

Compact cylinder
ISO 21287
Magnetic piston, double acting
Ø 20 to 125 mm

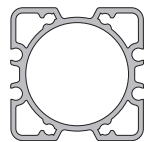
Conforms to ISO 21287

**M/50 switches can be mounted
flush with the profile**

Magnetic piston as standard

**Seals ensure low friction operation
and long life**

**Three different guiding systems:
RA/192000/N2, .../N4, .../N6**



Technical data

Medium:

Compressed air, filtered, lubricated or non-lubricated

Standard:

ISO 21287

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 to 10 bar

Operating temperature:

-5°C* to +80°C max. (Consult our Technical Service
for use below +2°C)

Cylinder diameters:

20, 25, 32, 40, 50, 63, 80, 100 and 125 mm

Strokes:

Standard: 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 and 100 mm

Ø 20 and 25 mm, min. 5 mm, max. 200 mm

Ø 32 and 40 mm, min. 5 mm, max. 300 mm

Ø 50 and 63 mm, min. 10 mm, max. 400 mm

Ø 80 to 125 mm, min. 15 mm, max. 500 mm

Materials:

Profile barrel: Anodised aluminium

End covers: Pressure diecast aluminium

Piston rod: Stainless steel

Piston rod seals: Polyurethane

Piston seals: Nitrile rubber

O-rings: Nitrile rubber

Ordering examples

See page 3

Mountings and switches

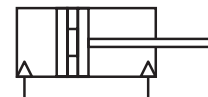
See page 4

Alternative models

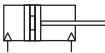
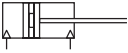
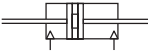
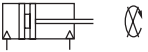
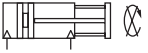

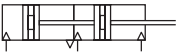


Single acting cylinders

see data sheet N/UK 1.4.064

Cylinder conforms to ATEX, see page
N/UK/ATEX 1.5.084



Cylinder variants

Symbol	T S		Model Magnetic piston	Description	Dimensions Page
	T	S			
	•	•	RA/192000/M	Standard cylinder, male piston rod thread *1)	7
	•	•	RA/192000/MX	Standard cylinder, female piston rod thread *1)	7
		•	RA/192000/W2	Special wiper/seal, male piston rod thread, Ø 20 to 125 mm	7
		•	RA/192000/W2X	Special wiper/seal, female piston rod thread, Ø 20 to 125 mm	7
		•	RA/192000/X4	Low friction cylinders, male piston rod thread, Ø 32 to 100 mm, Medium: compressed air, filtered and non-lubricated recommended, 0,2 to 10 bar	7
		•	RA/192000/X4X	Low friction cylinders, female piston rod thread, Ø 32 to 100 mm, Medium: compressed air, filtered and non-lubricated recommended, 0,2 to 10 bar	7
		•	RA/192000/MU	Cylinder with extended piston rod, male piston rod thread	7
		•	RA/192000/MUX	Cylinder with extended piston rod, female piston rod thread	7
	•	•	RA/192000/JM	Cylinder with double ended piston rod, male piston rod thread *1)	8
	•	•	RA/192000/JMX	Cylinder with double ended piston rod, female piston rod thread *1)	8
			RA/192000/N2	Cylinder with non-rotating piston rod (internal), male piston rod thread, Ø 20 to 100 mm	7
			RA/192000/N2X	Cylinder with non-rotating piston rod (internal), female piston rod thread, Ø 20 to 100 mm	7
			RA/192000/N4	Cylinder with guiding, Ø 20 to 100 mm Ø 20 and 25 mm max. stroke 80 mm, Ø 32 to 100 mm max. stroke 100 mm	8
		•	RA/192000/N6	Cylinder with external guiding, Ø 25 and 32 mm Standard strokes 25, 50, 75 and 100 mm only	9
		•	RA/192000/TM	Tandem cylinder (double drive), male piston rod thread, Ø 20 to 100 mm	9
		•	RA/192000/TMX	Tandem cylinder (double drive), female piston rod thread, Ø 20 to 100 mm	9
		•	RA/192000/SM	Multi-Position cylinder, male piston rod thread, Ø 20 to 100 mm	10
		•	RA/192000/SMX	Multi-Position cylinder, female piston rod thread, Ø 20 to 100 mm	10
		•	RA/192000/L4	Cylinder with locking unit (passive)and male piston rod thread, Locking is achieved by spring force on removal of the signal to the unit, Operating pressure for locking unit: 4 to 10 bar	10
		•	RA/192000/L4X	Cylinder with locking unit (passive)and female piston rod thread, Ø 32 to 125 mm Locking is achieved by spring force on removal of the signal to the unit, Operating pressure for locking unit: 4 to 10 bar	10

For cylinder variants T, and S see options selector

Alternative variants without magnetic piston (Ø 63 to 125 mm) on request.

*1) Variant T: Ø 20 to 100 mm; max. stroke length 200 mm

Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under 'Technical Data'.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult NORGREN.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

Options selector

★★A/192★★★/★★★/★★★

Special variants	Substitute
High temperature version: 150°C max.	T
Piston rod materials	Substitute
Stainless steel martensitic (1.4021)	R
Stainless steel austenitic (1.4305)	S
Cylinder diameters (mm)	Substitute
020, 025, 032, 040, 050, 063, 080, 100, 125	

Note: If option is not required, disregard option position within part number eg. RA/192100/M/100. For combinations of cylinder variants consult our technical service. Please note that heat resistant seals are not available for all variants. This options selector explains only the cylinder variants. Additional variants/options can not be derived from.

Strokes (mm)	Substitute
Ø 20 and 25	min. 5 max. 200
Ø 32 and 40	min. 5 max. 300
Ø 50 and 63	min. 10 max. 400
Ø 80 to 125	min. 15 max. 500
Piston rod thread	Substitute
Female	X
Male	None
Variants (magnetic piston)	Substitute
Standard	M
Double ended piston rod	JM
Non-rotating piston rod (internal)	N2
Guiding	N4
Special wiper/seal	W2
Locking unit	L4
External guiding	N6
Extended piston rod	MU
RA/192***MU*/****/****	
	Extension (mm)
Low friction	X4
Tandem cylinder	TM
Multi-positon cylinder	SM
RA/192***SM*/****/****	
	Rear cylinder stroke
	Front cylinder stroke

Standard strokes

Cylinder strokes (mm)		5	10	15	20	25	30	40	50	60	80	100
20	Ø	•	•	•	•	•	•	•	•			
25	Ø	•	•	•	•	•	•	•	•			
32	Ø	•	•	•	•	•	•	•	•	•	•	•
40	Ø	•	•	•	•	•	•	•	•	•	•	•
50	Ø		•	•	•	•	•	•	•	•	•	•
63	Ø		•	•	•	•	•	•	•	•	•	•
80	Ø			•	•	•	•	•	•	•	•	•
100	Ø			•	•	•	•	•	•	•	•	•
125	Ø			•	•	•	•	•	•	•	•	•

Ordering examples

Cylinders

To order a standard 50 mm bore magnetic piston cylinder, double acting with a 25 mm stroke and male piston rod thread quote: **RA/192050/M/25**

Mountings

To order a front flange mounting style G for 50 mm bore cylinder quote: **QA/8050/22**

Switches

To order a reed switch with LED and 2 m cable length quote: **M/50/LSU/2V**

Mountings

	Style A	Style B, G	Style C	Style D	Style D2	Style FH	Style L2
	10	1	2	5	7	9	32
Ø	Page 11	Page 11	Page 11	Page 11	Page 11	Page 12	Page 13
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	QA/8125/22	QM/8125/21	QM/8125/23	QA/8125/42	QA/8125/34	–

