

ISO Cylinders  
Magnetic Piston  
Single Acting  
Ø 10 to 25 mm

- Magnetic piston as standard
- Conforming to ISO 6432
- Corrosion resistance
- Threaded rear end covers incorporate an integral eye mounting



### Technical Data

Medium:

Compressed air, filtered, lubricated or non-lubricated

Standard:

ISO 6432

Operation:

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

Operating Pressure:

2 to 10 bar

Operating Temperature:

-10°C\* to +80°C max.

\*Consult our Technical Service for use below +2°C

Cylinder Diameters:

10, 12, 16, 20, 25 mm

Strokes:

Standard, see page N 1.4.031.02

Non-standard strokes (50 mm max.) available

Materials:

Barrel: Stainless steel (Austenitic)

End covers: Clear anodised aluminium alloy

Piston rod: Stainless steel (Austenitic)

Buffer: Polyurethane

Seals: Nitrile rubber

### Ordering Examples

See page N 1.4.031.03

### Mountings and Switches

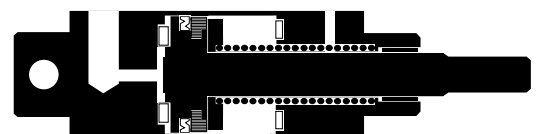
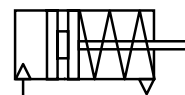
See page N 1.4.031.03.

### Alternative Models

Double acting cylinders

See page

N 1.5.021.01





### Cylinder Variants

Symbol	Model magnetic piston	Description	Dimensions Page
	RM/28000/M	Standard cylinder with side port, integral eye mounting	04
	RM/28000/MC	Cylinder with central rear port	04
	RM/28000/MF	Cylinder with flat rear cover	04
	RM/28000/MU	Extended piston rod	04

### Standard Strokes

Cylinder Ø	Strokes (mm)		
	10	25	50
10	●	●	●
12	●	●	●
16	●	●	●
20	●	●	●
25	●	●	●

### Model Codes

RM/280\*\*/\*\*/\*\*

Cylinder Diameters (mm)	Substitute
	10, 12, 16, 20, 25

Strokes (mm)	50 max.
--------------	---------

Variants (magnetic piston)	Substitute
Standard	M
Central rear port	MC
Flat rear cover	MF
Extended piston rod	MU

Note: If option is not required, disregard option position within part number eg. RM/28025/M/25.

### 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 'AK'	Style 'B', 'G'	Style 'C'	Style 'F'	Style 'FH'	Style 'L'
Cylinder Ø	Page 07	Page 05	Page 05	Page 07	Page 08	Page 06
10	QM/8010/38	M/P 19407	M/P 19369	QM/8010/25	—	QM/947
12	QM/8012/38	M/P 19408	M/P 19389	QM/8012/25	QM/8012/34	QM/8012/24
16	QM/8012/38	M/P 19408	M/P 19389	QM/8012/25	QM/8012/34	QM/8012/24
20	QM/8020/38	M/P 19409	M/P 19406	QM/8020/25	QM/8020/34	QM/8020/24
25	QM/8025/38	M/P 19409	M/P 19406	QM/8025/25	QM/8020/34	QM/8020/24
	Style 'L2'	Style 'N'	Style 'UF'	Bracket for Switches # ≥ 15 mm stroke	Bracket for Switches # < 15 mm stroke	Bracket for Switches ##
Cylinder Ø	Page 06	Page 07	Page 07	Page 08	Page 08	Page 08
10	QM/8010/44	M/P 1501/90	QM/8010/32	QM/33/010/22	QM/33/010/23	QM/45/210/22
12	QM/8012/44	M/P 13834	QM/8012/32	QM/33/012/22	QM/33/016/23	QM/45/212/22
16	QM/8012/44	M/P 13834	QM/8012/32	QM/33/016/22	QM/33/016/23	QM/45/216/22
20	QM/8020/44	M/P 13615	QM/8020/32	QM/33/020/22	QM/33/020/23	QM/45/220/22
25	QM/8020/44	M/P 13615	QM/8025/32	QM/33/025/22	QM/33/025/23	QM/45/225/22

