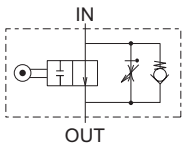
Throttle Valve with Rotary Type Deceleration Valve (with Temperature Compensation Control)

JIS graphic symbols for hydraulic system



Features

- The temperature compensation control maintains the set flow rate regardless of changes in the fluid temperature.
- Available in a variety of configurations according to the moving direction of the table and piping direction.
- Capable of controlling the sequence: rapid forward → slow forward → rapid return.

Nomenclature

※ - SFD - ※ ※※ ※ - 10

1 2 3 4 5 6

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

2 Model No.
SFD: S series throttle valve with deceleration valve

3 Connections
G: Gasket mount type
T: Screw connection type <Only applicable with the nominal diameter of "02">

4 Nominal diameter
02: ¼
03: ⅜ <Applicable to connection type G only>

5 Deceleration operation type
R: Counterclockwise (leftward) rotation to close the rotary valve
L: Clockwise (rightward) rotation to close the rotary valve

6 Design No.
(The design No. is subject to change)

Specifications

Model code	Nominal diameter	Maximum operating pressure MPa {kgf/cm²}	Free flow L/min	Flow rate adjustment range*1 L/min	Check valve Cracking pressure MPa {kgf/cm²}	Mass kg
SFD-※02※-10	¼	5 {50}	12	0.1 to 22	0.1 {1}	1.5
SFD-G03※-10	⅜		30	0.1 to 3.5		2.3

Note: *1 The flow rate adjustment range indicated are the values when the pressure difference between the inlet and outlet ports is 2 MPa {20 kgf/cm²}.

Accessories (gasket mount type)

Model No.	Hexagon socket head cap bolt	Quantity	Tightening torque N·m {kgf·cm}
SFD-G02	M5 × 40	4	5.5 to 7.5 {55 to 75}
SFD-G03	M6 × 50	4	10 to 12.5 {100 to 125}

Handling

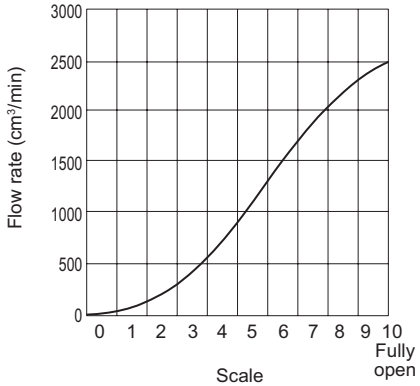
- Use the valve in combination with a line filter with a filtration accuracy of 10 µm or better.
- SFD-※02 is equipped with the check valve locking structure. Lock the check valve to throttle the flow in both directions: IN → OUT and OUT → IN. To lock the check valve, loosen the lock nut and fully screw in the spring support (part No. 4 in the sectional structural diagram), then retighten the lock nut.
- The spring support is normally set at a rotational position where it is loosened by one full turn from the fully tightened position.

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

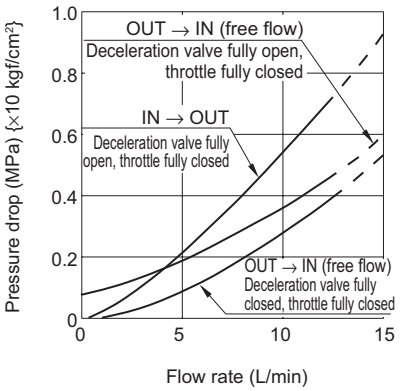
- SFD-※02

Scale - Flow rate characteristics

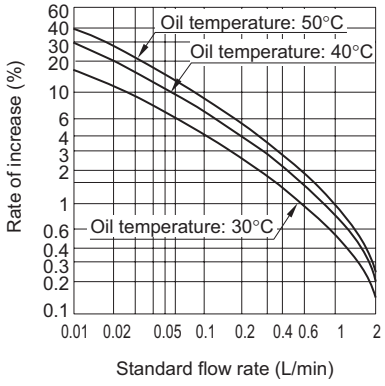
Pressure difference between inlet and outlet ports: 2 MPa {20 kgf/cm²}



