

**Hollow Piston Rod Cylinders**  
**Magnetic Piston**  
**Double Acting**  
**Ø25 and 40 mm**

- **Ideally suited for vacuum selected liquid transfer applications through the piston rod**
- **Non-rotating and telescopic piston rod provides accurate, repeatable component orientation**
- **Non-corrosive specification**
- **Magnetic piston as standard**
- **Buffer cushioning**
- **Direct attachment of vacuum pumps and suction cups**



### Technical Data

**Medium:**

Compressed air, filtered, lubricated or non-lubricated

**Standard:**

Ø 25: ISO 6432 (except piston rod)

**Operation:**

Double acting with buffer cushioning

**Operating Pressure:**

1 to 10 bar

**Operating Temperature:**

+80°C max.

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

**Cylinder Diameters:**

25, 40 mm

**Strokes:**

Non-standard strokes up to 500 mm max. available

**Materials:**

Barrel: Ø 25: Stainless steel (Austenitic)

Ø 40: Clear anodised aluminium alloy

End covers: Clear anodised aluminium alloy

Piston rod: Stainless steel (Austenitic)

Buffer: Polyurethane

Wiper: Polyurethane

Piston seals: Ø 25: Nitrile rubber

Ø 40: Polyurethane

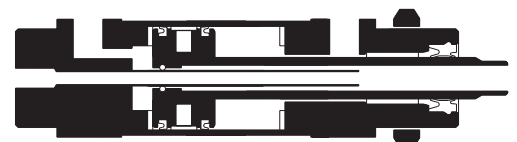
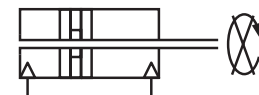
'O'-rings: Nitrile rubber

### Ordering Examples

See page N 1.5.063.03

### Mountings and Switches

See page N 1.5.063.03





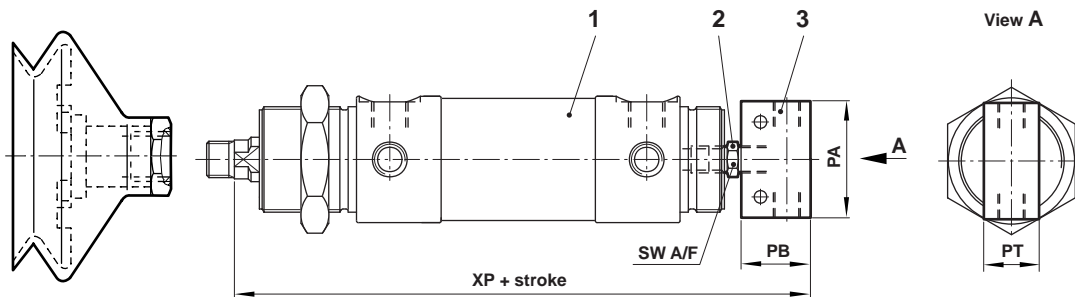
## Model Codes

### VSM/556\*\*/N2/\*\*\*

Special Variants	Substitute	Strokes (mm)	
Hollow piston rod	V	500 max.	
Piston rod material	Substitute	Variants (magnetic piston)	Substitute
Stainless steel (Austenitic)	S	Non-rotating piston rod	N2
Threads		Cylinder Diameters (mm)	Substitute
Metric	Ports: ISO 228	25	25
		40	40
Series			
55600			

## EXAMPLE

### Application with Vacuum Pumps and Caps



Cylinder Ø	Pos. 1 Cylinder	Pos. 2 Fitting	Pos.3 Vacuum Pump	PA	PB	PT	SW (AF)	XP
25	VSM/55625/N2	150201818	M/58112/09	42	25	20	11	147
40	VSM/55640/N2	150201818	M/58112/09	42	25	20	11	200
		150202818	M/58112/11	62	30	30	14	207

Accessories:		See page
Vacuum Pump	M/58112	N 3.4.005
Flat Suction Cups	M/58300	N 3.5.011
Bellows Suction Cups	M/58400	N 3.5.031

