



### Throttle (and Check) Valve

190ℓ/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 <sup>2</sup> }	Maximum Working Pressure MPa{kgf/cm <sup>2</sup> }	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	1¼	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 N·m{kgf·cm}
(C)FR-G03-10	M8 × 65ℓ	4	20 to 25{ 205 to 255}
(C)FR-G06-10	M12 × 75ℓ	4	75 to 95{ 765 to 969}
(C)FR-G10-10	M14 × 90ℓ	4	120 to 150{1220 to 1530}

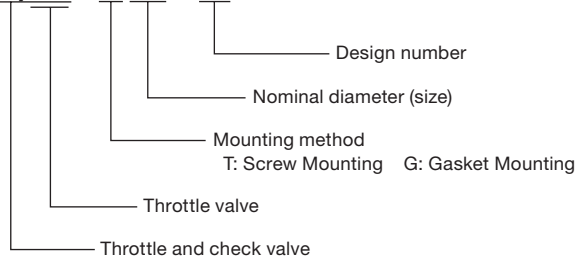
Note) For mounting bolts, use bolts of 12.9 strength classification or equivalent.

#### ● 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	1¼	190	4.1	(C)FR-G10-10

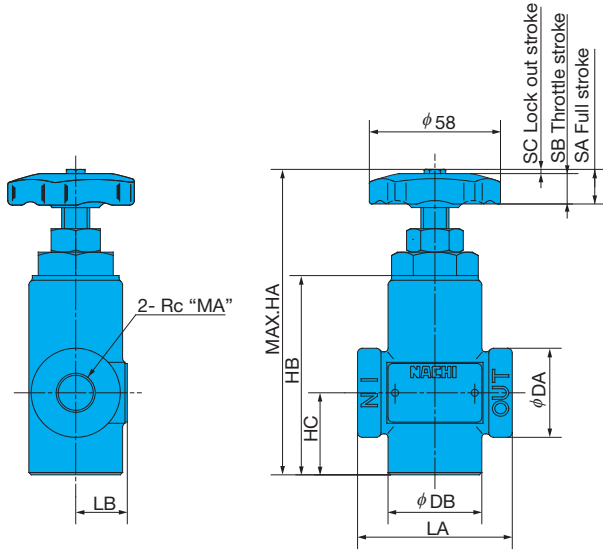
#### Explanation of model No.

**(C)FR - G 03 - 10**



# Installation Dimension Drawings

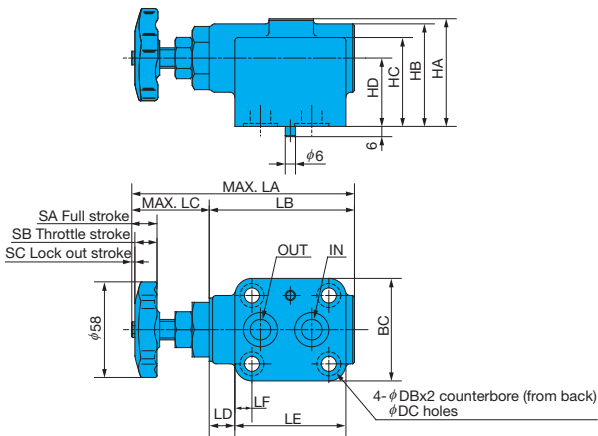
(C)FR-T\*\*-10 (Screw Mounting)



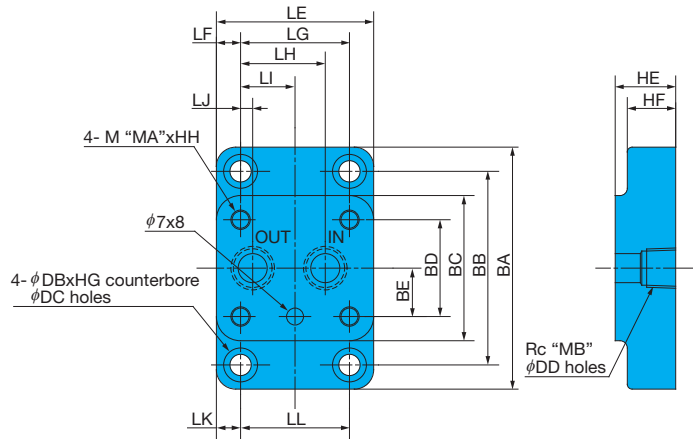
Model No.	LA	LB	DA	DB
(C)FR-T03-10	66	21.5	38	40
(C)FR-T06-10	95	30.5	55	55
(C)FR-T10-10	130	38.5	74	70

