

Airmotor (Oscillator)
with integrated switches
Double acting
Ø 50 ... 100 mm

Complete functional unit for oscillating movement
Conforms to ISO 6431 and VDMA 24562
Integrated 5/2 valve
Frequency and speed adjustable



Technical data

Medium:

Compressed air, filtered to 40 µm, non-lubricated

Operation:

Oscillating, adjustable cushioning speed and frequency with magnetic piston and flow regulator

Standard:

ISO 6431, VDMA 24562, NFE 49-003-1

Note: The basic length is slightly longer than its PRA/282000/M equivalent.

Operating pressure:

2 ... 6 bar

Operating temperature:

-5°C* ... +60°C max.

Consult our Technical Service for use below +2°C

Cylinder diameters:

50, 63, 80 and 100 mm

Strokes:

Ø 50: 30 to 1000 mm

Ø 63, 80, 100: 25 to 1000 mm

Materials

Profile barrel: anodised aluminium

End covers: anodised aluminium

Piston rod: stainless steel (Martensitic)

Piston rod seals: polyurethane

Piston seals and O-rings: nitrile rubber

Spool and sleeve: anodised aluminium with special coating

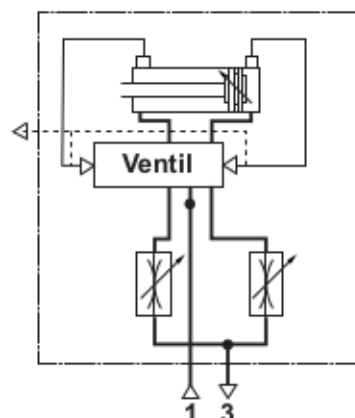
Tubes: PVC

Ordering examples

See page 2

Mountings and switches

See page 3





Cylinder variants

Symbol	Model Magnetic piston	Description	Page
	PRA/282000/M/P	Standard cylinders	4
	PSA/282000/M/P	Cylinders with stainless steel (austenitic) piston rod	4

Options selector

Options selector

</

Ordering example

Cylinder

Cylinder 80 mm bore, magnetic piston with a 50 mm stroke, stainless steel piston rod (Austenitic)
quote: **PSA/282080/M/P/50**

Mounting

To order a front flange mounting style 'G' for 80 mm bore
quote: **QA/8080/22**

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.