## 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 'B', 'G'	Style 'C'	Style 'FH'	Style 'N'	Bracket for Switches # <15 mm stroke	Bracket for Switches # 15 mm stroke	Bracket for Switches ##
Cylinder Ø							
25	Page 4 M/P 19409	Page 5 M/P 19406	Page 5 QM/8020/34	Page 6 M/P 13615	Page 6 QM/33/025/23	Page 6 QM/33/025/22	Page 7 QM/140/10/22
	Style 'B', 'G'	Style 'C'	Style 'H'	Style 'N'	Style 'L'	Bracket for Switches # 15 mm stroke	Bracket for Switches ##
Cylinder Ø							
40	Page 4 QM/55240/22	Page 5 QM/55240/21	Page 5 QM/55240/28	Page 6 M/P 29255	Page 6 QM/55240/24	Page 6 QM/33/440/22	Page 7 QM/140/010/22

# M/50, QM/34 or QM/134

## QM/140

## Switches

	Cable	Plug (M8x1)	Without LED	With LED	With LED (plug in connector)	Pneumatic
Model						
Reed	Ø 6,5/5 mm M/50/LSU/.. M/50/RAC/5V	Ø 6,5/5 mm M/50/LSU/CP	Ø 8 mm QM/33	Ø 8 mm QM/34	Ø 8 mm QM/34/P	—
Solid state	M/50/EAP/.. M/50/EAN/..	M/50/EAP/CP M/50/EAN/CP	—	QM/134	QM/134/P	—
Pneumatic	—	—	—	—	—	QM/140

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
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 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 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 4.3.005
M/50/LSU/CP	—	—	10 to 60	10 to 75	180 mA	-20° to +80°	●	Plug M8x1	5 m	—	M/P73001/5	—	N 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 4.3.005
—	M/50/EAP/CP	—	—	10 to 30	150 mA	-20° to +80°	●	PNP, plug M8x1	5 m	—	M/P73001/5	—	N 4.3.005
—	M/50/EAN/**V	—	—	10 to 30	150 mA	-20° to +80°	●	NPN	2, 5, 10 m	PVC 3 x 0,25	—	—	N 4.3.005
—	M/50/EAN/CP	—	—	10 to 30	150 mA	-20° to +80°	●	NPN, plug M8x1	5 m	—	M/P73001/5	—	N 4.3.005
QM/33/C/**	—	—	10 to 110	10 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/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

Pneumatic	Operating Pressure	Flow Rate	Orifice Size	Temperature	Active Spot	Connections	Catalogue Page
QM/140	2 to 6 bar	40 l/min	2 mm	+60 °C	●	For 3 mm I/D tubing	N 4.3.061

\*\* Insert cable length

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

### Ordering Examples Cylinders

To order a 25 mm bore cylinder with 50 mm stroke  
quote: **VSM/55625/N2/50**

### Mountings

To order a front flange mounting style 'G' for a 25 mm bore cylinder  
quote: **M/P19409**

### Switches

To order a reed switch Ø 6,5/5 mm with LED and 2 m cable length  
quote: **M/50/LSU/2V**

### Switch Mounting Brackets

To order a bracket for magnetically operated switches M/50; 25 mm bore cylinder  
quote: **QM/33/025/22**



### Theoretical Forces • Air Consumption

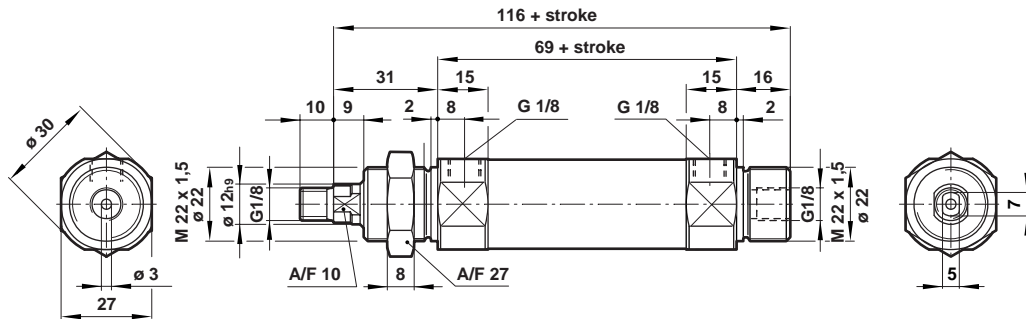
Cylinder Ø	Theoretical forces (N) at 6 bar		Air consumption (l/cm stroke) at 6 bar	
	Outstroke	Instroke	Outstroke	Instroke
25	287	238	0,035	0,028
40	737	655	0,086	0,077

