

AB41E4/AB42E4 Series

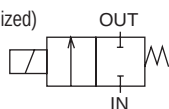
- Pressure and explosion proof construction d2G4 (flame-proof grade 2/ignitability G4)
- Japan Conformity Certificate No. AB41E4: No. T64349, AB42E4: No. T64352
- China Conformity Certificate No. 2020322307003155
- China explosion-proof standard NEPSI acquired GYB20. 2593X
- NC (open when energized), NO (closed when energized)
- Port size: Rc1/4, Rc3/8

RoHS

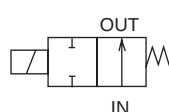


JIS symbol

- AB41E4: NC (open when energized)



- AB42E4: NO (closed when energized)



Common specifications

Item	AB41E4	AB42E4
Working fluid	Air/low vacuum [1.33×10^2 Pa(abs)]/water/kerosene/oil (50mm ² /s or less)	
Working pressure differential MPa	0 to 5 (Refer to max. working press diff, indiv specs)	0 to 2 (Refer to max. working press diff, indiv specs)
Max. working pressure MPa	5	2
Proof pressure (water pressure) MPa	25	
Fluid temperature °C	-10 to 60 (no freezing)	
Ambient temperature °C	-10 to 50	
Thermal class	Class 130 (B)	
Atmosphere	Outdoors/explosive gas (flame-proof grade 1 to 2/ignitability G1 to G4)	
Valve structure	Direct acting poppet structure	
Valve seat leakage cm ³ /min (ANR)	0.2 or less (PTFE sealant: 300 or less) (air)	
Mounting orientation	Unrestricted	
Degree of protection	IP 65 or equiv.	

Individual specifications

Item	Port size	Orifice size (mm)	Max. working pressure differential (MPa)						Rated voltage	Apparent power (VA)				Power consumption (W)		Weight (kg)
Model No.			Air		Water(hot)/Kerosene		Oil (50mm ² /s)			When holding		When starting		AC	DC	
			AC	DC	AC	DC	AC	DC		50Hz	60Hz	50Hz	60Hz	50Hz/60Hz	DC	
NC (normally closed)																
AB41E4- ⁰² ₋₁₀₃	Rc 1/4 Rc 3/8	1.5	5.0	4.0	4.5	4.0	4.0	4.0	100 VAC 50/60Hz 110 VAC 60Hz	18	15	29	24	8/7	11.6	1.0
-2		2.0	3.0	2.5	2.7	2.5	2.5	2.5								
-3		3.0	1.5	0.9	1.3	0.9	0.9	0.9								
-4		3.5	1.2	0.6	0.9	0.6	0.6	0.6	200 VAC 50/60Hz 220 VAC 60Hz							
-5		4.0	1.0	0.5	0.7	0.5	0.5	0.5								
-6		5.0	0.6	0.25	0.4	0.25	0.25	0.25	(12 VDC) (24 VDC) (48 VDC) (100 VDC)*5							
⁰² ₀₃ -7		7.0	0.25	0.1	0.2	0.1	0.15	0.1								
NO (closed when energized)																
AB42E4- -1	Rc 1/4 Rc 3/8	1.5	2.0	2.0	2.0	2.0	2.0	2.0	100 VAC 50/60Hz 110 VAC 60Hz	22	18	35	29	8.7/6.7	15.5	1.0
-2		2.0	1.0	1.0	1.0	1.0	1.0	1.0								
-3		3.0	0.7	0.7	0.7	0.7	0.7	0.7								
-4		3.5	0.5	0.5	0.5	0.5	0.5	0.5	200 VAC 50/60Hz 220 VAC 60Hz							
-5		4.0	0.4	0.4	0.4	0.4	0.4	0.4								
-6		5.0	0.25	0.25	0.25	0.25	0.25	0.25	(12 VDC) (24 VDC) (48 VDC) (100 VDC)*5							
-7		7.0	0.15	0.15	0.15	0.15	0.15	0.15								

*1: The port size model No. is 02 for Rc1/4 (8A) and 03 for Rc3/8 (10A).

*2: Refer to DC column for the max. working pressure differential of AB41E4 type coil with diode.

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

*4: When using at low vacuum, vacuum the OUT port side.

*5: () shows options.

Flow characteristics

Model No.	Port size	Orifice size (mm)	Flow characteristics		
			C[dm³/(s·bar)	b	Cv
NC (open when energized)					
AB41E4- ⁰² / ₀₃	-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]	0.80 [0.62]
	-7	7.0	4.8 [4.6]	0.29 [0.37]	1.0 [0.82]
NO (closed when energized)					
AB42E4- ⁰² / ₀₃	-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]	0.80 [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 $S \approx 5.0 \times C$.

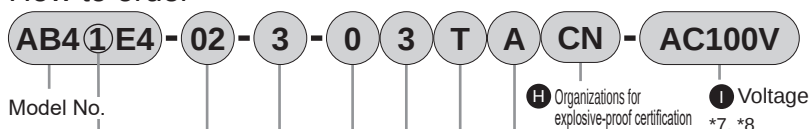
*2 : Dimensions shown in [] are for stainless steel body.

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

AB41E4/AB42E4 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

How to order



A Actuation

B Port size

C Orifice size

D Body/sealant combination
*2

E Coil type
*3

F External wire pull
*4 method

G Other options
*5

[Example of model No.]

AB41E4-02-3-03TACN-AC100V

Model: AB41E4

- A** Actuation : NC (normally closed)
- B** Port size : Rc1/4
- C** Orifice size : ø3
- D** Body/sealant combination : Body - Brass, sealant - nitrile rubber
- E** Type of coil : Thermal class 130 (B) explosion-proof coil
- F** External wire pull method : Conduit screw connection (1/2NPT)
- G** Other options : Manual override (locking)
- H** Explosion-proof certification agency : China certification (NEPSI)
- I** Voltage : AC 100V50/60Hz

⚠ Precautions for model No. selection

- *1 : The combinations indicated with ● above are available.
- *2 : The ethylene propylene rubber seal combination (Item **P** R) cannot be used with air. (Compressed air contains oil, and ethylene propylene rubber is not oil-resistant.)
- *3 : For the thermal class 130 (B) diode integrated coil, the AC power supply voltage is converted into a DC coil voltage by the diode.
- *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 : When Item **D** is C, F, K or N, the manual override (Item **G** A or AB) is not available. When Item **A** is 2, the manual override (Item **G** A or AB) is not available.
- *6 : Tropicalization (rust-proof coating) is available as a measure against rust. Contact CKD for more information. Note that tropicalization is not available when the manual override option (A) is selected.
- *7 : 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. The thermal class 130 (B) diode integrated explosion-proof coil (Item **E** 5) can be used with 100 VAC 50/60 Hz or 200 VAC 50/60 Hz.
- *8 : 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 (with diode) 110, 220 VAC 6, 110, 200, 220 VDC
- *9 : China certification will be 1/2 NPT.
- *10 : Japan certification (TIIS) is included.
- *11 : China certification (NEPSI) is included.

Code	Description		
A Actuation			
1	NC (normally closed)	●	●
2	NO (closed when energized)	●	●

Code	Description	Code	Description	Code	Description		
B Port size							
02	Rc1/4	2G	G1/4	2N	1/4NPT	●	●
03	Rc3/8	3G	G3/8	3N	3/8NPT	●	●

C Orifice size							
1	ø1.5					●	●
2	ø2					●	●
3	ø3					●	●
4	ø3.5					●	●
5	ø4					●	●
6	ø5					●	●
7	ø7					●	●

D Body/sealant combination							
	Body	Seal	Treatment	Remarks			
O	Std.	Copper alloy	Nitrile rubber	Air/water/low vacuum/kerosene/oil (up to 60°C)	●	●	
B	Option	Copper alloy	Fluoro rubber	-	●	●	
C		Copper alloy	PTFE	-	●	●	
D		Stainless steel	Nitrile rubber	Air/water/low vacuum/kerosene/oil (up to 60°C)	●	●	
E	Option	Stainless steel	Fluoro rubber	-	●	●	
F		Stainless steel	PTFE	-	●	●	
H		Copper alloy	Nitrile rubber	Air/water/low vacuum/kerosene/oil (up to 60°C)	●	●	
J	Option	Copper alloy	Fluoro rubber	-	●	●	
K		Copper alloy	PTFE	-	●	●	
P		Copper alloy	Ethylene propylene rubber	-	●	●	
L	Option	Stainless steel	Nitrile rubber	Air/water/low vacuum/kerosene/oil (up to 60°C)	●	●	
M		Stainless steel	Fluoro rubber	-	●	●	
N		Stainless steel	PTFE	-	●	●	
R	Option	Stainless steel	Ethylene propylene rubber	-	●	●	

Refer to Intro Page 39 for reference on material combinations.

E Coil type							
3		Thermal class 130 (B) explosion-proof coil		●	●		
5		Thermal class 130 (B) diode integrated explosion-proof coil		●	●		

F External wire pull method							
T	Std.	Conduit screw connection (G1/2)	*9	●	●		
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		●	●		

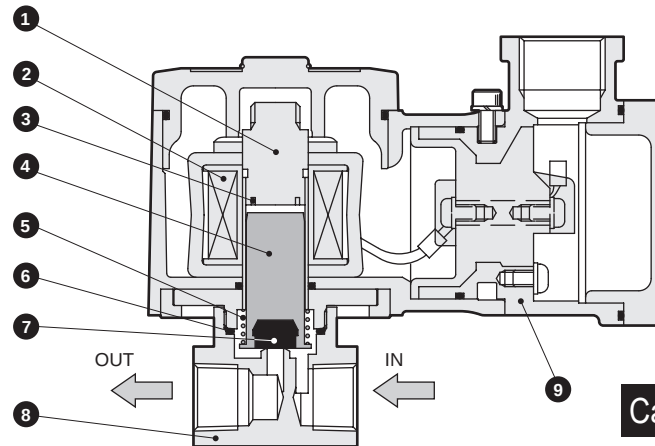
G Other options							
Blank	Std.	No option		●	●		
A	Option	Manual override (locking)		●	●		
B		With mounting plate		●	●		
AB		Manual override/mounting plate		●	●		

H Organizations for explosive-proof certification							
Blank		Japan Certification (TIIS) * 10		●	●		
CN		China certification (NEPSI) * 11		●	●		

I Voltage							
100 VAC	Std.	100 VAC 50/60 Hz		●	●		
200 VAC		200 VAC 50/60 Hz		●	●		
12 VDC	Option	12 VDC		●	●		
24 VDC		24 VDC		●	●		
48 VDC		48 VDC		●	●		
100 VDC		100 VDC		●	●		

Internal structure and parts list

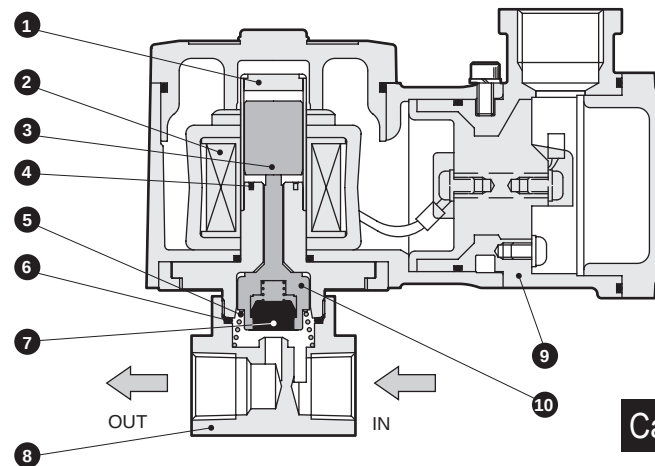
● AB41E4 Series



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

() shows options.

