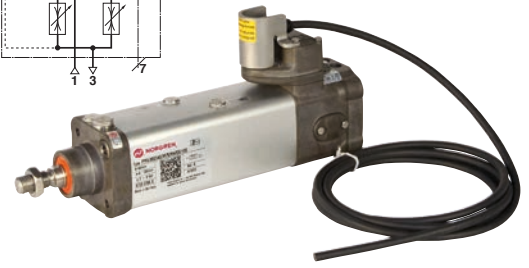
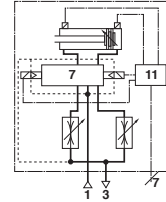


# PRA/882000/M/EX, IVAC Clean Line cylinder

## Magnetic piston, double acting



- > ø 32 ... 100 mm
- > Complete functional unit with LED display
- > These cylinders are applicable in zones 2 (gas) & 22 (dust), ATEX Cat. II 3G and 3D
- > Central electrical connector, polarity-safe
- > Integrated 5/2 or 5/3 valve
- > Additional output ports (2 & 4)
- > Integrated flow regulator for speed control
- > Integrated reed or solid state switches



### Technical features

#### Medium:

Compressed air, filtered, lubricated or non-lubricated  
 Particles size: Class 7, ISO 8573 – 1 (dated 2001)  
 Humidity and water content: Air supply must be dry.  
 Corresponding of the application and working conditions the air must be dry enough to avoid condensate. The pressure dewpoint must be minimum 15°C under the application and working conditions. Oil: Class 4, ISO 8573 – 1 (dated 2001)

#### Standard:

Based on ISO 15552 (length, mounting pitch and thread dimensions according to ISO 15552. Some outside dimensions different to ISO 15552)

#### Operation:

Double acting, magnetic piston, adjustable cushioning

#### Operating pressure:

2 ... 8 bar (29 ... 116 psi)

#### Port size:

G1/8, G1/4, G3/8

#### Cylinder diameters:

32, 40, 50, 63, 80, 100 mm

#### Standard strokes:

See below

#### Non-standard strokes:

Available (25 ... 1000 mm)

#### Ambient temperature:

-5 ... +50°C (+23 ... +122°F) max.

#### Operating temperature:

-5 ... +70°C max. (+23 ... +158°F)

#### ATEX-Protection:

Details see page 4

#### Supply voltage:

24 V d.c.

#### Multipole connection:

M12 x 1 connector 90°, 8 pin, 5 m Cable

#### Power consumption:

1 W max

#### Rating:

100 % E.D.

#### Protection class:

IP67

For outdoor installation please protect all connections against the penetration of moisture!

#### Materials:

Profile barrel: anodised aluminium,  
 End covers: pressure diecast anodised aluminium  
 Piston rod: stainless steel, see page 3  
 Piston rod seals: PUR  
 Piston seals: PUR  
 O-rings: NBR

### Technical data

Cylinder ø (mm)	32	40	50	63	80	100
Port size	G1/8	G1/8	G1/8	G1/4	G1/4	G3/8
Piston rod ø (mm)	12	16	20	20	25	25
Piston rod thread	M10 x 1,25	M12 x 1,25	M16 x 1,5	M16 x 1,5	M20 x 1,5	M20 x 1,5
Cushion length (mm)	11	14	14	19	19	26
Theoretical thrusts at 6 bar outstroke (N)	482	754	1178	1870	3016	4710
Theoretical thrusts at 6 bar instroke (N)	414	633	990	1680	2722	4416
Air consumption at 6 bar outstroke (l/cm)	0,056	0,088	0,137	0,218	0,35	0,55
Air consumption at 6 bar instroke (l/cm)	0,05	0,076	0,117	0,198	0,324	0,514

### Standard strokes

Cylinder ø (mm)	Stroke length (mm)										
	25	50	80	100	125	160	200	250	320	400	500
32	•	•	•	•	•	•	•	•	•	•	•
40	•	•	•	•	•	•	•	•	•	•	•
50	•	•	•	•	•	•	•	•	•	•	•
63	•	•	•	•	•	•	•	•	•	•	•
80	•	•	•	•	•	•	•	•	•	•	•
100	•	•	•	•	•	•	•	•	•	•	•

Explosion protection according to EU-directive 2014/34/EU and UK statutory instrument 2016 No. 1107  
**EN ISO 80079 Non-electrical equipment for potentially explosive atmospheres**



Range of application		All range of application other than mines		
Equipment group		II		
Potentially explosive atmosphere (combustible materials)		Mixture of air and gases, vapours, mists → G (gas) Dust/air - mixture → D (dust)		
Probability risk for a potentially explosive atmosphere		Continuous or long-term or frequent	Occasional	Rarely and briefly
Equipment categories		1	2	3
<b>Equipment safety</b>		very high	high	normal
<b>Gas</b>	Equipment-identification Ex...	Ex II 1G	Ex II 2G	Ex II 3G
	ATEX-zone	Zone 0	Zone 1	Zone 2
<b>Dust</b>	Equipment-identification Ex...	Ex II 1D	Ex II 2D	Ex II 3D
	ATEX-zone	Zone 20	Zone 21	Zone 22

**Equipment identification for Norgren pneumatic cylinder:  
 (Example for standard cylinder)**

**UKCA CE Ex** II 2G Ex h IIC T4 Gb  
 II 2D Ex h IIIC T120°C Db

<b>Equipment group:</b>	II	All application other than mines
<b>Equipment categorie:</b>	2	High level of equipment safety
<b>Usability for zones:</b>	G and D	Gas and dust
<b>Explosions groups</b>	IIC and IIIC	Max. ignitability gas- and dust groups
<b>Temperature class for gas:</b>	T4	Max. surface temperature 135°C
<b>Temperature data for dust:</b>	120°C	Max. surface temperature
<b>Equipment Protection Level (EPL)</b>	Gb and Db	Gas and dust, save by normal operation and expected equipment fault



**ATTENTION:**


A cylinder is a module consisting of several parts:


1. Cylinder with pilot control module (VCM)
  2. Accessories: sensors (optional)
- Each part is separate classified according ATEX for use in potentially explosive atmospheres.
  - The resulting range of approved applications for the module corresponds to that of the individual part assigned to the lowest category.
  - The result concerns the device category, potentially explosive atmosphere G or D, max. surface temperature and explosion classification if applicable.

Cylinder variants *4)	Magnetically switches	Resulting ATEX-Data *1)	
MI W2 MU MG	Without Reed: M/50/LXU/5V Solid state: M/50/EXP/5V	Zone 2 and 22	T amb. -5 ... +50°C max

\*1) The permissible ATEX zones and temperatures may be changed when a different pilot control with separate specification is used (substitute .../IX/...).

\*4) ATEX-marking only of the mechanical cylinder variants:

MI, W2, MU, MG  II 3G Ex h IIC T4 Gc (with pilot control)  
II 3D Ex h IIIC T120°C Dc

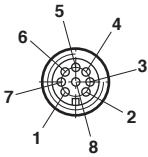
MI, W2, MU  II 2G Ex h IIC T4 Gb (without magnetically switches, without pilot control)  
II 2D Ex h IIIC T120°C Db (Option selector: .../MO/IX/...)

