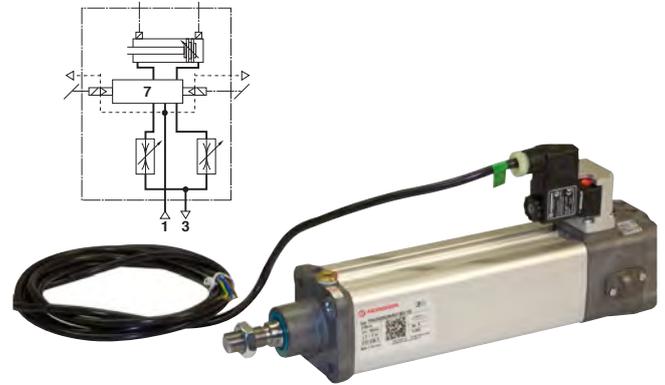


## PRA/862000/M/EX, IVAC Industrial cylinder Magnetic piston, double acting

- Ø 32 ... 100 mm
- Cylinders and mountings conform to ISO 15552
- Complete functional unit
- These cylinders are applicable in zones 1 & 2 (gas), 21 & 22 (dust) ; ATEX Cat. II 2G and 2D  
Cylinder with bellows: in zones 2 & 22: ATEX Kat. II 3G und 3D
- Integrated 5/2 or 5/3 valve
- Additional output ports (2 & 4)
- Integrated flow regulator for speed control
- Reed or solid state switches can be mounted flush with the profile barrel



### 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° 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 (+45°C)  
 (+23 ... +122°F) max.

#### Operating temperature:

-5 ... +80°C max. (+23 ... +176°F)

#### ATEX-Protection:

see page 4

#### Supply voltage:

24 V d.c. (±10 %)  
 (other voltages supply on request)

#### Power consumption:

2,7 W max

#### Electrical connection:

Cable 3 m (triple wire)

#### Manual override:

Turn and look

#### Rating:

100 % E.D.

#### Protection class:

IP 65

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	G 1/8	G 1/8	G 1/8	G 1/4	G 1/4	G 3/8
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 ATEX directive 2014/34/EU 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	<b>1</b>	<b>2</b>	<b>3</b>
Equipment safety	very high	high	normal
Gas	Equipment-identification Ex...	Ex II 1G	Ex II 2G
	ATEX-zone	Zone 0	Zone 1
Dust	Equipment-identification Ex...	Ex II 1D	Ex II 2D
	ATEX-zone	Zone 20	Zone 21

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



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

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

## Cylinder variants

Symbol	R	S	C	D	E	V	Model with magnetic piston	Description	Dimensions Page
	•	•	•	•	•	•	PRA/862000/MI./...	Standard cylinder	8
	•	•	•	•	•		PRA/862000/W2./...	Cylinder with special wiper/seal (suitable for appl. with cement, plaster (stucco), arizona sand, hoar-frost or ice)	8
	•	•	•	•	•	•	PRA/862000/MU./...	Cylinder with extended piston rod	8
	•	•	•	•	•	•	PRA/862000/MG./...	Cylinder with piston rod bellow	9

For the cylinder models style C, D, E, S and V see options selector

## Option selector

P★A/862★ ★ ★ / ★ ★ ★ / ★ ★ ★ ★ X / ★ ★ ★ ★

<b>Piston rod material</b>	Substitute
Stainless steel (martensitic); Standard wiper seal	R
Stainless steel (austenitic); Standard wiper seal	S
Hard chromium plated; Standard wiper seal	C
Stainless steel (austenitic); hard chromium plated; Standard wiper seal	D
Stainless steel (austenitic); Smooth wiper seal	V
Stainless steel (austenitic); hard chromium plated; Smooth wiper seal	E
<b>Cylinder Ø (mm)</b>	Substitute
032, 040, 050, 063, 080, 100	
<b>Variants (magnetic piston)</b>	Substitute
Standard	MI
Piston rod bellow	MG
Special wiper seal	W2
Extended piston rod,	MU
P**/862***/MU*/2130X/****/****	
↳ Extension (mm)	

### Caution!

Please note the information on the next page!

<b>Strokes (mm)</b>	
1000 max.	
<b>Pilot control</b>	Substitute
Pilot valve & magnet coil	2130
Without*1)	III
<b>Valve function *2)</b>	Substitute
5/2 way solenoid/spring, cylinder instroke without current	R
5/2 way solenoid/spring, cylinder outstroke without current	E
5/2 way solenoid operated, solenoid return, bistable	B
5/3 way solenoid operated, solenoid return, all ports blocked (APB)	A
5/3 way solenoid operated, solenoid return, centre open exhaust (COE)	C

\*1) Without pilot control

Operation of the cylinder is only possible with an additional pilot control. A separate specification is available on request

\*2) External pilot pressure on request

## ATTENTION:

A cylinder is a module consisting of several parts:

1. Cylinder with pilot control valve (ATEX) and solenoid operator

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	Without	Zone 1 and 21	T amb. - 5 ... +50°C max - 5 ... +45°C max *2)
	Reed: M/50/LXU/5V	Zone 2 and 22	
	Solid state: M/50/EXP/5V		
MG	Without	Zone 2 and 22	
	Reed: M/50/LXU/5V		
	Solid state: M/50/EXP/5V		

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

\*2) Pilot control with 2 ATEX pilot valves (3062 and 3063)

Valve function cylinder: .../\*\*B/..., .../\*\*A/..., .../\*\*C/... is Tamb. +45°C max.

