No. 6970

Bore clamp, hydraulic, eccentric

Single-acting, with spring return,
max. operating pressure 150 bar,
min. operating pressure 30 bar.
lateral compensation per clamp ± 0.25 mm.

Order no.	Article no.	Clamping force vertical [kN]	Clamping rim height min. [mm]	dia. K [mm]	L	Weight [g]
63669	6970-07-50	3,5	6	6,8-7,7	10	2600
60798	6970-08-50	3,5	6	7,8-8,7	10	2600
63685	6970-09-50	5,3	7	8,8-9,7	10	2600
60814	6970-10-50	5,3	7	9,8-10,7	10	2800
63701	6970-11-50	8,5	8	10,8-11,7	13	2800
60830	6970-12-50	8,5	8	11,8-12,7	13	2800
63727	6970-13-50	11,5	9	12,8-13,7	13	2900
60822	6970-14-50	11,5	9	13,8-14,7	13	2900

Design:

The actuating piston is single-acting. Cylinder body, clamping segments and tensioning bolts are from hardened steel, gas-nitrided. Four-part clamping segments are externally serrated.
A Ø 8 H7 centring hole located on the underside for positioning the clamping element. Three fastening screws are included in the supply scope. Oil supply via threaded connection or oil channel in the fixture body.

Application:

The hydraulic bore clamp is preferred for use on workpieces with complex external geometries that must be clamped for machining.
After the clamping segments engage into clamping holes attached on one side with low depth, reliable 5-sided machining does not present a problem.
Workpieces can be installed or removed automatically with handling devices.

Features:

The tension bolt has the shape of a four-sided pyramid at the coupling point to the clamping sleeve. The clamping sleeve segments have this shape also, thus ensuring contact on the entire surface in every position of the tension bolt.
This facilitates a high clamping force and ensures very low wear.
Elastic rings hold the clamping segments together and seal them against entry of chips. Depending on the material, the external serration is pressed into the clamping hole with more or less force, thus permitting the required positive fit. The built-in plate springs achieve a maximum pull-down stroke of approx. 0.2 mm.

The tension bolt has a pyramid shape for improved pre-centring of workpieces.

The bore clamp is also a contact surface for the workpiece. The workpiece contact surface is hard-metal coated (µ 0.3), thereby significantly increasing the displacement force.

The eccentric arrangement of the clamping elements is especially suited for clamping workpieces with circumferential contact edge, such as gear and engine housings, oil pans and similar workpieces.

Note:

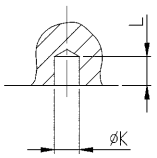
The lateral force when inserting the workpiece must not exceed the „lateral force“ table value. The radial force must be observed.

Please check with us for clamping hardened workpieces or those from GG / GGG.

On request:

Bore clamps for other hole diameters available upon request.

Clamping hole in workpiece:



CAD

Subject to technical alterations.

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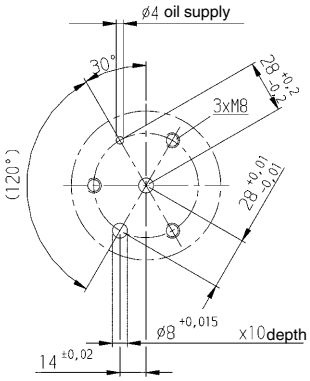
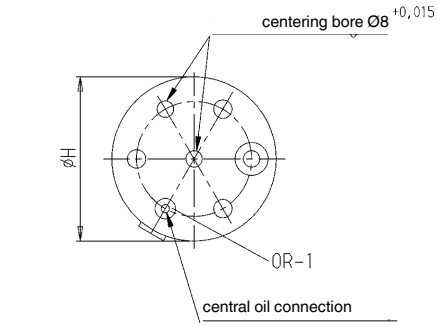
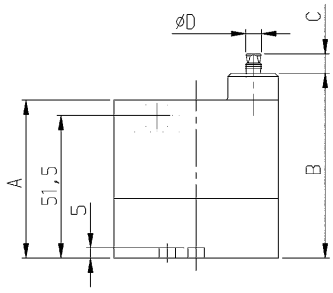
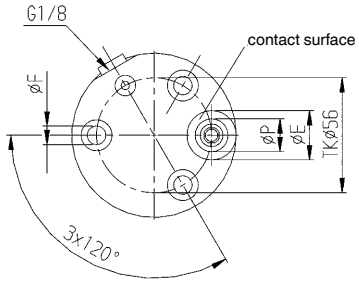
Drilling template device:



