types available on request.

Important Notes

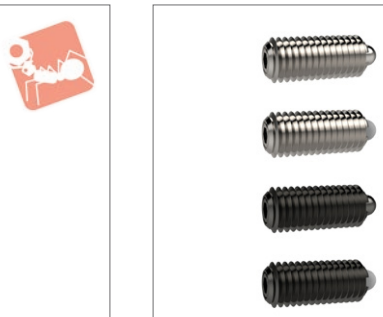
All metric Wixroyd spring plungers have a coarse thread, see appendix five for thread details.

Order No.	Material	Spring load	d_1	d_2	l_1	n_1	s_1	Spring load F_1 N ≈	Spring load F_2 N ≈	Weight g
32150.W0104	Steel	Normal	M 4	1.8	9	0.6	1.5	4.5	12.5	0.4
32150.W0105	Steel	Normal	M 5	2.4	12	0.8	2.0	5.0	13.0	1.1
32150.W0106	Steel	Normal	M 6	2.7	14	1.0	2.0	6.0	17.0	1.8
32150.W0108	Steel	Normal	M 8	3.8	16	1.2	2.0	16.0	33.0	3.7
32150.W0110	Steel	Normal	M10	4.5	19	1.5	2.5	19.0	42.0	7.1
32150.W0112	Steel	Normal	M12	6.2	22	2.0	3.5	22.0	57.0	11.0
32150.W0116	Steel	Normal	M16	8.5	24	2.0	4.5	38.0	78.0	23.0
32150.W0120	Steel	Normal	M20	10.0	30	2.5	6.5	39.0	81.0	46.0
32150.W0124	Steel	Normal	M24	13.0	34	3.0	8.0	72.0	155.0	73.0
32150.W0306	Steel	Increased	M 6	2.7	14	1.0	2.0	11.0	25.0	1.8
32150.W0308	Steel	Increased	M 8	3.8	16	1.2	2.0	23.0	59.0	3.8
32150.W0310	Steel	Increased	M10	4.5	19	1.5	2.5	20.0	54.0	7.0
32150.W0312	Steel	Increased	M12	6.2	22	2.0	3.5	38.0	96.0	11.0
32150.W0320	Steel	Increased	M20	10.0	30	2.5	6.5	52.0	133.0	46.0
32150.W0324	Steel	Increased	M24	13.0	34	3.0	8.0	91.0	223.0	74.0
32150.W0504	Stainless	Normal	M 4	1.8	9	0.6	1.5	4.5	12.5	0.4
32150.W0505	Stainless	Normal	M 5	2.4	12	0.8	2.0	5.0	13.0	1.1
32150.W0506	Stainless	Normal	M 6	2.7	14	1.0	2.0	6.0	17.0	1.8
32150.W0508	Stainless	Normal	M 8	3.8	16	1.2	2.0	16.0	33.0	3.7
32150.W0510	Stainless	Normal	M10	4.5	19	1.5	2.5	19.0	42.0	7.1
32150.W0512	Stainless	Normal	M12	6.2	22	2.0	3.5	22.0	57.0	11.0
32150.W0516	Stainless	Normal	M16	8.5	24	2.0	4.5	38.0	78.0	23.0
32150.W0520	Stainless	Normal	M20	10.0	30	2.5	6.5	39.0	81.0	46.0
32150.W0524	Stainless	Normal	M24	13.0	34	3.0	8.0	72.0	155.0	73.0
32150.W0706	Stainless	Increased	M 6	2.7	14	1.0	2.0	11.0	25.0	1.8
32150.W0708	Stainless	Increased	M 8	3.8	16	1.2	2.0	23.0	59.0	3.8

Spring Plungers

with round-ended pin & slot - stainless steel or steel

Order No.	Material	Spring load	d_1	d_2	l_1	n_1	s_1	Spring load F_1 N ≈	Spring load F_2 N ≈	Weight g
32150.W0710	Stainless	Increased	M10	4.5	19	1.5	2.5	20.0	54.0	7.0
32150.W0712	Stainless	Increased	M12	6.2	22	2.0	3.5	38.0	96.0	11.0
32150.W0720	Stainless	Increased	M20	10.0	30	2.5	6.5	52.0	133.0	46.0
32150.W0724	Stainless	Increased	M24	13.0	34	3.0	8.0	91.0	223.0	74.0



32200

Material

Free cutting steel type-
Body: free cutting steel, blackened.
Pin: free cutting steel, hardened, blackened, or thermoplastic POM, white.
Spring: stainless steel.
Stainless steel type-
Body: stainless steel 1.4305 (AISI 303).
Pin: stainless steel 1.4305 (AISI 303), or thermoplastic POM, white.
Spring: stainless steel.

Technical Notes

These spring plungers may be used for location, for applying pressure or lifting off.
Temperature range: all steel or stainless, up to 250°C.
Steel or stainless with thermoplastic pin, -30°C to +50°C.
Spring load * = statistical average value.

Tips

Spring load identifier:
Normal spring load - no marking.
Increased spring load - body marked with two lines.
These spring plungers can be assembled by use of a hexagon key at the rear, or from the front with special slotted screwdrivers, see 32200.W0803 to .W0824.
Special types available on request.

Important Notes

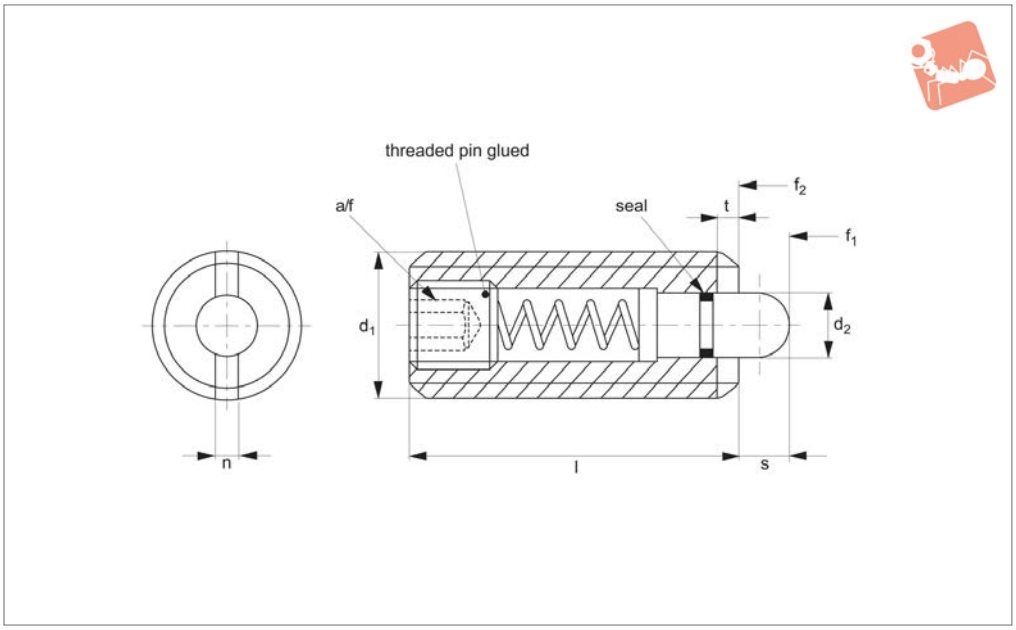
All metric Wixroyd spring plungers have a coarse thread, see appendix five for thread details.

Order No.	Spring load	Finish	d_1	d_2	l_1	s_1	Spring load F_1 N ≈	Spring load F_2 N ≈	t_1	w_1	A/F	Weight g
32200.W0003	Normal	All Steel	M 3	1.0	12	1.0	2.0	4	0.5	0.4	0.7	0.40
32200.W0004	Normal	All Steel	M 4	1.5	15	1.5	4.5	16	0.6	0.6	1.3	0.93
32200.W0005	Normal	All Steel	M 5	2.4	18	2.3	6.0	19	0.8	1.2	1.5	1.70
32200.W0006	Normal	All Steel	M 6	2.7	20	2.5	6.0	19	0.9	1.3	2.0	2.80
32200.W0008	Normal	All Steel	M 8	3.5	22	3.0	10.0	39	1.4	1.5	2.5	5.80
32200.W0010	Normal	All Steel	M10	4.0	22	3.0	10.0	39	1.4	1.5	3.0	9.20
32200.W0012	Normal	All Steel	M12	6.0	28	4.0	12.0	53	2.0	2.7	4.0	16.00
32200.W0016	Normal	All Steel	M16	7.5	32	5.0	45.0	100	2.5	3.2	5.0	35.00
32200.W0020	Normal	All Steel	M20	10.0	40	7.0	52.0	125	3.0	3.7	6.0	68.00
32200.W0024	Normal	All Steel	M24	12.0	52	10.0	70.0	170	3.0	3.7	8.0	131.00
32200.W0105	Increased	All Steel	M 5	2.4	18	2.3	11.0	40	0.8	1.2	1.5	1.60
32200.W0106	Increased	All Steel	M 6	2.7	20	2.5	15.0	43	0.9	1.3	2.0	2.80
32200.W0108	Increased	All Steel	M 8	3.5	22	3.0	20.0	75	1.4	1.5	2.5	5.80
32200.W0110	Increased	All Steel	M10	4.0	22	3.0	20.0	75	1.4	1.5	3.0	9.30
32200.W0112	Increased	All Steel	M12	6.0	28	4.0	45.0	120	2.0	2.7	4.0	16.00
32200.W0116	Increased	All Steel	M16	7.5	32	5.0	64.0	160	2.5	3.2	5.0	33.00
32200.W0120	Increased	All Steel	M20	10.0	40	7.0	75.0	195	3.0	3.7	6.0	67.00
32200.W0124	Increased	All Steel	M24	12.0	52	10.0	75.0	245	3.0	3.7	8.0	129.00
32200.W0204	Normal	Steel, Thermo Pin	M 4	1.5	15	1.5	4.5	16	0.6	0.6	1.3	0.86
32200.W0205	Normal	Steel, Thermo Pin	M 5	2.4	18	2.3	6.0	19	0.8	1.2	1.5	1.50
32200.W0206	Normal	Steel, Thermo Pin	M 6	2.7	20	2.5	6.0	19	0.9	1.3	2.0	2.30
32200.W0208	Normal	Steel, Thermo Pin	M 8	3.5	22	3.0	10.0	39	1.4	1.5	2.5	5.10

Spring Plungers

with pin end & hex. socket - stainless steel

Order No.	Spring load	Finish	d_1	d_2	l_1	s_1	Spring load F_1 N ≈	Spring load F_2 N ≈	t_1	w_1	A/F	Weight g
32200.W0210	Normal	Steel, Thermo Pin	M10	4.0	22	3.0	10.0	39	1.4	1.5	3.0	8.10
32200.W0212	Normal	Steel, Thermo Pin	M12	6.0	28	4.0	12.0	53	2.0	2.7	4.0	14.00
32200.W0216	Normal	Steel, Thermo Pin	M16	7.5	32	5.0	45.0	100	2.5	3.2	5.0	31.00
32200.W0404	Normal	All Stainless	M 4	1.5	15	1.5	4.5	16	0.6	0.6	1.3	1.10
32200.W0405	Normal	All Stainless	M 5	2.4	18	2.3	6.0	19	0.8	1.2	1.5	1.70
32200.W0406	Normal	All Stainless	M 6	2.7	20	2.5	6.0	19	0.9	1.3	2.0	2.80
32200.W0408	Normal	All Stainless	M 8	3.5	22	3.0	10.0	39	1.4	1.5	2.5	5.90
32200.W0410	Normal	All Stainless	M10	4.0	22	3.0	10.0	39	1.4	1.5	3.0	9.50
32200.W0412	Normal	All Stainless	M12	6.0	28	4.0	12.0	53	2.0	2.7	4.0	17.00
32200.W0416	Normal	All Stainless	M16	7.5	32	5.0	45.0	100	2.5	3.2	5.0	35.00
32200.W0420	Normal	All Stainless	M20	10.0	40	7.0	52.0	125	3.0	3.7	6.0	68.00
32200.W0604	Normal	S/S, Thermo Pin	M 4	1.5	15	1.5	4.5	16	0.6	0.6	1.3	0.93
32200.W0605	Normal	S/S, Thermo Pin	M 5	2.4	18	2.3	6.0	19	0.8	1.2	1.5	1.60
32200.W0606	Normal	S/S, Thermo Pin	M 6	2.7	20	2.5	6.0	19	0.9	1.3	2.0	2.50
32200.W0608	Normal	S/S, Thermo Pin	M 8	3.5	22	3.0	10.0	39	1.4	1.5	2.5	5.10
32200.W0610	Normal	S/S, Thermo Pin	M10	4.0	22	3.0	10.0	39	1.4	1.5	3.0	8.50
32200.W0612	Normal	S/S, Thermo Pin	M12	6.0	28	4.0	12.0	53	2.0	2.7	4.0	14.00
32200.W0616	Normal	S/S, Thermo Pin	M16	7.5	32	5.0	45.0	100	2.5	3.2	5.0	32.00
32200.W0803	Head ø2,5	Screwdriver	M 3	-	-	-	-	-	-	-	-	13.00
32200.W0804	Head ø4,0	Screwdriver	M 4	-	-	-	-	-	-	-	-	29.00
32200.W0805	Head ø5,0	Screwdriver	M 5	-	-	-	-	-	-	-	-	61.00
32200.W0806	Head ø5,5	Screwdriver	M 6	-	-	-	-	-	-	-	-	65.00
32200.W0808	Head ø7,0	Screwdriver	M 8	-	-	-	-	-	-	-	-	108.00
32200.W0810	Head ø8,0	Screwdriver	M10	-	-	-	-	-	-	-	-	124.00
32200.W0812	Head ø11,0	Screwdriver	M12	-	-	-	-	-	-	-	-	112.00
32200.W0816	Head ø14,0	Screwdriver	M16	-	-	-	-	-	-	-	-	173.00
32200.W0820	Head ø18,0	Screwdriver	M20	-	-	-	-	-	-	-	-	226.00
32200.W0824	Head ø19,9	Screwdriver	M24	-	-	-	-	-	-	-	-	258.00



32220

Material

Free cutting steel type-
Body: free cutting steel, blackened.
Pin: free cutting steel, blackened.
Spring: stainless steel. Seal NBR plastic.
Stainless steel type-
Body: stainless steel 1.4305 (AISI 303).
Pin: stainless steel 1.4305 (AISI 303).
Spring: stainless steel.
Seal: NBR plastic.

Technical Notes

These spring plungers may be used for location, for applying pressure or lifting off. Incorporation of a seal into the design prevents liquid penetrating into the spring plunger. Temperature range -30°C to +80°C. Spring load * = statistical average value.

Tips

Spring load identifier:
Normal spring load - no marking.
Increased spring load - body marked with two lines.
Please note these items vary in dimension l, spring load and temperature range in comparison to no-sealed item 32200.
Spring plungers can be assembled by use of a hexagon key at the rear, or from the front with special slotted screwdrivers, see 32200.W0808 to .W0816.
Special types available on request.

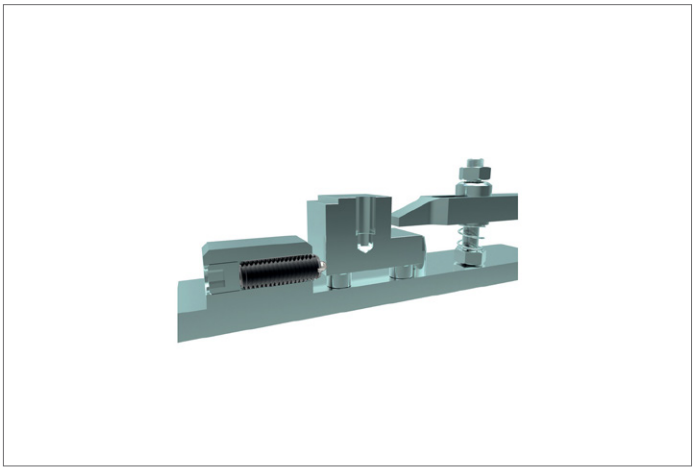
Important Notes

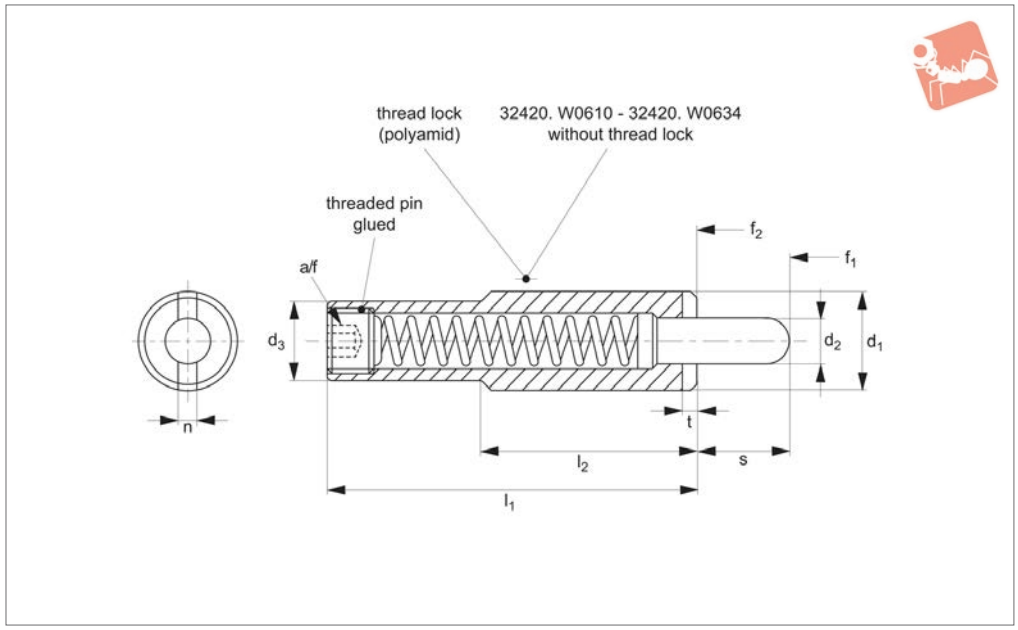
All metric Wixroyd spring plungers have a coarse thread, see appendix five for thread details.

Order No.	Spring load	Finish	d_1	d_2	l	n	s	Spring load F_1 N ≈	Spring load F_2 N ≈	t	A/F	Weight g
32220.W0048	Normal	All Steel	M 8	3.8	26	1.5	3.0	9	24	1.4	2.5	6.9
32220.W0050	Normal	All Steel	M10	4.0	28	1.5	3.5	15	30	1.4	3.0	11.0
32220.W0052	Normal	All Steel	M12	6.0	35	2.7	4.0	24	50	2.0	4.0	20.0
32220.W0056	Normal	All Steel	M16	7.5	40	3.2	5.0	36	58	2.5	5.0	43.0
32220.W0148	Increased	All Steel	M 8	3.8	26	1.5	3.0	17	39	1.4	2.5	6.6
32220.W0150	Increased	All Steel	M10	4.0	28	1.5	3.5	22	43	1.4	3.0	12.0
32220.W0152	Increased	All Steel	M12	6.0	35	2.7	4.0	40	80	2.0	4.0	20.0
32220.W0156	Increased	All Steel	M16	7.5	40	3.2	5.0	44	113	2.5	5.0	45.0
32220.W0448	Normal	All Stainless	M 8	3.8	26	1.5	3.0	9	24	1.4	2.5	7.2
32220.W0450	Normal	All Stainless	M10	4.0	28	1.5	3.5	15	30	1.4	3.0	12.0
32220.W0452	Normal	All Stainless	M12	6.0	35	2.7	4.0	24	50	2.0	4.0	20.0
32220.W0456	Normal	All Stainless	M16	7.5	40	3.2	5.0	36	58	2.5	5.0	44.0

Spring Plungers

with pin end & hex socket and seal - stainless steel





32420

Material
Body: free cutting steel, blackened or heat-treated steel tempered blackened.
Part nos. 32420.W0512 to 32420.W0580 - threaded body bright finish.
Pin: case hardened steel, blackened.
Spring: stainless steel.

Technical Notes
Used for ejecting parts (particularly in press tools), and applying pressure. They are fitted/removed by means of the slot or internal hexagon.
Spring load* = statistical average value.

Tips
Spring Load Identifier:
Normal spring load - no marking.
Increased spring load - body marked with two lines.

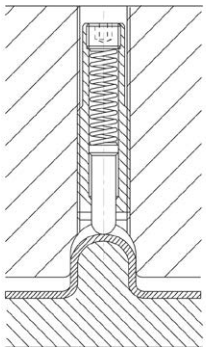
Parts 32420.W0408 to 32420.W0580 with thread-lock.

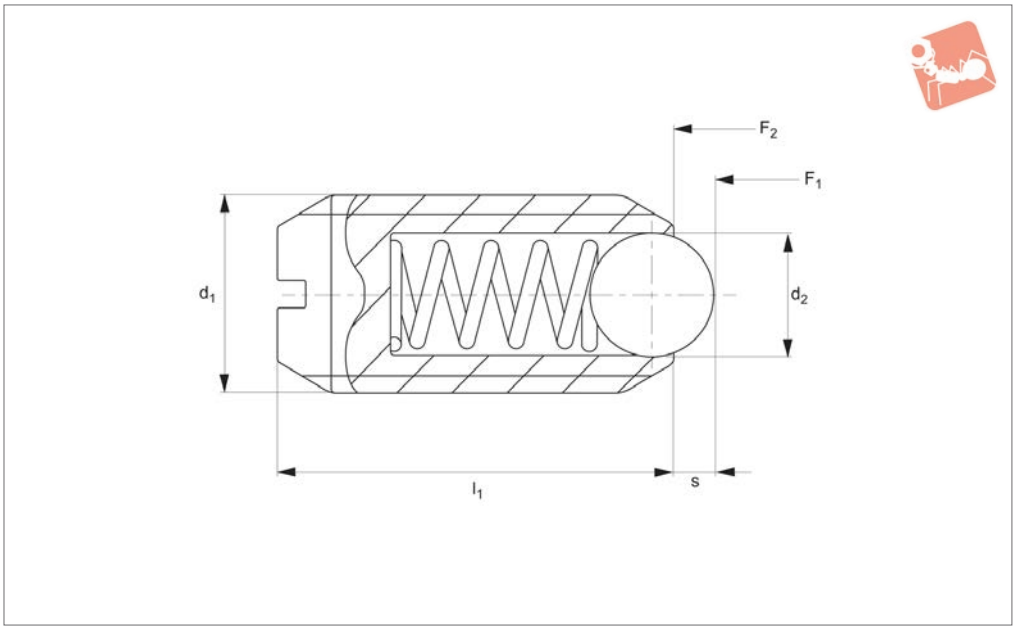
Important Notes
All metric Wixroyd spring plungers have a coarse thread, see appendix five for thread details.