	Style R	Style S	Style SW	Style UH	Style UR	Style US	Assembly Kit
	3	12	6	11	4	8	33
Ø	Page 12	Page 13	Page 13	Page 12	Page 12	Page 13	Page 14
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 cylinders with male piston rod thread

Ø	Style AK	Style F	Style N2	Style UF
	18	15	24	17
	Page 11	Page 12	Page 13	Page 12
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

Accessories

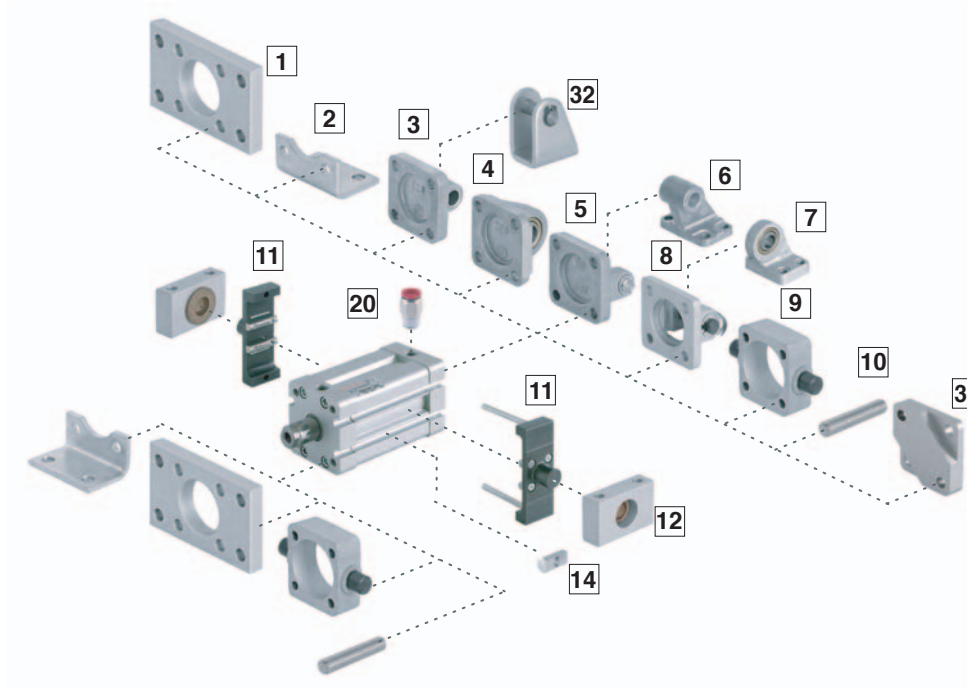
	Groove cover	Valve mounting kit	Groove key
	14	14	14
	Page 14	Page 14	Page 14
M/P72725/1000	–	–	M/P72816
M/P72725/1000	–	–	M/P72816
M/P72725/1000	–	–	M/P72816
M/P72725/1000	–	–	M/P72816
M/P72725/1000	QA/180050/22/54	–	M/P72816
M/P72725/1000	QA/180050/22/54	–	M/P72816
M/P72725/1000	QA/180080/22/54	–	M/P72816
M/P72725/1000	QA/180080/22/54	–	M/P72816
M/P72725/1000	QA/180080/22/54	–	M/P72816

Switches

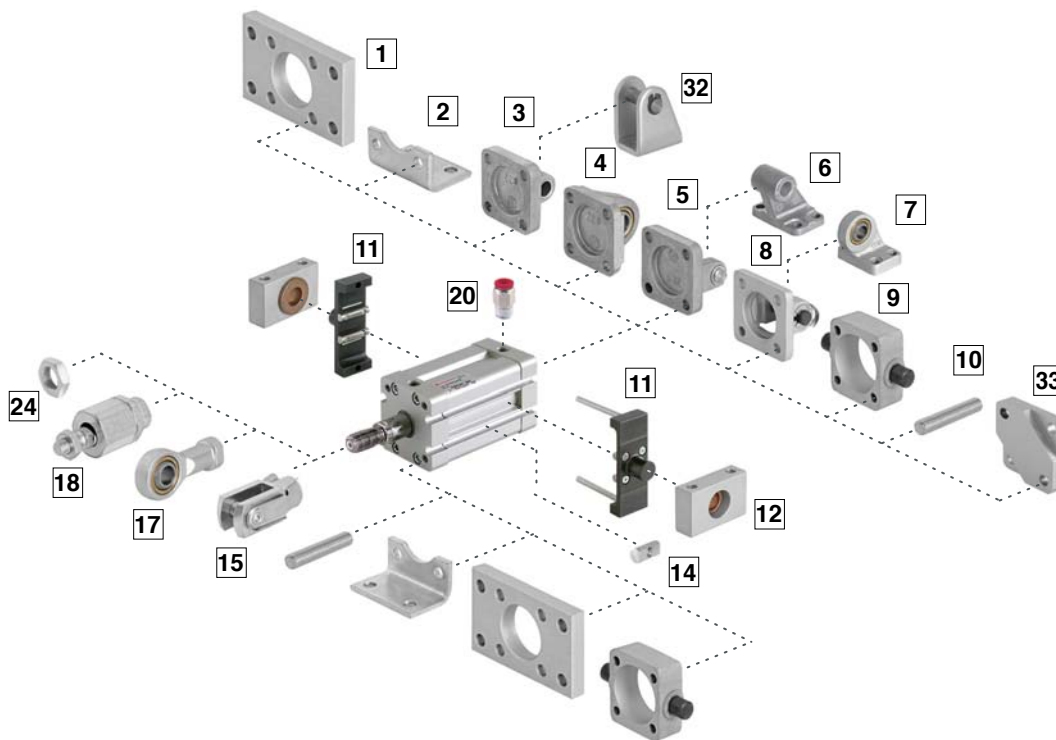
Type	With cable		With connector (M8x1)		Current max.	Temperature °C	LED	Features	Cable/ Connector length	Cable type	Cable with Connector	Datasheet
	Reed	Solid state	Voltage V a.c.	V d.c.								
M/50/LSU/*V	–	–	10 to 240	10 to 170	180 mA	-20 to +80	•	–	2, 5, 10 m	PVC 2 x 0,25	–	N/UK 4.3.005
M/50/LSU/5U	–	–	10 to 240	10 to 170	180 mA	-20 to +80	•	–	5 m	PUR 2 x 0,25	–	N/UK 4.3.005
TM/50/RAU/2S	–	–	10 to 240	10 to 170	180 mA	-20 to +150	–	–	2 m	Silicone 2 x 0,25	–	N/UK 4.3.005
M/50/RAC/5V	–	–	10 to 240	10 to 170	180 mA	-20 to +80	–	Changeover	5 m	PVC 3 x 0,25	–	N/UK 4.3.005
M/50/LSU/CP	–	–	10 to 60	10 to 75	180 mA	-20 to +80	•	Plug M8x1	5 m	PVC 3 x 0,25	M/P73001/5	N/UK 4.3.005
–	–	M/50/EAP/*V	–	10 to 30	150 mA	-20 to +80	•	PNP	2, 5, 10 m	PVC 3 x 0,25	–	N/UK 4.3.007
–	–	M/50/EAP/CP	–	10 to 30	150 mA	-20 to +80	•	PNP, Plug M8x1	5 m	PVC 3 x 0,25	M/P73001/5	N/UK 4.3.007
–	–	M/50/EAN/*V	–	10 to 30	150 mA	-20 to +80	•	NPN	2, 5, 10 m	PVC 3 x 0,25	–	N/UK 4.3.007
–	–	M/50/EAN/CP	–	10 to 30	150 mA	-20 to +80	•	NPN, Plug M8x1	5 m	PVC 3 x 0,25	M/P73001/5	N/UK 4.3.007

* Please insert cable length
Further information (technical data, cable material, dimensions) see datasheet.

