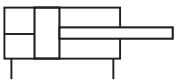
PSA/802000/F1, SA/8000/F1, double acting Pneumatic cylinders with position sensor

- **Ø 40 ... 320 mm**
- **Position sensor provides an absolute analogue output**
- **Voltage proportional to the stroke length of the cylinder**
- **Dimensional standard according to ISO 15552**
- **Accurate feedback of piston position from a resistance potentiometer for use in a wide variety of applications**
- **Conforms to international dimensional standards offering a wide variety of installation options**



Technical features

Medium:
Compressed air, filtered (to 5 µm) and non-lubricated
Standard:
ISO 15552
Operation:
Double acting, non-cushioned. A linear potentiometer located inside the piston rod gives an analogue voltage directly proportional to the stroke of the cylinder. The output socket is located in the rear end cover.
Operating pressure:
Ø 40 ... 125 mm
Cylinder with profile barrel
1 ... 12 bar (14 ... 174 psi)
Ø 160 ... 320 mm
Cylinder with round barrel
1 ... 10 bar (14 ... 145 psi)
Port size:
G1/4, G3/8, G1/2, G3/4, G1

Cylinder diameters:
40, 50, 63, 80, 100, 125, 160, 200, 250, 320 mm
Strokes:
Standard: see page 4
Non-standard strokes:
available: (10 ... 600 mm) strokes up to 1000 mm on request
Supply voltage:
0 ... 36 V d.c.
Output signal:
Analogue DC voltage proportional to stroke
Repeatibility of potentiometer:
< ± 0,02% of electrical stroke
Sensor resistance:
32 Ω/mm, electrical stroke ±20%, see table on page 5.

Recommended input impedance:
1000 x sensor resistance
Maximum current:
25 mA
Electrical connection:
Plug size M12 - 4-pin
Protection IP67
Operating temperature:
Ø 40 ... 125 mm
-20 ... +80°C max. (-4 ... 176°F)
Ø 160 ... 320 mm
-10 ... +80°C max. (+14 ... 176°F)
Air supply must be dry enough to avoid ice formation at temperatures below +2°C. (+35°F)

Materials
Profile barrel: Anodised aluminium: (Ø 40 ... 125 mm)
Round barrel: Anodised aluminium: (Ø 160 ... 320 mm)
Front end cover:
Aluminium die cast
(Ø 40 ... 160 mm)
Aluminium gravity cast:
(Ø 200 ... 320 mm)
Rear end cover:
Aluminium anodised:
(Ø 40 ... 63 mm)
Aluminium die cast
(Ø 80 ... 160 mm)
Aluminium gravity cast
(Ø 200 ... 320 mm)
Piston rod: Stainless steel (austenitic)
Piston and piston rod seals: Polyurethane
'O'-rings: NBR
Position sensor:
Housing: Stainless steel
Sensorprofle: Aluminum
Sensing element:
Conductive polymer

Technical data

Cylinder Ø (mm)	40	50	63	80	100	125	160	200	250	320
Version	Cylinder with profile barrel						Cylinder with round barrel			
Port size	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2	G 3/4	G 3/4	G 1	G 1
Piston rod Ø (mm)	16	20	20	25	25	32	40	40	50	63
Piston rod thread	M12 x 1,25	M16 x 1,5	M16 x 1,5	M20 x 1,5	M20 x 1,5	M27 x 2	M36 x 2	M36 x 2	M42 x 2	M48 x 2
Theoretical thrusts at 6 bar outstroke (N)	754	1178	1870	3016	4710	7363	12064	18840	29436	48228
Theoretical thrusts at 6 bar instroke (N)	633	990	1680	2722	4416	6882	11310	18090	28236	47292
Air consumption at 6 bar outstroke (l/cm)	0,088	0,137	0,218	0,35	0,55	0,86	1,41	2,2	3,44	5,63
Air consumption at 6 bar instroke (l/cm)	0,074	0,114	0,195	0,32	0,51	0,79	1,32	2,1	3,3	5,41

Design and sizing in pneumatics

Golden Rules

Design and sizing in pneumatics is often based upon experience coupled with an element of fear of under specifying crucial equipment. In an attempt to ensure enough power, engineers may select over sized cylinders and then select over sized valves to supply them with enough air. The same uncertainty can also lead to over sized specification of air line equipment, fittings and tubing.
The outcome is components larger than necessary that use too much compressed air and waste energy and money.
However when following some well proven golden rules and a few laws of pneumatics it is easy to achieve correctly sized pneumatic installations.

Basics to Consider

The force required, the pressure available, the speed of movement and air consumption. Cylinders are greased on assembly and operate under normal conditions without additional lubrication.
A linear potentiometer located inside the piston rod gives an analogue direct voltage proportional to the stroke of the cylinder.

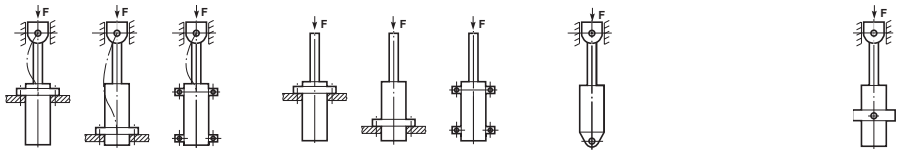
Golden Rule:

The theoretical force of the cylinder should be 25% extra for high speed, 50% extra for low speed and 100% extra for ultra low speed (positioning) applications.

The correct sizing is based upon the required force and applied pressure. Go to page 1 for more information on cylinder sizing and air consumption.

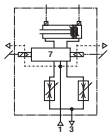
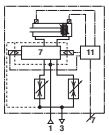
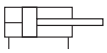
Load and Buckling

For applications with high side loading, use pneumatic slide actators or standard cylinders fitted with guide units. Alternatively external guide bearings should be installed. When a long stroke length is specified, care must be taken to ensure the rod length is within the limits for prevention of buckling. The table shows the maximum stroke length for a variety of installation arrangements.



Cylinder ø (mm)	Piston rod ø (mm)	Load case 1 Pressure (bar)				Load case 2 Pressure (bar)				Load case 3 Pressure (bar)				Load case 4 Pressure (bar)			
		4	6	10	16	4	6	10	16	4	6	10	16	4	6	10	16
40	16	1600	1200	950	730	730	580	430	320	940	750	560	430	1100	880	660	500
50	20	2000	1600	1200	930	930	740	550	420	1200	960	720	550	1400	1100	840	640
63	20	1500	1200	930	720	720	570	420	310	930	740	550	420	1100	860	650	490
80	25	1900	1500	1100	880	880	700	510	380	1100	910	680	510	1300	1100	800	600
100	25	1500	1200	880	670	670	520	380	270	880	690	510	370	1000	820	600	450
125	32	2000	1600	1200	910	910	710	520	380	1200	940	690	520	1400	1100	820	620
160	40	2400	1900	1500	1100	1100	880	640	480	1400	1200	860	640	1700	1400	1000	760
200	40	1900	1500	1100	860	860	670	480	350	1100	890	650	480	1300	1000	770	580
250	50	2400	1900	1400	1100	1100	850	620	440	1400	1100	830	610	1700	1300	980	730
320	63	3000	2400	1800	1400	1400	1100	780	570	1800	1400	1000	780	2100	1700	1200	930

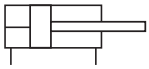
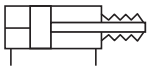
Additional ISO 15552 Cylinder ranges (Cylinder ranges in the red frame are shown in this data sheet.)

Symbols		Profile barrel	Round Barel	Industrial Automation	Food & Beverage	Automotive	ATEX	Rail *1)	CE-marked	ø (mm)	Range	Discription	Datasheet
		•		•	•	•	•	•	•	32 ... 125	PRA/802000 LPRA/802000	Double Acting Cylinder	1.5_220_PRA_802000_M_RA_8000_M 1.5_225_PRA_802000_M_EX 1.5_220_LPRA_802000_M_LRA_8000_M
			•	•		•	•	•	•	32 ... 125	RA/802000 LPRA/802000	Double Acting Cylinder	1.5_220_PRA_802000_M_RA_8000_M 1.5_225_PRA_802000_M_EX 1.5_220_LPRA_802000_M_LRA_8000_M
			•	•		•	•	•	•	160 ... 320	RA/8000 LRA/8000	Double Acting Cylinder	1.5_220_PRA_802000_M_RA_8000_M 1.5_126_RA_8000_M_EX 1.5_220_LPRA_802000_M_LRA_8000_M
			•	•	•	•	•	•	•	32 ... 200	KA/802000	Stainless steel Cylinder	1.5_222_KA_802000_M 1.5_228_KA_802000_M_EX
		•		•	•		•		•	32 ... 100	PRA/822000	Smooth Line Cylinder	1.5_230_PRA_822000_M 1.5_235_PRA_822000_M_EX
		•		•	•		•		•	32 ... 100	PRA/842000	Clean Line Cylinder	1.5_240_PRA_842000_M 1.5_245_PRA_842000_M_EX
		•		•		•	•		•	32 ... 100	PRA/862000	IVAC Industrial Cylinder	1.5_250_PRA_862000_M 1.5_255_PRA_862000_M_EX
		•		•	•	•	•		•	32 ... 100	PRA/882000	IVAC Clean Line Cylinder	1.5_260_PRA_882000_M 1.5_265_PRA_882000_M_EX
		•	•	•	•	•	•		•	40 ... 125	PSA/802000/F1	Cylinder with position sensor	1.9_67_PSA_802000_F1_SA_8000_F1 1.9_68_PSA_802000_F1_EX_SA_8000_F1_EX
			•	•		•	•		•	160 ... 320	SA/8000/F1	Cylinder with position sensor	1.9_67_PSA_802000_F1_SA_8000_F1 1.9_68_PSA_802000_F1_EX_SA_8000_F1_EX
		•	•	•	•	•		•		32 ... 100	PRA/801000, PRA/803000	Standard Single Acting Cylinder	1.4_101_PRA_801000_803000 -
			•	•		•		•		32 ... 100	RA/801000, RA/803000	Standard Single Acting Cylinder	1.4_101_PRA_801000_803000 -

• Range available. For additional information please contact the technical service or http://www.norgren.com

*1) Shock and vibaration tested to EN 61373 Category 1; Class A + B

Cylinder variants

Symbol	Model	Description	Dimensions Page
	PSA/802000/F1 SA/8000/F1	Standard cylinder	9
	PSA/802000/FG SA/8000/FG	Cylinder with piston rod bellow	10

Option selector (Ø 40 ... 125 mm)

PSA/802★★★/★★/★★★

Cylinder Ø (mm)	Substitute
040, 050, 063, 080, 100, 125	
Variants	**Substitute**
With Positionsensor	**F1**
With Positionsensor and bellow	**FG**

Strokes (mm)
1000 max.

