

Compact Cylinders
Magnetic Piston
Double Acting
 Ø 12 to 100 mm

- **Very compact – approximately one third the basic length of a corresponding ISO model**
- **Entirely manufactured from non-corrodible materials**
- **Magnetic piston as standard provides a wide range of control options**



Technical Data

Medium:

Compressed air, filtered, lubricated or non-lubricated

Operation:

Double acting, non-cushioned and magnetic piston

Operating Pressure:

1 to 10 bar

Operating Temperature:

-5°C* to +80°C

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

Cylinder Diameters:

12, 16, 20, 25, 32, 40, 50, 63, 80, 100 mm

Standard Strokes (short stroke version):

| | |
|-------------------|----------------|
| 5, 10 mm | Ø 12 to 63 mm |
| 15, 20, 25, 30 mm | Ø 12 to 100 mm |
| 40, 50 mm | Ø 20 to 100 mm |

Standard Strokes (long stroke version):

| | |
|-----------|----------------|
| 60, 80 mm | Ø 32 to 100 mm |
| 100 mm | Ø 50 to 100 mm |

Non-standard Strokes:

Non-standard strokes available

| | |
|-------------|----------------|
| 200 mm max. | Ø 16 to 25 mm |
| 250 mm max. | Ø 32 and 40 mm |
| 300 mm max. | Ø 50 to 100 mm |

Materials:

Anodised aluminium alloy barrel and end caps, stainless steel
 (Ø 12 to 40 mm Austenitic, Ø 50 to 100 mm Martensitic)
 piston rod, polyurethane and/or nitrile rubber seals

Alternative Cylinders:

See page N 1.5.141.02

Ordering Information

To order a basic 80 mm bore cylinder with a 50 mm stroke quote: RM/92080/M/50

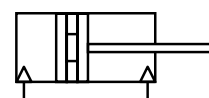
To order a basic 100 mm bore cylinder with a 100 mm stroke quote: RM/92100/M/100

To order mounting brackets refer to appropriate cylinder mounting table.

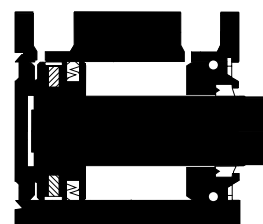
Order magnetically operated switches separately.

Accessories

| | |
|----------------------|-----------------------|
| Switches M/40, TM/40 | See page N 4.3.041.01 |
| Switches M/41, M/42 | N 4.3.044.01 |



Magnetic piston





Alternative Cylinders

| Symbol | Model (magnetic piston) | Description |
|--------|-------------------------|--|
| | TRM/92000/M | Heat resistant seals, 150°C max. (∅ 32 to 100 mm) |
| | RM/92000/MU | Extended piston rod (max. extended piston rod up to 100 mm) |
| | RM/92000/JM | Double ended piston rod (∅ 16 to 100 mm) Non-standard strokes available: 5 mm min. ∅ 16 to 40 mm 10 mm min. ∅ 50 to 100 mm Stroke length max., see page N 1.5.141.01 |
| | RM/92000/N2 | Non-rotating piston rod (∅ 16 to 100 mm) |
| | RM/92000/N4 | Guided piston rod (∅ 16 to 100 mm) Non-standard strokes available: 50 mm max. ∅ 16 mm 80 mm max. ∅ 20 and 25 mm 100 mm max. ∅ 32 to 100 mm |

For combinations of alternative cylinders consult our Technical Service.