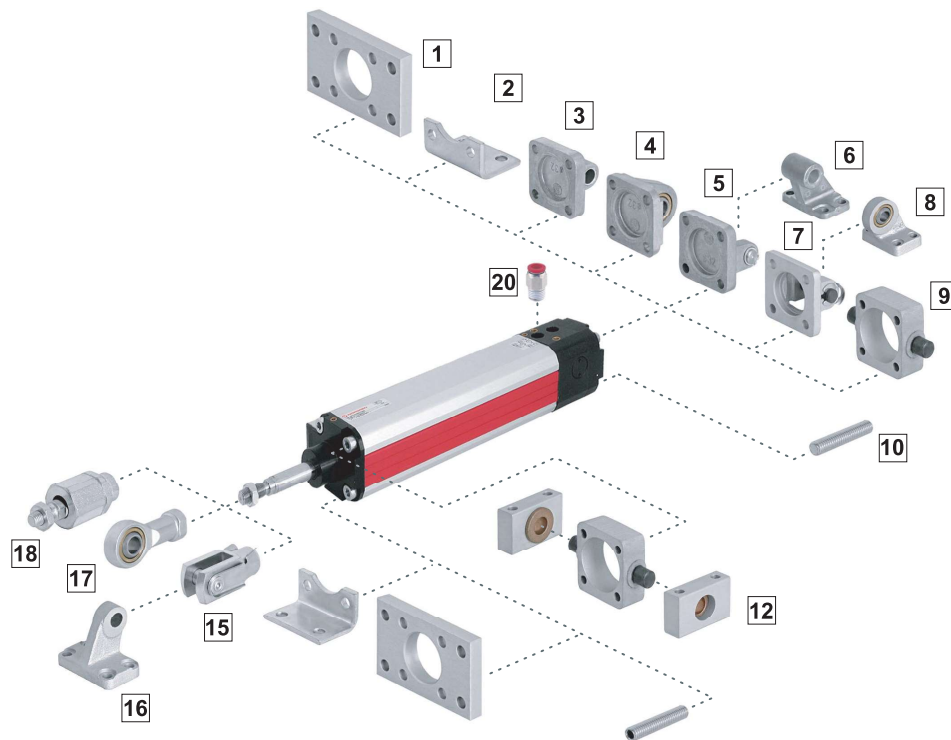
Mountings

Style A	Style AK	Style B/G	Style C	Style D	Style D2	Style F	Style FH
ø Standard	Page 8	Page 8	Page 8	Page 8	Page 8	Page 9	Page 9
50	QM/8050/35	QM/8050/38	QA/8050/22	QA/8050/21	QA/8050/23	QA/8050/42	QM/8050/25
63	QM/8050/35	QM/8050/38	QA/8063/22	QA/8063/21	QA/8063/23	QA/8063/42	QM/8050/25
80	QM/8080/35	QM/8080/38	QA/8080/22	QA/8080/21	QA/8080/23	QA/8080/42	QM/8080/25
100	QM/8080/35	QM/8080/38	QA/8100/22	QA/8100/21	QA/8100/23	QA/8100/42	QM/8080/25

Style R	Style S	Style SS	Style SW	Style UF	Style UR	Style US	Pneumatic Switch
ø Standard	Page 9	Page 10	Page 10	Page 9	Page 9	Page 10	
50	QA/8050/27	QA/8040/41	M/P19933	M/P19495	QM/8050/32	QA/8050/33	M/P40312
63	QA/8063/27	QA/8063/41	M/P19934	M/P19496	QM/8050/32	QA/8063/33	M/P40313
80	QA/8080/27	QA/8063/41	M/P19935	M/P19497	QM/8080/32	QA/8080/33	M/P40314
100	QA/8100/27	QA/8100/41	M/P19936	M/P19498	QM/8080/32	QA/8100/33	M/P40315

¹⁾ for spare part only

Materials and surface treatment of mountings and accessories



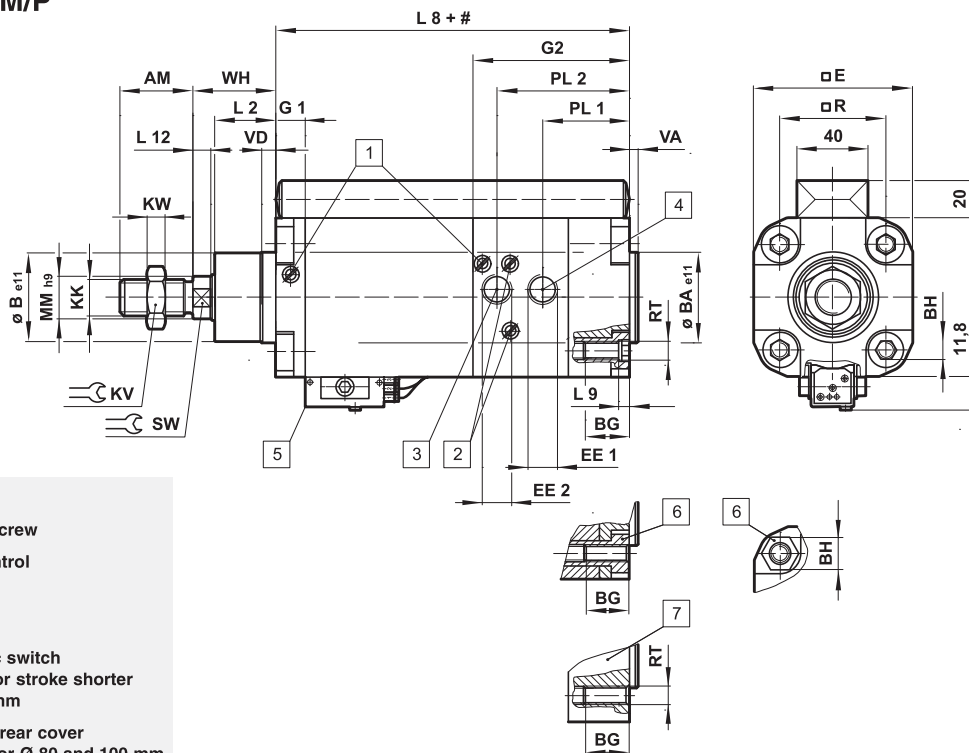
Position	Style	Standard	Position	Style	Standard	Position	Style	Standard
1	B, G	Clear anodised aluminium.	6	SW	Diecast aluminium	15	F	Galvanized steel.
2	C	Galvanized steel (ø 50 ... 63 mm). Painted steel (ø 80 & 100 mm)	7	US	Galvanized aluminium. Inner ring: steel Outer ring: brass			Bolt: galvanized steel. Circlip: Galvanized steel.
3	R	Diecast aluminium	8	D2	Painted cast-iron. Bolt: stainless steel (martensitic). Circlip: galvanized steel	16	SS	Painted cast iron
4	UR	Galvanized aluminium. Inner ring: steel Outer ring: brass	9	FH	Painted cast-iron	17	UF	Galvanized steel. Inner ring: steel. Outer ring: brass
5	D	Diecast aluminium. Bolt: galvanized steel (martensitic). Circlip: galvanized steel	10	A	Galvanized steel	18	AK	Galvanized steel
			12	S	Clear anodised aluminium. Bearing: brass	20	Fittings	Body: PBT and nickel plated brass. Grab ring: stainless steel. Release sleeve: POM. Catalogue page 9.1.001