Series RA/192000/MX



Series RA/192000/M



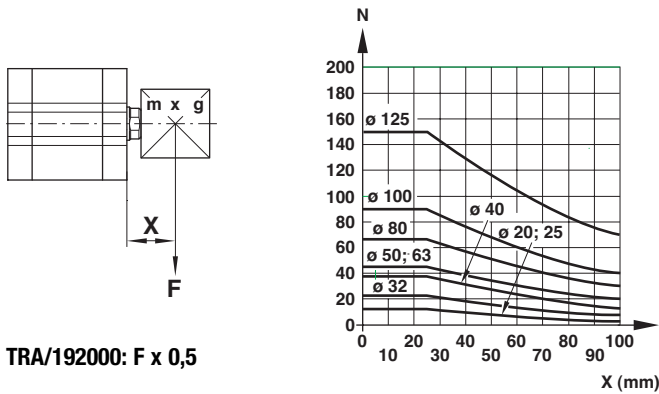
Theoretical forces, air consumption

Ø	Theoretical forces (N) at 6 bar		Air consumption (l/cm stroke) at 6 bar		Energy (J) max.
	Outstroke	Instroke	Outstroke	Instroke	
20	188	141	0,022	0,016	0,2
25	294	247	0,035	0,028	0,3
32	482	414	0,056	0,048	0,45
40	754	633	0,088	0,074	0,75
50	1178	990	0,137	0,114	1,1
63	1870	1680	0,218	0,195	1,3
80	3016	2722	0,35	0,32	1,9
100	4710	4416	0,55	0,51	2,3
125	7363	6882	0,86	0,79	3,0

For type only	Theoretical forces (N) at 6 bar		Air consumption (l/cm stroke) at 6 bar		Energy (J) max
	Outstroke	Instroke	Outstroke	Instroke	
RA/192020/TM..	330	141	0,038	0,016	0,2
RA/192025/TM..	542	247	0,063	0,028	0,3
RA/192032/TM..	897	414	0,105	0,048	0,45
RA/192040/TM..	1387	633	0,162	0,074	0,75
RA/192050/TM..	2168	990	0,253	0,114	1,1
RA/192063/TM..	3552	1680	0,414	0,195	1,3
RA/192080/TM..	3737	2722	0,669	0,320	1,9
RA/192100/TM..	9130	4416	1,065	0,510	2,3

RA/192000/M. – Standard cylinder
RA/192000/N2. – Cylinder with non-rotating piston rod

Side load

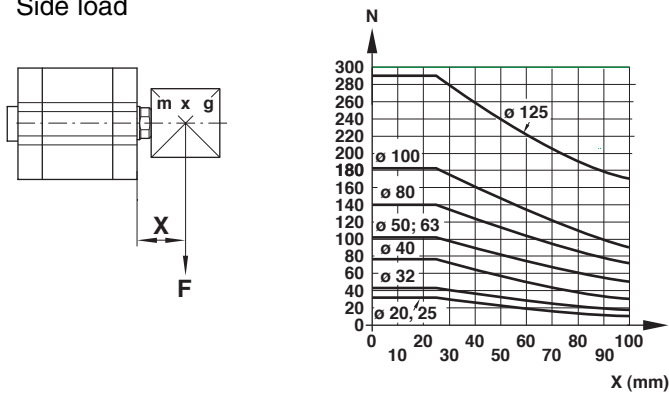


TRA/192000: F x 0,5

Type	Ø	Torque max. (Nm)
RA/192020/N2	20	0,15
RA/192025/N2	25	0,25
RA/192032/N2	32	0,40
RA/192040/N2	40	0,75
RA/192050/N2	50	1,5
RA/192063/N2	63	1,5
RA/192080/N2	80	2,5
RA/192100/N2	100	2,5

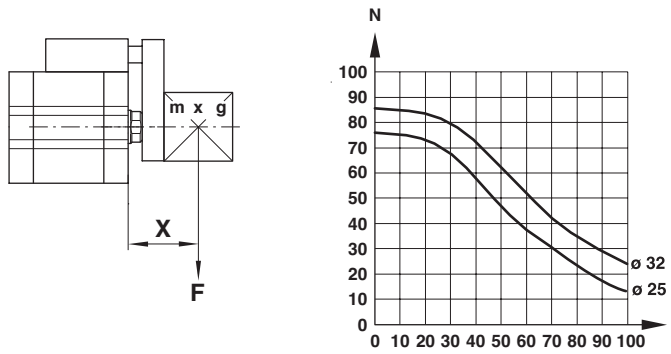
RA/192000/JM – Cylinder with double ended piston rod

Side load



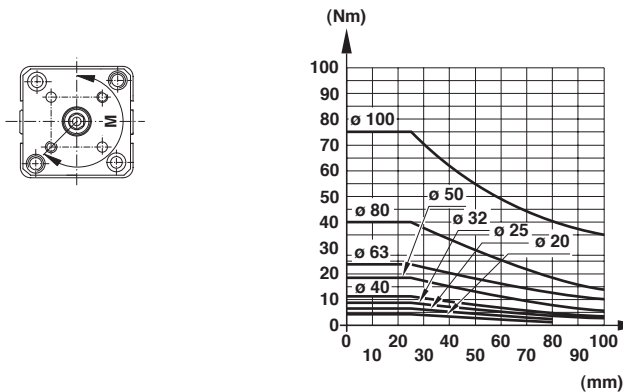
RA/192000/N6 – Cylinder with external guiding

Side load

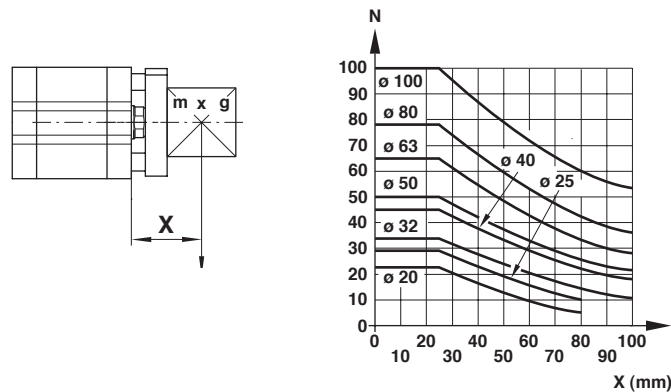


RA/192000/N4 – Cylinder with guiding

Side load



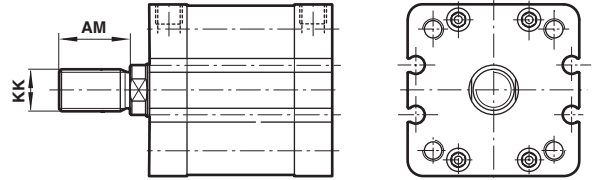
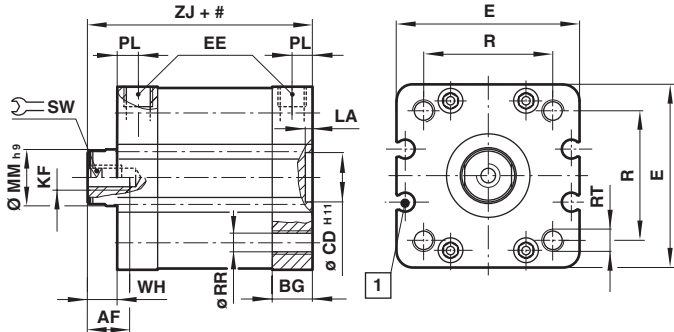
Side load



