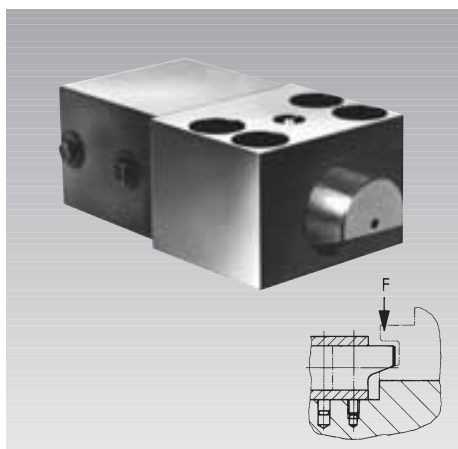




Wedge Clamping Elements for tools with bevelled clamping edge



Application

These elements ensure safe clamping of tools with bevelled clamping edge, even in case of pressure drop. Clamping systems composed of wedge elements have proven to be especially suitable for dies of pressure die-casting machines, but also for other press tools.

Description

The element consists of a double-acting block cylinder with flange-mounted sliding element. The wedge clamping bolt, provided with a 20° bevel, clamps on the bevelled clamping surface of the tool. The design of the large wedge angle is such that the tool is held securely in a self-locking manner.

The wedge angle is suitable for bridging large clamping edge tolerances. In most cases, the tool itself can be provided with the appropriate bevel. As an alternative, it is possible to cut recesses suitable for inserting V shaped inserts.

Advantages

- **sturdy and compact version**
- **retracting clamping bolt ensures unimpeded die and tool change**

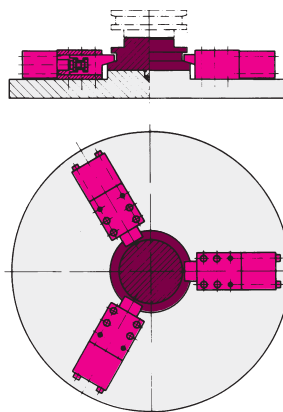
Important notes

In the clamping position, hydraulic pressure must be constantly applied.

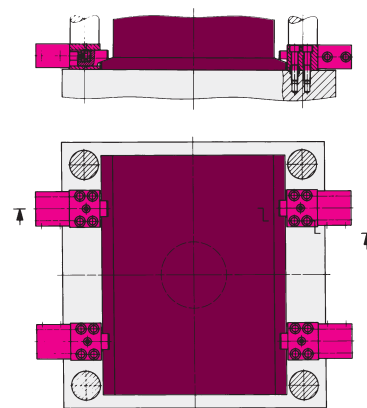
Operating conditions, tolerances and other data see data sheet A 0.100.

Principle of die or tool clamping

In general, dies with round geometry are clamped by using three clamping elements for



each half, whereas dies with square or rectangular geometry are clamped by using four clamping elements for each half.



Please observe: in case of **incorrect operation** of the wedge clamping element, the clamping bolt may fully retract into the guide housing and thus cause the upper die falling off the slide.

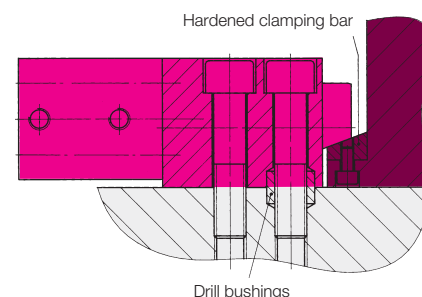
The greasing intervals (high temperature grease) should be adapted to the existing operating conditions. Please note that greasing of the wedge bolts should only be made with the elements being retracted. Clamping elements with wedge clamping bolt must be protected against dirt, scale, swarf, coolant, etc. by means of a suitable covering.

Dies or tools clamped by means of wedge clamping elements are subject to transverse forces that may be strong enough to displace them. Therefore, location pins or suitable limit stops should be provided in order to keep dies or tools in their correct position.

Retrofit

Wedge clamping of existing dies is possible by retrofitting V shaped inserts as shown. Max. hardness 50 HRC.

The occurring transverse forces must be absorbed by bushings to be drilled into the fixture plate (see table for accessories).

