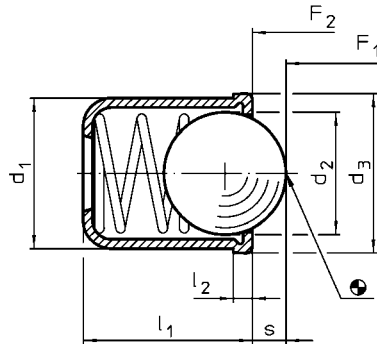


# Spring Plungers

smooth model, with collar - stainless steel



# 3230



Order No.	Finish	d <sub>1</sub> +0,1	d <sub>2</sub>	d <sub>3</sub>	l <sub>1</sub>	l <sub>2</sub>	s	Spring Load*		max. °C	g
								F <sub>1</sub> N	F <sub>2</sub> N		
3230.W003	Body & ball stainless steel	3	2,38	3,5	4,0	0,75	0,70	1,8	3,5	+250	0,1
3230.W004	Body & ball stainless steel	4	3,00	4,6	5,0	0,90	1,00	2,5	6,0	+250	0,4
3230.W005	Body & ball stainless steel	5	4,00	5,6	6,0	0,90	1,40	3,0	6,5	+250	0,6
3230.W006	Body & ball stainless steel	6	5,00	6,5	7,0	1,00	1,80	5,5	11,5	+250	1,0
3230.W008	Body & ball stainless steel	8	6,50	8,5	9,0	1,10	2,40	7,0	12,5	+250	2,2
3230.W010	Body & ball stainless steel	10	8,50	11,0	13,0	1,70	3,30	8,5	18,5	+250	4,0
3230.W012	Body & ball stainless steel	12	10,00	13,0	16,0	2,30	4,00	12,0	26,5	+250	7,8
3230.W203	Body brass, ball stainless steel	3	2,38	3,6	4,0	0,60	0,80	1,8	3,5	+250	0,2
3230.W204	Body brass, ball stainless steel	4	2,50	4,5	5,0	1,00	0,80	2,5	6,0	+250	0,5
3230.W205	Body brass, ball stainless steel	5	3,50	5,5	6,0	1,00	1,00	3,0	6,5	+250	0,8
3230.W206	Body brass, ball stainless steel	6	4,50	6,5	7,0	1,00	1,60	5,5	11,5	+250	1,3
3230.W208	Body brass, ball stainless steel	8	6,00	8,5	9,0	1,00	1,90	7,0	12,5	+250	2,9
3230.W403	Body Delrin, ball stainless steel	3	2,00	3,6	4,0	0,60	0,55	1,7	3,6	-30/+50	0,1
3230.W404	Body Delrin, ball stainless steel	4	3,00	4,6	5,0	1,00	0,80	2,5	6,5	-30/+50	0,2
3230.W405	Body Delrin, ball stainless steel	5	4,00	5,6	6,0	1,00	1,00	4,5	9,0	-30/+50	0,4
3230.W406	Body Delrin, ball stainless steel	6	5,00	6,5	7,0	1,00	1,60	6,5	13,0	-30/+50	0,7
3230.W408	Body Delrin, ball stainless steel	8	6,50	8,5	9,0	1,00	1,90	8,0	18,0	-30/+50	1,5
3230.W410	Body Delrin, ball stainless steel	10	8,00	11,0	13,5	1,50	2,40	12,0	23,0	-30/+50	3,1
3230.W412	Body Delrin, ball stainless steel	12	10,00	13,0	16,0	1,50	3,30	13,0	25,0	-30/+50	5,8
3230.W604	Body & ball Delrin	4	3,00	4,6	5,0	1,00	0,80	2,5	6,5	-30/+50	0,1
3230.W605	Body & ball Delrin	5	4,00	5,6	6,0	1,00	1,00	4,5	9,0	-30/+50	0,2
3230.W606	Body & ball Delrin	6	5,00	6,5	7,0	1,00	1,60	6,5	13,0	-30/+50	0,3
3230.W608	Body & ball Delrin	8	6,50	8,5	9,0	1,00	1,90	8,0	18,0	-30/+50	0,6
3230.W610	Body & ball Delrin	10	8,00	11,0	13,5	1,50	2,40	12,0	23,0	-30/+50	1,4
3230.W612	Body & ball Delrin	12	10,00	13,0	16,0	1,50	3,30	13,0	25,0	-30/+50	2,4

### Material

Body: stainless steel 1.4305 (AISI 303), brass, or Delrin blue.  
 Ball: stainless steel, hardened or Delrin white (POM).  
 Spring: stainless steel.

### Technical Notes

Used for locating, applying pressure or lifting off.

Spring loads \* = statistical average values.

Delrin type temperature range -30 to +50°C.

Stainless and brass type. temperature range max. 250°C.

