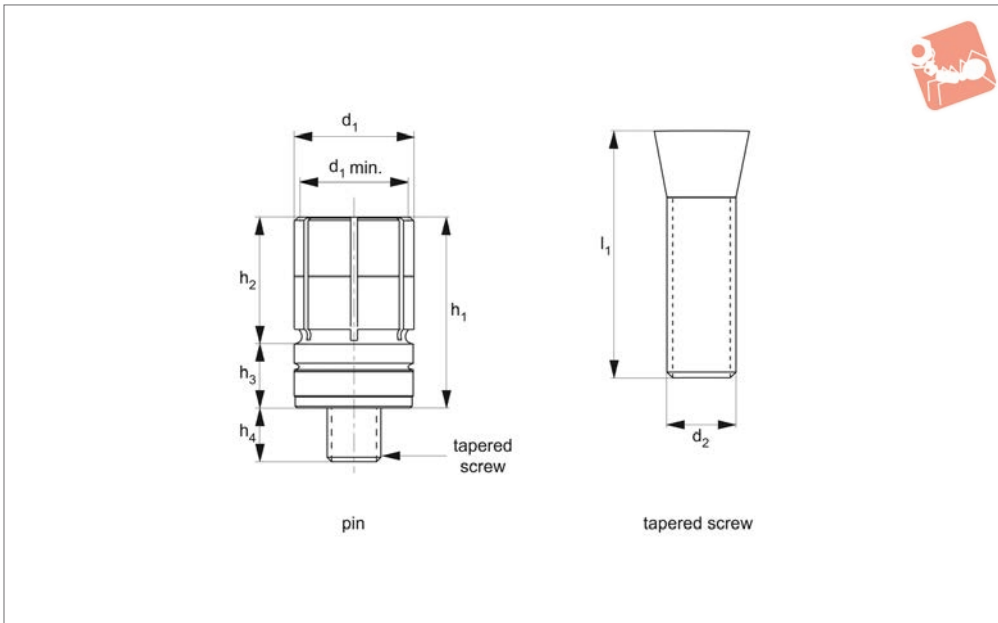




12058

PULL BACK INSERTS



Material

Stainless steel (17-4PH) or steel (12L14). Pin and screw supplied together. Replacement pins can be ordered separately, see parts 12058.W5030-W5060. Supplied as one pin and one tapered screw.

Technical Notes

XYZ Xpansion pins provide a cost-effective workholding solution for tombstones, grid and fixture plates, enabling full tool access to the work surface with no external clamping interference.

Unique design provides accurate location and repeatability with high holding forces to secure parts on an internal diameter.

Press-fit XYZ Xpansion pins are for installation into a precision bored hole, with a centred threaded hole to receive tapered screw.

Easy to use installation/removal tool available, please order separately.

Tips

Designed for applications requiring quick set-up on secondary operation, water jetting or even non-machining applications where discrete location and clamping of parts is required.

Important Notes

Clamping of component achieved via tight-

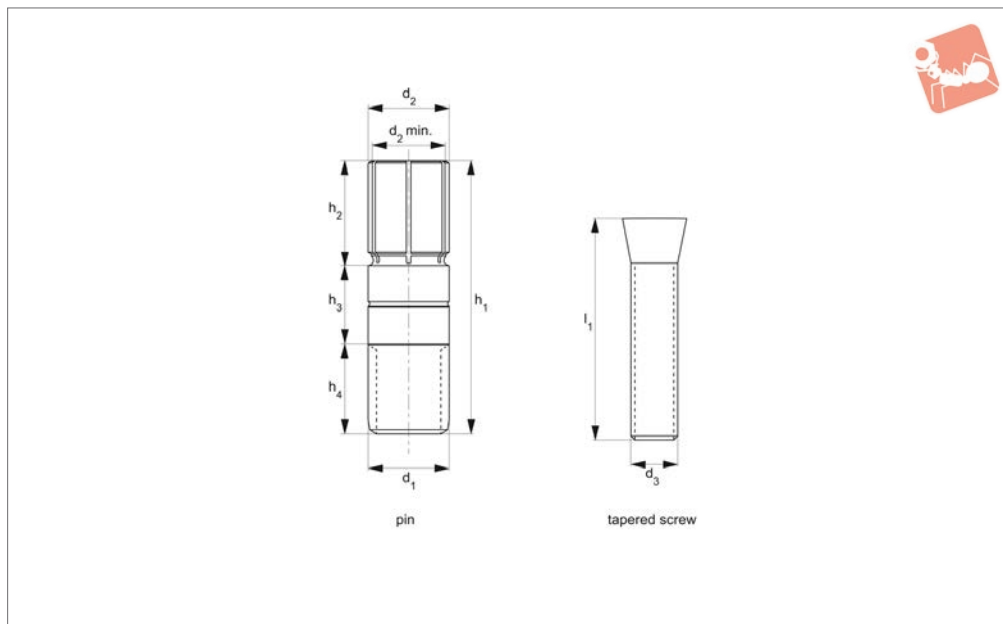
tening of tapered screw to expand the XYZ pin collet; expansion of 0,7mm is possible. The top of the pin has been slightly tapered to maximise line contact in the mounting bore and to provide adequate clearance during workpiece loading and unloading. If recessing pin into a fixture at a depth below the collet slits, be sure to provide sufficient clearance to allow for expansion of clamp (approx. 0,7mm).

d_{1 min.} is the minimum diameter to which the pin can be machined down. The tapered screws listed on the data table are for replacement purposes.

Order No.	Type	Material	For pin dia.	l_1	d_1 +0.00 -0.025	d_1 min.	d_2	h_1	h_2	h_3	h_4	Weight g
12058.W0030	Pin	17-4PH	-	16	6	5.5	-	13	7.0	5.8	7.3	2.7
12058.W0040	Pin	17-4PH	-	22	10	7.5	-	19	12.7	6.4	8.4	9.5
12058.W0050	Pin	17-4PH	-	22	12	10.5	-	19	12.7	6.4	11.1	17
12058.W0060	Pin	17-4PH	-	22	16	12.0	-	19	12.7	6.4	13.0	27
12058.W0130	Pin	12L14	-	16	6	5.5	-	13	7.0	5.8	7.3	2.7
12058.W0140	Pin	12L14	-	22	10	7.5	-	19	12.7	6.4	8.4	9.5
12058.W0150	Pin	12L14	-	22	12	10.5	-	19	12.7	6.4	11.1	17.2
12058.W0160	Pin	12L14	-	22	16	12.0	-	19	12.7	6.4	13.0	27.2
12058.W5030	Tapered Screw	-	-	-	-	-	M 3x0,5	-	-	-	-	-
12058.W5040	Tapered Screw	-	-	-	-	-	M 4x0,7	-	-	-	-	4.5
12058.W5050	Tapered Screw	-	-	-	-	-	M 6x1,0	-	-	-	-	-
12058.W5060	Tapered Screw	-	-	-	-	-	M 8x1,25	-	-	-	-	13.6
12058.W6030	Inst. Tool	-	6	-	-	-	-	-	-	-	-	-
12058.W6040	Inst. Tool	-	10	-	-	-	-	-	-	-	-	-
12058.W6050	Inst. Tool	-	12	-	-	-	-	-	-	-	-	-
12058.W6060	Inst. Tool	-	16	-	-	-	-	-	-	-	-	63.5



12059



Material

Stainless steel (17-4PH, AISI 630) or steel (12L14). Pin and screw supplied together. Replacement pins can be ordered separately, see parts 12059.W5010-12059.W5020. Supplied as one pin and one tapered screw.

Technical Notes

XYZ Xpansion pins provide a cost-effective workholding solution for tombstones, grid and fixture plates, enabling full tool access to the work surface with no external clamping interference. Unique design provides accurate location and repeatability with high holding forces to secure parts on an internal diameter. Threaded XYZ Xpansion pins are installed

via a drilled and reamed hole for precise location, or set in a hardened drill bush for additional fixture strength and wear resistance. d_2 tolerance $+0.00/-0.025$.

Tips

Designed for applications requiring quick set-up on secondary operation, water jetting or even non machining applications where discrete location and clamping of parts is required.

Important Notes

Clamping of component achieved via tightening of tapered screw to expand the XYZ pin collet; expansion of 0,7mm is possible. The top of the pin has been slightly tapered to maximise line contact in the mouting

bore and to provide adequate clearance during loading and unloading of workpieces.

If installation pin in a precision bore, drill and ream the hole over the nominal diameter d_2 by minimum $+0,003$ to $+0,013$ mm.

If recessing pin into a fixture at a depth below the collet slits, be sure to provide sufficient clearance to allow for expansion of clamp (approx. 0,7mm).

d_2 min.* is the minimum diameter to which the pin can be machined down.

The tapered screws listed on the data table are for replacement purposes.

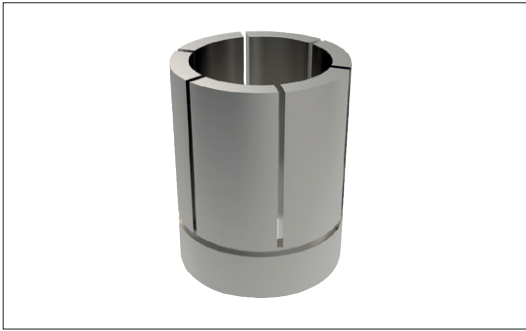
Order No.	Type	l_1	d_1	d_2 $+0.00 -0.025$	d_2 min.*	d_3	h_1	h_2	h_3	h_4	Weight g
12059.W0050	Pin	-	M12x1,75	12	10.5	-	40	15	12	13	34
12059.W0060	Pin	-	M16x2,00	16	12.0	-	45	16	16	13	59
12059.W5010	Tapered Screw	30	-	-	-	M 6x1,00	-	-	-	-	9.1
12059.W5020	Tapered Screw	30	-	-	-	M 8x1,25	-	-	-	-	14



XYZ Xpansion Pins

12058 - 12059
Clamping & Height Setting

PULL BACK INSERTS



Expansion pins are the ideal solution for securing parts on the inside diameter on tombstones, grid and fixture plates.

The unique design achieves accurate location, repeatability and high holding forces for securing parts and provide discrete workholding and full accessibility to the work surface with no external clamping interference.

Location accuracy is achieved through the close tolerance between the Xpansion pin's locating diameter and busing internal diameter. The top of the pins have a slight taper to maximise line contact in the bore, and to provide clearance during loading and unloading.

Pins expand up to 0.7mm, with the pin's diameter machinable to your specific application.

Ideal for quick set-up on secondary operation, water jetting operations, or even applications outside of a machining centre.

Available in long threaded version, or shorter press fit model. Serrated and smooth finish in both M12 and M16 threads.



Design simple fixture plate with Xpansion pins located to suit your component, the same hole spacing will be used in the workpiece/raw stock for mounting bolt holes.



Install the Xpansion pin into the fixture plate.



Install the Xpansion pin's tapered drive screw into fixture plate.

Easy to Install



Load workpiece raw stock onto Xpansion pins and tighten tapered drive screws to clamp.