Theoretical Forces ● Air Consumption ● Torque for Cylinders RM/92000/N2

| ∅ | RM/92000/M Theoretical forces (N) at 6 bar | | RM/92000/M Air consumption (l/cm stroke) | | RM/92000/N2 at 6 bar | |
|-----|---|----------|---|----------|-------------------------|------------------|
| | Outstroke | Instroke | Outstroke | Instroke | Model | Torque max. (Nm) |
| 12 | 68 | 51 | 0,008 | 0,007 | - | - |
| 16 | 121 | 90 | 0,014 | 0,011 | RM/92016/N2 | 0,15 |
| 20 | 188 | 141 | 0,022 | 0,017 | RM/92020/N2 | 0,25 |
| 25 | 295 | 227 | 0,035 | 0,027 | RM/92025/N2 | 0,40 |
| 32 | 483 | 362 | 0,056 | 0,042 | RM/92032/N2 | 0,75 |
| 40 | 754 | 633 | 0,088 | 0,074 | RM/92040/N2 | 0,75 |
| 50 | 1178 | 990 | 0,138 | 0,116 | RM/92050/N2 | 1,50 |
| 63 | 1870 | 1682 | 0,218 | 0,196 | RM/92063/N2 | 1,50 |
| 80 | 3016 | 2721 | 0,352 | 0,318 | RM/92080/N2 | 2,50 |
| 100 | 4712 | 4418 | 0,550 | 0,515 | RM/92100/N2 | 2,50 |

Weights of Cylinders and Mountings (kg)

| ∅ | RM/92000/M | | RM/92000/N4 | | | | | | | |
|-----|----------------|------------------|----------------|------------------|-------|-------|-------|-------|-------|-------|
| | Weight at 0 mm | Weight per 25 mm | Weight at 0 mm | Weight per 25 mm | | | | | | |
| 12 | 0,060 | 0,040 | - | - | 0,020 | 0,020 | 0,010 | 0,001 | 0,001 | 0,020 |
| 16 | 0,080 | 0,040 | 0,110 | 0,050 | 0,020 | 0,020 | 0,010 | 0,001 | 0,002 | 0,022 |
| 20 | 0,100 | 0,060 | 0,130 | 0,070 | 0,020 | 0,020 | 0,010 | 0,001 | 0,003 | 0,026 |
| 25 | 0,150 | 0,070 | 0,170 | 0,100 | 0,040 | 0,040 | 0,010 | 0,002 | 0,005 | 0,035 |
| 32 | 0,250 | 0,120 | 0,280 | 0,130 | 0,060 | 0,040 | 0,020 | 0,003 | 0,010 | 0,045 |
| 40 | 0,380 | 0,150 | 0,440 | 0,150 | 0,150 | 0,100 | 0,020 | 0,003 | 0,010 | 0,120 |
| 50 | 0,450 | 0,180 | 0,500 | 0,200 | 0,170 | 0,110 | 0,040 | - | 0,020 | 0,125 |
| 63 | 0,820 | 0,260 | 0,900 | 0,300 | 0,330 | 0,130 | 0,090 | - | 0,035 | 0,270 |
| 80 | 1,200 | 0,330 | 1,350 | 0,350 | 0,410 | 0,180 | 0,220 | - | 0,075 | 0,290 |
| 100 | 1,830 | 0,420 | 2,200 | 0,600 | 0,720 | 0,480 | 0,220 | - | 0,075 | 0,535 |

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.