### Weight of Cylinders and Mountings

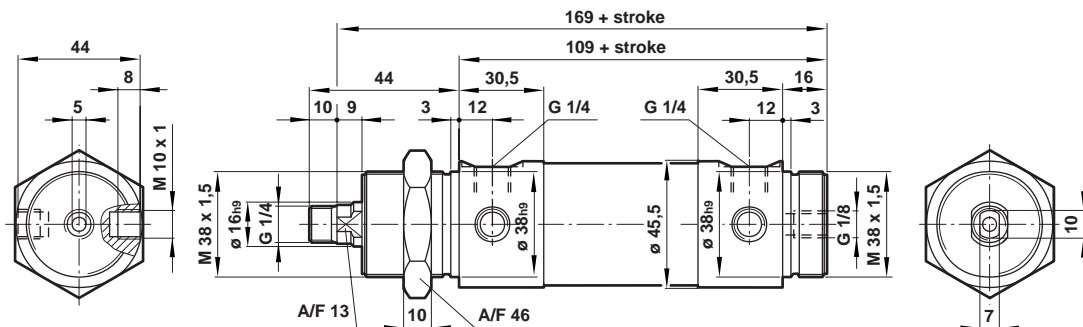
Cylinder Ø	Weights of Cylinders (kg)		Weights of Mountings (kg)					
	at 0 mm	per 25 mm	Style 'B', 'G'	Style 'C'	Style 'FH'	Style 'H'	Style 'L'	Style 'N'
25	0,190	0,028	0,050	0,060	0,067	-	-	0,017
40	0,660	0,043	0,190	0,430	-	0,030	0,230	0,055