ATEX-marking of electric valve control modul (VCM):

II 3G Ex ec IIC T4 Gc X

II 3D Ex tc IIIC T120°C Dc X

ATEX-marking of magnetically operated switches see page 14 and 15

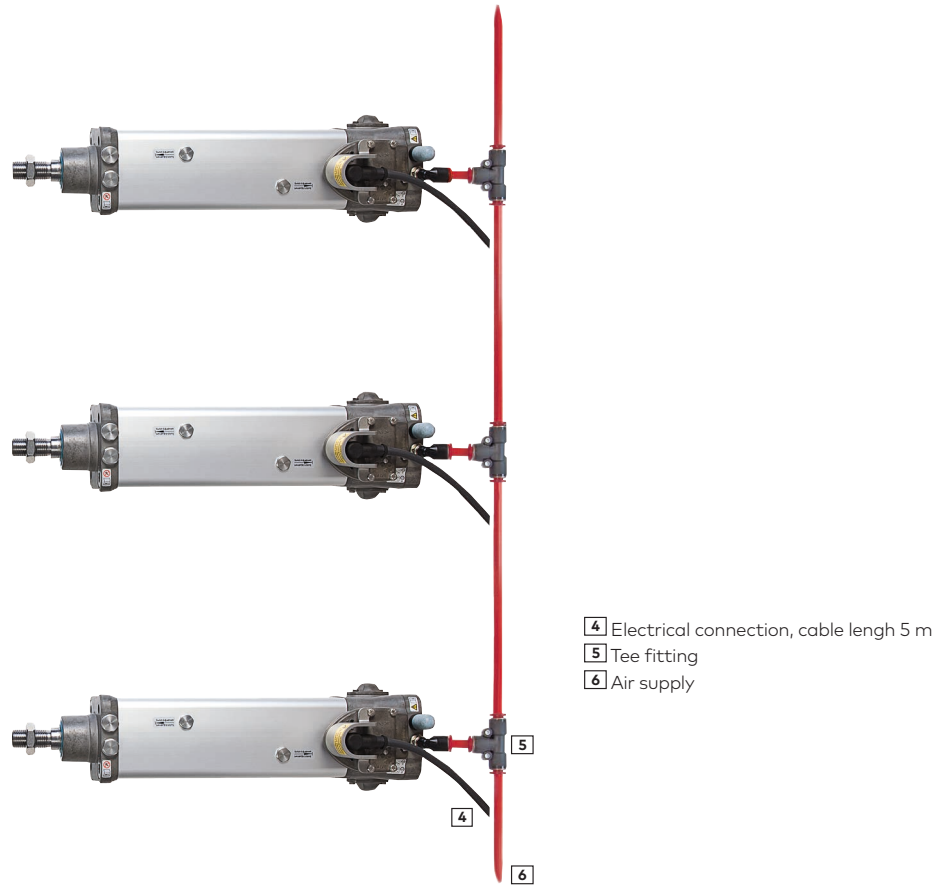
**Wiring diagram for M12 male connector**


Valves		Wiring diagram for connector cable M/P74582
Pin 1	Not used	White
Pin 2	Solenoid 2 (instroke)	Brown
Pin 3	0 V	Green
Pin 4	Solenoid 1 (outstroke)	Yellow

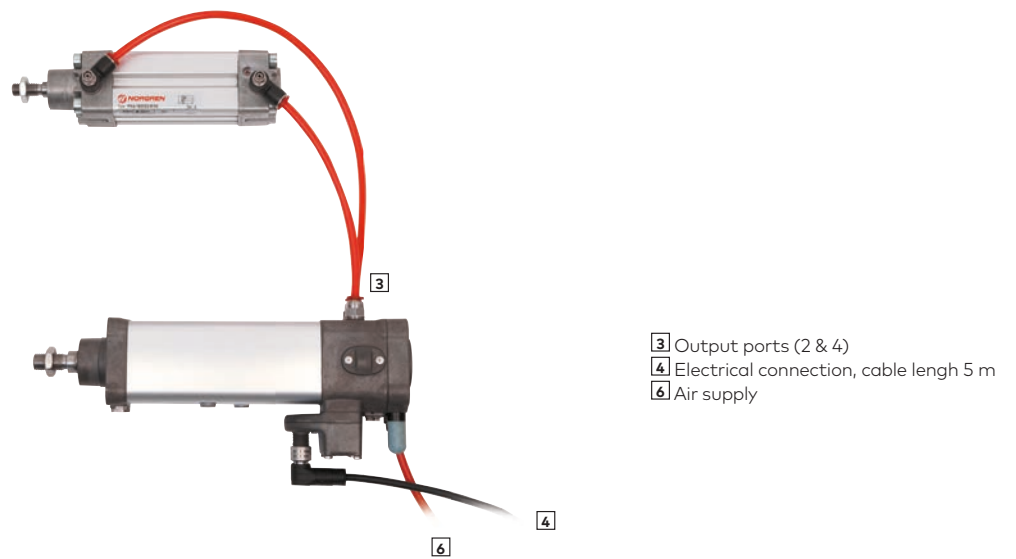
Switches		Wiring diagram for connector cable M/P74582
Pin 5	+ 24 V d.c.	Grey
Pin 6	Switch 2 (rear end cover)	Pink
Pin 7	0 V	Blue
Pin 8	Switch 1 (front end cover)	Red

### Reduced Installation Time & Cost

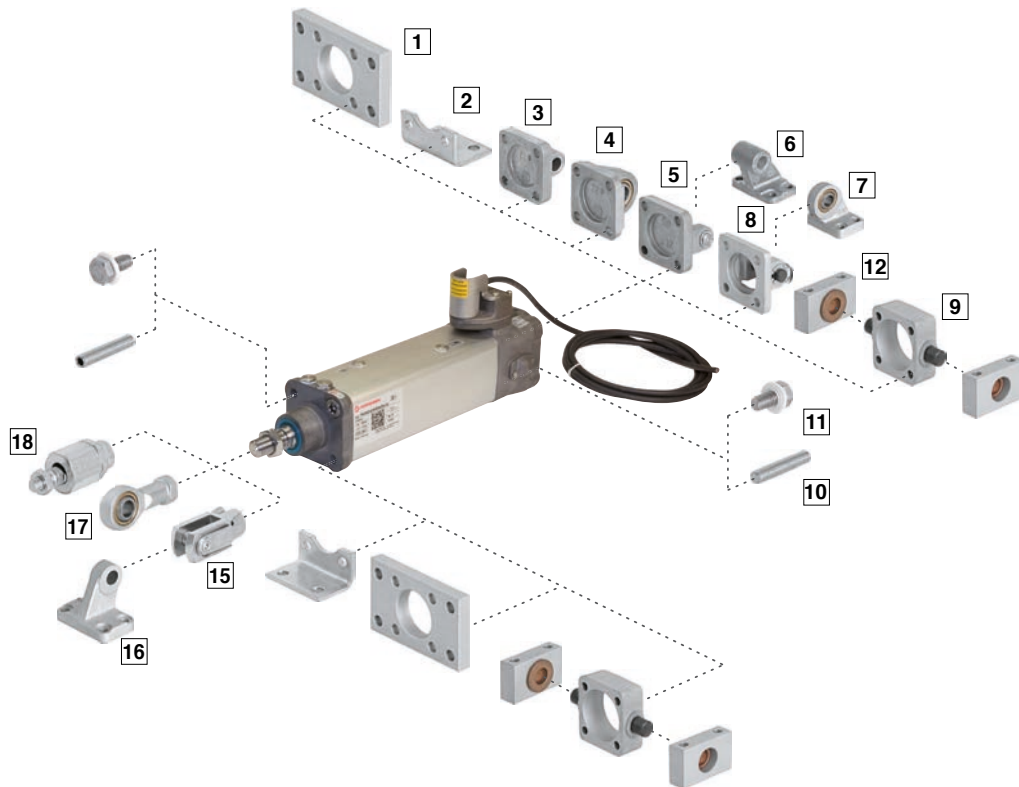
To connect the IVAC you simply run a single ring main to provide an air supply to each unit. There is no mounting of valve islands to the machine framework or inside a cabinet and there is no pipework to run around the machine to connect each valve to each actuator.



One of the advantages of the IVAC cylinders is to use the output ports (2 & 4) from the main valve to operate an additional cylinder.





