● AB42E4 Series



No.	Part name	Material	No.	Part name	Material
1	Core assembly	SUS405 or equiv./316L/304 Stainless steel	8	Body	C3771 (SUS303) Copper alloy (stainless steel)
2	Coil	-	9	Coil case	ADC12 Aluminum die-casting
3	Plunger	SUS405 or equiv. Stainless steel	10	NO Valve	POM (PPS/SUS303/PFA)
4	Shading coil	Cu (Ag for stainless steel body) Copper (silver for stainless steel body)			Body/sealant combination
5	Spring	SUS304 Stainless steel			When O/D/H/L: Polyacetal resin
6	O-ring	NBR (FKM/PTFE/EPDM)			When B/E/J/M/P/R: Polyphenylene sulfide resin
7	Valve seal	NBR (FKM/PTFE/EPDM)			When C/F/K/N: Stainless steel/perfluoroalkoxy resin

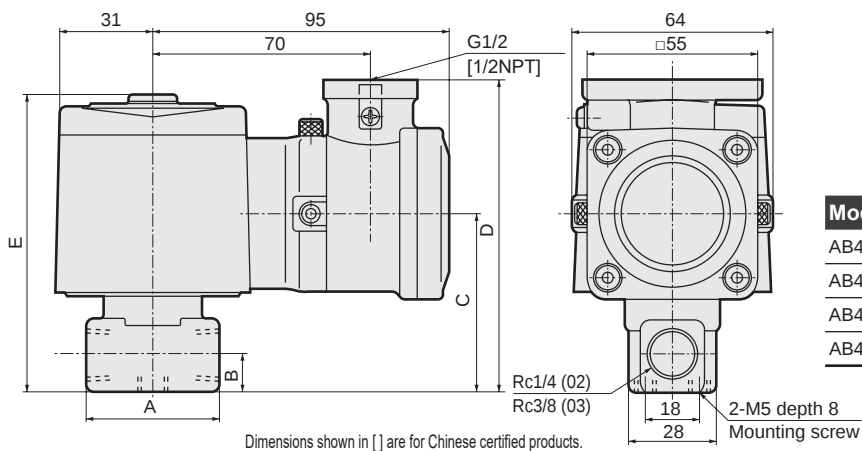
() shows options.

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

AB41E4/AB42E4 Series

● Conduit screw (G1/2) connection

AB41E4 *_*_**T
AB42E4



Model No.	A	B	C	D	E
AB41E4-02-1 to 6	36	11	54	97	92
AB41E4- ⁰²⁻⁷ 03-1 to 7	40	12	57	100	95
AB42E4-02-1 to 6	36	11	58	101	96
AB42E4- ⁰²⁻⁷ 03-1 to 7	40	12	61	104	99

- Stainless steel body

AB41E4	_*_*	D, E, F, R
AB42E4		L, M, N

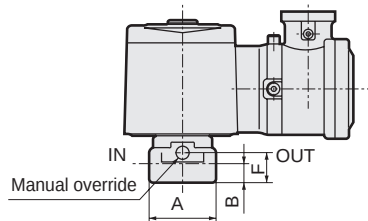
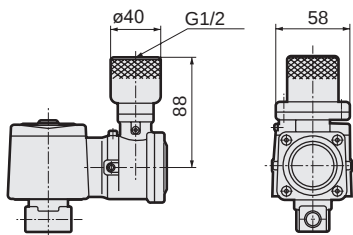
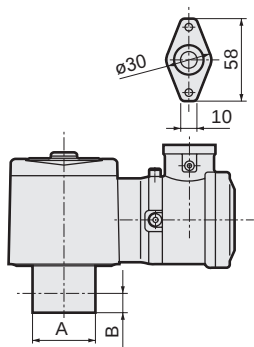
● Pressure proof packing (G1/2) connection

AB41E4 *_*_** L, M

AB42E4

- Manual override (locking)

AB41E4-*-*-***A

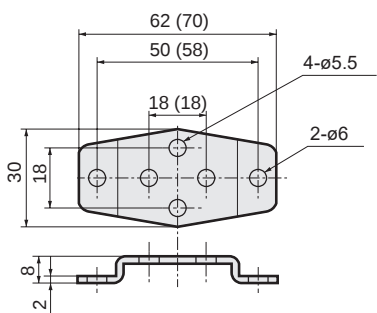


Model No.	A	B
AB41E4-02-1 to 6	ø37.5	11
AB41E4- 02-7 03-1 to 7	ø45	12
AB42E4-02-1 to 6	ø37.5	11
AB42E4- 02-7 03-1 to 7	ø45	12

Model No.	A	B	F
AB41E4-02-1 to 6	36	11	19.5
AB41E4-02-7 03-1 to 7	40	12	22.5

- Mounting plate

AB41E4 *_*_** *



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

Mounting plate model No.	Compatibility	
AB4-GE-100106-MOUNT-PLATE-KIT (mounting plate No.1)	●AB41E4-02, 03-1 to 7	Brass body
	●AB41E4-02-1 to 6	Stainless steel body
	●AB42E4-02, 03-1 to 7	Brass body
	●AB42E4-02-1 to 6	Stainless steel body
AB4-GE-100159-MOUNT-PLATE-KIT (mounting plate No.2)	●AB41E4-02-7	Stainless steel body
	●AB41E4-03-1 to 7	Stainless steel body
	●AB42E4-02-7	Stainless steel body
	●AB42E4-03-1 to 7	Stainless steel body

* Material: Steel/zinc plated

MEMO

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

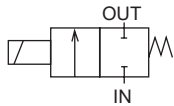
AB41E4-Z Series

- Pressure and explosion proof construction d2G4 (flame-proof grade 2/ignitability G4)
- Japan Conformity Certificate No.: No. T64361
- China Conformity Certificate No. 2020322307003155
- China explosion-proof standard NEPSI acquired GYB20. 2593X
- NC (open when energized)
- Port size: Rc1/4, Rc3/8



JIS symbol

- NC (normally closed)



Common specifications

Item	Standard specifications
Working fluid	For dry air (atmospheric dew point -60°C and over)/inert gas/low vacuum [1.33×10^2 Pa (abs)]
Working pressure differential MPa	0 to 4 (refer to max. working pressure differential in individual specifications.)
Max. working pressure MPa	5
Proof pressure (water pressure) MPa	25
Fluid temperature °C	-10 to 45 (no freezing)
Ambient temperature °C	-10 to 45
Thermal class	Class 130 (B)
Atmosphere	Outdoor/explosive gas (flame-proof grade 1 to 2/ignitability G1 to G4)
Valve structure	Direct acting poppet structure
Valve seat leakage ^{cm³} /min(ANR)	0.2 or less
Mounting orientation	Unrestricted
Degree of protection	IP 65 or equiv.

Individual specifications

Item	Port size	Orifice size (mm)	Max. working pressure differential (MPa)	Rated voltage	Power consumption (W)	Weight (kg)
Model No.						
AB41E4- ⁰² -1-****Z	Rc 1/4 Rc 3/8	1.5	4.0	100 VAC 50/60 Hz	17	1.0
⁰³ -2-****Z		2.0	2.5	200 VAC 50/60 Hz		
-3-****Z		3.0	0.9	(12 VDC)		
-4-****Z		3.5	0.6	(24 VDC)		
-5-****Z		4.0	0.4	(48 VDC)		
-6-****Z		5.0	0.2	(100 VDC)		
-7-****Z		7.0	0.1	*4		

*1: The port size model No. is 02 for Rc1/4 (8A) and 03 for Rc3/8 (10A).

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

*3: The leakage current must be less than or equal to the values shown below.

*4: () shows options.

*5: When using at low vacuum, vacuum the OUT port side.

Leakage current	Voltage	100 VAC	200 VAC	12 VDC	24 VDC	48 VDC	100 VDC
	Model No.						
	AB41E4-*_*-****Z	10 mA or less	5 mA or less	40 mA or less	20 mA or less	10 mA or less	5 mA or less

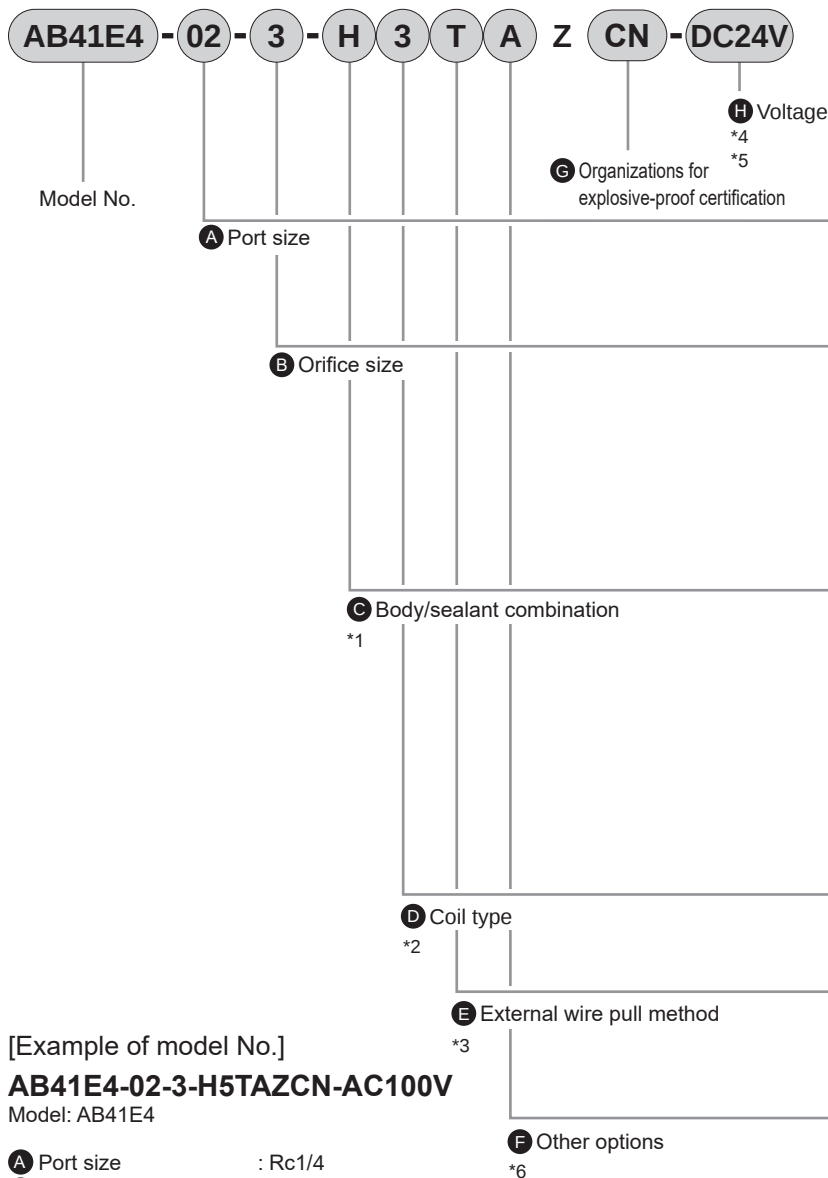
Flow Rate Characteristics

Model No.	Port size	Orifice size (mm)	Flow Rate Characteristics	
			C[dm³/(s·bar)]	b
AB41E4- ⁰² -1-****Z	Rc 1/4 Rc 3/8	1.5	0.29	0.53
⁰³ -2-****Z		2.0	0.53	0.52
-3-****Z		3.0	1.1	0.52
-4-****Z		3.5	1.7 [1.5]	0.49 [0.47]
-5-****Z		4.0	2.1 [1.9]	0.48 [0.47]
-6-****Z		5.0	3.0 [2.6]	0.42 [0.38]
-7-****Z		7.0	4.8 [4.6]	0.29 [0.37]

*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



[Example of model No.]

