

Coolant Valve: Air Operated/External Pilot Solenoid Series VNC



[Option]

Note) CE compliant: For D or DZ only

How to Order

Seal material

A	NBR seals
B	FKM seals

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

Bracket (Valve size: 1/2/3/4)

Nil	None
B [Note]	With bracket (VN□-16)

[Note] Only valve sizes 1, 2, 3 and 4. Shipped after assembled at our factory.
Bracket part no.
Valve size 1: VN1-A16 (with thread)
Valve sizes 2 to 4: VN□-16
2 to 4

Air operated VNC 2 0 1 A - 15A - (Except valve size 8, 9)

External pilot solenoid VNC 2 1 1 A - 15A - 1 T - - -

Valve size

Symbol	Orifice diameter (mm)	Symbol			Symbol	Port size Rc
		1 N.C. 0.5 MPa	2 N.O. 1 MPa	4 N.C. 1 MPa		
1	ø7	—	●	●	6A	1/8
		—	●	●	8A	1/4
		—	●	●	10A	3/8
2	ø15 (ø11)	●	●	●	10A	3/8
		●	●	●	15A	1/2
3	ø20 (ø14)	●	●	●	20A	3/4
4	ø25 (ø16)	●	●	●	25A	1
		●	●	●	32A	1 1/4
5	ø32 (ø22)	●	●	●	32F	1 1/4 B Flange
		●	●	●	40A	1 1/2
6	ø40 (ø28)	●	●	●	40F	1 1/2 B Flange
		●	●	●	50A	2
7	ø50 (ø33)	●	●	●	50F	2B Flange
		●	—	●	65F	2 1/2 B Flange
8	ø65 (ø45)	●	—	●	65F	2 1/2 B Flange
9	ø80 (ø56)	●	—	●	80F	3B Flange

Valve type

Port size

Rated voltage

Nil	Air operated
1	100 VAC 50/60 Hz
2	200 VAC 50/60 Hz
Note 2) 3	110 VAC 50/60 Hz
Note 2) 4	220 VAC 50/60 Hz
5	24 VDC
Note 2) 6	12 VDC
Note 2) 7	240 VAC 50/60 Hz
Note 2) 9	Other

Note 1) Electrical entry: D or DZ only
Note 2) Semi-standard

CE compliant

Nil	—
Q	CE compliant

Note) Electrical entry: D or DZ only

Manual override

Nil: Non-locking push type

A: Non-locking * push type A (projecting)

B: Slotted locking type B * (tool required)

Valve size 1

Nil: Non-locking push type

Valve size 2 to 9

* Semi-standard



Values in parentheses are N.C. at 1 MPa.

Electrical entry/With light/surge voltage suppressor

Symbol	Electrical entry	Valve size
G	Grommet	Valve size 1
GS	Grommet with surge voltage suppressor	
E	Grommet terminal	
EZ	Grommet terminal with light/surge voltage suppressor	
T	Conduit terminal	
TZ	Conduit terminal with light/surge voltage suppressor	Valve size 2 to 9
D	DIN terminal	
DZ	DIN terminal with light/surge voltage suppressor	
T	Conduit terminal	
TS	Conduit terminal with surge voltage suppressor	
Note 1) TZ	Conduit terminal with light/surge voltage suppressor	
Note 1) TL	Conduit terminal with indicator light	

CE compliant

D	DIN terminal*	Valve size 1 to 9
DZ	DIN terminal with light/surge voltage suppressor*	



Note 1) Except rated voltage: 6, 7 and 9.

Note 2) For valve sizes 2 to 9 of the D DIN terminal and the DZ DIN terminal with light/surge voltage suppressor, be sure to add suffix -X200 at the end of the part number. (For CE compliant product, -X200 is not required.) In this case, the pilot solenoid valve is VO307-□D□.

