Fast Find Guide

Please note: These products represent only part of the IMI Precision Engineering actuator range.
If you can't see the option you require please contact us.

■ Single Acting
■ Double Acting

Roundline Cylinders

RM/28000/M ■ (Single Acting)
ISO 6432
Ø 10 … 25 mm

Page 22

RM/8000/M ■ (Double Acting)
ISO 6432
Ø 10 … 25 mm

EXPRESS Page 23

RT/57100/M
RT/57300/M ■ (Single Acting)
Ø 10 … 40 mm

Page 26

RT/57200/M ■ (Double Acting)
Ø 10 … 63 mm

EXPRESS Page 27

RM/55401/M ■ (Double Acting)
Ø 32 … 100 mm

Page 31

M/6000 ■ (Double Acting)
Ø 10 … 25 mm

Page 34

VSM/55600/N2 ■ (Double Acting)
Ø 25 and 40 mm

Page 35

Compact Cylinders

RA/191000/M, …/MX
RA/193000/M, …/MX ■ (Single Acting)
ISO 21287
Ø 20 … 63 mm

Page 38

RA/192000/M
RA/192000/MX ■ (Double Acting)
ISO 21287
Ø 20 … 125 mm

EXPRESS Page 40

RM/91000/M
RM/9300/M ■ (Single Acting)
Ø 20 … 63 mm

Page 48

RM/92000/M ■ (Double Acting)
Ø 12 … 100 mm

EXPRESS Page 49

M/50100 ■ (Single Acting)
Ø 8 … 63 mm

Page 53

M/50200 ■ (Double Acting)
Ø 8 … 63 mm

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Profile and Round Barrel Cylinders

PRA/801000/M,
PRA/803000/M,
RA/801000/M,
RA/803000/M ■ (Single Acting)
ISOLINE™ CYLINDER
Ø 32 … 100 mm

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PRA/802000/M,
RA/802000/M, RA/8000,
RA/8000/M ■ (Double Acting)
ISOLINE™ CYLINDER
Ø 32 … 320 mm

EXPRESS Page 60

PRA/802000/M/EX,
RA/802000/M/EX ■ (Double Acting)
ISOLINE™ CYLINDER
Ø 32 … 125 mm

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PRA/822000/M
Smoothline ■ (Double Acting)
ISO 15552
Ø 32 … 100 mm

Page 69

PRA/842000/M
Cleanline ■ (Double Acting)
ISO 15552
Ø 32 … 100 mm

Page 72

RA/802000/L4 &
PRA/802000/M ■ (Double Acting)
Ø 32 … 125 mm

Page 76

PRA/862000/M
IVAC Industrial ■ (Double Acting)
Ø 32 … 100 mm

Page 78

PRA/882000/M
IVAC Cleanline ■ (Double Acting)
Ø 32 … 100 mm

EXPRESS Page 80

RM/680000/M, RM/680000
Double acting

Page 88

RM/900 ■ (Double Acting)
Ø 1,25 … 14"

Page 97

M/3000 ■ (Double Acting)
Ø 2 … 6"

Page 99

M/1525 & M/1540 ■ (Double Acting)
Ø 2 1/2", 4" bore

Page 100

M/1000
Heavy duty cylinder
Ø 2 … 12"

Page 101

Fast Find Guide

Please note: These products represent only part of the IMI Precision Engineering actuator range.
If you can't see the option you require please contact us.

■ Single Acting
■ Double Acting

Cylinders with Guiding

M/60100/M ■ Ø 10 … 40 mm  Page 103	**M/61000/M, M/61000/MR** ■ Ø 32 … 100 mm  Page 105

Lintra® Rodless Cylinders

M/146000 ■ **Internal Guide** Ø 16 … 80 mm  EXPRESS Page 108	**M/146100** ■ **External Guide** Ø 16 … 80 mm  EXPRESS Page 111	**M/146200** ■ **Precision Roller Guide** Ø 16 … 63 mm  Page 113	**OTHER LINTRA®** **RODLESS CYLINDERS** **Pneumatic & Electric**  Page 115

Rotary Actuators

M/60280 ■ Rotation angles 30° … 270°  Page 117	**M/162000/MI** ■ Ø 32 … 125 mm  Page 119

Stainless Steel

KM/8000/M ■ ISO 6432 Ø 12 … 25 mm  Page 121	**KA/8000/M** ■ ISO/VDMA/NFE Ø 32 … 200 mm  Page 124	**KM/31000** ■ Ø 8 … 14 1/2"  Page 126	**KM/55001/M** ■ Ø 32 … 125 mm  Page 127

Air Bellows

PM/31000 ■ Ø 2 3/4 … 12"  EXPRESS Page 129	**M/31000 & M/32000** ■ Ø 6 … 26"  EXPRESS Page 131

Fast Find Guide

Please note: These products represent only part of the IMI Precision Engineering actuator range. If you can't see the option you require please contact us.

- Single Acting
- Double Acting

Shock Absorbers

ACE Shock Absorbers
MC Series
Self-compensating

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ACE Shock Absorbers
MA Series
Adjustable

Page 134

Air/Oil Pressure Converter

M/55900
0,25 … 5 dm^3

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Switches

M/50 (Reed and solid state)

EXPRESS Page 137

QM/132 (Solid state)
TQM/31 (Reed)
QM/32 (Reed)

Page 139

QM/140 (Pneumatic)
Ø 3 mm

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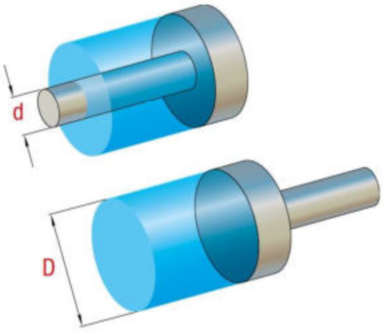
We help move
man's **most**
marvellous
machines
IMI NORGREN

CYLINDER SIZING AND SPEED CONTROL

Cylinder sizing for thrust

The theoretical thrust (outstroke) or pull (instroke) of a cylinder is calculated by multiplying the effective area of the piston by the working pressure. The effective area for thrust is the full area of the cylinder bore. The effective area for pull is reduced by the cross section area of the piston rod.

Current practice specifies bore (D) and piston rod diameter (d) in millimetres and working pressure (P) in bar gauge. In the formula, P is divided by 10 to express pressure in Newtons (N)



The theoretical force (F) is given by

Thrust $F = \frac{\pi D^2 P}{40} = N$

Pull $F = \frac{\pi (D^2 - d^2) P}{40} = N$

Where

D = Cylinder bore in millimetres

d = Piston rod diameter in millimetres

P = Pressure in bar

F = Thrust or Pull in Newtons

Example: Find the theoretical thrust and pull of a 50 mm bore cylinder supplied with a pressure of 8 bar

Thrust $F = \frac{\pi 50^2.8}{40} = 1571\ N$

Pull $F = \frac{\pi (50^2 - 20^2).8}{40} = 1319\ N$

Table of thrust and pulls, double acting cylinders

Cylinder bore mm (inches)	Piston rod diameter mm (inches)	Thrust N at 6 bar	Pull N at 6 bar
8	3	30	25
10	4	47	39
12	6	67	50
16	6	120	103
20	8	188	158
25	10	294	246
32	12	482	414
40	16	753	633
44,45 (1,75)	16	931	810
50	20	1178	989
63	20	1870	1681
76,2 (3)	25	2736	2441
80	25	3015	2721
100	25	4712	4418
125	32	7363	6881
152,4 (6)	(1,5)	10944	10260
160	40	12063	11309
200	40	18849	18095
250	50	29452	28274
304,8 (12)	(2,25)	43779	42240
320	63	48254	46384
355,6 (14)	(2,25)	59588	58049

Correct sizing of pneumatic actuators is based upon knowledge of the required force and the applied air pressure. Theoretical thrust and pull of both single and double acting cylinders is shown on the accompanying tables and is calculated by multiplying the effective piston area by the working pressure. Units are generally shown in Newtons (kg x 9,81 = N). Note the difference in thrust and pull figures on double acting rodded cylinders due to the reduction made by the piston rod area. These figures are purely theoretical, and make no allowance for frictional losses, pressure differences, leakage, or a 'safety factor'. It is strongly recommended that a factor of safety be included in all sizing calculations – on all dynamic applications this should be 50%, and on static applications 5%.

Pneumatic actuators generally work best and can be better controlled when well within their load capacity, and this safety factor should always be considered to reduce potential issues during operation. In addition, when working at ultra slow speeds, control will be improved if the cylinder is oversized and working well within it's total capacity. All figures shown represent theoretical thrust at 6 bar (gauge). For working pressures other than this figure, simply divide the figure shown by 6 and multiply by the desired pressure to arrive at new values.

Table of consumption

Bore mm	Rod mm	Push stroke consumption dm^3/mm of stroke at 6 bar	Pull stroke consumption dm^3/mm of stroke at 6 bar	Combined consumption dm^3/mm of stroke/cycle
10	4	0,00054	0,00046	0,00100
12	6	0,00079	0,00065	0,00144
16	6	0,00141	0,00121	0,00262
20	8	0,00220	0,00185	0,00405
25	10	0,00344	0,00289	0,00633
32	12	0,00563	0,00484	0,01047
40	16	0,00880	0,00739	0,01619
50	20	0,01374	0,01155	0,02529
63	20	0,02182	0,01962	0,04144
80	25	0,03519	0,03175	0,06694
100	25	0,05498	0,05154	0,10652
125	32	0,08590	0,08027	0,16617
160	40	0,14074	0,13195	0,27269
200	40	0,21991	0,21112	0,43103
250	50	0,34361	0,32987	0,67348

Table of thrust and pulls, single acting cylinders

Cylinder bore mm (inches)	Thrust N at 6 bar	Pull N at 6 bar
10	37	3
12	59	4
16	105	7
20	165	14
25	258	23
32	438	27
40	699	39
50	1102	48
63	1760	67
80	2892	86
100	4583	99

Load and buckling

Go to page 162 for more information on Golden Rules and Load and Buckling.

OFFER OPTIMUM GUIDING

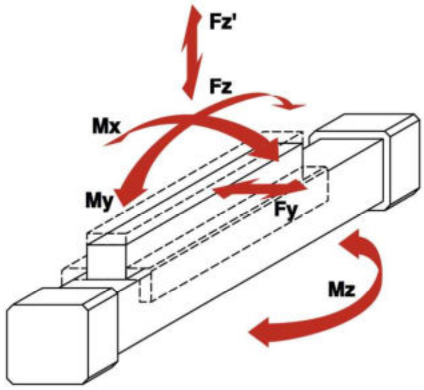
Loading values for Lintra® cylinders

The values given in the table below show the single forces in the directions Fy and Fz and the maximum moments Mx, My and Mz. All values are applicable only for speeds of max. 0,2 m/s. A requirement for using these values is a constant movement (no jerking) of the mass over the whole stroke length of the cylinder. The reference point from which the moments for all cylinders should be calculated is the centre line of the pistons.

For speeds up to 2 m/s please use our calculation programme LINTRA® PNEUCALC. It is available upon request.

When a LINTRA® cylinder has to take several loads and moments, an additional calculation is necessary using this formula:

$$\frac{Mx}{Mx\ max.} + \frac{My}{My\ max.} + \frac{Mz}{Mz\ max.} + \frac{Fy}{Fy\ max.} + \frac{Fz}{Fz\ max.} \leq 1$$



A44000, M/44000 – Internal guiding system

Ø mm	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
16	–	–	–	–	–
20	–	–	–	–	–
25	90	280	1	13	4
32	120	370	2	21	6
40	240	720	4	56	16
50	–	–	–	–	–
63	–	–	–	–	–
80	–	–	–	–	–

M/146000 – Internal guiding system

Ø mm	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
16	40	120	0,3	3,8	1,1
20	90	280	0,9	12	3,6
25	125	385	1,5	19	5,6
32	165	500	3	33	10
40	330	990	6,5	84	24
50	440	1320	11	120	35
63	690	2000	20	240	70
80	780	2300	27	360	100

M/146100 – External adjustable guiding system

Ø mm	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
16	200	200	2	5,5	5,5
20	470	470	6	18	18
25	590	590	9	28	28
32	780	780	17	43	43
40	1600	1600	39	110	110
50	2000	2000	65	160	160
63	3200	3200	120	350	350
80	3900	3900	180	520	520

M/146200 – Precision roller guiding system

Ø mm	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
16	–	–	–	–	–
20	–	–	–	–	–
25	590	1180	13	42	42
32	780	1560	25	64	64
40	1500	3000	58	160	160
50	2000	4000	97	240	240
63	3200	6400	180	520	520
80	–	–	–	–	–

M/46800/M – Internal guiding system

Ø mm	Fy (N)	Fz (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
16	–	–	–	–	–	–
20	4500	5000	4500	350	410	370
25	4500	5000	4500	350	410	370
32	–	–	–	–	–	–
40	–	–	–	–	–	–
50	–	–	–	–	–	–
63	–	–	–	–	–	–
80	–	–	–	–	–	–

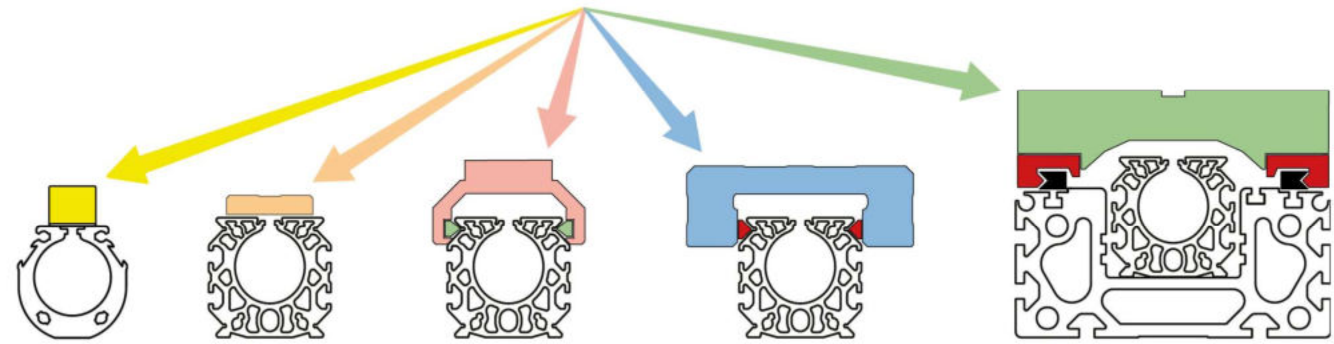
M/46800/HM – Heavy duty guiding system 2

Ø mm	Fy (N)	Fz (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
16	–	–	–	–	–	–
20	–	–	–	–	–	–
25	4500	5000	4500	450	620	580
32	4500	5000	4500	450	620	580
40	4500	5000	4500	450	620	580
50	–	–	–	–	–	–
63	–	–	–	–	–	–
80	–	–	–	–	–	–

M/46800/PM – Heavy duty guiding system

Ø mm	Fy (N)	Fz (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
16	3000	3000	3000	80	300	300
20	–	–	–	–	–	–
25	4200	5000	4200	250	500	500
32	–	–	–	–	–	–
40	7200	8500	7200	600	1200	1200
50	–	–	–	–	–	–
63	10000	12000	10000	1200	2400	2400
80	–	–	–	–	–	–

The Lintra® guiding systems



A44000, M/44000 Internal guiding

M/146000 Internal guiding

M/146100 External adjustable guiding

M/146200 Precision roller guiding

M/46800 Heavy duty guiding

TECHNICAL DATA

Actuator sizing, control and air consumption

Technical option range selector

	Bore size	Max. stroke length	Single / Double acting	Sprung in / out (single acting)	Cushioning type	Non magnetic / magnetic	End cap with integral eye mount	End cap with axial port	Flat faced end cap	Non rotating piston rod	Double ended piston rod	Piston rod locking unit	Extended piston rod	Heavy duty wiper seal	Chrome plated piston rod	Stainless steel piston rod	Female piston rod thread	Guided piston rod	Precision guided piston rod	Low friction version	Tandem cylinder	Multi-position cylinder	High temperature seals	Hydraulic version	Piston rod bellows	Non cushioned	Dual ported end cap	Adjustable end position	External hydraulic damping	Female pinion	Impact cylinder	Air bellows	Fixed range positioner
RM/28000	10-25 mm	50 mm	S	In only	Fixed	Magnetic only	*S	Y	Y																								
RM/8000	10-25 mm	500 mm	D		fixed as standard adjustable option	Magnetic only	*S	Y	Y	Y	Y	Y	Y										Y										
RT/57100 & RT/57300	8-40 mm	50 mm	S	Both	Fixed	Magnetic only	*S	Y	Y																								
RT/57200	8-63 mm	500 mm	D		Fixed	Magnetic only	*S	Y	Y		Y																						
RM/55401	32-100 mm	3000 mm	D		Adjustable	Magnetic only					Y		Y	Y	Y	Y																	
RA/191000 & RA/193000	20-63 mm	50 mm	S	Both	Fixed	Magnetic only				Y			Y			Y	Y																
RA/192000	20-125 mm	500 mm	D		Fixed	Magnetic only				Y	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y										
RM/91000 & RM/93000	20-63 mm	50 mm	S	Both	Fixed	Magnetic only				Y							*S																
RM/92000	12-100 mm	300 mm	D		None	Magnetic only				Y	Y		Y				*S	Y					Y										
M/50100	8-63 mm	25 mm	S	In only	None	Magnetic only											*S																
M/50200	8-63 mm	25 mm	D		None	Magnetic only					*S						*S																
PRA/181000 & PR/183000	32-100 mm	250 mm	S	Both	Adjustable	Both				Y				Y	Y	Y																	
PRA/182000	32-125 mm	3000 mm	D		Adjustable	Both				Y	Y	Y	Y	Y	Y	Y				Y			Y	Y	Y	Y							
RA/8000	32-320 mm	3000 mm	D		Adjustable	Both				Y	Y	Y	Y	Y	Y	Y				Y			Y	Y	Y	Y							
M/146000, M/146100, M/1462000	16-80 mm	8500 mm	D		Adjustable	Both																					*S						
M/60100	10-40 mm	225 mm	D		Fixed	Magnetic only					*S								*S														
M/61000	32-100 mm	100 mm	D		Fixed	Magnetic only					*S								*S														
M/60280		270°	D		Fixed	Non																						Y	Y				
M/162000	32-125 mm	360°	D		Adjustable	Both																						Y		Y			
KM/8000	12-25 mm	500 mm	D		Fixed or Adjustable	Magnetic	*S		Y		Y	Y	Y			*S																	
KA/8000	32-200 mm	2500 mm	D		Adjustable	Both					Y	Y	Y	Y		*S							Y			Y							
PM/31000	2,75-12"	320 mm	S																													Y	
M/31000	6 - 26"	430 mm	S																													Y	
RM/900	1,25-14"	2500 mm	D		Adjustable	Both					Y					Y	Y						Y		Y								
M/3000	2-6"	Not valid	D		Not valid	Not valid																									Y		
M/15**	2,5-4"	200 mm	D																														Y
M/6000	10-25 mm	150 mm	D		Fixed	None	*S																										
M/1000	2,5-12"	2500 mm	D		None	magnetic					Y		Y		*S	Y	Y						Y		Y								

*S = Standard. Y = Variant available please contact the technical service.

ISO Roundline
cylinders

Load too
Heavy?

Anything more
compact?

When applying pneumatic actuators to lighter duty, lower force applications, many machine builders tend to select a simple 'roundline' product. The most common of these are actuators that conform to ISO6432, a dimensional standard ensuring interchangeability between manufacturers.

A number of features make the ISO roundline cylinders stand apart from the competition:

> IMI Precision Engineering uses a 'Z' type low friction seal to support both low and high speed applications with operating life up to 10 million cycles

> The standard actuator is fully non-corrodible in standard applications. For more arduous environments, you can choose a stainless version

> If you're looking for a more specialised and cost-effective solution, choose from double ended or non-rotating piston rods, add a rod lock, select different end-cap styles to save space, add a guide block to improve load capacity, or fit high temperature seals

> Uses the standard IMI Norgren M/50 series switch (reed or solid state) as fitted to virtually the entire IMI Norgren actuator range

Engineering
GREAT Solutions

Find out more
www.imi-precision.com

IMI NORGREN

ISO ROUNDLINE CYLINDERS

RM/28000/M Single acting, ISO 6432 – Ø 10 … 25 mm

- Perfect for small to medium force applications
- Low friction 'Z' seals offer both high and low speed working and extremely long life
- Unit is fully non corrodible reducing the need for costly protection in more aggressive environments
- Choice of three end cap styles, and other technical variants, allows a wider use of standard products

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Single acting (sprung in), magnetic piston, buffer cushioning

Operating pressure:
2 … 10 bar

Operating temperature:
-10°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel:
Stainless steel (austenitic)

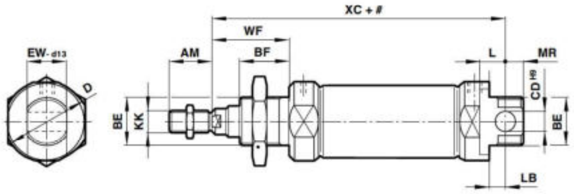
End covers:
Clear anodised aluminium alloy

Piston rod:
Stainless steel (austenitic)

Buffer:
PUR

Seals:
NBR

Dimensions



= Stroke

Dia. Ø	AM	BE	BF	Ø CD H9	Ø D	EW d13	KK	L	LB	MR	WF	XC
10	12	M12x1,25	12	4	16,5	7,9	M4	6	2	8	16	64
12	16	M16x1,5	17	6	21	11,9	M6	9	3	8	22	75
16	16	M16x1,5	17	6	21	11,9	M6	9	4	7	22	82
20	20	M22x1,5	20	8	30	15,9	M8	12	3	11	24	95
25	22	M22x1,5	22	8	30	15,9	M10x1,25	12	7	9	28	104

Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting <15 mm stroke	Switch mounting ≥15 mm stroke	Straight fitting	Elbow fitting
									
RM/28010/M/10	10	10	M5	4	M/50/LSU/5V	QM/33/010/23	–	C02250405	C02470405
RM/28010/M/25	10	25	M5	4	M/50/LSU/5V	–	QM/33/010/22	C02250405	C02470405
RM/28010/M/50	10	50	M5	4	M/50/LSU/5V	–	QM/33/010/22	C02250405	C02470405
RM/28012/M/10	12	10	M5	6	M/50/LSU/5V	QM/33/016/23	–	C02250405	C02470405
RM/28012/M/25	12	25	M5	6	M/50/LSU/5V	–	QM/33/012/22	C02250405	C02470405
RM/28012/M/50	12	50	M5	6	M/50/LSU/5V	–	QM/33/012/22	C02250405	C02470405
RM/28016/M/10	16	10	M5	6	M/50/LSU/5V	QM/33/016/23	–	C02250405	C02470405
RM/28016/M/25	16	25	M5	6	M/50/LSU/5V	–	QM/33/016/22	C02250405	C02470405
RM/28016/M/50	16	50	M5	6	M/50/LSU/5V	–	QM/33/016/22	C02250405	C02470405
RM/28020/M/10	20	10	G1/8	8	M/50/LSU/5V	QM/33/020/23	–	C02250618	C02470618
RM/28020/M/25	20	25	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C02250618	C02470618
RM/28020/M/50	20	50	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C02250618	C02470618
RM/28025/M/10	25	10	G1/8	10	M/50/LSU/5V	QM/33/025/23	–	C02250618	C02470618
RM/28025/M/25	25	25	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C02250618	C02470618
RM/28025/M/50	25	50	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C02250618	C02470618

Service kits are not available for this range of cylinders.
For information on alternative magnetic switches see pages 137 - 141.
Other stroke lengths available up to 50 mm maximum, please contact us.
For mountings, refer to double acting versions as shown on page 25.
For alternative fitting types, shapes or sizes, refer to our fittings section.

Options

- Cylinder with central rear port
- Cylinder with flat rear cover

ISO ROUNDLINE CYLINDERS

RM/8000/M Double acting, ISO 6432 – Ø 10 … 25 mm

- Perfect for small to medium force applications
- Low friction 'Z' seals offer both high and low speed working and extremely long life
- Unit is fully non corrodible reducing the need for costly protection in more aggressive environments
- Choice of three end cap styles, and other technical variants, allows a wider use of standard products

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, magnetic piston with buffer or adjustable air cushioning

Operating pressure:
1 … 10 bar

Ambient temperature:
-10°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel:
Stainless steel (austenitic)

End covers:
Clear anodised aluminium alloy

Piston rod:
Stainless steel (austenitic)

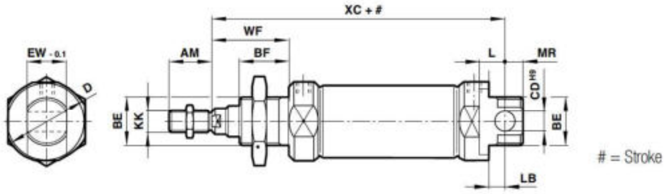
Buffer:
PUR

Wiper:
PUR

Seals:
NBR

EXPRESS

Dimensions



Dia. Ø	AM	BE	BF	Ø CD_{H9}	Ø D	$EW_{-0.1}$	KK	L	LB	MR	WF	XC
10	12	M12x1,25	12	4	16,5	7,9	M4	6	2	8	16	64
12	16	M16x1,5	17	6	21	11,9	M6	9	3	8	22	75
16	16	M16x1,5	17	6	21	11,9	M6	9	4	7	22	82
20	20	M22x1,5	20	8	30	15,9	M8	12	3	11	24	95
25	22	M22x1,5	22	8	30	15,9	M10x1,25	12	7	9	28	104

Models

Accessories

Buffer Cushioning Model	Adjustable Cushining Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting <15 mm stroke	Switch mounting ≥15 mm stroke	Banjo flow control	Straight fitting	Elbow fitting
											
RM/8010/M/10	–	10	10	M5	4	M/50/LSU/5V	QM/33/010/23	–	C0K510405	C02250405	C02470405
RM/8010/M/25	–	10	25	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405
RM/8010/M/40	–	10	40	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405
RM/8010/M/50	–	10	50	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405
RM/8010/M/80	–	10	80	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405
RM/8010/M/100	–	10	100	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405
RM/8012/M/10	–	12	10	M5	6	M/50/LSU/5V	QM/33/016/23	–	C0K510405	C02250405	C02470405
RM/8012/M/25	–	12	25	M5	6	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RM/8012/M/40	–	12	40	M5	6	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RM/8012/M/50	–	12	50	M5	6	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RM/8012/M/80	–	12	80	M5	6	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RM/8012/M/100	–	12	100	M5	6	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RM/8012/M/125	–	12	125	M5	6	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RM/8012/M/160	–	12	160	M5	6	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RM/8012/M/200	–	12	200	M5	6	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405

ISO ROUNDLINE CYLINDERS

RM/8000/M Double acting, ISO 6432 – Ø 10 … 25 mm

Models / Accessories

Buffer Cushioning Model	Adjustable Cushioning Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting <15 mm stroke	Switch mounting ≥15 mm stroke	Banjo flow control	Straight fitting	Elbow fitting
											
RM/8016/M/10	–	16	10	M5	6	M/50/LSU/5V	QM/33/016/23	–	C0K510405	C02250405	C02470405
RM/8016/M/25	RM/8017/M/25	16	25	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RM/8016/M/40	–	16	40	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RM/8016/M/50	RM/8017/M/50	16	50	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RM/8016/M/80	RM/8017/M/80	16	80	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RM/8016/M/100	RM/8017/M/100	16	100	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RM/8016/M/125	RM/8017/M/125	16	125	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RM/8016/M/160	RM/8017/M/160	16	160	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RM/8016/M/200	RM/8017/M/200	16	200	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RM/8020/M/10	–	20	10	G1/8	8	M/50/LSU/5V	QM/33/020/23	–	C0K510618	C02250618	C02470618
RM/8020/M/25	RM/8021/M/25	20	25	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0K510618	C02250618	C02470618
RM/8020/M/40	–	20	40	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0K510618	C02250618	C02470618
RM/8020/M/50	RM/8021/M/50	20	50	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0K510618	C02250618	C02470618
RM/8020/M/80	RM/8021/M/80	20	80	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0K510618	C02250618	C02470618
RM/8020/M/100	RM/8021/M/100	20	100	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0K510618	C02250618	C02470618
RM/8020/M/125	RM/8021/M/125	20	125	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0K510618	C02250618	C02470618
RM/8020/M/160	RM/8021/M/160	20	160	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0K510618	C02250618	C02470618
RM/8020/M/200	RM/8021/M/200	20	200	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0K510618	C02250618	C02470618
RM/8020/M/250	RM/8021/M/250	20	250	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0K510618	C02250618	C02470618
RM/8025/M/10	–	25	10	G1/8	10	M/50/LSU/5V	QM/33/025/23	–	C0K510618	C02250618	C02470618
RM/8025/M/25	RM/8026/M/25	25	25	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0K510618	C02250618	C02470618
RM/8025/M/40	–	25	40	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0K510618	C02250618	C02470618
RM/8025/M/50	RM/8026/M/50	25	50	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0K510618	C02250618	C02470618
RM/8025/M/80	RM/8026/M/80	25	80	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0K510618	C02250618	C02470618
RM/8025/M/100	RM/8026/M/100	25	100	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0K510618	C02250618	C02470618
RM/8025/M/125	RM/8026/M/125	25	125	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0K510618	C02250618	C02470618
RM/8025/M/160	RM/8026/M/160	25	160	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0K510618	C02250618	C02470618
RM/8025/M/200	RM/8026/M/200	25	200	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0K510618	C02250618	C02470618
RM/8025/M/250	RM/8026/M/250	25	250	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0K510618	C02250618	C02470618

Other stroke lengths available up to 500 mm maximum, please contact us.
Service kits are not available for this range of cylinders.
For information on alternative magnetic switches see pages 137 - 141.

For alternative fitting types, shapes or sizes, refer to our fittings section.

Options

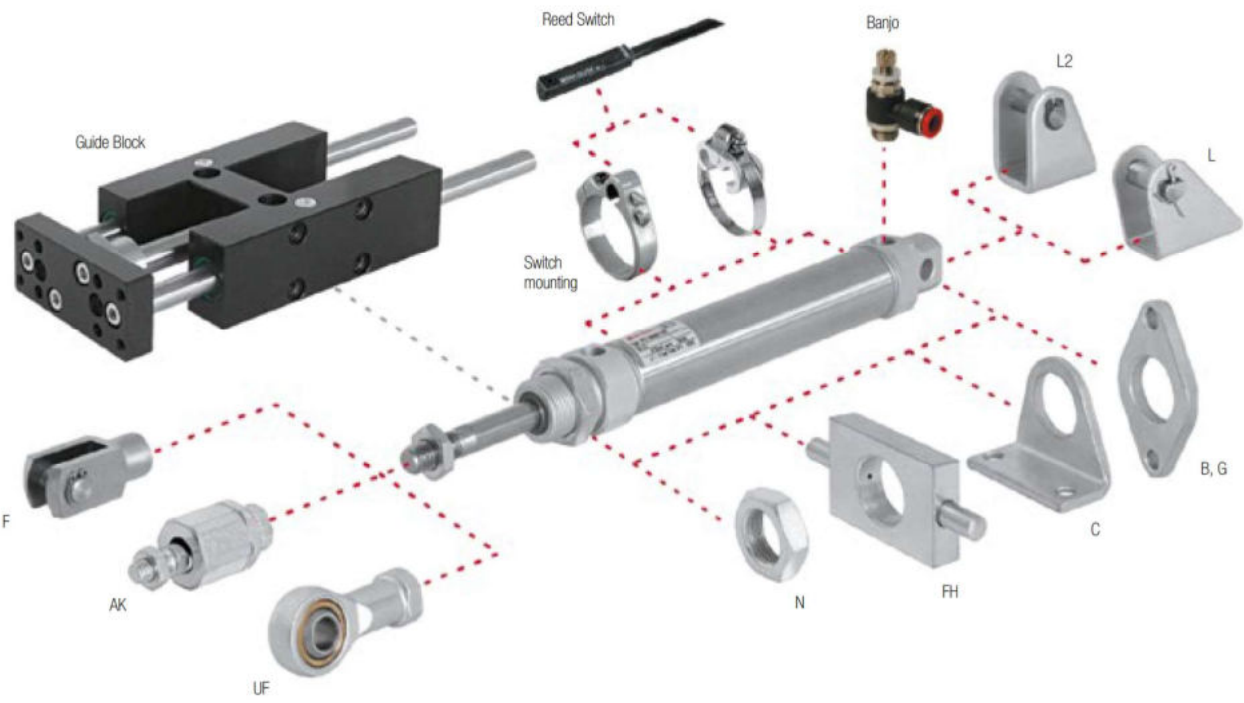
- Extended Piston Rod
- Double Ended Piston Rod
- Central Rear Port
- Flat Rear Cover
- Non-rotating piston rod
- Locking Unit
- High Temperature Seals

MOUNTINGS FOR ISO ROUNDLINE CYLINDERS

RM/28000/M & RM/8000/M Single and double acting

Single and Double Acting

Double Acting Only



Dia. Ø	AK	B, G	C	F	FH	L	L2
10	QM/8010/38	M/P19407	M/P19369	QM/8010/25	–	QM/947	QM/8010/44
12	QM/8012/38	M/P19408	M/P19389	QM/8012/25	QM/8012/34	QM/8012/24	QM/8012/44
16	QM/8012/38	M/P19408	M/P19389	QM/8012/25	QM/8012/34	QM/8012/24	QM/8012/44
20	QM/8020/38	M/P19409	M/P19406	QM/8020/25	QM/8020/34	QM/8020/24	QM/8020/44
25	QM/8025/38	M/P19409	M/P19406	QM/8025/25	QM/8020/34	QM/8020/24	QM/8020/44

Dia. Ø	N	UF	Guide block*
10	M/P1501/90	QM/8010/32	–
12	M/P13834	QM/8012/32	QM/8012/61/*
16	M/P13834	QM/8012/32	QM/8012/61/*
20	M/P13615	QM/8020/32	QM/8020/61/*
25	M/P13615	QM/8025/32	QM/8025/61/*

* Insert standard stroke length: Ø 12 mm: 50 mm; Ø 16 … 25 mm: 50, 100, 160, 200, 250 mm.
Other stroke lengths are not available, use nearest standard stroke.

Note: This actuator is supplied with one nose nut, an additional lock nut style 'N' is required when ordering mountings 'B, G' and 'C' to connect to the rear end cap.

ROUNDLINE CYLINDERS

RT/57100/M, RT/57300/M Single acting – Ø 10 … 40 mm

- Saves 20% space over the basic length of a corresponding ISO/VDMA cylinder
- Low friction, long life seals
- High strength, double crimped end cap design
- Standard magnetic piston for full control system versatility

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
RT/57100/M: Single acting, Sprung in, with buffer cushion.
RT/57300/M: Single acting, Sprung out, with buffer cushion.

Operating pressure:
2 … 10 bar

Ambient temperature:
-5°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Piston rod:
Stainless steel
(8 … 16 mm bore austenitic, 20 … 63 mm bore martensitic)

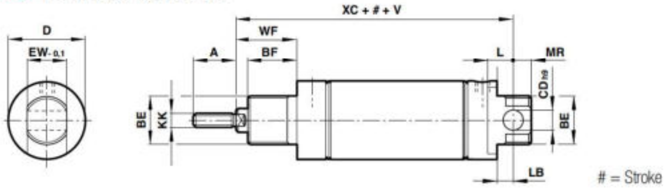
End covers:
Aluminium

Barrel:
Stainless steel (austenitic)

Wiper:
PUR

Seals and 'O'-rings:
NBR

Dimensions



= Stroke

Dia. Ø	A	BE	BF	Ø CD_{h9}	Ø D	$EW_{-0,1}$	KK	L	LB	MR	V (#10 and #25)	V (#50)	WF	XC
10	9	M16 x 1,5	8	4	15	8	M4	–	5	4	14	28	10	54
12	9	M16 x 1,5	8	4	15	8	M4	–	5	4	14	28	10	54
16	12	M16 x 1,5	10	5	17,5	10	M6	–	7	5	15	30	13,5	74,5
20	14	M16 x 1,5	12	6	22	12	M8	–	7	6	17	34	15,5	75,5
25	16	M18 x 1,5	12	8	26,5	14	M10 x 1,25	–	9	8	18	36	16,5	78,5
32	22	M22 x 1,5	15	8	33,5	16	M10 x 1,25	12	7	8	19	38	23	93
40	23	M30 x 1,5	15	10	41,5	20	M12 x 1,25	14	5	10	20	40	24	96

Models

Accessories

Sprung in Model	Sprung out Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting <15 mm stroke	Switch mounting ≥15 mm stroke	Banjo flow control	Straight fitting	Elbow fitting
											
RT/57110/M/10	RT/57310/M/10	10	10	M5	4	M/50/LSU/5V	QM/33/010/23	–	C0L510405	C02250405	C02470405
RT/57110/M/25	RT/57310/M/25	10	25	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0L510405	C02250405	C02470405
RT/57110/M/50	RT/57310/M/50	10	50	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0L510405	C02250405	C02470405
RT/57112/M/10	RT/57312/M/10	12	10	M5	4	M/50/LSU/5V	QM/33/016/23	–	C0L510405	C02250405	C02470405
RT/57112/M/25	RT/57312/M/25	12	25	M5	4	M/50/LSU/5V	–	QM/33/012/22	C0L510405	C02250405	C02470405
RT/57112/M/50	RT/57312/M/50	12	50	M5	4	M/50/LSU/5V	–	QM/33/012/22	C0L510405	C02250405	C02470405
RT/57116/M/10	RT/57316/M/10	16	10	M5	6	M/50/LSU/5V	QM/33/016/23	–	C0L510405	C02250405	C02470405
RT/57116/M/25	RT/57316/M/25	16	25	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0L510405	C02250405	C02470405
RT/57116/M/50	RT/57316/M/50	16	50	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0L510405	C02250405	C02470405
RT/57120/M/10	RT/57320/M/10	20	10	Rc 1/8	8	M/50/LSU/5V	QM/33/020/23	–	C0SA00618	C01250618	C01470618
RT/57120/M/25	RT/57320/M/25	20	25	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0SA00618	C01250618	C01470618
RT/57120/M/50	RT/57320/M/50	20	50	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0SA00618	C01250618	C01470618
RT/57125/M/10	RT/57325/M/10	25	10	Rc 1/8	10	M/50/LSU/5V	QM/33/025/23	–	C0SA00618	C01250618	C01470618
RT/57125/M/25	RT/57325/M/25	25	25	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0SA00618	C01250618	C01470618
RT/57125/M/50	RT/57325/M/50	25	50	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0SA00618	C01250618	C01470618
RT/57132/M/25	RT/57332/M/25	32	25	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0SA00618	C01250618	C01470618
RT/57132/M/50	RT/57332/M/50	32	50	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0SA00618	C01250618	C01470618
RT/57140/M/25	RT/57340/M/25	40	25	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0SA00618	C01250618	C01470618
RT/57140/M/50	RT/57340/M/50	40	50	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0SA00618	C01250618	C01470618

Other bore sizes and stroke lengths available up to 150 mm maximum, please contact us.
Service kits are not available for this range of cylinders.
For information on alternative magnetic switches see pages 137 - 141.
For mountings, refer to double acting versions as shown on page 30.
For alternative fitting types, shapes or sizes, refer to our fittings section.

Options

- Centre rear port, flat end
- 8 mm bore size

ROUNDLINE CYLINDERS

RT/57200/M Double acting – Ø 10 … 63 mm

- Saves 20% space over the basic length of a corresponding ISO/VDMA cylinder
- Low friction, long life seals
- High strength, double crimped end cap design
- Standard magnetic piston for full control system versatility

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, buffer cushioning

Mounting:
Side port, integral eye mounting (Ø 10 … 40 mm), fixing holes in the end cover (Ø 50 and 63 mm)

Operating pressure:
1 … 10 bar

Ambient temperature:
-10°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Piston rod:
Stainless steel
(8 … 16 mm bore austenitic, 20 … 63 mm bore martensitic)

End covers:
Aluminium

Barrel:
Stainless steel (austenitic)

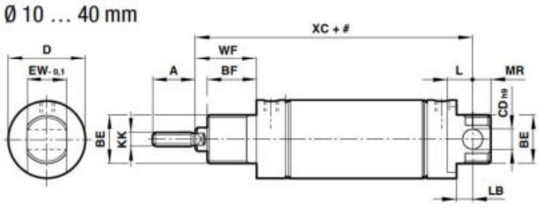
Wiper:
PUR

Seals and 'O'-rings:
NBR

EXPRESS

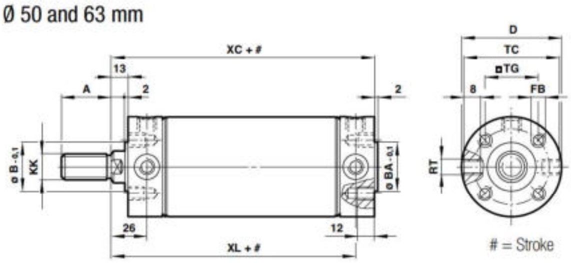
Dimensions

Ø 10 … 40 mm



= Stroke

Ø 50 and 63 mm



= Stroke

Ø 10 … 40 mm

Dia. Ø	A	BE	BF	Ø CD_{h9}	Ø D	$EW_{-0,1}$	KK	L	LB	MR	WF	XC
10	9	M10 x 1	8	4	15	8	M4	–	5	4	10	54
12	9	M10 x 1	8	4	15	8	M4	–	5	4	10	54
16	12	M12 x 1,25	10	5	17,5	10	M6	–	7	5	13,5	64,5
20	14	M16 x 1,5	12	6	22	12	M8	–	7	6	15,5	75,5
25	16	M18 x 1,5	12	8	26,5	14	M10 x 1,25	–	9	8	16,5	78,5
32	22	M22 x 1,5	15	8	33,5	16	M10 x 1,25	12	7	8	23	93
40	23	M30 x 1,5	15	10	41,5	20	M12 x 1,25	14	5	10	24	96

Ø 50 and 63 mm

Dia. Ø	A	Ø $B/BA_{-0,1}$	Ø D	FB	KK	RT	TC	TG	XC	XL
50	23	28	52,5	M 6	M 12 x 1,25	M 10 x 1	49	28,5	97	84
63	30	35	65,5	M 8	M 16 x 1,5	M 12 x 1,5	62	35,5	99	86

Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting <15 mm stroke	Switch mounting ≥15 mm stroke	Banjo flow control	Straight fitting	Elbow fitting
										
RT/57210/M/10	10	10	M5	4	M/50/LSU/5V	QM/33/010/23	–	C0K510405	C02250405	C02470405
RT/57210/M/25	10	25	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405
RT/57210/M/40	10	40	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405
RT/57210/M/50	10	50	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405
RT/57210/M/80	10	80	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405
RT/57210/M/100	10	100	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405

ROUNDLINE CYLINDERS

RT/57200/M Double acting – Ø 10 … 63 mm

Models / Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting <15 mm stroke	Switch mounting ≥15 mm stroke	Banjo flow control	Straight fitting	Elbow fitting
RT/57212/M/10	12	10	M5	4	M/50/LSU/5V	QM/33/016/23	–	C0K510405	C02250405	C02470405
RT/57212/M/25	12	25	M5	4	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RT/57212/M/40	12	40	M5	4	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RT/57212/M/50	12	50	M5	4	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RT/57212/M/80	12	80	M5	4	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RT/57212/M/100	12	100	M5	4	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RT/57212/M/125	12	125	M5	4	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RT/57212/M/160	12	160	M5	4	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RT/57216/M/10	16	10	M5	6	M/50/LSU/5V	QM/33/016/23	–	C0K510405	C02250405	C02470405
RT/57216/M/25	16	25	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RT/57216/M/40	16	40	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RT/57216/M/50	16	50	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RT/57216/M/80	16	80	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RT/57216/M/100	16	100	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RT/57216/M/125	16	125	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RT/57216/M/160	16	160	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RT/57220/M/10	20	10	Rc 1/8	8	M/50/LSU/5V	QM/33/020/23	–	C0TA00618	C01250618	C01470618
RT/57220/M/25	20	25	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57220/M/40	20	40	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57220/M/50	20	50	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57220/M/80	20	80	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57220/M/100	20	100	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57220/M/125	20	125	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57220/M/160	20	160	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57220/M/200	20	200	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57220/M/250	20	250	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57220/M/320	20	320	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57225/M/10	25	10	Rc 1/8	10	M/50/LSU/5V	QM/33/025/23	–	C0TA00618	C01250618	C01470618
RT/57225/M/25	25	25	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57225/M/40	25	40	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57225/M/50	25	50	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57225/M/80	25	80	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57225/M/100	25	100	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57225/M/125	25	125	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57225/M/160	25	160	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57225/M/200	25	200	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57225/M/250	25	250	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57225/M/320	25	320	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57232/M/10	32	10	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/25	32	25	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/40	32	40	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/50	32	50	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/80	32	80	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/100	32	100	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/125	32	125	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/160	32	160	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/200	32	200	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/250	32	250	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/320	32	320	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618

ROUNDLINE CYLINDERS

RT/57200/M Double acting – Ø 10 … 63 mm

Models / Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting <15 mm stroke	Switch mounting ≥15 mm stroke	Banjo flow control	Straight fitting	Elbow fitting
RT/57240/M/25	40	25	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57240/M/40	40	40	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57240/M/50	40	50	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57240/M/80	40	80	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57240/M/100	40	100	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57240/M/125	40	125	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57240/M/160	40	160	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57240/M/200	40	200	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57240/M/250	40	250	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57240/M/320	40	320	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57250/M/25	50	25	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57250/M/40	50	40	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57250/M/50	50	50	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57250/M/80	50	80	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57250/M/100	50	100	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57250/M/125	50	125	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57250/M/160	50	160	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57250/M/200	50	200	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57250/M/250	50	250	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57250/M/320	50	320	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57263/M/25	63	25	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828
RT/57263/M/40	63	40	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828
RT/57263/M/50	63	50	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828
RT/57263/M/80	63	80	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828
RT/57263/M/100	63	100	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828
RT/57263/M/125	63	125	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828
RT/57263/M/160	63	160	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828
RT/57263/M/200	63	200	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828
RT/57263/M/250	63	250	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828
RT/57263/M/320	63	320	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828

Other bore sizes and stroke lengths available up to 500 mm maximum, please contact us.
Service kits are not available for this range of cylinders.
For information on alternative magnetic switches see pages 137-141.

For alternative fitting types, shapes or sizes, refer to our fittings section.

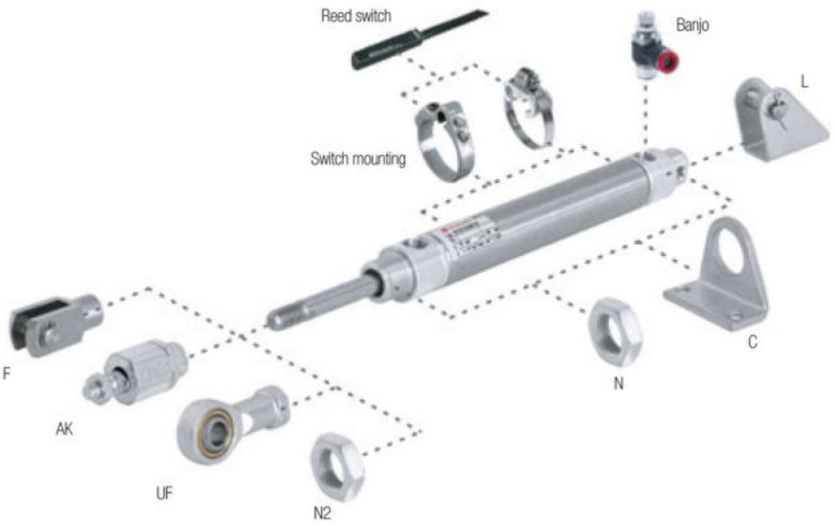
Options

- Centre Rear Port, Flat end
- Side port, Flat end
- Double ended Piston Rod
- Port thread (parallel)
- 8 mm bore size

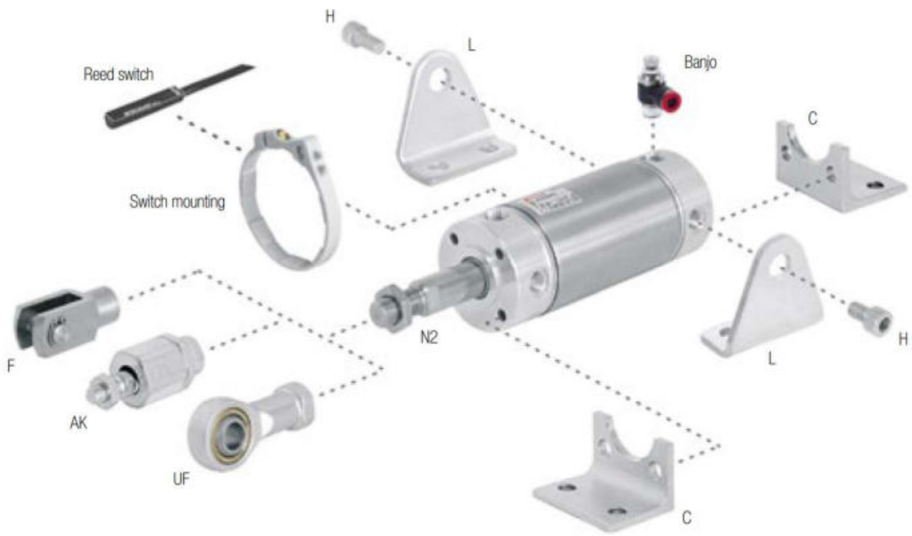
MOUNTINGS FOR ROUNDLINE CYLINDERS

RT/57100/M, RT/57200/M & RT/57300/M

Single and Double Acting
Ø 10 … 40 mm



Double Acting Only
Ø 50 … 63 mm



Dia. Ø	AK	C	F	H	L	N	N2	UF
10	QM/8010/38	M/P71273/2	QM/8010/25	–	QM/947	M/P71364	M/P1501/80	QM/8010/32
12	QM/8010/38	M/P71273/2	QM/8010/25	–	QM/947	M/P71364	M/P1501/80	QM/8010/32
16	QM/8012/38	M/P19369	QM/57016/25	–	QM/946	M/P1501/90	M/P1501/79	QM/8012/32
20	QM/8020/38	M/P19389	QM/57020/25	–	QM/8012/24	M/P13834	M/P1501/60	QM/8020/32
25	QM/8025/38	M/P40381	QM/57025/25	–	QM/57025/24	M/P13607	M/P1501/89	QM/8025/32
32	QM/8025/38	M/P19406	QM/57032/25	–	QM/8020/24	M/P13615	M/P1501/89	QM/8025/32
40	QM/8040/38	M/P71273/3	QM/57040/25	–	QM/57040/24	M/P29254	M/P1501/90	QM/8040/32
50	QM/8040/38	QM/57050/21	QM/57040/25	QM/55240/28	QM/57050/24*	–	M/P1501/90	QM/8040/32
63	QM/8050/38	QM/57063/21	QM/57063/25	QM/55250/28	QM/57063/24*	–	M/P1501/91	QM/8050/32

* Includes pivot nuts.

