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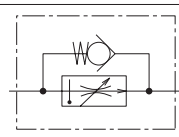
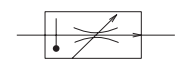
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Flow Control Valves and Flow Control Valves with Check Valve (with Pressure/Temperature Compensation Control)



JIS graphic symbols for hydraulic system



Features

- The valves with pressure/temperature compensation control can maintain the set flow rate regardless of changes in the load pressure and fluid temperature.
- Capable of flow control over a wide range from minimal flow rate to high quantity flow rate.
- The four full turns of the flow rate adjusting handle make fine adjustment and resetting easy.
- Options such as a flow rate adjusting handle locking key and jumping prevention structure are available.

Nomenclature

※ - JF ※ - G ※ ※ - ※ ※ ※ - ※ ※ - ※ ※

1 Applicable fluid code

No designation: Petroleum-based hydraulic fluid, water-glycol hydraulic fluid
F: Phosphate ester hydraulic fluid

2 Model No.

JF: J series flow control valve

3 Check valve code

No designation: Without check valve
C: With check valve

4 Connections

G: Gasket mount type

5 Nominal diameter

02: 1/4
03: 3/8

6 Maximum control flow rate

30: 30 L/min <Only applicable with the nominal diameter of "02">
105: 105 L/min <Only applicable with the nominal diameter of "03">

7 Design No.

(The design No. is subject to change)

15: Basic model JF -G02, JFC-G02
16: Basic model JF -G03
17: Basic model JFC-G03

8 Option code I

No designation: Without flow rate adjusting handle locking key
L: With flow rate adjusting handle locking key

9 Option code II

No designation: Without jumping prevention structure
N: With jumping prevention structure

Specifications

| Model code | Nominal diameter | Maximum operating pressure MPa {kgf/cm ² } | Flow rate adjustment range*1 L/min | Free flow L/min | Check valve Cracking pressure MPa {kgf/cm ² } | Mass kg |
|----------------|------------------|---|------------------------------------|-----------------|--|---------|
| JF -G02- 30-15 | 1/4 | 21 {210} | Up to 30 | 30 | 0.035 {0.35} | 3.9 |
| JFC-G02- 30-15 | | | | | | |
| JF -G03-105-16 | 3/8 | 21 {210} | Up to 105 | 105 | 0.035 {0.35} | 8.3 |
| JFC-G03-105-17 | | | | | | |

Note: *1 The minimum control flow rate varies depending on the pressure difference between the inlet and outlet ports. See the valve differential pressure - minimum control flow rate characteristics for details.

Sub-plate model code

- The sub-plate is not provided with the valve. Order it separately if required by specifying the model code given in the table below.

| Model code | Nominal diameter | Connection port diameter | Mass kg |
|------------|------------------|--------------------------|---------|
| JF-02M03 | 1/4 | Rc3/8 | 2.3 |
| JF-02M04 | | Rc1/2 | |
| JF-03M | 3/8 | Rc3/8 | 3.2 |
| JF-03M06 | | Rc3/4 | |
| JF-03M08 | | Rc1 | |

Refer to Page S-7 for the dimensions of the sub-plate.

Accessories

| Model No. | Hexagon socket head cap bolt | Quantity | Tightening torque N·m {kgf·cm} |
|-------------|------------------------------|----------|--------------------------------|
| JF (C) -G02 | M 8 × 55 | 4 | 25 to 30 {250 to 300} |
| JF (C) -G03 | M10 × 80 | 4 | 48 to 63 {480 to 630} |

Handling

- When controlling a flow rate of 0.2 L/min or less with JF(C)-G02 or 0.5 L/min or less with JF(C)-G03, use the valve in combination with a line filter with a filtration accuracy of 10 μm or better.
- To ensure good pressure compensation performance, maintain a pressure difference of 1 MPa {10 kgf/cm²} minimum between the inlet and outlet ports.
- Seal the O-ring (Part No. 25 in the sectional structural diagram) at the rear of the flow rate adjusting handle with the gasket face.

