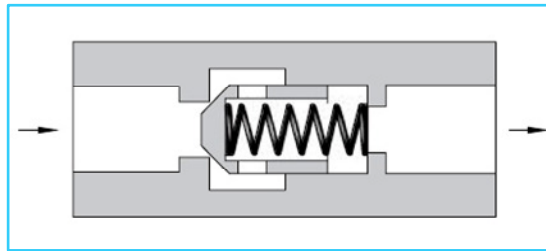
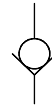


In-Line Check Valves

These valves allow free flow in one direction and prevent flow in the reverse direction. Cracking pressure specified is the pressure required to open the valve and allow free flow.



Graphic Symbol



Specifications

| Model Number | Rated Flow * L/min. | Max. Operating Pressure Kgf/cm ² | Cracking Pressure Kgf/cm ² | Mass Kg. |
|--------------|------------------------|--|--|-------------|
| CIT-02-2080 | 12 | 210 | 0.35 | 0.10 |
| CIT-03-2080 | 30 | | 2.0 | 0.18 |
| CIT-06-2080 | 80 | | 3.5 | 0.65 |
| CIT-10-2080 | 200 | | 5.0 | 2.1 |

* Rated flow is the approximate flow rate, when there is a free flow pressure drop of maximum 3 Kgf/cm², the fluid has a specific gravity of 0.85, a kinematic viscosity of 20cSt, and the cracking pressure is 0.35 Kgf/cm².

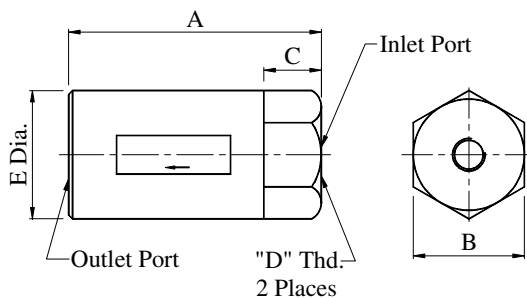
Model Number Designation

| CI | T | -03 | 30 | 20 | 80 |
|---------------------------------------|-------------------------------------|------------|---------------------------------------|---------------|------------------|
| Series Number | Type of Connection | Valve Size | Cracking Pressure Kgf/cm ² | Design Number | Design standards |
| CI: In-Line Check – line | T: Threaded Connection | 02 | 5 : 0.35 | 20 | 80 |
| | | 03 | 30 : 2.0 | 20 | |
| | | 06 | 50 : 3.5 | 20 | |
| | | 10 | 75 : 5.0 | 20 | |

- For in-line check valves, standard type (for petroleum base oil) can be used phosphate ester type fluid.

