

**High corrosion and acid resistance**

**Magnetic piston as standard**

**Conforming 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

Standard:

ISO 6432

Operation:

Double acting with buffer or adjustable cushioning

Operating pressure:

1 to 10 bar

Operating temperature:

-5 to +80°C

(consult our Technical Service

for use below +2°C)

Cylinder diameter:

12, 16, 20, 25 mm (buffer cushioning)

20, 25 mm (adjustable cushioning)

Strokes:

Standard, see page 2

Non-standard up to 500 mm available

### 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: Polyurethane

Piston rod seal: Polyurethane

Piston and cushion seal: nitrile rubber

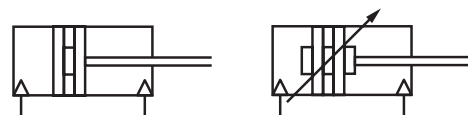
'O'-rings: nitrile rubber

### Ordering information

See page 2

### Switches and mountings

See page 3

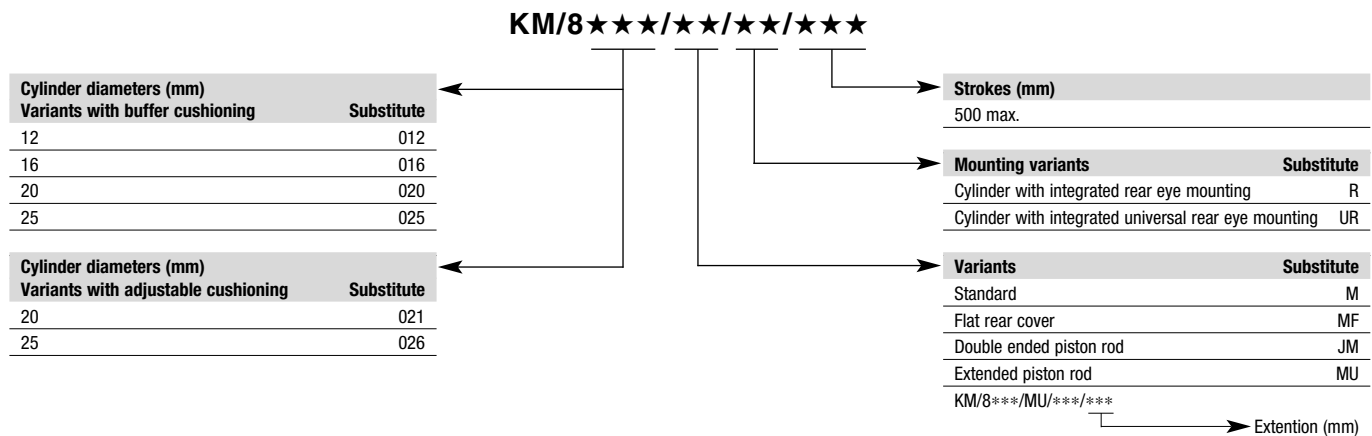


## Zylinderausführungen

Symbol	Type	Description	Page
	<b>Magnetic piston</b>		
	KM/8000/M	Standard cylinders with integral eye mounting	5
	KM/8000/MF	Cylinders with flat rear cover	5
	KM/802./M/R	Cylinder Ø 20 & 25 mm with rear eye mounting	6
	KM/802./M/UR	Cylinder Ø 20 & 25 mm with universal rear eye mounting	6
	KM/8000/MU	Cylinders with extended piston rod Note: Extended piston rod 75 mm: KM/8***MU/Stroke/75	5
	KM/8000/JM	Cylinders with double ended piston rod (Ø 16 to 25 mm)	5
	KM/802./M	Cylinder Ø 20 & 25 mm with adjustable cushioning	5
	KM/802./M/R	Cylinder Ø 20 & 25 mm with adjustable cushioning and rear eye mounting	6
	KM/802./M/UR	Cylinder Ø 20 & 25 mm with adjustable cushioning and universal rear eye mounting	6
	KM/8021/JM	Cylinder Ø 20 mm with double ended piston rod and adjustable cushioning	5
	KM/8026/JM	Cylinder Ø 25 mm with double ended piston rod and adjustable cushioning	5

For combinations of cylinder variants consult our Technical Service.

