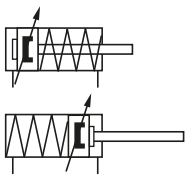
- **ø 32 ... 100 mm**
- **High performance adaptive cushioning system “ACS”**
- **High performance, stability and reliability**



Technical features

Medium:
Compressed air, filtered, lubricated or non-lubricated
Standard:
ISO 15552
Note: all models conform to the mentioned standards except the cylinder length
Operation:
Single acting, adjustable cushioning
Operating pressure:
ø 32 ... 100 mm
2 ... 10 bar (29 ... 145 psi)

Ports:
G1/8 ... 1/2
Cylinder diameters:
32, 40, 50, 63, 80, 100 mm
Standard strokes:
25, 50, 80, 100 mm
Non-standard strokes:
Available (5 ... 250 mm)

Operating temperature:
ø 32 ... 100 mm
“Standard version”
-20 ... +80°C max. (-4 ... +176°F)
Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F).

Standard Materials:
Barrel: Anodised aluminium
End covers: Pressure diecast aluminium
Piston rod: Stainless steel (martensitic)
Piston rod seals: PUR
‘O’-rings: NBR

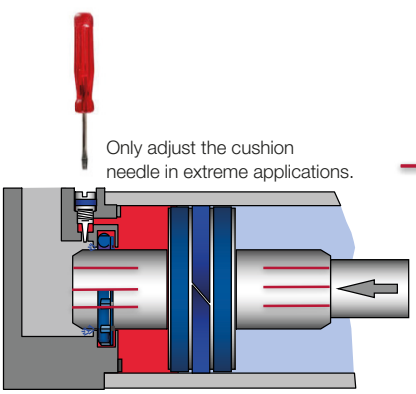
Technical data

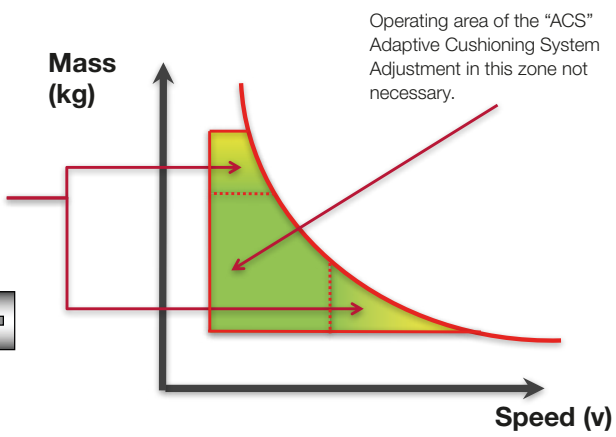
Cylinder ø (mm)	32	40	50	63	80	100
Profile barrel	•	•	•	•	•	•
Round barrel	•	•	•	•	•	•
Port size	G1/8	G1/4	G1/4	G3/8	G3/8	G1/2
Piston rod ø (mm)	12	16	20	20	25	25
Piston rod thread	M10 x 1,25	M12 x 1,25	M16 x 1,5	M16 x 1,5	M20 x 1,5	M20 x 1,5
Cushion length (mm)	20	22	24	24	26	33
Cushioning Adaptive cushioning systems “ACS”				•	•	•
Cushioning (adjustable cushion)	•	•	•			
Initial cushion volume (cm³)	12,8	20,2	36	64	111	235
PRA/801000/M, PRA/801000M						
Theoretical thrusts at 6 bar outstroke (N)	392	648	1043	1735	2795	4492
F1 (N)	50	60	75	75	130	130
RA/803000/M, RA/803000M						
Theoretical thrusts at 6 bar instroke (N)	324	528	854	1546	2501	4197
F1 (N) *1)	50	60	75	75	130	130

F1 = Final retrun force of spring

The function

The new “ACS” Adaptive Cushioning System provides a high performance pneumatic damping function. The system will automatically cushion for a wide range of general applications as delivered. Manual adjustment is still possible for extreme applications.





IMI Precision Engineering

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

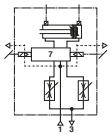
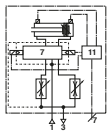
The force required, the pressure available, the speed of movement and air consumption. ISO and VDMA standard or compact style also cushioning and sensors. Cylinders are greased on assembly and operate under normal conditions without additional lubrication. However using a lubricator will extend the life of these products.

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.

Additional ISO 15552 Cylinder ranges

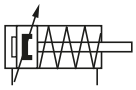
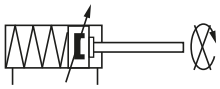
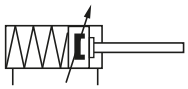
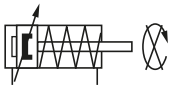
Symbols		Profile barrel	Round Barel	Industrial Automation	Food & Beverage	Rail	Automotive	ATEX II 2GD	CE-marked	ø (mm)	Range	Discription	Datasheet
		•		•	•	•	•	•	•	32 ... 125	PRA/802000	Double Acting Cylinder	1_5_220_PRA_802000_M_RA_8000_M 1_5_225_PRA_802000_M_EX
			•	•		•	•	•	•	32 ... 125	RA/802000	Double Acting Cylinder	1_5_220_PRA_802000_M_RA_8000_M 1_5_225_PRA_802000_M_EX
			•	•		•	•	•	•	160 ... 320	RA/8000	Double Acting Cylinder	1_5_220_PRA_802000_M_RA_8000_M 1_5_126_RA_8000_M_EX
			•	•	•	•	•	•	•	32 ... 200	KA/8000	Stainless steel Cylinder	1_5_127_KA_8000_M 1_5_128_KA_8000_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/182000/F1	Cylinder with position sensor	1_9_051_PSA_182000_F1 1_9_052_PSA_182000_F1_EX
			•	•			•	•	•	160 ... 320	SA/8000/F1	Cylinder with position sensor	Datasheet (standard) 1_9_062_SA_8000_F1_EX
		•	•	•	•	•				32 ... 100	"PRA/801000, PRA/803000"	Standard Single Acting Cylinder	1_4_220_PRA_801000_803000 -
			•	•		•	•			32 ... 100	"RA/801000, RA/803000"	Standard Single Acting Cylinder	1_4_220_PRA_801000_803000 -

• Range available

For additional information please contact the technical service or http://www.imi-precision.com

Cylinder ranges in the frame are shown in this data sheet.

Cylinder variants

Symbol Please see the description below	Piston Rod Material				Standard Model with		ø	Description	Page
	R	S	C	D	Male Piston Rod Thread	Female Piston Rod Thread	(mm)		
	X	•	•	•	PRA/801000/M	PRA/801000/MX	32 ... 100	Standard Cylinder Sprung in (Profile barrel)	8
	X	•	•	•	RA/801000/M	RA/801000/MX	32 ... 100	Standard Cylinder Sprung in (Round barrel)	8
	X				PRA/801000/N2	PRA/801000/N2X	32 ... 100	Cylinder with Non-Rotating Piston Rod Sprung in (Profile barrel) Maximum Stroke: 250 mm	10
	X				RA/801000/N2	RA/801000/N2X	32 ... 100	Cylinder with Non-Rotating Piston Rod Sprung in (Round barrel) Maximum Stroke: 250 mm	10
	X	•	•	•	PRA/803000/M	PRA/803000/MX	32 ... 100	Standard Cylinder Sprung out (Profile barrel)	11
	X	•	•	•	RA/803000/M	RA/803000/MX	32 ... 100	Standard Cylinder Sprung out (Round barrel)	11
	X	•	•	•	PRA/803000/MU	PRA/803000/MUX	32 ... 100	Cylinder with Extended Piston Rod Sprung out (Profile barrel) Maximum extention: 100 mm	11
	X	•	•	•	RA/803000/MU	RA/803000/MUX	32 ... 100	Cylinder with Extended Piston Rod Sprung out (Round barrel) Maximum extention: 100 mm	11
	X				PRA/803000/N2	PRA/803000/N2X	32 ... 100	Cylinder with Non-Rotating Piston Rod Sprung out (Profile barrel) Maximum Stroke: 250 mm	13
	X				RA/803000/N2	RA/803000/N2X	32 ... 100	Cylinder with Non-Rotating Piston Rod Sprung out (Round barrel) Maximum Stroke: 250 mm	13

Note: Piston Rod Material: C = Hard chromium plated; D = Stainless steel (austenitic) & hard chromium plated; R = Stainless steel (martensitic); S = Stainless steel (austenitic); X = Standard; • = Option

Option selector

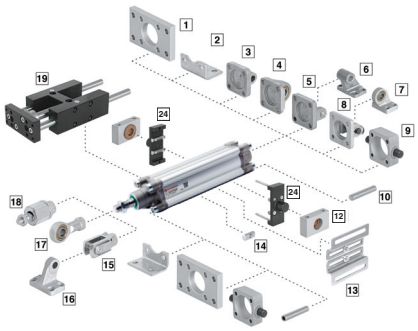
★★A/8★★★★★/★★★/★★★

Standard	Substitute
Round barrel	None
Profile barrel	P
Piston rod material	**Substitute**
Stainless steel (martensitic)	R
Stainless steel (austenitic)	S
Hard chromium plated	C
Stainless steel (austenitic) & hard chromium plated	D
Cushioning	**Substitute**
Sprung in (ø 32 ... 100 mm)	01
Sprung out (ø 32 ... 100 mm)	03
Cylinder ø (mm)	**Substitute**
032, 040, 050, 063, 080, 100	
Variants ø 32 ... 100 mm (magnetic piston)	**Substitute**
Standard	M
Non-rotating piston rod (internal)	N2
Extended piston rod	MU
A/803*/MU/***/***	**Extension (mm)**

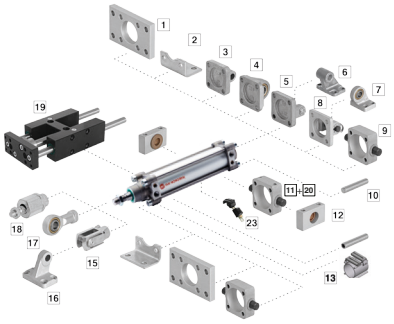
Strokes (mm)	Substitute
5 ... 250	
Piston rod thread	**Substitute**
Male	None
Female	X

Note: If postion ist not required, disregard option position within part number e.g. RA/801032/M/25. For combinations of cylinder variants consult our technical service. For example:
Please note that heat resistant seals are not available for all variants. This option selector explains only the cylinder variants. Additional variants/options are not possible. Detail's see table on page 4.