Theoretical Forces ● Cushioning ● Air Consumption

Ø	Theoretical forces (N) at 6 bar		Cushion length (mm)	Initial cushion volume (cm ³)	Air consumption (l/cm stroke) at 6 bar	
	Outstroke	Instroke			Outstroke	Instroke
50	1178	990	17	25,5	0,137	0,114
63	1870	1680	22	58	0,218	0,195
80	3016	2722	22	95	0,35	0,32
100	4710	4416	30	214	0,55	0,51

PRA/282000/M/P



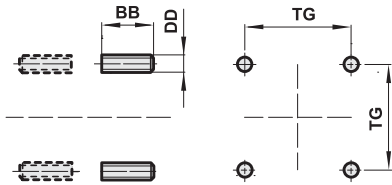
#	Stroke
1	Cushion screw
2	Speed control
3	Exhaust
4	Air supply
5	Pneumatic switch Position for stroke shorter than 140 mm
6	Front and rear cover situation for Ø 80 and 100 mm
7	Rear end cover situation for Ø 50 mm only

Typ	Ø	AM	Ø B e11	Ø BA e11	BG min	BH	Ø E	EE1	EE2	G1	G2
PRA/282050/M/P	50	32	40	40	16	8	70	G1/4	G1/4	13	69
PRA/282063/M/P	63	32	45	45	16	8	85	G3/8	G3/8	13,5	76,5
PRA/282080/M/P	80	40	45	45	16	19	105	G3/8	G3/8	15	82
PRA/282100/M/P	100	40	55	55	16	19	130	G1/2	G3/8	19	88
Typ	Ø	KK	KV	KW	L2	L8	L9	L12	Ø MM h9	PE	PL1
PRA/282050/M/P	50	M16 x 1,5	24	8	28	111	5	6,5	20	16,5	38,5
PRA/282063/M/P	63	M16 x 1,5	24	8	28	126	5	6,5	20	16,5	39,5
PRA/282080/M/P	80	M20 x 1,5	30	10	33	133	-	10	25	16,5	39
PRA/282100/M/P	100	M20 x 1,5	30	10	36	138	-	10	25	16,5	43,5
Typ	Ø	PL2	Ø R	RT	SW	VA	VD	WH	kg at 0 mm	kg per 25 mm	
PRA/282050/M/P	50	59	46,5	M8	17	3,5	6	37	1,61	0,18	
PRA/282063/M/P	63	64,5	56,5	M8	17	4	6	37	2,50	0,19	
PRA/282080/M/P	80	67	72	M10	22	4	6	46	4,22	0,29	
PRA/282100/M/P	100	73,5	89	M10	22	4	6	51	6,46	0,35	



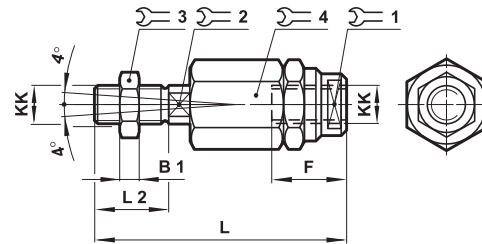
Front or rear stud A

(Corresponds to DIN ISO 6431, Style MX1)



Typ (A)	ø	BB	DD	TG	kg
QM/8050/35	50/63	23	M8	46,5	0,05
QM/8080/35	80/100	28	M10	72	0,08

