

Explosion-proof direct acting 2-port solenoid valve
General purpose

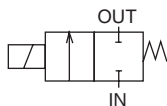
AB41E2 Series

- Pressure and explosion proof construction d2G2 (flame-proof grade 2/ignitability G2)
- Japan Conformity Certificate No.: No. T64351
- China Conformity Certificate No. 2020322307003155
- China explosion-proof standard NEPSI acquired GYB20. 2593X
- NC (open when energized)
- Port size: Rc1/4, Rc3/8

RoHS

CAD

JIS symbol



Common specifications

Item	AB41E2
Working fluid	Air/Water/kerosene/Oil (50 mm ² /s or less)/steam
Working pressure differential MPa	0 to 5 (refer to max. working pressure differential in individual specifications.)
Max. working pressure MPa	5(1 when fluid is steam)
Proof pressure (water pressure) MPa	25
Fluid temperature °C	-10 to 181
Ambient temperature °C	-10 to 40
Thermal class	Class 180 (H)
Atmosphere	Outdoors/explosive gas (flame-proof grade 1 to 2/ignitability G1 to G2)
Valve structure	Direct acting poppet structure
Valve seat leakage cm ³ /min (ANR)	300 or less (air)
Mounting orientation	Unrestricted
Degree of protection	IP 65 or equiv.

Individual specifications

Item Model No.	Port size	Orifice size (mm)	Max. working pressure differential (MPa)				Rated voltage	Apparent power (VA)				Power consump (W)		Weight (kg)	
			Air	Water(hot)/Kerosene	Oil (50 mm²/s)	Steam		When holding		When starting		AC			
			AC	AC	AC	AC		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		
AB41E2-02	-1	Rc1/4	1.5	5.0	4.5	4.0	1.0	100 VAC 50/60 Hz 110 VAC 60 Hz	18	15	29	24	8	7	1.0
	-2		2.0	3.0	2.7	2.5	1.0								
	-3		3.0	1.5	1.3	0.9	1.0								
	-4		3.5	1.2	0.9	0.6	0.9								
	-5		4.0	1.0	0.7	0.5	0.7								
	-6		5.0	0.6	0.4	0.25	0.4								
	-7		7.0	0.25	0.2	0.15	0.2								
AB41E2-03	-1	Rc3/8	1.5	5.0	4.5	4.0	1.0	200 VAC 50/60 Hz 220 VAC 60 Hz	18	15	29	24	8	7	1.0
	-2		2.0	3.0	2.7	2.5	1.0								
	-3		3.0	1.5	1.3	0.9	1.0								
	-4		3.5	1.2	0.9	0.6	0.9								
	-5		4.0	1.0	0.7	0.5	0.7								
	-6		5.0	0.6	0.4	0.25	0.4								
	-7		7.0	0.25	0.2	0.15	0.2								

*1: The voltage fluctuation range must be within -10 to +5% of the rated voltage.

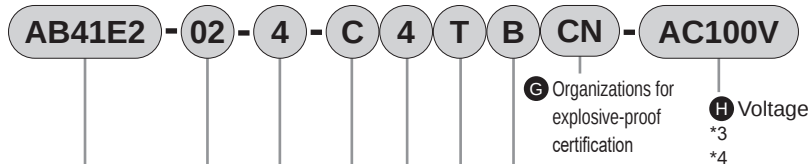
Flow Rate Characteristics

Model No.	Port size	Orifice size (mm)	Flow Rate Characteristics		
			C[dm³/(s·bar)]	b	Cv
AB41E2- 0203	-1	1.5	0.29	0.53	0.1
	-2	2.0	0.53	0.52	0.15
	-3	3.0	1.1	0.52	0.31
	-4	3.5	1.7 [1.5]	0.49 [0.47]	0.42 [0.40]
	-5	4.0	2.1 [1.9]	0.48 [0.47]	0.54 [0.48]
	-6	5.0	3.0 [2.6]	0.42 [0.38]	0.8 [0.62]
	-7	7.0	4.8 [4.6]	0.29 [0.37]	1.0 [0.82]

*1: Effective cross-sectional area S and sonic conductance C are converted as $S \approx 5.0 \times C$.

*2: Dimensions shown in [] are for stainless steel body.

How to order



A Port size

B Orifice size

C Body/sealant combination

D Coil type

E External wire pull
*1 method

F Other options

Code		Description	Code	Description	Code	Description
A Port size						
02		Rc1/4	2G	G1/4	2N	1/4NPT
03		Rc3/8	3G	G3/8	3N	3/8NPT
B Orifice size						
1		ø1.5				
2		ø2				
3		ø3				
4		ø3.5				
5		ø4				
6		ø5				
7		ø7				
C Body/sealant combination						
		Body	Seal	Treatment	Remarks	
C	Std.	Copper alloy	PTFE	-	Air/water/kerosene/oil/steam (up to 181°C)	
F	Option	Stainless steel	PTFE			
K		Copper alloy	PTFE	Oil-prohibited		
N		Stainless steel	PTFE			
Refer to Intro Page 39 for reference on material combinations.						
D Coil type						
4		Thermal class 180 (H) explosion-proof coil				
E External wire pull method						
T	Std.	Conduit screw connection (G1/2) *5				
L	Option	Pressure proof packing seal (G1/2) connection, cable O.D. ø7.5 to 8.4				
M		Pressure proof packing seal (G1/2) connection, cable O.D. ø8.5 to 9.4				
F Other options						
Blank		No option				
B		With mounting plate				
G Organizations for explosive-proof certification						
Blank		Japan Certification (TIIS) * 6				
CN		China certification (NEPSI) * 7				
H Voltage						
AC100V		100 VAC 50/60 Hz				
AC200V		200 VAC 50/60 Hz				

[Example of model No.]