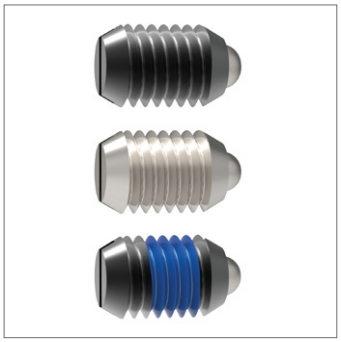
Order No.	Spring load	d_1	d_2	d_3	l_1	l_2	n	s	Spring load F_1 N ≈	Spring load F_2 N ≈	t	A/F	Weight g
32420.W0408	Normal	M10	4.0	7.8	35	25	1.5	8	6	16	1.4	3	13
32420.W0412	Normal	M12	5.5	9.5	43	35	2.7	10	4	18	2.0	4	22
32420.W0430	Normal	M16	8.0	13.4	48	35	3.2	10	7	24	3.0	6	47
32420.W0432	Normal	M16	8.0	13.4	58	35	3.2	10	15	42	3.0	6	52
32420.W0436	Normal	M16	8.0	13.4	58	35	3.2	15	9	33	3.0	6	54
32420.W0440	Normal	M16	8.0	13.4	58	35	3.2	20	4	23	3.0	6	55
32420.W0442	Normal	M16	8.0	13.4	83	35	3.2	20	11	43	3.0	6	71
32420.W0444	Normal	M16	8.0	13.4	98	35	3.2	25	13	41	3.0	6	81
32420.W0450	Normal	M16	8.0	13.4	98	35	3.2	30	13	47	3.0	6	83
32420.W0452	Normal	M16	8.0	13.4	118	35	3.2	30	24	110	3.0	6	97
32420.W0455	Normal	M16	8.0	13.4	148	35	3.2	40	13	63	3.0	6	117
32420.W0460	Normal	M16	8.0	13.4	148	35	3.2	50	7	43	3.0	6	117
32420.W0480	Normal	M24	10.0	19.6	60	45	3.7	15	14	87	3.0	8	132
32420.W0512	Increased	M12	5.5	9.5	43	35	2.7	10	7	46	2.0	4	23
32420.W0530	Increased	M16	8.0	13.4	48	35	3.2	10	10	43	3.0	6	47
32420.W0532	Increased	M16	8.0	13.4	58	35	3.2	10	14	84	3.0	6	54
32420.W0536	Increased	M16	8.0	13.4	58	35	3.2	15	10	57	3.0	6	55
32420.W0542	Increased	M16	8.0	13.4	83	35	3.2	20	18	72	3.0	6	72
32420.W0544	Increased	M16	8.0	13.4	98	35	3.2	25	20	70	3.0	6	82
32420.W0550	Increased	M16	8.0	13.4	98	35	3.2	30	20	80	3.0	6	83
32420.W0555	Increased	M16	8.0	13.4	148	35	3.2	40	21	113	3.0	6	121
32420.W0560	Increased	M16	8.0	13.4	148	35	3.2	50	13	75	3.0	6	121
32420.W0580	Increased	M24	10.0	19.6	60	45	3.7	15	24	192	3.0	8	134
32420.W0610	Normal, Heat-Treated	M16	7.3	13.4	80	35	3.2	11	17	74	3.0	8	69
32420.W0612	Normal, Heat-Treated	M16	7.3	13.4	120	35	3.2	21	21	81	3.0	8	96
32420.W0614	Normal, Heat-Treated	M16	7.3	13.4	150	35	3.2	31	21	89	3.0	8	117
32420.W0616	Normal, Heat-Treated	M16	7.3	13.4	200	35	3.2	41	16	80	3.0	8	149

Spring Plungers
long version

Order No.	Spring load	d_1	d_2	d_3	l_1	l_2	n	s	Spring load F_1 N ≈	Spring load F_2 N ≈	t	A/F	Weight g
32420.W0630	Normal, Heat-Treated	M22	9.0	19.0	130	50	3.5	21	80	214	4.0	8	211
32420.W0632	Normal, Heat-Treated	M22	9.0	19.0	168	50	3.5	31	70	210	4.0	8	278
32420.W0634	Normal, Heat-Treated	M22	9.0	19.0	226	50	3.5	41	76	208	4.0	8	358
32420.W0830	Screwdriver	for M10	-	-	-	-	-	-	-	-	-	-	87
32420.W0832	Screwdriver	for M12	-	-	-	-	-	-	-	-	-	-	88
32420.W0834	Screwdriver	for M16	-	-	-	-	-	-	-	-	-	-	110
32420.W0836	Screwdriver	for M22	-	-	-	-	-	-	-	-	-	-	245
32420.W0838	Screwdriver	for M24	-	-	-	-	-	-	-	-	-	-	258







3B100

Material

Free cutting steel type-
Body: free cutting steel, blackened.
Ball: ball bearing steel 1.3505 (100Cr6) hardened.
Spring: stainless steel.
Stainless steel type-
Body: stainless steel 1.4305 (AISI 303).
Ball: ball bearing steel, hardened.
Spring: stainless steel.

Technical Notes

To be used as detents or for locating, positioning, indexing, locking, latching, ejecting, lifting off and other similar push application.
Temperature range for execution without thread up to 482°F.
Thread lock - Polyamide spot coating.

Tips

Light spring load - marked with one line.
Standard spring load - no marking.
Heavy spring load - marked with two lines.
Special types available on request.

Important Notes

Spring loads are statistical average values
All dimensions are in inches
Thread: 2A-UNC/UNF.

Order No.	Type	Finish	Spring load	d_1 UNC/UNF	l_1 ≈	s	d_2	Spring load f_1 lb ≈	Spring load f_2 lb ≈	Weight oz
3B100.W0010	w/o Threadlock	Steel	Light	UNF 10-32	33/64	0.025	3/32	0.9	1.5	0.049
3B100.W0012	w/o Threadlock	Steel	Light	UNC 1/4-20	17/32	0.035	1/8	2.1	4.0	0.074
3B100.W0016	w/o Threadlock	Steel	Light	UNC 5/16-18	37/64	0.040	5/32	2.0	4.6	0.123
3B100.W0018	w/o Threadlock	Steel	Light	UNC 3/8-16	5/8	0.048	3/16	2.5	5.0	0.193
3B100.W0020	w/o Threadlock	Steel	Light	UNC 1/2-13	3/4	0.072	9/32	3.0	6.0	0.397
3B100.W0022	w/o Threadlock	Steel	Light	UNC 5/8-11	63/64	0.096	3/8	4.5	9.0	0.787
3B100.W0031	w/o Threadlock	Steel	Standard	UNF 4-48	3/16	0.020	1/16	0.1	0.5	0.008
3B100.W0032	w/o Threadlock	Steel	Standard	UNC 5-40	1/4	0.020	1/16	0.3	0.8	0.016
3B100.W0033	w/o Threadlock	Steel	Standard	UNC 6-32	5/16	0.023	5/64	0.5	1.0	0.020
3B100.W0035	w/o Threadlock	Steel	Standard	UNF 6-40	5/16	0.023	5/64	0.5	1.0	0.020
3B100.W0036	w/o Threadlock	Steel	Standard	UNC 8-32	11/32	0.025	3/32	0.8	1.3	0.026
3B100.W0038	w/o Threadlock	Steel	Standard	UNF 8-36	11/32	0.025	3/32	0.8	1.3	0.026
3B100.W0040	w/o Threadlock	Steel	Standard	UNF 10-32	33/64	0.025	3/32	2.0	3.1	0.049
3B100.W0042	w/o Threadlock	Steel	Standard	UNC 1/4-20	17/32	0.035	1/8	3.8	6.8	0.073
3B100.W0046	w/o Threadlock	Steel	Standard	UNC 5/16-18	37/64	0.040	5/32	4.0	8.4	0.123
3B100.W0048	w/o Threadlock	Steel	Standard	UNC 3/8-16	5/8	0.048	3/16	5.0	10.3	0.198
3B100.W0050	w/o Threadlock	Steel	Standard	UNC 1/2-13	3/4	0.072	9/32	6.0	12.0	0.406
3B100.W0052	w/o Threadlock	Steel	Standard	UNC 5/8-11	63/64	0.096	3/8	9.0	18.0	0.811
3B100.W0070	w/o Threadlock	Steel	Heavy	UNF 10-32	33/64	0.025	3/32	3.3	4.8	0.049
3B100.W0072	w/o Threadlock	Steel	Heavy	UNC 1/4-20	17/32	0.035	1/8	5.6	8.6	0.073
3B100.W0076	w/o Threadlock	Steel	Heavy	UNC 5/16-18	37/64	0.040	5/32	6.0	11.1	0.122
3B100.W0078	w/o Threadlock	Steel	Heavy	UNC 3/8-16	5/8	0.048	3/16	7.5	15.1	0.196
3B100.W0080	w/o Threadlock	Steel	Heavy	UNC 1/2-13	3/4	0.072	9/32	6.0	24.0	0.408

Spring Plungers - IMPERIAL

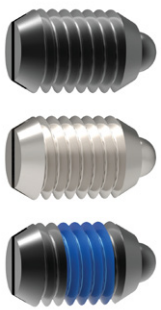
with ball and slot

Order No.	Type	Finish	Spring load	d_1 UNC/UNF	l_1 ≈	s	d_2	Spring load f_1 lb ≈	Spring load f_2 lb ≈	Weight oz
3B100.W0082	w/o Threadlock	Steel	Heavy	UNC 5/8-11	63/64	0.096	3/8	7.0	40.0	0.825
3B100.W0110	w/o Threadlock	Stainless	Light	UNF 10-32	33/64	0.025	3/32	0.9	1.5	0.048
3B100.W0112	w/o Threadlock	Stainless	Light	UNC 1/4-20	17/32	0.035	1/8	2.1	4.0	0.071
3B100.W0116	w/o Threadlock	Stainless	Light	UNC 5/16-18	37/64	0.040	5/32	2.0	4.6	0.123
3B100.W0118	w/o Threadlock	Stainless	Light	UNC 3/8-16	5/8	0.048	3/16	2.5	5.0	0.190
3B100.W0120	w/o Threadlock	Stainless	Light	UNC 1/2-13	3/4	0.072	9/32	3.0	6.0	0.397
3B100.W0122	w/o Threadlock	Stainless	Light	UNC 5/8-11	63/64	0.096	3/8	4.5	9.0	0.790
3B100.W0131	w/o Threadlock	Stainless	Standard	UNF 4-48	3/16	0.020	1/16	0.1	0.5	0.005
3B100.W0132	w/o Threadlock	Stainless	Standard	UNC 5-40	1/4	0.020	1/16	0.3	0.8	0.015
3B100.W0133	w/o Threadlock	Stainless	Standard	UNC 6-32	5/16	0.023	5/64	0.5	1.0	0.018
3B100.W0135	w/o Threadlock	Stainless	Standard	UNF 6-40	5/16	0.023	5/64	0.5	1.0	0.019
3B100.W0136	w/o Threadlock	Stainless	Standard	UNC 8-32	11/32	0.025	3/32	0.8	1.3	0.026
3B100.W0138	w/o Threadlock	Stainless	Standard	UNF 8-36	11/32	0.025	3/32	0.8	1.3	0.026
3B100.W0140	w/o Threadlock	Stainless	Standard	UNF 10-32	33/64	0.025	3/32	2.0	3.1	0.049
3B100.W0142	w/o Threadlock	Stainless	Standard	UNC 1/4-20	17/32	0.035	1/8	3.8	6.8	0.072
3B100.W0146	w/o Threadlock	Stainless	Standard	UNC 5/16-18	37/64	0.040	5/32	4.0	8.4	0.123
3B100.W0148	w/o Threadlock	Stainless	Standard	UNC 3/8-16	5/8	0.048	3/16	5.0	10.3	0.198
3B100.W0150	w/o Threadlock	Stainless	Standard	UNC 1/2-13	3/4	0.072	9/32	6.0	12.0	0.396
3B100.W0152	w/o Threadlock	Stainless	Standard	UNC 5/8-11	63/64	0.096	3/8	9.0	18.0	0.813
3B100.W0170	w/o Threadlock	Stainless	Heavy	UNF 10-32	33/64	0.025	3/32	3.3	4.8	0.046
3B100.W0172	w/o Threadlock	Stainless	Heavy	UNC 1/4-20	17/32	0.35	1/8	5.6	8.6	0.074
3B100.W0176	w/o Threadlock	Stainless	Heavy	UNC 5/16-18	37/64	0.040	5/32	6.0	11.1	0.123
3B100.W0178	w/o Threadlock	Stainless	Heavy	UNC 3/8-16	5/8	0.048	3/16	7.5	15.1	0.197
3B100.W0180	w/o Threadlock	Stainless	Heavy	UNC 1/2-13	3/4	0.072	9/32	6.0	24.0	0.409
3B100.W0182	w/o Threadlock	Stainless	Heavy	UNC 5/8-11	63/64	0.096	3/8	7.0	40.0	0.825
3B100.W0210	With Threadlock	Steel	Light	UNF 10-32	33/64	0.025	3/32	0.9	1.5	0.049
3B100.W0212	With Threadlock	Steel	Light	UNC 1/4-20	17/32	0.035	1/8	2.1	4.0	0.074
3B100.W0216	With Threadlock	Steel	Light	UNC 5/16-18	37/64	0.040	5/32	2.0	4.6	0.123
3B100.W0218	With Threadlock	Steel	Light	UNC 3/8-16	5/8	0.048	3/16	2.5	5.0	0.193
3B100.W0220	With Threadlock	Steel	Light	UNC 1/2-13	3/4	0.072	9/32	3.0	6.0	0.397
3B100.W0222	With Threadlock	Steel	Light	UNC 5/8-11	63/64	0.096	3/8	4.5	9.0	0.787
3B100.W0231	With Threadlock	Steel	Standard	UNF 4-48	3/16	0.020	1/16	0.1	0.5	0.008
3B100.W0232	With Threadlock	Steel	Standard	UNC 5-40	1/4	0.020	1/16	0.3	0.8	0.016
3B100.W0233	With Threadlock	Steel	Standard	UNC 6-32	5/16	0.023	5/64	0.5	1.0	0.020
3B100.W0235	With Threadlock	Steel	Standard	UNF 6-40	5/16	0.023	5/64	0.5	1.0	0.020
3B100.W0236	With Threadlock	Steel	Standard	UNC 8-32	11/32	0.025	3/32	0.8	1.3	0.026
3B100.W0238	With Threadlock	Steel	Standard	UNF 8-36	11/32	0.025	3/32	0.8	1.3	0.026
3B100.W0240	With Threadlock	Steel	Standard	UNF 10-32	33/64	0.025	3/32	2.0	3.1	0.049
3B100.W0242	With Threadlock	Steel	Standard	UNC 1/4-20	17/32	0.035	1/8	3.8	6.8	0.073
3B100.W0246	With Threadlock	Steel	Standard	UNC 5/16-18	37/64	0.040	5/32	4.0	8.4	0.123
3B100.W0248	With Threadlock	Steel	Standard	UNC 3/8-16	5/8	0.048	3/16	5.0	10.3	0.198
3B100.W0250	With Threadlock	Steel	Standard	UNC 1/2-13	3/4	0.072	9/32	6.0	12.0	0.406
3B100.W0252	With Threadlock	Steel	Standard	UNC 5/8-11	63/64	0.096	3/8	9.0	18.0	0.811
3B100.W0270	With Threadlock	Steel	Heavy	UNF 10-32	33/64	0.025	3/32	3.3	4.8	0.049
3B100.W0272	With Threadlock	Steel	Heavy	UNC 1/4-20	17/32	0.035	1/8	5.6	8.6	0.073
3B100.W0276	With Threadlock	Steel	Heavy	UNC 5/16-18	37/64	0.040	5/32	6.0	11.1	0.122
3B100.W0278	With Threadlock	Steel	Heavy	UNC 3/8-16	5/8	0.048	3/16	7.5	15.1	0.196
3B100.W0280	With Threadlock	Steel	Heavy	UNC 1/2-13	3/4	0.072	9/32	6.0	24.0	0.408
3B100.W0282	With Threadlock	Steel	Heavy	UNC 5/8-11	63/64	0.096	3/8	7.0	40.0	0.825
3B100.W0310	With Threadlock	Stainless	Light	UNF 10-32	33/64	0.025	3/32	0.9	1.5	0.048
3B100.W0312	With Threadlock	Stainless	Light	UNC 1/4-20	17/32	0.035	1/8	2.1	4.0	0.071
3B100.W0316	With Threadlock	Stainless	Light	UNC 5/16-18	37/64	0.040	5/32	2.0	4.6	0.123
3B100.W0318	With Threadlock	Stainless	Light	UNC 3/8-16	5/8	0.048	3/16	2.5	5.0	0.190
3B100.W0320	With Threadlock	Stainless	Light	UNC 1/2-13	3/4	0.072	9/32	3.0	6.0	0.397
3B100.W0322	With Threadlock	Stainless	Light	UNC 5/8-11	63/64	0.096	3/8	4.5	9.0	0.790
3B100.W0331	With Threadlock	Stainless	Standard	UNF 4-48	3/16	0.020	1/16	0.1	0.5	0.005
3B100.W0332	With Threadlock	Stainless	Standard	UNC 5-40	1/4	0.020	1/16	0.3	0.8	0.015
3B100.W0333	With Threadlock	Stainless	Standard	UNC 6-32	5/16	0.023	5/64	0.5	1.0	0.018
3B100.W0335	With Threadlock	Stainless	Standard	UNF 6-40	5/16	0.023	5/64	0.5	1.0	0.019
3B100.W0336	With Threadlock	Stainless	Standard	UNC 8-32	11/32	0.025	3/32	0.8	1.3	0.026
3B100.W0338	With Threadlock	Stainless	Standard	UNF 8-36	11/32	0.025	3/32	0.8	1.3	0.026
3B100.W0340	With Threadlock	Stainless	Standard	UNF 10-32	33/64	0.025	3/32	2.0	3.1	0.035
3B100.W0342	With Threadlock	Stainless	Standard	UNC 1/4-20	17/32	0.035	1/8	3.8	6.8	0.072
3B100.W0346	With Threadlock	Stainless	Standard	UNC 5/16-18	37/64	0.040	5/32	4.0	8.4	0.123
3B100.W0348	With Threadlock	Stainless	Standard	UNC 3/8-16	5/8	0.048	3/16	5.0	10.3	0.198
3B100.W0350	With Threadlock	Stainless	Standard	UNC 1/2-13	3/4	0.072	9/32	6.0	12.0	0.396
3B100.W0352	With Threadlock	Stainless	Standard	UNC 5/8-11	63/64	0.096	3/8	9.0	18.0	0.813

Order No.	Type	Finish	Spring load	d_1 UNC/UNF	l_1 ≈	s	d_2	Spring load f_1 lb ≈	Spring load f_2 lb ≈	Weight oz
3B100.W0370	With Threadlock	Stainless	Heavy	UNF 10-32	33/64	0.025	3/32	3.3	4.8	0.046
3B100.W0372	With Threadlock	Stainless	Heavy	UNC 1/4-20	17/32	0.35	1/8	5.6	8.6	0.074
3B100.W0376	With Threadlock	Stainless	Heavy	UNC 5/16-18	37/64	0.040	5/32	6.0	11.1	0.123
3B100.W0378	With Threadlock	Stainless	Heavy	UNC 3/8-16	5/8	0.048	3/16	7.5	15.1	0.197
3B100.W0380	With Threadlock	Stainless	Heavy	UNC 1/2-13	3/4	0.072	9/32	6.0	24.0	0.409
3B100.W0382	With Threadlock	Stainless	Heavy	UNC 5/8-11	63/64	0.096	3/8	7.0	40.0	0.825

Spring Plungers - IMPERIAL

with round-ended pin and slot - stainless steel or



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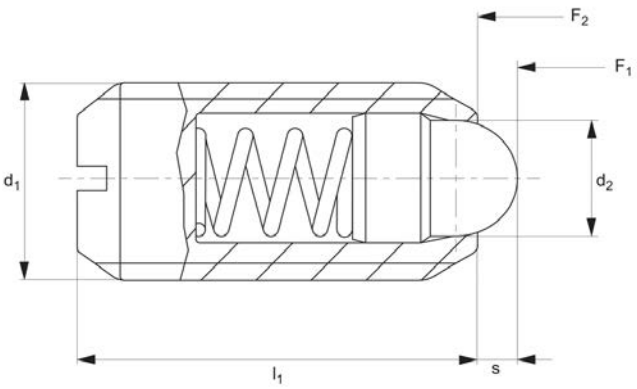


Material

Free cutting steel type-
Body: free cutting steel, blackened.
Pin: free cutting steel, hardened.
Spring: stainless steel.
Stainless steel type-
Body: stainless steel 1.4305 (AISI 303).
Pin: stainless steel 1.4305 (AISI 303).
Spring: stainless steel.

Technical Notes

To be used as detents or for locating, positioning, indexing, locking, latching, ejecting, lifting off and other similar push application.
Temperature range for execution without thread up to 482°F.
Thread lock - Polyamide spot coating.

Tips

Standard spring load = no marking
Heavy spring load = marked with two lines
Special types available on request.

Important Notes

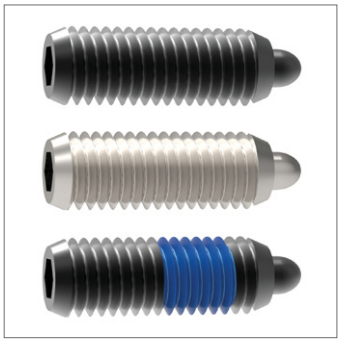
Spring loads are statistical average values
All dimensions are in inches
Thread: 2A-UNC/UNF.