# QM/33, QM/34 or QM/134  
## QM/45

## Switches

Model						
	Ø 8 mm	Ø 5 mm	Ø 8 mm	Ø 5 mm	Ø 8 mm	—
Reed	QM/33	QM/45/RAP	QM/34	QM/45/LAP	QM/34/P	—
Reed	—	—	—	QM/45/LSU	—	—
Solid state	—	—	QM/134	QM/45/EAP	QM/134/P	—

Model	Reed	Solid state	Voltage V a.c.	V d.c.	Current Max.	Temperature °C	LED	Features	Cable Length	Cable Type	Plug-in Cable Straight	90°	Catalogue Page
QM/33/**	—	—	10 to 240	10 to 240	1,5 A	-20° to +80°	—	—	2, 5, 10 m	PVC 2 x 0,34	—	—	N 4.3.051
QM/33/C/**	—	—	10 to 110	0 to 175	0,25 A	-20° to +80°	—	Changeover	5 m	PVC 2 x 0,34	—	—	N 4.3.051
QM/34/**	—	—	—	10 to 30	1 A	-20° to +80°	●	Output: Positive	2, 5, 10 m	PVC 3 x 0,34	—	—	N 4.3.051
QM/34/P	—	—	—	10 to 30	1 A	-20° to +80°	●	Output: Positive	5 m	PVC 3 x 0,25	M/P34614/5	M/P34615/5	N 4.3.051
QM/34/S/**	—	—	10 to 240	10 to 240	0,5 A	-20° to +80°	●	—	2, 5, 10 m	PVC 2 x 0,34	—	—	N 4.3.051
QM/34/N/**	—	—	—	10 to 30	1 A	-20° to +80°	●	Output: Negative	2, 5 m	PVC 3 x 0,34	—	—	N 4.3.051
QM/45/RAP/**	—	—	10 to 30	10 to 30	0,5 A	-20° to +80°	—	—	2, 5, 10 m	PVC 2 x 0,34	—	—	N 4.3.045
QM/45/LAP/**	—	—	—	10 to 30	0,5 A	-20° to +80°	●	—	2, 5, 10 m	PVC 3 x 0,34	—	—	N 4.3.045
QM/45/LSU/**	—	—	10 to 240	10 to 170	0,18 A	-20° to +80°	●	—	2, 5 m	PVC 2 x 0,34	—	—	N 4.3.045
—	QM/45/EAP/**	—	—	10 to 30	0,2 A	-20° to +80°	●	PNP	2, 5 m	PVC 3 x 0,14	—	—	N 4.3.047
—	QM/134/**	—	—	10 to 30	0,2 A	-20° to +80°	●	PNP	2, 5 m	PVC 3 x 0,34	—	—	N 4.3.055
—	QM/134/P	—	—	10 to 30	0,2 A	-20° to +80°	●	PNP	5 m	PVC 3 x 0,25	M/P34614/5	M/P34615/5	N 4.3.055
—	QM/134/E/**	—	—	10 to 30	0,2 A	-20° to +80°	●	Pulse stretcher	5 m	PVC 3 x 0,34	—	—	N 4.3.055
—	QM/134/N/**	—	—	10 to 30	0,2 A	-20° to +80°	●	NPN	2, 5 m	PVC 3 x 0,34	—	—	N 4.3.055
—	QM/134/N/P	—	—	10 to 30	0,2 A	-20° to +80°	●	NPN	5 m	PVC 3 x 0,25	M/P34614/5	M/P34615/5	N 4.3.055
—	QM/134/X/**	—	—	8,2	2,2/1 mA	-25° to +75°	●	NAMUR	5 m	PVC 2 x 0,34	—	—	N 4.3.055