Basic dimensions

RA/192000/MX – Standard cylinder
RA/192000/X4X, RA/192000/MUX
TRA/192000/MX, RA/192000/W2X
 With female piston rod thread

RA/192000/M – Standard cylinder
RA/192000/X4, RA/192000/MU
TRA/192000/M, RA/192000/W2
 With male piston rod thread



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

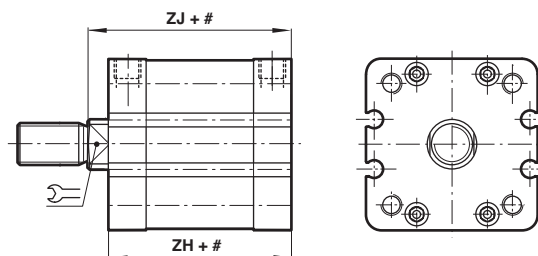
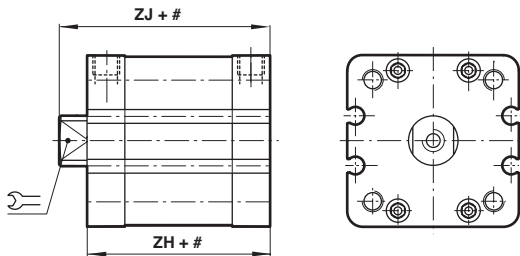
Stroke

Type	Ø	AF	AM	Ø B d11	BG	Ø CD H11	□ E	EE	KF	KK	LA	Ø MM h9
RA/192020/.	20	10	16	-	12	10	37	M 5	M6	M8x1,25	2,5	10
RA/192025/.	25	10	16	-	13	10	41	M 5	M6	M8x1,25	2,5	10
RA/192032/.	32	12	19	-	14,5	14	48	G 1/8	M8	M10x1,25	2,5	12
RA/192040/.	40	12	19	-	14,5	14	54,5	G 1/8	M8	M10x1,25	2,5	16
RA/192050/.	50	16	22	-	14	18	66	G 1/8	M10	M12x1,25	2,5	20
RA/192063/.	63	16	22	-	14	18	76	G 1/8	M10	M12x1,25	2,5	20
RA/192080/.	80	20	28	-	15,5	23	96	G 1/8	M12	M16x1,5	3	25
RA/192100/.	100	20	28	-	21,5	26	116	G 1/8	M12	M16x1,5	3	25
RA/192125/.	125	30	54	60	20,5	28	142	G 1/4	M20	M27x2	3	32
Type	Ø	PL	□ R	Ø RR	RT	↺ SW	VD	WH	ZJ	at 0 mm	per 5 mm	
RA/192020/.	20	7	22	4,3	M5	8	-	6	43	0,12 kg	0,01 kg	
RA/192025/.	25	7	26	4,3	M5	8	-	6	45	0,15 kg	0,01 kg	
RA/192032/.	32	7,5	32,5	5,3	M6	10	-	7	51	0,23 kg	0,02 kg	
RA/192040/.	40	7,5	38	5,3	M6	13	-	7	52	0,30 kg	0,02 kg	
RA/192050/.	50	7,5	46,5	6,8	M8	17	-	8	53	0,46 kg	0,03 kg	
RA/192063/.	63	7,5	56,5	6,8	M8	17	-	8	57	0,70 kg	0,03 kg	
RA/192080/.	80	7,5	72	8,6	M10	22	-	10	64	1,23 kg	0,04 kg	
RA/192100/.	100	10,5	89	8,6	M10	22	-	10	77	2,20 kg	0,05 kg	
RA/192125/.	125	10,5	110	10,6	M12	27	4	18	89	3,60 kg	0,07 kg	

Cylinder variants

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



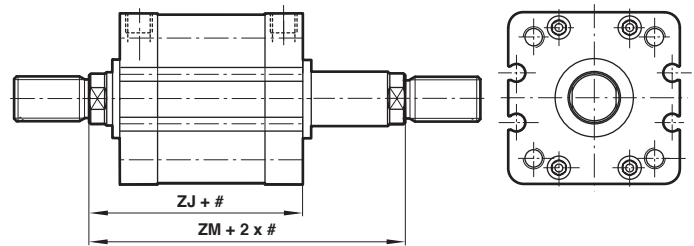
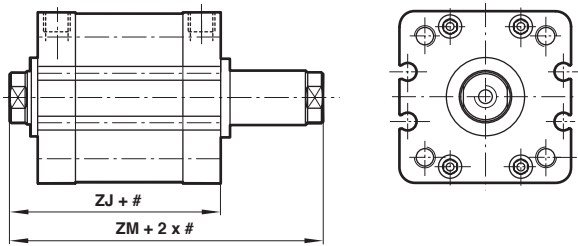
Type	Ø	↺	ZH	ZJ	at 0 mm	per 5 mm
RA/192020/N2.	20	8	47	53	0,12 kg	0,01 kg
RA/192025/N2.	25	8	49	55	0,15 kg	0,01 kg
RA/192032/N2.	32	10	54	61	0,23 kg	0,02 kg
RA/192040/N2.	40	13	55	62	0,30 kg	0,02 kg
RA/192050/N2.	50	16	55	63	0,46 kg	0,03 kg
RA/192063/N2.	63	16	59	67	0,70 kg	0,03 kg
RA/192080/N2.	80	21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

Stroke

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

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

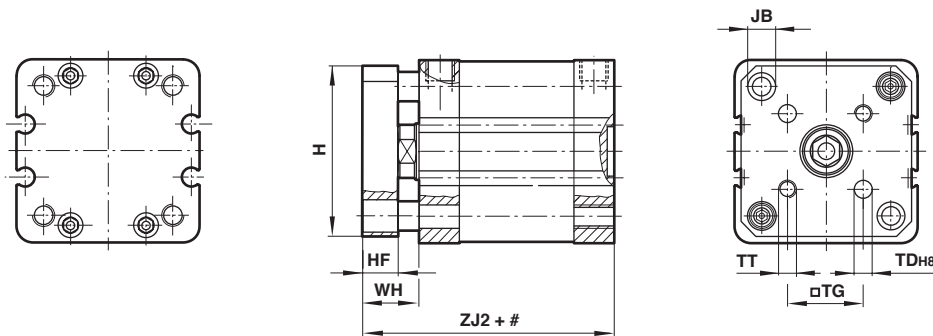
RA/192000/JM – Cylinder with double ended piston rod
With male piston rod thread



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

Stroke

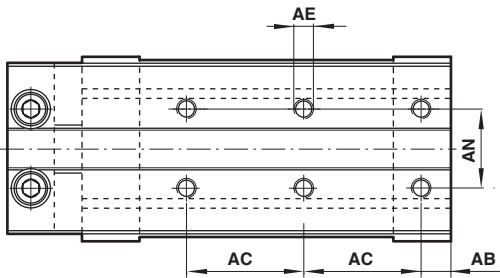
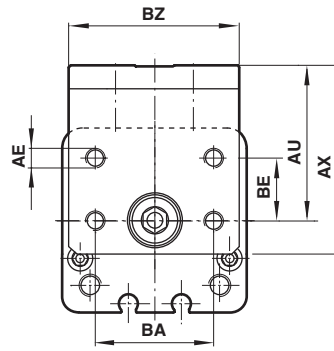
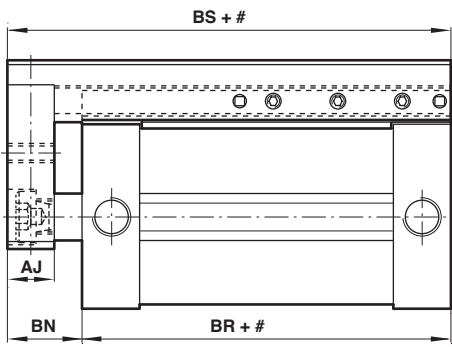
RA/192000/N4 – Cylinder with guiding



