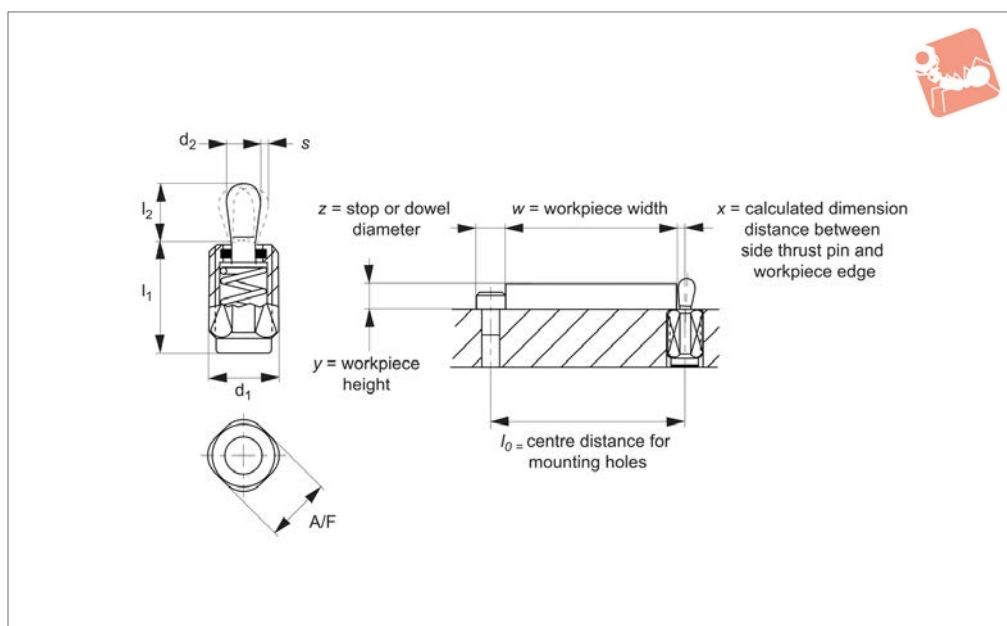




Side-Thrust Pins - Threaded with seal

Spring Plunger & Detent Pins



32850

SPRING PLUNGER & DETENT PINS

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	$l_2 - \frac{d_2}{2}$	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



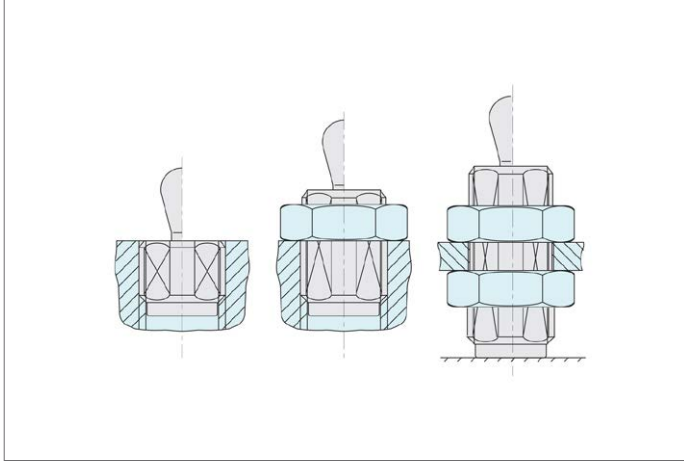
Order No.	Pin material	Spring load	d ₁	d ₂	l ₁ -2	Weight g
32850.W0021	Steel pin	Light	M18x1,5	10	45.0	36
32850.W0022	Steel pin	Standard	M18x1,5	10	18.0	20
32850.W0023	Steel pin	Standard	M18x1,5	10	31.5	29
32850.W0024	Steel pin	Standard	M18x1,5	10	45.0	39
32850.W0025	Steel pin	Heavy	M18x1,5	10	18.0	21
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

Spring Plunger & Detent Pins





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

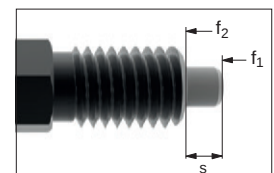
Additional Technical Notes

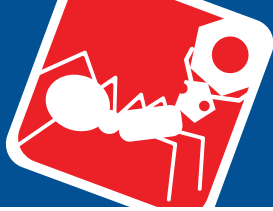
- Unless otherwise stated, grips on index plungers are not removable.
- Many of the pins on index plungers are toleranced to either the pin or the hole. Please refer to the specific product table.
- Index plungers are not recommended for shear load applications.