Option selector (Ø 160 ... 320mm)

SA/8★★★/★★/★★★

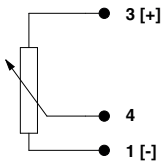
Cylinder Ø (mm)	Substitute
160, 200, 250, 320	
Variants	**Substitute**
With Positionsensor	**F1**
With Positionsensor and bellow	**FG**

Strokes (mm)
1000 max.

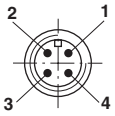
Standard strokes

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

Connection



1	Output signal (-)
2	Not used
3	Input voltage (+ max. 36 VDC)
4	Resistance (Slider Ring)



Attention

To reach the electrical values given in this catalogue sheet it is necessary to measure the take-off voltage load-free. In order to get proper values there must not be any load in the take-off circuit of the resistive strip potentiometer.

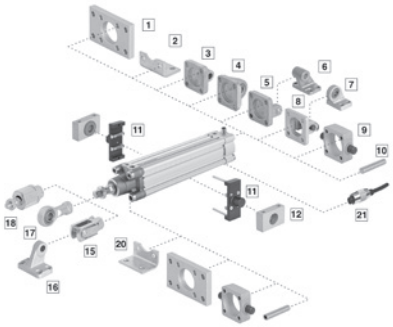
The full range of the potentiometer cannot be used at the non-standard strokes. Zero Voltage adjustment at the instroke and max. voltage adjustment (or resistance adjustment) at full stroke has to be performed.

Sensor resistance

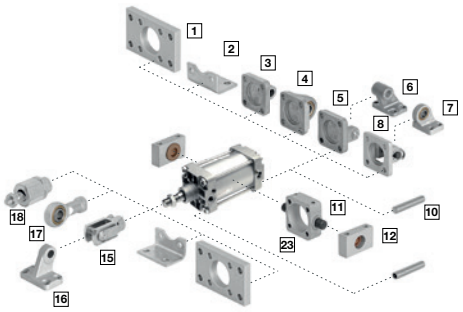
Cylinder stroke (mm)	Sensor resistance (KΩ)
0 ... 50	1,6
51 ... 100	3,2
101 ... 150	4,8
151 ... 200	6,4
201 ... 250	8,0
251 ... 300	9,6
301 ... 350	11,2
351 ... 400	12,8
401 ... 450	14,4
451 ... 500	16,0
501 ... 550	17,6
551 ... 600	19,2

Mountings and service kit

Cylinder with profile barrle (Ø 40 ... 125 mm)



Cylinder with round barrle (Ø 160 ... 320 mm)



Mountings

Model	A	AK	B, G	C	D	D2	F	FH	H	UH
										
ø	10 Page 15	18 Page 15	1 Page 15	2 Page 15	5 Page 16	8 Page 16	15 Page 16	9 Page 16	11 Page 17	20 Page 17
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/8040/28	QA/8040/40
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/8050/28	QA/8050/40
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/8063/28	QA/8063/40
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/8080/28	QA/8080/40
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/8100/28	QA/8100/40
125	QM/8125/35	QM/8125/38	QM/8125/22	QM/8125/21	QM/8125/23	QA/8125/42	QM/8125/25	QA/8125/34	QM/8125/28	QA/8125/40
160	QM/8160/35	QM/8160/38	QM/8160/22	QM/8160/21	QM/8160/23	QA/8160/42	QM/8160/25	-	QM/8160/28	QA/8160/40
200	QM/8160/35	QM/8160/38	QM/8200/22	QM/8200/21	QM/8200/23	QA/8200/42	QM/8160/25	-	QM/8200/28	QA/8200/40
250	QM/8250/35	-	QM/8250/22	QM/8250/21	QM/8250/23	-	QM/8250/25	-	QM/8250/28	-
320	QM/8320/35	-	QM/8320/22	QM/8320/21	QM/8320/23	-	QM/8320/25	-	QM/8320/28	-

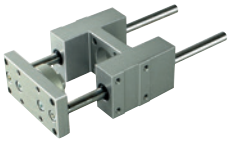
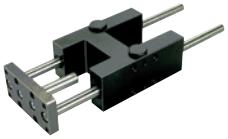
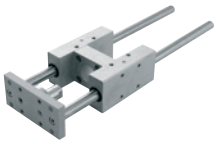
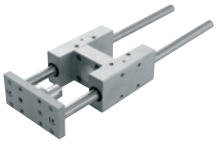
	UH	S	SW	UF	UR	R	SS	US	Groove key	Valve mounting kit
										
ø	24 Page 17	12 Page 17	6 Page 18	17 Page 18	4 Page 18	3 Page 18	16 Page 19	7 Page 19	14 Page 19	13 Page 32 & 33
40	PQA/802040/40	QA/8040/41	M/P19494	QM/8040/32	QA/8040/33	QA/8040/27	M/P19932	M/P40311	M/P72816	
50	PQA/802050/40	QA/8040/41	M/P19495	QM/8050/32	QA/8050/33	QA/8050/27	M/P19933	M/P40312	M/P72816	
63	PQA/802063/40	QA/8063/41	M/P19496	QM/8050/32	QA/8063/33	QA/8063/27	M/P19934	M/P40313	M/P72816	
80	PQA/802080/40	QA/8063/41	M/P19497	QM/8080/32	QA/8080/33	QA/8080/27	M/P19935	M/P40314	M/P72816	
100	PQA/802100/40	QA/8100/41	M/P19498	QM/8080/32	QA/8100/33	QA/8100/27	M/P19936	M/P40315	M/P72816	More Details see page 32 & 33
125	PQA/802125/40	QA/8100/41	M/P19499	QM/8125/32	QM/8125/33	QM/8125/27	M/P19937	M/P71355	M/P72816	
160	-	QA/8160/41	M/P19679	QM/8160/32	QM/8160/33	QM/8160/27	M/P19938	M/P71356	-	
200	-	QA/8160/41	M/P19683	QM/8160/32	QM/8200/33	QM/8200/27	M/P19939	M/P71357	-	
250	-	-	M/P19446	QM/8250/32	QM/8250/33	-	-	-	-	
320	-	-	M/P19447	QM/8320/32	QM/8320/33	-	-	-	-	

Pos.	Style	Standard
1	B, G	Clear anodised aluminium
2	C	Galvanized steel (ø 32 ... 320 mm),
3	R	Die-cast aluminium
4	UR	Galvanized aluminium Inner ring: steel, Outer ring: brass
5	D	Die-cast aluminium Bolt: galvanized steel (martensitic) Circlip: galvanized steel
6	SW	Die-cast aluminium
7	US	Galvanized aluminium Inner ring: steel, Outer ring: brass

Pos.	Style	Standard
8	D2	Ø32...125 Die-cast aluminium, Ø 160 ... 200 Painted, cast iron, Bolt: stainless steel (martensitic), Circlip: galvanized steel
9	FH	Galvanized cast iron
10	A	Galvanized steel
11	H	Galvanized cast iron
12	S	Clear anodised aluminium Bearing: brass
13	Valve mounting kit	Galvanized steel
14	Groove key	Steel

Pos.	Style	Standard
15	F	Galvanized steel, Bolt: galvanized steel, Circlip: Galvanized steel
16	SS	Galvanized cast iron
17	UF	Galvanized steel, Inner ring: steel, Outer ring: brass
18	AK	Galvanized steel
19	51, 61, 81, 85	Anodised aluminium
20	UH	Galvanized cast iron
24	UH	Anodised aluminium

Guide blocks

ø	Guide blocks - plain bearings  19 Page 15	Guide blocks - roller bearings  19 Page 16	Guide blocks - plain bearings, long coupling  19 Page 18	Guide blocks - plain bearings, short coupling  19 Page 18
40	QA/8040/51/*	QA/8040/61/*	QA/8040/81/*	QA/8040/85/*
50	QA/8050/51/*	QA/8050/61/*	QA/8050/81/*	QA/8050/85/*
63	QA/8063/51/*	QA/8063/61/*	QA/8063/81/*	QA/8063/85/*
80	QA/8080/51/*	QA/8080/61/*	QA/8080/81/*	QA/8080/85/*
100	QA/8100/51/*	QA/8100/61/*	QA/8100/81/*	QA/8100/85/*

*) Insert standard stroke length: 50, 100, 160, 200, 250, 320, 400 and 500 mm, use the next bigger standard stroke.

