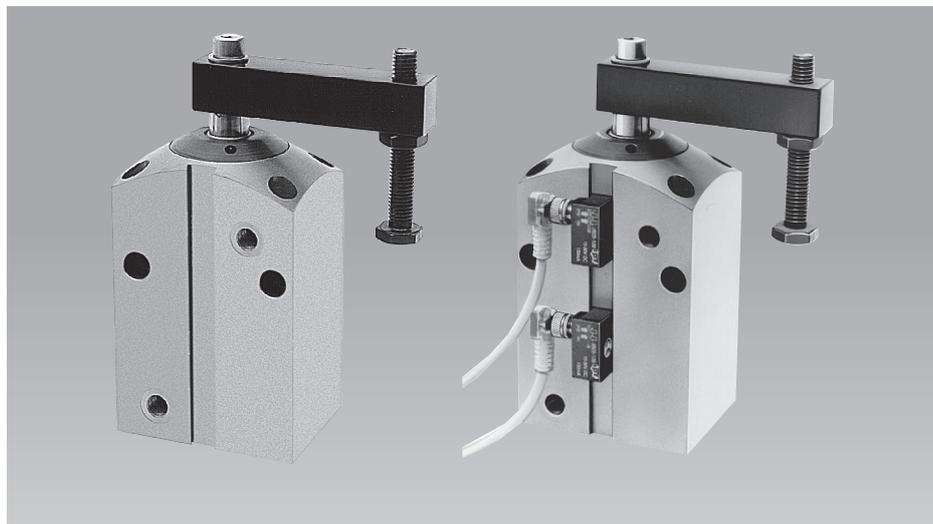




Pneumatic Swing Clamp

block-type, for adjustable magnetic sensors
 double acting, max. operating pressure 7 bar



Advantages

- Compact design
- Easy adjustment of switching point positions
- Diverse mounting possibilities
- 5 standard sizes are available
- optionally with thread connection or for manifold mounting with O-ring sealing

Application

Pneumatic swing clamps are used for applications which require only low clamping forces. The installed magnetic piston allows monitoring of clamping and unclamping position.

Description

When pressurising the element, the clamping arm swings and lowers by 90° to the clamping position and then lowers to the clamping point. The position monitoring gives the required information regarding the position of the piston, but not regarding the position of the clamping arm. Monitoring is made by electronic sensors (see accessory) which detect the magnetic field of the magnetic piston. The switching points can be continuously adjusted by displacement of the magnetic sensors.

Special features

When adjusting the clamping screw it has to be considered that for the swing motion a part of the total stroke is required.

Make sure that the swing motion can be effected without any interference.

When using special clamping arms with other lengths, the corresponding operating pressures as shown in the clamping force diagram must not be exceeded.

Pneumatic accessories

see data sheet J 7.400.

Installation

The block-type offers universal mounting possibilities.

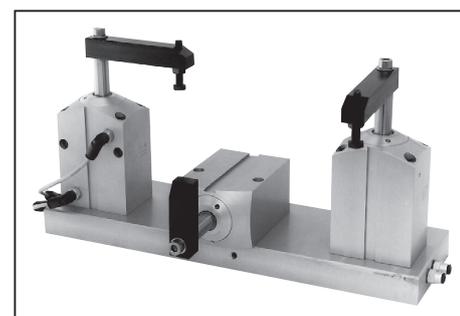
Material

The swing clamps are supplied in corrosion resistant quality. Guide bushing, housing, piston, and flange are made of hardcoated aluminium. The piston rod is made of corrosion resistant steel.

Important notes

Operating of these pneumatic elements has to be effected with an additional service unit in order to guarantee that the clamping elements are supplied with correctly prepared compressed air.

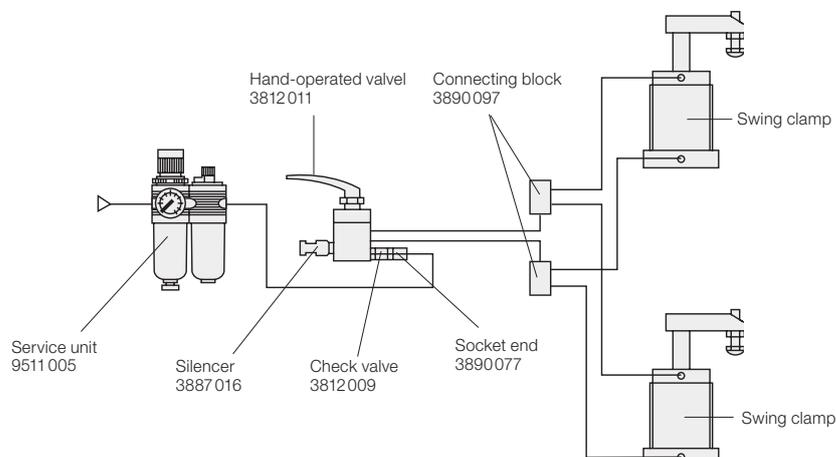
Operating conditions, tolerances and other data see data sheet A 0.100.