AB41E2-02-4-C4TBCN-AC100V

Model: AB41E2

- A** Port size : Rc1/4
- B** Orifice size : ø3.5
- C** Body/sealant combination : Body - copper alloy/sealant - PTFE
- D** Coil : Thermal class 180 (H) explosion-proof coil
- E** External wire pull method : Conduit screw connection (1/2NPT)
- F** Other options : With mounting plate
- G** Organizations for explosive-proof certification : China Certification (NEPSI)
- H** Voltage : 100 VAC 50/60 Hz

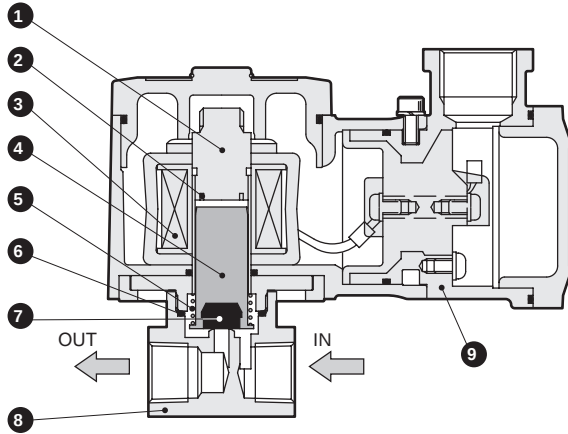
⚠ Precautions for model No. selection

- *1 : A pressure proof packing seal (G3/4) connection is also available. Contact CKD for more information.
Note that the conduit connection (G3/4) is not available.
- *2 : Tropicalization (rust-proof coating) is available as a measure against rust. Contact CKD for more information.
- *3 : 100 VAC coil is compatible with 100 VAC 50/60 Hz and 110 VAC 60 Hz, and 200 VAC coil is compatible with 200 VAC 50/60 Hz and 220 VAC 60 Hz.
- *4 : Other voltages as below are also available. Contact CKD for details.
12, 24, 48, 110, 115, 120, 220, 240, 380, 400, 415, 440, 480, 500 VAC
- *5 : China certification will be 1/2 NPT.
- *6 : Japan certification (TIIS) is included.
- *7 : China certification (NEPSI) is included.

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
SøB/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
Outdoor
SpecFld
Custom
Ending

AB41E2 Series

EXA Internal structure and parts list



Cannot be disassembled

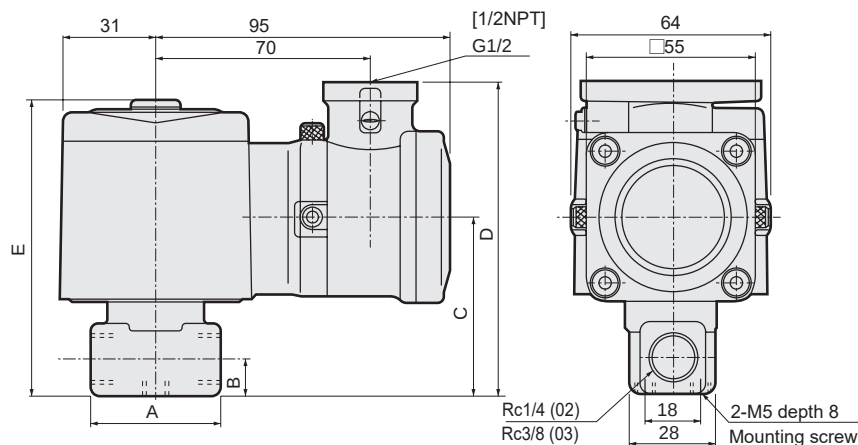
Part No.	Part name	Material	
1	Core assembly	SUS405 or equiv., 316L/403	Stainless steel
2	Shading coil	Cu (Ag for stainless steel body)	Copper (silver for stainless steel body)
3	Coil	—	—
4	Plunger	SUS405 or equiv.	Stainless steel
5	Plunger spring	SUS304	Stainless steel
6	O-ring	PTFE	Tetrafluoroethylene resin
7	Valve seal	PTFE	Tetrafluoroethylene resin
8	Body	C3771(SUS303)	Brass (stainless)
9	Coil case	ADC12	Aluminum die-casting

() shows options.

Dimensions



- Conduit screw (G1/2) connection
AB41E2-02/03-1 to 7-*4T



Dimensions shown in [] are for Chinese certified products.

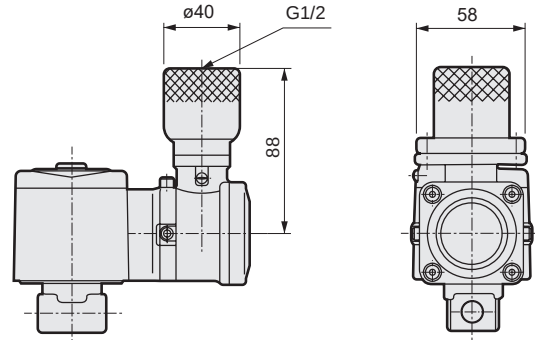
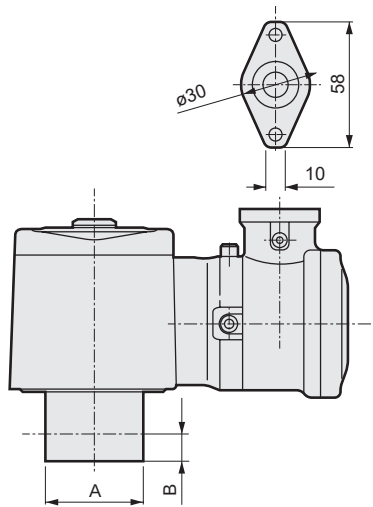
Model No.	A	B	C	D	E
AB41E2-02-1 to 6	36	11	54	97	92
AB41E2-02-7	40	12	57	100	95
AB41E2-03-1~7					

