





Series variation

Multi-fluid control pilot operated 2-port solenoid valve

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

No. of ports	Model	Structure	Actuation	Working fluid							
				Air	Low vacuum [1.33 x 10 ⁵ Pa (abs)]	Water	Kerosene	Oil [50 mm ² /s or less]	Hot water	Steam	
2-port		AP11	Pilot operated	NC	●		●	●	●		●
		AP12	(Piston drive)	NO	●		●	●	●		●
		AP21		NC	●		●	●	●		●
		AP22		NO	●		●	●	●		●
		AD11	Pilot operated	NC	●		●	●	●		
		AD12	(Diaphragm drive)	NO	●		●	●	●		
		AD21		NC	●		●	●	●		
		AD22		NO	●		●	●	●		
		APK11	Pilot kick	NC	●	●	●	●	●* ₁		●
		APK21	(Piston kick structure)	NC	●	●	●	●	●* ₁		●
		ADK11	Pilot kick	NC	●	●	●	●	●	●	
		ADK12	(Diaphragm drive)	NO	●	●	●	●	●	●	
ADK21			NC	●	●	●	●	●			

*1: 20 mm²/s or less for APK11/21 Series.

- 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

	Port size											Page
	Rc1/4	Rc3/8	Rc1/2	Rc3/4	Rc1	Rc1 ^{1/4}	32 flange	Rc1 ^{1/2}	40 flange	Rc2	50 flange	
	● ^{*2}	● ^{*2}	● ^{*2}	● ^{*2}	● ^{*2}							252
	● ^{*2}	● ^{*2}	● ^{*2}	● ^{*2}	● ^{*2}							252
						●	●	●	●	●	●	262
						●	●	●	●	●	●	262
	● ^{*2}	● ^{*2}	● ^{*2}	● ^{*2}	● ^{*2}							272
			● ^{*2}	● ^{*2}	● ^{*2}							272
						●	●	●	●	●	●	282
						●	●	●	●	●	●	282
	● ^{*2}	● ^{*2}	● ^{*2}	● ^{*2}	● ^{*2}							292
						●	●	●	●	●	●	300
	● ^{*2}	● ^{*2}	● ^{*2}	● ^{*2}	● ^{*2}							306
			● ^{*2}	● ^{*2}	● ^{*2}							306
						●	●	●	●	●	●	318

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

Refer to page 248 for details on the coil system.

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
CVE/ CVSE
CCH / CPE/D
LifeSci
Gas- Combus
Auto- Water
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.