AB41E4-02-3-H5TAZCN-AC100V

Model: AB41E4

- A** Port size : Rc1/4
B Orifice size : ø3
C Body/sealant combination : Body - copper alloy, sealant - nitrile rubber
D Coil : Thermal class 130 (B) diode integrated explosion-proof coil
E External wire pull method : Conduit screw connection (1/2NPT)
F Other options : Manual override (locking)
G Organizations for explosive-proof certification : China Certification (NEPSI)
H Voltage : 100 VAC 50/60 Hz

⚠ Precautions for model No. selection

- *1 : Do not use fluid containing oil with ethylene propylene rubber, since it is not oil-resistant.
*2 : For the thermal class 130 (B) diode integrated coil, the AC power supply voltage is converted into a DC coil voltage by the diode.
*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 : Thermal class 130 (B) explosion-proof coil (Item **D** 3) can be used with 12 VDC, 24 VDC, 48 VDC and 100 VDC only.
The thermal class 130 (B) diode integrated explosion-proof coil (Item **D** 5) can be used with 100 VAC 50/60 Hz or 200 VAC 50/60 Hz.
*5 : Other voltages as below are also available. Contact CKD for details.
AC (diode integrated) 110, 220 V
*6 : Tropicalization (rust-proof coating) is available as a measure against rust. Contact CKD for more information.
Note that tropicalization is not available when the manual override option (A) is selected.
*7 : China certification will be 1/2 NPT.
*8 : Japan certification (TIIS) is included.
*9 : China certification (NEPSI) is included.

Code	Description	Code	Description	Code	Description
A Port size					
02	Rc 1/4	2G	G 1/4	2N	1/4NPT
03	Rc 3/8	3G	G 3/8	3N	3/8NPT

Code	Description
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
H	Copper alloy	Nitrile rubber	Oil-prohibited	—
J		Fluoro rubber		—
P		Ethylene propylene rubber		—
L	Stainless steel	Nitrile rubber		—
M		Fluoro rubber		—
R		Ethylene propylene rubber		—

Refer to Intro Page 39 for reference on material combinations.

D Coil type	
3	Thermal class 130 (B) explosion-proof coil
5	Thermal class 130 (B) diode integrated explosion-proof coil

E External wire pull method	
T	Conduit screw connection (G1/2) *7
L	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
A	Manual override (locking)
B	With mounting plate
AB	Manual override/mounting plate

G Organizations for explosive-proof certification	
Blank	Japan Certification (TIIS) *8
CN	China certification (NEPSI) *9

H Voltage		
AC100V	Standard	100 VAC 50/60 Hz
AC200V		200 VAC 50/60 Hz
DC12V		12 VDC
DC24V	Option	24 VDC
DC48V		48 VDC
DC100V		100 VDC

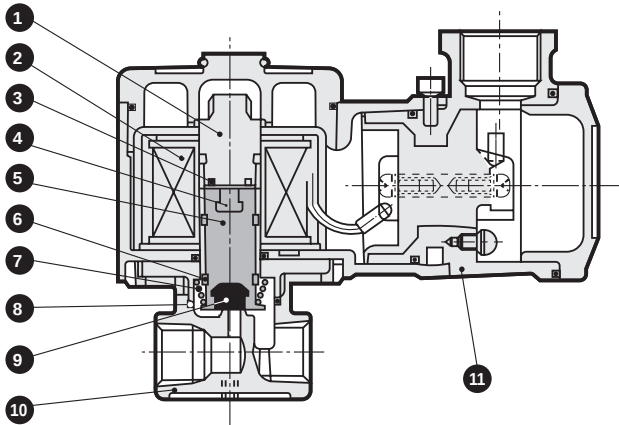
EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/AD
APK/ADK
DryAir
EX-XPLNprf
XPLNprf
HVB/HVL
SøB/NAB
LAD/NAD
Water-Rela
NP/NAP/NVP
SNP
CHB/G
MXB/G
Other valves
SWD/MWD
DustColl
CVE/CVSE
CCH/CPE/D
LifeSci
Gas-Combus
Auto-Water
Outdoor
SpecFld
Custom
Ending

AB41E4-Z 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-
Combus
Auto-
Water
Outdoor
SpecFld
Custom
Ending

Internal structure and parts list

● AB41E4-Z Series



Cannot be disassembled

Part No.	Part name	Material	
1	Core assembly	SUS405 or equiv./316/403	Stainless steel
2	Coil assembly	-	-
3	Shading coil	Cu (Ag for stainless steel body)	Copper (silver for stainless steel body)
4	Plunger cushion	PFA	Tetrafluoroethylene resin
5	Plunger	SUS405 or equiv.	Stainless steel
6	Wear ring	POM	Acetal resin
7	Plunger spring	SUS304	Stainless steel
8	O-ring	NBR (FKM/EPDM)	NBR: Nitrile rubber (FKM: Fluoro rubber)
9	Valve seal	NBR (FKM/EPDM)	(EPDM : Ethylene propylene rubber)
10	Body	C3771(SUS303)	Brass (stainless)
11	Coil case	ADC12	Aluminum die-casting

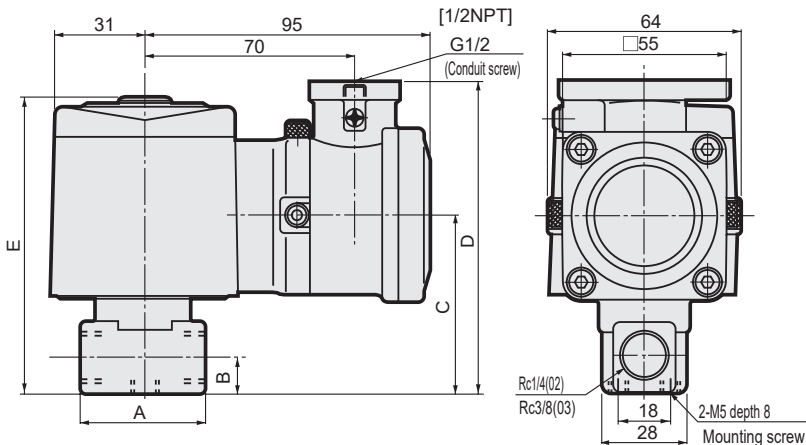
() shows options.

Dimensions



● Conduit screw (G1/2) connection
AB41E4-**-**T*Z

H
J
P



Dimensions shown in [] are for Chinese certified products.

Model No.	A	B	C	D	E
AB41E4-02-1 to 6- ****Z	36	11	54	97	92
AB41E4-02-7 -03-1 to 7 ****Z	40	12	57	100	95

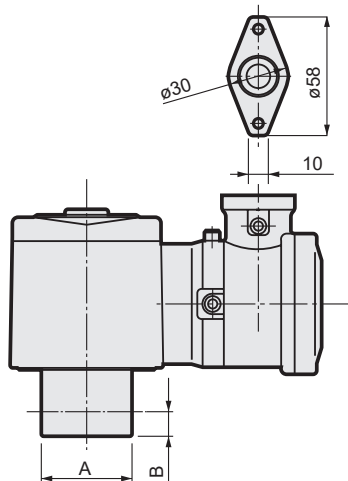
Optional dimensions



* Refer to the dimensions of conduit screw connection (G1/2) on page 432 for common dimensions.

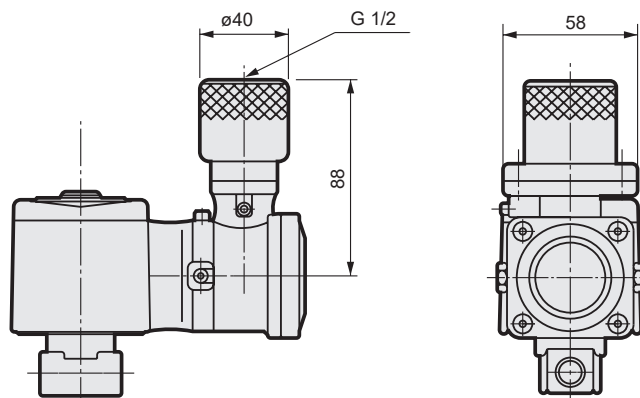
- Stainless steel body
AB41E4-*. -***Z

L
M
R



- Pressure proof packing (G1/2) connection
AB41E4-*. -***Z

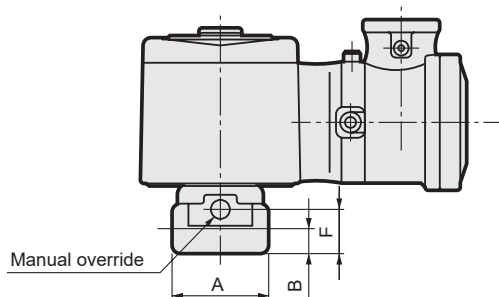
L/M



Model No.	A	B
AB41E4-02-1 to 6- ***Z	37.5	11
AB41E4 -02-7 -03-1 to 7- ***Z	45	12

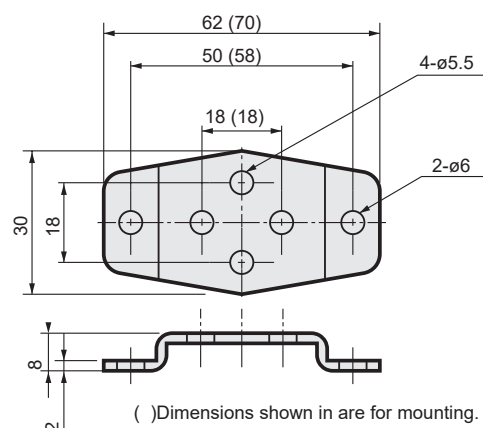
- Manual override (locking)
AB41E4-*. -***Z

A



- Mounting plate
AB41E4-*. -***Z

B



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

Model No.	A	B	F
AB41E4-02-1 to 7-***AZ	36	11	19.5
AB41E4-03-1 to 7-***AZ	40	12	22.5

Mounting plate model No.	Compatibility
AB4-GE-100106-MOUNT-PLATE-KIT (mounting plate No.1)	● Brass body AB41E4-02/03-1 to 7 - [H/J/P] ● Stainless steel body AB41E4-02-1 to 6 - [H/P/J]
AB4-GE-100159-MOUNT-PLATE-KIT (mounting plate No.2)	● Stainless steel body AB41E4-02-7 - [L/M/R] - AB41E4-03-1 to 7- [L/M/R]

* 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

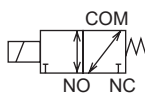
AG41E4/AG43E4/AG44E4 Series

- Pressure and explosion proof construction d2G4 (flame-proof grade 2/ignitability G4)
- Japan Conformity Certificate No.: No. T64346
- China Conformity Certificate No. 2020322307003155
- China explosion-proof standard NEPSI acquired GYB20. 2593X
- Universal, NC pressurization, NO pressurization
- Port size: Rc1/4, Rc3/8

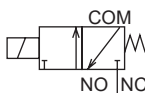


JIS symbol

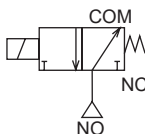
- AG41E4: Universal



- AG43E4: NC pressurization



- AG44E4: NO pressurization



Common specifications

Item	AG41E4/AG43E4/AG44E4
Working fluid	Air/low vacuum [1.33×10^{-2} Pa (abs)]/water/kerosene/oil (50mm ² /s or less)
Working pressure differential MPa	0 to 1.5 (depends on type)refer to max. working pressure differential in individual specifications.please shine)
Proof pressure (water pressure)MPa	25
Fluid temperature °C	-10 to 60 (no freezing)
Ambient temperature °C	-10 to 50
Thermal class	Class 130 (B)
Atmosphere	Outdoors/explosive gas (flame-proof grade 1 to 2/ignitability G1 to G4)
Valve structure	Direct acting poppet structure
Valve seat leakage cm ³ /min (ANR)	0.2 or less (PTFE sealant: 300 or less) (air)
Mounting orientation	Unrestricted
Degree of protection	IP 65 or equiv.

