

## No. 6972F

### Pull-Down Clamp, hydraulic

single acting, spring return,  
max. operating pressure 400 bar,  
min. operating pressure 40 bar.



Order no.	Article no.	Clamping force at 400 bar [kN]	Stroke H [mm]	Piston dia. [mm]	Vol. [cm <sup>3</sup> ]	Md max. [Nm]	Spring force min. [N]	Weight [g]
66951	6972F-05	4,5	5	12	0,57	21	60	670
66969	6972F-20	20,0	8	25	4	72	160	2500
66977	6972F-32	32,0	10	32	8	180	210	4700
66985	6972F-50	50,0	12	40	15	350	340	8800

#### Design:

Cylinder body from hardened steel, burnished. Piston case hardened and ground. Exchangeable jaws. Standard version with serrated and hardened jaws. Complete with 2 fastening screws to ISO, built-in return spring. All oil channels are sealed. Oil supply via threaded connection or oil channel in the fixture body.

#### Application:

Pull-down clamps are used whenever clamping is possible only laterally and the workpiece nevertheless has to be held firmly on the machine tool table. The hydraulic principle enables high pressing and pull-down forces. Mounting by two bolts from above or by four bolts from the bottom.

#### Features:

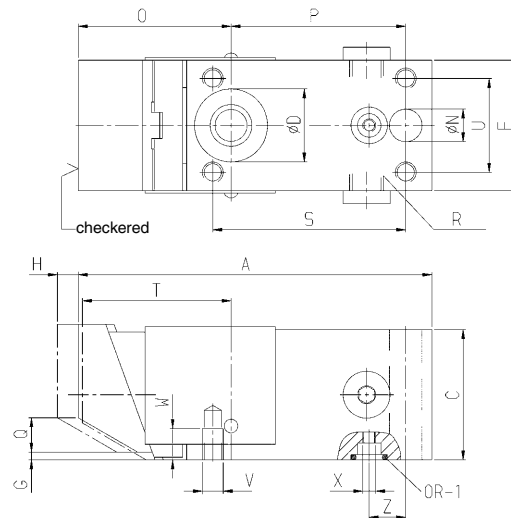
Horizontal and vertical movement is independent of each other (no locked coupling) giving a true pull-down effect. No raising of the clamping jaw, because the clamping bolt is right behind the jaw. Suitable for incorporation in fixtures. New design of jaw connection with rubber buffer ensures sliding without any play.

#### Note:

The maximum pull-down stroke of the jaw must not exceed dimension G. Do not overtighten the fastening screws! Observe max. tightening torque Md. The oil channel can be sealed from below. High variability by oil connection on two sides and bottom oil channel. Jaw and hydraulic piston are connected by a joint to prevent the induction of bending forces into the piston, thus increasing the element's service life.

Pull-down force = approx. 1/3 the applicable clamp force

The hole ØD can be used for additional support or positioning.



#### Dimensions:

Order no.	Article no.	~A	C	F	G	H	dia. N	O ±0.5	P	Q	R	S	T	U	V	W	X	Z	Screw (2 pieces)	ØD +0.05 x depth	OR-1 O-ring Order No.
66951	6972F-05	100,0	30	30	2	5	8,5	39,0	53	3	G1/8	59	38,0	22	M5	6	M3	13,0	M8x45	-	156067
66969	6972F-20	135,0	50	50	3	8	12,5	58,0	67	14	G1/4	74	57,0	36	M8	12	M5	14,0	M12x80	28,00 x 6	114405
66977	6972F-32	149,5	65	65	3	10	16,5	63,5	72	17	G1/4	83	62,5	47	M10	16	M5	17,5	M16x100	32,02 x 6	114405
66985	6972F-50	180,0	80	80	3	12	20,5	71,0	93	19	G1/4	104	70,0	60	M12	25	M5	21,0	M20x120	40,02 x 8	114405

CAD



Subject to technical alterations.