Dimension and details see page 15 - 19

Accessories

Cyl. Ø	Connector cable with socket M12 x 1 (4 pin); 5m; PVC  21	Connector cable with socket M12 x 1 (4 pin); 5m; PUR  21
40	M/P34692/5	M/P34594/5
50	M/P34692/5	M/P34594/5
63	M/P34692/5	M/P34594/5
80	M/P34692/5	M/P34594/5
100	M/P34692/5	M/P34594/5
125	M/P34692/5	M/P34594/5
160	M/P34692/5	M/P34594/5
200	M/P34692/5	M/P34594/5
250	M/P34692/5	M/P34594/5
320	M/P34692/5	M/P34594/5

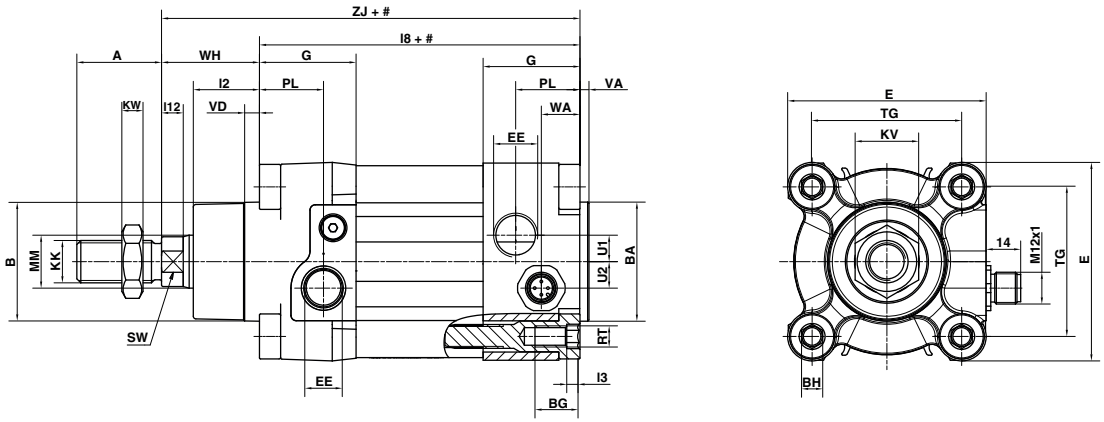
Service kit

Cyl. Ø	Service kit 
40	QA/802040/F/00
50	QA/802050/F/00
63	QA/802063/F/00
80	QA/802080/F/00
100	QA/802100/F/00
125	QA/802125/F/00
160	QA/8160/00
200	QA/8200/00
250	QA/8250/00
320	QA/8320/00

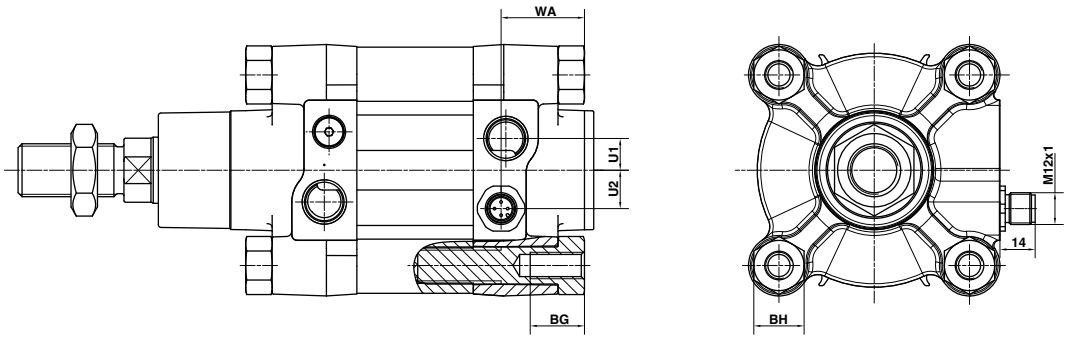
Basic dimensions
Cylinder with profile barrel
(Ø 40 ... 125 mm)

Dimensions in mm
Projection/First angle

PSA/802040/F1 - PSA/802063/F1 (Ø 40 ... 63mm)



PSA/802080/F1 - PSA/802125/F1 (Ø 80 ... 125mm)



Stroke

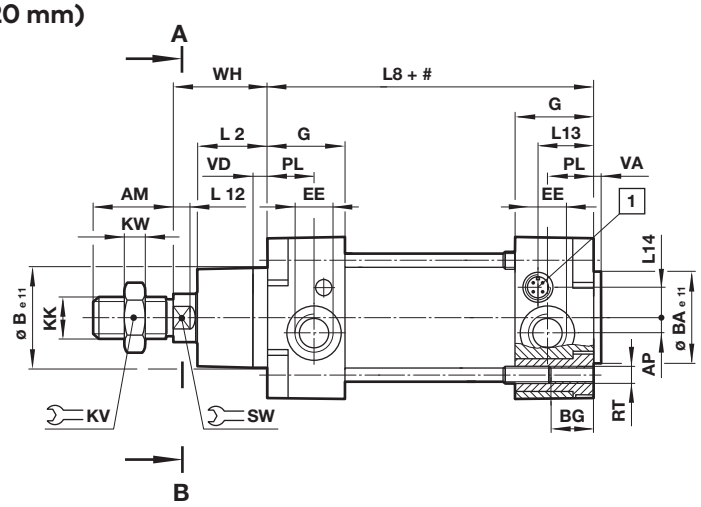
ø	A -0,5	ø B d11	ø BA d11	BG min	⌴ BH	□ E	EE	G	KK	⌴ KV	KW	L2	L3	L8	L12	ø MM h9	PL	TG
40	24	35	35	16	6	53	G1/4	34,5	M12 x 1,25	19	6	22	4	105	6,5	16	21,5	38
50	32	40	40	16	8	65	G1/4	33	M16 x 1,5	24	8	25	5	106	8	20	22,7	46,5
63	32	45	45	16	8	75	G3/8	36,5	M16 x 1,5	24	8	25	5	121	8	20	24,2	56,5
80	40	45	45	17	19	95	G3/8	42	M20 x 1,5	30	10	33	-	128	10	25	29,7	72
100	40	55	55	17	19	113	G1/2	42	M20 x 1,5	30	10	35	-	138	10	25	27,7	89
125	54	60	60	20	24	140	G1/2	54	M27 x 2	41	13,5	44	-	160	13	32	39,7	110

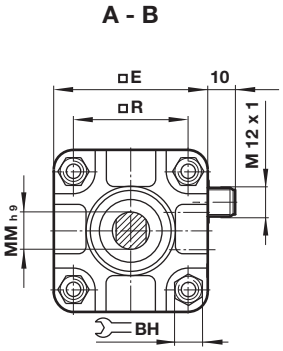
ø	RT	⌴ SW	U1	U2	VA	VD	WA	WH	ZJ	Model Profile barrel	at 0 mm	per 25 mm
40	M 6	13	5,8	9,2	3,5	6	6,5	30	135	PSA/802040/F1/*	0,69 (kg)	0,08 (kg)
50	M 8	17	8,7	10,8	3,5	6	10	37	143	PSA/802050/F1/*	1,09 (kg)	0,12 (kg)
63	M 8	17	10	12,8	3,5	6	14,5	37	158	PSA/802063/F1/*	1,54 (kg)	0,13 (kg)
80	M 10	22	12	14,5	3,5	6	31,5	46	174	PSA/802080/F1/*	2,64 (kg)	0,20 (kg)
100	M 10	22	9	14,5	3,5	6	31,5	51	189	PSA/802100/F1/*	3,66 (kg)	0,23 (kg)
125	M 12	27	12	17	5,5	8	41,5	65	225	PSA/802125/F1/*	6,16 (kg)	0,45 (kg)

* Please insert stroke length. Maximum stroke: 600 mm

Basic dimensions
Cylinder with round barrel
(Ø 160 ... 320 mm)

Dimensions in mm
Projection/First angle





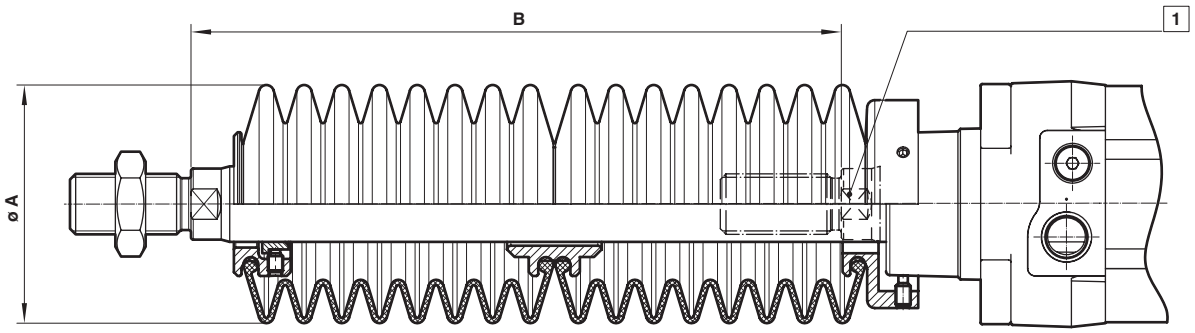
* Stroke
1 Electrical connection

ø	AM	AP	ø B d11	ø BA d11	BG min	BH	□E	EE	G	KK	KV	KW	L2	L8	L12	L13	L14	ø MM h9
160	72	19	65	65	28,5	32	183,5	G 3/4	50	M36x2	55	18	58	180	16	35	16	40
200	72	19	75	75	28,5	32	224	G 3/4	50	M36x2	55	18	67	180	16	37	15	40
250	84	22	90	90	35	36	280	G 1	58	M42x2	65	21	80	200	20	32,5	30	50
320	96	22	110	110	30	46	350	G 1	60	M48x2	75	24	90	220	24	35,5	30	63

ø	PL	□R	RT	SW	VA	VD	WH	Model Round barrel	at 0 mm	per 25 mm
160	25	140	M 16	36	4	15	80	SA/8160/F1/*	14,9 kg	0,55 kg
200	26	175	M 16	36	5	15	95	SA/8200/F1/*	21,7 kg	0,60 kg
250	28	220	M 20	41	7	13	105	SA/8250/F1/*	32,6 kg	0,92 kg
320	31	270	M 24	55	7	13	120	SA/8320/F1/*	59,8 kg	1,46 kg

PSA/802000/FG/* - Profile cylinder with bellow
SA/8000/FG/* - Cylinder with round barrel and bellow

Dimensions in mm
Projection/First angle



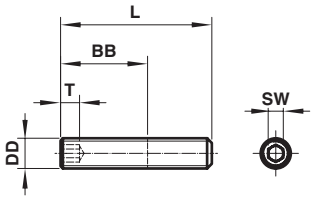
1 Piston rod without bellows

ø	ø A	Max. stroke per bellow	Piston rod extention B for first bellow	for further bellows	Model
40	63	145	50	32	PSA/802040/FG/*
50	63	145	40	32	PSA/802050/FG/*
63	63	145	40	32	PSA/802063/FG/*
80	80	250	50	45	PSA/802080/FG/*
100	80	250	50	45	PSA/802100/FG/*
125	80	250	50	45	PSA/802125/FG/*
160	116	350	70	60	SA/8160/FG/*
200	116	350	70	60	SA/8200/FG/*
250	116	350	70	60	SA/8250/FG/*
320	143	500	110	100	SA/8320/FG/*

* Please insert stroke length. Maximum stroke: 600 mm

For missing dimensions please see page 8.