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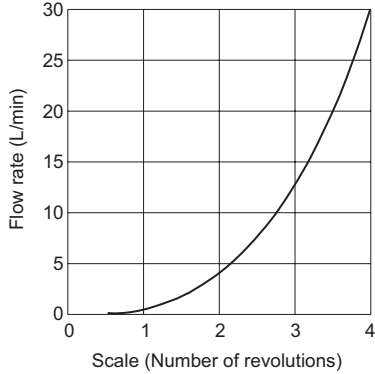
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Performance curves (viscosity: 32 mm²/s {cSt})

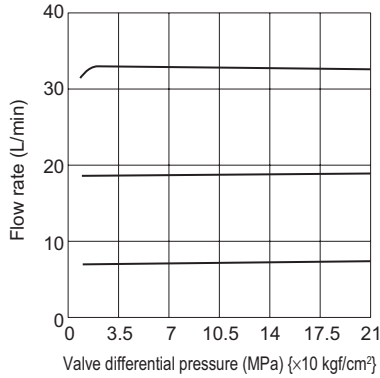
● JF(C)-G02

Scale - Flow rate characteristics

Pressure difference between inlet and outlet ports:
21 MPa {210 kgf/cm²}



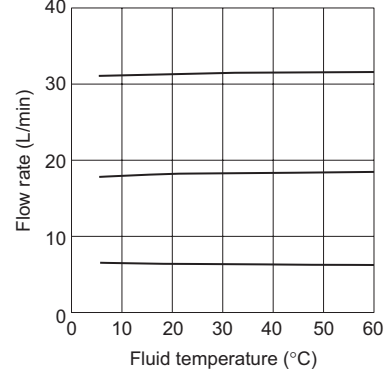
Valve differential pressure -
Flow rate characteristics



Fluid temperature - Flow rate characteristics

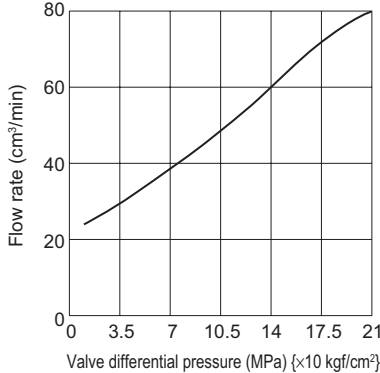
Pressure difference between inlet and outlet ports: 21 MPa {210 kgf/cm²}

Fluid used: equivalent to ISO VG32



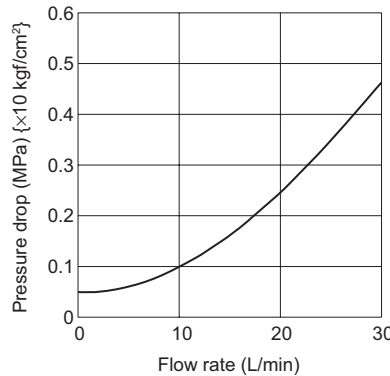
Valve differential pressure -

Minimum control flow rate characteristics



Free Flow pressure drop characteristics

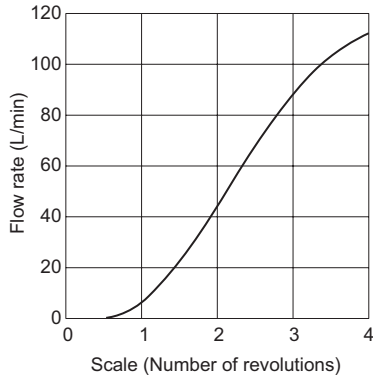
(with the flow rate adjusting section fully closed)



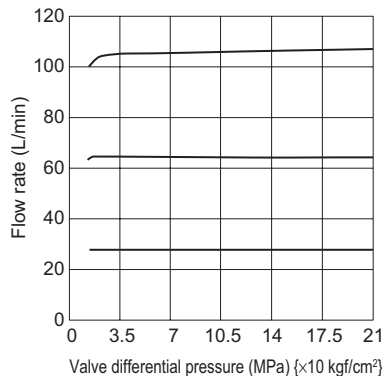
● JF(C)-G03

Scale - Flow rate characteristics

Pressure difference between inlet and outlet ports:
21 MPa {210 kgf/cm²}



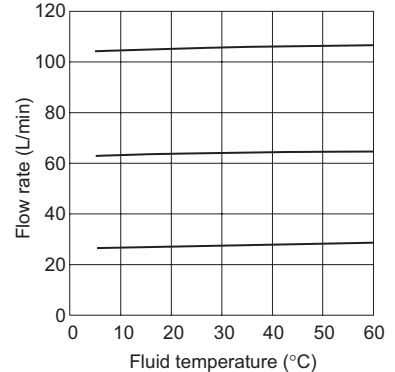
Valve differential pressure -
Flow rate characteristics