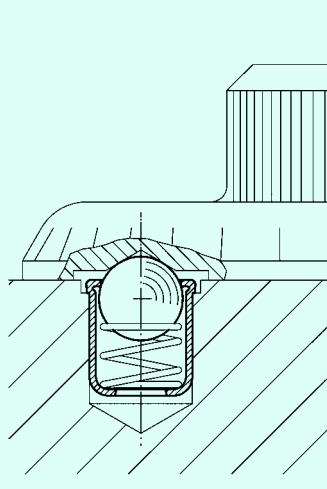
### Tips

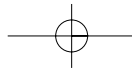
These are press fit spring plungers. Typical hole tolerance is H7 for manual assembly, or H11 for assembly with tooling.

These fit tolerances vary with type of material so a trial hole is recommended.



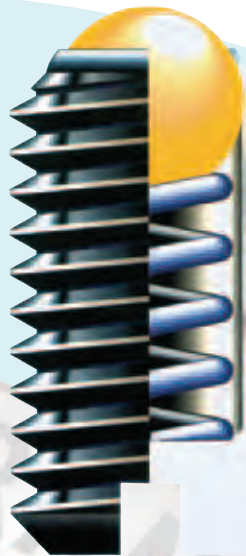
POSITIONING ELEMENTS





# Wixroyd Spring Plungers

metric versions



## USES

- ⊙ Generally used for location, applying pressure and "lifting off"
- ⊙ Securing
- ⊙ Positioning
- ⊙ Positive locking
- ⊙ Indexing
- ⊙ Quick release
- ⊙ Ejection of mould parts

## INDUSTRY SECTORS

- ⊙ Machine and fixture design
- ⊙ Measuring equipment
- ⊙ Electronic components
- ⊙ Measurement systems
- ⊙ OEM products
- ⊙ Lighting equipment
- ⊙ Medical, optics and orthopaedics

# 3100 to 3242

## THREAD DETAILS

All Wixroyd metric spring plungers have a coarse thread (see table.)

## SPRING LOADS



**s** - stroke, or movement of plunger's ball or pin.

**F<sub>1</sub>** - the force required in Newtons (N) to overcome the static strength of the spring and achieve initial movement of the plungers ball or pin.

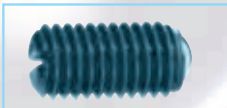
**F<sub>2</sub>** - the force required in Newtons (N) to fully compress the spring and to depress the ball or pin fully against the plungers body.

ISO Metric Coarse Threads (mm)							
O. DIA. (D)	Core (d1)	Pitch (P)	Depth	Flat	Effec. (d2)	Tapp'g Drill	Clearance Drill
3	2,3866	0,50	0,3067	0,06250	2,675	2,50	3,10
3,5	2,7638	0,60	0,3681	0,07500	3,110	2,90	3,60
4	3,1412	0,70	0,4294	0,08750	3,545	3,30	4,10
4,5	3,5798	0,75	0,4601	0,09375	4,013	3,80	4,60
5	4,0184	0,80	0,4908	0,10000	4,480	4,20	5,10
6	4,7732	1,00	0,6134	0,12500	5,350	5,00	6,10
7	5,7732	1,00	0,6134	0,12500	6,350	6,00	7,20
8	6,4664	1,25	0,7668	0,15625	7,188	6,80	8,20
10	8,1596	1,50	0,9202	0,18750	9,026	8,50	10,20
12	9,8530	1,75	1,0735	0,21875	10,863	10,20	12,20
14	11,5462	2,00	1,2269	0,25000	12,701	12,00	14,25
16	13,5462	2,00	1,2269	0,25000	14,701	14,00	16,25
18	14,9328	2,50	1,5336	0,31250	16,376	15,50	18,25
20	16,9328	2,50	1,5336	0,31250	18,376	17,50	20,25
22	18,9328	2,50	1,5336	0,31250	20,376	19,50	22,25
24	20,3194	3,00	1,8403	0,37500	22,051	21,00	24,25

## TYPICAL SPRING REPETITIONS

Although dependent upon a number of application specific factors, we are able to give the following guide information 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



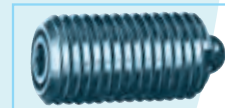
3200 Spring Plungers plastic version



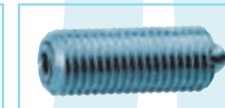
3210 Spring Plungers with ball and slot



3215 Spring Plungers with pin and slot



3220 Spring Plungers with pin, hex socket



3222 Spring Plungers with hex and seal



3228 Spring Plungers smooth, without collar



3230 Spring Plungers smooth, with collar



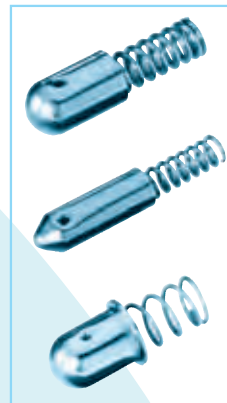
3235 Spring Plungers double ended



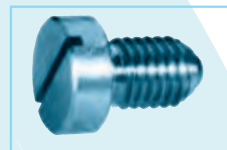
3240 Spring Plungers smooth, long



3242 Spring Plungers long version



3100 Spring Bodies



3140 Spring Plungers with ball, headed



3150 Spring Plungers with ball, hex socket



3160 Spring Plungers with pin, hex socket

POSITIONING ELEMENTS