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

Cylinder variants MI, W2, MU



II 2G Ex h IIC T4 Gb (Without pilot control)

II 2D Ex h IIIC T120°C Db (Option selector: .../★★★★X/...)

MG



II 3G Ex h IIC T4 Gc

II 3D Ex h IIIC T120°C Dc

ATEX-marking of solenoid operator see page 4, ATEX-marking of magnetically operated switches see page 14 and 15

## Solenoid operator of pilot control

	Power consumption 24 V d.c. (W)	Rated current V d.c. (mA)	Ex- Protection category	Protection class *7)	Temperature Ambient/Fluid (°C)	Weight (kg)	Model
	2,7	115	II2G II2D	Ex mb IIC T5 Gb Ex mb tb IIIC T95°C Db IP65 Standard wire, 3 m	-20 ... +50	0,3	3062 *3)

Design according to VDE 0580, EN 50014/50028. 100% duty cycle.

\*3) Certificate of Conformity PTB No. PTB 03 ATEX 2015X

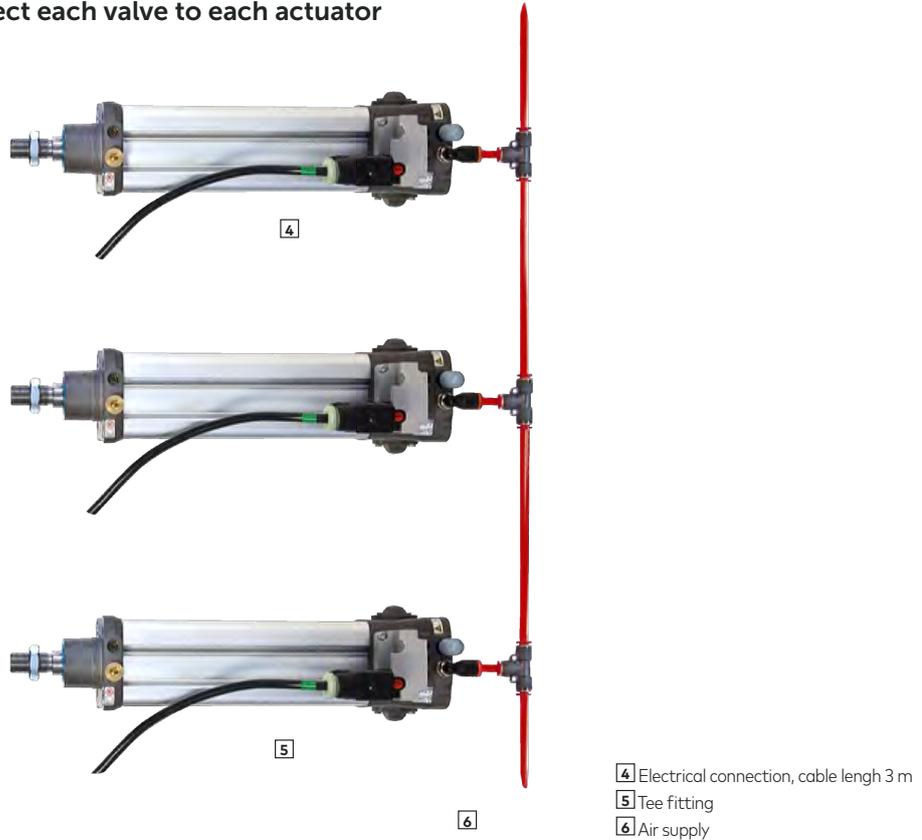
\*7) IP-Protection class according to EN60529

Note: Standard version: .../2130X/...

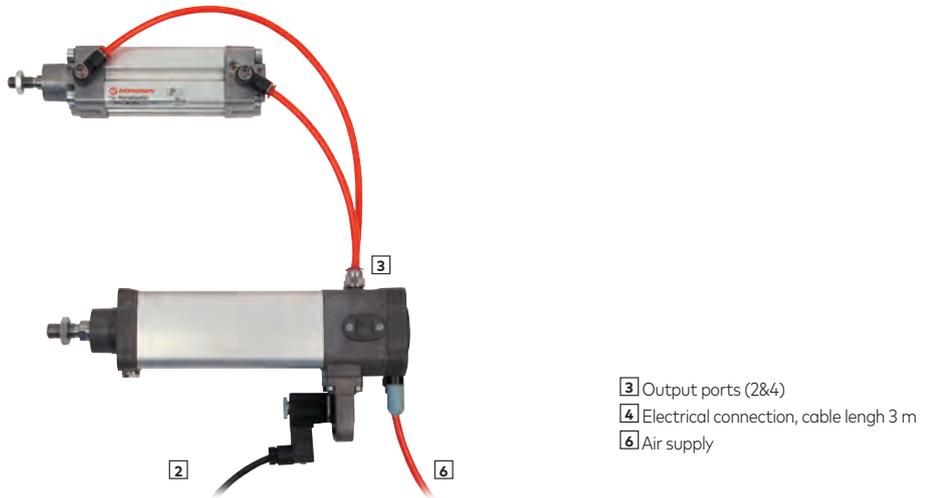
3/2 way pilot valve with manual override /turn and look, solenoid operator: 24 V d.c. with 3 m cable. Composite of pilot valve with solenoid operator 306X possible. Different variants are available on request.

