### **Series** variation

EXA FWD

### Multi-fluid control pilot operated 2-port solenoid valve General purpose

1 110													
HNB/G							*	Refer	to page	328 for the dr	ry air (-2	Z).	
USB/G	ports	Model		Structure	Actuation								
FAB/G	No. of					Air	Low vacuum [1.33 x 10 <sup>3</sup> Pa (abs)]	Water	Kerosene	Oil [50 mm²/s or less]	Hot water	Steam	
FGB/G			AP11	Pilot operated	NC (open when energized)	•	[	•	•	•	Water		
FVB FWB/G		8	AP12	(Piston drive)	NO (closed when energized)	•		•	•	•		•	
FHB			AP21		NC (open when energized)	•		•	•	•		•	
FLB			AP22		NO (closed when energized)	•		٠	•	•		●	
AB			AD11	Pilot operated	NC (open when energized)	•		•		•			
AG			AD12	(Diaphragm	NO (closed when energized)	•		٠		●			
AP/ AD APK/	2-port	12	AD21	drive)	NC (open when energized)	•		•	•	•			
APK/ ADK DryAir			AD22		NO (closed when energized)	•		•	•	●			
EX- XPLNprf			APK11	Pilot kick	NC (open when energized)	•	•	•	•	•*1		•	
XPLNprf			APK21	(Piston kick structure)	NC (open when energized)	•	•	•	•	•*1		●	
HVB/ HVL			ADK11	Pilot kick	NC (open when energized)	•	•	•	•	●	•		
S∜B/ NAB			ADK12	(Diaphragm	NO (closed when energized)	•	•	•	•	●	•		
LAD/ NAD			ADK21	drive)	NC (open when energized)	•	●	٠	•	●			
Water-	*1.20	10 mm <sup>2</sup> /c or lass for APK11/21 Series											

\*1: 20 mm<sup>2</sup>/s or less for APK11/21 Series.

FWD													
HNB/G											. <u></u>		
USB/G	ge		Port size										
FAB/G FGB/G	Page	50 flange	Rc2	40 flange	Rc1 <sup>1</sup> / <sub>2</sub>	32 flange	Rc1 <sup>1</sup> / <sub>4</sub>	Rc1	Rc3/4	Rc1/2	Rc3/8	Rc1/4	
FVB	252							• <sup>*2</sup>					
FWB/G	252							• <sup>*2</sup>					
FHB	262	•	●	•	●								
FLB	262	•	•	•	•	•							
AB	272							• <sup>*2</sup>					
AG	272							• <sup>*2</sup>	• <sup>*2</sup>	• <sup>*2</sup>			
AP/ AD APK/	282	•	●	•	●								
APK/ ADK	282	•	●	•	●	•							
DryAir EX- XPLNprf	292							• <sup>*2</sup>					
XPLNprf XPLNprf	300	•	•	•	•	•							
HVB/ HVL	306							• <sup>*2</sup>					
S∜B/ NAB	306							● <sup>*2</sup>	• <sup>*2</sup>	• <sup>*2</sup>			
LAD/ NAD	318	•	●	•	•	•							
Water- Rela	system.	ls on the coil	48 for detail	fer to page 2	Ret				the thread.	der column for	ach How to or	*2: Refer to ea	

EXA

NP/NAP/ NVP SNP CHB/G MXB/G

Other valves SWD/ MWD

DustColl

CVE/ CVSE

CCH/ CPE/D LifeSci

Gas-Combus Auto-Water

Outdoor SpecFld Custom

Ending

# Coil selection guide

• Coil housing types and selection guide Various types are available according to the application. Refer to the structure and features to select the optimum model.