Cylinder with Profile barrel ø 32 ... 100 mm

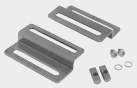


Cylinder with Round barrel ø 32 ... 100 mm



Mountings

Model	A	AK	B, G	C	D	D2	F	FH	H	UH
										
ø	10 Page 14	18 Page 14	1 Page 14	2 Page 14	5 Page 15	8 Page 15	15 Page 15	9 Page 15	11 Page 16	20 Page 16
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/8032/28	QA/8032/40
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

	UH	S	SW	UF	UR	R	SS	US	Groove key	Valve mounting kit
										
ø	24 Page 16	12 Page 16	6 Page 17	17 Page 17	4 Page 17	3 Page 17	16 Page 18	7 Page 18	14 Page 18	13 Page 26 & 27
32	PQA/802032/40	QA/8032/41	M/P19493	QM/8025/32	QA/8032/33	QA/8032/27	M/P19931	M/P40310	M/P72816	
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 26 & 27

Pos.	Style	Standard
1	B, G	Clear anodised aluminium
2	C	Galvanized steel (ø 32 ... 100 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	Painted cast iron Bolt: stainless steel (martensitic) Circlip: galvanized steel
9	FH	Cast iron
10	A	Galvanized steel
11	H	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	Painted cast iron
17	UF	Galvanized steel, Inner ring: steel Outer ring: brass
18	AK	Galvanized steel
20	UH	Cast iron
24	UH	Anodised aluminium

Accessories for Profile (ø 32 ... 100 mm) & Round barrel (ø 32 ... 100 mm)

Model Profile barrel	Model Round barrel	ø	Port size	Banjo flow control	Straight fitting	Elbow fitting
						
PRA/80*032/M/*	RA/80*032/M/*	32	G1/8	C0K510618	C02250618	C02470618
PRA/80*040/M/*	RA/80*040/M/*	40	G1/4	C0K510628	C02250628	C02470628
PRA/80*050/M/*	RA/80*050/M/*	50	G1/4	C0K510828	C02250828	C02470828
PRA/80*063/M/*	RA/80*063/M/*	63	G3/8	C0K510838	C02250838	C02470838
PRA/80*080/M/*	RA/80*080/M/*	80	G3/8	C0K511038	C02251038	C02471038
PRA/80*100/M/*	RA/80*100/M/*	100	G1/2	C0K511248	C02251248	C02471248

For alternative fitting types please contact the technical service.

Sevice kit

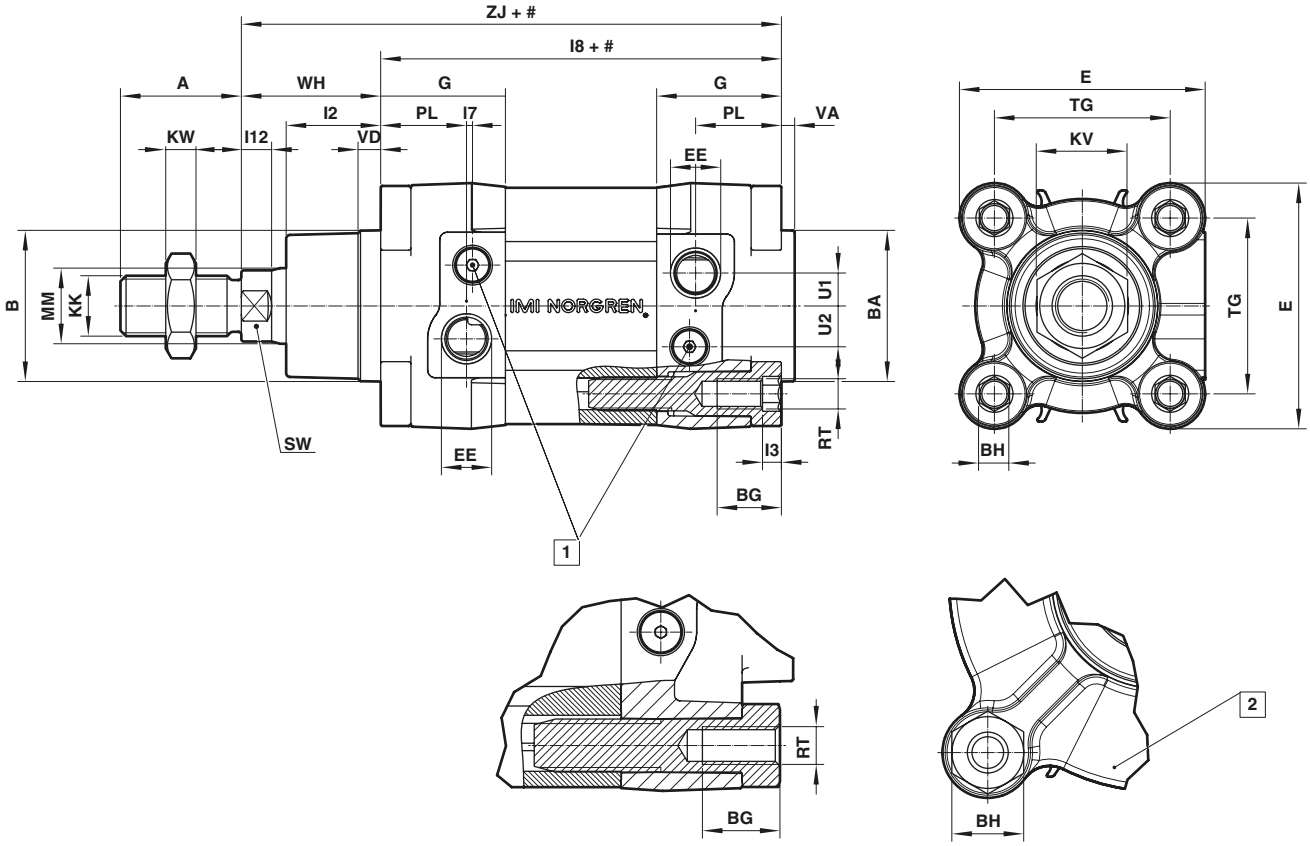
ø	Service kit for Round and Profile barrel
	
32	QA/8032/00
40	QA/8040/00
50	QA/8050/00
63	QA/8063/00
80	QA/8080/00
100	QA/8100/00

Magnetically operated switches

ø	M/50/**	Groove cover	Switch mounting brackets for M/50	TQM/31, QM/32, QM/132	Switch mounting brackets for TQM/31, QM/32, QM/132	QM/140	Switch mounting brackets for QM/140
			 23				
	Page 19 - 22	Page 18	Page 22	Page 23	Page 24	Page 25	Page 26
32		M/P72725/1000	QM/27/2/1		QM/31/032/22		QM/140/010/22
40		M/P72725/1000	QM/27/2/1		QM/31/032/22		QM/140/010/22
50		M/P72725/1000	QM/27/2/1		QM/31/032/22		QM/140/010/22
63		M/P72725/1000	QM/27/2/1		QM/31/032/22		QM/140/010/22
80		M/P72725/1000	QM/27/2/1		QM/31/080/22		QM/140/010/22
100		M/P72725/1000	QM/27/2/1		QM/31/080/22		QM/140/010/22

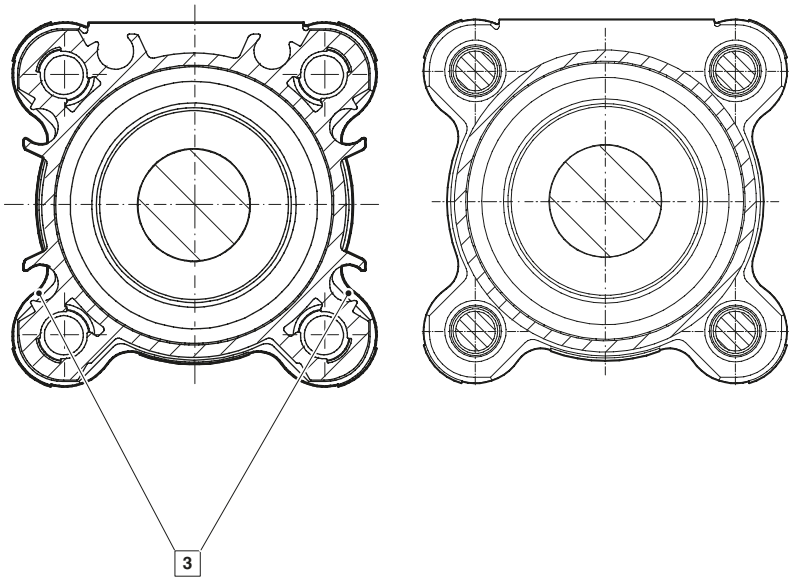
Basic dimensions
PRA/801000/M, RA/801000/M
Standard Cylinder Sprung in

Dimensions in mm
Projection/First angle



Model Profile barrel
ø 32 ... 100 mm

Model Round barrel
ø 32 ... 100 mm



Stroke
1 Cushion screw
2 ø 80 ... 100 mm
3 M/50 switches can be mounted flush with the profile

For additional information please contact the technical service or http://www.imi-precision.com

ø	A -0,5	ø B d11	ø BA d11	BG min	BH	□ E	EE	G	KK	KV	KW	L2	L3	L7	L8	L12	ø MM h9	PL	TG
32	22	30	30	16	6	47	G1/8	29	M10 x 1,25	17	5	19,5	4	6,6	119 + (N *28)	5,5	12	15	32,5
40	24	35	35	16	6	53	G1/4	34,5	M12 x 1,25	19	6	22	4	5,6	130 + (N *28)	6,5	16	21,5	38
50	32	40	40	16	8	65	G1/4	33	M16 x 1,5	24	8	25	5	1,6	131 + (N *28)	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	3,6	146 + (N *28)	8	20	24,2	56,5
80	40	45	45	17	19	95	G3/8	42	M20 x 1,5	30	10	33	-	1,8	153 + (N *28)	10	25	29,7	72
100	40	55	55	17	19	113	G1/2	42	M20 x 1,5	30	10	35	-	3,8	163 + (N *28)	10	25	27,7	89