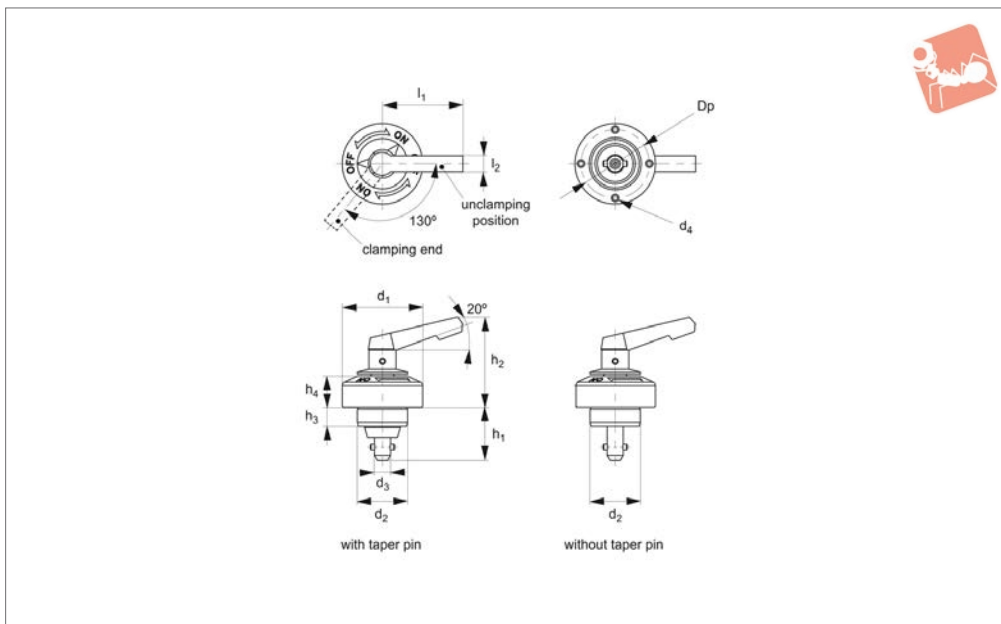
Run first operation – note the clear tooling path possible with no noticeable external clamping interference.

- Flip the part and locate on the same Xpansion pins for operation two.
- Xpansion pins provide a quick, accurate and low cost fixture solution.

ov-W12058-A-T-W12059-A-T-XYZ-xpansion-pins-rmh- Updated -24-10-2022



12085.1



Material

Body/shank: steel (SCM440), black oxide finish.

Tapered pin: steel (SCM440), nitrocarburised.

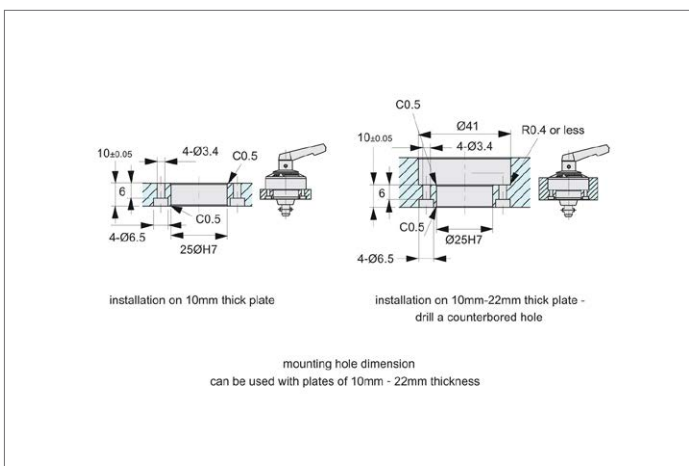
Handle: die-cast zinc (ZDC1), silver-grey painted.

Pin: stainless steel (AISI 303, 1.4305).

Technical Notes

The lifting force is the power of the inner spring of the body to push up the moveable tapered pin.

Order No.	Tapered pin	Size	Clamping force N	l_1	l_2	Dp	d_1	d_2 tol. G6	d_3	d_4	h_1	h_2	h_3	h_4	Lifting force N	Weight g
12085.W0008	With	8	600	40	8	34	40	25	8	M 3x0,5	26	45	9,5	15,5	100	220
12085.W0108	Without	8	700	40	8	34	40	25	8	M 3x0,5	26	45	9,5	15,5		215



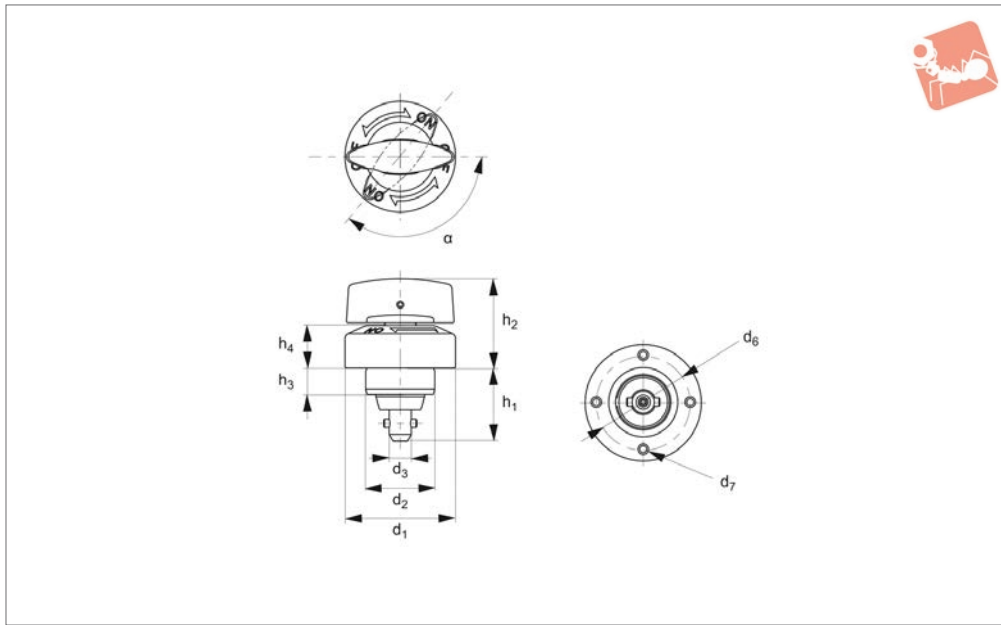


One-Touch Flex Locator Clampers

knob



Pull Back Inserts



12085.2

PULL BACK INSERTS

Material

Body/shank: steel (AISI 4140, 42CrMo4), black oxide finish.

Tapered pin: steel (AISI 4140, 42CrMo4), nitrocarburised.

Knob: stainless steel (AISI 304, 1.4308).

Pin: stainless steel (AISI 303, 1.4305).

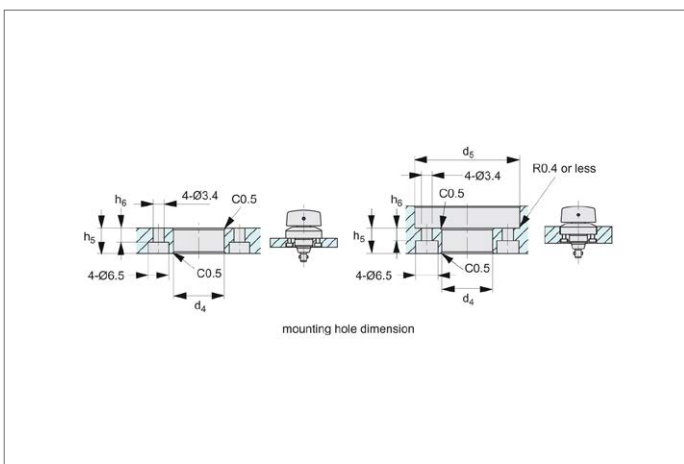
Technical Notes

The lifting force is the power of the inner spring of the body to push up the moveable tapered pin.

Tips

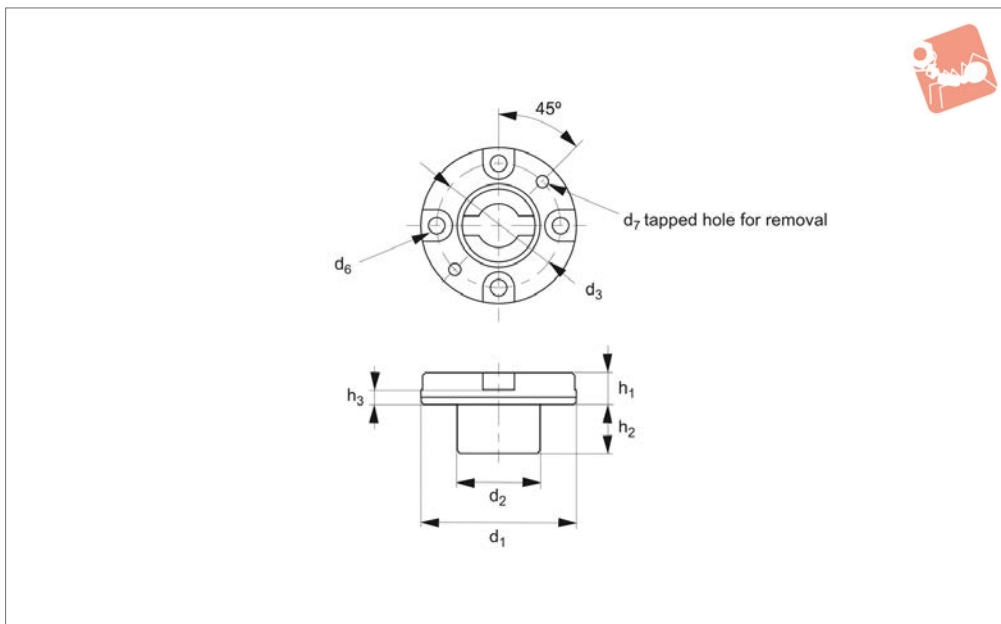
Flex locator bushing: for .W0206, see part no. 12085.W0506. For .W0208, see part no. 12085.W0508.

Order No.	Size	Clamping force N	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆	d ₇	h ₁	h ₂	h ₃	h ₄	h ₅	h ₆	Lifting force N	α	Weight g
12085.W0206	6	350	32	16	5.5	16	33	25.5	M 3x0,5	22	27	7.5	12.0	8	4	30	120°	96
12085.W0208	8	600	40	25	8.0	25	41	34.0	-	26	32	9.5	15.5	10	6	100	130°	211





12085.3



Material

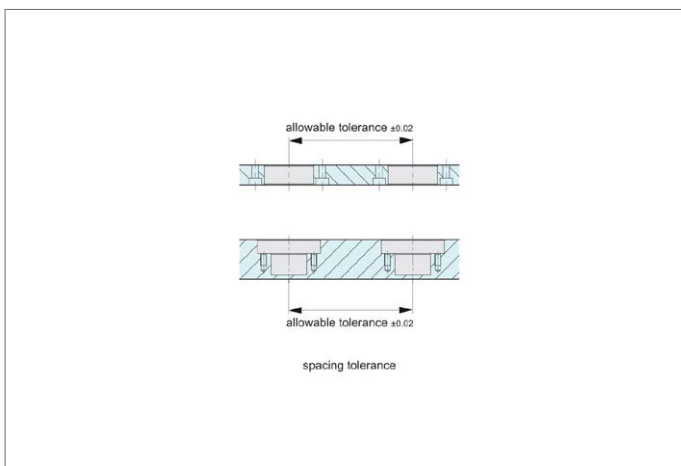
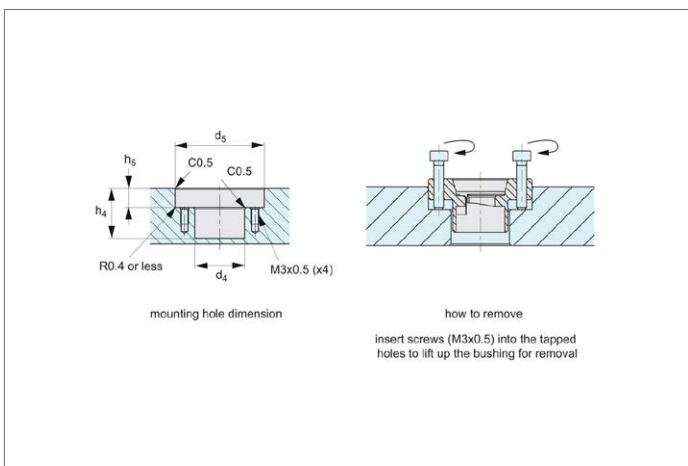
Stainless steel (AISI 304, 1.4301).

no. 12108. Use plates to avoid any deformation to workpiece during clamping.

