

# Swing clamp cylinders

double-acting, for low pressure, pmax. 70 bar

**240-70**  
Issue: 10/2022

## Description:

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 a pull cylinder.

The swing clamp cylinders are equipped with a reinforced swing mechanism. 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-rings for drilled channels.

Right or left swinging models with 0° and 90° swing angle are available as standard. The special swing angles 30°, 45° and 60° are available on request. The allowed operating pressure is depending on the length of the clamp arm.

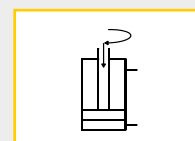
Except from standard clamp arms also custom-designed clamp arms can be assembled. The maximum operating pressure of 70 bar does not apply for each clamp arm length. For details about the allowed operating pressure, see page 3.

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



**A**

**Webcode: 024070**



## Housing design:

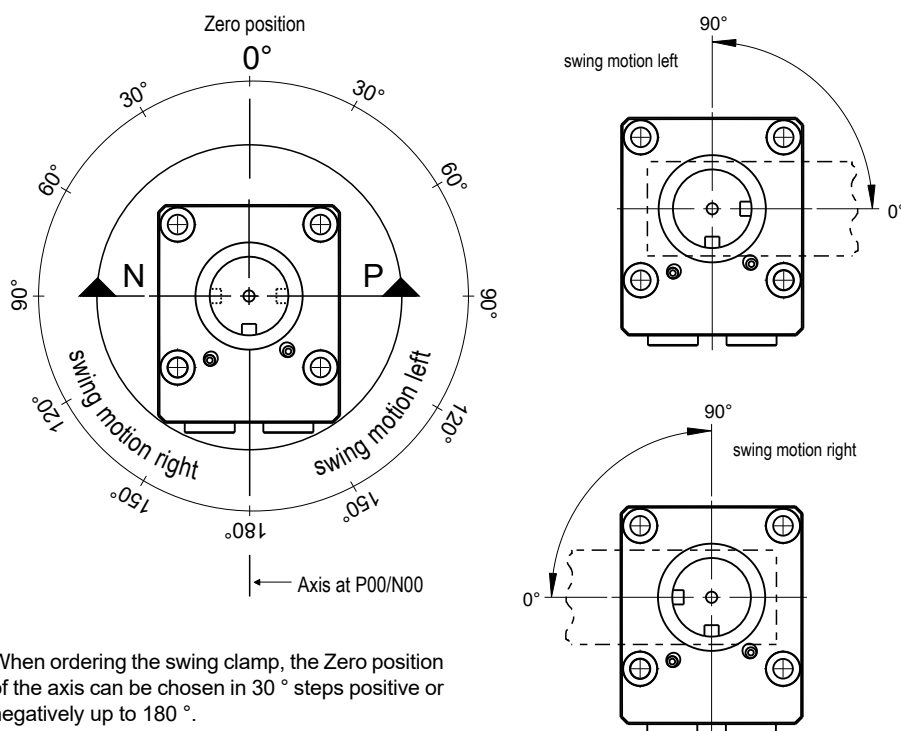
- ✗ **Type A**  
(upper flange)

## Connections:

- ✗ **G1/4 threaded port**
- ✗ **Manifold with O-ring**

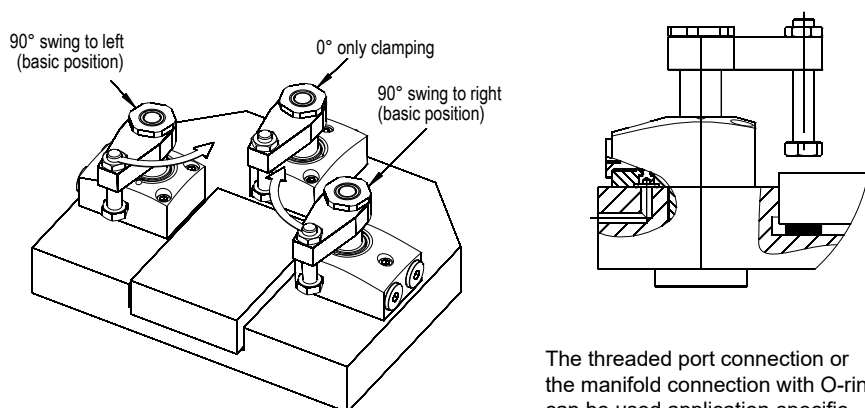
## Advantages:

- ✗ **Reinforced swing mechanism**
- ✗ **Compact design**
- ✗ **Long life of the seals**
- ✗ **Easy mounting of clamp arms**
- ✗ **Cost effective and efficient**



When ordering the swing clamp, the Zero position of the axis can be chosen in 30° steps positive or negatively up to 180°.