### Basic Dimensions

#### VSM/55625/N2 Ø 25 mm



#### VSM/55640/N2 Ø 40 mm



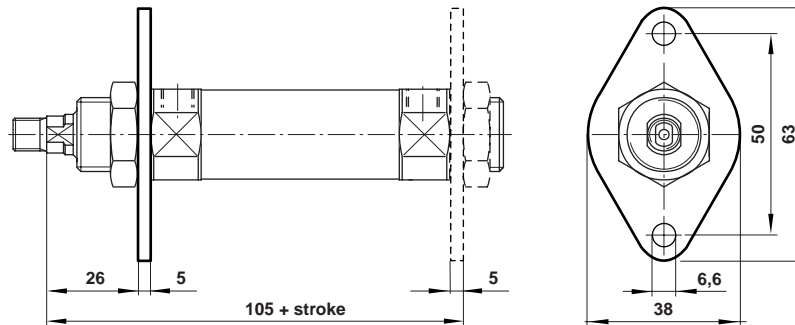


## Mountings

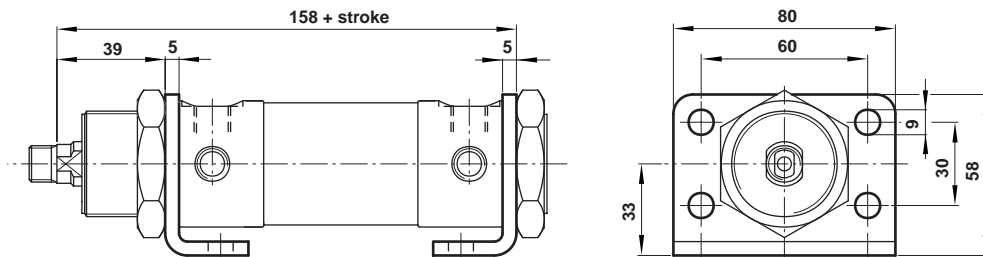
Style 'B' – Rear Flange Mounting

Style 'G' – Front Flange Mounting

Ø 25 mm: M/P19409

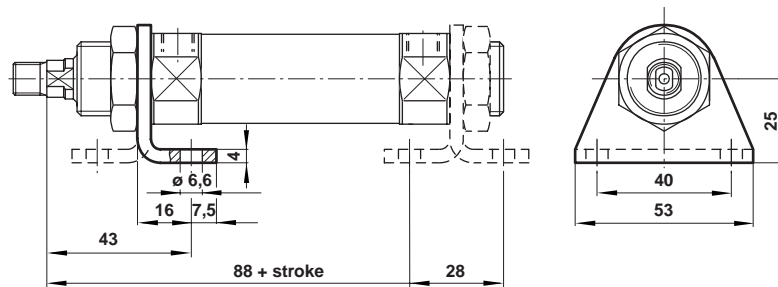


Ø 40 mm: QM/55240/22

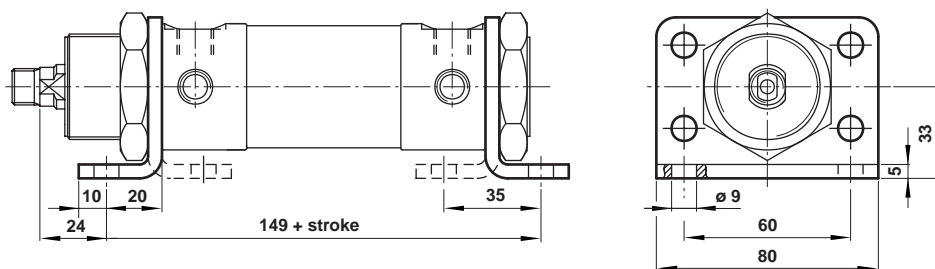


Style 'C' – Foot Mounting

Ø 25 mm: M/P19406

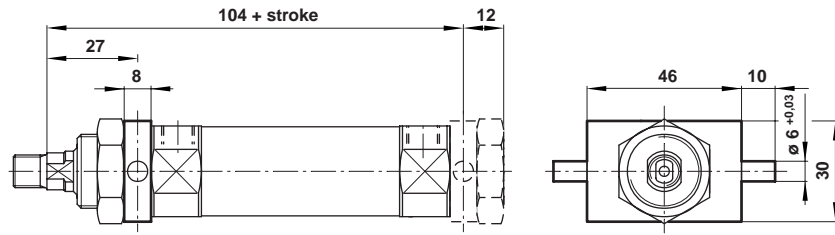


Ø 40 mm: QM/55240/21

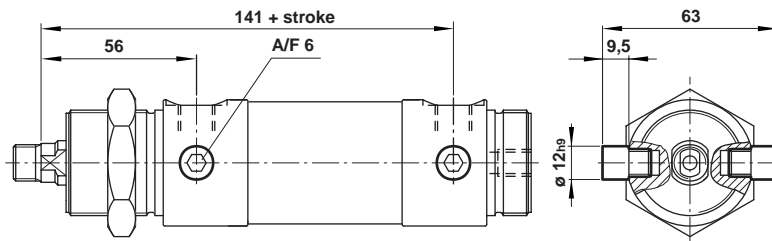




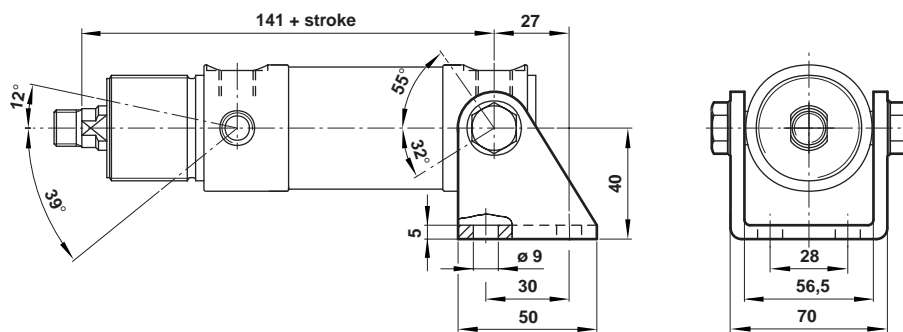
**Style 'FH' – Front or Rear Detachable Trunnion Mounting**  
 Ø 25 mm: QM/8020/34



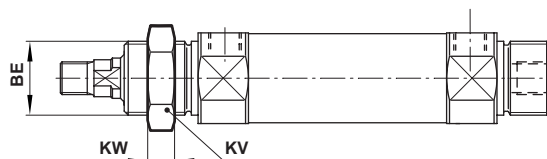
**Style 'H' – End Cover Trunnion Mounting**  
 Ø 40 mm: QM/55240/28