Optional dimensions



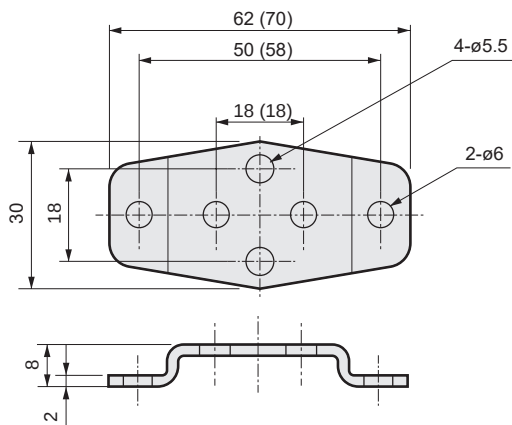
- Stainless steel body
AB41E2-02/03-1 to 7- F,N

- Pressure proof packing (G1/2) connection
AB41E2-02/03-1 to 7- L,M



Model No.	A	B
AB41E2-02-1 to 6 □	ø37.5	11
AB41E2-02-7 □	ø45	12
AB41E2-03-1 to 7 □		

- Mounting plate
AB41E2-02/03-1 to 7-*** B
AB



() Dimensions shown in are for mounting. Plate No.2

Mounting plate model	Compatibility
AB4-GE-100106-MOUNT-PLATE-KIT (Mounting plate No.1)	● AB41E2-02/03-1 to 7 Copper alloy body ● AB41E2-02-1 to 6 Stainless steel body
AB4-GE-100159-MOUNT-PLATE-KIT (Mounting plate No.2)	● AB41E2-02-7 Stainless steel body ● AB41E2-03-1 to 7 Stainless steel body

* Material: Steel/Zinc plated

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
Outdoor
SpecFld
Custom
Ending

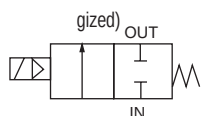
AP11E2/AP12E2 Series

- Pressure and explosion proof construction d2G2 (flame-proof grade 2/ignitability G2)
- NC (open when energized), NO (closed when energized)
- Japan Conformity Certificate No. AP11E2: No. T64351, AP12E2: No. T64354
- China Conformity Certificate No. 2020322307003155
- China explosion-proof standard NEPSI acquired GYB20. 2593X
- Port size: Rc1/2 to Rc1 ● Piston drive

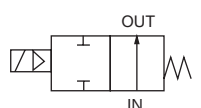


JIS symbol

- AP11E2: NC (open when energized)



- AP12E2: NO (closed when energized)



Common specifications

Item	AP11E2/AP12E2
Working fluid	Air/water/kerosene/oil (50 mm ² /s or less)/steam
Working pressure differential MPa	0.05 to 1.2 (refer to max. working pressure differential in individual specifications.)
Max. working pressure MPa	2 (1 when fluid is steam)
Proof pressure (water pressure) MPa	10
Fluid temperature °C	5 to 181
Ambient temperature °C	-10 to 40
Thermal class	Class 180 (H)
Atmosphere	Outdoors/explosive gas (flame-proof grade 1 to 2/ignitability G1 to G2)
Valve structure	Pilot operated poppet, piston drive
Valve seat leakage(*1) cm ³ /min(ANR)	300 or less (air)
Mounting orientation	Free (within working pressure range)
Degree of protection	IP 65 or equiv.

*1: Pneumatic pressure used for measurement is 0.05 to 1.2 MPa for AP11E2 (NC [open when energized]), and 0.05 to 0.5 MPa for AP12E2 (NO [closed when energized]).

Individual specifications

Item Model No.	Port size	Orifice size (mm)	Min. working pressure differential (MPa)	Max. working pressure differential (MPa)				Rated voltage	Apparent power (VA)				Power consump (W)		Weight (kg)	
				Air	Water/kerosene	Oil (50 mm ² /s)	Steam		When holding		When starting		AC			
				AC	AC	AC	AC		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		
NC(Open when energized)Model																
AP11E2	-15A	Rc1/2	15	0.05	1.2	1.0	0.6	1.0	100 VAC 50/60 Hz 110 VAC 60 Hz 200 VAC 50/60 Hz 220 VAC 60 Hz	18	15	29	24	8	7	1.9
	-20A	Rc3/4	20													2.3
	-25A	Rc1	25													3.0
NO(Closed when energized)Model																
AP12E2	-15A	Rc1/2	15	0.05	0.5	0.5	0.5	0.5	100 VAC 50/60 Hz 110 VAC 60 Hz 200 VAC 50/60 Hz 220 VAC 60 Hz	22	18	35	29	8.7	6.7	1.9
	-20A	Rc3/4	20													2.3
	-25A	Rc1	25													3.0

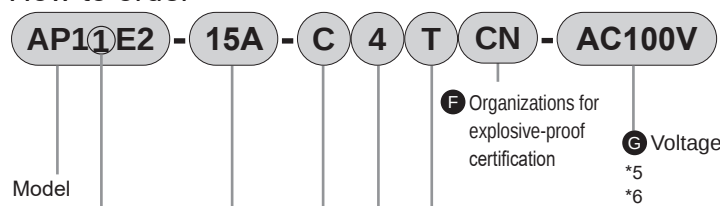
* The voltage fluctuation range must be within -10 to +5% of the rated voltage.

Flow Rate Characteristics

Model No.	Port size	Orifice size (mm)	Flow Rate Characteristics				
			C[dm³/(s bar)]	b	Cv	S (mm²)	
NC(Open when energized)Model							
AP11E2	-15A	Rc 1/2	15	21	0.22	4.5	-
	-20A	Rc 3/4	20	-	-	9.3	162
	-25A	Rc 1	25	-	-	12.0	231
NO(Closed when energized)Model							
AP12E2	-15A	Rc 1/2	15	21	0.22	4.5	-
	-20A	Rc 3/4	20	-	-	9.3	162
	-25A	Rc 1	25	-	-	12.0	231

* Effective cross-sectional area S and sonic conductance C are converted as $S \approx 5.0 \times C$.