Individual specifications

Item	Port size	Orifice size (mm)		Max. working pressure differential (MPa)						Max. working pressure MPa	Rated voltage	Apparent power (VA)				Power consump (W)		Weight(kg)
Model No.				Air		Water(hot)/Kerosene		Oil (50 mm²/s)				When holding		When starting		AC 50 Hz/ 60 Hz	DC	
		TOP	BODY	AC	DC	AC	DC	AC	DC			50 Hz	60 Hz	50 Hz	60 Hz			
Universal																		
AG41E4- ⁰² ₀₃ -1	Rc 1/4	2.0	2.0	1.0	0.7	1.0	0.7	0.4	0.3	1	100 VAC 50/60 Hz AC110V60Hz	22	17	35	27	10/8	11.6	1.1
-2	Rc 3/8	2.3	2.3	0.7	0.4	0.7	0.4	0.25	0.15									
NC pressurization																		
AG43E4- ⁰² ₀₃ -4	Rc 1/4	3.0	3.0	0.7	0.7	0.7	0.7	0.7	0.7	1	200 VAC 50/60 Hz 220 VAC 60Hz	22	17	35	27	10/8	11.6	1.1
-5	Rc 3/8	3.5	3.0	0.4	0.4	0.4	0.4	0.4	0.4									
NO pressurization																		
AG44E4- ⁰² ₀₃ -1	Rc 1/4 Rc 3/8	2.0	2.0	1.2	0.75	1.5	1.0	1.0	0.45	1.5	(12 VDC) (24 VDC) (48 VDC) (100 VDC) *6	22	17	35	27	10/8	11.6	1.1
-3		2.0	3.0	1.2	0.75	1.5	0.9	1.0	0.45									
-4		3.0	3.0	0.4	0.3	0.5	0.3	0.3	0.2									

*1 : The port size model No. is 02 for Rc1/4 (8A) and 03 for Rc3/8 (10A).

*2 : Refer to DC column for the max. working pressure differential of coil with diode.

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

*4 : NO port pressurization is not possible for PTFE seal of AG41E4.

*5 : When using at low vacuum, vacuum the port side specified as below.

Universal: COM/NC/NO port, NC pressurization: NO port, NO pressurization: NC port

*6 : () shows options.

Flow Rate Characteristics

Model No.	Port size	Orifice size (mm)		Flow Rate Characteristics						
		TOP	BODY	C[dm³/(s·bar)]		b		Cv		
				TOP	BODY	TOP	BODY	TOP	BODY	
Universal										
AG41E4- ⁰² ₀₃	-1	Rc 1/4	2.0	2.0	0.53	0.53	0.54	0.52	0.15	0.15
	-2	Rc 3/8	2.3	2.3	0.74	0.74	0.66	0.53	0.19	0.19
NC pressurization										
AG43E4- ⁰² ₀₃	-4	Rc 1/4	3.0	3.0	1.1	1.1	0.72	0.52	0.31	0.31
	-5	Rc 3/8	3.5	3.0	1.5	1.1	0.62	0.52	0.40	0.31
NO pressurization										
AG44E4- ⁰² ₀₃	-1	Rc 1/4	2.0	2.0	0.53	0.53	0.54	0.52	0.15	0.15
	-3		2.0	3.0	0.53	1.1	0.54	0.52	0.15	0.31
	-4	Rc 3/8	3.0	3.0	1.1	1.1	0.72	0.52	0.31	0.31

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

AG41E4/AG43E4/AG44E4 Series

How to order

AG41E4-02-2-03TACN-AC200V

Model No.

A Actuation

B Port size

C Orifice size

D Body/sealant combination

*2

*9

E Coil type

*3

F External wire pull

*4 method

G Other options

*5

[Example of model No.]

AG41E4-02-2-03TACN-AC200V

Model: AG41E4

- A Actuation : Universal
- B Port size : Rc1/4
- C Orifice size : TOPø2.3/BODYø2.3
- D Body/sealant combination : Body - copper alloy, sealant - nitrile rubber
- E Coil : Thermal class 130 (B) explosion-proof coil
- F External wire pull method : Conduit screw connection (1/2NPT)
- G Other options : Manual override (locking)
- H Organizations for explosive-proof certification : China Certification (NEPSI)
- I Voltage

⚠ Precautions for model No. selection

- *1 : The combinations indicated with ● above are available.
- *2 : The ethylene propylene rubber seal combination (Item D P/R) cannot be used with air. (Compressed air contains oil, and ethylene propylene rubber is not oil-resistant.)
- *3 : For the thermal class 130 (B) diode integrated coil, the AC power supply voltage is converted into a DC coil voltage by the diode.
- *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 : When Item D is C, F, K or N, the manual override (Item G A, AB) is not available.
- *6 : Tropicalization (rust-proof coating) is available as a measure against rust. Contact CKD for more information. Note that tropicalization is not available when the manual override option (A) is selected.
- *7 : 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. The thermal class 130 (B) diode integrated explosion-proof coil (Item E 5) can be used with 100 VAC 50/60 Hz or 200 VAC 50/60 Hz.
- *8 : 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
(with diode) 110, 220 VAC 6, 110, 200, 220 VDC
- *9 : Even if nitrile rubber sealant is selected for AG44E4, the seal material on the NO side will be fluoro rubber.
- *10 : China certification will be 1/2 NPT.
- *11 : Japan certification (TIIS) is included.
- *12 : China certification (NEPSI) is included.

H Organizations for explosive-proof certification *7, *8

I Voltage *7, *8

Code	Description	AG41E4	AG43E4	AG44E4
A Actuation				
1	Universal	●		
3	NC pressurization		●	
4	NO pressurization			●

Code	Description	Code	Description	Code	Description	AG41E4	AG43E4	AG44E4
B Port size								
02	Rc1/4	2G	G1/4	2N	1/4NPT	●	●	●
03	Rc3/8	3G	G3/8	3N	3/8NPT	●	●	●

C Orifice size					AG41E4	AG43E4	AG44E4
	TOP	BODY					
1	ø2.0	ø2.0			●		●
2	ø2.3	ø2.3			●		
3	ø2.0	ø3.0					●
4	ø3.0	ø3.0				●	●
5	ø3.5	ø3.0				●	

D Body/sealant combination					AG41E4	AG43E4	AG44E4
	Body	Seal	Treatment	Remarks			
0	Std.	Nitrile rubber		Air/water/low vacuum/kerosene/oil (up to 60°C)	●	●	●
B	Copper alloy	Fluoro rubber	-	-	●	●	●
C		PTFE	-	-	●	●	
D		Nitrile rubber	-	Air/water/low vacuum/kerosene/oil (up to 60°C)	●	●	●
E	Stainless steel	Fluoro rubber	-	-	●	●	
F		PTFE	-	-	●	●	
H		Nitrile rubber	-	Air/water/low vacuum/kerosene/oil (up to 60°C)	●	●	●
J	Copper alloy	Fluoro rubber	Oil-prohibited	-	●	●	●
K		PTFE		-	●	●	
P		Ethylene propylene rubber		-	●	●	●
L	Stainless steel	Nitrile rubber		Air/water/low vacuum/kerosene/oil (up to 60°C)	●	●	●
M		Fluoro rubber		-	●	●	
N		PTFE		-	●	●	
R		Ethylene propylene rubber		-	●	●	●

Refer to Intro Page 39 for reference on material combinations.

E Coil type					AG41E4	AG43E4	AG44E4
3	Thermal class 130 (B) explosion-proof coil				●	●	●
5	Thermal class 130 (B) diode integrated explosion-proof coil				●	●	●

F External wire pull method					AG41E4	AG43E4	AG44E4
T	Std.	Conduit screw connection (G1/2) * 10			●	●	●
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			●	●	●

G Other options					AG41E4	AG43E4	AG44E4
Blank	Std.	No option			●	●	●
A	Option	Manual override (locking)			●	●	●
B		With mounting plate			●	●	●
AB		Manual override/mounting plate			●	●	●

H Organizations for explosive-proof certification					AG41E4	AG43E4	AG44E4
Blank	Japan Certification (TIIS) *11				●	●	●
CN	China certification (NEPSI) *12				●	●	●

I Voltage					AG41E4	AG43E4	AG44E4
AC100V	Std.	100 VAC 50/60 Hz			●	●	●
AC200V		200 VAC 50/60 Hz			●	●	●
DC12V	Option	12 VDC			●	●	●
DC24V		24 VDC			●	●	●
DC48V		48 VDC			●	●	●
DC100V		100 VDC			●	●	●

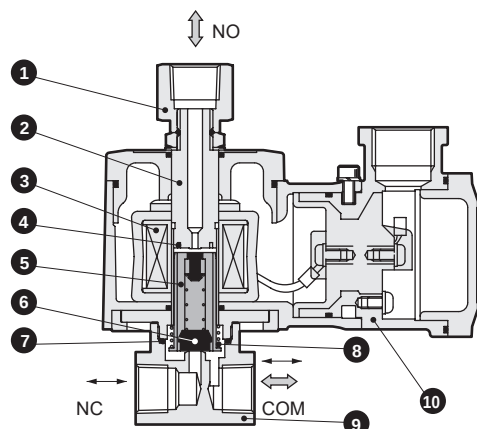
EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/AD
APK/ADK
DryAir
EX-XPLNprf
XPLNprf
HVB/HVL
S&B/NAB
LAD/NAD
Water-Rela
NP/NAP/NVP
SNP
CHB/G
MXB/G
Other valves
SWD/SWD
DustColl
CVE/CVSE
CCH/CPE/D
LifeSci
Gas-Combus
Auto-Water
Outdoor
SpecFld
Custom
Ending

AG41E4/AG43E4/AG44E4 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

● AG41E4 Series

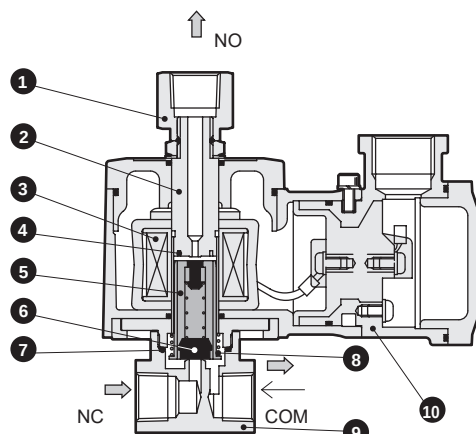


Cannot be disassembled

No.	Part name	Material	
1	Socket	C3604(SUS303)	Copper alloy (stainless steel)
2	Core assembly	SUS405 or equiv./316L/403	Stainless steel
3	Coil	-	-
4	Shading coil	Cu (Ag for stainless steel body)	Copper (silver for stainless steel body)
5	Plunger	SUS405 or equiv.	Stainless steel
6	Valve seal	NBR (FKM/PTFE/EPDM)	NBR : Nitrile rubber FKM : Fluoro rubber
7	O-ring	NBR (FKM/PTFE/EPDM)	EPDM : Ethylene propylene rubber PTFE : Tetrafluoroethylene resin
8	Plunger spring	SUS304	Stainless steel
9	Body	C3771(SUS303)	Copper alloy (stainless steel)
10	Coil case	ADC12	Aluminum die-casting

() shows options.

● AG43E4 Series

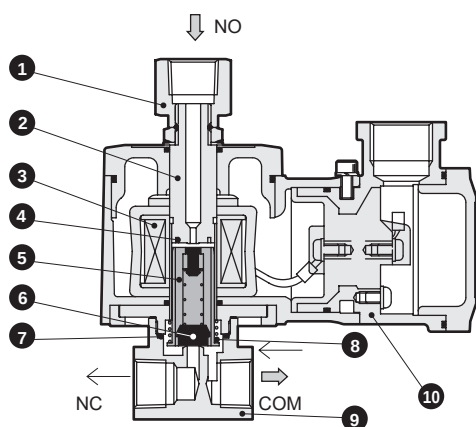


Cannot be disassembled

No.	Part name	Material	
1	Socket	C3604 (SUS303)	Copper alloy (stainless steel)
2	Core assembly	SUS405 or equiv./316L/403	Stainless steel
3	Coil	-	-
4	Shading coil	Cu (Ag for stainless steel body)	Copper (silver for stainless steel body)
5	Plunger	SUS405 or equiv.	Stainless steel
6	Valve seal	NBR (FKM/PTFE/EPDM)	NBR : Nitrile rubber FKM : Fluoro rubber
7	O-ring	NBR (FKM/PTFE/EPDM)	EPDM : Ethylene propylene rubber PTFE : Tetrafluoroethylene resin
8	Plunger spring	SUS304	Stainless steel
9	Body	C3771 (SUS303)	Copper alloy (stainless steel)
10	Coil case	ADC12	Aluminum die-casting

() shows options.