Pressure drop characteristics



Fluid temperature - Flow rate characteristics

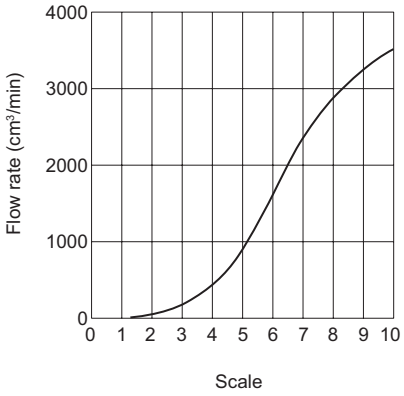


Performance curves (viscosity: 32 mm²/s {cSt})

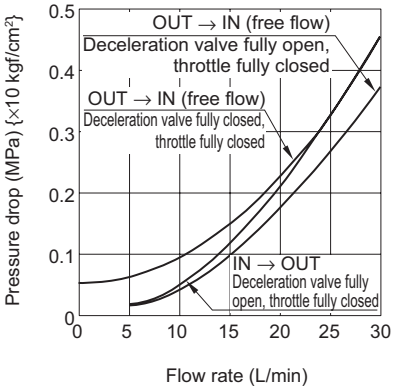
● SFD-G03

Scale - Flow rate characteristics

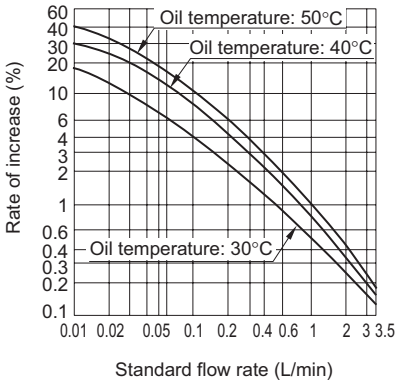
Pressure difference between inlet and outlet ports: 2 MPa {20 kgf/cm²}