**Reduced Installation Time & Cost**

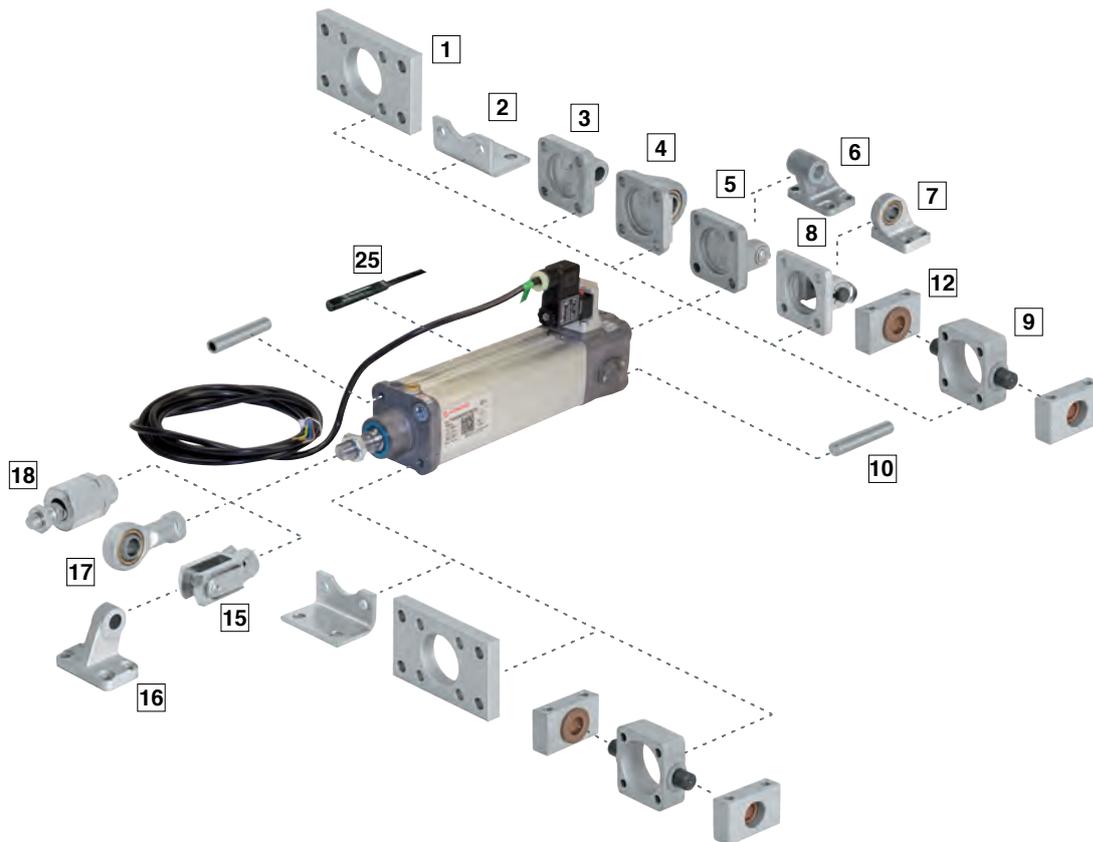
To connect the IVAC you simply run a single ring main to provide an air supply to each unit. There is no mounting of valve islands to the machine framework or inside a cabinet and there is no pipework to run around the machine to connect each valve to each actuator



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



Position	Style	Standard	Corrosion protected
1	B, G	Clear anodised aluminium	Clear anodised aluminium. Screws: A2
2	C	Galvanized steel (ø 32 ... 63 mm) Painted steel (ø 80 & 100 mm)	—
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
6	SW	Diecast aluminium	Black corrosion protected diecast aluminium Certified for the food industry
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	—	—
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)
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.
18	AK	Galvanized steel	—