\*\* Insert cable length

Full information on switches (technical data, polyurethane cable, dimensions etc.) please see catalogue pages

## Ordering Examples

### Cylinders

To order a basic 25 mm bore cylinder with a 50 mm stroke quote: **RM/28025/M/50**

### Mountings

To order a front flange mounting style 'G' for 25 mm bore cylinder quote: **M/P 19409**

### Switches

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

### Brackets for switches

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

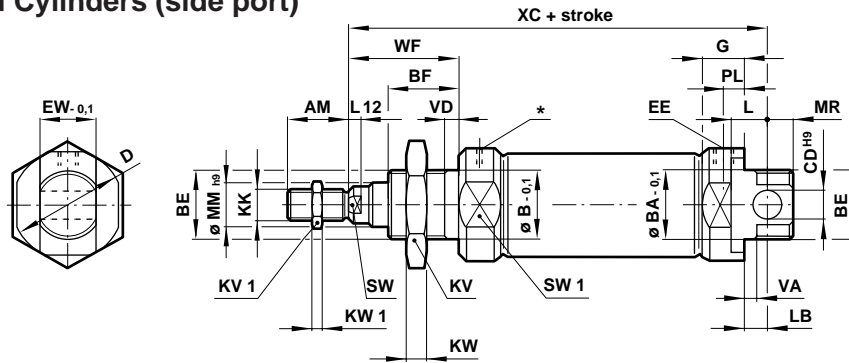


## Theoretical Forces • Air Consumption

Cylinder Ø	Theoretical forces (N) at 6 bar Outstroke	Instroke F1 (spring force)	Air consumption (l/cm stroke) at 6 bar Outstroke
10	40,7	3,7	0,006
12	57,7	4,8	0,008
16	102	10,5	0,014
20	165	16,1	0,022
25	260	21,6	0,035

## BASIC DIMENSIONS

### RM/28000/M — Standard Cylinders (side port)



\* Exhaust position, do not obstruct

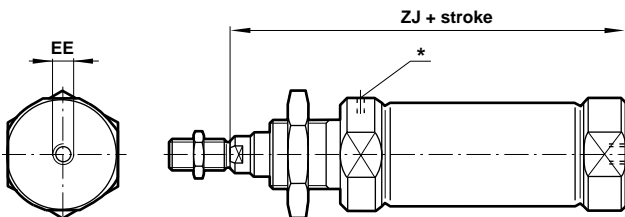
Cylinder Ø	AM	ØB/BA-0.1	BE	BF	Ø CDH <sup>9</sup>	Ø D	EE	EW-0.1	G	KK	KV (A/F)	KV1 (A/F)	KW	KW1
10	12	12	M12x1,25	12	4	16,5	M5	7,9	9	M4	19	7	6	2
12	16	16	M16x1,5	17	6	21	M5	11,9	9,5	M6	22	10	5	3
16	16	16	M16x1,5	17	6	21	M5	11,9	9,5	M6	22	10	5	3
20	20	22	M22x1,5	20	8	30	G1/8	15,9	15	M8	27	13	8	4
25	22	22	M22x1,5	22	8	30	G1/8	15,9	15	M10x1,25	27	17	8	5

Cylinder Ø	L	L12	LB	Ø MM <sub>h9</sub>	MR	PL	SW (A/F)	SW1 (A/F)	WF	VA/VD	XC	at 0 mm	per 25 mm
10	6	—	2	4	8	5,5	—	14	16	1,5	64	0,034 kg	0,007 kg
12	9	3	3	6	8	5,5	5	19	22	2	75	0,058 kg	0,011 kg
16	9	3	4	6	7	5,5	5	19	22	2	82	0,070 kg	0,012 kg
20	12	3	3	8	11	8	7	27	24	2	95	0,145 kg	0,018 kg
25	12	4	7	10	9	8	9	27	28	2	104	0,200 kg	0,028 kg