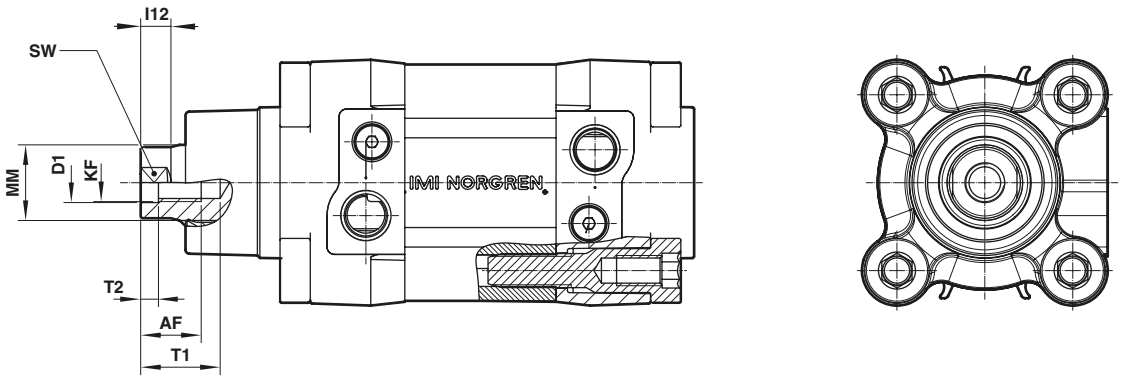
ø	RT	SW	U1	U2	VA	VD	WH	ZJ	Model Profile barrel	at 0 mm	per 25 mm	Model Round barrel	at 0 mm	per 25 mm
32	M 6	10	4,6	6,3	3,5	6	26	145 + (N *28)	PRA/801032/M/*	0,49 (kg)	0,15 (kg)	RA/801032/M/*	0,46 (kg)	0,16 (kg)
40	M 6	13	5,8	9,2	3,5	6	30	160 + (N *28)	PRA/801040/M/*	0,69 (kg)	0,22 (kg)	RA/801040/M/*	0,65 (kg)	0,21 (kg)
50	M 8	17	8,7	10,8	3,5	6	37	168 + (N *28)	PRA/801050/M/*	1,09 (kg)	0,31 (kg)	RA/801050/M/*	1,02 (kg)	0,32 (kg)
63	M 8	17	10	12,8	3,5	6	37	183 + (N *28)	PRA/801063/M/*	1,54 (kg)	0,35 (kg)	RA/801063/M/*	1,46 (kg)	0,36 (kg)
80	M 10	22	12	14,5	3,5	6	46	199 + (N *28)	PRA/801080/M/*	2,64 (kg)	0,62 (kg)	RA/801080/M/*	2,54 (kg)	0,64 (kg)
100	M 10	22	9	14,5	3,5	6	51	214 + (N *28)	PRA/801100/M/*	3,66 (kg)	0,72 (kg)	RA/801100/M/*	3,50 (kg)	0,73 (kg)

* Please insert stroke length; Basic Dimension are also for cylinder varinats or for different piston rod material

Hub (stroke)	RT	Note
<= 50	N = 0	
> 50	N = Hub (stroke) / 50 - 1	round up to integer

Cylinder variants
PRA/801000/MX, RA/801000/MX
Cylinder with Female Piston Rod Thread Sprung in

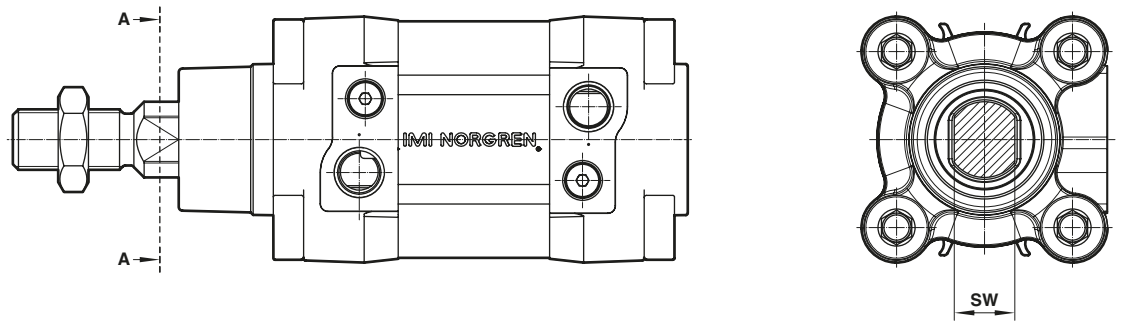
Dimensions in mm
Projection/First angle



ø	AF	ø D1	KF	I12	ø MM h9	SW	T1	T2
32	12	6,4	M6	5,5	12	10	16	2,6
40	12	8,4	M8	6,5	16	13	16	3,3
50	16	10,5	M10	8	20	17	21	4,7
63	16	10,5	M10	8	20	17	21	4,7
80	20	13	M12	10	25	22	25	6,1
100	20	13	M12	10	25	22	25	6,1

For missing dimensions please see page 8 and 9

Cylinder variants
PRA/801000/N2, RA/801000/N2 – Cylinder with Non-Rotating Piston Rod Sprung in
PRA/801000/N2X, RA/801000/N2X – Cylinder with Non-Rotating Piston Rod and Female Piston Rod Thread Sprung in

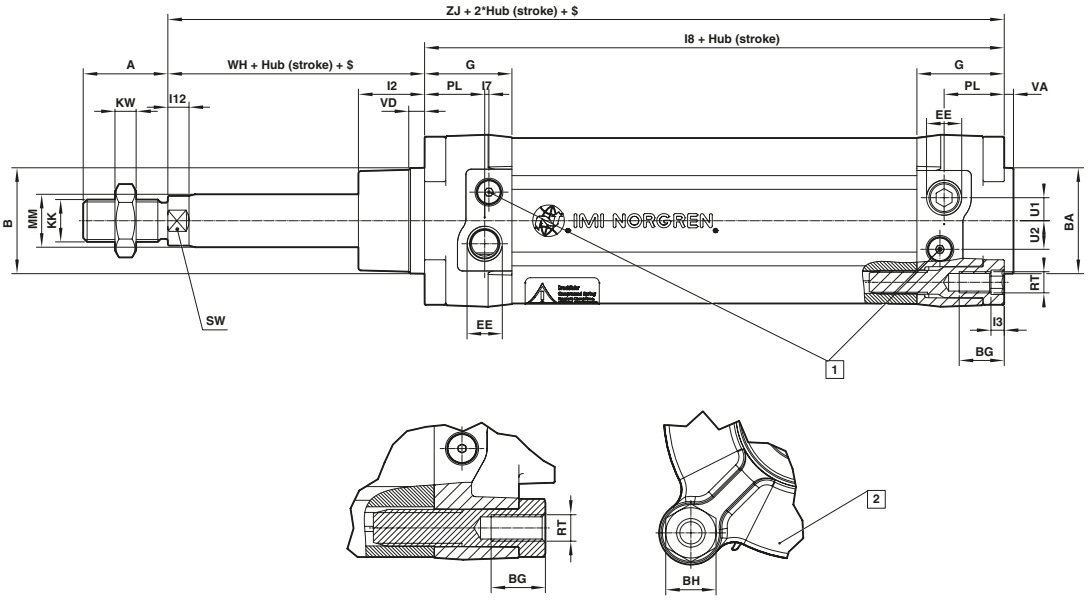


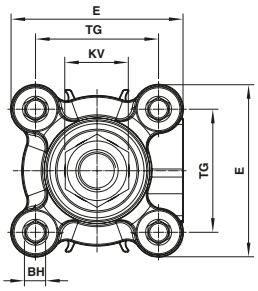
ø	SW	max. Torque (Nm)	Model Profile barrel	Model Round barrel
32	10	0,5	PRA/801032/N2/*	RA/801032/N2/*
40	13	1	PRA/801040/N2/*	RA/801040/N2/*
50	16	1,5	PRA/801050/N2/*	RA/801050/N2/*
63	16	1,5	PRA/801063/N2/*	RA/801063/N2/*
80	21	2,5	PRA/801080/N2/*	RA/801080/N2/*
100	21	2,5	PRA/801100/N2/*	RA/801100/N2/*

* Please insert stroke length; Maximum Hub: 250 mm; For missing dimensions please see page 8 and 9

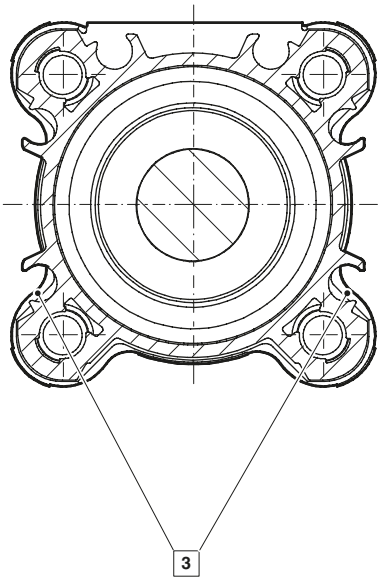
Basic dimensions
PRA/803000/M, RA/803000/M, PRA/803000/MU, RA/803000/MU
Standard Cylinder Sprung out

Dimensions in mm
Projection/First angle

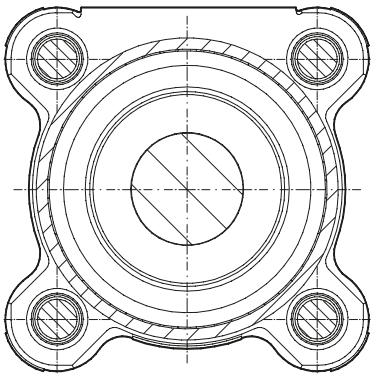




Model Profile barrel
ø 32 ... 100 mm



Model Round barrel
ø 32 ... 100 mm



Stroke
$ Piston rod extension
1 Cushion screw
2 ø 80 ... 100 mm
3 M/50 switches can be mounted flush with the profile

For additional information please contact the technical service or http://www.imi-precision.com

ø	A -0,5	ø B d11	ø BA d11	BG min	BH	□ E	EE	G	KK	KV	KW	L2	L3	L7	L8	L12	ø MM h9	PL	TG
32	22	30	30	16	6	47	G1/8	29	M10 x 1,25	17	5	19,5	4	6,6	119 + (N *28)	5,5	12	15	32,5
40	24	35	35	16	6	53	G1/4	34,5	M12 x 1,25	19	6	22	4	5,6	130 + (N *28)	6,5	16	21,5	38
50	32	40	40	16	8	65	G1/4	33	M16 x 1,5	24	8	25	5	1,6	131 + (N *28)	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	3,6	146 + (N *28)	8	20	24,2	56,5
80	40	45	45	17	19	95	G3/8	42	M20 x 1,5	30	10	33	-	1,8	153 + (N *28)	10	25	29,7	72
100	40	55	55	17	19	113	G1/2	42	M20 x 1,5	30	10	35	-	3,8	163 + (N *28)	10	25	27,7	89