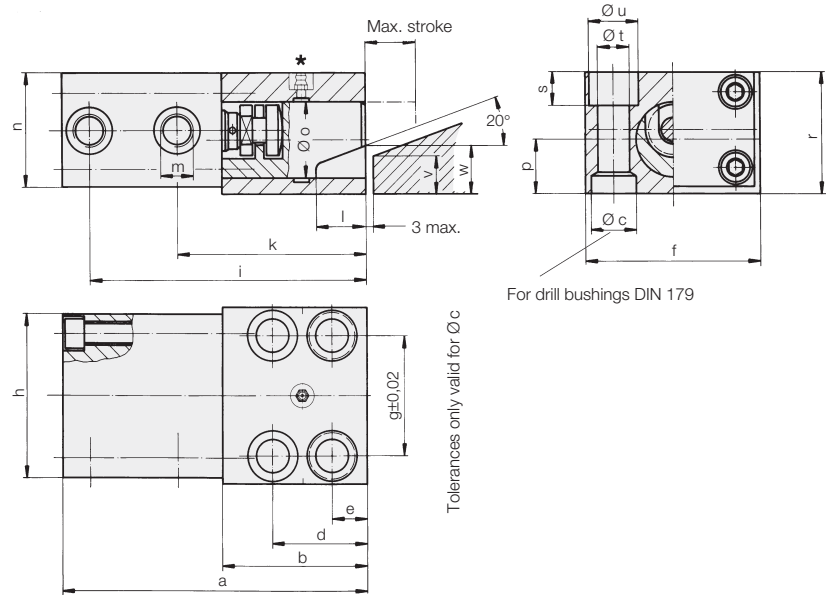


In a transfer line with seven presses the dies are clamped by means of wedge clamping elements. Monitoring system with hydraulic pressure switches.





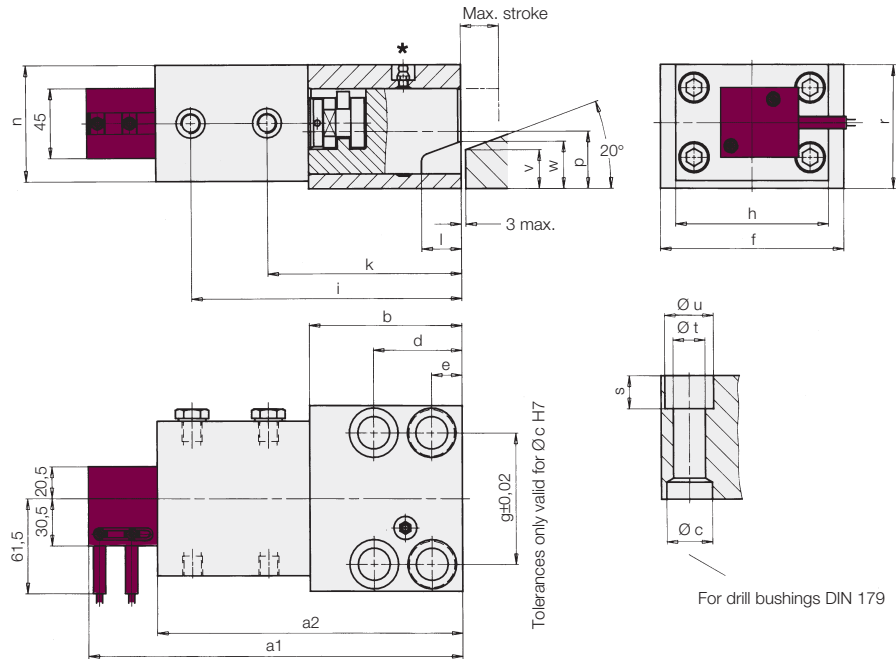
Wedge clamping element without position monitoring



Wedge clamping element with adjustable electronic position monitoring, installation on the back

The inductive proximity switches are installed in the flange-mounted housing. They are activated by means of a vane connected to the piston. The switches can be moved in a slot. The housing can be turned by 180°.

Inductive proximity switches with other dimensions or provided with plug are available upon request.