Fluid temperature - Flow rate characteristics

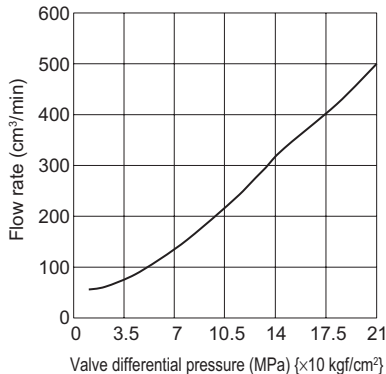
Pressure difference between inlet and outlet ports: 21 MPa {210 kgf/cm²}

Fluid used: equivalent to ISO VG32



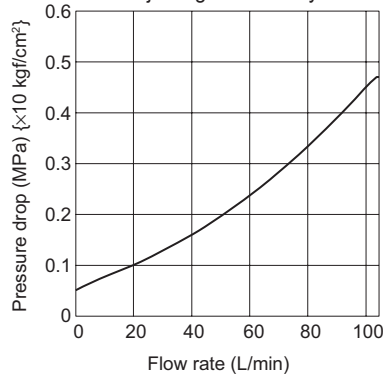
Valve differential pressure -

Minimum control flow rate characteristics



Free flow pressure drop characteristics

(with the flow rate adjusting section fully closed)



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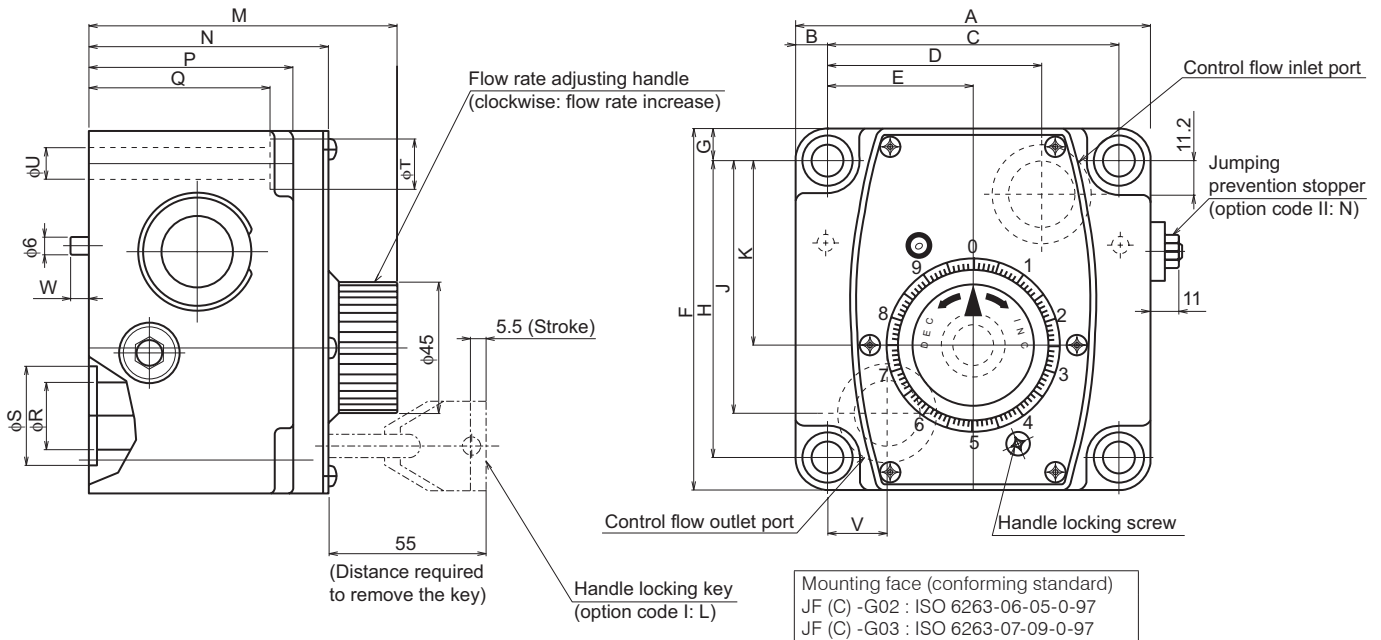
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External dimension diagram

