

- > \varnothing 32 ... 320 mm
- > High performance adaptive cushioning system "ACS"
- > Low temperature version up to -40°C
- > High temperature version up to $+150^{\circ}\text{C}$
- > 16 bar version available



Technical features

Medium:

Compressed air, filtered, lubricated or non-lubricated

Standard:

ISO 15552

Operation:

Double acting, adjustable cushioning

Operating pressure:

\varnothing 32 ... 125 mm (Profile barrel)
1 ... 12 bar (14 ... 174 psi)
 \varnothing 32 ... 200 mm (Round barrel)
1 ... 16 bar (14 ... 232 psi)
 \varnothing 250 & 320 mm (Round barrel)
1 ... 10 bar (14 ... 145 psi)

Ports:

G1/8 ... 1

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)

Operating temperature:

\varnothing 32 ... 125 mm
"Standard version"
 $-20 \dots +80^{\circ}\text{C}$ max. ($-4 \dots +176^{\circ}\text{F}$)
 \varnothing 160 ... 320 mm
"Standard version"
 $-10 \dots +80^{\circ}\text{C}$ max. ($+14 \dots +176^{\circ}\text{F}$)
 \varnothing 32 ... 320 mm
"High temperature version" (T)
 $0 \dots +150^{\circ}\text{C}$ max.
($-17,7 \dots +302^{\circ}\text{F}$)
 \varnothing 32 ... 200 mm
"Low temperature version" (L)
 -40 max. ... $+80^{\circ}\text{C}$ max.
($-40 \dots +176^{\circ}\text{F}$)
Air supply must be dry enough to avoid ice formation at temperatures below $+2^{\circ}\text{C}$ ($+35^{\circ}\text{F}$).

Standard Materials:

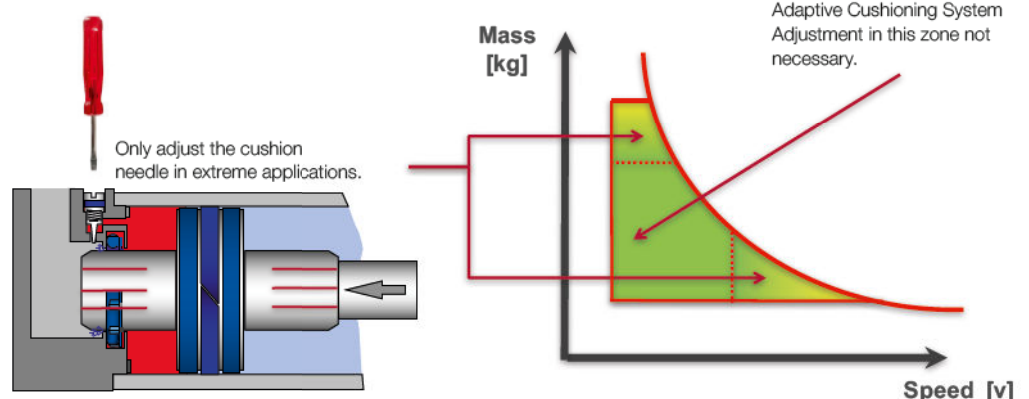
Barrel: Anodised aluminium
End covers: Pressure diecast aluminium (\varnothing 200 ... 320 mm gravity cast aluminium)
Piston rod: Stainless steel (martensitic)
Piston rod seals: PUR (\varnothing 160 ... 320 mm NBR)
Piston seals: PUR (\varnothing 160 ... 320 mm NBR)
'O'-rings: NBR

Technical data

Cylinder \varnothing (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 \varnothing (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
Cushion length mm	20	22	24	24	26	33	39	43	43	55	60
Cushioning											
Adaptive cushioning systems "ACS"	•	•	•	•	•	•	•				
Cushioning: (adjustable cushion)								•	•	•	•
Initial cushion volume (cm ³)	12,8	20,2	36	64	111	235	427	784	1273	2534	4559
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
Air consumption at 6 bar outstroke (l/cm)	0,056	0,088	0,137	0,218	0,35	0,55	0,86	1,41	2,2	3,44	5,63
Air consumption at 6 bar instroke (l/cm)	0,048	0,074	0,114	0,195	0,32	0,51	0,79	1,32	2,1	3,3	5,41

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.