ROUNDLINE CYLINDERS

RM/55401/M Double acting – Ø 32 … 100 mm

- Cleanline design
- Low friction, long life seals
- Standard magnetic piston for full control system versatility
- Non-lube operation

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, magnetic piston, adjustable cushioning

Operating pressure:
1 … 10 bar

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel and end covers:
Anodized aluminium

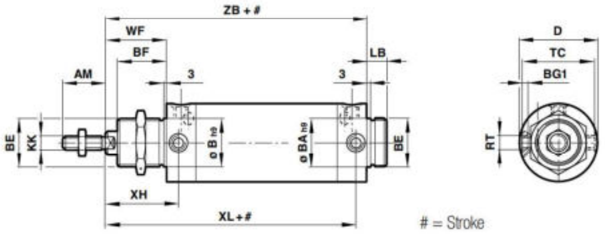
Piston rods:
Stainless steel (martensitic)

Piston and piston rod seals:
PUR

'O'-rings:
NBR

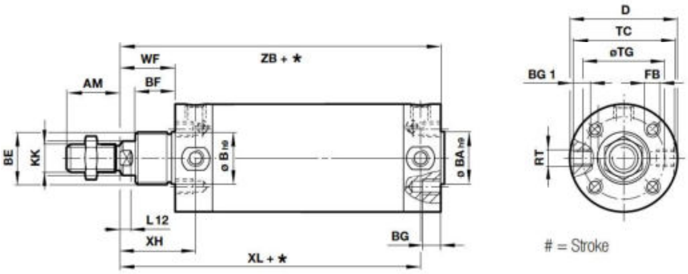
Dimensions

Ø 32 … 63 mm



= Stroke

Ø 80 and 100 mm



= Stroke

Dia. Ø	AM	Ø B/BA$_{h9}$	BE	BF	BG1	D	FB	KK	LB	RT	TC	TG	WF	XH	XL	ZB
32	22	30	M 30 x 1,5	30	6	36,5	–	M 10 x 1,25	14	M 8 x 1	35	–	38	47	123	132
40	24	38	M 38 x 1,5	35	8	45,5	–	M 12 x 1,25	16	M 10 x 1	44	–	45	57	142	154
50	32	45	M 45 x 1,5	38	9,5	55,5	–	M 16 x 1,5	18	M 12 x 1,5	54	–	50	62	152	164
63	32	45	M 45 x 1,5	38	10	69,5	–	M 16 x 1,5	18	M 14 x 1,5	67	–	51	64	159	172
80	40	55	M 55 x 1,5	45	17,5	87,5	M 8	M 20 x 1,5	–	M 16 x 1,5	85,5	70	61	76	196	211
100	40	55	M 55 x 1,5	45	21,5	107,5	M 10	M 20 x 1,5	–	M 20 x 1,5	105,5	80	61	79,5	200,5	219

Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting	Banjo flow control	Straight fitting	Elbow fitting	Service Kit
										
RM/55433/M/25	32	25	G1/8	12	M/50/LSU/5V	QM/33/432/22	C0K510618	C02250618	C02470618	QM/55433/00
RM/55433/M/50	32	50	G1/8	12	M/50/LSU/5V	QM/33/432/22	C0K510618	C02250618	C02470618	QM/55433/00
RM/55433/M/80	32	80	G1/8	12	M/50/LSU/5V	QM/33/432/22	C0K510618	C02250618	C02470618	QM/55433/00
RM/55433/M/100	32	100	G1/8	12	M/50/LSU/5V	QM/33/432/22	C0K510618	C02250618	C02470618	QM/55433/00
RM/55433/M/125	32	125	G1/8	12	M/50/LSU/5V	QM/33/432/22	C0K510618	C02250618	C02470618	QM/55433/00
RM/55433/M/160	32	160	G1/8	12	M/50/LSU/5V	QM/33/432/22	C0K510618	C02250618	C02470618	QM/55433/00
RM/55433/M/200	32	200	G1/8	12	M/50/LSU/5V	QM/33/432/22	C0K510618	C02250618	C02470618	QM/55433/00
RM/55433/M/250	32	250	G1/8	12	M/50/LSU/5V	QM/33/432/22	C0K510618	C02250618	C02470618	QM/55433/00
RM/55433/M/300	32	300	G1/8	12	M/50/LSU/5V	QM/33/432/22	C0K510618	C02250618	C02470618	QM/55433/00
RM/55441/M/25	40	25	G1/4	16	M/50/LSU/5V	QM/33/440/22	C0K510628	C02250628	C02470628	QM/55441/00
RM/55441/M/50	40	50	G1/4	16	M/50/LSU/5V	QM/33/440/22	C0K510628	C02250628	C02470628	QM/55441/00
RM/55441/M/80	40	80	G1/4	16	M/50/LSU/5V	QM/33/440/22	C0K510628	C02250628	C02470628	QM/55441/00
RM/55441/M/100	40	100	G1/4	16	M/50/LSU/5V	QM/33/440/22	C0K510628	C02250628	C02470628	QM/55441/00
RM/55441/M/125	40	125	G1/4	16	M/50/LSU/5V	QM/33/440/22	C0K510628	C02250628	C02470628	QM/55441/00
RM/55441/M/160	40	160	G1/4	16	M/50/LSU/5V	QM/33/440/22	C0K510628	C02250628	C02470628	QM/55441/00
RM/55441/M/200	40	200	G1/4	16	M/50/LSU/5V	QM/33/440/22	C0K510628	C02250628	C02470628	QM/55441/00
RM/55441/M/250	40	250	G1/4	16	M/50/LSU/5V	QM/33/440/22	C0K510628	C02250628	C02470628	QM/55441/00
RM/55441/M/300	40	300	G1/4	16	M/50/LSU/5V	QM/33/440/22	C0K510628	C02250628	C02470628	QM/55441/00

ROUNDLINE CYLINDERS

RM/55401/M Double acting – Ø 32 … 100 mm

Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting	Banjo flow control	Straight fitting	Elbow fitting	Service Kit
RM/55451/M/25	50	25	G1/4	20	M/50/LSU/5V	QM/33/450/22	C0K510828	C02250828	C02470828	QM/55/451/00
RM/55451/M/50	50	50	G1/4	20	M/50/LSU/5V	QM/33/450/22	C0K510828	C02250828	C02470828	QM/55/451/00
RM/55451/M/80	50	80	G1/4	20	M/50/LSU/5V	QM/33/450/22	C0K510828	C02250828	C02470828	QM/55/451/00
RM/55451/M/100	50	100	G1/4	20	M/50/LSU/5V	QM/33/450/22	C0K510828	C02250828	C02470828	QM/55/451/00
RM/55451/M/125	50	125	G1/4	20	M/50/LSU/5V	QM/33/450/22	C0K510828	C02250828	C02470828	QM/55/451/00
RM/55451/M/160	50	160	G1/4	20	M/50/LSU/5V	QM/33/450/22	C0K510828	C02250828	C02470828	QM/55/451/00
RM/55451/M/200	50	200	G1/4	20	M/50/LSU/5V	QM/33/450/22	C0K510828	C02250828	C02470828	QM/55/451/00
RM/55451/M/250	50	250	G1/4	20	M/50/LSU/5V	QM/33/450/22	C0K510828	C02250828	C02470828	QM/55/451/00
RM/55451/M/300	50	300	G1/4	20	M/50/LSU/5V	QM/33/450/22	C0K510828	C02250828	C02470828	QM/55/451/00
RM/55464/M/25	63	25	G3/8	20	M/50/LSU/5V	QM/33/463/22	C0K510838	C02250838	C02470838	QM/55/464/00
RM/55464/M/50	63	50	G3/8	20	M/50/LSU/5V	QM/33/463/22	C0K510838	C02250838	C02470838	QM/55/464/00
RM/55464/M/80	63	80	G3/8	20	M/50/LSU/5V	QM/33/463/22	C0K510838	C02250838	C02470838	QM/55/464/00
RM/55464/M/100	63	100	G3/8	20	M/50/LSU/5V	QM/33/463/22	C0K510838	C02250838	C02470838	QM/55/464/00
RM/55464/M/125	63	125	G3/8	20	M/50/LSU/5V	QM/33/463/22	C0K510838	C02250838	C02470838	QM/55/464/00
RM/55464/M/160	63	160	G3/8	20	M/50/LSU/5V	QM/33/463/22	C0K510838	C02250838	C02470838	QM/55/464/00
RM/55464/M/200	63	200	G3/8	20	M/50/LSU/5V	QM/33/463/22	C0K510838	C02250838	C02470838	QM/55/464/00
RM/55464/M/250	63	250	G3/8	20	M/50/LSU/5V	QM/33/463/22	C0K510838	C02250838	C02470838	QM/55/464/00
RM/55464/M/300	63	300	G3/8	20	M/50/LSU/5V	QM/33/463/22	C0K510838	C02250838	C02470838	QM/55/464/00
RM/55481/M/25	80	25	G3/8	25	M/50/LSU/5V	QM/33/480/22	C0K510838	C02250838	C02470838	QM/55/481/00
RM/55481/M/50	80	50	G3/8	25	M/50/LSU/5V	QM/33/480/22	C0K510838	C02250838	C02470838	QM/55/481/00
RM/55481/M/80	80	80	G3/8	25	M/50/LSU/5V	QM/33/480/22	C0K510838	C02250838	C02470838	QM/55/481/00
RM/55481/M/100	80	100	G3/8	25	M/50/LSU/5V	QM/33/480/22	C0K510838	C02250838	C02470838	QM/55/481/00
RM/55481/M/125	80	125	G3/8	25	M/50/LSU/5V	QM/33/480/22	C0K510838	C02250838	C02470838	QM/55/481/00
RM/55481/M/160	80	160	G3/8	25	M/50/LSU/5V	QM/33/480/22	C0K510838	C02250838	C02470838	QM/55/481/00
RM/55481/M/200	80	200	G3/8	25	M/50/LSU/5V	QM/33/480/22	C0K510838	C02250838	C02470838	QM/55/481/00
RM/55481/M/250	80	250	G3/8	25	M/50/LSU/5V	QM/33/480/22	C0K510838	C02250838	C02470838	QM/55/481/00
RM/55481/M/300	80	300	G3/8	25	M/50/LSU/5V	QM/33/480/22	C0K510838	C02250838	C02470838	QM/55/481/00
RM/55411/M/25	100	25	G1/2	25	M/50/LSU/5V	QM/33/100/22	C0K511048	C02251048	C02471048	QM/55/411/00
RM/55411/M/50	100	50	G1/2	25	M/50/LSU/5V	QM/33/100/22	C0K511048	C02251048	C02471048	QM/55/411/00
RM/55411/M/80	100	80	G1/2	25	M/50/LSU/5V	QM/33/100/22	C0K511048	C02251048	C02471048	QM/55/411/00
RM/55411/M/100	100	100	G1/2	25	M/50/LSU/5V	QM/33/100/22	C0K511048	C02251048	C02471048	QM/55/411/00
RM/55411/M/125	100	125	G1/2	25	M/50/LSU/5V	QM/33/100/22	C0K511048	C02251048	C02471048	QM/55/411/00
RM/55411/M/160	100	160	G1/2	25	M/50/LSU/5V	QM/33/100/22	C0K511048	C02251048	C02471048	QM/55/411/00
RM/55411/M/200	100	200	G1/2	25	M/50/LSU/5V	QM/33/100/22	C0K511048	C02251048	C02471048	QM/55/411/00
RM/55411/M/250	100	250	G1/2	25	M/50/LSU/5V	QM/33/100/22	C0K511048	C02251048	C02471048	QM/55/411/00
RM/55411/M/300	100	300	G1/2	25	M/50/LSU/5V	QM/33/100/22	C0K511048	C02251048	C02471048	QM/55/411/00

Other bore sizes and stroke lengths available up to 300 mm maximum, please contact us.

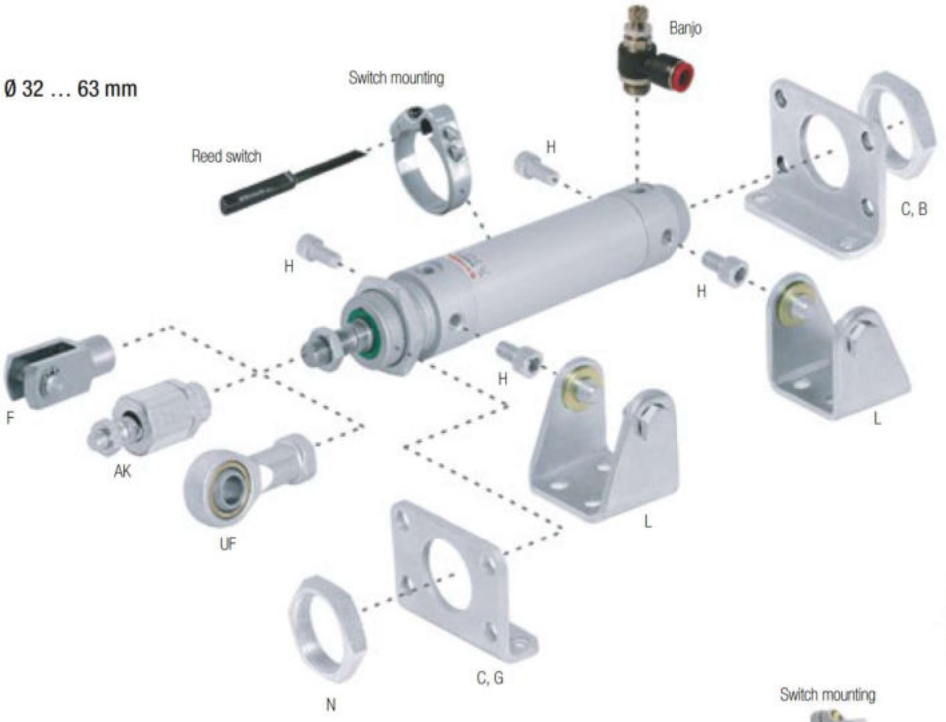
For information on alternative magnetic switches see pages 137-141.

For alternative fitting types, shapes or sizes, refer to our fittings section.

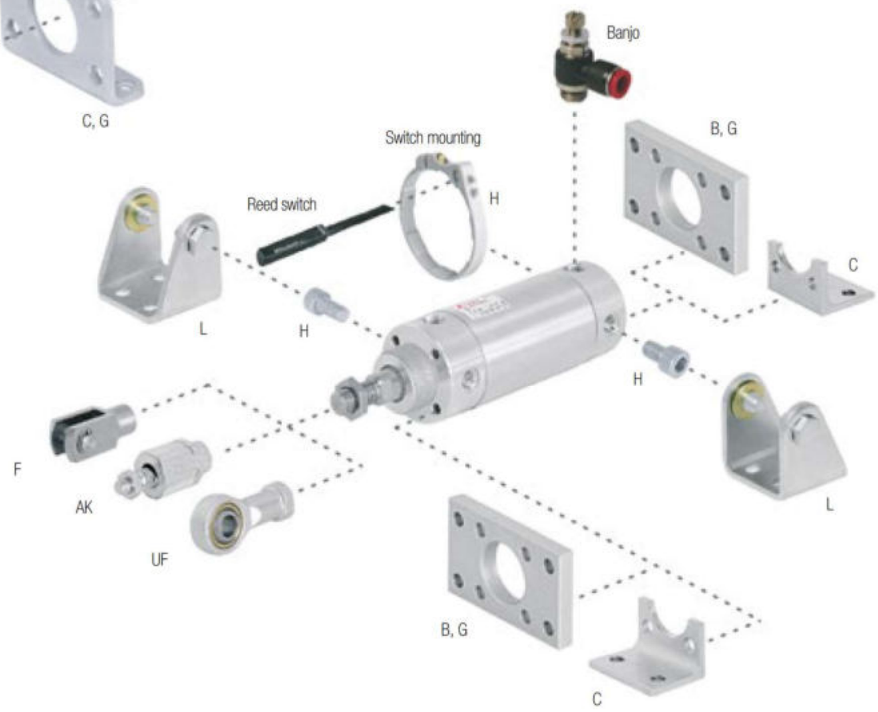
MOUNTINGS FOR ROUNDLINE CYLINDERS

RM/55401/M Double acting – Ø 32 … 100 mm

Ø 32 … 63 mm



Ø 80 … 100 mm



Dia. Ø	AK	B, G*	C*	F	H	L	N	UF
32	QM/8025/38	QM/55232/22	QM/55232/21	QM/8025/25	QM/55232/28	QM/55232/24	M/P29254	QM/8025/32
40	QM/8040/38	QM/55240/22	QM/55240/21	QM/8040/25	QM/55240/28	QM/55240/24	M/P29255	QM/8040/32
50	QM/8050/38	QM/55250/22	QM/55250/21	QM/8050/25	QM/55250/28	QM/55250/24	M/P29256	QM/8050/32
63	QM/8050/38	QM/55263/22	QM/55263/21	QM/8050/25	QM/55263/28	QM/55263/24	M/P29256	QM/8050/32
80	QM/8080/38	QM/55480/22	QM/55480/21	QM/8080/25	QM/55480/28	QM/55480/24	M/P34806	QM/8080/32
100	QM/8080/38	QM/55410/22	QM/55410/21	QM/8080/25	QM/55410/28	QM/55410/24	M/P34806	QM/8080/32

* This actuator is supplied with one nose nut, an additional lock nut style 'N' is required when ordering mountings 'B, G' and 'C' to connect to the rear end cap.

Options

- Hard Chromed Piston Rod
- Stainless Steel - Austenitic Piston Rod
- Double ended piston rod
- Extended piston rod

ROUNDLINE CYLINDERS

M/6000 Double acting – Ø 10 … 25 mm

- Rugged, compact units
- Integral rear eye mounting
- Corrosion resistant construction
- Synthetic rubber buffers at end of stroke

Technical Data

Medium:
Compressed air, filtered and lubricated

Operation:
Double acting with buffer cushion

Ambient temperature:
-20°C … +60°C (Ø 10 & 16 mm)
-20°C … +80°C (Ø 20 & 25 mm)
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

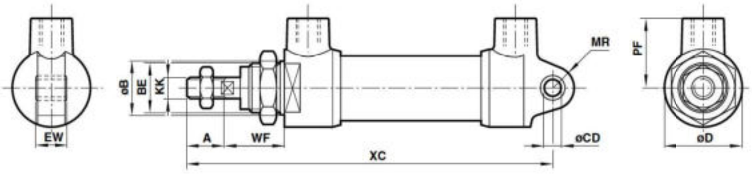
Barrel:
Aluminium

End covers:
Glass filled PA (Ø 10 & 16 mm); die cast aluminium (Ø 20 & 25 mm)

Piston rod:
Stainless steel (austenitic)

Seals:
NBR

Dimensions



Model	Dia. Ø	A	Ø B	Ø D	BE	Ø CD_{h9}	EW	KK	MR	PF	WF	XC (stroke)					
												15 mm	25 mm	50 mm	75 mm	100 mm	125 mm
M/6010	10	8	11	16,6	M10x1,25	4,10 4,02	8,3	M4x0,7	4,5	13	16	59	79	–	–	–	–
M/6016	16	12	17	25,4	M16x1,5	5,10 5,02	10	M6x1	6	14	19,5	81	91	116	–	–	–
M/6020	20	15	19_{h11}	28	M18x1,5	5,01 5,00	12,1 11,8	M8x1,25	8	26	22,9	93,5	93,5	118,5	143,5	168,5	–
M/6025	25	20	23_{h11}	33	M22x1,5	6,01 5,99	16,1 15,8	M10x1,5	9	28	25,9	–	99,5	124,5	149,5	174,5	199,5

Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Banjo flow control	Straight fitting	Elbow fitting	Service Kit
								
M/6010/15	10	15	M5	4	10K510405	102250405	102470405	–
M/6010/25	10	25	M5	4	10K510405	102250405	102470405	–
M/6016/15	16	15	M5	6	10K510405	102250405	102470405	–
M/6016/25	16	25	M5	6	10K510405	102250405	102470405	–
M/6016/50	16	50	M5	6	10K510405	102250405	102470405	–
M/6020/15	20	15	G1/8	8	10K510618	102250618	102470618	QM/6020/00
M/6020/25	20	25	G1/8	8	10K510618	102250618	102470618	QM/6020/00
M/6020/50	20	50	G1/8	8	10K510618	102250618	102470618	QM/6020/00
M/6020/75	20	75	G1/8	8	10K510618	102250618	102470618	QM/6020/00
M/6020/100	20	100	G1/8	8	10K510618	102250618	102470618	QM/6020/00
M/6025/25	25	25	G1/8	10	10K510618	102250618	102470618	QM/6025/00
M/6025/50	25	50	G1/8	10	10K510618	102250618	102470618	QM/6025/00
M/6025/75	25	75	G1/8	10	10K510618	102250618	102470618	QM/6025/00
M/6025/100	25	100	G1/8	10	10K510618	102250618	102470618	QM/6025/00
M/6025/125	25	125	G1/8	10	10K510618	102250618	102470618	QM/6025/00

For alternative fitting types, shapes or sizes, refer to our fittings section.

HOLLOW PISTON ROD CYLINDER

VSM/55600/N2 Magnetic piston, double acting – Ø 25 and 40 mm

- **Ideally suited for vacuum selected liquid transfer applications through the piston rod**
- **Non-rotating and telescopic piston rod provides accurate, repeatable component orientation**
- **Non-corrosive specification**
- **Buffer cushioning**
- **Direct attachment of vacuum pumps and suction cups**

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Standard:
Ø 25: ISO 6432 (except piston rod)

Operation:
Double acting with buffer cushioning, magnetic piston

Operating pressure:
1 … 10 bar

Cylinder diameter:
25, 40 mm

Strokes:
500 mm max.

Ambient temperature:
+80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel:
Ø 25: stainless steel (austenitic)
Ø 40: anodised aluminium

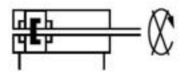
End covers:
Anodised aluminium

Piston rod:
Stainless steel (austenitic)

Buffer and wiper:
PUR

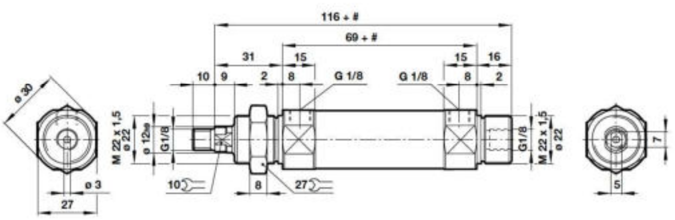
Piston seals:
Ø 25: NBR, Ø 40: PUR

'O'-rings:
NBR

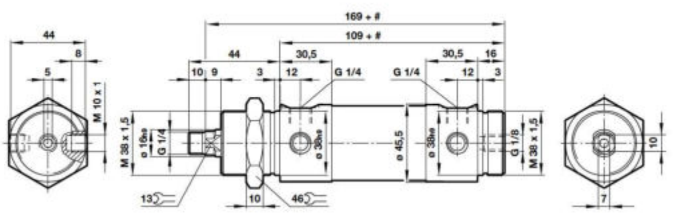


Dimensions

VSM/55625/N2
Ø 25 mm



VSM/55640/N2
Ø 40 mm



= Stroke

Cylinder Ø	per 25 mm
25	0,028

Cylinder Ø	per 25 mm
40	0,043

Models

Models	Cylinder Ø (mm)	Port size	Piston rod Ø (mm)	Piston rod thread
VSM/55625/N2/***	25	G1/8	12	M22x1,5
VSM/55640/N2/***	40	G1/4	16	M38x1,5

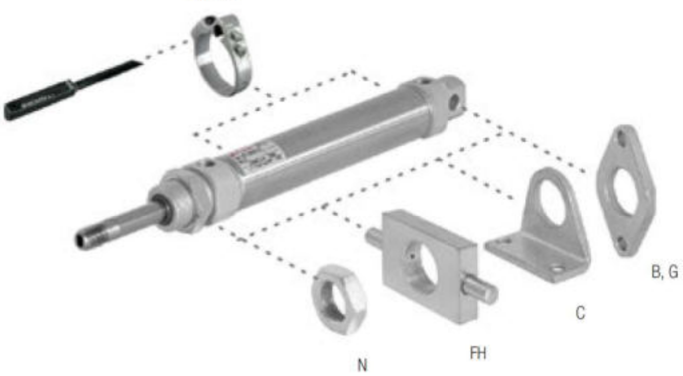
*** Insert stroke lenght in mm - stroke lenghts available up to 500 mm maximum.

HOLLOW PISTON ROD CYLINDER

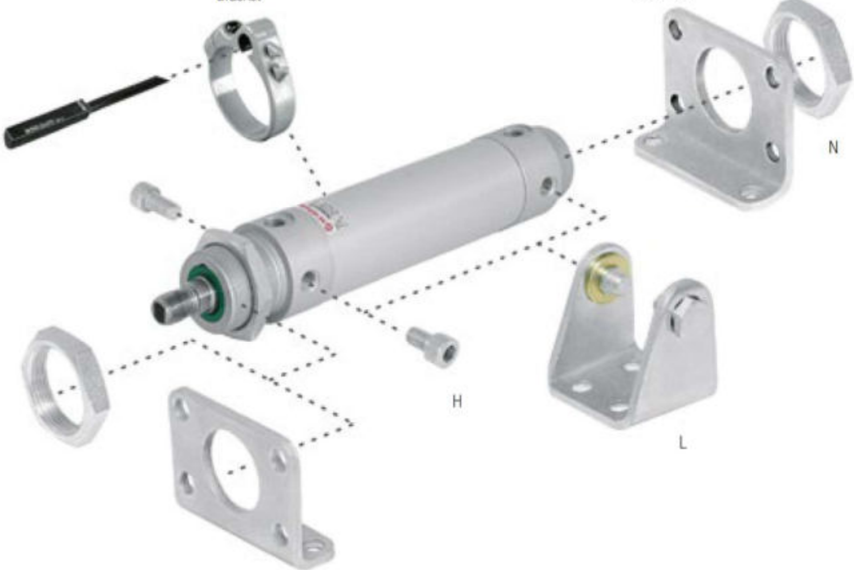
VSM/55600/N2 Magnetic piston, double acting – Ø 25 and 40 mm

Mountings

Ø 25 mm



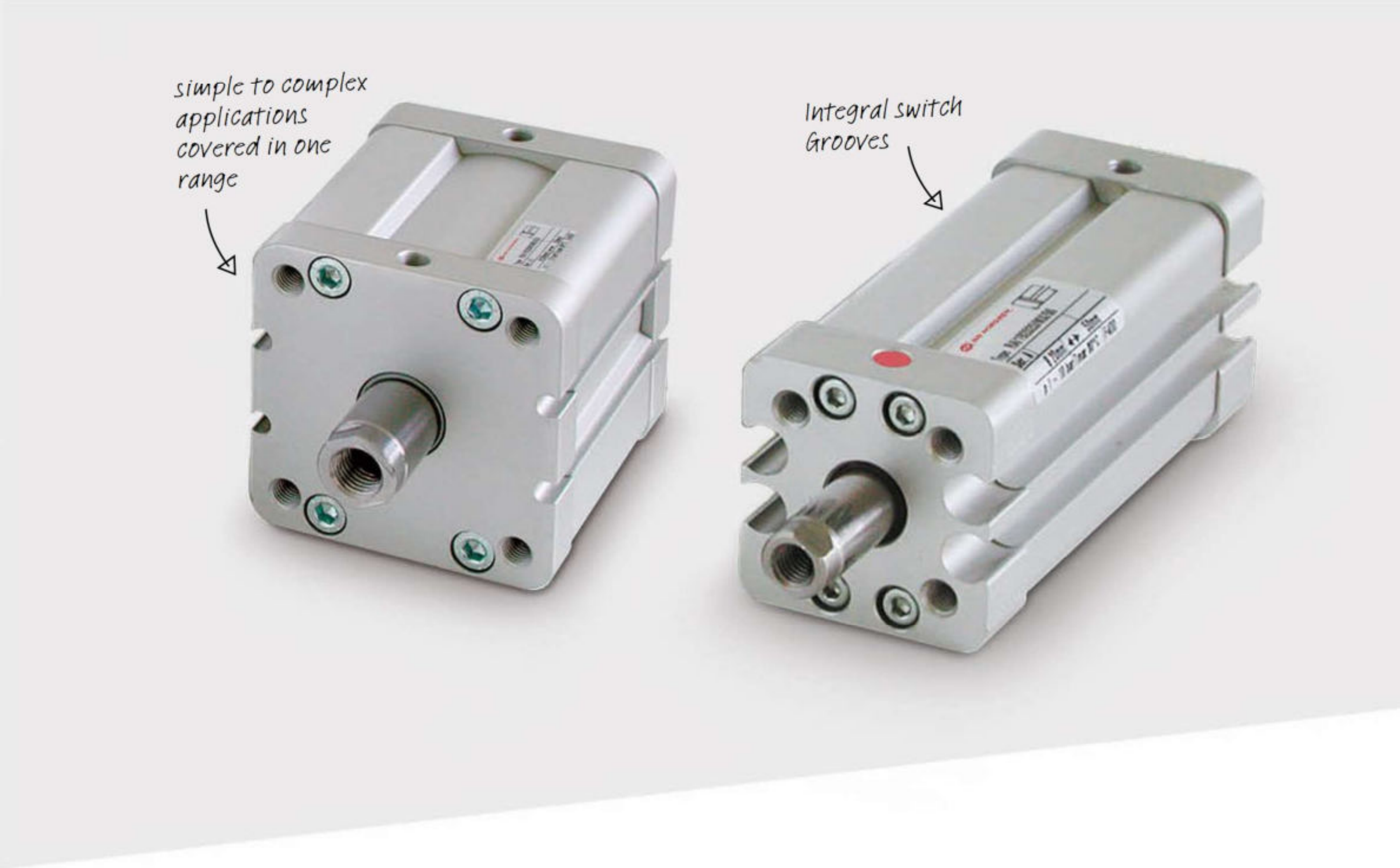
Ø 40 mm



Cylinder Ø	B, G	C	FH	N	Bracket for switch *1) >15 mm stroke	Bracket for switch *1) <15 mm stroke	
							
25	M/P19409	M/P19406	QM/8020/34	M/P13615	QM/33/025/22	QM/33/025/23	–
Cylinder Ø	**B, G**	**C**	**H**	**L**	**N**	**Bracket for switch *1**	**Bracket for switch *2)**
							
40	QM/55240/22	QM/55240/21	QM/55240/28	QM/55240/24	M/P29255	QM/33/440/22	QM/140/010/22

*1) Magnetically switch M/50.

*2) Pneumatically operated switch QM/140.



ISO Compact cylinders

ISO21287 is the most recently-added actuator standard.

These compact cylinders are perfect for high force/short stroke applications where space is at a premium. Not just meeting the standard for compliance, but exceeding it, this range of actuators includes many unique technical variants:

- Sleek, anodised aluminium profile barrel housing switch mounting grooves (standard IMI Norgren M/50 switch) coupled with pressure die cast end caps for pleasing appearance
- Wide range of standard bore and stroke combinations from stock with male or female piston rod thread, plus non-standard stroke length units on fast availability
- Accepts standard ISO/VDMA mounting brackets, and is also available in non-rotating versions, linear slide version, with heavy duty wiper seal, tandem and multi-position versions, and also can accept guide block assembly

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www.imi-precision.com

ISO COMPACT CYLINDERS

RA/191000/M, …/MX, RA/193000/M, …/MX Single acting, ISO 21287 – Ø 20 … 63 mm

- Conforms to ISO 21287
- Up to 30% shorter than full ISO/VDMA actuators
- Uses standard ISO/VDMA mountings

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operating pressure:
2 … 10 bar

Ambient temperature:
-5°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°

Materials

Profile barrel:
Anodized aluminium

End covers:
Pressure diecast aluminium

Piston rod:
Stainless steel

Piston rod seals:
PUR

Piston seals:
NBR

O-rings:
NBR

Models

Accessories

Sprung in Female thread	Male thread	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow fitting	Service Kit
										
RA/191020/MX/10	RA/191020/M/10	20	10	M5	10	M/50/LSU/5V	C0L510405	C02250405	C02470405	QM/192020/00
RA/191025/MX/10	RA/191025/M/10	25	10	M5	10	M/50/LSU/5V	C0L510405	C02250405	C02470405	QM/192025/00
RA/191032/MX/10	RA/191032/M/10	32	10	G1/8	12	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192032/00
RA/191032/MX/25	RA/191032/M/25	32	25	G1/8	12	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192032/00
RA/191040/MX/25	RA/191040/M/25	40	25	G1/8	16	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192040/00
RA/191050/MX/25	RA/191050/M/25	50	25	G1/8	20	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192050/00
RA/191063/MX/25	RA/191063/M/25	63	25	G1/8	20	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192063/00

Sprung out Female thread	Male thread	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow fitting	Service Kit
										
RA/193020/MX/10	RA/193020/M/10	20	10	M5	10	M/50/LSU/5V	C0L510405	C02250405	C02470405	QM/192020/00
RA/193025/MX/10	RA/193025/M/10	25	10	M5	10	M/50/LSU/5V	C0L510405	C02250405	C02470405	QM/192025/00
RA/193032/MX/10	RA/193032/M/10	32	10	G1/8	12	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192032/00
RA/193032/MX/25	RA/193032/M/25	32	25	G1/8	12	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192032/00
RA/193040/MX/25	RA/193040/M/25	40	25	G1/8	16	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192040/00
RA/193050/MX/25	RA/193050/M/25	50	25	G1/8	20	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192050/00
RA/193063/MX/25	RA/193063/M/25	63	25	G1/8	20	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192063/00

Other stroke lengths available up to 50 mm, please contact us.
For mountings, refer to double acting versions as shown on page 46.
For information on alternative magnetic switches see pages 137-141.

For alternative fitting types, shapes or sizes, refer to our fittings section.

Options

- Extended piston rod (male or female)
- Non-rotating piston rod (male or female)

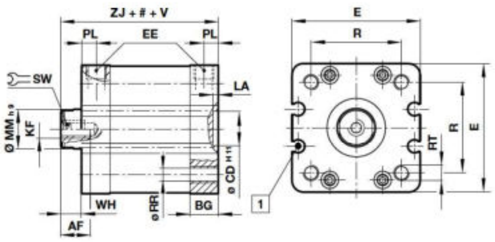
ISO COMPACT CYLINDERS

RA/191000/M, …/MX, RA/193000/M, …/MX Single acting, ISO 21287 – Ø 20 … 63 mm

Dimensions

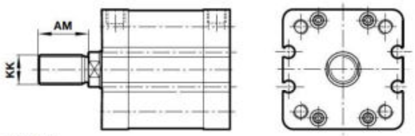
RA/191000/MX

Sprung in with female piston rod thread



RA/191000/M

Sprung in with male piston rod threadd

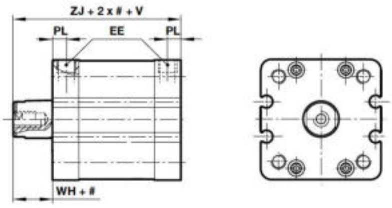


Stroke

1 M/50 – Switches can be mounted flush with the profile

RA/193000/MX

Sprung out with female piston rod thread



RA/193000/M

Sprung out with male piston rod thread

Stroke

Model	Ø	AF	AM	BG	Ø CD H11	◻ E	EE	KF	KK	LA	Ø MM h9
RA/19*020/M*	20	10	16	12	10	37	M5	M6	M8 x 1,25	2,5	10
RA/19*025/M*	25	10	16	13	10	41	M5	M6	M8 x 1,25	2,5	10
RA/19*032/M*	32	12	19	14,5	14	48	G1/8	M8	M10 x 1,25	2,5	12
RA/19*040/M*	40	12	19	14,5	14	54,5	G1/8	M8	M10 x 1,25	2,5	16
RA/19*050/M*	50	16	22	14	18	66	G1/8	M10	M12 x 1,25	2,5	20
RA/19*063/M*	63	16	22	14	18	76	G1/8	M10	M12 x 1,25	2,5	20

Ø	PL	◻ R	Ø RR	RT	SW	V mm stroke 0 … 25	26 … 50	WH	ZJ	kg at 0 mm	kg per 5 mm
20	7	22	4,3	M5	8	17	34	6	43	0,17 kg	0,01 kg
25	7	26	4,3	M5	8	18	36	6	45	0,20 kg	0,01 kg
32	7,5	32,5	5,3	M6	10	19	38	7	51	0,30 kg	0,02 kg
40	7,5	38	5,3	M6	13	20	40	7	52	0,40 kg	0,02 kg
50	7,5	46,5	6,8	M8	17	30	60	8	53	0,65 kg	0,03 kg
63	7,5	56,5	6,8	M8	17	30	60	8	57	0,90 kg	0,03 kg

ISO COMPACT CYLINDERS

RA/192000/M, …/MX Double acting, ISO 21287 – Ø 20 … 125 mm

- Conforms to ISO 21287
- Up to 30% shorter than full ISO/VDMA actuators
- Uses standard ISO/VDMA mountings

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
RA/192000/M
Double acting, magnetic piston, male piston rod thread, buffer cushioning
RA/192000/MX
Double acting, magnetic piston, female piston rod thread, buffer cushioning

Operating pressure:
1 … 10 bar

Ambient temperature:
-5°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C.

Materials

Profile barrel:
Anodized aluminium

End covers:
Pressure diecast aluminium

Piston rod:
Stainless steel

Piston rod seals:
PUR

Piston seals:
NBR

O-rings:
NBR

EXPRESS

Models

Accessories

Female thread	Male thread	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow fitting	Service Kit
										
RA/192020/MX/10	RA/192020/M/10	20	10	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192020/00
RA/192020/MX/15	RA/192020/M/15	20	15	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192020/00
RA/192020/MX/20	RA/192020/M/20	20	20	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192020/00
RA/192020/MX/25	RA/192020/M/25	20	25	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192020/00
RA/192020/MX/30	RA/192020/M/30	20	30	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192020/00
RA/192020/MX/40	RA/192020/M/40	20	40	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192020/00
RA/192020/MX/50	RA/192020/M/50	20	50	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192020/00
RA/192025/MX/10	RA/192025/M/10	25	10	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192025/00
RA/192025/MX/15	RA/192025/M/15	25	15	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192025/00
RA/192025/MX/20	RA/192025/M/20	25	20	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192025/00
RA/192025/MX/25	RA/192025/M/25	25	25	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192025/00
RA/192025/MX/30	RA/192025/M/30	25	30	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192025/00
RA/192025/MX/40	RA/192025/M/40	25	40	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192025/00
RA/192025/MX/50	RA/192025/M/50	25	50	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192025/00
RA/192032/MX/10	RA/192032/M/10	32	10	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192032/MX/15	RA/192032/M/15	32	15	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192032/MX/20	RA/192032/M/20	32	20	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192032/MX/25	RA/192032/M/25	32	25	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192032/MX/30	RA/192032/M/30	32	30	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192032/MX/40	RA/192032/M/40	32	40	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192032/MX/50	RA/192032/M/50	32	50	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192032/MX/60	RA/192032/M/60	32	60	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192032/MX/80	RA/192032/M/80	32	80	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192032/MX/100	RA/192032/M/100	32	100	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192040/MX/10	RA/192040/M/10	40	10	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00
RA/192040/MX/15	RA/192040/M/15	40	15	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00
RA/192040/MX/20	RA/192040/M/20	40	20	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00
RA/192040/MX/25	RA/192040/M/25	40	25	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00
RA/192040/MX/30	RA/192040/M/30	40	30	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00
RA/192040/MX/40	RA/192040/M/40	40	40	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00
RA/192040/MX/50	RA/192040/M/50	40	50	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00
RA/192040/MX/60	RA/192040/M/60	40	60	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00
RA/192040/MX/80	RA/192040/M/80	40	80	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00
RA/192040/MX/100	RA/192040/M/100	40	100	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00

ISO COMPACT CYLINDERS

RA/192000/M, …/MX Double acting, ISO 21287 – Ø 20 … 125 mm

Models

Accessories

Female threadl	Male thread	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow fitting	Service Kit
										
RA/192050/MX/10	RA/192050/M/10	50	10	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192050/MX/15	RA/192050/M/15	50	15	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192050/MX/20	RA/192050/M/20	50	20	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192050/MX/25	RA/192050/M/25	50	25	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192050/MX/30	RA/192050/M/30	50	30	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192050/MX/40	RA/192050/M/40	50	40	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192050/MX/50	RA/192050/M/50	50	50	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192050/MX/60	RA/192050/M/60	50	60	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192050/MX/80	RA/192050/M/80	50	80	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192050/MX/100	RA/192050/M/100	50	100	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192063/MX/10	RA/192063/M/10	63	10	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192063/MX/15	RA/192063/M/15	63	15	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192063/MX/20	RA/192063/M/20	63	20	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192063/MX/25	RA/192063/M/25	63	25	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192063/MX/30	RA/192063/M/30	63	30	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192063/MX/40	RA/192063/M/40	63	40	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192063/MX/50	RA/192063/M/50	63	50	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192063/MX/60	RA/192063/M/60	63	60	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192063/MX/80	RA/192063/M/80	63	80	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192063/MX/100	RA/192063/M/100	63	100	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192080/MX/15	RA/192080/M/15	80	15	G1/8	25	M/50/LSU/5V	C0K510818	C02250818	C02470818	QM/192080/00
RA/192080/MX/20	RA/192080/M/20	80	20	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192080/00
RA/192080/MX/25	RA/192080/M/25	80	25	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192080/00
RA/192080/MX/30	RA/192080/M/30	80	30	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192080/00
RA/192080/MX/40	RA/192080/M/40	80	40	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192080/00
RA/192080/MX/50	RA/192080/M/50	80	50	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192080/00
RA/192080/MX/60	RA/192080/M/60	80	60	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192080/00
RA/192080/MX/80	RA/192080/M/80	80	80	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192080/00
RA/192080/MX/100	RA/192080/M/100	80	100	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192080/00
RA/192100/MX/15	RA/192100/M/15	100	15	G1/8	25	M/50/LSU/5V	C0K510818	C02250818	C02470818	QM/192100/00
RA/192100/MX/20	RA/192100/M/20	100	20	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192100/00
RA/192100/MX/25	RA/192100/M/25	100	25	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192100/00
RA/192100/MX/30	RA/192100/M/30	100	30	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192100/00
RA/192100/MX/40	RA/192100/M/40	100	40	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192100/00
RA/192100/MX/50	RA/192100/M/50	100	50	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192100/00
RA/192100/MX/60	RA/192100/M/60	100	60	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192100/00
RA/192100/MX/80	RA/192100/M/80	100	80	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192100/00
RA/192100/MX/100	RA/192100/M/100	100	100	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192100/00
RA/192125/MX/15	RA/192125/M/15	125	15	G1/4	32	M/50/LSU/5V	C0K510818	C02250828	C02470828	QM/192125/00
RA/192125/MX/20	RA/192125/M/20	125	20	G1/4	32	M/50/LSU/5V	C0K510818	C0K510828	C02470828	QM/192125/00
RA/192125/MX/25	RA/192125/M/25	125	25	G1/4	32	M/50/LSU/5V	C0K510818	C0K510828	C02470828	QM/192125/00
RA/192125/MX/30	RA/192125/M/30	125	30	G1/4	32	M/50/LSU/5V	C0K510818	C0K510828	C02470828	QM/192125/00
RA/192125/MX/40	RA/192125/M/40	125	40	G1/4	32	M/50/LSU/5V	C0K510818	C0K510828	C02470828	QM/192125/00
RA/192125/MX/50	RA/192125/M/50	125	50	G1/4	32	M/50/LSU/5V	C0K510818	C0K510828	C02470828	QM/192125/00
RA/192125/MX/60	RA/192125/M/60	125	60	G1/4	32	M/50/LSU/5V	C0K510818	C0K510828	C02470828	QM/192125/00
RA/192125/MX/80	RA/192125/M/80	125	80	G1/4	32	M/50/LSU/5V	C0K510818	C0K510828	C02470828	QM/192125/00
RA/192125/MX/100	RA/192125/M/100	125	100	G1/4	32	M/50/LSU/5V	C0K510818	C0K510828	C02470828	QM/192125/00

Other stroke lengths available up to 500 mm maximum, depending upon bore size, please contact us.
For information on alternative magnetic switches see pages 137-141.

For alternative fitting types, shapes or sizes, refer to our fittings section.

ISO COMPACT CYLINDERS

RA/192000/M, …/MX Double acting, ISO 21287 – Ø 20 … 125 mm

Options

T	S	Model with magnetic piston	Description
•	•	RA/192000/M	Standard cylinder, male piston rod thread *1)
•	•	RA/192000/MX	Standard cylinder, female piston rod thread *1)
	•	RA/192000/W2	Special wiper/seal, male piston rod thread, Ø 20 … 125 mm
	•	RA/192000/W2X	Special wiper/seal, female piston rod thread, Ø 20 … 125 mm
	•	RA/192000/X4	Low friction cylinders, male piston rod thread, Ø 32 … 100 mm Medium: compressed air, filtered and non-lubricated recommended, 0,2 … 10 bar
	•	RA/192000/X4X	Low friction cylinders, female piston rod thread, Ø 32 … 100 mm, Medium: compressed air, filtered and non-lubricated recommended, 0,2 … 10 bar
	•	RA/192000/MU	Cylinder with extended piston rod, male piston rod thread
	•	RA/192000/MUX	Cylinder with extended piston rod, female piston rod thread
•	•	RA/192000/JM	Cylinder with double ended piston rod, male piston rod thread *1)
•	•	RA/192000/JMX	Cylinder with double ended piston rod, female piston rod thread *1)
		RA/192000/N2	Cylinder with non-rotating piston rod (internal), male piston rod thread, Ø 20 … 100 mm
		RA/192000/N2X	Cylinder with non-rotating piston rod (internal), female piston rod thread, Ø 20 … 100 mm
		RA/192000/N4	Cylinder with guiding, Ø 20 … 100 mm
			Ø 20 and 25 mm max. stroke 80 mm, Ø 32 … 100 mm max. stroke 100 mm
	•	RA/192000/N6	Cylinder with external guiding, Ø 25 and 32 mm
			Standard strokes 25, 50, 75 and 100 mm only
	•	RA/192000/TM	Tandem cylinder (double drive), male piston rod thread, Ø 20 … 100 mm
	•	RA/192000/TMX	Tandem cylinder (double drive), female piston rod thread, Ø 20 … 100 mm
	•	RA/192000/SM	Multi-Position cylinder, male piston rod thread, Ø 20 … 100 mm
	•	RA/192000/SMX	Multi-Position cylinder, female piston rod thread, Ø 20 … 100 mm
	•	RA/192000/L4	Cylinder with looking unit (passive)and male piston rod thread, Ø 32 … 125 mm Locking is achieved by spring force on removal of the signal … the unit, Operating pressure for looking unit: 4 … 10 bar
	•	RA/192000/L4X	Cylinder with looking unit (passive) and female piston rod thread, Ø 32 … 125 mm Locking is achieved by spring force on removal of the signal … the unit, Operating pressure for looking unit: 4 … 10 bar

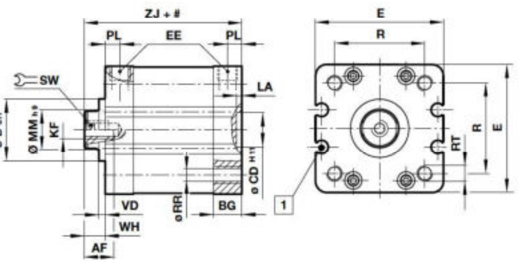
For cylinder variants T, and S see below:
T - High temperature version.
S - Stainless Steel (Austenitic) Piston Rod material.

Alternative variants without magnetic piston (Ø 63 … 125 mm) on request.
*1) Variant T: Ø 20 … 100 mm; max. stroke length 200 mm.

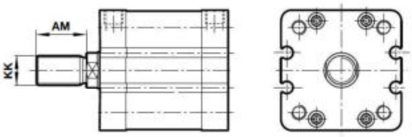
ISO COMPACT CYLINDERS
RA/192000/M, …/MX Double acting, ISO 21287 – Ø 20 … 125 mm

● Dimensions

RA/192000/MX Standard cylinder
With female piston rod thread



RA/192000/M Standard cylinder
With male piston rod thread

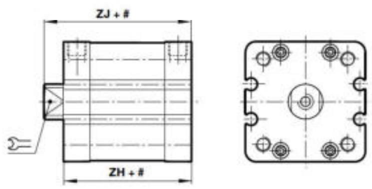


Stroke
1 M/50 switches can be mounted flush with the profile

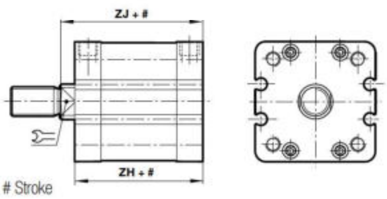
Model	Ø	AF	AM	Ø B d11	BG	Ø CD H11	◻ E	EE	KF	KK	LA
RA/192020/.	20	10	16	–	12	10	37	M 5	M6	M8x1,25	2,5
RA/192025/.	25	10	16	–	13	10	41	M 5	M6	M8x1,25	2,5
RA/192032/.	32	12	19	–	14,5	14	48	G1/8	M8	M10x1,25	2,5
RA/192040/.	40	12	19	–	14,5	14	54,5	G1/8	M8	M10x1,25	2,5
RA/192050/.	50	16	22	–	14	18	66	G1/8	M10	M12x1,25	2,5
RA/192063/.	63	16	22	–	14	18	76	G1/8	M10	M12x1,25	2,5
RA/192080/.	80	20	28	–	15,5	23	96	G1/8	M12	M16x1,5	3
RA/192100/.	100	20	28	–	21,5	26	116	G1/8	M12	M16x1,5	3
RA/192125/.	125	30	54	60	20,5	28	142	G1/4	M20	M27x2	3

Ø	Ø MM h9	PL	◻ R	Ø RR	RT	SW	VD	WH	ZJ	kg at 0 mm	kg per 5 mm
20	10	7	22	4,3	M5	8	–	6	43	0,12	0,01
25	10	7	26	4,3	M5	8	–	6	45	0,15	0,01
32	12	7,5	32,5	5,3	M6	10	–	7	51	0,23	0,02
40	16	7,5	38	5,3	M6	13	–	7	52	0,30	0,02
50	20	7,5	46,5	6,8	M8	17	–	8	53	0,46	0,03
63	20	7,5	56,5	6,8	M8	17	–	8	57	0,70	0,03
80	25	7,5	72	8,6	M10	22	–	10	64	1,23	0,04
100	25	10,5	89	8,6	M10	22	–	10	77	2,20	0,05
125	32	10,5	110	10,6	M12	27	4	18	89	3,60	0,07

RA/192000/N2X – Cylinder with non-rotating piston rod
With female piston rod thread



RA/192000/N2 – Cylinder with non-rotating piston rod
With male piston rod thread



Stroke

Model	Ø	SW	ZH	ZJ	kg at 0 mm	kg per 5 mm
RA/192020/N2.	20	8	47	53	0,12	0,01
RA/192025/N2.	25	8	49	55	0,15	0,01
RA/192032/N2.	32	10	54	61	0,23	0,02
RA/192040/N2.	40	13	55	62	0,30	0,02
RA/192050/N2.	50	16	55	63	0,46	0,03
RA/192063/N2.	63	16	59	67	0,70	0,03
RA/192080/N2.	80	21	64	74	1,23	0,04
RA/192100/N2.	100	21	77	87	2,20	0,05

Note: The basic length of the RA/192000/N2 version is slightly longer than the standard.