## Options selector



## Ordering example

### Cylinders

To order a basic 25 mm bore cylinder with a 50 mm stroke  
quote: **KM/8025/M/50**

### Mountings

To order a front flange mounting style 'G' for for 25 mm bore cylinder  
quote: **M/P72406**

### Switches

To order a reed switch with LED and 2 m cable length  
quote: **QM/34/2**

### Switch Mounting Brackets

To order a bracket for magnetically operated switches QM/34; 25 mm bore cylinder  
quote: **QM/33/025/22**

## 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.**

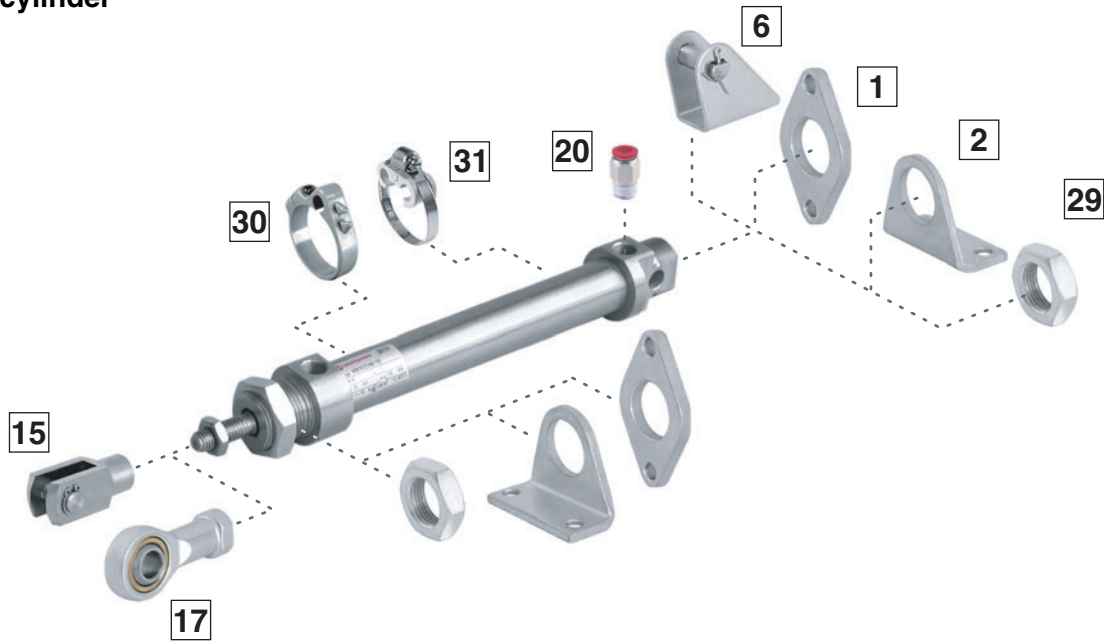
System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

**Mountings**

Ø	Style B, G	Style C	Style F	Style L	Style N	Style UF	Switch mounting brackets	
	1	2	15	6	29	17	≤ 15 mm Hub	≥ 15 mm Hub
	Page 7	Page 7	Page 7	Page 7	Page 7	Page 7	Page 7	Page 7
12	M/P72405	M/P72403	KQM/8012/25	KQM/8012/24	M/P72398	KQM/8012/32	QM/33/012/23	QM/33/012/22
16	M/P72405	M/P72403	KQM/8012/25	KQM/8012/24	M/P72398	KQM/8012/32	QM/33/016/23	QM/33/016/22
20	M/P72406	M/P72404	KQM/8020/25	KQM/8020/24	M/P72399	KQM/8020/32	QM/33/020/23	QM/33/020/22
25	M/P72406	M/P72404	KQM/55433/25	KQM/8020/24	M/P72399	KQM/8032/32	QM/33/025/23	QM/33/025/22

**Materials of mountings and accessories**

**Standard cylinder**



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)
15	F	Piston rod clevis mounting: 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)

Position	Style	Stainless steel
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)
20	Fittings	Body and grab ring: stainless steel. Release sleeve: acetal. O-Ring: viton Catalogue page 9.3.001
29	N	Nose nut: X 10 Cr Ni S 18 9 (1.4305; AISI 303)
30 & 31	Bracket for switches	Body POM, screws stainless steel