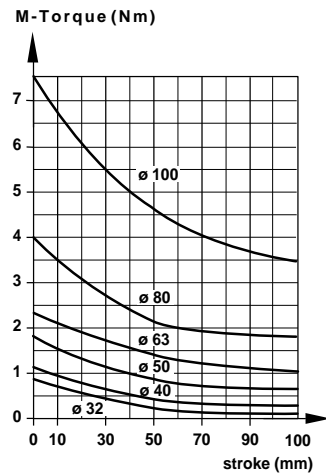
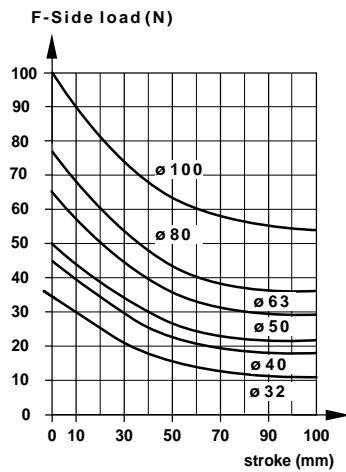
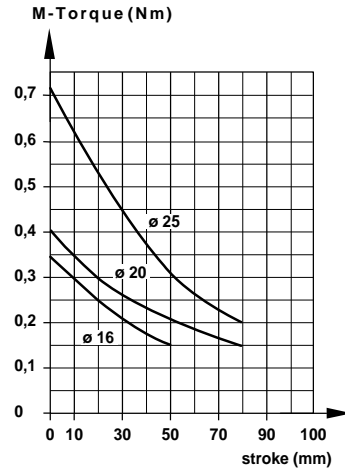
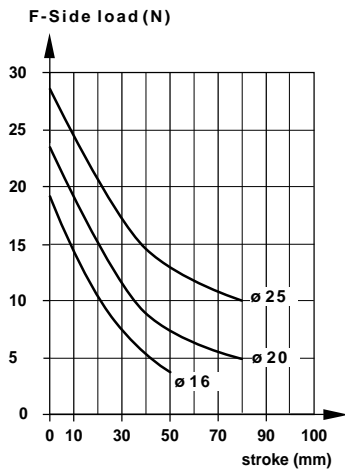
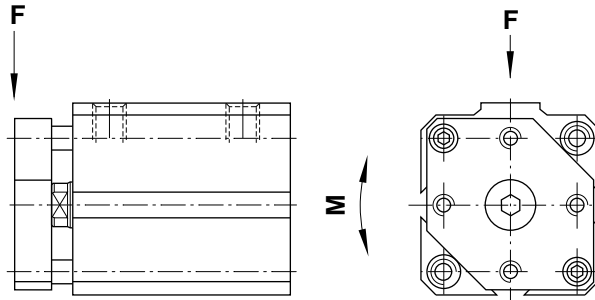
The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

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.



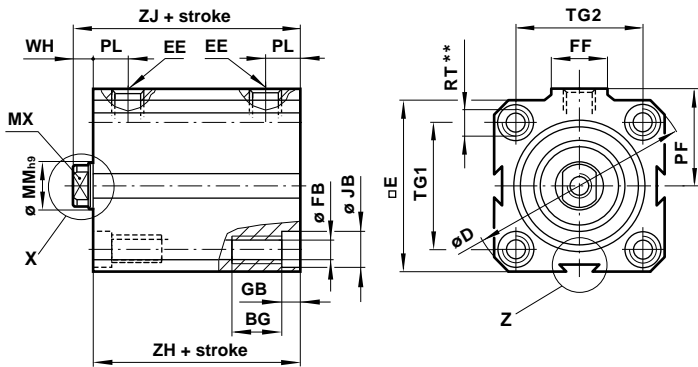
Guided Piston Rod RM/92000/N4
Permissible Load and Torque





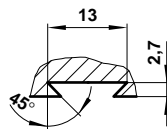
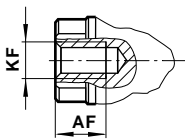
Basic Dimensions RM/92000/M

(∅ 12 to 100 mm)



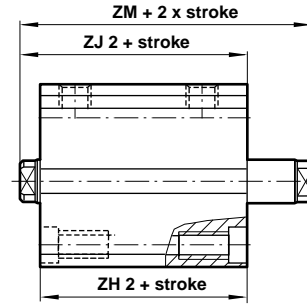
Section X

Section Z



Double ended piston rod RM/92000/JM

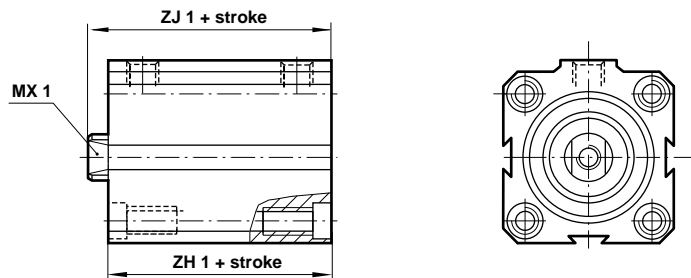
(∅ 16 to 100 mm)



** Only the 4 front holes are tapped on stroke lengths of less than:
 ∅ 25 and 32 mm: 5 mm, ∅ 40 and 63 mm: 15 mm (.../N2: 5 mm),
 ∅ 50 and 80 mm: 10 mm, ∅ 100 mm: 25 mm (.../N2: 15 mm).
Note: ∅ 12 to 20 mm feature only two side dovetails.