Technical Notes

Clamping plates for spiral cam clamp, part

Order No.	Size	d ₁	d ₂	d ₃	d ₄	d ₅	d ₆	d ₇	h ₁	h ₂	h ₃	h ₄	h ₅	Weight g
12085.W0506	6	28	12.5	21.5	13.5	28	3.4	M 3x0,5	5.5	8	2	15	6	20
12085.W0508	8	32	17	25.5	18.0	32	3.4	M 3x0,5	6.5	10	3	18	7	32





One Touch Flex Locator Clampers

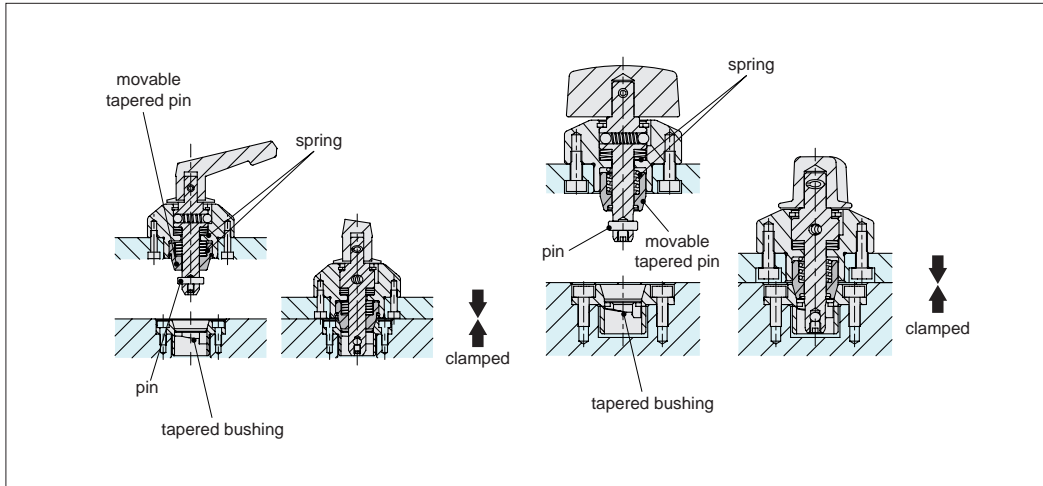
how to use



12085

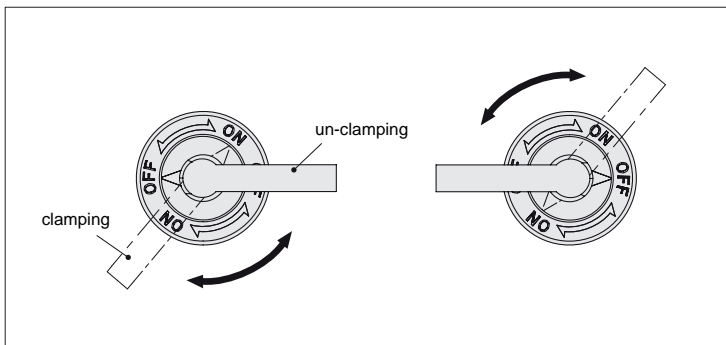
Clamping & Height Setting

Feature



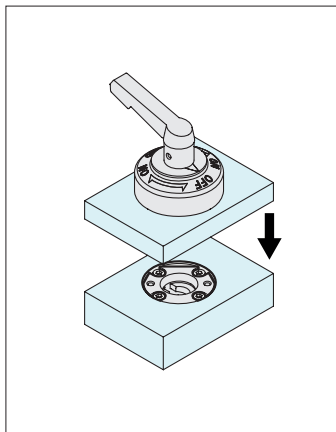
- The plates are located by fitting the tapered pin and the tapered bushing.
- The pin contacts the cam surface inside the bushing, and it compresses the inner spring, then the plates are clamped.

Note: 12085.W0108 does not have locating function.



Two clamping and unclamping positions of handle can be chosen for 12085.W0008/W0108

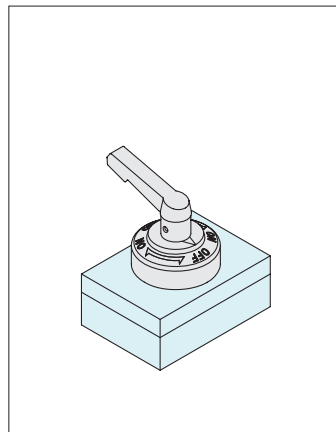
How to Operate



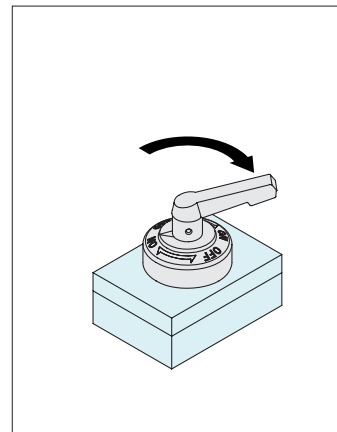
1. Ensure the handle is positioned at 'OFF' mark.

*Follow back these steps for unclamping

*Same operation for knob style.



2. Insert the clamper to the bushing.



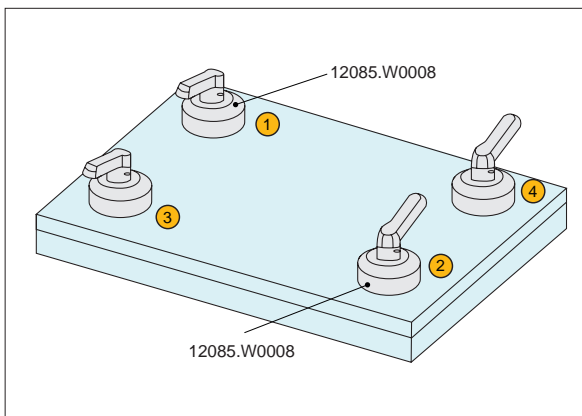
3. Turn the handle to 'ON' mark for clamping.

PULL BACK INSERTS

ov-W12085.1-A-T-W12085.3-A-T-how-to-use-one-touch-flex-locators-a-rnh - Updated -24-10-2022



Tightening Order



Ensure the handle is positioned at 'OFF' mark and lift down the fixture plate.

Turn the handle and clamp in order of **1 - 2 - 3 - 4**

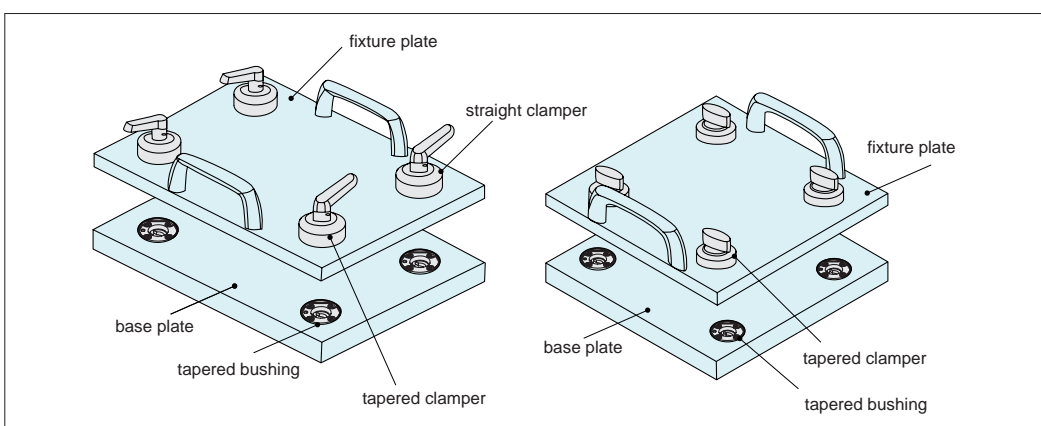
*For unclamping, ensure the handle is positioned at 'OFF' mark and disassemble the fixture plate.

If the handles are not tightened in the correct order, the locating repeatability may exceed 10 µm.

How to Use

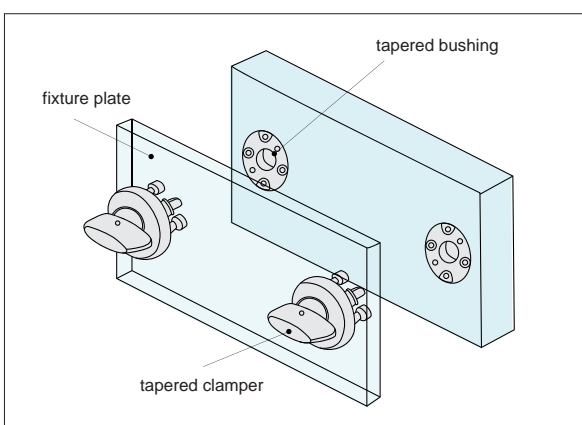
Horizontal Assembly of Fixture Plate

Note: Ensure not to lift the fixture plate up and down with gripping the handle of the clammers.