- CIT-02-2080**
- CIT-03-2080**
- CIT-06-2080**
- CIT-10-2080**

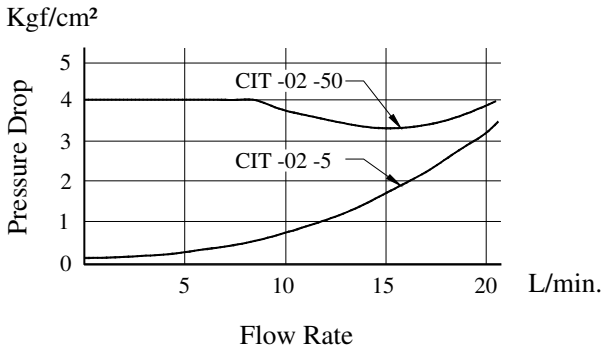
DIMENSIONS IN MILLIMETRES



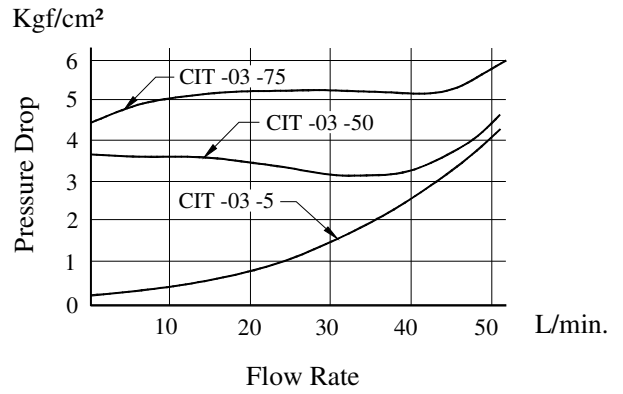
| Model Numbers | mm | | | | "D" Thd. |
|---------------|-----|----|----|------|-------------|
| | A | B | C | E | |
| CIT-02-2080 | 65 | 22 | 15 | 25.4 | 1/4 BSP.F |
| CIT-03-2080 | 70 | 28 | 20 | 33 | 3/8 BSP.F |
| CIT-06-2080 | 95 | 38 | 25 | 44 | 3/4 BSP.F |
| CIT-10-2080 | 132 | 58 | 30 | 67 | 1 1/4 BSP.F |

Pressure Drop

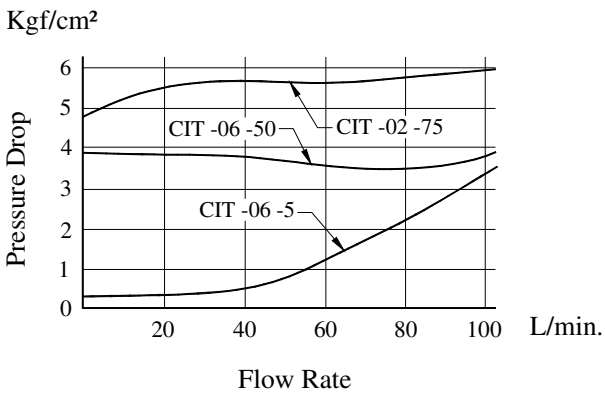
● **CIT-02**



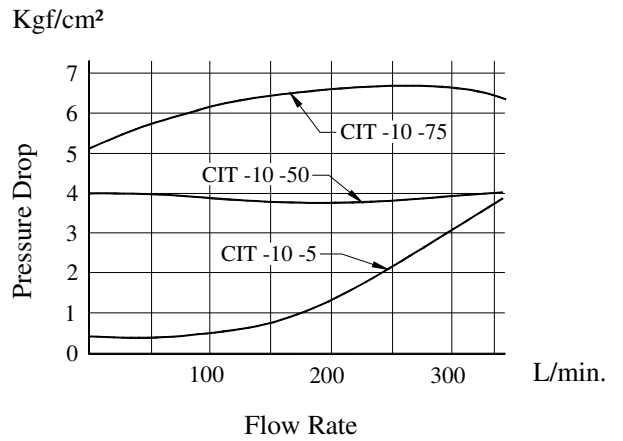
● **CIT-03**



● **CIT-06**

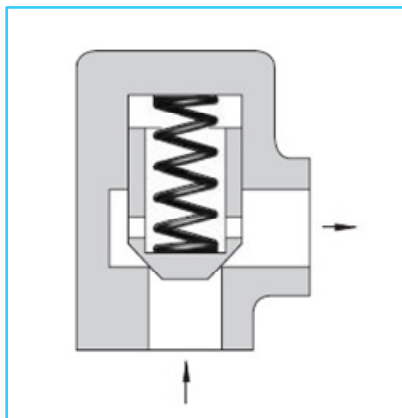


● **CIT-10**

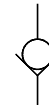


Right Angle Check Valves

These valves allow free flow in one direction and prevent flow in the reverse direction. Cracking pressure specified is the pressure required to open the valve and allow free flow.



Graphic Symbol



Specifications

| Model Numbers | | Rated Flow * L/min | Max. Operating Press. Kgf/cm ² | Cracking Pres. Kgf/cm ² | Mass Kg |
|--------------------|-------------|-----------------------|--|---------------------------------------|------------|
| Sub-plate Mounting | CRG-03-※-50 | 40 | 250 | 0.4, 3.5, 5.0 | 1.7 |
| | CRG-06-※-30 | 125 | | 0.35, 2.0, 3.5, 5.0 | 4.1 |
| | CRG-10-※-50 | 250 | | 0.4, 3.5, 5.0 | 5.5 |
| Flanged Connection | CRF-16-※-50 | 600 | | 0.4, 3.5, 5.0 | 15.6 |

* Rated flow is the approximate flow rate, when there is a free flow pressure drop of maximum 3 Kgf/cm², the fluid has a specific gravity of 0.85, a kinematic viscosity of 20cSt, and the cracking pressure is 0.4 Kgf/cm².

