

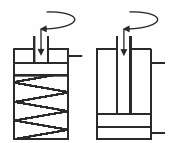
SWING CLAMP CYLINDERS

threaded body, with overload protection, single-/double-acting, pmax. 500 bar



Webcode: 024050

We also design and manufacture special designs



Design: **2 D**

- ☒ Housing with threaded body, oil supply via drilled channels

Advantages:

- ☒ Protecting metal wiper
- ☒ Integrated overload protection
- ☒ Fixture can be easily loaded and unloaded
- ☒ Easy to assemble with self designed clamp arms
- ☒ Standard and special clamp arms available (see page 3)
- ☒ Various contact bolts available (see data sheet 1000-1)

The safety instructions for swing clamp cylinders in our catalogue or on our website and the current accident prevention regulations must be considered.

Description:

Swing clamp cylinders release the clamping point on the workpiece. With this, it is easy to change the workpiece.

This hydraulic swing clamp cylinder operates as single-acting or double-acting pull cylinder, whereas part of the stroke is used to rotate the piston. The model with 0° swing angle operates only vertical as pull cylinder.

To guarantee a long lifetime the cylinders have an integrated metal wiper as standard.

The oil supply is made through drilled channels. The seal takes place directly in the mounting hole.

You can select between right or left turning models with various standardized swing angles.

The integrated overload protection protects the swing mechanism from damage due blockage of the rotation or improper assembly of the clamp arm.

Operating conditions:

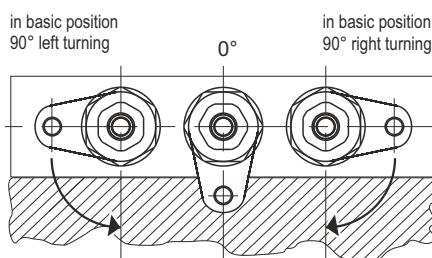
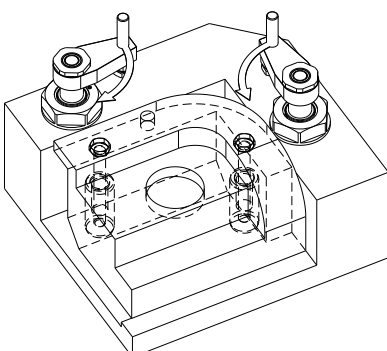
For any risk of exceeding the permitted volume flow a throttle check valve must be interposed into the oil supply line (see data sheet 700-15). Counter-hold the clamp arm when tightening or loosening the counter nut in order to prevent torque transfer to the piston rod and to avoid damage to the ball guide.

Variations with 0°, 30°, 45°, 60° and 90° swing angles are available. The permitted operating pressure is depending from the clamp arm length.

Except from standard clamp arms also special clamp arms can be assembled. The maximum operating pressure of 500 bar does not apply for each clamp arm length. For details about the permitted operating pressure, refer to page 3.