## Application examples:



The threaded port connection or the manifold connection with O-ring can be used application-specific.

**We also design and manufacture customized variants!**

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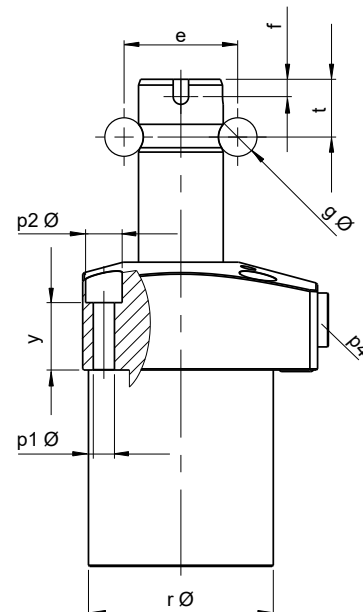
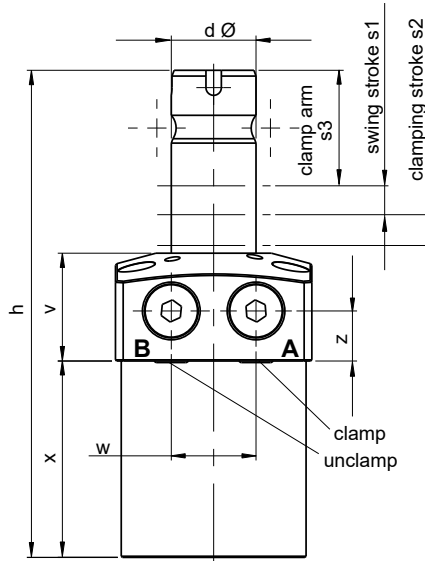
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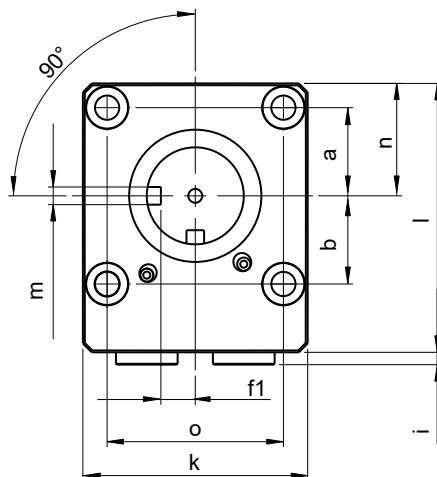
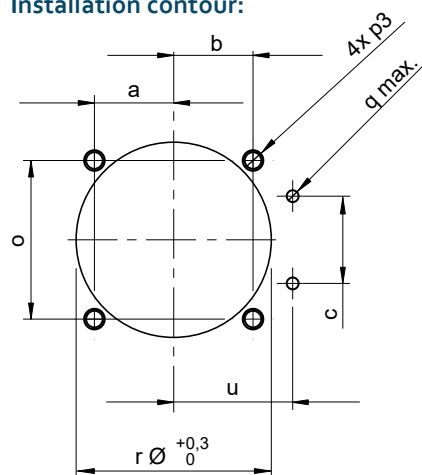