Model Number Designation

| F- | CR | G | -03 | -04 | -T | -50 |
|--|---------------------------------------|---------------------------------|------------|---------------------------------------|--|------------------|
| Series Number | Type of Connection | Type of Connection | Valve Size | Cracking Pressure Kgf/cm ² | Type of Operation | Design Standards |
| F: Special seals for phosphate ester type fluid (Omit if not required) | CR: Right Angle Check Valve | G: Sub-plate Mounting | 03 | 04:0.4, 35:3.5, 50:5.0 | None: Without hand knob T: With Hand Knob | 50 |
| | | | 06 | 5:0.35, 30:2.0, 50:3.5, 75:5.0 | | 30 |
| | | | 10 | 04:0.4, 35:3.5, 50:5.0 | | 50 |
| | | F: Flanged Connection | 16 | 04:0.4, 35:3.5, 50:5.0 | None: Without hand knob | 50 |

Mounting Bolts

Socket head cap screws in the table below are included.

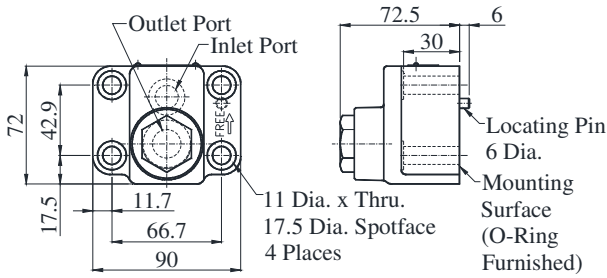
| Valve Model Numbers | Soc. head cap screw | Qty. | Mounting Bolt Ordering Code |
|---------------------|---------------------|------|-----------------------------|
| CRG-03 | M10 x 45 Lg. | 4 | BKCRG-03-50 |
| CRG-06 | M16 x 70 Lg. | 4 | BKCRG-06-30 |
| CRG-10 | M10 x 55 Lg. | 6 | BKCRG-10-50 |

Pipe Flange Kits

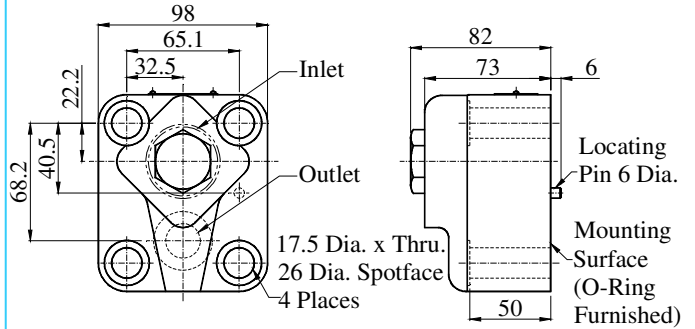
Pipe flange kits are available. When ordering, specify kits model from the table below.

| Valve Model Numbers | Pipe Flange Kit Model Numbers | |
|---------------------|-------------------------------|----------------------|
| | For Socket Welding | Threaded Connections |
| CRF-16 | F3-16※-A-11 | F3-16※-B-1180 |