ISO COMPACT CYLINDERS
RA/192000/M, …/MX Double acting, ISO 21287 – Ø 20 … 125 mm

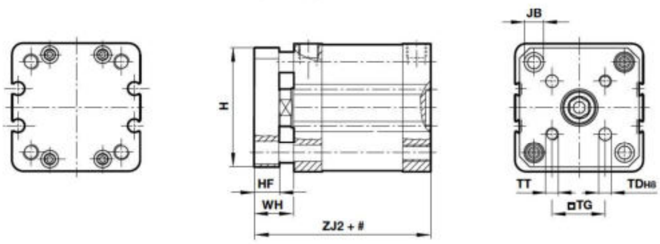
RA/192000/JMX
Cylinder with double ended piston rod
With female piston rod thread

RA/192000/JM
Cylinder with double ended piston rod
With male piston rod thread

Stroke

Model	Ø	ZJ	ZM	kg at 0 mm	kg per 5 mm
RA/192020/JM.	20	43	49	0,15	0,01
RA/192025/JM.	25	45	51	0,18	0,01
RA/192032/JM.	32	51	58	0,28	0,02
RA/192040/JM.	40	52	59	0,35	0,02
RA/192050/JM.	50	53	61	0,52	0,03
RA/192063/JM.	63	57	65	0,76	0,03
RA/192080/JM.	80	64	74	1,30	0,04
RA/192100/JM.	100	77	87	2,30	0,05
RA/192125/JM.	125	89	107	3,75	0,07

RA/192000/N4 – Cylinder with guiding

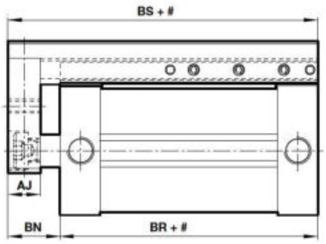


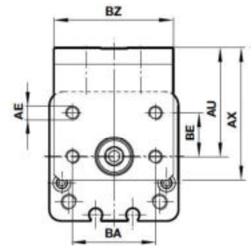
Stroke

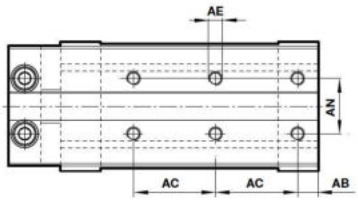
Model	Ø	H	HF	Ø JB	Ø TDH8	… TG	TT	WH	ZJ2	kg at 0 mm	kg per 5 mm
RA/192020/N4	20	34	8	7,5	4	12	M4	14	51	0,17	0,01
RA/192025/N4	25	38	8	7,5	5	15,6	M5	14	53	0,23	0,01
RA/192032/N4	32	45	10	9	5	19,8	M5	17	61	0,33	0,02
RA/192040/N4	40	51	10	9	5	23,3	M5	17	62	0,45	0,02
RA/192050/N4	50	62,5	12	11	6	29,7	M6	20	65	0,65	0,03
RA/192063/N4	63	72	12	11	6	35,4	M6	20	69	0,95	0,03
RA/192080/N4	80	92	15	15	8	46	M8	25	79	1,70	0,04
RA/192100/N4	100	112	15	15	10	56,5	M10	25	92	3,10	0,05

RA/192000/M, .../MX Double acting, ISO 21287 – Ø 20 ... 125 mm

RA/192000/N6 – Cylinder with external guiding



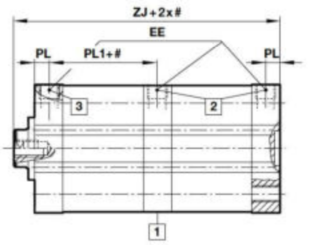




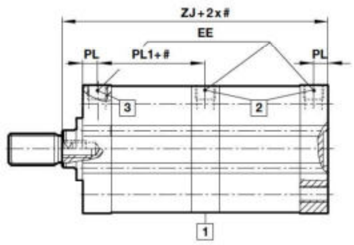
Standard strokes 25, 50, 75 and 100 mm only

Model	Ø	AB	AC	AE	AJ	AN	AU	AX	BA	BE	BN	BR	BS	BZ	at 0 mm	per 5 mm
RA/192025/N6	25	7,5	30	M5	12	20	37,5	44	30	16	18	39	57	43,5	0,31 kg	0,09 kg
RA/192032/N6	32	7,5	30	M5	12	20	40,5	48,5	30	16	19	44	63	43,5	0,44 kg	0,12 kg

RA/192000/TMX – Tandem cylinder
With female piston rod thread



RA/192000/TM – Tandem cylinder
With male piston rod thread



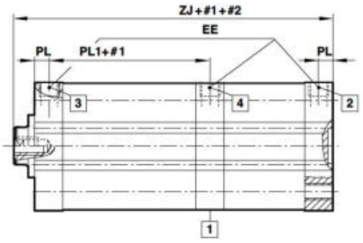
Model	Ø	EE	PL	PL1	ZJ	kg at 0 mm	kg per 5 mm
RA/192020/TM.	20	M5	7	25,5	68	0,21	0,01
RA/192025/TM.	25	M5	7	26,5	71	0,26	0,01
RA/192032/TM.	32	G1/8	7,5	30	81	0,39	0,02
RA/192040/TM.	40	G1/8	7,5	31	83	0,51	0,02
RA/192050/TM.	50	G1/8	7,5	31	85	0,78	0,03
RA/192063/TM.	63	G1/8	7,5	36	94	1,21	0,03
RA/192080/TM.	80	G1/8	7,5	40	104	2,11	0,04
RA/192100/TM.	100	G1/8	10,5	45,5	122	3,68	0,05

Stroke
1 Exhaust port
Note: Do not cover this area!
2 Pressure »outstroke«
3 Pressure »instroke«

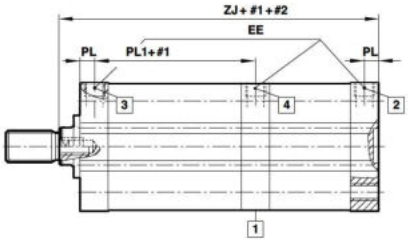
ISO COMPACT CYLINDERS

RA/192000/M, …/MX Double acting, ISO 21287 – Ø 20 … 125 mm

RA/192000/SMX – Multi position cylinder
With female piston rod thread



RA/192000/SM – Multi position cylinder
With male piston rod thread



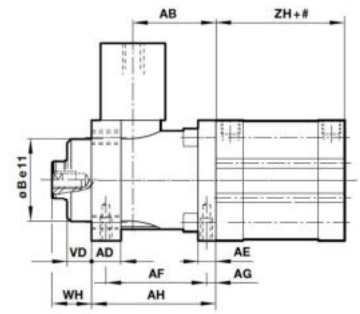
Model	Ø	EE	PL	PL1	ZJ	kg at 0 mm	kg per 5 mm
RA/192020/SM.	20	M5	7	25,5	68	0,21	0,01
RA/192025/SM.	25	M5	7	26,5	71	0,26	0,01
RA/192032/SM.	32	G1/8	7,5	30	81	0,39	0,02
RA/192040/SM.	40	G1/8	7,5	31	83	0,51	0,02
RA/192050/SM.	50	G1/8	7,5	31	85	0,78	0,03
RA/192063/SM.	63	G1/8	7,5	36	94	1,21	0,03
RA/192080/SM.	80	G1/8	7,5	40	104	2,11	0,04
RA/192100/SM.	100	G1/8	10,5	45,5	122	3,68	0,05

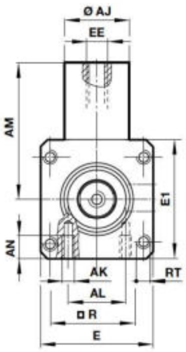
1 Exhaust port
Note: Do not cover this area!

#1 Stroke front cylinder
#2 Stroke rear cylinder
Note: Stroke (#1) > stroke (#2)

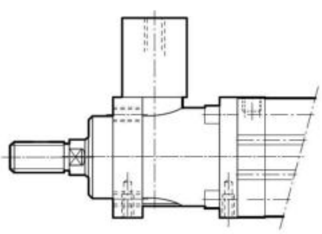
2 Pressure »outstroke« rear cylinder
3 Pressure »instroke«
4 Pressure »outstroke« front cylinder

RA/192000/L4X – Cylinder with locking unit female piston rod thread





RA/192000/L4 – Cylinder with locking unit male piston rod thread



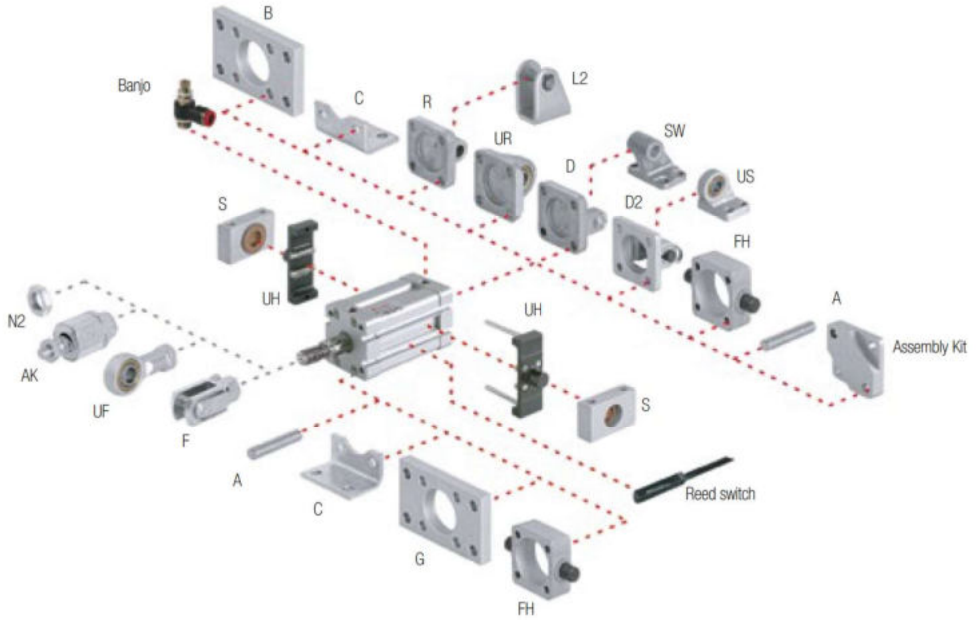
Stroke

Model	Ø	AB	AD	AE	AF	AG	AH	Ø AJ	AK	AL	AM	AN
RA/192032/L4.	32	32	12	8	40	4,2	48	25	M5	16	49	8
RA/192040/L4.	40	35,5	12	10	46	4,5	55	24	M5	21	61,5	10
RA/192050/L4.	50	49	16	15	54	11,5	70	30	M6	24	75	12
RA/192063/L4.	63	49	15	15	55	7,5	70	38	M8	32	86	12
RA/192080/L4.	80	62	16	16	70	10	90	53	M8	44	119	16
RA/192100/L4.	100	65	18	16	70	10	92	48	M8	60	119	16
RA/192125/L4.	125	85	27	25	95	11	122	65	M10	75	140	20
Ø	**E**	**EE**	**R**	**RT**	**VD**	**WH**	**ZH**		**Locking force**		**kg at 0 mm**	**kg per 5 mm**
32	48	M 5	32,5	M 6	10	16	44	–	600 N		0,53	0,02
40	56	G1/8	38	M 6	10	18	45	–	1000 N		0,70	0,02
50	68	G1/8	46,5	M 8	12	22	45	–	1500 N		1,26	0,03
63	82	G1/8	56,5	M 8	12	20	49	–	2200 N		1,90	0,03
80	100	G1/8	72	M 10	20	33	54	–	5000 N		3,80	0,04
100	120	G1/8	89	M 10	23	38	67	–	5000 N		5,90	0,05
125	140	G1/8	110	M 12	32	65	71	–	7000 N		10,10	0,7

MOUNTINGS FOR ISO COMPACT CYLINDERS
RA/191000/M, …/MX; RA/192000/M, …/MX; RA/193000/M, …/MX

Male and Female Piston Rod Thread

Male Piston Rod Thread Only



For cylinders with male and female piston rod thread

Dia. Ø	A	B, G	C	D	D2	FH	L2
20	–	QA/192020/22	QM/192020/21	–	–	–	QM/8020/44
25	–	QA/192025/22	QM/192025/21	–	–	–	QM/8020/44
32	QM/8032/35	QA/8032/22	QA/192032/21	QA/8032/23	QA/8032/42	QA/8032/34	–
40	QM/8032/35	QA/8040/22	QA/192040/21	QA/8040/23	QA/8040/42	QA/8040/34	–
50	QM/8050/35	QA/8050/22	QA/192050/21	QA/8050/23	QA/8050/42	QA/8050/34	–
63	QM/8050/35	QA/8063/22	QA/192063/21	QA/8063/23	QA/8063/42	QA/8063/34	–
80	QM/8080/35	QA/8080/22	QA/192080/21	QA/8080/23	QA/8080/42	QA/8080/34	–
100	QM/8080/35	QA/8100/22	QA/192100/21	QA/8100/23	QA/8100/42	QA/8100/34	–
125	QM/8125/35	QM/8125/22	QM/8125/21	QM/8125/23	QA/8125/42	QA/8125/34	–

Dia. Ø	R	S	SW	UH	UR	US	Assembly kit*
20	QM/192020/27	–	–	–	–	–	QA/192020/55
25	QM/192025/27	–	–	–	–	–	QA/192025/55
32	QA/8032/27	QA/8032/41	M/P19493	PQA/182032/40	QA/8032/33	M/P40310	QA/192032/55
40	QA/8040/27	QA/8040/41	M/P19494	PQA/182040/40	QA/8040/33	M/P40311	QA/192040/55
50	QA/8050/27	QA/8040/41	M/P19495	PQA/182050/40	QA/8050/33	M/P40312	QA/192050/55
63	QA/8063/27	QA/8063/41	M/P19496	PQA/182063/40	QA/8063/33	M/P40313	QA/192063/55
80	QA/8080/27	QA/8063/41	M/P19497	PQA/182080/40	QA/8080/33	M/P40314	QA/192080/55
100	QA/8100/27	QA/8100/41	M/P19498	PQA/182100/40	QA/8100/33	M/P40315	QA/192100/55
125	QM/8125/27	QA/8100/41	M/P19499	PQA/182125/40	QM/8125/33	M/P71355	QA/192125/55

* For connecting 2 similar bore actuators together via the rear end cap.

For cylinders with male piston rod thread

Dia. Ø	AK	F	N2	UF
20	QM/8020/38	QM/8020/25	M/P1501/60	QM/8020/32
25	QM/8020/38	QM/8020/25	M/P1501/60	QM/8020/32
32	QM/8025/38	QM/8025/25	M/P1501/89	QM/8025/32
40	QM/8025/38	QM/8025/25	M/P1501/89	QM/8025/32
50	QM/8040/38	QM/8040/25	M/P1501/90	QM/8040/32
63	QM/8040/38	QM/8040/25	M/P1501/90	QM/8040/32
80	QM/8050/38	QM/8050/25	M/P1501/91	QM/8050/32
100	QM/8050/38	QM/8050/25	M/P1501/91	QM/8050/32
125	QM/8125/38	QM/8125/25	M/P1501/105	QM/8125/32

COMPACT CYLINDERS

RM/91000/M - RM/93000/M Single acting – Ø 20 … 63 mm

- One third the basic length of a corresponding ISO/VDMA model
- Low friction, long life seal design
- Fully non-corrodible specification
- Standard magnetic piston

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Single acting, magnetic, piston non-cushioned

Operating pressure:
2 … 10 bar

Ambient temperature:
-5°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°

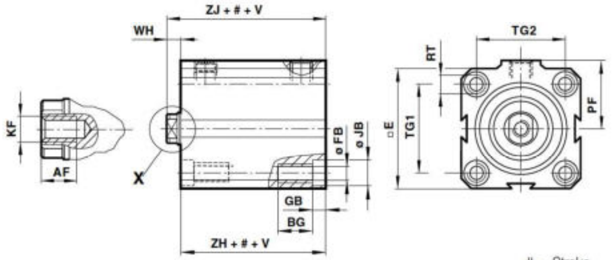
Materials

Barrel & end caps:
Anodised aluminium alloy

Piston rod:
Stainless steel
(Ø 12 … 40 mm austenitic, Ø 50 … 63 mm martensitic)

Seals:
PUR and/or NBR

Dimensions



= Stroke

Dia. Ø	AF	BG	E	Ø FB	GB	Ø JB	KF	PF	RT	TG 1	TG 2	V (#0 … 25)	V (#26 … 50)	WH	ZH	ZJ
20	8	9	32	3,3	3,5	6	M 5	19,5	M 4	23	23	17	34	6	26	32
25	9	12	37	4,2	4,5	7,5	M 6	22	M 5	27	27	18	36	6,5	28,5	35
32	12	12	45	4,2	4,5	7,5	M 8	27,5	M 5	33	33	19	38	6,5	29	35,5
40	12	16	55	6,8	6,5	10,5	M 8	31,5	M 8	41	41	20	40	6,5	31,5	38
50	14	16	63	6,8	6,5	10,5	M 10	37	M 8	48	48	30	60	8	35	43
63	16	20	80	8,5	8,5	13,5	M 12	48	M 10	61	61	30	60	8	42,5	50,5

Models

Accessories

Female thread Sprung in Model	Female thread Sprung out Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting	Banjo flow control	Straight fitting	Elbow fitting
										
RM/91020/M/10	RM/93020/M/10	20	10	M5	10	M/50/LSU/5V	M/P72487B	C0L510405	C02250405	C02470405
RM/91025/M/10	RM/93025/M/10	25	10	M5	12	M/50/LSU/5V	M/P72487B	C0L510405	C02250405	C02470405
RM/91032/M/10	RM/93032/M/10	32	10	G1/8	16	M/50/LSU/5V	M/P72487B	C0L510618	C02250618	C02470618
RM/91032/M/25	RM/93032/M/25	32	25	G1/8	16	M/50/LSU/5V	M/P72487B	C0L510618	C02250618	C02470618
RM/91040/M/10	RM/93040/M/10	40	10	G1/8	16	M/50/LSU/5V	M/P72487B	C0L510618	C02250618	C02470618
RM/91040/M/25	RM/93040/M/25	40	25	G1/8	16	M/50/LSU/5V	M/P72487B	C0L510618	C02250618	C02470618
RM/91050/M/25	RM/93050/M/25	50	25	G1/8	20	M/50/LSU/5V	M/P72487B	C0L510618	C02250618	C02470618
RM/91063/M/25	RM/93063/M/25	63	25	G1/4	20	M/50/LSU/5V	M/P72487B	C0L510628	C02250628	C02470628

Other bore sizes and stroke lengths available up to 50 mm maximum, please contact us.
For information on additional magnetic switches see pages 137-141.
For mountings refer to double acting versions as shown on page 52.

For alternative fitting types, shapes or sizes, refer to our fittings section.

Options

- Non-rotating piston rod

COMPACT CYLINDERS

RM/92000/M Double acting – Ø 12 … 100 mm

- One third the basic length of a corresponding ISO/VDMA model
- Low friction, long life seal design
- Fully non-corrodible specification
- Standard magnetic piston for full control system versatility

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, magnetic piston non-cushioned

Operating pressure:
1 … 10 bar

Ambient temperature:
-5°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

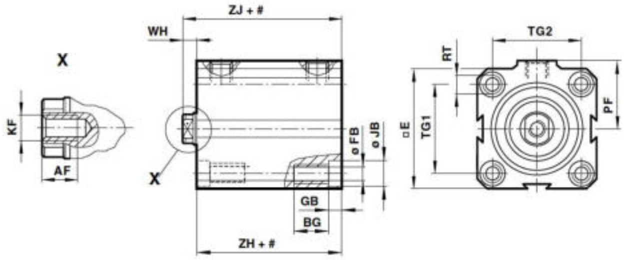
Barrel & end caps:
Anodised aluminium alloy

Piston rod:
Stainless steel
(Ø 12 … 40 mm austenitic,
Ø 50 … 63 mm martensitic)

Seals:
PUR and/or NBR

EXPRESS

Dimensions



Dia. Ø	AF	BG	E	Ø FB	GB	Ø JB	KF	PF	RT	TG1	TG2	WH	ZH	ZJ
12	6	9	25	3,3	3,5	6	M 3	15	M 4	17	13	4,5	24	28,5
16	7	9	28	3,3	3,5	6	M 4	17	M 4	20	20	5,5	24,5	30
20	8	9	32	3,3	3,5	6	M 5	19,5	M 4	23	23	6	26	32
25	9	12	37	4,2	4,5	7,5	M 6	22	M 5	27	27	6,5	28,5	35
32	12	12	45	4,2	4,5	7,5	M 8	27,5	M 5	33	33	6,5	29	35,5
40	12	16	55	6,8	6,5	10,5	M 8	31,5	M 8	41	41	6,5	31,5	38
50	14	16	63	6,8	6,5	10,5	M 10	37	M 8	48	48	8	35	43
63	16	20	80	8,5	8,5	13,5	M 12	48	M 10	61	61	8	42,5	50,5
80	22	20	94	8,5	8,5	13,5	M 16	57	M 10	73	73	9	47	56
100	22	25	116,5	10,2	10,5	16,5	M 16	67	M 12	90,5	90,5	10	48,5	58,5

Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting	Banjo flow control	Straight fitting	Elbow fitting	Service kit
										
RM/92012/M/5	12	5	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92012/M/10	12	10	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92012/M/15	12	15	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92012/M/20	12	20	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92012/M/25	12	25	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92012/M/30	12	30	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92016/M/5	16	5	M5	8	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92016/M/10	16	10	M5	8	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92016/M/15	16	15	M5	8	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92016/M/20	16	20	M5	8	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92016/M/25	16	25	M5	8	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92016/M/30	16	30	M5	8	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92020/M/5	20	5	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92020/M/10	20	10	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92020/M/15	20	15	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92020/M/20	20	20	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92020/M/25	20	25	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–

COMPACT CYLINDERS

RM/92000/M Double acting – Ø 12 … 100 mm

Models | Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting	Banjo flow control	Straight fitting	Elbow fitting	Service kit
RM/92020/M/30	20	30	M5	10	M/50/LSU/5V	M/P72487B	COK510405	C02250405	C02470405	–
RM/92020/M/40	20	40	M5	10	M/50/LSU/5V	M/P72487B	COK510405	C02250405	C02470405	–
RM/92020/M/50	20	50	M5	10	M/50/LSU/5V	M/P72487B	COK510405	C02250405	C02470405	–
RM/92025/M/5	25	5	M5	12	M/50/LSU/5V	M/P72487B	COK510405	C02250405	C02470405	–
RM/92025/M/10	25	10	M5	12	M/50/LSU/5V	M/P72487B	COK510405	C02250405	C02470405	–
RM/92025/M/15	25	15	M5	12	M/50/LSU/5V	M/P72487B	COK510405	C02250405	C02470405	–
RM/92025/M/20	25	20	M5	12	M/50/LSU/5V	M/P72487B	COK510405	C02250405	C02470405	–
RM/92025/M/25	25	25	M5	12	M/50/LSU/5V	M/P72487B	COK510405	C02250405	C02470405	–
RM/92025/M/30	25	30	M5	12	M/50/LSU/5V	M/P72487B	COK510405	C02250405	C02470405	–
RM/92025/M/40	25	40	M5	12	M/50/LSU/5V	M/P72487B	COK510405	C02250405	C02470405	–
RM/92025/M/50	25	50	M5	12	M/50/LSU/5V	M/P72487B	COK510405	C02250405	C02470405	–
RM/92032/M/5	32	5	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92032/M/10	32	10	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92032/M/15	32	15	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92032/M/20	32	20	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92032/M/25	32	25	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92032/M/30	32	30	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92032/M/40	32	40	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92032/M/50	32	50	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92032/M/60	32	60	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92032/M/80	32	80	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92040/M/5	40	5	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92040/M/10	40	10	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92040/M/15	40	15	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92040/M/20	40	20	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92040/M/25	40	25	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92040/M/30	40	30	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92040/M/40	40	40	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92040/M/50	40	50	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92040/M/60	40	60	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92040/M/80	40	80	G1/8	16	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	–
RM/92050/M/5	50	5	G1/8	20	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	QM/92050/00
RM/92050/M/10	50	10	G1/8	20	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	QM/92050/00
RM/92050/M/15	50	15	G1/8	20	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	QM/92050/00
RM/92050/M/20	50	20	G1/8	20	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	QM/92050/00
RM/92050/M/25	50	25	G1/8	20	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	QM/92050/00
RM/92050/M/30	50	30	G1/8	20	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	QM/92050/00
RM/92050/M/40	50	40	G1/8	20	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	QM/92050/00
RM/92050/M/50	50	50	G1/8	20	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	QM/92050/00
RM/92050/M/60	50	60	G1/8	20	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	QM/92050/00
RM/92050/M/80	50	80	G1/8	20	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	QM/92050/00
RM/92050/M/100	50	100	G1/8	20	M/50/LSU/5V	M/P72487B	COK510618	C02250618	C02470618	QM/92050/00
RM/92063/M/10	63	10	G1/4	20	M/50/LSU/5V	M/P72487B	COK510628	C02250628	C02470628	QM/92063/00
RM/92063/M/15	63	15	G1/4	20	M/50/LSU/5V	M/P72487B	COK510628	C02250628	C02470628	QM/92063/00
RM/92063/M/20	63	20	G1/4	20	M/50/LSU/5V	M/P72487B	COK510628	C02250628	C02470628	QM/92063/00
RM/92063/M/25	63	25	G1/4	20	M/50/LSU/5V	M/P72487B	COK510628	C02250628	C02470628	QM/92063/00
RM/92063/M/30	63	30	G1/4	20	M/50/LSU/5V	M/P72487B	COK510628	C02250628	C02470628	QM/92063/00
RM/92063/M/40	63	40	G1/4	20	M/50/LSU/5V	M/P72487B	COK510628	C02250628	C02470628	QM/92063/00
RM/92063/M/50	63	50	G1/4	20	M/50/LSU/5V	M/P72487B	COK510628	C02250628	C02470628	QM/92063/00
RM/92063/M/60	63	60	G1/4	20	M/50/LSU/5V	M/P72487B	COK510628	C02250628	C02470628	QM/92063/00
RM/92063/M/80	63	80	G1/4	20	M/50/LSU/5V	M/P72487B	COK510628	C02250628	C02470628	QM/92063/00
RM/92063/M/100	63	100	G1/4	20	M/50/LSU/5V	M/P72487B	COK510628	C02250628	C02470628	QM/92063/00

COMPACT CYLINDERS

RM/92000/M Double acting – Ø 12 … 100 mm

Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting	Banjo flow control	Straight fitting	Elbow fitting	Service kit
RM/92080/M/15	80	15	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92080/00
RM/92080/M/20	80	20	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92080/00
RM/92080/M/25	80	25	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92080/00
RM/92080/M/30	80	30	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92080/00
RM/92080/M/40	80	40	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92080/00
RM/92080/M/50	80	50	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92080/00
RM/92080/M/80	80	80	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92080/00
RM/92080/M/100	80	100	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92080/00
RM/92100/M/15	100	15	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92100/00
RM/92100/M/20	100	20	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92100/00
RM/92100/M/25	100	25	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92100/00
RM/92100/M/30	100	30	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92100/00
RM/92100/M/40	100	40	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92100/00
RM/92100/M/50	100	50	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92100/00
RM/92100/M/80	100	80	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92100/00
RM/92100/M/100	100	100	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92100/00

Other stroke lengths available up to 300 mm maximum, please contact us.
For information on additional magnetic switches see pages 137-141.

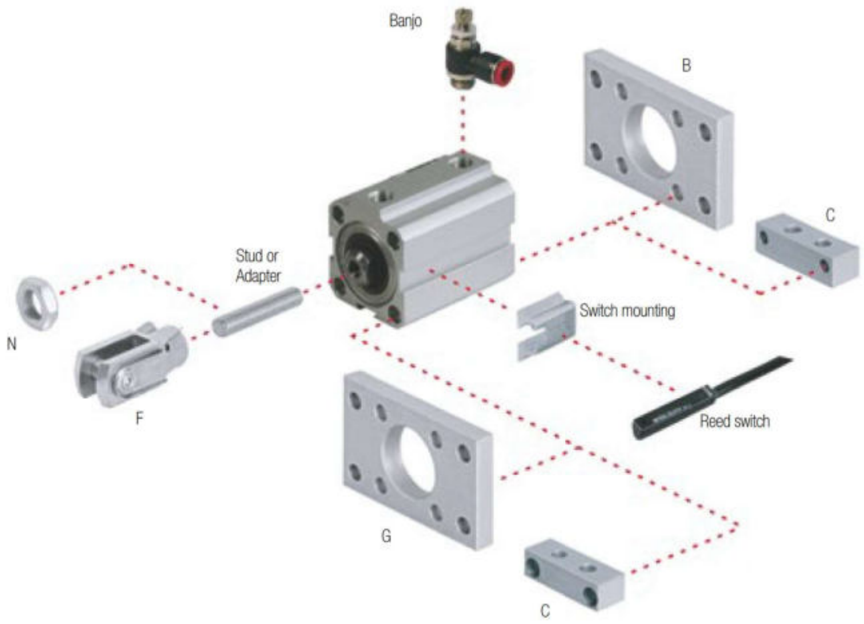
For alternative fitting types, shapes or sizes, refer to our fittings section.

Options

- Heat resistant seals
- Extended piston rod
- Double ended piston rod
- Non rotating piston rod
- Cylinder with guiding

MOUNTINGS FOR COMPACT CYLINDERS
RM/91000/M, RM/92000/M and RM/93000/M Single and double acting

Single and Double Acting



Dia. Ø	B, G	C	F	N	Stud or adaptor*
12	QM/90012/22	QM/90012/21	QM/57008/25	M/P1500/111	M/P1710/18
16	QM/90016/22	QM/90016/21	QM/8010/25	M/P1501/80	M/P1710/19
20	QM/90020/22	QM/90020/21	QM/92020/25	M/P1501/109	M/P1710/20
25	QM/90025/22	QM/90025/21	QM/57016/25	M/P1501/79	M/P1710/21
32	QM/90032/22	QM/90032/21	QM/57020/25	M/P1501/60	M/P1710/22
40	QM/90040/22	QM/90040/21	QM/57020/25	M/P1501/60	M/P1710/22
50	QM/90050/22	QM/90050/21	QM/57025/25	–	M/P71470/1
63	QM/90063/22	QM/90063/21	QM/57040/25	–	M/P71470/2
80	QM/90080/22	QM/90080/21	QM/57063/25	–	M/P71470/3
100	QM/90100/22	QM/90100/21	QM/57063/25	–	M/P71470/3

* For attaching F mounting to female piston rod thread.

CLAMPING CYLINDERS

M/50100 Single acting – Ø 8 … 63 mm

- Enable high thrusts to be achieved in restricted space
- Neat, clean appearance
- One-piece body construction

Technical Data

Medium:
Compressed air, filtered and lubricated

Operating pressure:
2 … 10 bar (single acting)

Ambient temperature:
-10°C … +70°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

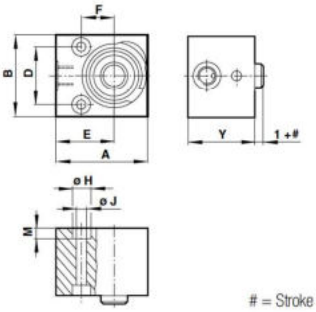
Piston rod:
Stainless steel (austenitic)

Body:
Anodized aluminium

Seals:
NBR

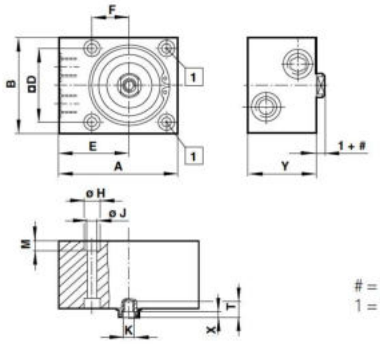
Dimensions

M/50108 and M/50112



= Stroke

M/50120 … M/50163



# = Stroke
1 = These mounting holes are omitted on 20 and 32 mm bore units

Dia. Ø	A	B	D	E	F	Ø H	Ø J	K	M	T	X
8		20	18	11	13,5	8	6	3,4	–	3,2	
12	25	20	13	16	9	6	3,4	–	3,4		
20	40	32	20	24	15	10	5,5	M 5	5,5	8	2
32	55	45	32	32	18	10	5,5	M 6	5,5	14,5	2,5
50	80	65	50	47,5	25	11	6,6	M 8	6,8	15	3
63	90	80	62	50	31	15	9	M 8	9	15	3

Dia. Ø	#	Y
8	4	15
12	4	15
12	10	23
20	4	20
20	10	26
32	5	26

Dia. Ø	#	Y
32	10	31
32	25	46
50	10	30
50	25	45
63	10	35
63	25	50

Models

Accessories

Single acting						
Model	**Dia. Ø**	**Stroke**	**Port size**	**Piston rod Ø**	**Straight fitting**	**Elbow fitting**
						
M/50108/4	8	4	M5	4	C02250405	C02470405
M/50112/4	12	4	M5	6	C02250405	C02470405
M/50112/10	12	10	M5	6	C02250405	C02470405
M/50120/4	20	4	M5	10	C02250405	C02470405
M/50120/10	20	10	M5	10	C02250405	C02470405
M/50132/5	32	5	G1/8	16	C02250618	C02470618
M/50132/10	32	10	G1/8	16	C02250618	C02470618
M/50132/25	32	25	G1/8	16	C02250618	C02470618
M/50150/10	50	10	G1/8	20	C02250618	C02470618
M/50150/25	50	25	G1/8	20	C02250618	C02470618
M/50163/10	63	10	G1/8	20	C02250618	C02470618
M/50163/25	63	25	G1/8	20	C02250618	C02470618

For alternative fitting types, shapes or sizes, refer to our fittings section.

CLAMPING CYLINDERS

M/50200 Double acting – Ø 8 … 63 mm

- Enable high thrusts to be achieved in restricted space
- Neat, clean appearance
- One-piece body construction

Technical Data

Medium:
Compressed air, filtered and lubricated

Operating pressure:
1,5 … 10 bar (double acting)

Ambient temperature:
-10°C … +70°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

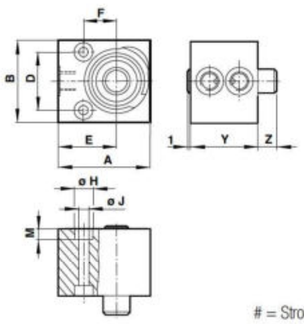
Piston rod:
Stainless steel (austenitic)

Body:
Anodized aluminium

Seals:
NBR

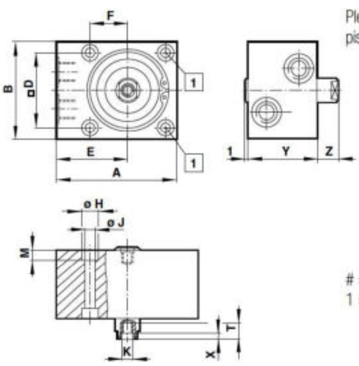
Dimensions

M/50208 and M/50212



= Stroke

M/50220 … M/50263



Please note that this range features a double ended piston rod as standard

# = Stroke
1 = These mounting holes are omitted on 20 and 32 mm bore units

Dia. Ø	A	B	Ø C	D	E	F	Ø H	Ø J	K	M	T	X
8	20	18	–	11	13,5	8	6	3,4	–	3,2	–	–
12	25	20	–	13	16	9	6	3,4	–	3,4	–	–
20	40	32	5,3	20	24	15	10	5,5	M 5	5,5	8	2
32	55	45	6,4	32	32	18	10	5,5	M 6	5,5	14,5	2,5
50	80	65	8,4	50	47,5	–	11	6,6	M 8	6,8	15	3
63	90	80	8,4	62	50	–	15	9	M 8	9	15	3

Dia. Ø	#	Y	Z
8	4	22	5
12	4	24	5
12	10	30	11
20	4	25	8
20	10	31	14
32	5	33,5	10

Dia. Ø	#	Y	Z
32	10	38,5	15
32	25	53,5	30
50	10	36,5	15
50	25	51,5	30
63	10	41,5	15
63	25	56,5	30

Models

Accessories

Double acting					Straight fitting	Elbow fitting
Model	Dia. Ø	Stroke	Port size	Piston rod Ø		
						
M/50208/4	8	4	M5	4	C02250405	C02470405
M/50208/10	8	10	M5	4	C02250405	C02470405
M/50212/4	12	4	M5	5	C02250405	C02470405
M/50212/10	12	10	M5	5	C02250405	C02470405
M/50220/4	20	4	M5	10	C02250405	C02470405
M/50220/10	20	10	M5	10	C02250405	C02470405
M/50232/5	32	5	G1/8	12	C02250618	C02470618
M/50232/10	32	10	G1/8	12	C02250618	C02470618
M/50232/25	32	25	G1/8	12	C02250618	C02470618
M/50250/10	50	10	G1/8	16	C02250618	C02470618
M/50250/25	50	25	G1/8	16	C02250618	C02470618
M/50263/10	63	10	G1/8	16	C02250618	C02470618
M/50263/25	63	25	G1/8	16	C02250618	C02470618

For alternative fitting types, shapes or sizes, refer to our fittings section.

New ISOLine™
Cylinder range

From one supplier you have total availability of both standard and more specialised products meeting most industrial requirements

ISO/VDMA
range

Integrated valve and actuator combined

Not all 'ISO/VDMA' actuators look alike and perform to a similar standard.

The range covers standard and specific use products, up to 320 mm bore and 3,000 mm stroke length and is possibly the only unit on the market capable of working up to 16 bar of pressure as standard.

What's more, IMI Precision Engineering were the first to utilise a flush-mounted switch system, now standard for almost ten years, which ensures that switches are fully protected from all kinds of mechanical damage.

> Very low static and dynamic friction characteristics allow low pressure working at speeds down to 3 mm/sec and for ultra-low friction applications a special version is available. Running costs can be optimised for maximum efficiency without use of special products, reducing cost of ownership and inventory holding.

> The vast IMI Norgren range includes both profile and traditional round barrel versions, a stainless steel version, heavy duty wiper and low friction options, non or extended cushion, integrated valve and actuator combined on one unit (IVAC), piston rod lock, guide block and unit complete with position sensor.

> It includes our new ISOLine™ range with Adaptive Cushioning System (ACS). This system will automatically adapt to the application without the need for any adjustment of the cushion screw. This removes the need for specialist knowledge for set-up and simplifies installation. Also, the ACS will adapt to any changes in the application, such as varying loads, ensuring the machine continues to run efficiently.

Find out more
www.imi-precision.com

Engineering
GREAT Solutions

IMI NORGREN

ISOLINE™ CYLINDER

PRA/801000/M, PRA/803000/M, RA/801000/M, RA/803000/M Single acting - Ø 32 … 100 mm

- Cylinder conforms to ISO 15552, VDMA 24562 and NFE 49-003-1
- High performance adaptive cushioning system “ACS”
- High performance, stability and reliability

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Standard:
ISO 15552
VDMA 24562
NFE 49-003-1
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

Ambient temperature:
Ø 32 … 100 mm
"Standard version"
-20°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel:
Anodised aluminium

End covers:
Pressure diecast aluminium

Piston rod:
Stainless steel (martensitic)

Piston rod seals:
PUR

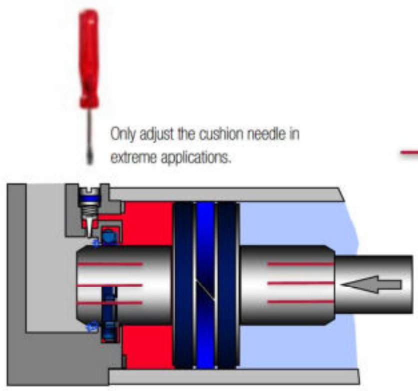
‘O’-rings:
NBR

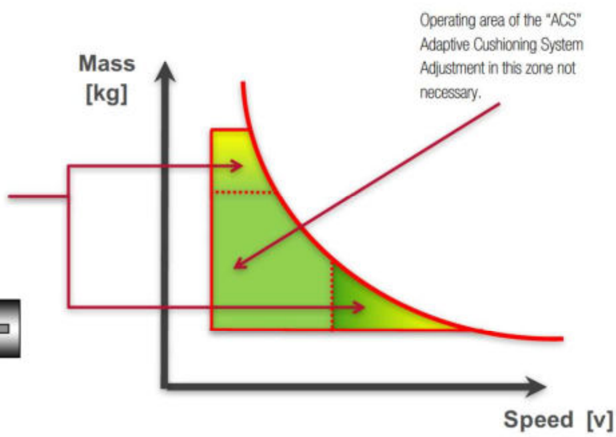
Cylinder Ø (mm)	32	40	50	63	80	100
Profile barrel	•	•	•	•	•	•
Round barrel	•	•	•	•	•	•
Port size	G1/8	G1/4	G1/4	G3/8	G3/8	G1/2
Piston rod Ø (mm)	12	16	20	20	25	25
Piston rod thread	M10 x 1,25	M12 x 1,25	M16 x 1,25	M16 x 1,25	M20 x 1,25	M20 x 1,25
Cushioning: Adaptive cushioning systems “ACS”				•	•	•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

F1 = Final return 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.





ISOLINE™ CYLINDER

PRA/801000/M, PRA/803000/M, RA/801000/M, RA/803000/M Single acting - Ø 32 … 100 mm

Models / Accessories

Sprung in Model Profile barrel	Sprung in Model Round barrel	Dia. Ø	Port size	Banjo flow control	Straight fitting	Elbow fitting	Reed switch with integral 5 m cable	Switch mounting*	Service Kit
									
PRA/801032/M/*	RA/801032/M/*	32	G1/8	C0K510618	C02250618	C02470618	M/50/LSU/5V	QM/27/2/1	QA/8032/00
PRA/801040/M/*	RA/801040/M/*	40	G1/4	C0K510628	C02250628	C02470628	M/50/LSU/5V	QM/27/2/1	QA/8040/00
PRA/801050/M/*	RA/801050/M/*	50	G1/4	C0K510828	C02250828	C02470828	M/50/LSU/5V	QM/27/2/1	QA/8050/00
PRA/801063/M/*	RA/801063/M/*	63	G3/8	C0K510838	C02250838	C02470838	M/50/LSU/5V	QM/27/2/1	QA/8063/00
PRA/801080/M/*	RA/801080/M/*	80	G3/8	C0K511038	C02251038	C02471038	M/50/LSU/5V	QM/27/2/1	QA/8080/00
PRA/801100/M/*	RA/801100/M/*	100	G1/2	C0K511248	C02251248	C02471248	M/50/LSU/5V	QM/27/2/1	QA/8100/00

Sprung out Model Profile barrel	Sprung out Model Round barrel	Dia. Ø	Port size	Banjo flow control	Straight fitting	Elbow fitting	Reed switch with integral 5 m cable	Switch mounting*	Service Kit
									
PRA/803032/M/*	RA/803032/M/*	32	G1/8	C0K510618	C02250618	C02470618	M/50/LSU/5V	QM/27/2/1	QA/8032/00
PRA/803040/M/*	RA/803040/M/*	40	G1/4	C0K510628	C02250628	C02470628	M/50/LSU/5V	QM/27/2/1	QA/8040/00
PRA/803050/M/*	RA/803050/M/*	50	G1/4	C0K510828	C02250828	C02470828	M/50/LSU/5V	QM/27/2/1	QA/8050/00
PRA/803063/M/*	RA/803063/M/*	63	G3/8	C0K510838	C02250838	C02470838	M/50/LSU/5V	QM/27/2/1	QA/8063/00
PRA/803080/M/*	RA/803080/M/*	80	G3/8	C0K511038	C02251038	C02471038	M/50/LSU/5V	QM/27/2/1	QA/8080/00
PRA/803100/M/*	RA/803100/M/*	100	G1/2	C0K511248	C02251248	C02471248	M/50/LSU/5V	QM/27/2/1	QA/8100/00

* For use with round barrel

Standard strokes

Cylinder	Stroke length (mm)			
Ø (mm)	25	50	80	100
32	•	•	•	•
40	•	•	•	•
50	•	•	•	•
63	•	•	•	•
80	•	•	•	•
100	•	•	•	•

Options

Piston rod material:

- Stainless steel martensitic
- Stainless steel austenitic
- Hard chromium plated
- Stainless steel austenitic & hard chromium plated
- Non-rotating piston rod (internal): N2
- Extended piston rod: MU

Piston rod thread:

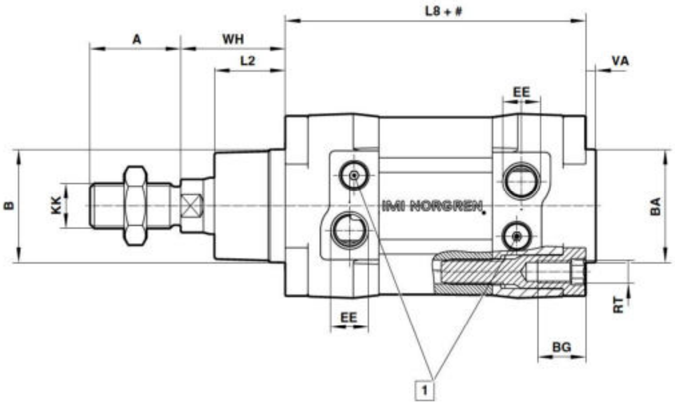
- Male
- Female

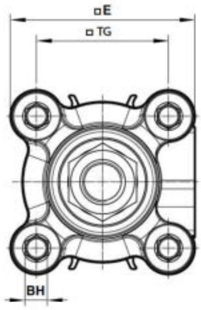
ISOLINE™ CYLINDER

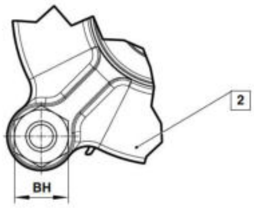
PRA/801000/M, PRA/803000/M, RA/801000/M, RA/803000/M Single acting - Ø 32 … 100 mm

Dimensions

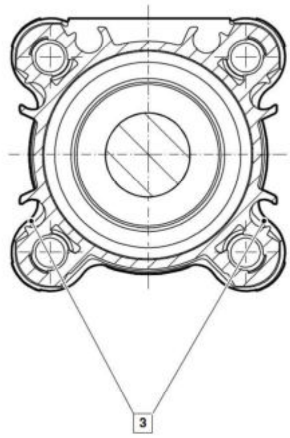
PRA/801000/M, RA/801000/M
Standard Cylinder Sprung in



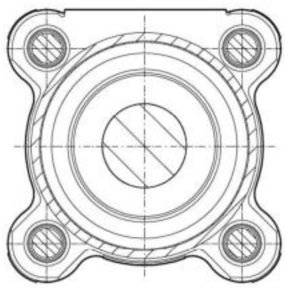




Model Profile barrel
Ø 32 … 100 mm



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	KK	L2	L8	RT	□TG	VA	WH
32	22	30	30	16	6	47	G1/8	M10 x 1,25	19,5	119 + (N *28)	M 6	32,5	3,5	26
40	24	35	35	16	6	53	G1/4	M12 x 1,25	22	130 + (N *28)	M 6	38	3,5	30
50	32	40	40	16	8	65	G1/4	M16 x 1,5	25	131 + (N *28)	M 8	46,5	3,5	37
63	32	45	45	16	8	75	G3/8	M16 x 1,5	25	146 + (N *28)	M 8	56,5	3,5	37
80	40	45	45	17	19	95	G3/8	M20 x 1,5	33	153 + (N *28)	M 10	72	3,5	46
100	40	55	55	17	19	113	G1/2	M20 x 1,5	35	163 + (N *28)	M 10	89	3,5	51

Ø	Model Profile barrel	at 0 mm	per 25 mm	Model Round barrel	at 0 mm	per 25 mm
32	PRA/801032/M/*	0,49 (kg)	0,15 (kg)	RA/801032/M/*	0,46 (kg)	0,16 (kg)
40	PRA/801040/M/*	0,69 (kg)	0,22 (kg)	RA/801040/M/*	0,65 (kg)	0,21 (kg)
50	PRA/801050/M/*	1,09 (kg)	0,31 (kg)	RA/801050/M/*	1,02 (kg)	0,32 (kg)
63	PRA/801063/M/*	1,54 (kg)	0,35 (kg)	RA/801063/M/*	1,46 (kg)	0,36 (kg)
80	PRA/801080/M/*	2,64 (kg)	0,62 (kg)	RA/801080/M/*	2,54 (kg)	0,64 (kg)
100	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)	L8	Note
<= 50	N = 0	
> 50	$N = \frac{\text{Hub (stroke)}}{50} - 1$	round up to integer

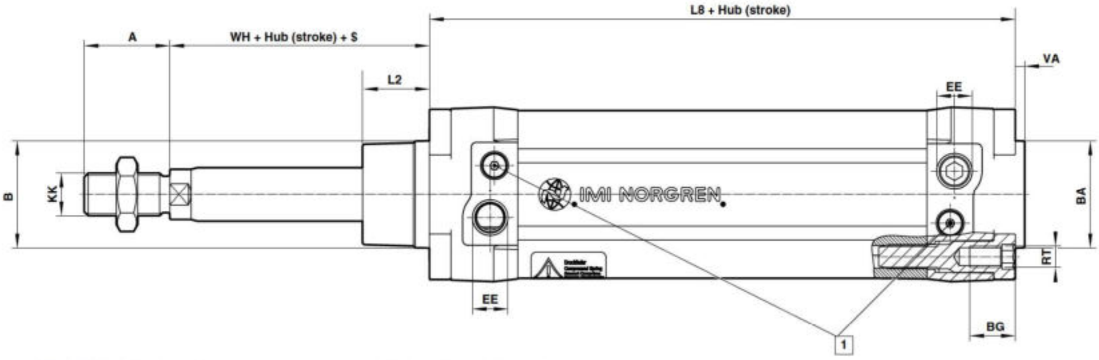
ISOLINE™ CYLINDER

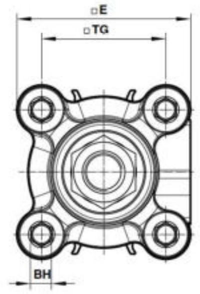
PRA/801000/M, PRA/803000/M, RA/801000/M, RA/803000/M Single acting - Ø 32 … 100 mm

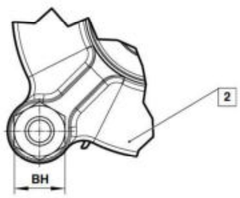
Dimensions

PRA/803000/M, RA/803000/M, PRA/803000/MU, RA/803000/MU

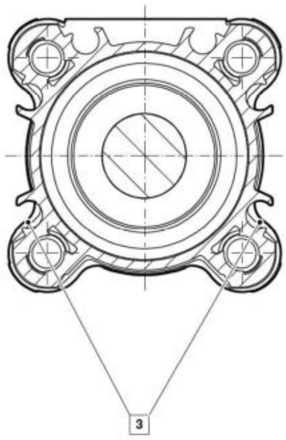
Standard Cylinder Sprung out



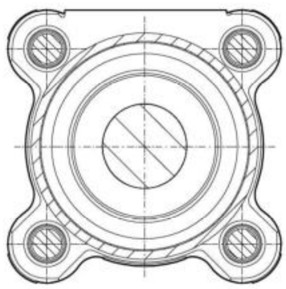




Model Profile barrel
Ø 32 … 100 mm



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	KK	L2	L8	RT	□TG	VA	WH
32	22	30	30	16	6	47	G1/8	M10 x 1,25	19,5	119 + (N *28)	M 6	32,5	3,5	26
40	24	35	35	16	6	53	G1/4	M12 x 1,25	22	130 + (N *28)	M 6	38	3,5	30
50	32	40	40	16	8	65	G1/4	M16 x 1,5	25	131 + (N *28)	M 8	46,5	3,5	37
63	32	45	45	16	8	75	G3/8	M16 x 1,5	25	146 + (N *28)	M 8	56,5	3,5	37
80	40	45	45	17	19	95	G3/8	M20 x 1,5	33	153 + (N *28)	M 10	72	3,5	46
100	40	55	55	17	19	113	G1/2	M20 x 1,5	35	163 + (N *28)	M 10	89	3,5	51

Ø	Model Profile barrel	at 0 mm	per 25 mm	Model Round barrel	at 0 mm	per 25 mm
32	PRA/803032/M/*	0,49 (kg)	0,13 (kg)	RA/803032/M/*	0,46 (kg)	0,13 (kg)
40	PRA/803040/M/*	0,69 (kg)	0,17 (kg)	RA/803040/M/*	0,65 (kg)	0,17 (kg)
50	PRA/803050/M/*	1,09 (kg)	0,24 (kg)	RA/803050/M/*	1,02 (kg)	0,25 (kg)
63	PRA/803063/M/*	1,54 (kg)	0,28 (kg)	RA/803063/M/*	1,46 (kg)	0,29 (kg)
80	PRA/803080/M/*	2,64 (kg)	0,51 (kg)	RA/803080/M/*	2,54 (kg)	0,53 (kg)
100	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)	L8	Note
<= 50	N = 0	
> 50	$N = \frac{\text{Hub (stroke)}}{50} -1$	round up to integer

ISOLINE™ CYLINDER

PRA/802000/M, RA/802000/M, RA/8000, RA/8000/M Double acting - Ø 32 … 320 mm

- Cylinder conforms to ISO 15552, VDMA 24562 and NFE 49-003-1
- High performance adaptive cushioning system "ACS"
- Low temperature version up to -40°C
- High temperature version up to +150°C
- 16 bar version available

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Standard:
ISO 15552
VDMA 24562
NFE 49-003-1

Operation:
Double acting, adjustable cushioning

Operating pressure:
Ø 32 … 125 mm (Profile barrel)
1 … 12 bar
Ø 32 … 200 mm (Round barrel)
1 … 16 bar
Ø 250 & 320 mm (Round barrel)
1 … 10 bar

Cylinder diameters:
32, 40, 50, 63, 80, 100, 125, 160, 200, 250, 320 mm

Standard strokes:
25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500 mm

Non-standard strokes:
Available (5 … 2800 mm)

Ambient temperature:
Ø 32 … 125 mm
"Standard version"
-20°C … +80°C max.
Ø 160 … 320 mm
"Standard version"
-10°C … +80°C max.
Ø 32 … 320 mm
"High temperature version" (T)
0 … +150°C max.
Ø 32 … 200 mm
"Low temperature version" (L)
-40°C max. … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

EXPRESS

Materials

Barrel:
Anodised aluminium

End covers:
Pressure diecast aluminium (Ø 200 … 320 mm gravity cast aluminium)

Piston rod:
Stainless steel (martensitic)

Piston rod seals:
PUR (Ø 160 … 320 mm NBR)

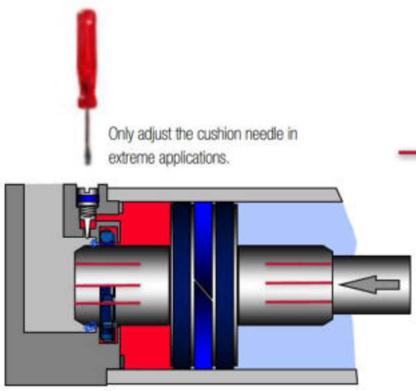
Piston seals:
PUR (Ø 160 … 320 mm NBR)

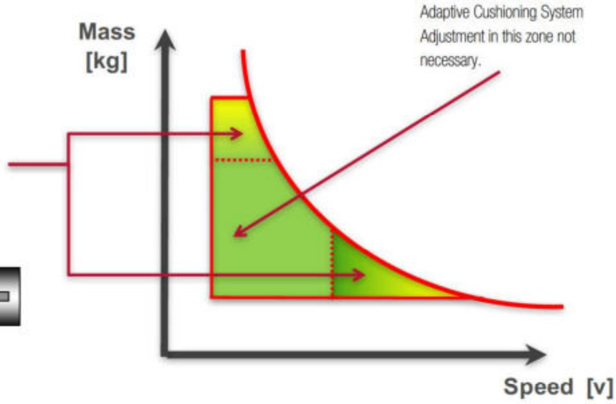
'O'-rings:
NBR

Cylinder Ø (mm)	32	40	50	63	80	100	125	160	200	250	320
Profile barrel	•	•	•	•	•	•	•				
Round barrel	•	•	•	•	•	•	•	•	•	•	•
Port size	G1/8	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2	G3/4	G3/4	G1	G1
Piston rod Ø (mm)	12	16	20	20	25	25	32	40	40	50	63
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	M27 x 2	M36 x 2	M36 x 2	M42 x 2	M48 x 2
Cushioning: Adaptive cushioning systems "ACS"	•	•	•	•	•	•	•				
Cushioning: (adjustable cushion)								•	•	•	•
Theoretical thrusts at 6 bar outstroke (N)	482	754	1178	1870	3016	4710	7363	12064	18840	29436	48228
Theoretical thrusts at 6 bar instroke (N)	414	633	990	1680	2722	4416	6882	11310	18090	28236	47292

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





ISOLINE™ CYLINDER

PRA/802000/M, RA/802000/M, RA/8000, RA/8000/M Double acting - Ø 32 … 320 mm

Models — Accessories

Model Profile barrel	Model Round barrel	Dia. Ø	Port size	Banjo flow control	Straight fitting	Elbow fitting	Reed switch with integral 5 m cable	Switch mounting*	Service Kit
									
PRA/802032/M/*	RA/802032/M/*	32	G1/8	C0K510618	C02250618	C02470618	M/50/LSU/5V	QM/27/2/1	QA/8032/00
PRA/802040/M/*	RA/802040/M/*	40	G1/4	C0K510628	C02250628	C02470628	M/50/LSU/5V	QM/27/2/1	QA/8040/00
PRA/802050/M/*	RA/802050/M/*	50	G1/4	C0K510828	C02250828	C02470828	M/50/LSU/5V	QM/27/2/1	QA/8050/00
PRA/802063/M/*	RA/802063/M/*	63	G3/8	C0K510838	C02250838	C02470838	M/50/LSU/5V	QM/27/2/1	QA/8063/00
PRA/802080/M/*	RA/802080/M/*	80	G3/8	C0K511038	C02251038	C02471038	M/50/LSU/5V	QM/27/2/1	QA/8080/00
PRA/802100/M/*	RA/802100/M/*	100	G1/2	C0K511248	C02251248	C02471248	M/50/LSU/5V	QM/27/2/1	QA/8100/00
PRA/802125/M/*	RA/802125/M/*	125	G1/2	C0K511248	C02251248	C02471248	M/50/LSU/5V	QM/27/2/1	QA/8125C/00
-	RA/8160/M/*	160	G3/4	M840 (Inline)	-	-	M/50/LSU/5V	QM/27/2/1	QA/8125D/00
-	RA/8200/M/*	200	G3/4	M840 (Inline)	-	-	M/50/LSU/5V	QM/27/2/1	QA/8200B/00
-	RA/8250/M/*	250	G1	M855 (Inline)	-	-	M/50/LSU/5V	QM/27/2/1	QA/8250/00
-	RA/8320/M/*	320	G1	M855 (Inline)	-	-	M/50/LSU/5V	QM/27/2/1	QA/8320/00

For alternative fitting types please contact the technical service.

