

Coolant Valve

Series SGC



How to Order



Made to order specifications
(For details, refer to page 389)

External pilot
solenoid

SGC 2 2 1 A - 05 10 Y - 1 T Z - - A - -

Air
operated

SGCA 2 2 1 A - 05 10 - - A - -

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮

① Series

2	SGC200
3	SGC300
4	SGC400

② Valve type

1	Normally closed
2	Normally open

③ Seal material

A	NBR
B	FKM

④ Pressure range

05	Pressure range 0 to 0.5 MPa
10	Pressure range 0 to 1 MPa
16	Pressure range 0 to 1.6 MPa

⑤ Thread type

Nil	Rc
G	G (ISO1179-1)
N	NPT
T	NPTF

⑥ Port size

10	3/8	SGC200
15	1/2	
20	3/4	SGC300
25	1	SGC400

⑦ Pilot valve

Y	V116
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⑧ Rated voltage

1	100 VAC 50/60 Hz
2	200 VAC 50/60 Hz
3	110 VAC [115 VAC] 50/60 Hz
4	220 VAC [230 VAC] 50/60 Hz
5	24 VDC
6	12 VDC

Note) Refer to the back of page 394 when using with energization for long periods of time.

⑨ Electrical entry

T: Conduit terminal 	D: DIN terminal (Pitch between the terminals: 11 mm) 	DO: DIN terminal without connector 	W: M12 connector Note)
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Note 1) Cable is not included. Order it separately after referring to the options on page 379.
Note 2) Refer to the table (1) below for combinations with light/surge voltage suppressors.

⑩ Light / surge voltage suppressor

Nil	None
S	With surge voltage suppressor
Z	With light / surge voltage suppressor

Note) Refer to Table (1) below for combinations with electrical entry.

* DOS, DOZ are not available.
* For AC specifications, NIL is only set for Electrical entry DO.

⑪ Manual override

Nil: Non-locking push type 	D: Push-turn locking lever type
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⑫ Bracket mounting position

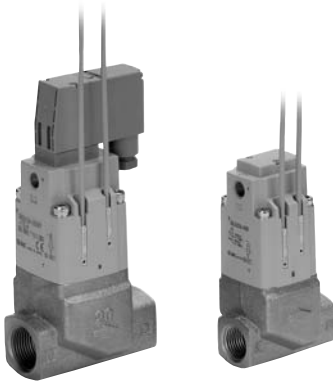
Nil: Without bracket 	B1: Bracket on the left side 	B2: Bracket on the right side
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Note) Bracket cannot be attached later.

Table (1) Electrical entry/Light/Surge Voltage Suppressor

Voltage	Electrical entry	Without light/surge voltage suppressor	With surge voltage suppressor	With light/surge voltage suppressor
		Nil	S	Z
AC	T	—	●	●
	D	—	●	●
	W	—	—	—
	DO	● Note)	—	—
DC	T	—	—	—
	D	●	●	●
	W	—	—	—
	DO	●	—	—

Note) If a AC specification without DIN Terminal (DO) is selected, always use a DIN connector with surge voltage suppressor as the connector.



Characteristics

Pressure specification	Model	Port size	Orifice dia. ø (mm)	Flow characteristics Av x 10 ⁻⁶ m ²	Cv factor converted	Mass (kg)	
						Air operated type	External pilot solenoid type
0.5 MPa	SGC(A)22□□-05□10	3/8	ø15	110	4.6	0.69 (0.74)	0.73 (0.78)
	SGC(A)22□□-05□15	1/2	ø15	155	6.5	0.69 (0.74)	0.73 (0.78)
	SGC(A)32□□-05□20	3/4	ø20	284	11.8	1.04 (1.11)	1.08 (1.15)
	SGC(A)42□□-05□25	1	ø25	440	18.3	1.70 (1.77)	1.74 (1.81)
1.0 MPa	SGC(A)22□□-10□10	3/8	ø12	85	3.5	0.69 (0.74)	0.73 (0.78)
	SGC(A)22□□-10□15	1/2	ø12	116	4.8	0.69 (0.74)	0.73 (0.78)
	SGC(A)32□□-10□20	3/4	ø14	170	7.1	1.04 (1.11)	1.08 (1.15)
	SGC(A)42□□-10□25	1	ø17	265	11.0	1.70 (1.77)	1.74 (1.81)
1.6 MPa	SGC(A)22□□-16□10	3/8	ø 9	30	1.25	0.69 (0.74)	0.73 (0.78)
	SGC(A)22□□-16□15	1/2	ø 9	64	2.7	0.69 (0.74)	0.73 (0.78)
	SGC(A)32□□-16□20	3/4	ø12	109	4.5	1.04 (1.11)	1.08 (1.15)
	SGC(A)42□□-16□25	1	ø15	174	7.3	1.70 (1.77)	1.74 (1.81)