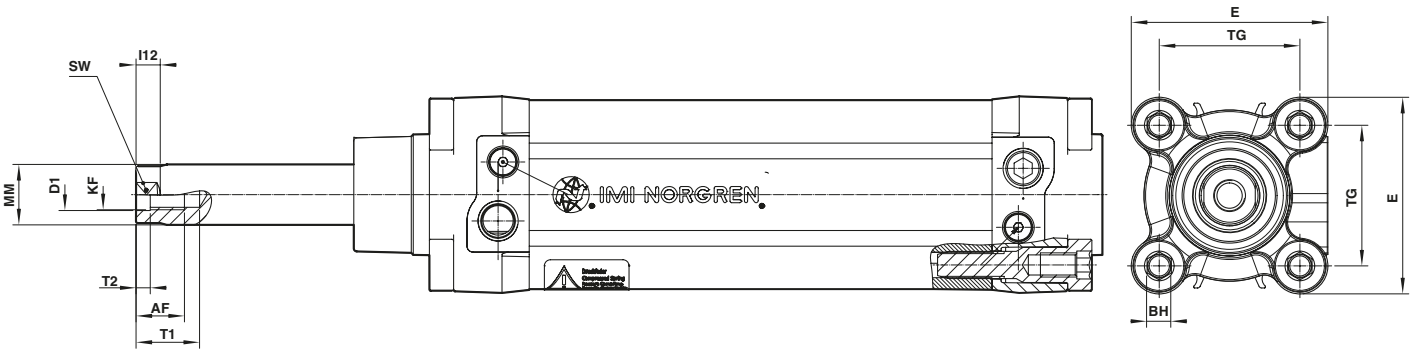
ø	RT	SW	U1	U2	VA	VD	WH	ZJ	Model Profile barrel	at 0 mm	per 25 mm	Model Round barrel	at 0 mm	per 25 mm
32	M 6	10	4,6	6,3	3,5	6	26	145 + (N *28)	PRA/803032/M/*	0,49 (kg)	0,13 (kg)	RA/803032/M/*	0,46 (kg)	0,13 (kg)
40	M 6	13	5,8	9,2	3,5	6	30	160 + (N *28)	PRA/803040/M/*	0,69 (kg)	0,17 (kg)	RA/803040/M/*	0,65 (kg)	0,17 (kg)
50	M 8	17	8,7	10,8	3,5	6	37	168 + (N *28)	PRA/803050/M/*	1,09 (kg)	0,24 (kg)	RA/803050/M/*	1,02 (kg)	0,25 (kg)
63	M 8	17	10	12,8	3,5	6	37	183 + (N *28)	PRA/803063/M/*	1,54 (kg)	0,28 (kg)	RA/803063/M/*	1,46 (kg)	0,29 (kg)
80	M 10	22	12	14,5	3,5	6	46	199 + (N *28)	PRA/803080/M/*	2,64 (kg)	0,51 (kg)	RA/803080/M/*	2,54 (kg)	0,53 (kg)
100	M 10	22	9	14,5	3,5	6	51	214 + (N *28)	PRA/803100/M/*	3,66 (kg)	0,61 (kg)	RA/803100/M/*	3,50 (kg)	0,62 (kg)

* Please insert stroke length.
Basic Dimension are also for cylinder varinats or for different piston rod material

Hub (stroke)	RT	Note
<= 50	N = 0	
> 50	$N = \frac{\text{Hub (stroke)}}{50} - 1$	round up to integer

Cylinder variants
PRA/803000/MX, RA/803000/MX, PRA/803000/MUX, RA/803000/MUX
Cylinder with Female Piston Rod Thread Sprung out

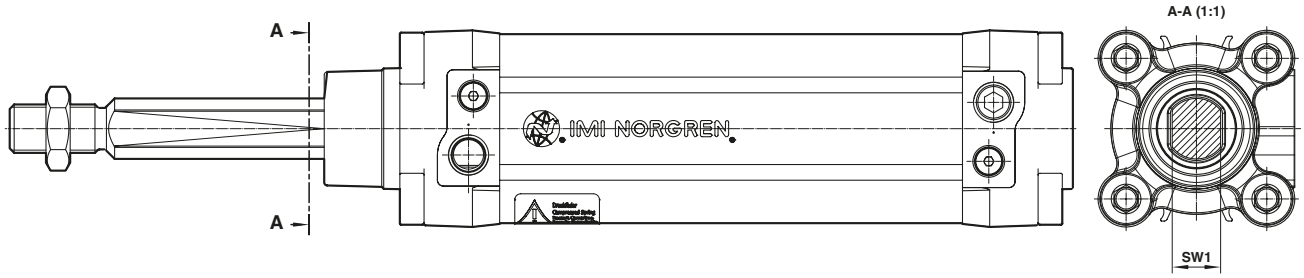
Dimensions in mm
Projection/First angle



ø	AF	ø D1	KF	l12	ø MM h9	SW	T1	T2
32	12	6,4	M6	5,5	12	10	16	2,6
40	12	8,4	M8	6,5	16	13	16	3,3
50	16	10,5	M10	8	20	17	21	4,7
63	16	10,5	M10	8	20	17	21	4,7
80	20	13	M12	10	25	22	25	6,1
100	20	13	M12	10	25	22	25	6,1

For missing dimensions please see page 8 and 9

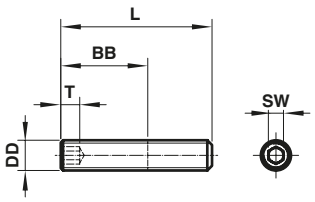
Cylinder variants
PRA/803000/N2, RA/803000/N2 – Cylinder with Non-Rotating Piston Rod Sprung out
PRA/803000/N2X, RA/803000/N2X – Cylinder with Non-Rotating Piston Rod and Female Piston Rod Thread Sprung out



ø	SW	max. Torque (Nm)	Model Profile barrel	Model Round barrel
32	10	0,5	PRA/803032/N2/*	RA/803032/N2/*
40	13	1	PRA/803040/N2/*	RA/803040/N2/*
50	16	1,5	PRA/803050/N2/*	RA/803050/N2/*
63	16	1,5	PRA/803063/N2/*	RA/803063/N2/*
80	21	2,5	PRA/803080/N2/*	RA/803080/N2/*
100	21	2,5	PRA/803100/N2/*	RA/803100/N2/*

* Please insert stroke length; Maximum stroke: 250 mm; For missing dimensions please see page 8 and 9

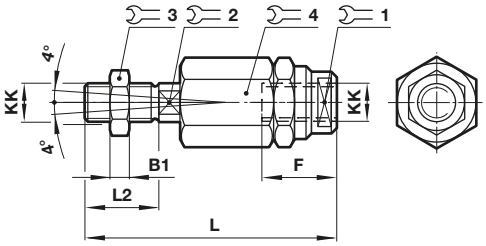
Mountings
Front or rear stud mounting A



ø	BB	DD	L	SW	T (min)	(kg)	Model (A)
32/40	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

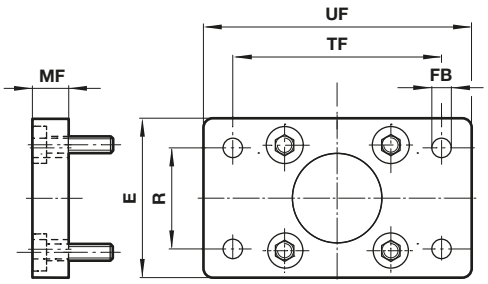
Piston rod swivel AK

Dimensions in mm
Projection/First angle



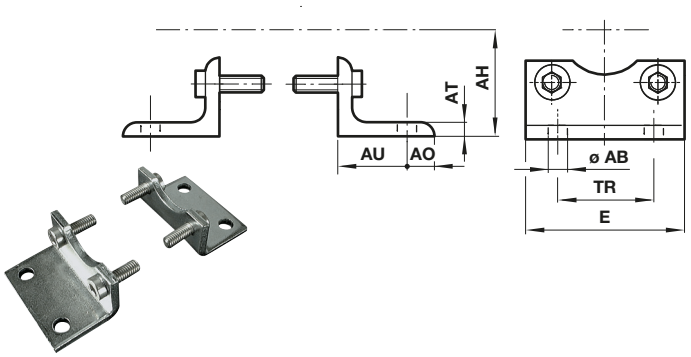
ø	KK	B1	F	L	L2	SW 1	SW 2	SW 3	SW 4	(kg)	Model (AK)
32	M10 x 1,25	5	26	73	20	19	12	17	30	0,20	QM/8025/38
40	M12 x 1,25	6	26	77	24	19	12	19	30	0,20	QM/8040/38
50/63	M16 x 1,5	8	34	106	32	30	19	24	42	0,65	QM/8050/38
80/100	M20 x 1,5	10	42	122	40	30	19	30	42	0,72	QM/8080/38

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



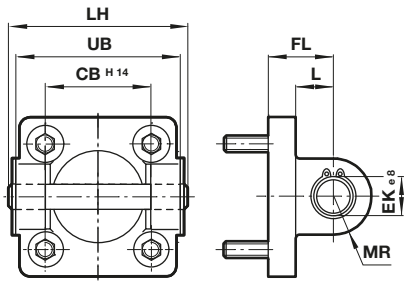
ø	E	ø FB	MF	R	TF	UF	(kg)	Model (B, G)
32	50	7	10	32	64	80	0,10	QA/8032/22
40	55	9	10	36	72	90	0,12	QA/8040/22
50	65	9	12	45	90	110	0,21	QA/8050/22
63	75	9	12	50	100	125	0,27	QA/8063/22
80	100	12	16	63	126	154	0,63	QA/8080/22
100	120	14	16	75	150	186	0,89	QA/8100/22

Foot mounting C
Conforms to ISO 15552, type MS1



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	6	41	98	63	0,80	QA/8080/21
100	14,5	71	19	6	41	115	75	0,95	QA/8100/21

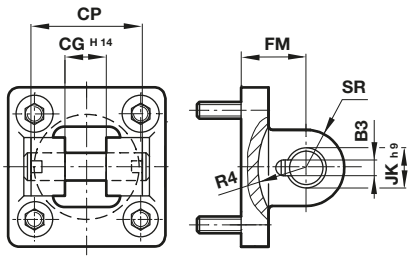
Rear clevis D
Conforms to ISO 15552, type MP2



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

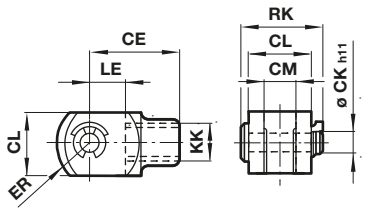
Rear clevis D2
Conforms to ISO 15552, type AB6