Versions

- Versions with pipe thread (Figure at the left-hand side) see page 2
- Manifold mounting with O-ring sealing Version **K** (Figure in the centre), see page 3
- Manifold mounting with O-ring sealing Version **B** (Figure at the right-hand side), see page 3

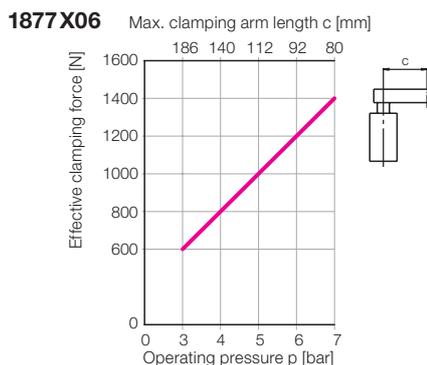
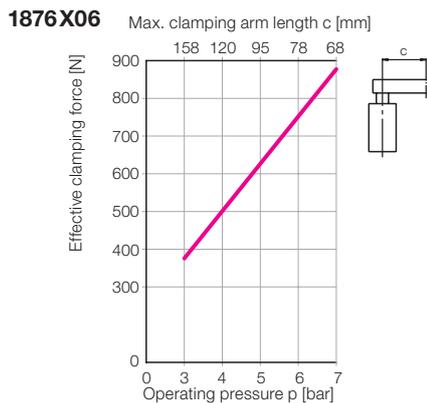
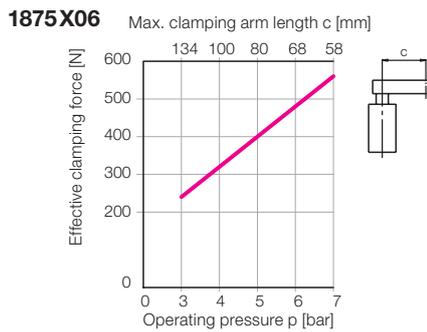
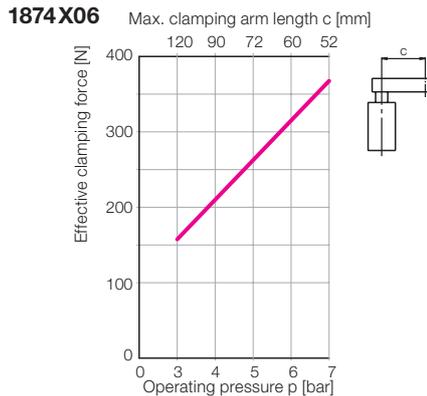
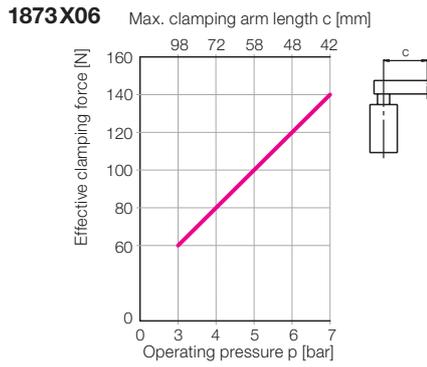
Connection example



