

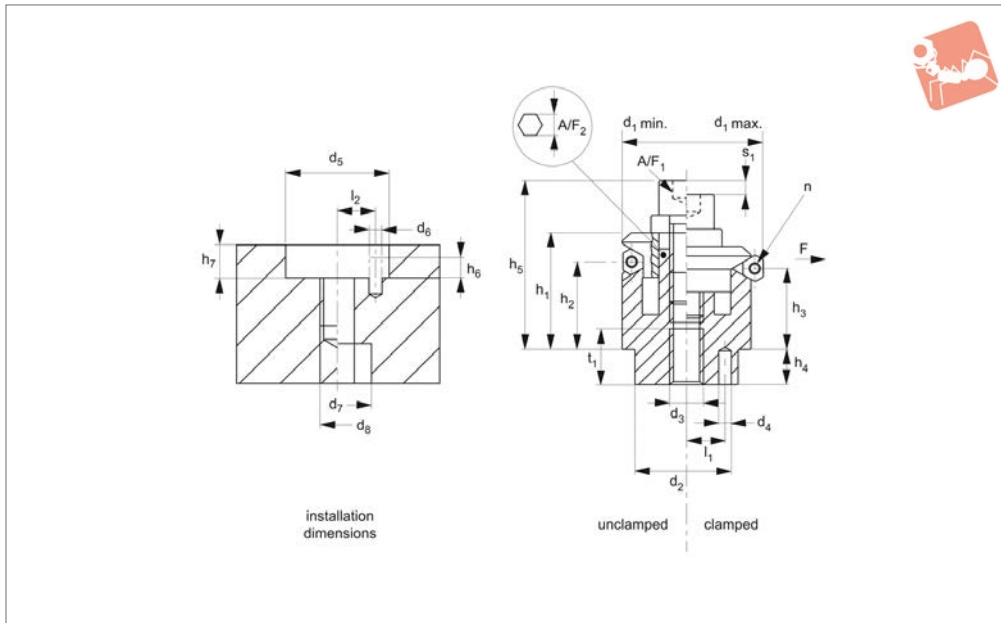


Internal Centering Clamps

standard version - for delicate components



Bore Clamping



12061

BORE CLAMPING

Material

Body: tool steel (1.2842), blackened.
 Top cone: steel, case hardened, blackened and ground.
 Ball: stainless steel (1.4112), hardened and burnished.
 Tension spring: stainless steel, 1.4310 (AISI 301)

Technical Notes

Suitable for concentric positioning and chucking inside holes with surfaces prone to damage.
 Locking pin for precise ball positioning.
 For deep installation applications, „d₂ max.“ must be maintained for clearance.
 Repeatability and rotational accuracy,

±0,025.

Tips

Suitable for perforated walls prone to damage, machining centres, welding devices, transfer units, assembly units etc.

Order No.	h_1 -1	h_2	h_3	l_1 ±0.1	d_1 min.	d_1 max.	d_2 tol. F7	d_3	d_4 +0.3	d_6	d_7	Weight g
12061.W0214	14.3	9.8	8.6	4.5	14.5	18.5	12	M 4	2.0	2.0	4	19
12061.W0218	16.6	11.5	10.4	5.5	18.5	22.5	15	M 5	2.5	2.5	5	38
12061.W0222	19.7	14.1	13.0	7.0	22.5	26.5	20	M 6	3.0	3.0	6	62
12061.W0226	19.7	14.1	13.0	7.0	26.5	30.5	20	M 6	3.0	3.0	6	87
12061.W0230	23.2	14.0	11.7	9.0	30.5	38.5	25	M 6	4.0	4.0	6	133
12061.W0238	27.2	18.0	15.5	11.0	38.5	46.5	30	M 8	4.0	4.0	8	238
12061.W0246	27.2	18.0	15.7	11.0	46.5	54.5	30	M 8	4.0	4.0	8	327
12061.W0254	40.7	23.7	19.1	15.0	54.5	70.5	45	M10	5.0	5.0	10	658
12061.W0270	46.0	28.3	23.6	17.0	70.5	86.5	60	M12	5.0	5.0	12	1286
12061.W0286	51.1	30.3	25.6	25.0	86.5	102.5	60	M16	5.0	5.0	16	1778