## Mountings and service kit

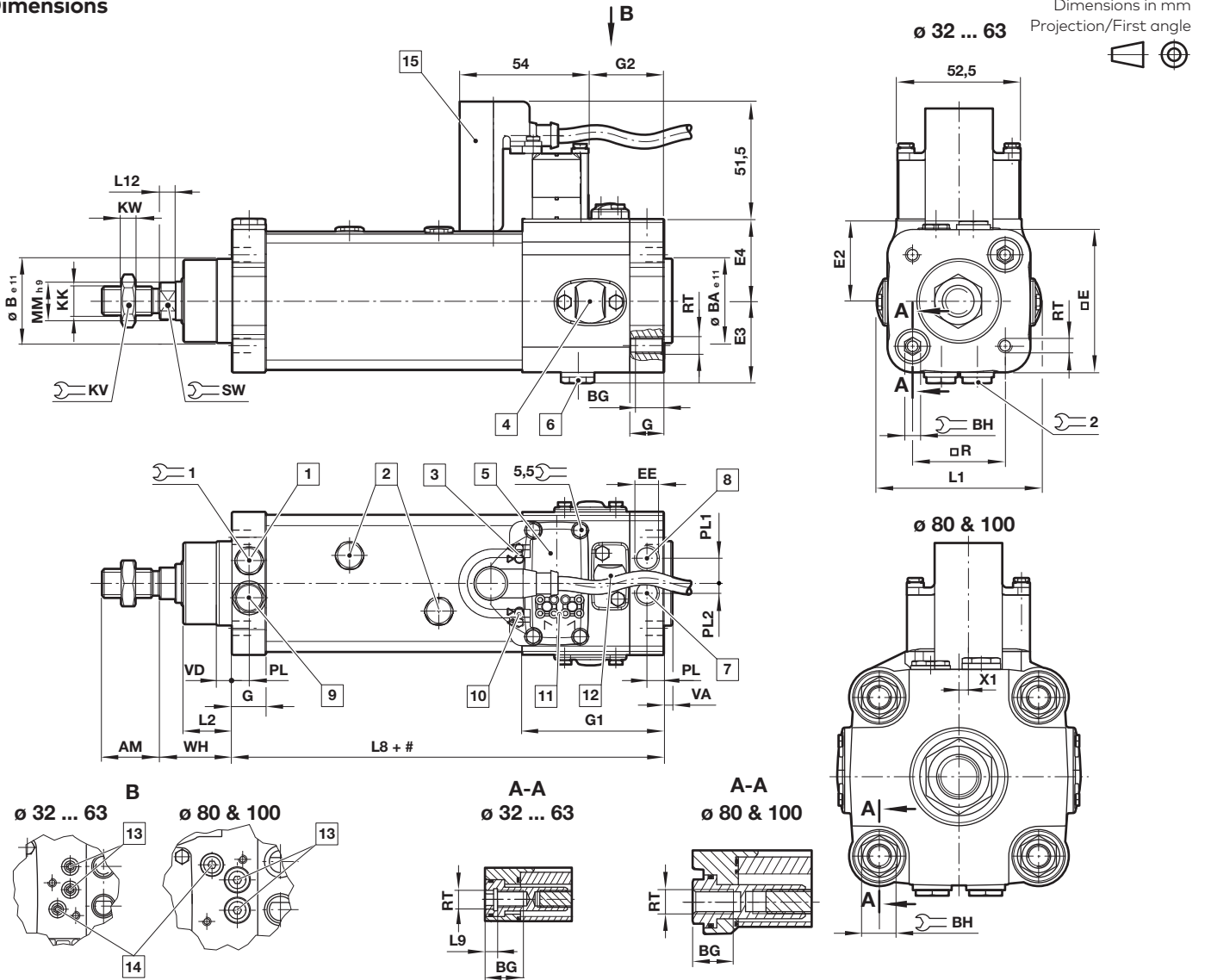


Position	Style	Standard	Corrosion protected	Stainless steel
1	B, G	Clear anodised aluminium	Clear anodised aluminium. Screws: A2	X 5 Cr Ni 18 10 (1.4301; AISI 304). Screws: A2
2	C	Galvanized steel (ø 32 ... 63 mm) Painted steel (ø 80 & 100 mm)	—	X 5 Cr Ni 18 10 (1.4301; AISI 304). Screws: A2
3	R	Diecast aluminium	Black corrosion protected diecast aluminium. Certified for the food industry. Screws: A2	-
4	UR	Galvanized aluminium Inner ring: steel Outer ring: brass	Black corrosion protected diecast aluminium Certified for the food industry Inner ring: stainless Steel (austenitic) Outer ring: nickel plated hardened steel	-
5	D	Diecast aluminium Bolt: galvanized steel (martensitic) Circlip: galvanized steel	Black corrosion protected diecast aluminium Certified for the food industry Bolt: X 10 Cr Ni S 18 9 (1.4305, AISI 303) Circlip: Stainless steel (martensitic). Screws: A2	X 5 Cr Ni 18 10 (1.4301; AISI 304). Screws: A2 Bolt: X 10 Cr Ni S 18 9 (1.4305; AISI 303)
6	SW	Diecast aluminium	Black corrosion protected diecast aluminium Certified for the food industry	X 6 Cr Ni 18 9 (1.4308; AISI 304)
7	US	Galvanized aluminium. Inner ring: steel Outer ring: brass	—	—
8	D2	Painted cast iron. Bolt: stainless steel (martensitic) Circlip: galvanized steel	—	—
9	FH	Cast iron	—	—
10	A	Galvanized steel	—	—
11	Screw	—	—	X 10 Cr Ni S 18 9 (1.4305, AISI 303)
12	S	Clear anodised aluminium Bearing: brass	—	—
15	F	Galvanized steel Bolt: galvanized steel Circlip: Galvanized steel	Nickel plated steel Circlip: X 10 Cr Ni S 18 9 (1.4305, AISI 303) Bolt: X 10 Cr Ni S 18 9 (1.4305, AISI 303)	X 10 Cr Ni S 18 9 (1.4305; AISI 303) Bolt: X 10 Cr Ni S 18 9 (1.4305; AISI 303) Eyebolt: X 10 Cr Ni S 18 9 (1.4305; AISI 303)
16	SS	Painted cast iron	—	—
17	UF	Galvanized steel. Inner ring: steel Outer ring: brass	Nickel plated steel. Inner ring: stainless steel (austenitic) Outer ring: nickel plated hardened steel.	X 10 Cr Ni S 18 9 (1.4305; AISI 303), Inner ring X 105 Cr Co Mo 18-2 (1.4528), Outer ring X 5 Cr Ni 18 10 (1.4301; AISI 304)
18	AK	Galvanized steel	—	—

## Mountings

Model	A	AK	B, G	C	D	D2	F	FH	R
									
<b>Cyl. ø</b>	<b>10</b>	<b>18</b>	<b>1</b>	<b>2</b>	<b>5</b>	<b>8</b>	<b>15</b>	<b>9</b>	<b>3</b>
	Page 10	Page 10	Page 10	Page 10	Page 11	Page 11	Page 11	Page 11	Page 12
32	QM/8032/35	QM/8025/38	QA/8032/22	QA/8032/21	QA/8032/23	QA/8032/42	QM/8025/25	QA/8032/34	QA/8032/27
40	QM/8032/35	QM/8040/38	QA/8040/22	QA/8040/21	QA/8040/23	QA/8040/42	QM/8040/25	QA/8040/34	QA/8040/27
50	QM/8050/35	QM/8050/38	QA/8050/22	QA/8050/21	QA/8050/23	QA/8050/42	QM/8050/25	QA/8050/34	QA/8050/27
63	QM/8050/35	QM/8050/38	QA/8063/22	QA/8063/21	QA/8063/23	QA/8063/42	QM/8050/25	QA/8063/34	QA/8063/27
80	QM/8080/35	QM/8080/38	QA/8080/22	QA/8080/21	QA/8080/23	QA/8080/42	QM/8080/25	QA/8080/34	QA/8080/27
100	QM/8080/35	QM/8080/38	QA/8100/22	QA/8100/21	QA/8100/23	QA/8100/42	QM/8080/25	QA/8100/34	QA/8100/27
<b>Corrosion protected</b>									
32	–	–	PVQA/8032/22	–	PVQA/8032/23	–	PVQM/8025/25	–	PVQA/8032/27
40	–	–	PVQA/8040/22	–	PVQA/8040/23	–	PVQM/8040/25	–	PVQA/8040/27
50	–	–	PVQA/8050/22	–	PVQA/8050/23	–	PVQM/8050/25	–	PVQA/8050/27
63	–	–	PVQA/8063/22	–	PVQA/8063/23	–	PVQM/8050/25	–	PVQA/8063/27
80	–	–	PVQA/8080/22	–	PVQA/8080/23	–	PVQM/8080/25	–	PVQA/8080/27
100	–	–	PVQA/8100/22	–	PVQA/8100/23	–	PVQM/8080/25	–	PVQA/8100/27
<b>Stainless steel</b>									
32	–	–	KQA/8032/22	KQA/8032/21	KQA/8032/23	–	KQM/55433/25	–	–
40	–	–	KQA/8040/22	KQA/8040/21	KQA/8040/23	–	KQM/55441/25	–	–
50	–	–	KQA/8050/22	KQA/8050/21	KQA/8050/23	–	KQM/55451/25	–	–
63	–	–	KQA/8063/22	KQA/8063/21	KQA/8063/23	–	KQM/55451/25	–	–
80	–	–	KQA/8080/22	KQA/8080/21	KQA/8080/23	–	KQA/8080/25	–	–
100	–	–	KQA/8100/22	KQA/8100/21	KQA/8100/23	–	KQA/8080/25	–	–
	S	SS	SW	UF	UR	US	Cover screws	Plug protection	Service kit
									
