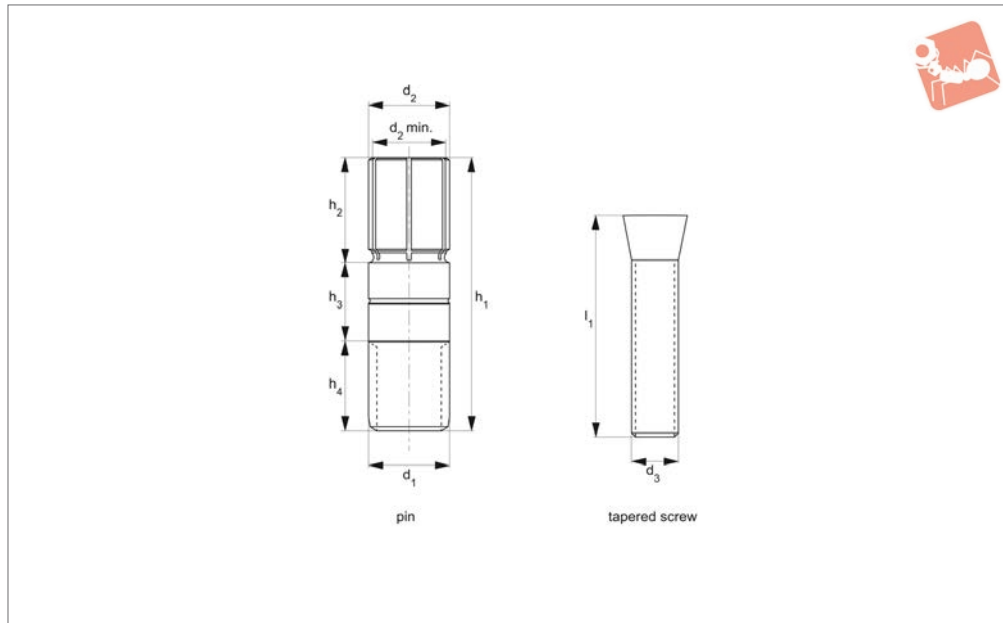




XYZ Xpansion Pins threaded installation



Pull Back Inserts



12059

PULL BACK INSERTS

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 routing

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

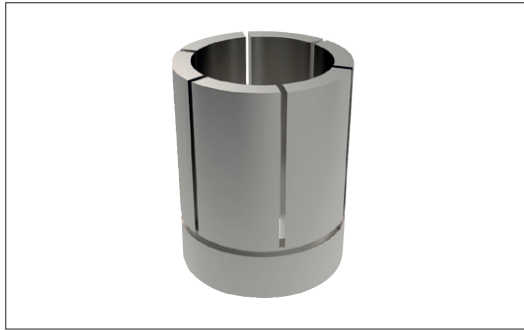
If installing pin in a precision bore, drill and ream the hole over the nominal diameter d_2 by minimum $+0,003$ to $+0,013$ mm.

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



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.

Easy to Install



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.



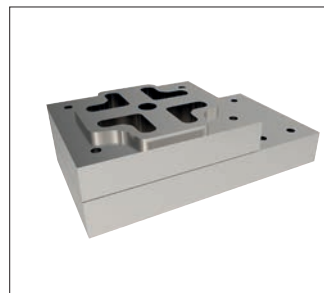
Install the Xpansion pin into the fixture plate.



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



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.