● AG44E4 Series



Cannot be disassembled

No.	Part name	Material	
1	Socket	C3604 (SUS303)	Copper alloy (stainless steel)
2	Core assembly	SUS405 or equiv./316L/403	Stainless steel
3	Coil	-	-
4	Shading coil	Cu (Ag for stainless steel body)	Copper (silver for stainless steel body)
5	Plunger	SUS405 or equiv.	Stainless steel
6	Valve seal	NBR (FKM/EPDM)	NBR : Nitrile rubber FKM : Fluoro rubber
7	O-ring	NBR (FKM/EPDM)	EPDM : Ethylene propylene rubber
8	Plunger spring	SUS304	Stainless steel
9	Body	C3771 (SUS303)	Copper alloy (stainless steel)
10	Coil case	ADC12	Aluminum die-casting

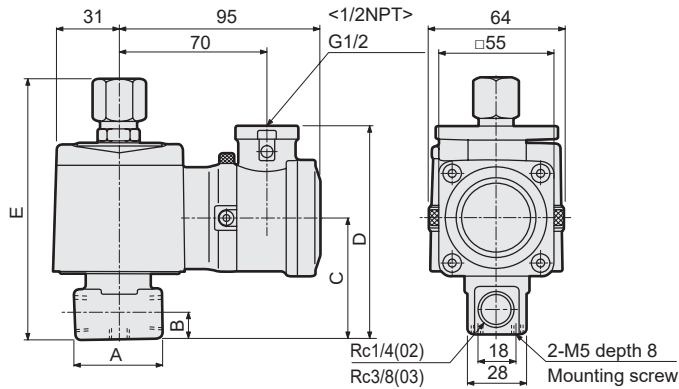
() shows options.

AG41E4/AG43E4/AG44E4 Series

Dimensions and optional dimensions



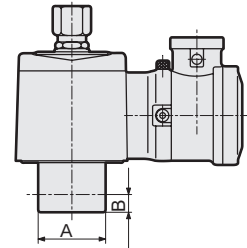
- Conduit screw (G1/2) connection
AG4*E4-*-***T**



Dimensions shown in [] are for Chinese certified products.

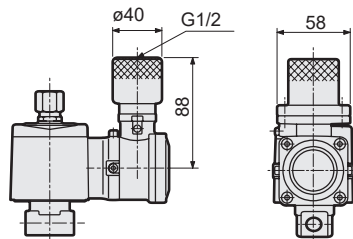
Model No.	A	B	C	D	E
AG41E4-02-1, 2	36	11	54	97	116
AG41E4-03-1, 2	40	12	57	100	122
AG43E4-02-4, 5	36	11	54	97	116
AG43E4-03-4, 5	40	12	57	100	122
AG44E4-02-1, 3, 4	36	11	54	97	116
AG44E4-03-1, 3, 4	40	12	57	100	122

- Stainless steel body
AG4*E4-*-***D, E, F, R**
L, M, N

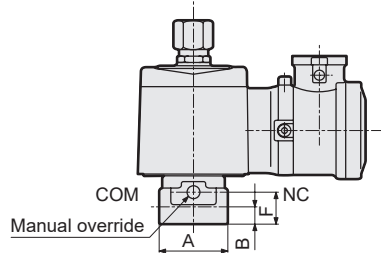


Model No.	A	B
AG41E4-02-1, 2	ø37.5	11
AG41E4-03-1, 2	ø45	12
AG43E4-02-4, 5	ø37.5	11
AG43E4-03-4, 5	ø45	12
AG44E4-02-1, 3, 4	ø37.5	11
AG44E4-03-1, 3, 4	ø45	12

- Pressure proof packing (G1/2) connection
AG4*E4-*-***L, M**

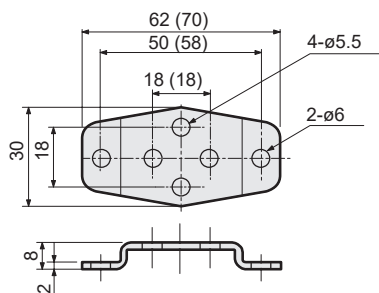


- Manual override (locking)
AG4*E4-*-***A**



Model No.	A	B	F
AG41E4-02-1, 2	36	11	19.5
AG41E4-03-1, 2	40	12	22.5
AG43E4-02-4, 5	36	11	19.5
AG43E4-03-4, 5	40	12	22.5
AG44E4-02-1, 3, 4	36	11	19.5
AG44E4-03-1, 3, 4	40	12	22.5

- Mounting plate
AG4*E4-*-***B**



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

Mounting plate model No.	Compatibility	
AG4-GE-100106-MOUNT-PLATE-KIT (mounting plate No.1)	● AG41E4-02/03-1/2	Brass body
	● AG41E4-02-1/2	Stainless steel body
	● AG43E4-02/03-4/5	Brass body
	● AG43E4-02-4/5	Stainless steel body
	● AG44E4-02/03-1/3/4	Brass body
AG4-GE-100159-MOUNT-PLATE-KIT (mounting plate No.2)	● AG44E4-02-1/3/4	Stainless steel body
	● AG41E4-03-1/2	Stainless steel body
	● AG43E4-03-4/5	Stainless steel body
	● AG44E4-03-1/3/4	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

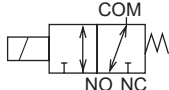
AG4*E4 -Z Series

- Pressure and explosion proof construction d2G4 (flame-proof grade 2/ignitability G4)
- Japan Conformity Certificate No.: No. T64362
- China Conformity Certificate No. 2020322307003155
- China explosion-proof standard NEPSI acquired GYB20. 2593X
- Universal, NC pressurization, NO pressurization
- Port size: Rc1/4, Rc3/8

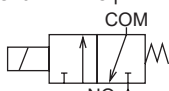


JIS symbol

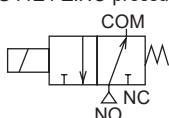
● AG41E4-Z: Universal



● AG43E4-Z: NC pressurization



● AG44E4-Z: NO pressurization



Common specifications

Item	Standard specifications
Working fluid	For dry air (atmospheric dew point -60°C and over)/inert gas/low vacuum [1.33×10^2 Pa (abs)]
Working pressure differential MPa	0 to 0.75 (refer to max. working pressure differential in individual specifications.)
Proof pressure (water pressure) MPa	25
Fluid temperature °C	-10 to 45 (no freezing)
Ambient temperature °C	-10 to 45
Thermal class	Class 130 (B)
Atmosphere	Outdoor/explosive gas (flame-proof grade 1 to 2/ignitability G1 to G4)
Valve structure	Direct acting poppet structure
Valve seat leakage cm^3/min (ANR)	0.2 or less
Mounting orientation	Unrestricted
Degree of protection	IP 65 or equiv.

Individual specifications

Item	Port size	Orifice size (mm)		Max. working pressure differential (MPa)	Max. working pressure MPa	Rated voltage	Power consumption (W)	Weight (kg)	
Model No.		TOP	BODY						
Universal					1	100 VAC 50/60 Hz 200 VAC 50/60 Hz (12 VDC) (24 VDC) (48 VDC) (100 VDC) *4	17	1.0	
AG41E4-	02 03	-1-****Z	2.0	2.0					0.65
		-2-****Z	2.3	2.3					0.4
NC pressurization									
AG43E4-	02 03	-4-****Z	3.0	3.0					0.7
		-5-****Z	3.5	3.0	0.4				
NO pressurization					1.5				
AG44E4-	02 03	-1-****Z	2.0	2.0					0.75
		-3-****Z	2.0	3.0					0.7
		-4-****Z	3.0	3.0		0.25			

*1: The port size model No. is 02 for Rc1/4 (8A) and 03 for Rc3/8 (10A).

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

*3: The leakage current must be less than or equal to the values shown below.

*4: () shows options.

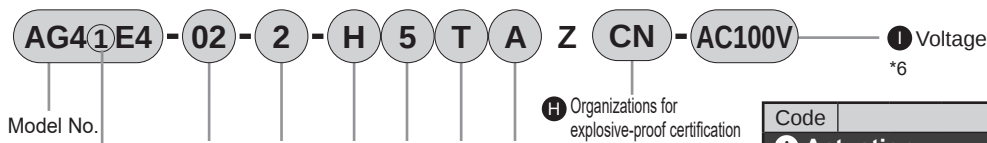
Leakage current	Voltage	100 VAC	200 VAC	12 VDC	24 VDC	48 VDC	100 VDC
Model No.							
AG4*E4-*. -*.****Z		8 mA or less	4 mA or less	40 mA or less	20 mA or less	10 mA or less	5 mA or less

Flow Rate Characteristics

Model No.	Port size	Orifice size (mm)		Flow Rate Characteristics			
		TOP	BODY	C[dm³/(s·bar)]		b	
				TOP	BODY	TOP	BODY
Universal							
AG41E4- ⁰² ₀₃ -1-****Z	Rc 1/4 Rc 3/8	2.0	2.0	0.53	0.53	0.54	0.52
-2-****Z		2.3	2.3	0.74	0.74	0.66	0.53
NC pressurization							
AG43E4- ⁰² ₀₃ -4-****Z		3.0	3.0	1.1	1.1	0.72	0.52
-5-****Z		3.5	3.0	1.5	1.1	0.62	0.52
NO pressurization							
AG44E4- ⁰² ₀₃ -1-****Z		2.0	2.0	0.53	0.53	0.54	0.52
-3-****Z		2.0	3.0	0.53	1.1	0.54	0.52
-4-****Z		3.0	3.0	1.1	1.1	0.72	0.52

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

How to order



[Example of model No.]

AG41E4-02-2-H5TAZCN-AC100V

Model: AG41E4

- A** Actuation : Universal
- B** Port size : Rc1/4
- C** Orifice size : TOPø2.3/BODYø2.3
- D** Body/sealant combination : Body - copper alloy, sealant - nitrile rubber
- E** Coil : Thermal class 130 (B) diode integrated explosion-proof coil
- F** External wire pull method : Conduit screw connection (1/2NPT)
- G** Other options : Manual override (locking)
- H** Organizations for explosive-proof certification : China Certification (NEPSI)
- I** Voltage : 100 VAC 50/60 Hz

⚠ Precautions for model No. selection

- *1 : Do not use fluid containing oil with ethylene propylene rubber, since it is not oil-resistant.
- *2 : NO valve seal of AG44 is fluoro rubber.
- *3 : For the thermal class 130 (B) diode integrated coil, the AC power supply voltage is converted into a DC coil voltage by the diode.
- *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 : Thermal class 130 (B) explosion-proof coil (Item **E** 3) can be used with 12 VDC, 24 VDC, 48 VDC and 100 VDC only. The thermal class 130 (B) diode integrated explosion-proof coil (Item **E** 5) can be used with 100 VAC 50/60 Hz or 200 VAC 50/60 Hz.
- *6 : Other voltages as below are also available. Contact CKD for details. AC (diode integrated) 110, 220 V
- *7 : Tropicalization (rust-proof coating) is available as a measure against rust. Contact CKD for more information. Note that tropicalization is not available when the manual override option (A) is selected.
- *8 : China certification will be 1/2 NPT.
- *9 : Japan certification (TIIS) is included.
- *10 : China certification (NEPSI) is included.