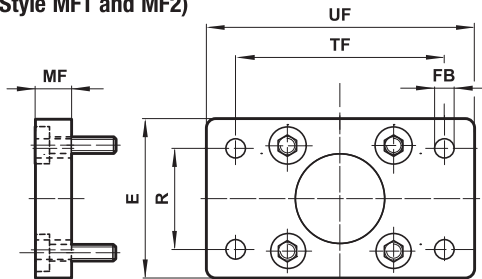
Piston rod swivel AK



Typ (AK)	ø	Gewinde KK	B1	F	L	L2	1	2	3	4	kg
QM/8050/38	50/63	M16x1,5	8	34	106	32	30	19	24	42	0,65
QM/8080/38	80/100	M20x1,5	10	42	122	40	30	19	30	42	0,72

Rear flange B Front flange G

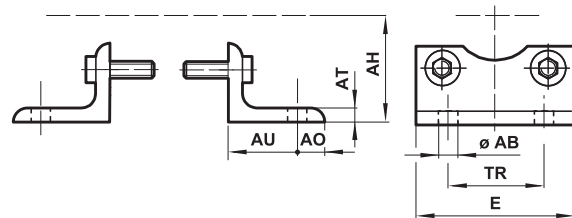
(Corresponds to DIN ISO 6431 and VDMA 24562 Part 2, Style MF1 and MF2)



Typ (B - G)	ø	E1	ø FB	MF	R	TF	UF	kg
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

Foot C

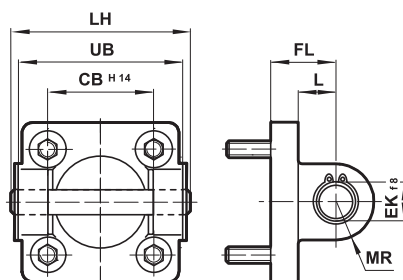
(Corresponds to DIN ISO 6431 and VDMA 24562 Part 2, Style MS1)



Typ (C)	ø	ø AB	AH	AO	AT	AU	E	TR	kg
QA/8050/21	50	9	45	10	5	32	64	45	0,32
QA/8063/21	63	9	50	12	5	32	74	50	0,41
QA/8080/21	80	12	63	19	5	41	98	63	0,83
QA/8100/21	100	14	71	19	5	41	115	75	0,98

Rear clevis D

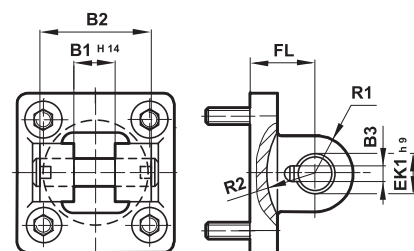
(Corresponds to DIN ISO 6431 and VDMA 24562 Part 2, Style MP2)



Typ (D)	ø	CB ^{H14}	øEK _{h9}	FL	L	LH	MR	UB	kg
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

Rear clevis D2

(Corresponds to VDMA 24562 Part 2)

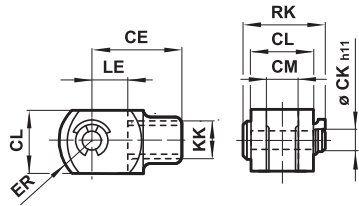


Typ (D2)	ø	B1 ^{H14}	B2	B3	øEK _{h9}	FL	R1	R2	kg
QA/8050/42	50	21	45	4,3	16	27	14,5	22	0,36
QA/8063/42	63	21	51	4,3	16	32	18	25	0,55
QA/8080/42	80	25	65	4,3	20	36	22	30	0,90
QA/8100/42	100	25	75	6,3	20	41	22	32	1,45



Piston rod clevis F

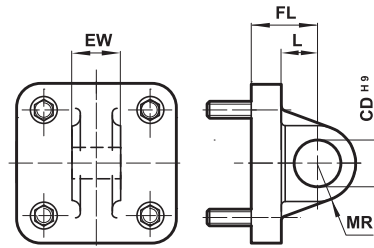
(Corresponds to DIN ISO 8140)



Typ (F)	ø	Thread KK	CE	øCK h11	CL	CM	ER	LE	RK	kg
QM/8050/25	50/63	M16x1,5	64	16	32	16	25	32	41,5	0,33
QM/8080/25	80/100	M20x1,5	80	20	40	20	32	40	50	0,67