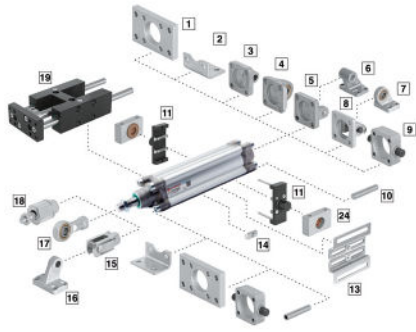


Option selector
*****A/8****/****/******

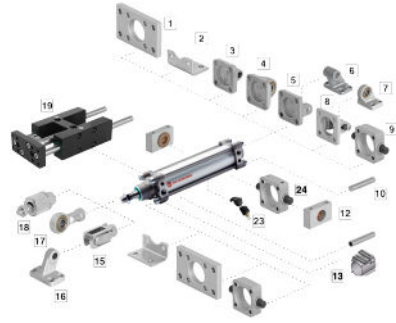
Non-standard variants	Substitute	Strokes (mm)	Substitute
Standard	None	5 ... 2800	
Hydraulic version ø 32 ... 100 mm only	H	Piston rod thread	Substitute
Low temperature version -40°C (-40°F)	L	Male	None
High temperature version +150°C max. (+302°F)	T	Female	X
Standard	Substitute	Variants ø 160 ... 320 mm (non-magnetic piston)	Substitute
Round barrel	None	Standard	None
Profile barrel	P	Special wiper/seal	W1
Piston rod material	Substitute	Low friction	X1
Stainless steel martensitic	R	Piston rod bellow	G
Stainless steel austenitic	S	Without cushion	W
Hard chromium plated	C	Without cushion, low fiction	X3
Stainless steel austenitic & hard chromium plated	D	Double ended piston rod	J
Cushioning	Substitute	Double ended piston rod, special wiper/seal	W3
ACS (ø 32 ... 125 mm)	02	Four-position cylinder	IT
Standard (ø 160 ... 320 mm)	None	Extended piston rod	IU
Cylinder ø (mm)	Substitute	**A/8****/IU****/****	Extension (mm)
032, 040, 050, 063, 080, 100, 125, 160, 200, 250, 320		Extended piston rod	W5
Variants ø 32 ... 320 mm (magnetic piston)	Substitute	**A/8****/W5****/****	Extension (mm)
Standard	M		
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		
Non-rotating piston rod (Internal)	N2		
Locking unit (passive)	L4		
Locking unit (passive), special wiper/seal	L8		
Extended piston rod	MU		
A/8**/MU****/****	Extension (mm)		
Extended piston rod, special wiper/seal	W6		
A/8**/W6****/****	Extension (mm)		

Note: If position ist not required, disregard option position within part number e.g. RA/802100/M/100. For combinations of cylinder variants consult our technical service. For example: Please note that heat resistant seals are not available for all variants. This option selector explains only the cylinder variants. Additional variants/options are not possible. Detail's see table on page 4.

