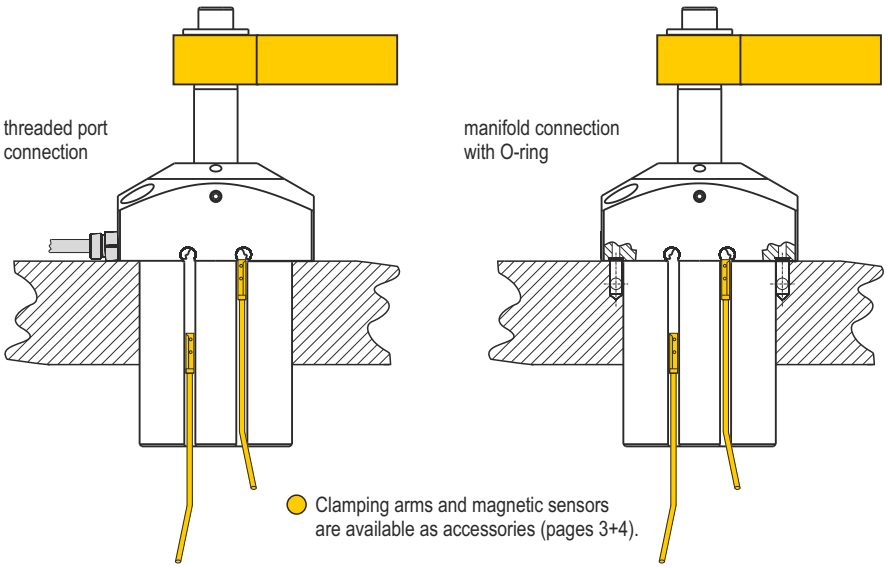
PNEUMATIC SWING CLAMP CYLINDERS

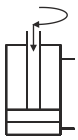
for magnetic sensors, upper flange, double-acting, pmax. 7 bar

Installation examples:



Webcode: 024080

We also design and manufacture special designs



Description:

Swing clamps of this design are used as pull-type cylinders. Pressure is applied to the annular surface of the piston for tensioning. During the linear movement, the piston also moves rotationally determined by the selected swing curve at a defined angle. Only after the linear and rotatioinal movements are completed, the piston will move linearly in the clamping area. It is important that the swing movement of the mounted clamping arm is not hindered, because a overload or collision protection is not included in the design. Overload protection can be found in many Hydrokomp hydraulic swing clamps.

The pneumatic swing clamps are equipped with a permanent magnet on the piston. With the magnetic sensors available as accessories, positions of the piston can be measured and confirmed. This allows, for example, monitoring the open and clamped position of the piston for automated loading and unloading of the machine fixture.

Operation:

The clamping force of these cylinders is dependent on the pressure applied. It is very important that compressed air is supplied via a suitable pneumatic maintenance unit in order to ensure the necessary condition of the compressed air: The speed of the clamping process can be influenced via throttle valves if necessary. The general operating conditions for pneumatic systems must be complied with.

Operating conditions:

The maximum operating temperature of the pneumatic swing clamp cylinders and the magnetic sensors must not exceed 80°C.

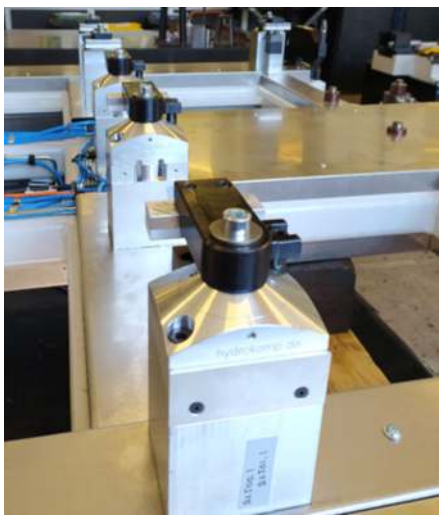
Special notes:

The magnetic sensors react to the permanent magnet inside the cylinder. Steel chips from machining or other outside influences can impact the magnetic field, therefore the switching point can change.