Code		Description						
A Actuation								
1	Universal					●		
3	NC pressurization						●	
4	NO pressurization						●	
Code		Description	Code	Description	Code	Description		
B Port size								
02	Rc 1/4	2G	G 1/4	2N	1/4NPT	●	●	
03	Rc 3/8	3G	G 3/8	3N	3/8NPT	●	●	
C Orifice size								
	TOP	BODY						
1	ø2.0	ø2.0			●		●	
2	ø2.3	ø2.3			●			
3	ø2.0	ø3.0					●	
4	ø3.0	ø3.0				●	●	
5	ø3.5	ø3.0				●		
D Body/sealant combination								
	Body	Seal	Treatment	Remarks				
H	Copper alloy	Nitrile rubber	Oil- prohibited	—	●	●	●	
J		Fluoro rubber		—	●	●	●	
P		Ethylene propylene rubber		—	●	●	●	
L	Stainless steel	Nitrile rubber		—	●	●	●	
M		Fluoro rubber		—	●	●	●	
R		Ethylene propylene rubber		—	●	●	●	
Refer to Intro Page 39 for reference on material combinations.								
E Coil type								
3	Thermal class 130 (B) explosion-proof coil					●	●	
5	Thermal class 130 (B) diode integrated explosion-proof coil					●	●	
F External wire pull method								
T	Conduit screw connection (G1/2) * 8					●	●	
L	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					●	●	
G Other options								
Blank	No option					●	●	
A	Manual override (locking)					●	●	
B	With mounting plate					●	●	
AB	Manual override/mounting plate					●	●	
H Organizations for explosive-proof certification								
Blank	Japan Certification (TIIS) *9					●	●	
CN	China certification (NEPSI) *10					●	●	
I Voltage								
AC100V	Standard	100 VAC 50/60 Hz				●	●	
AC200V		200 VAC 50/60 Hz				●	●	
DC12V	Option	12 VDC				●	●	
DC24V		24 VDC				●	●	
DC48V		48 VDC				●	●	
DC100V		100 VDC				●	●	

The combinations indicated with ● in the above table are available.

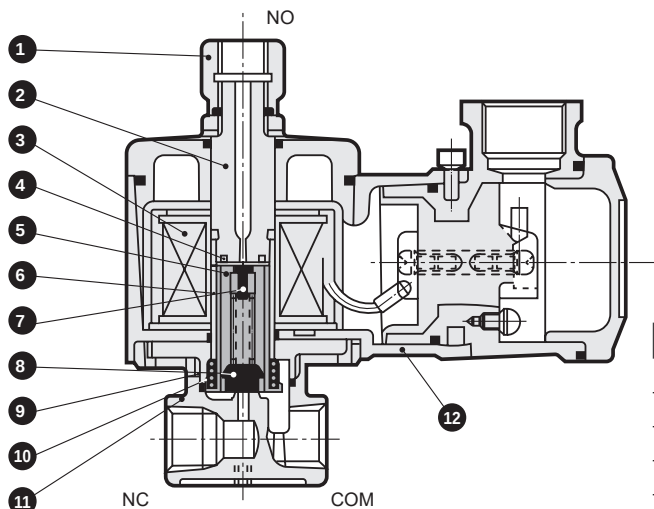
EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/AD
APK/ADK
DryAir
EX-XPLNprf
XPLNprf
HVB/HVL
S&B/NAB
LAD/NAD
Water-Rela
NP/NAP/NVP
SNP
CHB/G
MXB/G
Other valves
SWD/MWD
DustColl
CVE/CVSE
CCH/CCH/PD
LifeSci
Gas-Combus
Auto-Water
Outdoor
SpecFld
Custom
Ending

AG4*E4-Z 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
NPN/NI/
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

Internal structure and parts list

● AG4*E4-Z Series



The figure shows AG41/43/44E4.

Cannot be disassembled

Part No.	Part name	Material
1	Socket	C3604 (SUS303) ; Brass (stainless steel)
2	Core assembly	SUS405 or equiv./316/403 ; Stainless steel
3	Coil assembly	- ; -
4	Shading coil	Cu (Ag for stainless steel body) ; Copper (silver for stainless steel body)
5	Plunger	SUS405 or equiv. ; Stainless steel
6	Plunger tube	PET ; Polyethylene terephthalate
7	NO valve sealant	NBR (FKM/EPDM) *2 ; NBR: Nitrile rubber
8	NC valve sealant	NBR (FKM/EPDM) ; (FKM: Fluoro rubber)
9	O-ring	NBR (FKM/EPDM) ; (EPDM: Ethylene propylene rubber)
10	Plunger spring	SUS304 ; Stainless steel
11	Body	C3771(SUS303) ; Brass (stainless)
12	Coil case	ADC12 ; Aluminum die-casting

*1 : () shows options.

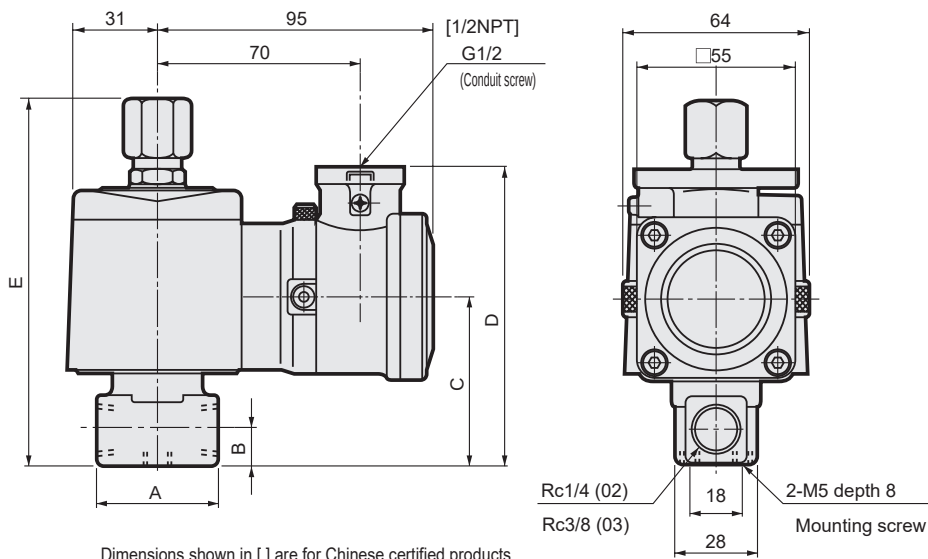
*2 : For AG44 with body/sealant combination code H/L, NO valve seal is FKM.

Dimensions



● Conduit screw (G1/2) connection AG4*E4-*-*-*T*Z

H
J
P



Dimensions shown in [] are for Chinese certified products.

Model No.	A	B	C	D	E
AG4*E4-02-1 to 5-***Z	36	11	54	97	116
AG4*E4-03-1 to 5-***Z	40	12	57	100	122

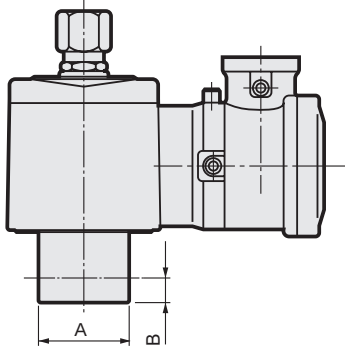
Optional dimensions



* Refer to the dimensions of conduit screw connection (G1/2) on page 440 for common dimensions.

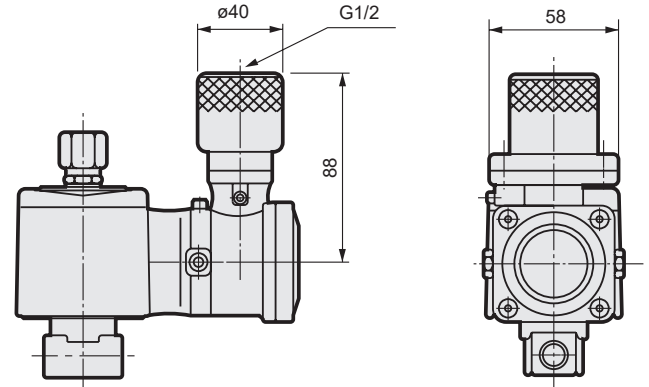
- Stainless steel body
AG4*E4-*. *- ***Z

L
M
R



- Pressure proof packing (G1/2) connection
AG4*E4-*. *- ***Z

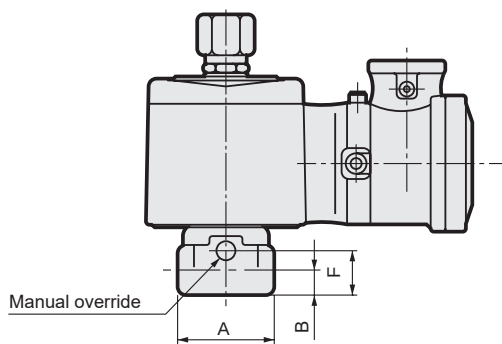
L/M



Model No.	A	B
AG4*E4-02-1 to 5-***Z	ø37.5	11
AG4*E4-03-1 to 5-***Z	ø45	12

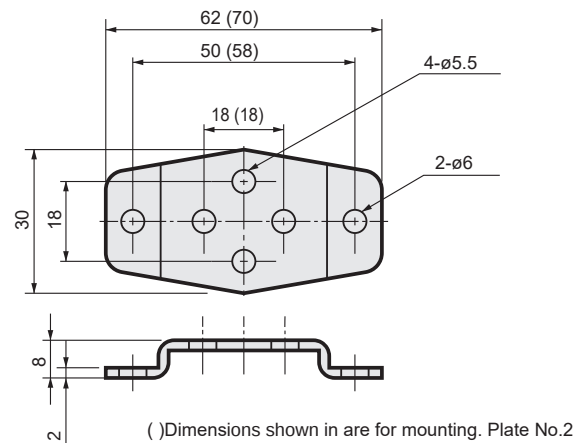
- Manual override (locking)
AG4*E4-*. *- ***Z

A



- Mounting plate
AG4*E4-*. *- ***Z

B



Model No.	A	B	F
AG4*E4-02-1 to 5-***AZ	36	11	19.5
AG4*E4-03-1 to 5-***AZ	40	12	22.5

Mounting plate model No.	Compatibility
AG4-GE-100106-MOUNT-PLATE-KIT (mounting plate No.1)	● Brass body AG4*E4-02/03-1 to 5 - H/J/P ● Stainless steel body AG4*E4-02-1 to 5 - L/M/R
AG4-GE-100159-MOUNT-PLATE-KIT (mounting plate No.2)	● Stainless steel body AG4*E4-03-1 to 5 - L/M/R

* 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

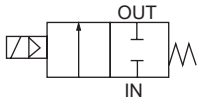
AP11E4/AP12E4 Series

- Pressure and explosion proof construction d2G4 (flame-proof grade 2/ignitability G4)
- Japan Conformity Certificate No. AP11E4: No. T64349, AP12E4: No. T64352
- China Conformity Certificate No. 2020322307003155
- China explosion-proof standard NEPSI acquired GYB20. 2593X
- NC (open when energized), NO (closed when energized)
- Port size: Rc1/2 to Rc1 ● Piston drive

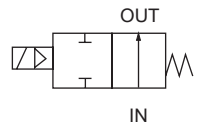


JIS symbol

- AP11E4: NC (normally closed)



- AP12E4: NO (closed when energized)



Common specifications

Item	AP11E4/AP12E4
Working fluid	Air/water/kerosene/oil (50mm ² /s or less)
Working pressure differential MPa	0.05 to 1.2 (For types refer to max. working pressure differential in individual specifications.)
Max. working pressure MPa	2
Proof pressure (water pressure) MPa	10
Fluid temperature °C	-10 to 60 (no freezing)
Ambient temperature °C	-10 to 50
Thermal class	Class 130 (B)
Atmosphere	Outdoors/explosive gas (flame-proof grade 1 to 2/ignitability G1 to G4)
Valve structure	Pilot operated poppet, piston drive
Valve seat leakage (*1) cm ³ /min (ANR)	0.2 or less (PTFE sealant: 300 or less) (air)
Mounting orientation	Free (within working pressure range)
Degree of protection	IP 65 or equiv.