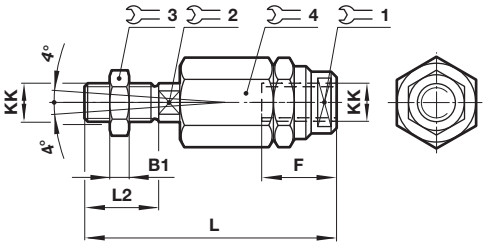
Mountings
Front or rear stud mounting A



ø	BB	DD	L	SW	T (min)	(kg)	Model (A)
40	17	M6	30	3	3,5	0,02	QM/8032/35
50/63	23	M8	40	4	5	0,05	QM/8050/35
80/100	28	M10	45	5	6	0,08	QM/8080/35
125	34	M12	60	6	8	0,14	QM/8125/35
160/200	42	M16	70	8	10	0,31	QM/8160/35
250	50	M20	80	10	12	0,92	QM/8250/35
320	60	M24	90	12	15	1,46	QM/8320/35

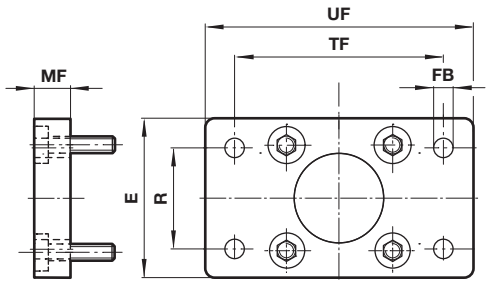
Piston rod swivel
AK

Dimensions in mm
Projection/First angle



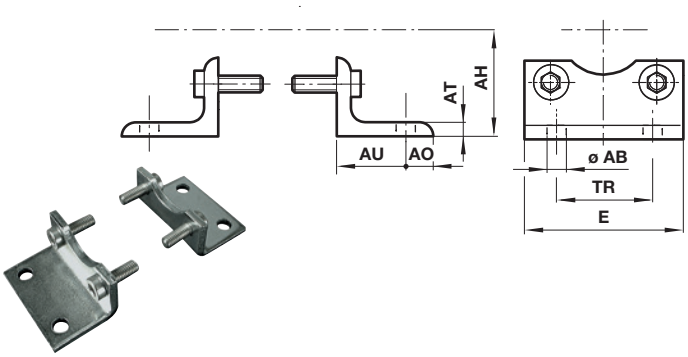
ø	KK	B1	F	L	L2	SW 1	SW 2	SW 3	SW 4	(kg)	Model (AK)
40	M12 x 1,25	6	26	77	24	19	12	19	30	0,20	QM/8040/38
50/63	M16 x 1,5	8	34	106	32	30	19	24	42	0,65	QM/8050/38
80/100	M20 x 1,5	10	42	122	40	30	19	30	42	0,72	QM/8080/38
125	M27 x 2	13,5	40	147	54	40	24	41	55	1,70	QM/8125/38
160/200	M36 x 2	18	78	251	72	50	36	55	75	5,4	QM/8160/38

Front flange B, G
Conforms to ISO 15552, type MF1 and MF2



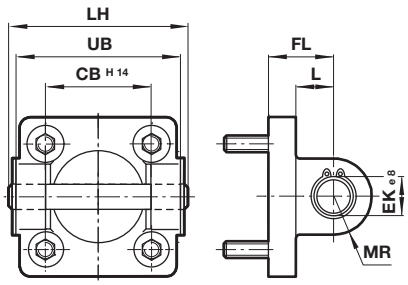
ø	E	ø FB	MF	R	TF	UF	(kg)	Model (B, G)
40	55	9	10	36	72	90	0,12	QA/8040/22
50	65	9	12	45	90	110	0,21	QA/8050/22
63	75	9	12	50	100	125	0,27	QA/8063/22
80	100	12	16	63	126	154	0,63	QA/8080/22
100	120	14	16	75	150	186	0,89	QA/8100/22
125	140	16	20	90	180	224	1,59	QM/8125/22
160	180	18	20	115	230	280	2,65	QM/8160/22
200	220	22	25	135	270	320	4,47	QM/8200/22
250	280	26	25	165	330	395	7,09	QM/8250/22
320	350	33	30	200	400	475	12,84	QM/8320/22

Foot mounting C
Conforms to ISO 15552, type MS1



ø	ø AB	AH	AO	AT	AU	E	TR	(kg)	Model (C)
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	6	41	98	63	0,80	QA/8080/21
100	14,5	71	19	6	41	115	75	0,95	QA/8100/21
125	16	90	20	9	45	140	90	2,40	QM/8125/21
160	18	115	20	8	60	180	115	3,5	QM/8160/21
200	22	135	30	9	70	220	135	5,25	QM/8200/21
250	26	165	35	10	75	280	165	9,5	QM/8250/21
320	33	200	45	16	85	350	200	22	QM/8320/21

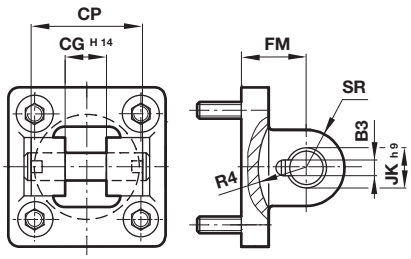
Rear clevis D
Conforms to ISO 15552, type MP2



ø	CB H14	ø EKe8	FL	L	LH	MR	UB	(kg)	Model (D)
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
125	70	25	50	29	140	25	130	2,70	QM/8125/23
160	90	30	55	37	182	30	170	4,3	QM/8160/23
200	90	30	60	40	182	30	170	6,1	QM/8200/23
250	110	40	70	47	218	40	200	19	QM/8250/23
320	120	45	80	50	238	45	220	30,5	QM/8320/23

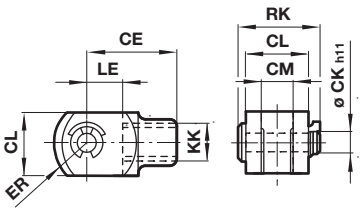
Rear clevis D2
Conforms to ISO 15552, type AB6

Dimensions in mm
Projection/First angle



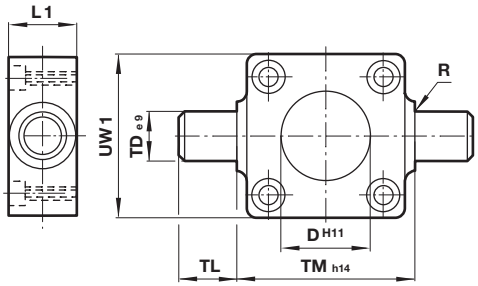
ø	CGH14	CP	B3	ø JK h9	FM	SR	R4	(kg)	Model (D2)
40	16	40	4,3	12	25	12	20	0,23	QA/8040/42
50	21	45	4,3	16	27	14,5	22	0,36	QA/8050/42
63	21	51	4,3	16	32	18	25	0,55	QA/8063/42
80	25	65	4,3	20	36	22	30	0,90	QA/8080/42
100	25	75	4,3	20	41	22	32	1,45	QA/8100/42
125	37	97	6,3	30	50	30	42	2,7	QA/8125/42
160	43	122	6,3	35	55	36	46	4,3	QA/8160/42
200	43	122	6,3	35	60	38	49	6,1	QA/8200/42

Piston rod clevis F
Conforms to DIN ISO 8140



ø	KK	CE	ø CKh11	CL	CM	ER	LE	RK	(kg)	Model (F)
40	M12 x 1,25	48	12	24	12	19	24	33,5	0,13	QM/8040/25
50/63	M16 x 1,5	64	16	32	16	25	32	42	0,33	QM/8050/25
80/100	M20 x 1,5	80	20	40	20	32	40	51	0,67	QM/8080/25
125	M27 x 2	110	30	55	30	45	54	73,5	1,35	QM/8125/25
160/200	M36 x 2	144	35	70	35	57	72	94	3	QM/8160/25
250	M42 x 2	168	40	85	40	77	84	107	6,4	QM/8250/25
320	M48 x 2	192	50	96	50	88	96	123	8,7	QM/8320/25

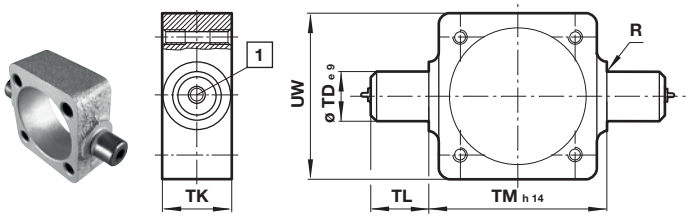
Front or rear detachable trunnion FH
Conforms to VDMA 24562 part 2, type MT 5/6



ø	ø D H11	L1	R	ø TDe9	TL	TM h14	UW1	(kg)	Model (FH)
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
125	60	50	2	25	25	160	145	6,50	QA/8125/34