FWD	Refe	er to the s	structur	e and features to select the optin	num	mode	91.	
HNB/G	For	AP/A	<b>)</b> *					Appearance
USB/G			130 (B)	• AC dedicated (50/60 Hz		lead		2C 6C
FAB/G	-		Thermal class 130 (B) Mold	common) • Degree of protection: IP61 or equivalent		Grommet I wire	Lead wire length 300 mm	
FGB/G	em		Therm	Cannot be used outdoors		Gro		
FVB	system		130 (B)	For DC and AC (50/60 Hz common)		al box	• Easy wiring and maintenance	2E 2G
FWB/G	Coil		Thermal class 130 (B) Mold	Degree of protection: IP61 or equivalent		DIN terminal box	<ul> <li>Enhanced electrical safety (by grounding the ground terminal)</li> <li>Indicator lamp available (Optional -</li> </ul>	2H 6E
FHB				Cannot be used outdoors		DIN	100 VAC, 200 VAC and 24 VDC)	6G 6H
FLB			Thermal class 130 (B) Mold	● For DC and AC (50/60 Hz common)		Ð	<ul> <li>Lead wire length 300 mm</li> <li>Conduit (CTC19) for direct piping can be attached.</li> </ul>	3A
AB		[	al class Mold	<ul> <li>Degree of protection: IP65 or equivalent</li> <li>Cannot be used outdoors</li> </ul>		Lead wire		0
AG			Therm	Cannot be used outdoors				-0
AP/ AD APK/			130 (B)	● For DC and AC (50/60 Hz common)		al box	● Easy wiring	3M 3N
ADK			Thermal class 130 (B) Mold	<ul> <li>Degree of protection: IP21 or equivalent</li> <li>Cannot be used outdoors</li> </ul>		terminal box	<ul> <li>Indicator lamp available (Optional - 100 VAC, 200 VAC, 12 VDC, 24</li> <li>VDC, 400 VDC)</li> </ul>	
DryAir EX-						H	VDC, 100 VDC)	
XPLNprf			Thermal class 130 (B) Mold	● For DC and AC (50/60 Hz common)		al box	● Easy wiring	31 3J
XPLNprf HVB/		-	nal class Mold	<ul> <li>Degree of protection: IP65 or equivalent</li> <li>Cannot be used outdoors</li> </ul>		HP terminal box	<ul> <li>Indicator lamp available (Optional - 100 VAC, 200 VAC, 12 VDC, 24 VDC, 100 VDC)</li> </ul>	
HVL S∜B/						ЧН		
NAB LAD/			Thermal class 180 (H) Taped	<ul> <li>AC dedicated (50/60 Hz common)</li> <li>High temperature fluids and high ambient temperatures usable</li> <li>Cannot be used outdoors</li> </ul>	Lead wire	● Lead wire length 300 mm	4A	
NAD Water-		-	nal class Taped			Lead w		0
Rela NP/NAP/		e	Thern	Degree of protection: IP00				~
NVP SNP		pen frame				terminal box		4M 4N
CHB/G							<ul> <li>Indicator lamp available (Optional - 100 VAC, 200 VAC)</li> </ul>	
MXB/G			q		ן ז ר	Ч		
Other valves			Thermal class 130 (B) mold with diode	<ul> <li>Diode in the coil converts AC to DC.</li> <li>AC dedicated (50/60 Hz common)</li> <li>Degree of protection: IP65 or equivalent</li> </ul>		wire	Lead wire length 300 mm	5A
SWD/ MWD			nal class 130 ( with diode	<ul> <li>Perfect for places where whirring noise should be prevented.</li> </ul>		Lead wire	<ul> <li>Conduit (CTC19) for direct piping can be attached.</li> <li>Easy wiring</li> </ul>	0
DustColl				Cannot be used outdoors	   	terminal box		EM
CVE/ CVSE			Thermal class 130 (B) mold with diode	<ul> <li>Diode in the coil converts AC to DC.</li> <li>AC dedicated (50/60 Hz common)</li> <li>Degree of protection: IP21 or equivalent</li> </ul>				5M 5N
CCH/ CPE/D		-	mal class 130 with diode	<ul> <li>Perfect for places where whirring noise should be prevented.</li> </ul>		o termi	<ul> <li>Indicator lamp available (Optional - 100 VAC, 200 VAC)</li> </ul>	
LifeSci				Cannot be used outdoors	   	НР		51
Gas- Combus			Thermal class 130 (B) mold with diode	<ul> <li>Diode in the coil converts AC to DC.</li> <li>AC dedicated (50/60 Hz common)</li> <li>Degree of protection: IP65 or equivalent</li> </ul>		HP terminal box	Easy wiring	51 5J
Auto- Water			mal class 130 with diode	<ul> <li>Perfect for places where whirring noise should be prevented.</li> </ul>		o termi	<ul> <li>Indicator lamp available (Optional - 100 VAC, 200 VAC)</li> </ul>	
Outdoor			Therr	Cannot be used outdoors		보		G
SpecFld						duit	● Use a conduit (CTC19 or G1/2)	Н
Custom		l				Conduit	when using direct conduit wiring for the open frame lead wire.	0
Ending								