* (): Mass including the bracket

* Add the mass of an auto switch additionally.

JIS Symbol

Type of actuation	Normally closed	Normally open
Air operated type	SGCA□21□ 	SGCA□22□
External pilot solenoid type	SGC□21□ 	SGC□22□

Valve Specification

Operating fluid		Coolant
Fluid temperature	SGC□□□□A, B	-5 to 60°C*
Ambient temperature		-5 to 50°C*
Proof pressure		2.4 MPa
Leakage from the valve seat		20 cm ³ /min or less (water pressure)
Operating pressure range	SGC□□□□-05	0 to 0.5 MPa
	SGC□□□□-10	0 to 1 MPa
	SGC□□□□-16	0 to 1.6 MPa
External air operated	Pres- sure	SGC□□□1 0.25 to 0.7 MPa
		SGC□□□2 0.5 MPa specification: 0.25 MPa to 0.7 MPa 1.0, 1.6 MPa specification: 0.3 MPa to 0.7 MPa
	Lubrication	Not required (Use turbine oil Class 1 (ISO VG32), if lubricated.
	Temperature	-5 to 50°C*

* No freezing

Pilot Solenoid Valve Specification

Pilot solenoid valve specification		V116-□□□-1	
Electrical entry		Conduit terminal, DIN terminal, M12 connector	
Coil rated voltage V	DC	12 V, 24 V	
	AC (50/60 Hz)	100 V, 110 V, 200 V, 220 V	
Allowable voltage fluctuation		±10% of rated voltage*	
Power consumption W	DC	0.35 W (With indicator light: 0.58 W)	
Apparent voltage VA	AC	100 V	0.78 (With indicator light: 0.87)
		110 V	0.86 (With indicator light: 0.97)
		[115 V]	[0.94 (With indicator light: 1.07)]
		200 V	1.15 (With indicator light: 1.30)
		220 V	1.27 (With indicator light: 1.46)
		[230 V]	[1.39 (With indicator light: 1.60)]
Surge voltage suppressor		Varistor	
Indicator light		LED (Neon bulb when AC with DIN terminal and M12 connector)	
Enclosure		IEC60529 standard IP65, JISC0920	

* In common between 110 VAC and 115 VAC, and between 220 VAC and 230 VAC.

* For 115 VAC and 230 VAC, the allowable voltage is -15% to +5% of rated voltage.

How to Order Pilot Valve

V116-**5****T****Z**-1
① ② ③

① Rated voltage

1	100 VAC 50/60 Hz
2	200 VAC 50/60 Hz
3	110 VAC [115 VAC] 50/60 Hz
4	220 VAC [230 VAC] 50/60 Hz
5	24 VDC
6	12 VDC

② Electrical entry

T	Conduit terminal
D	DIN terminal (with connector)
DO	DIN terminal (without connector)
W	M12 connector

③ Light / surge voltage suppressor

Nil	None
S	With surge voltage suppressor
Z	With light / surge voltage suppressor

Note 1) Refer to Table (1) on page 378 for combinations with electrical entry.

* DOS, DOZ are not available.

* For AC specifications, NIL is only set for electrical entry DO.