NORGREN

Centre trunnion – H
Conforms to ISO 15552, type MT4
Used for cylinder model with round barrel



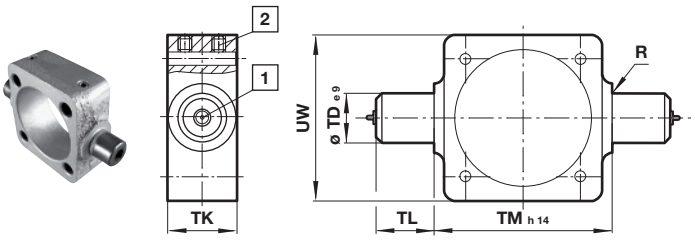
1 Grease nipple from Ø 160 mm to Ø 320 mm

ø	R max.	ø TD e9	TK	TL	TM h14	UW	XV min.	XV max. + #	(kg)	Model (H)
160	2,5	32	50	32	200	192	155	185	5,3	QM/8160/28
200	2,5	32	50	32	250	240	170	200	9,4	QM/8200/28
250	3,2	40	60	40	320	318	193	217	18	QM/8250/28
320	3,2	50	70	50	400	400	215	245	30	QM/8320/28

Note: Style 'H': These mountings are only supplied assembled complete with the cylinder. Unless otherwise specified, units will be supplied with dimension 'XV min'. plus half the stroke length. 'XV' = Distance from the piston rod s houlder to the centre of the mounting (Please see drawing).
Not for use on profile options.
This item is suited to all loads including heavy duty loads.
This item is for replacement only
H mounting must be initially ordered with the cylinder.

Adjustable trunnion mounting UH
Conforms to ISO 15552, type MT4
Used for cylinder model with round barrel

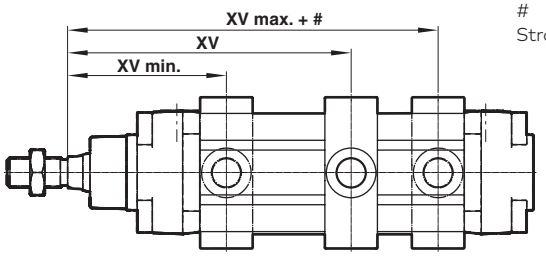
Dimensions in mm
Projection/First angle



1 Grease nipple from Ø 160 mm to Ø 200 mm
2 Locking screws
Torque max: Ø 160 & 200 mm = 40 Nm

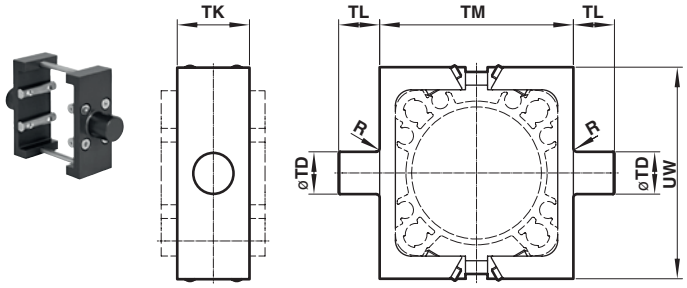
ø	R max.	ø TD e9	TK	TL	TM h14	UW	XV min.	XV max. + #	(kg)	Model (UH)
160	2,5	32	50	32	200	192	155	185	5,3	QA/8160/40
200	2,5	32	50	32	250	240	170	200	9,4	QA/8200/40

Style 'UH': It is most important that the locking screws which secure the mounting to the tie rod are tightened to the torque figures shown in the table below. For maximum energy input, consult our Technical Service.
Unless otherwise specified, units will be supplied with dimension 'XV min' plus half the stroke length. 'XV' = Distance from the piston rod shoulder to the centre of the mounting (Please see drawing).Not for use on profile options.This item is adjustable and suited to normal loads.



Stroke

Adjustable trunnion mounting UH
Conforms to ISO 15552, type MT4
Used for cylinder model with profile barrel



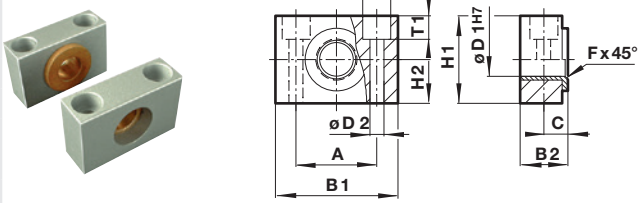
ø	R	ø TD e9	TK max.	TL h14	TM h14	UW	XV min.	XV max. + #	(kg)	Torque (Nm)	Model (UH)
40	1,6	16	28	16	63	65	78,5	86,5	0,11	1,3	PQA/802040/40
50	1,6	16	28	16	75	80	84	96	0,16	4	PQA/802050/40
63	1,6	20	36	20	90	96	91,5	103,5	0,32	4	PQA/802063/40
80	1,6	20	36	20	110	116	106	114	0,37	6,5	PQA/802080/40
100	2	25	48	25	132	140	117	123	0,72	6,5	PQA/802100/40
125	2	25	50	25	160	163	144	146	0,96	14	PQA/802125/40

Style 'UH': It is most important that the locking screws which secure the mounting to the tie rod are tightened to the torque figures shown in the table below. For maximum energy input, consult our Technical Service.

Unless otherwise specified, units will be supplied with dimension 'XV min'. plus half the stroke length. 'XV' = Distance from the piston rod shoulder to the centre of the mounting (Please see drawing).

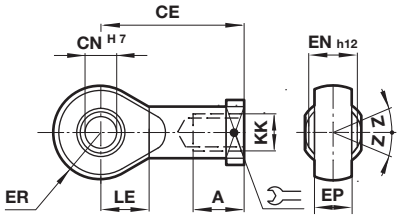
This item is adjustable and suited to normal loads.

Trunnion support S
Conforms to ISO 15552, type AT4



ø	A	B 1	B 2	C	ø D1H7	ø D2	ø D3	F x 45°	H 1	H 2	T1	(kg)	Model (S)
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
100/125	50	75	28,5	16,5	25	14	20	2	50	25	13	0,34	QA/8100/41
160/200	60	92	39	21,5	32	18	26	2,5	60	30	15,5	1,9	QA/8160/41

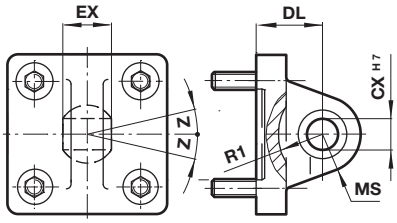
Universal piston rod eye UF
Conforms to DIN ISO 8139



ø	Thread KK	A	CE	ø CNH7	EN h12	ER	LE	Z	(kg)	Model (UF)
40	M12 x 1,25	22	50	12	16	16	17	13°	0,13	QM/8040/32
50/63	M16 x 1,5	28	64	16	21	21	22	15°	0,33	QM/8050/32
80/100	M20 x 1,5	33	77	20	25	25	26	15°	0,67	QM/8080/32
125	M27 x 2	51	110	30	37	35	36	15°	1,35	QM/8125/32
160/200	M36 x 2	56	125	35	43	40	41	16°	3	QM/8160/32
250	M42 x 2	60	142	40	49	45	46	17°	6,4	QM/8250/32
320	M48 x 2	65	160	50	60	57,5	59	12°	8,7	QM/8320/32

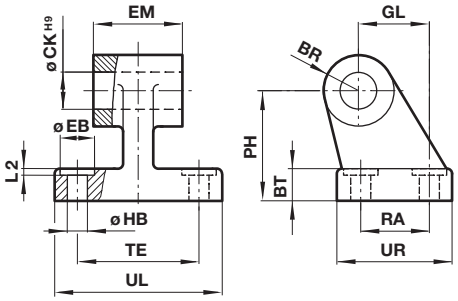
Universal rear eye UR
Conforms to ISO 15552, type MP6

Dimensions in mm
Projection/First angle



ø	ø CX H7	EX	MS	DL	R1	Z	(kg)	Model (UR)
40	12	16	18	25	16	13°	0,25	QA/8040/33
50	16	21	21	27	19	15°	0,40	QA/8050/33
63	16	21	23	32	22	15°	0,55	QA/8063/33
80	20	25	28	36	24	14°	0,90	QA/8080/33
100	20	25	30	41	27	14°	1,50	QA/8100/33
125	30	37	40	50	36	17°	2,70	QM/8125/33
160	35	43	44	55	41	16°	4,6	QM/8160/33
200	35	43	48	60	42	16°	7,3	QM/8200/33
250	40	49	50	70	47	16°	16,5	QM/8250/33
320	50	60	58	80	52	14°	26	QM/8320/33

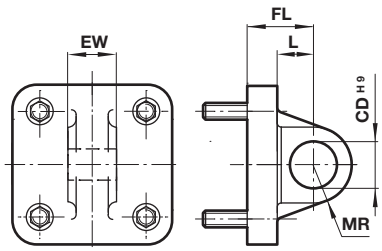
Wide hinge SW
Conforms to ISO 15552, type AB7



ø	BR	BT	PH	ø CKH9	ø EB	EM	GL
40	11	9	36	12	12	27,6	24
50	13	11	45	12	15	31,6	33
63	15	11	50	16	15	39,6	37
80	15	14	63	16	18	49,6	47
100	18	15	71	20	18	59,6	55
125	22	20	90	25	20	69	70
160	31	25	115	30	20	89	97
200	31	30	135	30	26	89	105
250	39	35	165	40	40	109	128
320	44	40	200	45	48	119	150

ø	ø HB	L2	RA	TE	UL	UR	(kg)	Model (SW)
40	6,6	1,6	22	41	53	35	0,07	M/P19494
50	9	1,6	30	50	65	45	0,14	M/P19495
63	9	1,6	35	52	67	50	0,18	M/P19496
80	11	2,5	40	66	84	60	0,28	M/P19497
100	11	2,5	50	76	94	70	0,42	M/P19498
125	14	3,2	60	94	124	90	2,70	M/P19499
160	14	4	88	118	156	126	6,3	M/P19679
200	18	4	90	122	162	130	8	M/P19683
250	22	4	110	150	200	160	13,4	M/P19446
320	26	4	122	170	234	186	22	M/P19447