	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.
- f₁** The force required in Newtons (N) to overcome the static strength of the spring and achieve initial movement of the plunger's pin.
- f₂** 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

32810 - 32870

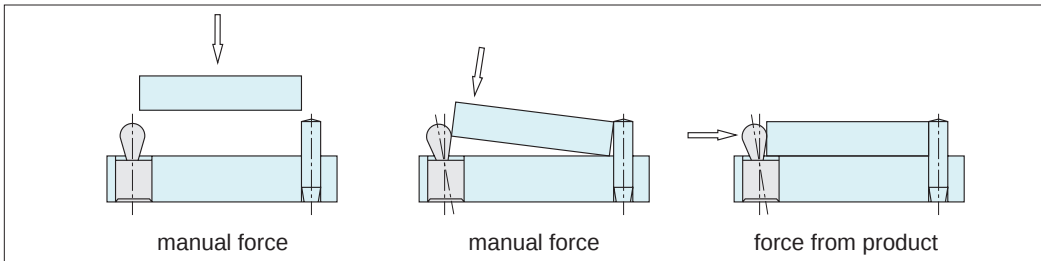
Positioning Elements

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



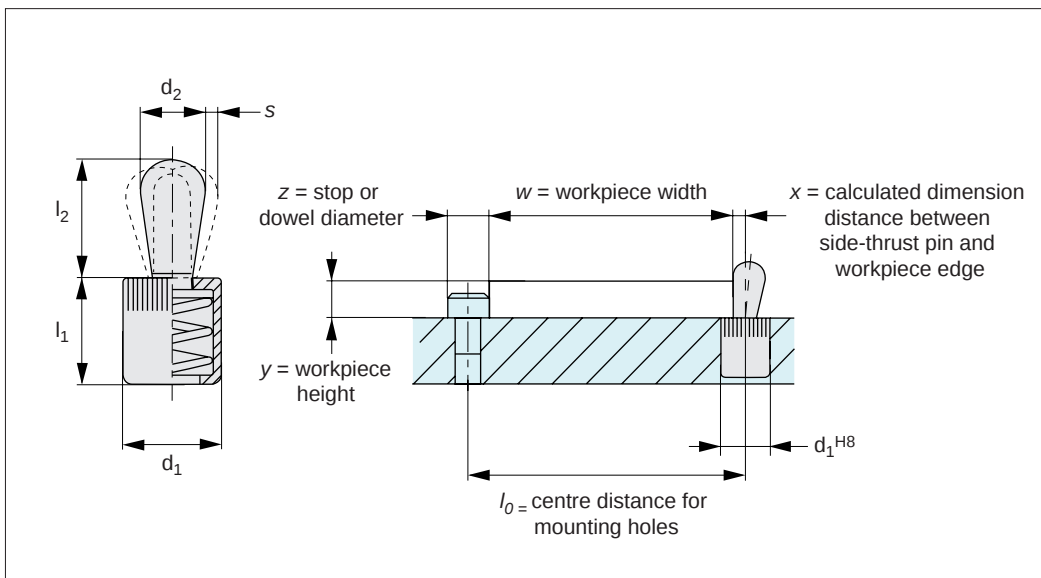
Easy to Use

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

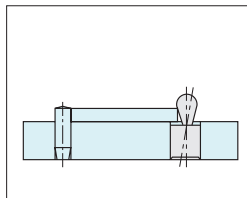
Elastomer Spring Type

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

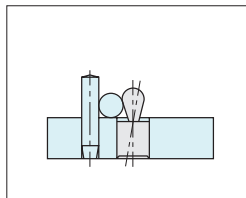
Typical Applications

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

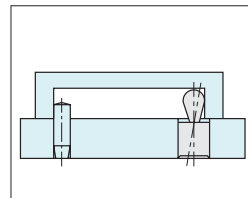
- Automotive.
- Aviation.
- Electronics.
- Computing.
- Plastics.
- Medical.
- Precision engineering.
- Tool manufacturing.



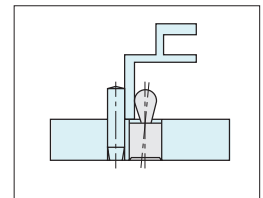
Positioning and clamping even extremely flat parts (e.g. metal sheets and printed circuit boards).



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.