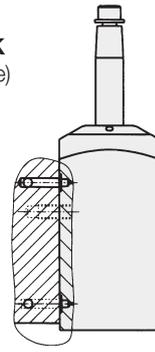
Manifold mounting with O-ring sealing

Technical data

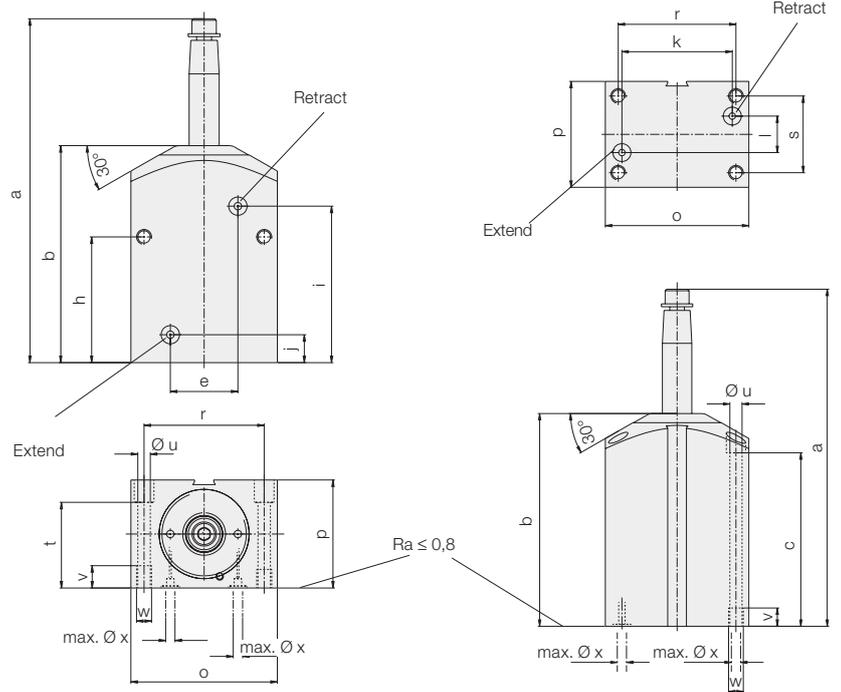
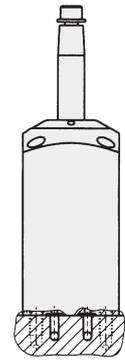
Effective clamping force



Version K
(Broad side)



Version B
(Bottom side)



Swing clamp

	1873 106X	1874 106X	1875 106X	1876 106X	1877 106X
Clockwise rotation	1873 206X	1874 206X	1875 206X	1876 206X	1877 206X
Counterclockwise rotation					
Piston Ø	[mm] 20	[mm] 32	[mm] 40	[mm] 50	[mm] 63
Piston rod Ø	[mm] 8	[mm] 12	[mm] 16	[mm] 20	[mm] 25
a	[mm] 120.5	[mm] 143	[mm] 189.5	[mm] 203.5	[mm] 239
b	[mm] 76	[mm] 94.5	[mm] 120.5	[mm] 130	[mm] 150
c	[mm] 55.5	[mm] 72	[mm] 99	[mm] 104	[mm] 118
e	[mm] 16	[mm] 28	[mm] 36	[mm] 44	[mm] 58
h	[mm] 41	[mm] 59.5	[mm] 71.5	[mm] 76	[mm] 80
i	[mm] 53.5	[mm] 63	[mm] 88	[mm] 95	[mm] 100
j	[mm] 20	[mm] 20	[mm] 19	[mm] 17.5	[mm] 18
k	[mm] 39	[mm] 53	[mm] 60	[mm] 72	[mm] 86
l	[mm] -	[mm] 14	[mm] 20	[mm] 20	[mm] 20
o	[mm] 54	[mm] 68	[mm] 80	[mm] 90	[mm] 106
p	[mm] 35	[mm] 52	[mm] 60	[mm] 70	[mm] 85
r	[mm] 40	[mm] 55	[mm] 64	[mm] 72	[mm] 86
s	[mm] 22	[mm] 38	[mm] 42	[mm] 48	[mm] 66
t	[mm] 25	[mm] 40	[mm] 46	[mm] 50	[mm] 70
Ø u	[mm] 5.5	[mm] 6.5	[mm] 6.5	[mm] 8.5	[mm] 8.5
v	[mm] 10	[mm] 12	[mm] 12	[mm] 15	[mm] 15
w	[mm] M8	[mm] M8	[mm] M8	[mm] M10	[mm] M10
max. Ø x	[mm] 5				
Dimensions O-ring	[mm] 7x1.5				

Part no., spare O-ring **3000342** **3000342** **3000342** **3000342** **3000342**

O-rings are included in delivery. Other dimensions see page 2.