### Switches

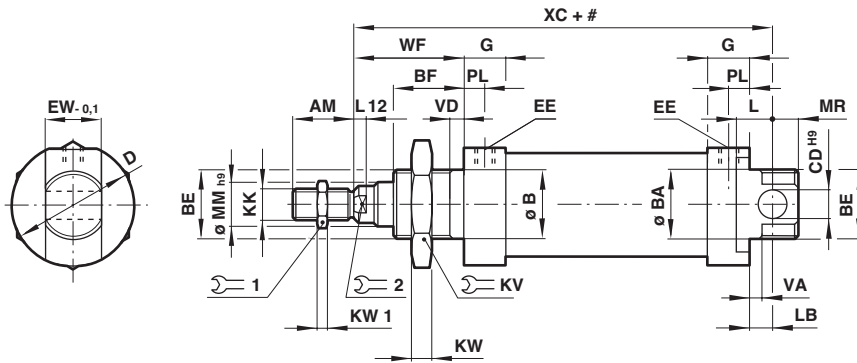
Type Reed	With cable		With connector (M8x1)		Current max.	Temperature °C	LED	Features	Cable/ Connector length	Cable type	Cable with Connector	Datasheet
	Solid state	Voltage V a.c.	V d.c.	V d.c.								
M/50/LSU/*V	–	10 to 240	10 to 170	180 mA	-20 to +80	•	–	–	2, 5, 10 m	PVC 2 x 0,25	–	N/UK 4.3.005
M/50/LSU/5U	–	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/EAP/CC	–	10 to 30	150 mA	-20 to +80	•	PNP, Plug M12x1	–	5 m	PVC 3 x 0,25	M/P34614/5	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.

### Theoretical forces, cushioning, air consumption

Ø	Theoretical forces (N) at 6 bar		Cushion length (mm)	Initial cushion volume (cm <sup>3</sup> )	Air consumption (l/cm stroke) at 6 bar	
	outstroke	instroke			outstroke	instroke
12	67,8	51	-	-	0,008	0,006
16	120	104	-	-	0,014	0,013
20	188	158	19	4,4	0,022	0,019
25	294	247	19	7,2	0,035	0,028

**Basic dimensions  
Standard cylinder**

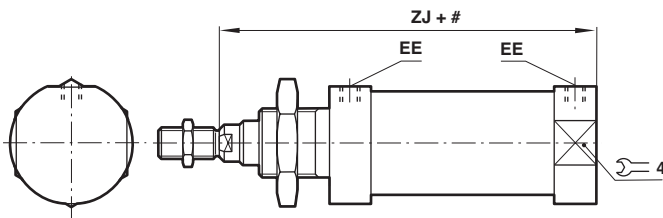


Typ	Ø	AM	Ø B/BA	BE	BF	Ø CD	Ø D	EE	EW -0,1	G	KK	⌀ KV	⌀ 2	KW
KM/8012/M/.	12	16	16	M16x1,5	17	6	20	M5	11,9	9,5	M6	22	10	5
KM/8016/M/.	16	16	16	M16x1,5	17	6	20	M5	11,9	9,5	M6	22	10	5
KM/8020/M/.	20	20	22	M22x1,5	20	8	30	G1/8	15,9	15	M8	27	13	8
KM/8025/M/.	25	22	22	M22x1,5	22	8	30	G1/8	15,9	15	M10x1,25	27	17	8

Typ	Ø	KW1	L	L12	LB	Ø MM h 9	MR	PL	⌀ 1	WF	VA/VD	XC	at 0 mm	per 25 mm
KM/8012/M/.	12	3	9	3	3	6	8	5,5	5	22	2	75	0,116 kg	0,011 kg
KM/8016/M/.	16	3	9	3	4	6	7	5,5	5	22	2	82	0,137 kg	0,012 kg
KM/8020/M/.	20	4	12	3	3	8	11	8	7	24	2	95	0,306 kg	0,018 kg
KM/8025/M/.	25	5	12	4	7	10	9	8	9	28	2	104	0,383 kg	0,028 kg