Pressure drop characteristics



Fluid temperature - Flow rate characteristics

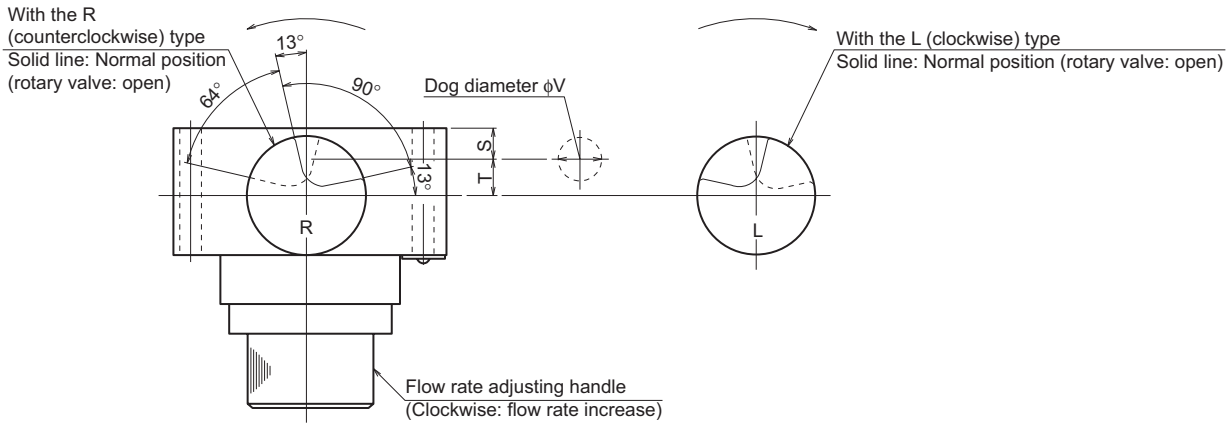


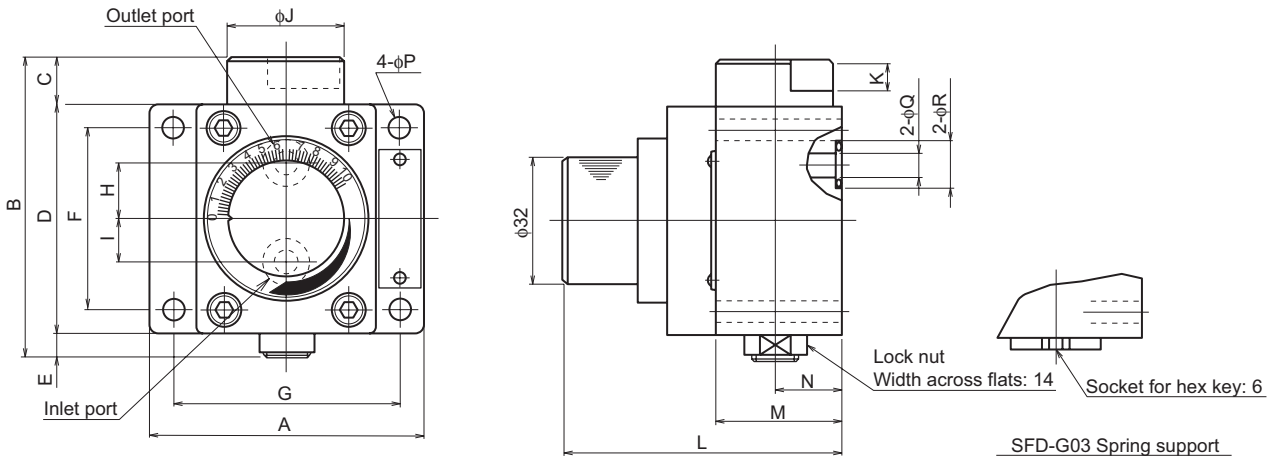
Conditions for the fluid temperature - Flow rate characteristics curve

Oil usable	Equivalent to ISO VG32
Pressure difference between inlet and outlet ports	3 MPa {30 kgf/cm²}
Standard flow rate	Flow rate at fluid temperature of 20°C