## Mountings

Model	A	AK	B, G	C	D	D2	F	FH
Cyl. Ø	<b>10</b> Page 10	<b>18</b> Page 10	<b>1</b> Page 10	<b>2</b> Page 10	<b>5</b> Page 11	<b>8</b> Page 11	<b>15</b> Page 11	<b>9</b> Page 11
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
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
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
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
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
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
<b>Corrosion protected</b>								
32	—	—	PVQA/8032/22	—	PVQA/8032/23	—	PVQM/8025/25	—
40	—	—	PVQA/8040/22	—	PVQA/8040/23	—	PVQM/8040/25	—
50	—	—	PVQA/8050/22	—	PVQA/8050/23	—	PVQM/8050/25	—
63	—	—	PVQA/8063/22	—	PVQA/8063/23	—	PVQM/8050/25	—
80	—	—	PVQA/8080/22	—	PVQA/8080/23	—	PVQM/8080/25	—
100	—	—	PVQA/8100/22	—	PVQA/8100/23	—	PVQM/8080/25	—
	R	S	SS	SW	UF	UR	US	Service kit
Cyl. Ø	<b>3</b> Page 12	<b>12</b> Page 12	<b>16</b> Page 13	<b>6</b> Page 12	<b>17</b> Page 12	<b>4</b> Page 13	<b>7</b> Page 13	
32	QA/8032/27	QA/8032/41	M/P19931	M/P19493	QM/8025/32	QA/8032/33	M/P40310	PRQA/862032/00
40	QA/8040/27	QA/8040/41	M/P19932	M/P19494	QM/8040/32	QA/8040/33	M/P40311	PRQA/862040/00
50	QA/8050/27	QA/8040/41	M/P19933	M/P19495	QM/8050/32	QA/8050/33	M/P40312	PRQA/862050/00
63	QA/8063/27	QA/8063/41	M/P19934	M/P19496	QM/8050/32	QA/8063/33	M/P40313	PRQA/862063/00
80	QA/8080/27	QA/8063/41	M/P19935	M/P19497	QM/8080/32	QA/8080/33	M/P40314	PRQA/862080/00
100	QA/8100/27	QA/8100/41	M/P19936	M/P19498	QM/8080/32	QA/8100/33	M/P40315	PRQA/862100/00
<b>Corrosion protected</b>								
32	PVQA/8032/27	—	—	M/P40459	PVQM/8025/32	PVQA/8032/33	—	—
40	PVQA/8040/27	—	—	M/P40460	PVQM/8040/32	PVQA/8040/33	—	—
50	PVQA/8050/27	—	—	M/P40461	PVQM/8050/32	PVQA/8050/33	—	—
63	PVQA/8063/27	—	—	M/P40462	PVQM/8050/32	PVQA/8063/33	—	—
80	PVQA/8080/27	—	—	M/P40463	PVQM/8080/32	PVQA/8080/33	—	—
100	PVQA/8100/27	—	—	M/P40464	PVQM/8080/32	PVQA/8100/33	—	—

## Accessories

Magnetically operated switches  
M/50 \*1)



**25**

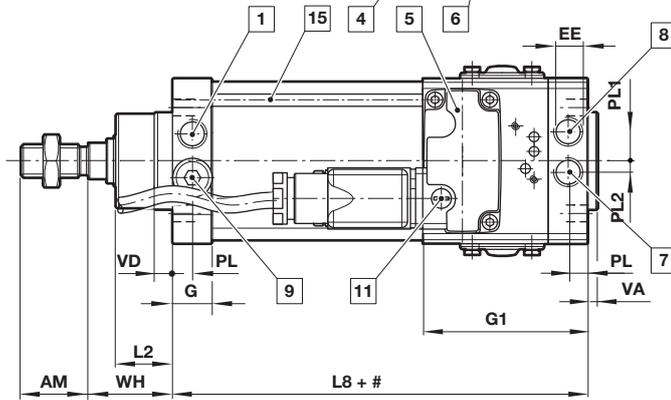
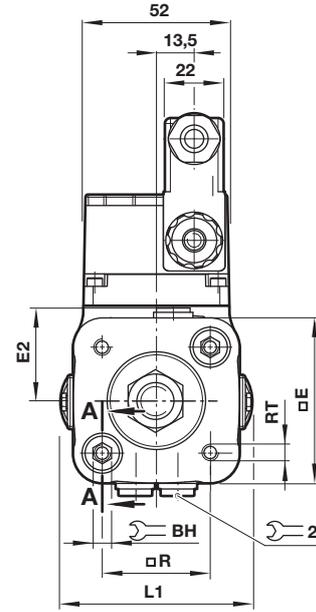
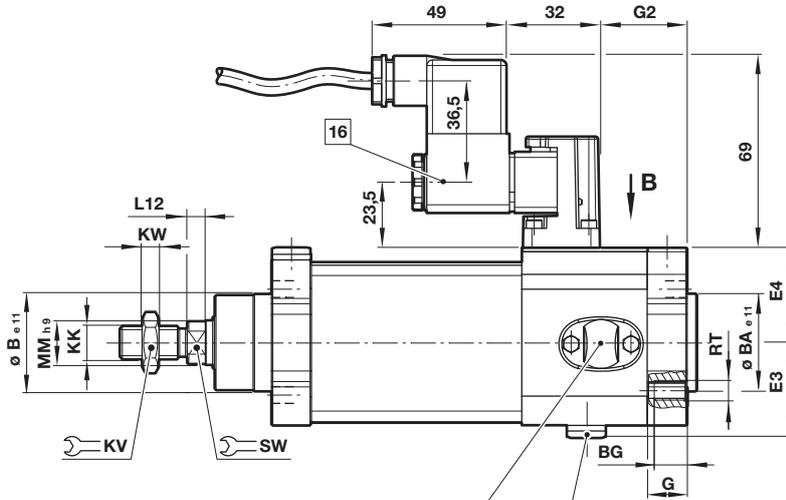
Pages 14 and 15

\*1) Switches can be mounted flush with the profile!