Rear eye R

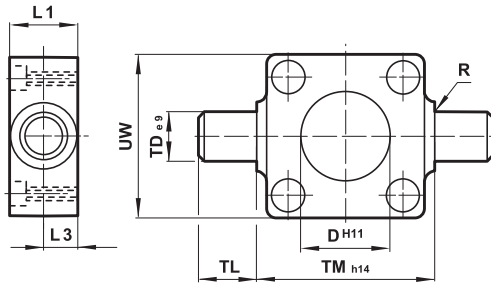
(Corresponds to DIN ISO 6431 and VDMA 24562 Part 2, Style MP4)



Typ (R)	ø	øCD ^{H9}	EW	FL	L	MR	kg
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

Front or rear detachable trunnion FH

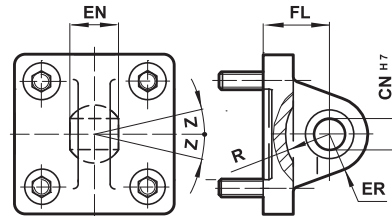
(Corresponds to DIN ISO 6431 and VDMA 24562 Part 2, Style MP4)



Typ (FH)	ø	ø D ^{H11}	L1	L3	R	øTD e9	TL	TM h14	UW1	kg
QA/8050/34	50	40	24	12	1,6	16	16	75	65	0,60
QA/8063/34	63	45	24	12	1,6	20	20	90	75	1,10
QA/8080/34	80	45	28	14	1,6	20	20	110	100	1,90
QA/8100/34	100	55	38	19	2,0	25	25	132	120	3,50

Universal rear eye UR

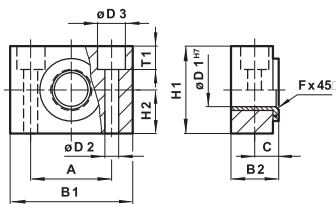
(Corresponds to VDMA 24562 Part 2)



Typ (UR)	ø	øCN ^{H7}	EN	ER	FL	R	Z	kg
QA/8050/33	50	16	21	21	27	19	13°	0,4
QA/8063/33	63	16	21	24	32	24	15°	0,55
QA/8080/33	80	20	25	28	36	24	15°	0,9
QA/8100/33	100	20	25	30	41	29	15°	1,5

Trunnion support S

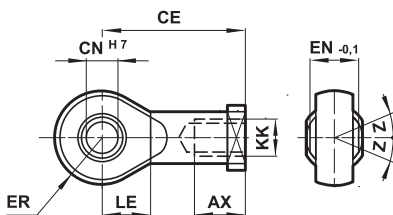
(Corresponds to VDMA 24562 Part 2)



Typ (S)	ø	A	B1	B2	C	øD H7	øD2	øD3	Fx45°	H1	H2	T1	kg
QA/8050/41	50	36	55	21	12	16	9	15	1,6	36	18	9	0,14
QA/8063/41	63	42	65	23	13	20	11	18	1,6	40	20	11	0,19
QA/8080/41	80	42	65	23	13	20	11	18	1,6	40	20	11	0,19
QA/8100/41	100	50	75	28,5	16	25	14	20	2	50	25	13	0,34

Universal piston rod eye UF

(Corresponds to DIN ISO 8139)

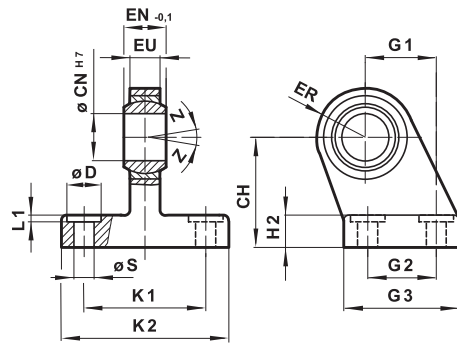


Typ (UF)	ø	Thread KK	AX	CE	øCN ^{H7}	EN -0,1	ER	LE	Z	kg
QM/8050/32	50/63	M16x1,5	28	64	16	21	21	22	15°	0,33
QM/8080/32	80/100	M20x1,5	33	77	20	25	25	26	15°	0,67

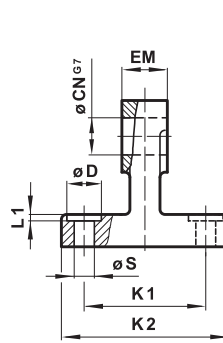


Swivel hinge US

(Corresponds to VDMA 24562 Part 2)