External dimension diagram

SFD-G※※

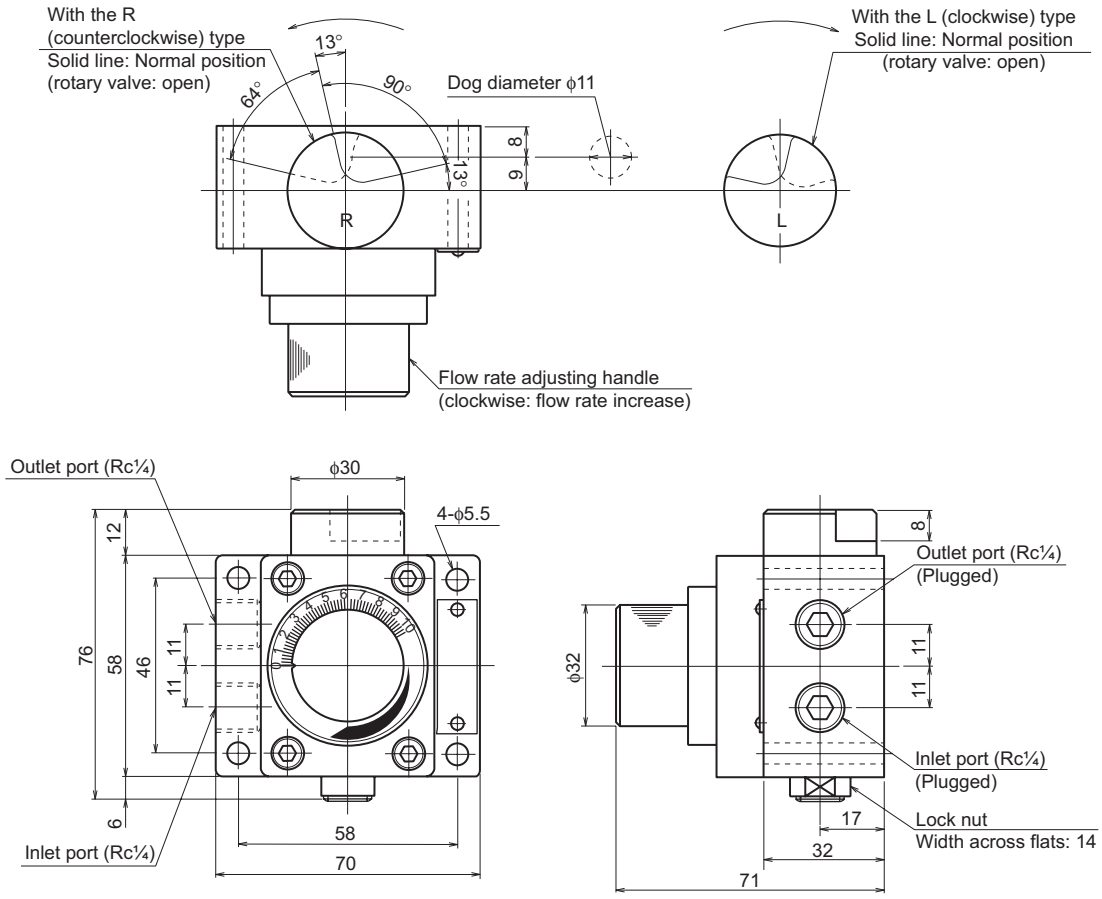




Model No.	Dimensions																			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	V
SFD-G02	70	76	12	58	6	46	58	14	11	30	8	71	32	17	5.5	6	12	8	9	11
SFD-G03	80	84	13	68	3	55	66	14	14	35	8	81	42	22	6.6	8	16	12	10	12

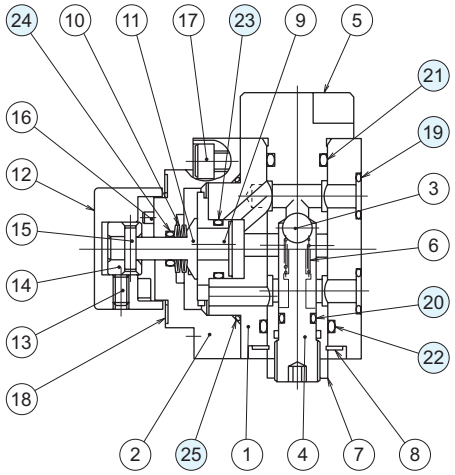
External dimension diagram

SFD-T02



Sectional structural diagram

SFD-※※※



Sealing part table

Part No.	Name	Quantity	Part specifications		
			SFD-G02	SFD-G03	SFD-T02
19	O-ring	2	JIS B 2401 1A P9	JIS B 2401 1A P12	–
20	O-ring	1	JIS B 2401 1A P7	JIS B 2401 1A P10	JIS B 2401 1A P7
21	O-ring	1	1130-80 P12 (MITSUBISHI CABLE INDUSTRIES, LTD)	1130-80 P16 (MITSUBISHI CABLE INDUSTRIES, LTD)	1130-80 P12 (MITSUBISHI CABLE INDUSTRIES, LTD)
22	O-ring	1	1130-80 P16 (MITSUBISHI CABLE INDUSTRIES, LTD)	1130-80 P20 (MITSUBISHI CABLE INDUSTRIES, LTD)	1130-80 P16 (MITSUBISHI CABLE INDUSTRIES, LTD)
23	O-ring	1	AS568-014 (NBR,Hs70)	AS568-014 (NBR,Hs70)	AS568-014 (NBR,Hs70)
24	O-ring	1	JIS B 2401 1A P6	JIS B 2401 1A P6	JIS B 2401 1A P6
25	O-ring	1	AS568-028 (NBR,Hs70)	JIS B 2401 1A G40	AS568-028 (NBR,Hs70)