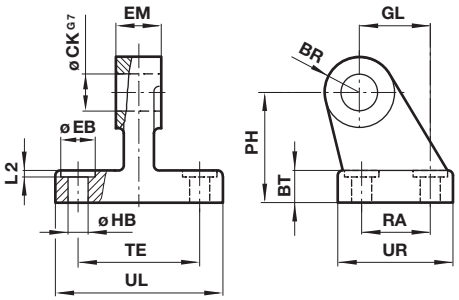
Rear eye R
Conforms to ISO 15552, type MP4



ø	ø CDH9	EW	FL	L	MR	(kg)	Model (R)
40	12	27,6	25	16	12	0,11	QA/8040/27
50	12	31,6	27	17	12	0,17	QA/8050/27
63	16	39,6	32	22	15	0,24	QA/8063/27
80	16	49,6	36	22	15	0,37	QA/8080/27
100	20	59,6	41	27	20	0,59	QA/8100/27
125	25	69,6	50	33	25	3,20	QM/8125/27
160	30	89,6	55	35,5	30	6,1	QM/8160/27
200	30	89,6	60	37	30	6,8	QM/8200/27

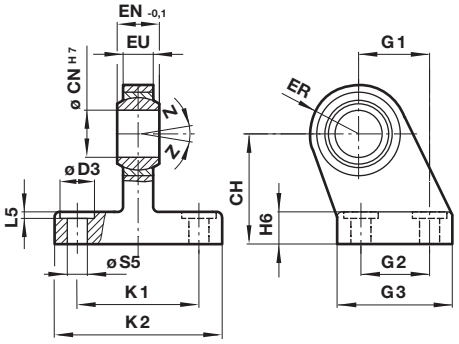
Narrow hinge SS

Dimensions in mm
Projection/First angle

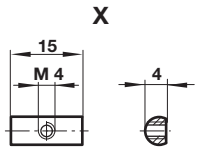


ø	BR	BT	ø CK G7	ø EB	EM	GL	ø HB	L2	PH	RA	TE	UL	UR	(kg)	Model (SS)
40	11	10	12	11	12	24	6,6	1,6	36	22	41	54	35	0,20	M/P19932
50	13	12	16	15	16	33	9	1,6	45	30	50	65	45	0,48	M/P19933
63	15	12	16	15	16	37	9	1,6	50	35	52	67	50	0,50	M/P19934
80	15	14	20	18	20	47	11	2,5	63	40	66	86	60	0,75	M/P19935
100	19	15	20	18	20	55	11	2,5	71	50	76	96	70	1,20	M/P19936
125	22	20	30	20	30	70	14	3,2	90	60	94	124	90	2,50	M/P19937
160	31	25	35	20	35	97	14	4	115	88	118	156	126	6,00	M/P19938
200	31	30	35	26	35	105	18	4	135	90	122	162	130	7,60	M/P19939

Swivel hinge US
Conforms to VDMA 24562 part 2

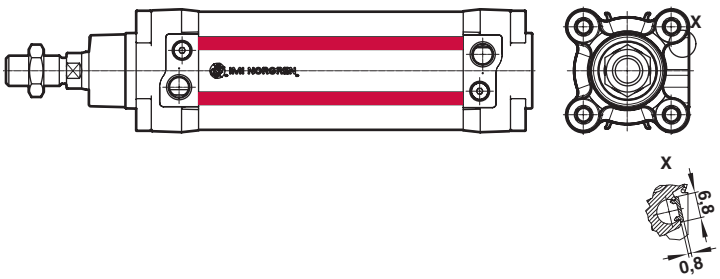


Groove key M/P72816
Weight: 0,01 (kg)

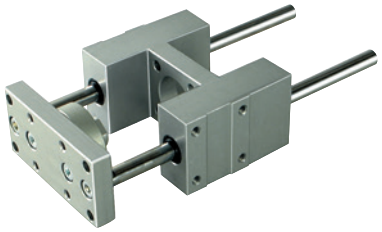


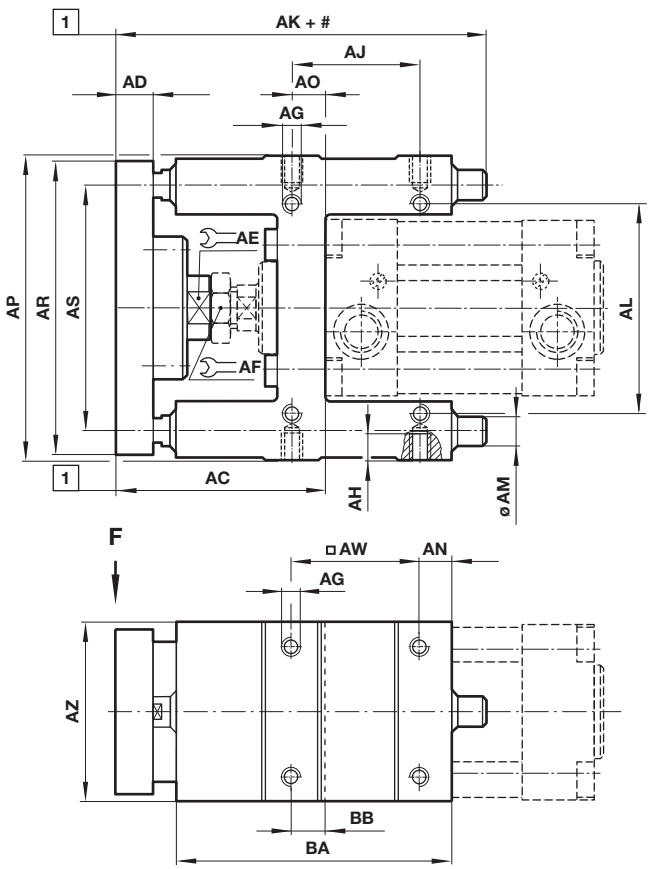
ø	CH	ø CN H7	ø D3	EN -0,1	ER	EU	G1	G2	G3	H6	K1	K2	L5	S5	Z	(kg)	Model (US)
40	36	12	11	16	18	12	24	22	35	10	41	54	1,6	6,6	13°	0,24	M/P40311
50	45	16	15	21	21	15	33	30	45	12	50	65	1,6	9	15°	0,46	M/P40312
63	50	16	15	21	23	15	37	35	50	12	52	67	1,6	9	15°	0,59	M/P40313
80	63	20	18	25	28	18	47	40	60	14	66	86	2,5	11	14°	1,03	M/P40314
100	71	20	18	25	30	18	55	50	70	15	76	96	2,5	11	14°	1,40	M/P40315
125	90	30	20	37	40	25	70	60	90	20	94	124	3,2	14	17°	3,10	M/P71355
160	115	35	20	43	44	28	97	88	126	25	118	156	4	14	16°	6,40	M/P71356
200	135	35	26	43	47	28	105	90	130	30	122	162	4	18	16°	9,10	M/P71357

Groove cover M/P72725/1000 (for cylinder with profile barrel)



QA/8000/51 – Guide blocks (plain bearings)





Dimensions in mm

Projection/First angle

Stroke

1 Adjustment range

ø 40 = +2

ø 50 & 63 = +4

ø 80 & 100 = +6

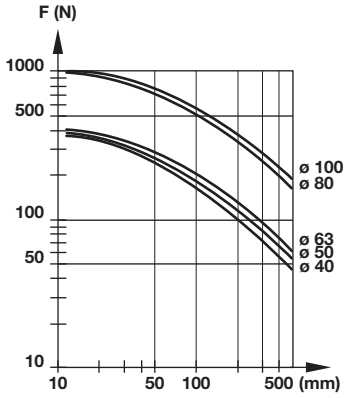
ø	AC	AD	AE	AF	AG	AH	AJ	AK	AL	ø AM	AN	AO	AP
40	74	12	15	19	M 6	10	38	122	64	12	6	11	106
50	91,5	15	22	24	M 8	12	46,5	135	80	12	6	19	125
63	92	15	22	24	M 8	12	56,5	153	95	12	7	15	132
80	106	15	27	30	M 10	15	50	180	130	16	9	14	165
100	111	15	27	30	M 10	17	70	199	150	16	9	19	185

ø	AR	AS	AT	AV	□ AW	ø AX	AZ	BA	BB	(kg) at 0 mm	(kg) per 100 mm	Model
40	100	80	84	50	38	6,6	56	85	11	1,2	0,09	QA/8040/51/*
50	120	96	100	60	46,5	9	66	99	19	1,8	0,09	QA/8050/51/*
63	125	104	105	70	56,5	9	76	114	15	2,2	0,09	QA/8063/51/*
80	155	130	130	90	72	11	98	134,5	25	4,1	0,16	QA/8080/51/*
100	175	150	150	110	89	11	118	153,5	28,5	5,8	0,16	QA/8100/51/*

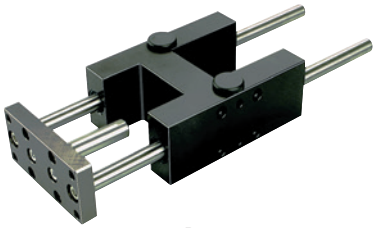
* Insert standard stroke length: 50, 100, 160, 200, 250, 320, 400 and 500 mm, use nearest standard stroke.