* For use with round barrel

Standard strokes

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

Guide blocks

Cyl. Ø	Guide blocks - plain bearings 19	Guide blocks - roller bearings 19	Guide blocks - plain bearings, long coupling 19	Guide blocks - plain bearings, short coupling 19
				
32	QA/8032/51/*	QA/8032/61/*	QA/8032/81/*	QA/8032/85/*
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.

Options

- Hydraulic version Ø 32 … 100 mm only
- Low temperature version -40°C
- High temperature version +150°C max.

Piston rod material:

- Stainless steel martensitic
- Stainless steel austenitic
- Hard chromium plated
- Stainless steel austenitic & hard chromium plated
- Special wiper/seal: W2
- Low fiction: X2
- Non-rotating piston rod (internal): N2
- Piston rod bellow: MG
- Without cushion: MW
- Without cushion, low fiction: X4
- Double ended piston rod: JM
- Double ended piston rod, special wiper/sea: W4
- Extended piston rod: MU
- Extended piston rod, special wiper/seal: W6
- Four-positon cylinder: MT
- Locking unit (passive): L4
- Locking unit (passive), special wiper/sea: L8

Piston rod thread: Male or female

ISOLINE™ CYLINDER

PRA/802000/M/EX, RA/802000/M/EX Double acting - Ø 32 … 125 mm

- Cylinder conforms to ISO 15552, VDMA 24562 and NFE 49-003-1
- High performance adaptive cushioning system "ACS"
- Low temperature version up to -40°C
- These cylinder are applicable in zone 1 & 2 (gas), 21 & 22 (dust), ATEX Cat. II 2 GD (II 3 GD, cylinder with bellows)

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Standard:
ISO 15552
VDMA 24562
NFE 49-003-1

Operation:
Double acting, adjustable cushioning

Operating pressure:
Ø 32 … 125 mm (Profile barrel)
1 … 10 bar
Ø 32 … 125 mm (Round barrel)
1 … 10 bar

Ambient temperature:
"Standard version"
Ambient temperature:
-20°C … +60°C max.
Operating temperature:
-20°C … +80°C max.
"Low temperature version" (L)
Ambient temperature:
-40°C … +60°C max.
Operating temperature:
-40°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Ports:
G1/8 … 1/2

Cylinder diameters:
32, 40, 50, 63, 80, 100, 125 mm

Standard strokes:
25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500 mm

Non-standard strokes:
Available (5 … 2800 mm)

ATEX marking:
II 2GD c T4 120°C
II 3GD c T4 120°C
(cylinder with bellows)

Materials

Barrel:
Anodised aluminium

End covers:
Pressure diecast aluminium

Piston rod:
Stainless steel (martensitic)

Piston rod seals:
PUR

Piston seals:
PUR

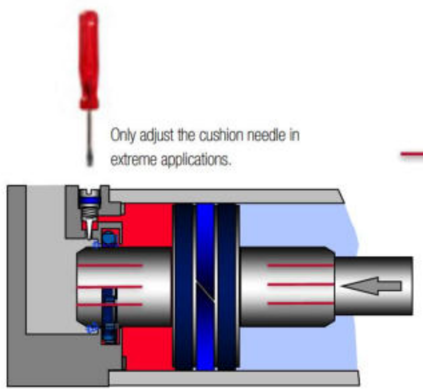
'O'-rings:
NBR

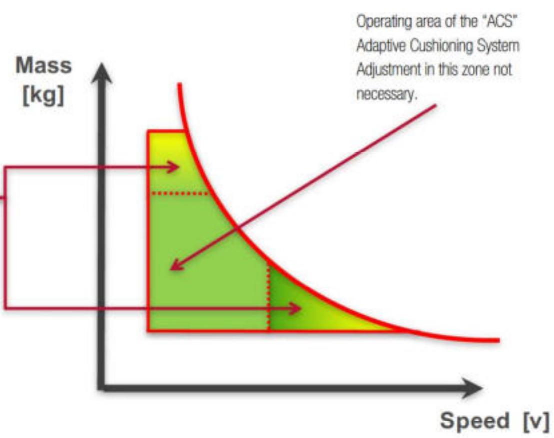
EXPRESS

Cylinder Ø (mm)	32	40	50	63	80	100	125
Profile barrel	•	•	•	•	•	•	•
Round barrel	•	•	•	•	•	•	•
Port size	G1/8	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2
Piston rod Ø (mm)	12	16	20	20	25	25	32
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	M27 x 2
Cushioning: Adaptive cushioning systems "ACS"	•	•	•	•	•	•	•
Theoretical thrusts at 6 bar outstroke (N)	482	754	1178	1870	3016	4710	7363
Theoretical thrusts at 6 bar instroke (N)	414	633	990	1680	2722	4416	6882

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.





Explosion protection according ATEX directive 2014/34/EU EN 13463-1 Non-electrical equipment for potentally explosive atmospheres

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

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

II 2GD c T4 120°C

Equipment group:	II	All application other than mines
Equipment category:	2	High level of equipment safety
Usability for zones:	GD	Gas and dust
Ignition protection categ.:	c	Constructional safety EN 13463-5
Temperature class for gas:	T4	Max. surface temperature 135°C
Temperature data for dust:	120°C	Max. surface temperature

ISOLINE™ CYLINDER
PRA/802000/M/EX, RA/802000/M/EX Double acting - Ø 32 … 125 mm

Models / Accessories

Model Profile barrel	Model Round barrel	Dia. Ø	Port size	Banjo flow control	Straight fitting	Elbow fitting	Reed switch with integral 5 m cable	Switch mounting*	Service Kit
									
PRA/802032/M/EX/*	RA/802032/M/EX/*	32	G1/8	C0K510618	C02250618	C02470618	M/50/LSU/5V	QM/27/2/1	QA/8032/00
PRA/802040/M/EX/*	RA/802040/M/EX/*	40	G1/4	C0K510628	C02250628	C02470628	M/50/LSU/5V	QM/27/2/1	QA/8040/00
PRA/802050/M/EX/*	RA/802050/M/EX/*	50	G1/4	C0K510828	C02250828	C02470828	M/50/LSU/5V	QM/27/2/1	QA/8050/00
PRA/802063/M/EX/*	RA/802063/M/EX/*	63	G3/8	C0K510838	C02250838	C02470838	M/50/LSU/5V	QM/27/2/1	QA/8063/00
PRA/802080/M/EX/*	RA/802080/M/EX/*	80	G3/8	C0K511038	C02251038	C02471038	M/50/LSU/5V	QM/27/2/1	QA/8080/00
PRA/802100/M/EX/*	RA/802100/M/EX/*	100	G1/2	C0K511248	C02251248	C02471248	M/50/LSU/5V	QM/27/2/1	QA/8100/00
PRA/802125/M/EX/*	RA/802125/M/EX/*	125	G1/2	C0K511248	C02251248	C02471248	M/50/LSU/5V	QM/27/2/1	QA/8125C/00

* For use with Round barrel

Standard strokes

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

Options

- Low temperature version -40°C (-40°F)

Piston rod material:

- Stainless steel martensitic
- Stainless steel austenitic
- Hard chromium plated
- Stainless steel austenitic & hard chromium plated

Variants Ø 32 … 125 mm (magnetic piston):

- Non-rotating piston rod (internal): N2
- Extended piston rod: MU
- Special wiper/seal: W2
- Low fiction: X2
- Piston rod bellow: MG
- Without cushion: MW
- Without cushion, low fiction: X4
- Double ended piston rod: JM
- Double ended piston rod, special wiper/seal: W4
- Four-positon cylinder: MT
- Extended piston rod, special wiper/sea: W6

Piston rod thread:

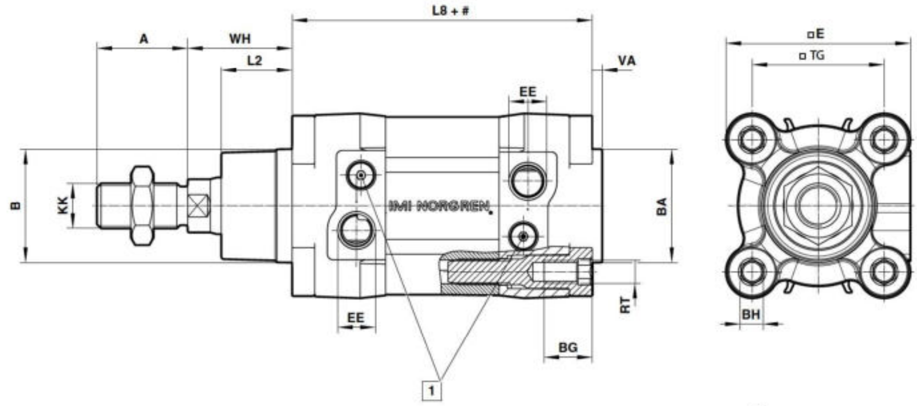
- Male
- Female

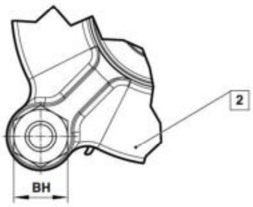
ISOLINE™ CYLINDER

PRA/802000/M, RA/802000/M, RA/8000, RA/8000/M Double acting - Ø 32 … 320 mm
PRA/802000/M/EX, RA/802000/M/EX Double acting - Ø 32 … 125 mm

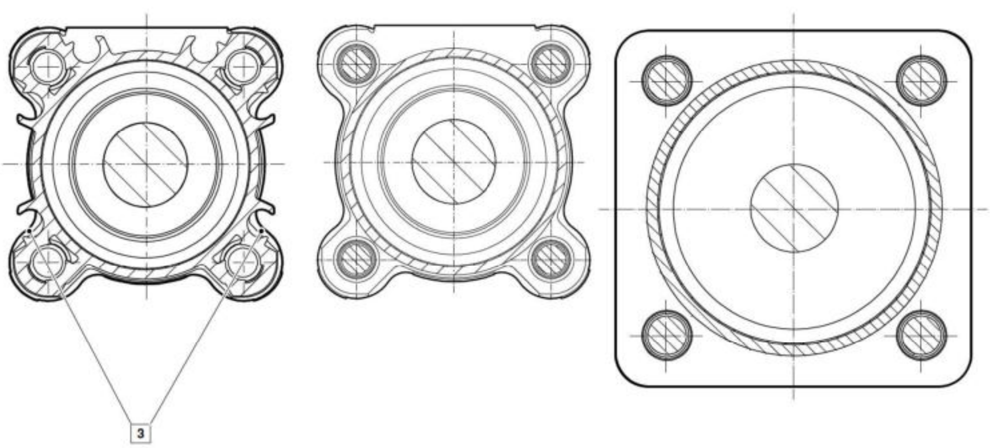
Dimensions

PRA/802000/M, RA/802000/M, RA/8000, RA/8000/M





Model Profile barrel Ø 32 … 125 mm | Model Round barrel Ø 32 … 125 mm | Model Round barrel* Ø 160 … 320 mm



* Not for PRA/802000/M/EX and RA802000/M/EX

\# Stroke

1 Cushion screw

2 Ø 80 … 320 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

ISOLINE™ CYLINDER

PRA/802000/M, RA/802000/M, RA/8000, RA/8000/M Double acting - Ø 32 … 320 mm
PRA/802000/M/EX, RA/802000/M/EX Double acting - Ø 32 … 125 mm

Ø	A -0,5	Ø B d11	Ø BA d11	BG min	BH	□E	EE	KK	L2	L8	RT	□TG	VA	WH
32	22	30	30	16	6	47	G1/8	M10 x 1,25	19,5	94	M 6	32,5	3,5	26
40	24	35	35	16	6	53	G1/4	M12 x 1,25	22	105	M 6	38	3,5	30
50	32	40	40	16	8	65	G1/4	M16 x 1,5	25	106	M 8	46,5	3,5	37
63	32	45	45	16	8	75	G3/8	M16 x 1,5	25	121	M 8	56,5	3,5	37
80	40	45	45	17	19	95	G3/8	M20 x 1,5	33	128	M 10	72	3,5	46
100	40	55	55	17	19	113	G1/2	M20 x 1,5	35	138	M 10	89	3,5	51
125	54	60	60	20	24	140	G1/2	M27 x 2	44	160	M 12	110	5,5	65
160	72	65	65	28,5	32	183,5	G3/4	M36 x 2	58	180	M 16	140	4	80
200	72	75	75	28,5	32	224	G3/4	M36 x 2	67	180	M 16	175	5	95
250	84	90	90	35	36	280	G1	M42 x 2	80	200	M 20	220	7	105
320	96	110	110	30	46	350	G1	M48 x 2	90	220	M 24	270	7	120

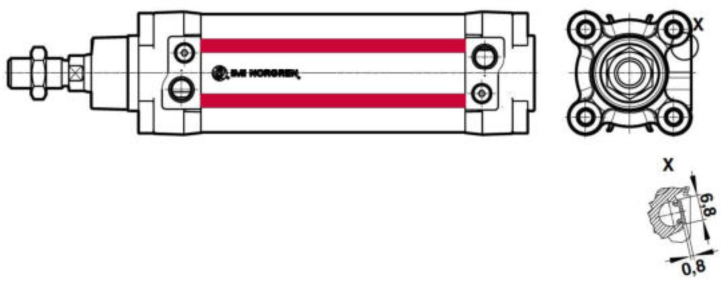
Ø	Model Profile barrel	Model Round barrel - E	at 0 mm	per 25 mm	Model Round barrel	Model Round barrel - EX	at 0 mm	per 25 mm
32	PRA/802032/M/*	PRA/802032/M/EX/*	0,49 (kg)	0,06 (kg)	RA/802032/M/*	RA/802032/M/EX/*	0,46 (kg)	0,06 (kg)
40	PRA/802040/M/*	PRA/802040/M/EX/*	0,69 (kg)	0,08 (kg)	RA/802040/M/*	RA/802040/M/EX/*	0,65 (kg)	0,08 (kg)
50	PRA/802050/M/*	PRA/802050/M/EX/*	1,09 (kg)	0,12 (kg)	RA/802050/M/*	RA/802050/M/EX/*	1,02 (kg)	0,12 (kg)
63	PRA/802063/M/*	PRA/802063/M/EX/*	1,54 (kg)	0,13 (kg)	RA/802063/M/*	RA/802063/M/EX/*	1,46 (kg)	0,14 (kg)
80	PRA/802080/M/*	PRA/802080/M/EX/*	2,64 (kg)	0,20 (kg)	RA/802080/M/*	RA/802080/M/EX/*	2,54 (kg)	0,21 (kg)
100	PRA/802100/M/*	PRA/802100/M/EX/*	3,66 (kg)	0,23 (kg)	RA/802100/M/*	RA/802100/M/EX/*	3,50 (kg)	0,23 (kg)
125	PRA/802125/M/*	PRA/802125/M/EX/*	6,16 (kg)	0,45 (kg)	RA/802125/M/*	RA/802125/M/EX/*	5,92 (kg)	0,34 (kg)
160	-	-	-	-	RA/8160/M/*	-	14,9 (kg)	0,55 (kg)
200	-	-	-	-	RA/8200/M/*	-	21,7 (kg)	0,60 (kg)
250	-	-	-	-	RA/8250/M/*	-	32,6 (kg)	0,92 (kg)
320	-	-	-	-	RA/8320/M/*	-	59,8 (kg)	1,46 (kg)

* Please insert stroke length

Basic Dimension are also for cylinder varinats or for different piston rod material
LPRA/802000/M, LRA/802000/M, LRA/8000/M - Low Temperature Cylinder
TPRA/802000/M, TRA/802000/M, TRA/8000/M - High Temperature Cylinder
HPRA/802000/M, HRA/802000/M, - Hydraulic Cylinder
PRA/802000/W2, RA/802000/W2 - Cylinder with Special Wiper - Seal
PRA/802000/X2, RA/802000/X2, RA/8000/X2 - Low Friction Cylinder
PRA/802000/MU, RA/802000/MU, RA/8000/MU - Cylinder with Extended Piston Rod
PRA/802000/W6, RA/802000/W6 - Cylinder with Extended Piston Rod and Special Wiper - Seal
PRA/802000/MW, RA/802000/MW, RA/8000/MW - Cylinder without Cushioning
PRA/802000/X4, RA/802000/X4, RA/8000/X4 - Low Friction Cylinder without Cushioning
RA/8000/W1 - Cylinder with Special Wiper - Seal without Magnet
RA/8000/X1 - Low Friction Cylinder without Magnet
RA/8000/IU - Cylinder with Extended Piston Rod without Magnet
RA/8000/W5 - Cylinder with Extended Piston Rod and Special Wiper - Seal without Magnet
RA/8000/W - Cylinder without Cushioning without Magnet
RA/8000/X3 - Low Friction Cylinder without Cushioning without Magnet

Basic Dimension are also for cylinder varinats or for different piston rod material
LPRA/802000/M/EX, LRA/802000/M/EX - Low Temperature Cylinder
PRA/802000/W2/EX, RA/802000/W2/EX - Cylinder with Special Wiper - Seal
PRA/802000/X2/EX, RA/802000/X2/EX - Low Friction Cylinder
PRA/802000/MU/EX, RA/802000/MU/EX - Cylinder with Extended Piston Rod
PRA/802000/W6/EX, RA/802000/W6/EX - Cylinder with Extended Piston Rod and Special Wiper - Seal
PRA/802000/MW/EX, RA/802000/MW/EX - Cylinder without Cushioning
PRA/802000/X4/EX, RA/802000/X4/EX - Low Friction Cylinder without Cushioning

Groove cover M/P72725/1000

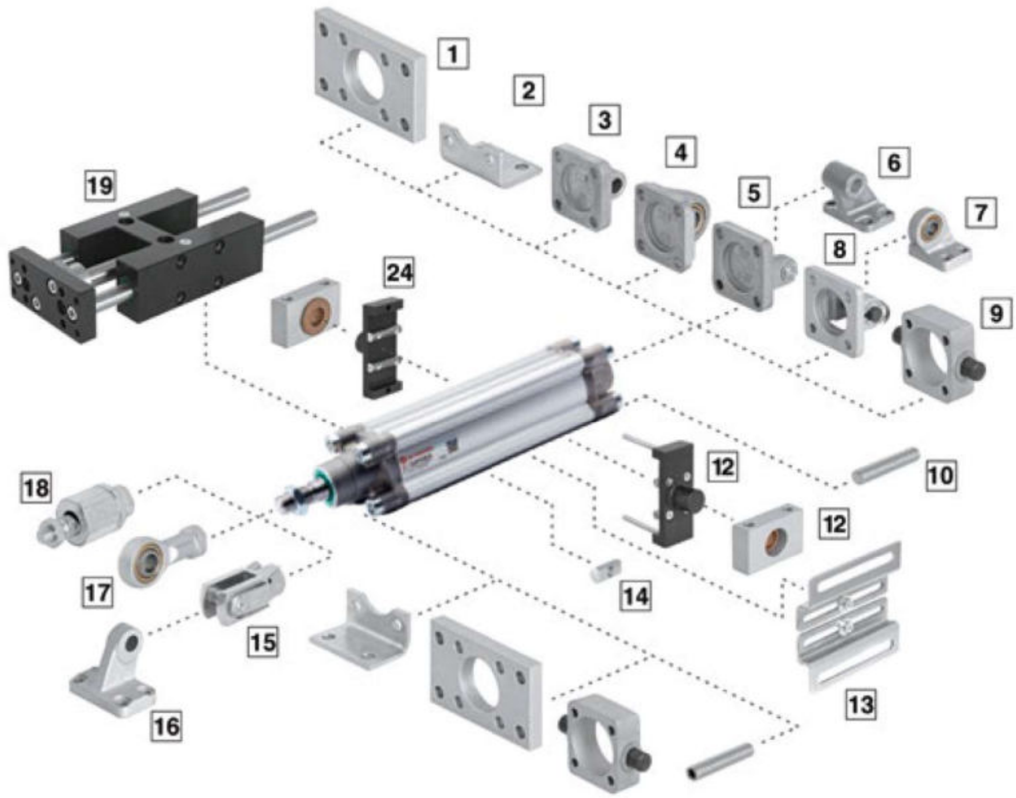


ISOLINE™ CYLINDER

PRA/802000/M, RA/802000/M, RA/8000, RA/8000/M Double acting - Ø 32 … 320 mm
PRA/802000/M/EX, RA/802000/M/EX Double acting - Ø 32 … 125 mm

Mountings

Cylinder with Profile barrel Ø 32 … 125 mm

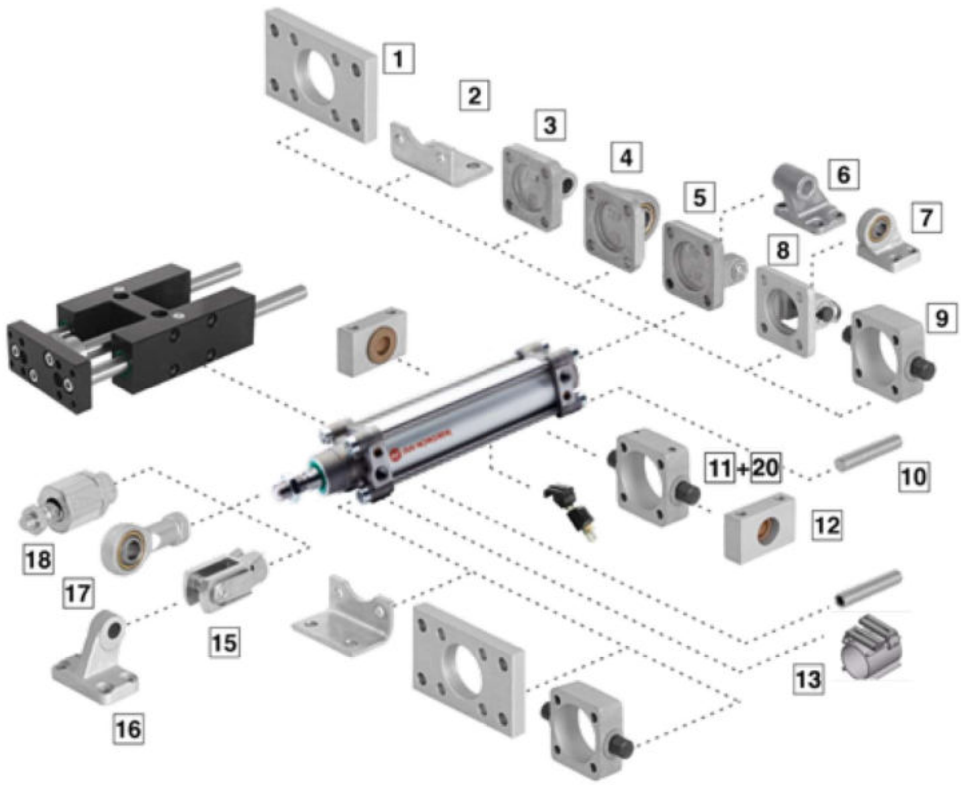


Model Ø	A 10	AK 18	B, G 1	C 2	D 5	D2 8	F 15	FH 9	H 11	UH 20	13
32	QM/8032/35	QM/8025/38	QA/8032/22	QA/8032/21	QA/8032/23	QA/8032/42	QM/8025/25	QA/8032/34	QA/8032/28	QA/8032/40	-
40	QM/8032/35	QM/8040/38	QA/8040/22	QA/8040/21	QA/8040/23	QA/8040/42	QM/8040/25	QA/8040/34	QA/8040/28	QA/8040/40	-
50	QM/8050/35	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	PQA/802050/22/54
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	PQA/802050/22/54
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	PQA/802080/22/54
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	PQA/802080/22/54
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	PQA/802125/22/54
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	-	-

ISOLINE™ CYLINDER

PRA/802000/M, RA/802000/M, RA/8000, RA/8000/M Double acting - Ø 32 … 320 mm
PRA/802000/M/EX, RA/802000/M/EX Double acting - Ø 32 … 125 mm

Cylinder with Round barrel Ø 32 … 320 mm



Ø	UH 24	S 12	SW 6	UF 17	UR 4	R 3	SS 16	US 7	Groove key 14	Valve mounting kit 13
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	QA/8063/22/55/*
80	PQA/802080/40	QA/8063/41	M/P19497	QM/8080/32	QA/8080/33	QA/8080/27	M/P19935	M/P40314	M/P72816	QA/8080/22/55/*
100	PQA/802100/40	QA/8100/41	M/P19498	QM/8080/32	QA/8100/33	QA/8100/27	M/P19936	M/P40315	M/P72816	QA/8100/22/55/*
125	PQA/802125/40	QA/8100/41	M/P19499	QM/8125/32	QM/8125/33	QM/8125/27	M/P19937	M/P71355	M/P72816	QA/8125/22/55/*
160	-	QA/8160/41	M/P19679	QM/8160/32	QM/8160/33	QM/8160/27	M/P19938	M/P71356	-	QA/8160/22/55/*
200	-	QA/8160/41	M/P19683	QM/8160/32	QM/8200/33	QM/8200/27	M/P19939	M/P71357	-	QA/8200/22/55/*
250	-	-	M/P19446	QM/8250/32	QM/8250/33	-	-	-	-	-
320	-	-	M/P19447	QM/8320/32	QM/8320/33	-	-	-	-	-

* Please add digit "4", "5" or "6" according to the grove key thread (M4, M5 or M6)

SMOOTH LINE CYLINDER

PRA/822000/M Magnetic piston, double acting – Ø 32 … 100 mm

- Cylinder and mounting conform to ISO 15552
- Reed or solid state switches can be mounted flush with the profile barrel
- Alternative air ports as standard
- Wide range of cylinder variants

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, magnetic piston, adjustable cushioning

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

Ambient temperature:
-20°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Profile barrel:
Anodised aluminium

End covers:
Pressure diecast anodised aluminium

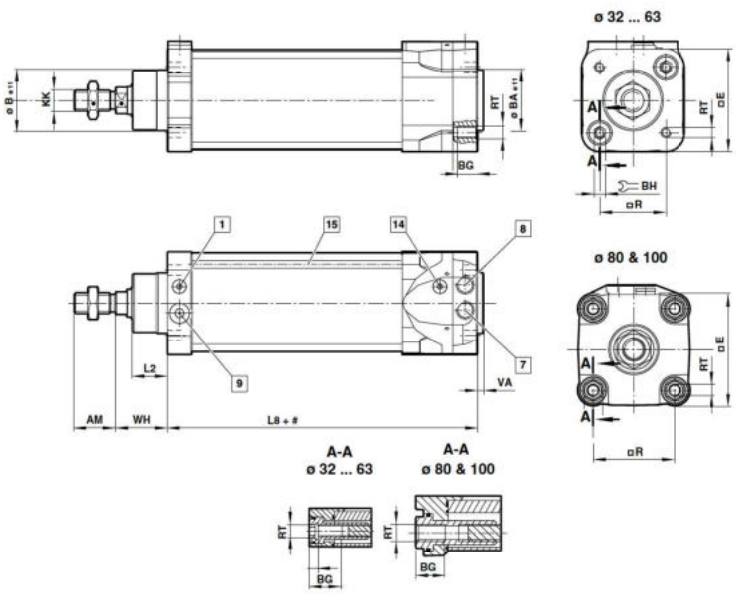
Piston rod:
Stainless steel

Piston rod seals:
PUR

Piston seals:
PUR

O-rings:
NBR

Dimensions



\# Stroke
1 Cushion adjustment front end cover
7 Air supply, cylinder instroke
8 Air supply, cylinder outstroke
9 Alternative air supply, cylinder instroke
14 Cushion adjustment rear end cover
15 M/50 switches can be mounted flush with the profile
Attention: Reed switches for Ø 40 … 100 mm useable only

Cyl Ø	AM	Ø Be11 / Ø BAe11	BG	□E	KK	L2	L8	□R	RT	VA
32	22	30	16	53	M10x1,25	20	94	32,5	M 6	3
40	24	35	16	60	M12x1,25	21	105	38	M 6	3,5
50	32	40	16	71,5	M16x1,5	28	106	46,5	M 8	3,5
63	32	45	16	82	M16x1,5	28	121	56,5	M 8	4
80	40	45	17	99	M20x1,5	35	128	72	M 10	4
100	40	55	17	119	M20x1,5	38	138	89	M 10	4

Models

Accessories

Model	Dia. Ø	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow fitting	Service kit
								
PRA/822032/M/***	32	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	PRQA/822032/00
PRA/822040/M/***	40	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	PRQA/822040/00
PRA/822050/M/***	50	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	PRQA/822050/00
PRA/822063/M/***	63	G1/4	20	M/50/LSU/5V	C0K510628	C02250628	C02470628	PRQA/822063/00
PRA/822080/M/***	80	G1/4	25	M/50/LSU/5V	C0K510628	C02250628	C02470628	PRQA/822080/00
PRA/822100/M/***	100	G3/8	25	M/50/LSU/5V	C0K510838	C02250838	C02470838	PRQA/822100/00

*** Insert stroke length in mm.
Other stroke lengths available up to 2,000mm maximum, please contact us.
For information on additional magnetic switches see pages 137-141.

For alternative fitting types, shapes or sizes, refer to our fittings section.

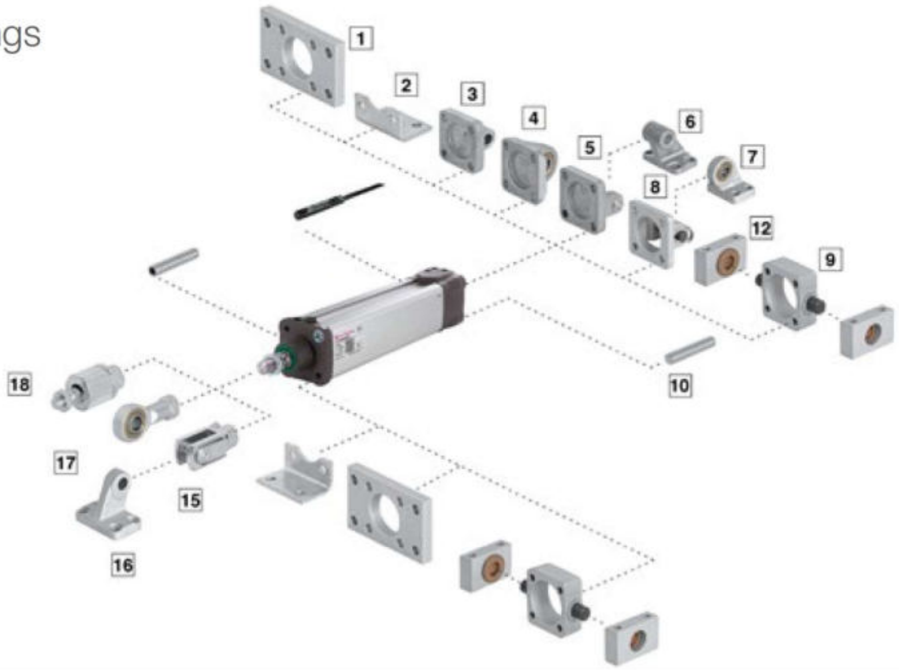
SMOOTH LINE CYLINDER

PRA/822000/M Magnetic piston, double acting – Ø 32 … 100 mm

Standard strokes

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

Mountings



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

SMOOTH LINE CYLINDER

PRA/822000/M Magnetic piston, double acting – Ø 32 … 100 mm

Cyl. Ø	A 10	AK 18	B, G 1	C 2	D 5	D2 8	F 15	FH 9
								
32	QM/8032/35	QM/8025/38	QA/8032/22	QA/8032/21	QA/8032/23	QA/8032/42	QM/8025/25	QA/8032/34
40	QM/8032/35	QM/8040/38	QA/8040/22	QA/8040/21	QA/8040/23	QA/8040/42	QM/8040/25	QA/8040/34
50	QM/8050/35	QM/8050/38	QA/8050/22	QA/8050/21	QA/8050/23	QA/8050/42	QM/8050/25	QA/8050/34
63	QM/8050/35	QM/8050/38	QA/8063/22	QA/8063/21	QA/8063/23	QA/8063/42	QM/8050/25	QA/8063/34
80	QM/8080/35	QM/8080/38	QA/8080/22	QA/8080/21	QA/8080/23	QA/8080/42	QM/8080/25	QA/8080/34
100	QM/8080/35	QM/8080/38	QA/8100/22	QA/8100/21	QA/8100/23	QA/8100/42	QM/8080/25	QA/8100/34
Corrosion protected								
32	–	–	PVQA/8032/22	–	PVQA/8032/23	–	PVQM/8025/25	–
40	–	–	PVQA/8040/22	–	PVQA/8040/23	–	PVQM/8040/25	–
50	–	–	PVQA/8050/22	–	PVQA/8050/23	–	PVQM/8050/25	–
63	–	–	PVQA/8063/22	–	PVQA/8063/23	–	PVQM/8050/25	–
80	–	–	PVQA/8080/22	–	PVQA/8080/23	–	PVQM/8080/25	–
100	–	–	PVQA/8100/22	–	PVQA/8100/23	–	PVQM/8080/25	–

Cyl. Ø	R 3	S 12	SS 16	SW 6	UF 17	UR 4	US 7	Assembly kit for four-position cylinder
								
32	QA/8032/27	QA/8032/41	M/P19931	M/P19493	QM/8025/32	QA/8032/33	M/P40310	QM/192032/55
40	QA/8040/27	QA/8040/41	M/P19932	M/P19494	QM/8040/32	QA/8040/33	M/P40311	QM/192040/55
50	QA/8050/27	QA/8040/41	M/P19933	M/P19495	QM/8050/32	QA/8050/33	M/P40312	QM/192050/55
63	QA/8063/27	QA/8063/41	M/P19934	M/P19496	QM/8050/32	QA/8063/33	M/P40313	QM/192063/55
80	QA/8080/27	QA/8063/41	M/P19935	M/P19497	QM/8080/32	QA/8080/33	M/P40314	QM/192080/55
100	QA/8100/27	QA/8100/41	M/P19936	M/P19498	QM/8080/32	QA/8100/33	M/P40315	QM/192100/55
Corrosion protected								
32	PVQA/8032/27	–	–	M/P40459	PVQM/8025/32	PVQA/8032/33	–	–
40	PVQA/8040/27	–	–	M/P40460	PVQM/8040/32	PVQA/8040/33	–	–
50	PVQA/8050/27	–	–	M/P40461	PVQM/8050/32	PVQA/8050/33	–	–
63	PVQA/8063/27	–	–	M/P40462	PVQM/8050/32	PVQA/8063/33	–	–
80	PVQA/8080/27	–	–	M/P40463	PVQM/8080/32	PVQA/8080/33	–	–
100	PVQA/8100/27	–	–	M/P40464	PVQM/8080/32	PVQA/8100/33	–	–

Accessories

Switch mounting bracket *1)

QM/33/822/22

*1) For switches (Ø 8 mm) QM/33, QM/34 or QM/134 only!
Useable for all cylinder Ø.

Options

- High temperature seals
- Hydraulic version
- Hard Chrome Piston Rod
- Stainless steel piston rod - austenitic
- Non magnetic version
- Special wiper seal
- Low friction
- Piston rod bellow
- Without cushions
- Double ended piston rod
- Four position version
- Non rotating piston rod
- Locking unit
- Extended Piston rod
- Guide Blocks
- Heavy Duty Guide Blocks
- Atex versions:
  II 2 GD C T4 120°C / II 3 GD C T4 120°C (Piston rod bellow)

CLEANLINE CYLINDER

PRA/842000/M Magnetic piston, double acting – Ø 32 … 100 mm

- Cylinder and mounting conform to ISO 15552
- Smooth and spherical Corrosion resitant design conforms to EN 1672-2, accepted in the food industry
- Adjustable integrated end position sensing option
- Alternative air ports as standard

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

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

Operating pressure:
1 … 10 bar

Ambient temperature:
-20°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Protection class:
IP67

Materials

Profile barrel:
Anodised aluminium

End covers:
Pressure diecast anodised aluminium

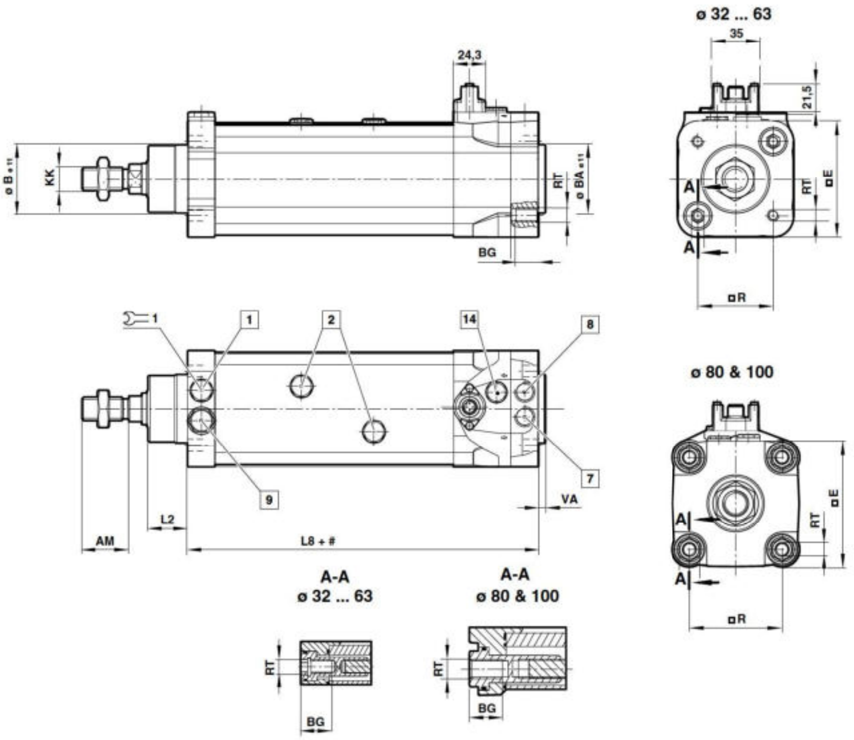
Piston rod:
Stainless steel

Piston rod seals:
PUR

Piston seals:
PUR

O-rings:
NBR

Dimensions



Stroke
1 Cushion adjustment front end cover
2 Magnetically operated switches (AF 11)
7 Air supply, cylinder instroke
8 Air supply, cylinder outstroke
9 Alternative air supply, cylinder instroke
14 Cushion adjustment rear end cover

Cyl Ø	AM	Ø B_{e11} / Ø BA_{e11}	BG	□E	KK	L2	L8	□R	RT	VA
32	22	30	16	53	M10x1,25	20	94	32,5	M 6	3
40	24	35	16	60	M12x1,25	21	105	38	M 6	3,5
50	32	40	16	71,5	M16x1,5	28	106	46,5	M 8	3,5
63	32	45	16	82	M16x1,5	28	121	56,5	M 8	4
80	40	45	17	99	M20x1,5	35	128	72	M 10	4
100	40	55	17	119	M20x1,5	38	138	89	M 10	4

CLEANLINE CYLINDER

PRA/842000/M Magnetic piston, double acting – Ø 32 … 100 mm

Models / Accessories

Model	Dia. Ø	Port size	Piston rod Ø	Reed switch with integral 2 m cable	Banjo flow control	Straight fitting	Elbow fitting	Service kit
								
PRA/842032/M/***	32	G1/8	12	M/50/LSU/2V	C0K510618	C02250618	C02470618	PRQA/842032/00
PRA/842040/M/***	40	G1/8	16	M/50/LSU/2V	C0K510618	C02250618	C02470618	PRQA/842040/00
PRA/842050/M/***	50	G1/8	20	M/50/LSU/2V	C0K510618	C02250618	C02470618	PRQA/842050/00
PRA/842063/M/***	63	G1/4	20	M/50/LSU/2V	C0K510628	C02250628	C02470628	PRQA/842063/00
PRA/842080/M/***	80	G1/4	25	M/50/LSU/2V	C0K510628	C02250628	C02470628	PRQA/842080/00
PRA/842100/M/***	100	G3/8	25	M/50/LSU/2V	C0K510838	C02250838	C02470838	PRQA/842100/00

Other stroke lengths available up to 2,000 mm maximum, please contact us.
For information on additional magnetic switches see pages 137-141.

For alternative fitting types, shapes or sizes, refer to our fittings section.