Non-rotating piston rod RM/92000/N2

(∅ 16 to 100 mm)

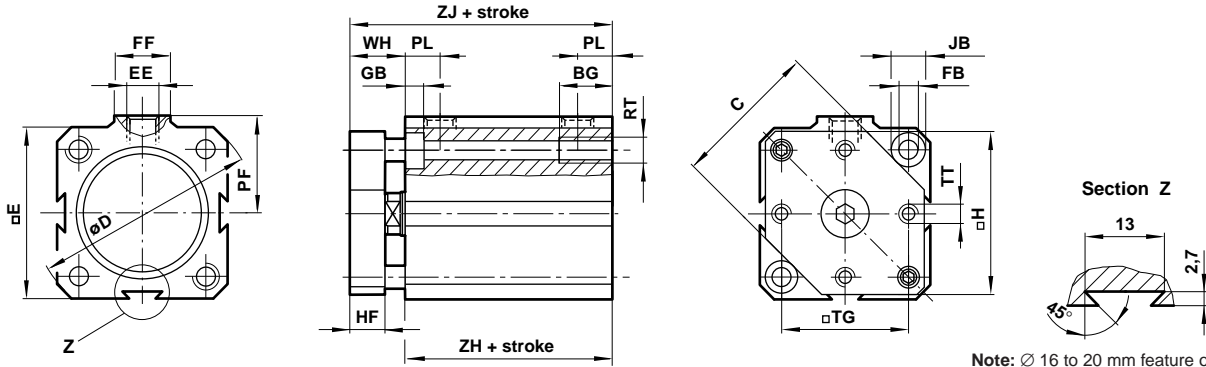


| Model | 92012 | 92016 | 92020 | 92025 | 92032 | 92040 | 92050 | 92063 | 92080 | 92100 |
|-----------|-------------|-------------|---------|-------------|-------------|-------------|---------|-------------|---------|-------------|
| ∅ | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| AF | 6 | 7 | 8 | 9 | 12 | 12 | 14 | 16 | 22 | 22 |
| BG | 9 | 9 | 9 | 12 | 12 | 16 | 16 | 20 | 20 | 25 |
| ∅ D | 32,5 | 36,5 | 41,5 | 48 | 58 | 71,5 | 81 | 104 | 120 | 148,5 |
| □ E | 25 | 28 | 32 | 37 | 45 | 55 | 63 | 80 | 94 | 116,5 |
| EE | M 5 | M 5 | M 5 | M 5 | G 1/8 | G 1/8 | G 1/8 | G 1/4 | G 1/4 | G 1/4 |
| ∅ FB | 3,3 | 3,3 | 3,3 | 4,2 | 4,2 | 6,8 | 6,8 | 8,5 | 8,5 | 10,2 |
| FF | 10 | 10 | 10 | 10 | 18 | 18 | 18 | 22 | 22 | 22 |
| GB | 3,5 | 3,5 | 3,5 | 4,5 | 4,5 | 6,5 | 6,5 | 8,5 | 8,5 | 10,5 |
| ∅ JB | 6 | 6 | 6 | 7,5 | 7,5 | 10,5 | 10,5 | 13,5 | 13,5 | 16,5 |
| KF | M 3 | M 4 | M 5 | M 6 | M 8 | M 8 | M 10 | M 12 | M 16 | M 16 |
| ∅ MM h9 | 6 | 8 | 10 | 12 | 16 | 16 | 20 | 20 | 25 | 25 |
| MX (AF) | 5 | 6 | 8 | 10 | 13 | 13 | 17 | 17 | 22 | 22 |
| MX 1 (AF) | - | 6 | 8 | 10 | 13 | 13 | 16 | 16 | 21 | 21 |
| PF | 15 | 17 | 19,5 | 22 | 27,5 | 31,5 | 37 | 48 | 57 | 67 |
| PL | 7 | 7,5 | 7,5 | 8 | 9 | 10 | 10,5 | 13 | 14,5 | 16 |
| RT | M 4 | M 4 | M 4 | M 5 | M 5 | M 8 | M 8 | M 10 | M 10 | M 12 |
| TG 1 | 17 | 20 | 23 | 27 | 33 | 41 | 48 | 61 | 73 | 90,5 |
| TG 2 | 13 | 20 | 23 | 27 | 33 | 41 | 48 | 61 | 73 | 90,5 |
| WH | 4,5 | 5,5 | 6 | 6,5 | 6,5 | 6,5 | 8 | 8 | 9 | 10 |
| ZH | 24 (34) | 24,5 (34,5) | 26 (36) | 28,5 (38,5) | 29 (39) | 31,5 (41,5) | 35 (45) | 42,5 (52,5) | 47 (57) | 48,5 (58,5) |
| ZH 1 | - | 34,5 | 36 | 38,5 | 39 | 41,5 | 45 | 52,5 | 57 | 58,5 |
| ZH 2 | - | 29,5 | 31,5 | 34,5 | 36,5 | 39,5 | 42 | 52 | 56 | 58 |
| ZJ | 28,5 (38,5) | 30 (40) | 32 (42) | 35 (45) | 35,5 (45,5) | 38 (48) | 43 (53) | 50,5 (60,5) | 56 (66) | 58,5 (68,5) |
| ZJ 1 | - | 40 | 42 | 45 | 45,5 | 48 | 53 | 60,5 | 66 | 68,5 |
| ZJ 2 | - | 35 | 37,5 | 41 | 43 | 46 | 50 | 60 | 65 | 68 |
| ZM | - | 41 | 44 | 48 | 50 | 53 | 59 | 69 | 74 | 78 |