## Technical data:

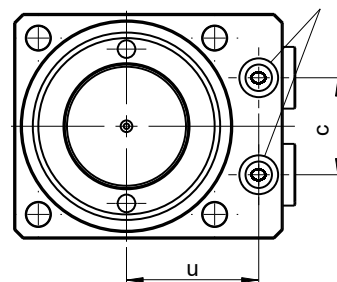
Piston Ø [mm]	37	44	51
Clamping stroke [mm]	8	10	10
a [mm]	20	23,5	27,5
b [mm]	20	23,5	27,5
c [mm]	22	24	30
d Ø [mm]	22	25	30
e [mm]	29,5	34	40
f [mm]	4,5	5	6,5
f1 [mm]	7,8	9	10
g Ø [mm]	10	12	14
h [mm]	126,5	143,5	156
i [mm]	3,0	3	5,5
k [mm]	51	60	70
l [mm]	61	69	81
m [mm]	4 H8	4 H8	6 H8
n [mm]	25,5	30	35
o [mm]	40	47	55
p1 Ø [mm]	5,5	6,8	6,8
p2 Ø [mm]	9,5	11	11
p3	M5	M6	M6
p4	G1/8	G1/8	G1/4
q max. [mm]	3	3	5
r Ø [mm]	48	55	65
s1 [mm]	7,5	8,5	10
s2 [mm]	8	10	10
s3 [mm]	30	34	40
t [mm]	15	17	20
u [mm]	30	33,5	39,5
v [mm]	28	30	31
w [mm]	22	24	30
x [mm]	51	59	63
y [mm]	17,5	17	17
z [mm]	13	12	13



## Installation contour:



Piston Ø	O-Ring
37 mm	6x1,5
44 mm	6x1,5
51 mm	7x1,5



## 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](http://www.hydrokomp.de).

## Dimensions for in-house production of clamp arms:

Piston Ø [mm]	37	44	51
g Ø [mm]	10	12	14
e [mm]	29,5	34	40
f [mm]	4,5	5	6,5
m [mm]	4H8	4H8	6H8
t [mm]	15	17	20

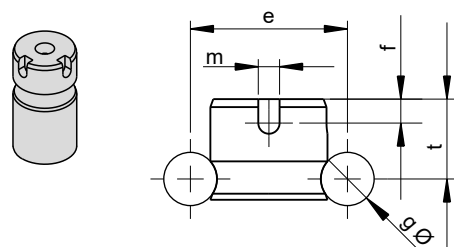
Attention: consider the interference contour for the housing.

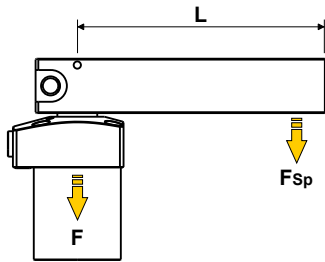
## Compatible clamp arms:



Special clamp arms are available on request.

## Cylindrical holder (SPZ):





## Piston Ø 37 mm

**Example 1:**  
predetermined operating pressure  
**p = 50 bar**  
required length of clamp arm  
**L = 120 mm**  
resulting effective clamping force  
**F<sub>Sp</sub> = 2,7 kN**

## Effective clamping force F<sub>Sp</sub> in relation to operating pressure p and length of the clamping arm L:

Operating pressure p [bar]	Clamping force, cylinder F [kN]	effective clamping force F <sub>Sp</sub> [kN] relation to the length of the clamping arm L [mm]							
		50	60	80	100	120	140	160	200
70	4,87	4,3	4,2	4	3,9	3,7	3,6	-	-
65	4,52	4	3,9	3,7	3,6	3,4	3,3	-	-
60	4,17	3,7	3,6	3,5	3,3	3,2	3,1	2,9	-
55	3,82	3,4	3,3	3,2	3	2,9	2,8	2,7	2,5
50	3,48	3,1	3	2,9	2,8	2,7	2,6	2,5	2,3
45	3,13	2,8	2,7	2,6	2,5	2,4	2,3	2,2	2
40	2,78	2,5	2,4	2,3	2,2	2,1	2,1	2	1,8
35	2,43	2,2	2,1	2	2	1,9	1,8	1,7	1,6
30	2,09	1,9	1,8	1,7	1,7	1,6	1,6	1,5	1,4
25	1,74	1,6	1,5	1,5	1,4	1,4	1,3	1,2	1,2
20	1,39	1,3	1,2	1,2	1,1	1,1	1	1	0,9
15	1,04	1	0,9	0,9	0,9	0,8	0,8	0,8	0,7
Maximum operating pressure p <sub>max.</sub> [bar]		7	7	7	7	7	7	6,6	5,7