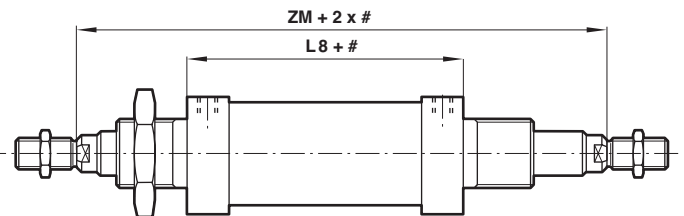
**Cylinder variants**

**KM/8000/MF – Cylinder flat rear cover**



Type	Ø	EE	ZJ	⌀ 4	kg at 0 mm	kg per 25 mm
KM/8012/MF	12	M5	72	17	0,109	0,011
KM/8016/MF	16	M5	78	17	0,130	0,012
KM/8020/MF	20	G1/8	92	27	0,299	0,018
KM/8025/MF	25	G1/8	97	27	0,370	0,028

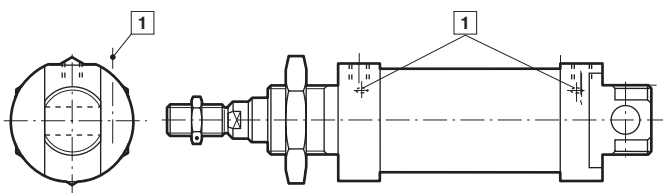
**KM/8000/JM – Cylinder with double ended piston rod**



Type	Ø	L8	ZM	kg at 0 mm	kg per 25 mm
KM/8016/JM	16	56	100	0,140	0,018
KM/8020/JM	20	68	116	0,360	0,028
KM/8025/JM	25	69	125	0,440	0,043

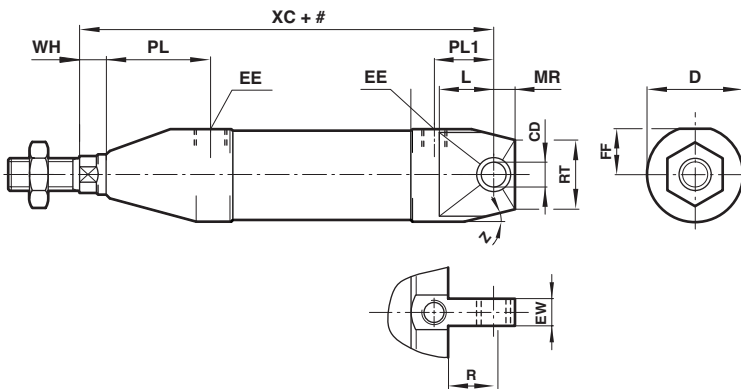
Note: missing dimensions see standard cylinders

**KM/8021/M, KM/8026/M – Cylinder with adjustable cushioning**



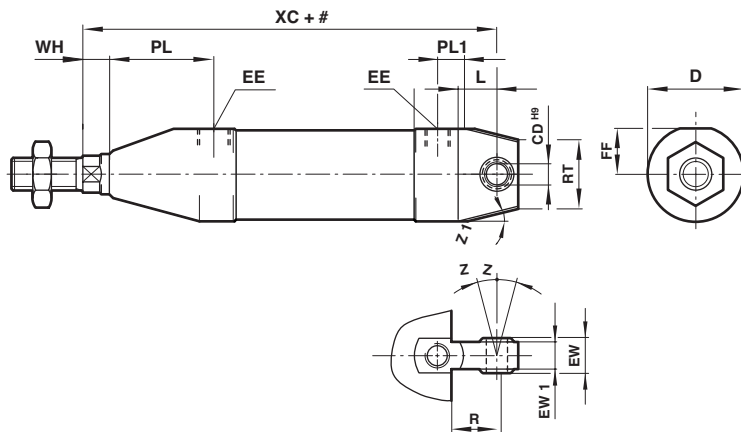
#	Stroke
1	Cushion screw

**KM/8000/M/R – Cylinder with rear eye mounting**



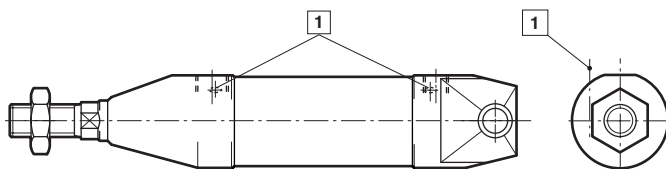
Type	Ø	FF	MR	PL	PL1	RT	WH	XC	Z	at 0 mm	per 25 mm
KM/8012/M/R/.	12	9	11,5	23,5	15,5	10	4	75	5x45°	0,106 kg	0,011 kg
KM/8016/M/R/.	16	9	10,5	22,5	15	10	5	82	5x45°	0,130 kg	0,012 kg
KM/8020/M/R/.	20	13,5	12,5	18,5	18,5	13,5	4	95	30°	0,300 kg	0,018 kg
KM/8025/M/R/.	25	13,5	12,5	19,5	26,5	11,5	6	104	30°	0,360 kg	0,028 kg