Vertical Assembly of Fixture Plate

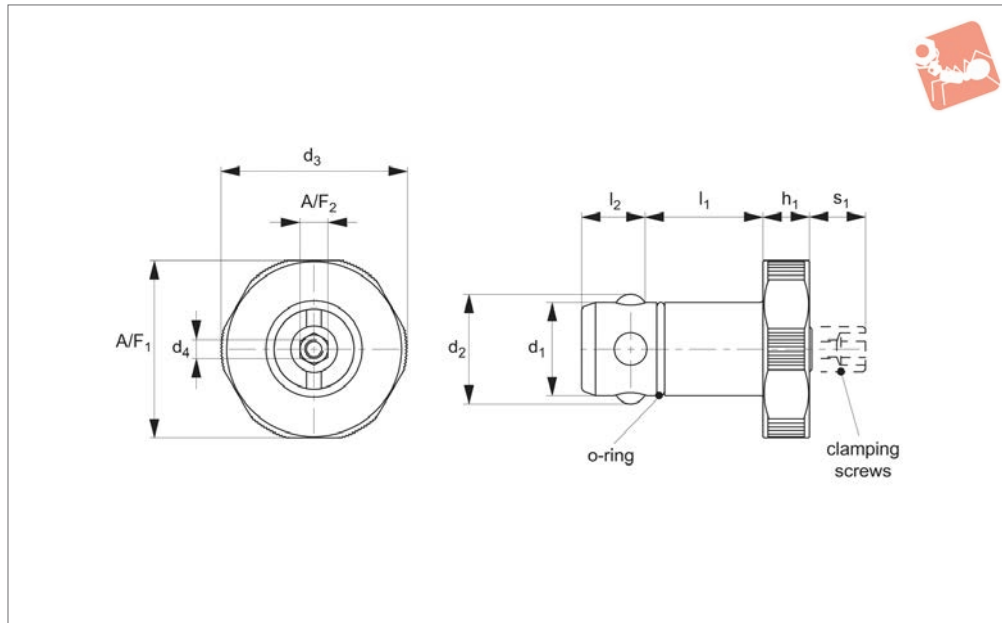
Note: Locating repeatability is 10 µm.



Clamp and Bush Combination		Max. Loading Capacity (N)
12085.W0206	Ø6	120
12085.W0008	Ø8	400
12085.W0108	Ø8	400
12085.W0208	Ø8	400

Note: The maximum load is the entire sum of the load of fixture plates, fixtures and workpieces.

The maximum loading capacity shown is the value when two sets of tapered clammer and tapered bushing are used.



12090

PULL BACK INSERTS

Material

Steel version: heat treated steel, tempered and blackened.

Stainless steel version: precipitation hardened stainless steel (17-4PH, AISI 630).

Technical Notes

By tightening the clamping screw, the

positioning clamping pin is centered and clamped via the four balls, into the locating bush.

The clamping screw can be operated manually via a removable handle or hex. key.

Tips

For removable handle see part no. 12091.

Important Notes

The positioning clamping pin allows fast clamping, fastening, adjusting, changing and securing of workpieces, plates, fixture systems etc.

Order No.	Material	l_1 +0.6	l_2 ± 1	d_1 -0.02 - 0.05	d_2	d_3	d_4	For clamping plate thickness ± 0.05	h_1	Holding force kN	Stroke s_1 max.	A/F ₁	A/F ₂	Weight g
12090.W0016	Steel	25	13,6	16	18,7	32	M 4	20	10	5	9	30	6	105
12090.W0018	Steel	30	13,6	16	18,7	32	M 4	25	10	5	9	30	6	115
12090.W0020	Steel	25	13,6	20	23,6	40	M 4	20	10	6	9	38	6	170
12090.W0022	Steel	30	13,6	20	23,6	40	M 4	25	10	6	9	38	6	185
12090.W0025	Steel	25	18,6	25	29,0	45	M 4	20	10	8	9	43	10	255
12090.W0027	Steel	30	18,6	25	29,0	45	M 4	25	10	8	9	43	10	275
12090.W0030	Steel	25	18,6	30	34,6	55	M 4	20	10	10	9	53	10	375
12090.W0032	Steel	30	18,6	30	34,6	55	M 4	25	10	10	9	53	10	400
12090.W0116	Stainless Steel	25	13,6	16	18,7	32	M 4	20	10	5	9	30	6	105
12090.W0118	Stainless Steel	30	13,6	16	18,7	32	M 4	25	10	5	9	30	6	115
12090.W0120	Stainless Steel	25	13,6	20	23,6	40	M 4	20	10	6	9	38	6	170
12090.W0122	Stainless Steel	30	13,6	20	23,6	40	M 4	25	10	6	9	38	6	185
12090.W0125	Stainless Steel	25	18,6	25	29,0	45	M 4	20	10	8	9	43	10	255
12090.W0127	Stainless Steel	30	18,6	25	29,0	45	M 4	25	10	8	9	43	10	275
12090.W0130	Stainless Steel	25	18,6	30	34,6	55	M 4	20	10	10	9	53	10	375
12090.W0132	Stainless Steel	30	18,6	30	34,6	55	M 4	25	10	10	9	53	10	400

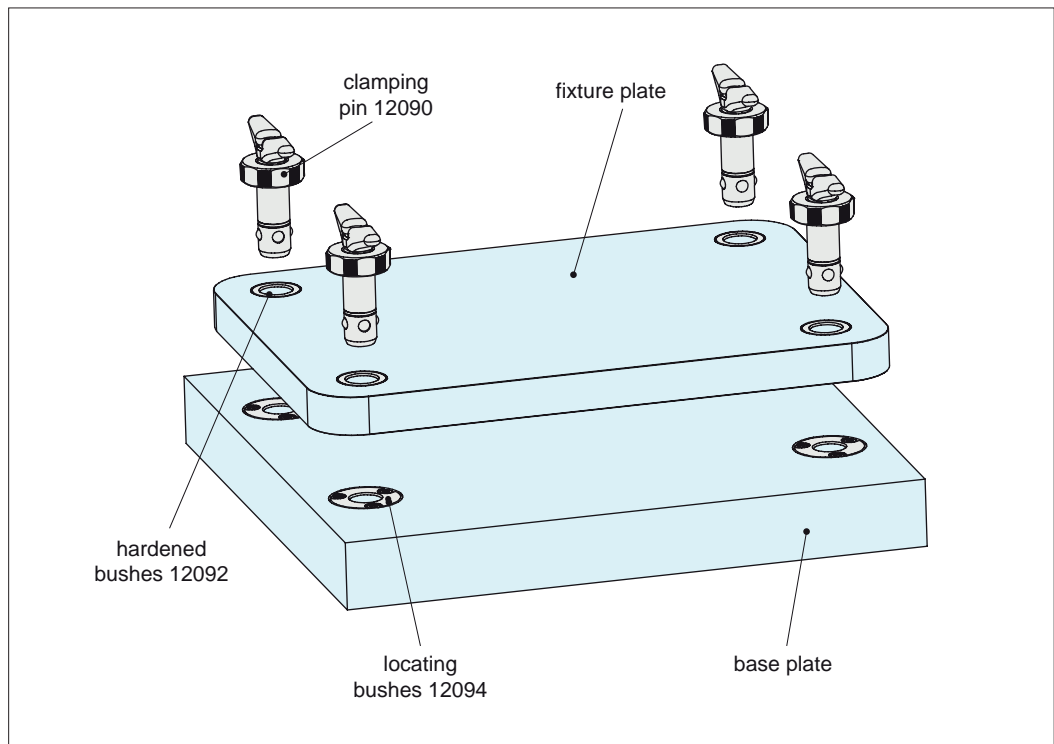
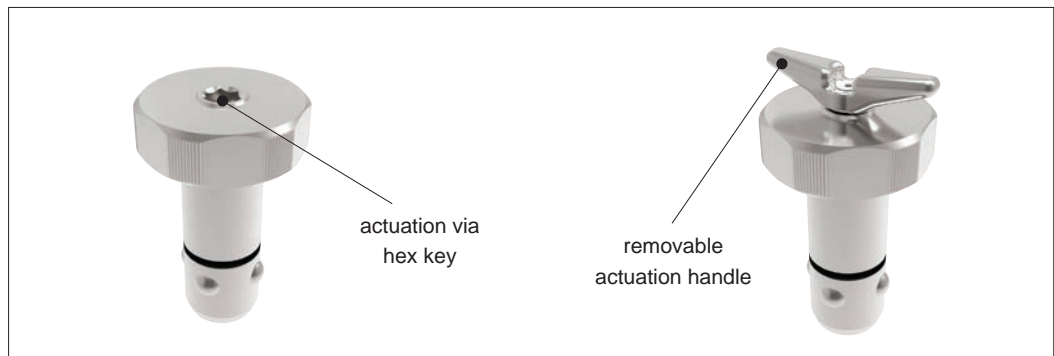


By tightening the clamping screws, the positioning clamping pin is centered and clamped with four balls in the locating bush. The clamping screw can be operated manually via a removable handle or via a hex. key.

Advantages

Overview

- Advantages of initial spring tension:
 - Abrasion resistant.
 - Clamping ball and location hole are protected from overload.
 - No seizing of the pin through overloading.
 - Reduces vibration during machining.
 - Eliminates unintentional unlocking of the system (e.g. due to system vibration).
- High repeatability of $\pm 0.03\text{mm}$.
- Simple installing /uninstalling using a spanner faces and knurling.
- Low construction height.
- Operation via hex. key or optional handle.

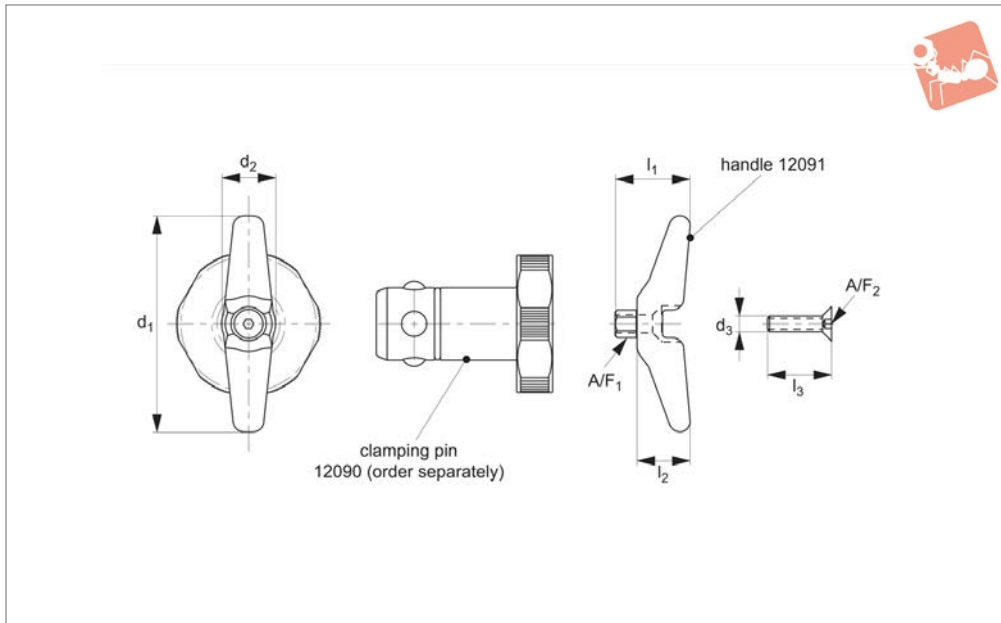




Manual Handles for positioning clamping pins 12090



Pull Back Inserts



12091

PULL BACK INSERTS

Material

Stainless steel.