For this reason steel materials should not come close to the cylinder. A minimum distance of 30 mm should be maintained.

The safety instructions for swing clamp cylinders (in the catalog or on the web) and the applicable accident prevention regulations must be followed.

Application example:



Housing type:

- **Typ A** (upper flange)

Connection types:

- **Threaded port**
- **Manifold with O-rings**

Advantages:

- **Monitoring of piston position**
- **Low component height after installation**
- **Compressed air supply through drilled channels or threaded ports**
- **Fixture can be easily loaded and unloaded**
- **Easy to assemble with self designed clamping arms**
- **Standard and special clamping arms are available (see page 3)**

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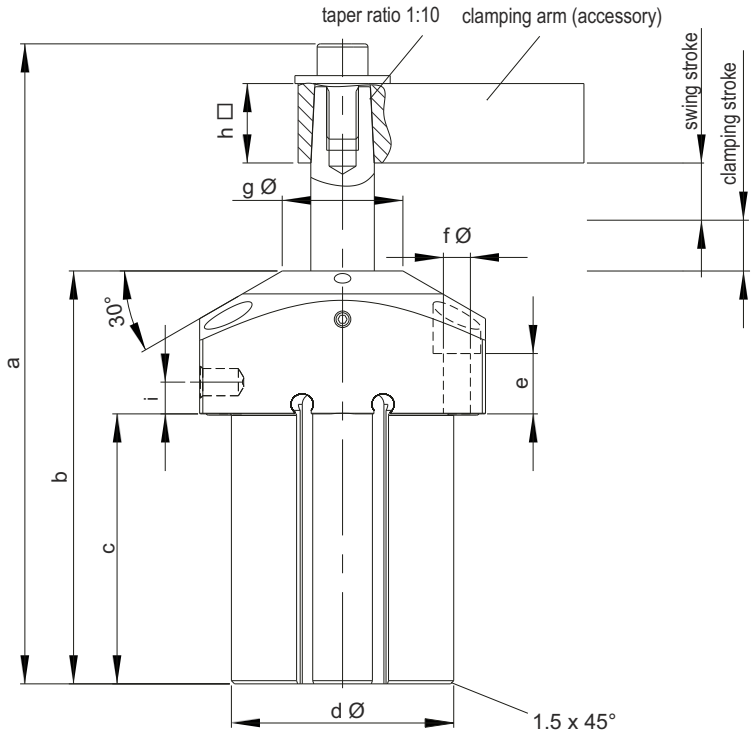
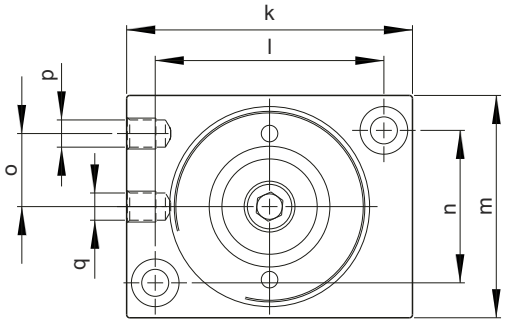
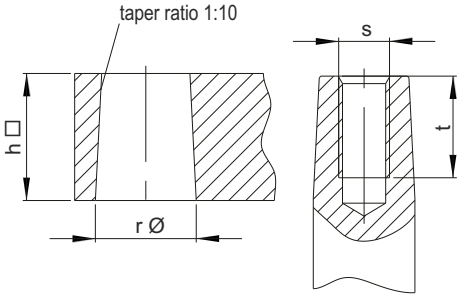