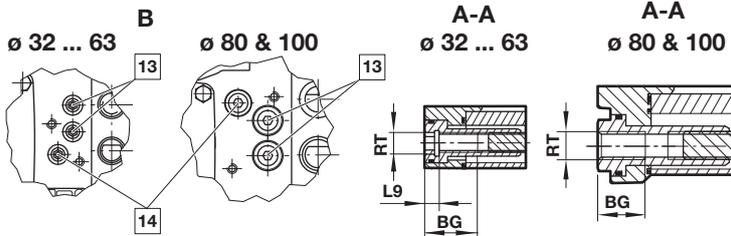
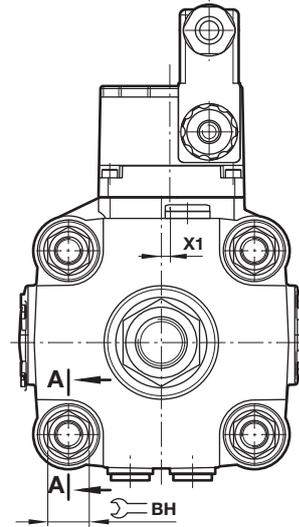
# Dimensions

ø 32 ... 63

Dimensions in mm  
Projection/First angle



ø 80 & 100



# Stroke

- 1 Cushion adjustment front end cover
- 4 Main valve
- 5 Pilot block
- 6 Output ports (2&4)

- 7 Air supply
- 8 Exhaust position, do not obstruct
- 9 Without function - do not use
- 11 Manual override
- 13 Speed control adjustment

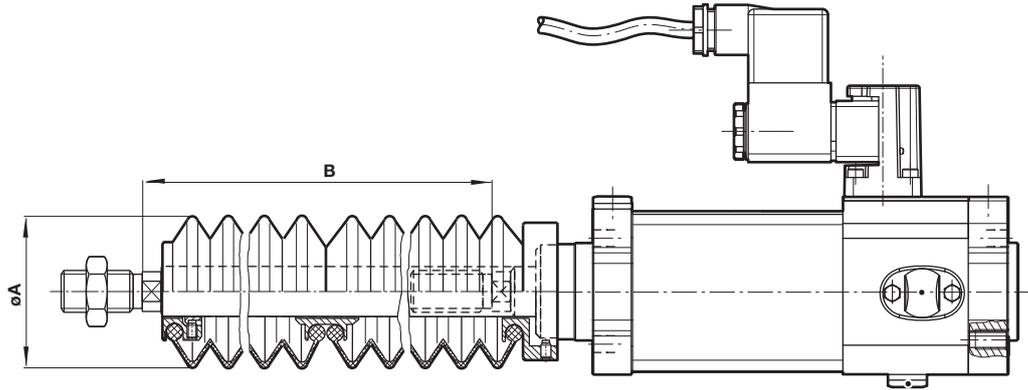
- 14 Cushion adjustment rear end cover
- 15 M/50 switches can be mounted flush with the profile
- 16 ATEX solenoid operator

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	30,5	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	19	99	54	54	57	G1/4	19	74,5	46,5	M20x1,5	10	110	35	128	-	7,5
100	40	55	55	17	19	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	↺2	at 0 mm	per 25 mm	Model				
32	12	7	10,5	4	32,5	M 6	3	6	26	0	17	10	5	0,66 kg	0,07 kg	PRA/862032/MI+/2130X/*				
40	16	7	10,5	4	38	M 6	3,5	6	30	0	19	13	5	1,03 kg	0,11 kg	PRA/862040/MI+/2130X/*				
50	20	7	12,5	4	46,5	M 8	3,5	6	37	1,5	24	17	5	1,58 kg	0,18 kg	PRA/862050/MI+/2130X/*				
63	20	9,5	14,5	6	56,5	M 8	4	6	37	0	24	17	6	2,42 kg	0,19 kg	PRA/862063/MI+/2130X/*				
80	25	9,5	14	6	72	M 10	4	6	46	6	30	22	6	4,12 kg	0,29 kg	PRA/862080/MI+/2130X/*				
100	25	12	16,5	8,5	89	M 10	4	6	51	6,5	30	22	8	6,34 kg	0,35 kg	PRA/862100/MI+/2130X/*				

\* Please insert standard stroke length + Please insert valve function

**P.A/862000/MG+/2130X/\*; Cylinder with piston rod bellow**

Dimensions in mm  
Projection/First angle



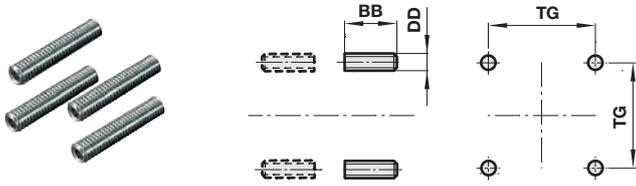
$\varnothing$	$\varnothing A$	Stroke max per bellow	Piston rod extention B		Model
			for first bellows	for further bellow	
32	40	60	30	25	P#A/862032/MG+/2130X/*
40	63	145	50	32	P#A/862040/MG+/2130X/*
50	63	145	40	32	P#A/862050/MG+/2130X/*
63	63	145	40	32	P#A/862063/MG+/2130X/*
80	80	250	50	45	P#A/862080/MG+/2130X/*
100	80	250	50	45	P#A/862100/MG+/2130X/*