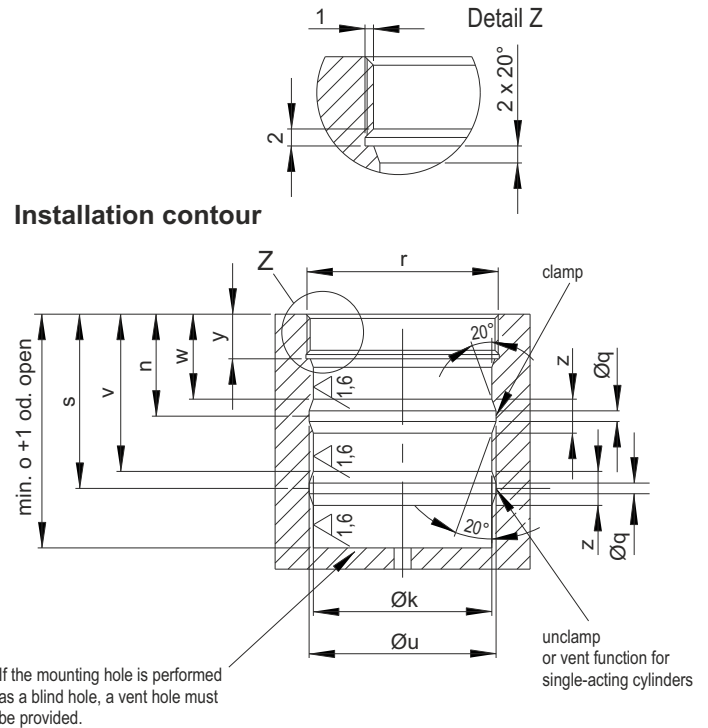
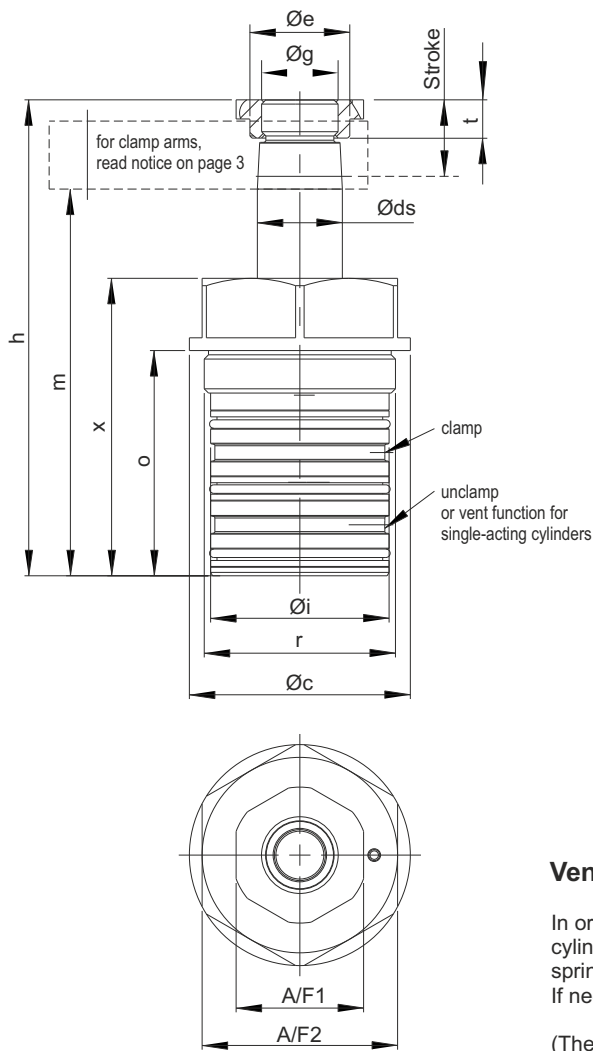
When installing the cylinder pay attention on precise cleanness in the oil passages.

Application example:





Swing clamp cylinders / threaded body



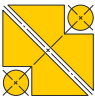
Ventilation for single-acting swing clamp cylinders:

In order to avoid malfunctions, the spring chamber of the single-acting swing clamp cylinder must be vented. The penetration of foreign particles and liquids into the spring chamber must be prevented e. g. by a sintered metal filter. If necessary, an additional vent line can be connected.

(The sintered metal filter and the vent line are not included.)

Technical data:

Piston Ø:	[mm]	25	40	63
Clamping stroke	[mm]	10	13	14
Swing stroke	[mm]	8	9	10
Total stroke	[mm]	18	22	24
Operating pressure, min.	[bar]	30	30	30
Volume flow, max.	[cm ³ /s]	3,2	10	27,7
Oil requirement/forward stroke	[cm ³]	3,2	10,0	27,7
Oil requirement/backward stroke	[cm ³]	8,8	27,7	74,8
c Ø	[mm]	52	64	100
ds Ø	[mm]	20	32	50
e Ø	[mm]	23,5	33,5	55,5
g Ø	[mm]	M18x1,5	M28x1,5	M45x1,5
h	[mm]	112	152	182
i Ø (f7)	[mm]	42	55	85
k Ø (H7)	[mm]	42	55	85
m	[mm]	91-1	124-1	142-1
n	[mm]	24	29	41
o	[mm]	53	66	96
q Ø	[mm]	5	5	6
r	[mm]	M45x1,5	M60x1,5	M90x1,5
s	[mm]	41	46,5	64
A/F 1	[mm]	30	40	68
A/F 2	[mm]	46	55	95
t	[mm]	9	10	12
u Ø	[mm]	44	57	87
v	[mm]	37	41,5	59
w	[mm]	20	24	36
x	[mm]	70	99	116
y	[mm]	10,5	12,5	20,5
z	[mm]	8	10	10