Order No.	Material	Finish	Spring load	d_1 UNC/UNF	l_1 ≈	s	d_2	Spring load f_1 lb ≈	Spring load f_2 lb ≈	Weight oz
3B150.W0033	Steel	w/o Threadlock	Standard	UNC 6-32	3/8	0.063	0.046	0.5	1.5	0.021
3B150.W0036	Steel	w/o Threadlock	Standard	UNC 8-32	7/16	0.052	0.070	0.8	1.5	0.032
3B150.W0038	Steel	w/o Threadlock	Standard	UNF 8-36	7/16	0.052	0.070	0.8	1.5	0.032
3B150.W0040	Steel	w/o Threadlock	Standard	UNF 10-32	15/32	0.065	0.093	1.0	2.5	0.042
3B150.W0042	Steel	w/o Threadlock	Standard	UNC 1/4-20	17/32	0.078	0.119	1.1	3.5	0.074
3B150.W0046	Steel	w/o Threadlock	Standard	UNC 5/16-18	37/64	0.084	0.135	1.0	4.0	0.123
3B150.W0048	Steel	w/o Threadlock	Standard	UNC 3/8-16	5/8	0.110	0.186	1.5	4.5	0.187
3B150.W0050	Steel	w/o Threadlock	Standard	UNC 1/2-13	3/4	0.151	0.248	1.8	5.5	0.377
3B150.W0052	Steel	w/o Threadlock	Standard	UNC 5/8-11	1 1/16	0.215	0.310	2.0	8.5	0.885
3B150.W0063	Steel	w/o Threadlock	Heavy	UNC 6-32	3/8	0.063	0.046	0.5	2.5	0.018
3B150.W0066	Steel	w/o Threadlock	Heavy	UNC 8-32	7/16	0.052	0.070	1.8	4.6	0.032
3B150.W0068	Steel	w/o Threadlock	Heavy	UNF 8-36	7/16	0.052	0.070	1.8	4.6	0.032
3B150.W0070	Steel	w/o Threadlock	Heavy	UNF 10-32	15/32	0.065	0.093	2.6	6.3	0.042
3B150.W0072	Steel	w/o Threadlock	Heavy	UNC 1/4-20	17/32	0.078	0.119	3.0	9.7	0.074
3B150.W0076	Steel	w/o Threadlock	Heavy	UNC 5/16-18	37/64	0.084	0.135	3.8	13.0	0.123
3B150.W0078	Steel	w/o Threadlock	Heavy	UNC 3/8-16	5/8	0.110	0.186	4.5	16.0	0.190
3B150.W0080	Steel	w/o Threadlock	Heavy	UNC 1/2-13	3/4	0.151	0.248	5.0	22.4	0.384
3B150.W0082	Steel	w/o Threadlock	Heavy	UNC 5/8-11	1 1/16	0.215	0.310	7.0	43.5	0.907
3B150.W0133	Stainless	w/o Threadlock	Standard	UNC 6-32	3/8	0.063	0.046	0.5	1.5	0.021
3B150.W0136	Stainless	w/o Threadlock	Standard	UNC 8-32	7/16	0.052	0.070	0.8	1.5	0.032
3B150.W0138	Stainless	w/o Threadlock	Standard	UNF 8-36	7/16	0.052	0.070	0.8	1.5	0.032
3B150.W0140	Stainless	w/o Threadlock	Standard	UNF 10-32	15/32	0.065	0.093	1.0	2.5	0.042
3B150.W0142	Stainless	w/o Threadlock	Standard	UNC 1/4-20	17/32	0.078	0.119	1.1	3.5	0.074
3B150.W0146	Stainless	w/o Threadlock	Standard	UNC 5/16-18	37/64	0.084	0.135	1.0	4.0	0.123

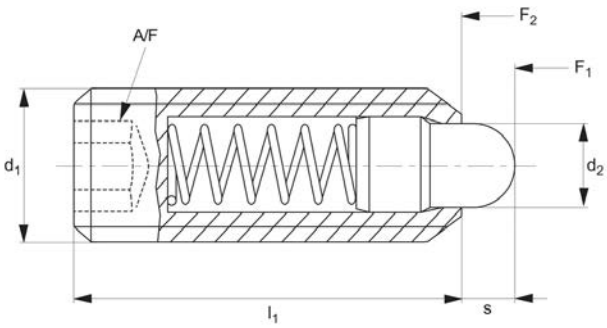
Order No.	Material	Finish	Spring load	d_1 UNC/UNF	l_1 ≈	s	d_2	Spring load f_1 lb ≈	Spring load f_2 lb ≈	Weight oz
3B150.W0148	Stainless	w/o Threadlock	Standard	UNC 3/8-16	5/8	0.110	0.186	1.5	4.5	0.190
3B150.W0150	Stainless	w/o Threadlock	Standard	UNC 1/2-13	3/4	0.151	0.248	1.8	5.5	0.388
3B150.W0152	Stainless	w/o Threadlock	Standard	UNC 5/8-11	1 1/16	0.215	0.310	2.0	8.5	0.892
3B150.W0163	Stainless	w/o Threadlock	Heavy	UNC 6-32	3/8	0.063	0.046	0.5	2.5	0.014
3B150.W0166	Stainless	w/o Threadlock	Heavy	UNC 8-32	7/16	0.052	0.070	1.8	4.6	0.032
3B150.W0168	Stainless	w/o Threadlock	Heavy	UNF 8-36	7/16	0.052	0.070	1.8	4.6	0.032
3B150.W0170	Stainless	w/o Threadlock	Heavy	UNF 10-32	15/32	0.065	0.093	2.6	6.3	0.042
3B150.W0172	Stainless	w/o Threadlock	Heavy	UNC 1/4-20	17/32	0.078	0.119	3.0	9.7	0.071
3B150.W0176	Stainless	w/o Threadlock	Heavy	UNC 5/16-18	37/64	0.084	0.135	3.8	13.0	0.123
3B150.W0178	Stainless	w/o Threadlock	Heavy	UNC 3/8-16	5/8	0.110	0.186	4.5	16.0	0.194
3B150.W0180	Stainless	w/o Threadlock	Heavy	UNC 1/2-13	3/4	0.151	0.248	5.0	22.4	0.399
3B150.W0182	Stainless	w/o Threadlock	Heavy	UNC 5/8-11	1 1/16	0.215	0.310	7.0	43.5	0.914
3B150.W0233	Steel	With Threadlock	Standard	UNC 6-32	3/8	0.063	0.046	0.5	1.5	0.021
3B150.W0236	Steel	With Threadlock	Standard	UNC 8-32	7/16	0.052	0.070	0.8	1.5	0.032
3B150.W0238	Steel	With Threadlock	Standard	UNF 8-36	7/16	0.052	0.070	0.8	1.5	0.032
3B150.W0240	Steel	With Threadlock	Standard	UNF 10-32	15/32	0.065	0.093	1.0	2.5	0.042
3B150.W0242	Steel	With Threadlock	Standard	UNC 1/4-20	17/32	0.078	0.119	1.1	3.5	0.074
3B150.W0246	Steel	With Threadlock	Standard	UNC 5/16-18	37/64	0.084	0.135	1.0	4.0	0.123
3B150.W0248	Steel	With Threadlock	Standard	UNC 3/8-16	5/8	0.110	0.186	1.5	4.5	0.187
3B150.W0250	Steel	With Threadlock	Standard	UNC 1/2-13	3/4	0.151	0.248	1.8	5.5	0.377
3B150.W0252	Steel	With Threadlock	Standard	UNC 5/8-11	1 1/16	0.215	0.310	2.0	8.5	0.885
3B150.W0263	Steel	With Threadlock	Heavy	UNC 6-32	3/8	0.063	0.046	0.5	2.5	0.018
3B150.W0266	Steel	With Threadlock	Heavy	UNC 8-32	7/16	0.052	0.070	1.8	4.6	0.032
3B150.W0268	Steel	With Threadlock	Heavy	UNF 8-36	7/16	0.052	0.070	1.8	4.6	0.032
3B150.W0270	Steel	With Threadlock	Heavy	UNF 10-32	15/32	0.065	0.093	2.6	6.3	0.042
3B150.W0272	Steel	With Threadlock	Heavy	UNC 1/4-20	17/32	0.078	0.119	3.0	9.7	0.074
3B150.W0276	Steel	With Threadlock	Heavy	UNC 5/16-18	37/64	0.084	0.135	3.8	13.0	0.123
3B150.W0278	Steel	With Threadlock	Heavy	UNC 3/8-16	5/8	0.110	0.186	4.5	16.0	0.190
3B150.W0280	Steel	With Threadlock	Heavy	UNC 1/2-13	3/4	0.151	0.248	5.0	22.4	0.384
3B150.W0282	Steel	With Threadlock	Heavy	UNC 5/8-11	1 1/16	0.215	0.310	7.0	43.5	0.907
3B150.W0333	Stainless	With Threadlock	Standard	UNC 6-32	3/8	0.063	0.046	0.5	1.5	0.021
3B150.W0336	Stainless	With Threadlock	Standard	UNC 8-32	7/16	0.052	0.070	0.8	1.5	0.032
3B150.W0338	Stainless	With Threadlock	Standard	UNF 8-36	7/16	0.052	0.070	0.8	1.5	0.032
3B150.W0340	Stainless	With Threadlock	Standard	UNF 10-32	15/32	0.065	0.093	1.0	2.5	0.042
3B150.W0342	Stainless	With Threadlock	Standard	UNC 1/4-20	17/32	0.078	0.119	1.1	3.5	0.074
3B150.W0346	Stainless	With Threadlock	Standard	UNC 5/16-8	37/64	0.084	0.135	1.0	4.0	0.123
3B150.W0348	Stainless	With Threadlock	Standard	UNC 3/8-16	5/8	0.110	0.186	1.5	4.5	0.190
3B150.W0350	Stainless	With Threadlock	Standard	UNC 1/2-13	3/4	0.151	0.248	1.8	5.5	0.388
3B150.W0352	Stainless	With Threadlock	Standard	UNC 5/8-11	1 1/16	0.215	0.310	2.0	8.5	0.892
3B150.W0363	Stainless	With Threadlock	Heavy	UNC 6-32	3/8	0.063	0.046	0.5	2.5	0.014
3B150.W0366	Stainless	With Threadlock	Heavy	UNC 8-32	7/16	0.052	0.070	1.8	4.6	0.032
3B150.W0368	Stainless	With Threadlock	Heavy	UNF 8-36	7/16	0.052	0.070	1.8	4.6	0.032
3B150.W0370	Stainless	With Threadlock	Heavy	UNF 10-32	15/32	0.065	0.093	2.6	6.3	0.042
3B150.W0372	Stainless	With Threadlock	Heavy	UNC 1/4-20	17/32	0.078	0.119	3.0	9.7	0.071
3B150.W0376	Stainless	With Threadlock	Heavy	UNC 5/16-18	37/64	0.084	0.135	3.8	13.0	0.123
3B150.W0378	Stainless	With Threadlock	Heavy	UNC 3/8-16	5/8	0.110	0.186	4.5	16.0	0.194
3B150.W0380	Stainless	With Threadlock	Heavy	UNC 1/2-13	3/4	0.151	0.248	5.0	22.4	0.399
3B150.W0382	Stainless	With Threadlock	Heavy	UNC 5/8-11	1 1/16	0.215	0.310	7.0	43.5	0.914

Spring Plungers - IMPERIAL

with round-ended pin and hex. socket - stainless



3B200



Material

Free cutting steel type-
Body: free cutting steel, blackened.
Pin: free cutting steel, hardened, blackened.
Spring: stainless steel.
Stainless steel type-
Body: stainless steel 1.4305 (AISI 303).
Pin: stainless steel 1.4305 (AISI 303).
Spring: stainless steel.

Technical Notes

To be used as detents or for locating, positioning, indexing, locking, latching, ejecting, lifting off and other similar push application.
Temperature range for execution without thread up to 482°F.
Thread lock - Polyamide spot coating.

Tips

Standard spring load = no marking
Heavy spring load = marked with two lines

Important Notes

Spring loads are statistical average values
All dimensions are in inches
Thread: 2A-UNC/UNF.

Order No.	Material	Finish	Spring load	d_1 UNC/UNF	l_1 ≈	s	d_2	A/F	Spring load f_1 lb ≈	Spring load f_2 lb ≈	Weight oz
3B200.W0033	Steel	w/o Threadlock	Std.	UNC 6-32	17/32	0.063	0.046	1/16	0.5	1.5	0.025
3B200.W0036	Steel	With Threadlock	Std.	UNC 8-32	5/8	0.094	0.070	5/64	0.8	2.3	0.042
3B200.W0040	Steel	w/o Threadlock	Std.	UNF 10-32	3/4	0.125	0.093	3/32	1.4	2.7	0.063
3B200.W0042	Steel	With Threadlock	Std.	UNC 1/4-20	1	0.188	0.119	1/8	1.0	4.0	0.134
3B200.W0044	Steel	w/o Threadlock	Std.	UNF 1/4-28	1	0.188	0.119	1/8	1.0	4.0	0.145
3B200.W0046	Steel	With Threadlock	Std.	UNC 5/16-18	1	0.188	0.135	5/32	1.5	4.5	0.205
3B200.W0048	Steel	w/o Threadlock	Std.	UNC 3/8-16	1 1/8	0.188	0.186	3/16	2.7	7.2	0.335
3B200.W0050	Steel	With Threadlock	Std.	UNC 1/2-13	1 1/4	0.250	0.248	1/4	2.7	9.3	0.656
3B200.W0052	Steel	w/o Threadlock	Std.	UNC 5/8-11	1 1/2	0.313	0.310	5/16	3.5	10.6	1.242
3B200.W0053	Steel	With Threadlock	Std.	UNC 3/4-10	1 3/4	0.313	0.374	3/8	5.5	14.5	2.152
3B200.W0054	Steel	w/o Threadlock	Std.	UNC 1-8	2 13/32	0.500	0.499	3/8	4.0	31.0	5.443
3B200.W0063	Steel	With Threadlock	Heavy	UNC 6-32	17/32	0.063	0.046	1/16	1.5	3.4	0.026
3B200.W0066	Steel	w/o Threadlock	Heavy	UNC 8-32	5/8	0.094	0.070	5/64	2.6	6.6	0.042
3B200.W0070	Steel	With Threadlock	Heavy	UNF 10-32	3/4	0.125	0.093	3/32	3.2	9.0	0.067
3B200.W0072	Steel	w/o Threadlock	Heavy	UNC 1/4-20	1	0.188	0.119	1/8	3.1	10.1	0.134
3B200.W0074	Steel	With Threadlock	Heavy	UNF 1/4-28	1	0.188	0.119	1/8	3.1	10.1	0.145
3B200.W0076	Steel	w/o Threadlock	Heavy	UNC 5/16-18	1	0.188	0.135	5/32	3.0	15.0	0.207
3B200.W0078	Steel	With Threadlock	Heavy	UNC 3/8-16	1 1/8	0.188	0.186	3/16	5.5	12.7	0.335
3B200.W0080	Steel	w/o Threadlock	Heavy	UNC 1/2-13	1 1/4	0.250	0.248	1/4	6.6	16.0	0.649
3B200.W0082	Steel	With Threadlock	Heavy	UNC 5/8-11	1 1/2	0.313	0.310	5/16	10.5	22.2	1.245
3B200.W0083	Steel	w/o Threadlock	Heavy	UNC 3/4-10	1 3/4	0.313	0.374	3/8	6.7	33.0	2.187
3B200.W0084	Steel	With Threadlock	Heavy	UNC 1-8	2 13/32	0.500	0.499	3/8	16.0	60.0	5.538
3B200.W0133	Stainless	w/o Threadlock	Std.	UNC 6-32	17/32	0.063	0.046	1/16	0.5	1.5	0.018
3B200.W0136	Stainless	With Threadlock	Std.	UNC 8-32	5/8	0.094	0.070	5/64	0.8	2.3	0.039
3B200.W0140	Stainless	w/o Threadlock	Std.	UNF 10-32	3/4	0.125	0.093	3/32	1.4	2.7	0.063
3B200.W0142	Stainless	With Threadlock	Std.	UNC 1/4-20	1	0.188	0.119	1/8	1.0	4.0	0.131

Order No.	Material	Finish	Spring load	d_1 UNC/UNF	l_1 ≈	s	d_2	A/F	Spring load f_1 lb ≈	Spring load f_2 lb ≈	Weight oz
3B200.W0144	Stainless	w/o Threadlock	Std.	UNF 1/4-28	1	0.188	0.119	1/8	1.0	4.0	0.141
3B200.W0146	Stainless	With Threadlock	Std.	UNC 5/16-18	1	0.188	0.135	5/32	1.5	4.5	0.208
3B200.W0148	Stainless	w/o Threadlock	Std.	UNC 3/8-16	1 1/8	0.188	0.186	3/16	2.7	7.2	0.328
3B200.W0150	Stainless	With Threadlock	Std.	UNC 1/2-13	1 1/4	0.250	0.248	1/4	2.7	9.3	0.653
3B200.W0152	Stainless	w/o Threadlock	Std.	UNC 5/8-11	1 1/2	0.313	0.310	5/16	3.5	10.6	1.242
3B200.W0153	Stainless	With Threadlock	Std.	UNC 3/4-10	1 3/4	0.313	0.374	3/8	5.5	14.5	2.180
3B200.W0154	Stainless	w/o Threadlock	Std.	UNC 1-8	2 13/32	0.500	0.499	3/8	4.0	31.0	5.474
3B200.W0163	Stainless	With Threadlock	Heavy	UNC 6-32	17/32	0.063	0.046	1/16	1.5	3.4	0.025
3B200.W0166	Stainless	w/o Threadlock	Heavy	UNC 8-32	5/8	0.094	0.070	5/64	2.6	6.6	0.042
3B200.W0170	Stainless	With Threadlock	Heavy	UNF 10-32	3/4	0.125	0.093	3/32	3.2	9.0	0.063
3B200.W0172	Stainless	w/o Threadlock	Heavy	UNC 1/4-20	1	0.188	0.119	1/8	3.1	10.1	0.131
3B200.W0174	Stainless	With Threadlock	Heavy	UNF 1/4-28	1	0.188	0.119	1/8	3.1	10.1	0.145
3B200.W0176	Stainless	w/o Threadlock	Heavy	UNC 5/16-18	1	0.188	0.135	5/32	3.0	15.0	0.212
3B200.W0178	Stainless	With Threadlock	Heavy	UNC 3/8-16	1 1/8	0.188	0.186	3/16	5.5	12.7	0.339
3B200.W0180	Stainless	w/o Threadlock	Heavy	UNC 1/2-13	1 1/4	0.250	0.248	1/4	6.6	16.0	0.653
3B200.W0182	Stainless	With Threadlock	Heavy	UNC 5/8-11	1 1/2	0.313	0.310	5/16	10.5	22.2	1.252
3B200.W0183	Stainless	w/o Threadlock	Heavy	UNC 3/4-10	1 3/4	0.313	0.374	3/8	6.7	33.0	2.198
3B200.W0184	Stainless	With Threadlock	Heavy	UNC 1-8	2 13/32	0.500	0.499	3/8	16.0	60.0	5.524
3B200.W0233	Steel	w/o Threadlock	Std.	UNC 6-32	17/32	0.063	0.046	1/16	0.5	1.5	0.025
3B200.W0236	Steel	With Threadlock	Std.	UNC 8-32	5/8	0.094	0.070	5/64	0.8	2.3	0.042
3B200.W0240	Steel	w/o Threadlock	Std.	UNF 10-32	3/4	0.125	0.093	3/32	1.4	2.7	0.063
3B200.W0242	Steel	With Threadlock	Std.	UNC 1/4-20	1	0.188	0.119	1/8	1.0	4.0	0.134
3B200.W0244	Steel	w/o Threadlock	Std.	UNF 1/4-28	1	0.188	0.119	1/8	1.0	4.0	0.145
3B200.W0246	Steel	With Threadlock	Std.	UNC 5/16-18	1	0.188	0.135	5/32	1.5	4.5	0.205
3B200.W0248	Steel	w/o Threadlock	Std.	UNC 3/8-16	1 1/8	0.188	0.186	3/16	2.7	7.2	0.335
3B200.W0250	Steel	With Threadlock	Std.	UNC 1/2-13	1 1/4	0.250	0.248	1/4	2.7	9.3	0.656
3B200.W0252	Steel	w/o Threadlock	Std.	UNC 5/8-11	1 1/2	0.313	0.310	5/16	3.5	10.6	1.242
3B200.W0253	Steel	With Threadlock	Std.	UNC 3/4-10	1 3/4	0.313	0.374	3/8	5.5	14.5	2.152
3B200.W0254	Steel	w/o Threadlock	Std.	UNC 1-8	2 13/32	0.500	0.499	3/8	4.0	31.0	5.443
3B200.W0263	Steel	With Threadlock	Heavy	UNC 6-32	17/32	0.063	0.046	1/16	1.5	3.4	0.026
3B200.W0266	Steel	w/o Threadlock	Heavy	UNC 8-32	5/8	0.094	0.070	5/64	2.6	6.6	0.042
3B200.W0270	Steel	With Threadlock	Heavy	UNF 10-32	3/4	0.125	0.093	3/32	3.2	9.0	0.067
3B200.W0272	Steel	w/o Threadlock	Heavy	UNC 1/4-20	1	0.188	0.119	1/8	3.1	10.1	0.134
3B200.W0274	Steel	With Threadlock	Heavy	UNF 1/4-28	1	0.188	0.119	1/8	3.1	10.1	0.145
3B200.W0276	Steel	w/o Threadlock	Heavy	UNC 5/16-18	1	0.188	0.135	5/32	3.0	15.0	0.207
3B200.W0278	Steel	With Threadlock	Heavy	UNC 3/8-16	1 1/8	0.188	0.186	3/16	5.5	12.7	0.335
3B200.W0280	Steel	w/o Threadlock	Heavy	UNC 1/2-13	1 1/4	0.250	0.248	1/4	6.6	16.0	0.649
3B200.W0282	Steel	With Threadlock	Heavy	UNC 5/8-11	1 1/2	0.313	0.310	5/16	10.5	22.2	1.245
3B200.W0283	Steel	w/o Threadlock	Heavy	UNC 3/4-10	1 3/4	0.313	0.374	3/8	6.7	33.0	2.187
3B200.W0284	Steel	With Threadlock	Heavy	UNC 1-8	2 13/32	0.500	0.499	3/8	16.0	60.0	5.538
3B200.W0333	Stainless	w/o Threadlock	Std.	UNC 6-32	17/32	0.063	0.046	1/16	0.5	1.5	0.018
3B200.W0336	Stainless	With Threadlock	Std.	UNC 8-32	5/8	0.094	0.070	5/64	0.8	2.3	0.039
3B200.W0340	Stainless	w/o Threadlock	Std.	UNF 10-32	3/4	0.125	0.093	3/32	1.4	2.7	0.063
3B200.W0342	Stainless	With Threadlock	Std.	UNC 1/4-20	1	0.188	0.119	1/8	1.0	4.0	0.131
3B200.W0344	Stainless	w/o Threadlock	Std.	UNF 1/4-28	1	0.188	0.119	1/8	1.0	4.0	0.141
3B200.W0346	Stainless	With Threadlock	Std.	UNC 5/16-18	1	0.188	0.135	5/32	1.5	4.5	0.208
3B200.W0348	Stainless	w/o Threadlock	Std.	UNC 3/8-16	1 1/8	0.188	0.186	3/16	2.7	7.2	0.328
3B200.W0350	Stainless	With Threadlock	Std.	UNC 1/2-13	1 1/4	0.250	0.248	1/4	2.7	9.3	0.653
3B200.W0352	Stainless	w/o Threadlock	Std.	UNC 5/8-11	1 1/2	0.313	0.310	5/16	3.5	10.6	1.242
3B200.W0353	Stainless	With Threadlock	Std.	UNC 3/4-10	1 3/4	0.313	0.374	3/8	5.5	14.5	2.180
3B200.W0354	Stainless	w/o Threadlock	Std.	UNC 1-8	2 13/32	0.500	0.499	3/8	4.0	31.0	5.474
3B200.W0363	Stainless	With Threadlock	Heavy	UNC 6-32	17/32	0.063	0.046	1/16	1.5	3.4	0.025
3B200.W0366	Stainless	w/o Threadlock	Heavy	UNC 8-32	5/8	0.094	0.070	5/64	2.6	6.6	0.042
3B200.W0370	Stainless	With Threadlock	Heavy	UNF 10-32	3/4	0.125	0.093	3/32	3.2	9.0	0.063
3B200.W0372	Stainless	w/o Threadlock	Heavy	UNC 1/4-20	1	0.188	0.119	1/8	3.1	10.1	0.131
3B200.W0374	Stainless	With Threadlock	Heavy	UNF 1/4-28	1	0.188	0.119	1/8	3.1	10.1	0.145
3B200.W0376	Stainless	w/o Threadlock	Heavy	UNC 5/16-18	1	0.188	0.135	5/32	3.0	15.0	0.212
3B200.W0378	Stainless	With Threadlock	Heavy	UNC 3/8-16	1 1/8	0.188	0.186	3/16	5.5	12.7	0.339
3B200.W0380	Stainless	w/o Threadlock	Heavy	UNC 1/2-13	1 1/4	0.250	0.248	1/4	6.6	16.0	0.653
3B200.W0382	Stainless	With Threadlock	Heavy	UNC 5/8-11	1 1/2	0.313	0.310	5/16	10.5	22.2	1.252
3B200.W0383	Stainless	w/o Threadlock	Heavy	UNC 3/4-10	1 3/4	0.313	0.374	3/8	6.7	33.0	2.198
3B200.W0384	Stainless	With Threadlock	Heavy	UNC 1-8	2 13/32	0.500	0.499	3/8	16.0	60.0	5.524