**Style 'L' – Rear Hinge Mounting**  
 Ø 40 mm: QM/55240/24



**Style 'N' – Nose Nut Mounting**



Cylinder Ø	Mounting	BE	KV (A/F)	KW
25	M/P13615	M 22 x 1,5	27	8
40	M/P29255	M 38 x 1,5	46	10

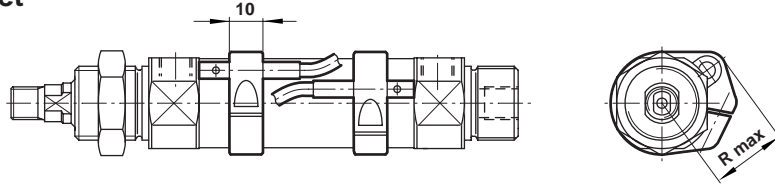


### Switch Mounting Brackets

**QM/33/025/22 – Bracket**  
 Ø 25 mm, stroke ≥ 15 mm

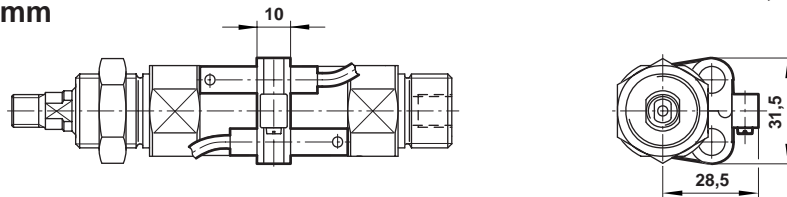
**Switches: M/50, QM/33, QM/34, QM/134**

**QM/33/440/22 – Bracket**  
 Ø 40 mm



**QM/33/025/23 – Bracket**  
 Ø 25 mm, stroke < 15 mm

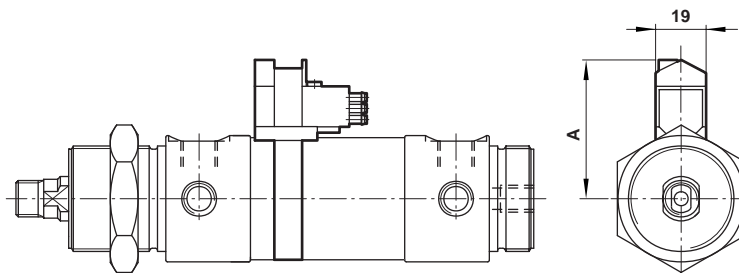
**Switches: M/50, QM/33, QM/34, QM/134**



Cylinder Ø	Switch	Stroke	Bracket	R max.	Weight (kg)
25	M/50, QM/33, QM/34, QM/134	< 15 mm	QM/33/025/23 (for 2 switches)	29	0,007
		15 mm	QM/33/025/22	24	0,007
40	M/50, QM/33, QM/34, QM/134	all	QM/33/440/22	32	0,008

### QM/140/010/22 – Bracket with holding strap

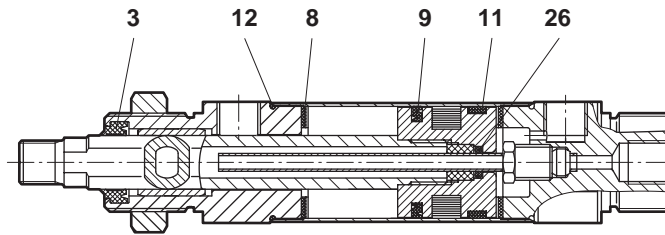
**Switch: QM/140**



Cylinder Ø	A	Weight (kg)
25	40	0,020
40	50	0,020



SPARES



Cylinder Ø	Model	Spares kit	Comprising Item	Description	Quantity
25	VSM/55625/N2	VQM/55625/N2/00	3	Piston rod seal	1
40	VSM/55640/N2	VQM/55640/N2/00	8	Cushion seal	2
			9	Piston seal	Ø 25:1, Ø 40:2
			11	Wear ring	1
			12	'O'-ring	1
			26	'O'-ring	1
				Grease	1