For AP/AD*

- 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 system		Open frame		Appearance	
Coil system	Thermal class 130 (B) Mold	<ul style="list-style-type: none"> ● AC dedicated (50/60 Hz common) ● Degree of protection: IP61 or equivalent ● Cannot be used outdoors 	Grommet lead wire	<ul style="list-style-type: none"> ● Lead wire length 300 mm 	 <div style="float: right; border: 1px solid black; padding: 2px;">2C 6C</div>
	Thermal class 130 (B) Mold	<ul style="list-style-type: none"> ● For DC and AC (50/60 Hz common) ● Degree of protection: IP61 or equivalent ● Cannot be used outdoors 	DIN terminal box	<ul style="list-style-type: none"> ● Easy wiring and maintenance ● Enhanced electrical safety (by grounding the ground terminal) ● Light available (Optional - 100 VAC, 200 VAC and 24 VDC) 	 <div style="float: right; border: 1px solid black; padding: 2px;">2E 2G 2H 6E 6G 6H</div>
	Thermal class 130 (B) Mold	<ul style="list-style-type: none"> ● For DC and AC (50/60 Hz common) ● Degree of protection: IP65 or equivalent ● Cannot be used outdoors 	Lead wire	<ul style="list-style-type: none"> ● Lead wire length 300 mm ● Conduit (CTC19) for direct piping can be attached. 	 <div style="float: right; border: 1px solid black; padding: 2px;">3A</div>
	Thermal class 130 (B) Mold	<ul style="list-style-type: none"> ● For DC and AC (50/60 Hz common) ● Degree of protection: IP21 or equivalent ● Cannot be used outdoors 	HP terminal box	<ul style="list-style-type: none"> ● Easy wiring ● Light available (Optional - 100 VAC, 200 VAC, 12 VDC, 24 VDC, 100 VDC) 	 <div style="float: right; border: 1px solid black; padding: 2px;">3M 3N</div>
	Thermal class 130 (B) Mold	<ul style="list-style-type: none"> ● For DC and AC (50/60 Hz common) ● Degree of protection: IP65 or equivalent ● Cannot be used outdoors 	HP terminal box	<ul style="list-style-type: none"> ● Easy wiring ● Light available (Optional - 100 VAC, 200 VAC, 12 VDC, 24 VDC, 100 VDC) 	 <div style="float: right; border: 1px solid black; padding: 2px;">3I 3J</div>
	Thermal class 180 (H) Taped	<ul style="list-style-type: none"> ● AC dedicated (50/60 Hz common) ● High temperature fluids and high ambient temperatures usable ● Cannot be used outdoors ● Degree of protection: IP00 	Lead wire	<ul style="list-style-type: none"> ● Lead wire length 300 mm ● Conduit (CTC19) for direct piping can be attached. 	 <div style="float: right; border: 1px solid black; padding: 2px;">4A</div>
	Thermal class 130 (B) mold with diode	<ul style="list-style-type: none"> ● Diode in the coil converts AC to DC. ● AC dedicated (50/60 Hz common) ● Degree of protection: IP65 or equivalent ● Perfect for places where whirring noise should be prevented. ● Cannot be used outdoors 	Lead wire	<ul style="list-style-type: none"> ● Lead wire length 300 mm ● Conduit (CTC19) for direct piping can be attached. 	 <div style="float: right; border: 1px solid black; padding: 2px;">5A</div>
	Thermal class 130 (B) mold with diode	<ul style="list-style-type: none"> ● Diode in the coil converts AC to DC. ● AC dedicated (50/60 Hz common) ● Degree of protection: IP21 or equivalent ● Perfect for places where whirring noise should be prevented. ● Cannot be used outdoors 	HP terminal box	<ul style="list-style-type: none"> ● Easy wiring ● Light available (Optional - 100 VAC, 200 VAC) 	 <div style="float: right; border: 1px solid black; padding: 2px;">5M 5N</div>
	Thermal class 130 (B) mold with diode	<ul style="list-style-type: none"> ● Diode in the coil converts AC to DC. ● AC dedicated (50/60 Hz common) ● Degree of protection: IP65 or equivalent ● Perfect for places where whirring noise should be prevented. ● Cannot be used outdoors 	HP terminal box	<ul style="list-style-type: none"> ● Easy wiring ● Light available (Optional - 100 VAC, 200 VAC) 	 <div style="float: right; border: 1px solid black; padding: 2px;">5I 5J</div>
			Conduit	<ul style="list-style-type: none"> ● Use a conduit (CTC19 or G1/2) when using direct conduit wiring for the open frame lead wire. 	 <div style="float: right; border: 1px solid black; padding: 2px;">G H</div>

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.

For APK11/ADK1*		Appearance				
Coil system	Open frame	Thermal class 130 (B) Mold	<ul style="list-style-type: none"> ● AC dedicated (50/60 Hz common) ● Degree of protection: IP61 or equivalent ● Cannot be used outdoors 	Grommet lead wire	<ul style="list-style-type: none"> ● Lead wire length 300 mm 	 2C
		Thermal class 130 (B) Mold	<ul style="list-style-type: none"> ● For DC and AC (50/60 Hz common) ● Degree of protection: IP61 or equivalent ● Cannot be used outdoors 	DIN terminal box	<ul style="list-style-type: none"> ● Easy wiring and maintenance ● Enhanced electrical safety (by grounding the ground terminal) ● Light available (Optional - 100 VAC, 200 VAC and 24 VDC) 	 2E 2G 2H
		Thermal class 130 (B) Mold	<ul style="list-style-type: none"> ● For DC and AC (50/60 Hz common) ● Degree of protection: IP65 or equivalent ● Cannot be used outdoors 	Lead wire	<ul style="list-style-type: none"> ● Lead wire length 300 mm ● Conduit (CTC19) for direct piping can be attached. 	 3A
		Thermal class 130 (B) Mold	<ul style="list-style-type: none"> ● For DC and AC (50/60 Hz common) ● Degree of protection: IP21 or equivalent ● Cannot be used outdoors 	HP terminal box	<ul style="list-style-type: none"> ● Easy wiring ● Light available (optional 100 VAC, 200 VAC, 12 VDC, 24 VDC, 100 VDC) 	 3M 3N
		Thermal class 130 (B) Mold	<ul style="list-style-type: none"> ● For DC and AC (50/60 Hz common) ● Degree of protection: IP65 or equivalent ● Cannot be used outdoors 	HP terminal box	<ul style="list-style-type: none"> ● Easy wiring ● Light available (optional 100 VAC, 200 VAC, 12 VDC, 24 VDC, 100 VDC) 	 3I 3J
		Thermal class 180 (H) Taped	<ul style="list-style-type: none"> ● AC dedicated (50/60 Hz common) ● High temperature fluids and high ambient temperatures usable ● Cannot be used outdoors ● Degree of protection: IP00 	Lead wire	<ul style="list-style-type: none"> ● Lead wire length 300 mm ● Conduit (CTC19) for direct piping can be attached. 	 4A
		Thermal class 130 (B) mold with diode	<ul style="list-style-type: none"> ● Diode in the coil converts AC to DC. ● AC dedicated (50/60 Hz common) ● Degree of protection: IP65 or equivalent ● Perfect for places where whirring noise should be prevented. ● Cannot be used outdoors 	Lead wire	<ul style="list-style-type: none"> ● Lead wire length 300 mm ● Conduit (CTC19) for direct piping can be attached. 	 5A
		Thermal class 130 (B) mold with diode	<ul style="list-style-type: none"> ● Diode in the coil converts AC to DC. ● AC dedicated (50/60 Hz common) ● Degree of protection: IP21 or equivalent ● Perfect for places where whirring noise should be prevented. ● Cannot be used outdoors 	HP terminal box	<ul style="list-style-type: none"> ● Easy wiring ● Light available (Optional - 100 VAC, 200 VAC) 	 5M 5N
		Thermal class 130 (B) mold with diode	<ul style="list-style-type: none"> ● Diode in the coil converts AC to DC. ● AC dedicated (50/60 Hz common) ● Degree of protection: IP65 or equivalent ● Perfect for places where whirring noise should be prevented. ● Cannot be used outdoors 	HP terminal box	<ul style="list-style-type: none"> ● Easy wiring ● Light available (Optional - 100 VAC, 200 VAC) 	 5I 5J
				Conduit	<ul style="list-style-type: none"> ● Use a conduit (CTC19 or G1/2) when using direct conduit wiring for the open frame lead wire. 	 G H

