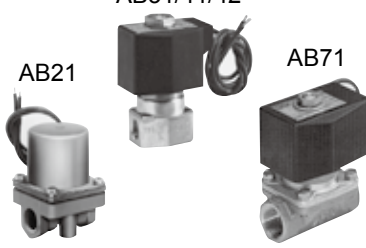
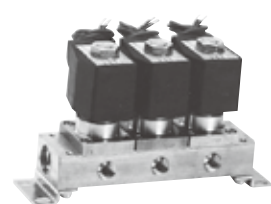

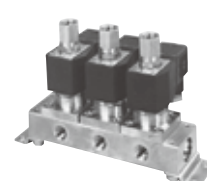



# Series variation

# Multi-fluid control direct acting 2, 3-port solenoid valve

\* Refer to page 328 for dry air (-Z).

- EXA
- FWD
- HNB/G
- USB/G
- FAB/G
- FGB/G
- FVB
- FWB/G
- FHB
- FLB
- AB**
- AG**
- AP/AD
- APK/ADK
- DryAir
- EX-XPLNprf
- XPLNprf
- HVB/HVL
- SAB/NAB
- LAD/NAD
- Water-Rela
- NP/NAP/NVP
- SNP
- CHB/G
- MXB/G
- Other valves
- SWD/MWD
- DustColl
- CVE/CVSE
- CCH/CPE/D
- LifeSci
- Gas-Combus
- Auto-Water
- SpecFld
- Custom
- Ending

No. of ports	Model	Configuration	Actuation		Air	Low vacuum [1.33 x 10 <sup>2</sup> Pa (abs)]		
2-port		AB21	Single unit	NC		●		
		AB31				●	●	
		AB41				●	●	
		AB42		NO		●	●	
		AB71		NC		●		
						●		
		GAB312	Manifold	NC	Common supply	●	●	
		GAB352			Individual supply	●	●	
		GAB412			Common supply	●	●	
		GAB452			Individual supply	●	●	
		GAB422		NO	Common supply	●	●	
						●	●	
3-port		AG31	Single unit	Universal		●	●	
		AG41				●	●	
		AG33		NC pressurization		●	●	
		AG43				●	●	
		AG34		NO pressurization		●	●	
		AG44				●	●	
		GAG31	Manifold	Universal	Common supply/ individual exhaust	●	●	
		GAG35			Common supply separate flow	●	●	
		GAG41			Common supply/ individual exhaust	●	●	
		GAG45			Common supply separate flow	●	●	
		GAG33			NC pressurization	Common supply/individual exhaust	●	●
		GAG43		●		●		
		GAG34	Actuator	NO pressurization		●	●	
		GAG44				●	●	
								

Working fluid					Port size						Page
Water	Kerosene	Oil [50 mm <sup>2</sup> /s or less]	Hot water	Steam	Rc1/8	Rc1/4	Rc3/8	Rc1/2	Rc3/4	Rc1	
●		●			●	●					150
●	●	●	●	●	● <sup>*4</sup>	● <sup>*4</sup>					154
●	●	●	●	●		● <sup>*4</sup>	● <sup>*4</sup>	● <sup>*4</sup>			154
●	●	●	●	●		● <sup>*4</sup>	● <sup>*4</sup>				154
●	●	● <sup>*1</sup>						●	●	●	168
●	●	●	●	●		● <sup>*2</sup>	● <sup>*2</sup>				172
●	●	●	●	●		● <sup>*2</sup>	● <sup>*2</sup>				172
●	●	●	●	●		● <sup>*2</sup>	● <sup>*2</sup>				172
●	●	●	●	●		● <sup>*2</sup>	● <sup>*2</sup>				172
●	●	●	●	●		● <sup>*2</sup>	● <sup>*2</sup>				182
●	●	●	●	●	● <sup>*4</sup>	● <sup>*4</sup>					190
●	●	●	●	●		● <sup>*4</sup>	● <sup>*4</sup>				190
●	●	●	●	●	● <sup>*4</sup>	● <sup>*4</sup>					208
●	●	●	●	●		● <sup>*4</sup>	● <sup>*4</sup>				208
●	●	●	●		● <sup>*4</sup>	● <sup>*4</sup>					226
●	●	●	●			● <sup>*4</sup>	● <sup>*4</sup>				226
●	●	●	●	●	● <sup>*2</sup> <sub>*3</sub>	● <sup>*2</sup> <sub>*3</sub>					198
●	●	●	●	●	● <sup>*2</sup> <sub>*3</sub>	● <sup>*2</sup> <sub>*3</sub>					198
●	●	●	●	●		● <sup>*2</sup> <sub>*3</sub>	● <sup>*2</sup> <sub>*3</sub>				198
●	●	●	●	●		● <sup>*2</sup> <sub>*3</sub>	● <sup>*2</sup> <sub>*3</sub>				198
●	●	●	●	●	● <sup>*2</sup> <sub>*3</sub>	● <sup>*2</sup> <sub>*3</sub>					216
●	●	●	●	●		● <sup>*2</sup> <sub>*3</sub>	● <sup>*2</sup> <sub>*3</sub>				216
●	●	●	●		● <sup>*2</sup> <sub>*3</sub>	● <sup>*2</sup> <sub>*3</sub>					234
●	●	●	●			● <sup>*2</sup> <sub>*3</sub>	● <sup>*2</sup> <sub>*3</sub>				234