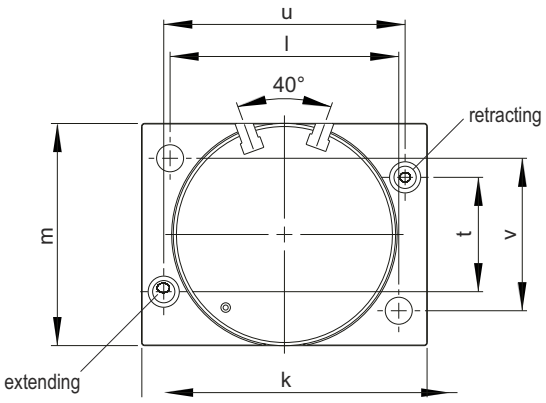


Clamp arm holder SPK



Flange type

O-rings are included.



Technical data:

Piston Ø:	[mm]	**20**	**32**	**40**	**50**	**63**
Rod Ø	[mm]	8	12	16	20	25
Swing stroke	[mm]	7.5	9.5	17	18	23
Clamping stroke	[mm]	7	9	15	15	18
Total stroke	[mm]	14.5	18.5	32	33	41
Tractive force at 4 bar	[N]	105.5	246.4	422.2	659.7	1050.5
Tractive force at 5 bar	[N]	131.9	345.5	527.7	824.6	1313.1
Tractive force at 6 bar	[N]	158.3	414.6	633.3	989.6	1575.8
Operating pressure, min.	[bar]	3	3	3	3	3
Operating pressure, max.	[bar]	7	7	7	7	7
Swing angle	[degree]	90° ± 2°	90° ± 2°	90° ± 2°	90° ± 2°	90° ± 2°
a	[mm]	120	143	189	202	239.5
b	[mm]	76	94.5	120.5	130	150
c	[mm]	48	61	84	85	91
d Ø -0.20	[mm]	40	52	60	70	85
e	[mm]	7.5	11	15	19	27
f Ø	[mm]	5.5	6.5	6.5	8.5	8.5
g Ø	[mm]	14	24	30	38	42
h □	[mm]	12	16	20	25	30
i	[mm]	6	6.5	8.5	10	13
k	[mm]	60	68	80	90	106
l	[mm]	44	54	62	72	86
m	[mm]	40	52	60	70	85
n	[mm]	25	36	42	48	66
o	[mm]	12.8	15	22	23	30.3
p	[mm]	M5	M5	G1/8	G1/8	G1/4
q	[mm]	M5	M5	G1/8	G1/8	G1/4
r Ø +0.05	[mm]	7.85	11.85	15.85	19.85	24.85
s		M4	M6	M8	M10	M12
t	[mm]	9	15	18	19	25
u	[mm]	47	56	67	76	90
v	[mm]	25	36	42	48	66
O-ring for flange type		4.5x1.5	4.5x1.5	4.5x1.5	7x1.5	7x1.5
Weight	[kg]	0.5	0.8	1.2	1.7	2.8

Order number key:

Example **SSZYP** – **LD90** – **A2007** – **K00** – **001**

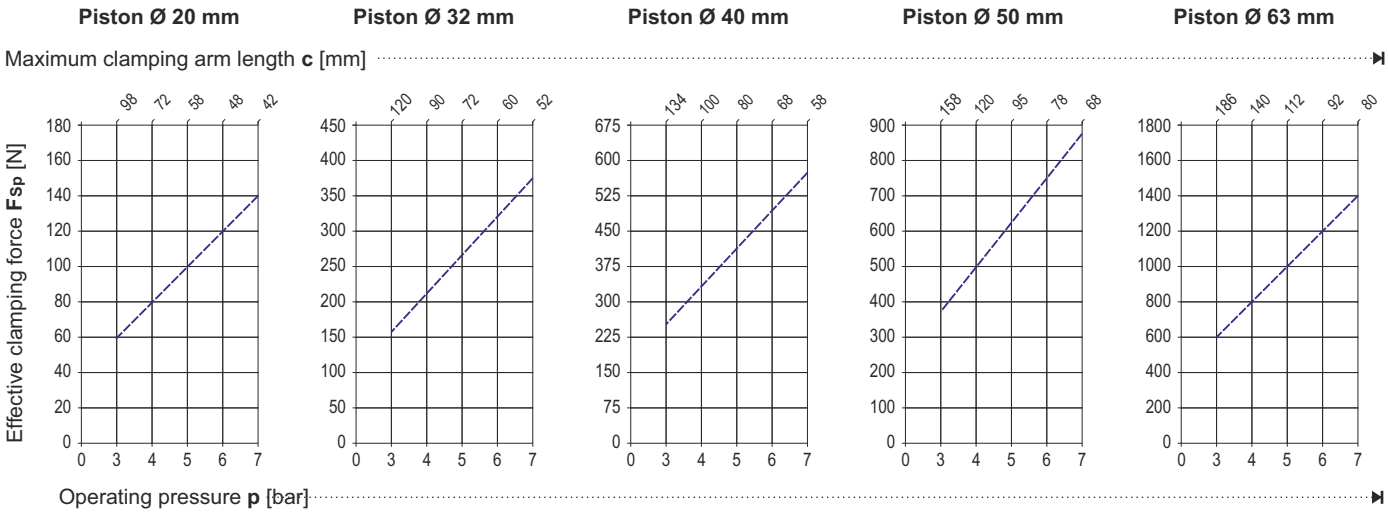
1
- **Swing motion:** right turning = **R**, left turning = **L**
- **Operating method:** double-acting = **D**
- **Swing angle [degree]:** standard = **90**

2
- **Housing design:** upper flange = **A**
- **Piston Ø [mm]:** see dimension table on page 2
- **Clamping stroke [mm]:** see dimension table on page 2

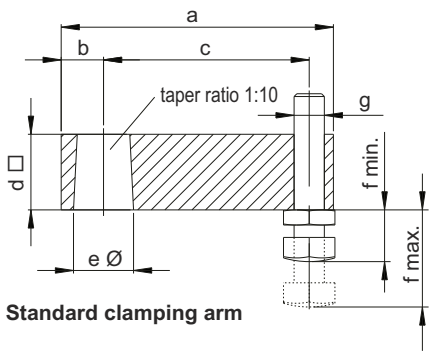
3
- **Clamp arm holder:** taper = **K**
- **Overload protection:** without = **0**
- **Position control:** without = **0**

4
- **Connection type:** threaded port = **001**, manifold with O-ring = **002**

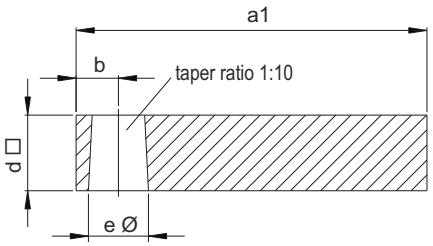
Effective clamping force F_{Sp} depending from operating pressure p:



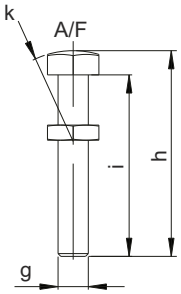
Clamping arms (accessories):