Wixroyd Imperial Spring Plungers

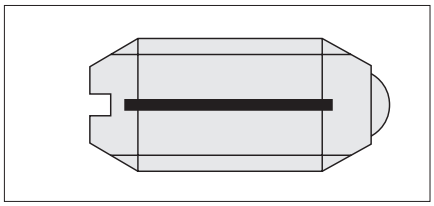
imperial thread

Wixroyd have applied their extensive experience and expertise in spring plunger design and production to offer a range of imperial plungers.

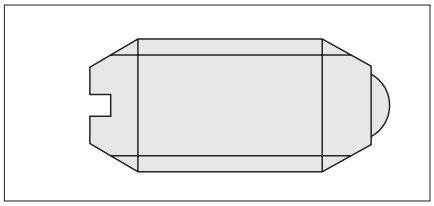
At Last – Imperial Version Spring Plungers Stocked in the UK!

Spring Loads

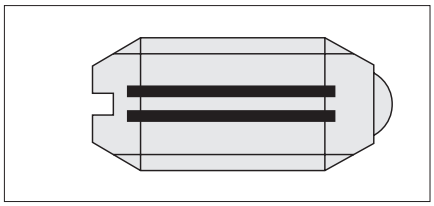
Three available spring pressure models.



Light spring load = marked with one line.



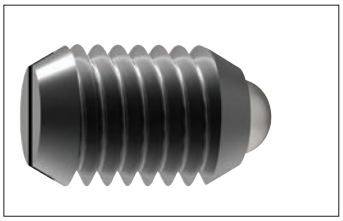
Standard spring load = no marking.



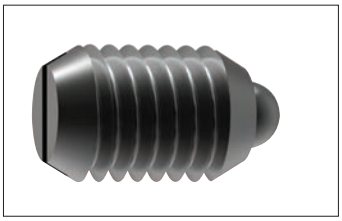
Heavy spring load = marked with two lines.

Thread Details

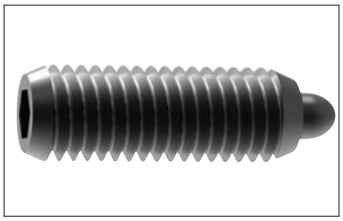
2A-UNC/UNF: sizes 4-48 to 5/8-11.



3B100 Imperial plunger with ball and slot.



3B150 Imperial plunger with pin and slot.



3B200 Imperial plunger with pin and hex socket.

Conversion table: Metric/Imperial values

	To convert from	To	Use conversion factor
Lengths	Inch (in)	Millimeter (mm)	in x 25,4 = mm
	Millimeter (mm)	Inch (in)	mm x 0,03937 = in
Weight/force	Ounces (oz)	Gram (g)	oz x 28 = g
	Gram (g)	Ounces (oz)	g x 0,035 = oz
	Pounds (lbs)	Kilogram (Kg)	lbs x 0,4536 = Kg
	Kilogram (Kg)	Pounds (lbs)	Kg x 2,205 = lbs
	Kilogram (Kg)	Newton (N)	Kg x 9,81 = N
	Newton (N)	Kilogram (Kg)	N/ 9,81 = Kg
Temperature	Degree fahrenheit (°F)	Degree centigrade (°C)	(°F-32) x 5/9 = °C
	Degree centigrade (°C)	Degree fahrenheit (°F)	°C x 9/5 + 32 = °F
Torque	Foot-pounds (ft-lbs)	Newton-meter (Nm)	ft/lbs x 1,35 = Nm
	Newton-meter (Nm)	Foot-pounds (ft-lbs)	Nm x 0,74 = ft/lbs

ov-W3B100-A-T-W3B200-A-T-a-Inh - Updated - 26-10-2022

We recommend a cutting speed of between 10 and 20m/min.

Therefore typical value for chamfers of varying diameter are as follows.

Diameter	RPM range
10 mm	320 to 640 rpm
15 mm	210 to 420 rpm
20 mm	160 to 320 rpm
30 mm	110 to 220 rpm
40 mm	80 to 160 rpm
50 mm	55 to 110 rpm

We do however recommend you use the following formula to check the most suitable rpm used.
Rpm = (cutting speed x 1000) / (diameter x 3.14)

Blade cutting angle	0°	14°	20°	25°
Suitable for material	Brass, bronze, cast iron, stainless steel	Steel, special bronze, perspex	Soft steel, copper, AU 4G, plastic, stainless steel	Aluminium, soft iron, sheet metal

Important Note:

We recommend the chamfering tool is lubricated with cutting fluid or soluble oil to ensure the long life of the cutting blade edge, and to reduce wear of the pilot cone.

We offer blades with a variety of cutting angles to best suit the material in which a chamfer is required.

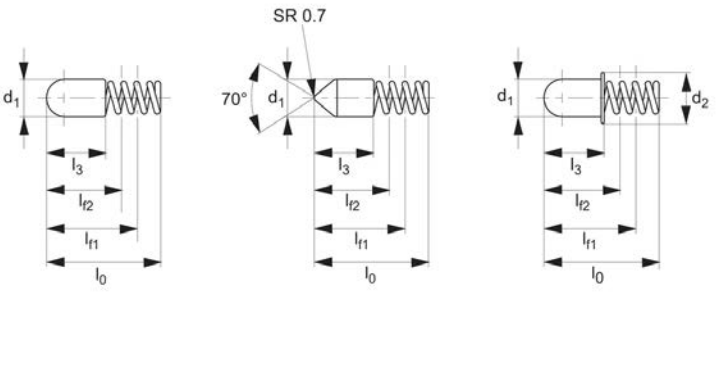
Typically a blade cutting angle of 14° suits most applications; please refer to table above.

Recommended Cutting Speed

Typical rpm for varying chamfer diameters, when using cutting speed of between 10 and 20 m/min.

Spring Bodies
steel or stainless steel

31000

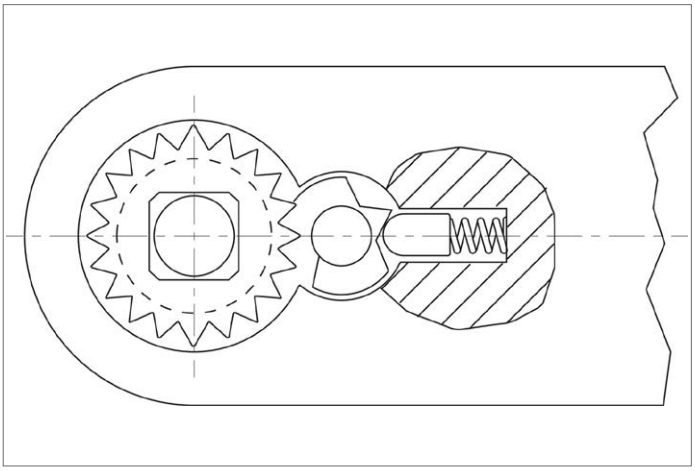


Material
Body: steel, nickel-plated.
Stainless steel 1.4303 (AISI 305). Brass, nickel-plated.
Spring: stainless steel 1,4310 (AISI 301).

Technical Notes
Max. temperature 250°C. Spring load * = statistical average.

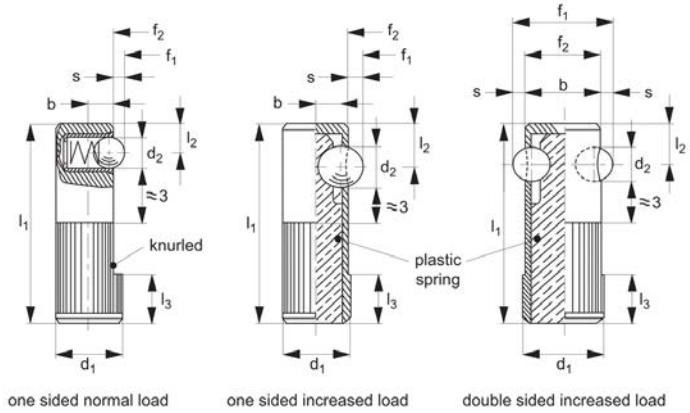
Tips
To be used for locating or as a detent.
Special springs available on request.

Order No.	Type	Finish	d_1 ±0.05	l_0	d_2	l_3	$l f_1$	$l f_2$	Spring load F_1 N ≈	Spring load F_2 N ≈	R N/mm	Weight g
31000.W0012	Round	Steel	2.2	16	-	7.8	12.0	10.5	2.2	3.0	0.53	0.13
31000.W0016	Round	Steel	2.6	8	-	3.8	6.5	5.2	1.1	2.0	0.70	0.07
31000.W0022	Round	Steel	3.0	12	-	6.0	9.0	8.7	6.2	6.8	2.00	0.18
31000.W0024	Round	Steel	3.0	16	-	8.5	13.0	10.7	4.8	8.4	1.60	0.23
31000.W0034	Round	Steel	3.4	12	-	6.0	9.0	7.8	5.0	7.0	1.69	0.18
31000.W0036	Round	Steel	3.4	15	-	7.3	12.0	8.2	5.9	13.3	1.95	0.22
31000.W0042	Round	Steel	4.0	14	-	8.0	12.0	9.0	5.0	12.3	2.45	0.41
31000.W0052	Round	Steel	5.0	16	-	8.0	13.0	10.4	8.0	15.0	2.70	0.59
31000.W0124	Round	Stainless	3.0	16	-	8.0	13.0	10.6	4.8	8.6	1.60	0.22
31000.W0137	Round	Stainless	3.6	18	-	9.0	15.0	11.5	6.7	14.5	2.24	0.36
31000.W0144	Round	Stainless	4.0	16	-	7.5	13.0	11.4	8.0	12.3	2.70	0.37
31000.W0212	Tipped	Steel	2.2	16	-	7.8	12.0	10.5	2.2	3.0	0.53	0.12
31000.W0222	Tipped	Steel	3.0	11	-	5.0	9.0	6.7	1.6	3.4	0.78	0.11
31000.W0224	Tipped	Steel	3.0	16	-	8.5	13.0	10.7	4.8	8.4	1.60	0.23
31000.W0373	Round, with Collar	Stainless	3.0	13	4.1	7.0	10.0	8.9	5.3	7.2	1.75	0.19



Lateral Spring Plungers

32800



Material

Body: free cutting steel, blackened.
Ball: ball bearing steel 1.3505 (100Cr6) hardened, stainless steel, hardened or Thermoplastic white (POM).
Spring: stainless steel or plastic (PU).

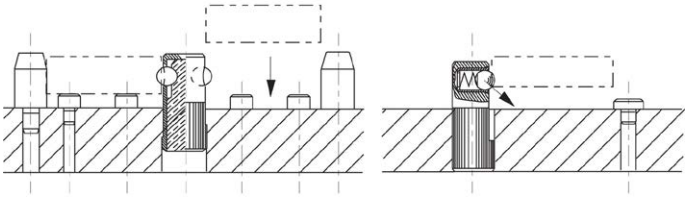
Technical Notes

The lateral spring plunger must be inserted into a bore to measure at least l3. Positions and applies pressure. Spring loads * = statistical average values.

Tips

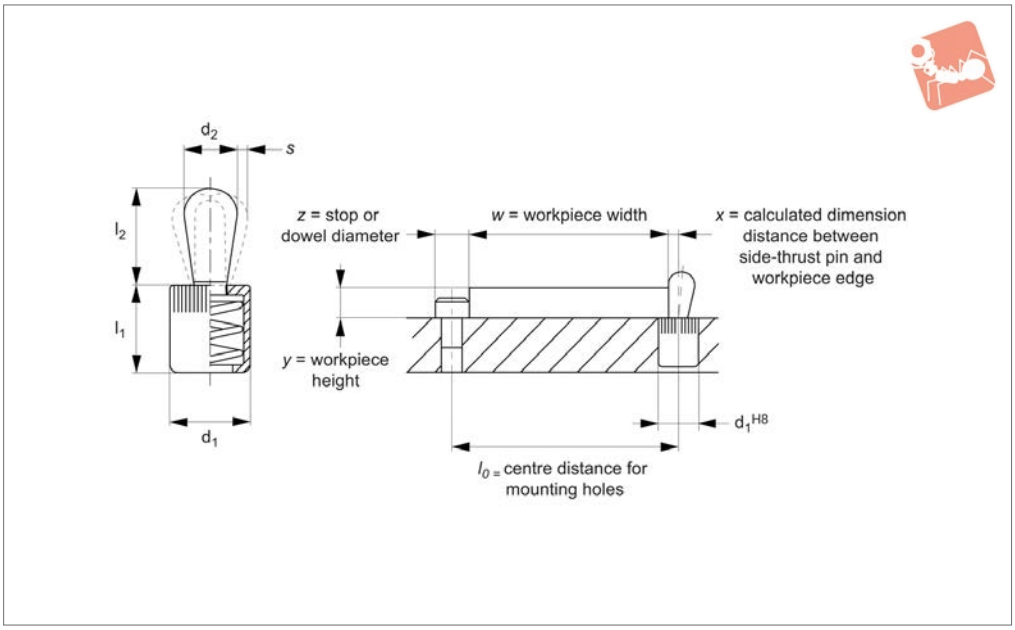
When storing the fixtures, no pressure should be applied to the plastic spring.

Order No.	Ball type	Spring load	d_1 +0.1	d_2	l_1	l_2	l_3	b	Location hole tol. H8	s	Spring load F_1 N ≈	Spring load F_2 N ≈	Temperature °C max.	Weight g
32800.W0008	Stainless, One	Normal	8	3,0	25	3,6	6	3,2	8	0,8	2,5	6,5	-30/+50	9
32800.W0010	Stainless, One	Normal	10	4,0	30	4,2	7	4,0	10	1,0	4,5	9,0	-30/+50	17
32800.W0012	Stainless, One	Normal	12	5,0	35	4,8	9	5,0	12	1,6	6,5	13,0	-30/+50	29
32800.W0014	Stainless, One	Normal	14	6,5	40	5,8	10	5,4	14	1,9	8,0	18,0	-30/+50	43
32800.W0108	Thermo, One	Normal	8	3,0	25	3,6	6	3,2	8	0,8	2,5	6,5	-30/+50	9
32800.W0110	Thermo, One	Normal	10	4,0	30	4,2	7	4,0	10	1,0	4,5	9,0	-30/+50	17
32800.W0112	Thermo, One	Normal	12	5,0	35	4,8	9	5,0	12	1,6	6,5	13,0	-30/+50	28
32800.W0114	Thermo, One	Normal	14	6,5	40	5,8	10	5,4	14	1,9	8,0	18,0	-30/+50	42
32800.W0410	Steel, One	Increased	10	5,5	30	7,0	8	4,5	10	1,0	60,0	170,0	-40/+80	9
32800.W0412	Steel, One	Increased	12	6,5	35	8,0	9	5,5	12	1,5	80,0	260,0	-40/+80	14
32800.W0414	Steel, One	Increased	14	8,0	40	9,0	10	6,5	14	2,0	120,0	480,0	-40/+80	20
32800.W0616	Steel, Double	Increased	16	5,5	35	7,0	11	15,0	16	1,5	110,0	220,0	-40/+80	21
32800.W0618	Steel, Double	Increased	18	6,5	40	8,0	12	17,0	18	1,8	120,0	330,0	-40/+80	27
32800.W0622	Steel, Double	Increased	22	8,0	45	9,0	15	21,0	22	2,5	130,0	540,0	-40/+80	45



Side-Thrust Pins
without seal

32810



Material
Body: aluminium.
Pin: steel, case hardened and galvanized, or thermoplastic (POM) white.
Spring: steel (blackened or blue galvanized), or stainless steel.

Technical Notes
Press fit installation into hole d_1 to tol. H8, using fitting tool (order separately).
Installation calculations;
A) Calculating centre distance for mounting holes (l_0);
$l_0=(z/2)+w+x$
B) Calculating pin location (x);

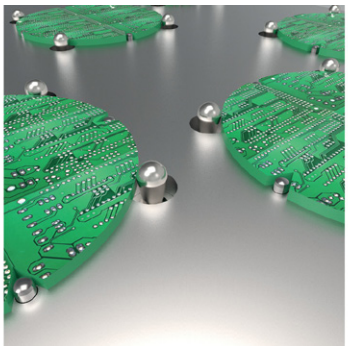
When workpiece height (y) is greater than or equal to $l_2-(d_2/2)$ then (x) is calculated as; $x=(d_2/2)-s$

When workpiece height (y) is less than

$l_2-(d_2/2)$ then (x) is calculated as;
$x=(d_2/2)-s-\{[l_2-(d_2/2)-y]*0.123\}$
l_0 = centre distance for mounting holes
y = workpiece height
w = workpiece width
x = distance between side-thrust pin and workpiece edge
s = stroke
z =stop or dowel stop diameter

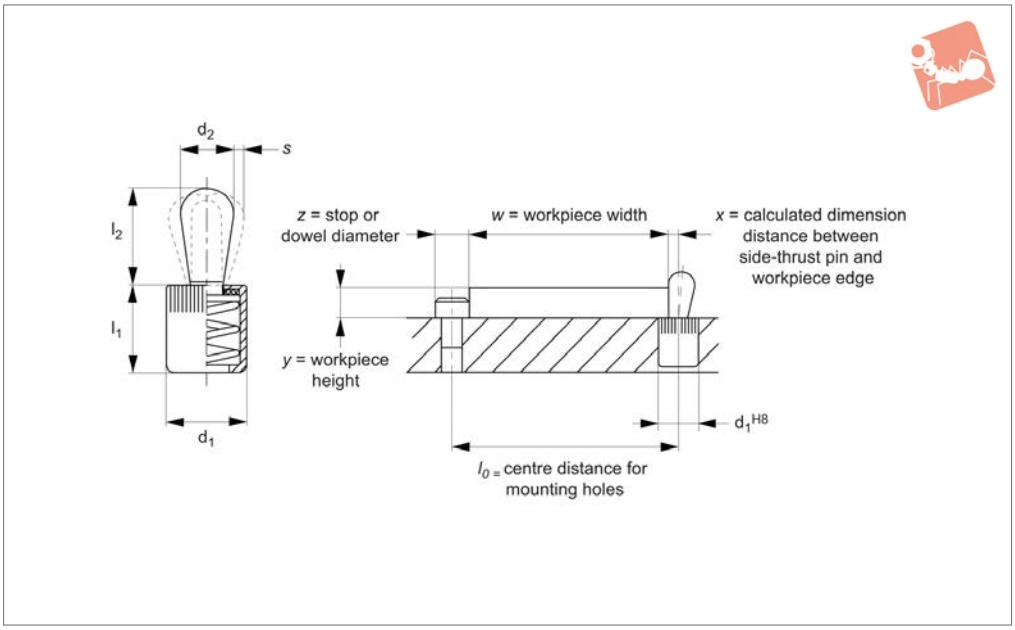
Tips
Side-thrust pins are ideal for holding, clamping and positioning parts.
Spring colour gives visual indication of spring pressure (N).
Light spring load = natural stainless spring.
Standard spring load = steel spring, blackened.
Heavy spring load = steel spring, blue galvanized.