Cylinder with Profile barrel ø 32 ... 125 mm



Cylinder with Round barrel ø 32 ... 320 mm



Mountings

Model	A	AK	B, G	C	D	D2	F	FH	H	UH
ø	10 Page 14	18 Page 14	1 Page 14	2 Page 14	5 Page 15	8 Page 15	15 Page 15	9 Page 15	11 Page 16	20 Page 16
32	QM/8032/35	QM/8025/38	QA/8032/22	QA/8032/21	QA/8032/23	QA/8032/42	QM/8025/25	QA/8032/34	QA/8032/28	QA/8032/40
40	QM/8032/35	QM/8040/38	QA/8040/22	QA/8040/21	QA/8040/23	QA/8040/42	QM/8040/25	QA/8040/34	QA/8040/28	QA/8040/40
50	QM/8050/35	QM/8050/38	QA/8050/22	QA/8050/21	QA/8050/23	QA/8050/42	QM/8050/25	QA/8050/34	QA/8050/28	QA/8050/40
63	QM/8050/35	QM/8050/38	QA/8063/22	QA/8063/21	QA/8063/23	QA/8063/42	QM/8050/25	QA/8063/34	QA/8063/28	QA/8063/40
80	QM/8080/35	QM/8080/38	QA/8080/22	QA/8080/21	QA/8080/23	QA/8080/42	QM/8080/25	QA/8080/34	QA/8080/28	QA/8080/40
100	QM/8080/35	QM/8080/38	QA/8100/22	QA/8100/21	QA/8100/23	QA/8100/42	QM/8080/25	QA/8100/34	QA/8100/28	QA/8100/40
125	QM/8125/35	QM/8125/38	QM/8125/22	QM/8125/21	QM/8125/23	QA/8125/42	QM/8125/25	QA/8125/34	QM/8125/28	QA/8125/40
160	QM/8160/35	QM/8160/38	QM/8160/22	QM/8160/21	QM/8160/23	QA/8160/42	QM/8160/25	-	QM/8160/28	QA/8160/40
200	QM/8160/35	QM/8160/38	QM/8200/22	QM/8200/21	QM/8200/23	QA/8200/42	QM/8160/25	-	QM/8200/28	QA/8200/40
250	QM/8250/35	-	QM/8250/22	QM/8250/21	QM/8250/23	-	QM/8250/25	-	QM/8250/28	-
320	QM/8320/35	-	QM/8320/22	QM/8320/21	QM/8320/23	-	QM/8320/25	-	QM/8320/28	-

Model	UH	S	SW	UF	UR	R	SS	US	Groove key	Valve mounting kit
ø	24 Page 16	12 Page 16	6 Page 17	17 Page 17	4 Page 17	3 Page 17	16 Page 18	7 Page 18	14 Page 18	13 Page 31 & 32
32	PQA/802032/40	QA/8032/41	M/P19493	QM/8025/32	QA/8032/33	QA/8032/27	M/P19931	M/P40310	M/P72816	More Details see page 31 & 32
40	PQA/802040/40	QA/8040/41	M/P19494	QM/8040/32	QA/8040/33	QA/8040/27	M/P19932	M/P40311	M/P72816	
50	PQA/802050/40	QA/8040/41	M/P19495	QM/8050/32	QA/8050/33	QA/8050/27	M/P19933	M/P40312	M/P72816	
63	PQA/802063/40	QA/8063/41	M/P19496	QM/8050/32	QA/8063/33	QA/8063/27	M/P19934	M/P40313	M/P72816	
80	PQA/802080/40	QA/8063/41	M/P19497	QM/8080/32	QA/8080/33	QA/8080/27	M/P19935	M/P40314	M/P72816	
100	PQA/802100/40	QA/8100/41	M/P19498	QM/8080/32	QA/8100/33	QA/8100/27	M/P19936	M/P40315	M/P72816	
125	PQA/802125/40	QA/8100/41	M/P19499	QM/8125/32	QM/8125/33	QM/8125/27	M/P19937	M/P71355	M/P72816	
160	-	QA/8160/41	M/P19679	QM/8160/32	QM/8160/33	QM/8160/27	M/P19938	M/P71356	-	
200	-	QA/8160/41	M/P19683	QM/8160/32	QM/8200/33	QM/8200/27	M/P19939	M/P71357	-	
250	-	-	M/P19446	QM/8250/32	QM/8250/33	-	-	-	-	
320	-	-	M/P19447	QM/8320/32	QM/8320/33	-	-	-	-	

Pos.	Style	Standard
1	B, G	Clear anodised aluminium
2	C	Galvanized steel (ø 32 ... 100 mm), Painted steel (ø 125 ... 320 mm)
3	R	Die-cast aluminium
4	UR	Galvanized aluminium Inner ring: steel, Outer ring: brass
5	D	Die-cast aluminium Bolt: galvanized steel (martensitic) Circlip: galvanized steel
6	SW	Die-cast aluminium
7	US	Galvanized aluminium Inner ring: steel, Outer ring: brass

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

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

Guide blocks

	Guide blocks - plain bearings	Guide blocks - roller bearings	Guide blocks - plain bearings, long coupling	Guide blocks - plain bearings, short coupling
19	19	19	19	19
Page 19	Page 20	Page 22	Page 22	
ø				
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.