Standard strokes

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

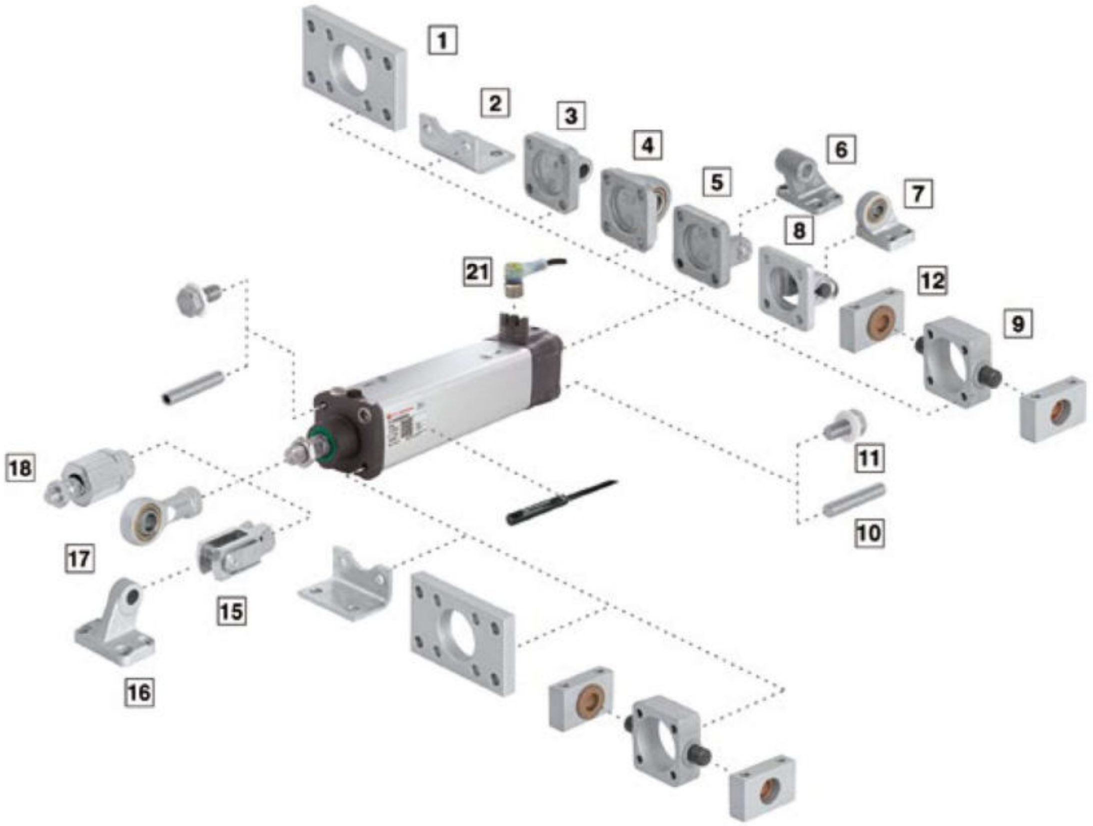
Options

- Hard Chrome Piston Rod
- Stainless steel piston rod - austenitic
- Non magnetic version
- Special wiper seal
- Piston rod bellow
- Double ended piston rod
- Locking unit
- Extended Piston rod
- Atex version

CLEANLINE CYLINDER

PRA/842000/M Magnetic piston, double acting – Ø 32 … 100 mm

● Mountings



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

CLEANLINE CYLINDER

PRA/842000/M Magnetic piston, double acting – Ø 32 … 100 mm

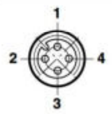
Cyl. Ø	A 10	AK 18	B, G 1	C 2	D 5	D2 8	F 15	FH 9	R 3
									
32	QM/8032/35	QM/8025/38	QA/8032/22	QA/8032/21	QA/8032/23	QA/8032/42	QM/8025/25	QA/8032/34	QA/8032/27
40	QM/8032/35	QM/8040/38	QA/8040/22	QA/8040/21	QA/8040/23	QA/8040/42	QM/8040/25	QA/8040/34	QA/8040/27
50	QM/8050/35	QM/8050/38	QA/8050/22	QA/8050/21	QA/8050/23	QA/8050/42	QM/8050/25	QA/8050/34	QA/8050/27
63	QM/8050/35	QM/8050/38	QA/8063/22	QA/8063/21	QA/8063/23	QA/8063/42	QM/8050/25	QA/8063/34	QA/8063/27
80	QM/8080/35	QM/8080/38	QA/8080/22	QA/8080/21	QA/8080/23	QA/8080/42	QM/8080/25	QA/8080/34	QA/8080/27
100	QM/8080/35	QM/8080/38	QA/8100/22	QA/8100/21	QA/8100/23	QA/8100/42	QM/8080/25	QA/8100/34	QA/8100/27
Corrosion protected									
32	–	–	PVQA/8032/22	–	PVQA/8032/23	–	PVQM/8025/25	–	PVQA/8032/27
40	–	–	PVQA/8040/22	–	PVQA/8040/23	–	PVQM/8040/25	–	PVQA/8040/27
50	–	–	PVQA/8050/22	–	PVQA/8050/23	–	PVQM/8050/25	–	PVQA/8050/27
63	–	–	PVQA/8063/22	–	PVQA/8063/23	–	PVQM/8050/25	–	PVQA/8063/27
80	–	–	PVQA/8080/22	–	PVQA/8080/23	–	PVQM/8080/25	–	PVQA/8080/27
100	–	–	PVQA/8100/22	–	PVQA/8100/23	–	PVQM/8080/25	–	PVQA/8100/27
Stainless steel									
32	–	–	KQA/8032/22	KQA/8032/21	KQA/8032/23	–	KQM/55433/25	–	–
40	–	–	KQA/8040/22	KQA/8040/21	KQA/8040/23	–	KQM/55441/25	–	–
50	–	–	KQA/8050/22	KQA/8050/21	KQA/8050/23	–	KQM/55451/25	–	–
63	–	–	KQA/8063/22	KQA/8063/21	KQA/8063/23	–	KQM/55451/25	–	–
80	–	–	KQA/8080/22	KQA/8080/21	KQA/8080/23	–	KQA/8080/25	–	–
100	–	–	KQA/8100/22	KQA/8100/21	KQA/8100/23	–	KQA/8080/25	–	–

Cyl. Ø	S 12	SS 16	SW 6	UF 17	UR 4	US 7	Cover screws 11
							
32	QA/8032/41	M/P19931	M/P19493	QM/8025/32	QA/8032/33	M/P40310	–
40	QA/8040/41	M/P19932	M/P19494	QM/8040/32	QA/8040/33	M/P40311	–
50	QA/8040/41	M/P19933	M/P19495	QM/8050/32	QA/8050/33	M/P40312	–
63	QA/8063/41	M/P19934	M/P19496	QM/8050/32	QA/8063/33	M/P40313	–
80	QA/8063/41	M/P19935	M/P19497	QM/8080/32	QA/8080/33	M/P40314	–
100	QA/8100/41	M/P19936	M/P19498	QM/8080/32	QA/8100/33	M/P40315	–
Corrosion protected							
32	–	–	M/P40459	PVQM/8025/32	PVQA/8032/33	–	–
40	–	–	M/P40460	PVQM/8040/32	PVQA/8040/33	–	–
50	–	–	M/P40461	PVQM/8050/32	PVQA/8050/33	–	–
63	–	–	M/P40462	PVQM/8050/32	PVQA/8063/33	–	–
80	–	–	M/P40463	PVQM/8080/32	PVQA/8080/33	–	–
100	–	–	M/P40464	PVQM/8080/32	PVQA/8100/33	–	–
Stainless steel							
32	–	–	M/P72288	KQM/8032/32	–	–	PVQA/882032/88
40	–	–	M/P72289	KQM/8040/32	–	–	PVQA/882032/88
50	–	–	M/P72290	KQM/8050/32	–	–	PVQA/882050/88
63	–	–	M/P72291	KQM/8050/32	–	–	PVQA/882050/88
80	–	–	M/P72292	KQM/8080/32	–	–	PVQA/882080/88
100	–	–	M/P72293	KQM/8080/32	–	–	PVQA/882080/88

M12 cables

Cable length (m)	Plug with moulded cable IP 67 21
	
2	M/P73525/2
5	M/P73525/5
10	M/P73525/10

Wiring diagram for M12 male connector

Pin	Features	Colour
		
1	10 … 30 V d.c.	Brown
2	Signal (outstroke)	White
3	Not used	Blue
4	Signal (instroke)	Black

CYLINDERS WITH PISTON ROD LOCKING UNITS

RA/802000/L4 & PRA/802000/L4 Double acting – Ø 32 … 125 mm

- **Conforms to ISO 15552, ISO 6431, VDMA 24562 and NFE 49-003-1**
- **Secure locking of piston rod in any position**
- **Locks when air is removed**
- **Compact, maintenance-free design**

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Passive model – pressure applied to release

Operating pressure:
4,5 … 10 bar

Ambient temperature:
-20°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Please note: for all new applications, actuator should be purchased complete with locking unit

Materials

For materials information see RA/802000 and PRA/802000 pages.

Unit shown is fitted to PRA/802000 series. This unit is also available to fit our RA/802000 series – see detail below

Models

Accessories

RA/802000/M	PRA/802000/M	Dia. Ø	Port size	Piston rod Ø	Reed switch with integral 5 m cable*	Banjo flow control	Straight fitting	Elbow fitting
								
RA/802032/L4/*	PRA/802032/L4/*	32	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618
RA/802040/L4/*	PRA/802040/L4/*	40	G1/4	16	M/50/LSU/5V	C0K510628	C02250628	C02470628
RA/802050/L4/*	PRA/802050/L4/*	50	G1/4	20	M/50/LSU/5V	C0K510828	C02250828	C02470828
RA/802063/L4/*	PRA/802063/L4/*	63	G3/8	20	M/50/LSU/5V	C0K510838	C02250838	C02470838
RA/802080/L4/*	PRA/802080/L4/*	80	G3/8	25	M/50/LSU/5V	C0K511038	C02251038	C02471038
RA/802100/L4/*	PRA/802100/L4/*	100	G1/2	25	M/50/LSU/5V	C0K511248	C02251248	C02471248
RA/802125/L4/*	PRA/802125/L4/*	125	G1/2	32	M/50/LSU/5V	C0K511248	C02251248	C02471248

* Insert stroke length in mm.

For information on alternative magnetic switches see pages 137-139.
For alternative fitting types, shapes or sizes, refer to our fittings section.
* When using RA/802000 actuator, switch requires a mounting clip . See page 75 for details.

Standard strokes

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

Replacement parts

Ø	Model Locking unit	Locking cartridge
32	QA/8032/59	QA/8032/63
40	QA/8040/59	QA/8040/63
50	QA/8050/59	QA/8050/63
63	QA/8063/59	QA/8063/63
80	QA/8080/59	QA/8100/63
100	QA/8100/59	QA/8100/63
125	QA/8125/59	–

Locking unit includes cartridge.
For all applications please contact us.

IVAC

Integrated Valve and Actuator Control

PRA/862000 Series & PRA/882000 Series

32 to 100 mm bore – up to 1,000 mm stroke length.

IMI Precision Engineering has worked closely with customers in key industry sectors to fully understand what improvements they wanted from their pneumatic controls. The response highlighted a widespread need for improved energy efficiency, reduced downtime and greater ease of use.

The IVAC from IMI Norgren now answers these needs: A family of products incorporating proven technology, IVAC is a light weight, strong, actuator with integrated solenoid valve, cushion and speed control plus position sensors. The ISO/ VDMA dimensions mean that it can be used to replace existing traditional systems, or used on new installations. Using IVAC rather than traditional components, energy consumption can be reduced by up to 50%. The unit has been rigorously tested in operational conditions by customers in a wide range of industries.

The unique patented design delivers significant benefits:

- Faster response times
- Fully modular design
- Integrated sensor adjustment
- Life expectancy of over 200 million cycles
- Cleanline body offers simple washdown when used in critical applications
- Integrated pressure protection

Engineering GREAT Solutions

Find out more
www.imi-precision.com

IMI NORGREN

IVAC INDUSTRIAL CYLINDER

PRA/862000/M Double acting – Ø 32 … 100 mm

- Complete functional unit
- Integrated 5/2 or 5/3 valve
- Additional output ports (2 & 4)
- Integrated flow regulator for speed control
- Reed or solid state switches can be mounted flush with the profile barrel
- Protection class IP65
- Energy efficient

Technical Data

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

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

Operation:
Double acting, magnetic piston, adjustable cushioning

Operating pressure:
2 … 8 bar

Ambient temperature:
-5°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

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

Power consumption:
2 W max.

Electrical connection:
DIN EN175301-803, form C

Manual override:
Turn and lock

Rating:
100 % E.D.

Materials

Profile barrel:
Anodised aluminium

End covers:
Pressure diecast anodised aluminium

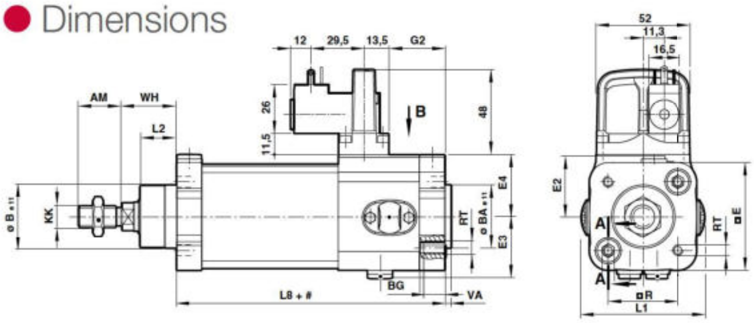
Piston rod:
Stainless steel

Piston rod seals:
PUR

Piston seals:
PUR

O-rings:
NBR

Dimensions



Stroke

Dia. Ø	AM	Ø B e11	Ø BA e11	BG	◻E	E2	E3	E4	G2	KK	L1	L2	L8	◻R	RT	VA	WH
32	22	30	30	16	53	31	30,5	32	30,5	M10x1,25	68,5	20	94	32,5	M 6	3	26
40	24	35	35	16	60	34,5	34	34	30,5	M12x1,25	68,5	21	105	38	M 6	3,5	30
50	32	40	40	16	71,5	40	39	39	34,5	M16x1,5	92,5	28	106	46,5	M 8	3,5	37
63	32	45	45	16	82	46	45,5	45,5	38	M16x1,5	91,5	28	121	56,5	M 8	4	37
80	40	45	45	17	99	54	54	57	46,5	M20x1,5	110	35	128	72	M 10	4	46
100	40	55	55	17	119	65	65	65	53	M20x1,5	144,5	38	138	89	M 10	4	51

IVAC INDUSTRIAL CYLINDER

PRA/862000/M Double acting – Ø 32 … 100 mm

Models

Accessories

Model	Dia. Ø	Port size	Piston rod Ø	Valve Function	Actuation	Spool type	Cylinder Function	Switches	Elbow fitting	Silencer
										
PRA/862032/MIR/213A/*	32	G1/8	12	5/2 mono	Sol/Spring	Glandless	instroke	M/50/LSU/5V	C02470618	M/S1
PRA/862032/MIB/213A/*	32	G1/8	12	5/2 bistable	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02470618	M/S1
PRA/862032/MIA/213A/*	32	G1/8	12	5/3 APB	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02470618	M/S1
PRA/862040/MIR/213A/*	40	G1/8	16	5/2 mono	Sol/Spring	Glandless	instroke	M/50/LSU/5V	C02470618	M/S1
PRA/862040/MIB/213A/*	40	G1/8	16	5/2 bistable	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02470618	M/S1
PRA/862040/MIA/213A/*	40	G1/8	16	5/3 APB	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02470618	M/S1
PRA/862050/MIR/213A/*	50	G1/8	20	5/2 mono	Sol/Spring	Glandless	instroke	M/50/LSU/5V	C02470618	M/S1
PRA/862050/MIB/213A/*	50	G1/8	20	5/2 bistable	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02470618	M/S1
PRA/862050/MIA/213A/*	50	G1/8	20	5/3 APB	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02470618	M/S1
PRA/862063/MIR/213A/*	63	G1/4	20	5/2 mono	Sol/Spring	Glandless	instroke	M/50/LSU/5V	C02470828	M/S2
PRA/862063/MIB/213A/*	63	G1/4	20	5/2 bistable	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02470828	M/S2
PRA/862063/MIA/213A/*	63	G1/4	20	5/3 APB	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02470828	M/S2
PRA/862080/MIR/213A/*	80	G1/4	25	5/2 mono	Sol/Spring	Glandless	instroke	M/50/LSU/5V	C02471028	M/S2
PRA/862080/MIB/213A/*	80	G1/4	25	5/2 bistable	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02471028	M/S2
PRA/862080/MIA/213A/*	80	G1/4	25	5/3 APB	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02471028	M/S2
PRA/862100/MIR/213A/*	100	G3/8	25	5/2 mono	Sol/Spring	Glandless	instroke	M/50/LSU/5V	C02471038	M/S3
PRA/862100/MIB/213A/*	100	G3/8	25	5/2 bistable	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02471038	M/S3
PRA/862100/MIA/213A/*	100	G3/8	25	5/3 APB	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02471038	M/S3

* Please insert stroke Length.
Other stroke length available up to 1000 mm maximum, other variants available, please call our Technical Service.
For alternative magnetic switches see pages 133-137.
APB= All port are blocked.

For alternative fittings types, shapes or sizes, refer to our fitting section.

Standard strokes

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

Options

- Stainless steel (martensitic)
- Stainless steel (austenitic)
- Hard chromium plated
- Smooth wiper seal
- Piston Rod Bellow
- Extended Piston Rod
- Sol/Spring - cylinder outstroked
- 5/3 valve COE
- ATEX version

IVAC CLEANLINE CYLINDER

PRA/882000/M Double acting – Ø 32 … 100 mm

- Complete functional unit with LED display
- Central electrical connector, polarity-safe
- Integrated 5/2 or 5/3 valve
- Additional output ports (2 & 4)
- Integrated flow regulator for speed control
- Integrated reed or solid state switches
- Protection class IP67, suitable for food andbeverage sector
- Energy efficient

Technical Data

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

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

Operation:
Double acting, magnetic piston, adjustable cushioning

Operating pressure:
2 … 8 bar

Ambient temperature:
-2°C … +70°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Supply voltage:
24 V d.c.

Multipole connection:
M12 x 1 male, 8 pin

Power consumption:
1 W max

Rating:
100 % E.D

Materials

Profile barrel:
Anodised aluminium

End covers:
Pressure diecast anodised aluminium

Piston rod:
Stainless steel

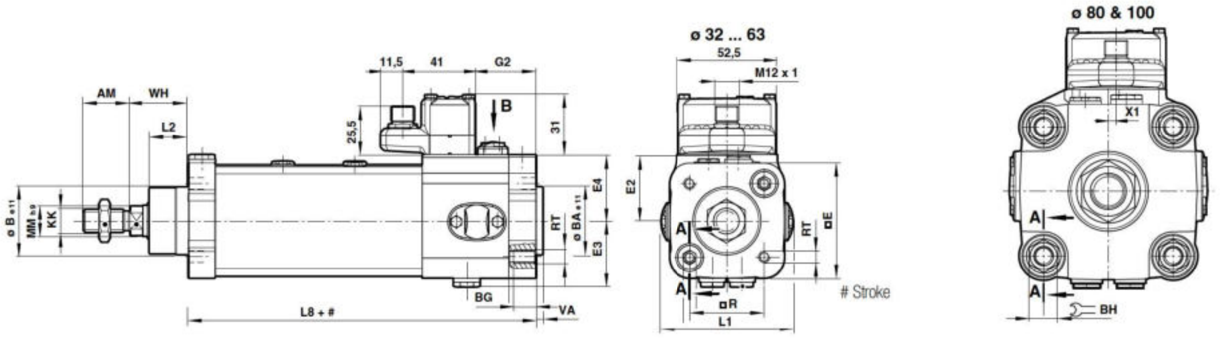
Piston rod seals:
PUR

Piston seals:
PUR

O-rings:
NBR

EXPRESS

Dimensions



Dia. Ø	AM	Ø B $_{e11}$	Ø BA $_{e11}$	BG	BH	□ E	E2	E3	E4	G2	KK	L1	L2	L8	□ R	RT	VA	WH	X1
32	22	30	30	16	6	53	31	30,5	32	30,5	M10x1,25	68,5	20	94	32,5	M 6	3	26	0
40	24	35	35	16	6	60	34,5	34	34	30,5	M12x1,25	68,5	21	105	38	M 6	3,5	30	0
50	32	40	40	16	8	71,5	40	39	39	34,5	M16x1,5	92,5	28	106	46,5	M 8	3,5	37	1,5
63	32	45	45	16	8	82	46	45,5	45,5	38	M16x1,5	91,5	28	121	56,5	M 8	4	37	0
80	40	45	45	17	16	99	54	54	57	46,5	M20x1,5	110	35	128	72	M 10	4	46	6
100	40	55	55	17	16	119	65	65	65	53	M20x1,5	144,5	38	138	89	M 10	4	51	6,5

IVAC CLEANLINE CYLINDER

PRA/882000/M Double acting – Ø 32 … 100 mm

Models / Accessories

Model	Dia. Ø	Port size	Piston rod Ø	Valve Function	Actuation	Spool type	Cylinder Function	Plug with 5m moulded cable	Elbow fitting	Silencer
										
PRA/882032/MIR/M4/*	32	G1/8	12	5/2 mono	Sol/Spring	Glandless	instroke	M/P74582/5	C02470618	M/S1
PRA/882032/MIB/M4/*	32	G1/8	12	5/2 bistable	Sol/Sol	Glandless	not defind	M/P74582/5	C02470618	M/S1
PRA/882032/MIA/M4/*	32	G1/8	12	5/3 APB	Sol/Sol	Glandless	not defind	M/P74582/5	C02470618	M/S1
PRA/882040/MIR/M4/*	40	G1/8	16	5/2 mono	Sol/Spring	Glandless	instroke	M/P74582/5	C02470618	M/S1
PRA/882040/MIB/M4/*	40	G1/8	16	5/2 bistable	Sol/Sol	Glandless	not defind	M/P74582/5	C02470618	M/S1
PRA/882040/MIA/M4/*	40	G1/8	16	5/3 APB	Sol/Sol	Glandless	not defind	M/P74582/5	C02470618	M/S1
PRA/882050/MIR/M4/*	50	G1/8	20	5/2 mono	Sol/Spring	Glandless	instroke	M/P74582/5	C02470618	M/S1
PRA/882050/MIB/M4/*	50	G1/8	20	5/2 bistable	Sol/Sol	Glandless	not defind	M/P74582/5	C02470618	M/S1
PRA/882050/MIA/M4/*	50	G1/8	20	5/3 APB	Sol/Sol	Glandless	not defind	M/P74582/5	C02470618	M/S1
PRA/882063/MIR/M4/*	63	G1/4	20	5/2 mono	Sol/Spring	Glandless	instroke	M/P74582/5	C02470828	M/S2
PRA/882063/MIB/M4/*	63	G1/4	20	5/2 bistable	Sol/Sol	Glandless	not defind	M/P74582/5	C02470828	M/S2
PRA/882063/MIA/M4/*	63	G1/4	20	5/3 APB	Sol/Sol	Glandless	not defind	M/P74582/5	C02470828	M/S2
PRA/882080/MIR/M4/*	80	G1/4	25	5/2 mono	Sol/Spring	Glandless	instroke	M/P74582/5	C02471028	M/S2
PRA/882080/MIB/M4/*	80	G1/4	25	5/2 bistable	Sol/Sol	Glandless	not defind	M/P74582/5	C02471028	M/S2
PRA/882080/MIA/M4/*	80	G1/4	25	5/3 APB	Sol/Sol	Glandless	not defind	M/P74582/5	C02471028	M/S2
PRA/882100/MIR/M4/*	100	G3/8	25	5/2 mono	Sol/Spring	Glandless	instroke	M/P74582/5	C02471038	M/S3
PRA/882100/MIB/M4/*	100	G3/8	25	5/2 bistable	Sol/Sol	Glandless	not defind	M/P74582/5	C02471038	M/S3
PRA/882100/MIA/M4/*	100	G3/8	25	5/3 APB	Sol/Sol	Glandless	not defind	M/P74582/5	C02471038	M/S3

* Please insert stroke Length.
Other stroke length available up to 1000 mm maximum, other variants available, please call our Technical Service.
APB= All port are blocked.

For alternative fittings types, shapes or sizes, refer to our fitting section.

Standard strokes

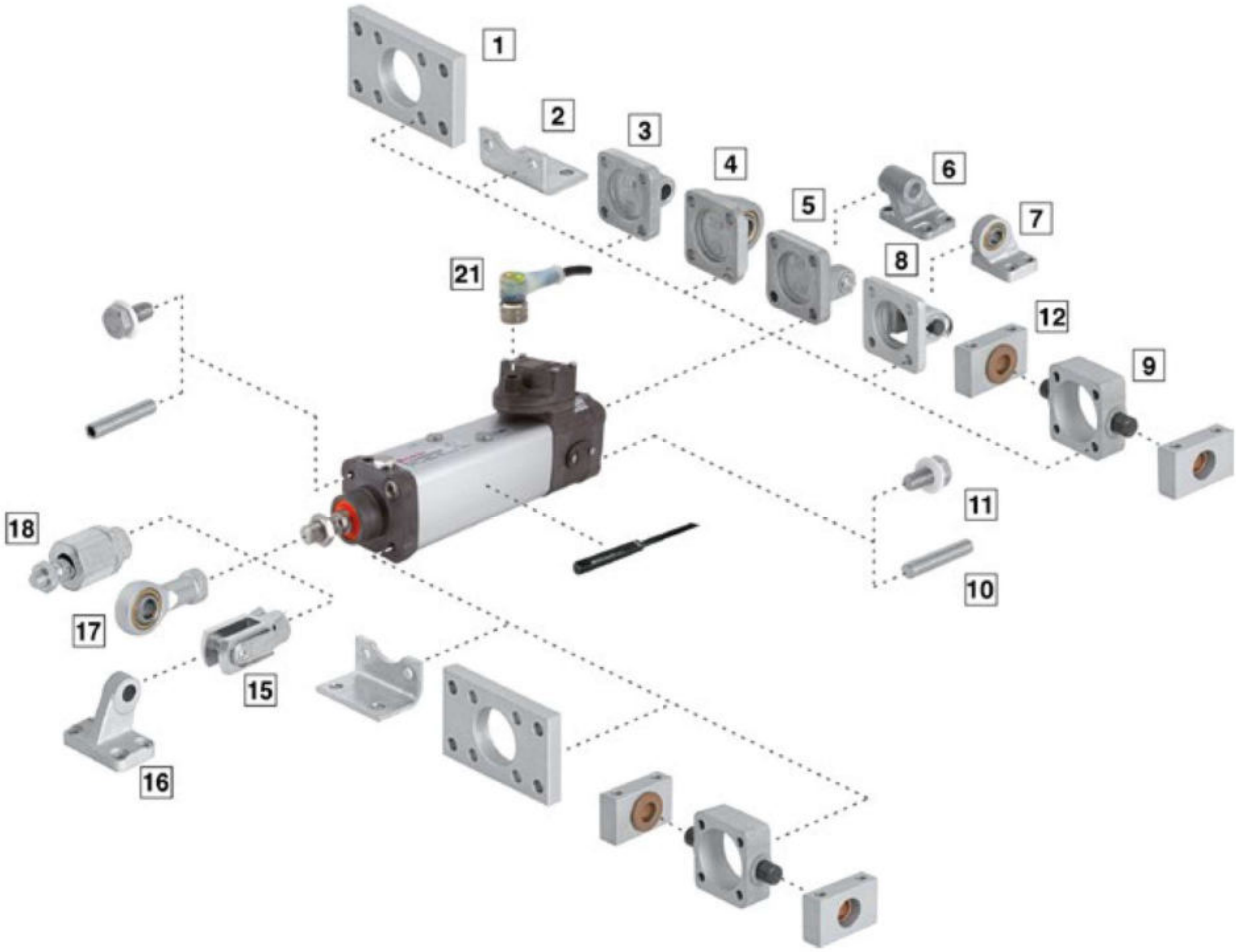
Cylinder	Stroke length (mm)										
Ø (mm)	25	50	80	100	125	160	200	250	320	400	500
32	•	•	•	•	•	•	•	•	•	•	•
40	•	•	•	•	•	•	•	•	•	•	•
50	•	•	•	•	•	•	•	•	•	•	•
63	•	•	•	•	•	•	•	•	•	•	•
80	•	•	•	•	•	•	•	•	•	•	•
100	•	•	•	•	•	•	•	•	•	•	•

Options

- Stainless steel (martensitic)
- Stainless steel (austenitic)
- Hard chromium plated
- Smooth wiper seal
- Piston Rod Bellow
- Extended Piston Rod
- Sol/Spring - cylinder outstroked
- 5/3 valve COE
- ATEX version

IVAC MOUNTINGS

IVAC INDUSTRIAL CYLINDER PRA/862000/M & IVAC CLEANLINE CYLINDER PRA/882000/M Double acting



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

IVAC MOUNTINGS

IVAC INDUSTRIAL CYLINDER PRA/862000/M & IVAC CLEANLINE CYLINDER PRA/882000/M Double acting

Cyl. Ø	A 10	AK 18	B, G 1	C 2	D 5	D2 8	F 15	FH 9	R 3
									
32	QM/8032/35	QM/8025/38	QA/8032/22	QA/8032/21	QA/8032/23	QA/8032/42	QM/8025/25	QA/8032/34	QA/8032/27
40	QM/8032/35	QM/8040/38	QA/8040/22	QA/8040/21	QA/8040/23	QA/8040/42	QM/8040/25	QA/8040/34	QA/8040/27
50	QM/8050/35	QM/8050/38	QA/8050/22	QA/8050/21	QA/8050/23	QA/8050/42	QM/8050/25	QA/8050/34	QA/8050/27
63	QM/8050/35	QM/8050/38	QA/8063/22	QA/8063/21	QA/8063/23	QA/8063/42	QM/8050/25	QA/8063/34	QA/8063/27
80	QM/8080/35	QM/8080/38	QA/8080/22	QA/8080/21	QA/8080/23	QA/8080/42	QM/8080/25	QA/8080/34	QA/8080/27
100	QM/8080/35	QM/8080/38	QA/8100/22	QA/8100/21	QA/8100/23	QA/8100/42	QM/8080/25	QA/8100/34	QA/8100/27
Corrosion protected									
32	–	–	PVQA/8032/22	–	PVQA/8032/23	–	PVQM/8025/25	–	PVQA/8032/27
40	–	–	PVQA/8040/22	–	PVQA/8040/23	–	PVQM/8040/25	–	PVQA/8040/27
50	–	–	PVQA/8050/22	–	PVQA/8050/23	–	PVQM/8050/25	–	PVQA/8050/27
63	–	–	PVQA/8063/22	–	PVQA/8063/23	–	PVQM/8050/25	–	PVQA/8063/27
80	–	–	PVQA/8080/22	–	PVQA/8080/23	–	PVQM/8080/25	–	PVQA/8080/27
100	–	–	PVQA/8100/22	–	PVQA/8100/23	–	PVQM/8080/25	–	PVQA/8100/27
Stainless steel									
32	–	–	KQA/8032/22	KQA/8032/21	KQA/8032/23	–	KQM/55433/25	–	–
40	–	–	KQA/8040/22	KQA/8040/21	KQA/8040/23	–	KQM/55441/25	–	–
50	–	–	KQA/8050/22	KQA/8050/21	KQA/8050/23	–	KQM/55451/25	–	–
63	–	–	KQA/8063/22	KQA/8063/21	KQA/8063/23	–	KQM/55451/25	–	–
80	–	–	KQA/8080/22	KQA/8080/21	KQA/8080/23	–	KQA/8080/25	–	–
100	–	–	KQA/8100/22	KQA/8100/21	KQA/8100/23	–	KQA/8080/25	–	–

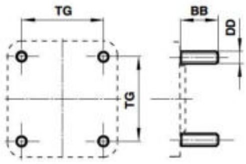
Cyl. Ø	S 12	SS 16	SW 6	UF 17	UR 4	US 7	Cover screws 11
							
32	QA/8032/41	M/P19931	M/P19493	QM/8025/32	QA/8032/33	M/P40310	
40	QA/8040/41	M/P19932	M/P19494	QM/8040/32	QA/8040/33	M/P40311	
50	QA/8040/41	M/P19933	M/P19495	QM/8050/32	QA/8050/33	M/P40312	
63	QA/8063/41	M/P19934	M/P19496	QM/8050/32	QA/8063/33	M/P40313	
80	QA/8063/41	M/P19935	M/P19497	QM/8080/32	QA/8080/33	M/P40314	
100	QA/8100/41	M/P19936	M/P19498	QM/8080/32	QA/8100/33	M/P40315	
Corrosion protected							
32	–	–	M/P40459	PVQM/8025/32	PVQA/8032/33	–	–
40	–	–	M/P40460	PVQM/8040/32	PVQA/8040/33	–	–
50	–	–	M/P40461	PVQM/8050/32	PVQA/8050/33	–	–
63	–	–	M/P40462	PVQM/8050/32	PVQA/8063/33	–	–
80	–	–	M/P40463	PVQM/8080/32	PVQA/8080/33	–	–
100	–	–	M/P40464	PVQM/8080/32	PVQA/8100/33	–	–
Stainless steel							
32	–	–	M/P72288	KQM/8032/32	–	–	PVQA/882032/88
40	–	–	M/P72289	KQM/8040/32	–	–	PVQA/882032/88
50	–	–	M/P72290	KQM/8050/32	–	–	PVQA/882050/88
63	–	–	M/P72291	KQM/8050/32	–	–	PVQA/882050/88
80	–	–	M/P72292	KQM/8080/32	–	–	PVQA/882080/88
100	–	–	M/P72293	KQM/8080/32	–	–	PVQA/882080/88

ISO/VDMA CYLINDER MOUNTINGS

For ISO Compact and ISO/VDMA cylinder ranges

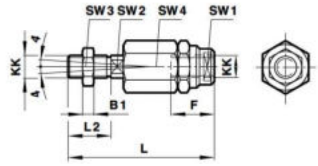
Dimensions

Front or rear stud – A
ISO 6431, ISO 15552 - MX1



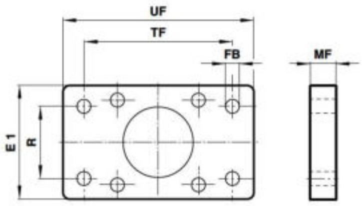
Ø	BB	DD	TG	kg
32	17	M6	32,5	0,02
40	17	M6	38	0,02
50	23	M8	46,5	0,05
63	23	M8	56,5	0,05
80	28	M10	72	0,08
100	28	M10	89	0,08
125	34	M12	110	0,14
160	42	M16	140	0,31
200	42	M16	175	0,31
250	50	M20	220	0,92
320	60	M24	270	1,46

Piston rod swivel – AK



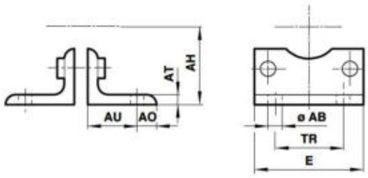
Ø	KK	B1	F	L	L2	SW1	SW2	SW3	SW4	kg
32	M10x1,25	5	26	73	20	19	12	17	30	0,02
40	M12x1,25	6	26	77	24	19	12	19	30	0,02
50/63	M16x1,5	8	34	106	32	30	19	24	42	0,65
80/100	M20x1,5	10	42	122	40	30	19	30	42	0,72
125	M27x2	13,5	40	147	54	40	24	41	55	1,70
160/200	M36x2	18	78	251	72	50	36	55	75	5,40

Rear flange – B
Front flange – G
ISO 6431 and VDMA 24562 Part 2, ISO 15552 - MF1 and MF2



Ø	E1	Ø FB	MF	R	TF	UF	kg
20	36	6,6	10	0	55	70	0,16
25	40	6,6	10	0	60	76	0,20
32	50	7	10	32	64	80	0,25
40	55	9	10	36	72	90	0,35
50	65	9	12	45	90	110	0,70
63	75	9	12	50	110	125	0,80
80	100	12	16	63	126	154	1,35
100	120	14	16	75	150	186	2,20
125	140	16	20	90	180	224	1,70
160	180	18	20	115	230	280	3,10
200	220	22	25	135	270	320	4,60
250	280	26	25	165	330	395	7,40
320	350	33	30	200	400	475	13,6

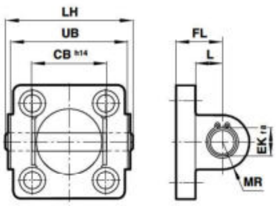
Foot – C
ISO 6431 and VDMA 24562 Part 2, ISO 15552 - MX1



Ø	Ø AB	AH	AO	AT	AU	E	TR	kg
20	6,6	27	6	4	16	36	22	0,03
25	6,6	30	7	4	16	40	26	0,04
32	7	32	8 (11)	4	24	48	32	0,15
40	9	36	9 (12)	4 (5)	28	53	36	0,18
50	9	45	10 (13)	5	32	64	45	0,30
63	9	50	12 (13)	5	32	74	50	0,39
80	12	63	19	5 (6)	41	98	63	0,80
100	14	71	19	5 (6)	41	115	75	0,95
125	16	90	20 (25)	9 (7)	45	140	90	2,40
160	18	115	20	8	60	180	115	3,50
200	22	135	30	9	70	220	135	5,25
250	26	165	35	10	75	280	165	9,50
320	33	200	45	16	85	350	200	22,0

( ) Stainless steel, weight on request.

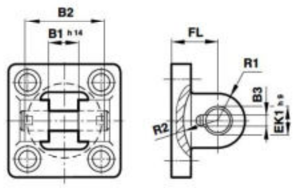
Rear clevis – D
ISO 6431 and VDMA 24562 Part 2, ISO 15552 - MP2



Ø	CB h14	Ø EK f8	FL	L	LH	MR	UB	kg
32	26	10	22	13	52	9	45	0,11
40	28	12	25	16	60	12	52	0,16
50	32	12	27	17	68	12	60	0,22
63	40	16	32	22	79	15	70	0,34
80	50	16	36	22	99	15	90	0,54
100	60	20	41	27	119	20	110	0,90
125	70	25	50	31	139 (140)	25	130	2,70
160	90	30	55	35,5	181	30	170	4,30
200	90	30	60	36	181	30	170	6,10
250	110	40	70	45	218	40	200	1,90
320	120	45	80	50	238	45	220	30,5

( ) Stainless steel, weight on request.

Rear clevis – D2
VDMA 24562 Part 2, ISO 15552 - AB6

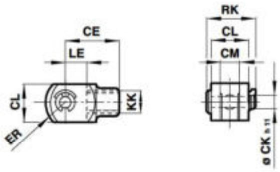


Ø	B1 h14	B2	B3	Ø EK h9	FL	R1	R2	kg
32	14	34	3,3	10	22	11	17	0,20
40	16	40	4,3	12	25	12	20	0,23
50	21	45	4,3	16	27	14,5	22	0,36
63	21	51	4,3	16	32	18	25	0,55
80	25	65	4,3	20	36	22	30	0,90
100	25	75	6,3	20	41	22	32	1,45
125	37	97	6,3	30	50	30	42	2,70
160	43	122	6,3	35	55	36	46	4,30
200	43	122	6,3	35	60	38	49	6,10

ISO/VDMA CYLINDER MOUNTINGS

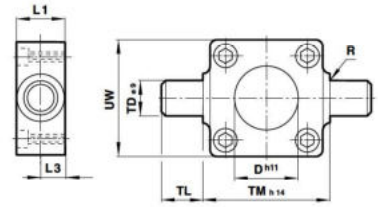
For ISO Compact and ISO/VDMA cylinder ranges

Piston rod clevis – F DIN ISO 8140



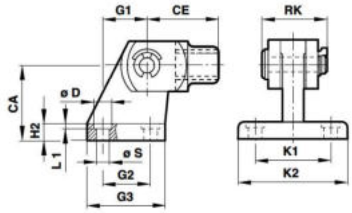
Thread KK	CE	Ø CK h11	CL	CM	ER	LE	RK	kg
M10x1,25	40	10	20	10	16	20	28	0,09
M12x1,25	48	12	24	12	19	24	32	0,13
M16x1,5	64	16	32	16	25	32	41,5	0,33
M20x1,5	80	20	40	20	32	40	50	0,67
M27x2	110	30	55	30	45	54	62	1,35
M36x2	144	35	70	35	57	72	95	3,00
M42x2	168	40	85	40	68	84	106	6,40
M48x2	192	50	96	50	85	96	121	8,70

Front or rear detachable trunnion – FH VDMA 24562 Part 2 - MT 5/6



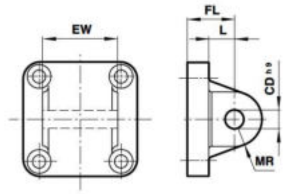
Ø	Ø D h11	L1	L3	R	Ø TD e9	TL	TM h14	UW1	kg
32	30	16	8	1	12	12	50	50	0,20
40	35	20	10	1,6	16	16	63	55	0,38
50	40	24	12	1,6	16	16	75	65	0,60
63	45	24	12	1,6	20	20	90	75	1,10
80	45	28	14	1,6	20	20	110	100	1,90
100	55	38	19	2	25	25	132	120	3,50
125	60	50	25	2	25	25	160	145	6,50

Front hinge – M



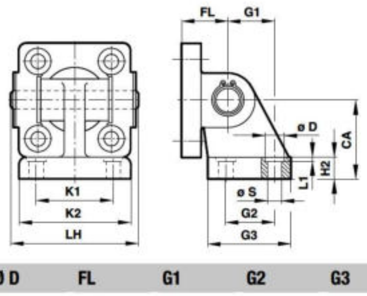
Thread KK	Ø	CA	CE	Ø D	G1	G2	G3	H2	K1	K2	L1	RK	Ø S	kg
M10x1,25	32	32	40	11	21	18	31	8	38	51	1,6	28	6,6	0,24
M12x1,25	40	36	48	11	24	22	35	10	41	54	1,6	32	6,6	0,33
M16x1,5	50	45	64	15	33	30	45	12	50	65	1,6	41,5	9	0,81
M16x1,5	63	50	64	15	37	35	50	12	52	67	1,6	41,5	9	0,83
M20x1,5	80	63	80	18	47	40	60	14	66	86	2,5	50	11	1,42
M20x1,5	100	71	80	18	55	50	70	15	76	96	2,5	50	11	1,87
M27x2	125	90	110	20	70	60	90	20	94	124	3,2	62	14	3,85
M36x2	160	115	144	20	97	88	126	25	118	156	4	95	14	9,00
M36x2	200	135	144	24	105	90	130	30	122	162	4	95	16	10,6

Rear eye – R ISO 6431 and VDMA 24562 Part 2, ISO 15552 - MP4

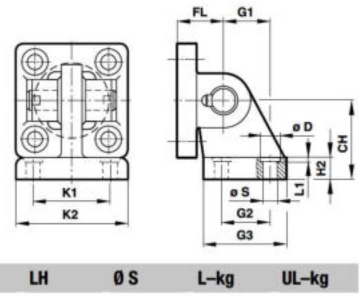


Ø	Ø CD H9	EW	FL	L	MR	kg
20	8	15,8	20	14	8	0,02
25	8	15,8	20	14	8	0,03
32	10	25,8	22	13	9	0,09
40	12	27,8	25	16	12	0,11
50	12	31,7	27	17	12	0,17
63	16	39,7	32	22	15	0,24
80	16	49,7	36	22	15	0,37
100	20	59,7	41	27	20	0,59
125	25	69,7	50	33	25	3,20
160	30	89,7	55	35,5	30	6,10
200	30	89,7	60	37	30	6,80

Rear hinge – L



Rear hinge – UL VDMA 24562 Part 2

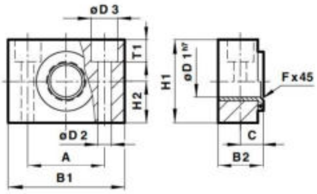


Ø	CA	CH	Ø D	FL	G1	G2	G3	H2	K1	K2	L1	LH	Ø S	L–kg	UL–kg
32	32	32	11	22	21	18	31	8	38	51	1,6	52	6,6	0,16	2,39
40	36	36	11	25	24	22	35	10	41	54	1,6	60	6,6	0,23	0,47
50	45	45	15	27	33	30	45	12	50	65	1,6	68	9	0,36	0,82
63	50	50	15	32	37	35	50	12	52	67	1,6	79	9	0,52	1,14
80	63	63	18	36	47	40	60	14	66	86	2,5	99	11	0,82	1,93
100	71	71	18	41	55	50	70	15	76	96	2,5	119	11	1,32	2,85
125	90	90	20	50	70	60	90	20	94	124	3,2	139	14	5,40	5,80
160	115	115	20	55	97	88	126	25	118	156	4	181	14	10,6	10,7
200	135	135	24	60	105	90	130	30	122	162	4	181	18	14,1	15,2
250*	165	–	33	70	128	110	160	35	150	200	2	218	22	32,4	–
320*	200	–	40	80	150	122	186	40	170	234	2	238	26	52,5	–

ISO/VDMA CYLINDER MOUNTINGS

For ISO Compact and ISO/VDMA cylinder ranges

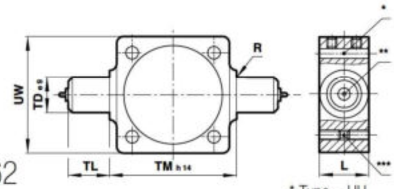
Trunnion support – S
VDMA 24562
Part 2, ISO 15552 - AT4



Ø	A	B1	B2	C	Ø D1 H7	Ø D2	Ø D3	fx45°	H1	H2	T1	kg
32	32	46	18	10,5	12	6,6	11	1	30	15	6,8	0,10
40	36	55	21	12	16	9	15	1,6	36	18	9	0,14
50	36	55	21	12	16	9	15	1,6	36	18	9	0,14
63	42	65	23	13	20	11	18	1,6	40	20	11	0,19
80	42	65	23	13	20	11	18	1,6	40	20	11	0,19
100	50	75	28,5	16	25	14	20	2	50	25	13	0,34
125	50	75	28,5	16	25	14	20	2	50	25	13	0,34
160	60	92	39	21,5	32	18	26	2,5	60	25	15,5	1,90
200	60	92	39	21,5	32	18	26	2,5	60	25	15,5	1,90

For use with mountings style H, FH and UH. Stainless steel, weight on request.

Centre trunnion – H
(for tie rod types)
ISO 6431 and VDMA 24562
Part 2, ISO 15552 - MT4



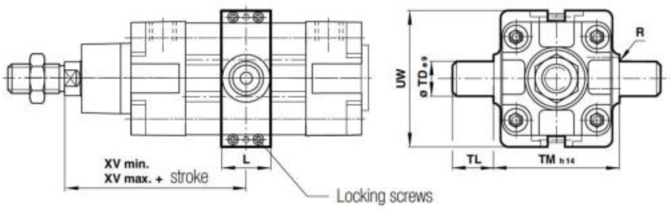
* Type – UH
** Grease nipple up to Ø 125 mm
*** Type – H

Ø	L	R	Ø TD e9	TL	TM h14	UW	XV min.	XV max.	kg	Torque max. (Nm)
32	20	1	12	12	50	50	66	80	0,16	6
40	24	1,6	16	16	63	58	76	89	0,35	6
50	28	1,6	16	16	75	70	82	98	0,65	10
63	28	1,6	20	20	90	80	88	107	0,85	10
80	28	1,6	20	20	110	100	97	123	1,20	15
100	38	2	25	25	132	126	112	128	2,30	15
125	50	2	25	25	160	152	136	154	3,30	25
160	50	2,5	32	32	200	192	155	185	5,30	40
200	50	2,5	32	32	250	240	170	200	9,40	40
250	60	3,2	40	40	320	318	193	217	18,0	–
320	70	3,2	50	50	400	400	215	245	30,0	–

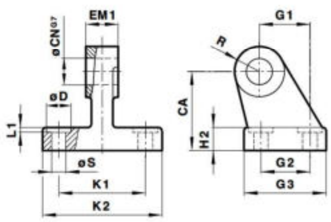
Note: Style 'H': These mountings are only supplied assembled complete with the cylinder. Unless otherwise specified, units will be supplied with dimension 'XV' plus half the stroke length. 'XV' = Distance from the piston rod shoulder to the centre of the mounting.
Style 'UH': It is most important that 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.

Adjustable centre trunnion – UH
(for profile types)
ISO 15552 - MT4

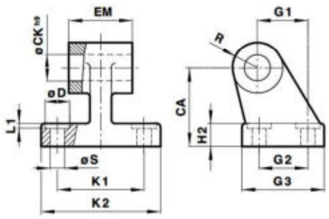
Ø	L	R	Ø TD e9	TL	TM h14	UW	kg	Torque max. (Nm)
32	25	1	12	12	50	58	0,35	2,0
40	28	1,6	16	16	63	65	0,50	3,5
50	28	1,6	16	16	75	80	0,80	3,5
63	36	1,6	20	20	90	96	1,40	5,0
80	36	1,6	20	20	110	116	1,90	6,0
100	48	2	25	25	132	140	2,30	6,0
125	50	2	25	25	160	163	3,30	6,0



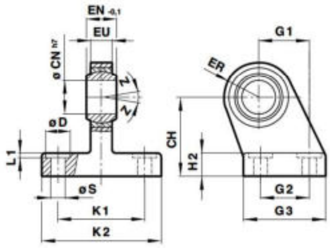
Narrow hinge – SS



Wide hinge – SW
ISO 15552 - AB7



Swivel hinge – US
VDMA 24562 Part 2

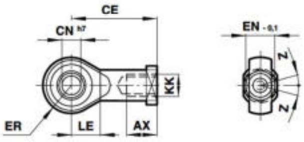


Ø	CA CH	Ø CN h7	Ø CK h9	Ø D	H2	EM	EM1	EN-0,1	ER	EU	G1	G2	G3	H6	K1	K2	L1	R	Ø S	Z	SW kg	SS kg	US kg
32	32	10	10	11	8	26	10	14	16	10,5	21	18	31	8	38	51	1,6	10	6,6	13°	0,05	0,15	0,19
40	36	12	12	11	10	28	12	16	18	12	24	22	35	10	41	54	1,6	11	6,6	13°	0,07	0,20	0,24
50	45	16	16	15	12	32	16	21	21	15	33	30	45	10	50	65	1,6	13	9	13°	0,14	0,48	0,46
63	50	16	16	15	12	40	16	21	23	15	37	35	50	12	52	67	1,6	15	9	15°	0,18	0,50	0,59
80	63	20	20	18	14	50	20	25	28	18	47	40	60	14	66	86	2,5	15	11	15°	0,28	0,75	1,03
100	71	20	20	18	15	60	20	25	30	18	55	50	70	15	76	96	2,5	19	11	15°	1,42	1,20	1,40
125	90	30	25	20	20	70	30	37	40	25	70	60	90	20	94	124	–	22	14	15°	2,70	2,50	3,10
160	–	–	–	–	–	90	35	43	44	28	97	88	126	25	118	156	4	31	14	15°	6,30	6,00	6,40
200	–	–	–	–	–	90	35	43	47	28	105	90	130	30	122	162	4	31	16	15°	8,00	7,60	9,10
250	–	–	–	–	–	110	–	–	–	–	128	110	160	35	150	200	2	40	22	–	13,4	–	–
320	–	–	–	–	–	120	–	–	–	–	150	122	186	40	170	234	2	45	26	–	22,0	–	–

ISO/VDMA CYLINDER MOUNTINGS

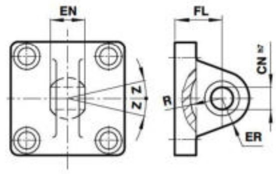
For ISO Compact and ISO/VDMA cylinder ranges

Universal piston rod eye – UF
DIN ISO 8139



Thread KK	AX	CE	Ø CN h7	EN -0,1	ER	LE	Z	kg
M10x1,25	20	43	10	14	14	15	13°	0,09
M12x1,25	22	50	12	16	16	17	13°	0,13
M16x1,5	28	64	16	21	21	22	15°	0,33
M20x1,5	33	77	20	25	25	26	15°	0,67
M27x2	51	110	30	37	35	36	15°	1,35
M36x2	56	125	35	43	40	41	16°	3,00
M42x2	60	142	40	49	45	46	17°	6,40
M48x2	65	160	50	60	58	59	12°	8,70

Universal rear eye – UR
ISO 15552 - MP6



Ø	Ø CN h7	EN	ER	FL	R	Z	kg
32	10	14	16	22	12	13°	0,15
40	12	16	19	25	14	13°	0,25
50	16	21	21	27	19	13°	0,4
63	16	21	24	32	19	15°	0,55
80	20	25	28	36	24	15°	0,9
100	20	25	30	41	24	15°	1,5
125	30	37	40	50	32	15°	2,7
160	35	43	44	55	38	16°	4,6
200	35	43	48	60	40	16°	7,3

QM/27/2/1 – Switch mounting brackets

Ø	A	B	kg
32	9	7	0,01
40	8	8	0,01
50	7	5	0,01
63	7	7	0,01
80	7	4	0,01
100	2	2	0,01
125	-4	-3	0,01
160	-10	-9	0,01
200	-17	-14	0,01

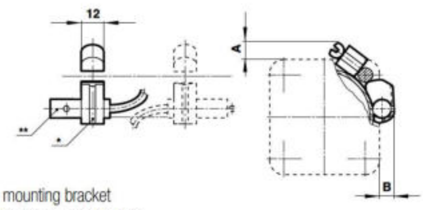
QM/31/000/22 – Switch mounting brackets

Ø	A	B	kg
32	4,5	38	0,03
40	5,5	43	0,03
50	4,5	48	0,03
63	4,5	53	0,03
80	1,5	61	0,03
100	0,5	68	0,03
125	-1	79	0,03
160	0	91,5	0,03
200	-4	106	0,03
250	-3	138	0,04
320	-21	154	0,08

QM/140/010/22 – Bracket with holding strap

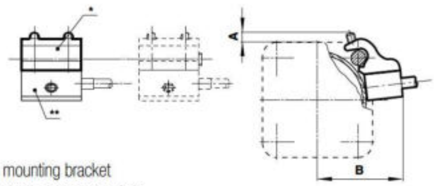
Ø	A	kg
32	31,5	0,02
40	30,5	0,02
50	31,5	0,02
63	29,5	0,02
80	30,5	0,02
100	30	0,02

Switches: M/50, QM/34 & QM/134 (Ø 8 mm)



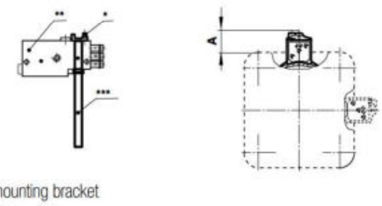
* Switch mounting bracket
** Magnetically operated switch

Switches: QM/31, QM/32 & QM/132



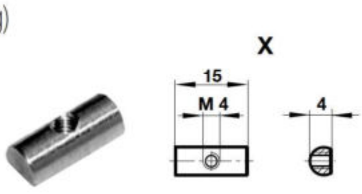
* Switch mounting bracket
** Magnetically operated switch

Switch: QM/140



* Switch mounting bracket
** Pneumatic switch
*** Holding strap

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



MAGNETIC & NON-MAGNETIC PISTON, CYLINDERS

RM/680000/M, RM/680000 Double acting

- **Ø 100 … 350 mm**
- **Comprehensive range for the utmost versatility**
- **High performance, stability and reliability ideal for the demands of today**
- **Supplied complete with piston rod locknut**
- **Comprehensive range of standard mountings**

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated
Standard: Non ISO

Operation:
Double acting magnetic (from 100 to 250 mm) or/and non-magnetic piston

Operating pressure:
1 … 10 bar (14 … 145 psi)

Ports:
See table below

Cylinder diameters:
100, 125, 160, 200, 250, 300, 350 mm

Non-standard strokes:
Available (10 … 500 mm)

Operating temperature:
-20°C … +80°C max. (-4 … +176°F)
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel: Anodized Aluminium up to Ø 250 mm & FRP for and above Ø 300 mm

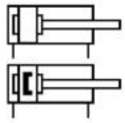
End covers: plated steel

Piston rod: Stainless steel (Martensitic)

Piston rod seals: NBR

Piston seals: NBR

'O'-rings: NBR



Cylinder Ø (mm)	100	125	160	200	250	300	350
Port size	G3/8	G3/8	G3/8	G3/8	G1/2	G1/2	G1/2
Piston rod Ø (mm)	25	25	25	25	25	40	40
Piston rod thread	M20 x 1.5	M20 x 1,5	M20 x 1,5	M20 x 1,5	M20 x 1,5	M36 x 2	M36 x 2
Theoretical thrusts at 6 bar outstroke (N)	4239	6632	10852	16956	26494	38151	51928
Theoretical thrusts at 6 bar instroke (N)	3974	6359	10587	16691	26229	37473	51250
Air consumption at 6 bar outstroke (l/cm)	0,550	0,859	1,407	2,198	3,434	4,946	6,731
Air consumption at 6 bar instroke (l/cm)	0,515	0,824	1,372	2,164	3,400	4,858	6,643

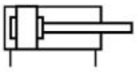
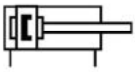
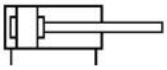
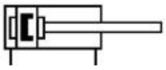
● Standard strokes

Cylinder Ø (mm)	Stroke length (mm) 25	50	80	100	125	160	200	250	320	400	500
100	•	•	•	•	•	•	•	•	•	•	•
125	•	•	•	•	•	•	•	•	•	•	•
160	•	•	•	•	•	•	•	•	•	•	•
200	•	•	•	•	•	•	•	•	•	•	•
250	•	•	•	•	•	•	•	•	•	•	•
300	•	•	•	•	•	•	•	•	•	•	•
350	•	•	•	•	•	•	•	•	•	•	•

MAGNETIC & NON-MAGNETIC PISTON, CYLINDERS

RM/680000/M, RM/680000 Double acting

Cylinder variants

Symbol	T	K	C	S	Model Non-magnetic piston	Symbol	T	K	C	S	Model magnetic piston	Description	Dimensions Page
	•	•	•	•	RM/680000		•	•	•	•	RM/680000/M	Standard cylinder	6
	•	•	•	•	RM/680000		•	•	•	•	RM/680000/M	Cylinder with extended piston rod	6

For the cylinder models style T,C,S & K see option selector.