How to order



Code		Description				A	A	
A Actuation								
1		NC (open when energized)				●		
2		NO (closed when energized)					●	
B Port size								
15A		Rc1/2				●	●	
20A		Rc3/4				●	●	
25A		Rc1				●	●	
C Body/sealant combination								
		Body	Valve seal	O-ring	Treatment	Remarks		
C	Standard	Bronze	PTFE	Fluoro rubber	-	Air/Water/kerosene/oil/steam (up to 181°C)	●	●
F	Option	Stainless steel	PTFE	Fluoro rubber			●	●
K		Bronze	PTFE	Fluoro rubber	Oil-		●	●
N		Stainless steel	PTFE	Fluoro rubber	prohibited		●	●
Refer to Intro Page 39 for reference on material combinations.								
D Coil type								
4		Thermal class 180 (H) explosion-proof coil				●	●	
E External wire pull method								
T	Standard	Conduit screw connection (G1/2) *7				●	●	
L	Option	Pressure proof packing seal (G1/2) connection, cable O.D. ø7.5 to 8.4				●	●	
M		Pressure proof packing seal (G1/2) connection, cable O.D. ø8.5 to 9.4				●	●	
F Organizations for explosive-proof certification								
Blank		Japan Certification (TIIS) *8				●	●	
CN		China certification (NEPSI) *9				●	●	
G Voltage								
AC100V		100 VAC 50/60 Hz				●	●	
AC200V		200 VAC 50/60 Hz				●	●	

[Model No. example]

AP11E2-15A-C4TCN-AC100V

Model: AP11E2

- A** Actuation : NC (open when energized)
- B** Port size : Rc1/2
- C** Body/sealant combination : Body - bronze, valve seal - PTFE, O-ring - fluoro rubber
- D** Coil : Thermal class 180 (H) explosion-proof coil
- E** External wire pull method : Conduit screw connection (1/2NPT)
- F** Organizations for explosive-proof certification : China Certification (NEPSI)
- G** Voltage : 100 VAC 50/60 Hz

⚠ Precautions for model No. selection

- *1 : The combinations indicated with ● above are available.
- *2 : As G and NPT threads can also be used for piping port threads, contact CKD for details.
- *3 : A pressure proof packing seal (G3/4) connection is also available. Contact CKD for more information. Note that the conduit connection (G3/4) is not available.
- *4 : Tropicalization (rust-proof coating) is available as a measure against rust. Contact CKD for more information.
- *5 : 100 VAC coil is compatible with 100 VAC 50/60 Hz and 110 VAC 60 Hz, and 200 VAC coil is compatible with 200 VAC 50/60 Hz and 220 VAC 60 Hz.
- *6 : Other voltages as below are also available. Contact CKD for details.
12, 24, 48, 110, 115, 120, 220, 240, 380, 400, 415, 440, 480, 500 VAC
- *7 : China certification will be 1/2 NPT.
- *8 : Japan certification (TIIS) is included.
- *9 : China certification (NEPSI) is included.

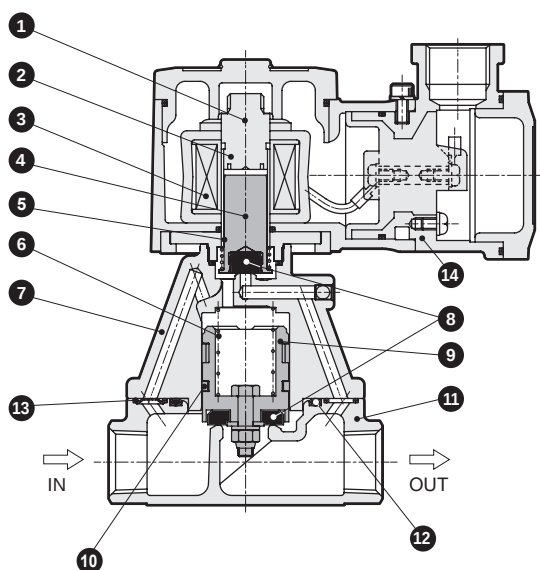
EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/AD
APK/ADK
DryAir
EX-XPLNprf
XPLNprf
HVB/HVL
S&B/NAB
LAD/NAD
Water-Rela
NP/NAP/NVP
SNP
CHB/G
MXB/G
Other valves
SWD/MWD
DustColl
CVE/CVSE
CCH/CPE/D
LifeSci
Gas-Combus
Auto-Water
Outdoor
SpecFld
Custom
Ending

AP11E2/AP12E2 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
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-
Combust
Auto-
Water
Outdoor
SpecFld
Custom
Ending

Internal structure and parts list

● AP11E2 Series



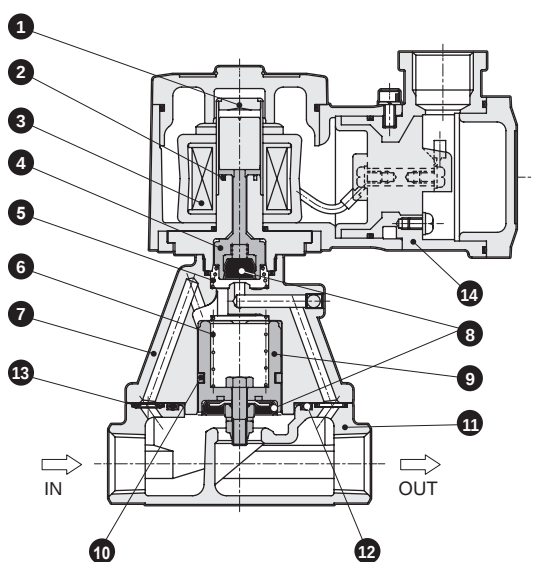
(The figure shows the closing operation)

Cannot be disassembled

No.	Part name	Material	
1	Core assembly	SUS405 or equiv./SUS316L/ SUS403	Stainless steel
2	Shading coil	Cu (Ag for stainless steel body)	Copper (silver for stainless steel body)
3	Coil	—	—
4	Plunger	SUS405 or equiv.	Stainless steel
5	Plunger spring	SUS304	Stainless steel
6	Valve spring	SUS304	Stainless steel
7	Body	CAC408(SCS13)	Bronze casting (S.S. casting)
8	Valve seal	PTFE	Tetrafluoroethylene resin
9	Main valve assembly	C3604/SUS303/SUS304 (SUS303/SUS304)	Stainless steel/copper alloy (Stainless steel)
10	Piston ring	SUS304/PTFE	Stainless steel/ tetrafluoroethylene resin
11	Body	CAC408(SCS13)	Bronze casting (S.S. casting)
12	O-ring	FKM	Fluoro rubber
13	Orifice plate	SUS304(SUS303)	Stainless steel
14	Coil case	ADC12	Aluminum die-casting

() shows options.