*1 : AP11E4 (NC) has a pneumatic pressure of 0.05 to 1.2MPa, AP12E4 (NO) is, Value at pneumatic pressure of 0.05 to 0.5MPa.

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 mm²/s)			When holding		When starting		AC	DC	
					AC	DC	AC	DC	AC	DC		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz/60 Hz		
NC (normally closed)																		
AP11E4	-15A	Rc 1/2	15	0.05	1.2	0.6	1.0	0.6	0.6	0.6	100 VAC 50/60 Hz 110 VAC 60 Hz	18	15	29	24	8/7	11.6	1.9
	-20A	Rc 3/4	20								200 VAC 50/60 Hz 220 VAC 60 Hz							2.3
	-25A	Rc 1	25								(12 VDC) (24 VDC) (48 VDC) (100 VDC)*3							3.0
NO (closed when energized)																		
AP12E4	-15A	Rc 1/2	15	0.05	0.5	0.5	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	15.5	1.9
	-20A	Rc 3/4	20								200 VAC 50/60 Hz 220 VAC 60 Hz							2.3
	-25A	Rc 1	25								(12 VDC) (24 VDC) (48 VDC) (100 VDC)*3							3.0

*1 : Refer to DC column for the max. working pressure differential of AP11E4 type coil with diode.

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

*3 : () shows options.

Flow Rate Characteristics

Model No.		Port size	Orifice size (mm)	Flow Rate Characteristics			
				C[dm³/(s·bar)]	b	Cv	S (mm²)
NC (normally closed)							
AP11E4	-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)							
AP12E4	-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

*1: Formula to calculate sonic conductance C from effective cross-sectional area S is S≈5.0×C.

How to order

AP1 ① E4 - 25A - 0 3 T A CN - AC200V

Model No.

① Actuation

② Port size
*2

③ Body/sealant combination

④ Coil type
*3

⑤ External wire pull
*4 method

⑥ Other options
*5

⑦ Organizations for
explosive-proof certification

⑧ Voltage
*7, *8

Model No.

AP11E4

AP12E4

Code		Description							
A Actuation									
1	NC (normally closed)			●					
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				
0	Std.	Bronze	Nitrile rubber	Nitrile rubber	-	Air/water/kerosene/oil (up to 60°C)	●	●	
B	Option		Fluoro rubber	Fluoro rubber		-	-	●	●
C			PTFE	Fluoro rubber		-	-	●	●
D		Stainless steel	Nitrile rubber	Nitrile rubber	-	Air/water/kerosene/oil (up to 60°C)	●	●	
E	Fluoro rubber		Fluoro rubber	-		-	●	●	
F	PTFE		PTFE	-		-	●	●	
H	Option	Bronze	Nitrile rubber	Nitrile rubber	Oil-prohibited	Air/water/kerosene/oil (up to 60°C)	●	●	
J			Fluoro rubber	Fluoro rubber		-	-	●	●
K			PTFE	Fluoro rubber		-	-	●	●
L	Option	Stainless steel	Nitrile rubber	Nitrile rubber	Oil-prohibited	Air/water/kerosene/oil (up to 60°C)	●	●	
M			Fluoro rubber	Fluoro rubber		-	-	●	●
N			PTFE	PTFE		-	-	●	●
Refer to Intro Page 39 for reference on material combinations.									
D Coil type									
3	Thermal class 130 (B) explosion-proof coil						●	●	
5	Thermal class 130 (B) diode integrated explosion-proof coil						●	●	
E External wire pull method									
T	Std.	Conduit screw connection (G1/2) * 9					●	●	
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	Std.	No option					●	●	
A		Manual override (locking)					●		
G Organizations for explosive-proof certification									
Blank	Japan Certification (TIIS) *10						●	●	
CN	China certified (NEPSI) *11						●	●	
H Voltage									
AC100V	Std.	100 VAC 50/60 Hz					●	●	
AC200V		200 VAC 50/60 Hz					●	●	
DC12V	Option	12 VDC					●	●	
DC24V		24 VDC					●	●	
DC48V		48 VDC					●	●	
DC100V		100 VDC					●	●	

[Example of model No.]

AP11E4-25A-03TACN-AC100V

Model: AP11E4

- ① Actuation : NC (open when energized)
- ② Port size : Rc1
- ③ Body/sealant combination : Body - bronze, valve seal - nitrile rubber
: O-ring - nitrile rubber
- ④ Coil : Thermal class 130 (B) explosion-proof coil
- ⑤ External wire pull method : Conduit screw connection (1/2NPT)
- ⑥ Other options : With manual override (locking)
- ⑦ Organizations for explosive-proof certification : China Certification (NEPSI)
- ⑧ 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 : For the thermal class 130 (B) diode integrated coil, the AC power supply voltage is converted into a DC coil voltage by the diode.
- *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 : When Item ③ is C, F, K or N, the manual override (⑥ A) is not available. When Item ① is 2, the manual override (⑥ A) is not available.
- *6 : Tropicalization (rust-proof coating) is available as a measure against rust. Contact CKD for more information.
Note that tropicalization is not available when the manual override option (A) is selected.
- *7 : 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.
The thermal class 130 (B) diode integrated explosion-proof coil (④ 5) can be used with 100 VAC 50/60 Hz or 200 VAC 50/60 Hz.
- *8 : 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
(with diode) 110, 220 VAC 6, 110, 200, 220 VDC
- *9 : China certification will be 1/2 NPT.
- *10 : Japan certification (TIIS) is included.
- *11 : China certification (NEPSI) is included.

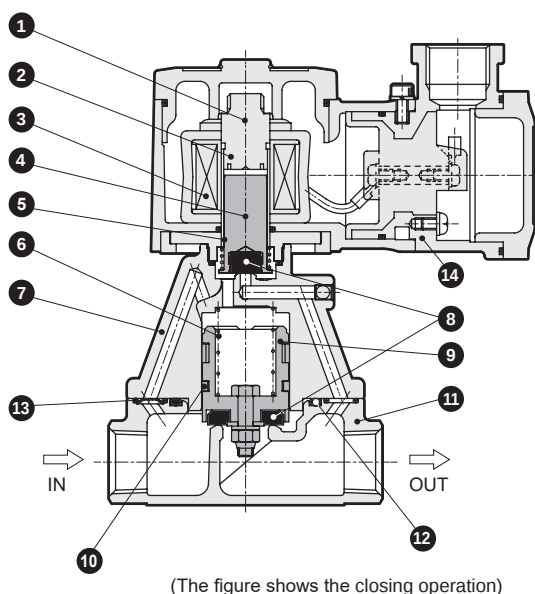
EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/AD
APK/ADK
DryAir
EX-XPLNprf
XPLNprf
HVB/HVL
S&B/NAB
LAD/NAD
Water-Rela
NP/NAP/NVP
SNP
CHB/G
MXB/G
Other valves
SWD/MWD
DustColl
CVE/CVSE
CCH/CPE/D
LifeSci
Gas-Combus
Auto-Water
Outdoor
SpecFld
Custom
Ending

AP11E4/AP12E4 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 $\diamond$ 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-
Combust
Auto-
Water
Outdoor
SpecFld
Custom
Ending

Internal structure and parts list

● AP11E4 Series



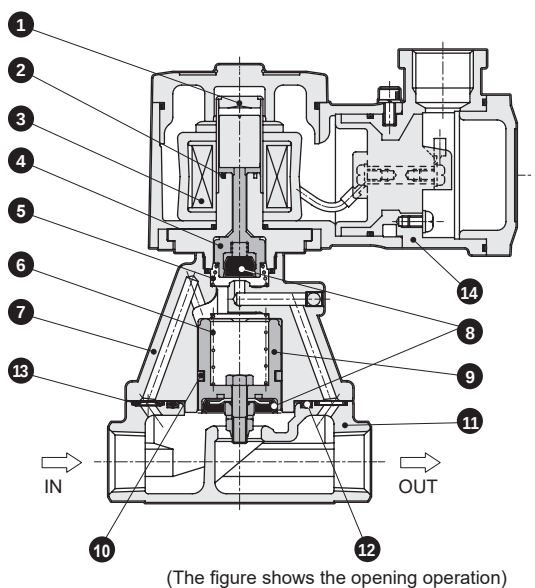
Cannot be disassembled

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)*1	Bronze casting (S.S. casting)
8	Valve seal	NBR (FKM, PTFE)	Nitrile rubber (fluoro rubber, 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)*1	Bronze casting (S.S. casting)
12	O-ring	NBR (FKM, PTFE)	Nitrile rubber (fluoro rubber, tetrafluoroethylene resin)
13	Orifice plate	SUS304(SUS303)	Stainless steel
14	Coil case	ADC12	Aluminum die-casting

() shows options.

*1 For port size 8 (1/4) or 10 (3/8), the body material is copper alloy (C3771) as standard, and the orifice plate material is SUS303 (stainless steel) for both the standard and options.

● AP12E4 Series



Cannot be disassembled

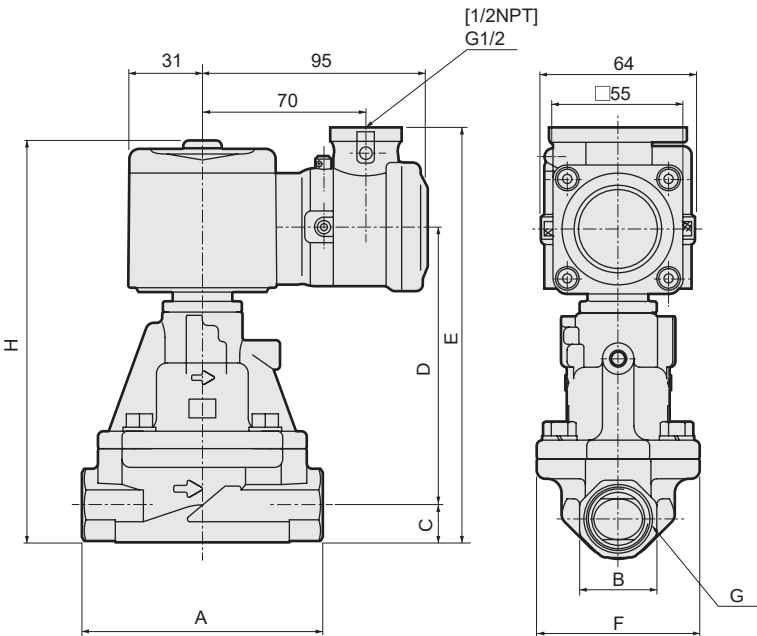
No.	Part name	Material	
1	Plunger/core assembly	SUS405 or equiv./ SUS316L/SUS304	Stainless steel
2	Shading coil	Cu (Ag for stainless steel body)	Copper (silver for stainless steel body)
3	Coil	-	-
4	NO valve	POM (PPS/SUS303/PFA)	Body/sealant combination When O/D/H/L: Polyacetal resin When B/E/J/M: Polyphenylene sulfide resin When C/F/K/N: Stainless steel/ perfluoroalkoxy resin
5	Spring	SUS304	Stainless steel
6	Valve spring	SUS304	Stainless steel
7	Body	CAC408(SCS13)*1	Bronze casting (S.S. casting)
8	Valve seal	NBR (FKM, PTFE)	Nitrile rubber (fluoro rubber, 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)*1	Bronze casting (S.S. casting)
12	O-ring	NBR (FKM, PTFE)	Nitrile rubber (fluoro rubber, tetrafluoroethylene resin)
13	Orifice plate	SUS304(SUS303)	Stainless steel
14	Coil case	ADC12	Aluminum die-casting

() shows options.

