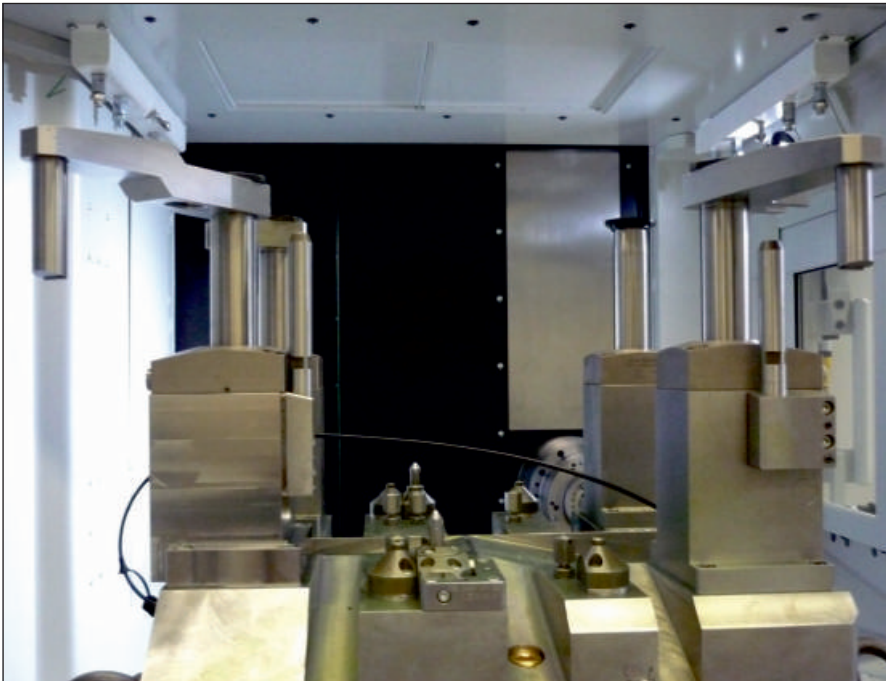


# SWING CLAMP CYLINDERS

upper flange, with overload protection, single-/double-acting, pmax. 500 bar



## 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.

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.

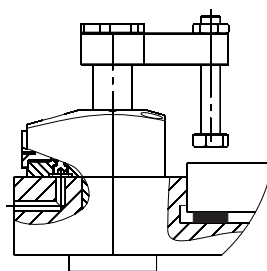
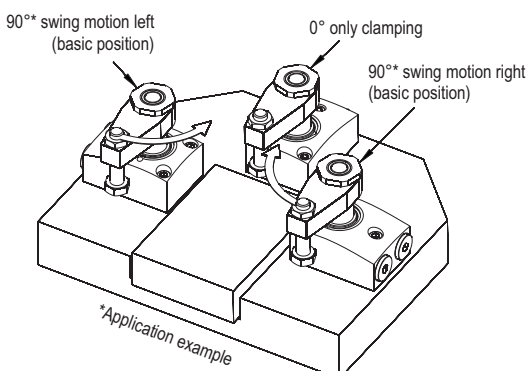
## Operating conditions:

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, 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.**

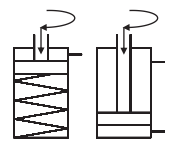


The threaded port connection or the manifold connection with O-ring can be used application-specific.



Webcode: 024010

We also design and manufacture special designs



## Housing design:

- ☒ Type A  
(refer to SSZY Selection guide)

## Connections:

- ☒ G1/4 threaded port
- ☒ Manifold with O-ring

## Advantages:

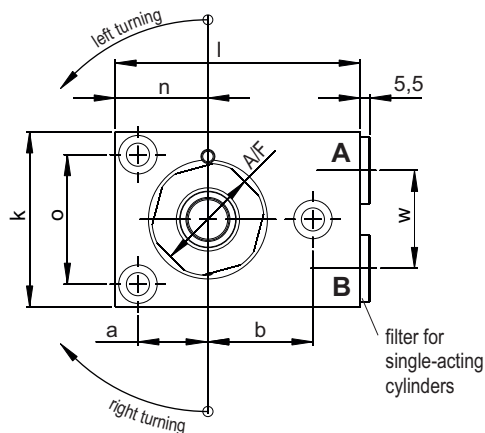
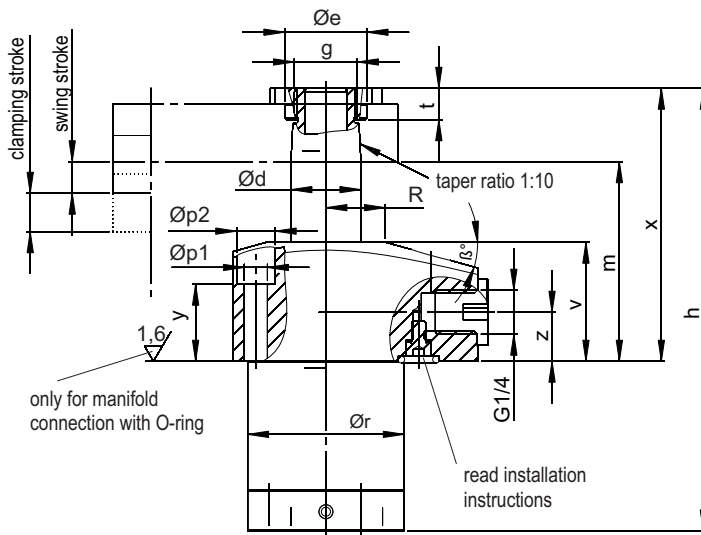
- ☒ Protecting metal wiper
- ☒ Integrated overload protection
- ☒ Oil supply through drilled channels or threaded port connection
- ☒ Fixture can be easily loaded and unloaded
- ☒ Easy to assemble with self designed clamp arms
- ☒ Standard and special clamp arms available (see page 3)
- ☒ Various contact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