Standard clamping arm



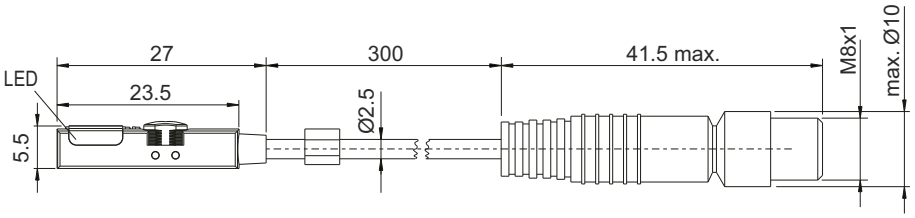
Special clamping arm

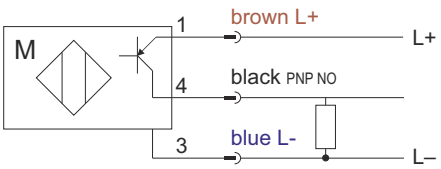


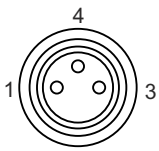
Contact bolt, dome head

for SSZYP with piston Ø:	[mm]	20	32	40	50	63
a	[mm]	54	68	78	90	110
a1	[mm]	62	72	95	116	143
b	[mm]	7	10	12	14	18
c	[mm]	42	52	58	68	80
d □	[mm]	12	16	20	25	30
e Ø +0.05	[mm]	7.85	11.85	15.85	19.85	24.85
f min.	[mm]	8	12	12	15	19
f max.	[mm]	28	27	42	42	56
g		M4	M6	M6	M8	M10
h	[mm]	32.5	33.5	48.5	50	66.5
i	[mm]	30	30	45	45	60
k	[mm]	15	20	20	20	35
A/F		7	10	10	13	17
Order numbers:						
Standard clamping arm		**SPK-K08-042-002**	**SPK-K12-052-002**	**SPK-K16-058-002**	**SPK-K20-068-002**	**SPK-K25-080-002**
Special clamping arm		**SPK-K08-062-003**	**SPK-K12-072-003**	**SPK-K16-095-003**	**SPK-K25-116-003**	**SPK-K25-143-003**
Contact bolt, dome head		**7004 – 057**	**7006-105**	**7006-106**	**7008-134**	**7010-072**

Magnetic sensor for T-slot:



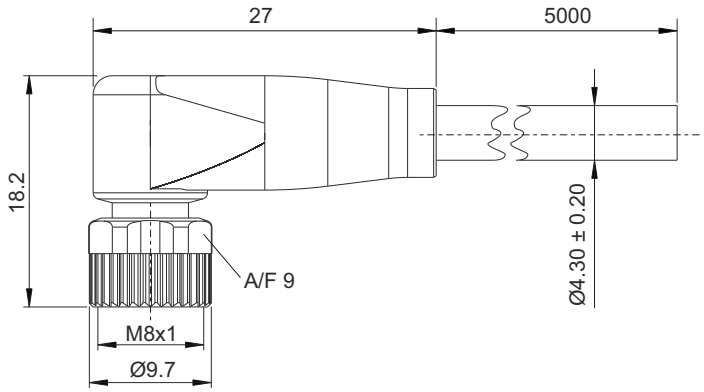




Technical data:

Magnetic sensor for T-slot	
Dimension	23.5 x 5 x 5.5 mm
Connection	M8x1-Male, 3-pin
Cable	PUR, 0.3 m
Cable diameter	2.5 mm
Short-circuit protection	yes
Polarity reversal protected	yes
Function indicator	LED
Mounting	can be installed in T-slot from above
Housing material	PA 12
Switching output	PNP normally open (NO)
Switching frequency	3000 Hz
Operating voltage Ub	10...30 VDC
Ambient temperature	-25...85 °C
IP rating	IP67
Approval/Conformity	CE, cULus, EAC, WEEE
Order number	**8500-095**

Cordset with angular plug:



Technical data:

Cordset with angular plug	
Connection	M8x1-Female, right-angle, 3-pin, A-coded
Cable	PUR black, 5.0 m, Drag chain compatible
Number of conductors	3
Conductor cross-section	0.34 mm²
Cable temperature, fixed routing	-50...90 °C
Cable temperature, flexible routing	-25...90 °C
Operating voltage Ub	60 VDC / 60 VAC
Rated current (40° C)	4.0 A
IP rating	IP67, IP69K
Approval/Conformity	CE, cULus, EAC, WEEE
Order number	**8500-096**