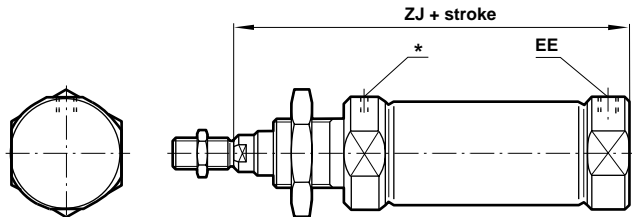
## CYLINDER VARIANTS

### RM/28000/MC — Cylinder (central rear port)



\* Exhaust position, do not obstruct

### RM/28000/MF — Cylinder (flat rear cover)

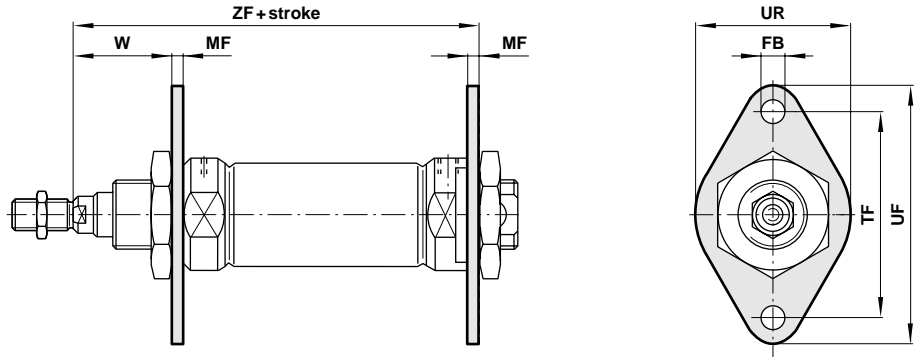


Cylinder Ø	EE	ZJ	at 0 mm	per 25 mm
10	M5	62	0,031 kg	0,007 kg
12	M5	72	0,052 kg	0,011 kg
16	M5	78	0,064 kg	0,012 kg
20	G1/8	92	0,130kg	0,018 kg
25	G1/8	97	0,185 kg	0,028 kg

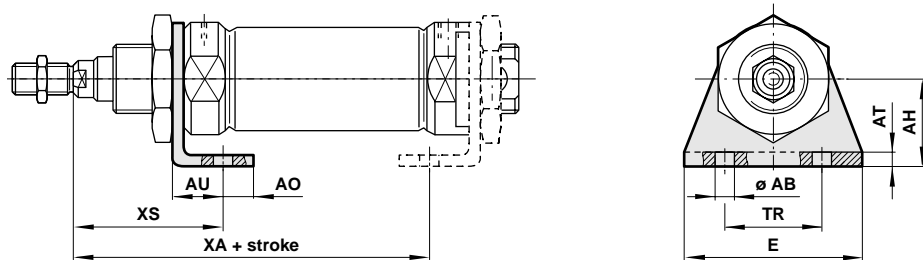


**MOUNTINGS**

**M/P 19 . . . — Rear or Front Flange Mounting Style ‘B’ or ‘G’**



**M/P 19 . . . — Foot Mounting Style ‘C’**



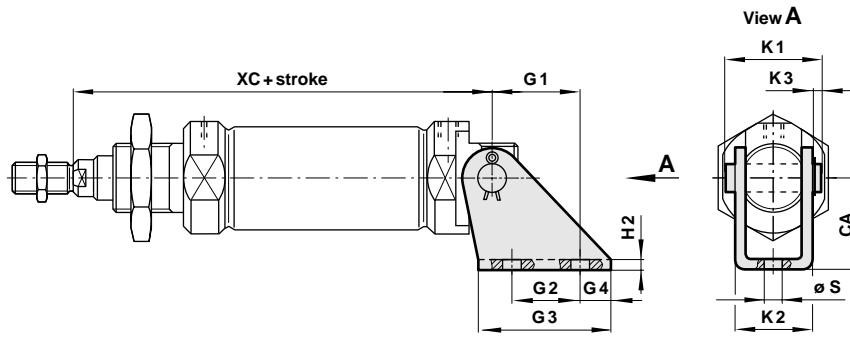
Cylinder Ø	Ø AB	AH	AO	AT	AU	E	Ø FB	MF	TF
10	4,5	16	6	2	10	35	4,5	3	30
12	5,5	20	6	3	13	43	5,5	4	40
16	5,5	20	6	3	13	43	5,5	4	40
20	6,6	25	7,5	4	16	53	6,6	5	50
25	6,6	25	7,5	4	16	53	6,6	5	50