Refer to page 148 for details on the coil system.

\*1 : 20 mm<sup>2</sup>/s for AB71 Series.

\*2 : Port A: Rc1/4, port C: Rc3/8

\*3 : ● indicates NO port.

\*4 : Refer to each How to order column for the thread.

- EXA
- FWD
- HNB/G
- USB/G
- FAB/G
- FGB/G
- FVB
- FWB/G
- FHB
- FLB
- AB**
- AG**
- AP/  
AD
- APK/  
ADK
- DryAir
- EX-  
XPLNprf
- XPLNprf
- HVB/  
HVL
- S<sup>◇</sup>B/  
NAB
- LAD/  
NAD
- Water-  
Rela
- NP/NAP/  
NVP
- SNP
- CHB/G
- MXB/G
- Other  
valves
- SWD/  
MWD
- DustColl
- CVE/  
CVSE
- CCH /  
CPE/D
- LifeSci
- Gas-  
Combus
- Auto-  
Water
- SpecFld
- Custom
- Ending

EXA  
FWD  
HNB/G  
USB/G  
FAB/G  
FGB/G  
FVB  
FWB/G  
FHB  
FLB  
**AB**  
**AG**  
AP/  
AD  
APK/  
ADK  
DryAir  
EX-  
XPLNprf  
XPLNprf  
HVB/  
HVL  
SAB/  
NAB  
LAD/  
NAD  
Water-  
Rela  
NP/NAP/  
NVP  
SNP  
CHB/G  
MXB/G  
Other  
valves  
SWD/  
MWD  
DustColl  
CVE/  
CVSE  
CCH /  
CPE/D  
LifeSci  
Gas-  
Combust  
Auto-  
Water  
SpecFld  
Custom  
Ending

# Coil selection guide

## ● Coil housing types and selection guide

Various types are available for general purpose valve according to the application. Refer to the structure and features to select the optimum model.