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
SDB/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
S ∇ 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

For APK21/ADK21

Open frame	<p>Thermal class 130 (B) Mold</p> <ul style="list-style-type: none"> ● For DC and AC ● Degree of protection: IP65 or equivalent ● Cannot be used outdoors 	<p>Lead wire</p> <ul style="list-style-type: none"> ● Lead wire length 300 mm ● With CTC19 thread for direct conduit piping 	<p>Appearance</p>  <p>3A</p>
	<p>Thermal class 130 (B) Mold</p> <ul style="list-style-type: none"> ● For DC and AC ● Degree of protection: IP21 or equivalent ● Cannot be used outdoors 	<p>HP terminal box</p> <ul style="list-style-type: none"> ● Easy wiring ● Light available (options 100 VAC, 200 VAC, 24 VDC, 100 VDC) 	 <p>3M 3N</p>
	<p>Thermal class 180 (H) Taped</p> <ul style="list-style-type: none"> ● AC dedicated ● High temperature fluids and high ambient temperatures usable ● Degree of protection: IP00 ● Cannot be used outdoors 	<p>Lead wire</p> <ul style="list-style-type: none"> ● Lead wire length 300 mm ● With CTC19 thread for direct conduit piping 	 <p>4A</p>
		<p>HP terminal box</p> <ul style="list-style-type: none"> ● Easy wiring ● Light available (Optional - 100 VAC, 200 VAC) 	 <p>4M 4N</p>
	<p>Thermal class 130 (B) mold with diode</p> <ul style="list-style-type: none"> ● Diode in the coil converts AC to DC. ● AC dedicated (50/60 Hz common) ● Degree of protection: IP65 or equivalent ● Perfect for places where whirring noise should be prevented. ● Cannot be used outdoors 	<p>Lead wire</p> <ul style="list-style-type: none"> ● Lead wire length 300 mm ● With CTC19 thread for direct conduit piping 	 <p>5A</p>
	<p>Thermal class 130 (B) mold with diode</p> <ul style="list-style-type: none"> ● Diode in the coil converts AC to DC. ● AC dedicated (50/60 Hz common) ● Degree of protection: IP21 or equivalent ● Perfect for places where whirring noise should be prevented. ● Cannot be used outdoors 	<p>HP terminal box</p> <ul style="list-style-type: none"> ● Easy wiring ● Light available (Optional - 100 VAC, 200 VAC) 	 <p>5M 5N</p>
		<p>Conduit</p> <ul style="list-style-type: none"> ● Use a conduit (G1/2) when using direct conduit wiring for the open frame lead wire. 	 <p>H</p>

● Repair parts compatibility table by coil option

Coil option code	Supported voltage	Repair parts			
		Plunger assembly	Core assembly	Coil assembly	Actuator assembly *1
2C	AC	○	○	○	-
6C *2	DC	-	-	-	○
2E 2G 2H	AC	○	○	○	-
2E 2G 2H	DC	○	○	○	-
6E 6G 6H *2	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.

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 Δ 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