Order No.	d_8	Location hole d_5 tol. H7	h_4	h_5 -2	h_6	h_7	l_2	Stroke s_1	t_1	A/F ₁	A/F ₂	Clamping force kN max.	No. of segments n
12061.W0214	M 4	12	5.5	19.3	2.0	5.5	4.5	2.3	6	3	5	3.5	3
12061.W0218	M 5	15	7.5	22.8	2.5	7.5	5.5	2.3	7	4	5	4.5	3
12061.W0222	M 6	20	6.0	28.7	3.0	6.0	7.0	2.3	8	5	6	5.0	3
12061.W0226	M 6	20	6.0	28.9	3.0	6.0	7.0	2.3	8	5	6	5.0	3
12061.W0230	M 6	25	7.0	32.2	4.0	7.0	9.0	4.6	8	5	6	5.0	3
12061.W0238	M 8	30	7.5	39.2	4.0	7.5	11.0	4.6	10	6	8	6.5	6
12061.W0246	M 8	30	7.5	39.2	4.0	7.5	11.0	4.6	10	6	8	6.5	6
12061.W0254	M10	45	9.0	54.7	5.0	9.0	15.0	9.2	12	8	10	8.0	6
12061.W0270	M12	60	10.0	63.0	5.0	10.0	17.0	9.2	15	10	12	10.0	6
12061.W0286	M16	60	10.0	72.1	5.0	10.0	25.0	9.2	15	14	17	10.0	6



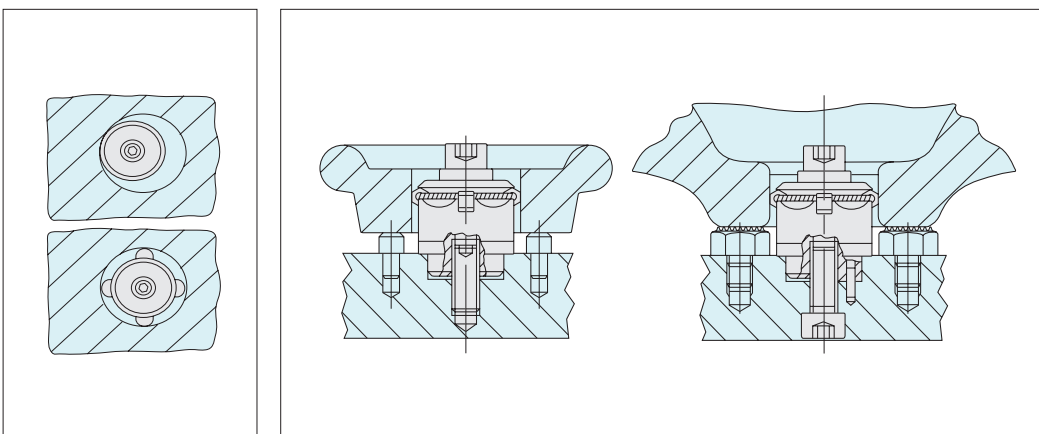
The internal centering clamp provides auto-centric chucking inside both round and square holes, at the simple turn of a hexagon screw. Precise self-centering is achieved through the expansion of the ring of balls which, during clamping, are pressed outward across a precision cone. As the outer diameter of the clamp changes the balls transmit force between its body and the bore. The clamps are used in machining and welding fixtures, product assemblies and transfer units.



Advantages

- Easy to use.
- Precise self-centering and downhold clamping minimising tolerance errors.
- 3 or 6 points of clamping for maximum stability.
- Clamping on uneven surfaces, such as casts and forgings.
- Low height clamping element.
- Bore sizes 11 to 102mm.
- Repeatable positioning accuracy $\pm 0,025$ and rotational accuracy $\pm 0,025$.
- Easily actuated by the turn of a screw.
- Clamping of workpieces with perforated walls without distortion.
- Actuation from above or below.

Centering



Actuation Models

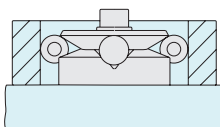
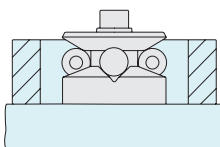
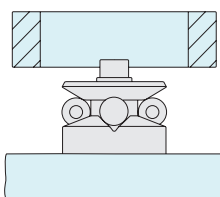
Manual from above



12061 - for delicate workpieces (non-marking).



12071 - for cast and more robust workpieces.



Manual, hydraulic or pneumatic from below



12062 - for delicate workpieces (non-marking).



12072 - for cast and more robust workpieces.