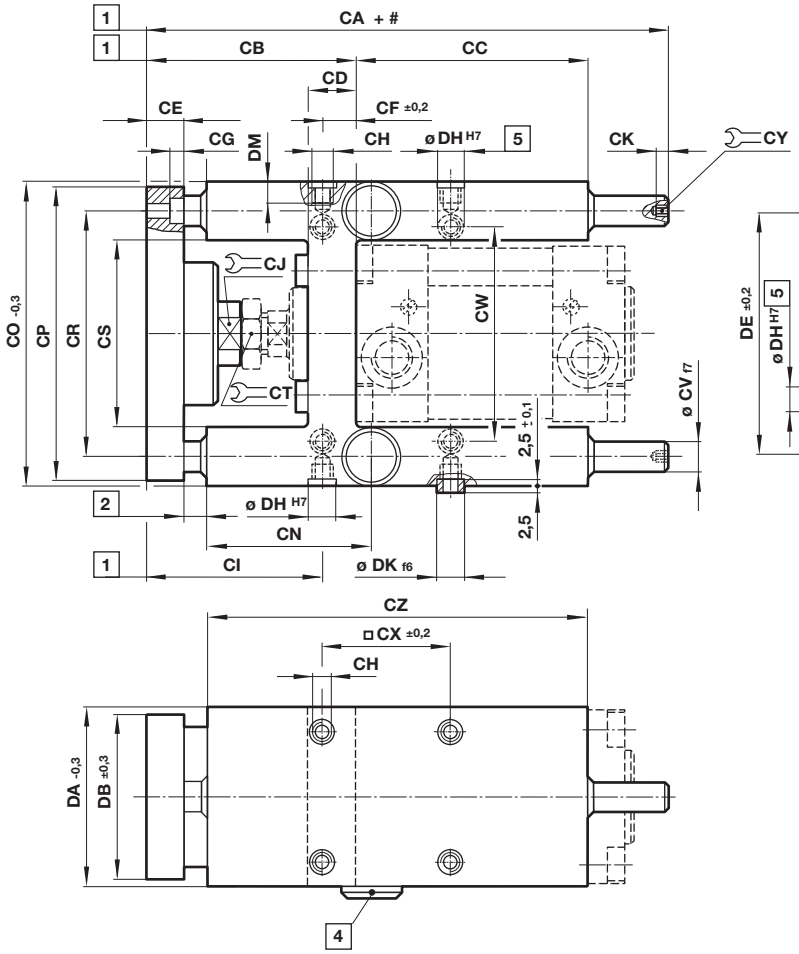
Note: Supplied complete with mounting screws for cylinders

Maximum load



QA/8000/61 – Guide blocks (roller bearings)





Dimensions in mm

Projection/First angle

Stroke

1 Adjustment range

ø 40 = +5

ø 50 ... 100 = +10

2 Safety zone 28 min

3 Centering sleeve

4 Blanking plug (remove when using locking catridges)

5 2,5 deep

6 Locking cartridge on request

ø	CA	CB	CC	CD	CE	CF ±0,2	CG	CH	CI	CJ	CK	CN	CO -0,3
40	192	111	69	33	12	23	6,5	M 6	88	15	6	67	115
50	237	128	65	40	15	33,8	9	M 8	94	22	6	75,5	137
63	237	128	97	40	15	29,3	9	M 8	98,5	22	6	80	152
80	280	151	112	50	20	37	11	M 10	114	27	7	92	189
100	280	156	112	55	20	40,5	11	M 10	115,5	27	7	93	213

ø	CP	CR	CS	CT	øCV F7	CW	□ CX ±0,2	CY	CZ	DA -0,3	DB ±0,3	DC	ø DD
40	110	87	58,5	19	16	69	38	6	140	58	54	6,6	11
50	130	104	70,5	24	20	85	46,5	6	150	70	63	9	15
63	145	119	85,5	24	20	100	56,5	6	182	85	80	9	15
80	180	148	105,5	30	25	130	72	8	215	105	100	11	18
100	200	172	130,5	30	25	150	89	8	220	130	120	11	18

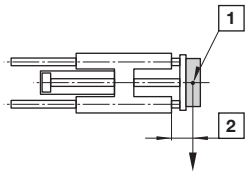
ø	DE ±0,2	DF	ø DG	ø DH H7	DJ	ø DK f6	DL	DM	(kg) at 0 mm	(kg) per 100 mm	Locking force (N)	Cartridge *1)	Model
40	84	M 6	24	9	G1/8	9	61,5	14	2,2	0,32	1000	QA/8040/63	QA/8040/61/*
50	100	M 8	30	11	G1/8	11	76,5	16	3,6	0,49	1500	QA/8050/63	QA/8050/61/*
63	105	M 8	30	11	G1/8	11	76,5	16	4,6	0,49	1500	QA/8050/63	QA/8063/61/*
80	130	M 10	48	13	G1/8	13	119	20	8,7	0,77	3000	QA/8080/63	QA/8080/61/*
100	150	M 10	48	13	G1/8	13	119	20	11	0,77	3000	QA/8080/63	QA/8100/61/*

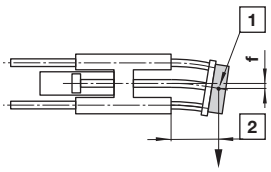
* Insert standard stroke length: 50, 100, 160, 200, 250, 320, 400 and 500 mm, use nearest standard stroke.

Note: Supplied complete with mounting screws for cylinders

*1) Locking cartridges should be ordered separately. Passive - pressure to unlock. Two required per guide block.

Maximum load for QA/8000/61





Dimensions in mm

Projection/First angle

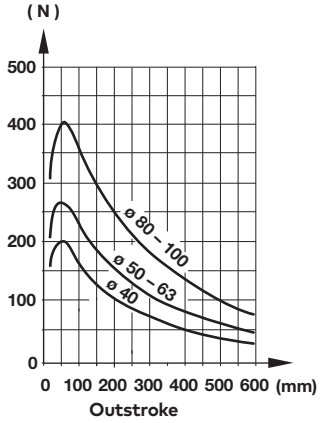
1 Centre of gravity load capacity

2 Outstroke

Maximum load capacity is dependent on the outstroke of a horizontally
installed guide unit. In the case of short stroke operation, the load capacity figures taken from the diagram must be multiplied by the correction factor (diagram 2). In the curves of load capacity (diagram 1), the short stroke corrections have already been taken into account for an outstroke > 60 mm.
The total deflection of guide rods will be determined by the addition of that due to own weight (diagram 3) and that due to load capacity (diagram 4).

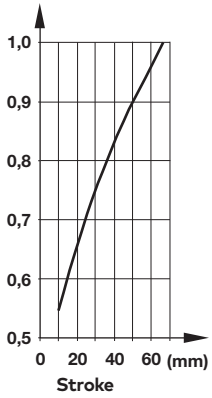
Maximum load capacity depending on outroke (diagram 1)

Load capacity



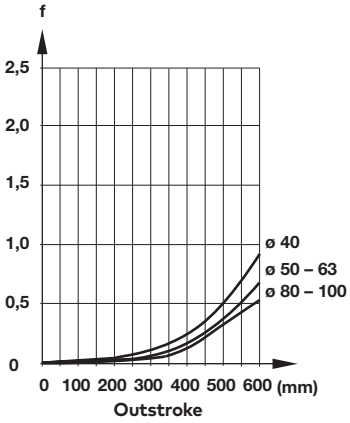
(diagram 2)

Correction factor



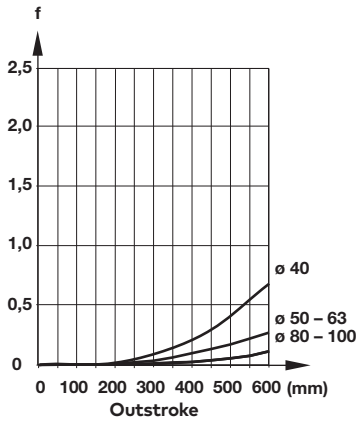
Deflection caused by own weight (diagram 3)

Deflection (mm)



Deflection caused by a load of 10 N (diagram 4)

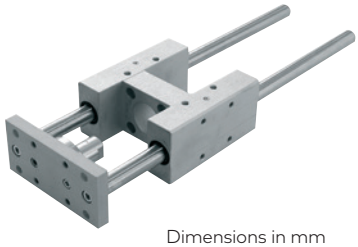
Deflection (mm)



In the case of shock load applications, the figures given in hte diagrams above must be reduced by a factor of 2.

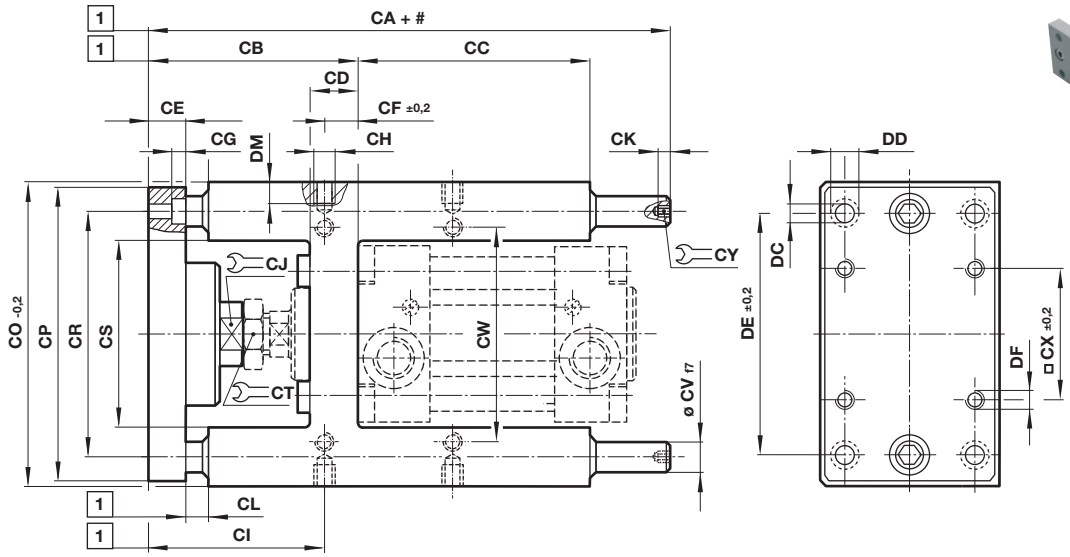
QA/8000/81 – Guide blocks (plain bearings, long coupling)