Dimensions in mm
Projection/First angle



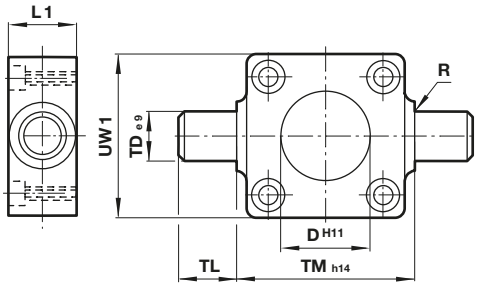
ø	CG H14	CP	B3	ø JK h9	FM	SR	R4	(kg)	Model (D2)
32	14	34	3,3	10	22	11	17	0,20	QA/8032/42
40	16	40	4,3	12	25	12	20	0,23	QA/8040/42
50	21	45	4,3	16	27	14,5	22	0,36	QA/8050/42
63	21	51	4,3	16	32	18	25	0,55	QA/8063/42
80	25	65	4,3	20	36	22	30	0,90	QA/8080/42
100	25	75	4,3	20	41	22	32	1,45	QA/8100/42

Piston rod clevis F
Conforms to DIN ISO 8140



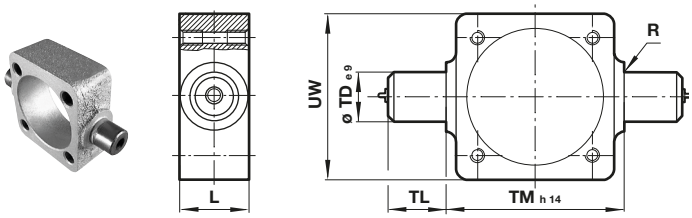
ø	KK	CE	ø CK h11	CL	CM	ER	LE	RK	(kg)	Model (F)
32	M10 x 1,25	40	10	20	10	16	20	27,5	0,09	QM/8025/25
40	M12 x 1,25	48	12	24	12	19	24	33,5	0,13	QM/8040/25
50/63	M16 x 1,5	64	16	32	16	25	32	42	0,33	QM/8050/25
80/100	M20 x 1,5	80	20	40	20	32	40	51	0,67	QM/8080/25

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



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

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



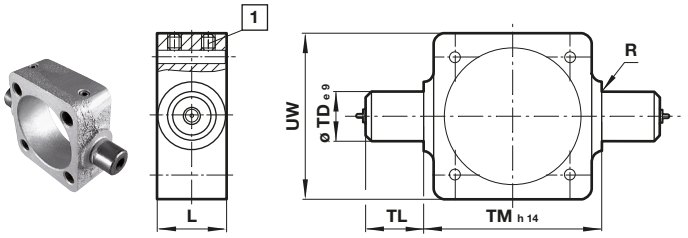
ø	L	R max.	ø TD e9	TL	TM h14	UW	XV min.	XV max. + #	(kg)	Model (H)
32	20	1	12	12	50	50	66	80	0,16	QA/8032/28
40	24	1,6	16	16	63	58	76	89	0,35	QA/8040/28
50	28	1,6	16	16	75	70	82	98	0,65	QA/8050/28
63	28	1,6	20	20	90	80	88	107	0,85	QA/8063/28
80	28	1,6	20	20	110	100	97	123	1,2	QA/8080/28
100	38	2	25	25	132	126	107	128	2,3	QA/8100/28

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 shoulder 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 Locking screws
Torque max: ø 32 & 40 mm = 6 Nm; ø 50 & 63 mm = 10 Nm;
ø 80 & 100 mm = 15 Nm

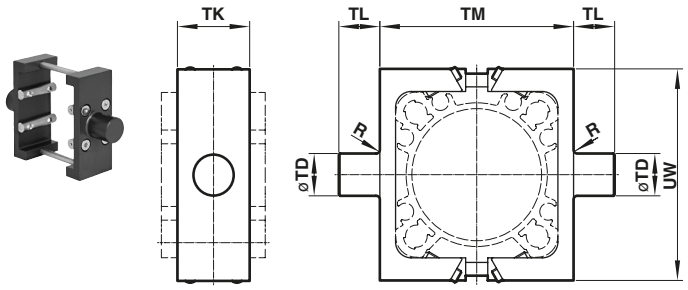
ø	L	R max.	ø TD e9	TL	TM h14	UW	XV min.	XV max. + #	(kg)	Model (UH)
32	20	1	12	12	50	50	65	81	0,16	QA/8032/40
40	24	1,6	16	16	63	58	76,5	88,5	0,35	QA/8040/40
50	28	1,6	16	16	75	70	84	96	0,65	QA/8050/40
63	28	1,6	20	20	90	80	87,5	107,5	0,85	QA/8063/40
80	28	1,6	20	20	110	100	102	118	1,2	QA/8080/40
100	38	2	25	25	132	126	112	128	2,3	QA/8100/40

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.

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



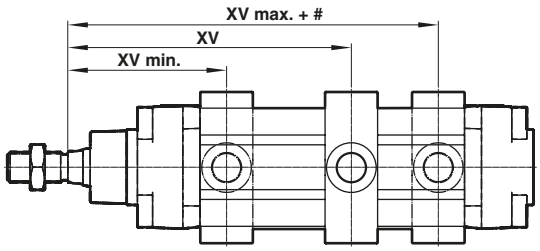
ø	R	ø TD e9	TK max.	TL h14	TM h14	UW	XV min.	XV max. + #	(kg)	Torque (Nm)	Model (UH)
32	1	12	25	12	50	58	67,5	78,5	0,06	1,3	PQA/802032/40
40	1,6	16	28	16	63	65	78,5	86,5	0,11	1,3	PQA/802040/40
50	1,6	16	28	16	75	80	84	96	0,16	4	PQA/802050/40
63	1,6	20	36	20	90	96	91,5	103,5	0,32	4	PQA/802063/40
80	1,6	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

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.

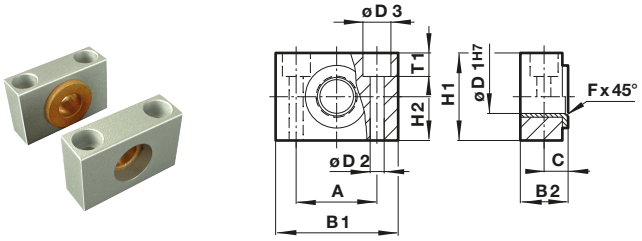
Unless otherwise specified, units will be supplied with dimension 'XV min'.
plus half the stroke length. 'XV' = Distance from the piston rod shoulder to the centre of the mounting (Please see drawing).

This item is adjustable and suited to normal loads.

Stroke

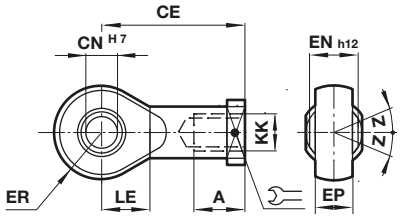


Trunnion support S
Conforms to ISO 15552, type AT4



ø	A	B 1	B 2	C	ø D1H7	ø D2	ø D3	F x 45°	H 1	H 2	T1	(kg)	Model (S)
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	16,5	25	14	20	2	50	25	13	0,34	QA/8100/41

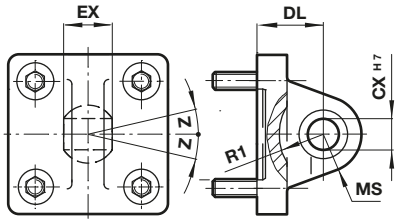
Universal piston rod eye UF
Conforms to DIN ISO 8139



ø	Thread KK	A	CE	ø CN H7	EN h12	ER	LE	Z	(kg)	Model (UF)
32	M10 x 1,25	20	43	10	14	14	15	9°	0,09	QM/8025/32
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

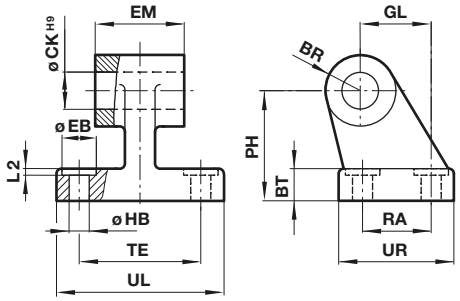
Universal rear eye UR
Conforms to ISO 15552, type MP6

Dimensions in mm
Projection/First angle



ø	ø CX H7	EX	MS	DL	R1	Z	(kg)	Model (UR)
32	10	14	16	22	13	13°	0,15	QA/8032/33
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

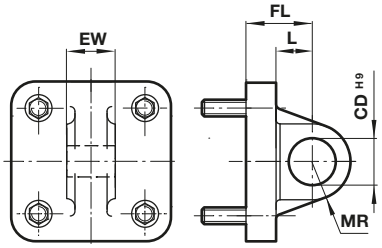
Wide hinge SW
Conforms to ISO 15552, type AB7



ø	BR	BT	PH	ø CK H9	ø EB	EM	GL
32	10	7	32	10	12	25,6	21
40	11	9	36	12	12	37,6	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

ø	ø HB	L2	RA	TE	UL	UR	(kg)	Model (SW)
32	6,6	1,6	18	38	50	31	0,05	M/P19493
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

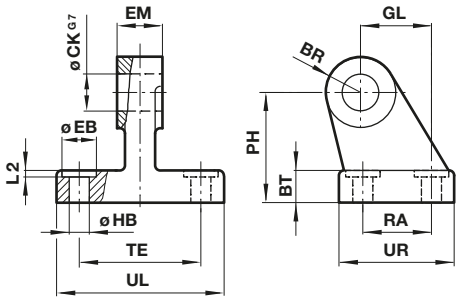
Rear eye R
Conforms to ISO 15552, type MP4



ø	ø CD H9	EW	FL	L	MR	(kg)	Model (R)
32	10	25,6	22	13	9	0,09	QA/8032/27
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

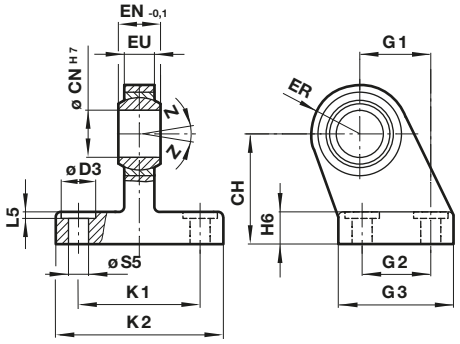
Narrow hinge SS

Dimensions in mm
Projection/First angle

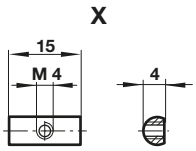


ø	BR	BT	ø CK G7	ø EB	EM	GL	ø HB	L2	PH	RA	TE	UL	UR	(kg)	Model (SS)
32	10	8	10	11	10	21	6,6	1,6	32	18	38	51	31	0,15	M/P19931
40	11	10	12	11	12	24	6,6	1,6	36	22	41	54	35	0,20	M/P19932
50	13	12	16	15	16	33	9	1,6	45	30	50	65	45	0,48	M/P19933
63	15	12	16	15	16	37	9	1,6	50	35	52	67	50	0,50	M/P19934
80	15	14	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