## Piston Ø 44 mm

**Example 2:**  
required effective clamping force  
**F<sub>Sp</sub> > 4,2 kN**  
required length of clamp arm  
**L = 60 mm**  
resulting min. operating pressure.  
**p<sub>min.</sub> = 50 bar**

Operating pressure p [bar]	Clamping force, cylinder F [kN]	effective clamping force F <sub>Sp</sub> [kN] relation to the length of the clamping arm L [mm]							
		50	60	80	100	120	140	160	200
70	7,21	6,3	6,2	5,9	5,6	5,4	5,2	-	-
65	6,69	5,8	5,7	5,5	5,2	5	4,8	-	-
60	6,18	5,4	5,3	5,1	4,8	4,6	4,4	4,2	-
55	5,66	5	4,8	4,6	4,4	4,2	4,1	3,9	3,6
50	5,15	4,5	4,4	4,2	4	3,9	3,7	3,5	3,2
45	4,63	4,1	4	3,8	3,6	3,5	3,3	3,2	2,9
40	4,12	3,6	3,5	3,4	3,2	3,1	3	2,8	2,6
35	3,60	3,2	3,1	3	2,8	2,7	2,6	2,5	2,3
30	3,09	2,7	2,7	2,6	2,4	2,3	2,2	2,1	2
25	2,57	2,3	2,2	2,1	2	2	1,9	1,8	1,6
20	2,06	1,8	1,8	1,7	1,6	1,6	1,5	1,4	1,3
15	1,54	1,4	1,4	1,3	1,2	1,2	1,1	1,1	1
Maximum operating pressure p <sub>max.</sub> [bar]		7	7	7	7	7	7	6,4	5,6

## Piston Ø 51 mm

**Example 3:**  
predetermined operating pressure  
**p = 70 bar**  
required effective clamping force  
**F<sub>Sp</sub> > 7,5 kN**  
resulting max. length of clamp arm  
**L<sub>max.</sub> = 80 mm**

Operating pressure p [bar]	Clamping force, cylinder F [kN]	effective clamping force F <sub>Sp</sub> [kN] relation to the length of the clamping arm L [mm]							
		50	60	80	100	120	140	160	200
70	9,35	8,1	7,9	7,6	7,3	-	-	-	-
65	8,68	7,5	7,3	7,0	6,7	6,5	-	-	-
60	8,02	6,9	6,8	6,5	6,2	6,0	5,7	-	-
55	7,35	6,4	6,2	6	5,7	5,5	5,3	5	-
50	6,68	5,8	5,7	5,4	5,2	5	4,8	4,6	-
45	6,01	5,2	5,1	4,9	4,7	4,5	4,3	4,1	3,8
40	5,34	4,6	4,5	4,4	4,2	4	3,8	3,7	3,4
35	4,68	4,1	4	3,8	3,7	3,5	3,4	3,2	3
30	4,01	3,5	3,4	3,3	3,1	3	2,9	2,8	2,5
25	3,34	2,9	2,9	2,7	2,6	2,5	2,4	2,3	2,1
20	2,67	2,3	2,3	2,2	2,1	2	1,9	1,9	1,7
15	2	1,8	1,7	1,7	1,6	1,5	1,5	1,4	1,3
Maximum operating pressure p <sub>max.</sub> [bar]		7	7	7	7	7	7	5,6	4,8

## Order number key:

Example: **SSZY** - **RD90** - **A3708** - **Z70** - **P030** - **002**

- Swing motion:** right turning = **R**, left turning = **L**, neutral 0° = **N**  
**Operating method:** double-acting = **D**  
**Swing angle [degree]:** standard 0° = **00**, 90° = **90**
- Housing design:** upper flange = **A**  
**Piston Ø [mm]:** standard = **37, 44, 51**  
**Clamping stroke [mm]:** standard = **08, 10** (according to the dimension table on page 2)
- Clamp arm holder:** cylindrical holder = **Z**  
**Operating pressure [bar]:** p<sub>max.</sub> = **70**
- Basic position:** negative = **N**, positive = **P**  
**Angular position [degree]** angular position in relation to the Zero position of the axis (see page 1)
- Oil supply:** threaded port = **001**, manifold with O-ring = **002**

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