Option selector

★★M/680★★★/★★/★★★/★★★

Seal variant	Substitute
High temperature version 150°C max. (only up to Ø 250)	T

Piston rod material	Substitute
Stainless steel martensitic (1.4021) (+ plated steel end caps)	R
Stainless steel austentic (1.4305) (+ plated steel end caps)	S
Hard chrome plated (+ plated steel end caps)	C
Stainless steel austentic (1.4305) (+ stainless steel end caps)	K

Bore size	Substitute
100 (aluminium barrel)	100
125 (aluminium barrel)	125
160 (aluminium barrel)	160
200 (aluminium barrel)	200
250 (aluminium barrel)	250
300 (FRP barrel)	300
350 (FRP barrel)	350

Piston rod extention	Substitute
IF U/MU Variant - extension (within 500 mm inclusive stroke length):	

Strokes (mm)	Substitute
500 max.	

Piston rod thread	Substitute
Female	X
Male (standard)	None

Variants	Substitute
Non-magnetic piston (standard)	None
Magnetic piston	M
Extended piston rod (Non-magnetic piston)	U
Extended piston rod (Magnetic piston)	MU

MAGNETIC & NON-MAGNETIC PISTON, CYLINDERS
RM/680000/M, RM/680000 Double acting

Mountings and service kit

Model	AK	B, G	C	D	D2	F	FH	H
								
Cyl. Ø	Page 5	Page 5	Page 6	Page 5	Page 6	Page 6	Page 6	Page 6
100	QM/8080/38	QA/8100/22	QA/8100/21	QA/8100/23	QA/8100/42	QM/8080/25	QA/8100/34	QA/8100/28
125	QM/8080/38	QM/8125/22	QM/8125/21	QM/8125/23	QA/8125/42	QM/8080/25	QA/8125/34	QM/8125/28
160	QM/8080/38	QM/8160/22	QM/8160/21	QM/8160/23	QA/8160/42	QM/8080/25	—	QM/8160/28
200	QM/8080/38	QM/8200/22	QM/8200/21	QM/8200/23	QA/8200/42	QM/8080/25	—	QM/8200/28
250	QM/8080/38	QM/8250/22	QM/8250/21	QM/8250/23	—	QM/8080/25	—	QM/8250/28
300	QM/8160/38	QM/8320/22	QM/8320/21	QM/8320/23	—	QM/8160/25	—	QM/8320/28
350	QM/8160/38	QM/680350/22	QM/680350/21	QM/680350/23	—	QM/8160/25	—	QM/680350/28

*1) For dimension detail consult our Technical Service.

Model	R	S	SS	SW	UP	UH	UR	US
								
Cyl. Ø	Page 6	Page 7	Page 8	Page 8	Page 7	Page 7	Page 7	Page 8
100	QA/8100/27	QA/8100/41	M/P19936	M/P19498	QM/8080/32	QA/8100/40	QA/8100/33	M/P40315
125	QM/8125/27	QA/8100/41	M/P19937	M/P19499	QM/8080/32	QA/8125/40	QM/8125/33	M/P71355
160	QM/8160/27	QA/8160/41	M/P19938	M/P19679	QM/8080/32	QA/8160/40	QM/8160/33	M/P71356
200	QM/8200/27	QA/8160/41	M/P19939	M/P19683	QM/8080/32	QA/8200/40	QM/8200/33	M/P71357
250	—	—	—	M/P19446	QM/8080/32	—	QM/8250/33	—
300	—	—	—	M/P19447	QM/8160/32	—	QM/8320/33	—
350	—	—	—	M/P19447	QM/8160/32	—	—	—

Accessories

Magnetically operated switches

Model	M/50/**	Switch mounting brackets for M/50	QM/32	Switch mounting brackets for QM/32
				
Cyl. Ø	Page 9	Page 9	Page 9	Page 9
100	M/50/LSU/5V	QM/27/2/1	—	—
125	M/50/LSU/5V	QM/27/2/1	—	—
160	M/50/LSU/5V	QM/27/2/1	—	—
200	M/50/LSU/5V	QM/27/2/1	—	—
250		—	QM/32/5	QM/31/250/22
300		—		—
350		—		—

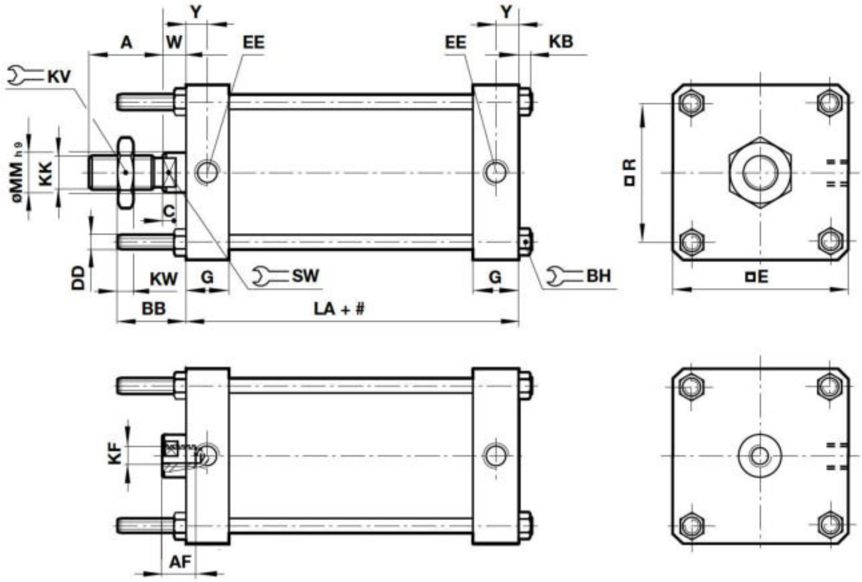
Sevice kit

Model	Service kit
	
Cyl. Ø	Page 9
100	QA/680100A/00
125	QA/680125A/00
160	QA/680160A/00
200	QA/680200A/00
250	QA/680250A/00
300	QA/680300A/00
350	QA/680350A/00

MAGNETIC & NON-MAGNETIC PISTON, CYLINDERS
RM/680000/M, RM/680000 Double acting

Dimensions

Standard cylinder RM/680000;
RM/680000/M



Stroke

Ø	A	BB	BH	□C	D	DD	□E	EE	G	K
100	40	49	16	12	22	M10	115	G3/8	24	11
125	40	61	18	12	22	M12	140	G3/8	24	13
160	40	37	24	12	22	M16	184	G3/8	24	17
200	40	42	24	12	22	M16	224	G3/8	24	17
250	40	44	30	12	22	M20	280	G1/2	30	19
300	72	50	30	16	36	M24	324	G1/2	30	19
350	72	68	36	16	36	M24	380	G1/2	30	24

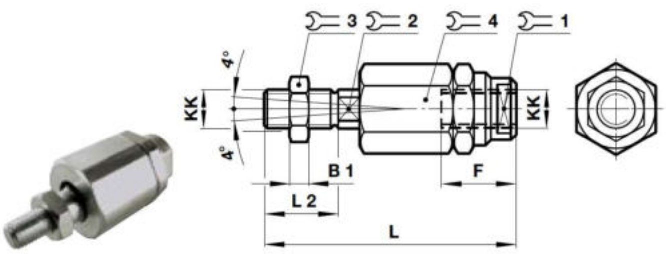
Ø	KK	KV	KW	LA (+ #)	Ø MM h9	□R	W	Y	Model non-magnetic piston	Model magnetic piston
100	M20 x 1.5	30	10	84	25	89	30	11	0100/*	RM/680100/M/*
125	M20 x 1.5	30	10	92	25	110	35	11	RM/680125/*	RM/680125/M/*
160	M20 x 1.5	30	10	92	25	140	35	11	RM/680160/*	RM/680160/M/*
200	M20 x 1.5	30	10	92	25	175	40	11	RM/680200/*	RM/680200/M/*
250	M20 x 1.5	30	10	100	25	220	40	14	RM/680250/*	RM/680250/M/*
300	M36 x 2	55	18	106	40	270	50	14	RM/680300/*	RM/680300/M/*
350	M36 x 2	55	18	116	40	300	50	14	RM/680350/*	RM/680350/M/*

Cylinder with female piston rod threa
RM/680000/X; RM/680000/MX

Ø	AF	KF	Model non-magnetic piston	Model magnetic piston
100	20	M16 x 1.5	RM/680100/X/*	RM/680100/MX/*
125	20	M16 x 1.5	RM/680125/X/*	RM/680125/MX/*
160	20	M16 x 1.5	RM/680160/X/*	RM/680160/MX/*
200	20	M16 x 1.5	RM/680200/X/*	RM/680200/MX/*
250	20	M16 x 1.5	RM/680250/X/*	RM/680250/MX/*
300	40	M30 x 2	RM/680300/X/*	RM/680300/MX/*
350	40	M30 x 2	RM/680350/X/*	RM/680350/MX/*

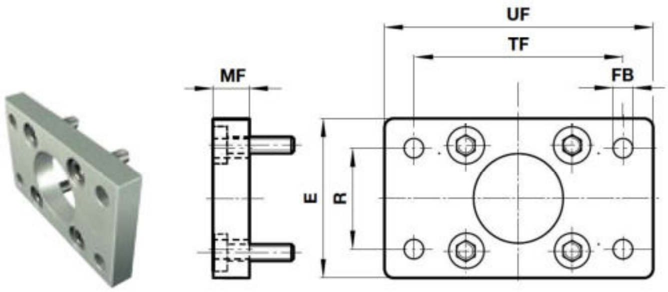
Mountings

Piston rod swivel AK



Ø	KK	B1	F	L	L2					kg	Model (AK)
						1	2	3	4		
100 … 250	M20x1,5	10	42	122	40	30	19	30	42	0,72	QM/8080/38
300/350	M36x2	18	78	251	72	50	36	55	75	5,4	QM/8160/38

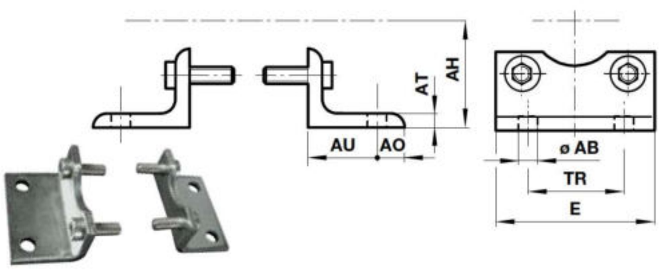
Front flange B, G
Conforms to ISO 15552, type MF1 and MF2



Ø	E	Ø FB	MF	R	TF	UF	kg	Model (B, G)
100	120	14	16	75	150	186	2,20	QA/8100/22
125	140	16	20	90	180	224	2,70	QM/8125/22
160	180	18	20	115	230	280	3,1	QM/8160/22
200	220	22	25	135	270	320	4,6	QM/8200/22
250	280	26	25	165	330	395	7,4	QM/8250/22
300	350	33	30	200	400	475	13,6	QM/8320/22
350								QM/680350/22 *1)

*1) For dimension detail consult our Technical Service.

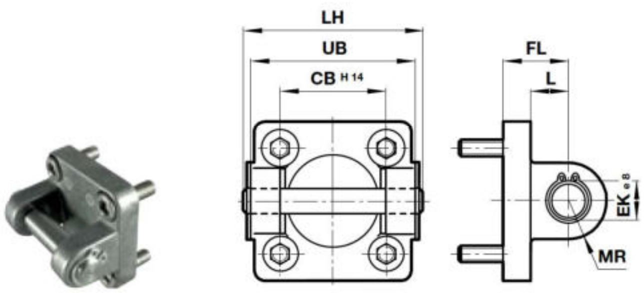
Foot mounting C
Conforms to ISO 15552, type MS1



Ø	Ø AB	AH	AO	AT	AU	E	TR	kg	Model (C)
100	14	71	19	5	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
300	33	200	45	16	85	350	200	22	QM/8320/21
350									QM/680350/21 *1)

*1) For dimension detail consult our Technical Service.

Rear clevis D
Conforms to ISO 15552, type MP2

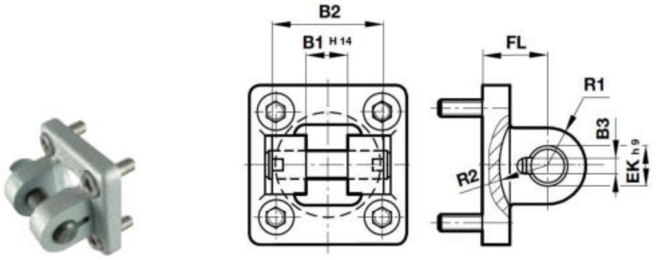


Ø	CB H14	Ø EK e8	FL	L	LH	MR	UB	kg	Model (D)
100	60	20	41	27	119	20	110	0,90	QA/8100/23
125	70	25	50	31	139	25	130	2,70	QM/8125/23
160	90	30	55	35,5	181	30	170	4,3	QM/8160/23
200	90	30	60	36	181	30	170	6,1	QM/8200/23
250	110	40	70	45	218	40	200	19	QM/8250/23
300	120	45	80	50	238	45	220	30,5	QM/8320/23
350									QM/680350/23 *1)

*1) For dimension detail consult our Technical Service.

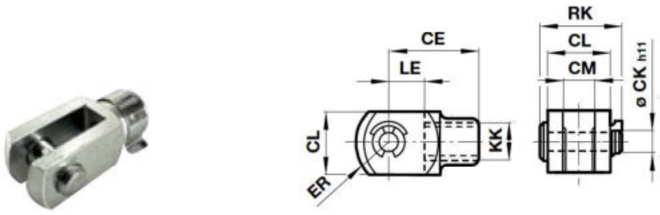
MAGNETIC & NON-MAGNETIC PISTON, CYLINDERS
RM/680000/M, RM/680000 Double acting

Rear clevis D2
Conforms to ISO 15552, type AB6



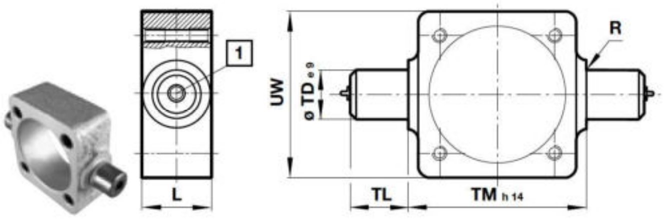
Ø	B1 H14	B2	B3	Ø EK h9	FL	R1	R2	kg	Model (D2)
100	25	75	4,3	20	41	22	32	1,45	QA/8100/42
125	37	97	6,3	30	50	30	42	2,7	QA/8125/42
160	43	122	6,3	35	55	36	46	4,3	QA/8160/42
200	43	122	6,3	35	60	38	49	6,1	QA/8200/42

Piston rod clevis F
Conforms to DIN ISO 8140



Ø	KK	CE	Ø CK h11	CL	CM	ER	LE	RK	kg	Model (F)
100 … 250	M20x1,5	80	20	40	20	32	40	50	0,67	QM/8080/25
300/350	M36x2	144	35	70	35	57	72	95	3	QM/8160/25

Centre trunnion – H
Conforms to ISO 15552, type MT4

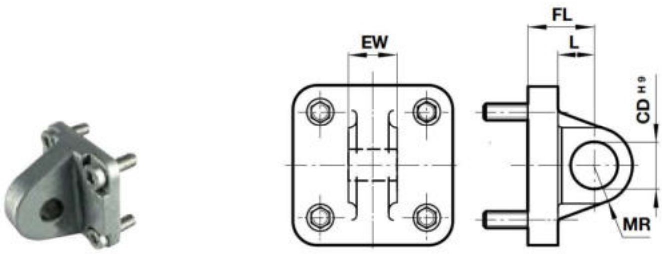


1 Grease nippel up to Ø 125 mm

Ø	L	R	Ø TD e9	TL	TM h14	UW	XV min.	max.	kg	Model (H)
100	38	2	25	25	132	126	107	128	2,3	QA/8100/28
125	50	2	25	25	160	152	136	154	3,3	QM/8125/28
160	50	2,5	32	32	200	192	155	185	5,3	QM/8160/28
200	50	2,5	32	32	250	240	170	200	9,4	QM/8200/28
250	60	3,2	40	40	320	318	193	217	18	QM/8250/28
300	70	3,2	50	50	400	400	215	245	30	QM/8320/28
350										QM/680350/28 *1)

*1) For dimension detail consult our Technical Service.
Note: Style 'H': These mountings are only supplied assembled complete with the cylinder.
Unless otherwise specified, units will be supplied with dimension 'XV' plus half the stroke length.
'XV' = Distance from the piston rod shoulder to the centre of the mounting.

Rear eye R
Conforms to ISO 15552, type MP4

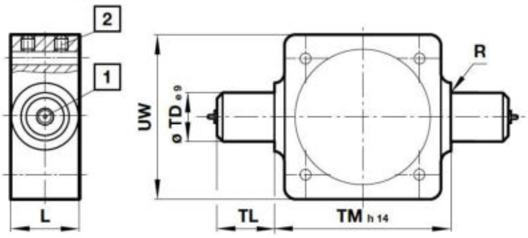


Ø	Ø CD H9	EW	FL	L	MR	kg	Model (R)
100	20	59,7	41	27	20	0,59	QA/8100/27
125	25	69,7	50	33	25	3,20	QM/8125/27
160	30	89,7	55	35,5	30	6,1	QM/8160/27
200	30	89,7	60	37	30	6,8	QM/8200/27

MAGNETIC & NON-MAGNETIC PISTON, CYLINDERS

RM/680000/M, RM/680000 Double acting

Adjustable trunnion mounting UH
Conforms to ISO 15552, type MT4

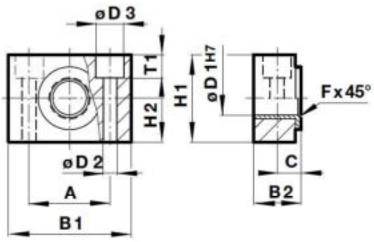


1 Grease nippel up to Ø 125 mm
2 Locking screws
Ø 100 mm = 15 Nm; Ø 125 mm = 25 Nm; Ø 160 & 200 mm = 40 Nm

Ø	L	R	Ø TD e9	TL	TM h14	UW	XV min.	XV max.	kg	Model (UH)
100	38	2	25	25	132	126	112	128	2,3	QA/8100/40
125	50	2	25	25	160	152	136	154	3,3	QA/8125/40
160	50	2,5	32	32	200	192	155	185	5,3	QA/8160/40
200	50	2,5	32	32	250	240	170	200	9,4	QA/8200/40

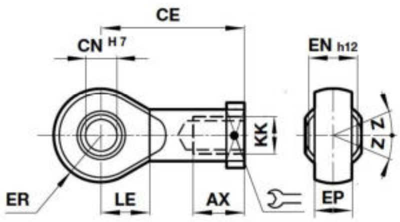
Style 'UH': It is most important that the locking screws which secure the mounting to the tie rod are tightened to the torque figures shown in the table below.
For maximum energy input, consult our Technical Service.
Unless otherwise specified, units will be supplied with dimension 'XV' plus half the stroke length.
'XV' = Distance from the piston rod shoulder to the centre of the mounting.

Trunnion support S
Conforms to ISO 15552, type AT4



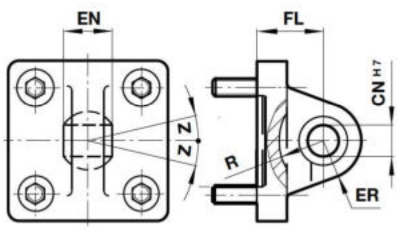
Ø	A	B 1	B 2	C	Ø D1 H7	Ø D2	Ø D3	F x 45°	H 1	H 2	T1	kg	Model (S)
100/125	50	75	28,5	16	25	14	20	2	50	25	13	0,34	QA/8100/41
160/200	60	92	39	21,5	32	18	26	2,5	60	25	15,5	1,9	QA/8160/41

Universal piston rod eye UF
Conforms to DIN ISO 8139



Ø	Thread KK	AX	CE	Ø CN H7	EN -0,1	ER	LE	Z	kg	Model (UF)
100 … 250	M20x1,5	33	77	20	25	25	26	15°	0,67	QM/8080/32
300/350	M36x2	56	125	35	43	40	41	16°	3	QM/8160/32

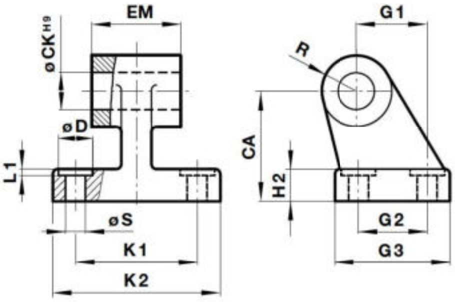
Universal rear eye UR
Conforms to ISO 15552, type MP6



Ø	Ø CN H7	EN	ER	FL	R	Z	kg	Model (UR)
100	20	25	30	41	29	15°	1,50	QA/8100/33
125	30	37	40	50	36	15°	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	10°	16,5	QM/8250/33
300	50	60	58	80	52	8°	26	QM/8320/33

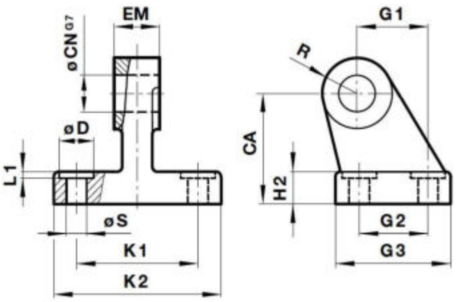
MAGNETIC & NON-MAGNETIC PISTON, CYLINDERS
RM/680000/M, RM/680000 Double acting

Wide hinge SW
Conforms to ISO 15552, type AB7



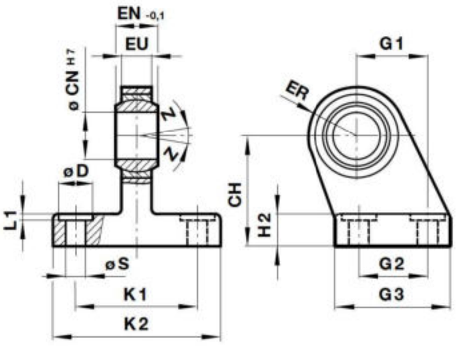
Ø	CA	Ø CK H9	Ø D	H2	EM	G1	G2	G3	K1	K2	L1	R	Ø S	kg	Model (SW)
100	71	20	18	15	59,5	55	50	70	76	94	2,5	19	11	0,42	M/P19498
125	90	25	20	20	70,5	70	60	90	94	124	3,2	22	14	2,70	M/P19499
160	115	30	20	25	89,5	97	88	126	118	156	4	31	14	6,3	M/P19679
200	135	30	26	30	89,5	105	90	130	122	162	4	31	18	8	M/P19683
250	165	40*1)	40	35	109,5	128	110	160	150	200	4	39	22	13,4	M/P19446
300/350	200	45*1)	48	40	119,5	150	122	186	170	234	4	44	26	22	M/P19447

Narrow hinge SS



Ø	CA	Ø CN G7	Ø D	H2	EM	G1	G2	G3	K1	K2	L1	R	Ø S	kg	Model (SS)
100	71	20	18	15	20	55	50	70	76	96	2,5	19	11	1,20	M/P19936
125	90	25	20	20	30	70	60	90	94	124	3,2	22	14	2,50	M/P19937
160	115	35	20	25	35	97	88	126	118	156	4	31	14	6,00	M/P19938
200	135	35	26	30	35	105	90	130	122	162	4	31	18	7,60	M/P19939

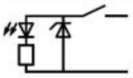
Swivel hinge US
Conforms to VDMA 24562 part 2



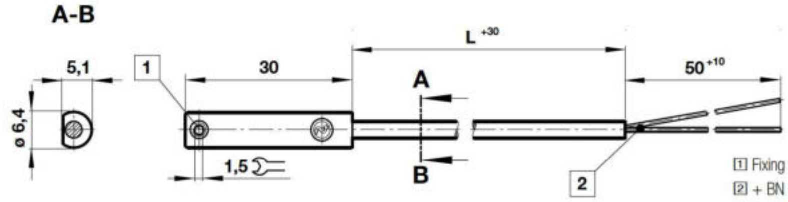
Ø	CH	Ø CN H7	ØD	EN -0,1	ER	EU	G1	G2	G3	H2	K1	K2	L1	Ø S	Z	kg	Model (US)
100	71	20	18	25	30	18	55	50	70	15	76	96	2,5	11	15°	1,40	M/P40315
125	90	30	20	37	40	25	70	60	90	20	94	124	3,2	14	15°	3,10	M/P71355
160	115	35	20	43	44	28	97	88	126	25	118	156	4	14	15°	6,40	M/P71356
200	135	35	26	43	47	28	105	90	130	30	122	162	4	18	15°	9,10	M/P71357

MAGNETIC & NON-MAGNETIC PISTON, CYLINDERS
RM/680000/M, RM/680000 Double acting

Models - Reed switches - additional informations see data sheet N/en 4.3.005

Symbol	Model	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)
 ± BN ~ BU	M/50/LSU/5V	10 … 240	10 … 170	180	Closer	-25 … +80	•	IP66	—	5	PVC 2 x 0,25	37

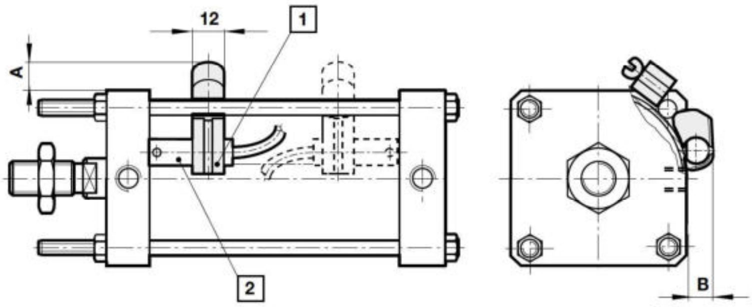
M/50/LSU/*V, M/50/LSU/5U,
TM/50/RAU/2S
Cable length L = 2, 5 or 10 m



1 Fixing screw
2 + BN = brown; - BU = blue (output)

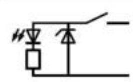
QM/27/2/1 – Switch mounting brackets
Switch: M/50

Cyl. ø	A	B	Weight (kg)	Model
100	2	2	0,010	QM/27/2/1
125	-4	-3	0,010	QM/27/2/1
160	-10	-9	0,010	QM/27/2/1
200	-17	-14	0,010	QM/27/2/1

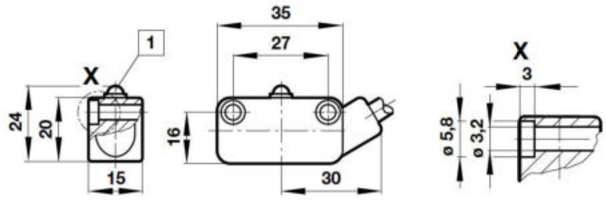


1 Switch mounting bracket
2 Switch

Models - Reed switches - additional informations see data sheet N/en 4.3.021

Symbol	Model	Voltage (V a.c./V d.c.)	Current maximum (A)	Function	Temperature (°C)	LED	Protection class	Features	Cable length (m)	Cable type	Weight (g)
 ± BN ~ BU	QM/32/5	10 … 240	1	Closer	-20 … +80	•	IP66	—	5	PVC 2 x 0,75	108 (2 m)

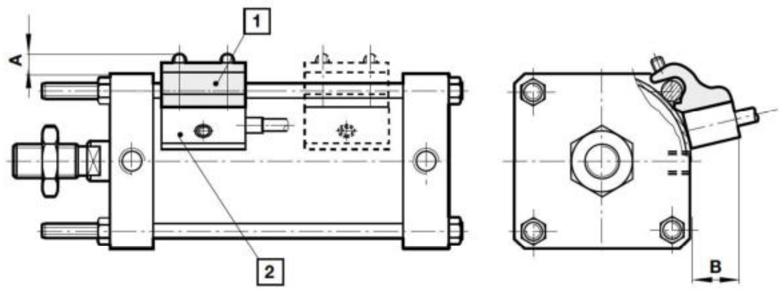
QM/32



1 LED (yellow)

QM/31/000/22 – Switch mounting brackets
Switche: QM/32

Cyl. ø	A	B	Weight (kg)	Model
250	-3	138	0,041	QM/31/250/22



TRADITIONAL 'IMPERIAL' CYLINDERS

RM/900 Magnetic & non-magnetic – Ø 1,25 … 14"

- Large range of bore sizes – ideal for a wide variety of industrial applications
- Long established design – proven ruggedness and reliability
- Extensive choice of mountings
- Adjustable cushioning

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
RM/900: double acting, adjustable cushioning and non-magnetic
RM/900/M: double acting, adjustable cushioning and magnetic piston

Operating pressure:
1 … 10 bar

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel:
Anodized aluminium except Ø 14 inch which is steel

End cover:
Diecast aluminium

Bearing housing:
Brass for 1 1/4 inch to 3 inch (Ø 4 inch to 14 inch aluminium)

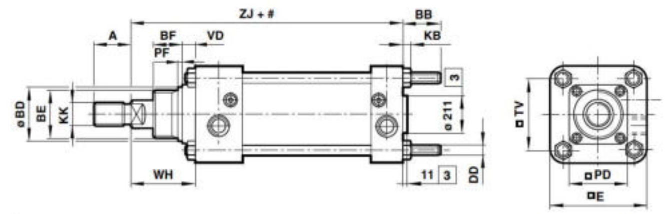
Piston:
Aluminium

Piston rod & tie rods:
Stainless steel (Martensitic)

Seals:
NBR

O-rings:
NBR

Dimensions



Stroke

Model	Dia. Ø inch	A	BB	Ø BD	BE	BF	DD	◻ E	KB	KK	◻ PD	PF	TV	VD	WH	ZJ
RM/9125	1 1/4	14,5	22	22	M 22 x 2	19	M 6	45	5	M 10	–	–	30,5	8	37	125,5
RM/9175	1 3/4	19	26,5	27	M 27 x 2	19	M 8	57	6,5	M 12	–	–	43	8	37	132,5
RM/920	2	24	25	34	M 33 x 2	20	M 8	63,5	6,5	M 16	–	3	47,5	9,5	46	137
RM/925	2 1/2	33,5	25	40	M 39 x 2	25,5	M 8	74,5	6,5	M 22	–	3	55,5	8	53	152,5
RM/930	3	33,5	33	40	M 39 x 2	25,5	M 10	91	8	M 22	59	3	66,5	13	56,5	179,5
RM/940	4	38	32	–	Ø 43	–	M 10	114	8	M 24	63,5	–	89	13	64	187,5
RM/950	5	47,5	48	–	Ø 58,5	–	M 12	140	10	M 30	82,5	–	108	18	83	228,5
RM/960	6	47,5	49,5	–	Ø 58,5	–	M 16	167	13	M 30	82,5	–	128,5	18	83	235
RM/980	8	57	53,5	–	Ø 63,5	–	M 18	219	15	M 36	89	–	168,5	19	86	276
RM/9100	10	76	70,5	–	Ø 77	–	M 24	270	19	M 48	111	–	209,5	22	109	343
RM/9120	12	76	70,5	–	Ø 77	–	M 24	321	19	M 48	111	–	246	22	109	343
RM/9140	14	76	93	–	Ø 89	–	M 30	375	24	M 48	–	–	292	32	128	366,5

Models

Accessories

Magnetic Model	Non-Magnetic Model	Dia. Ø	Piston rod	Port size	Service kit
RM/9125/M/*	RM/9125/*	1 1/4	12 mm	G1/8	QM/9125/00
RM/9175/M/*	RM/9175/*	1 3/4	16 mm	G1/4	QM/9175/00
RM/920/M/*	RM/920/*	2	20 mm	G1/4	QM/920/00
RM/925/M/*	RM/925/*	2 1/5	25 mm	G3/8	QM/925/00
RM/930/M/*	RM/930/*	3	25 mm	G3/8	QM/930/00
RM/940/M/*	RM/940/*	4	32 mm	G3/8	QM/940/00
–	RM/950/*	5	Ø 1 1/2"	G1/2	QM/950/00
–	RM/960/*	6	Ø 1 1/2"	G1/2	QM/960/00
–	RM/980/*	8	Ø 1 3/4"	G3/4	QM/980/00
–	RM/9100/*	10	Ø 2 1/4"	G1	QM/9100/00
–	RM/9120/*	12	Ø 2 1/4"	G1	QM/9120/00
–	RM/9140/*	14	Ø 2 1/4"	G1	QM/9140/00

* Insert stroke length up to a maximum of 2,500 mm.
Please contact us for latest availability.
Please note that these comprehensive service kits are also suitable for older versions of the original M/900 series actuators built prior to introduction of the RM/900 range.

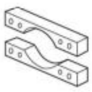
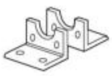
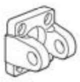
TRADITIONAL 'IMPERIAL' CYLINDERS

RM/900 Magnetic & non-magnetic – Ø 1,25 … 14"

Standard strokes

Cylinder	Stroke length (mm)							
Ø (mm)	50	75	100	150	200	225	250	300
1 1/4	•	•	•	•	•	•	•	•
1 3/4	•	•	•	•	•	•	•	•
2	•	•	•	•	•	•	•	•
2 1/2	•	•	•	•	•	•	•	•
3	•	•	•	•	•	•	•	•
4	•	•	•	•	•	•	•	•
5	•	•	•	•	•	•	•	•
6	•	•	•	•	•	•	•	•
8	•	•	•	•	•	•	•	•
10	•	•	•	•	•	•	•	•
12	•	•	•	•	•	•	•	•
14	•	•	•	•	•	•	•	•

Mountings

Model	B or G	C	D	F	L	R
						
RM/9125	M/P6938	QM/754	M/P6937	QM/402	QM/394	M/P11966
RM/9175	QM/888	QM/753	M/P7457	QM/404	QM/922	M/P11219
RM/920	QM/875	QM/752	M/P10228	QM/405	QM/909	M/P10349
RM/925	QM/876	QM/748	M/P10311	QM/407	QM/910	M/P10351
RM/930	QM/878	QM/983	M/P10229	QM/407	QM/911	M/P10353
RM/940	QM/887	QM/982	QM/758	QM/408	QM/912	QM/763
RM/950	QM/886	QM/981	QM/759	QM/409	QM/913	QM/764
RM/960	QM/884	QM/826	QM/761	QM/409	QM/914	QM/765
RM/980	QM/883	QM/825	QM/762	QM/410	QM/915	QM/766
RM/9100	QM/882	QM/824	–	QM/411	QM/917	QM/767
RM/9120	QM/889	QM/756	–	QM/411	QM/918	QM/768
RM/9140	QM/741	QM/755	–	QM/411	QM/924	QM/769

Options

- High temperature version
- Stainless steel piston rod - Austentitic
- Female piston rod
- Full piston rod thread
- Piston Rod Bellow
- Double ended piston rod
- Alternative Mountings

IMPACT CYLINDERS

M/3000 Double Acting – Ø 2 … 6"

- High energy output
- Ideally suited to a wide range of marking, piercing and light presswork applications
- Rugged, corrosion-resistant construction

Technical Data

Operating pressure:
2,7 … 10 bar

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Mounting position:
Vertical
For all applications complete guarding must be incorporated, either fixed or interlocked with the control circuit. For further information consult IMI Precision Engineering technical sales. An Impact Cylinder gives an output rated in energy i.e. thrust x distance. This energy is achieved by rapidly accelerating the piston rod and tool assembly over a free stroke of approximately 65 mm, before contacting the work. The rapid acceleration is produced by the differential area arrangement which quickly exposes the full area of the piston to high pressure air built up in the reservoir at rear end of the cylinder.

Materials

Rear end cover:
Aluminium

Front end cover:
Aluminium or steel

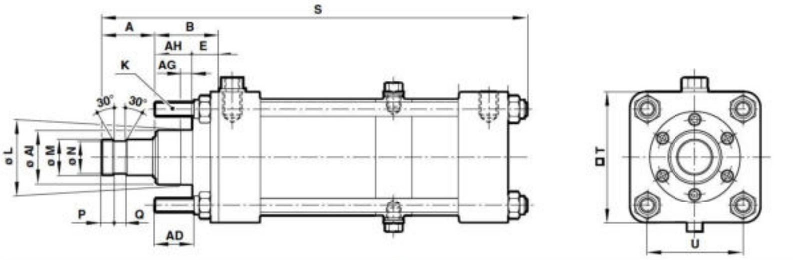
Piston:
Steel

Piston rod:
Hardened steel

Centre piece:
Aluminium or steel

Seals:
NBR

Dimensions



Dia. Ø	A	AD	AG	AH	Ø AI	B	E	K	Ø L	Ø M	Ø N	P	Q	S	T	U
2"	37,5	17	8	20,5	31,5	35	14,3	M 8	31,72/31,67	20	17,5	9,5	6	461	63,5	48
3"	37,5	27,5	8	25,5	37,5	38	12,7	M 10	38,07/38,02	25	23	9	8	506	89	67
4"	44,5	34,5	8	31,5	44	44,5	12,7	M 11	44,42/44,37	32	28,5	11	9,5	516	114	89
6"	63,5	48	9,5	35	69,5	68	15,9	M 16	69,82/69,75	44,5	40,5	19	12,5	587	167	129

Models

Accessories

Model	Dia. Ø	Energy joules at 5,5 bar	Max. Cycle rate/min	Max. tool weight to be carried	Port size	Piston rod dia. Ø	Straight fitting	Elbow fitting	Service kit
									
M/3020M	2"	24,5	60	3,6kg	G1/4	20	C02250628	C02470628	QM/3020/00
M/3030M	3"	63	50	9,0kg	G3/8	25	C02250838	C02470838	QM/3030/00
M/3040M	4"	125,5	40	15,8kg	G3/8	32	C02251038	C02471038	QM/3040/00
M/3060	6"	253	35	36,2kg	G1/2	44,5	C02251248	C02471248	QM/3060/00

For alternative fitting types, shapes or sizes, refer to our fittings section.

Mountings

Dia. Ø	B, G
2"	QM/871
3"	QM/984
4"	QM/987
6"	QM/990

FIXED RANGE POSITIONER CYLINDERS

M/1525 & M/1540 Double Acting – Ø 2 1/2", 4" bore

- Robust and reliable for long, maintenance free life
- High positioning speeds
- Vibration resistant
- Square, cleanline design makes them suitable for hygiene controlled environments

Technical Data

Medium:
Compressed air, filtered and non-lubricated

Installation:
Air supply must incorporate a pre-filter, and a high efficiency (5µm) filter

Operation:
Double acting, fixed range positioner cylinders

Operating pressure:
2 … 10 bar

Control pressure:
0,2 … 1 bar

Ambient temperature:
+5°C* … +80°C
* 100% dry air

Materials

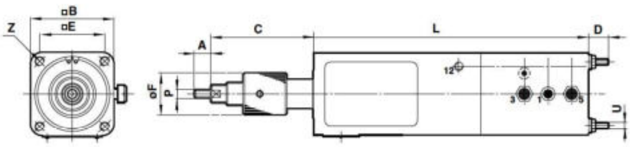
Piston rod & Valve spool:
Stainless steel

Piston rod end & Zero adjuster:
Zinc plated steel

Valve bush:
Brass

Cylinder barrel, Piston & Valve body:
Aluminium alloy

Dimensions



Ø	Stroke	A	B	C	D	E	F	L	P	U	Z
2,5"	75	15	76,8	93	17,5	55,9	38	288	M10 x 1,5	M6 x 1	M6 x 1 x 22 deep
2,5"	125	15	76,8	93	17,5	55,9	38	338	M10 x 1,5	M6 x 1	M6 x 1 x 22 deep
2,5"	200	15	76,8	93	17,5	55,9	38	413	M10 x 1,5	M6 x 1	M6 x 1 x 22 deep
4"	200	15	115	84,4	30,5	89	38	423,5	M10 x 1,5	M8 x 1,25	M8 x 1,25 x 22 deep

Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Force at bar 7	Straight fitting	Elbow fitting	Service kit
							
M/1525/75	2,5"	75	G1/4	1222N	C02250828	C02470828	QM/1525/00
M/1525/125	2,5"	125	G1/4	1222N	C02250828	C02470828	QM/1525/00
M/1525/200	2,5"	200	G1/4	1222N	C02250828	C02470828	QM/1525/00
M/1540/200	4"	200	G1/4	3118N	C02251028	C02471028	QM/1540/00

For alternative fitting types, shapes or sizes, refer to our fittings section.

HEAVY DUTY CYLINDER

M/1000 Double acting - Ø 2" … 12" (Ø 50 … 305 mm)

- Extremely rugged heavy duty construction – ideal for use in the most arduous conditions
- Long, adjustable cushioning
- Large range of bore sizes – ideal for a wide variety of industrial applications
- Extensive choice of mountings

Technical Data

Medium:
Compressed air, filtered and lubricated

Operation:
Double acting with adjustable cushioning

Operating pressure:
2 … 17 bar (up to 8")
2 … 13,5 bar (10 & 12")

Ambient temperature:
-20°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Rear end cover:
Cast iron

Front end cover:
Cast iron

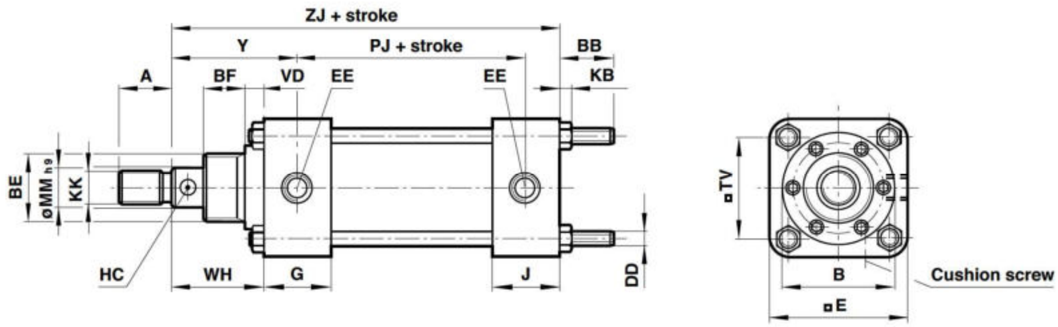
Piston:
Steel (upto 3" cast iron)

Piston rod:
Hard chrome plated steel

Barrel:
Hard chrome plated steel

Seals:
NBR

Dimensions



Model	1020	1025	1026	1030	1031	1040	1041	1050	1051	1060	1061	1080	1081	1101	1121
A	33,5	33,5	38	33,5	38	38	47,5	38	57	57	76	57	76	95,5	95,5
B	51	58		64		89		108		127		168		210	210
BB	28	31		37		29		39		48		57		68	68
BE	M 45 x 2	M 52 x 2		M 52 x 2		M 64 x 2		—		—		—		—	—
BF	30	35		38		46		41		52,5		65		76,5	76,5
DD	M 8	M8		M10		M 10		M 12		M 16		M 18		M 24	M 24
▫E	63,5	76		90		114		140		167		219		270	321
EE	G1/4	G3/8		G1/2		G1/2		G1/2		G3/4		G1		G1	G1
G	37	37		38		46		48		43		60		70	70
Ø HC	8	8		8		8	10	8	10	10		10		16	16
J	37	37		38		46		48		43		60		70	70
KB	7,5	7,5		9		9		11		14		16,5		20,5	20,5
KK	M 22	M 22	M 24	M 22	M 24	M 24	M 30	M 24	M 36	M 36	M 48	M 36	M 48	M 64 x 4	M 64 x 4
Ø MM h9	1	1	1 1/4	1	1 1/4	1 1/4	1 1/2	1 1/4	1 3/4	1 3/4	2 1/4	1 3/4	2 1/4	3	3
PJ	90,5	92,5		98,5		98,5		114,5		114,5		140		197	197
▫TV	47,5	55,5		66,5		89		108		128,5		168,5		209,5	246
VD	9,5	12,5		14,5		11		13		16		19		22	22
WH	55,5	63		68		76		73	76	100		115,5		130	130
Y	71	80,5		85,5		103		100	103	123,5		150,5		174,5	174,5
ZJ	178	190,5		201,5		228,5		241,5	244,5	262		325,5		416	416

HEAVY DUTY CYLINDER

M/1000 Double acting - Ø 2" … 12" (Ø 50 … 305 mm)

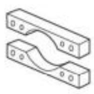
Models

Accessories

Model	Dia. Ø	Piston rod Ø	Port size	Service kit
M/1020/*	2	1	G1/4	QM/1020/00
M/1025/*	2 1/2	1	G3/8	QM/1025/00
M/1026/*	2 1/2	1 1/4	G3/8	QM/1026/00
M/1030/*	3	1	G1/2	QM/1030/00
M/1031/*	3	1 1/4	G1/2	QM/1031/00
M/1040/*	4	1 1/4	G1/2	QM/1040/00
M/1041/*	4	1 1/2	G1/2	QM/1041/00
M/1050/*	5	1 1/4	G1/2	QM/1050/00
M/1051/*	5	1 3/4	G1/2	QM/1051/00
M/1060/*	6	1 3/4	G3/4	QM/1060/00
M/1061/*	6	2 1/4	G3/4	QM/1061/00
M/1080/*	8	1 3/4	G1	QM/1080/00
M/1081/*	8	2 1/4	G1	QM/1081/00
M/1101/*	10	3	G1	QM/1101/00
M/1121/*	12	3	G1	QM/1121/00

* Insert stroke length up to a maximum of 2,500 mm.
Please contact us for latest availability.

Mountings

Model	Dia. Ø	Piston rod Ø	B or G	C	D	F	L	R
								
M/1020	2	1	QM/871	QM/751	M/P9822	QM/407	QM/909	M/P10349
M/1025	2 1/2	1	QM/877	QM/748	M/P9825	QM/407	QM/910	M/P10351
M/1026	2 1/2	1 1/4	QM/877	QM/748	M/P9825	QM/408	QM/910	M/P10351
M/1030	3	1	QM/984	QM/747	M/P9828	QM/407	QM/911	M/P10353
M/1031	3	1 1/4	QM/984	QM/747	M/P9828	QM/408	QM/911	M/P10353
M/1040	4	1 1/4	QM/987	QM/746	QM/758/2	QM/408	QM/912	QM/763
M/1041	4	1 1/2	QM/987	QM/746	QM/758/2	QM/409	QM/912	QM/763
M/1050	5	1 1/4	QM/988	QM/981	QM/759/2	QM/408	QM/913	QM/764
M/1051	5	1 3/4	QM/988	QM/981	QM/759/2	QM/410	QM/913	QM/764
M/1060	6	1 3/4	QM/884/1	QM/826	QM/761/2	QM/410	QM/914	QM/765
M/1061	6	2 1/4	QM/884/1	QM/826	QM/761/2	QM/411	QM/914	QM/765
M/1080	8	1 3/4	QM/883/1	QM/745	QM/762/2	QM/410	QM/915	QM/766
M/1081	8	2 1/4	QM/883/1	QM/745	QM/762/2	QM/411	QM/915	QM/766
M/1101	10	3	QM/882/2	QM/744	–	QM/412	QM/917	QM/767
M/1121	12	3	QM/889/1	QM/743	–	QM/412	QM/918	QM/768

SLIDE UNITS

M/60100/M Double acting – Ø 10 … 40 mm

- High quality sliding bearings ensure long durable life and high guidance performance
- Double piston rod provides high bending and torsional rigidity
- Magnetic piston as standard
- Easy to install – reduces costly design tim

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting with magnetic piston and buffer cushioning

Operating pressure:
1 … 8 bar

Ambient temperature:
0°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C.