Accessories for Profile (ø 32 ... 125 mm) & Round barrel (ø 32 ... 320 mm)

Model Profile barrel	Model Round barrel	Port size	Banjo flow control	Straight fitting	Elbow fitting
		ø			
PRA/802032/M*	RA/802032/M*	32	G1/8	C0K510618	C02250618
PRA/802040/M*	RA/802040/M*	40	G1/4	C0K510628	C02250628
PRA/802050/M*	RA/802050/M*	50	G1/4	C0K510828	C02250828
PRA/802063/M*	RA/802063/M*	63	G3/8	C0K510838	C02250838
PRA/802080/M*	RA/802080/M*	80	G3/8	C0K511038	C02251038
PRA/802100/M*	RA/802100/M*	100	G1/2	C0K511248	C02251248
PRA/802125/M*	RA/802125/M*	125	G1/2	C0K511248	C02251248
-	RA/8160/M*	160	G3/4	M840 (Inline)	-
-	RA/8200/M*	200	G3/4	M840 (Inline)	-
-	RA/8250/M*	250	G1	M855 (Inline)	-
-	RA/8320/M*	320	G1	M855 (Inline)	-

For alternative fitting types please contact the technical service.

Service kit

Service kit for Round and Profile barrel	
ø	
32	QA/8032/00
40	QA/8040/00
50	QA/8050/00
63	QA/8063/00
80	QA/8080/00
100	QA/8100/00
125	QA/8125/00
160	QA/8160/00
200	QA/8200/00
250	QA/8250/00
320	QA/8320/00

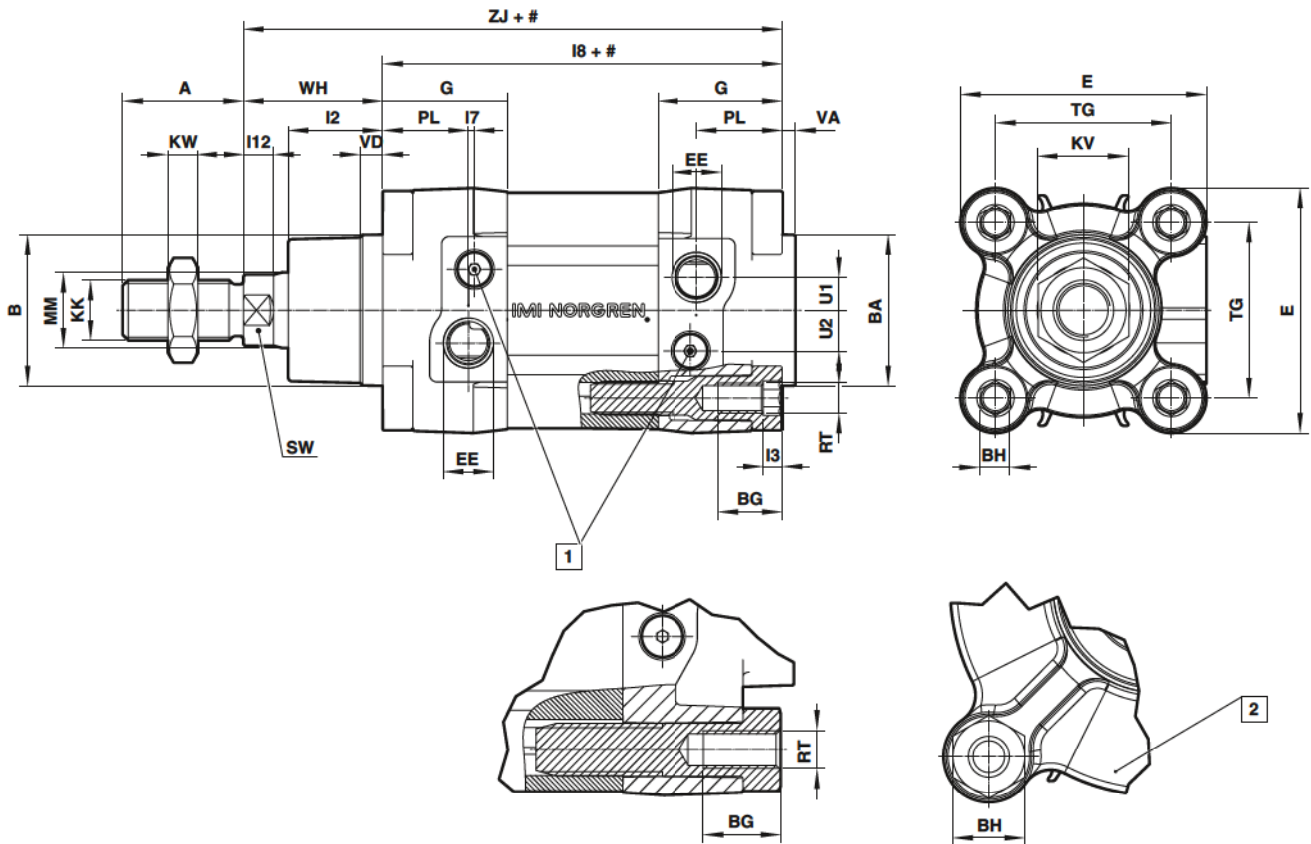
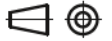
Magnetically operated switches