() = for stroke > 50 mm



RM/92000/N4 Guided Piston Rod

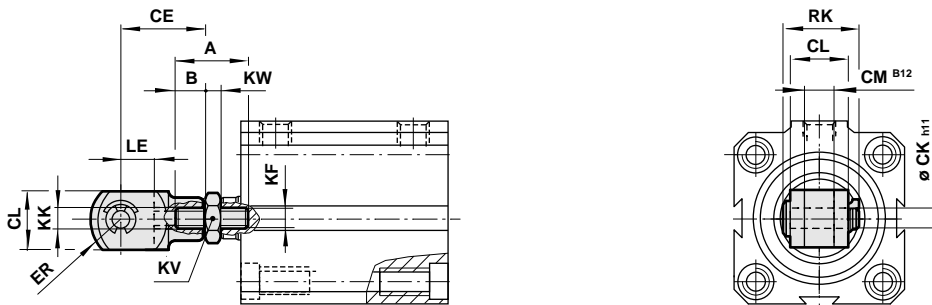


Note: Ø 16 to 20 mm feature only two side dovetails.

| Model | 92016 | 92020 | 92025 | 92032 | 92040 | 92050 | 92063 | 92080 | 92100 |
|-------|-------|---------|-------------|-------------|-------------|---------|-------------|---------|-------------|
| Ø | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| BG | 9 | 9 | 12 | 12 | 16 | 16 | 20 | 20 | 25 |
| C | 21 | 25 | 29,5 | 38 | 46,5 | 56,5 | 71 | 89 | 110 |
| Ø D | 36,5 | 41,5 | 48 | 58 | 71,5 | 81 | 104 | 120 | 148,5 |
| □ E | 28 | 32 | 37 | 45 | 55 | 63 | 80 | 94 | 116,5 |
| EE | M 5 | M 5 | M 5 | G 1/8 | G 1/8 | G 1/8 | G 1/4 | G 1/4 | G 1/4 |
| Ø FB | 3,3 | 3,3 | 4,2 | 4,2 | 6,8 | 6,8 | 8,5 | 8,5 | 10,2 |
| FF | 10 | 10 | 10 | 18 | 18 | 18 | 22 | 22 | 22 |
| GB | 3,5 | 3,5 | 4,5 | 4,5 | 6,5 | 6,5 | 8,5 | 8,5 | 10,5 |
| □ H | 26,5 | 30 | 35 | 43 | 52 | 60 | 76 | 90 | 113 |
| HF | 6 | 8 | 8 | 10 | 10 | 12 | 12 | 16 | 20 |
| Ø JB | 6 | 6 | 7,5 | 7,5 | 10,5 | 10,5 | 13,5 | 13,5 | 16,5 |
| PF | 17 | 19,5 | 22 | 27,5 | 31,5 | 37 | 48 | 57 | 67 |
| PL | 7,5 | 7,5 | 8 | 9 | 10 | 10,5 | 13 | 14,5 | 16 |
| RT | M 4 | M 4 | M 5 | M 5 | M 8 | M 8 | M 10 | M 10 | M 12 |
| □ TG | 20 | 23 | 27 | 33 | 41 | 48 | 61 | 73 | 90,5 |
| TT | M 3 | M 3 | M 4 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 |
| WH | 11,5 | 14 | 14,5 | 16,5 | 16,5 | 20 | 20 | 25 | 30 |