Stroke

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

RA/192000/N6 – Cylinder with external guiding

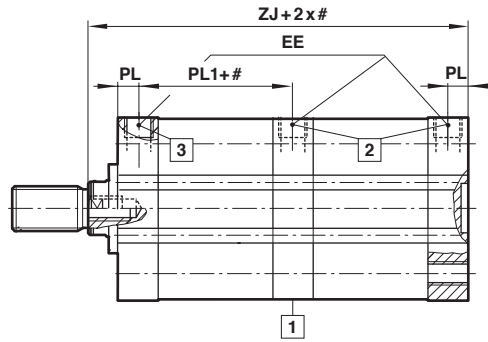
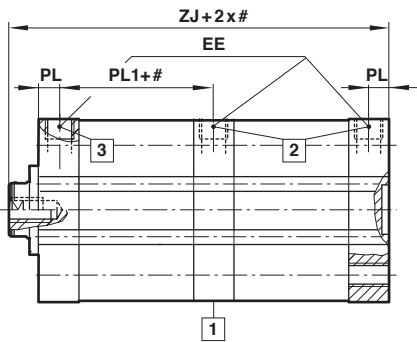


Standard strokes 25, 50, 75 and 100 mm only

Type	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



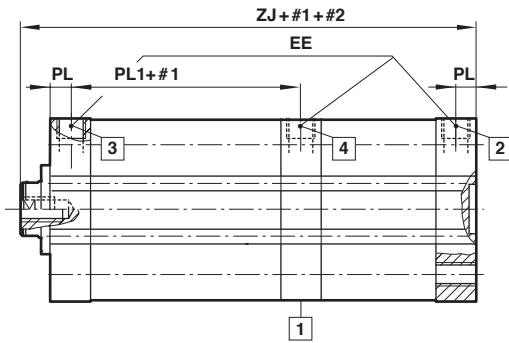
Type	Ø	EE	PL	PL1	ZJ	at 0 mm	per 5 mm
RA/192020/TM.	20	M5	7	25,5	68	0,21 kg	0,01 kg
RA/192025/TM.	25	M5	7	26,5	71	0,26 kg	0,01 kg
RA/192032/TM.	32	G 1/8	7,5	30	81	0,39 kg	0,02 kg
RA/192040/TM.	40	G 1/8	7,5	31	83	0,51 kg	0,02 kg
RA/192050/TM.	50	G 1/8	7,5	31	85	0,78 kg	0,03 kg
RA/192063/TM.	63	G 1/8	7,5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

1 Exhaust port

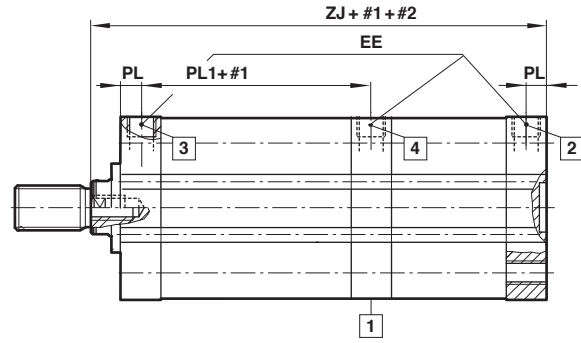
Note: Do not cover this area!

Stroke
 2 Pressure »outstroke«
 3 Pressure »instroke«

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



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



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

1 Exhaust port

Note: Do not cover this area!

2 Pressure »outstroke« rear cylinder

3 Pressure »instroke«

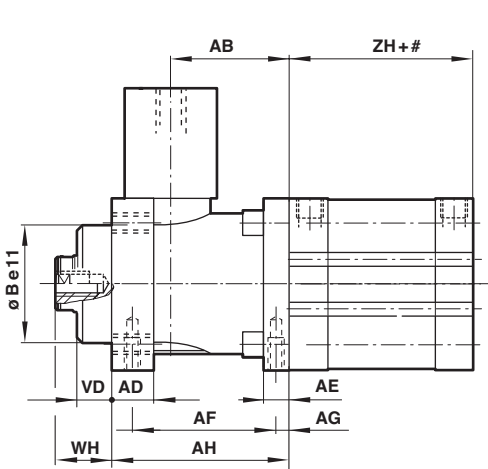
4 Pressure »outstroke« front cylinder

#1 Stroke front cylinder

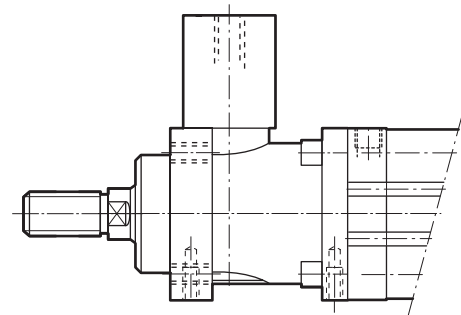
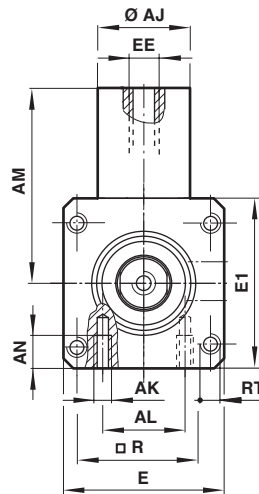
#2 Stroke rear cylinder

Note: Stroke (#1) > stroke (#2)

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



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



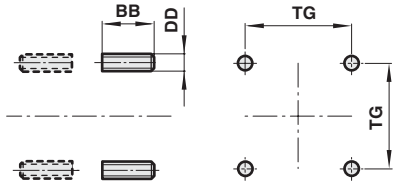
Stroke

Type	Ø	AB	AD	AE	AF	AG	AH	Ø AJ	AK	AL	AM	AN	Be11
RA/192032/L4X	32	32	12	8	40	4,2	48	25	M 5	16	49	8	30
RA/192040/L4X	40	35,5	12	10	46	4,5	55	24	M 5	21	61,5	10	35
RA/192050/L4X	50	49	16	15	54	11,5	70	30	M 6	24	75	12	40
RA/192063/L4X	63	49	15	15	55	7,5	70	38	M 8	32	86	12	45
RA/192080/L4X	80	62	16	16	70	10	90	53	M 8	44	119	16	45
RA/192100/L4X	100	65	18	16	70	10	92	48	M 8	60	119	16	55
RA/192125/L4X	125	85	27	25	95	11	122	65	M 10	75	140	20	60
Type	Ø	E	E 1	EE	R	RT	VD	WH	ZH	Locking	at 0 mm	per 5 mm	forces
RA/192032/L4X	32	48	50	M 5	32,5	M 6	10	16	44	600 N	0,53 kg	0,02 kg	
RA/192040/L4X	40	56	58	G 1/8	38	M 6	10	18	45	1000 N	0,70 kg	0,02 kg	
RA/192050/L4X	50	68	70	G 1/8	46,5	M 8	12	22	45	1500 N	1,26 kg	0,03 kg	
RA/192063/L4X	63	82	85	G 1/8	56,5	M 8	12	20	49	2200 N	1,90 kg	0,03 kg	
RA/192080/L4X	80	100	105	G 1/8	72	M 10	20	33	54	5000 N	3,80 kg	0,04 kg	
RA/192100/L4X	100	120	130	G 1/8	89	M 10	23	38	67	5000 N	5,90 kg	0,05 kg	
RA/192125/L4X	125	140	150	G 1/8	110	M 12	32	65	71	7000 N	10,10 kg	0,07 kg	