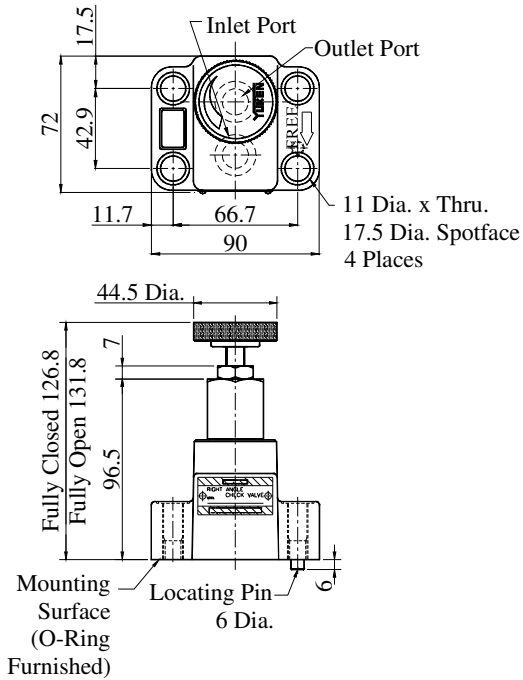
● **CRG-03-※-50**



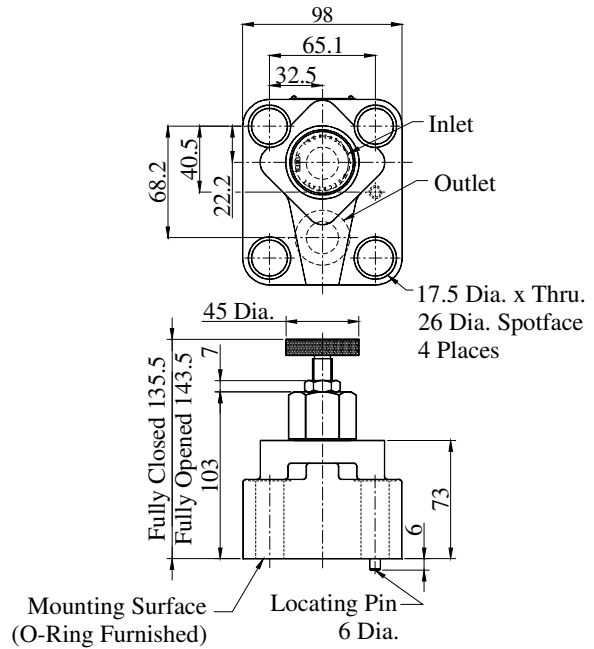
● **CRG-06-※-30**



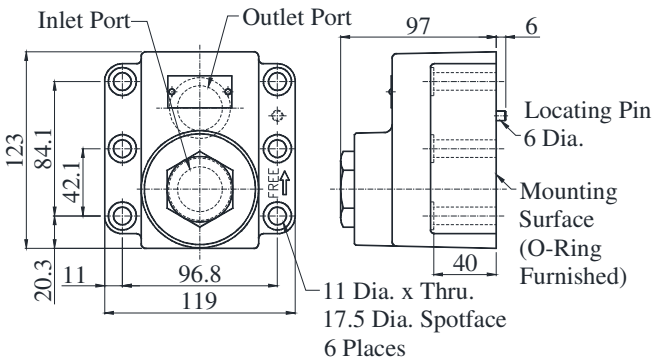
● **CRG-03-※-T-50**



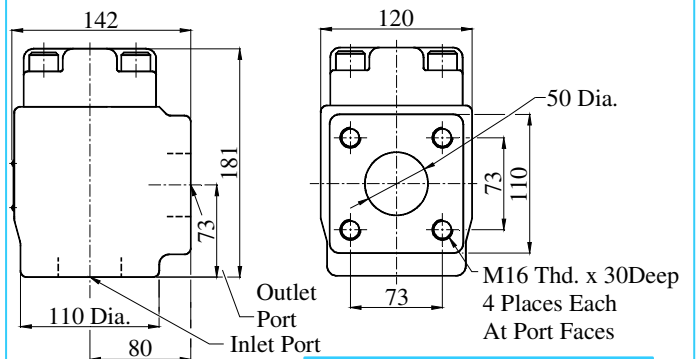
● **CRG-06-※-T-30**



● **CRG-10-※-50**



● **CRF-16-※-50**



DIMENSIONS IN MILLIMETRES

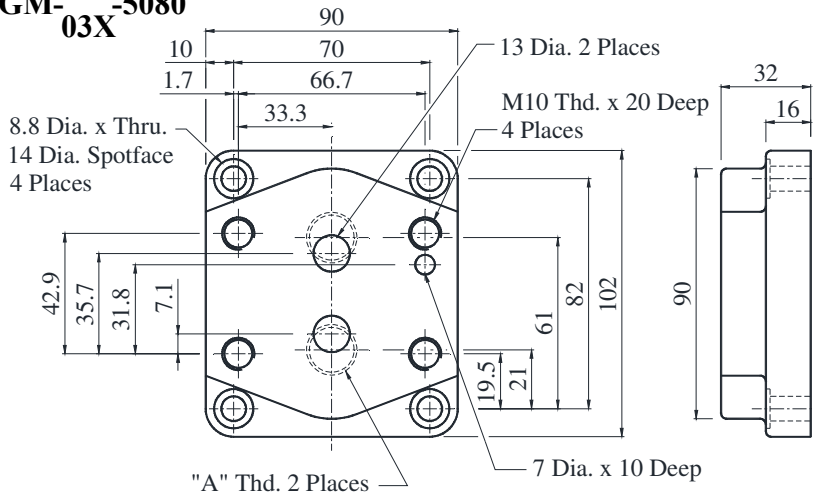
Sub-plates

| Valve Model Number | Sub-plate Model Numbers | Thread Size | Mass (Approx.) Kg |
|--------------------|-------------------------|-------------|-------------------|
| CRG-03 | CRGM-03-5080 | 3/8 BSP.F | 1.6 |
| | CRGM-03X-5080 | 1/2 BSP.F | 1.6 |
| CRG-06 | CRGM-06-3080 | 3/4 BSP.F | 3.2 |
| | CRGM-06X-3080 | 1 BSP.F | 3.0 |
| CRG-10 | CRGM-10-5080 | 1-1/4 BSP.F | 4.8 |
| | CRGM-10X-5080 | 1-1/2 BSP.F | 5.7 |

Sub-plates are available. Specify sub-plate model from the table above. When sub-plates are not used, the mounting surface should have a good machined finished.