● AP12E2 Series



(The figure shows the opening operation)

Cannot be disassembled

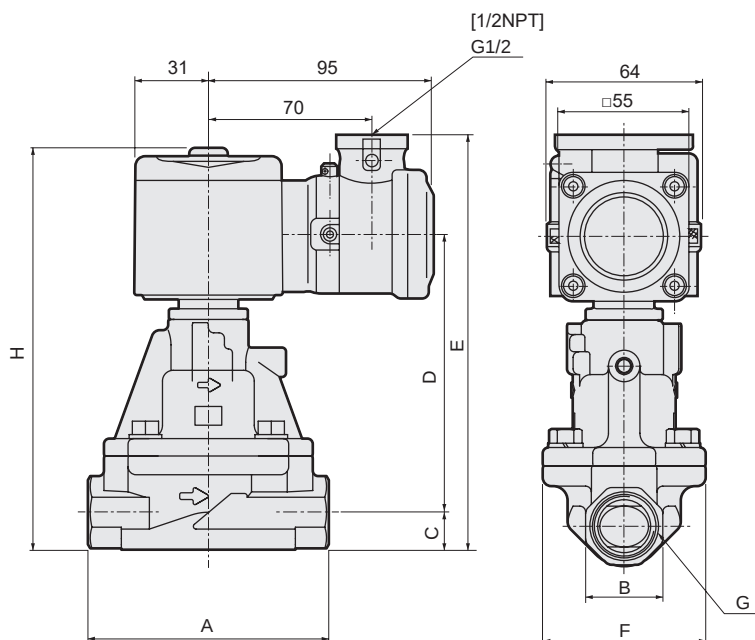
No.	Part name	Material	
1	Plunger/core assembly	SUS405 or equiv./SUS316L/ SUS304	Stainless steel
2	Shading coil	Cu (Ag for stainless steel body)	Copper (silver for stainless steel body)
3	Coil	—	—
4	NO valve	SUS303/PFA	Stainless steel/ perfluoroalkoxy resin
5	Spring	SUS304	Stainless steel
6	Valve spring	SUS304	Stainless steel
7	Body	CAC408(SCS13)	Bronze casting (S.S. casting)
8	Valve seal	PTFE	Tetrafluoroethylene resin
9	Main valve assembly	C3604/SUS303/SUS304 (SUS303/SUS304)	Stainless steel/copper alloy (Stainless steel)
10	Piston ring	SUS304/PTFE	Stainless steel/ tetrafluoroethylene resin
11	Body	CAC408(SCS13)	Bronze casting (S.S. casting)
12	O-ring	FKM	Fluoro rubber
13	Orifice plate	SUS304(SUS303)	Stainless steel
14	Coil case	ADC12	Aluminum die-casting

() shows options.

Dimensions



- Conduit screw (G1/2) connection
AP11E2
AP12E2 -15A/20A/25A-*4T



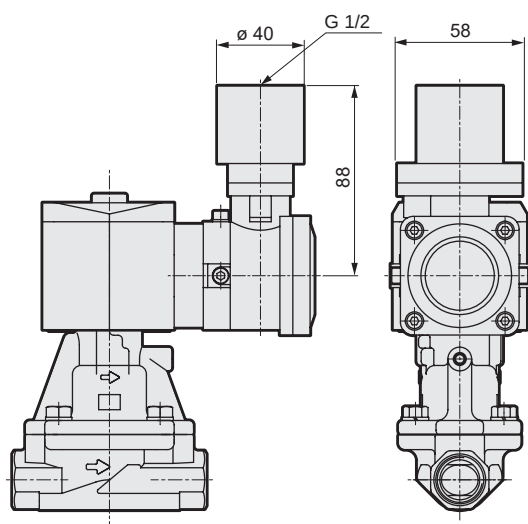
Dimensions shown in [] are for Chinese certified products.

Model No.	A	B	C	D	E	F	G	H
AP11E2-15A-*4T	90	27	14	94.5	151.5	57	Rc1/2	146.5
AP11E2-20A-*4T	100	32	17	103.5	163.5	65	Rc3/4	158.5
AP11E2-25A-*4T	110	41	20.5	118	181.5	76	Rc1	176.5
AP12E2-15A-*4T	90	27	14	98.5	155.5	57	Rc1/2	150.5
AP12E2-20A-*4T	100	32	17	107.5	167.5	65	Rc3/4	162.5
AP12E2-25A-*4T	110	41	20.5	122	185.5	76	Rc1	180.5

Optional dimensions



- Pressure proof packing (G1/2) connection
AP11E2
AP12E2 -15A/20A/25A-** [L, M]



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
Outdoor
SpecFld
Custom
Ending

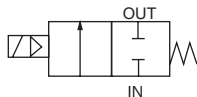
AP21E2/AP22E2 Series

- Pressure and explosion proof construction d2G2 (flame-proof grade 2/ignitability G2)
- NC (open when energized), NO (closed when energized)
- Japan Conformity Certificate No. AP21E2: No. T64351, AP22E2: No. T64354
- China Conformity Certificate No. 2020322307003155
- China explosion-proof standard NEPSI acquired GYB20. 2593X
- Port size: Rc1¹/₄ to Rc2, 32 to 50 flange ● Piston drive

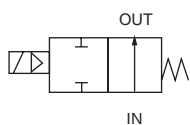


JIS symbol

● AP21E2: NC (open when energized)



● AP22E2: NO (closed when energized)



Common specifications

Item	AP21E2/AP22E2
Working fluid	Air/water/kerosene/oil (50 mm ² /s or less)/steam
Working pressure differential MPa	0.05 to 1.2 (refer to max. working pressure differential in individual specifications.)
Max. working pressure MPa	1.6 (1 when fluid is steam)
Proof pressure (water pressure) MPa	3.2
Fluid temperature °C	5 to 181
Ambient temperature °C	-10 to 40
Thermal class	Class 180 (H)
Atmosphere	Outdoors/explosive gas (flame-proof grade 1 to 2/ignitability G1 to G2)
Valve structure	Pilot operated poppet, piston drive
Valve seat leakage (*1) cm ³ /min(ANR)	400 or less (air)
Mounting orientation	Free (within working pressure range)
Degree of protection	IP 65 or equiv.