Technical Notes

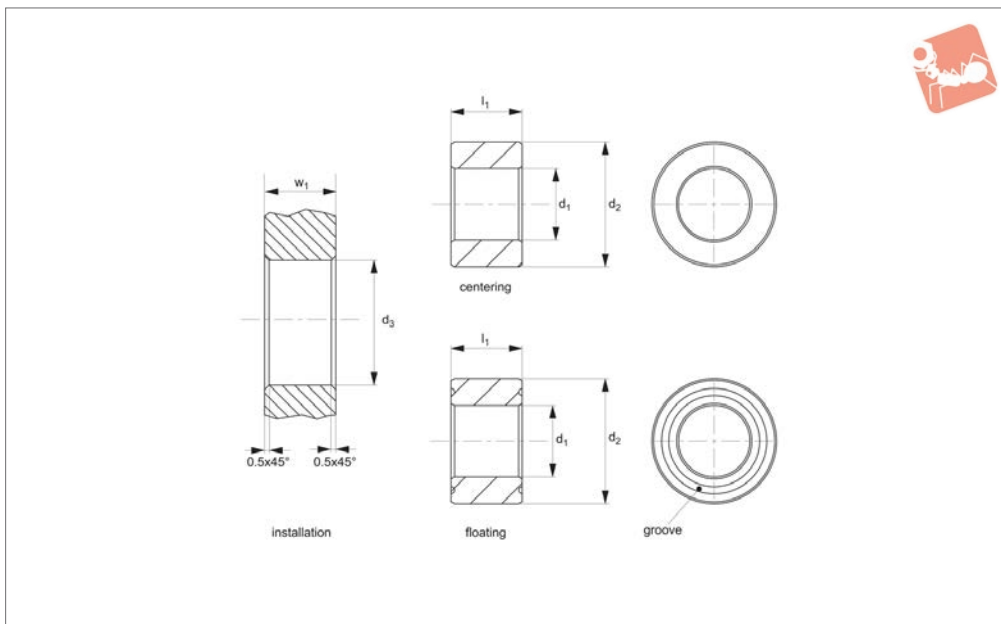
The handle enables easy and fast operation

of the positioning clamping pin. The handle is tightened to the positioning clamping pin with the M4 screw included in the delivery.

Order No.	For pin dia.	l_1	l_2	l_3	d_1	d_2	d_3	A/F ₁	A/F ₂	Weight g
12091.W0900	16/20	20	15	16	60	15	M 4	6	3	45
12091.W0902	25/30	25	20	20	80	15	M 4	10	3	80



12092



Material

Steel version: steel, heat treated, tempered and blackened.

Stainless steel version: hardened stainless

steel (AISI 440B, 1.4112).

Technical Notes

Mount two centering and two floating

bushes into the mounting plate to achieve optimal repeatability. The floating bush has a groove which serves as a differentiation mark.

Order No.	Type	Material	l_1 -0.25 -0.5	d_1 tol. F6	d_1 +0.2	d_2 tol. n6	w_1 ± 0.05	d_3 tol. H7	Weight g
12092.W0702	Centering	Steel	20	16	-	25	20	25	45
12092.W0704	Centering	Steel	25	16	-	25	20	25	55
12092.W0706	Centering	Steel	20	20	-	35	20	25	100
12092.W0708	Centering	Steel	25	20	-	35	20	25	125
12092.W0710	Centering	Steel	20	25	-	35	20	25	75
12092.W0712	Centering	Steel	25	25	-	35	20	25	95
12092.W0714	Centering	Steel	20	30	-	45	20	25	140
12092.W0716	Centering	Steel	25	30	-	45	20	25	175
12092.W0732	Floating	Steel	20	-	16.8	25	20	25	42
12092.W0734	Floating	Steel	25	-	16.8	25	20	25	52
12092.W0736	Floating	Steel	20	-	20.8	35	20	25	95
12092.W0738	Floating	Steel	25	-	20.8	35	20	25	120
12092.W0740	Floating	Steel	20	-	25.8	35	20	25	70
12092.W0742	Floating	Steel	25	-	25.8	35	20	25	85
12092.W0744	Floating	Steel	20	-	30.8	45	20	25	135
12092.W0746	Floating	Steel	25	-	30.8	45	20	25	165
12092.W0802	Centering	Stainless Steel	20	16	-	25	20	25	45
12092.W0804	Centering	Stainless Steel	25	16	-	25	20	25	55
12092.W0806	Centering	Stainless Steel	20	20	-	35	20	25	100
12092.W0808	Centering	Stainless Steel	25	20	-	35	20	25	125
12092.W0810	Centering	Stainless Steel	20	25	-	35	20	25	75
12092.W0812	Centering	Stainless Steel	25	25	-	35	20	25	95
12092.W0814	Centering	Stainless Steel	20	30	-	45	20	25	140
12092.W0816	Centering	Stainless Steel	25	30	-	45	20	25	175
12092.W0832	Floating	Stainless Steel	20	-	16.8	25	20	25	42
12092.W0834	Floating	Stainless Steel	25	-	16.8	25	20	25	52
12092.W0836	Floating	Stainless Steel	20	-	20.8	35	20	25	95
12092.W0838	Floating	Stainless Steel	25	-	20.8	35	20	25	120
12092.W0840	Floating	Stainless Steel	20	-	25.8	35	20	25	70
12092.W0842	Floating	Stainless Steel	25	-	25.8	35	20	25	85
12092.W0844	Floating	Stainless Steel	20	-	30.8	45	20	25	135
12092.W0846	Floating	Stainless Steel	25	-	30.8	45	20	25	165

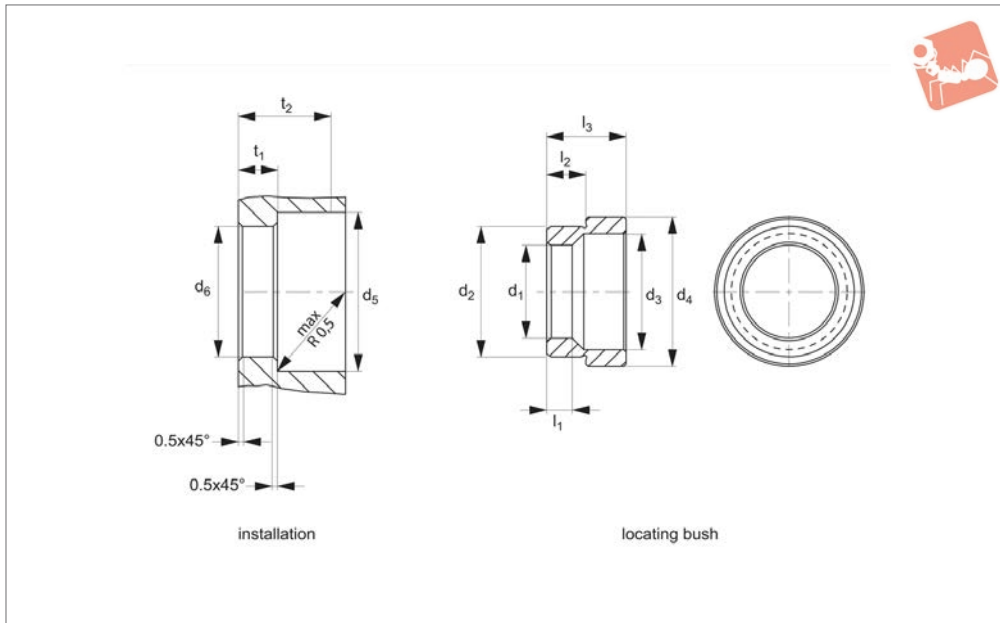


Locating Bushings

for positioning clamping pins 12090 - press fit



Pull Back Inserts



12093

PULL BACK INSERTS

Material

Steel version: steel, heat treated, tempered and blackened.
Stainless steel version: hardened stainless

steel (AISI 440B, 1.4112).

Technical Notes

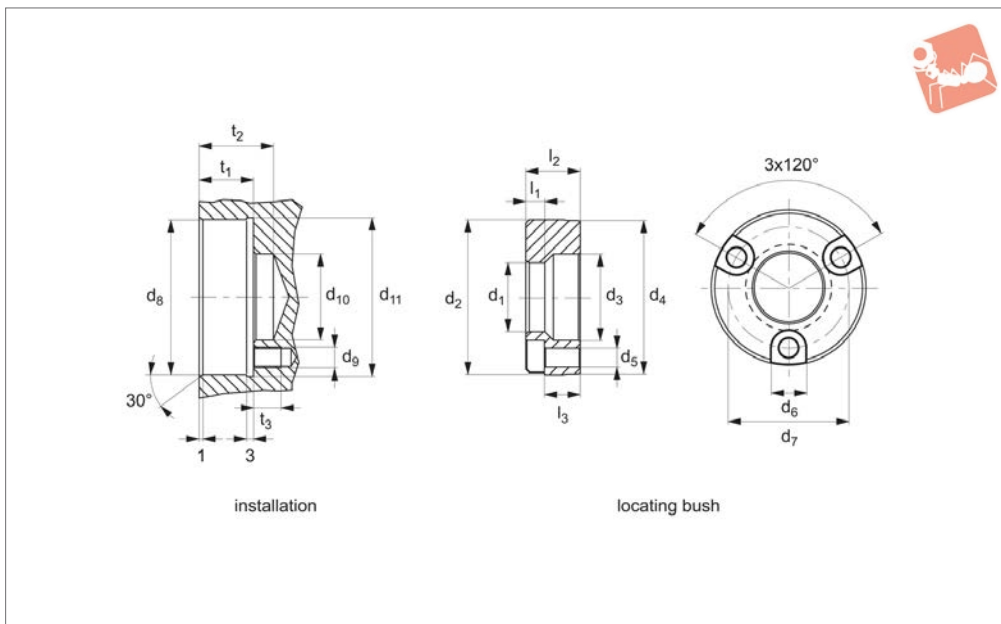
The press fit locating bush for positioning

clamping pins are inserted in the machine table or the base plate with light pressure.

Order No.	Material	l_1	l_2	l_3	d_1 tol. F6	d_2 ± 0.01	d_3	d_4	d_5 $+1$	d_6 tol. H7	t_1 ± 0.025	t_2 min.	Weight g
12093.W0762	Steel	5.3	6.9	12.1	16	22	20	28.6	31	22	7.3	22	25
12093.W0764	Steel	5.3	8.4	17.1	20	28	25	32.2	34	28	8.8	22	40
12093.W0766	Steel	5.3	10.2	21.0	25	35	31	40.2	42	35	10.6	28	80
12093.W0768	Steel	5.3	10.6	21.8	30	42	37	48.2	50	42	11.0	28	115
12093.W0862	Stainless Steel	5.3	6.9	12.1	16	22	20	28.6	31	22	7.3	22	25
12093.W0864	Stainless Steel	5.3	8.4	17.1	20	28	25	32.2	34	28	8.8	22	40
12093.W0866	Stainless Steel	5.3	10.2	21.0	25	35	31	40.2	42	35	11.0	28	80
12093.W0868	Stainless Steel	5.3	10.6	21.8	30	42	37	48.2	50	42	11.0	28	115



12094



Material

Steel version: steel, heat treated, tempered and blackened.

Stainless steel version: precipitation-hardened stainless steel (17-4 PH, AISI

630, 1.4542).

Technical Notes

The screw fit locating bushings for positioning clamping pins are inserted in the

machine table or in the base plate and are screwed on.

Important Notes

Supplied with mounting screws.

