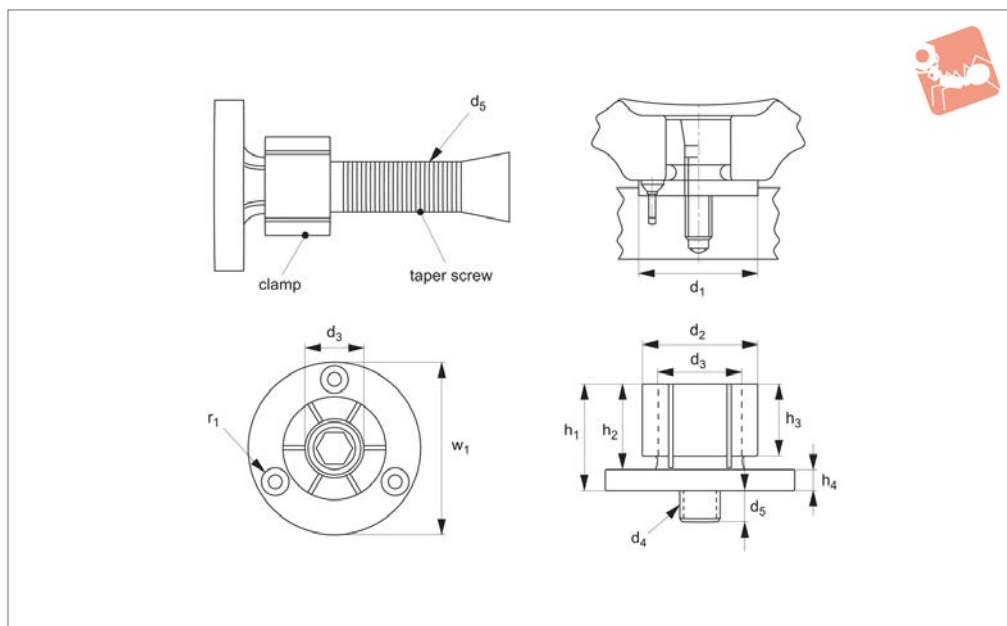




# ID Xpansion Clamps - Machinable for clamping internal bores

## Bore Clamping



12051

BORE CLAMPING

### Material

Body: mild steel.

Tapered screw: steel, heat-treated (coated to prevent seizing).

12051.W0250: aluminium (7075-T6) .

### Technical Notes

For holding parts on an inside diameter, for high density machining on vertical or horizontal mills.

Diameter can range from 4,1mm to a maximum of 250mm!

This product can also be used as an expanding mandrel on a lathe.

Tighten with hex key or hydraulic pull cylinders.

The flange diameter of the base is held to a close tolerance for precision location in a machined pocket.

### Tips

$d_3$  is the minimum diameter the „ $d_2$ “ dimension can be machined or turned down to.

Mounting screws included.

### Important Notes

#### Installation for clamps 12051.W0010 to .W0051.

1. Expand clamp 0,1mm over the relaxed diameter and machine to fit workpiece bore (on lathe or mill).

If using the clamp on a lathe then use the nut provided to tighten the taper screw.

This nut is only used to machine the clamp.

2. Machine a pocket in the fixture for the close tolerance „ $d_1$ “ dimension, and drill and tap mounting holes „ $d_4$ “.

3. Drill and tap a hole „ $d_5$ “ in the centre of

the pocket for the tapered screw.

4. A recessed dowel pin can be installed into the flange for extra rigidity if required.

5. Range of expansion 0,13 - 0,64mm depending on clamp size.

#### Installation for clamps 12051.W0077 to .W0250.

1. Insert machining locking ring (provided), tighten taper screw and machine clamp to required bore size.

2. Release taper screw and remove locking ring prior to any machining of workpieces.

Note: 12051.W0175 and W0250 have four mounting holes on PCD as dimension „ $d_4$ “.

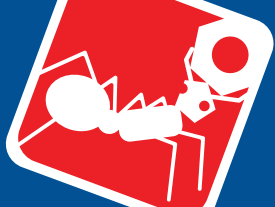
Order No.	$h_1$	$h_2$	$h_3$	$d_1$ +0.000 -0.050	Weight g
12051.W0010	10.7	7.6	6.1	20.0	23
12051.W0012	21.8	16.0	15.0	29.7	59
12051.W0014	24.9	19.0	15.0	31.5	109
12051.W0020	24.9	19.0	15.0	37.5	204
12051.W0027	28.6	22.2	17.5	50.0	213
12051.W0035	31.8	25.4	20.6	56.0	317
12051.W0042	39.6	31.8	27.0	69.5	593
12051.W0051	39.6	31.8	27.0	75.5	775
12051.W0077	45.5	37.6	32.3	107.5	1826
12051.W0103	45.5	37.6	32.3	132.9	2954
12051.W0175	45.5	37.6	32.3	132.9	6795
12051.W0250	45.5	37.6	32.3	152.4	5436

Order No.	$d_3$ min.	$d_4$	$d_5$	Stock $d_2$	$h_4$	$r_1$ on PCD	Torque to Nm max.	Holding force kN	Expansion from relaxed dia. max.
12051.W0010	4.1	M 2	4.1	7.4	3.0	M 2 at 13,7	0.7	1.1	0.1