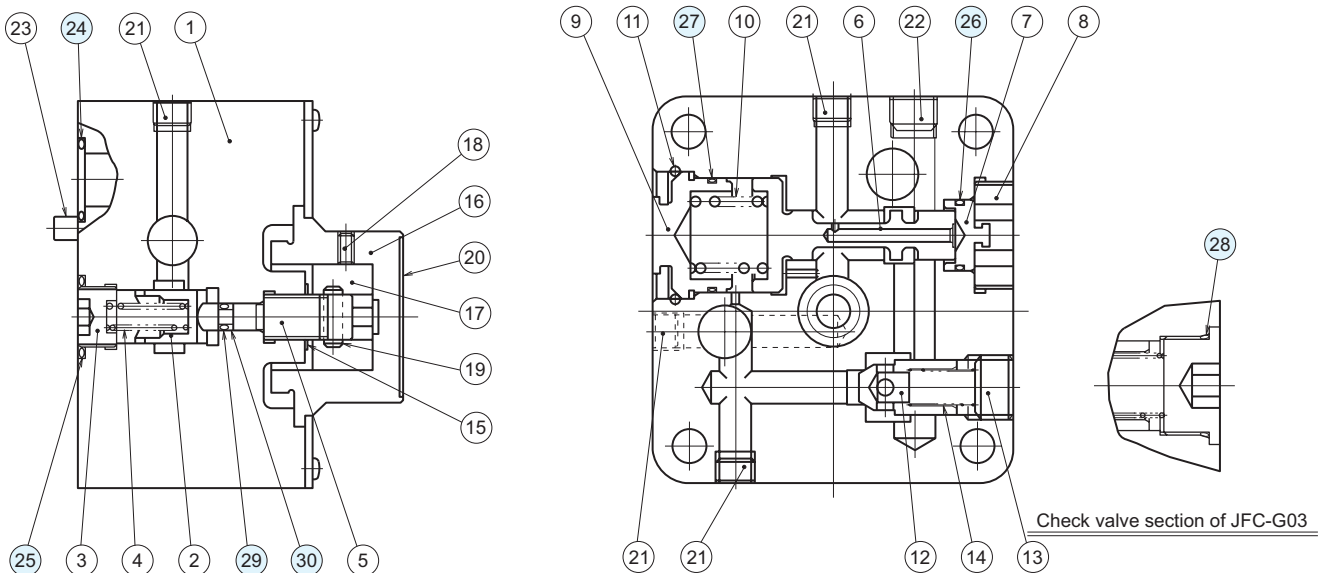
JF(C)-G**



| Model No. | Dimensions | | | | | | | | | | | | | | | | | | | |
|-------------|------------|------|-------|------|------|-------|------|-------|------|------|-----|----|------|------|----|----|------|----|------|-----|
| | A | B | C | D | E | F | G | H | J | K | M | N | P | Q | R | S | T | U | V | W |
| JF (C) -G02 | 95.3 | 9.5 | 76.2 | 53.8 | 38.1 | 101.6 | 9.5 | 82.6 | 52.4 | 47.1 | 86 | 62 | 50 | 42 | 14 | 22 | 14 | 9 | 9.5 | 6.5 |
| JF (C) -G03 | 124 | 11.2 | 101.6 | 74.9 | 50.8 | 124 | 11.2 | 101.6 | 86.6 | 62.8 | 108 | 84 | 71.5 | 63.5 | 23 | 34 | 17.5 | 11 | 20.6 | 6 |

Sectional structural diagram

JF(C)-G**



Sealing part table

| Part No. | Name | Quantity | Part specifications | | |
|----------|-------------|----------|------------------------------|------------------------------|------------------------------|
| | | | JF (C)-G02 | JF-G03 | JFC-G03 |
| 24 | O-ring | 2 | JIS B 2401 1B P18 | JIS B 2401 1B P28 | JIS B 2401 1B P28 |
| 25 | O-ring | 1 | JIS B 2401 1B P18 | JIS B 2401 1B G25 | JIS B 2401 1B G25 |
| 26 | O-ring | 1 | AS568-016 (NBR,Hs90) | JIS B 2401 1B P15 | JIS B 2401 1B P15 |
| 27 | O-ring | 1 | AS568-023 (NBR,Hs90) | AS568-028 (NBR,Hs90) | AS568-028 (NBR,Hs90) |
| 28 | O-ring | 1 | - | - | AS568-021 (NBR,Hs90) |
| 29 | O-ring | 1 | JIS B 2401 1A P4 | JIS B 2401 1A P4 | JIS B 2401 1A P4 |
| 30 | Backup ring | 1 | JIS B 2407 for P4 (bias cut) | JIS B 2407 for P4 (bias cut) | JIS B 2407 for P4 (bias cut) |