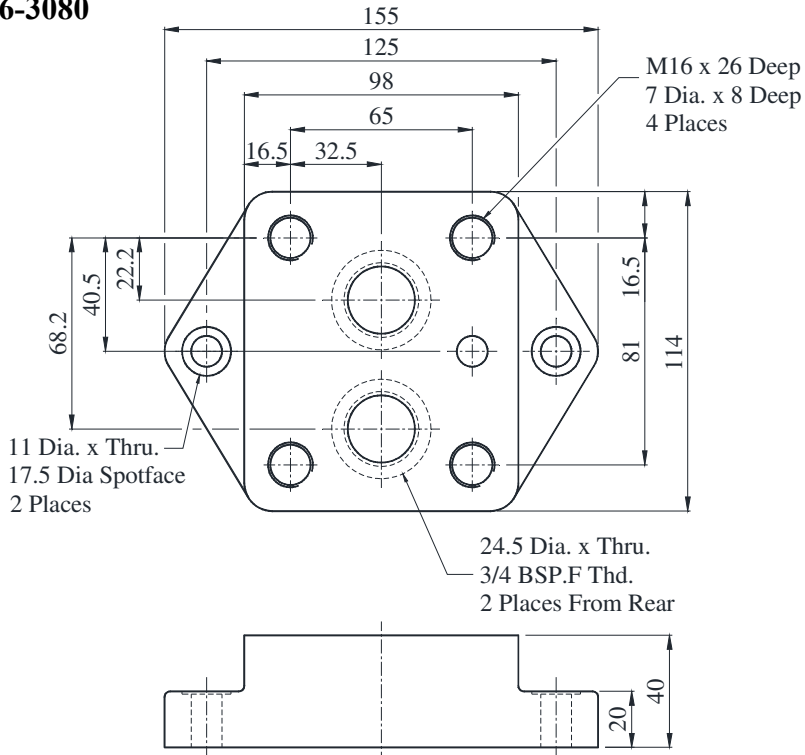
● **CRGM-03-5080**
03X

DIMENSIONS IN MILLIMETRES



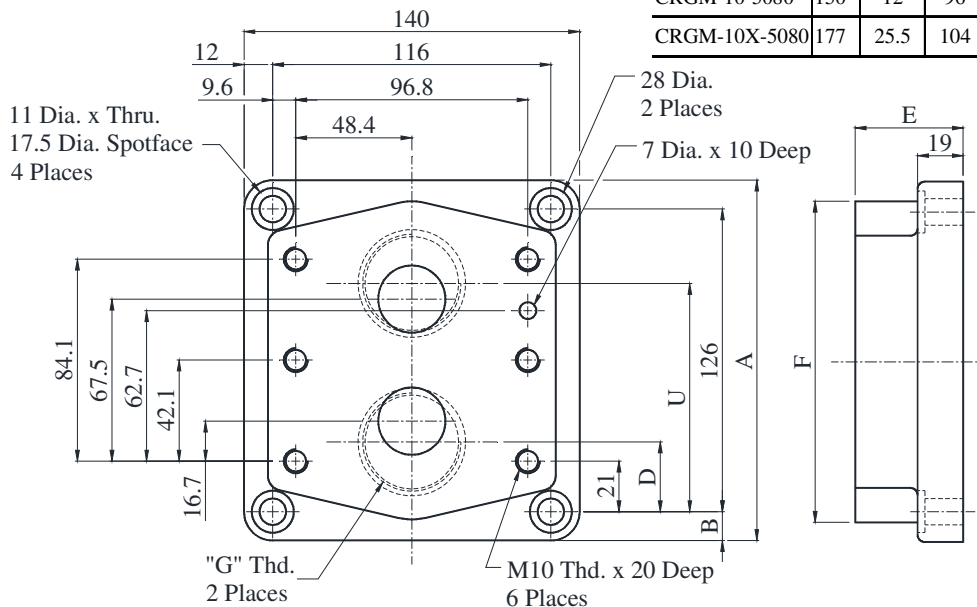
| Sub-plate Model Numbers | "A" Thd. |
|-------------------------|-----------|
| CRGM-03-5080 | 3/8 BSP.F |
| CRGM-03X-5080 | 1/2 BSP.F |

● **CRGM-06-3080**



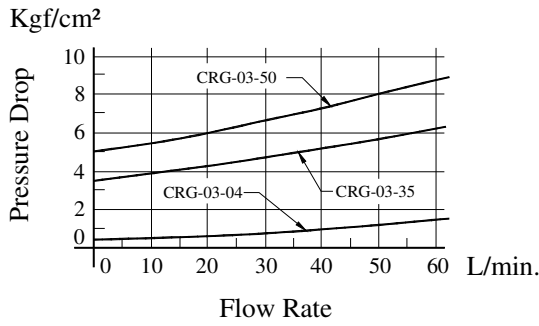
● **CRGM-10-3080**
10X

| Sub-plate Model Numbers | Dimensions mm | | | | | | "G" Thd. |
|-------------------------|---------------|------|-----|----|----|-----|-------------|
| | A | B | C | D | E | F | |
| CRGM-10-5080 | 150 | 12 | 96 | 30 | 45 | 135 | 1-1/4 BSP.F |
| CRGM-10X-5080 | 177 | 25.5 | 104 | 22 | 50 | 167 | 1-1/2 BSP.F |

