# Throttle (and Check) Valve

# **Throttle (and Check) Valve**

50 gpm 3045 psi





# OUT

## **Features**

Compact and lightweight, requires very little space for installation.

Special needle valve configuration provides smooth flow rate control.

**Specifications** 

	Mode	el No.	Nominal Diameter	Maximum Flow	Cracking	Maximum Working	Weight Ibs		
	Screw Mounting	Gasket Mounting	(Size)	Rate gpm	pressure psi	Pressure psi	Т Туре	G Type	
ı	(C)FR-T03-10	(C)FR-G03-10	3/8	7.9	21.7		2.8	3.7	
ı	(C)FR-T06-10	(C)FR-G06-10	3/4	19.8	14.5	3045	6.6	8.1	
	(C)FR-T10-10	(C)FR-G10-10	1 <sup>1</sup> /4	50	14.5		12.3	12.7	

Pressure is internally balanced for light

handle operation, even at high pressure.

- 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.

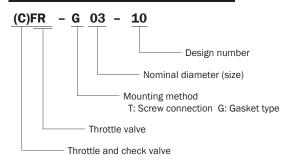
Applicable Pump Model	Bolt Size	Q'ty	Tightening Torque ft lbs
(C)FR-G03-10	M8 × 65 ℓ	4	14.7 to 18.4
(C)FR-G06-10	M12 × 75 ℓ	4	55 to 70
(C)FR-G10-10	M14×90ℓ	4	88 to 110

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

### • Sub Plate

Model No.	Pipe Diameter	Recommended Flow Rate gpm	Weight Ibs	Applicable Valve Type
MFR-03-10	3/8	7.9	2.2	(C)FR-G03-10
MFR-06-10	3/4	19.8	4.8	(C)FR-G06-10
MFR-10-10	1 <sup>1</sup> /4	50	9	(C)FR-G10-10

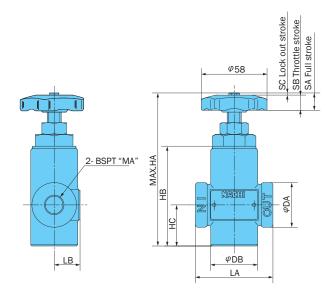
## **Understanding Model Numbers**



Catalog 1501

# **Installation Dimension Drawings**

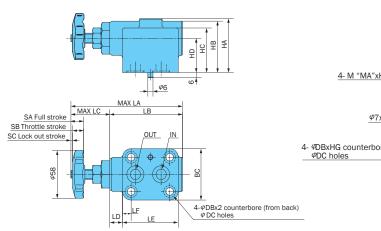
(C)FR-T\*\*-10 (Screw Mounting)



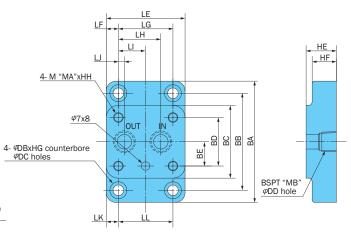
Model No.	LA	LB	DA	DB
(C)FR-T03-10	66	21.5	38	40
(C)FR-T06-10	95	30.5	55	55
(C)FR-T10-10	130	38.5	74	70

НА	НВ	НС	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 <sup>1</sup> / <sub>4</sub>

(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	11/4	14	12	2

	Model Number	LA	LB	LC	LD	LE	LF	LG	LH	LI	IJ	LK	LL	ВА	ВВ	ВС	BD	BE	НА	НВ	НС	HD	HE	HF	HG	НН
ĺ	(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
ĺ	(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
ĺ	(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 32 centistokes Stroke - Flow Rate Characteristics (C)FR-\*03-10 (C)FR-\*06-10 (C)FR-\*10-10 79.2 Differential pressure 1 Differential pressure 1234 1 Differential pressure (1)(2)(3)(4) 1234 18.4 2030 psi 2030 psi 2030 psi 36.9 සු 15.8 කු 15.8 2) Differential pressure Differential pressure 2 Differential pressure 66.0 rate gpm Flow rate gpm 1522 nsi 31.7 Flow rate 2.01 3) Differential pressure 3) Differential pressure 52.8 26.4 1015 psi 1015 psi 4) Differential pressure 21.1 507 nsi 39.6 7.9 15.8 26.4 10.5 13.2 2.6 5.2 .07 .15 .23 .31 .39 .47 .55 .03 .07 .1 .15 .19 .23 .27 → Stroke mm Stroke mm Stroke mm 2 3 2 3 4 → Number of handle rotations Number of handle rotations Number of handle rotations **Pressure Loss Characteristics** (C)FR-\*03-10 (C)FR-\*10-10 (C)FR-\*06-10 -OUT → IN – –OUT→IN Pressure Loss psi 203 Pressure Loss psi 203 IN→OUT ·IN→OUT 174 174 (1) (C)FR-\*03-10 145 145 (2) (C)FR-\*06-10 116 116 2 87 87 1 (2) 58 58 29 29 5.2 10.5 15.8 21.1 26.4 31.7 13.2 26.4 39.6 52.8 66 79.2 0 Flow rate gpm → Flow rate gpm 3)(13) 7 (16) 5 8 **Cross-sectional Drawing** (15) 6 CFR-G\*\*-10 Part No. Part Name 1 Body 2 Poppet Piston 4 Bracket 5 Stopper 6 Screw Spring Nut 9 Handle 10 Pin

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

Part	Part Name	CFR-G03-	10	CFR-G06-	10	CFR-G10-10		
No.	Fait Name	Part Number		Part Number	Q'ty	Part Number	Q'ty	
11	0-ring	IB-P18	1	IB-G25	1	IB-G25	1	
12	0-ring	IB-P16	2	IB-G25	2	IB-G35	2	
13	0-ring	IB-P8	1	IB-P8	1	IB-P8	1	

(14) 1 IN

(10)

OUT

(12)

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

(11)(18)

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

11

12

13

14 Plug

15

18

0-ring

0-ring

0-ring

Plug

Ball 16 17

Plate