Order No.	Pin material	Spring load	d_1	d_2	l_1 -1	l_2 ±0.5	Location hole d_1 tol. H8	Spring colour	Spring pressure N	Stroke s	Temp. resistance °C max.	Fitting tool 32810	Weight g
32810.W0001	Steel Pin	Light	6	3	7	4,0	6	S/S	10	0,5	250	.W0830	1
32810.W0002	Steel Pin	Standard	6	3	7	4,0	6	Black	20	0,5	250	.W0830	1
32810.W0003	Steel Pin	Heavy	6	3	7	4,0	6	Blue	40	0,5	250	.W0830	1
32810.W0004	Steel Pin	Light	10	5	11	6,7	10	S/S	20	0,8	250	.W0831	3
32810.W0005	Steel Pin	Standard	10	5	11	6,7	10	Black	50	0,8	250	.W0831	3
32810.W0006	Steel Pin	Heavy	10	5	11	6,7	10	Blue	100	0,8	250	.W0831	3
32810.W0007	Steel Pin	Light	10	6	11	10,7	10	S/S	40	1,0	250	.W0831	4
32810.W0008	Steel Pin	Standard	10	6	11	10,7	10	Black	75	1,0	250	.W0831	4
32810.W0009	Steel Pin	Heavy	10	6	11	10,7	10	Blue	150	1,0	250	.W0831	4
32810.W0010	Steel Pin	Light	12	8	13	13,9	12	S/S	50	1,3	250	.W0832	7
32810.W0011	Steel Pin	Standard	12	8	13	13,9	12	Black	100	1,3	250	.W0832	7
32810.W0012	Steel Pin	Heavy	12	8	13	13,9	12	Blue	200	1,3	250	.W0832	7
32810.W0013	Steel Pin	Light	16	10	17	16,7	16	S/S	100	1,6	250	.W0833	15
32810.W0014	Steel Pin	Standard	16	10	17	16,7	16	Black	200	1,6	250	.W0833	15
32810.W0015	Plastic Pin	Heavy	16	10	17	16,7	16	Blue	300	1,6	80	.W0833	15
32810.W0404	Plastic Pin	Heavy	10	5	11	6,7	10	S/S	20	0,8	80	.W0831	1
32810.W0407	Plastic Pin	Standard	10	6	11	10,7	10	S/S	40	1,0	80	.W0831	2
32810.W0410	Plastic Pin	Light	12	8	13	13,9	12	S/S	50	1,3	80	.W0832	3
32810.W0413	Plastic Pin	Heavy	16	10	17	16,7	16	S/S	100	1,6	80	.W0833	7



Side-Thrust Pins
with seal

32820



Material
Body: aluminium.
Pin: steel, case hardened and galvanized, or thermoplastic (POM) white.
Spring: steel (blackened or blue galvanized), or stainless steel.
Seal: rubber (CR), 60 shore.

Technical Notes
Press fit installation into hole d_1 to tol. H8, using fitting tool (order separately).
Installation calculations;
A) Calculating centre distance for mounting holes (l_0);
$l_0=(z/2)+w+x$

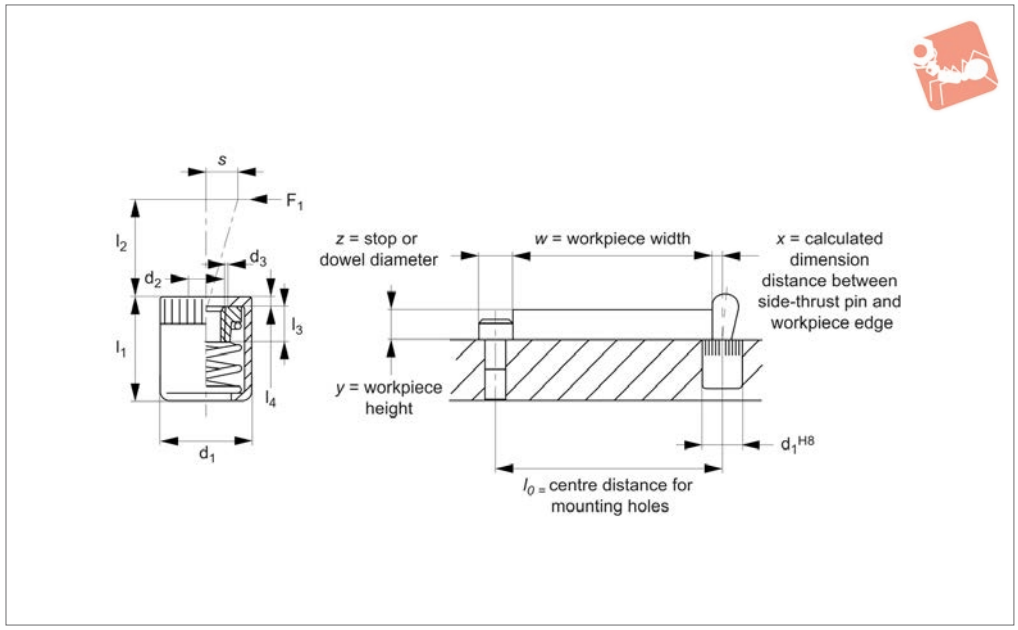
B) Calculating pin location (x);
When workpiece height (y) is greater than or equal to $l_2-(d_2/2)$ then (x) is calculated as; $x=(d_2/2)-s$

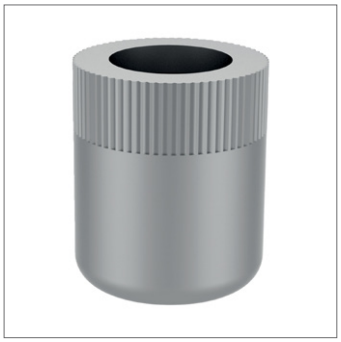
When workpiece height (y) is less than $l_2-(d_2/2)$ then (x) is calculated as;
$x=(d_2/2)-s-\{[l_2-(d_2/2)-y]*0.123\}$

l_0 = centre distance for mounting holes
y = workpiece height
w = workpiece width
x = distance between side-thrust pin and workpiece edge
s = stroke
z =stop or dowel stop diameter

Tips
Side-thrust pins are ideal for holding, clamping and positioning parts.
Spring colour gives visual indication of spring pressure (N).
Light spring load = natural stainless spring.
Standard spring load = steel spring, blackened.
Heavy spring load = steel spring, blue galvanized.

Order No.	Pin material	Spring load	d_1	d_2	l_1 -1	l_2 ±0.5	Location hole d_1 tol. H8	Spring colour	Spring pressure N	Stroke s	Temp. resistance °C max.	Fitting tool 32810	Weight g
32820.W0001	Steel Pin	Light	6	3	7	4	6	S/S	10	0,5	110	.W0830	1
32820.W0002	Steel Pin	Standard	6	3	7	4	6	Black	20	0,5	110	.W0830	1
32820.W0003	Steel Pin	Heavy	6	3	7	4	6	Blue	40	0,5	110	.W0830	1
32820.W0004	Steel Pin	Light	10	5	12	6	10	S/S	20	0,8	110	.W0831	3
32820.W0005	Steel Pin	Standard	10	5	12	6	10	Black	50	0,8	110	.W0831	3
32820.W0006	Steel Pin	Heavy	10	5	12	6	10	Blue	100	0,8	110	.W0831	3
32820.W0007	Steel Pin	Light	10	6	12	10	10	S/S	40	1,0	110	.W0831	4
32820.W0008	Steel Pin	Standard	10	6	12	10	10	Black	75	1,0	110	.W0831	4
32820.W0009	Steel Pin	Heavy	10	6	12	10	10	Blue	150	1,0	110	.W0831	4
32820.W0010	Steel Pin	Light	12	8	14	13	12	S/S	50	1,3	110	.W0832	7
32820.W0011	Steel Pin	Standard	12	8	14	13	12	Black	100	1,3	110	.W0832	7
32820.W0012	Steel Pin	Heavy	12	8	14	13	12	Blue	200	1,3	110	.W0832	8
32820.W0013	Steel Pin	Light	16	10	18	16	16	S/S	100	1,6	110	.W0833	15
32820.W0014	Steel Pin	Standard	16	10	18	16	16	Black	200	1,6	110	.W0833	15
32820.W0015	Steel Pin	Heavy	16	10	18	16	16	Blue	300	1,6	110	.W0833	16
32820.W0401	Plastic Pin	Light	6	3	7	4	6	S/S	10	0,5	80	.W0830	1
32820.W0404	Plastic Pin	Light	10	5	12	6	10	S/S	20	0,8	80	.W0831	1
32820.W0407	Plastic Pin	Light	10	6	12	10	10	S/S	40	1,0	80	.W0831	2
32820.W0410	Plastic Pin	Light	12	8	14	13	12	S/S	50	1,3	80	.W0832	3
32820.W0413	Plastic Pin	Light	16	10	18	16	16	S/S	100	1,6	80	.W0833	7





32830.1

Material
Body: aluminium.
Threaded Washer: steel, blackened.
Spring: steel (blackened or blue galvanized), or stainless steel.

Technical Notes
Press fit installation into hole d_1 to tol. H8, using fitting tool (order separately).
Installation calculations;
A) Calculating centre distance for mounting holes (l_0);
$l_0=(z/2)+w+x$

B) Calculating pin location (x);

When workpiece height (y) is greater than or equal to $l_2-(d_2/2)$ then (x) is calculated as; $x=(d_2/2)-s$

When workpiece height (y) is less than $l_2-(d_2/2)$ then (x) is calculated as;
$x=(d_2/2)-s-\{[l_2-(d_2/2)-y]*0.123\}$

l_0 = centre distance for mounting holes
y = workpiece height
w = workpiece width
x = distance between side-thrust pin and workpiece edge
s = stroke
z =stop or dowel stop diameter

Tips
Side-thrust pins are ideal for holding, clamping and positioning parts.
Spring colour gives visual indication of spring pressure (N).
Light spring load = natural stainless spring.
Standard spring load = steel spring, blackened.
Heavy spring load = steel spring, blue galvanized.

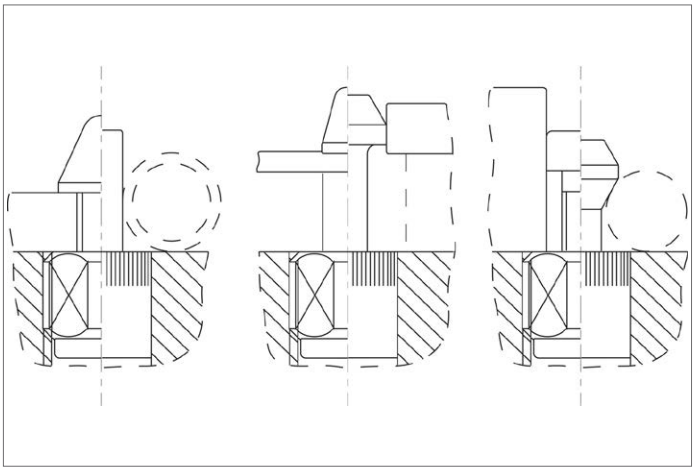
Order No.	Spring load	d_1	d_2	d_3	l_1 -1	l_2	l_3	Weight g
32830.W0001	Light	10	M 4	6.3	11	2.5	4.5	2
32830.W0002	Standard	10	M 4	6.3	11	2.5	4.5	2
32830.W0003	Heavy	10	M 4	6.3	11	2.5	4.5	2
32830.W0004	Light	10	M 4	6.3	11	7.5	4.5	2
32830.W0005	Standard	10	M 4	6.3	11	7.5	4.5	2
32830.W0006	Heavy	10	M 4	6.3	11	7.5	4.5	3
32830.W0007	Light	16	M 6	10.3	18	11.5	7.5	9
32830.W0008	Standard	16	M 6	10.3	18	11.5	7.5	9
32830.W0009	Heavy	16	M 6	10.3	18	11.5	7.5	9

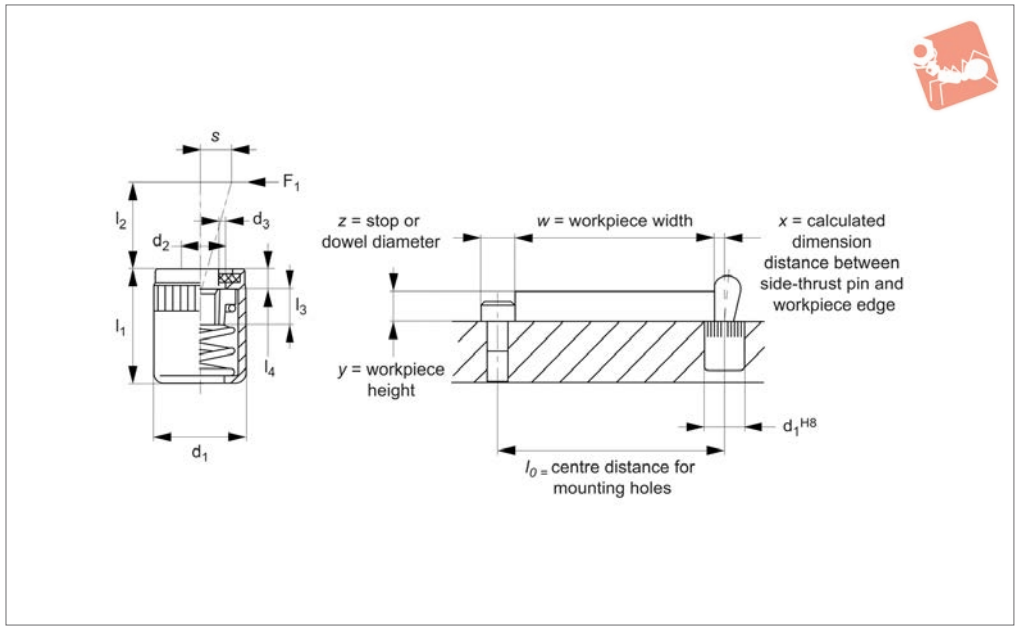
Order No.	l_4	Location hole d_1 tol. H8	Spring colour	Spring pressure N	Stroke s	Temp. resistance °C max.	Fitting tool 32810
32830.W0001	1.2	10	S/S	20	1.6	250	.W0831
32830.W0002	1.2	10	Black	50	1.6	250	.W0831
32830.W0003	1.2	10	Blue	100	1.6	250	.W0831
32830.W0004	1.2	10	S/S	40	2.0	250	.W0831
32830.W0005	1.2	10	Black	75	2.0	250	.W0831
32830.W0006	1.2	10	Blue	100	2.0	250	.W0831
32830.W0007	1.7	16	S/S	100	3.2	250	.W0833
32830.W0008	1.7	16	Black	150	3.2	250	.W0833

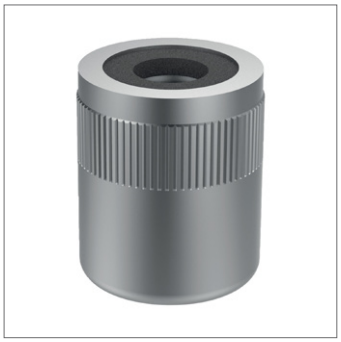
Side-Thrust Pins - Without Seal

for use with pins of your own design

Order No.	l_4	Location hole d_1 tol. H8	Spring colour	Spring pressure N	Stroke s	Temp. resistance °C max.	Fitting tool 32810
32830.W0009	1.7	16	Blue	200	3.2	250	.W0833







32830.2

Material
Body: aluminium.
Threaded Washer: steel, blackened.
Spring: steel (blackened or blue galvanized), or stainless steel.
Seal: rubber (CR), 60 shore.

Technical Notes
Press fit installation into hole d_1 to tol. H8, using fitting tool (order separately).
Installation calculations;
A) Calculating centre distance for mounting holes (l_0);
$l_0=(z/2)+w+x$

B) Calculating pin location (x);

When workpiece height (y) is greater than or equal to $l_2-(d_2/2)$ then (x) is calculated as; $x=(d_2/2)-s$

When workpiece height (y) is less than $l_2-(d_2/2)$ then (x) is calculated as;
$x=(d_2/2)-s-\{[l_2-(d_2/2)-y]*0.123\}$

l_0 = centre distance for mounting holes
y = workpiece height
w = workpiece width
x = distance between side-thrust pin and workpiece edge
s = stroke
z =stop or dowel stop diameter

Tips
Side-thrust pins are ideal for holding, clamping and positioning parts.
Spring colour gives visual indication of spring pressure (N).
Light spring load = natural stainless spring.
Standard spring load = steel spring, blackened.
Heavy spring load = steel spring, blue galvanized.

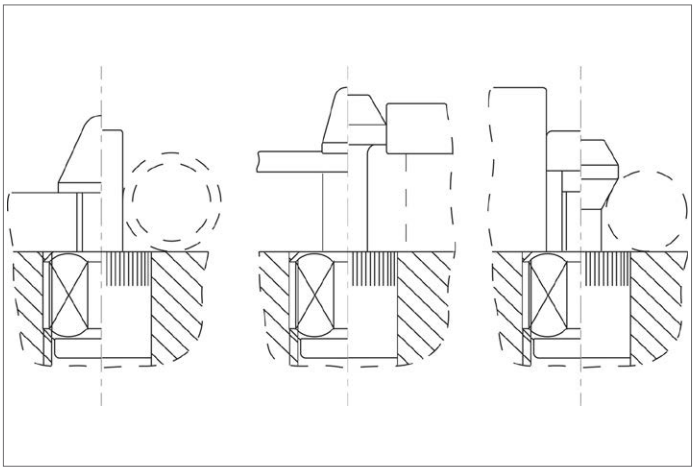
Order No.	Spring load	d_1	d_2	d_3	l_1 -2	l_2	l_3	Weight g
32830.W0401	Light	10	M 4	6.3	11	2.5	4.5	2
32830.W0402	Standard	10	M 4	6.3	11	2.5	4.5	2
32830.W0403	Heavy	10	M 4	6.3	11	2.5	4.5	2
32830.W0404	Light	10	M 4	6.3	11	7.5	4.5	2
32830.W0405	Standard	10	M 4	6.3	11	7.5	4.5	2
32830.W0406	Heavy	10	M 4	6.3	11	7.5	4.5	3
32830.W0407	Light	16	M 6	10.3	18	11.5	7.5	9
32830.W0408	Standard	16	M 6	10.3	18	11.5	7.5	9
32830.W0409	Heavy	16	M 6	10.3	18	11.5	7.5	9

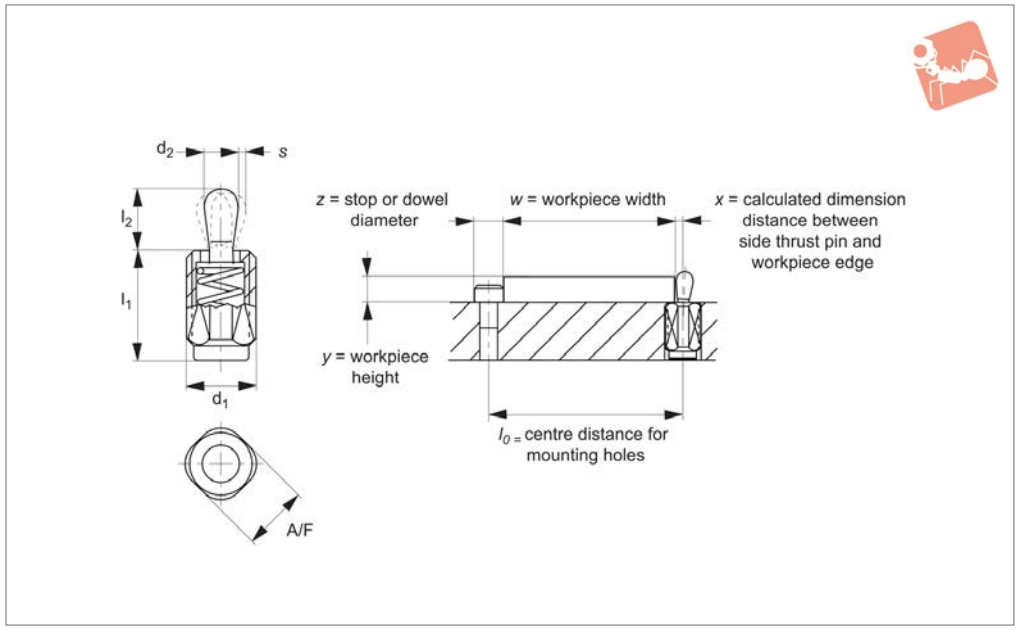
Order No.	l_4	Location hole d_1 tol. H8	Spring colour	Spring pressure N	Stroke s	Temp. resistance °C max.	Fitting tool 32810
32830.W0401	1.8	10	S/S	20	1.6	110	.W0831
32830.W0402	1.8	10	Black	50	1.6	110	.W0831
32830.W0403	1.8	10	Blue	100	1.6	110	.W0831
32830.W0404	1.8	10	S/S	40	2.0	110	.W0831
32830.W0405	1.8	10	Black	75	2.0	110	.W0831
32830.W0406	1.8	10	Blue	100	2.0	110	.W0831
32830.W0407	2.0	16	S/S	100	3.2	110	.W0833
32830.W0408	2.0	16	Black	150	3.2	110	.W0833

Side-Thrust Pins - With Seal

for use with pins of your own design

Order No.	l_4	Location hole d_1 tol. H8	Spring colour	Spring pressure N	Stroke s	Temp. resistance °C max.	Fitting tool 32810
32830.W0409	2.0	16	Blue	200	3.2	110	.W0833





32840

Material

Body: aluminium.
Pin: steel, case hardened and galvanized, or thermoplastic (POM) white.
Spring: steel (blackened or blue galvanized), or stainless steel.