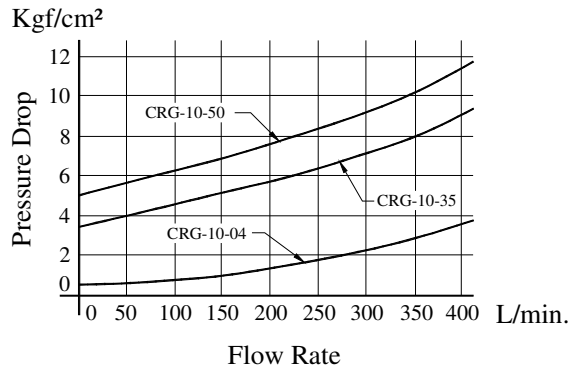


Pressure Drop

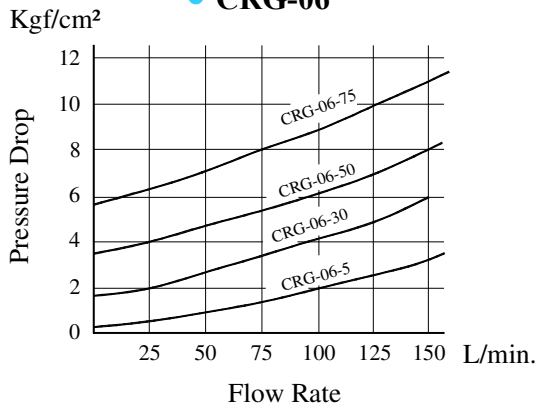
● **CRG-03**



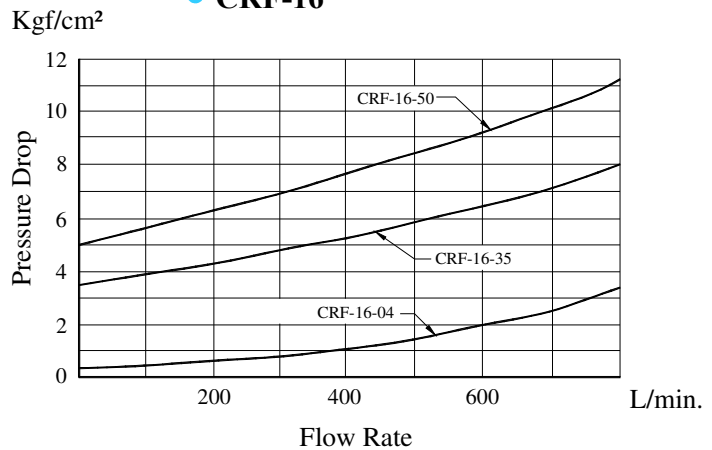
● **CRG-10**



● **CRG-06**



● **CRF-16**



Spare Parts List

● **List of Seals**

| Sl. No. | Name of Part | Model No. | | | | | | | Qty. |
|---------|--------------|-----------|----------|-----------|----------|-----------|----------|-----------|------|
| | | CRG-03 | CRG-03-T | CRG-06 | CRG-06-T | CRG-10 | CRG-10-T | CRF-16 | |
| 1 | O-Ring | -- | SO-NB-P3 | -- | -- | | | -- | 1 |
| 2 | Backup Ring | -- | SO-BB-P3 | -- | -- | | | -- | 1 |
| 3 | O-Ring | SO-NB-P21 | | -- | -- | | | -- | 1 |
| 4 | O-Ring | SO-NB-P18 | | -- | -- | | | -- | 1 |
| 5 | O-Ring | -- | -- | SO-NB-P24 | | | | -- | 1 |
| 6 | O-Ring | -- | -- | SO-NB-P28 | | | | -- | 2 |
| 7 | O-Ring | -- | -- | -- | SO-NA-P5 | | | -- | 1 |
| 8 | Backup Ring | -- | -- | -- | SO-BB-P5 | | | -- | 1 |
| 9 | O-Ring | -- | -- | -- | -- | SO-NB-P32 | | -- | 3 |
| 10 | O-Ring | -- | -- | -- | -- | -- | SO-NA-P7 | -- | 1 |
| 11 | Backup Ring | -- | -- | -- | -- | -- | SO-BB-P7 | -- | 1 |
| 12 | O-Ring | -- | -- | -- | -- | -- | -- | SO-NA-G40 | 1 |

Note : When ordering the seals, please specify the seal kit number from the table as below.

● **List of Seals Kits**

| Sl. No. | Model No. | Seal Kit No. | Sl. No. | Model No. | Seal Kit No. |
|---------|-------------|----------------|---------|-------------|----------------|
| 1 | CRG-03-50 | KS-CRG-03-50 | 1 | CRG-10-50 | KS-CRG-10-50 |
| 2 | CRG-03-T-50 | KS-CRG-03-T-50 | 2 | CRG-10-T-50 | KS-CRG-10-T-50 |
| 1 | CRG-06-30 | KS-CRG-06-30 | 1 | CRF-16-50 | KS-CRF-16-50 |
| 2 | CRG-06-T-30 | KS-CRG-06-T-30 | | | |