Cylinder Ø	TR	UF	UR	W	XA	XS	ZF	Style ‘B’, ‘G’	Style ‘C’
10	25	40	22	13	54	24	65	0,020 kg	0,020 kg
12	32	51	28	18	62	32	76	0,030 kg	0,030 kg
16	32	51	28	18	68	32	82	0,030 kg	0,030 kg
20	40	63	38	19	80	36	97	0,050 kg	0,060 kg
25	40	63	38	23	85	40	102	0,050 kg	0,060 kg

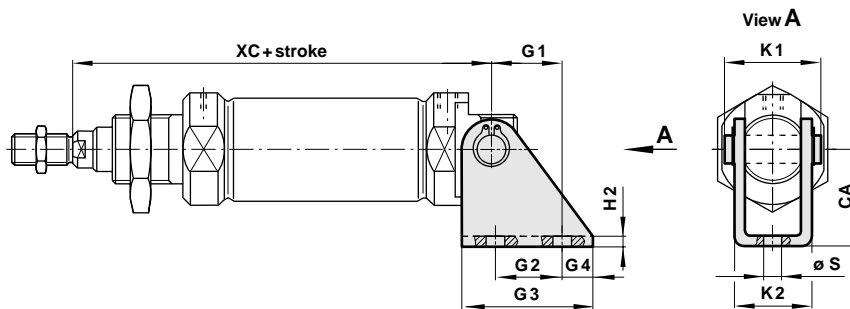


QM/8000/24 — Rear Hinge Mounting Style 'L'



Cylinder Ø	CA	G1	G2	G3	G4	H2	K1	K2	K3	Ø S	XC	Style 'L'
10	12	6,5	-	15	6	1	13,5	10,5	2	4,8	64	0,005 kg
12	20	18,5	15	30	8	1,5	20	15	3	5,5	75	0,020 kg
16	20	18,5	15	30	8	1,5	20	15	3	5,5	82	0,020 kg
20	25	20	15	35	10	2	25	20,5	3	6,6	95	0,040 kg
25	25	20	15	35	10	2	25	20,5	3	6,6	104	0,040 kg

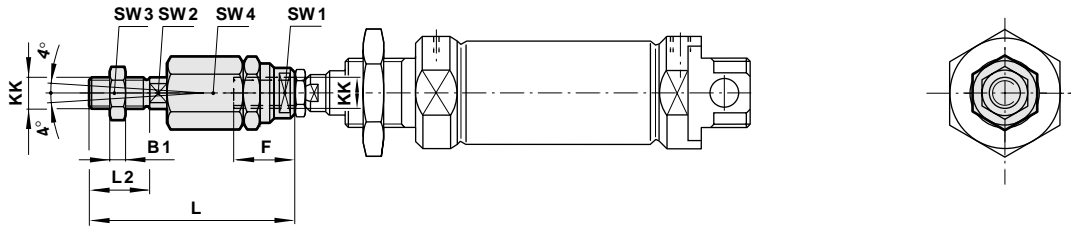
QM/8000/44 — Rear Hinge Mounting Style 'L2'