Technical Notes

Press fit installation into hole d_1 to tol. H8, using fitting tool (order separately).
Installation calculations;
A) Calculating centre distance for mounting holes (l_0);
$l_0=(z/2)+w+x$

B) Calculating pin location (x);
When workpiece height (y) is greater than or equal to $l_2-(d_2/2)$ then (x) is calculated as; $x=(d_2/2)-s$
When workpiece height (y) is less than $l_2-(d_2/2)$ then (x) is calculated as;
$x=(d_2/2)-s-\{[l_2-(d_2/2)-y]*0.123\}$

l_0 = centre distance for mounting holes
y = workpiece height
w = workpiece width
x = distance between side-thrust pin and workpiece edge
s = stroke
z =stop or dowel stop diameter

Tips

Side-thrust pins are ideal for holding, clamping and positioning parts.
Spring colour gives visual indication of spring pressure (N).
Light spring load = natural stainless spring.
Standard spring load = steel spring, blackened.
Heavy spring load = steel spring, blue galvanized.

Order No.	Pin material	Spring load	d_1	d_2	l_1 -2	Weight g
32840.W0001	Steel pin	Light	M12	5	11.5	4
32840.W0002	Steel pin	Light	M12	5	19.0	6
32840.W0003	Steel pin	Light	M12	5	26.5	8
32840.W0004	Steel pin	Standard	M12	5	11.5	4
32840.W0005	Steel pin	Standard	M12	5	19.0	6
32840.W0006	Steel pin	Standard	M12	5	26.5	8
32840.W0007	Steel pin	Heavy	M12	5	11.5	4
32840.W0008	Steel pin	Heavy	M12	5	19.0	7
32840.W0009	Steel pin	Heavy	M12	5	26.5	9
32840.W0010	Steel pin	Light	M12	6	11.5	5
32840.W0011	Steel pin	Light	M12	6	19.0	6
32840.W0012	Steel pin	Light	M12	6	26.5	8
32840.W0013	Steel pin	Standard	M12	6	11.5	5
32840.W0014	Steel pin	Standard	M12	6	19.0	7
32840.W0015	Steel pin	Standard	M12	6	26.5	10
32840.W0016	Steel pin	Heavy	M12	6	11.5	5
32840.W0017	Steel pin	Heavy	M12	6	19.0	8
32840.W0018	Steel pin	Heavy	M12	6	26.5	10
32840.W0019	Steel pin	Light	M18x1,5	10	18.0	19
32840.W0020	Steel pin	Light	M18x1,5	10	31.5	28
32840.W0021	Steel pin	Light	M18x1,5	10	45.0	36
32840.W0022	Steel pin	Standard	M18x1,5	10	18.0	20
32840.W0023	Steel pin	Standard	M18x1,5	10	31.5	29

Side-Thrust Pins - Threaded

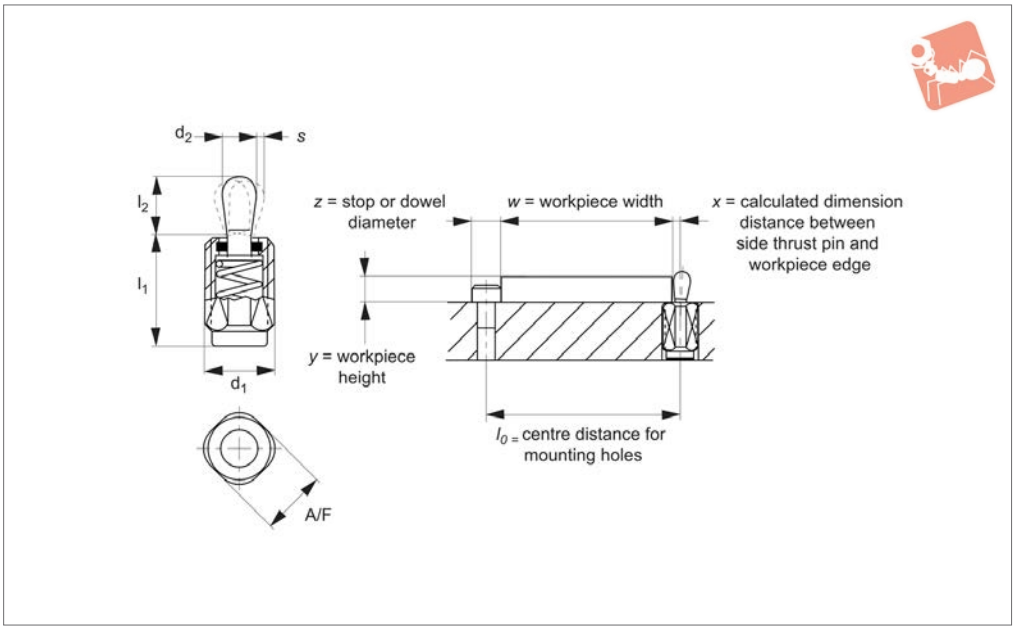
without seal

Order No.	Pin material	Spring load	d_1	d_2	l_1 -2	Weight g
32840.W0024	Steel pin	Standard	M18x1,5	10	45.0	39
32840.W0025	Steel pin	Heavy	M18x1,5	10	18.0	21
32840.W0026	Steel pin	Heavy	M18x1,5	10	31.5	30
32840.W0027	Steel pin	Heavy	M18x1,5	10	45.0	40
32840.W0401	Plastic pin	Light	M12	5	11.5	3
32840.W0402	Plastic pin	Light	M12	5	19.0	4
32840.W0403	Plastic pin	Light	M12	5	26.5	6
32840.W0410	Plastic pin	Light	M12	6	11.5	3
32840.W0411	Plastic pin	Light	M12	6	19.0	5
32840.W0412	Plastic pin	Light	M12	6	26.5	7
32840.W0419	Plastic pin	Light	M18x1,5	10	18.0	12
32840.W0420	Plastic pin	Light	M18x1,5	10	31.5	20
32840.W0421	Plastic pin	Light	M18x1,5	10	45.0	30

Order No.	l_2	A/F	Spring colour	Spring pressure N	Stroke s	Temp. resistance °C max.	Fitting tool 32840
32840.W0001	6.4	10	S/S	20	1.6	250	.W0820
32840.W0002	6.4	10	S/S	20	1.6	250	.W0820
32840.W0003	6.4	10	S/S	20	1.6	250	.W0820
32840.W0004	6.4	10	Black	50	1.6	250	.W0820
32840.W0005	6.4	10	Black	50	1.6	250	.W0820
32840.W0006	6.4	10	Black	50	1.6	250	.W0820
32840.W0007	6.4	10	Blue	100	1.6	250	.W0820
32840.W0008	6.4	10	Blue	100	1.6	250	.W0820
32840.W0009	6.4	10	Blue	100	1.6	250	.W0820
32840.W0010	10.4	10	S/S	40	2.0	250	.W0820
32840.W0011	10.4	10	S/S	40	2.0	250	.W0820
32840.W0012	10.4	10	S/S	40	2.0	250	.W0820
32840.W0013	10.4	10	Black	75	2.0	250	.W0820
32840.W0014	10.4	10	Black	75	2.0	250	.W0820
32840.W0015	10.4	10	Black	75	2.0	250	.W0820
32840.W0016	10.4	10	Blue	100	2.0	250	.W0820
32840.W0017	10.4	10	Blue	100	2.0	250	.W0820
32840.W0018	10.4	10	Blue	100	2.0	250	.W0820
32840.W0019	16.9	16	S/S	100	3.2	250	.W0822
32840.W0020	16.9	16	S/S	100	3.2	250	.W0822
32840.W0021	16.9	16	S/S	100	3.2	250	.W0822
32840.W0022	16.9	16	Black	150	3.2	250	.W0822
32840.W0023	16.9	16	Black	150	3.2	250	.W0822
32840.W0024	16.9	16	Black	150	3.2	250	.W0822
32840.W0025	16.9	16	Blue	200	3.2	250	.W0822
32840.W0026	16.9	16	Blue	200	3.2	250	.W0822
32840.W0027	16.9	16	Blue	200	3.2	250	.W0822
32840.W0401	6.4	10	S/S	20	1.6	80	.W0820
32840.W0402	6.4	10	S/S	20	1.6	80	.W0820
32840.W0403	6.4	10	S/S	20	1.6	80	.W0820
32840.W0410	10.4	10	Black	40	2.0	80	.W0820
32840.W0411	10.4	10	Black	40	2.0	80	.W0820
32840.W0412	10.4	10	Black	40	2.0	80	.W0820
32840.W0419	16.9	16	Blue	100	3.2	80	.W0822
32840.W0420	16.9	16	Blue	100	3.2	80	.W0822
32840.W0421	16.9	16	Blue	100	3.2	80	.W0822

Side-Thrust Pins - Threaded
with seal

32850



Material
Body: steel, zinc-plated by galvanization.
Pin: steel, case hardened and galvanized, or thermoplastic (POM) white.
Spring: steel (blackened or blue galvanized), or stainless steel.
Seal: rubber (CR), 60 shore.

Technical Notes
Press fit installation into hole d_1 to tol. H8, using fitting tool (order separately).
Installation calculations;
A) Calculating centre distance for mounting holes (l_0);
$l_0=(z/2)+w+x$

B) Calculating pin location (x);

When workpiece height (y) is greater than or equal to $l_2-(d_2/2)$ then (x) is calculated as; $x=(d_2/2)-s$

When workpiece height (y) is less than $l_2-(d_2/2)$ then (x) is calculated as;
$x=(d_2/2)-s-\{[l_2-(d_2/2)-y]*0.123\}$

l_0 = centre distance for mounting holes
y = workpiece height
w = workpiece width
x = distance between side-thrust pin and workpiece edge
s = stroke
z =stop or dowel stop diameter

Tips
Side-thrust pins are ideal for holding, clamping and positioning parts.
Spring colour gives visual indication of spring pressure (N).
Light spring load = natural stainless spring.
Standard spring load = steel spring, blackened.
Heavy spring load = steel spring, blue galvanized.

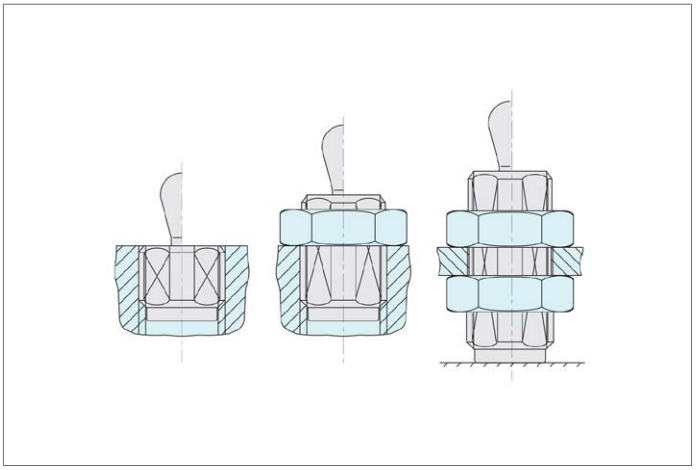
Order No.	Pin material	Spring load	d_1	d_2	l_1 -2	Weight g
32850.W0001	Steel pin	Light	M12	5	11.5	4
32850.W0002	Steel pin	Light	M12	5	19.0	6
32850.W0003	Steel pin	Light	M12	5	26.5	8
32850.W0004	Steel pin	Standard	M12	5	11.5	4
32850.W0005	Steel pin	Standard	M12	5	19.0	6
32850.W0006	Steel pin	Standard	M12	5	26.5	8
32850.W0007	Steel pin	Heavy	M12	5	11.5	4
32850.W0008	Steel pin	Heavy	M12	5	19.0	7
32850.W0009	Steel pin	Heavy	M12	5	26.5	9
32850.W0010	Steel pin	Light	M12	6	11.5	5
32850.W0011	Steel pin	Light	M12	6	19.0	6
32850.W0012	Steel pin	Light	M12	6	26.5	8
32850.W0013	Steel pin	Standard	M12	6	11.5	5
32850.W0014	Steel pin	Standard	M12	6	19.0	7
32850.W0015	Steel pin	Standard	M12	6	26.5	10
32850.W0016	Steel pin	Heavy	M12	6	11.5	5
32850.W0017	Steel pin	Heavy	M12	6	19.0	8
32850.W0018	Steel pin	Heavy	M12	6	26.5	10
32850.W0019	Steel pin	Light	M18x1,5	10	18.0	19
32850.W0020	Steel pin	Light	M18x1,5	10	31.5	28

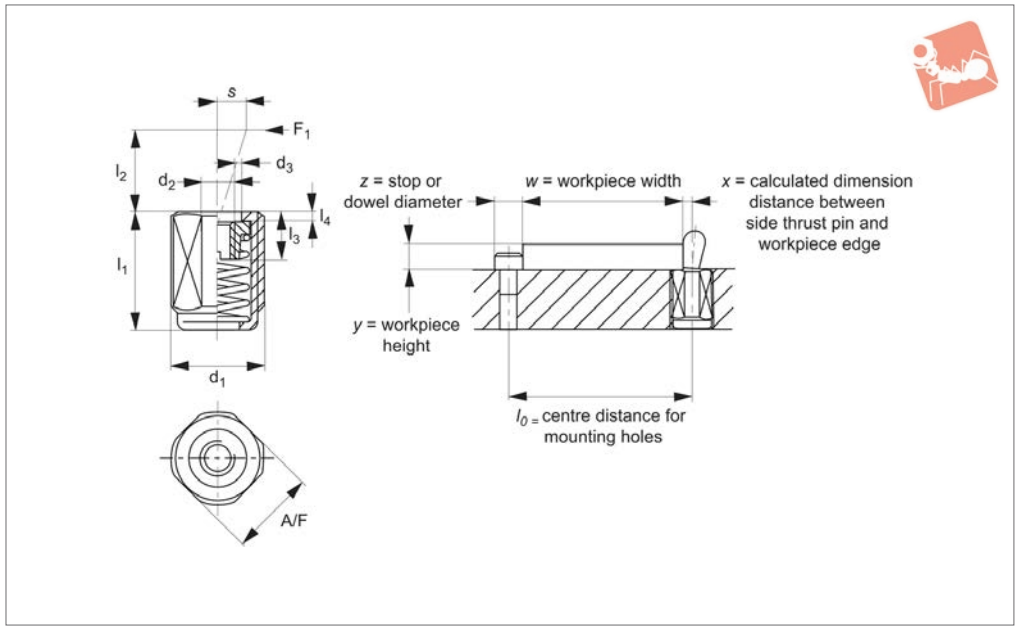
Order No.	Pin material	Spring load	d_1	d_2	l_1 -2	Weight g
32850.W0021	Steel pin	Light	M18x1,5	10	45.0	36
32850.W0022	Steel pin	Standard	M18x1,5	10	18.0	20
32850.W0023	Steel pin	Standard	M18x1,5	10	31.5	29
32850.W0024	Steel pin	Standard	M18x1,5	10	45.0	39
32850.W0025	Steel pin	Heavy	M18x1,5	10	18.0	21
32850.W0026	Steel pin	Heavy	M18x1,5	10	31.5	30
32850.W0027	Steel pin	Heavy	M18x1,5	10	45.0	40
32850.W0401	Plastic pin	Light	M12	5	11.5	3
32850.W0402	Plastic pin	Light	M12	5	19.0	4
32850.W0403	Plastic pin	Light	M12	5	26.5	6
32850.W0410	Plastic pin	Light	M12	6	11.5	3
32850.W0411	Plastic pin	Light	M12	6	19.0	5
32850.W0412	Plastic pin	Light	M12	6	26.5	7
32850.W0419	Plastic pin	Light	M18x1,5	10	18.0	12
32850.W0420	Plastic pin	Light	M18x1,5	10	31.5	20
32850.W0421	Plastic pin	Light	M18x1,5	10	45.0	30

Order No.	l_2	A/F	Spring colour	Spring pressure N	Stroke s	Temp. resistance °C max.	Fitting tool 32840
32850.W0001	6	10	S/S	20	0.8	250	.W0820
32850.W0002	6	10	S/S	20	0.8	250	.W0820
32850.W0003	6	10	S/S	20	0.8	250	.W0820
32850.W0004	6	10	Black	50	0.8	250	.W0820
32850.W0005	6	10	Black	50	0.8	250	.W0820
32850.W0006	6	10	Black	50	0.8	250	.W0820
32850.W0007	6	10	Blue	100	0.8	250	.W0820
32850.W0008	6	10	Blue	100	0.8	250	.W0820
32850.W0009	6	10	Blue	100	0.8	250	.W0820
32850.W0010	10	10	S/S	40	1.0	250	.W0820
32850.W0011	10	10	S/S	40	1.0	250	.W0820
32850.W0012	10	10	S/S	40	1.0	250	.W0820
32850.W0013	10	10	Black	75	1.0	250	.W0820
32850.W0014	10	10	Black	75	1.0	250	.W0820
32850.W0015	10	10	Black	75	1.0	250	.W0820
32850.W0016	10	10	Blue	100	1.0	250	.W0820
32850.W0017	10	10	Blue	100	1.0	250	.W0820
32850.W0018	10	10	Blue	100	1.0	250	.W0820
32850.W0019	16	16	S/S	100	1.6	250	.W0822
32850.W0020	16	16	S/S	100	1.6	250	.W0822
32850.W0021	16	16	S/S	100	1.6	250	.W0822
32850.W0022	16	16	Black	150	1.6	250	.W0822
32850.W0023	16	16	Black	150	1.6	250	.W0822
32850.W0024	16	16	Black	150	1.6	250	.W0822
32850.W0025	16	16	Blue	200	1.6	250	.W0822
32850.W0026	16	16	Blue	200	1.6	250	.W0822
32850.W0027	16	16	Blue	200	1.6	250	.W0822
32850.W0401	6	10	S/S	20	0.8	80	.W0820
32850.W0402	6	10	S/S	20	0.8	80	.W0820
32850.W0403	6	10	S/S	20	0.8	80	.W0820
32850.W0410	10	10	Black	40	1.0	80	.W0820
32850.W0411	10	10	Black	40	1.0	80	.W0820
32850.W0412	10	10	Black	40	1.0	80	.W0820
32850.W0419	16	16	Blue	100	1.6	80	.W0822
32850.W0420	16	16	Blue	100	1.6	80	.W0822
32850.W0421	16	16	Blue	100	1.6	80	.W0822

Side-Thrust Pins - Threaded

with seal





32860.1

Material
Body: aluminium.
Threaded washer: steel, blackened.
Spring: steel (blackened or blue galvanized), or stainless steel.

Technical Notes
Press fit installation into hole d_1 to tol. H8, using fitting tool (order separately).
Installation calculations;
A) Calculating centre distance for mounting holes (l_0);
$l_0=(z/2)+w+x$

B) Calculating pin location (x);

When workpiece height (y) is greater than or equal to $l_2-(d_2/2)$ then (x) is calculated as; $x=(d_2/2)-s$

When workpiece height (y) is less than $l_2-(d_2/2)$ then (x) is calculated as;
$x=(d_2/2)-s-\{[l_2-(d_2/2)-y]*0.123\}$

l_0 = centre distance for mounting holes
y = workpiece height
w = workpiece width
x = distance between side-thrust pin and workpiece edge
s = stroke
z =stop or dowel stop diameter

Tips
Side-thrust pins are ideal for holding, clamping and positioning parts.
Spring colour gives visual indication of spring pressure (N).
Light spring load = natural stainless spring.
Standard spring load = steel spring, blackened.
Heavy spring load = steel spring, blue galvanized.