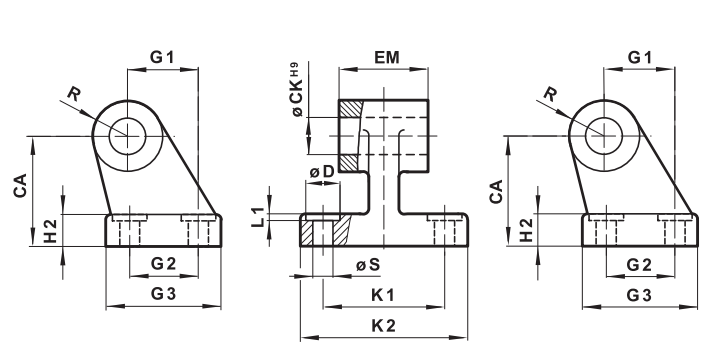


Narrow hinge SS



Wide hinge SW

(Corresponds to VDMA 24562 Part 2)



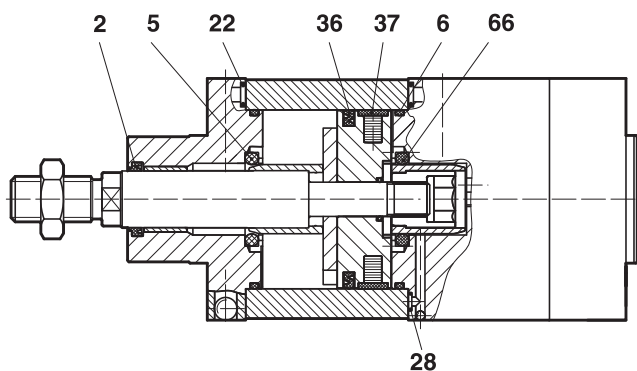
Typ (US)	ø	CH	ø CN ^{H7}	ø D	EN-0,1	ER	EU	G1	G2	G3	H2	K1	K2	L1	ø S	Z	kg
M/P40312	50	45	16	15	21	21	15	33	30	45	12	50	65	1,6	9	13°	0,46
M/P40313	63	50	16	15	21	23	15	37	35	50	12	52	67	1,6	9	15°	0,59
M/P40314	80	63	20	18	25	28	18	47	40	60	14	66	86	2,5	11	15°	1,03
M/P40315	100	71	20	18	25	30	18	55	50	70	15	76	96	2,5	11	15°	1,40

Typ (SS)	ø	CA	ø CN ^{G7}	ø D	H2	EM	G1	G2	G3	K1	K2	L1	R	ø S	kg
M/P19933	50	45	16	15	12	16	33	30	45	50	65	1,6	13	9	0,48
M/P19934	63	50	16	15	12	16	37	35	50	52	67	1,6	15	9	0,50
M/P19935	80	63	20	18	14	20	47	40	60	66	86	2,5	15	11	0,75
M/P19936	100	71	20	18	15	20	55	50	70	76	96	2,5	19	11	1,20

Typ (SW)	ø	CA	ø CK ^{H9}	ø D	H2	EM	G1	G2	G3	K1	K2	L1	R	ø S	kg
M/P19495	50	45	12	15	12	32	33	30	45	50	65	1,6	13	9	0,14
M/P19496	63	50	16	15	12	40	37	35	50	52	67	1,6	15	9	0,18
M/P19497	80	63	16	18	14	50	47	40	60	66	86	2,5	15	11	0,28
M/P19498	100	71	20	18	15	60	55	50	70	76	96	2,5	19	11	0,42



Spares



Ø	Model	Spares kit	Item	Comprising Description	Quantity	Piston rod
50	PRA/282050...	QA/282050/00	2	Piston rod seal	1	SM/P73459/*
63	PRA/282063...	QA/282063/00	5	Cushion seal	1	RM/P73460/*
80	PRA/282080...	QA/282080/00	6	'O'-ring	2	RM/P73461/*
100	PRA/282100...	QA/282100/00	22	'O'-ring	2	RM/P73056/*
			28	'O'-ring	1	
			36	Piston seal	2	
			37	Wear ring	1	
			66	Cushion seal	1	

* Insert stroke length

Please quote the cylinder type number when ordering spares kits and piston rods.