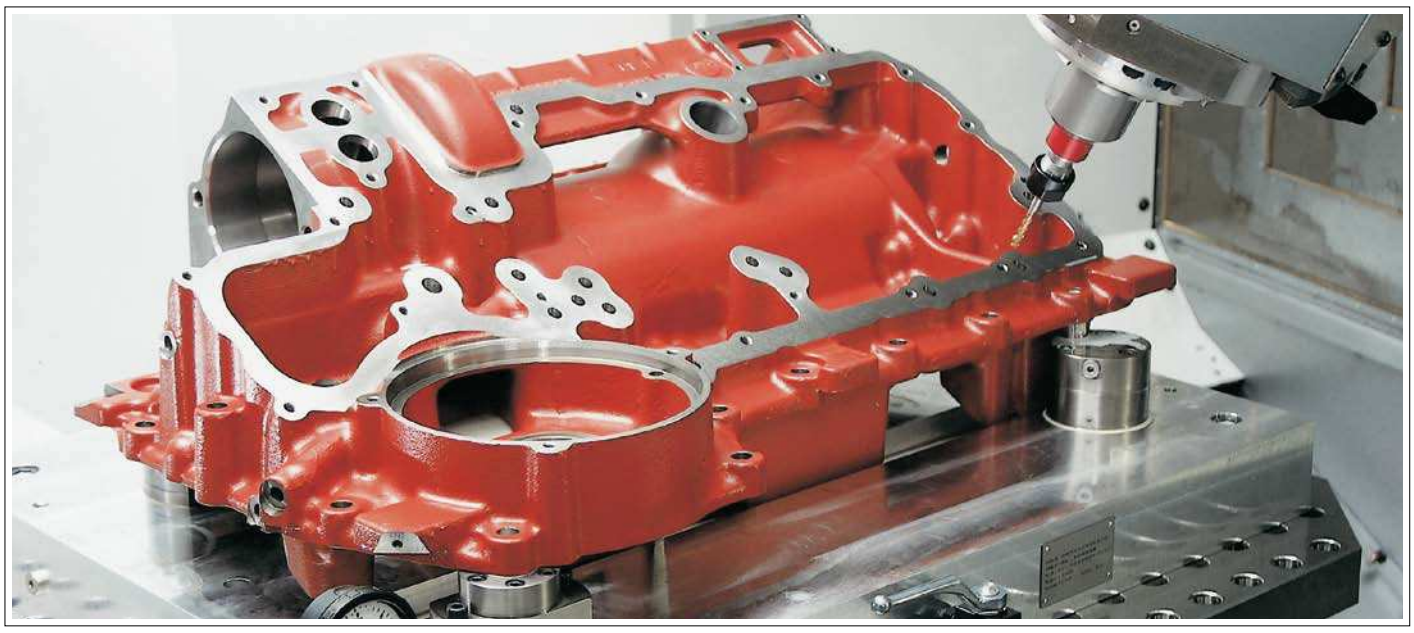






Dimensions:

Order no.	Article no.	Permissible horizontal force [kN]	Radial force of sleeve segments [kN]	Expansion of sleeve [mm]	Piston dia. [mm]	Vol. [cm³]	Side load (unclamped) [N]	A	B ±0.01	C	D	dia. E	dia. F	dia. H	dia. P	OR-1 O-ring Order No.
63669	6970-07-50	1,0	10	1,4	18	1,0	50	59	75	9,5	6,6	24	9	80	15	260448
60798	6970-08-50	1,0	10	1,4	18	1,0	50	59	75	9,5	7,5	24	9	80	15	260448
63685	6970-09-50	1,5	15	1,4	22	1,5	80	59	75	9,5	8,5	24	9	80	15	260448
60814	6970-10-50	1,5	15	1,4	22	1,5	80	59	75	9,5	9,5	24	9	80	15	260448
63701	6970-11-50	2,5	25	1,4	28	2,5	120	59	75	12	10,5	24	9	80	19	260448
60830	6970-12-50	2,5	25	1,4	28	2,5	120	59	75	12	11,5	24	9	80	19	260448
63727	6970-13-50	3,5	35	1,4	32	3,2	150	59	75	12	12,5	24	9	80	19	260448
60822	6970-14-50	3,5	35	1,4	32	3,2	150	59	75	12	13,5	24	9	80	19	260448



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