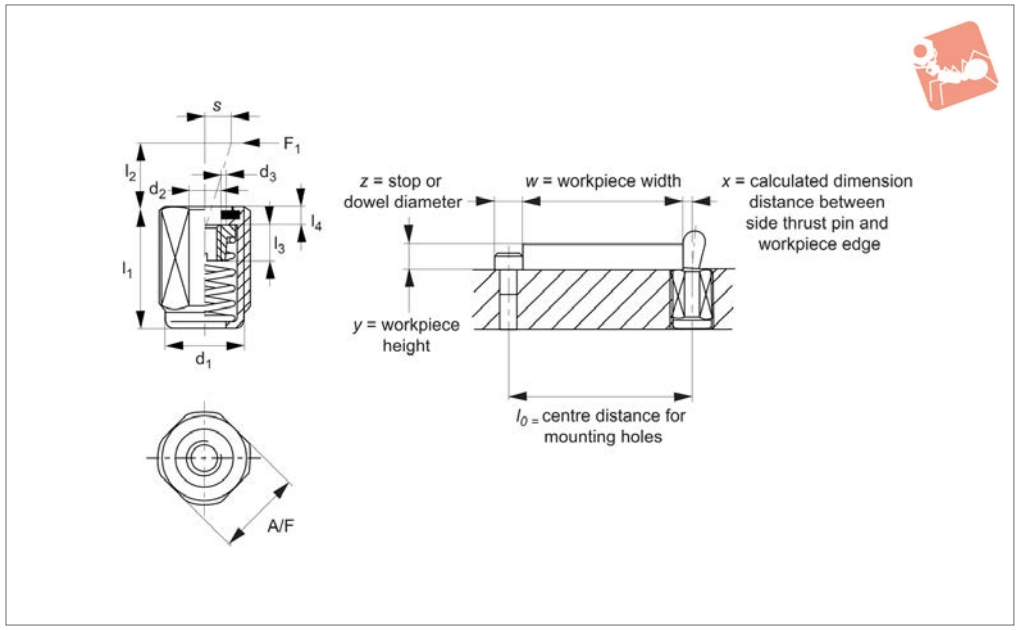
Order No.	Spring load	d_1	d_2	d_3	l_1 -2	l_2	Weight g
32860.W0001	Light	M12	M4	6.1	11.5	4.0	3
32860.W0002	Light	M12	M4	6.1	19.0	4.0	5
32860.W0003	Light	M12	M4	6.1	26.5	4.0	7
32860.W0004	Standard	M12	M4	6.1	11.5	4.0	3
32860.W0005	Standard	M12	M4	6.1	19.0	4.0	6
32860.W0006	Standard	M12	M4	6.1	26.5	4.0	8
32860.W0007	Heavy	M12	M4	6.1	11.5	4.0	4
32860.W0008	Heavy	M12	M4	6.1	19.0	4.0	6
32860.W0009	Heavy	M12	M4	6.1	26.5	4.0	8
32860.W0010	Light	M12	M4	6.1	11.5	7.5	3
32860.W0011	Light	M12	M4	6.1	19.0	7.5	5
32860.W0012	Light	M12	M4	6.1	26.5	7.5	7
32860.W0013	Standard	M12	M4	6.1	11.5	7.5	3
32860.W0014	Standard	M12	M4	6.1	19.0	7.5	6
32860.W0015	Standard	M12	M4	6.1	26.5	7.5	8
32860.W0016	Heavy	M12	M4	6.1	11.5	7.5	4
32860.W0017	Heavy	M12	M4	6.1	19.0	7.5	6
32860.W0018	Heavy	M12	M4	6.1	26.5	7.5	9
32860.W0019	Light	M18x1,5	M6	10.1	18.0	11.5	15
32860.W0020	Light	M18x1,5	M6	10.1	31.5	11.5	23
32860.W0021	Light	M18x1,5	M6	10.1	45.0	11.5	32
32860.W0022	Standard	M18x1,5	M6	10.1	18.0	11.5	14

Side-Thrust Pins - Threaded

without seal - for use with pins of your own design

Order No.	Spring load	d_1	d_2	d_3	l_1 -2	l_2	Weight g
32860.W0023	Standard	M18x1,5	M6	10.1	31.5	11.5	23
32860.W0024	Standard	M18x1,5	M6	10.1	45.0	11.5	32
32860.W0025	Heavy	M18x1,5	M6	10.1	18.0	11.5	14
32860.W0026	Heavy	M18x1,5	M6	10.1	31.5	11.5	23
32860.W0027	Heavy	M18x1,5	M6	10.1	45.0	11.5	32

Order No.	l_3	l_4	A/F	Spring colour	Spring pressure N	Stroke s	Temp. resistance °C max.	Fitting tool 32840
32860.W0001	4.5	1.5	10	S/S	20	1.6	250	.W0820
32860.W0002	4.5	1.5	10	S/S	20	1.6	250	.W0820
32860.W0003	4.5	1.5	10	S/S	20	1.6	250	.W0820
32860.W0004	4.5	1.5	10	Black	50	1.6	250	.W0820
32860.W0005	4.5	1.5	10	Black	50	1.6	250	.W0820
32860.W0006	4.5	1.5	10	Black	50	1.6	250	.W0820
32860.W0007	4.5	1.5	10	Blue	100	1.6	250	.W0820
32860.W0008	4.5	1.5	10	Blue	100	1.6	250	.W0820
32860.W0009	4.5	1.5	10	Blue	100	1.6	250	.W0820
32860.W0010	4.5	1.5	10	S/S	40	2.0	250	.W0820
32860.W0011	4.5	1.5	10	S/S	40	2.0	250	.W0820
32860.W0012	4.5	1.5	10	S/S	40	2.0	250	.W0820
32860.W0013	4.5	1.5	10	Black	75	2.0	250	.W0820
32860.W0014	4.5	1.5	10	Black	75	2.0	250	.W0820
32860.W0015	4.5	1.5	10	Black	75	2.0	250	.W0820
32860.W0016	4.5	1.5	10	Blue	100	2.0	250	.W0820
32860.W0017	4.5	1.5	10	Blue	100	2.0	250	.W0820
32860.W0018	4.5	1.5	10	Blue	100	2.0	250	.W0820
32860.W0019	7.5	1.5	16	S/S	100	3.2	250	.W0822
32860.W0020	7.5	1.5	16	S/S	100	3.2	250	.W0822
32860.W0021	7.5	1.5	16	S/S	100	3.2	250	.W0822
32860.W0022	7.5	1.5	16	Black	150	3.2	250	.W0822
32860.W0023	7.5	1.5	16	Black	150	3.2	250	.W0822
32860.W0024	7.5	1.5	16	Black	150	3.2	250	.W0822
32860.W0025	7.5	1.5	16	Blue	200	3.2	250	.W0822
32860.W0026	7.5	1.5	16	Blue	200	3.2	250	.W0822
32860.W0027	7.5	1.5	16	Blue	200	3.2	250	.W0822



32860.2

Material
Body: aluminium.
Threaded washer: steel, blackened
Spring: steel (blackened or blue galvanized), or stainless steel.
Seal: rubber (CR), 60 shore.

Technical Notes
Press fit installation into hole d_1 to tol. H8, using fitting tool (order separately).
Installation calculations;
A) Calculating centre distance for mounting holes (l_0);
$l_0=(z/2)+w+x$

B) Calculating pin location (x);

When workpiece height (y) is greater than or equal to $l_2-(d_2/2)$ then (x) is calculated as; $x=(d_2/2)-s$

When workpiece height (y) is less than $l_2-(d_2/2)$ then (x) is calculated as;
$x=(d_2/2)-s-\{[l_2-(d_2/2)-y]*0.123\}$

l_0 = centre distance for mounting holes
y = workpiece height
w = workpiece width
x = distance between side-thrust pin and workpiece edge
s = stroke
z =stop or dowel stop diameter

Tips
Side-thrust pins are ideal for holding, clamping and positioning parts.
Spring colour gives visual indication of spring pressure (N).
Light spring load = natural stainless spring.
Standard spring load = steel spring, blackened.
Heavy spring load = steel spring, blue galvanized.

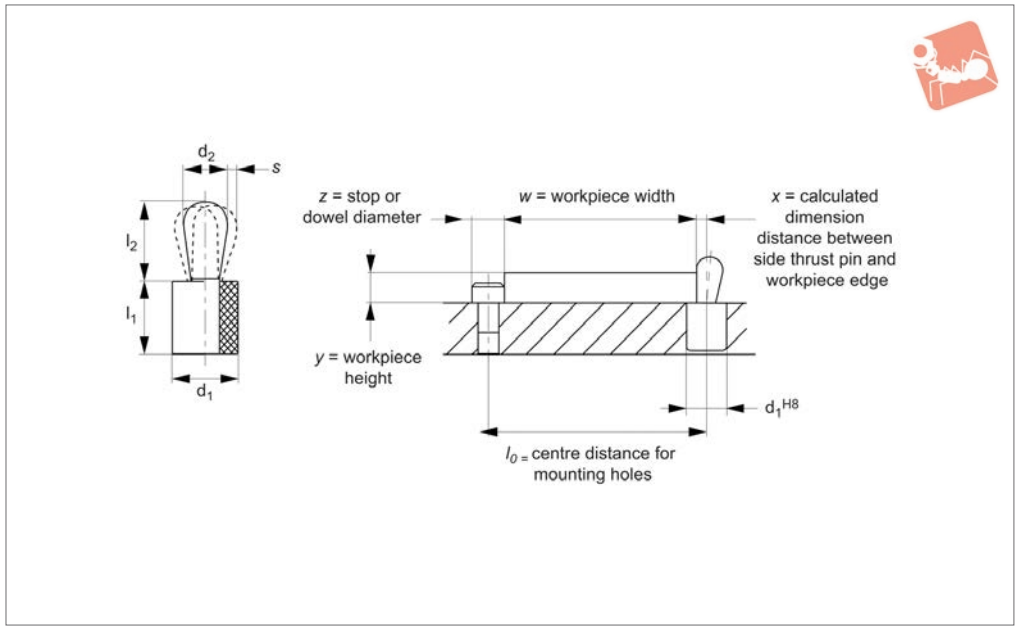
Order No.	Spring load	d_1	d_2	d_3	l_1 -2	l_2	Weight g
32860.W0401	Light	M12	M4	6.1	11.5	4.0	3
32860.W0402	Light	M12	M4	6.1	19.0	4.0	5
32860.W0403	Light	M12	M4	6.1	26.5	4.0	7
32860.W0404	Standard	M12	M4	6.1	11.5	4.0	3
32860.W0405	Standard	M12	M4	6.1	19.0	4.0	6
32860.W0406	Standard	M12	M4	6.1	26.5	4.0	8
32860.W0407	Heavy	M12	M4	6.1	11.5	4.0	4
32860.W0408	Heavy	M12	M4	6.1	19.0	4.0	6
32860.W0409	Heavy	M12	M4	6.1	26.5	4.0	8
32860.W0410	Light	M12	M4	6.1	11.5	7.5	3
32860.W0411	Light	M12	M4	6.1	19.0	7.5	5
32860.W0412	Light	M12	M4	6.1	26.5	7.5	7
32860.W0413	Standard	M12	M4	6.1	11.5	7.5	3
32860.W0414	Standard	M12	M4	6.1	19.0	7.5	6
32860.W0415	Standard	M12	M4	6.1	26.5	7.5	8
32860.W0416	Heavy	M12	M4	6.1	11.5	7.5	4
32860.W0417	Heavy	M12	M4	6.1	19.0	7.5	6
32860.W0418	Heavy	M12	M4	6.1	26.5	7.5	9
32860.W0419	Light	M18x1,5	M6	10.1	18.0	11.5	15
32860.W0420	Light	M18x1,5	M6	10.1	31.5	11.5	23
32860.W0421	Light	M18x1,5	M6	10.1	45.0	11.5	32
32860.W0422	Standard	M18x1,5	M6	10.1	18.0	11.5	14

Side-Thrust Pins - Threaded

with seal - for use with pins of your own design

Order No.	Spring load	d_1	d_2	d_3	l_1 -2	l_2	Weight g
32860.W0423	Standard	M18x1,5	M6	10.1	31.5	11.5	23
32860.W0424	Standard	M18x1,5	M6	10.1	45.0	11.5	32
32860.W0425	Heavy	M18x1,5	M6	10.1	18.0	11.5	14
32860.W0426	Heavy	M18x1,5	M6	10.1	31.5	11.5	23
32860.W0427	Heavy	M18x1,5	M6	10.1	45.0	11.5	32

Order No.	l_3	l_4	A/F	Spring colour	Spring pressure N	Stroke s	Temp. resistance °C max.	Fitting tool 32840
32860.W0401	4.5	2.0	10	S/S	20	1.6	110	.W0820
32860.W0402	4.5	2.0	10	S/S	20	1.6	110	.W0820
32860.W0403	4.5	2.0	10	S/S	20	1.6	110	.W0820
32860.W0404	4.5	2.0	10	Black	50	1.6	110	.W0820
32860.W0405	4.5	2.0	10	Black	50	1.6	110	.W0820
32860.W0406	4.5	2.0	10	Black	50	1.6	110	.W0820
32860.W0407	4.5	2.0	10	Blue	100	1.6	110	.W0820
32860.W0408	4.5	2.0	10	Blue	100	1.6	110	.W0820
32860.W0409	4.5	2.0	10	Blue	100	1.6	110	.W0820
32860.W0410	4.5	2.0	10	S/S	40	2.0	110	.W0820
32860.W0411	4.5	2.0	10	S/S	40	2.0	110	.W0820
32860.W0412	4.5	2.0	10	S/S	40	2.0	110	.W0820
32860.W0413	4.5	2.0	10	Black	75	2.0	110	.W0820
32860.W0414	4.5	2.0	10	Black	75	2.0	110	.W0820
32860.W0415	4.5	2.0	10	Black	75	2.0	110	.W0820
32860.W0416	4.5	2.0	10	Blue	100	2.0	110	.W0820
32860.W0417	4.5	2.0	10	Blue	100	2.0	110	.W0820
32860.W0418	4.5	2.0	10	Blue	100	2.0	110	.W0820
32860.W0419	7.5	2.3	16	S/S	100	3.2	110	.W0822
32860.W0420	7.5	2.3	16	S/S	100	3.2	110	.W0822
32860.W0421	7.5	2.3	16	S/S	100	3.2	110	.W0822
32860.W0422	7.5	2.3	16	Black	150	3.2	110	.W0822
32860.W0423	7.5	2.3	16	Black	150	3.2	110	.W0822
32860.W0424	7.5	2.3	16	Black	150	3.2	110	.W0822
32860.W0425	7.5	2.3	16	Blue	200	3.2	110	.W0822
32860.W0426	7.5	2.3	16	Blue	200	3.2	110	.W0822
32860.W0427	7.5	2.3	16	Blue	200	3.2	110	.W0822



32870

Material

Spring Body: plastic.
Pin: steel, case hardened and galvanized, stainless steel or thermoplastic (POM) white.

Technical Notes

Press fit installation into hole d_1 to tol. H8, using fitting tool (order separately).
Installation calculations;
A) Calculating centre distance for mounting holes (l_0);
$l_0=(z/2)+w+x$

B) Calculating pin location (x);

When workpiece height (y) is greater than or equal to $l_2-(d_2/2)$ then (x) is calculated as; $x=(d_2/2)-s$

When workpiece height (y) is less than $l_2-(d_2/2)$ then (x) is calculated as;
$x=(d_2/2)-s-\{[l_2-(d_2/2)-y]*0.123\}$

l_0 = centre distance for mounting holes
y = workpiece height
w = workpiece width
x = distance between side-thrust pin and workpiece edge
s = stroke
z =stop or dowel stop diameter

Tips

Side-thrust pins are ideal for holding, clamping and positioning parts.
Spring colour gives visual indication of spring pressure (N).
Light spring load = blue plastic.
Standard spring load = red plastic.
Heavy spring load = green plastic.

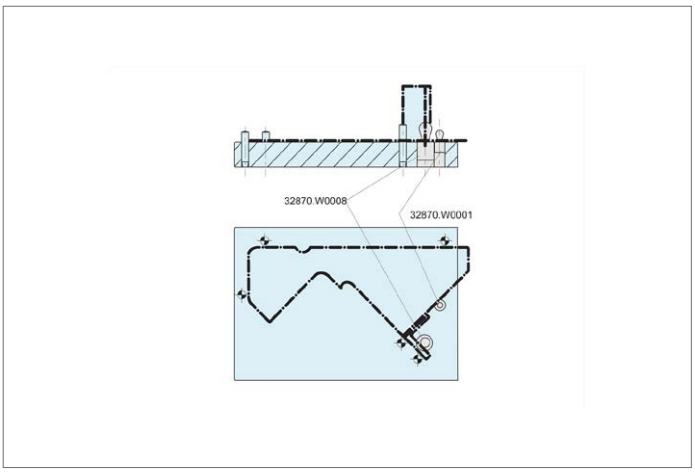
Order No.	Pin material	Spring load	d_1	d_2	l_1 -1	Weight g
32870.W0001	Steel Pin	Light	6	3	7	1
32870.W0002	Steel Pin	Standard	6	3	7	1
32870.W0003	Steel Pin	Light	8	4	9	1
32870.W0004	Steel Pin	Standard	8	4	9	1
32870.W0005	Steel Pin	Light	10	5	9	2
32870.W0006	Steel Pin	Standard	10	5	9	2
32870.W0007	Steel Pin	Heavy	10	5	9	2
32870.W0008	Steel Pin	Light	10	6	9	3
32870.W0009	Steel Pin	Standard	10	6	9	3
32870.W0010	Steel Pin	Heavy	10	6	9	3
32870.W0012	Steel Pin	Standard	12	8	13	7
32870.W0013	Steel Pin	Heavy	12	8	13	7
32870.W0014	Steel Pin	Standard	16	10	16	15
32870.W0015	Steel Pin	Heavy	16	10	16	15
32870.W0401	Plastic Pin	Light	6	3	7	1
32870.W0402	Plastic Pin	Standard	6	3	7	1
32870.W0403	Plastic Pin	Light	8	4	9	1
32870.W0404	Plastic Pin	Standard	8	4	9	1
32870.W0405	Plastic Pin	Light	10	5	9	2
32870.W0406	Plastic Pin	Standard	10	5	9	2
32870.W0407	Plastic Pin	Heavy	10	5	9	2
32870.W0408	Plastic Pin	Light	10	6	9	3
32870.W0409	Plastic Pin	Standard	10	6	9	3

Side-Thrust Pins
with plastic spring

Order No.	Pin material	Spring load	d_1	d_2	l_1 -1	Weight g
32870.W0410	Plastic Pin	Heavy	10	6	9	3
32870.W0412	Plastic Pin	Standard	12	8	13	7
32870.W0413	Plastic Pin	Heavy	12	8	13	7
32870.W0414	Plastic Pin	Standard	16	10	16	15
32870.W0415	Plastic Pin	Heavy	16	10	16	15
32870.W0601	Stainless Pin	Light	6	3	7	1
32870.W0602	Stainless Pin	Standard	6	3	7	1
32870.W0603	Stainless Pin	Light	8	4	9	1
32870.W0604	Stainless Pin	Standard	8	4	9	1
32870.W0605	Stainless Pin	Light	10	5	9	2
32870.W0606	Stainless Pin	Standard	10	5	9	2
32870.W0607	Stainless Pin	Heavy	10	5	9	2
32870.W0608	Stainless Pin	Light	10	6	9	3
32870.W0609	Stainless Pin	Standard	10	6	9	3
32870.W0610	Stainless Pin	Heavy	10	6	9	3
32870.W0612	Stainless Pin	Standard	12	8	13	7
32870.W0613	Stainless Pin	Heavy	12	8	13	7
32870.W0614	Stainless Pin	Standard	16	10	16	15
32870.W0615	Stainless Pin	Heavy	16	10	16	15
32870.W0840	Fitting Tool	-	-	-	-	23
32870.W0841	Fitting Tool	-	-	-	-	47
32870.W0842	Fitting Tool	-	-	-	-	46
32870.W0843	Fitting Tool	-	-	-	-	98
32870.W0844	Fitting Tool	-	-	-	-	145

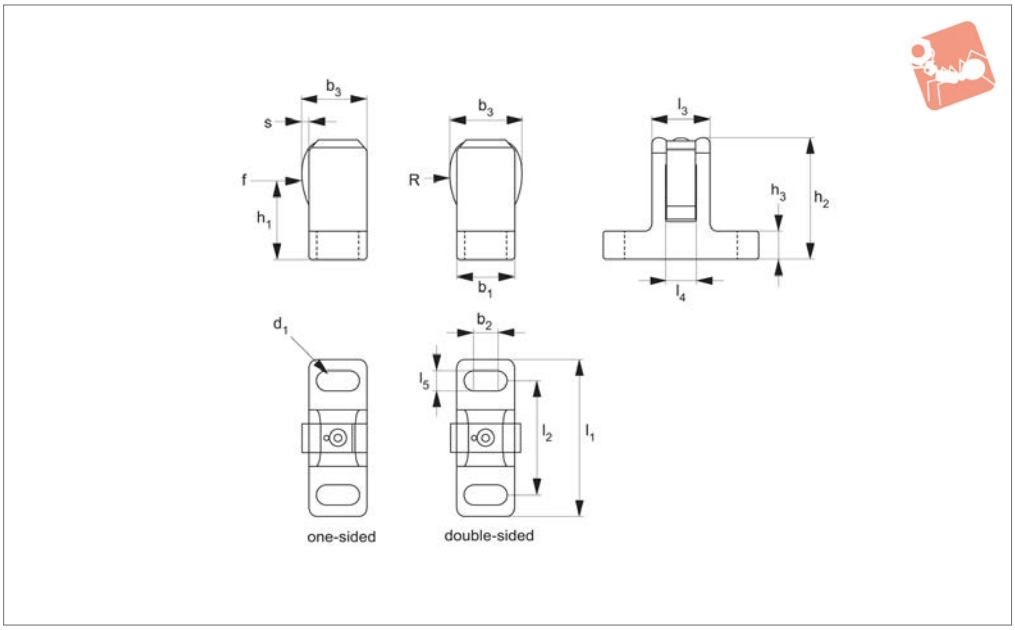
Order No.	l_2 ±0.5	Location hole d_1 tol. H8	Spring colour	Spring pressure N	Stroke s	Temp. resistance °C max.	Fitting tool 32870
32870.W0001	3.7	5.9	Blue	10	0.4	100	.W0840
32870.W0002	3.7	5.9	Red	20	0.4	100	.W0840
32870.W0003	5.2	7.9	Blue	15	0.6	100	.W0841
32870.W0004	5.2	7.9	Red	30	0.6	100	.W0841
32870.W0005	7.3	9.9	Blue	30	0.8	100	.W0842
32870.W0006	7.3	9.9	Red	60	0.8	100	.W0842
32870.W0007	7.3	9.9	Green	90	0.8	100	.W0842
32870.W0008	10.3	9.9	Blue	20	1.0	100	.W0842
32870.W0009	10.3	9.9	Red	30	1.0	100	.W0842
32870.W0010	10.3	9.9	Green	60	1.0	100	.W0842
32870.W0012	13.3	11.6	Red	50	1.2	100	.W0843
32870.W0013	13.3	11.9	Green	100	1.2	100	.W0843
32870.W0014	16.9	15.9	Red	60	1.6	100	.W0844
32870.W0015	16.9	15.9	Green	160	1.6	100	.W0844
32870.W0401	3.7	5.9	Blue	10	0.4	100	.W0840
32870.W0402	3.7	5.9	Red	20	0.4	100	.W0840
32870.W0403	5.2	7.9	Blue	15	0.6	100	.W0841
32870.W0404	5.2	7.9	Red	30	0.6	100	.W0841
32870.W0405	7.3	9.9	Blue	30	0.8	100	.W0842
32870.W0406	7.3	9.9	Red	60	0.8	100	.W0842
32870.W0407	7.3	9.9	Green	90	0.8	100	.W0842
32870.W0408	10.3	9.9	Blue	20	1.0	100	.W0842
32870.W0409	10.3	9.9	Red	30	1.0	100	.W0842
32870.W0410	10.3	9.9	Green	60	1.0	100	.W0842
32870.W0412	13.3	11.6	Red	50	1.2	100	.W0843
32870.W0413	13.3	11.9	Green	100	1.2	100	.W0843
32870.W0414	16.9	15.9	Red	60	1.6	100	.W0844
32870.W0415	16.9	15.9	Green	160	1.6	100	.W0844
32870.W0601	3.7	5.9	Blue	10	0.4	100	.W0840
32870.W0602	3.7	5.9	Red	20	0.4	100	.W0840
32870.W0603	5.2	7.9	Blue	15	0.6	100	.W0841
32870.W0604	5.2	7.9	Red	30	0.6	100	.W0841
32870.W0605	7.3	9.9	Blue	30	0.8	100	.W0842
32870.W0606	7.3	9.9	Red	60	0.8	100	.W0842
32870.W0607	7.3	9.9	Green	90	0.8	100	.W0842
32870.W0608	10.3	9.9	Blue	20	1.0	100	.W0842
32870.W0609	10.3	9.9	Red	30	1.0	100	.W0842
32870.W0610	10.3	9.9	Green	60	1.0	100	.W0842
32870.W0612	13.3	11.6	Red	50	1.2	100	.W0843
32870.W0613	13.3	11.9	Green	100	1.2	100	.W0843

Order No.	l_2 ±0.5	Location hole d_1 tol. H8	Spring colour	Spring pressure N	Stroke s	Temp. resistance °C max.	Fitting tool 32870
32870.W0614	16.9	15.9	Red	60	1.6	100	.W0844
32870.W0615	16.9	15.9	Green	160	1.6	100	.W0844
32870.W0840	-	-	-	-	-	-	-
32870.W0841	-	-	-	-	-	-	-
32870.W0842	-	-	-	-	-	-	-
32870.W0843	-	-	-	-	-	-	-
32870.W0844	-	-	-	-	-	-	-



Lateral Spring Plungers
with sheet steel spring

32802



Material
Body: steel, blackened.
Spring element: stainless steel.