<b>Cyl. ø</b>	<b>12</b>	<b>16</b>	<b>6</b>	<b>17</b>	<b>4</b>	<b>7</b>	<b>11</b>		
	Page 12	Page 13	Page 12	Page 12	Page 13	Page 13	Page 13		
32	QA/8032/41	M/P19931	M/P19493	QM/8025/32	QA/8032/33	M/P40310		M/P74654	PRQA/882032/00
40	QA/8040/41	M/P19932	M/P19494	QM/8040/32	QA/8040/33	M/P40311		M/P74654	PRQA/882040/00
50	QA/8040/41	M/P19933	M/P19495	QM/8050/32	QA/8050/33	M/P40312		M/P74654	PRQA/882050/00
63	QA/8063/41	M/P19934	M/P19496	QM/8050/32	QA/8063/33	M/P40313		M/P74654	PRQA/882063/00
80	QA/8063/41	M/P19935	M/P19497	QM/8080/32	QA/8080/33	M/P40314		M/P74654	PRQA/882080/00
100	QA/8100/41	M/P19936	M/P19498	QM/8080/32	QA/8100/33	M/P40315		M/P74654	PRQA/882100/00
<b>Corrosion protected</b>									
32	–	–	M/P40459	PVQM/8025/32	PVQA/8032/33	–	–	–	–
40	–	–	M/P40460	PVQM/8040/32	PVQA/8040/33	–	–	–	–
50	–	–	M/P40461	PVQM/8050/32	PVQA/8050/33	–	–	–	–
63	–	–	M/P40462	PVQM/8050/32	PVQA/8063/33	–	–	–	–
80	–	–	M/P40463	PVQM/8080/32	PVQA/8080/33	–	–	–	–
100	–	–	M/P40464	PVQM/8080/32	PVQA/8100/33	–	–	–	–
<b>Stainless steel</b>									
32	–	–	M/P72288	KQM/8032/32	–	–	PVQA/882032/88	–	–
40	–	–	M/P72289	KQM/8040/32	–	–	PVQA/882032/88	–	–
50	–	–	M/P72290	KQM/8050/32	–	–	PVQA/882050/88	–	–
63	–	–	M/P72291	KQM/8050/32	–	–	PVQA/882050/88	–	–
80	–	–	M/P72292	KQM/8080/32	–	–	PVQA/882080/88	–	–
100	–	–	M/P72293	KQM/8080/32	–	–	PVQA/882080/88	–	–

## Dimensions



- # Stroke
- 1** Cushion adjustment front end cover
- 2** Magnetically operated switches (AF 11)
- 3** LED - magnetically operated switches
- 4** Main valve
- 5** Valve control module (VCM)
- 6** Output ports (2&4)
- 7** Air supply
- 8** Exhaust position, do not obstruct
- 9** Without function - do not use
- 10** LED - pilot valve
- 11** Manual override
- 12** Cover for cushion and Speed control adjustment
- 13** Speed control adjustment
- 14** Cushion adjustment rear end cover
- 15** Plug protection

ø	AM	ø B e11	ø BA e11	BG	BH	... E	E2	E3	E4	EE	G	G1	G2	KK	KW	L1	L2	L8	L9	L12
32	22	30	30	16	6	53	31	31	32	G1/8	14	59	30,5	M10x1,25	5	68,5	20	94	4	4,5
40	24	35	35	16	6	60	34,5	34	34	G1/8	14	59	30,5	M12x1,25	6	68,5	21	105	4	6,5
50	32	40	40	16	8	71,5	40	39	39	G1/8	14	63	34,5	M16x1,5	8	92,5	28	106	5	6,5
63	32	45	45	16	8	82	46	45,5	45,5	G1/4	19	66	38	M16x1,5	8	91,5	28	121	5	6,5
80	40	45	45	17	16	99	54	54	57	G1/4	19	74,5	46,5	M20x1,5	10	110	35	128	-	7,5
100	40	55	55	17	16	119	65	65	65	G3/8	24,5	81	53	M20x1,5	10	144,5	38	138	-	10
ø	ø MM h9	PL	PL1	PL2	... R	RT	VA	VD	WH	X1	↺KV	↺SW	↺1	↺2	at 0 mm	per 25 mm	Model			
32	12	7	10,5	4	M6	3	6	26	0	17	10	11	12	0,66 kg	0,07 kg	PRA/882032/MI+/M-/EX/*				
40	16	7	10,5	4	M6	3,5	6	30	0	19	13	11	12	1,03 kg	0,11 kg	PRA/882040/MI+/M-/EX/*				
50	20	7	12,5	4	M8	3,5	6	37	1,5	24	17	13	12	1,58 kg	0,18 kg	PRA/882050/MI+/M-/EX/*				
63	20	9,5	14,5	6	M8	4	6	37	0	24	17	13	15	2,42 kg	0,19 kg	PRA/882063/MI+/M-/EX/*				
80	25	9,5	14	6	M10	4	6	46	6	30	22	17	15	4,12 kg	0,29 kg	PRA/882080/MI+/M-/EX/*				
100	25	12	16,5	8,5	M10	4	6	51	6,5	30	22	17	19	6,34 kg	0,35 kg	PRA/882100/MI+/M-/EX/*				

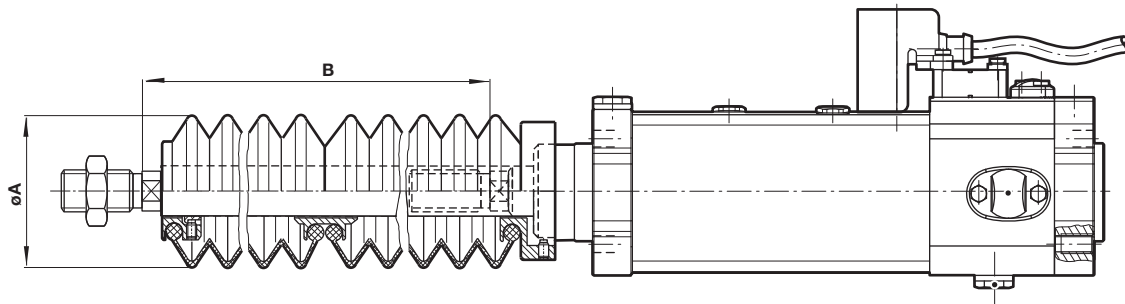
\* Please insert standard stroke length

+ Please insert valve function

- Please insert switch variants (Reed switches for ø 40 ... 100 mm only)



