

How to Order

Note) Silencer is provided as standard on pilot EXH port (P2).

VNH 2 1 1 A — 15A — 1 T —

Port

1	3 port
3*	2 port

* 2 port is 7.0 MPa only.

Valve type

1	N.C./3.5 MPa
3	N.C./7.0 MPa

Gasket material

A	NBR seals
B	FKM seals

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

Bracket

Nil	None
B	With bracket

Electrical entry/With light/surge voltage suppressor

T	Conduit terminal
TS	Conduit terminal with surge voltage suppressor
TZ*	Conduit terminal with light/surge voltage suppressor
TL*	Conduit terminal with indicator light

* Rated voltage: Except 6, 7, 9.

Rated voltage

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

* Option

Valve size

1	10A	Rc 3/8
2	15A	Rc 1/2
3	20A	Rc 3/4
4	25A	Rc1

Port size

1	10A	Rc 3/8
2	15A	Rc 1/2
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Option

Description	Component part no.				
	VNH1□□	VNH2□□	VNH3□□	VNH4□□	
Bracket (With bolt and washer)	B	VNH1-16	VNH2-16	VNH3-16	VNH4-16

How to Order Pilot Solenoid Valves

VO301-00 □ **T** □ — **X302**

Rated voltage

1	100 VAC 50/60 Hz
2	200 VAC 50/60 Hz
3*	110 VAC 50/60 Hz
4*	220 VAC 50/60 Hz
5	24 VDC
6*	12 VDC
7*	240 VAC 50/60 Hz
9*	Other

* Option

Light/surge voltage suppressor

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

Accessory

Function plate (D sealing, with thread): DXT060-32-4A

High Pressure Coolant Valve 3.5 MPa, 7.0 MPa Series VNH

Specifications

Model	3 port valve								2 port valve			
	VNH111 ^A _B -10A	VNH211 ^A _B -15A	VNH311 ^A _B -20A	VNH411 ^A _B -25A	VNH113 ^A _B -10A	VNH213 ^A _B -15A	VNH313 ^A _B -20A	VNH413 ^A _B -25A	VNH133 ^A _B -10A	VNH233 ^A _B -15A	VNH333 ^A _B -20A	VNH433 ^A _B -25A
Operating fluid pressure	0 to 3.5 MPa				0 to 7.0 MPa							
Fluid	Coolant											
Operation	External pilot solenoid/Air operated											
Operating fluid temperature	-5 to 60°C * / -5 to 60°C * (NBR seal)											
	-5 to 60°C * / -5 to 99°C * (FKM seal)											
Pilot air	0.25 to 0.7 MPa											
	-5 to 50°C *											
	Not required (Use turbine oil Class 1 ISO VG32, if lubricated.)											
Proof pressure	5.5 MPa				10.5 MPa							
Ambient temperature	-5 to 50°C *											
Max. operating frequency	20 times/min											
Mounting position	Vertical upwards											
Port size	Rc 3/8	Rc 1/2	Rc 3/4	Rc1	Rc 3/8	Rc 1/2	Rc 3/4	Rc1	Rc 3/8	Rc 1/2	Rc 3/4	Rc1
Orifice size (mm)	ø7.1 **	ø8.7 **	ø10.6 **	ø14.3 **	ø3.9 **	ø5.2 **	ø6.2 **	ø7.3 **	ø8	ø9.5	ø13	ø15.7
Flow characteristics Av x 10 ⁻⁵	46	86	110	190	15	29	38	58	54	75	140	210
Pilot port size	Rc 1/8		Rc 1/4		Rc 1/8		Rc 1/4		Rc 1/8		Rc 1/4	
Weight (kg)	2	3.1	5.6	8.2	2	3.1	5.6	8.2	2	3.1	5.6	8.2
Face-to-face dimension (mm)	60	80	100	115	60	80	100	115	60	80	100	115

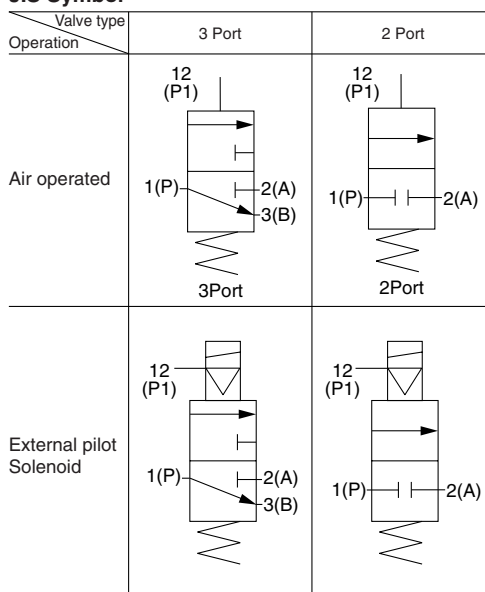
* No freezing
 ** Equivalent size



Pilot Operated Solenoid Valve Specifications

Pilot solenoid valve		VO301-00□T□-X302	
Electrical entry		Conduit 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 the rated voltage	
Coil insulation type		Class B or equivalent (130°C)	
Temperature rise		70°C or less (When rated voltage is applied.)	
Apparent power	AC	Inrush	12 VA (50 Hz), 10.5 AV (60 Hz)
		Holding	7.5 VA (50 Hz), 6 VA (60 Hz)
Power consumption	DC	4.8 W	
Manual override		Non-locking push type	