Swivel hinge US
Conforms to VDMA 24562 part 2

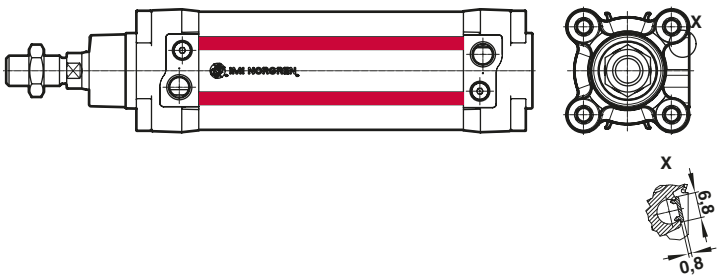


Groove key M/P72816
Weight: 0,01 (kg)



ø	CH	ø CN H7	ø D3	EN -0,1	ER	EU	G1	G2	G3	H6	K1	K2	L5	S5	Z	(kg)	Model (US)
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	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

Groove cover M/P72725/1000



- **Magnetically operating reed switch - Round style**
- **Suitable for all cylinder ranges with magnetic piston**
- **Switches can be mounted flush with the delivered special adaptor**
- **LED indicator on LSU models**
- **Alternative variants allows a wide range of application**

Technical features

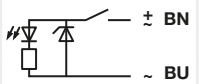
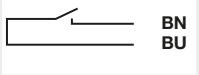
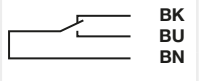
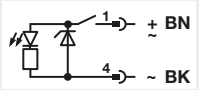
Operation:
M/50/LSU Normally open with LED (yellow)
Switching voltage (Ub):
10 ... 240 V a.c./170 V d.c.
Switching voltage output:
Ub - 2,7 V
Switching current (see graph overleaf):
0,18 A max.
Switching power:
10 W/10 VA max.

Contact resistance:
150 mΩ
Response time:
1,8 ms
Operating temperature:
-25 ... +80°C (-13°F ... +176°F)
High temperature version:
+150°C max.(+302 °F)
Protection rating (EN 60529):
IP 66
Shock resistance:
50 g (during 11 ms)

Vibration resistance:
35 g (at 2000 Hz)
Cable type:
2 x 0,25: PVC, PUR or silikone
3 x 0,25 PVC
Cable length:
2, 5 or 10 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 4.3.005

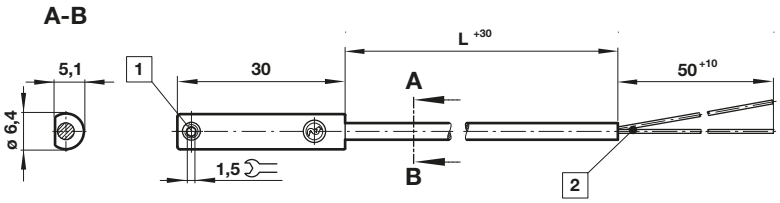
Symbol	Voltage (V a.c.)	Voltage (V d.c.)	Current maximum (mA)	Function	Operating temperature (°C)	LED	Protection class	Plug	Cable length (m)	Cable type	Weight (g)	Model
	10 ... 240	10 ... 170	180	Normally open	-25 ... +80	•	IP 66	—	2, 5 or 10	PVC 2 x 0,25	37	M/50/LSU/*V
	10 ... 240	10 ... 170	180	Normally open	-25 ... +80	•	IP 66	—	5	PUR 2 x 0,25	37	M/50/LSU/5U
	10 ... 240	10 ... 170	180	Normally open	-25 ... +150	—	IP 66	—	2	Silicon 2 x 0,25	37	TM/50/RAU/2S
	10 ... 240	10 ... 170	180	Changeover	-25 ... +80	—	IP 66	—	5	PVC 3 x 0,25	37	M/50/RAC/5V
	10 ... 60	10 ... 60	180	Normally open	-25 ... +80	•	IP 66	M8 x 1	0,3	PVC 3 x 0,25	16	M/50/LSU/CP *1)
	10 ... 60	10 ... 60	180	Normally open	-25 ... +80	•	IP 66	M12 x 1	0,3	PVC 3 x 0,25	16	M/50/LSU/CC *1)

* Insert cable length; *1) Plug-in connector see page 11

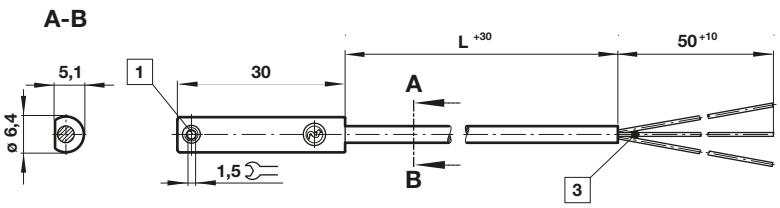
Dimensions

Dimensions in mm
Projection/First angle

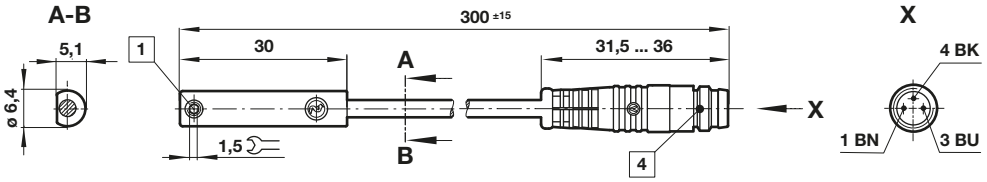
M/50/LSU/*V, M/50/LSU/5U, TM/50/RAU/2S
Cable length L = 2, 5 or 10 m



M/50/RAC/5V
Cable length L = 5 m



M/50/LSU/CP
M/50/LSU/CC



1 Fixing screw
2 + BN = brown; - BU = blue (output)
3 - BK = black; + BN = brown; - ≠BU = blue
4 Version CP: Plug M8 x 1, color code: BK = +; BN = -; BU = output
Version CC: Plug M12 x 1, color code: BK = +; BN = -; BU = output

Accessories

Plug-in connector cable with nut

Outer cover	Cable length (m)	Weight (kg)	Connector	Model
PVC 3 x 0,25	5	0,18	M8 x 1	M/P73001/5
PUR 3 x 0,25	5	0,18	M8 x 1	M/P73002/5
PUR 3 x 0,34	5	0,21	M12 x 1	M/P34594/5

- > Magnetically operating Solid state - Round style
- > Magnetically operating switch, solid state
- > Easy IO link Version available
- > Suitable for all cylinder ranges with magnetic piston
- > Switches can be mounted flush with the delivered special adaptor
- > Resistance, reliable switching with a very fast response time
- > Particularly suited for use in high levels of vibration
- > LED indicator as standard
- > CE verificated
- > UL certificated

Technical features

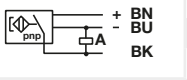
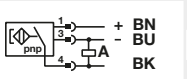
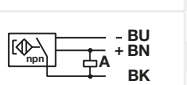
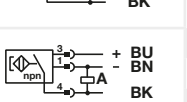
Operation:
M/50/EAP (PNP) open collector output with LED (yellow)
M/50/EAN (NPN) grounded emitter output with LED (yellow)
M/50/IOP (PNP) Easy IO link open collector output with LED (yellow)
Switching voltage (Ub):
10 ... 30 V d.c.
Switching voltage output:
Ub - 2 V
Inducted voltage:
0,5 V

Switching current (see graph overleaf):
150 mA max.
Switching power:
4,5 W max.
Response time:
< 0,5 ms
Operating frequency:
5 kHz
Protection rating (EN 60529):
IP 67 (standard)
IP 68 for type: M/50/EAP/5U

Operating temperature:
-40 ... +80°C (-40 ... 176°F)
(IP 67 & IP 68)
Cable type:
PVC 3 x 0,12 (standard)
PUR 3 x 0,14 (M/50/EAP/5U)
Cable length:
2, 5 and 10 m
Electromagnetic compatibility according to:
EN 60947-5-2

Materials:
Body: plastic
Cable: see table below

Technical data - Solid state - additional information see data sheet en 4.3.007

Symbol	Voltage (V d.c.)	Current maximum (mA)	Function	IO Link easy *2)	Operating temperature (°C)	LED	Protection class	Plug	Cable length (m)	Cable type	Weight (g)	Model
	10 ... 30	150	PNP		-40 ... +80	•	IP 67	—	2, 5 or 10	PVC 3 x 0,12	37	M/50/EAP/*V
	10 ... 30	150	PNP	•	-40 ... +80	•	IP 67	—	5	PVC 3 x 0,12	37	M/50/IOP/5V
	10 ... 30	150	PNP		-40 ... +80	•	IP 68	—	5	PUR 3 x 0,14	37	M/50/EAP/5U
	10 ... 30	150	PNP		-40 ... +80	•	IP 67	M8 x 1	0,3	PVC 3 x 0,14	16	M/50/EAP/CP *1)
	10 ... 30	150	PNP	•	-40 ... +80	•	IP 67	M8 x 1	0,3	PVC 3 x 0,14	16	M/50/IOP/CP *1)
	10 ... 30	150	PNP		-40 ... +80	•	IP 67	M12 x 1	0,3	PVC 3 x 0,14	16	M/50/EAP/CC *1)
	10 ... 30	150	NPN		-40 ... +80	•	IP 67	—	2, 5 or 10	PVC 3 x 0,12	37	M/50/EAN/*V
	10 ... 30	150	NPN		-40 ... +80	•	IP 67	M8 x 1	0,3	PVC 3 x 0,14	16	M/50/EAN/CP *1)

* Insert cable length; *1) Plug-in connector below; Color code: BK = black, BN = brown, BU = blue