**P.A/882000/MG./M+/\*; Cylinder with piston rod bellow**

 Dimensions in mm  
 Projection/First angle


Cyl. $\varnothing$	$\varnothing A$	Stroke max per bellow	Piston rod extention B		Model
			for first bellow	for further bellows	
32	40	60	30	25	P#/A/882032/MG+/M./*
40	63	145	50	32	P#/A/882040/MG+/M./*
50	63	145	40	32	P#/A/882050/MG+/M./*
63	63	145	40	32	P#/A/882063/MG+/M./*
80	80	250	50	45	P#/A/882080/MG+/M./*
100	80	250	50	45	P#/A/882100/MG+/M./*

\* Standard stroke length

# Piston rod material

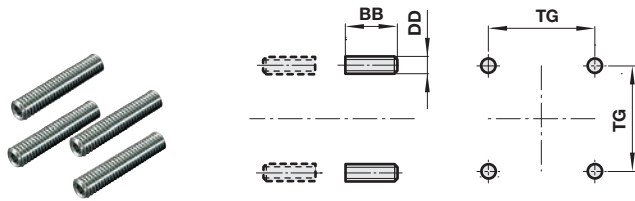
+ Valve function

 . Magnetic switch (Reed switches for  $\varnothing 40 \dots 100$  mm only)

## Mountings

### Front or rear stud mounting A

Conforms to ISO 15552, type MX1

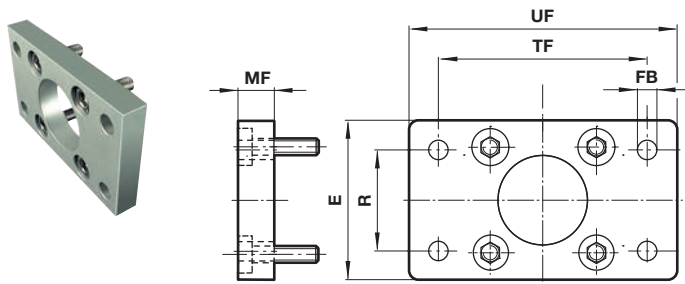


#### Standard

ø	BB	DD	TG	kg	Model (A)
32/40	17	M6	32,5/38	0,02	QM/8032/35
50/63	23	M8	46,5/56,5	0,05	QM/8050/35
80/100	28	M10	72/89	0,08	QM/8080/35

### Front flange B, G

Conforms to ISO 15552, type MF1 and MF2



#### Standard

ø	E	ø FB	MF	R	TF	UF	kg	Model (B, G)
32	50	7	10	32	64	80	0,25	QA/8032/22
40	55	9	10	36	72	90	0,35	QA/8040/22
50	65	9	12	45	90	110	0,70	QA/8050/22
63	75	9	12	50	100	125	0,80	QA/8063/22
80	100	12	16	63	126	154	1,35	QA/8080/22
100	120	14	16	75	150	186	2,20	QA/8100/22

#### Corrosion protected version

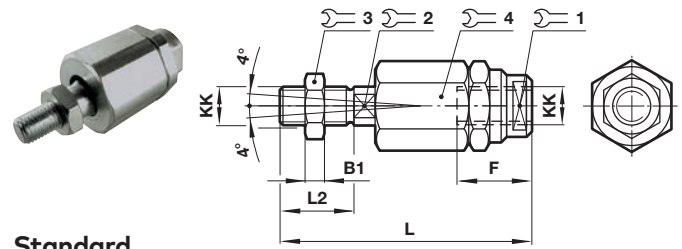
32	50	7	10	32	64	80	0,25	PVQA/8032/22
40	55	9	10	36	72	90	0,35	PVQA/8040/22
50	65	9	12	45	90	110	0,7	PVQA/8050/22
63	75	9	12	50	100	125	0,8	PVQA/8063/22
80	100	12	16	63	126	154	1,35	PVQA/8080/22
100	120	14	16	75	150	186	2,2	PVQA/8100/22

#### Stainless steel

32	50	7	10	32	64	80	0,26	KQA/8032/22
40	55	9	10	36	72	90	0,31	KQA/8040/22
50	65	9	12	45	90	110	0,56	KQA/8050/22
63	75	9	12	50	100	125	0,73	KQA/8063/22
80	100	12	16	63	126	154	1,73	KQA/8080/22
100	120	14	16	75	150	186	2,51	KQA/8100/22

### Piston rod swivel AK

Dimensions in mm  
Projection/First angle

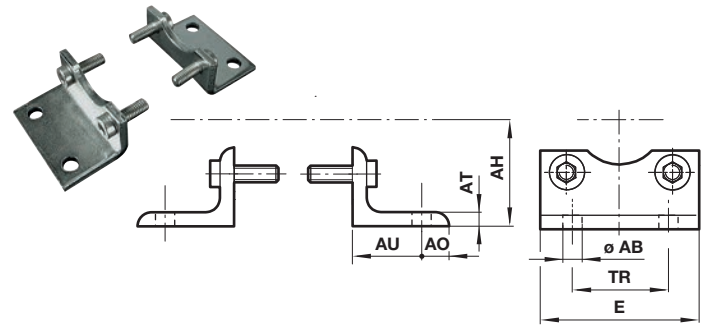


#### Standard

ø	KK	B1	F	L	L2	1	2	3	4	kg	Model (AK)
32	M10x1,25	5	26	73	20	19	12	17	30	0,20	QM/8025/38
40	M12x1,25	6	26	77	24	19	12	19	30	0,20	QM/8040/38
50/63	M16x1,5	8	34	106	32	30	19	24	42	0,65	QM/8050/38
80/100	M20x1,5	10	42	122	40	30	19	30	42	0,72	QM/8080/38

### Foot mounting C

Conforms to ISO 15552, type MS1

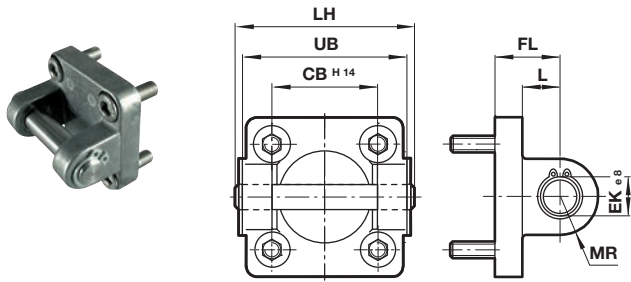


#### Standard

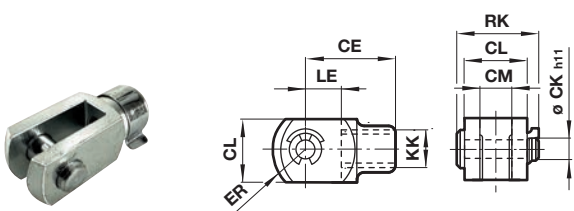
ø	ø AB	AH	AO	AT	AU	E	TR	kg	Model (C)
32	7	32	8	4	24	48	32	0,15	QA/8032/21
40	10	36	9	4	28	53	36	0,18	QA/8040/21
50	10	45	10	5	32	64	45	0,30	QA/8050/21
63	10	50	12	5	32	74	50	0,39	QA/8063/21
80	12	63	19	5	41	98	63	0,80	QA/8080/21
100	14	71	19	5	41	115	75	0,95	QA/8100/21

#### Stainless steel

32	7	32	11	4	24	48	32	0,16	KQA/8032/21
40	9	36	12	5	28	53	36	0,19	KQA/8040/21
50	9	45	13	5	32	64	45	0,32	KQA/8050/21
63	9	50	13	5	32	74	50	0,41	KQA/8063/21
80	12	63	19	6	41	98	63	0,83	KQA/8080/21
100	14	71	19	6	41	115	75	0,98	KQA/8100/21

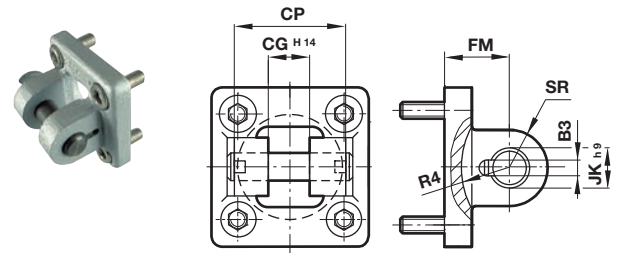
**Rear clevis D**
**Conforms to ISO 15552, type MP2**