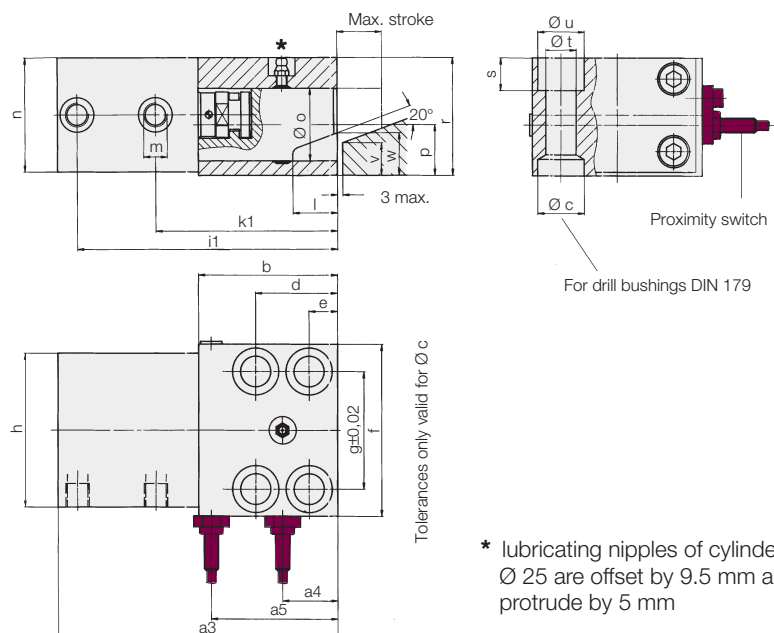


Wedge clamping element with adjustable electronic position monitoring, installation on the side

The proximity switches are installed in the guide housing. They are activated by means of the wedge bolt.

The contact areas are designed to provide one signal for the unclamping position and one signal for the clamping position, i.e. bolt extended.

Inductive proximity switches with other dimensions or provided with plug are available upon request.



* lubricating nipples of cylinders Ø 25 are offset by 9.5 mm and protrude by 5 mm



Maximum clamping force *	[kN]	25	50	100	160	250	400	630
Retention force ** screw quality 8.8	[kN]	35	65	130	210	320	520	820
Max. operating pressure	[bar]	350	275	350	350	350	350	350
Cylinder Ø	[mm]	25	40	50	63	80	100	125
Max. stroke	[mm]	20	25	25	30	32	40	40
a	[mm]	122	157	190	227	267	310	375
a1	[mm]	169	211	245	280	325	365	430
a2	[mm]	134	168	200	235	270	310	375
a3	[mm]	124	157	190	227	267	-	-
a4	[mm]	26	31	76	96	114	-	-
a5	[mm]	53	71	93	119	141	-	-
b	[mm]	58	78	100	125	150	180	225
Ø c H7 x depth	[mm]	18/7	26/9	30/11	35/11	48/13	55/16	62/16
d	[mm]	38	46	58	75	78	95	108
e	[mm]	14	16	20	25	26	32	38
f	[mm]	70	95	120	150	200	240	280
g	[mm]	48	65	85	106	140	180	210
h	[mm]	65	85	100	125	160	200	230
i	[mm]	111	146	177	210	246	285	344
i1	[mm]	113	146	177	210	246	285	-
k	[mm]	76	102	127	151	184	215	272
k1	[mm]	78	102	127	151	184	215	-
l	[mm]	20	25	26	32	40	45	50
m		G 1/4	G 1/4	G 1/4	G 1/2	G 1/2	G 1/2	G 1/2
n	[mm]	45	63	75	95	120	150	180
Ø o	[mm]	30	40	55	70	80	100	125
p	[mm]	21.5	28	37	49	55	75	85
r	[mm]	48	65	80	105	125	160	190
s	[mm]	13	18	20	26	32	38	44
Ø t	[mm]	13	17	21	26	33	39	45
Ø u	[mm]	20	26	32	40	48	57	66
v	[mm]	15	18	25	30	30	50	60
w	[mm]	19.5	23.5	30.5	37	38	60	70
Screws DIN 912-8.8	[mm]	M 12	M 16	M 20	M 24	M 30	M 36	M 42
Required tightening torque	[Nm]	86	210	410	710	1450	2520	4050
Weight	[kg]	2.4	5.6	7.5	14.7	28	55	90

without position monitoring

Part-no.	4604-620	4604-621	4604-622	4604-623	4604-634	4604-635	4604-636
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with adjustable position monitoring

installation on the back

Part-no.	4604-670	4604-671	4604-672	4604-673	4604-674	4604-675	4604-676
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with position monitoring

installation on the side

Part-no.	4604-683	4604-868	4604-895	4604-913	4604-838	-	-
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Accessories

Drill bushings DIN 179	12 x 12	17 x 16	21 x 20	26 x 20	32 x 25	38 x 30	44 x 30
Part-no.	3300-285	3300-287	3300-288	3300-289	3300-420	3300-430	3300-440

* Clamping force

This is the force the clamping element applies to the workpiece at maximum operating pressure. The die or the tool is clamped on the fixture plate by means of this force. The external forces acting on die or tool (e.g. ejecting force or die cushion force) shall not exceed the totality of the elements' clamping force.

** Retention force

This is the holding force of clamping element and fastener (screw quality 8.8). The data given in the above table are based on the condition that the appropriate tightening torque has been applied, and that material and geometry of the fixtures are suitable for the purpose.

It must be ensured that in cases of emergency, e.g. workpiece jammed in die or tool, the sum total of the elements' retention forces is not exceeded.