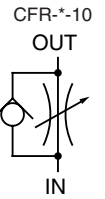




Throttle (and Check) Valve

190 ℓ /min
21MPa



Features

- ① Compact and lightweight, requires very little space for installation.
- ② Special needle valve configuration provides smooth flow rate control.
- ③ Pressure is internally balanced for light handle operation, even at high pressure.

Specifications

Model No.		Nominal Diameter (Size)	Maximum Flow Rate ℓ /min	Cracking pressure MPa{kgf/cm ² }	Maximum Working Pressure MPa{kgf/cm ² }	Weight kg	
Screw Mounting	Gasket Mounting					T Type	G Type
(C)FR-T03-10	(C)FR-G03-10	3/8	30	0.15{1.5}	21{214}	1.3	1.7
(C)FR-T06-10	(C)FR-G06-10	3/4	75	0.1{1.0}		3.0	3.7
(C)FR-T10-10	(C)FR-G10-10	1 1/4	190			5.6	5.8

● Handling

- 1 The control flow rate is increased by counter clockwise (leftward) rotation of the flow rate control handle.
- 2 The control flow rate does not become zero even if the handle is fully turned.
- 3 There is no pressure or temperature compensation mechanism.
- 4 Bi-directional restriction is possible when there is no check valve.
- 5 Use the table to the right for specification when a sub plate is required.
- 6 See the table to the right for installation hex socket bolts. However, bolts are not included for a screw mounting type.

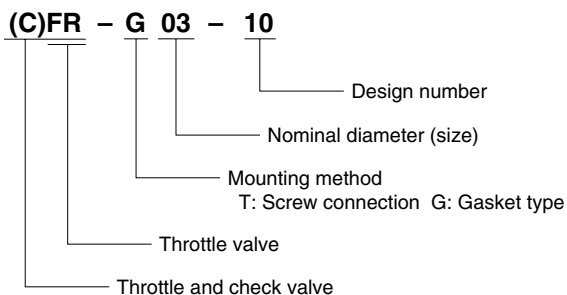
Applicable Pump Model	Bolt Size	Q'ty	Tightening Torque m{kgf·cm}
(C)FR-G03-10	M8 × 65 ℓ	4	20 to 25{ 205 to 255}
(C)FR-G06-10	M12 × 75 ℓ	4	75 to 95{ 765 to 969}
(C)FR-G10-10	M14 × 90 ℓ	4	120 to 150{1220 to 1530}

Note)For mounting bolts, use 12T or equivalent.

● Sub Plate

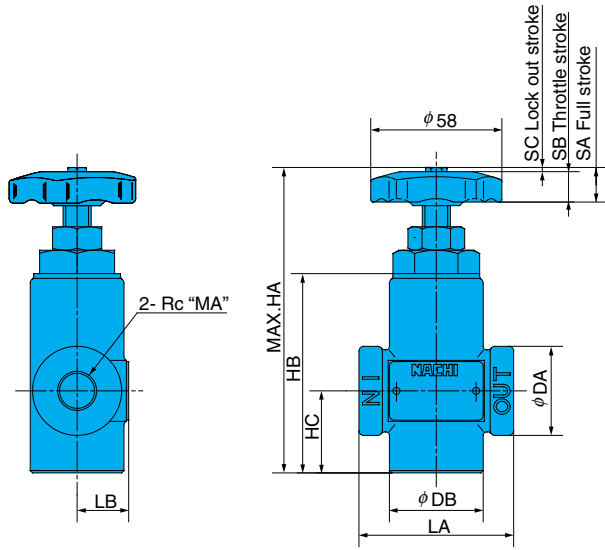
Model No.	Pipe Diameter	Recommended Flow Rate ℓ /min	Weight kg	Applicable Valve Type
MFR-03-10	3/8	30	1.0	(C)FR-G03-10
MFR-06-10	3/4	75	2.2	(C)FR-G06-10
MFR-10-10	1 1/4	190	4.1	(C)FR-G10-10

Understanding Model Numbers



Installation Dimension Drawings

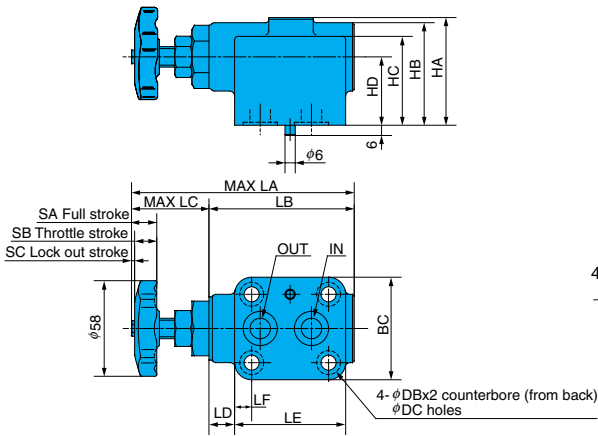
(C)FR-T**-10 (Screw Mounting)