Mountings

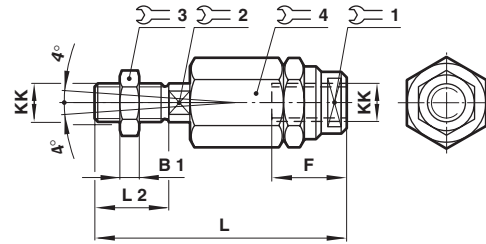
Front or rear stud A

Conforms to DIN ISO 6431, Type MX1



Style (A)	Ø	BB	DD	TG	kg
QM/8032/35	32/40	17	M6	32,5/38	0,02
QM/8050/35	50/63	23	M8	46,5/56,5	0,05
QM/8080/35	80/100	28	M10	72/89	0,08
QM/8125/35	125	34	M12	110	0,14

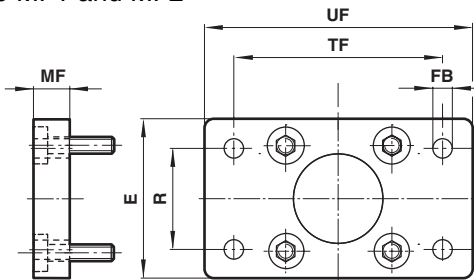
Piston rod swivel AK



Style (AK)	Ø	KK	B1	F	L	L2	1	2	3	4	kg
QM/8020/38	20/25	M8x1,25	4	18	55	16	10	7	13	17	0,05
QM/8025/38	32/40	M10x1,25	5	26	73	20	19	12	17	30	0,20
QM/8040/38	50/63	M12x1,25	6	26	77	24	19	12	19	30	0,20
QM/8050/38	80/100	M16x1,5	8	34	106	32	30	19	24	42	0,65
QM/8125/38	125	M27x2	13,5	40	147	54	40	24	41	55	1,70

Rear flange B, Front flange G

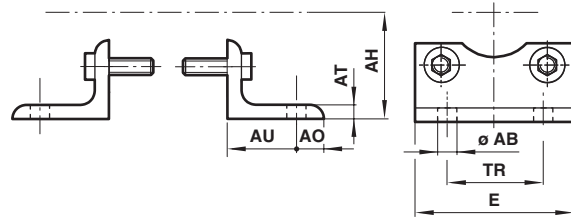
Conforms to ISO 21 287 (Ø 20 and 25 mm) and DIN ISO 6431 or VDMA 24562 Part 2 (Ø 32 to 125 mm), Type MF1 and MF2



Style (B, G)	Ø	E	Ø FB	MF	R	TF	UF	kg
QA/192020/22	20	36	6,6	8	-	55	70	0,16
QA/192025/22	25	40	6,6	8	-	60	76	0,20
QA/8032/22	32	50	7	10	32	64	80	0,25
QA/8040/22	40	55	9	10	36	72	90	0,35
QA/8050/22	50	65	9	12	45	90	110	0,70
QA/8063/22	63	75	9	12	50	100	125	0,80
QA/8080/22	80	100	12	16	63	126	154	1,35
QA/8100/22	100	120	14	16	75	150	186	2,20
QM/8125/22	125	140	16	20	90	180	224	2,70

Foot C

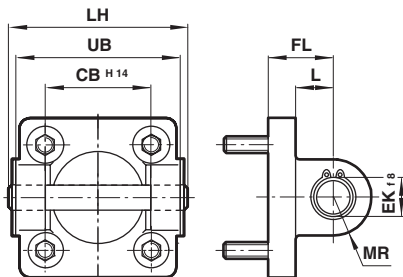
Conforms to ISO 21 287 (Ø 20 to 100 mm) and DIN ISO 6431 or VDMA 24562 Part 2 (Ø 125 mm), Type MS1



Style (C)	Ø	Ø AB	AH	A0	AT	AU	E	TR	kg
QM/192020/21	20	7	27	6	4	16	36	22	0,03
QM/192025/21	25	7	29	7	4	16	40	26	0,04
QA/192032/21	32	7	33,5	7	4	16	48	32	0,15
QA/192040/21	40	10	38	9	4	18	54,5	36	0,18
QA/192050/21	50	10	45	9	5	21	66	45	0,30
QA/192063/21	63	10	50	9	5	21	76	50	0,39
QA/192080/21	80	12	63	11	6	26	96	63	0,80
QA/192100/21	100	14,5	74	13	6	27	116	75	0,95
QM/8125/21	125	16	90	20	9	45	140	90	2,40

Rear clevis D

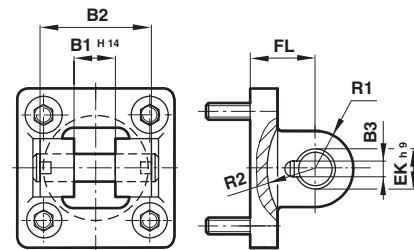
Conforms to DIN ISO 6431 and VDMA 24562 Part 2, Type MP2



Style (D)	Ø	CB ^{H14}	Ø EK ₁₈	FL	L	LH	MR	UB	kg
QA/8032/23	32	26	10	22	13	52	9	45	0,11
QA/8040/23	40	28	12	25	16	60	12	52	0,16
QA/8050/23	50	32	12	27	17	68	12	60	0,22
QA/8063/23	63	40	16	32	22	79	15	70	0,34
QA/8080/23	80	50	16	36	22	99	15	90	0,54
QA/8100/23	100	60	20	41	27	119	20	110	0,90
QM/8125/23	125	70	25	50	31	139	25	130	2,70

Rear clevis D2

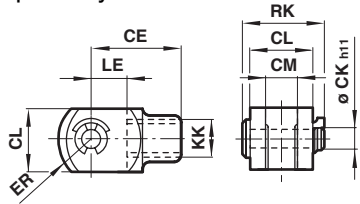
Conforms to VDMA 24562 Part 2



Style (D2)	Ø	B1 ^{H14}	B2	B3	Ø EK ₁₉	FL	R1	R2	kg
QA/8032/42	32	14	34	3,3	10	22	11	17	0,20
QA/8040/42	40	16	40	4,3	12	25	12	20	0,23
QA/8050/42	50	21	45	4,3	16	27	14,5	22	0,36
QA/8063/42	63	21	51	4,3	16	32	18	25	0,55
QA/8080/42	80	25	65	4,3	20	36	22	30	0,90
QA/8100/42	100	25	75	4,3	20	41	22	32	1,45
QA/8125/42	125	37	97	6,3	30	50	30	42	2,70

Piston rod clevis F

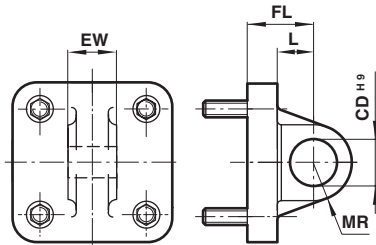
Conforms to DIN ISO 8140
For cylinders with male piston rod thread order nut, Type N2 separately



Style (F)	Ø	KK	CE	Ø CK h11	CL	CM	ER	LE	RK	kg
QM/8020/25	20/25	M8x1,25	32	8	16	8	13	16	22	0,06
QM/8025/25	32/40	M10x1,25	40	10	20	10	16	20	28	0,09
QM/8040/25	50/63	M12x1,25	48	12	24	12	19	24	32	0,13
QM/8050/25	80/100	M16x1,5	64	16	32	16	25	32	41,5	0,33
QM/8125/25	125	M27x2	110	30	55	30	45	54	62	1,35