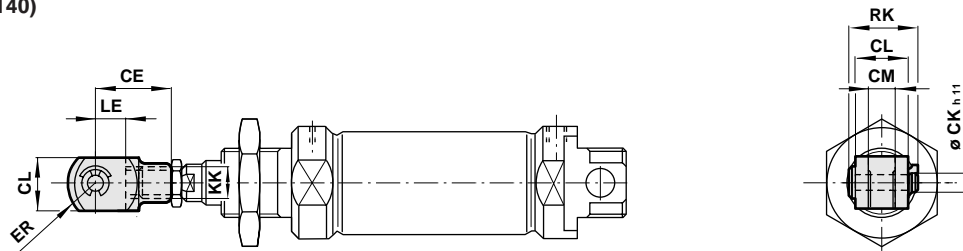
Cylinder Ø	CA	G1	G2	G3	G4	H2	K1	K2	Ø S	XC	Style 'L2'
10	24	11	12,5	20	4	2,5	17,5	13	4,5	64	0,018 kg
12	27	13	15	25	5	3	23	18	5,5	75	0,035 kg
16	27	13	15	25	5	3	23	18	5,5	82	0,035 kg
20	30	16	20	32	6	4	29,5	24	6,6	95	0,077 kg
25	30	16	20	32	6	4	29,5	24	6,6	104	0,077 kg



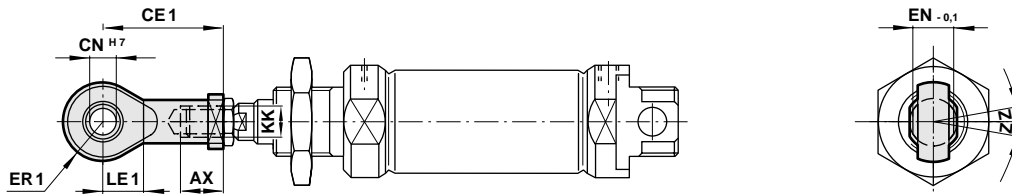
**QM/8000/38 — Piston Rod Swivel Mounting Style 'AK'**



**QM/8000/25 — Piston Rod Clevis Mounting Style 'F'**  
(Corresponds to DIN ISO 8140)



**QM/8000/32 — Universal Piston Rod Eye Mounting Style 'UF'**  
(Corresponds to DIN ISO 8139)



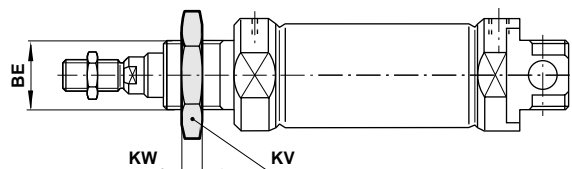
Cylinder Ø	AX	B1	CE	CE1	ØCK h11	CL	CM	ØCN H7	EN -0,1	ER	ER1	F	KK
10	14	2	16	27	4	8	4	5	8	6,5	8	12,5	M4
12	14	3	24	30	6	12	6	6	9	9,5	9	14	M6
16	14	3	24	30	6	12	6	6	9	9,5	9	14	M6
20	16	4	32	36	8	16	8	8	12	13	11	18	M8
25	25	5	40	42	10	20	10	10	14	16	14	26	M10x1,25

Cylinder Ø	L	L2	LE	LE1	RK	SW1 (A/F)	SW2 (A/F)	SW3 (A/F)	SW4 (A/F)	Z	Style 'AK'	Style 'F'	Style 'UF'
10	33	8	8	10	11,5	11	3,2	7	11	5°	0,015 kg	0,010 kg	0,020 kg
12	39	12	12	11	17,5	7	5	10	13	5°	0,024 kg	0,020 kg	0,020 kg
16	39	12	12	11	17,5	7	5	10	13	5°	0,024 kg	0,020 kg	0,020 kg
20	55	16	16	13	22	10	7	13	17	5°	0,054 kg	0,060 kg	0,050 kg
25	73	20	20	15	28	19	12	17	30	5°	0,233 kg	0,100 kg	0,080 kg