Materials

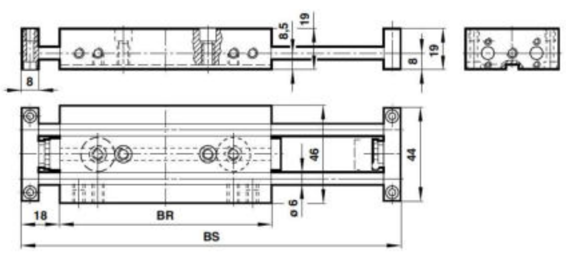
Piston:
Hard chromed steel piston

Body and end covers:
Anodised aluminium

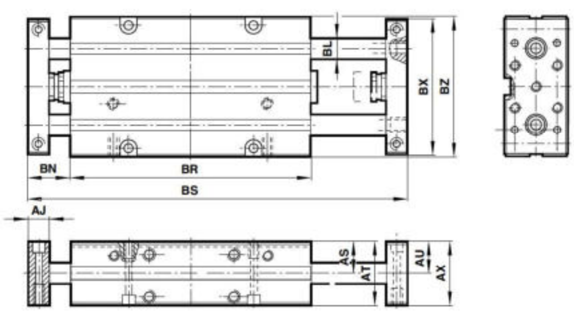
Seals:
NBR

Dimensions

M/60111/M



M/60116/M … M/60140/M



Strokes (mm)	BR	BS
25	100	161
50	100	186
75	150	261
100	150	281

Model	AJ	AS	AT	AU	AX	Ø BL	BN	BX	BZ
M/60116	10	16	30	15	30	10	20	64	66
M/60125	12	21,5	40	20,5	40	16	22	90	92
M/60132	15	27,5	50	26,5	50	20	28	116	118
M/60140	20	32,5	60	31,5	60	25	31	144	146

Strokes (mm)		25	50	75	100	125	150	175	200	225
M/60116	BR	113,5	113,5	163,5	163,5	213,5	213,5	–	–	–
M/60116	BS	179	204	279	304	379	404	–	–	–
M/60125	BR	–	152	152	202	202	252	252	–	–
M/60125	BS	–	246	271	346	371	446	471	–	–
M/60132	BR	–	–	190	190	240	240	290	290	–
M/60132	BS	–	–	321	346	421	446	521	546	–
M/60140	BR	–	–	–	236,5	236,5	286,5	286,5	336,5	336,5
M/60140	BS	–	–	–	398	423	498	523	598	623

And use the new improved search function.
If you cannotsee the option you require contact us.

SLIDE UNITS
M/60100/M Double acting – Ø 10 … 40 mm

Models | Accessories

Model	Dia. Ø	Stroke length	Port size	Guide Rod Ø (x2)	Reed switch with integral 5 m cable	Switch mounting	Banjo flow control	Straight fitting	Elbow fitting	Service kit
										
M/60111/M/25	10	25	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60111/M/00
M/60111/M/50	10	50	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60111/M/00
M/60111/M/75	10	75	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60111/M/00
M/60111/M/100	10	100	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60111/M/00
M/60116/M/25	16	25	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60116/M/00
M/60116/M/50	16	50	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60116/M/00
M/60116/M/75	16	75	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60116/M/00
M/60116/M/100	16	100	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60116/M/00
M/60116/M/125	16	125	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60116/M/00
M/60116/M/150	16	150	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60116/M/00
M/60125/M/50	25	50	M5	16	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60125/M/00
M/60125/M/75	25	75	M5	16	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60125/M/00
M/60125/M/100	25	100	M5	16	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60125/M/00
M/60125/M/125	25	125	M5	16	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60125/M/00
M/60125/M/150	25	150	M5	16	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60125/M/00
M/60125/M/175	25	175	M5	16	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60125/M/00
M/60125/M/200	25	200	M5	16	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60125/M/00
M/60132/M/75	32	75	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60132/M/00
M/60132/M/100	32	100	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60132/M/00
M/60132/M/125	32	125	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60132/M/00
M/60132/M/150	32	150	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60132/M/00
M/60132/M/175	32	175	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60132/M/00
M/60132/M/200	32	200	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60132/M/00
M/60140/M/125	40	125	G1/8	25	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60140/M/00
M/60140/M/150	40	150	G1/8	25	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60140/M/00
M/60140/M/175	40	175	G1/8	25	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60140/M/00
M/60140/M/200	40	200	G1/8	25	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60140/M/00
M/60140/M/225	40	225	G1/8		M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60140/M/00

For information on additional magnetic switches see pages 137-141.

For alternative fitting types, shapes or sizes, refer to our fittings section.

GUIDING AND STOPPER CYLINDER

M/61000/M and M/61000/MR Double acting – Ø 32 … 100 mm

- Guiding accuracy ± 0,02 mm
- Non-rotation accuracy ± 0,02°
- Integrated heavy duty guide rods
- Linear ball bearing option provides precision guiding for higher speeds
- Plain bearing option offers higher side load capacity
- Easy installation
- Magnetic piston as standard
- Buffer pad for noise reduction

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operating pressure:
1 … 10 bar

Ambient temperature:
-10°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C.

Materials

Profile barrel:
Anodized aluminium

Piston rod:
Stainless steel (martensitic)

Guide rod:
Stainless steel martensitic (plain bearings), hardened steel, hard-chrome plated (ball bearings)

Bearing:
Solid bronze (plain bearings), steel roller (ball bearings)

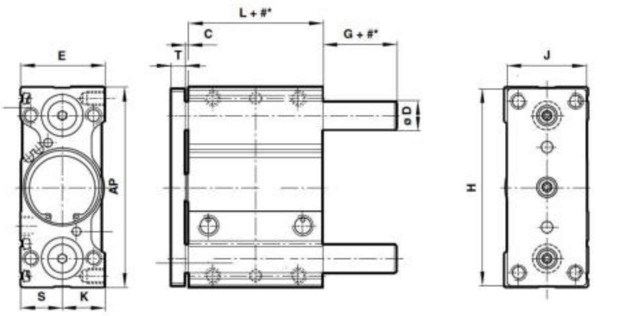
Mounting plate:
Stainless steel (austenitic)

Piston rod seals:
PUR

Piston seals:
NBR

'O'-ring:
NBR

Dimensions



= Stroke

Dia. Ø	AP	C	D *1	D *2	E	G	H	J	K	L	S	T
32	114	1,5	16	20	51	8,5	112	48	26	38	25	8
40	124	2	16	20	51	2	122	48	26	44	25	8
50	140	2	20	25	59	7	138	56	30	44	29	10
63	150	2	20	25	72	2	148	69	36,5	49	35,5	10
80	188	1,5	25	30	92	2	185	88	46,5	57	45,5	16
100	224	2	30	-	112	2	221	108	56,5	66	55,5	16

*1 = MR version - ball bearings. *2 = M version - plain bearings.

GUIDING AND STOPPER CYLINDER

M/61000/M and M/61000/MR Double acting – Ø 32 … 100 mm

Models

Accessories

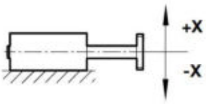
Plain Bearings Model	Ball Bearings Model	Dia. Ø	Stroke length	Port size	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow Fitting	Service kit
									
M/61032/M/25	M/61032/MR/25	32	25	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/61032/00
M/61032/M/50	M/61032/MR/50	32	50	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/61032/00
M/61032/M/75	M/61032/MR/75	32	75	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/61032/00
M/61032/M/100	M/61032/MR/100	32	100	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/61032/00
M/61040/M/25	M/61040/MR/25	40	25	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/61040/00
M/61040/M/50	M/61040/MR/50	40	50	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/61040/00
M/61040/M/75	M/61040/MR/75	40	75	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/61040/00
M/61040/M/100	M/61040/MR/100	40	100	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/61040/00
M/61050/M/25	M/61050/MR/25	50	25	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61050/00
M/61050/M/50	M/61050/MR/50	50	50	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61050/00
M/61050/M/75	M/61050/MR/75	50	75	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61050/00
M/61050/M/100	M/61050/MR/100	50	100	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61050/00
M/61063/M/25	M/61063/MR/25	63	25	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61063/00
M/61063/M/50	M/61063/MR/50	63	50	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61063/00
M/61063/M/75	M/61063/MR/75	63	75	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61063/00
M/61063/M/100	M/61063/MR/100	63	100	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61063/00
M/61080/M/25	M/61080/MR/25	80	25	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61080/00
M/61080/M/50	M/61080/MR/50	80	50	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61080/00
M/61080/M/75	M/61080/MR/75	80	75	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61080/00
M/61080/M/100	M/61080/MR/100	80	100	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61080/00
	M/61100/MR/25	100	25	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61100/00
	M/61100/MR/50	100	50	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61100/00
	M/61100/MR/75	100	75	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61100/00
	M/61100/MR/100	100	100	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61100/00

For alternative fitting types, shapes or sizes, refer to our fittings section.

Options

- Special Wiper seals on Ball Bearings version

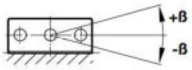
Guiding accuracy



Deflection of the mounting platem at instroke and outstroke position without load.

Cylinder Ø (mm)	32 Instroke	Outstroke	40 Instroke	Outstroke	50 Instroke	Outstroke	63 Instroke	Outstroke	80 Instroke	Outstroke	100 Instroke	Outstroke
Position												
Slidebearing	± 0,06	± 0,11	± 0,06	± 0,11	± 0,06	± 0,11	± 0,06	± 0,11	± 0,07	± 0,11	–	–
Rollerbearing	± 0,02	± 0,04	± 0,02	± 0,04	± 0,03	± 0,05	± 0,03	± 0,05	± 0,03	± 0,05	± 0,03	± 0,05

Non-rotation Accuracy

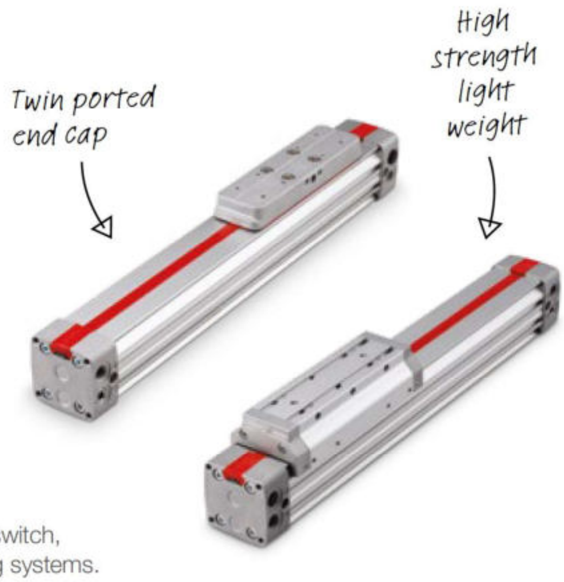


Deflection of the mounting plate ß (°) at instroke position without load

Cylinder Ø (mm)	32	40	50	63	80	100
Slide bearing	± 0,06	± 0,06	± 0,05	± 0,05	± 0,04	–
Roller bearing	± 0,03	± 0,03	± 0,03	± 0,03	± 0,02	± 0,02

Lintra® Plus
range

The IMI Norgren rodless actuator range, known generally by the 'Lintra' (LINear TRAnsporter) brand has, over the last 25 years, developed from the original M/45000 to the current M/146000 'Lintra® Plus' series.



This range is one of the widest and most comprehensive rodless ranges available. Still unique are the integrated guides housed in the main extrusion and the user-friendly sealing strip.

The latest version also has slots to take the standard IMI Norgren M/50 series switch, along with grooves which accept industry-standard aluminium machine building systems.

> Four basic versions

> Quality, long-life sealing system

> Improved version with lower weight, greater load capacity, improved end caps and carriage design

> Complying ATEX requirements

Engineering
GREAT Solutions

IMI NORGREN

Find out more
www.imi-precision.com

LINTRA® PLUS RODLESS CYLINDERS

M/146000 Internal Guide, M/146100 External Guide, M/146200 Precision Roller Guide Double acting – Ø 16 … 80 mm

- Widest rodless range covers all requirements from lighter to heavier duties
- Unique integrated guides housed in the main extrusion
- Unique zip action sealing system
- Protection system preventing dust ingress
- Reliable operation up to 6,000 Km of travel
- Interchangeable with previous M/46*00 series units

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, magnetic piston, adjustable cushioning

Operating pressure:
1 … 8 bar

Max strokes:
Ø 16 … 40 mm - 8500 mm
Ø 50 & 63 mm - 8000 mm
Ø 80 mm - 5500 mm

Ambient temperature:
-30°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

End covers:
Aluminium diecast, moulded plastic (Ø 16) and anodised aluminium (Ø 20 & 80)

Yoke:
Anodised aluminium, moulded plastic (Ø 16 & 20)

Carriage, closer & cover:
Aluminium diecast

Guiding bridge and profile barrel:
Anodised aluminium

Seal strip, wiper and piston seal:
PUR

Cover strip:
PA

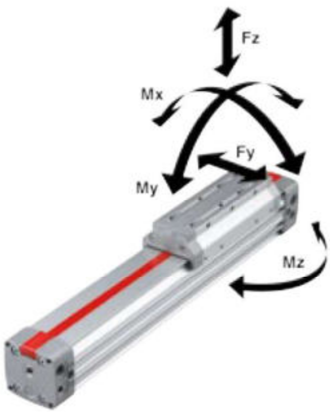
Other seals:
NBR

Shim ring:
Stainless steel (A2)

EXPRESS

● Lintra® Plus moments

M/146000, M/146100, M/146200



	Internal guide M/146000					External adjustable guide M/146100			Precision roller guide M/146200			
	Fy	Fz	Mx	My	Mz	Fy, Fz	Mx	My, Mz	Fy	Fz	Mx	My, Mz
Ø mm	(N)	(N)	(Nm)	(Nm)	(Nm)	(N)	(Nm)	(Nm)	(N)	(N)	(Nm)	(Nm)
16	40	120	0,3	3,8	1,1	200	2	5,5	–	–	–	–
20	90	280	0,9	12	3,6	470	6	18	–	–	–	–
25	125	385	1,5	19	5,6	590	9	28	590	1180	13	42
32	165	500	3	33	10	780	17	43	780	1560	25	64
40	330	990	6,5	84	24	1600	39	110	1500	3000	58	160
50	440	1320	11	120	35	2000	65	160	2000	4000	97	240
63	690	2000	20	240	70	3200	120	350	3200	6400	180	520
80	780	2300	27	360	100	3900	180	520	–	–	–	–

Loading values for LINTRA® cylinders

The values given in the table below show the single forces in the directions Fy and Fz and the maximum moments Mx, My and Mz.
All values are applicable only for speeds of max. 0,2 m/s.
A requirement for using these values is a constant movement (no jerking) of the mass over the whole stroke length of the cylinder.
The reference point from which the moments for all cylinders should be calculated is the centre line of the pistons.

For speeds up to 2 m/s please use our calculation programme LINTRA® PNEUCALC. It is available upon request.

When a LINTRA® cylinder has to take several loads and moments, an additional calculation is necessary using this formula:

$$\frac{Mx}{Mx\ max} + \frac{My}{My\ max} + \frac{Mz}{Mz\ max} + \frac{Fy}{Fy\ max} + \frac{Fz}{Fz\ max} \leq 1$$

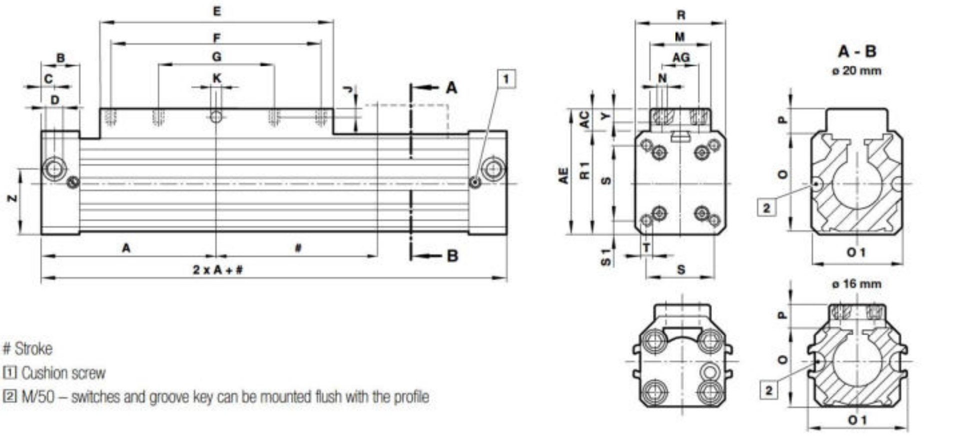
LINTRA® PLUS RODLESS CYLINDERS

M/146000 Internal guide Double acting – Ø 16 … 80 mm

● Dimensions – Internal guide

EXPRESS

Ø 16 … 20 mm



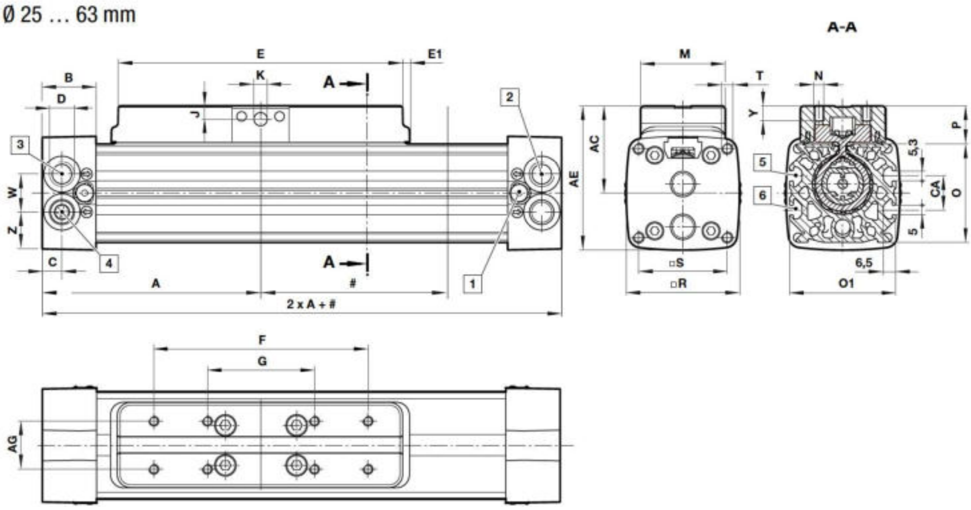
Stroke
1 Cushion screw
2 M/50 – switches and groove key can be mounted flush with the profile

Ø	A	AC	AE	AG	B	C	D	E	F	G	J	Ø K D7	M	N	O
16	62,5	24,5	38	8	17,5	8	M5	80	60	–	2,5	3	18	M3	25
20	85	34,5	54	20	23	8	G1/8	110	80	40	3,5	4,2	27	M5	32

Ø	O 1	P	R	R1	S	S1	T	Y	Z
16	32	12	27	31	16	5,5	M3 - 5 *1)	4	16,5
20	38	18,5	40	40	32	4	M5 - 12 *)	12	20,5

*1) Deep.

Ø 25 … 63 mm



Stroke
1 Cushion screw
2 Main port
3 Main port
4 One alternative port with plug inserted
5 M/50 – switches and groove key can be mounted flush with the profile
6 For groove key only

Ø	A	AC	AE	AG	B	C	CA	D	E	E1	F	G	J	Ø K D7
25	100	36	60	20	23	8,5	–	G1/8	130	–	90	45	4,7	5
32	120	46	76	25	28,5	10,5	18	G1/4	160	3,5	120	60	7	7
40	150	52,5	90	25	28,5	11,5	18	G1/4	215	–	160	80	7	7
50	180	65,5	110	25	38	15	24	G3/8	250	–	190	95	9,5	9
63	215	82,5	125	25	38	17	24	G1/2	320	–	240	120	9,5	9

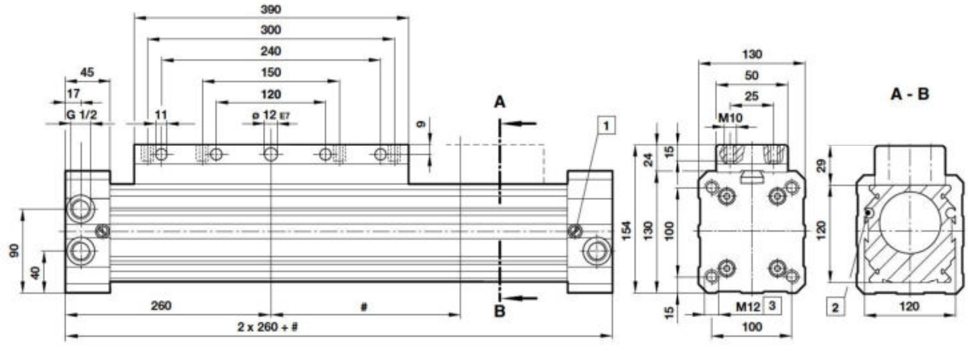
Ø	M	N	O	O 1	P	R	S	T	W	Y	Z
25	32	M5	40	46	16	48	37	M5 - 13*1)	16	7	16
32	45	M5	52	56	20	60	47	M6 - 17*1)	20	8	20
40	45	M6	65	68	20	74,5	58	M8 - 20*1)	25	8	25
50	50	M8	80	84	25,5	89	70	M8 - 20*1)	30	11	29,5
63	50	M8	95	97	25	105	84	M10 - 24*1)	35	11	35

*1) Deep.

LINTRA® PLUS RODLESS CYLINDERS

M/146000 Internal guide Double acting – Ø 16 … 80 mm

Ø 80 mm



Stroke
[1] Cushion screw
[2] M/50 – switches and groove key can be mounted flush with the profile
[3] 26 deep

● Models – Internal guide   Accessories

Model	Piston Ø	Stroke length	Port size	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow fitting
							
M/146016/M/****	16	made to order	M5	M/50/LSU/5V	C0K510405	C02250405	C02470405
M/146020/M/****	20	made to order	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618
M/146025/M/****	25	made to order	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618
M/146032/M/****	32	made to order	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628
M/146040/M/****	40	made to order	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628
M/146050/M/****	50	made to order	G3/8	M/50/LSU/5V	C0K510838	C02250838	C02470838
M/146063/M/****	63	made to order	G1/2	M/50/LSU/5V	C0K510848	C02250848	C02470848
M/146080/M/****	80	made to order	G1/2	M/50/LSU/5V	C0K511048	C02251048	C02471048

**** Insert stroke length in mm – very best availability in multiples of 100 mm.
For information on alternative magnetic switches see pages 137 - 141.

For alternative fitting types, shapes or sizes, refer to our fittings section.

● Service kit

Model	Description
	
QA/1460**/88/1000	Up to 1000 mm stroke
QA/1460**/88/3000	From 1001 mm to 3000 mm stroke
QA/1460**/88/8500	From 3001 mm up to max. stroke

** Insert cylinder diameters for the service kit.

● Options

- Alternative port configuration
- Brake
- Double Carriage

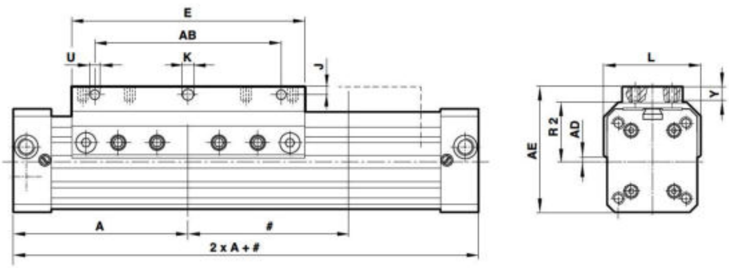
LINTRA® PLUS RODLESS CYLINDERS

M/146100 External guide Double acting – Ø 16 … 80 mm

Dimensions – External guide

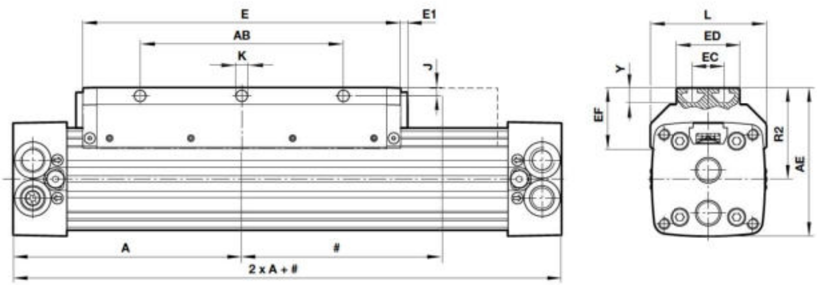
EXPRESS

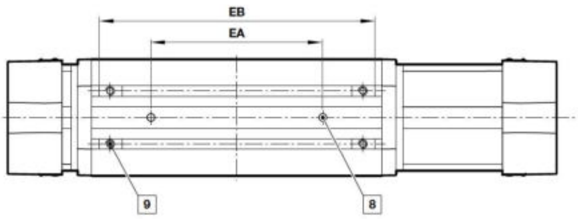
Ø 16 … 20 mm



Ø	A	AB	AE	A0	E	ED	J	Ø K	L	R2	U	Y
16	62,5	–	38	7,5	80	18	–	–	31	18,5	–	5
20	85	60	59	6,5	110	27	7,5	5,5	42	24	5,5	12

Ø 25 … 63 mm





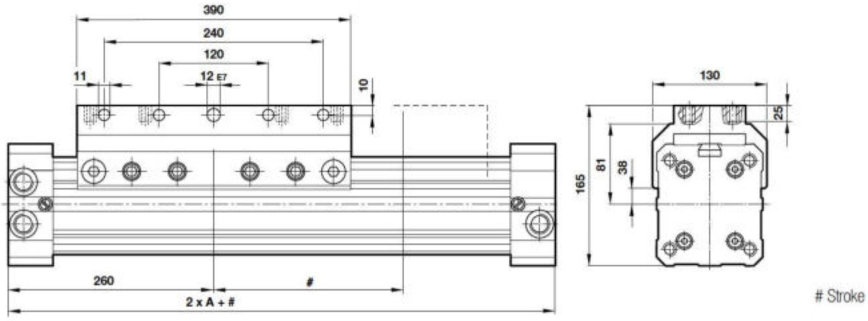
\# Stroke
1 Center bore Ø 6H7, 4 deep
2 Supplied complete with four groove keys

Ø	A	AB	AE	E	E1	EA ±0,05	EB	ED	EC	EF	J	ØK	L	R 2	Y
25	100	70	67,5	130	–	50	102	32	20	34	5	5,5	52	–	-9,5
32	120	90	82	160	4	70	138	45	25	36,5	5	5,5	64	52	6,5
40	150	120	97,5	215	–	105	193	45	25	43	5	6,6	79	60	9,5
50	180	160	116,5	250	–	135	228	50	25	47,5	6,5	9	92	72	11,5
63	215	190	137	320	–	150	292	50	25	59	7,5	9	110	84,5	11,5

LINTRA® PLUS RODLESS CYLINDERS

M/146100 External guide Double acting – Ø 16 … 80 mm

Ø 80 mm



Models – External guide / Accessories

Model	Piston Ø	Stroke length	Port size	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow fitting
							
M/146116/M/****	16	made to order	M5	M/50/LSU/5V	C0K510405	C02250405	C02470405
M/146120/M/****	20	made to order	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618
M/146125/M/****	25	made to order	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618
M/146132/M/****	32	made to order	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628
M/146140/M/****	40	made to order	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628
M/146150/M/****	50	made to order	G3/8	M/50/LSU/5V	C0K510838	C02250838	C02470838
M/146163/M/****	63	made to order	G1/2	M/50/LSU/5V	C0K510848	C02250848	C02470848
M/146180/M/****	80	made to order	G1/2	M/50/LSU/5V	C0K511048	C02251048	C02471048

**** Insert stroke length in mm – very best availability in multiples of 100 mm.
For information on alternative magnetic switches see pages 137 - 141.

For alternative fitting types, shapes or sizes, refer to our fittings section.

Service kit

Model	Description
	
QA/1460**/88/1000	Up to 1000 mm stroke
QA/1460**/88/3000	From 1001 mm to 3000 mm stroke
QA/1460**/88/8500	From 3001 mm up to max. stroke

** Insert cylinder diameters for the service kit.

Options

- Alternative port configuration
- Brake
- Double Carriage

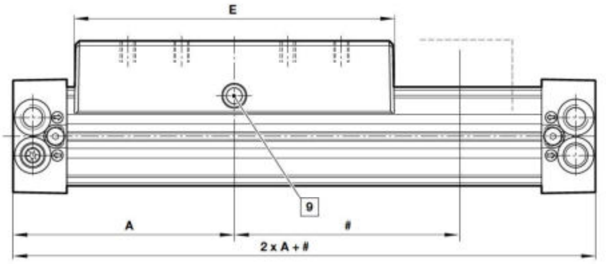
LINTRA® PLUS RODLESS CYLINDERS

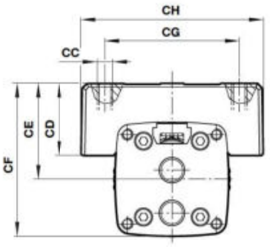
M/146200 Precision roller guide Double acting – Ø 25 … 63 mm

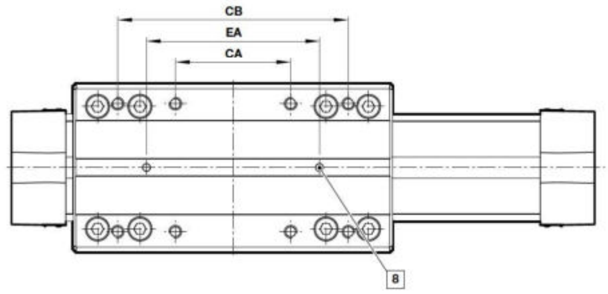
Dimensions – Precision roller guide

EXPRESS

Ø 25 … 63 mm







Stroke
[8] Center bore Ø 6H7, 4 deep
[9] For lubrication

Ø	A	CA	CB	CC	CD	CE	CF	CG	CH	E	EA ±0,05
25	100	45	90	M6-14*1)	36	42	66	60	85	150	70
32	120	60	120	M8-16*1)	38	50	80	75	98	180	90
40	150	80	150	M8-16*1)	42	57,5	95	92	118	215	115
50	180	90	180	M10-20*1)	44	67	111,5	100	132	250	135
63	215	120	240	M10-20*1)	47	74,5	127	110	140	320	200

*1) Deept.

Models – Precision roller guide

Accessories

Model	Piston Ø	Stroke length	Port size	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow fitting
							
M/146225/M/****	25	made to order	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618
M/146232/M/****	32	made to order	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628
M/146240/M/****	40	made to order	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628
M/146250/M/****	50	made to order	G3/8	M/50/LSU/5V	C0K510838	C02250838	C02470838
M/146263/M/****	63	made to order	G1/2	M/50/LSU/5V	C0K510848	C02250848	C02470848

**** Insert stroke length in mm – very best availability in multiples of 100 mm.
For information on alternative magnetic switches see pages 137 - 141.

For alternative fitting types, shapes or sizes, refer to our fittings section.

Options

- Alternative port configuration
- Brake
- Double Carriage

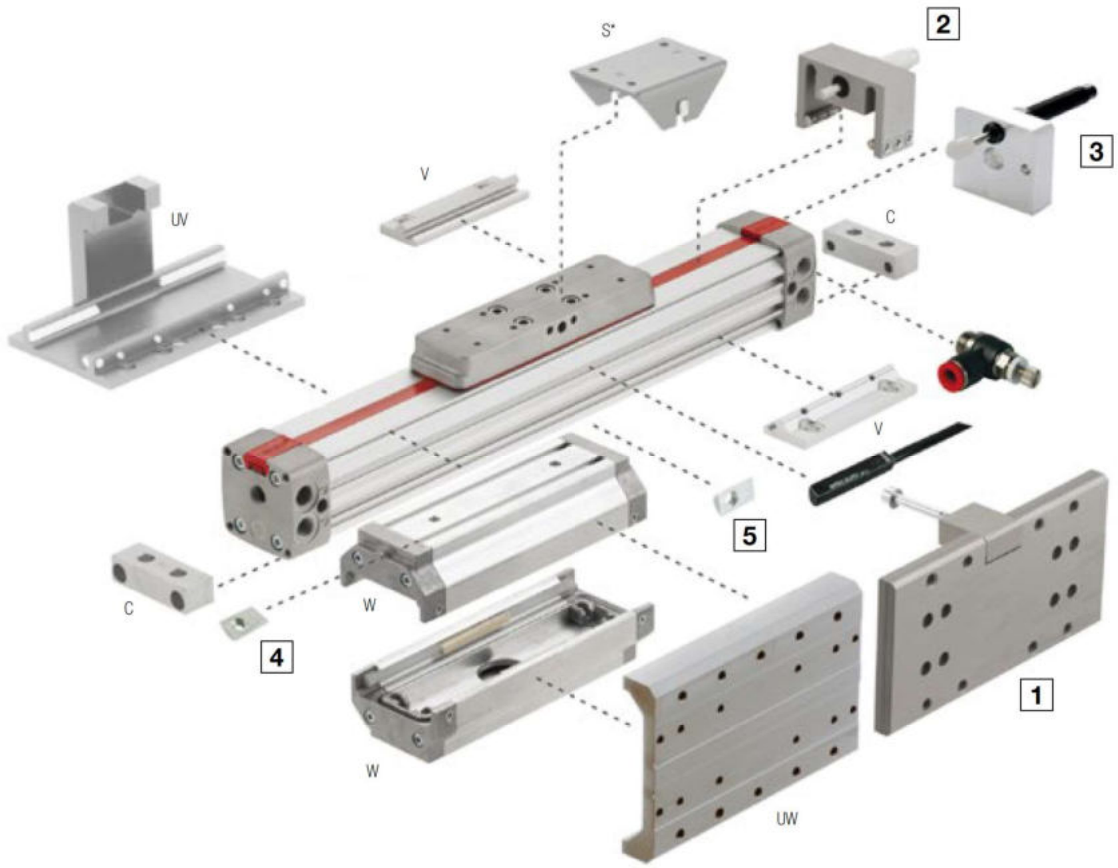
Service kit

Model	Description
	
QA/1460**/88/1000	Up to 1000 mm stroke
QA/1460**/88/3000	From 1001 mm to 3000 mm stroke
QA/1460**/88/8500	From 3001 mm up to max. stroke

** Insert cylinder diameters for the service kit.

MOUNTINGS FOR LINTRA® PLUS RODLESS CYLINDERS

M/146000, M/146100 AND M/146200



Dia. Ø	C	S*	UV*	UW**	V	W**
16	QM/146016/21	QM/146016/37	QM/146016/34	–	QM/146016/32	QM/146116/35
20	QM/146020/21	QM/146020/37	QM/146020/34	QM/146120/36	QM/146020/32	QM/146120/35
25	QM/146025/21	QM/146025/37	QM/146025/34	QM/146125/36	QM/146025/32	QM/146125/35
32	QM/146032/21	QM/146032/37	QM/146032/34	QM/146132/36	QM/146032/32	QM/146132/35
40	QM/146040/21	QM/146032/37	QM/146040/34	QM/146140/36	QM/146040/32	QM/146140/35
50	QM/146050/21	QM/146050/37	QM/146050/34	QM/146150/36	QM/146050/32	QM/146150/35
63	QM/146063/21	QM/146050/37	QM/146063/34	QM/146163/36	QM/146063/32	QM/146163/35
80	QM/146080/21	QM/146080/37	QM/146080/34	–	QM/146080/32	QM/146180/35

Dia. Ø	Assembly kit for caged ball linear motion guide 1	Adjustable stop 2	Assembly kit for shock absorbers 3	Groove key for guiding bridge 4	Groove key for profile barrel 5
16	–	–	–	–	–
20	–	QM/146120/75	–	–	–
25	QM/146225/P/70	QM/146125/75	QM/146125/67	M/P74065	M/P74065
32	QM/146232/P/70	QM/146132/75	QM/146132/67	M/P74065	M/P74065
40	QM/146240/P/70	QM/146140/75	QM/146140/67	M/P74066	M/P74065
50	QM/146250/P/70	–	QM/146150/67	M/P41858	M/P74065
63	QM/146263/P/70	–	QM/146163/67	M/P41858	M/P74065

* Suitable for internally guided models only. ** Suitable for external guided models only.

OTHER LINTRA® RODLESS CYLINDERS

PNEUMATIC CYLINDERS

A/44000 LINTRA-LITE®

- New compact, space-saving design
- Proven sealing system
- Integral switch mounting
- Buffer or adjustable cushioning
- Standard foot mountings

M/44000/M LINTRA®

- Ø 25 … 40 mm
- Compact, space-saving design
- Proven sealing system
- Adjustable cushioning
- Magentic piston as standard

M/46800/M, M/46800/HM LINTRA® Heavy duty cylinders

- Ø 20 … 40 mm
- External guides for heavy loads over long distances
- Rigid, reinforced aluminium profile provides greater load support
- T-slots in the outer profile enable individual mounting options
- Precision guidance with ball bearings on hardened trackways
- Low rolling resistance

M/46800/PM LINTRA® Heavy duty pneumatic cylinders

- Ø 16, 25, 40 & 63 mm
- Precise linear guiding
- T-slots in the outer profile enable
- individual mounting options
- Alternative driving cylinders offer
- Versatile application possibilities
- Torsional and bending resistant profiles

VM/146000, VM/146100 LINTRA® PLUS

- Ø 20 … 80 mm
- Corrosion-resistant
- New lightweight design extrusion with universal mounting grooves
- Proved and patented sealing system
- Dust protection as standard
- Up to 10% higher loading values against internal guiding series M/46000
- Interchangeability with series VM/46000

ELECTRIC CYLINDERS

M/49000, M/49100, M/49200 LINTRA® Spindle

- Ø 25 … 63 mm
- High forces
- Precise positioning
- High repeatability
- Constant, defined high and low speed operation
- Proven LINTRA® guiding systems
- Interchangeable with LINTRA® pneumatic cylinders series M/46000

M/49800/P LINTRA® Spindle

- Ø 16 … 63 mm
- High forces
- High dynamics
- Torsional and bending resistant profiles
- High repeatability
- Alternative mounting possiblities

M/48200/H LINTRA® Toothed belt cylinders

- Cylinder size: 25, 40 & 63 mm
- Proven LINTRA® precision roller guiding
- Torsional and bending resistant profiles
- High repeatability
- Alternative fixing possibilities

M/48800/P LINTRA® Toothed belt cylinders

- Cylinder sizes: 16, 25, 40 & 63 mm
- Heavy loads, precise linear guiding
- High dynamics
- Torsional and bending resistant profiles
- High repeatability
- Alternative fixing possibilites

ROTARY VANE ACTUATORS

M/60280 Double acting – 30° … 270° rotation angles

- Modern, compact design
- Suitable for torques from 0,15 to 247 Nm
- Fixed and adjustable rotation angles
- Single and double vane construction

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting rotary vane with buffer cushioning
M/60280 – M/60288 and IE models – single vane
M/60284/TI – M/60288/TI and TE models – double vane

Operating pressure:
2 … 10 bar
3 … 7 bar (M/60280, M/60281, M/60281/IE)
2 … 7 bar (M/60282, M/60283, M/60282/IE)

Ambient temperature:
+5°C … +60°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Rotation tolerance:
0° … +4°: M/60280 – M/60283
0° … +3°: M/60284 – M/60288, M/60284/TI – M/60288/TI
-9° … +3°: M/60281/IE – M/60284/IE, M/60284/TE

Materials

Body:
Cast aluminium

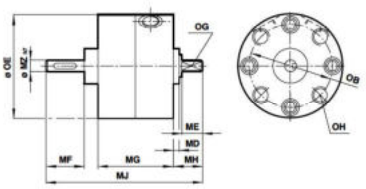
Shaft:
Steel

Shaft bearing:
Sintered bronze

Seals:
NBR

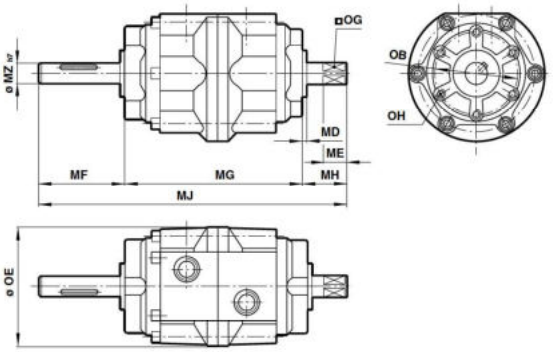
Dimensions

M/60280/1/2/3/4



\# = Stroke

M/60285/6/7/8



Model	MD	ME	MF	MG	MJ	MH	Ø MZ_{h7}	Ø OB	Ø OE	$OG_{-0,1}$	OH	Keyway
M/60280	2	6	13	20	46	10	4	26	29	Ø 4 h7	M3 x 6	–
M/60281	2	7	15	26	55	10	5	30	36,5	Ø 5 h7	M3 x 6	–
M/60282	2	7	18	40	73	10	6	35	42,5	Ø 6 h7	M3 x 6	–
M/60283	2	7	23	55	93,5	10	8	40	49,5	6	M5 x 8	3-0,03; 2+0,1*
M/60284	2,5	10	26	60	105	13,5	10	56	64	8	M5 x 8	4-0,03; 2,5+0,1*
M/60285	2,5	13	39,5	86	145	19,5	12	45	79	10	M6 x 9	4-0,03; 2,5+0,1*
M/60286	3	16	53,5	103	180	23,5	17	70	110	13	M8 x 12	5-0,03; 3+0,1*
M/60287	3,5	22	65	125	220	30	25	80	141,5	19	M10 x 15	7-0,038; 4+0,2*
M/60288	4,5	35	69,5	171	285	44,5	40	120	196	32	M12 x 18	12-0,043; 5+0,2*

Dimensions and drawings valid for fixed rotation units only - refer to full data sheets for detail on adjustable units.

ROTARY VANE ACTUATORS

M/60280 Double acting – 30° … 270° rotation angles

Models | Accessories

Models with fixed or adjustable rotation angles									
Model	**Angle of rotation/ Adjustment**	**Output shaft Ø**	**Port size**	**Number of vanes**	**Torque at 6 bar (Nm)**	**Banjo flow control**	**Straight fitting**	**Elbow Fitting**	**Service kit**
									
M/60280/90	90°	4	M5	Single	0,15	C0K510405	C02250405	C02470405	QM/60280/00
M/60280/180	180°	4	M5	Single	0,15	C0K510405	C02250405	C02470405	QM/60280/00
M/60281/90	90°	5	M5	Single	0,38	C0K510405	C02250405	C02470405	QM/60281/00
M/60281/180	180°	5	M5	Single	0,38	C0K510405	C02250405	C02470405	QM/60281/00
M/60281/IE	30 … 180°	5	M5	Single	0,38	C0K510405	C02250405	C02470405	QM/60281/00
M/60282/90	90°	6	M5	Single	1,20	C0K510405	C02250405	C02470405	QM/60282/00
M/60282/180	180°	6	M5	Single	1,20	C0K510405	C02250405	C02470405	QM/60282/00
M/60282/IE	30 … 180°	6	M5	Single	1,20	C0K510405	C02250405	C02470405	QM/60282/00
M/60283/90	90°	8	M5	Single	2,10	C0K510405	C02250405	C02470405	QM/60283/00
M/60283/180	180°	8	M5	Single	2,10	C0K510405	C02250405	C02470405	QM/60283/00
M/60283/IE	30 … 180°	8	M5	Single	2,10	C0K510405	C02250405	C02470405	QM/60283/00
M/60284/90	90°	10	G1/8	Single	4,10	C0K510618	C02250618	C02470618	QM/60284/00
M/60284/TI/90	90°	10	G1/8	Double	9,50	C0K510618	C02250618	C02470618	QM/60284/TI/00
M/60284/180	180°	10	G1/8	Single	4,10	C0K510618	C02250618	C02470618	QM/60284/00
M/60284/270	270°	10	G1/8	Single	4,10	C0K510618	C02250618	C02470618	QM/60284/00
M/60284/IE	30 … 270°	10	G1/8	Single	4,10	C0K510618	C02250618	C02470618	QM/60284/00
M/60284/TE	30 … 90°	10	G1/8	Double	9,50	C0K510618	C02250618	C02470618	QM/60284/TI/00
									
M/60285/90	90°	12	G1/8	Single	5,80	C0K510618	C02250618	C02470618	QM/60285/00
M/60285/TI/90	90°	12	G1/8	Double	12,80	C0K510618	C02250618	C02470618	QM/60285/TI/00
M/60285/180	180°	12	G1/8	Single	5,80	C0K510618	C02250618	C02470618	QM/60285/00
M/60285/270	270°	12	G1/8	Single	5,80	C0K510618	C02250618	C02470618	QM/60285/00
M/60286/90	90°	17	G1/4	Single	18,00	C0K510628	C02250628	C02470628	QM/60286/00
M/60286/TI/90	90°	17	G1/4	Double	41,50	C0K510628	C02250628	C02470628	QM/60286/TI/00
M/60286/180	180°	17	G1/4	Single	18,00	C0K510628	C02250628	C02470628	QM/60286/00
M/60286/270	270°	17	G1/4	Single	18,00	C0K510628	C02250628	C02470628	QM/60286/00
M/60287/90	90°	25	G3/8	Single	34,50	C0K510838	C02250838	C02470838	QM/60287/00
M/60287/TI/90	90°	25	G3/8	Double	83,00	C0K510838	C02250838	C02470838	QM/60287/TI/00
M/60287/180	180°	25	G3/8	Single	34,50	C0K510838	C02250838	C02470838	QM/60287/00
M/60287/270	270°	25	G3/8	Single	34,50	C0K510838	C02250838	C02470838	QM/60287/00
M/60288/90	90°	40	G1/2	Single	123,00	C0K510848	C02250848	C02470848	QM/60288/00
M/60288/TI/90	90°	40	G1/2	Double	247,00	C0K510848	C02250848	C02470848	QM/60288/TI/00
M/60288/180	180°	40	G1/2	Single	123,00	C0K510848	C02250848	C02470848	QM/60288/00
M/60288/270	270°	40	G1/2	Single	123,00	C0K510848	C02250848	C02470848	QM/60288/00

ROTARY ACTUATORS – RACK & PINION

M/162000/MI Double acting – Ø 32 … 125 mm

- Suitable torques from 1,2 … 51,0 Nm/bar
- Rotation angles 90°, 180°, 270°, 360°
- Switches can be mounted flush with the profile
- VDMA 24562 pitch to use standard VDMA mountings

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, magnetic piston, adjustable cushioning

Operating pressure:
1,5 … 10 bar

Ambient temperature:
-5°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Rotation angles:
90, 180, 270, 360°
Fixed up to +8°
Adjustable ±5°
Additional angles on request

Materials

Profile barrel:
Anodized aluminium

End covers:
Pressure diecast aluminium

Central body:
Anodized aluminium

Rack:
Normalized steel

Pinion:
Surface hardened high strength steel

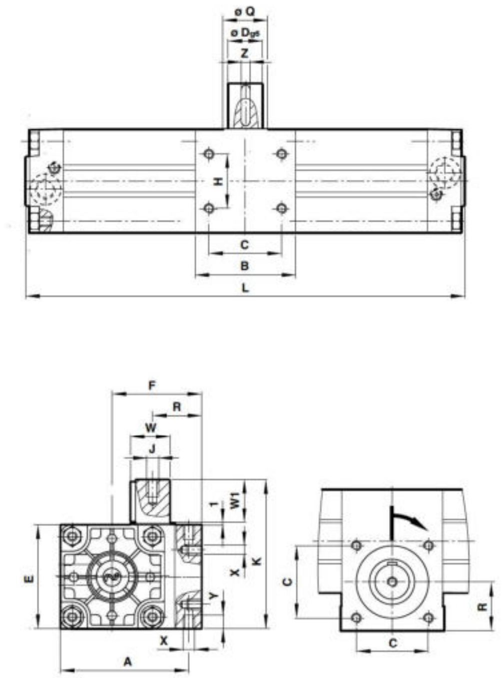
Pinion bearings:
Ball bearings (Ø 32 PTFE bronze bearings)

Rack guide shoe:
Acetal resin

Piston seals:
PUR

O-rings:
NBR

Dimensions



Dia. Ø	A	B/E	C	Ø D_{g6}	F	H	J	K	Ø Q	R	W	W1	X	Y	Z	L (90°)	L (180°)	L (270°)	L (360°)
32	71,5	50	33	14	46,5	18	M 5	81	25	25	16	30	M 6	10	5	227	274	321	368,5
40	82	60	40	14	54,5	22	M 5	91	25	30	16	30	M 6	10	5	266	323	379,5	436
50	94	70	50	19	60,5	25	M 6	106	30	32,5	21,5	40	M 8	13	6	282	345	408	471
63	110	75	60	24	71	35	M 8	116	30	37	27	40	M 8	13	8	331	406	480,5	555
80	142	99	80	28	93,5	50	M 8	150	45	50	31	50	M 10	16	8	396	495	594	693
100	156,5	115	80	38	99	60	M 10	166	50	54	41	50	M 10	16	10	414	521	628	735
125	188	125/140	90	38	118	70	M 10	191	60	60	41	50	M 12	20	10	483,5	615,5	747,5	879,5

ROTARY ACTUATORS – RACK & PINION

M/162000/MI Double acting – Ø 32 … 125 mm

Models

Accessories

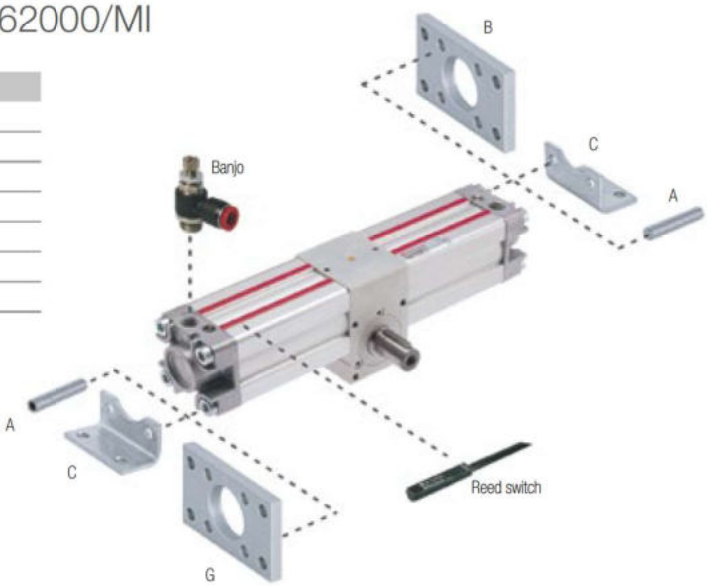
Model	Dia. Ø	Angle of rotation	Output shaft Ø	Port size	Theoretical torque at 6 bar (Nm)	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow Fitting	Service kit
										
M/162032/MI/90	32	90°	14	G1/8	7,20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/162032/00
M/162032/MI/180	32	180°	14	G1/8	7,20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/162032/00
M/162032/MI/270	32	270°	14	G1/8	7,20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/162032/00
M/162032/MI/360	32	360°	14	G1/8	7,20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/162032/00
M/162040/MI/90	40	90°	14	G1/4	13,80	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/162040/00
M/162040/MI/180	40	180°	14	G1/4	13,80	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/162040/00
M/162040/MI/270	40	270°	14	G1/4	13,80	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/162040/00
M/162040/MI/360	40	360°	14	G1/4	13,80	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/162040/00
M/162050/MI/90	50	90°	19	G1/4	23,40	M/50/LSU/5V	C0K510828	C02250828	C02470828	QM/162050/00
M/162050/MI/180	50	180°	19	G1/4	23,40	M/50/LSU/5V	C0K510828	C02250828	C02470828	QM/162050/00
M/162050/MI/270	50	270°	19	G1/4	23,40	M/50/LSU/5V	C0K510828	C02250828	C02470828	QM/162050/00
M/162050/MI/360	50	360°	19	G1/4	23,40	M/50/LSU/5V	C0K510828	C02250828	C02470828	QM/162050/00
M/162063/MI/90	63	90°	19	G3/8	43,80	M/50/LSU/5V	C0K510838	C02250838	C02470838	QM/162063/00
M/162063/MI/180	63	180°	19	G3/8	43,80	M/50/LSU/5V	C0K510838	C02250838	C02470838	QM/162063/00
M/162063/MI/270	63	270°	19	G3/8	43,80	M/50/LSU/5V	C0K510838	C02250838	C02470838	QM/162063/00
M/162063/MI/360	63	360°	19	G3/8	43,80	M/50/LSU/5V	C0K510838	C02250838	C02470838	QM/162063/00
M/162080/MI/90	80	90°	28	G3/8	94,20	M/50/LSU/5V	C0K511038	C02251038	C02471038	QM/162080/00
M/162080/MI/180	80	180°	28	G3/8	94,20	M/50/LSU/5V	C0K511038	C02251038	C02471038	QM/162080/00
M/162080/MI/270	80	270°	28	G3/8	94,20	M/50/LSU/5V	C0K511038	C02251038	C02471038	QM/162080/00
M/162080/MI/360	80	360°	28	G3/8	94,20	M/50/LSU/5V	C0K511038	C02251038	C02471038	QM/162080/00
M/162100/MI/90	100	90°	38	G1/2	157,80	M/50/LSU/5V	C0K511248	C02251248	C02471248	QM/162100/00
M/162100/MI/180	100	180°	38	G1/2	157,80	M/50/LSU/5V	C0K511248	C02251248	C02471248	QM/162100/00
M/162100/MI/270	100	270°	38	G1/2	157,80	M/50/LSU/5V	C0K511248	C02251248	C02471248	QM/162100/00
M/162100/MI/360	100	360°	38	G1/2	157,80	M/50/LSU/5V	C0K511248	C02251248	C02471248	QM/162100/00
M/162125/MI/90	125	90°	38	G1/2	306,00	M/50/LSU/5V	C0K511248	C02251248	C02471248	QM/162125/00
M/162125/MI/180	125	180°	38	G1/2	306,00	M/50/LSU/5V	C0K511248	C02251248	C02471248	QM/162125/00
M/162125/MI/270	125	270°	38	G1/2	306,00	M/50/LSU/5V	C0K511248	C02251248	C02471248	QM/162125/00
M/162125/MI/360	125	360°	38	G1/2	306,00	M/50/LSU/5V	C0K511248	C02251248	C02471248	QM/162125/00

For information on additional magnetic switches see pages 137-141.