\* Standard stroke length  
# Piston rod material  
+ Valve function

## Mountings

### Front or rear stud mounting A

Conforms to ISO 1552, type MX1

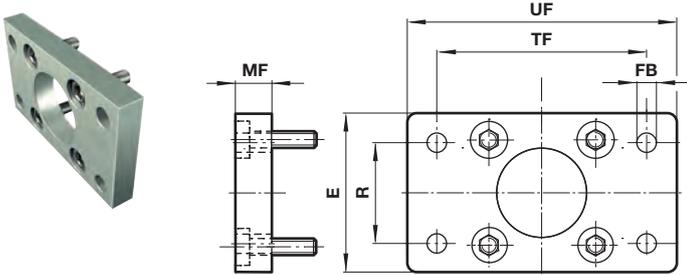


#### Standard

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 1552, type MF1 and MF2



#### Standard

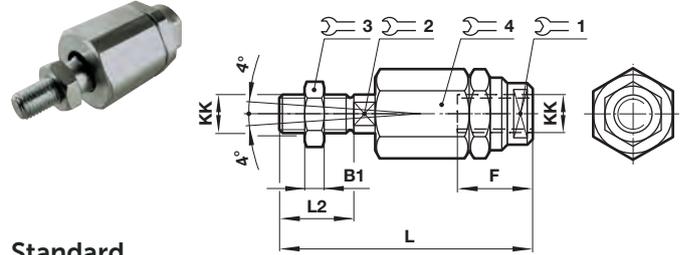
Ø	E	Ø FB	MF	R	TF	UF	kg	Model (B, G)
32	50	7	10	32	64	80	0,25	QA/8032/22
40	55	9	10	36	72	90	0,35	QA/8040/22
50	65	9	12	45	90	110	0,70	QA/8050/22
63	75	9	12	50	100	125	0,80	QA/8063/22
80	100	12	16	63	126	154	1,35	QA/8080/22
100	120	14	16	75	150	186	2,20	QA/8100/22

#### 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

### Piston rod swivel AK

Dimensions in mm  
Projection/First angle

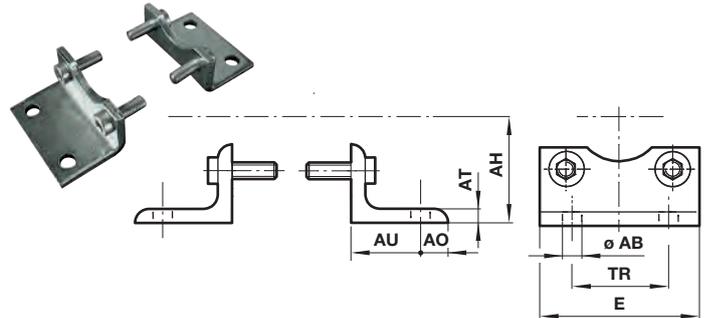


#### Standard

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

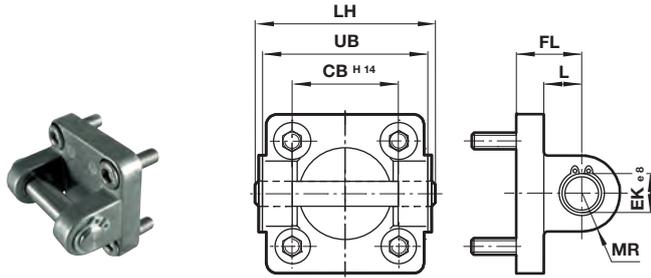
Conforms to ISO 1552, type MS1



#### 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

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

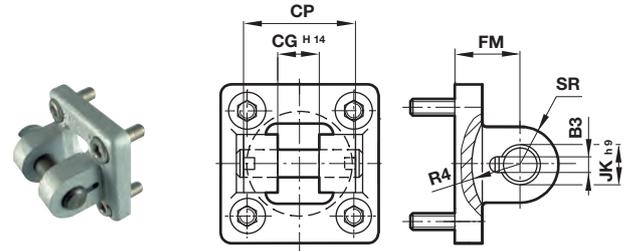


**Standard**

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

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

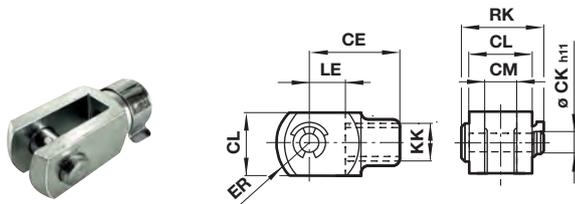
Dimensions in mm  
Projection/First angle



**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

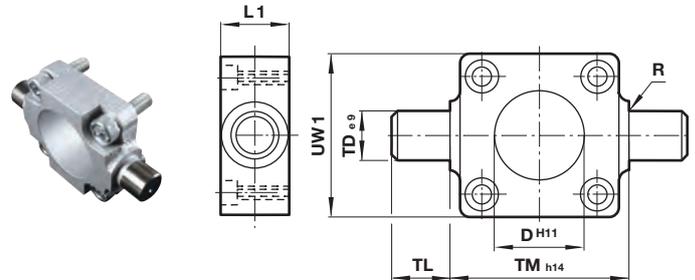
**Piston rod clevis F**  
Conforms to DIN ISO 8140