FAB/ FGB/ FVB FWB/ FHB FLB AB AG AP/ AD AP AD DryA EX-XPLN XPLN HVE HVL S∜E NAE LAE NAE Wate Rela NP/NA NVP SNF CHB/ MXB/ Othe valve SWE MWI DustCo CVE CVS CCH/ CPE/ LifeS Gas-Combi Auto Wate Outdo SpecF Custo

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## Coil selection guide

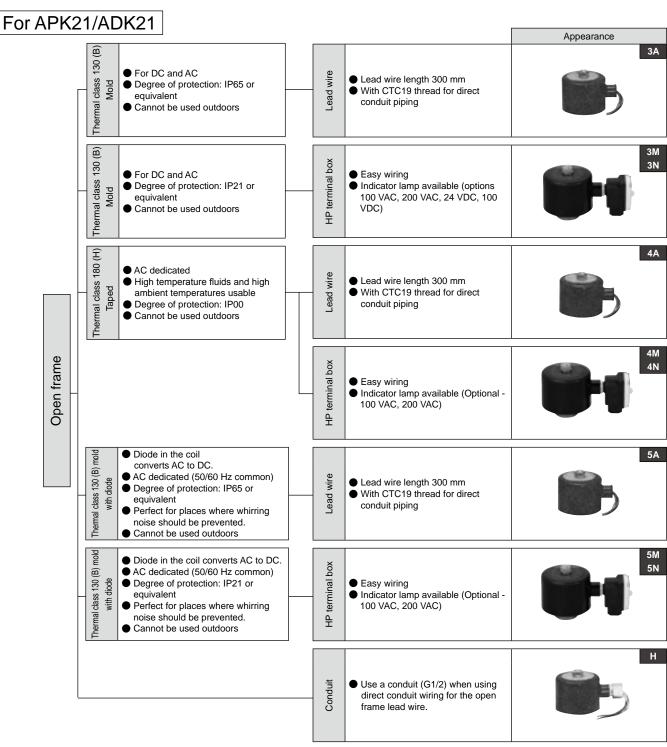
Coil housing types and selection guide Various types are available according to the application. Refer to the structure and features to select the optimum model.

