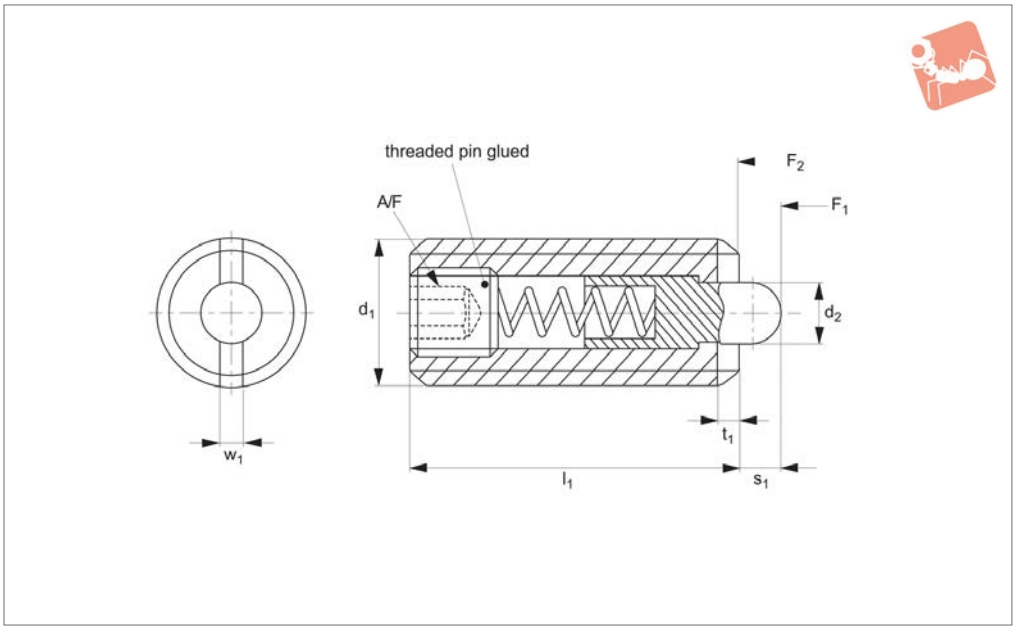


32200

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	d_3	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

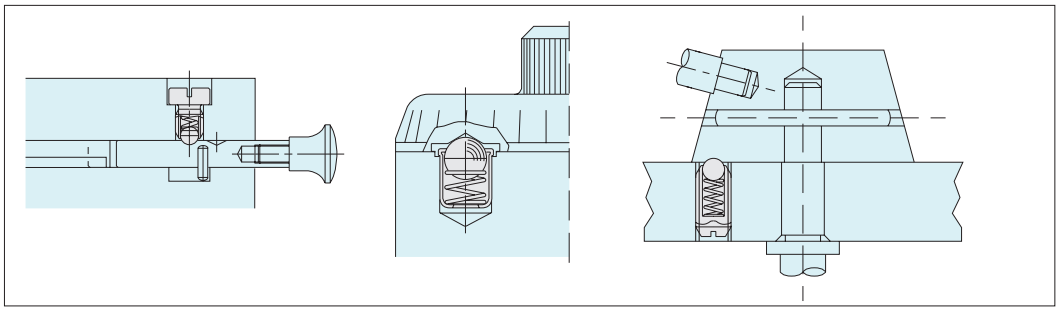
with pin end & hex. socket - stainless steel