Order:

Please add the corresponding identification letter to the **Part no.** of the required pneumatic block-type swing clamp: **K** or **B**

Example of ordering:

Pneumatic block-type swing clamp 1875-106 with air supply on the broad side
Part no. 1875-106 K

Accessory: Magnetic sensors

Compared with traditional reed switches the electronic magnetic sensors offer the following advantages:

- Indifference to shock and vibration
- Bounce-free output signal
- Only one switching point
- Wear resistant
- Protection against reverse battery
- Protected against short circuits

Electric connection is made as per traditional inductive proximity switches; up to four magnetic sensors can be connected in series.

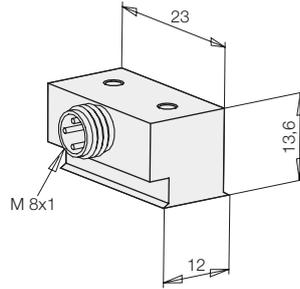
Minimum distance of the switching points: 6 mm.

Important notes

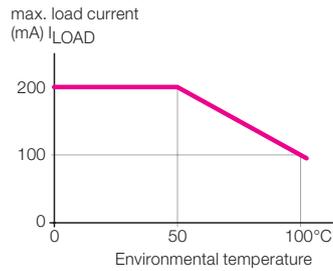
Steel can influence the magnetic field of the magnetic piston and thereby the position of the switching points. If there is the same influence for each stroke (e.g. because of adjoining steel components) it can be compensated by displacing the magnetic sensors. But if the influence differs from stroke to stroke, as e.g. in the case of swarf, a cover has to be provided 30 mm over the magnetic sensors. Covers have to be provided to protect the cylinders against ferritic swarf.

Further information about voltage supply for position controls see data sheet A 0.120.

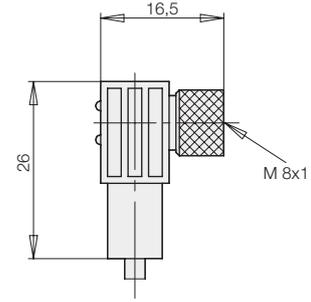
Electronic magnetic sensor



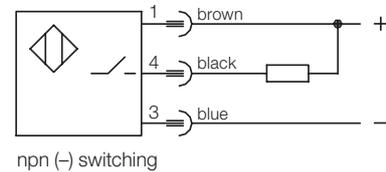
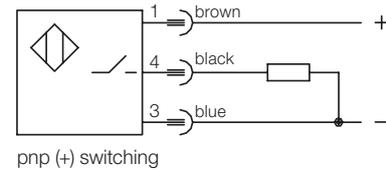
Temperature curve



Connecting cable with right angle plug



Connecting scheme



Technical data

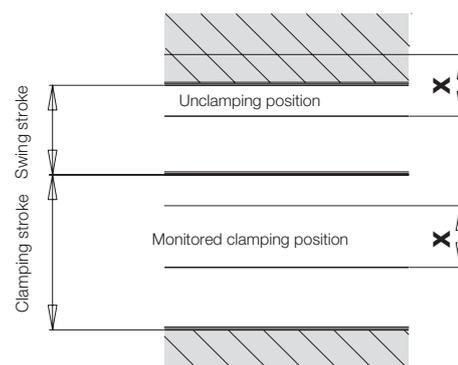
	Electronic magnetic sensor	Connection cable with right angle plug
Cylinder body material	aluminium black lacquered	
Voltage	10 – 30 V DC	10 – 30 V DC
Residual ripple	max. 10%	
Current load I _{LOAD}	200 mA – up to 50 °C 150 mA – at 75 °C 100 mA – at 100 °C	
Current consumption	< 15 mA	
Voltage drop (max. load)	< 2 V	
Protected against short circuits	yes	
Protection against reverse battery	installed	
Switching frequency	1 kHz	
Switching hysteresis	3 mm	
Protection as per 40050	IP 67	IP 67
Environmental temperature	-25 °C up to +100 °C	-25 °C up to +90 °C
Plug connection	M8 plug	M8 plug
LED	no	Voltage (green) Function display (yellow)
Cable, length of cable		PUR, 5 m
Output (interlock)	pnp	pnp
Part no.	3829234	3829099
	npn	npn
	3829240	3829124

Further accessory

see data sheet G 2.140

- Pin-and-socket connector
- Y-distributor
- Reversing plug
- Voltage regulator

Range of magnetic signal



Type	≈ x [mm]
1873 X06	4
1874 X06	4
1875 X06	5
1876 X06	6
1877 X06	7