Rear eye R

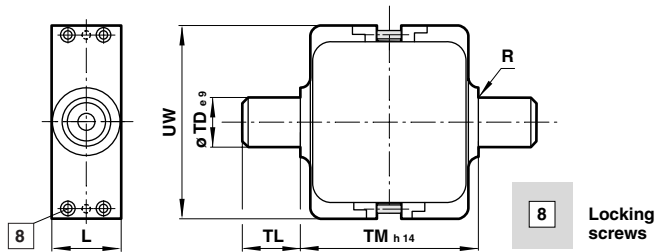
Conforms to ISO 21 287 (Ø 20 and 25 mm) and DIN ISO 6431 or VDMA 24562 Part 2 (Ø 32 to 125 mm), Type MP4



Style (R)	Ø	Ø CD H9	EW	FL	L	MR	kg
QM/192020/27	20	8	15,8	20	14	8	0,02
QM/192025/27	25	8	15,8	20	14	8	0,03
QA/8032/27	32	10	25,8	22	13	9	0,09
QA/8040/27	40	12	27,8	25	16	12	0,11
QA/8050/27	50	12	31,7	27	17	12	0,17
QA/8063/27	63	16	39,7	32	22	15	0,24
QA/8080/27	80	16	49,7	36	22	15	0,37
QA/8100/27	100	20	59,7	41	27	20	0,59
QM/8125/27	125	25	69,7	50	33	25	3,20

Adjustable trunnion mounting UH

Conforms to DIN ISO 6431 and VDMA 24562 Part 2, Type MT4

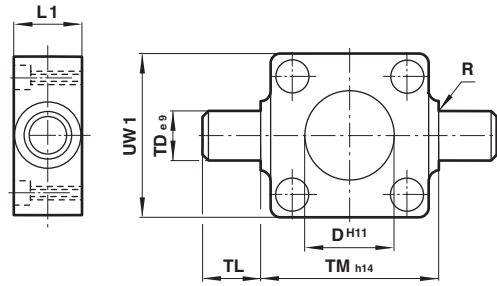


Style (UH)	Ø	L	R	Ø TD e9	TL	TM h14	UW	Torque max. (Nm)	kg
PQA/182032/40	32	25	1	12	12	50	58	2,0	0,16
PQA/182040/40	40	28	1,6	16	16	63	65	3,5	0,35
PQA/182050/40	50	28	1,6	16	16	75	80	3,5	0,65
PQA/182063/40	63	36	1,6	20	20	90	96	5,0	0,85
PQA/182080/40	80	36	1,6	20	20	110	116	6,0	1,20
PQA/182100/40	100	48	2	25	25	132	140	6,0	2,30
PQA/182125/40	125	48	2	25	25	160	163	6,0	3,30

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

Front or rear detachable trunnion FH

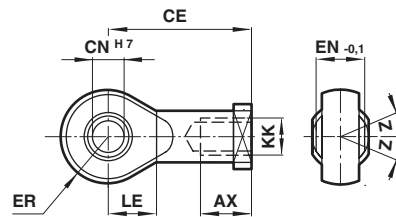
Conforms to VDMA 24562 Part 2, Type MT 5/6



Style (FH)	Ø	Ø D h11	L1	R	Ø TD e9	TL	TM h14	UW1	kg
QA/8032/34	32	30	16	1	12	12	50	50	0,20
QA/8040/34	40	35	20	1,6	16	16	63	55	0,38
QA/8050/34	50	40	24	1,6	16	16	75	65	0,60
QA/8063/34	63	45	24	1,6	20	20	90	75	1,10
QA/8080/34	80	45	28	1,6	20	20	110	100	1,90
QA/8100/34	100	55	38	2	25	25	132	120	3,50
QA/8125/34	125	60	50	2	25	25	160	145	6,50

Universal piston rod eye UF

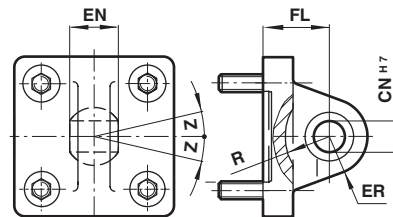
Conforms to DIN ISO 8139
For cylinders with male piston rod thread order nut, Type N2 separately



Style (UF)	Ø	KK	AX	CE	Ø CN H7	EN -0,1	ER	LE	Z	kg
QM/8020/32	20/25	M8x1,25	16	36	8	12	11	13	5°	0,05
QM/8025/32	32/40	M10x1,25	20	43	10	14	14	15	13°	0,09
QM/8040/32	50/63	M12x1,25	22	50	12	16	16	17	13°	0,13
QM/8050/32	80/100	M16x1,5	28	64	16	21	21	22	15°	0,33
QM/8125/32	125	M27x2	51	110	30	37	35	36	15°	1,35

Universal rear eye UR

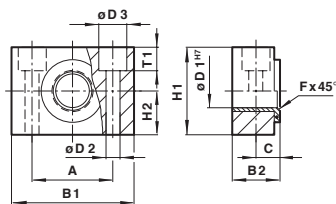
Conforms to VDMA 24562 Part 2



Style (UR)	Ø	Ø CN H7	EN	ER	FL	R	Z	kg
QA/8032/33	32	10	14	16	22	14,5	13°	0,17
QA/8040/33	40	12	16	19	25	18	13°	0,25
QA/8050/33	50	16	21	21	27	19	13°	0,40
QA/8063/33	63	16	21	24	32	24	15°	0,55
QA/8080/33	80	20	25	28	36	24	15°	0,90
QA/8100/33	100	20	25	30	41	29	15°	1,50
QM/8125/33	125	30	37	40	50	36	15°	2,70

Trunnion support S

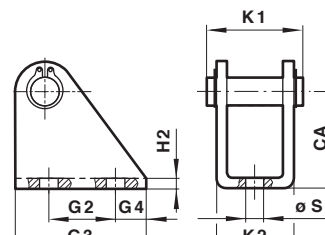
Conforms to VDMA 24562 Part 2



Style (S)	Ø	A	B1	B2	C	Ø D1 ^{H7}	Ø D2	Ø D3	Fx 45°	H1	H2	T1	kg
QA/8032/41	32	32	46	18	10,5	12	6,6	11	1	30	15,3	6,8	0,11
QA/8040/41	40/50	36	55	21	12	16	9	15	1,6	36	18	9	0,16
QA/8063/41	63/80	42	65	23	13	20	11	18	1,6	40	20	11	0,23
QA/8100/41	100/125	50	75	28,5	16	25	14	20	2	50	25	13	0,42

Bracket hinge L2

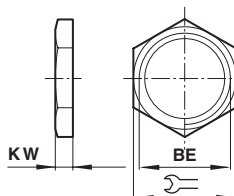
For rear eye mounting R



Style (L2)	Ø	CA	G1	G2	G3	G4	H2	K1	K2	Ø S	kg
QM/8020/44	20/25	30	16	20	32	6	4	29,5	24	6,6	0,08

Nut N2

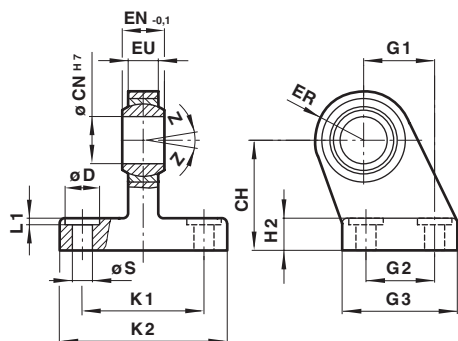
For cylinder with male piston rod thread