**For direct acting 2, 3-port solenoid valve (AB/GAB/AG/GAG)**

Coil system		Open frame		Appearance	
Thermal class B mold	<ul style="list-style-type: none"> <li>● For DC and AC (50/60 Hz common)</li> <li>● Degree of protection: IP61 or equivalent</li> <li>● Cannot be used outdoors</li> </ul>	Grommet lead wire	<ul style="list-style-type: none"> <li>● Lead wire length 300 mm</li> </ul>		Blank 6C
		DIN terminal box	<ul style="list-style-type: none"> <li>● Easy wiring and maintenance</li> <li>● Enhanced electrical safety (by grounding the ground terminal)</li> <li>● Light available (Optional - 100 VAC, 200 VAC and 24 VDC)</li> </ul>		2E 2G 2H 6E 6G 6H
		Lead wire	<ul style="list-style-type: none"> <li>● Lead wire length 300 mm</li> <li>● Conduit (CTC19) for direct piping can be attached</li> </ul>		3A
		HP terminal box	<ul style="list-style-type: none"> <li>● Easy wiring</li> <li>● Light available (Optional - 100 VAC, 200 VAC, 12 VDC, 24 VDC, 100 VDC)</li> </ul>		3M 3N
		HP terminal box	<ul style="list-style-type: none"> <li>● Easy wiring</li> <li>● Light available (Optional - 100 VAC, 200 VAC, 12 VDC, 24 VDC, 100 VDC)</li> </ul>		3I 3J
		Lead wire	<ul style="list-style-type: none"> <li>● Lead wire length 300 mm</li> <li>● Conduit (CTC19) for direct piping can be attached.</li> </ul>		4A
		HP terminal box	<ul style="list-style-type: none"> <li>● Easy wiring</li> <li>● Light available (optional -100 VAC, 200 VAC)</li> </ul>		4M 4N
		Lead wire	<ul style="list-style-type: none"> <li>● Lead wire length 300 mm</li> <li>● Conduit (CTC19) for direct piping can be attached.</li> </ul>		5A
		HP terminal box	<ul style="list-style-type: none"> <li>● Easy wiring</li> <li>● Light available (Optional - 100/200 VAC)</li> </ul>		5M 5N
		HP terminal box	<ul style="list-style-type: none"> <li>● Easy wiring</li> <li>● Light available (Optional - 100/200 VAC)</li> </ul>		5I 5J
Conduit	<ul style="list-style-type: none"> <li>● Use a conduit (CTC19 or G1/2) when using direct conduit wiring for the open frame lead wire.</li> </ul>		G H		
Thermal class H taped	<ul style="list-style-type: none"> <li>● AC dedicated (50/60 Hz common)</li> <li>● High temperature fluids and high ambient temperatures usable</li> <li>● Degree of protection: IP00</li> <li>● Cannot be used outdoors</li> </ul>	Lead wire	<ul style="list-style-type: none"> <li>● Lead wire length 300 mm</li> <li>● Conduit (CTC19) for direct piping can be attached.</li> </ul>		4A
Thermal class B mold with diode	<ul style="list-style-type: none"> <li>● Diode in the coil converts AC to DC.</li> <li>● Perfect for places where whirring noise should be prevented.</li> <li>● AC dedicated (50/60 Hz common)</li> <li>● Degree of protection: IP65 or equivalent</li> <li>● Cannot be used outdoors</li> </ul>	Lead wire	<ul style="list-style-type: none"> <li>● Lead wire length 300 mm</li> <li>● Conduit (CTC19) for direct piping can be attached.</li> </ul>		5A
Thermal class B mold with diode	<ul style="list-style-type: none"> <li>● Diode in the coil converts AC to DC.</li> <li>● Perfect for places where whirring noise should be prevented.</li> <li>● AC dedicated (50/60 Hz common)</li> <li>● Degree of protection: IP21 or equivalent</li> <li>● Cannot be used outdoors</li> </ul>	HP terminal box	<ul style="list-style-type: none"> <li>● Easy wiring</li> <li>● Light available (Optional - 100/200 VAC)</li> </ul>		5M 5N
Thermal class B mold with diode	<ul style="list-style-type: none"> <li>● Diode in the coil converts AC to DC.</li> <li>● Perfect for places where whirring noise should be prevented.</li> <li>● AC dedicated (50/60 Hz common)</li> <li>● Degree of protection: IP65 or equivalent</li> <li>● Cannot be used outdoors</li> </ul>	HP terminal box	<ul style="list-style-type: none"> <li>● Easy wiring</li> <li>● Light available (Optional - 100/200 VAC)</li> </ul>		5I 5J

● Repair parts compatibility table by coil option

Coil option code	Supported voltage	Repair parts			
		Plunger assembly	Core assembly	Coil assembly	Actuator assembly *1
0 or blank	AC	○	○	○	-
6C *2, *3	DC	-	-	-	○
2E 2G 2H	AC	○	○	○	-
2E 2G 2H	DC	○	○	○	-
6E 6G 6H *2, *3	DC	-	-	-	○
3A	AC	○	○	○	-
	DC		○	○	-
3M 3N	AC	○	○	○	-
	DC		○	○	-
3I 3J	AC	○	○	○	-
	DC		○	○	-
4A	AC	○	○	○	-
4M 4N	AC	○	○	○	-
5A	AC	○	○	○	-
5M 5N	AC	○	○	○	-
5I 5J	AC	○	○	○	-

\*1 : The actuator assembly includes the coil assembly, core assembly and plunger assembly.

\*2 : As 6C, 6E, 6G and 6H are dedicated parts, they are provided as part of the actuator assembly.

\*3 : AB41 only.

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
<b>AB</b>
<b>AG</b>
AP/ AD
APK/ ADK
DryAir
EX- XPLNprf
XPLNprf
HVB/ HVL
S $\diamond$ B/ NAB
LAD/ NAD
Water- Rela
NP/NAP/ NVP
SNP
CHB/G
MXB/G
Other valves
SWD/ MWD
DustColl
CVE/ CVSE
CCH / CPE/D
LifeSci
Gas- Combus
Auto- Water
SpecFld
Custom
Ending