**HYDROKOMP®**  
Hydraulische Komponenten GmbH

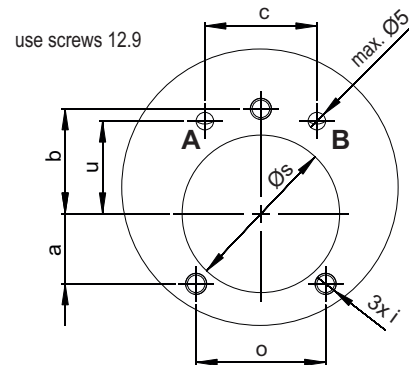
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## Swing clamp cylinders / upper flange



### Installation contour:



### Installation instructions:

The swing clamp cylinders will be delivered ready for connection. If a modification of the threaded ports on manifold ports become necessary, proceed as follows:

#### single-/double-acting:

- insert G1/4 locking screws into the threaded ports **A**
- remove the cap screws with seals out of the manifold connection ports **A**
- insert the O-rings 8x2 into the countersink of the manifold connection ports **A**

For the application of single-acting cylinders it is important to note, if the ventilation of the spring chamber should be realized by the manifold connection port you must replace the filter at port **B** with a G1/4 locking screw.

#### Accessories for ports:      Order number:

G1/4 locking screw ..... **7900-001**  
 O-ring, 8x2 ..... **6012-001**

### Technical data:

Piston Ø:	[mm]	25			40			50			63		
Clamping stroke	[mm]	10	25	50	13	25	50	15	25	50	13	25	50
Swing stroke	[mm]	8	10	10	9	10	10	11	11	11	12	13	13
Total stroke	[mm]	18	35	60	22	35	60	26	36	61	25	38	63
Min. operating pressure	[bar]	30	30	30	30	30	30	30	30	30	30	30	30
Max. volume flow	[cm³/s]	3,2	3,2	3,2	10	10	10	18,4	18,4	18,4	27,7	27,7	27,7
Oil requirement/stroke	[cm³]	3,2	6	10,5	10	16	27,2	18,4	25,5	43,2	27,7	43	72
Oil require./return	[cm³]	8,8	17	29	27,7	44	76	51	71	120	75	116	194
β	[degree]	15,6	15,6	15,6	15,6	15,6	15,6	15,6	15,6	15,6	15,6	15,6	15,6
a	[mm]	20	20	20	27	27	27	37	37	37	42	42	42
b	[mm]	30	30	30	38	38	38	50	50	50	55	55	55
c	[mm]	32	32	32	46	46	46	62	62	62	75	75	75
d Ø	[mm]	20	20	20	32	32	32	40	40	40	50	50	50
e Ø	[mm]	23,5	23,5	23,5	33,5	33,5	33,5	45	45	45	55,5	55,5	55,5
A/F	[mm]	27	27	27	40	40	40	55	55	55	68	68	68
g	[mm]	M18x1,5	M18x1,5	M18x1,5	M28x1,5	M28x1,5	M28x1,5	M35x1,5	M35x1,5	M35x1,5	M45x1,5	M45x1,5	M45x1,5
h	[mm]	126,5	158,5	208,5	147,5	173,5	223,5	172	192	242	183	209	259
i	[mm]	M6	M6	M6	M8	M8	M8	M10	M10	M10	M12	M12	M12
k	[mm]	50	50	50	63	63	63	85	85	85	95	95	95
l	[mm]	70	70	70	85	85	85	110	110	110	125	125	125
m	[mm]	57	73	98	66	79	104	70	80	105	69	82	107
n	[mm]	26,5	26,5	26,5	34,5	34,5	34,5	47	47	47	55	55	55
o	[mm]	37	37	37	48	48	48	65	65	65	72	72	72
p Ø	[mm]	6,6	6,6	6,6	9	9	9	11	11	11	14	14	14
r Ø ±0,1	[mm]	44,8	44,8	44,8	59,8	59,8	59,8	79,8	79,8	79,8	89,8	89,8	89,8
R	[mm]	17	17	17	24	24	24	29,5	29,5	29,5	33,5	33,5	33,5
s Ø +1	[mm]	45	45	45	60	60	60	80	80	80	90	90	90
t	[mm]	9	9	9	10	10	10	11	11	11	12	12	12
u	[mm]	26,5	26,5	26,5	31	31	31	40	40	40	45	45	45
v	[mm]	34	34	34	40	40	40	40	40	40	40	40	40
w	[mm]	28	28	28	41	41	41	55	55	55	70	70	70
x	[mm]	78	94	119	94	107	132	104	114	139	109	122	147
y	[mm]	18	18	18	19	19	19	15	15	15	14	14	14
z	[mm]	14	14	14	14	14	14	12	12	12	12	12	12
available as single-acting type		yes	no	no	yes	no	no	yes	no	no	yes	no	no
available as double-acting type		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes



# Swing clamp cylinders / upper flange

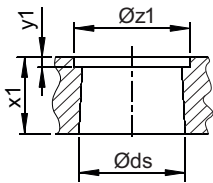
## Clamp arms:

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).

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

Special clamp arms are available on request.

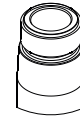
## Dimensions for house production of clamp arms:



Piston Ø	[mm]	25	40	50	63
Ø ds	[mm]	20	32	40	50
x1	[mm]	16	23	28	34
y1	[mm]	4	5	5	6
Ø z1	[mm]	24	34	46	56
Taper ratio		1:10	1:10	1:10	1:10

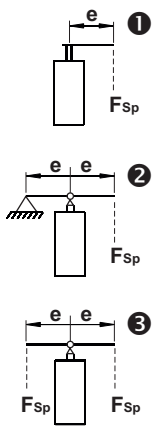
Attention: consider the interference contour for the housing.

## Clamp arm holder:



Taper

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



--- double-acting  
 --- single-acting

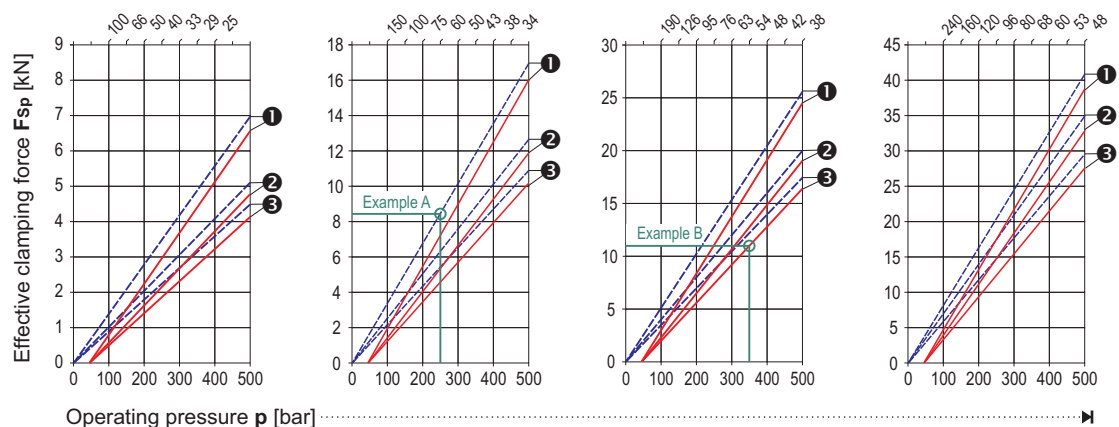
Piston Ø 25 mm

Piston Ø 40 mm

Piston Ø 50 mm

Piston Ø 63 mm

Maximum clamp arm length  $e$  [mm] only relevant for clamp arms of 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:

- single-acting cylinder, piston Ø 50 mm
- present operating pressure  $p = 350$  bar
- clamp arm version length  $e = 54$  mm
- resulting clamping force  $F_{Sp} \sim 11$  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** - **LD60** - **A2510** - **K10** - **002**

<b>1</b>	<b>Swing motion:</b> right turning = <b>R</b> , left turning = <b>L</b> , neutral ( $0^\circ$ ) = <b>N</b> <b>Operating method:</b> single-acting = <b>E</b> , double-acting = <b>D</b> <b>Swing angle [degree]:</b> standard = <b>0, 30, 45, 60, 90</b>
<b>2</b>	<b>Housing design:</b> upper flange = <b>A</b> <b>Piston Ø [mm]:</b> see dimension table on page 2 <b>Clamping stroke [mm]:</b> see dimension table on page 2
<b>3</b>	<b>Clamp arm holder:</b> taper = <b>K</b> <b>Overload protection:</b> without = <b>0</b> , with = <b>1</b> <b>Position control:</b> without = <b>0</b>
<b>4</b>	<b>Connection type:</b> G1/4 threaded port = <b>001</b> , manifold with O-ring = <b>002</b>

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