**KM/8000/M/UR – Cylinder with universal rear eye mounting**

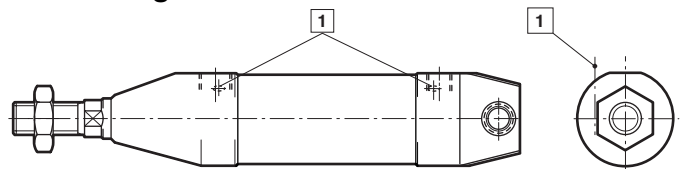


Type	Ø	FF	MR	PL	PL1	RT	WH	XC	Z	Z1	at 0 mm	per 25 mm
KM/8012/M/UR/.	12	9	11,5	23,5	15,5	-	4	75	13°	5X45°	0,106 kg	0,011 kg
KM/8016/M/UR/.	16	9	10,5	22,5	15	-	5	82	13°	5X45°	0,130 kg	0,012 kg
KM/8020/M/UR/.	20	13,5	12,5	20,5	18,5	14	4	95	13°	30°	0,300 kg	0,018 kg
KM/8025/M/UR/.	25	13,5	12,5	25,5	19,5	14	6	104	13°	30°	0,360 kg	0,028 kg

**KM/8021/M/R, KM/8026/M/R – Cylinder with rear eye mounting and adjustable cushioning**



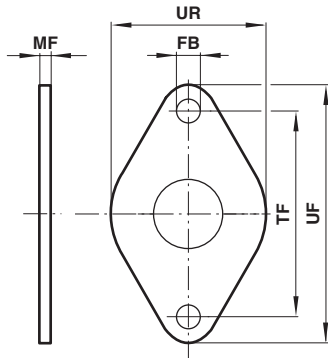
**KM/8021/M/UR, KM/8026/M/UR – Cylinder with universal rear eye mounting and adjustable cushioning**



Note: missing dimensions see standard cylinders

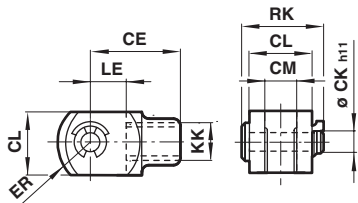
#	Stroke
1	Cushion screw

**Rear flange B, front flange G**  
Corresponds to DIN ISO 6432



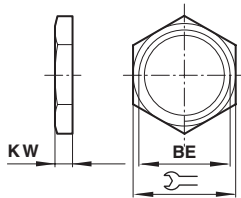
Type	Ø	Ø FB	MF	TF	UF	UR	kg
M/P72405	12/16	5,5	4	40	52	30	0,03
M/P72406	20/25	6,6	5	50	66	40	0,05

**Piston rod clevis F**



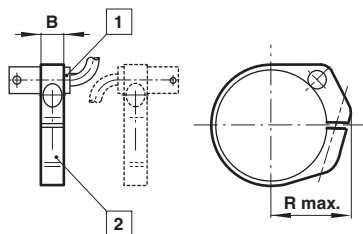
Type	Ø	KK	CE	øCK h11	CL	CM	ER	LE	RK	kg
KQM/8012/25	12/16	M6	24	6	12	6	9,5	12	17,5	0,02
KQM/8020/25	20	M8	32	8	16	8	13	16	22	0,06
KQM/55433/25	25	M10x1,25	40	10	20	10	16	20	28	0,10

**Nose nut N**



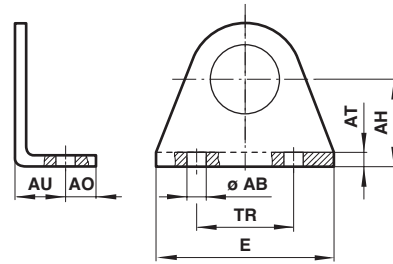
Type	Ø	BE	KV	KW	kg
M/P72398	12/16	M16x1,5	22	5	0,009
M/P72399	20/25	M22x1,5	27	8	0,020