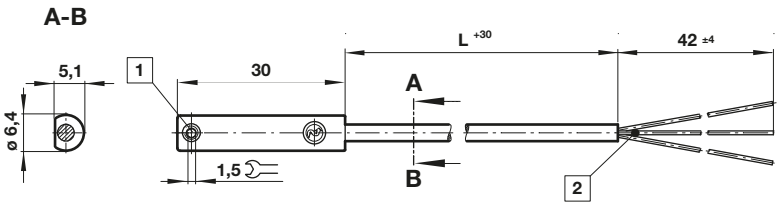
IO Link easy function

· Optical Adjustment
· Counter
· Temperature diagnostic
· Power LED

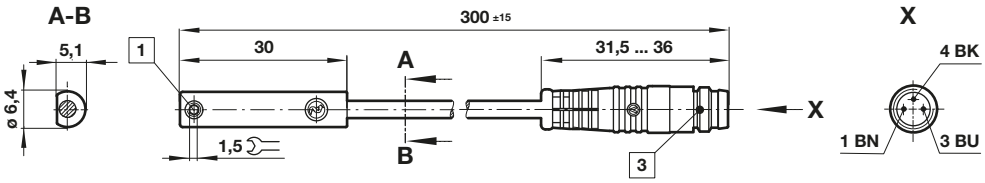
Dimensions

Dimensions in mm
Projection/First angle

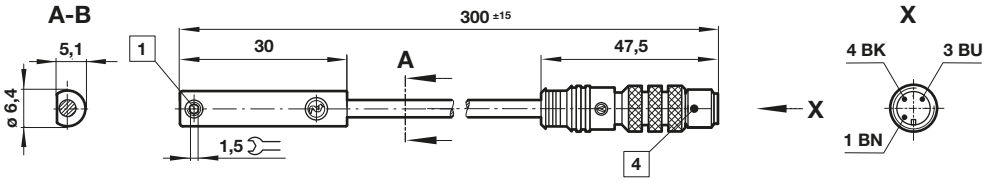
M/50/IOP/5V
Cable length L = 2, 5 or 10 m



M/50/IOP/CP



M/50/EAP/CC



1 Fixing screw
2 Color code:
BK = black; BN = brown; BU = blue
3 Plug M8 x 1
4 Plug M12 x 1

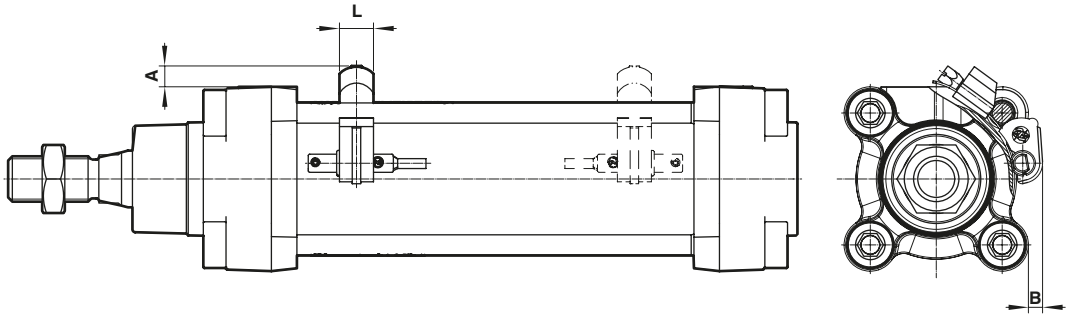
Accessories

Plug-in connector cable with nut

Outer cover	Cable length (m)	Weight (kg)	Connector	Model
PVC 3 x 0,25	5	0,18	M8 x 1	M/P73001/5
PUR 3 x 0,25	5	0,18	M8 x 1	M/P73002/5
PUR 3 x 0,34	5	0,21	M12 x 1	M/P34594/5

QM/27/2/1 – Switch mounting brackets for Round barrel Switch: M/50

ø	A	B	L	Weight (kg)	Model
32	9	6	12	0,010	QM/27/2/1
40	9	7	12	0,010	QM/27/2/1
50	7	5	12	0,010	QM/27/2/1
63	7	6	12	0,010	QM/27/2/1
80	4	4	12	0,010	QM/27/2/1
100	3	2	12	0,010	QM/27/2/1



- **Magnetically operating Reed switch & Solid state - Block style**
- **Suitable for all Rond barrel cylinder with magnetic piston**
- **Alternative materials allows a wide range of application**
- **Switch with plug**

Technical features

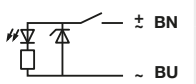
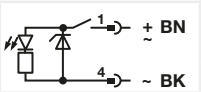
Operation:
TQM/31, QM/32 normally open with LED (yellow)
Switching voltage (Ub):
10 ... 240 V a.c./d.c.
Switching voltage output:
Ub - 2 V (QM/32)
Switching current (see graph overleaf):
1 A max. (QM/32)
Switching power:
50 W/50 VA max.

Contact resistance:
100 mΩ
Response time:
3 ms
Operating temperature:
-20 ... +80°C (-4 ... +176°F)
High temperature version:
+150°C max. (TQM/31) (+302°F)
Protection rating (EN 60529):
IP 66
Shock resistance:
50 g (during 11 ms)

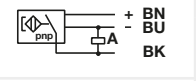
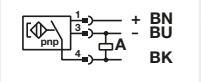
Vibration resistance:
35 g (50 to 2000 Hz)
Cable type:
PVC 2 x 0,75, PUR 2 x 0,75
VMQ 2 x 0,75 (TQM/31)
Cable length:
2, 5 or 10 m
Electromagnetic compatibility according to:
EN 60947-5-2

Materials:
Body: plastic
Cable: see table below

Technical data - Reed switches - additional information see data sheet en 4.3.021

Symbol	Voltage (V a.c./V d.c.)	Current maximum (A)	Function	Temperature (°C)	LED	Protection class	Features	Cable length (m)	Cable type	Weight (g)	Model
	10 ... 240	1	Normally open	-20 ... +80	•	IP 66	—	2, 5 or 10	PVC 2 x 0,75	108 (2 m)	QM/32/*
	10 ... 240	1	Normally open	-20 ... +80	•	IP 66	—	2	PUR 2 x 0,75	108	QM/32/2/PU
	10 ... 240	2	Normally open	-20 ... +150	—	IP 66	High temperature	2, 5 or 10	Silicon 2 x 0,75	102 (2 m)	TQM/31/*
	10 ... 240	1	Normally open	-20 ... +80	•	IP 66	Plug M12 x 1	—	—	15	QM/32/P *1)

Technical data - Solid state - additional information see data sheet en 4.3.025

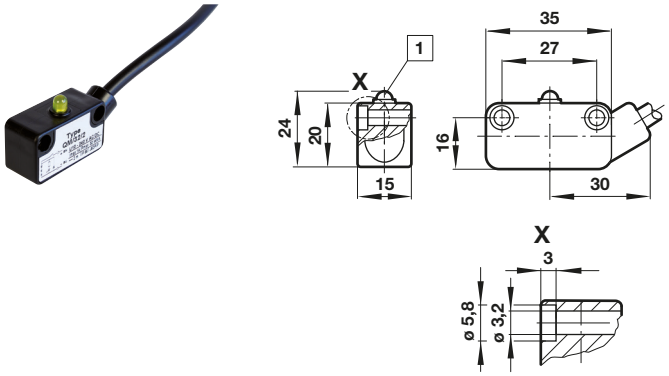
Symbol	Voltage (V d.c.)	Current maximum (mA)	Function	Temperature (°C)	LED	Protection class	Features	Cable length (m)	Cable type	Weight (g)	Model
	10 ... 30	200	PNP	-20 ... +80	•	IP 66	—	2, 5 or 10	PVC 3 x 0,5	102 (2 m)	QM/132/*
	10 ... 30	200	PNP	-20 ... +80	•	IP 66	—	5	PUR 3 x 0,34		QM/132/5/PU
	10 ... 30	200	PNP	-20 ... +80	•	IP 66	Plug M12 x 1			15	QM/132/P *1)

* Insert cable length
*1) Plug-in connector see page below; Color code: BK = black, BN = brown, BU = blue

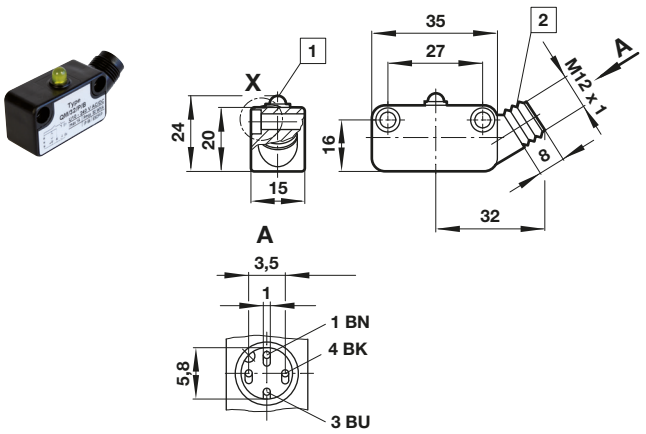
Dimensions

TQM/31, QM/32, QM/132

Dimensions in mm
Projection/First angle



QM/32/P, QM/132/P



1 LED (yellow)
2 Plug M12 x1
Color code
BK = black
BN = brown
BU = blue

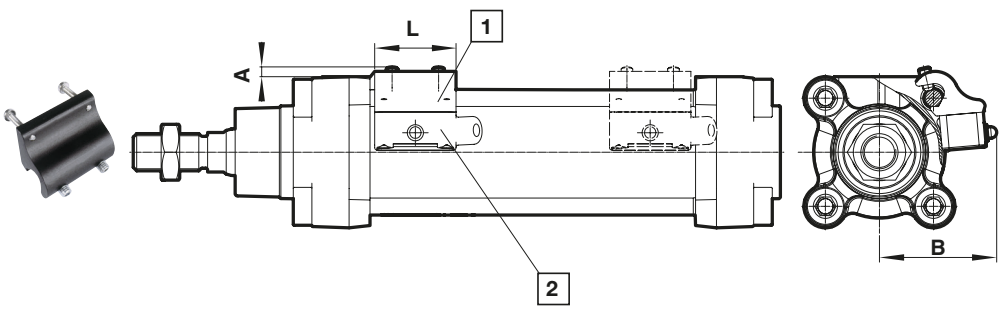
Accessories

Plug-in connector cable with nut

Outer cover	Cable length (m)	Weight (kg)	Connector	Connector
PVC 3 x 0,34	5	0,21	M12 x 1	M/P34692/5
PUR 3 x 0,34	5	0,21	M12 x 1	M/P34594/5

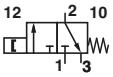
QM/31/000/22 – Switch mounting brackets for Round barrel Switches: TQM/31, QM/32, QM/132