Technical Notes
Simple and secure positioning of work pieces or components. If component is mounted below height h_1, a down hold clamping effect is present. Double sided version, ideal for multi-component clamping.

Max. temperature resistance 250°C

Order No.	Finish	d_1 for screw	h_1	h_2 ±1	h_3	l_1 ±1	l_2	l_3	l_4	Weight g
32802.W0006	One-Sided	M 6	28.5	43.0	10	55	40	20	10	130
32802.W0012	One-Sided	M12	40.5	61.5	15	72	50	23	12	255
32802.W0206	Double-Sided	M 6	28.5	42.5	10	55	40	20	10	135
32802.W0212	Double-Sided	M12	40.5	61.5	15	72	50	23	12	260

Order No.	l_5	b_1 ±0.5	b_2	b_3	s	Spring load F N ≈	R
32802.W0006	6.6	20	8	22.5	1.5	55	22.5
32802.W0012	13.5	25	6	29.0	1.5	170	32.8
32802.W0206	6.6	20	8	25.0	1.5	55	22.5
32802.W0212	13.5	25	6	33.5	1.5	170	32.8

A Wide Selection of Solutions

Applications

- Locating and positioning.
- Indexing.
- Securing.
- Positive locking.
- Rapid adjustment of all kinds of tables, platforms and fixtures.
- Machine and fixture design.
- OEM products.
- Sports equipment.
- Medical aides (wheelchairs etc.).
- Aerospace.
- Machine cabinets.

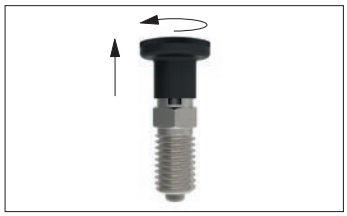
Materials

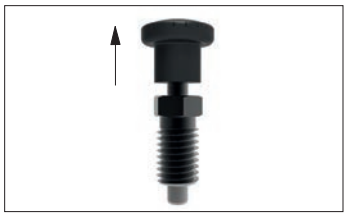

Steel with plastic grip

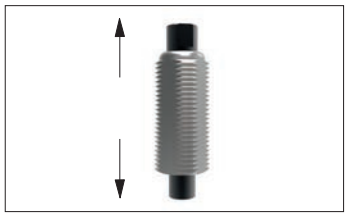

Stainless with plastic grip


Stainless body and grip

Locking or Non Locking


Locking (park)


Non locking (spring back)


Push pull

Handling and Actuation Methods


Standard grip


Lever grip


T-handle


Pull ring


Threaded for bespoke handle

Mounting Options


Fine threaded (standard)


Coarse thread


Flange mount


Thin wall mount


Weldable

Additional Technical Notes

- Unless otherwise stated, grips on index plungers are not removable.
- Many of the pins on index plungers are toleranced to either the pin or the hole. Please refer to the specific product table.
- Index plungers are not recommended for shear load applications.

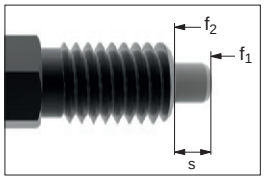
	Pin Tol.	Hole Tol.
1	h_9	+0,03 +0,08
2	-0,02 -0,04	H_7

Spring Loads

s Stroke, or movement of plunger's pin.

f_1 The force required in Newtons (N) to over come the static strength of the spring and achieve initial movement of the plunger's pin.

f_2 The force required in Newtons (N) to fully compress the spring until the pin is fully depressed against the plunger's body.



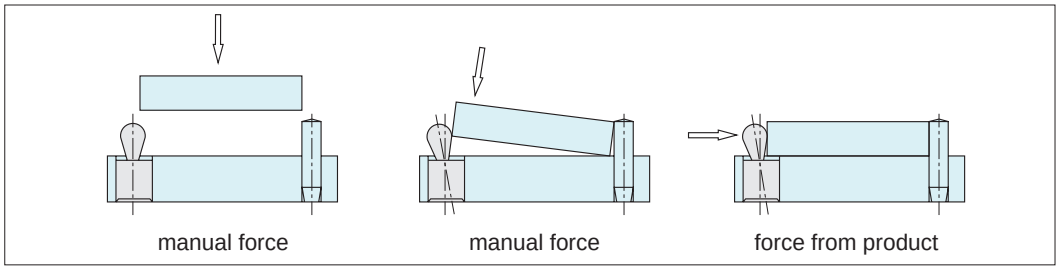
Wixroyd Side-Thrust Pins

for clamping, positioning and holding components

Wixroyd side-thrust pins are an economical way to clamp, hold and position components – from low height PCB's to relatively large castings.

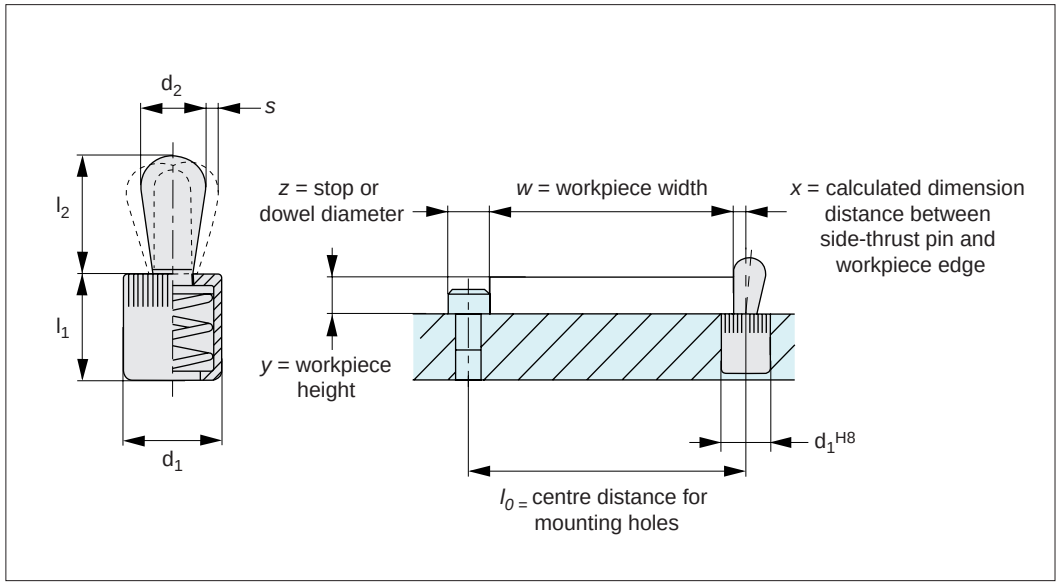
Easy to Use

Simple to mount, easy to use and space saving.



- Easy handling.
- Minimum mounting space.
- Simple and rapid changeover.
- Ideal for flat pieces.
- Reduced clamping times.
- Constant clamping pressure.

Installation Calculations of Side Thrust Pins



A) Calculating centre distance for mounting holes (l_0);

$l_0=(z/2)+w+x$

B) Calculating pin location (x);

When workpiece height (y) is greater than or equal to $l_2-(d_2/2)$ then (x) is calculated as;
$x=(d_2/2)-s$

When workpiece height (y) is less than $l_2-(d_2/2)$ then (x) is calculated as;
$x=(d_2/2)-s-\{[l_2-(d_2/2)-y]*0.123\}$

l_0 = centre distance for mounting holes

y = workpiece height

w = workpiece width

x = distance between side-thrust pin and workpiece edge

s = stroke

z = stop or dowel stop diameter

The best selection of side thrust pins is made with consideration to the following four factors:

a) Pin size Ø
b) Pin material
c) Sealed or non-sealed pin
d) Required pin force

Pin Size Ø

Pin size Ø	Application
3 mm	Circuit boards, thin metals
4 mm	Electronics, measuring equipment, small precise parts
5 mm	Drilling jigs, sheet metal, measuring devices, welding fixtures
6 mm	Fixtures for light machine parts and castings
8 mm	Fixtures for medium machine parts and castings
10 mm	Fixtures for heavy machine parts and castings

Pin Material

Plastic pins for sensitive parts. Steel pins for other parts. Stainless steel pins in corrosive environments.

Sealed or Non-sealed Pin

With/without seal	Application	Operation
Use side-thrust pins with seal e.g. 32820, 32850 etc	Milling, drilling, reaming, broaching, honing, engraving	Machining
	Washing, polishing, painting, sand blasting	After machining
Use side-thrust pins without seal e.g. 32810, 32840 etc	Gluing, welding, hard soldering	Prior to machining
	Gripping, inserting, fitting	Final mounting
	Measuring, controlling, loading	Quality assurance
	Soft soldering, checking	Processing circuit boards

Pinforce - Guide Only

Positioning applications 30 - 60 N. Clamping applications 90 - 150 N.

Compression Spring Type

Available in an aluminium body, and in various spring pressures from 10 to 300N. Each pin size is usually available in 3 spring pressures.

Pressure	Low	Medium	High
Spring Colour	Stainless	Black	Blue

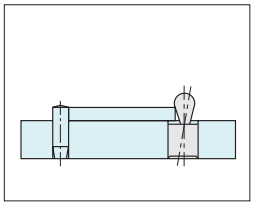
Elastomer Spring Type

Available in elastomer body and in various spring pressures from 10 to 160N.

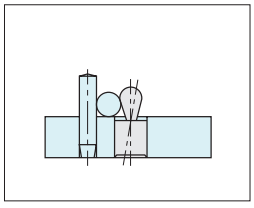
Typical Applications

Side-thrust pins find applications in the following industries and more:

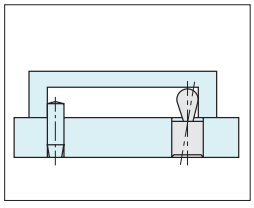
- Automotive.
- Aviation.
- Electronics.
- Computing.
- Plastics.
- Medical.
- Precision engineering.
- Tool manufacturing.



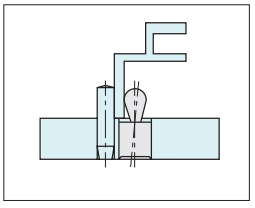
Positioning and clamping even extremely flat parts (e.g. metal sheets and printed circuit boards).



Positioning and clamping round metal using the deep drawing effect.

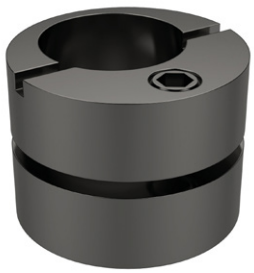


Space saving positioning and clamping from the inside to the outside.



Positioning and clamping different profiles when welding. Material expansions compensated for by flexibility of the side-thrust pin.

Eccentric Bushings Mounting
smooth - for lateral plungers



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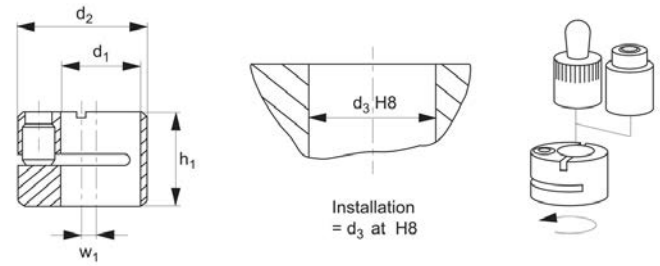
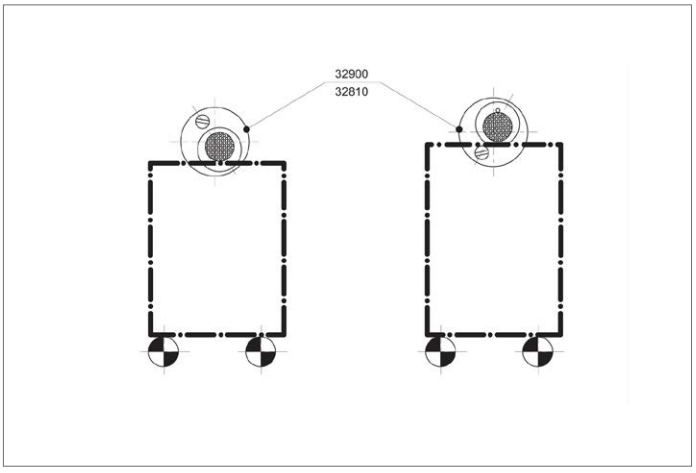
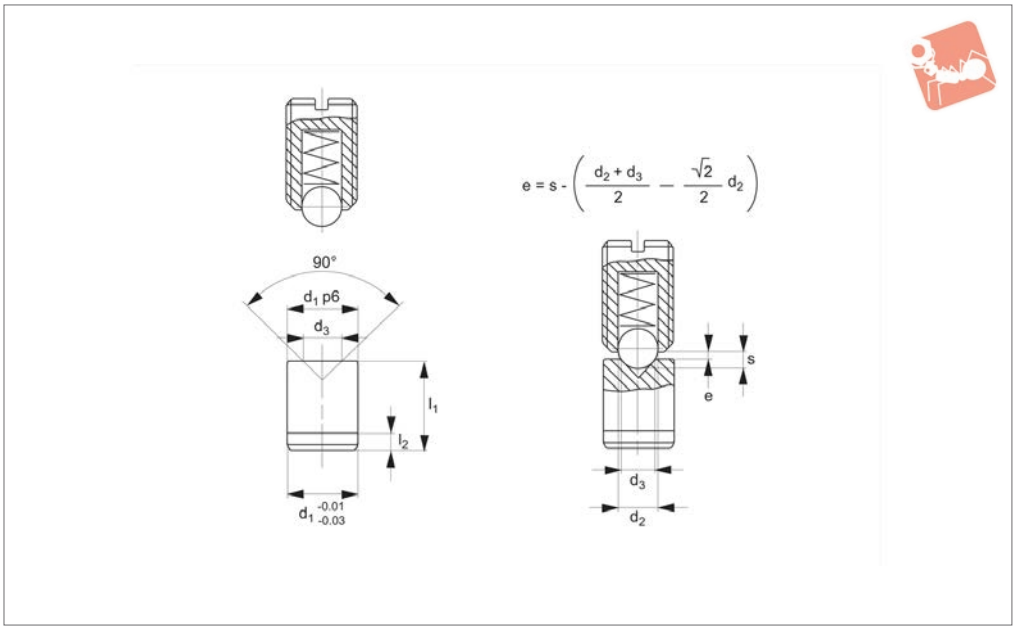


Material
Steel, blackend.

Technical Notes
The eccentric bushings are used to position side-thrust pins nos. 32810, 32820 and side-thrust roller bearing no. 32880 when workpieces have large tolerances.

Order No.	d_1 tol. H8	d_2 tol. h9	d_3 tol. H8	w_1	h_1	Weight g
32900.W0001	6	12	12	2	9.9	6
32900.W0003	10	16	16	2	11.9	10
32900.W0004	12	18	18	2	13.9	13
32900.W0005	16	25	25	3	17.9	35





32440

Material
Burnished, ground, hardened steel.

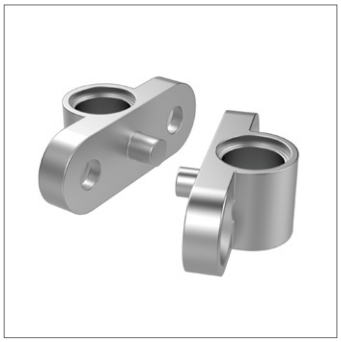
Technical Notes
Striker bushings are used together with spring plungers when a contact surface is required with high resistance. In particular they are recommended for use with spring plungers equipped with high load value and those with increased spring loads.

Tips
For dimensions d2 and s, please see corresponding spring plunger. Striker bushes are for use with Wixroyd nos. 31500, 32100, 32150, 32200 & 32300 see stated ‚e' values for each type.

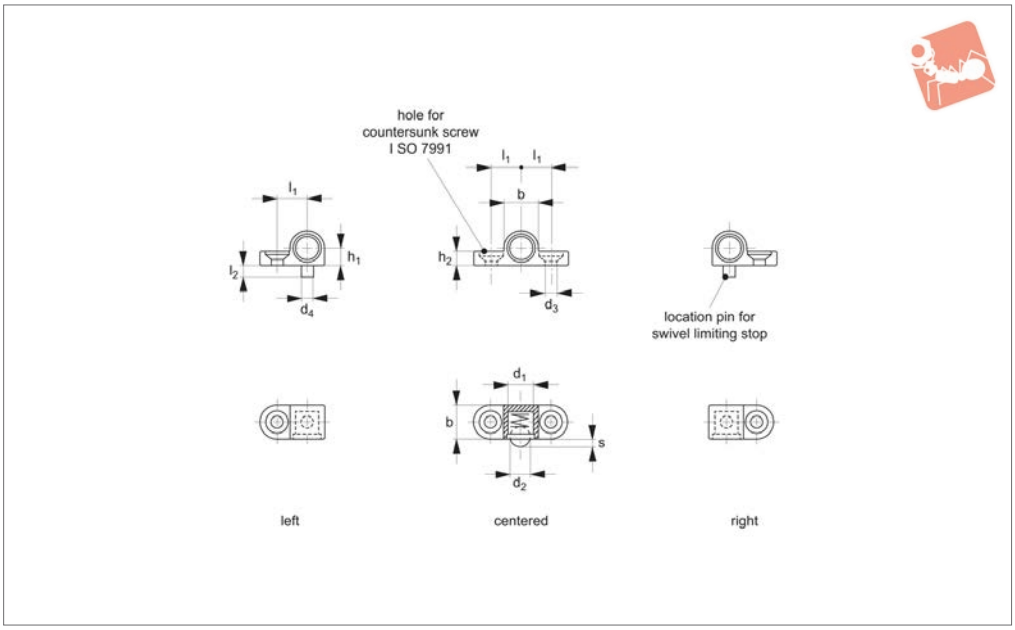
Order No.	d_1 tol. p6	d 2 & s	d_3	l_1 ±0.05	Weight g
32440.W0004	4	See corresponding plunger table	1.5	5	1
32440.W0005	5	See corresponding plunger table	2.0	6	1
32440.W0006	6	See corresponding plunger table	2.0	8	2
32440.W0008	8	See corresponding plunger table	3.0	10	4
32440.W0010	10	See corresponding plunger table	4.0	12	7
32440.W0012	12	See corresponding plunger table	6.0	14	12
32440.W0016	16	See corresponding plunger table	8.0	18	26

Order No.	l_2	For 32100 e =	For 32150 e =	For 32200 e =	For 32300 e =
32440.W0004	2	M_4 = 0,6	M_4 = 1,1	M_4 = 1,1	-
32440.W0005	2	M_5 = 0,4	M_5 = 1,5	M_5 = 1,8	Ø 4 mm = 0,4
32440.W0006	2	M_6 = 0,6	M_6 = 1,6	M_6 = 2,1	Ø 5 mm = 0,8
32440.W0008	2	M_8 = 0,9	M_8 = 1,3	M_8 = 2,2	Ø 6 mm = 1,1
32440.W0010	3	M10 = 1,2	M10 = 1,4	M10 = 1,8	Ø 8 mm = 1,2
32440.W0012	3	M12 = 1,2	M12 = 1,7	M12 = 2,2	Ø 10 mm = 1,9
32440.W0016	3	M16 = 1,6	M16 = 2,3	M16 = 2,5	Ø 12 mm = 1,9

Spring Plunger Holder
for part no. 32300



32450



Material
Die-cast zinc, nickel plated.

Technical Notes
Left, right and centre mounting options available.

Tips
Assist in the easy mounting of smooth bodied spring plunger 32300<X\ 32300#26>, their small dimensions make them ideal for confined spaces.

Order No.	Type	Ball dia. plunger 32300 d_2	Body dia. plunger 32300 d_1 -0.05	d_3 for countersunk screw ISO 7991	d_4 -0.05	b	h_1 ±0.05	h_2	l_1 ±0.05	l_2	w -0.1 | stroke
32450.W0006	Left	5,0	6	M 3-3,2	3	8,5	4,25	3,2	7,5	3	1,5
32450.W0008	Left	6,5	8	M 4-4,3	4	10,5	5,25	4,2	9,5	4	1,8
32450.W0016	Right	5,0	6	M 3-3,2	3	8,5	4,25	3,2	7,5	3	1,5
32450.W0018	Right	6,5	8	M 4-4,3	4	10,5	5,25	4,2	9,5	4	1,8
32450.W0026	Centered	5,0	6	M 3-3,2	3	8,5	4,25	3,2	7,5	3	1,5
32450.W0028	Centered	6,5	8	M 4-4,3	4	10,5	5,25	4,2	9,5	4	1,8