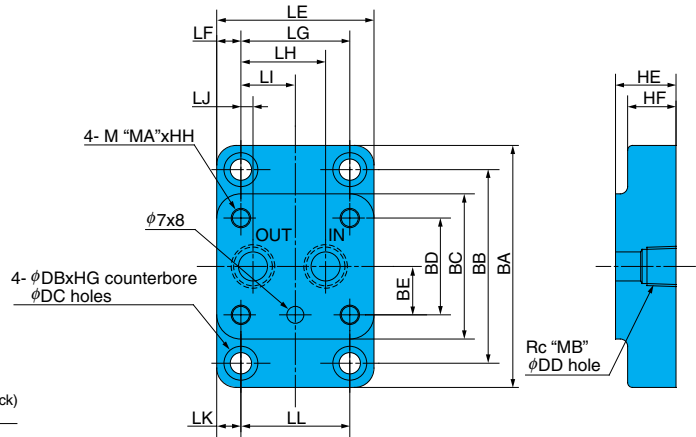
Model No.	LA	LB	DA	DB
(C)FR-T03-10	66	21.5	38	40
(C)FR-T06-10	95	30.5	55	55
(C)FR-T10-10	130	38.5	74	70

HA	HB	HC	SA	SB	SC	MA
130.5	85	35	7	6	1	3/8
175.5	123	55	10	9	1	3/4
206.5	150	70	14	12	2	1 1/4

(C)FR-G**-10 (Gasket Mounting)



Sub Plate MFR**-10



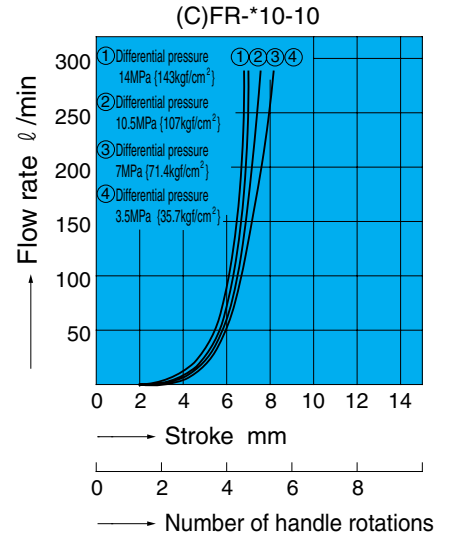
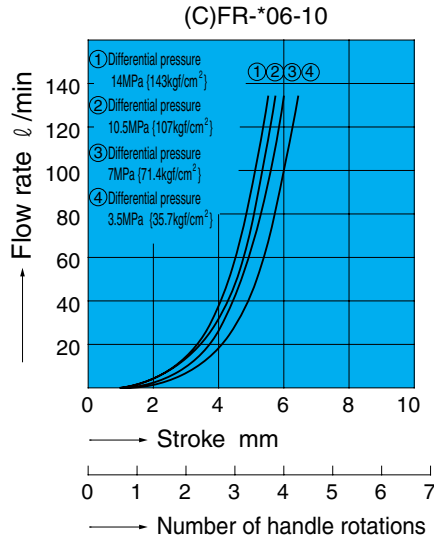
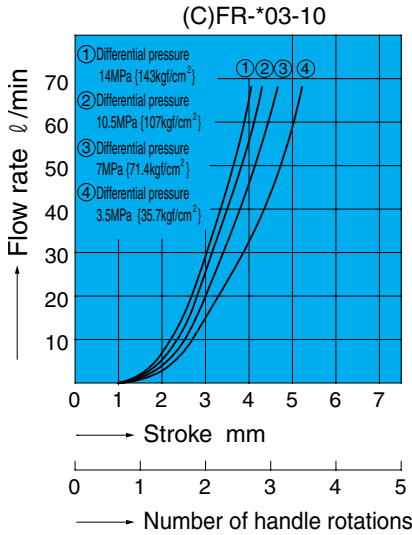
DB	DC	DD	MA	MB	SA	SB	SC
14	8.8	12	8	3/8	7	6	1
20	13	20	12	3/4	10	9	1
23	15	30	14	1 1/4	14	12	2