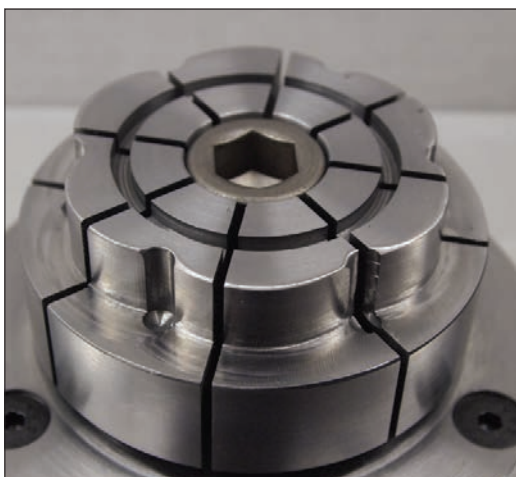
Order No.	d <sub>3</sub> min.	d <sub>4</sub>	d <sub>5</sub>	Stock d <sub>2</sub>	h <sub>4</sub>	r <sub>1</sub> on PCD	Torque to Nm max.	Holding force kN	Expansion from relaxed dia. max.
12051.W0012	7.1	M 4	7.2	12.4	5.9	M 3 at 21,0	5.0	4.2	0.3
12051.W0014	12.2	M 6	11.2	14.2	5.9	M 3 at 23,1	17.0	8.4	0.3
12051.W0020	13.5	M 8	13.2	20.0	5.9	M 3 at 29,0	34.0	11.1	0.4
12051.W0027	18.0	M10	16.3	27.0	6.4	M 4 at 39,4	60.0	20.0	0.4
12051.W0035	23.0	M12	20.3	35.3	6.4	M 4 at 45,5	150.0	26.2	0.4
12051.W0042	29.3	M16	21.4	42.0	7.9	M 5 at 55,9	280.0	44.5	0.4
12051.W0051	29.3	M16	21.4	51.5	7.9	M 5 at 63,9	280.0	44.5	0.4
12051.W0077	29.3	M16	19.3	77.7	7.9	M 6 at 92,6	280.0	44.5	0.4
12051.W0103	29.3	M16	19.3	103.0	7.9	M 6 at 118,1	280.0	44.5	0.4
12051.W0175	29.3	M16	19.3	175.0	7.9	M 6 at 118,1	280.0	44.5	0.5
12051.W0250	29.3	M16	19.3	250.2	7.9	M 6 at 133,4	170.0	26.0	1.0





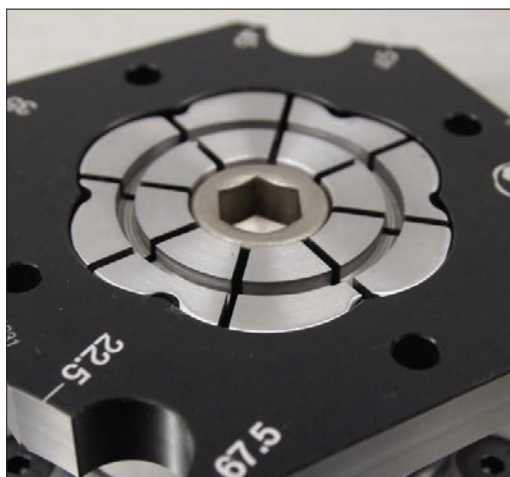
## ID Expansion Clamp and side-loc xpansion clamp

**12051 - 12052**  
Clamping & Height Setting



ID Xpansion Clamps can be used to hold components with complex internal shapes, not just plain bores.

These machinable clamps are produced in 10 sizes and can hold internal diameters from 21,8 to 45,5mm.



### ID Xpansion Clamp, Machinable

The ID Xpansion Clamp is the ideal way to hold multiple parts on an inside diameter for machining on your VMC or HMC.

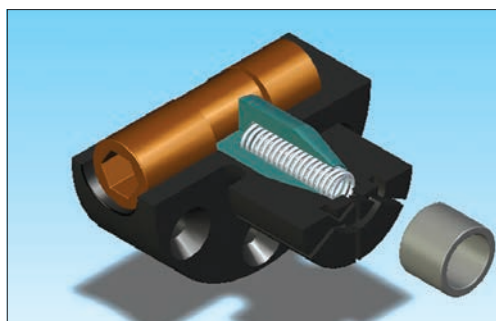
- Low profile and ideal for secondary operations on lathe parts.
- Easily machined to size on lathe or mill.
- Excellent for palletised setups.
- Allow more parts per workcube or fixture plates.
- Body made of mild steel for machinability.
- Tighten with hex key, hydraulic pull cylinders or speed block.

BORE CLAMPING

## Side-Loc Xpansion Clamp machinable

**12052**

Wixroyd introduces a new style clamp to its range of ID-Xpansion clamps, the Side-Loc Xpansion Clamp. Actuated by turning a socket head cam shaft on the side, it is ideal for clamping on blind internal diameters. The locking ring provides an accurate preset diameter and rigidity for machining. Like our original ID Xpansion clamps, the Side-Loc Xpansion Clamp has the dead length feature which is critical for close tolerance dimensions.



Clamp activated from the side with a standard hex key.

Designed in two styles, one for milling operations and one for lathe applications; the mill Side-Loc Xpansion Clamp can be machined from 28.4 to 18mm and the lathe version from 53 to 18mm.



Side-Loc Xpansion Clamp, when the component obstructs the clamps tapered screw.