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

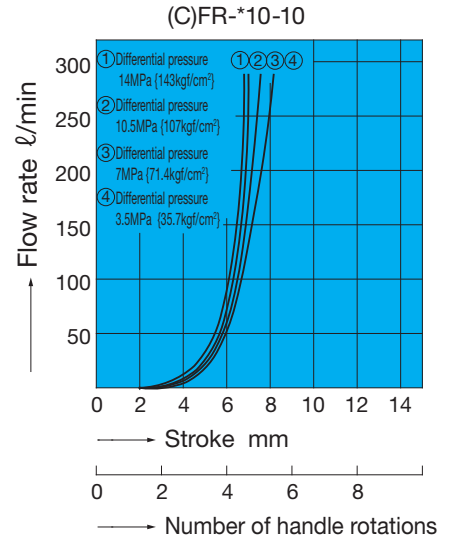
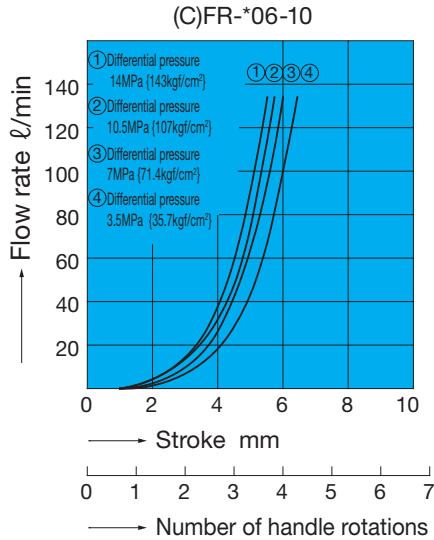
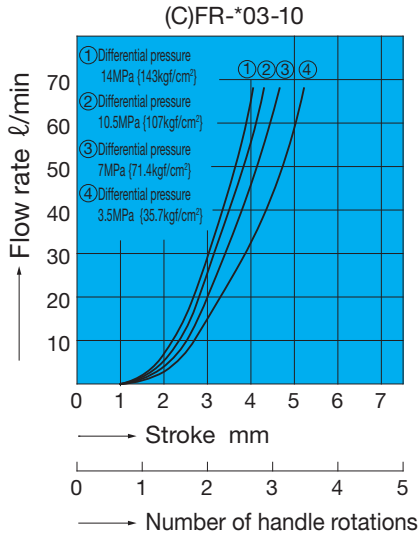
Model Number	LA	LB	LC	LD	LE	LF	LG	LH	LI	LJ	LK	LL	BA	BB	BC	BD	BE	HA	HB	HC	HD	HE	HF	HG	HH
(C)FR-G03-10	130.5	85	45	15	65	10	45	35	22.5	5	10	45	100	80	60	40	20	63	60	52	40	25	20	8.6	18
(C)FR-G06-10	175.5	123	52	14	96	13	70	55	35	15	14	68	132	106	80	54	27	71	68	57	40	30	25	13	20
(C)FR-G10-10	206.5	150	56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



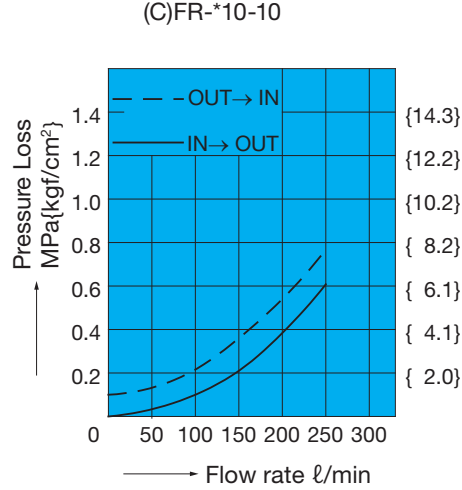
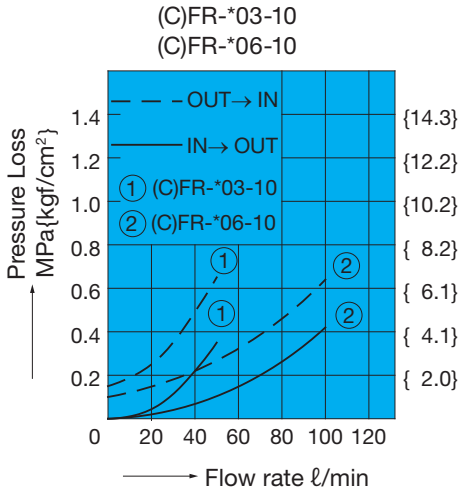
# Performance Curves

Hydraulic Operating Fluid Kinematic Viscosity 32mm<sup>2</sup>/s

Stroke – Flow Rate Characteristics

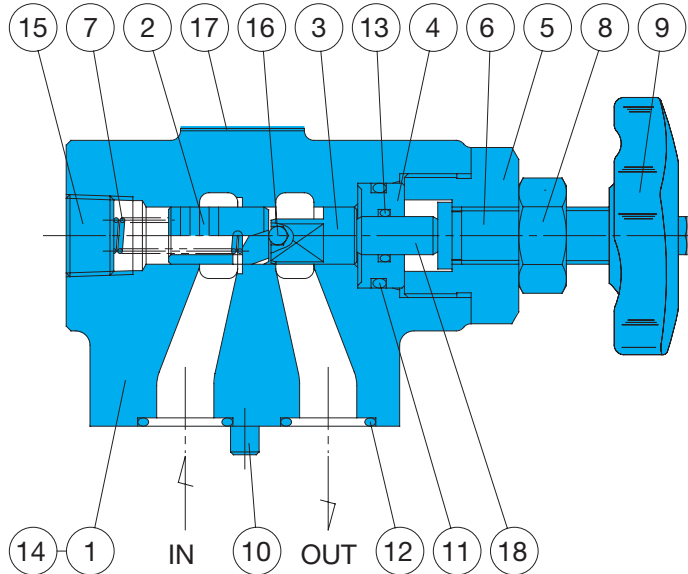


Pressure Loss Characteristics



# 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	NBR-90 P18	1	NBR-90 G25	1	NBR-90 G25	1
12	O-ring	NBR-90 P16	2	NBR-90 G25	2	NBR-90 G35	2
13	O-ring	NBR-90 P8	1	NBR-90 P8	1	NBR-90 P8	1

Note) The materials and hardness of the O-ring conforms with JIS B2401.  
\*\*\* in the kit number is used for specification of the valve size (G03, T06, etc.)



Flow Control Valve