Order No.	Spring load	Finish	d_1	d_2	d_3	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.W0403	Normal	Stainless	M 3	1	-	12	1.0	2.0	4	0.5	0.4	0.7	0.9
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.W0505	Increased	Stainless	M 5	2.4	-	18	2.3	15.0	44	0.8	1.2	1.5	2.2
32200.W0506	Increased	Stainless	M 6	2.7	-	20	2.5	20.0	50	0.9	1.3	2.0	4.1
32200.W0508	Increased	Stainless	M 8	3.5	-	22	3.0	26.0	70	1.4	1.5	2.5	7.4
32200.W0510	Increased	Stainless	M10	4.0	-	22	3.0	26.0	70	1.4	1.5	3.0	12.4
32200.W0512	Increased	Stainless	M12	6.0	-	28	4.0	51.0	122	2.0	2.7	4.0	22.2
32200.W0516	Increased	Stainless	M16	7.5	-	32	5.0	72.0	164	2.5	3.2	5.0	46.1
32200.W0520	Increased	Stainless	M20	10.0	-	40	7.0	93.0	211	3.0	3.7	7.0	86.5
32200.W0524	Increased	Stainless	M24	12.0	-	52	10.0	86.0	247	3.0	3.7	10.0	167.0
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.W0705	Normal	S/S, Thermo Pin	M 5	2.4	-	18	2.3	15.0	44	0.8	1.2	1.5	1.9
32200.W0706	Normal	S/S, Thermo Pin	M 6	2.7	-	20	2.5	20.0	50	0.9	1.3	2.0	3.6
32200.W0708	Normal	S/S, Thermo Pin	M 8	3.5	-	22	3.0	26.0	70	1.4	1.5	2.5	6.6
32200.W0710	Normal	S/S, Thermo Pin	M10	4.0	-	22	3.0	26.0	70	1.4	1.5	3.0	11.4
32200.W0712	Normal	S/S, Thermo Pin	M12	6.0	-	28	4.0	51.0	122	2.0	2.7	4.0	20.0
32200.W0716	Normal	S/S, Thermo Pin	M16	7.5	-	32	5.0	72.0	164	2.5	3.2	5.0	42.7
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
32200.W0903	-	Assembly tool	M 3	50	2.35	-	-	-	-	-	-	-	17
32200.W0904	-	Assembly tool	M 4	50	3.00	-	-	-	-	-	-	-	18
32200.W0905	-	Assembly tool	M 5	50	4.00	-	-	-	-	-	-	-	21
32200.W0906	-	Assembly tool	M 6	60	4.70	-	-	-	-	-	-	-	30
32200.W0908	-	Assembly tool	M 8	60	6.45	-	-	-	-	-	-	-	39
32200.W0910	-	Assembly tool	M10	80	8.00	-	-	-	-	-	-	-	66
32200.W0912	-	Assembly tool	M12	80	9.80	-	-	-	-	-	-	-	72
32200.W0916	-	Assembly tool	M16	100	13.50	-	-	-	-	-	-	-	144
32200.W0920	-	Assembly tool	M20	100	17.00	-	-	-	-	-	-	-	162

Order No.	Spring load	Finish	d_1	d_2	d_3	l_1	s_1	Spring load F_1 N ≈	Spring load F_2 N ≈	t_1	w_1	A/F	Weight g
32200.W0838	-	Assembly tool	M24	100	19.90	-	-	-	-	-	-	-	258

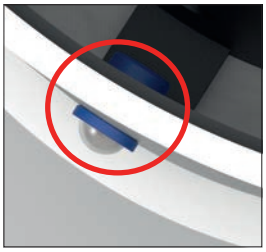
Wixroyd Spring Plungers - A Range of Endless Possibilities

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!



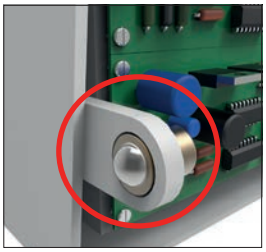
Commercial Lighting

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

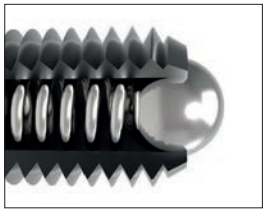
- For location, applying pressure and "lifting off".
- Securing and positioning.
- Positive locking and indexing.
- Quick release.

Industry Sectors

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

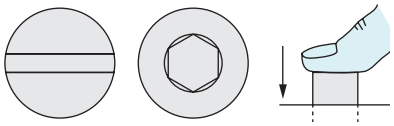
Wixroyd Spring Plungers - Uses and Mounting Options

Ball Type



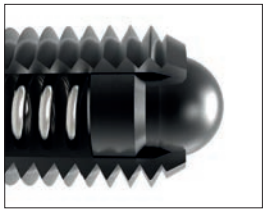
- 31400
- 31420
- 31500
- 32000
- 32100
- 32102
- 32280
- 32300
- 32302
- 32350