*1: Pneumatic pressure used for measurement is 0.05 to 1.2 MPa for AP21E2 (NC [open when energized]), and 0.05 to 0.5 MPa for AP22E2 (NO [closed when energized]).

Individual specifications

Item		Port size	Orifice size (mm)	Min. working pressure differential (MPa)	Max. working pressure differential (MPa)				Rated voltage	Apparent power (VA)				Power consump (W)		Weight (kg)
Model No.	Air				Water/kerosene	Oil (50 mm²/s)	Steam	When holding		When starting	AC					
											50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	
NC (Open when energized)																
AP21E2	-32A	Rc1¼	35	0.05	1.2	1.0	0.6	1.0	100 VAC 50/60 Hz 110 VAC 60 Hz	18	15	29	24	8	7	4.0
	-32F	32 flange														7.5
	-40A	Rc1½	43													5.0
	-40F	40 flange														8.5
	-50A	Rc 2	53						6.5							
	-50F	50 flange							10.5							
NO (Closed when energized)																
AP22E2	-32A	Rc1¼	35	0.05	0.5	0.5	0.5	0.5	100 VAC 50/60 Hz 110 VAC 60 Hz	22	18	35	29	8.7	6.7	4.0
	-32F	32 flange														7.5
	-40A	Rc1½	43													5.0
	-40F	40 flange														8.5
	-50A	Rc 2	53						6.5							
	-50F	50 flange							10.5							

*1: The model numbers above are for the standard products. Refer to How to order for other combinations.

*2: The voltage fluctuation range must be within -10 to +5% of the rated voltage.

Flow characteristics

Model No.	Port size	Orifice size (mm)	Cv	Effective cross-sectional area (mm ²)	
NC (open when energized)					
AP21E2	-32A	Rc1 ¹ / ₄	35	25	460
	-32F	32 flange			
	-40A	Rc1 ¹ / ₂	43	34	625
	-40F	40 flange			
	-50A	Rc2	53	53	975
	-50F	50 flange			
NO (closed when energized)					
AP22E2	-32A	Rc1 ¹ / ₄	35	25	460
	-32F	32 flange			
	-40A	Rc1 ¹ / ₂	43	34	625
	-40F	40 flange			
	-50A	Rc2	53	53	975
	-50F	50 flange			

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
Outdoor
SpecFld
Custom
Ending

AP21E2/AP22E2 Series

How to order

Model No. **AP21E2 - 32F - C 4 T CN - AC100V**

F Organizations for explosive-proof certification
*6
*7

G Voltage
*6
*7

Model No.

AP21E2
AP22E2

Code		Description				A	A	
A Actuation								
1		NC (open when energized)				●		
2		NO (closed when energized)					●	
B Port size								
32A		Rc1¼				●	●	
32F		32 flange				●	●	
40A		Rc1½				●	●	
40F		40 flange				●	●	
50A		Rc2				●	●	
50F		50 flange				●	●	
C Body/sealant combination								
		Body	Valve seal	O-ring	Treatment	Remarks		
C	Standard	Bronze	PTFE	Fluoro rubber	-	Air/Water/kerosene/oil/steam (Up to 181°C)	●	●
F	Option	Stainless steel	PTFE	Fluoro rubber			●	●
K		Bronze	PTFE	Fluoro rubber	●		●	
N		Stainless steel	PTFE	Fluoro rubber	Oil-prohibited		●	●
Refer to Intro Page 39 for reference on material combinations								
D Coil type								
4		Thermal class 180 (H) explosion-proof coil				●	●	
E External wire pull method								
T	Standard	Conduit screw connection (G1/2) * 8				●	●	
L	Option	Pressure proof packing seal (G1/2) connection, cable O.D. ø7.5 to 8.4				●	●	
M		Pressure proof packing seal (G1/2) connection, cable O.D. ø8.5 to 9.4				●	●	
F Organizations for explosive-proof certification								
Blank		Japan Certification (TIIS) *9				●	●	
CN		China certification (NEPSI) *10				●	●	
G Voltage								
AC100V		100 VAC 50/60 Hz				●	●	
AC200V		200 VAC 50/60 Hz				●	●	

[Model No. example]

AP21E2-32F-C4TCN-AC100V

Model: AP21E2

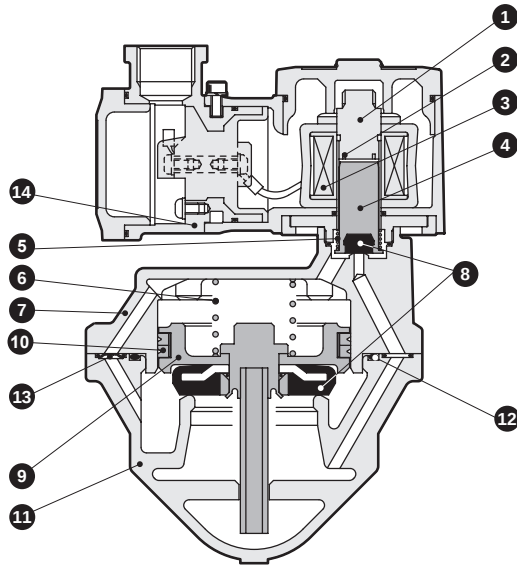
- A** Actuation : NC (open when energized)
- B** Port size : 32 flange
- C** Body/sealant combination : Body - bronze/valve seal - PTFE/O-ring - fluoro rubber
- D** Coil : Thermal class 180 (H) explosion-proof coil
- E** External wire pull method : Conduit screw connection (1/2NPT)
- F** Organizations for explosive-proof certification : China Certification (NEPSI)
- G** Voltage : 100 VAC 50/60 Hz