Order No.	Material	l_1	l_2	l_3 \approx	d_1 tol. F6 +0.01	d_2	d_3	d_4	d_5	d_6	d_7	d_8 tol. H7	d_9	d_{10} +1	d_{11}	t_1 ± 0.02	t_2	t_3	Weight g
12094.W0782	Steel	5,3	11,6	7,0	16	37	20	36,5	4,5	8	29	37	M 4	20	38,5	11,9	22	12	70
12094.W0784	Steel	5,3	15,8	10,0	20	45	25	44,5	5,5	10	35	45	M 5	25	46,5	16,2	22	12	130
12094.W0786	Steel	5,3	19,9	13,5	25	55	31	54,5	6,6	11	42	55	M 6	31	56,5	20,3	28	14	245
12094.W0788	Steel	5,3	21,8	15,0	30	60	37	59,5	6,6	11	48	60	M 6	37	61,5	22,2	28	14	195
12094.W0882	Stainless Steel	5,3	11,6	7,0	16	37	20	36,5	4,5	8	29	37	M 4	20	38,5	11,9	22	12	70
12094.W0884	Stainless Steel	5,3	15,8	10,0	20	45	25	44,5	5,5	10	35	45	M 5	25	46,5	16,2	22	12	130
12094.W0886	Stainless Steel	5,3	19,9	13,5	25	55	31	54,5	6,6	11	42	55	M 6	31	56,5	20,3	28	14	245
12094.W0888	Stainless Steel	5,3	21,8	15,0	30	60	37	59,5	6,6	11	48	60	M 6	37	61,5	22,2	28	14	195

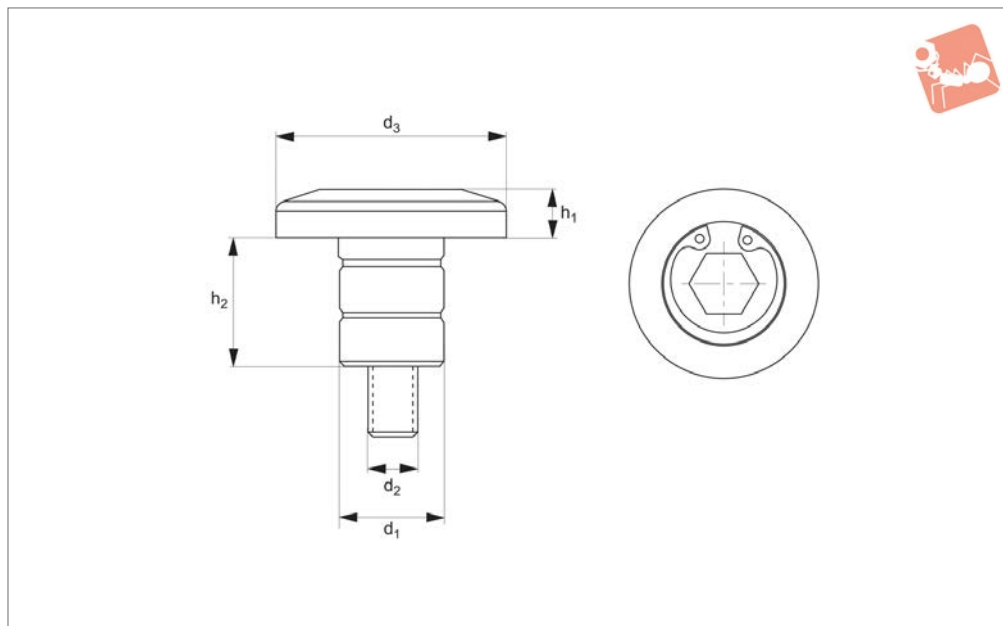




Locator Unit - Standard



Pull Back Inserts



12095.1

PULL BACK INSERTS

Material

Heat-treated steel, alloy with black oxide finish. High tensile strength (180 000+ PSI or 1241 MPa) and hardness (46 HRC).

Technical Notes

Easy locating - installs and locks in

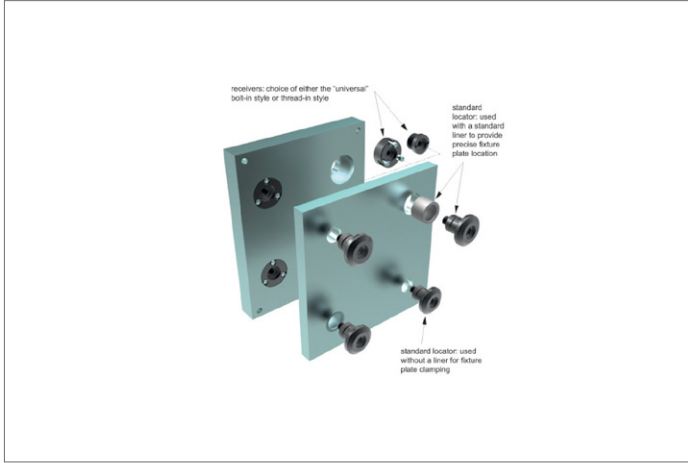
seconds, offers ± 0.0004 " repeatability.

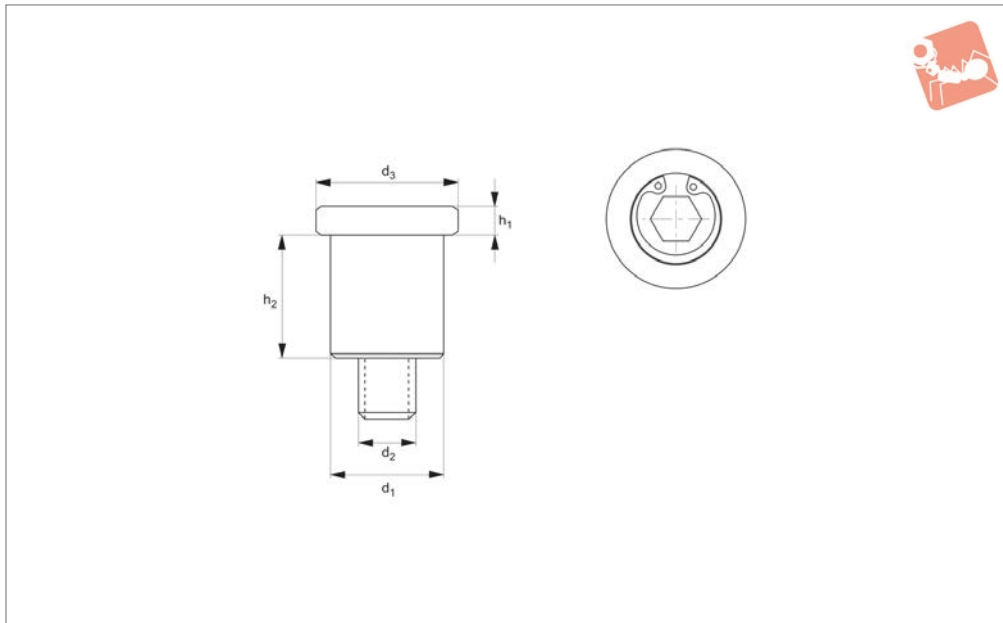
Tips

The exclusive self-extracting mechanism eliminates the need for prying, pounding or using jack screws to separate fixture and base plates. It enables the locator unit to

be easily removed from counterbored installations.

Order No.	Fixture plate thickness inch ± 0.005	d ₁ mm	d ₂ UNF-2B	d ₃ inch	h ₁ inch	h ₂ inch	Hold down force lb max.	Tightening torque ft-lb max.
12095.W0131	0.50	13	1/4"-20	1.00	0.25	0.78	2964	13
12095.W0132	0.75	13	1/4"-20	1.00	0.25	1.03	2964	13
12095.W0161	0.50	16	5/16"-18	1.38	0.31	0.78	5385	26
12095.W0162	0.75	16	5/16"-18	1.38	0.31	1.03	5385	26
12095.W0163	1.00	16	5/16"-18	1.38	0.31	1.28	5385	26
12095.W0201	0.75	20	3/8"-16	1.63	0.38	1.07	8107	46
12095.W0202	1.00	20	3/8"-16	1.63	0.38	1.32	8107	46
12095.W0203	1.50	20	3/8"-16	1.63	0.38	1.82	8107	46
12095.W0204	2.00	20	3/8"-16	1.63	0.38	2.32	8107	46
12095.W0251	0.75	25	1/2"-13	1.80	0.41	1.07	14709	113
12095.W0252	1.00	25	1/2"-13	1.80	0.41	1.32	14709	113
12095.W0254	1.50	25	1/2"-13	1.80	0.41	1.82	14709	113
12095.W0255	2.00	25	1/2"-13	1.80	0.41	2.32	14709	113
12095.W0301	0.75	30	1/2"-13	2.13	0.50	1.15	22623	213
12095.W0302	1.00	30	5/8"-11	2.13	0.50	1.40	22623	213
12095.W0303	1.50	30	5/8"-11	2.13	0.50	1.90	22623	213
12095.W0304	2.00	30	5/8"-11	2.13	0.50	2.40	22623	213
12095.W0351	0.75	35	3/4"-10	2.25	0.50	1.15	31572	375
12095.W0352	1.00	35	3/4"-10	2.25	0.50	1.40	31572	375
12095.W0353	1.50	35	3/4"-10	2.25	0.50	1.90	31572	375
12095.W0534	2.00	35	3/4"-10	2.25	0.50	2.40	31572	375
12095.W0501	0.75	50	1-8	3.00	0.69	1.27	46958	781
12095.W0502	1.00	50	1-8	3.00	0.69	1.52	46958	781
12095.W0503	1.50	50	1-8	3.00	0.69	2.02	46958	781
12095.W0504	2.00	50	1-8	3.00	0.69	2.52	46958	781





12095.2

PULL BACK INSERTS

Material

Steel, heat-treated alloy, black oxide finish.

Tensile strength 180,000+ PSI or 1241 MPa.

Hardness 46 HRc.

Technical Notes

Easy locating - installs and locks in

seconds.

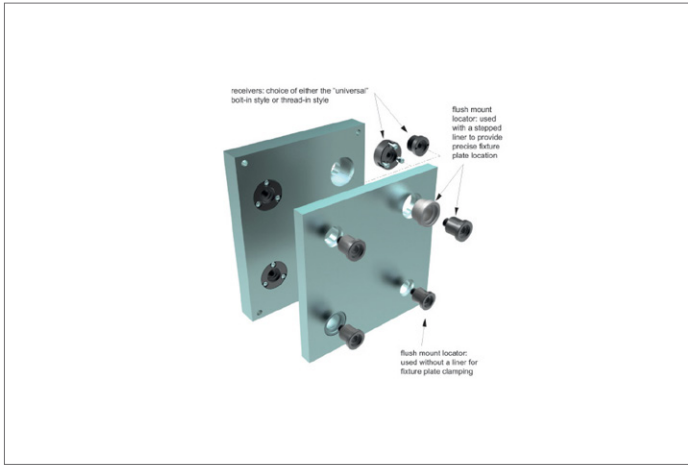
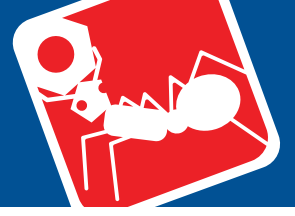
Offers $\pm 0,0004''$ repeatability.

Tips

The exclusive self-extracting mechanism eliminates the need for prying, pounding or using jack screws to separate fixture and base plates. It enables the locator unit to be easily removed from counterbored

installations.