**Switch mounting bracket ≥ 15 mm stroke**  
For M/50



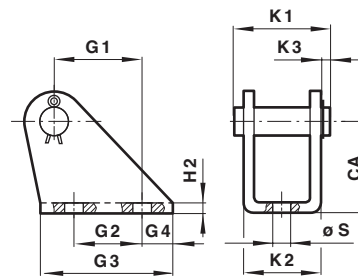
Type	Ø	B	R max.	kg
QM/33/012/22	12	8	18	0,01
QM/33/012/22	12	8	18	0,04
QM/33/016/22	16	10	20	0,01
QM/33/020/22	20	10	22	0,01
QM/33/025/22	25	10	24	0,01

**Foot C**  
Corresponds to DIN ISO 6432



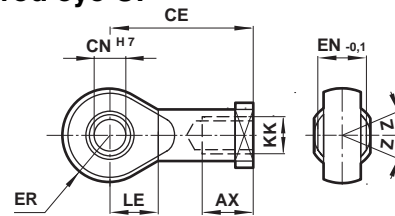
Type	Ø	Ø AB	AH	AO	AT	AU	E	TR	kg
M/P72403	12/16	5,5	20	6	3	13	43	32	0,03
M/P72404	20/25	6,5	25	7,5	4	16	53	40	0,06

**Rear hinge L**



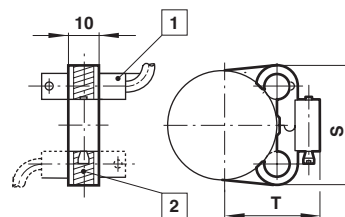
Type	Ø	CA	G1	G2	G3	G4	H2	K1	K2	ø S	kg
KQM/8012/24	12/16	27	13	15	25	4	3	23	18	5,5	0,035
KQM/8020/24	20/25	30	16	20	32	6	4	29,5	24	6,6	0,077

**Piston rod eye UF**



Type	Ø	KK	CE	CN	EN	ER	A	LE	Z	kg
KQM/8012/32	12/16	M6	30	6H7	9-0,1	10,5	12-1	10	13°	
KQM/8020/32	20	M8	36	8H7	12-0,1	12,5	16-1	12	13°	
KQM/8032/32	25	M10x1,25	43	10H7	14-0,1	14,5	20-1	14	13°	

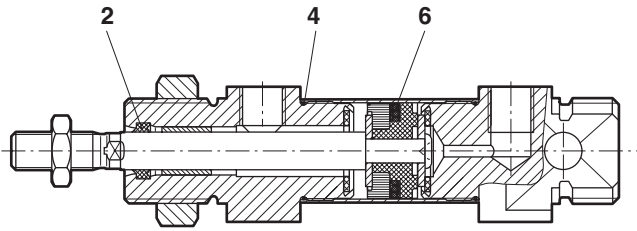
**Switch mounting bracket < 15 mm stroke**  
For M/50



Type	Ø	S	T	kg
QM/33/012/23	12	28,5	21,5	0,001
QM/33/016/23	16	29,5	23,5	0,001
QM/33/020/23	20	29,5	26	0,001
QM/33/025/23	25	31,5	28,5	0,001

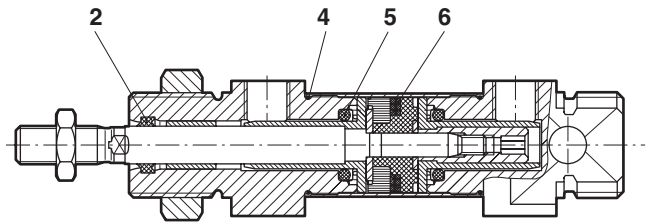
**Spares**

**KM/8000/M – Standard cylinder with buffer cushioning**



Ø	Type	Spares kit	Item	Description	Quantity
12	KM/8012/M	KQM/8012/00	2	Piston rod seal	2
16	KM/8016/M	KQM/8016/00	4	'O' ring	2
20	KM/8020/M	KQM/8020/00	6	Piston seal	1
25	KM/8025/M	KQM/8025/00		Grease	1

**KM/8021/M, KM/8026/M – Standard cylinder with adjustable cushioning**



Ø	Type	Spares kit	Item	Description	Quantity
20	KM/8021/M	KQM/8020/00	2	Piston rod seal	2
25	KM/8026/M	KQM/8025/00	4	'O' ring	2
			5	Cushion seal	2
			6	Piston seal	1
				Grease	1