	M/50/**	Groove cover	Switch mounting brackets for M/50	TQM/31, QM/32, QM/132	Switch mounting brackets for TQM/31, QM/32, QM/132	QM/140	Switch mounting brackets for QM/140
23							
Page 24 & 25	Page 18	Page 27	Page 28	Page 29	Page 30	Page 31	
ø							
32	M/P72725/1000	QM/27/2/1	QM/31/032/22	QM/140/010/22			
40	M/P72725/1000	QM/27/2/1	QM/31/032/22	QM/140/010/22			
50	M/P72725/1000	QM/27/2/1	QM/31/032/22	QM/140/010/22			
63	M/P72725/1000	QM/27/2/1	QM/31/032/22	QM/140/010/22			
80	M/P72725/1000	QM/27/2/1	QM/31/080/22	QM/140/010/22			
100	M/P72725/1000	QM/27/2/1	QM/31/080/22	QM/140/010/22			
125	M/P72725/1000	QM/27/2/1	QM/31/080/22	-			
160	-	QM/27/2/1	QM/31/160/22	-			
200	-	QM/27/2/1	QM/31/160/22	-			
250	-	QM/27/2/2	QM/31/250/22	-			
320	-	QM/27/2/3	QM/31/320/22	-			

Basic dimensions

PRA/802000/M, RA/802000/M, RA/8000, RA/8000/M
 Standard Cylinder

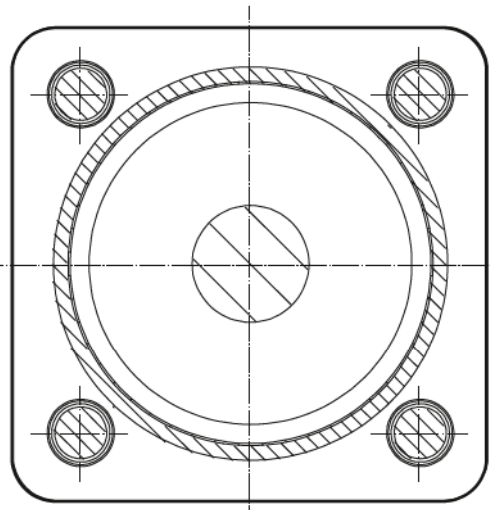
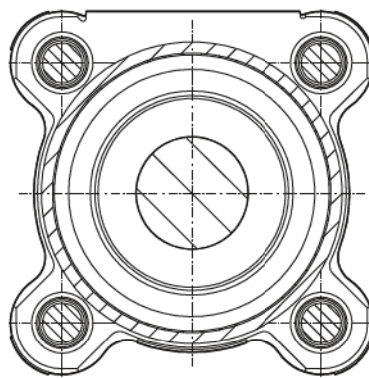
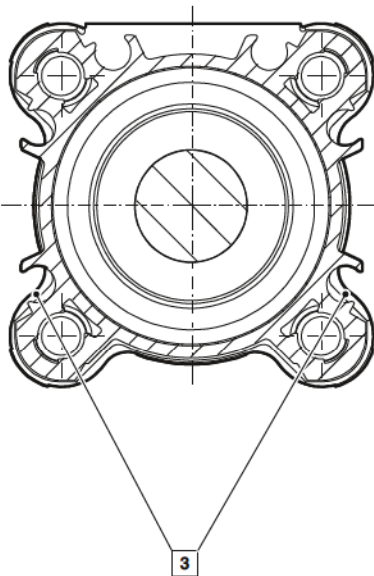
Dimensions in mm
 Projection/First angle