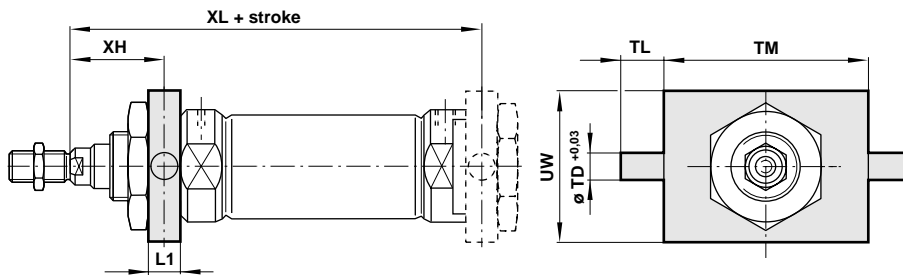
**M/P1 . . . — Nose Nut Style 'N'**

Cylinder Ø	BE	KV (A/F)	KW	Style 'N'
10	M12x1,25	19	6	0,010 kg
12	M16x1,5	22	5	0,009 kg
16	M16x1,5	22	5	0,009 kg
20	M22x1,5	27	8	0,017 kg
25	M22x1,5	27	8	0,017 kg





**QM/8000/34 – Head (Cap) Detachable Trunnion Mounting Style ‘FH’**

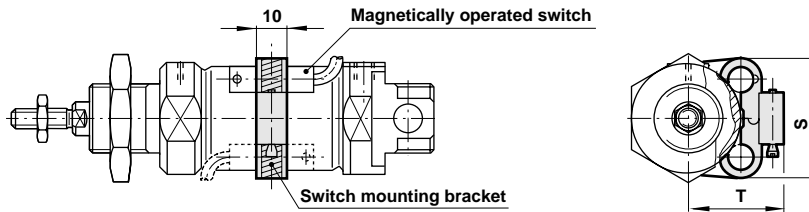


Cylinder Ø	L1	ø TD +0.03	TL	TM	UW	XH	XL	Style ‘FH’
12	8	6	10	38	25	18	—	0,051 kg
16	8	6	10	38	25	18	—	0,051 kg
20	8	6	10	46	30	20	96	0,067 kg
25	8	6	10	46	30	24	101	0,067 kg

**SWITCH MOUNTING BRACKETS**

**QM/33/000/23 – Brackets**

< 15 mm stroke



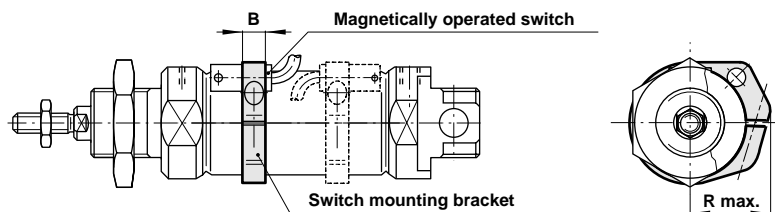
**QM/33, QM/34, QM/134 (Ø 8 mm)**

Cylinder Ø	S	T	Weight
10	27,5	19,5	0,007 kg
12	28,5	21,5	0,008 kg
16	29,5	23,5	0,008 kg
20	29,5	26	0,008 kg
25	31,5	28,5	0,007 kg

**QM/33/000/22 – Brackets**

**QM/45/200/22 – Brackets**

≥ 15 mm stroke



**QM/33, QM/34, QM/134 (Ø 8 mm)**

**QM/45 (Ø 5 mm)**

Cylinder Ø	B	R max.	Weight
10	8	16	0,003 kg
12	8	18	0,004 kg
16	10	20	0,006 kg
20	10	22	0,006 kg
25	10	24	0,007 kg

Cylinder Ø	B	R max.	Weight
10	8	14	0,002 kg
12	8	15	0,002 kg
16	10	18	0,005 kg
20	10	20	0,005 kg
25	10	22,5	0,006 kg