**Standard**

ø	CB H14	ø EK e8	FL	L	LH	MR	UB	kg	Model (D)
32	26	10	22	13	52	9	45	0,11	QA/8032/23
40	28	12	25	16	60	12	52	0,16	QA/8040/23
50	32	12	27	17	68	12	60	0,22	QA/8050/23
63	40	16	32	22	79	15	70	0,34	QA/8063/23
80	50	16	36	22	99	15	90	0,54	QA/8080/23
100	60	20	41	27	119	20	110	0,90	QA/8100/23
<b>Corrosion protected version</b>									
32	26	10	22	13	52	9	45	0,11	PVQA/8032/23
40	28	12	25	16	60	12	52	0,16	PVQA/8040/23
50	32	12	27	17	68	12	60	0,22	PVQA/8050/23
63	40	16	32	22	79	15	70	0,34	PVQA/8063/23
80	50	16	36	22	99	15	90	0,54	PVQA/8080/23
100	60	20	41	27	119	20	110	0,9	PVQA/8100/23
<b>Stainless steel</b>									
32	26	10	22	13	52	9	45	0,11	KQA/8032/23
40	28	12	25	16	60	12	52	0,16	KQA/8040/23
50	32	12	27	17	68	12	60	0,22	KQA/8050/23
63	40	16	32	22	79	15	70	0,34	KQA/8063/23
80	50	16	36	22	99	15	90	0,54	KQA/8080/23
100	60	20	41	27	119	20	110	0,9	KQA/8100/23

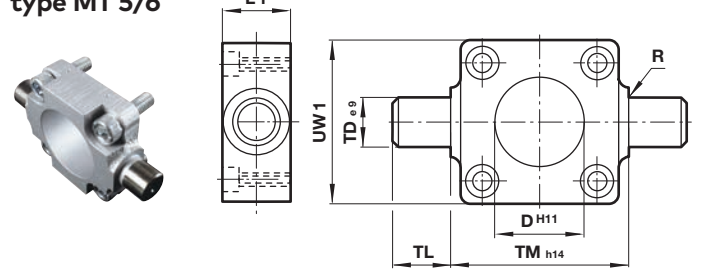
**Piston rod clevis F**
**Conforms to DIN ISO 8140**

**Standard**

ø	KK	CE	ø CK h11	CL	CM	ER	LE	RK	kg	Model (F)
32	M10x1,25	40	10	20	10	16	20	28	0,09	QM/8025/25
40	M12x1,25	48	12	24	12	19	24	32	0,13	QM/8040/25
50/63	M16x1,5	64	16	32	16	25	32	41,5	0,33	QM/8050/25
80/100	M20x1,5	80	20	40	20	32	40	50	0,67	QM/8080/25
<b>Corrosion protected version</b>										
32	M10x1,25	40	10	20	10	16	20	28	0,09	PVQM/8032/25
40	M12x1,25	48	12	24	12	19	24	32	0,13	PVQM/8040/25
50/63	M16x1,5	64	16	32	16	25	32	41,5	0,33	PVQM/8050/25
80/100	M20x1,5	80	20	40	20	32	40	50	0,67	PVQM/8080/25
<b>Stainless steel</b>										
32	M10x1,25	40	10	20	10	16	20	28	0,09	KQM/55433/25
40	M12x1,25	48	12	24	12	19	24	32	0,13	KQM/55441/25
50/63	M16x1,5	64	16	32	16	25	32	41,5	0,33	KQM/55451/25
80/100	M20x1,5	80	20	40	20	32	40	50	0,67	KQM/8080/25

**Rear clevis D2**
**Conforms to ISO 15552, type AB6**

 Dimensions in mm  
 Projection/First angle

**Standard**

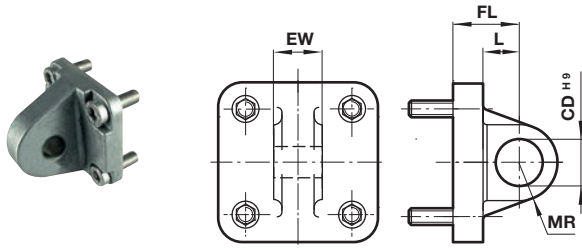
ø	B1 H14	B2	B3	ø EK h9	FL	R1	R2	kg	Model (D2)
32	14	34	3,3	10	22	11	17	0,20	QA/8032/42
40	16	40	4,3	12	25	12	20	0,23	QA/8040/42
50	21	45	4,3	16	27	14,5	22	0,36	QA/8050/42
63	21	51	4,3	16	32	18	25	0,55	QA/8063/42
80	25	65	4,3	20	36	22	30	0,90	QA/8080/42
100	25	75	4,3	20	41	22	32	1,45	QA/8100/42

**Front or rear detachable trunnion FH**
**Conforms to VDMA 24562 part 2,  
type MT 5/6**

**Standard**

ø	ø D h11	L1	R	ø TD e9	TL	TM h14	UW1	kg	Model (FH)
32	30	16	1	12	12	50	45	0,20	QA/8032/34
40	35	20	1,6	16	16	63	55	0,38	QA/8040/34
50	40	24	1,6	16	16	75	65	0,60	QA/8050/34
63	45	24	1,6	20	20	90	75	1,10	QA/8063/34
80	45	28	1,6	20	20	110	100	1,90	QA/8080/34
100	55	38	2	25	25	132	120	3,50	QA/8100/34

### Rear eye R

Conforms to ISO 15552, type MP4



#### Standard

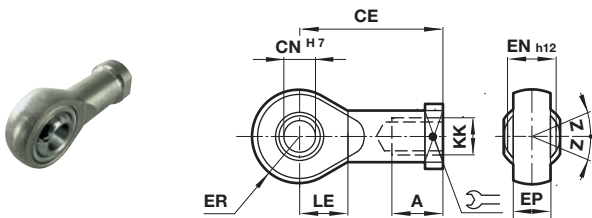
ø	ø CD H9	EW	FL	L	MR	kg	Model (R)
32	10	25,8	22	13	9	0,09	QA/8032/27
40	12	27,8	25	16	12	0,11	QA/8040/27
50	12	31,7	27	17	12	0,17	QA/8050/27
63	16	39,7	32	22	15	0,24	QA/8063/27
80	16	49,7	36	22	15	0,37	QA/8080/27
100	20	59,7	41	27	20	0,59	QA/8100/27

**Corrosion protected version**

32	10	25,8	22	13	9	0,09	PVQA/8032/27
40	12	27,8	25	16	12	0,11	PVQA/8040/27
50	12	31,7	27	17	12	0,17	PVQA/8050/27
63	16	39,7	32	22	15	0,24	PVQA/8063/27
80	16	49,7	36	22	15	0,37	PVQA/8080/27
100	20	59,7	41	27	20	0,59	PVQA/8100/27

### Universal piston rod eye UF

Conforms to DIN ISO 8139



#### Standard

ø	Thread KK	AX	CE	ø CN H7	EN -0,1	ER	LE	Z	kg	Model (UF)
32	M10x1,25	20	43	10	14	14	15	13°	0,09	QM/8025/32
40	M12x1,25	22	50	12	16	16	17	13°	0,13	QM/8040/32
50/63	M16x1,5	28	64	16	21	21	22	15°	0,33	QM/8050/32
80/100	M20x1,5	33	77	20	25	25	26	15°	0,67	QM/8080/32

**Corrosion protected version**

32	M10x1,25	20	43	10	14	14	15	13°	0,09	PVQM/8025/32
40	M12x1,25	22	50	12	16	16	17	13°	0,13	PVQM/8040/32
50/63	M16x1,5	28	64	16	21	21	22	15°	0,33	PVQM/8050/32
80/100	M20x1,5	33	77	20	25	25	26	15°	0,4	PVQM/8080/32