Swing clamp cylinders / threaded body

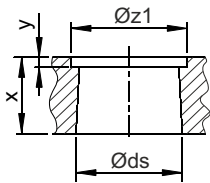
Clamp arms:

For these swing clamp cylinders, standard clamp arms are available as accessories. All necessary information about this can be found on the data sheet **240-0 «Clamp arms»** in the catalogue or at www.hydrokomp.de.

Compatible clamp arms: **C D E F**

Special clamp arms are available on request.

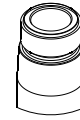
Dimensions for house production of clamp arms:



Piston Ø	[mm]	25	40	63
Ø ds	[mm]	20	32	50
x	[mm]	16	23	34
y	[mm]	4	5	6
Ø z1	[mm]	24	34	56
Taper ratio		1:10	1:10	1:10

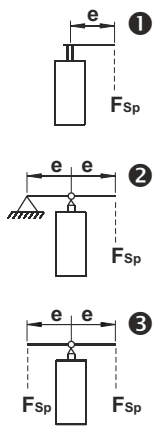
Attention: consider the interference contour for the housing.

Clamp arm holder:



Taper

Effective clamping force F_{Sp} depending from operating pressure p :



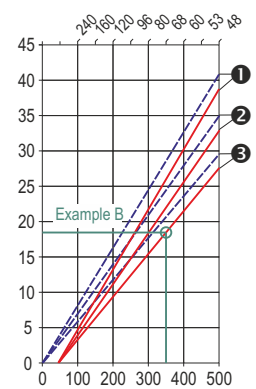
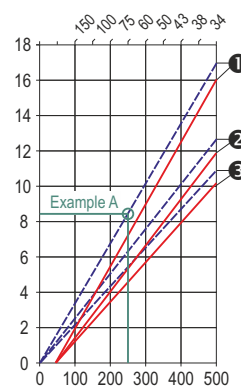
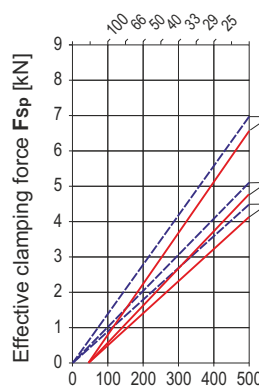
--- double-acting
— single-acting

Piston Ø 25 mm

Piston Ø 40 mm

Piston Ø 63 mm

Maximum clamp arm length e [mm], only relevant for clamp arms type 1 ▶



Operating pressure p [bar] ▶

Example A:

- double-acting cylinder, piston Ø 40 mm
- present operating pressure $p = 250$ bar
- clamp arm type 1, length $e = 60$ mm
- resulting clamping force $F_{Sp} \sim 8,5$ kN

Example B:

- single-acting cylinder, piston Ø 63 mm
- present operating pressure $p = 350$ bar
- clamp arm type 3, length = 27 mm
- resulting clamping force $F_{Sp} \sim 18$ kN

The retraction force of the spring in single-acting swing clamp cylinders reduces the clamping force slightly. To achieve the same clamping force as with double-acting cylinders, the operating pressure must be increased slightly.

Order number key:

Example **SSZY** - **RE90** - **D4013** - **K10** - **003**

1	Swing motion:	right turning = R , left turning = L , neutral 0° = N
	Operating method:	single-acting = E , double-acting = D
2	Swing angle [degree]:	standard = 0, 30, 45, 60, 90
	Housing design:	threaded body = D
	Piston Ø [mm]:	see dimension table on page 2
3	Clamping stroke [mm]:	see dimension table on page 2
	Clamp arm retainer:	taper = K
	Overload protection:	with = 1
4	Position control:	without = 0
	Connection type:	drilled channels = 003

For additional help in model selection, see data sheet «Swing Clamp Cylinders - Selection Guide».