Coolant Valve: Air Operated/External Pilot Solenoid **Series VNC**



Model

Model	Port size		Orifice dia. ø (mm)	Flow characteristics Av x 10 ⁻⁶ m ²	Mass (kg)	
	Threaded	(Note) Flange			Air operated	External pilot solenoid
VNC1□□□-6A	1/8	—	7	30	0.2	0.3
VNC1□□□-8A	1/4	—		32		
VNC1□□□-10A	3/8	—		36		
VNC2□□□-10A	3/8	—	11	95	0.5	0.7
VNC2□□□-10A	1/2	—	15	120		
VNC2□□□-15A	1/2	—	11	110		
VNC2□□□-15A	1/2	—	15	140	0.8	1.0
VNC3□□□-20A	3/4	—	14	170		
VNC3□□□-20A	3/4	—	20	260		
VNC4□□□-25A	1	—	16	220	1.2	1.4
VNC4□□□-25A	1	—	25	370		
VNC5□□□-32A	1 1/4	—	22	400		
VNC5□□□-32A	1 1/4	—	32	560	2.2	2.4
VNC5□□□-32F	—	32	22	400		
VNC5□□□-32F	—	32	32	560		
VNC6□□□-40A	1 1/2	—	28	630	3.6	3.8
VNC6□□□-40A	1 1/2	—	40	820		
VNC6□□□-40F	—	40	28	720		
VNC6□□□-40F	—	40	40	960	6.8	7.0
VNC7□□□-50A	2	—	33	990		
VNC7□□□-50A	2	—	50	1500		
VNC7□□□-50F	—	50	33	1000	10.2	10.4
VNC7□□□-50F	—	50	50	1600		



Note) The companion flange is JIS B 2210 10K (standard) or its equivalent.

Model	Port size Flange (Note)	Orifice dia. ø (mm)	Flow characteristics		Mass (kg) External pilot solenoid
			Cv	Effective area (mm ²)	
VNC814□-65F	65	45	49	880	15.7
VNC811□-65F		65	70	1260	
VNC914□-80F	80	56	73	1400	21.2
VNC911□-80F		80	100	1800	



Note) The companion flange is JIS B 2210 10K (standard) or its equivalent.

JIS Symbol

Valve type Operation	N.C.	N.O.
Air operated	VNC□□0□ 	VNC□□02□
	VNC□□1□ 	VNC□□12□

Specifications

Fluid (Main piping)		Coolant (Note 2)
Fluid	VNC□□□A	—5 to 60°C (Note 1)
temperature	VNC□□□B	—5 to 99°C (Air operated type only) (Note 1)
Ambient temperature	—5 to 50°C (Air operated type: 60°C) (Note 1)	
Proof pressure	1.5 MPa	
Applicable pressure range	VNC□□1□	0 to 0.5 MPa
	VNC□□2□	0 to 1 MPa
External pilot air	Pressure	VNC□□1□ 0.25 to 0.7 MPa
		VNC□□2□ 0.1 + 0.25 x (Operating pressure) to 0.7 MPa Refer to "Graph (1)".
	Lubrication	Not required (Use turbine oil Class 1 ISO VG32, if lubricated.)
	Temperature	—5 to 50°C (Air operated type: 60°C) (Note 1)
Mounting orientation	Unrestricted (Note 3)	

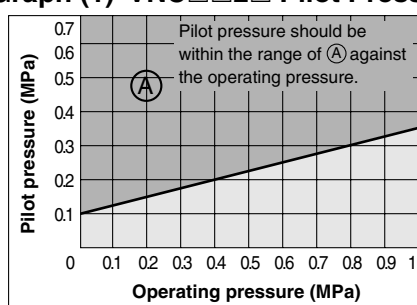


Note 1) No freezing

Note 2) This product cannot be used in water.

Note 3) For external pilot solenoid, it is recommended that the pilot solenoid valve be oriented either vertically upward or horizontally.

Graph (1) VNC□□2□ Pilot Pressure (N.O. type)



Pilot Solenoid Valve Specifications

Model		VNC1	VNC2 to 9	VNC2 to 9 (CE compliant)
Pilot solenoid valve		SF4-□□□-23	VO301-00□□-X302	VO307-00□□□□-Q
Electrical entry		Grommet Grommet terminal Conduit terminal DIN terminal	Conduit terminal	DIN terminal
Coil rated voltage (V)	AC (50/60 Hz)	100 V, 200 V, Other voltage (Option)		
	DC	24 V, Other voltage (Option)		
Allowable voltage fluctuation		-15% to +10% of rated voltage		
Temperature rise		35°C or less (when rated voltage is applied.)	70°C or less (when rated voltage is applied.)	50°C or less (when rated voltage is applied.)
Apparent power	AC	Inrush	5.6 VA (50 Hz) 5.0 VA (60 Hz)	12.7 VA (50 Hz) 10.7 VA (60 Hz)
		Holding	3.4 VA (50 Hz) 2.3 VA (60 Hz)	7.6 VA (50 Hz) 5.4 VA (60 Hz)
	DC		1.8 W (without light), 2 W (with light)	4.8 W (without light), 5 W (with light)
Manual override		Non-locking push type, Other (Option)	Non-locking push type	

Note) Refer to page 406 for how to order pilot solenoid valves.

VNA

VNB

SGC

VNC

VNH

VND

VCC