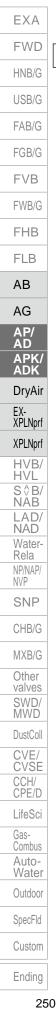
### FWD For APK11/ADK1\* Appearance HNB/G 2C class 130 (B) lead AC dedicated (50/60 Hz common) USB/G Degree of protection: IP61 or Mold Grommet vire Lead wire length 300 mm equivalent FAB/G Thermal ( Cannot be used outdoors system FGB/G **B** box 2E Easy wiring and maintenance class 130 2G 2H FVB For DC and AC (50/60 Hz common) **DIN** terminal Enhanced electrical safety (by Coil Degree of protection: IP61 or Mold grounding the ground terminal) equivalent FWB/G Indicator lamp available (Optional -100 VAC, 200 VAC and 24 VDC) Thermal Cannot be used outdoors FHB 3A B FLB class 130 • For DC and AC (50/60 Hz common) Lead wire Lead wire length 300 mm Conduit (CTC19) for direct piping Degree of protection: IP65 or Mold equivalent AB can be attached. Themal Cannot be used outdoors AG â 3M AP AD хoq 130 3N For DC and AC (50/60 Hz common) Easy wiring terminal class ' Degree of protection: IP21 or APK ADK Indicator lamp available (optional Mold equivalent 100 VAC, 200 VAC, 12 VDC, 24 Thermal Cannot be used outdoors VDC, 100 VDC) Ę DryAir â EX-XPLNprf 31 Xoq 130 For DC and AC (50/60 Hz common) зJ Easy wiring terminal Thermal class Degree of protection: IP65 or Mold Indicator lamp available (optional **XPLNprf** equivalent 100 VAC, 200 VAC, 12 VDC, 24 Cannot be used outdoors VDC, 100 VDC) HVB/ ЧH HVL S ☆B/ Î 4A NAB AC dedicated (50/60 Hz common) 180 Lead wire High temperature fluids and high Lead wire length 300 mm LAD/ hermal class Taped ambient temperatures usable Conduit (CTC19) for direct piping NAD Cannot be used outdoors can be attached. Water- Degree of protection: IP00 Rela NP/NAP/ Open frame 4M NVP terminal box 4N Easy wiring SNP Indicator lamp available (Optional -100 VAC, 200 VAC) CHB/G ₽ MXB/G 5A Thermal class 130 (B) mold Diode in the coil converts AC to DC. AC dedicated (50/60 Hz common) Other wire Lead wire length 300 mm with diode Degree of protection: IP65 or equivalent valves Conduit (CTC19) for direct piping Lead v Perfect for places where whirring SWD/ can be attached. noise should be prevented. MWD Cannot be used outdoors DustColl 5M 130 (B) mold Diode in the coil converts AC to DC. Xoq 5N AC dedicated (50/60 Hz common) CVE. HP terminal Easy wiring with diode CVSE Degree of protection: IP21 or equivalent Indicator lamp available (Optional class ' Perfect for places where whirring CCH/ 100 VAC, 200 VAC) Thermal c noise should be prevented. CPE/D Cannot be used outdoors LifeSci blon 51 Diode in the coil converts AC to DC. terminal box Gas-5J class 130 (B) AC dedicated (50/60 Hz common) Easy wiring with diode Combus Degree of protection: IP65 or equivalent Indicator lamp available (Optional - Perfect for places where whirring Auto-100 VAC, 200 VAC) Thermal c noise should be prevented. Water ₽ Cannot be used outdoors Outdoor G н SpecFld Use a conduit (CTC19 or G1/2) Conduit when using direct conduit wiring for Custom the open frame lead wire. Ending

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### Repair parts compatibility table by coil option

Cail aption and	Supported	ed Repair parts									
Coil option code	voltage	Plunger assembly	Core assembly	Coil assembly	Actuator assembly *1						
2C	AC	0	$\bigcirc$	$\bigcirc$	-						
6C *2	DC	-	-	-	0						
2E 2G 2H	AC	0	$\bigcirc$	$\bigcirc$	-						
2E 2G 2H	DC	0	$\bigcirc$	0	-						
6E 6G 6H *2	DC	-	-	-	0						
ЗА	AC	$\bigcirc$	$\bigcirc$	0	-						
	DC		$\bigcirc$	0	-						
3M 3N	AC	$\bigcirc$	$\bigcirc$	$\bigcirc$	-						
	DC		$\bigcirc$	0	-						
3I 3J	AC	$\bigcirc$	$\bigcirc$	0	-						
	DC		0	0	-						
4A	AC	0	0	0	-						
4M 4N	AC	0	0	0	-						
5A	AC	0	0	0	-						
5M 5N	AC	0	0	0	-						
5I 5J	AC	0	0	0	-						

\*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.

	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∜B/ NAB
	LAD/ NAD
	Water- Rela
	NP/NAP/ NVP
	SNP
	CHB/G
	MXB/G
	Other valves
	SWD/ MWD
	DustColl
	CVSE
	CCH/ CPE/D
	LifeSci
	Gas- Combus
	Auto- Water
	Outdoor
	SpecFld
	Custom
	Ending
2	51

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