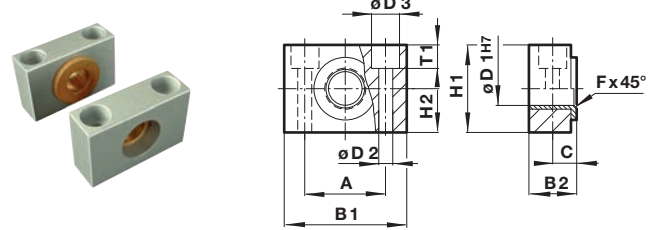
**Stainless steel**

32	M10x1,25	20	43	10	14	14,5	14	13°	0,07	KQM/8032/32
40	M12x1,25	22	50	12	16	16,5	16	13°	0,11	KQM/8040/32
50/63	M16x1,5	28	64	16	21	21,5	21	15°	0,21	KQM/8050/32
80/100	M20x1,5	33	77	20	25	25,5	25	15°	0,38	KQM/8080/32

### Trunnion support S

Conforms to ISO 15552, type AT4

Dimensions in mm  
Projection/First angle

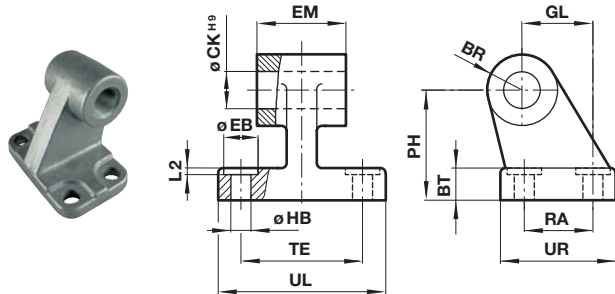


#### Standard

ø	A	B 1	B 2	C	ø D1H7	ø D2	ø D3	Fx 45°	H 1	H 2	T1	kg	Model (S)
32	32	46	18	10,5	12	6,6	11	1	30	15	6,8	0,10	QA/8032/41
40/50	36	55	21	12	16	9	15	1,6	36	18	9	0,14	QA/8040/41
63/80	42	65	23	13	20	11	18	1,6	40	20	11	0,18	QA/8063/41
100	50	75	28,5	16	25	14	20	2	50	25	13	0,34	QA/8100/41

### Wide hinge SW

Conforms to ISO 15552, type AB7



#### Standard

ø	CA	ø CK H9	ø D	H 2	EM	G 1	G 2	G 3	K 1	K 2	L 1	R	ø S	kg	Model (SW)
32	32	10	11	7	25,5	21	18	31	38	50	1,6	10	6,6	0,05	M/P19493
40	36	12	11	9	27,5	24	22	35	41	54	1,6	11	6,6	0,07	M/P19494
50	45	12	15	11	31,5	33	30	45	50	65	1,6	13	9	0,14	M/P19495
63	50	16	15	12	39,5	37	35	50	52	67	1,6	15	9	0,18	M/P19496
80	63	16	18	14	49,5	47	40	60	66	84	2,5	15	11	0,28	M/P19497
100	71	20	18	15	59,5	55	50	70	76	94	2,5	19	11	0,42	M/P19498

**Corrosion protected version**

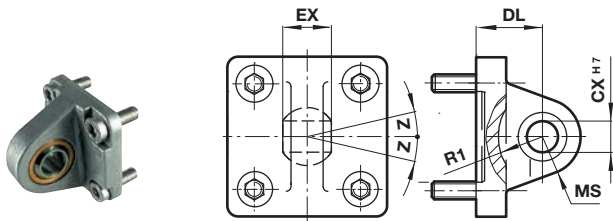
32	32	10	11	8	26,5	21	18	31	38	51	1,6	10	6,6	0,05	M/P40459
40	36	12	11	10	28,5	24	22	35	41	54	1,6	11	6,6	0,07	M/P40460
50	45	12	15	12	32,5	33	30	45	50	65	1,6	13	9	0,14	M/P40461
63	50	16	15	12	40,5	37	35	50	52	67	1,6	15	9	0,18	M/P40462
80	63	16	18	14	50,5	47	40	60	66	86	2,5	15	11	0,28	M/P40463
100	71	20	18	15	60,5	55	50	70	76	96	2,5	19	11	0,42	M/P40464

**Stainless steel**

32	32	10	11	8	26	21	18	31	38	51	1,6	10	6,6	0,15	M/P72288
40	36	12	11	10	28	24	22	35	41	53	1,6	11	6,6	0,21	M/P72289
50	45	12	15	12	32	33	30	45	50	65	1,6	13	9	0,41	M/P72290
63	50	16	15	12	40	37	35	50	52	67	1,6	15	9	0,53	M/P72291
80	63	16	18	14	50	47	40	60	66	86	2,5	15	11	0,82	M/P72292
100	71	20	18	15	60	55	50	70	76	96	2,5	19	11	1,22	M/P72293

### Universal rear eye UR

Conforms to ISO 15552, type MP6

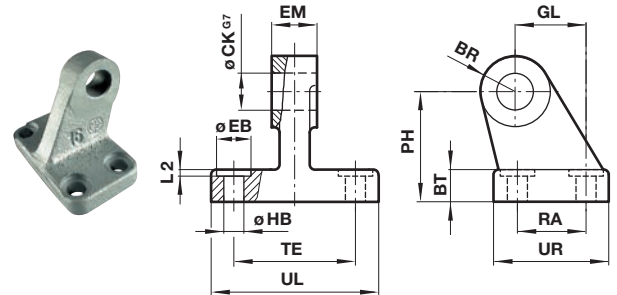


#### Standard

ø	ø CN H7	EN	ER	FL	R	Z	kg	Model (UR)
32	10	14	16	22	14,5	13°	0,15	QA/8032/33
40	12	16	18	25	18	13°	0,25	QA/8040/33
50	16	21	21	27	19	15°	0,40	QA/8050/33
63	16	21	23	32	24	15°	0,55	QA/8063/33
80	20	25	28	36	24	15°	0,90	QA/8080/33
100	20	25	30	41	29	15°	1,50	QA/8100/33
Corrosion protected version								
32	10	14	16	22	14,5	13°	0,15	PVQA/8032/33
40	12	16	19	25	18	13°	0,25	PVQA/8040/33
50	16	21	21	27	19	13°	0,4	PVQA/8050/33
63	16	21	24	32	24	15°	0,55	PVQA/8063/33
80	20	25	28	36	24	15°	0,9	PVQA/8080/33
100	20	25	30	41	29	15°	1,5	PVQA/8100/33

### Narrow hinge SS

Dimensions in mm  
Projection/First angle

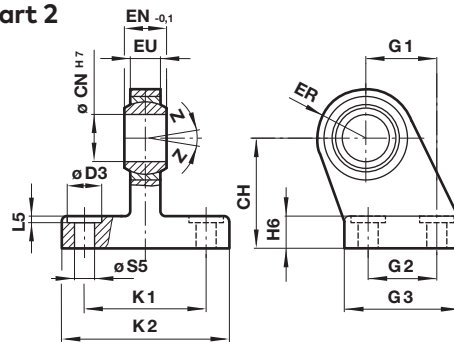


#### Standard

ø	CA	ø CN G7	ø D	H2	EM	G1	G2	G3	K1	K2	L1	R	ø S	kg	Model (SS)
32	32	10	11	8	10	21	18	31	38	51	1,6	10	6,6	0,15	M/P19931
40	36	12	11	10	12	24	22	35	41	54	1,6	11	6,6	0,20	M/P19932
50	45	16	15	12	16	33	30	45	50	65	1,6	13	9	0,48	M/P19933
63	50	16	15	12	16	37	35	50	52	67	1,6	15	9	0,50	M/P19934
80	63	20	18	14	20	47	40	60	66	86	2,5	15	11	0,75	M/P19935
100	71	20	18	15	20	55	50	70	76	96	2,5	19	11	1,20	M/P19936