For alternative fitting types, shapes or sizes, refer to our fittings section.

Mountings for Rotary Actuators M/162000/MI

Dia. Ø	A	B, G	C
32	QM/8032/35	QA/8032/22	QA/8032/21
40	QM/8032/35	QA/8040/22	QA/8040/21
50	QM/8050/35	QA/8050/22	QA/8050/21
63	QM/8050/35	QA/8063/22	QA/8063/21
80	QM/8080/35	QA/8080/22	QA/8080/21
100	QM/8080/35	QA/8100/22	QA/8100/21
125	QM/8125/35	QM/8125/22	QM/8125/21



Options

- Female piston rod
- Non-magnetic
- Adjustable angle ± 5°

STAINLESS STEEL ROUNDLINE CYLINDERS

KM/8000/M Double Acting – ISO 6432 – Ø 12 … 25 mm

- High corrosion and acid resistance
- Magnetic piston as standard
- Conforms to ISO 6432
- Suitable for applications in the food industry
- Buffer or adjustable cushioning
- Nose mounting nut and piston rod locknut as standard

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, magnetic piston with buffer or adjustable cushioning

Operating pressure:
1 … 10 bar

Ambient temperature:
-10°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Cylinder barrel:
X5 Cr Ni 18 10 (1.4301; AISI 304)

End covers:
X10 Cr Ni S 18 9 (1.4305; AISI 303)

Piston rod:
X10 Cr Ni S 18 9 (1.4305; AISI 303)

Piston:
POM

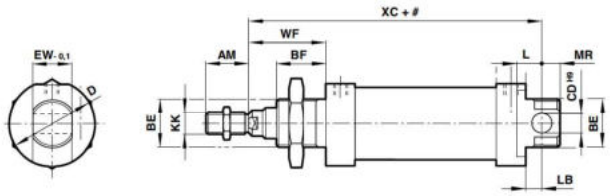
Buffer:
PUR

Piston rod seal:
PUR

Piston and cushion seal:
NBR

'O'-rings:
NBR

Dimensions



= Stroke

Dia. Ø	AM	BE	BF	Ø CD_{H9}	Ø D	$EW_{-0,1}$	KK	L	LB	MR	WF	XC
12	16	M16x1,5	17	6	20	11,9	M6	9	3	8	22	75
16	16	M16x1,5	17	6	20	11,9	M6	9	4	7	22	82
20	20	M22x1,5	20	8	30	15,9	M8	12	3	11	24	95
25	22	M22x1,5	22	8	30	15,9	M10x1,25	12	7	9	28	104

Options

- Flat rear cover
- Double ended piston rod
- Universal rear eye mounting
- Extended piston rod

STAINLESS STEEL ROUNDLINE CYLINDERS

KM/8000/M Double Acting – ISO 6432 – Ø 12 … 25 mm

● Models

Accessories

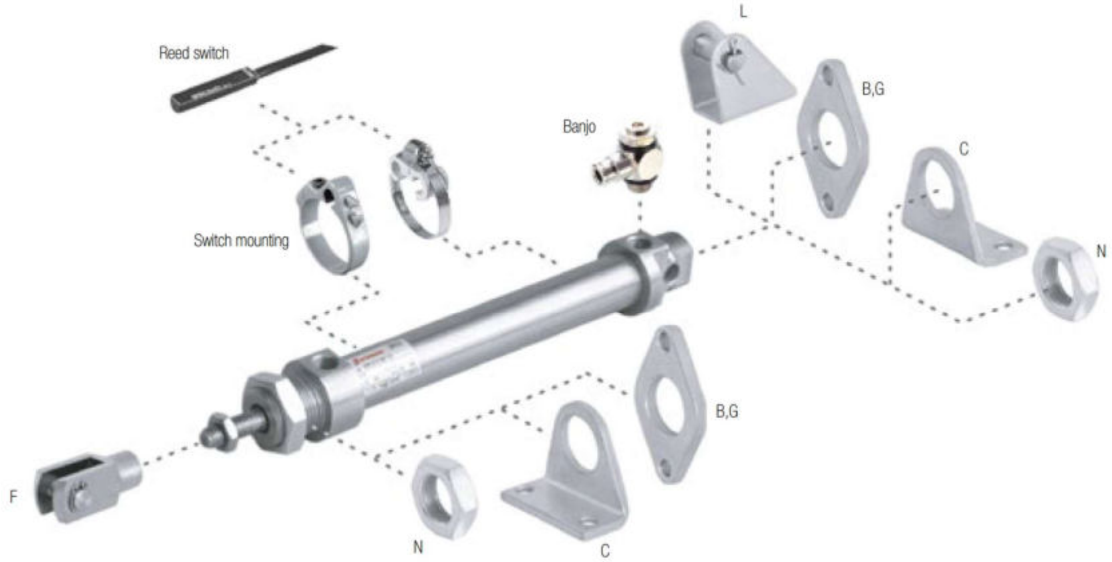
Buffer cushioning Model	Adjustable cushioning Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch integral with 5 m cable	Switch mounting	Banjo flow control	Straight fitting	Elbow fitting
										
KM/8012/M/10		12	10	M5	6	M/50/LSU/5V	QM/33/016/23	10K510405	102250405	102470405
KM/8012/M/25		12	25	M5	6	M/50/LSU/5V	QM/33/012/22	10K510405	102250405	102470405
KM/8012/M/40		12	40	M5	6	M/50/LSU/5V	QM/33/012/22	10K510405	102250405	102470405
KM/8012/M/50		12	50	M5	6	M/50/LSU/5V	QM/33/012/22	10K510405	102250405	102470405
KM/8012/M/80		12	80	M5	6	M/50/LSU/5V	QM/33/012/22	10K510405	102250405	102470405
KM/8012/M/100		12	100	M5	6	M/50/LSU/5V	QM/33/012/22	10K510405	102250405	102470405
KM/8012/M/125		12	125	M5	6	M/50/LSU/5V	QM/33/012/22	10K510405	102250405	102470405
KM/8012/M/160		12	160	M5	6	M/50/LSU/5V	QM/33/012/22	10K510405	102250405	102470405
KM/8012/M/200		12	200	M5	6	M/50/LSU/5V	QM/33/012/22	10K510405	102250405	102470405
KM/8016/M/10		16	10	M5	6	M/50/LSU/5V	QM/33/016/23	10K510405	102250405	102470405
KM/8016/M/25		16	25	M5	6	M/50/LSU/5V	QM/33/016/22	10K510405	102250405	102470405
KM/8016/M/40		16	40	M5	6	M/50/LSU/5V	QM/33/016/22	10K510405	102250405	102470405
KM/8016/M/50		16	50	M5	6	M/50/LSU/5V	QM/33/016/22	10K510405	102250405	102470405
KM/8016/M/80		16	80	M5	6	M/50/LSU/5V	QM/33/016/22	10K510405	102250405	102470405
KM/8016/M/100		16	100	M5	6	M/50/LSU/5V	QM/33/016/22	10K510405	102250405	102470405
KM/8016/M/125		16	125	M5	6	M/50/LSU/5V	QM/33/016/22	10K510405	102250405	102470405
KM/8016/M/160		16	160	M5	6	M/50/LSU/5V	QM/33/016/22	10K510405	102250405	102470405
KM/8016/M/200		16	200	M5	6	M/50/LSU/5V	QM/33/016/22	10K510405	102250405	102470405
KM/8020/M/10		20	10	G1/8	8	M/50/LSU/5V	QM/33/020/23	10K510618	102250618	102470618
KM/8020/M/25	KM/8021/M/25	20	25	G1/8	8	M/50/LSU/5V	QM/33/020/22	10K510618	102250618	102470618
KM/8020/M/40		20	40	G1/8	8	M/50/LSU/5V	QM/33/020/22	10K510618	102250618	102470618
KM/8020/M/50	KM/8021/M/50	20	50	G1/8	8	M/50/LSU/5V	QM/33/020/22	10K510618	102250618	102470618
KM/8020/M/80	KM/8021/M/80	20	80	G1/8	8	M/50/LSU/5V	QM/33/020/22	10K510618	102250618	102470618
KM/8020/M/100	KM/8021/M/100	20	100	G1/8	8	M/50/LSU/5V	QM/33/020/22	10K510618	102250618	102470618
KM/8020/M/125	KM/8021/M/125	20	125	G1/8	8	M/50/LSU/5V	QM/33/020/22	10K510618	102250618	102470618
KM/8020/M/160	KM/8021/M/160	20	160	G1/8	8	M/50/LSU/5V	QM/33/020/22	10K510618	102250618	102470618
KM/8020/M/200	KM/8021/M/200	20	200	G1/8	8	M/50/LSU/5V	QM/33/020/22	10K510618	102250618	102470618
KM/8020/M/250	KM/8021/M/250	20	250	G1/8	8	M/50/LSU/5V	QM/33/020/22	10K510618	102250618	102470618
KM/8025/M/10		25	10	G1/8	10	M/50/LSU/5V	QM/33/025/23	10K510618	102250618	102470618
KM/8025/M/25	KM/8026/M/25	25	25	G1/8	10	M/50/LSU/5V	QM/33/025/22	10K510618	102250618	102470618
KM/8025/M/40		25	40	G1/8	10	M/50/LSU/5V	QM/33/025/22	10K510618	102250618	102470618
KM/8025/M/50	KM/8026/M/50	25	50	G1/8	10	M/50/LSU/5V	QM/33/025/22	10K510618	102250618	102470618
KM/8025/M/80	KM/8026/M/80	25	80	G1/8	10	M/50/LSU/5V	QM/33/025/22	10K510618	102250618	102470618
KM/8025/M/100	KM/8026/M/100	25	100	G1/8	10	M/50/LSU/5V	QM/33/025/22	10K510618	102250618	102470618
KM/8025/M/125	KM/8026/M/125	25	125	G1/8	10	M/50/LSU/5V	QM/33/025/22	10K510618	102250618	102470618
KM/8025/M/160	KM/8026/M/160	25	160	G1/8	10	M/50/LSU/5V	QM/33/025/22	10K510618	102250618	102470618
KM/8025/M/200	KM/8026/M/200	25	200	G1/8	10	M/50/LSU/5V	QM/33/025/22	10K510618	102250618	102470618
KM/8025/M/250	KM/8026/M/250	25	250	G1/8	10	M/50/LSU/5V	QM/33/025/22	10K510618	102250618	102470618

Service kits are not available for this range of cylinders.
For information on alternative magnetic switches see pages 137 - 141.

Note that the fittings shown are nickel plated brass.
Alternatively our Pneufit S range offers full stainless steel versions.
Refer to our fittings section.

STAINLESS STEEL ROUNDLINE CYLINDERS
KM/8000/M Double Acting – ISO 6432 – Ø 12 … 25 mm

Mountings



Dia. Ø	B, G	C	F	L	N
12	M/P72405	M/P72403	KQM/8012/25	KQM/8012/24	M/P72398
16	M/P72405	M/P72403	KQM/8012/25	KQM/8012/24	M/P72398
20	M/P72406	M/P72404	KQM/8020/25	KQM/8020/24	M/P72399
25	M/P72406	M/P72404	KQM/55433/25	KQM/8020/24	M/P72399

* This actuator is supplied with one nose nut, an additional lock nut style 'N' is required when ordering mountings 'B, G' and 'C' to connect to the rear end cap.

STAINLESS STEEL TIE-ROD CYLINDERS

KA/8000/M Double Acting – Ø 32 … 200 mm

- **High corrosion and acid resistance**
- **Conforms to ISO 15552, ISO 6431, VDMA 24562 and NFE 49-003-1**
- **Ideal for applications in the food industry**

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
KA/8000/M: double acting, adjustable cushioning and magnetic piston

Operating pressure:
1 … 16 bar

Ambient temperature:
80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel:
X5 Cr Ni 18 10 (1.4301; AISI 304)

End covers:
X10 Cr Ni S 18 9 (1.4305; AISI 303)

Piston rod:
X10 Cr Ni S 18 9 (1.4305; AISI 303)

Nuts and screws:
X10 Cr Ni S 18 9 (1.4305; AISI 303)

Tie rods:
X5 Cr Ni Mo 17 12 2 (1.4401; AISI 316)

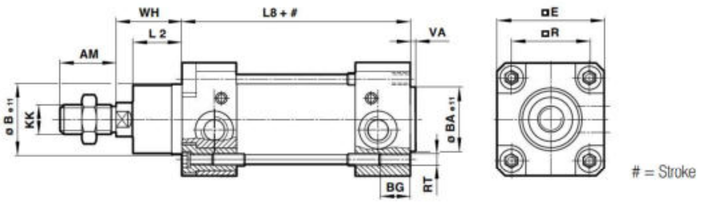
Piston rod seals:
FPM

Piston seals:
PUR O 32 … 100 mm,
NBR O 125 … 200 mm

Cushion seals:
NBR

O-rings:
FPM

Dimensions



= Stroke

Dia. Ø	AM	Ø B/BA e11	BG	□E	KK	L2	L8	□R	RT	VA	WH
32	22	30	18	47	M10x1,25	20	94	32,5	M 6	3	26
40	24	35	18	53	M12x1,25	22	105	38	M 6	3,5	30
50	32	40	18	65	M16x1,5	27	106	46,5	M 8	3,5	37
63	32	45	17,5	75	M16x1,5	29	121	56,5	M 8	4	37
80	40	45	21,5	95	M20x1,5	33	128	72	M 10	4	46
100	40	55	21,5	115	M20x1,5	36	138	89	M 10	4	51
125	54	60	32	140	M27x2	45	160	110	M 12	6	65
160	72	65	28,5	180	M36x2	58	180	140	M 16	4	80
200	72	75	28,5	220	M36x2	67	180	175	M 16	5	95

Models

Accessories

Magnetic Model	Dia. Ø	Port size	Piston rod Ø	Reed switch integral with 5 m cable	Switch mounting	Banjo flow control	Straight fitting	Elbow fitting	Service kit
KA/8032/M/*	32	G1/8	12	M/50/LSU/5V	QM/27/2/1	10K510618	102250618	102470618	KQA/8032/00
KA/8040/M/*	40	G1/4	16	M/50/LSU/5V	QM/27/2/1	10K510628	102250628	102470628	KQA/8040/00
KA/8050/M/*	50	G1/4	20	M/50/LSU/5V	QM/27/2/1	10K510828	102250828	102470828	KQA/8050/00
KA/8063/M/*	63	G3/8	20	M/50/LSU/5V	QM/27/2/1	10K510838	102250838	102470838	KQA/8063/00
KA/8080/M/*	80	G3/8	25	M/50/LSU/5V	QM/27/2/1	10K511038	102251038	102471038	KQA/8080/00
KA/8100/M/*	100	G1/2	25	M/50/LSU/5V	QM/27/2/1	10K511248	102251248	102471248	KQA/8100/00
KA/8125/M/*	125	G1/2	32	M/50/LSU/5V	QM/27/2/1	10K511248	102251248	102471248	KQA/8125/00
KA/8160/M/*	160	G3/4	40	M/50/LSU/5V	QM/27/2/1	–	–	–	KQA/8160/00
KA/8200/M/*	200	G3/4	40	M/50/LSU/5V	QM/27/2/1	–	–	–	KQA/8200/00

* Insert stroke length up to a maximum of 2,500 mm.
Please call your local team for latest availability.
Note: for best availability always choose a standard stroke length from the table below.

Note that the fittings shown are nickel plated brass.
Alternatively our Pneufit S range offers full stainless steel versions.
Refer to our fittings section.

STAINLESS STEEL TIE-ROD CYLINDERS
KA/8000/M Double Acting – Ø 32 … 200 mm

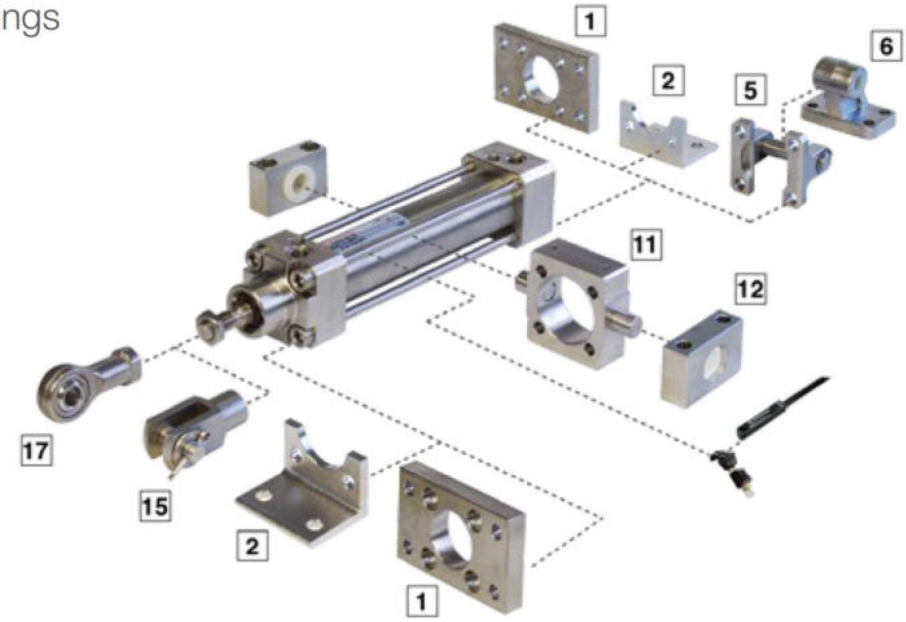
Standard strokes

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

Options

- Heat resistant seals
- Special wiper seals
- Cushions removed
- Double ended piston rod
- Non Magnetic

Mountings



Cyl. Ø	B, G 1	C 2	D 5	F 15	S 12	SW 6	UF 17	UH 11	Switch mounting brackets for M/50
									
32	KQA/8032/22	KQA/8032/21	KQA/8032/23	KQM/55433/25	KQA/8032/41	M/P72288	KQM/8032/32	KQA/8032/40	QM/27/2/1
40	KQA/8040/22	KQA/8040/21	KQA/8040/23	KQM/55441/25	KQA/8040/41	M/P72289	KQM/8040/32	KQA/8040/40	QM/27/2/1
50	KQA/8050/22	KQA/8050/21	KQA/8050/23	KQM/55451/25	KQA/8040/41	M/P72290	KQM/8050/32	KQA/8050/40	QM/27/2/1
63	KQA/8063/22	KQA/8063/21	KQA/8063/23	KQM/55451/25	KQA/8063/41	M/P72291	KQM/8050/32	KQA/8063/40	QM/27/2/1
80	KQA/8080/22	KQA/8080/21	KQA/8080/23	KQA/8080/25	KQA/8063/41	M/P72292	KQM/8080/32	KQA/8080/40	QM/27/2/1
100	KQA/8100/22	KQA/8100/21	KQA/8100/23	KQA/8080/25	KQA/8100/41	M/P72293	KQM/8080/32	KQA/8100/40	QM/27/2/1
125	KQA/8125/22	KQA/8125/21	KQA/8125/23	KQA/8125/25	KQA/8100/41	–	KQM/8125/32	KQA/8125/40	QM/27/2/1
160	–	–	–	–	–	–	–	–	QM/27/2/1
200	–	–	–	–	–	–	–	–	QM/27/2/1

STAINLESS COMPACT AIR BELLOWS

KM/31000 Single acting, stainless steel end plates – Ø 8 … 14 1/2"

- Almost frictionless operation
- No maintenance or lubrication
- High vibration isolation level
- Easy, compact installation

Technical Data

Medium:
Compressed air lubricated or unlubricated, Nitrogen, water (with glycol)

Operating pressure:
5,5 bar recommended dynamic pressure 8 bar max.

Ambient temperature:
KM/31000 (Standard): -30°C … +50°C, -40°C … +70°C*
IR for TKM/31000: -20°C … +70°C, -25°C … +90°C*
ECO for EKM/31000: +50°C … +115°C, -20°C … +130°C*
* The number represent the maximum permissible operating temperature. It is suitable to be operated with restriction at this temperature, the air bellow may have a reduced life time!

Materials

End plates, Studs & Central ring:
Stainless steel (1.4305)

Bellow:
KM/31000: NR/BR, SBR compound rubber
TKM/31000: IR
EKM/31000: ECO

Important instructions:

Thrust:

The thrust depends on the height of the bellow. When height increases - the thrust decreases.

- Before installing the air bellow, check it carefully for any damage it may have suffered from transport or improper storage.
- Do not inflate the air bellow until it has been secured properly.

Clearance:

There must be enough clearance around the air bellow.

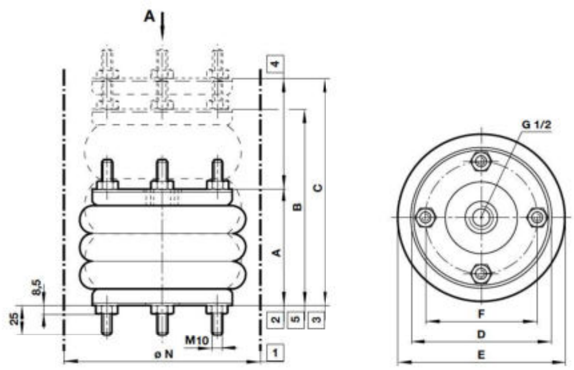
- The full surface of the metal parts is to be used to bear the forces.
- Air bellows must be equipped with lateral guides.
- Deflate the air bellows fully before removing.
- Ensure that the bellows is not constantly in contact with hydraulic oil, lubricants, solvents, metal cuttings and welding sparks.
- Should the air bellow be subjected to special media in an application, ask IMI Precision Engineering for further information, specifying the medium, temperature and concentration.

Stops:

To avoid damage when the bellow is compressed or extended mechanical stops at both end positions have to be used.

Dimensions

1 Installation diameter min.
2 Installation height min.
3 Installation height max.
4 Stroke
5 Recommended max. working height



Options

- High temperature
- Extreme temperature

Models	Nominal Ø (inch) x convolutions	Recommended max. working height B (mm)	Stroke (mm)	Installation height A min. (mm)	Installation height C max. (mm)	Max. torque for mounting studs (Nm)	Ø E	Ø D	Ø F	Ø N	Weight (kg)
KM/31081	8" x 1	115	75	50	130	25	230	184	155,5	245	3
KM/31082	8" x 2	220	175	75	250	25	230	184	155,5	245	3,7
KM/31101	10" x 1	135	100	50	150	25	270	210	181	300	4,1
KM/31102	10" x 2	245	225	75	300	25	270	210	181	300	4,7
KM/31103	10" x 3	350	330	100	430	25	270	210	181	300	5,2
KM/31121	12" x 1	135	100	50	150	25	330	260	232	350	5,4
KM/31122	12" x 2	245	225	75	300	25	330	260	232	350	6,2
KM/31123	12" x 3	350	330	100	430	25	330	260	232	350	6,9
KM/31141	14 1/2" x 1	135	100	50	150	25	400	310	282,5	425	7,1
KM/31142	14 1/2" x 2	290	265	75	340	25	400	310	282,5	425	8,3
KM/31143	14 1/2" x 3	420	380	100	480	25	400	310	282,5	425	9,6

STAINLESS ROUNDLINE CYLINDERS

KM/55001/M Double acting, Stainless steel – Ø 32 … 125 mm

- Cleanline design
- High corrosion and acid resistance
- Magnetic piston as standard
- Suitable for applications in the food industry
- Special wiper/seal as standard

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, magnetic piston, adjustable cushioning

Operating pressure:
1 … 10 bar

Non-standard strokes:
Non-standard strokes (1600 mm max. available)

Ambient temperature:
-20°C … +80°C
Maximum 150°C heat resistant seals
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel:
X5 Cr Ni 18 10 (1.4301; AISI 304)

End covers:
X10 Cr Ni S 18 9 (1.4305; AISI 303)

Piston rod:
X10 Cr Ni S 18 9 (1.4305; AISI 303)

O-rings:
FPM

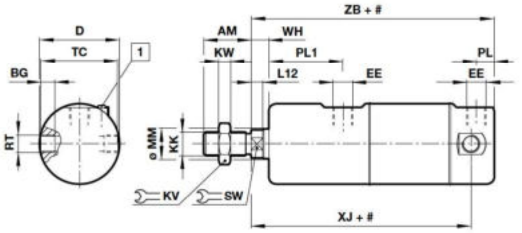
Piston seal:
PUR

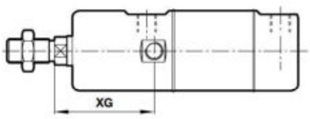
Cushion seal:
NBR

Dimensions

Standard cylinders
KM/55001/M – Standard cylinders with female threads on rear end cover for trunning mounting

Cylinder variant
KM/55001/MFT – Standard cylinders with female threads on front end cover for trunning mounting





= Stroke
1 Cushion screw

Models	Ø	AM	BG	Ø D	EE	KK	KV	KW	L12	Ø MM	PL	PL1	RT	SW	TC	WH	XL	XG	ZB	kg at 0 mm	kg per 25 mm
KM/55033/M/*	32	22	6	36	G1/8	M10 x 1,25	17	5	6	12	9	39	M8 x 1	10	34,5	8	124,5	47	132	0,78	0,06
KM/55041/M/*	40	24	8	44	G1/4	M12 x 1,25	19	6	6,5	16	15	50	M10 x 1	13	42	10	142	57	154	1,36	0,09
KM/55051/M/*	50	32	9,5	54	G1/4	M16 x 1,5	24	8	8	20	12	50	M12 x 1,5	17	52	12	152	62	164	2,25	0,13
KM/55064/M/*	63	32	10	68	G3/8	M16 x 1,5	24	8	8	20	13	51	M14 x 1,5	17	66	13	159	64	172	3,78	0,16
KM/55081/M/*	80	40	18	86	G3/8	M20 x 1,5	30	10	10	25	16	47	M16 x 1,5	22	83,5	13	160	60	176	5,99	0,25
KM/55101/M/*	100	40	22	106	G1/2	M20 x 1,5	30	10	10	25	19	47	M20 x 1,5	22	102,5	15	178	62	197	10,36	0,29
KM/55126/M/*	125	54	29	133	G1/2	M27 x 2	41	13,5	13	32	17,5	62,5	M24 x 1,5	27	128,5	20	207,5	82,5	225	22,97	0,48

* Please insert stroke length.

Models

Magnetic Model	Cylinder Ø (mm)	Cushion length (mm)	Port size	Piston rod Ø (mm)	Piston rod thread (mm)
KM/55033/M/*	32	19	G1/8	12	M10 x 1,25
KM/55041/M/*	40	22	G1/4	16	M12 x 1,25
KM/55051/M/*	50	24	G1/4	20	M16 x 1,5
KM/55064/M/*	63	24	G3/8	20	M16 x 1,5
KM/55081/M/*	80	27	G3/8	25	M20 x 1,5
KM/55101/M/*	100	34	G1/2	25	M20 x 1,5
KM/55126/M/*	125	41	G1/2	32	M27 x 2

STAINLESS ROUNDLINE CYLINDERS

KM/55001/M Double acting, Stainless steel – Ø 32 … 125 mm

Options

- Hard Chrome piston rod
- Integral clevis mounting
- Integral eye mounting
- Integral universal rear eye
- Double ended piston rod

Mountings and accessories

Standard cylinders

Cylinder variant

Position	Style	Stainless steel
1	B/G	Flange mounting: X 5 Cr Ni 18 10 (1.4301; AISI 304)
2	C	Foot mounting: X 5 Cr Ni 18 10 (1.4301; AISI 304)
6	L	Rear hinge mounting: X 5 Cr Ni 18 10 (1.4301; AISI 304), Bolt: X 10 Cr Ni S 18 9 (1.4305; AISI 303), Eyebolt: X 10 Cr Ni S 18 9 (1.4305; AISI 303)
11	H	Central trunnion: X 10 Cr Ni S 18 9 (1.4305; AISI 303)
15	F	Piston rod clevis mounting: X 10 Cr Ni S 18 9 (1.4305; AISI
17	UF	Body: X 5 Cr Ni 18 10 (1.4301; AISI 304), Inner ring: X 105 Cr Co 18-2 (1.4528), Outer ring: X 10 Cr Ni S 18 9 (1.4305; AISI 303)
29	Nose nut	X 10 Cr Ni S 18 9 (1.4305; AISI 303)
30	Bracket for switches	Body Ø 32 … 80 mm POM, Ø 100 & 125 mm stainless steel Screws stainless steel

Cyl. Ø	B, G 1	C 2	F 8	H 13	L 12	N 3	UF 6	Switch mounting Stroke >= 15 mm 9	Magnetically operated switches	Service kit
										
32	M/P34297	KQM/55433/21	KQM/55433/25	QM/55232/28	KQM/55032/24	M/P34276	KQM/8025/32	QM/33/432/22	M/50/LSU/5V	KQM/55032/00
40	M/P34298	KQM/55441/21	KQM/55441/25	QM/55240/28	KQM/55040/24	M/P34277	KQM/8040/32	QM/33/440/22	M/50/LSU/5V	KQM/55040/00
50	M/P34299	KQM/55451/21	KQM/55451/25	QM/55250/28	KQM/55050/24	M/P34278	KQM/8050/32	QM/33/450/22	M/50/LSU/5V	KQM/55050/00
63	M/P34300	KQM/55464/21	KQM/55451/25	QM/55263/28	KQM/55063/24	M/P34278	KQM/8050/32	QM/33/463/22	M/50/LSU/5V	KQM/55063/00
80	–	–	KQA/8080/25	QM/55480/28	KQM/55080/24	–	KQM/8080/32	QM/33/480/22	M/50/LSU/5V	KQM/55080/00
100	–	–	KQA/8080/25	QM/55410/28	KQM/55100/24	–	KQM/8080/32	QM/33/100/22	M/50/LSU/5V	KQM/55100/00
125	–	–	KQA/8125/25	QM/55125/28	KQM/55125/24	–	KQM/8125/32	QM/33/125/22	M/50/LSU/5V	KQM/55125/00

COMPACT AIR BELLOWS

PM/31000 Single acting – Ø 2 3/4 … 12"

- Frictionless operation
- No maintenance or lubrication
- Ideal for short stroke, high-force applications
- High vibration isolation level
- Easy, compact installation

Technical Data

Medium:
Compressed air lubricated or unlubricated, Nitrogen, water (with glycol)

Operating pressure:
5,5 bar recommanded dynamic pressure 8 bar max.

Ambient temperature:
-40°C … +70°C "Static"
-30°C … +50°C "Dynamic"
When operated at this temperature (+70°C) for prolonged periods, the bellow will experience a reduce working life.
Static = constant/unchanging external load
Dynamic = vibration or a changing internal pressure as a result of changing external load

Materials

End plates:
Aluminium Ø 2 3/4 … 6 inch, steel chromated Ø 8, 9 1/4, 12 inch

Central ring:
Aluminium or steel chromated

Bellow:
Fabric reinforced NR/BR, SBR-compound rubber

EXPRESS

Important instructions:

Thrust:

The thrust depends on the height of the bellow. When height increases - the thrust decreases.

- Before installing the air bellow, check it carefully for any damage it may have suffered from transport or improper storage.
- Do not inflate the air bellow until it has been secured properly.

Clearance:

There must be enough clearance around the air bellow.

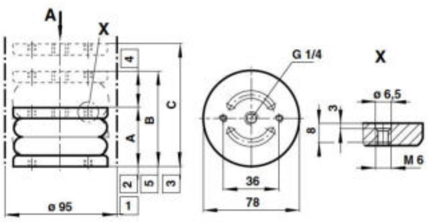
- The full surface of the metal parts is to be used to bear the forces.
- Air bellows must be equipped with lateral guides.
- Deflate the air bellows fully before removing.
- Ensure that the bellows are not constantly in contact with hydraulic oil, lubricants, solvents, metal cuttings and welding sparks.
- Should the air bellow be subjected to special media in an application, ask IMI Precision Engineering for further information, specifying the medium, temperature and concentration.

Stops:

To avoid damage when the bellow is compressed or extended mechanical stops at both end positions have to be used.

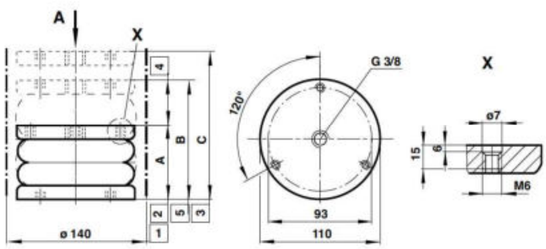
Dimensions

PM/31021, PM/31022, PM/31023



1 Installation diameter min.
2 Installation height min.
3 Installation height max.
4 Stroke
5 Recommended max. working height

PM/31041, PM/31042, PM/31043



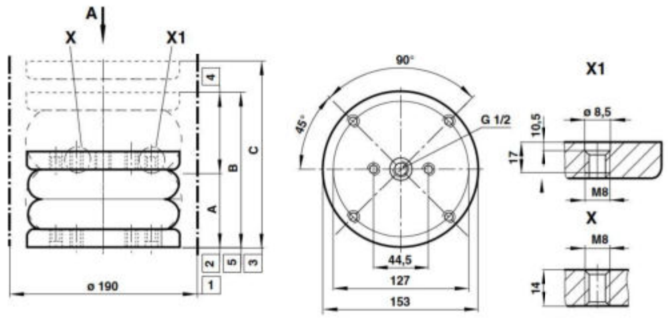
Models	Norminal Ø (inch) x convolutions	Recommended max. working height B (mm)	Stroke (mm)	Installation height A min. (mm)	Installation height C max. (mm)	Max. torque for mounting studs (Nm)	Weight (kg)
PM/31021	2 3/4 x 1	65	20	50	70	5	0,35
PM/31022	2 3/4 x 2	105	45	65	110	5	0,4
PM/31023	2 3/4 x 3	130	60	80	140	5	0,5
PM/31041	4 1/2 x 1	80	40	50	90	5	0,75
PM/31042	4 1/2 x 2	135	85	65	150	5	0,95
PM/31043	4 1/2 x 3	180	100	100	200	5	1,2

COMPACT AIR BELLOWS

PM/31000 Single acting – Ø 2 3/4 … 12"

Dimensions

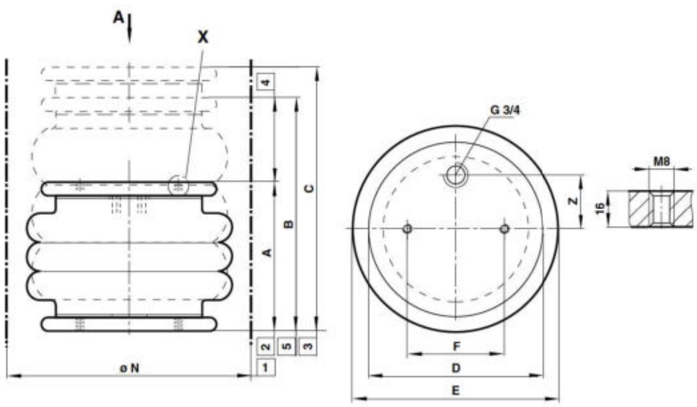
PM/31061 to PM/31063



1 Installation diameter min.
2 Installation height min.
3 Installation height max.
4 Stroke
5 Recommended max. working height

Models	Norminal Ø (inch) x convolutions	Recommended max. working height B (mm)	Stroke (mm)	Installation height A min. (mm)	Installation height C max. (mm)	Max. torque for mounting studs (Nm)	Weight (kg)
PM/31061	6 x 1	100	55	55	110	12	2
PM/31062	6 x 2	170	115	80	190	12	2,7
PM/31063	6 x 3	255	190	100	285	12	3

PM/31081 to PM/31123



1 Installation diameter min.
2 Installation height min.
3 Installation height max.
4 Stroke
5 Recommended max. working height

Models	Norminal Ø (inch) x convolutions	Recommended max. working height B (mm)	Stroke (mm)	Installation height A min. (mm)	Installation height C max. (mm)	Max. torque for mounting studs (Nm)	Ø E	Ø D	Ø F	Ø N	Z	Weight (kg)
PM/31081	8 x 1	140	95	55	140	12	225	133	70	240	–	1,8
PM/31082	8 x 2	250	185	80	250	12	220	133	70	240	–	2,3
PM/31091	9 1/4 x 1	150	105	55	150	12	255	155	89	275	38	2,3
PM/31092	9 1/4 x 2	295	230	80	310	12	255	155	89	275	38	3,1
PM/31121	12 x 1	151	129	51	180	25	343	228	157	360	73	4,3
PM/31122	12 x 2	265	230	75	305	25	325	228	157	340	73	4,8
PM/31123	12 x 3	395	320	110	430	25	325	228	157	345	73	5,9

Options

- High Temperature
- Extreme Temperature

AIR BELLOWS

M/31000 & M/32000 Single acting – Ø 6 … 26"

- Frictionless operation
- No maintenance or lubrication
- High vibration isolation level
- Simple to install

Technical Data

Medium:
Compressed air lubricated or unlubricated, Nitrogen, water (with glycol)

Operating pressure:
5,5 bar recommanded dynamic pressure 8 bar max.

Ambient temperature:
-40°C … +70°C "Static"
-30°C … +50°C "Dynamic"
When operated at this temperature (+70°C) for pro-longed periods, the bellow will experience a reduce working life.
Static = constant/unchanging external load
Dynamic = vibration or a changing internal pressure as a result of changing external load

Materials

End plates:
Steel, chromplated

Studs:
Steel, zinc plated

Central ring:
Aluminium or steel, chromplated, partly moulded in

Bellow:
M/31000, M/32000: NR/BR, SBR compound rubber
TM/31000, TM/32000: IR
EM/31000, EM/32000: ECO

⚠

Important instructions:

Thrust:

The thrust depends on the height of the bellow. When height increases - the thrust decreases.

- Before installing the air bellow, check it carefully for any damage it may have suffered from transport or improper storage.
- Do not inflate the air bellow until it has been secured properly.

Clearance:

There must be enough clearance around the air bellow.

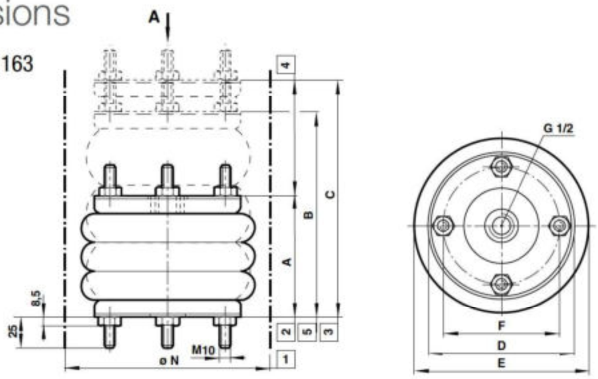
- The full surface of the metal parts is to be used to bear the forces.
- Air bellows must be equipped with lateral guides.
- Deflate the air bellows fully before removing.
- Ensure that the bellows are not constantly in contact with hydraulic oil, lubricants, solvents, metal cuttings and welding sparks.
- Should the air bellow be subjected to special media in an application, ask IMI Precision Engineering for further information, specifying the medium, temperature and concentration.

Stops:

To avoid damage when the bellow is compressed or extended mechanical stops at both end positions have to be used.

Dimensions

M/31061 … M/31163

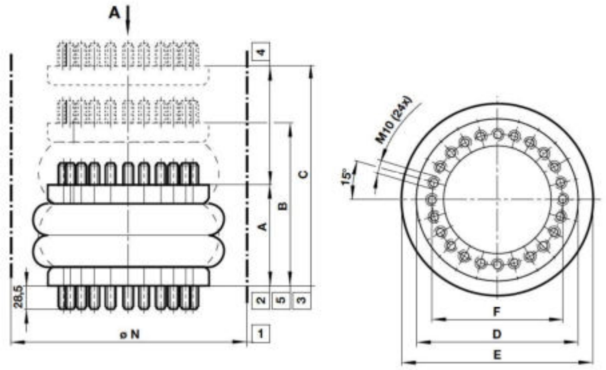


1 Installation diameter min.
2 Installation height min.
3 Installation height max.
4 Stroke
5 Recommended max. working height

Models	Norminal Ø (inch) x convolutions	Recommended max. working height B (mm)	Stroke (mm)	Installation height A min. (mm)	Installation height C max. (mm)	Max. torque for mounting studs (Nm)	Ø E	Ø D	Ø F	Ø N	Weight (kg)
M/31061	6 x 1	95	55	50	105	25	175	154	127	190	2,2
M/31062	6 x 2	170	115	75	190	25	175	154	127	190	2,7
M/31081	8 x 1	115	75	50	130	25	230	184	155	245	3
M/31082	8 x 2	220	175	75	250	25	230	184	155	245	3,7
M/31101	10 x 1	135	100	50	150	25	270	210	181	300	4,1
M/31102	10 x 2	245	225	75	300	25	270	210	181	300	4,7
M/31103	10 x 3	350	330	100	430	25	270	210	181	300	5,2
M/31121	12 x 1	135	100	50	150	25	330	260	232	350	5,4
M/31122	12 x 2	245	225	75	300	25	330	260	232	350	6,2
M/31123	12 x 3	350	330	100	430	25	330	260	232	350	6,9
M/31141	14 1/2 x 1	150	100	50	150	25	400	310	282	425	7,1
M/31142	14 1/2 x 2	290	265	75	340	25	400	310	282	425	8,3
M/31143	14 1/2 x 3	420	380	100	480	25	400	310	282	425	9,6
M/31162	16 x 2	350	350	75	390	25	435	310	282	460	7,6
M/31163	16 x 3	475	430	120	550	25	435	310	282	460	10,4

AIR BELLOWS
M/31000 & M/32000 Single acting – Ø 6 … 26"

M/32212

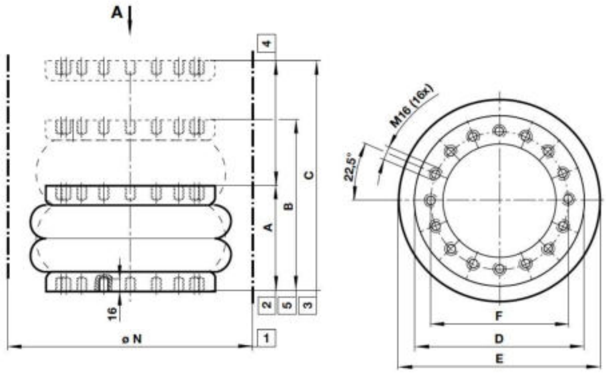


1 Installation diameter min.
2 Installation height min.
3 Installation height max.
4 Stroke
5 Recommended max. working height

Models	Norminal Ø (inch) x convolutions	Recommended max. working height B (mm)	Stroke (mm)	Installation height A min. (mm)	Installation height C max. (mm)	Max. torque for mounting studs (Nm)	Ø E	Ø D	Ø F	Ø N	Weight (kg)
M/32212	21" x 2	284	251	84	335	40	577	517	482	620	12,0

Caution: End plates aren't included as standard in scope of supply of air bellows. Consult our technical service for details of end plates.

M/32262



1 Installation diameter min.
2 Installation height min.
3 Installation height max.
4 Stroke
5 Recommended max. working height

Models	Norminal Ø (inch) x convolutions	Recommended max. working height B (mm)	Stroke (mm)	Installation height A min. (mm)	Installation height C max. (mm)	Max. torque for mounting studs (Nm)	Ø E	Ø D	Ø F	Ø N	Weight (kg)
M/32262	26" x 2	425	400	100	500	100	710	750	495	750	33,2

Caution: End plates aren't included as standard in scope of supply of air bellows. Consult our technical service for details of end plates.

Options

- High Temperature
- Extreme Temperature

MINIATURE SHOCK ABSORBERS

MC Series Self-Compensating

- Maintenance free, self-contained hydraulic components
- Provides the highest possible cycle lifetime; up to 25 million cycles
- Extremely low rod return force
- Can be directly mounted into the end cover of pneumatic cylinders (up to 7 bar)
- Integral positive stop incorporated on all models

Technical Data

Impact velocity range:
0,08 … 6 m/s
(ensure that effective weight of application is within range of unit selected.)

W_4 capacity rating (max. energy per hour Nm/hr):
If your application exceeds tabulated W4 figures consider additional cooling i. e. cylinder exhaust air etc.

Mounting:
In any position. If precise end position datum is required consider use of the optional stop collar type AH

Ambient temperature:
0°C … +66°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

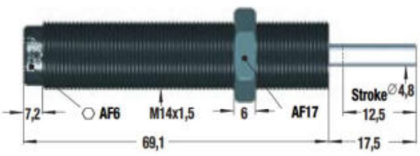
Body:
Steel with black oxide finish

Piston rod:
Hardened stainless steel

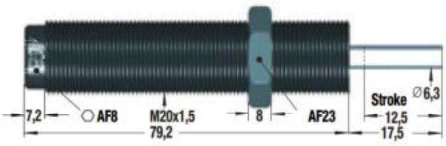
Rolling diaphragm seal:
EPDM
Note: seal not compatible with petroleum based fluids

Dimensions

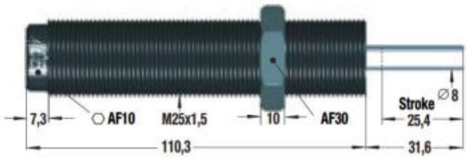
MC 150 M



MC 225 M



MC 600 M



Models

Accessories

Model	Max. energy capacity Nm per cycle per hour		Effective weight me Self-compensating			Return force	Rod reset time	Max. side load angle	Nylon button	Rectangular flange	Clamp mount	Stop collar
	W_3	W_4	min	kg	max	N	s	o				
												
MC 150 M	20	34 000	0,9	–	10	3 - 5	0,4	4	PP 150	RF 14	MB 14	AH14
MC 150 MH	20	34 000	8,6	–	86	3 - 5	0,4	4	PP 150	RF 14	MB 14	AH14
MC 150 MH2	20	34 000	70	–	200	3 - 5	0,4	4	PP 150	RF 14	MB 14	AH14
MC 225 M	41	45 000	2,3	–	25	4 - 6	0,3	4	PP 225	RF 20	MB 20	AH20
MC 225 MH	41	45 000	23	–	230	4 - 6	0,3	4	PP 225	RF 20	MB 20	AH20
MC 225 MH2	41	45 000	180	–	910	4 - 6	0,3	4	PP 225	RF 20	MB 20	AH20
MC 600 M	136	68 000	9	–	136	5 - 9	0,6	2	PP 600	RF 25	MB 25	AH25
MC 600 MH	136	68 000	113	–	1 130	5 - 9	0,6	2	PP 600	RF 25	MB 25	AH25
MC 600 MH2	136	68 000	400	–	2 300	5 - 9	0,6	2	PP 600	RF 25	MB 25	AH25

MINIATURE SHOCK ABSORBERS

MA Series Adjustable

- Maintenance free, self-contained hydraulic components
- Integrated mechanical stop (MA 225 upwards)
- Long stroke lengths to provide smooth deceleration and low reaction forces

Technical Data

Adjustment:
On model MA 150: by turning the adjustment screw at rear. On MA 225 and MA 600: by turning the adjustment knob against the scale marked 0 to 9. After installation, cycle the machine a few times and turn the adjustment knob until optimum deceleration is achieved (i.e. smooth deceleration throughout stroke). Hard impact at start of stroke > Turn adjuster towards '9' Hard setdown at end of stroke > Turn adjuster towards '0'.

Impact velocity range:
0,3 … 3,6 m/s (check effective weight calculation.): FA units max. 2 m/s.

W_4 capacity rating (max. energy per hour Nm/hr):
If your application exceeds tabulated W_4 figures consider additional cooling i. e. cylinder exhaust air etc.

Mounting:
In any position. If precise end position datum is required consider use of the optional stop collar type AH.

Ambient temperature:
0°C … +66°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

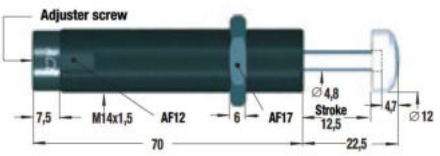
Materials

Body:
Steel with black oxide finish

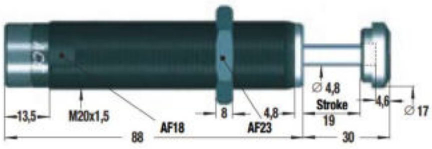
Piston rod:
Hardened stainless steel

Dimensions

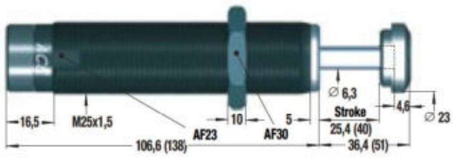
MA 150 M



MA 225 M



MA 600 M



Models

Accessories

Model	Max. energy capacity Nm per cycle per hour W_3	W_4	Effective weight me Self-compensating min	kg	max	Return force N	Rod reset time s	Max. side load angle o	Rectangular flange	Clamp mount	Stop collar
											
MA 150 M	22	35 000	1	–	109	3 - 5	0,4	5	RF 14	MB14	AH14
MA 225 M	25	45 000	2,3	–	226	5 - 10	0,1	2	RF 20	MB 20	AH20
MA 600 M	68	68 000	9	–	1360	10 - 30	0,2	2	RF 25	MB 25	AH25