Cy. ø	A	B	Weight (kg)	Model
32	5	42	0,026	QM/31/032/22
40	4,5	46	0,026	QM/31/032/22
50	4,5	50,5	0,026	QM/31/032/22
63	4	56,5	0,026	QM/31/032/22
80	2	62,5	0,028	QM/31/080/22
100	1,5	70,5	0,028	QM/31/080/22



1 Bracket
2 Switch

- **Pneumatic proximity sensor**
- **Port size: ø 3 mm**
- **Optical pressure indicator signals position**
- **Non-contact sensing with pneumatic output**
- **Intrinsically safe – no problem in explosion areas**



Technical features

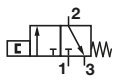
Medium:
Compressed air, filtered and non-lubricated
Operation:
Pneumatic proximity switch for non-contact sensing via a magnetic field
Operating pressure:
2 ... 6 bar (29 ... 87 psi)
Connections:
Pipes for 3 mm I/D tubing

Vibration resistance:
10 ... 50 Hz (to IEC 68 T. 2-27)
Shock resistance:
500 m/s² over a period of 5 ms (to IEC 68 T. 2-27)
Flow rate:
40 l/min
Orifice size:
2 mm
Repeatability:
± 0,2 mm
Can be used with cylinder:
ø 32 ... 100 mm

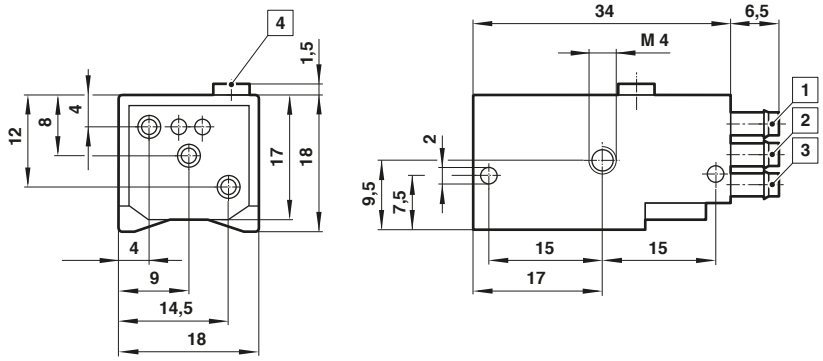
Operating temperature:
-15 ... +60°C (+5 ... +140°F)
Humidity and water content:
Air supply must be dry. Corresponding of the application and working conditions the air must be dry enough to avoid condensate. The pressure dewpoint must be minimum 15°C under the application and working conditions.

Materials
Body: Plastic
Pipe connectors: Brass
Holding strap: CU ZU 37 (brass)

Pneumatic proximity sensor - additional information see data sheet en 4.3.061

Symbol	Operating pressure	Flow rate	Orifice size	Optical indicator	Connections	Model
	2 ... 6 bar	40 l/min	2 mm	•	Pipes for 3 mm I/D tubing	QM/140

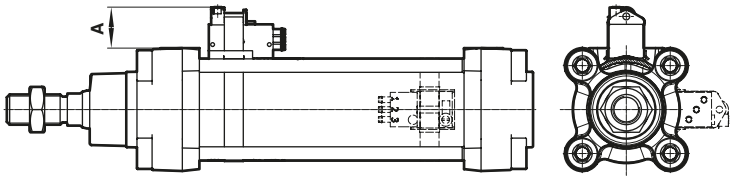
Dimensions



1 Compressed air port 1
2 Output port 2
3 Exhaust port
4 Optical indicator

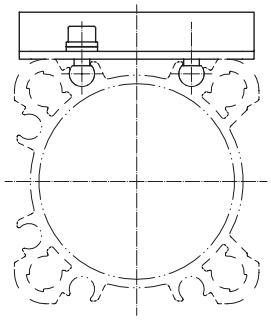
QM/140/010/22 – Bracket with holding strap
Pneumatic switch: QM/140

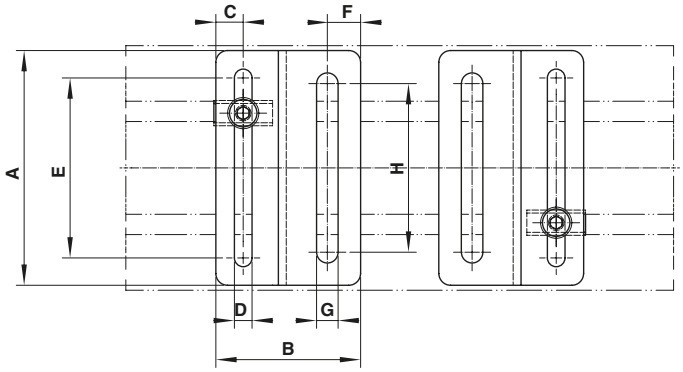
Dimensions in mm
Projection/First angle

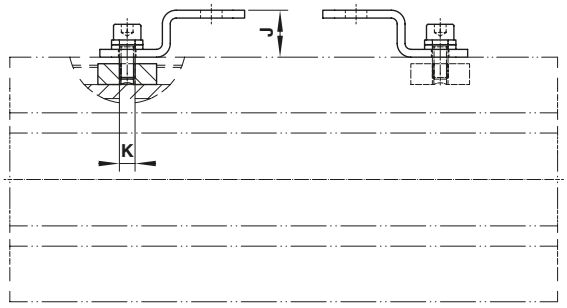


ø	A (Round barrel)	(kg)
32	22	0,020
40	23	0,020
50	22	0,020
63	24	0,020
80	23	0,020
100	24,5	0,020

Valve mounting kit for Profile barrel



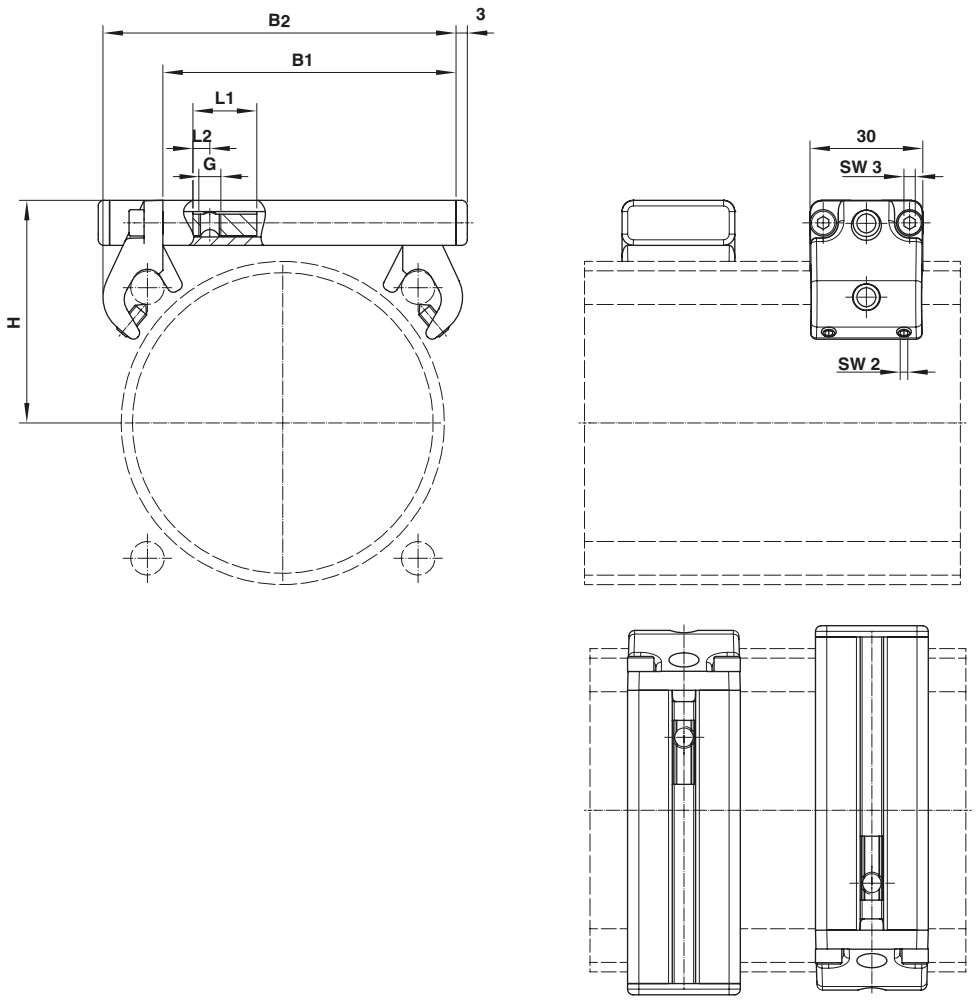




ø	A	B	C	D	E	F	G	H	J	K	SW	(kg)	Model
50/63	60	37	7	4,5	46	8,5	5,5	43	12	M4	3	0,08	PQA/802050/22/54
80/100	90	37	7	4,5	76	8,5	6,5	70	12	M4	3	0,11	PQA/802080/22/54

Valve mounting kit for Round barrel

Dimensions in mm
Projection/First angle



ø	B1	B2	H	L1	L2	G	kg	Model
63	61,5	77,5	50	17	4,5	M4	0,13	QA/8063/22/55/4
63	61,5	77,5	50	17	4,5	M5	0,13	QA/8063/22/55/5
63	61,5	77,5	50	17	4,5	M6	0,13	QA/8063/22/55/6
80	78	94	59,5	17	4,5	M4	0,14	QA/8080/22/55/4
80	78	94	59,5	17	4,5	M5	0,14	QA/8080/22/55/5
80	78	94	59,5	17	4,5	M6	0,14	QA/8080/22/55/6
100	97	113	68	17	4,5	M4	0,19	QA/8100/22/55/4
100	97	113	68	17	4,5	M5	0,19	QA/8100/22/55/5
100	97	113	68	17	4,5	M6	0,19	QA/8100/22/55/6

Recommended Valves

Cylinder		Tubing	Valve		Recommended Valve Range Inline Valve V60		ISO Valve
							
ø	**Port size**	**ø**	**Flow l/min**	**Valve port size**			
32	G1/8	6/4	250	1/8"	V60		
40	G1/4	6/4	250	1/8"	V60		
50	G1/4	6/4	250	1/8"	V60		
63	G3/8	8/6	750	1/8"	V60		
80	G3/8	10/7	1250	1/4"	V61	ISO Star	UM/22000
100	G1/2	10/7	1250	1/4"	V61	ISO Star	UM/22000

Customer Solution Cylinder valve unit
For additional information please contact the 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
IMI Precision Engineering, Norgren GmbH.

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.