⚠ Precautions for model No. selection

- *1 : The combinations indicated with ● above are available.
- *2 : The companion flange is JIS B2210 10K. (Flange is not enclosed with the product and must be purchased separately.)
- *3 : As G and NPT threads can also be used for piping port threads, contact CKD for details.
- *4 : A pressure proof packing seal (G3/4) connection is also available. Contact CKD for more information. Note that the conduit connection (G3/4) is not available.
- *5 : Tropicalization (rust-proof coating) is available as a measure against rust. Contact CKD for more information.
- *6 : 100 VAC coil is compatible with 100 VAC 50/60 Hz and 110 VAC 60 Hz, and 200 VAC coil is compatible with 200 VAC 50/60 Hz and 220 VAC 60 Hz.
- *7 : Other voltages as below are also available. Contact CKD for details.
12, 24, 48, 110, 115, 120, 220, 240, 380, 400, 415, 440, 480, 500 VAC
- *8 : China certification will be 1/2 NPT.
- *9 : Japan certification (TIIS) is included.
- *10 : China certification (NEPSI) is included.

Internal structure and parts list

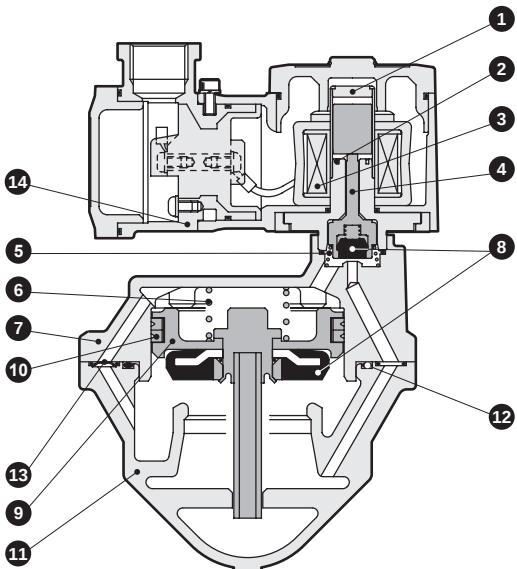
● AP21E2 Series



(The figure shows the closing operation)

Cannot be disassembled

● AP22E2 Series



(The figure shows the opening operation)

Cannot be disassembled

No.	Part name	Material
1	Core assembly	SUS405 or equiv./SUS316L/ SUS403 Stainless steel
2	Shading coil	Cu (Ag for stainless steel body) Copper (silver for stainless steel body)
3	Coil	—
4	Plunger	SUS405 or equiv. Stainless steel
5	Plunger spring	SUS304 Stainless steel
6	Valve spring	SUS304 Stainless steel
7	Body	CAC408(SCS13) Bronze casting (S.S. casting)
8	Valve seal	PTFE Tetrafluoroethylene resin
9	Main valve assembly	C3604/SUS303/SUS304 (SUS303/SUS304) Stainless steel/ copper alloy (stainless steel)
10	Seal ring set	SUS304/PTFE Stainless steel/ tetrafluoroethylene resin
11	Body	CAC408(SCS13) Bronze casting (S.S. casting)
12	O-ring	FKM Fluoro rubber
13	Orifice plate	SUS304 Stainless steel
14	Coil case	ADC12 Aluminum die-casting

() shows options.

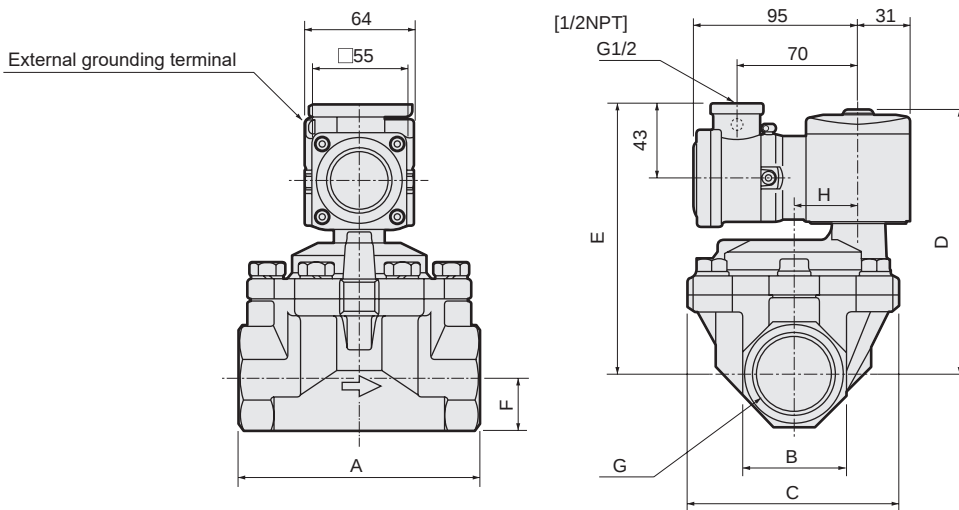
No.	Part name	Material
1	Plunger/core assembly	SUS405 or equiv./SUS316L/ SUS304 Stainless steel
2	Shading coil	Cu (Ag for stainless steel body) Copper (silver for stainless steel body)
3	Coil	—
4	NO valve	SUS303/PFA Stainless steel/ perfluoroalkoxy resin
5	Spring	SUS304 Stainless steel
6	Valve spring	SUS304 Stainless steel
7	Body	CAC408(SCS13) Bronze casting (S.S. casting)
8	Valve seal	PTFE Tetrafluoroethylene resin
9	Main valve assembly	C3604/SUS303/SUS304 (SUS303/SUS304) Stainless steel/ copper alloy (stainless steel)
10	Seal ring set	SUS304/PTFE Stainless steel/ tetrafluoroethylene resin
11	Body	CAC408(SCS13) Bronze casting (S.S. casting)
12	O-ring	FKM Fluoro rubber
13	Orifice plate	SUS304 Stainless steel
14	Coil case	ADC12 Aluminum die-casting

() shows options.

