

Swing clamp cylinders

cartridge design, with overload protection, double-acting, pmax. 500 bar

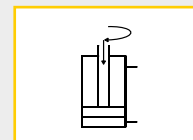
240-60

Issue: 10/2022



E

Webcode: 024060



Description:

This hydraulic swing clamp cylinder operates as 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.

For oil supply, the cylinders are equipped with threaded port and manifold connection with O-ring for drilled channels.

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.

Pay attention to cleanliness in the bore and oil channels during installation.

Housing design:

- ☒ Type E (cartridge design)

Connections:

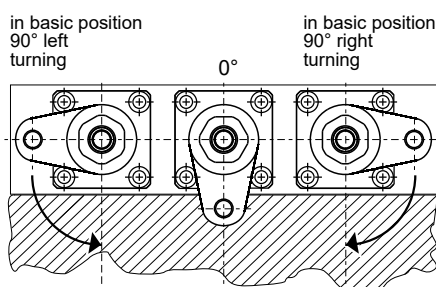
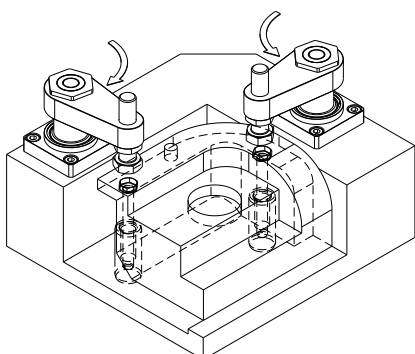
- ☒ Drilled channels

Advantages:

- ☒ Protective metal wiper
- ☒ Integrated overload protection
- ☒ Easy loading and unloading of the fixture
- ☒ Self made clamp arms mountable
- ☒ Standard and special clamp arms available (see page 3)

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

Application example:



We also design and manufacture customized variants!

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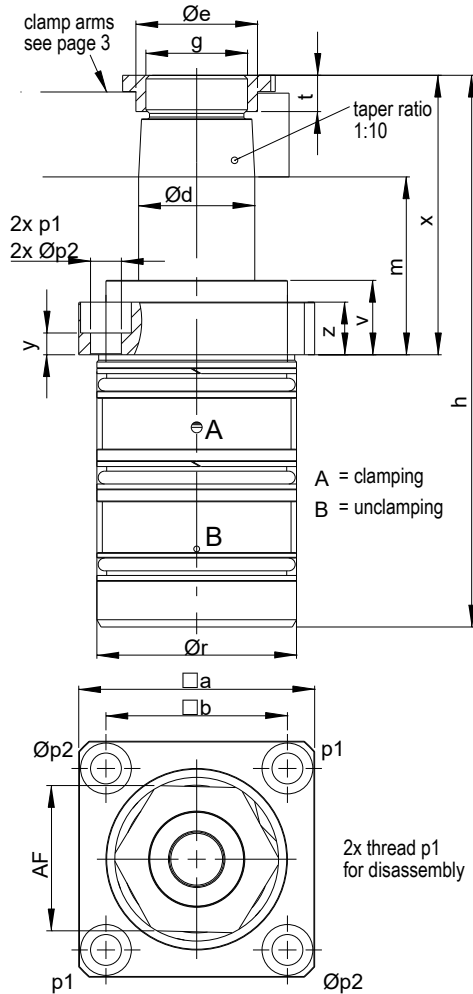
+49 6401 225999-0

sales@hydrokomp.de

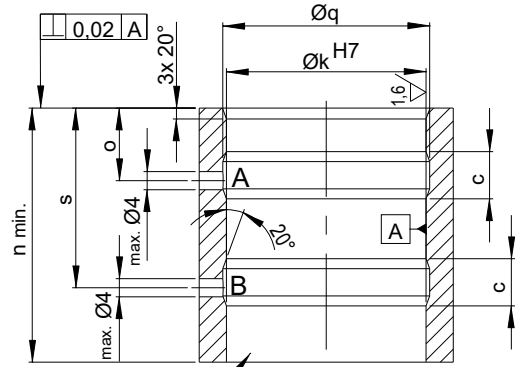
Siemenstr. 16
35325 Mücke (Germany)

www.hydrokomp.de

Technology that connects

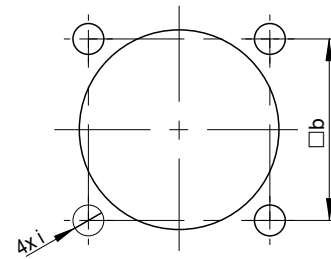


Installation contour



If the mounting hole is designed as a blind hole, a vent hole must be provided.

Bore pattern



Technical data:

Piston \varnothing :	[mm]	25		40		50		63	
Clamping stroke	[mm]	10	25	13	25	15	25	13	25
Swing clamp	[mm]	8	10	9	10	11	11	12	13
Total stroke	[mm]	18	34	22	35	26	36	25	38
Operating pressure, min.	[bar]	30	30	30	30	30	30	30	30
Volume flow, max.	[cm ³ /s]	3,2	3,2	10	10	18,4	18,4	27,7	27,7
Oil requirement/stroke	[cm ³]	3,2	6	10	16	18,4	25,5	27,7	43
Oil requirement/back stroke	[cm ³]	8,8	17	27,7	44	51	71	75	116
a	[mm]	55	55	65	65	85	85	100	100
b	[mm]	40	40	50	50	65	65	75	75
c	[mm]	10	10	10	10	12	12	12	12
d \varnothing	[mm]	20	20	32	32	40	40	75	116
e \varnothing	[mm]	23,5	23,5	33,5	33,5	45	45	55,5	55,5
AF	[mm]	27	27	40	40	slotted nut	slotted nut	slotted nut	slotted nut
g		M18x1,5	M18x1,5	M28x1,5	M28x1,5	M35x1,5	M35x1,5	M45x1,5	M45x1,5
h	[mm]	125,5	157,5	152	178	172	192	183	209
i	[mm]	M6	M6	M8	M8	M10	M10	M12	M12
k \varnothing (H7)	[mm]	42	42	55	55	70	70	85	85
l ± 3	[mm]	17,5	17,5	18,5	18,5	21	21	24	24
m -1	[mm]	43	59	49	62	60	70	62	75
n min.	[mm]	60	76	66	79	72	82	76	89
o $\pm 1,5$	[mm]	17,5	17,5	18,5	18,5	21	21	24	24
p1	[mm]	M8	M8	M10	M10	M12	M12	M16	M16
p2 \varnothing	[mm]	6,6	6,6	9	9	11	11	14	14
q \varnothing	[mm]	44	44	57	57	72	72	87	87
r \varnothing	[mm]	42	42	55	55	70	70	85	85
s $\pm 1,5$	[mm]	43	43	48	48	51,5	51,5	54	54
t	[mm]	9	9	10	10	11	11	12	12
u \varnothing	[mm]	5	5	5	5	6	6	6	6
v	[mm]	18	18	20	20	24	24	28	28
w ± 3	[mm]	43	43	48	48	51,5	51,5	54	54
x	[mm]	64	80	77	90	94	104	102	115
y	[mm]	6,5	6,5	6	6	8,5	8,5	10,5	10,5
z	[mm]	13,5	13,5	14,5	14,5	19,5	19,5	23,5	23,5
Overload torque	[Nm]	3,5	3,5	11	11	17	17	30	30



Clamp arms:

For these swing clamps, standard clamp arms are available as accessories.

See data sheet **240-0 «Clamp arms»** (Webcode 024000).
Special clamp arms are available on request.

Dimensions for in-house production of clamp arms:

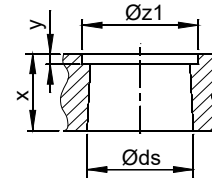
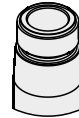
Piston Ø [mm]	25	40	50	63
Ø ds [mm]	20	32	40	50
x [mm]	16	23	28	34
y [mm]	4	5	5	6
Ø z1 [mm]	24	34	46	56

Attention: consider the interference contour for the housing.

Compatible clamp arms:

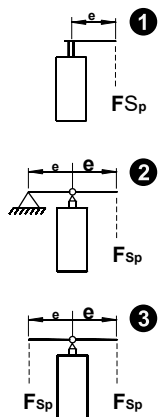


Taper holder (SPK) taper ratio 1:10



To fix the clamp arms, the swing clamp cylinders are equipped with a hexagon nut.
From a piston Ø of 50 mm, scope of supply includes a slotted nut instead.
See information sheet **«Assembly / disassembly of the clamp arms»**.

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



--- double-acting

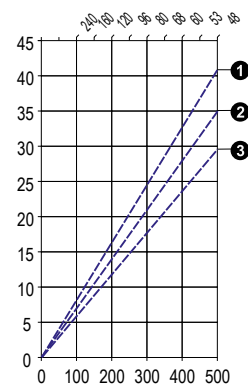
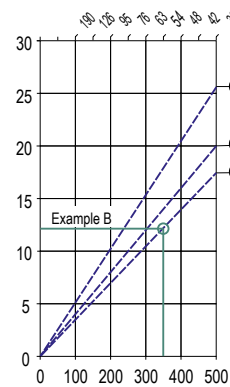
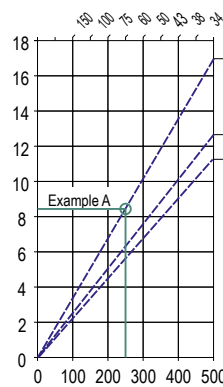
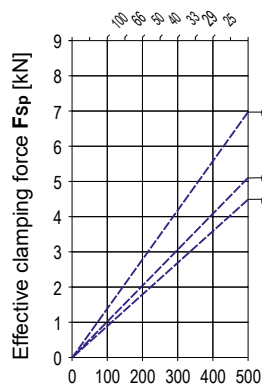
Piston Ø 25 mm

Piston Ø 40 mm

Piston Ø 50 mm

Piston Ø 63 mm

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



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:

- double-acting cylinder, piston Ø 50 mm
- present operating pressure $p = 350$ bar
- clamp arm type 3, length $e = 54$ mm
- resulting clamping force $F_{Sp} \sim 12,6$ kN

Order number key:

Example: **SSZY** - **RD45** - **E4013** - **K10** - **003**

1 **Swing motion:** right turning = **R**, left turning = **L**, neutral $0^\circ = \mathbf{N}$
Operating method: double-acting = **D**
Swing angle [degree]: standard = **0, 30, 45, 60, 90**

2 **Housing design:** cartridge design = **E**
Piston Ø [mm]: see dimension table on page 2
Clamping stroke [mm]: see dimension table on page 2

3 **Clamp arm holder:** Taper = **K**
Overload protection: with = **1**
Position control: without = **0**

4 **Oil supply:** drilled channels = **003**

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