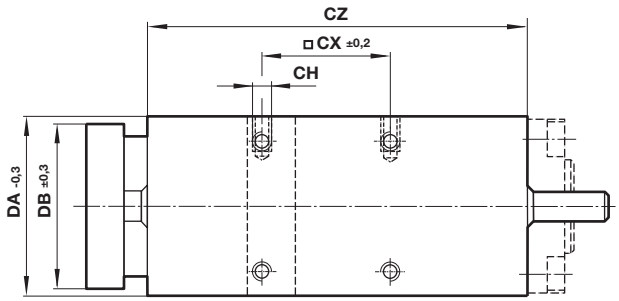
QA/8000/85 – Guide blocks (plain bearings, short coupling)



Dimensions in mm

Projection/First angle





Stroke

[1] Adjustment range

ø 40 = +5

ø 50 ... 100 = +10

ø	CA /81	CA /85	CB + /81	CB + /85	CC	CD	CE	CF ±0,2	CG	CH	CI /81	CI /85	CJ
40	189	164	99	74	80	28	12	11	6,5	M 6	88	63	15
50	210	181	113	88	78	34	15	18, 8	8,5	M 8	94,2	69,2	20
63	235	210	114	89	106	34	15	15,3	9	M 8	98,7	73,7	20
80	265	240	139	114	111	50	20	25	11	M 10	114	89	26
100	288	265	145	120	128	55	20	30	11	M 10	115	90	26

ø	CK	CL /81	CL /85	CO ±0,2	CP	CR	CS	CT	øCV f8	CW	□ CX ±0,2	CY	CZ
40	6	27	2	115	112	87	58,2	19	16	69	38	6	140
50	6	28	3	137	134	104	70,2	24	20	85	46,5	6	148
63	6	27	2	152	147	119	85,2	24	20	100	56,5	6	178
80	7	35	10	189	180	148	105,5	30	25	130	72	8	195
100	7	35	10	213	206	173	130,5	30	25	150	89	8	218

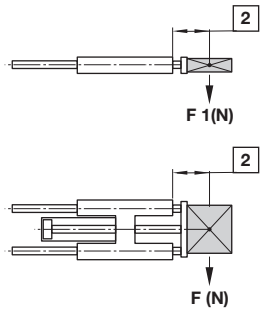
ø	DA ±0,2	DB ±0,3	ø DC	ø DD	DE ±0,2	DF	DM	(kg) /81 at 0 mm	(kg) /85 at 0 mm	(kg) /81; /85 per 100 mm	Model /81	Model /85
40	58	55	6,6	11	84	M 6	12	2,2	2,15	0,32	QA/8040/81	QA/8040/85
50	70	65	9	15	100	M 8	16	3,6	3,55	0,49	QA/8050/81	QA/8050/85
63	85	80	9	15	105	M 8	16	4,6	4,55	0,49	QA/8063/81	QA/8063/85
80	105	100	11	18	130	M 10	20	8,7	8,65	0,77	QA/8080/81	QA/8080/85
100	130	120	11	18	150	M 10	20	11	10,95	0,77	QA/8100/81	QA/8100/85

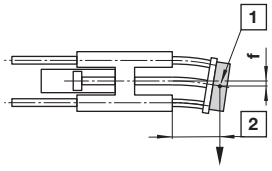
* Insert standard stroke length: 50, 100, 160, 200, 250, 320, 400 and 500 mm, use nearest standard stroke.

Note: Supplied complete with mounting screws for cylinders

Maximum load for QA/8000/81 and /85

Dimensions in mm
Projection/First angle





1 Centre of gravity load capacity
2 Outstroke

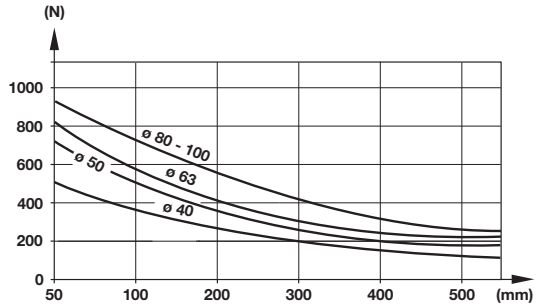
F1 = F x 0,9
Static force: F2 = F x 2

Max. load capacity (diagram 1) is dependent on
the outstroke of a horizontally installed guide unit.

Maximum load capacity depending on outroke

Deflection caused by a load of 10 N

Load capacity



Outstroke

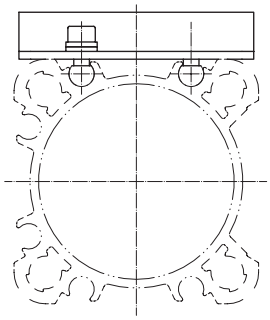
In the case of shock load applications, the figures given in hte diagrams above must be reduced by a factor of 2

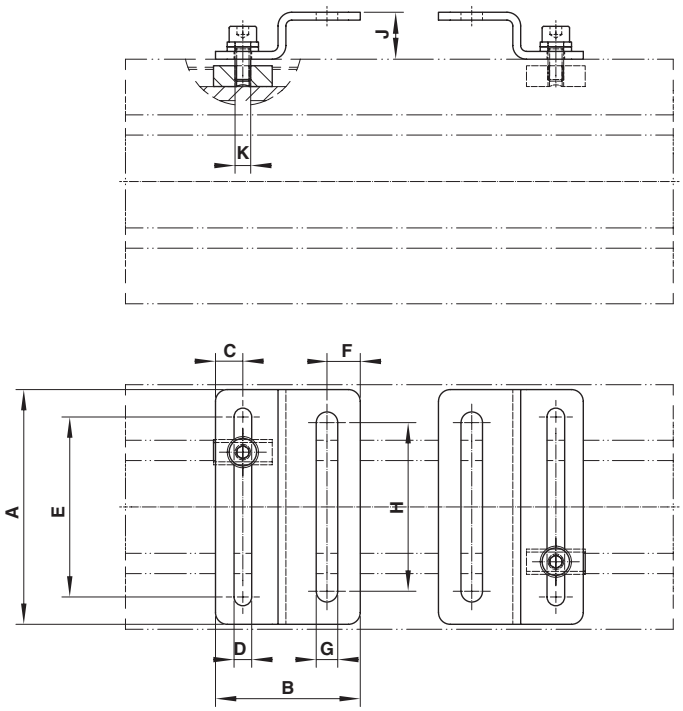
NORGREN

Valve mounting kit for Profile barrel (Ø 50 ... 125mm)

Dimensions in mm

Projection/First angle

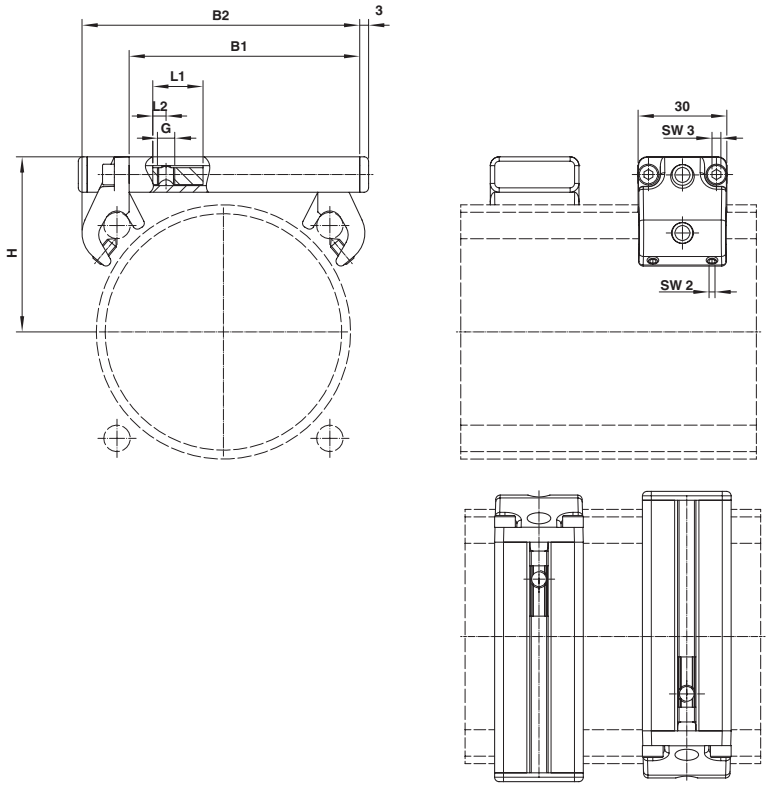




ø	A	B	C	D	E	F	G	H	J	K	SW	(kg)	Model
50/63	60	37	7	4,5	46	8,5	5,5	43	12	M4	3	0,08	PQA/802050/22/54
80/100	90	37	7	4,5	76	8,5	6,5	70	12	M4	3	0,11	PQA/802080/22/54
125	135	37	7	4,5	121	8,5	6,5	115	12	M4	3	0,16	PQA/802125/22/54

Valve mounting kit for Round barrel (Ø 160 - 200mm)

Dimensions in mm
Projection/First angle



ø	B1	B2	H	L1	L2	G	kg	Model
160	156	175	101,5	17	4,5	M4	0,28	QA/8160/22/55/4
160	156	175	101,5	17	4,5	M5	0,28	QA/8160/22/55/5
160	156	175	101,5	17	4,5	M6	0,28	QA/8160/22/55/6
200	194	231	119	17	4,5	M4	0,31	QA/8200/22/55/4
200	194	231	119	17	4,5	M5	0,31	QA/8200/22/55/5
200	194	231	119	17	4,5	M6	0,31	QA/8200/22/55/6

Customer solution cylinder valve unit:

For additional information please contact our technical service

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.