JIS Symbol



VC□

VDW

VQ

VX2

VX□

VX3

VXA

VN□

LVC

LVA

LVH

LVD

LVQ

LQ

LVN

TI/
TIL

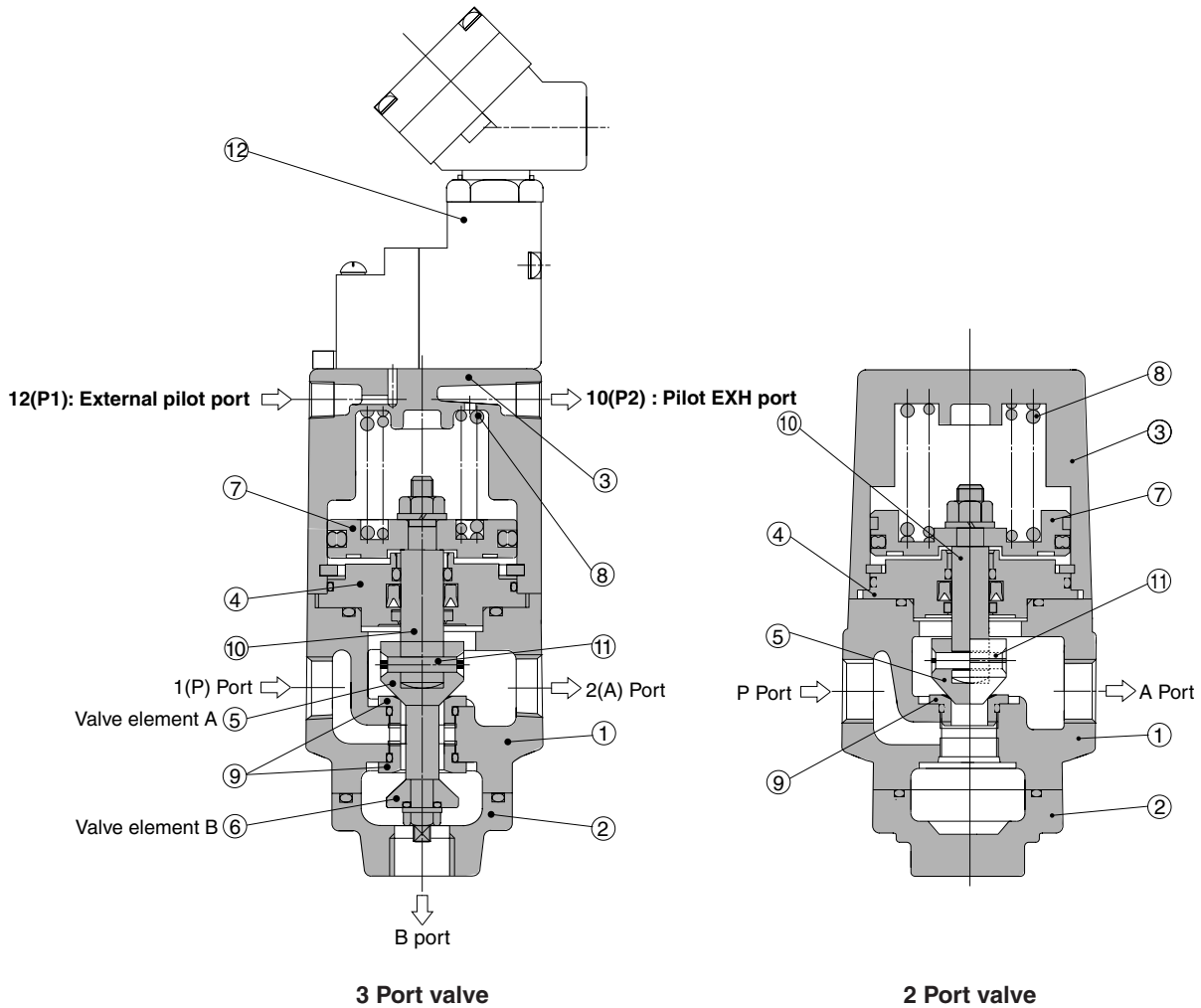
PA

PAX

PB

Series VNH

Construction



Working Principle

When the pilot operated solenoid valve ⑫ is not energized, the valve element A ⑤ connected to the piston ⑦ is closed by the return spring ⑧. Then valve element B ⑥ connected to the valve element A ⑤ is open. When the pilot operated solenoid valve ⑫ is energized, the pilot air supplied to the bottom of the piston ⑦ moves upward to open the valve element A ⑤ and closes the valve element B ⑥. Because rod ⑩ is connected to valve element A ⑤ by parallel pin ⑪. Valve element becomes free to incline and it reaches valve seat ⑨.

Component Parts

No.	Description	Material	Note
①	Body	Cast iron	Plated
②	Undercover	Cast iron	Plated
③	Cover	Aluminum alloy	
④	Plate	Iron	
⑤	Valve element A	Stainless steel	
⑥	Valve element B	Stainless steel	
⑦	Piston	Aluminum alloy	
⑧	Return spring	Piano wire	
⑨	Valve seat	Stainless steel	
⑩	Rod	Stainless steel	
⑪	Parallel pin	Stainless steel	
⑫	Pilot solenoid valve	Refer to "How to Order" in page 17-4-32.	