Order No.	Fixture plate thickness ± 0.005
12095.W2131	0.50
12095.W2132	0.75
12095.W2161	0.50
12095.W2162	0.75
12095.W2163	1.00
12095.W2201	0.75
12095.W2202	1.00
12095.W2203	1.50
12095.W2204	2.00
12095.W2251	0.75
12095.W2252	1.00
12095.W2254	1.50
12095.W2255	2.00
12095.W2301	0.75
12095.W2302	1.00
12095.W2303	1.50
12095.W2304	2.00
12095.W2352	1.00
12095.W2353	1.50
12095.W2354	2.00
12095.W2503	1.50
12095.W2504	2.00





Quick and Easy to Use with Every Load

The Wixroyd Precision Locating & Mounting System consists of locators, receivers and bushings for a wide range of tooling, fixturing, workholding, production, welding and assembly applications. They offer the ability to make fast, accurate set-up changes which enables significant improvements in machining productivity, throughput rates, quality and reduced operating costs.

Wixroyd has solved the typical problems associated with precision attachment and removal of fixture plates, tooling and accessories. The Wixroyd system eliminates the need to pry, pound and use jack screws to separate the fixture plate from the sub-plate or machine table. The Wixroyd system uses a threaded fastening device to mechanically extract the precision locator from its receiver, allowing easy separation of fixture plates, tooling and accessories. Unlike competitive ball locking products, the Wixroyd system does not require expensive "repair kits" since there are no rubber o-rings to break nor ball bearings to fall out or fracture.

- Place fixture plate over sub-plate or machine table containing the Wixroyd receivers.
- Insert two Wixroyd precision locators through holes lined with hardened bushings and into the receivers.
- Insert two remaining locators into unlined holes and tighten to draw each locator to the desired torque.
- Total time require to unload existing fixture plates and load a new fixture plate is typically under 2 minutes.

- Self- extracting – unique design enables easy and quick "self-extract" from tooling, fixturing etc. There is no binding or other issues to delay removal time or compromise accuracy of the locking system.
- Precise locating – repeatability of +/- 0.0004"
- High clamping strength – over 45,000 lbs
- Easy Installation – easily installed in a wide range of applications using standard tooling and machining practices.
- Compact – requires minimal space in tooling and fixture applications. Both standard and compact/flush mounting options.
- Can be retro-fitted with existing competitive ball lock type systems.

System Overview

Usage

System Features

Product Range



12095.W0131 to .W0504 - Locator unit - standard



12095.W2131 to .W2504 - Locator unit - compact



12097.W0131 to .W0501 - Face mount receivers - standard



12097.W2131 to .W2501 - Face mount compact receivers - compact

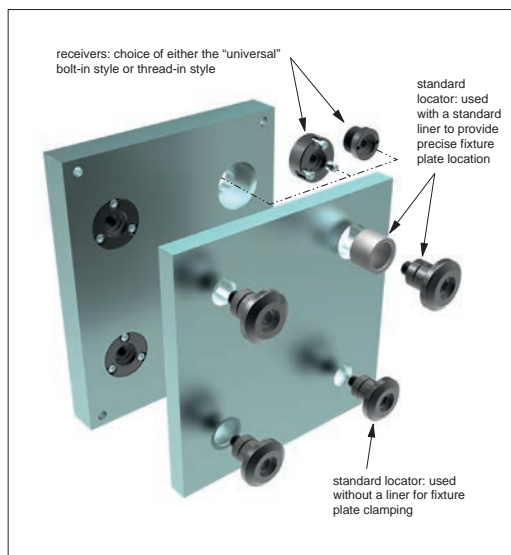


Precision Locating and Mounting System

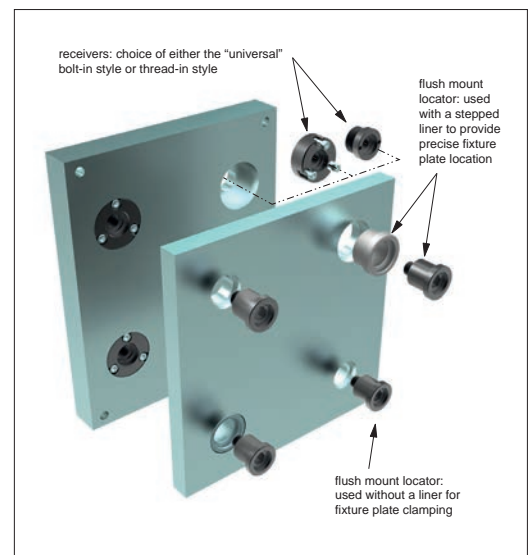
FAQs

- Q. What is the Wixroyd Precision Locating & Mounting System?**
 A. It is a means of locating and locking two flat surfaces together. These surfaces are most commonly a fixture plate and sub-plates, however, they are also used in many other applications because of their holding strength and accuracy.
- Q. How does it locate the fixture plate?**
 A. The Wixroyd system locates with receivers in the base plate, liner bushings in the sub-plate and locator/fasteners locking the two surfaces together.
- Q. How many locators are needed to locate and fasten the fixture plate?**
 A. Two locators with liner bushings are required to accurately position and two locators without liner bushings to fasten only.
- Q. How does it fasten?**
 A. Locators use standard threads to hold the two surfaces together. By tightening the locators into the receivers very high holding forces can be achieved.
- Q. Can the Wixroyd system be mounted so the work pieces mounting surface is free from any interference?**
 A. Yes, our compact of flush locators allow the head to lie flush with the fixture plate surface.
- Q. Can the system be used in high temperature applications?**
 A. Yes, because all parts are made from heat treated alloy steel, temperatures up to +500F are not a problem. The user should account for thermal expansion of the fixture plates and bases that could affect tolerances.
- Q. Can Fixture plates be mounted in both the horizontal and vertical positions with the Wixroyd system?**
 A. Yes, in vertical mounting applications Wixroyd offer optional docking hardware to “hang” the fixture plate from the tooling column before fastening the surfaces together.
- Q. Can a current ball locking type system be retrofit to work with the Wixroyd system?**
 A. Yes, the universal bolt-in receiver will fit directly into the pocket that holds ball locking type receivers. Also, the Wixroyd system locators will fit the existing holes and liners of a fixture plate set up for ball locking systems.

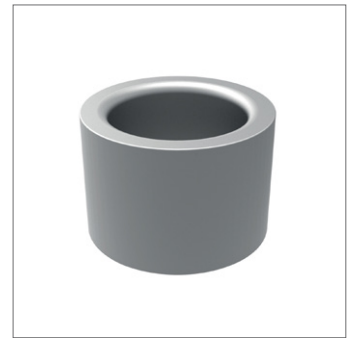
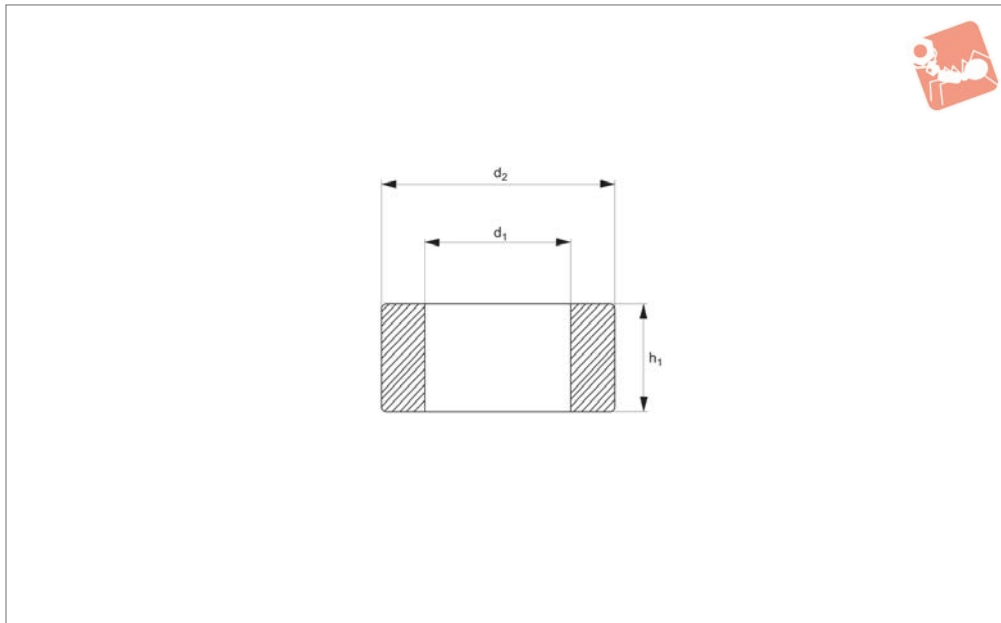
Applications



Standard locators



Flush mount locators



12096.1

PULL BACK INSERTS

Material

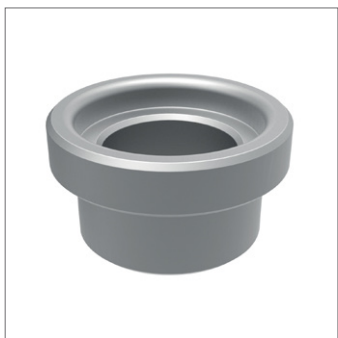
Alloy steel, hardness 62+ HRC.

the integrated locator unit system (part no. 12095), achieving precise and accurate machining results.