AP21E2/AP22E2 Series

● Conduit thread (G1/2) connection (Rc screw-in)

AP21E2
AP22E2 -32A/40A/50A-*4T

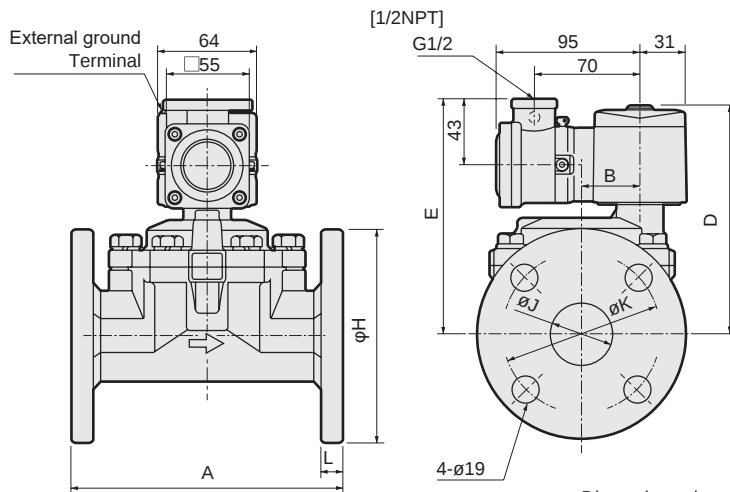


Dimensions shown in [] are for Chinese certified products.

Model No.	A	B	C	D	E	F	G	H
AP21E2-32A-*4T	125	54	112	147	152	27	Rc1¼	32
AP21E2-40A-*4T	140	60	122	153	158	30	Rc1½	38
AP21E2-50A-*4T	160	74	132	161	166	37	Rc2	45
AP22E2-32A-*4T	125	54	112	151	156	27	Rc1¼	32
AP22E2-40A-*4T	140	60	122	157	162	30	Rc1½	38
AP22E2-50A-*4T	160	74	132	165	170	37	Rc2	45

● Conduit screw (G1/2) connection (flange)

AP21E2
AP22E2 -32F/40F/50F-*4T



Dimensions shown in [] are for Chinese certified products.

Model No.	A	B	D	E	H	J	K	L
AP21E2-32F.*4T	170	32	147	152	135	36 (35)	100	12
AP21E2-40F.*4T	180	38	153	158	140	42	105	14
AP21E2-50F.*4T	180	45	161	166	155	53 (52)	120	14
AP22E2-32F.*4T	170	32	151	156	135	36 (35)	100	12
AP22E2-40F.*4T	180	38	157	162	140	42	105	14
AP22E2-50F.*4T	180	45	165	170	155	53 (52)	120	14

Dimensions shown in () are for stainless steel body.

Optional dimensions



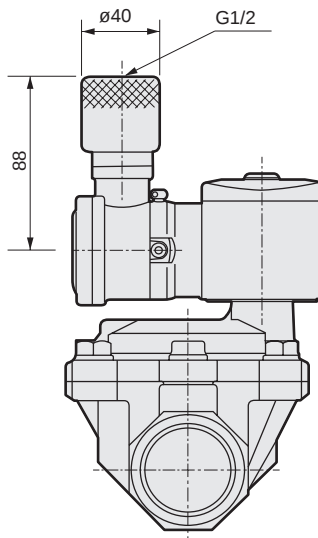
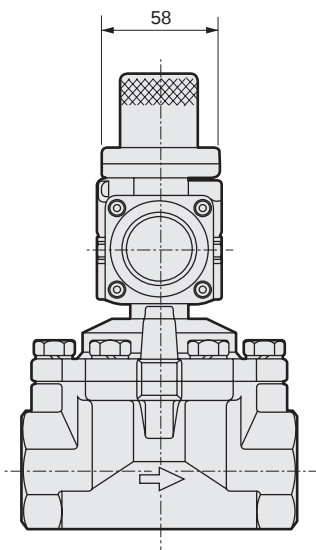
- Pressure proof packing (G1/2) connection (Rc screw-in)

AP21E2

AP22E2

-32A/40A/50A-**

L, M



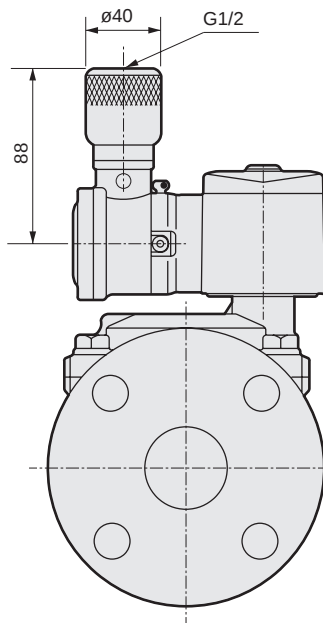
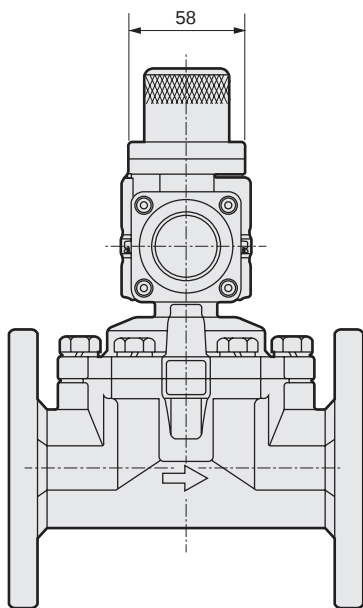
- Pressure proof packing (G1/2) Binding Type (Flange)

AP21E2

AP22E2

-32F/40F/50F-**

L, M



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
Outdoor
SpecFld
Custom
Ending