Mounting Options



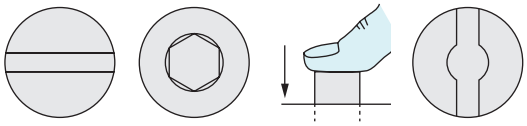
Rear slot | Rear hexagon | Push fit

Pin Head Type



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

Mounting Options



Rear slot | Rear hexagon | Push fit | Front slot

Wixroyd AN ESSENTRA COMPANY

wixroyd.com

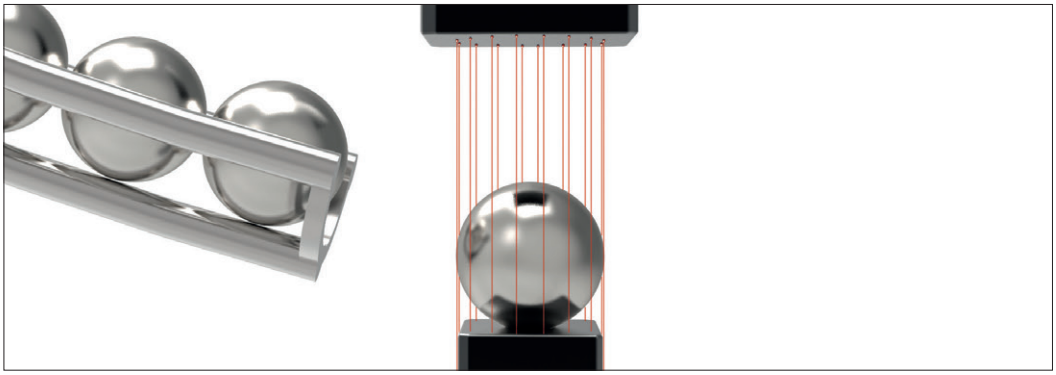
Quality products every time

- 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.

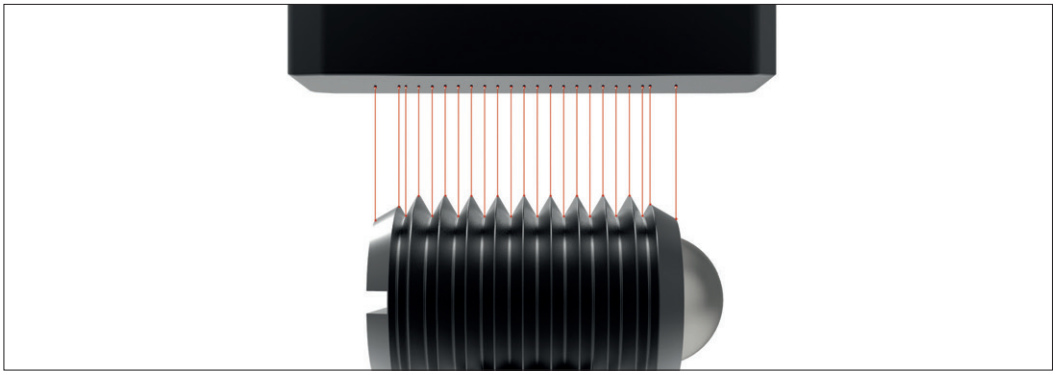
100% Testing

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)

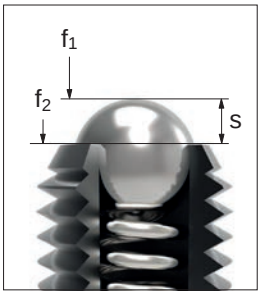
Thread (D)	3	3,5	4	4,5	5	6	7	8	10	12	14	16	18	20	22	24
Pitch	0,5	0,6	0,7	0,75	0,8	1,0	1,0	1,25	1,5	1,75	2,00	2,0	2,5	2,5	2,5	3,0

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.

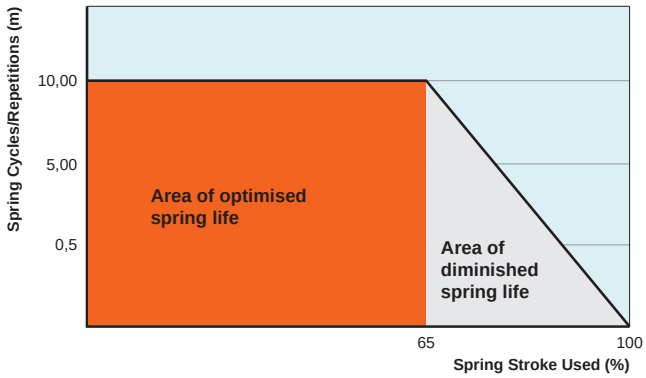
f_2 The force required in Newtons (N) to fully compress the spring until the ball or pin is fully depressed against the plunger's body.



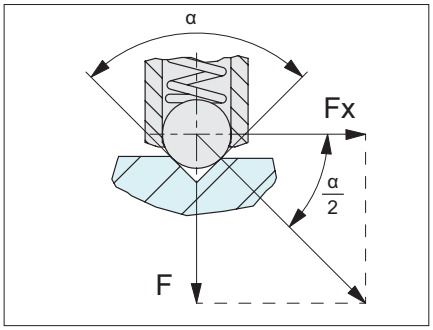
Typical Spring Repetitions

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.

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