| ZH | 24,5 | 26 (36) | 28,5 (38,5) | 29 (39) | 31,5 (41,5) | 35 (45) | 42,5 (52,5) | 47 (57) | 48,5 (58,5) |
| ZJ | 36 | 40 (50) | 43 (53) | 45,5 (55,5) | 48 (58) | 55 (65) | 62,5 (72,5) | 72 (82) | 78,5 (88,5) |

() = for stroke > 50 mm

Piston Rod Clevis Mounting Style 'F'



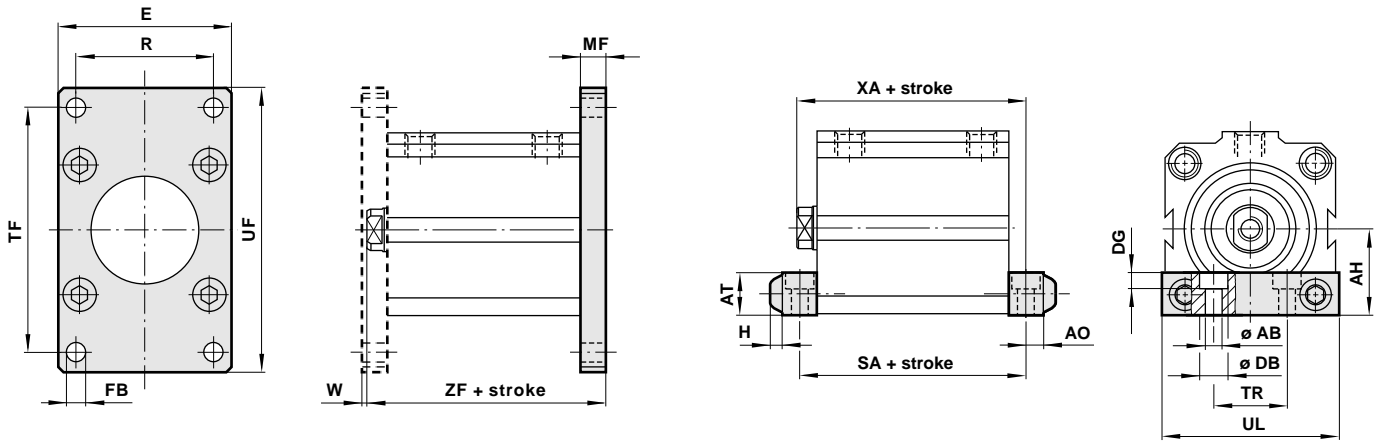
| Model 'F' | QM/57008/25 | QM/8010/25 | QM/92020/25 | QM/57016/25 | QM/57020/25 | QM/57025/25 | QM/57040/25 | QM/57063/25 |
|-----------|-------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Stud | M/P1710/18 | M/P1710/19 | M/P1710/20 | M/P1710/21 | M/P1710/22 | - | - | - |
| Nut | M/P1500/111 | M/P1501/80 | M/P1501/109 | M/P1501/79 | M/P1501/60 | - | - | - |
| Adaptor | - | - | - | - | - | M/P71470/1 | M/P71470/2 | M/P71470/3 |
| Ø | 12 | 16 | 20 | 25 | 32 and 40 | 50 | 63 | 80 and 100 |
| A | 12 | 16 | 20 | 25 | 25 | 29 | 35 | 45 |
| B | - | - | - | - | - | 12 | 15 | 20 |
| CE | 11 | 16 | 20 | 20 | 24 | 26 | 40 | 56 |
| Ø CK h11 | 3 h9 | 4 | 5 | 5 | 6 | 8 | 10 | 14 |
| □ CL | 6 | 8 | 10 | 10 | 12 | 14 | 20 | 27 |
| CM B12 | 3 | 4 | 5 | 5 | 6 | 7 | 10 | 14 |
| ER | 4,5 | 6,5 | 8 | 8 | 9,5 | 11,5 | 16 | 21 |
| KF | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 | M 12 | M 16 |
| KK | M 3 | M 4 | M 5 | M 6 | M 8 | M 10 x 1,25 | M 12 x 1,25 | M 16 x 1,5 |
| KV (A/F) | 6 | 7 | 8 | 10 | 13 | 12 | 13 | 17 |
| KW | 2 | 2 | 2,5 | 3 | 4 | 5 | 5 | 5 |
| LE | 5 | 8 | 10 | 10 | 12 | 12 | 20 | 28 |
| RK | 10 | 11,5 | 14,5 | 14,5 | 17,5 | 20,5 | 29 | 36,5 |