### Swivel hinge US

Conforms to VDMA 24562 part 2



#### Standard

ø	CH	ø CN H7	ø D	EN -0,1	ER	EU	G1	G2	G3	H2	K1	K2	L1	ø S	Z	kg	Model (US)
32	32	10	11	14	16	10,5	21	18	31	10	38	51	1,6	6,6	13°	0,19	M/P40310
40	36	12	11	16	18	12	24	22	35	10	41	54	1,6	6,6	13°	0,24	M/P40311
50	45	16	15	21	21	15	33	30	45	12	50	65	1,6	9	13°	0,46	M/P40312
63	50	16	15	21	23	15	37	35	50	12	52	67	1,6	9	15°	0,59	M/P40313
80	63	20	18	25	28	18	47	40	60	14	66	86	2,5	11	15°	1,03	M/P40314
100	71	20	18	25	30	18	55	50	70	15	76	96	2,5	11	15°	1,40	M/P40315

### Cover screw (stainless steel)



ø	M	⌀	K	L	kg	Model
32/40	M6	10	5,5	10,5	0,018	PVQA/882032/88
50/63	M8	13	6,8	10,5	0,041	PVQA/882050/88
80/100	M10	17	8,4	10	0,072	PVQA/882080/88

- > ATEX - Magnetically operating switch, reed contact
- > LED indicator
- > CE verified
- > Suitable for all cylinder ranges with magnetic piston



### Technical features

**Operation:**  
Normal open with LED (yellow)

**Switching voltage (U<sub>b</sub>):**  
10 ... 240 V a.c./170 V d.c.

**Switching voltage output:**  
U<sub>b</sub> - 2,7 V

**Switching current (see graph overleaf):**  
0,18 A max.

**Switching power:**  
10 W/10 VA max.

**Contact resistance:**  
150 mΩ

**Response time:**  
1,8 ms

**Operating temperature:**  
-20 ... +50°C (-4 ... +122°F)

**Ex-Identification:**  
II 3G Ex nC IIC T5 Gc X  
II 3D Ex tc IIIC T120°C Dc X

**Protection rating (EN 60529):**  
IP67

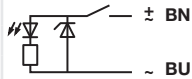
**Cable type:**  
PVC 2 x 0,25 mm<sup>2</sup>

**Cable length:**  
5 m

**Electromagnetic compatibility according to:**  
EN 60947-5-2

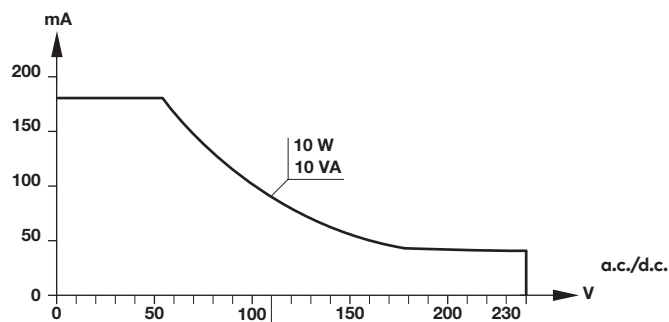
**Materials:**  
Body: plastic  
Cable: see table below

### Technical data - Reed switches - additional information see data sheet en 4.3.015

Symbol	Voltage		Current maximum (mA)	Function	Operating temperature (°C)	LED	Protection class	Cable length (m)	Cable type	Weight (g)	Model
	(V a.c.)	(V d.c.)									
	10 ... 240	10 ... 170	180	Closer	-20 ... +50	•	IP67	5	PVC 2x0,25	40	M/50/LXU/5V

Color code: BN = brown, BU = blue

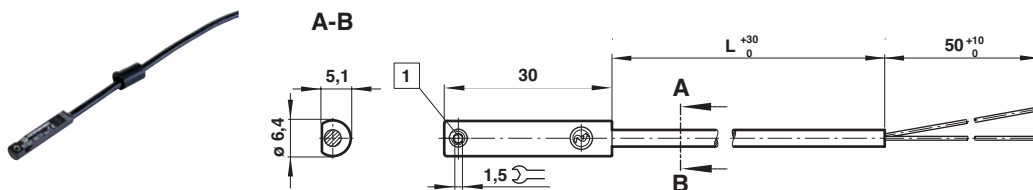
### Switching current and switching voltage



### Dimensions

Cable length L = 5 m

Dimensions in mm  
Projection/First angle



1 Fixing screw

### ATTENTION:

The setting of magnetic switches on a cylinder barrel forms an ATEX assembly:

- Each part is separate classified according ATEX for use in potentially explosive atmospheres.
- The resulting range of approved applications for the module corresponds to that of the individual part assigned to the lowest category.
- The result concerns the device category, potentially explosive atmosphere G or D, max. surface temperature and explosion classification if applicable.

- > ATEX - Magnetically operating switch, solid state
- > Suitable for all cylinder ranges with magnetic piston
- > LED indicator
- > Resistant, reliable switching with a very fast response time
- > Particularly suited for use in high levels of vibration
- > CE verified
- > UL certificated



### Technical features

**Operation:**  
PNP-output with LED (yellow)

**Switching voltage (U<sub>b</sub>):**  
10 ... 30 V d.c.

**Switching voltage output:**  
< 2,5V

**Switching current (see graph):**  
150 mA max.

**Switching power:**  
4,5 W max.

**Response time:**  
< 0,1 ms

**Switching frequency:**  
1 kHz

**Operating temperatur:**  
-20 ... +50°C (-4 ... +122°F)

**Ex-Identification:**  
II 3G Ex ec IIC T4 Gc X  
II 3D Ex tc IIIC T110°C Dc X

**Protection rating (EN 60529):**  
IP67

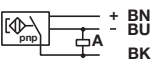
**Cable type:**  
PVC 3 x 0,14 mm<sup>2</sup>

**Cable length:**  
5 m

**Electromagnetic compatibility according to:**  
EN 60947-5-2

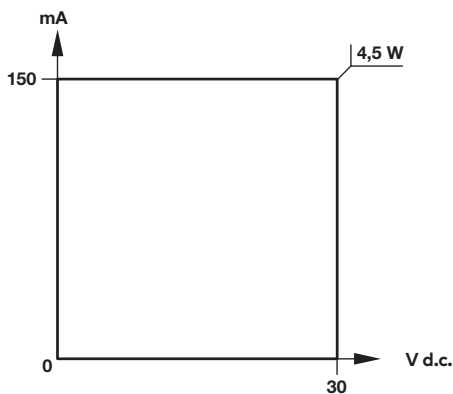
**Materials:**  
Body: plastic  
Cable: see table below

### Technical data - Solid state switches - additional information see data sheet en 4.3.017

Symbol	Voltage (V d.c.)	Current maximum (mA)	Function	Operating temperature (°C)	LED	Protection class	Cable length (m)	Cable type	Weight (g)	Model
	10 ... 30	150	PNP	-20 ... +50	.	IP67	5	PVC 3 x 0,14	40	M/50/EXP/5V

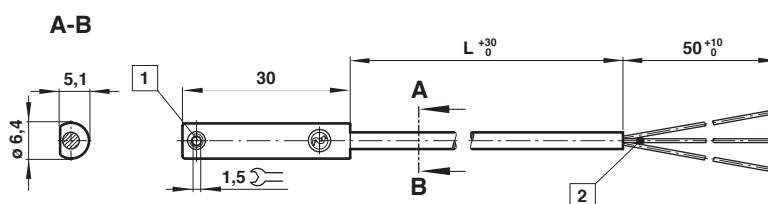
Color code: BK = black, BN = brown, BU = blue

### Switching current and switching voltage



### Dimensions

Cable length L = 5 m



- 1 Fixing screw
- 2 Color code

BK = black  
BN = brown  
BU = blue

Dimensions in mm  
Projection/First angle



### ATTENTION:

The setting of magnetic switches on a cylinder barrel forms an ATEX assembly:

- Each part is separate classified according ATEX for use in potentially explosive atmospheres.
- The resulting range of approved applications for the module corresponds to that of the individual part assigned to the lowest category.
- The result concerns the device category, potentially explosive atmosphere G or D, max. surface temperature and explosion classification if applicable.

## Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under **»Technical features/data«**.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems or other applications not within published specifications, consult Norgren.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.