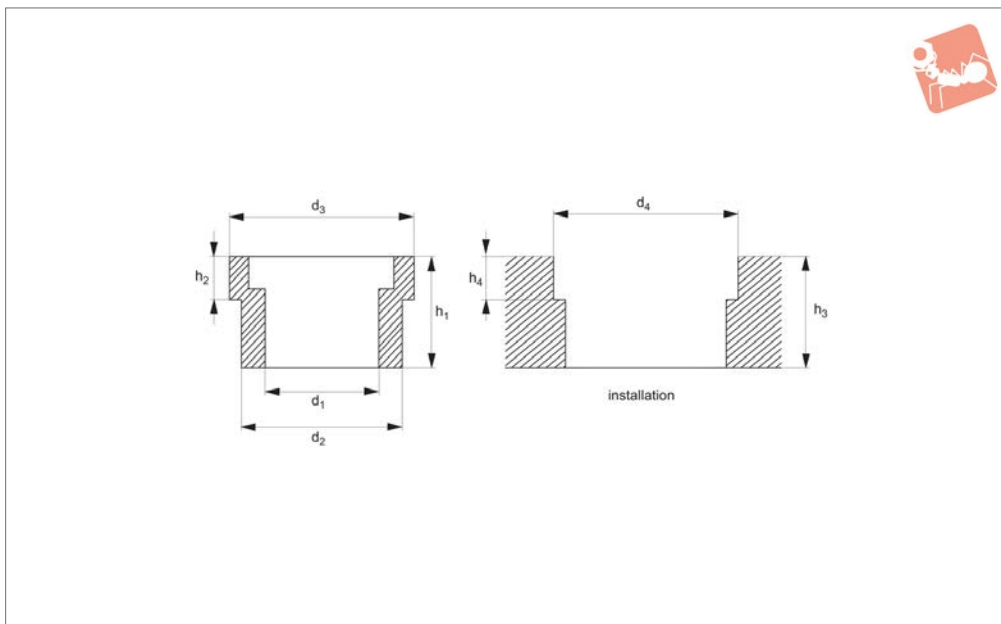
Technical Notes

Liner bushings are a critical component of

Order No.	Fixture plate thickness inch ±0.005	d ₁ mm	d ₂ inch +0.0000 -0.0004	h ₁ inch
12096.W0131	0.50	13	0.7518	0.45
12096.W0132	0.75	13	0.7518	0.70
12096.W0161	0.50	16	1.0018	0.45
12096.W0162	0.75	16	1.0018	0.70
12096.W0164	1.00	16	1.0018	0.95
12096.W0201	0.75	20	1.1270	0.70
12096.W0202	1.00	20	1.1270	0.95
12096.W0203	1.50	20	1.1270	1.45
12096.W0204	2.00	20	1.1270	1.95
12096.W0251	0.75	25	1.3772	0.70
12096.W0252	1.00	25	1.3772	0.95
12096.W0253	1.50	25	1.3772	1.45
12096.W0254	2.00	25	1.3772	1.95
12096.W0301	0.75	30	1.7523	0.70
12096.W0302	1.00	30	1.7523	0.95
12096.W0303	1.50	30	1.7523	1.45
12096.W0305	2.00	30	1.7523	1.95
12096.W0351	0.75	35	1.7523	0.70
12096.W0352	1.00	35	1.7523	0.95
12096.W0353	1.50	35	1.7523	1.45
12096.W0354	2.00	35	1.7523	1.95
12096.W0501	0.75	50	2.5025	0.70
12096.W0502	1.00	50	2.5025	0.95
12096.W0503	1.50	50	2.5025	1.45
12096.W0504	2.00	50	2.5025	1.95



12096.2



Material

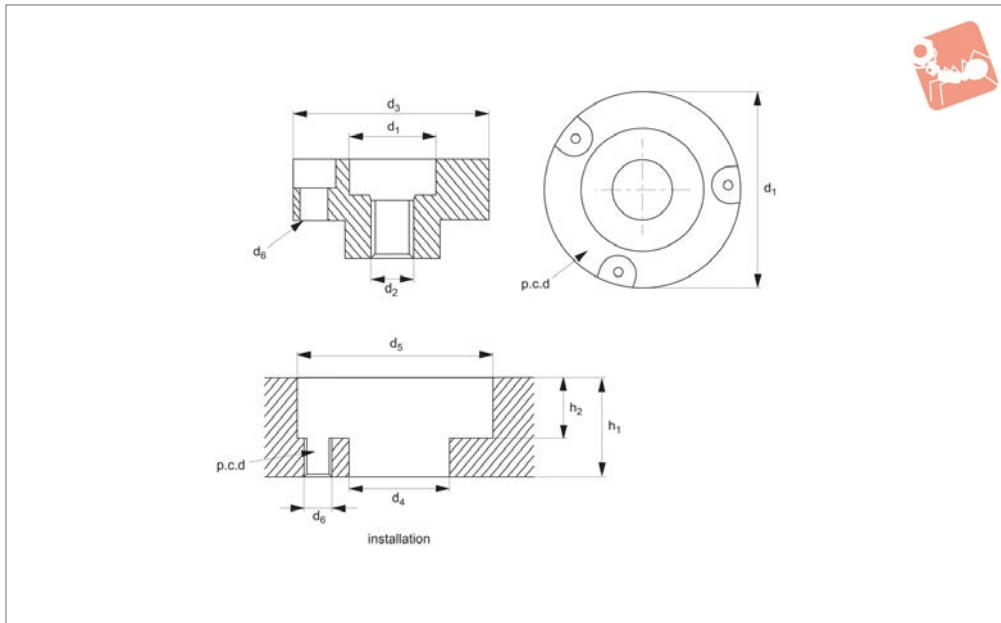
Alloy steel, hardness 62+ HRC.

the integrated locator unit system (part no. 12095), achieving precise and accurate machining results.

Technical Notes

Liner bushings are a critical component of

Order No.	d ₁ mm	d ₂ inch +0.0000 -0.0004	d ₃ inch	d ₄ plate c'bore dia. inch ±0.005	Fixture plate thickness h ₃ inch ±0.005	h ₁ inch	h ₂ inch	h ₄ plate c'bore depth inch +0.010 -0.005
12096.W2131	13	0.7518	0.92	0.94	0.50	0.45	0.22	0.23
12096.W2132	13	0.7518	0.92	0.94	0.75	0.70	0.22	0.23
12096.W2161	16	1.0018	1.23	1.25	0.50	0.45	0.31	0.33
12096.W2162	16	1.0018	1.23	1.25	0.75	0.70	0.31	0.33
12096.W2163	16	1.0018	1.23	1.25	1.00	0.95	0.31	0.33
12096.W2201	20	1.1270	1.36	1.38	0.75	0.70	0.38	0.39
12096.W2202	20	1.1270	1.36	1.38	1.00	0.95	0.38	0.39
12096.W2203	20	1.1270	1.36	1.38	1.50	1.45	0.38	0.39
12096.W2204	20	1.1270	1.36	1.38	2.00	1.95	0.38	0.39
12096.W2251	25	1.3772	1.61	1.63	0.75	0.70	0.38	0.39
12096.W2252	25	1.3772	1.61	1.63	1.00	0.95	0.38	0.39
12096.W2253	25	1.3772	1.61	1.63	1.50	1.45	0.38	0.39
12096.W2254	25	1.3772	1.61	1.63	2.00	1.95	0.38	0.39
12096.W2301	30	1.7523	1.98	2.00	0.75	0.70	0.38	0.39
12096.W2302	30	1.7523	1.98	2.00	1.00	0.95	0.38	0.39
12096.W2303	30	1.7523	1.98	2.00	1.50	1.45	0.38	0.39
12096.W2304	30	1.7523	1.98	2.00	2.00	1.95	0.38	0.39
12096.W2352	35	1.7523	1.98	2.00	1.00	0.95	0.45	0.47
12096.W2353	35	1.7523	1.98	2.00	1.50	1.45	0.45	0.47
12096.W2354	35	1.7523	1.98	2.00	2.00	1.95	0.45	0.47
12096.W2503	50	2.5025	3.00	3.02	1.50	1.45	0.70	0.72
12096.W2504	50	2.5025	3.00	3.02	2.00	1.95	0.70	0.72



12097.1

PULL BACK INSERTS

Material

Heat-treated steel alloy with black oxide finish. High tensile strength (180 000 PSI or 1241 MPa) and hardness (50-52 HRC).

Technical Notes

Precision machined to ± 0.0002 " tol. Repea-

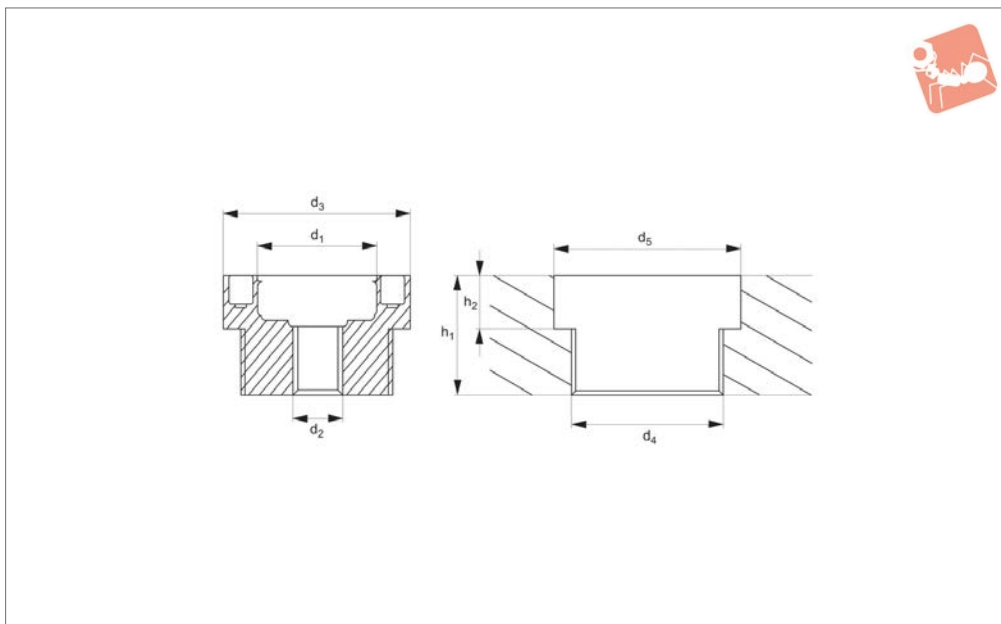
...ability of ,0004" or better.

Standard face mount design. This receiver is interchangeable with competitive face mount designs providing an advanced retrofit option. For customers with existing investments in another system.

Order No.	d_2 UNF-2B	d_3 inch +0.0000 -0.0004	d_4 inch	d_5 inch +0.0004 -0.0000	d_6 inch	For shank dia d_1 mm	h_1 inch min.	h_2 inch +0.010 -0.005	p.c.d inch
12097.W0131	1/4-20	1.3750	11/16	1.3754	#8-32 x 1/2	13	3/4	0.469	0.984
12097.W0161	5/16-18	1.4370	13/16	1.4374	#8-32 x 1/2	16	3/4	0.469	1.125
12097.W0201	3/8-16	1.6873	13/16	1.6877	#10-32 x 3/4	20	1	0.637	1.362
12097.W0251	1/2-13	2.0623	1	2.0627	1/4-28 x 7/8	25	1-1/4	0.799	1.644
12097.W0301	5/8-11	2.2654	1-3/16	2.2658	1/4-28 x 1	30	1-3/8	0.871	1.875
12097.W0351	3/4-10	2.6873	1-9/16	2.6877	5/16-24 x 1	35	1-1/2	0.904	2.178
12097.W0501	1-8	3.4998	2-5/32	3.5002	3/8-24 x 1-1/4	50	2	1.239	2.916



12097.2



Material

Heat-treated steel alloy with black oxide finish. High tensile strength (180 000 PSI or 1241 MPa) and hardness (50-52 HRC).

Technical Notes

Precision machined to $\pm,0002''$ tol. Repeatability of $,0004''$ or better.
Compact face mount design optimises

subplate space, is easier to install, stronger and less expensive than standard face mount receivers.

Order No.	d ₁ mm +0.010 -0.000	d ₂ inch	d ₃ inch	d ₄ UNF-2B	d ₅ inch +0.0004 -0.0000	h ₁ inch min.	h ₂ inch +0.010 -0.005
12097.W2131	13	1/4-20	0.9500	3/4-16	0.9504	3/4	,300
12097.W2161	16	5/16-18	1.0625	7/8-14	1.0629	3/4	,300
12097.W2201	20	3/8-16	1.2750	1-12	1.2754	1	,390
12097.W2251	25	1/2-13	1.5000	1-1/4-12	1.5004	1	,390
12097.W2301	30	5/8-11	1.8125	1-1/2-12	1.8129	1-1/4	,505
12097.W2351	35	3/4-10	2.1250	1-1/2-12	2.1254	1-5/16	,630
12097.W2501	50	1-8	2.7500	2-12	2.7504	1-3/4	,765