To order a piston rod clevis mounting style 'F' complete: Ø 12 to 40 mm= Model 'F' plus Stud and Nut, Ø 50 to 100 mm= Model 'F' plus Adaptor.



Rear Flange Mounting Style 'B'
Front Flange Mounting Style 'G'

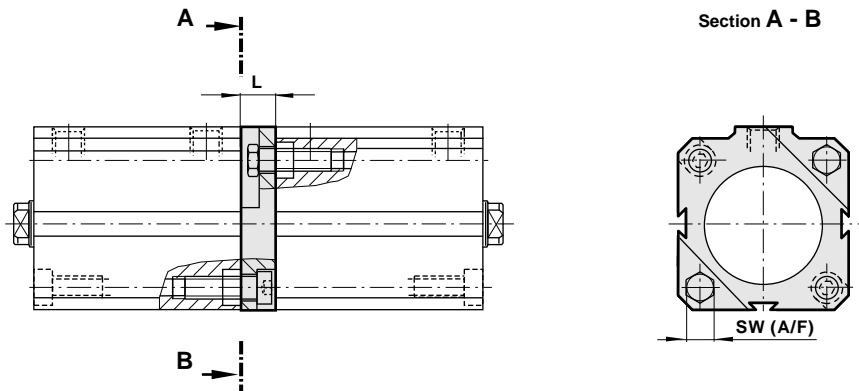
Foot Mounting Style 'C'