**Standard**

Ø	KK	CE	Ø CKh11	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

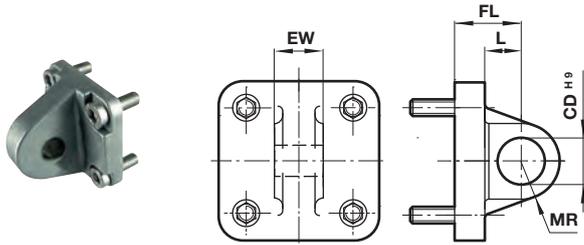
**Front or rear detachable trunnion FH**  
Conforms to VDMA 24562 part 2,  
type MT 5/6



**Standard**

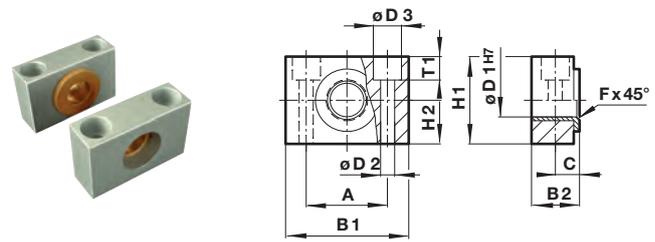
Ø	Ø D h11	L1	R	Ø TD e9	TL	TM h14	UW1	kg	Model (FH)
32	30	16	1	12	12	50	45	0,20	QA/8032/34
40	35	20	1,6	16	16	63	55	0,38	QA/8040/34
50	40	24	1,6	16	16	75	65	0,60	QA/8050/34
63	45	24	1,6	20	20	90	75	1,10	QA/8063/34
80	45	28	1,6	20	20	110	100	1,90	QA/8080/34
100	55	38	2	25	25	132	120	3,50	QA/8100/34

**Rear eye R**  
Conforms to ISO 15552, type MP4



**Trunnion support S**  
Conforms to ISO 15552, type AT4

Dimensions in mm  
Projection/First angle



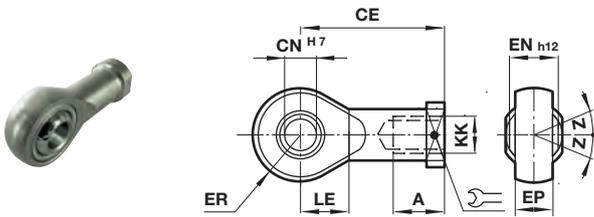
**Standard**

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
<b>Corrosion protected version</b>							
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

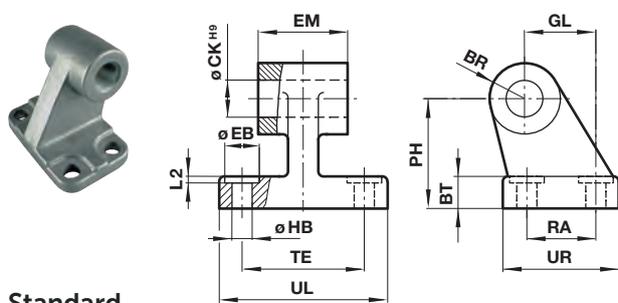
**Standard**

Ø	A	B	C	Ø D1H7	Ø D2	Ø D3	Fx 45°	H	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

**Universal piston rod eye UF**  
Conforms to DIN ISO 8139



**Wide hinge SW**  
Conforms to ISO 15552, type AB7



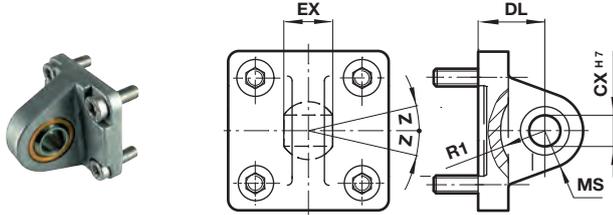
**Standard**

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
<b>Corrosion protected version</b>										
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

**Standard**

Ø	CA	Ø CKH9	Ø D	H	EM	G	G	G	K	K	L	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
<b>Corrosion protected version</b>															
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

**Universal rear eye UR**  
Conforms to ISO 15552, type MP6

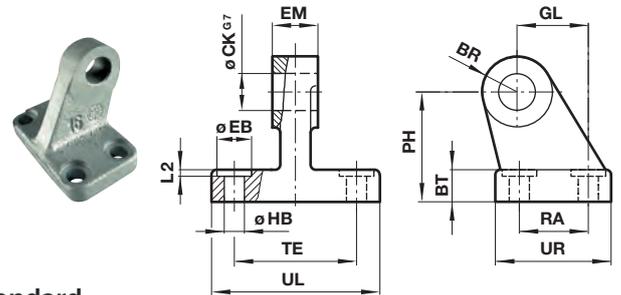


**Standard**

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
<b>Corrosion protected version</b>								
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**

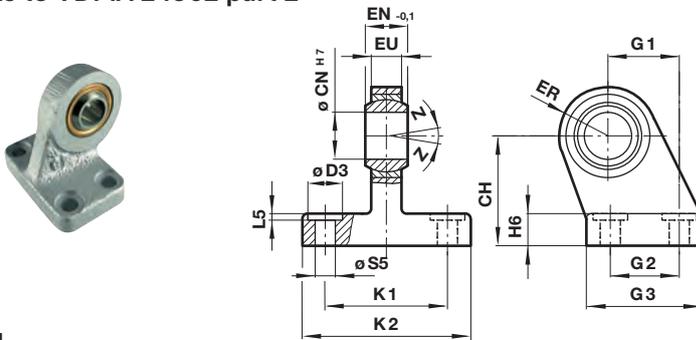
Dimensions in mm  
Projection/First angle