Style (N2)	Ø	BE	KW	⌀	kg
M/P1501/60	20/25	M8x1,25	4	13	0,01
M/P1501/89	32/40	M10x1,25	5	17	0,01
M/P1501/90	50/63	M12x1,25	6	19	0,01
M/P1501/91	80/100	M16x1,5	8	24	0,02
M/P1501/105	125	M27x2	13,5	41	0,09

Swivel hinge US

Conforms to VDMA 24562 Part 2

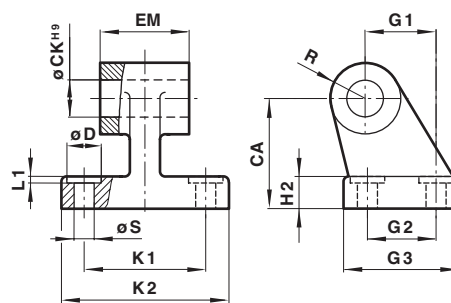


Style (US)	Ø	CH	Ø CN ^{H7}	Ø D	EN-0,1	ER	EU	G1	G2	G3	H2	K1	K2	L1	Ø S	Z	kg
M/P40310	32	32	10	11	14	16	10,5	21	18	31	8	38	51	1,6	6,6	13°	0,19
M/P40311	40	36	12	11	16	19	12	24	22	35	10	41	54	1,6	6,6	13°	0,24
M/P40312	50	45	16	15	21	21	15	33	30	45	12	50	65	1,6	9	13°	0,46
M/P40313	63	50	16	15	21	24	15	37	35	50	12	52	67	1,6	9	15°	0,59
M/P40314	80	63	20	18	25	28	18	47	40	60	14	66	86	2,5	11	15°	1,03
M/P40315	100	71	20	18	25	30	18	55	50	70	15	76	96	2,5	11	15°	1,40
M/P71355	125	90	30	20	371	40	25	70	60	90	20	94	124	3,2	14	15°	3,10

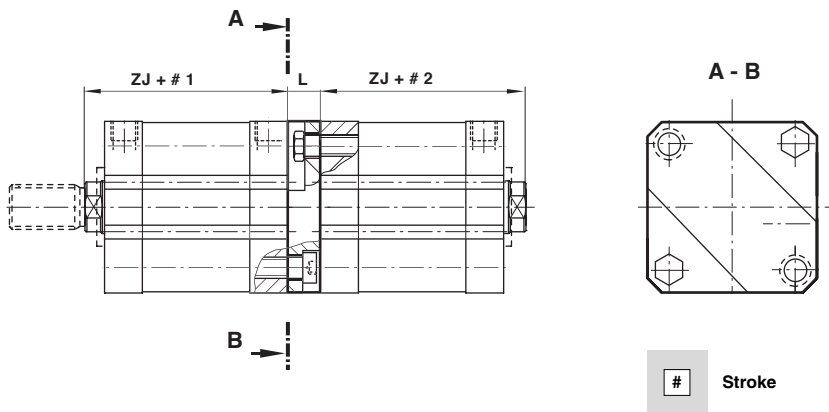
Style (SW)	Ø	CA	Ø CK ^{H9}	Ø D	H2	EM	G1	G2	G3	K1	K2	L1	R	Ø S	kg
M/P40459	32	32	10	11	8	26	21	18	31	38	51	1,6	10	6,6	0,05
M/P40460	40	36	12	11	10	28	24	22	35	41	54	1,6	11	6,6	0,07
M/P40461	50	45	12	15	12	32	33	30	45	50	65	1,6	13	9	0,14
M/P40462	63	50	16	15	12	40	37	35	50	52	67	1,6	15	9	0,18
M/P40463	80	63	16	18	14	50	47	40	60	66	86	2,5	15	11	0,28
M/P40464	100	71	20	18	15	60	55	50	70	76	96	2,5	19	11	0,42
M/P19499	125	90	25	20	20	70	70	60	90	94	124	3,2	22	14	2,70

Wide hinge SW

Conforms to VDMA 24562 Part 2

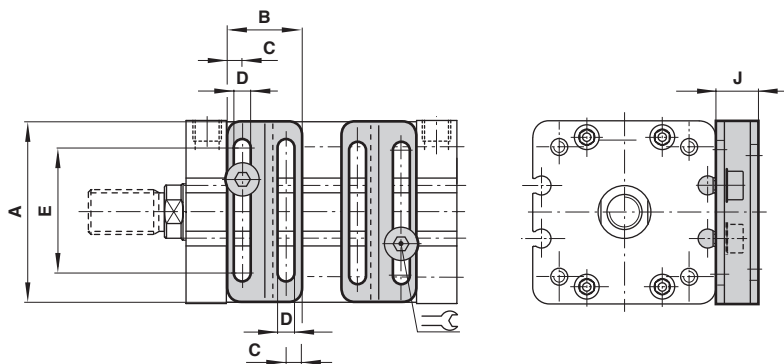


Assembly kit for four position cylinders



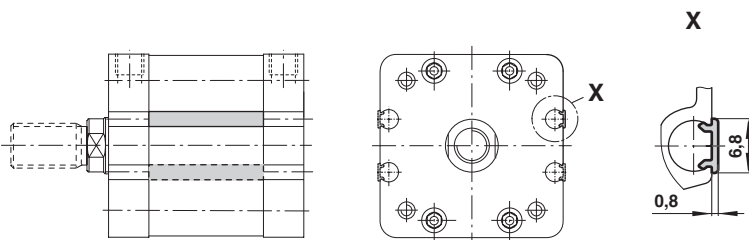
Type	Ø	L	ZJ	kg
QA/192020/55	20	10	43	0,03
QA/192025/55	25	10	45	0,04
QA/192032/55	32	12,5	51	0,07
QA/192040/55	40	12,5	52	0,09
QA/192050/55	50	15	53	0,14
QA/192063/55	63	15	57	0,19
QA/192080/55	80	20	64	0,35
QA/192100/55	100	20	77	0,72
QA/192125/55	125	25	89	1,03

Valve mounting kit



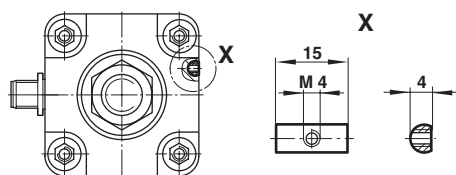
Type	Ø	A	B	C	D	E	F	G	H	J		kg
QA/180050/22/54	50/63	60	37	7	4,5	46	8,5	5,5	2	12	3	0,02
QA/180080/22/54	80/100/125	90	37	7	4,5	76	8,5	6,5	2	12	3	0,02

Groove cover M/P72725/1000

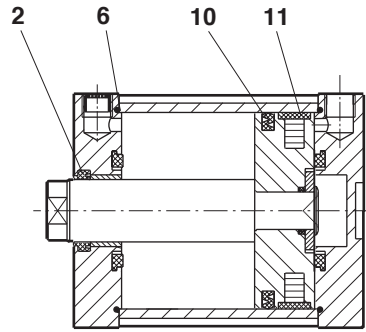


Groove key M/P72816

Weight: 0,01 kg



Spares



Ø	Model	Spares kit	Comprising item	Description	Quantity
20	RA/192020/M	QM/192020/00	2	Piston rod seal	1
25	RA/192025/M	QM/192025/00	6	O-ring	2
32	RA/192032/M	QM/192032/00	10	Piston seal	1
40	RA/192040/M	QM/192040/00	11	Wear ring (Ø 63 to 125 mm)	1
50	RA/192050/M	QM/192050/00			
63	RA/192063/M	QM/192063/00			
80	RA/192080/M	QM/192080/00			
100	RA/192100/M	QM/192100/00			
125	RA/192125/M	QM/192125/00			

Note: Please quote the cylinder type number when ordering spares kits