| Model 'B', 'G' | QM/90012/22 | QM/90016/22 | QM/90020/22 | QM/90025/22 | QM/90032/22 | QM/90040/22 | QM/90050/22 | QM/90063/22 | QM/90080/22 | QM/90100/22 |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Model 'C' | QM/90012/21 | QM/90016/21 | QM/90020/21 | QM/90025/21 | QM/90032/21 | QM/90040/21 | QM/90050/21 | QM/90063/21 | QM/90080/21 | QM/90100/21 |
| ∅ | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| ∅ AB | 3,4 | 3,4 | 3,4 | 4,3 | 4,3 | 6,4 | 6,4 | 8,4 | 8,4 | 10,5 |
| AH | 13,5 | 15 | 16,5 | 20 | 23 | 28,5 | 32 | 41,5 | 49 | 59,5 |
| AO | 4 | 4 | 4 | 5 | 5 | 6,5 | 6,5 | 8 | 8 | 9,5 |
| AT | 9,5 | 9,5 | 9,5 | 12,5 | 12,5 | 16 | 16 | 22 | 25,5 | 28,5 |
| ∅ DB | 6 | 6 | 6 | 7,5 | 7,5 | 10,5 | 10,5 | 13,5 | 13,5 | 16,5 |
| DG | 3,5 | 3,5 | 3,5 | 4,5 | 4,5 | 6,5 | 6,5 | 8,5 | 8,5 | 10,5 |
| E | 26 | 30 | 33 | 38 | 46 | 57 | 64 | 81 | 95 | 118 |
| H | 2 | 2 | 2 | 3 | 3 | 4,5 | 4,5 | 5,5 | 5,5 | 6,5 |
| ∅ FB | 3,5 | 3,5 | 3,5 | 4,5 | 4,5 | 6,5 | 6,5 | 8,5 | 8,5 | 11 |
| MF | 5 | 5 | 5 | 6,5 | 6,5 | 9,5 | 9,5 | 12,5 | 12,5 | 12,5 |
| R | 18 | 22 | 25 | 28 | 36 | 43 | 50 | 63 | 77 | 98 |
| TF | 38 | 42 | 48 | 54 | 66 | 78 | 90 | 110 | 128 | 156 |
| TR | 25 | 32 | 35 | 41 | 19 | 21 | 27 | 34 | 44 | 56 |
| UF | 46 | 50 | 56 | 64 | 76 | 92 | 104 | 128 | 146 | 176 |
| UL | 33 | 40 | 43 | 51 | 46 | 56 | 64 | 81 | 95 | 118 |
| W | - 0,5 | 0,5 | 1 | 0 | 0 | - 3 | - 1 | - 4,5 | - 3,5 | - 2,5 |
| ZF | 33,5 | 35 (45) | 37 (47) | 41,5 (51,5) | 42 (52) | 47,5 (57,5) | 52,5 (62,5) | 63,5 (73,5) | 68,5 (78,5) | 71,5 (81,5) |
| SA | 32 | 32,5 (42,5) | 34 (44) | 38 (48) | 38,5 (48,5) | 44,5 (54,5) | 47,5 (57,5) | 58,5 (68,5) | 62,5 (72,5) | 67,5 (77,5) |
| XA | 32,5 | 34 (44) | 36 (46) | 39,5 (49,5) | 40 (50) | 44,5 (54,5) | 49 (59) | 58,5 (68,5) | 64 (74) | 68 (78) |

Note: Dimension 'W' negative figures indicate that the piston rod is proud of the mounting face.
() = for stroke > 50 mm and non-rotating piston rod cylinders RM/92000/N2

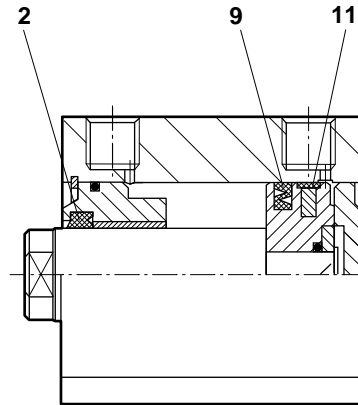
Assembly kit



| Assembly kit | QM/92012/55 | QM/92016/55 | QM/92020/55 | QM/92025/55 | QM/92032/55 | QM/92040/55 | QM/92050/55 | QM/92063/55 | QM/92080/55 | QM/92100/55 |
|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| ∅ | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| L | 10 | 10 | 10 | 10 | 10 | 15 | 15 | 20 | 20 | 25 |
| SW (A/F) | 7 | 7 | 7 | 8 | 8 | 13 | 13 | 17 | 17 | 19 |



Spares



| Model | Spares kit | Comprising | | |
|------------|-------------|------------|-----------------|----------|
| | | Item | Description | Quantity |
| RM/92050/M | QM/92050/00 | 2 | Piston rod seal | 1 |
| RM/92063/M | QM/92063/0 | 9 | Piston seal | 1 |
| RM/92080/M | QM/92080/00 | 11 | Wear ring | 1 |
| RM/92100/M | QM/92100/00 | | Grease | 1 |

Note: Please quote the cylinder number when ordering spare parts. Spares are not available for Ø 12 to 40 mm models.