**Standard**

Ø	CA	Ø CNG7	Ø D	H 2	EM	G 1	G 2	G 3	K 1	K 2	L 1	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

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



### Technical features

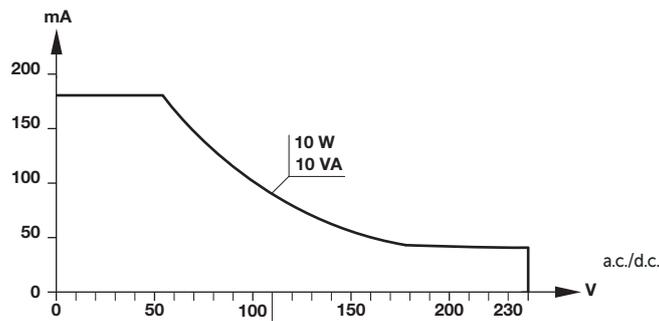
<b>Operation:</b> Normal open with LED (yellow)	<b>Switching power:</b> 10 W/10 VA max.	<b>Ex-Identification:</b> II 3G Ex nC IIC T5 Gc X II 3D Ex tc IIIC T120°C Dc X	<b>Electromagnetic compatibility according to:</b> EN 60947-5-2
<b>Switching voltage (U<sub>b</sub>):</b> 10 ... 240 V a.c./170 V d.c.	<b>Contact resistance:</b> 150 mΩ	<b>Protection rating (EN 60529):</b> IP67	<b>Materials:</b> Body: plastic Cable: see table below
<b>Switching voltage output:</b> U <sub>b</sub> - 2,7 V	<b>Response time:</b> 1,8 ms	<b>Cable type:</b> PVC 2 x 0,25 mm <sup>2</sup>	
<b>Switching current (see graph overleaf):</b> 0,18 A max.	<b>Operating temperatur:</b> -20 ... +50°C (-4 ... +122°F)	<b>Cable length:</b> 5 m	

### 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.)									
± BN	10 ... 240	10 ... 170	180	Closer	-20 ... +50	•	IP67	5	PVC 2 x 0,25	40	M/50/LXU/5V
~ BU											

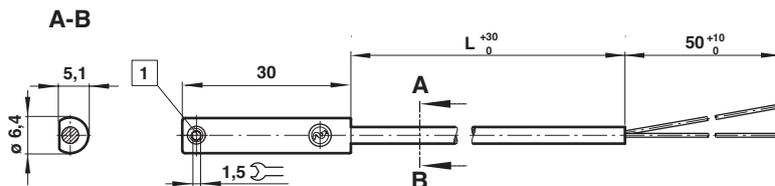
Color code: BN = brown, BU = blue

### Switching current and switching voltage



### Dimensions

Cable length L = 5 m



1 Fixing screw

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.

- 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

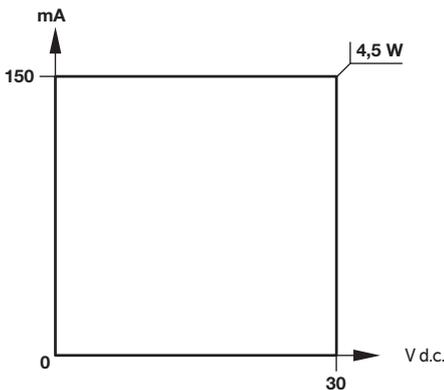
<b>Operation:</b> PNP-output with LED (yellow)	<b>Switching power:</b> 4,5 W max.	<b>Ex-Identification:</b> II 3G Ex ec IIC T4 Gc X II 3D Ex tc IIIC T110°C Dc X	<b>Electromagnetic compatibility according to:</b> EN 60947-5-2
<b>Switching voltage (U<sub>b</sub>):</b> 10 ... 30 V d.c.	<b>Response time:</b> < 0,1 ms	<b>Protection rating (EN 60529):</b> IP67	<b>Materials:</b> Body: plastic Cable: see table below
<b>Switching voltage output:</b> < 2,5V	<b>Switching frequency:</b> 1 kHz	<b>Cable type:</b> PVC 3 x 0,14 mm <sup>2</sup>	
<b>Switching current (see graph):</b> 150 mA max.	<b>Operating temperatur:</b> -20 ... +50°C (-4 ... +122°F)	<b>Cable length:</b> 5 m	

### 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

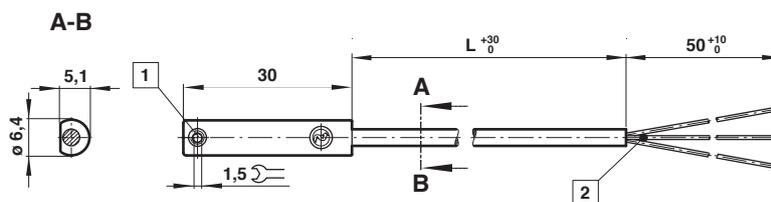
### Switching current and switching voltage



### Dimensions

Cable length L = 5 m

Dimensions in mm  
Projection/First angle



- 1 Fixing screw
- 2 Color code  
BK = black  
BN = brown  
BU = blue

### 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.