Model Number	LA	LB	LC	LD	LE	LF	LG	LH	LI	LJ	LK	LL	BA	BB	BC	BD	BE	HA	HB	HC	HD	HE	HF	HG	HH
(C)FR-G03-10	130.5	85	45	15	65	10	45	35	22.5	5	10	45	100	80	60	40	20	63	60	52	40	25	20	8.6	18
(C)FR-G06-10	175.5	123	52	14	96	13	70	55	35	15	14	68	132	106	80	54	27	71	68	57	40	30	25	13	20
(C)FR-G10-10	206.5	150	56	14	120	15	90	72.5	45	17.5	16	88	154	122	90	60	30	83	80	68	45	40	35	15.2	25

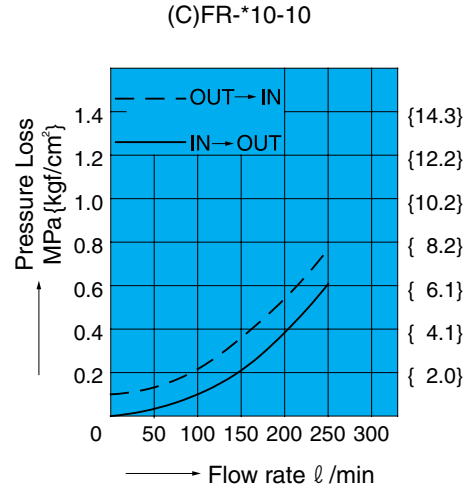
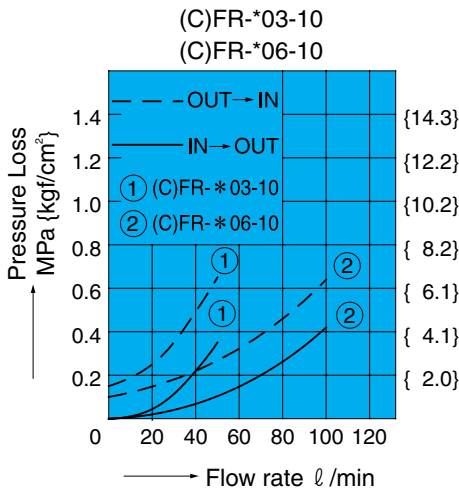
Performance Curves

Hydraulic Operating Fluid Viscosity 32mm²/s

Stroke – Flow Rate Characteristics

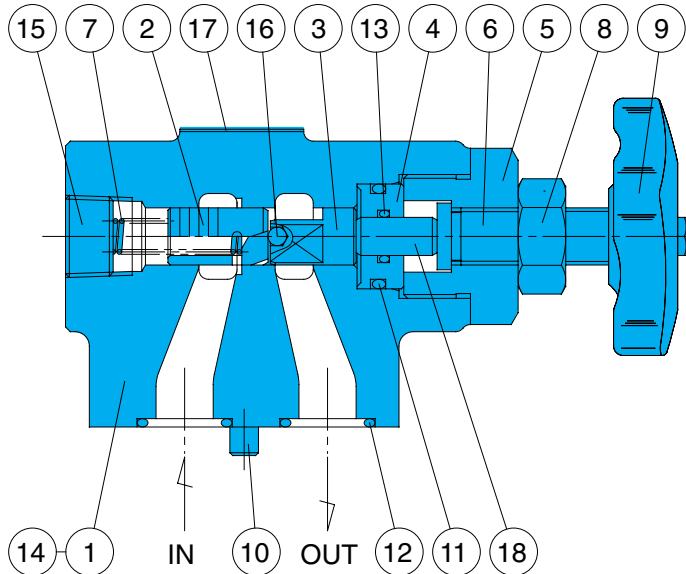


Pressure Loss Characteristics



Cross-sectional Drawing

CFR-G**-10



Part No.	Part Name
1	Body
2	Poppet
3	Piston
4	Bracket
5	Stopper
6	Screw
7	Spring
8	Nut
9	Handle
10	Pin
11	O-ring
12	O-ring
13	O-ring
14	Plug
15	Plug
16	Ball
17	Plate
18	Rod

Seal Part List (Kit Model Number FSS-***)

Part No.	Part Name	CFR-G03-10		CFR-G06-10		CFR-G10-10	
		Part Number	Q'ty	Part Number	Q'ty	Part Number	Q'ty
11	O-ring	IB-P18	1	IB-G25	1	IB-G25	1
12	O-ring	IB-P16	2	IB-G25	2	IB-G35	2
13	O-ring	IB-P8	1	IB-P8	1	IB-P8	1

Note) O-ring 1B-** refers to JIS B2401-1B-**.

*** in the kit number is used for specification of the valve size (G03, T06, etc.)