Model Profile barrel
 ø 32 ... 125 mm

Model Round barrel
 ø 32 ... 125 mm

Model Round barrel
 ø 160 ... 320 mm



- # Stroke
- \$ Piston rod extension
- 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>

ø	A -0,5	ø B d11	ø BA d11	BG min	BH	E	EE	G	KK	KV	KW	L2	L3	L7	L8	L12	ø MM h9	PL	TG
32	22	30	30	16	6	47	G1/8	29	M10 x 1,25	17	5	19,5	4	6,6	94	5,5	12	15	32,5
40	24	35	35	16	6	53	G1/4	34,5	M12 x 1,25	19	6	22	4	5,6	105	6,5	16	21,5	38
50	32	40	40	16	8	65	G1/4	33	M16 x 1,5	24	8	25	5	1,6	106	8	20	22,7	46,5
63	32	45	45	16	8	75	G3/8	36,5	M16 x 1,5	24	8	25	5	3,6	121	8	20	24,2	56,5
80	40	45	45	17	19	95	G3/8	42	M20 x 1,5	30	10	33	-	1,8	128	10	25	29,7	72
100	40	55	55	17	19	113	G1/2	42	M20 x 1,5	30	10	35	-	3,8	138	10	25	27,7	89
125	54	60	60	20	24	140	G1/2	54	M27 x 2	41	13,5	44	-	1,8	160	13	32	39,7	110
160	72	65	65	28,5	32	183,5	G3/4	50	M36 x 2	55	18	58	-	10	180	16	40	25	140
200	72	75	75	28,5	32	224	G3/4	50	M36 x 2	55	18	67	-	10	180	16	40	26	175
250	84	90	90	35	36	280	G1	58	M42 x 2	65	21	80	-	4,5	200	20	50	28	220
320	96	110	110	30	46	350	G1	60	M48 x 2	75	24	90	-	4,5	220	24	63	31	270

ø	RT	SW	U1	U2	VA	VD	WH	ZJ	Model Profile barrel	at 0 mm	per 25 mm	Model Round barrel	at 0 mm	per 25 mm
32	M 6	10	4,6	6,3	3,5	6	26	120	PRA/802032/M*	0,49 (kg)	0,06 (kg)	RA/802032/M*	0,46 (kg)	0,06 (kg)
40	M 6	13	5,8	9,2	3,5	6	30	135	PRA/802040/M*	0,69 (kg)	0,08 (kg)	RA/802040/M*	0,65 (kg)	0,08 (kg)
50	M 8	17	8,7	10,8	3,5	6	37	143	PRA/802050/M*	1,09 (kg)	0,12 (kg)	RA/802050/M*	1,02 (kg)	0,12 (kg)
63	M 8	17	10	12,8	3,5	6	37	158	PRA/802063/M*	1,54 (kg)	0,13 (kg)	RA/802063/M*	1,46 (kg)	0,14 (kg)
80	M 10	22	12	14,5	3,5	6	46	174	PRA/802080/M*	2,64 (kg)	0,20 (kg)	RA/802080/M*	2,54 (kg)	0,21 (kg)
100	M 10	22	9	14,5	3,5	6	51	189	PRA/802100/M*	3,66 (kg)	0,23 (kg)	RA/802100/M*	3,50 (kg)	0,23 (kg)
125	M 12	27	12	17	5,5	8	65	225	PRA/802125/M*	6,16 (kg)	0,45 (kg)	RA/802125/M*	5,92 (kg)	0,34 (kg)
160	M 16	36	19	16	4	15	80	260	-	-	-	RA/8160/M*	14,9 (kg)	0,55 (kg)
200	M 16	36	19	16	5	15	95	275	-	-	-	RA/8200/M*	21,7 (kg)	0,60 (kg)
250	M 20	41	22	30	7	13	105	305	-	-	-	RA/8250/M*	32,6 (kg)	0,92 (kg)
320	M 24	55	22	30	7	13	120	340	-	-	-	RA/8320/M*	59,8 (kg)	1,46 (kg)

* Please insert stroke length.

Basic Dimension are also for cylinder variants 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