*1 For port size 8 (1/4) or 10 (3/8), the body material is copper alloy (C3771) as standard, and the orifice plate material is SUS303 (stainless steel) for both the standard and options.

Dimensions

- Conduit screw (G1/2) connection
AP11E4_*.***T
AP12E4

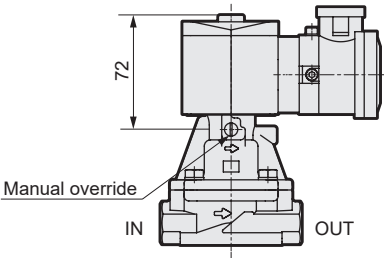
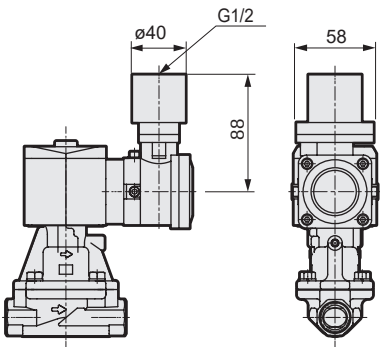


Dimensions shown in [] are for Chinese certified products.

Model No.	A	B	C	D	E	F	G	H
AP11E4-15A-***T	90	27	14	94.5	151.5	57	Rc1/2	146.5
AP11E4-20A-***T	100	32	17	103.5	163.5	65	Rc3/4	158.5
AP11E4-25A-***T	110	41	20.5	118	181.5	76	Rc1	176.5
AP12E4-15A-***T	90	27	14	98.5	155.5	57	Rc1/2	150.5
AP12E4-20A-***T	100	32	17	107.5	167.5	65	Rc3/4	162.5
AP12E4-25A-***T	110	41	20.5	122	185.5	76	Rc1	180.5

Optional dimensions

- Pressure proof packing (G1/2) connection
AP11E4_*.*** [L, M]
AP12E4
- Manual override (locking)
AP11E4_*.*** [A]



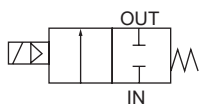
AP21E4/AP22E4 Series

- Pressure and explosion proof construction d2G4 (flame-proof grade 2/ignitability G4)
- NC (open when energized), NO (closed when energized)
- Japan Conformity Certificate No. AP21E4: No. T64349, AP22E4: No. T64352
- China Conformity Certificate No. 2020322307003155
- China explosion-proof standard NEPSI acquired GYB20. 2593X
- Port size: Rc1 $\frac{1}{4}$ to Rc2, 32 to 50 flange ● Piston drive

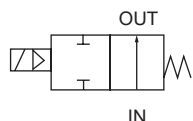


JIS symbol

- AP21E4: NC (normally closed)



- AP22E4: NO (closed when energized)



Common specifications

Item	AP21E4/AP22E4
Working fluid	Air/water/kerosene/oil (50mm ² /s or less)
Working pressure differential MPa	0.05 to 1.2 (refer to max. working pressure differential in individual specifications)
Max. working pressure MPa	1.6
Proof pressure (water pressure) MPa	3.2
Fluid temperature °C	-10 to 60 (no freezing)
Ambient temperature °C	-10 to 50
Thermal class	Class 130 (B)
Atmosphere	Outdoors/explosive gas (flame-proof grade 1 to 2/ignitability G1 to G4)
Valve structure	Pilot operated poppet, piston drive
Valve seat leakage (*1) cm ³ /min	1 or less (PTFE sealant: 400 or less) (air)
Mounting orientation	Free (within working pressure range)
Degree of protection	IP 65 or equiv.

*1 : AP21E4 (NC) is the value at pneumatic pressure 0.05 to 1.2MPa and AP22E4 (NO) is the value at pneumatic pressure 0.05 to 0.5MPa.

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)			When holding	When starting		AC 50 Hz/ 60 Hz	DC		
				AC	DC	AC	DC	AC	DC		50 Hz	60 Hz	50 Hz			60 Hz	
NC (normally closed)																	
AP21E4-32A	Rc1¼	35	0.05	1.2	0.6	1.0	0.6	0.6	0.6	100 VAC 50/60 Hz 110 VAC 60 Hz	18	15	29	24	8/7	11.6	4.0
-32F	32 flange									7.5							
-40A	Rc1½	43								200 VAC 50/60 Hz 220 VAC 60Hz							5.0
-40F	40 flange									8.5							
-50A	Rc 2	53								(12 VDC) (24 VDC) (48 VDC) (100 VDC) *3							6.5
-50F	50 flange									10.5							
NO (closed when energized)																	
AP22E4-32A	Rc1¼	35	0.05	0.5	0.5	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	15.5	4.0
-32F	32 flange									7.5							
-40A	Rc1½	43								200 VAC 50/60 Hz 220 VAC 60 Hz							5.0
-40F	40 flange									8.5							
-50A	Rc 2	53								(12 VDC) (24 VDC) (48 VDC) (100 VDC) *3							6.5
-50F	50 flange									10.5							

*1 : Refer to DC column for the max. working pressure differential of AP21E4 type coil with diode.

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

*3 : () shows options.

Flow characteristics

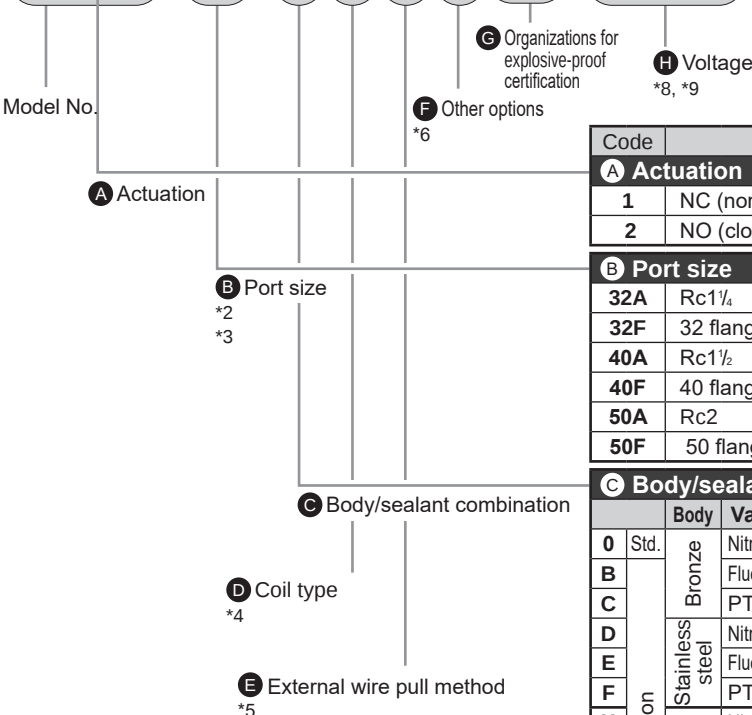
Model No.	Port size	Orifice size (mm)	Cv	Effective cross-sectional area (mm²)
NC (open when energized)				
AP21E4	-32A	Rc1¼	25	460
	-32F	32 flange		
	-40A	Rc1½	34	625
	-40F	40 flange		
	-50A	Rc2	53	975
	-50F	50 flange		
NO (closed when energized)				
AP22E4	-32A	Rc1¼	25	460
	-32F	32 flange		
	-40A	Rc1½	34	625
	-40F	40 flange		
	-50A	Rc2	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

AP21E4/AP22E4 Series

How to order

AP2 ① E4 - 50F - 0 3 T A CN - AC100V



[Example of model No.]

AP21E4-50F-03TACN-AC100V

Model: AP21E4

- A** Actuation : NC (open when energized)
- B** Port size : 50 flange
- C** Body/sealant combination : Body - bronze/
sealant - nitrile rubber
O-ring - nitrile rubber
- D** Coil : Thermal class 130 (B)
explosion-proof coil
- E** External wire pull method : Conduit screw connection (1/2NPT)
- F** Other options : Manual override (locking)
- G** Organizations for explosive-proof certification : China Certification (NEPSI)
- H** 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 : For the thermal class 130 (B) diode integrated coil, the AC power supply voltage is converted into a DC coil voltage by the diode.
- *5 : 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.
- *6 : When Item ① is C, F, K or N, the manual override (Item ② A) is not available. When Item ② is 2, the manual override (Item ② F A) is not available.
- *7 : Tropicalization (rust-proof coating) is available as a measure against rust. Contact CKD for more information. Note that tropicalization is not available when the manual override option (A) is selected.
- *8 : 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. The thermal class 130 (B) diode integrated explosion-proof coil (⑤ 5) can be used with 100 VAC 50/60 Hz or 200 VAC 50/60 Hz.
- *9 : 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 (with diode) 110, 220 VAC 6, 110, 200, 220 VDC
- *10 : China certification will be 1/2 NPT.
- *11 : Japan certification (TIIS) is included.
- *12 : China certification (NEPSI) is included.

Code		Description	Model No.	
			AP21E4	AP22E4
A Actuation				
1	NC (normally closed)		●	
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			
0	Std.	Bronze	Nitrile rubber	Nitrile rubber	-	Air/water/kerosene/oil (up to 60°C)	●	●	
B			Fluoro rubber	Fluoro rubber		-	●	●	
C			PTFE	Fluoro rubber		-	●	●	
D		Stainless steel	Nitrile rubber	Nitrile rubber	-	Air/water/kerosene/oil (up to 60°C)	●	●	
E			Fluoro rubber	Fluoro rubber		-	●	●	
F			PTFE	PTFE		-	●	●	
H		Option	Bronze	Nitrile rubber	Nitrile rubber	Oil-prohibited	Air/water/kerosene/oil (up to 60°C)	●	●
J				Fluoro rubber	Fluoro rubber		-	●	●
K				PTFE	Fluoro rubber		-	●	●
L			Stainless steel	Nitrile rubber	Nitrile rubber		Air/water/kerosene/oil (up to 60°C)	●	●
M				Fluoro rubber	Fluoro rubber		-	●	●
N			PTFE	PTFE		-	●	●	

Refer to Intro Page 39 for reference on material combinations.

D Coil type				
3	Thermal class 130 (B) explosion-proof coil		●	●
5	Thermal class 130 (B) diode integrated explosion-proof coil		●	●

E External wire pull method					
T	Std.	Conduit screw connection (G1/2) * 10		●	●
L	Option	Pressure proof packing (G1/2) connection, cable O.D. ø7.5 to 8.4		●	●
M		Pressure proof packing (G1/2) connection, cable O.D. ø8.5 to 9.4		●	●

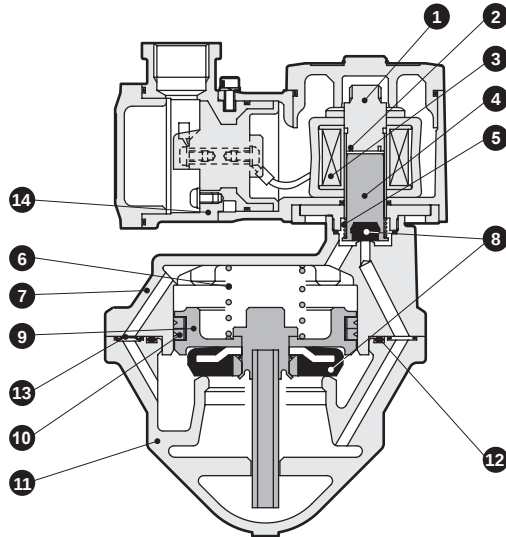
F Other options				
Blank	Std.	No option	●	●
A		Manual override (locking)	●	

G Organizations for explosive-proof certification				
Blank	Japan Certification (TIIS) *11		●	●
CN	China certification (NEPSI) *12		●	●

H Voltage				
AC100V	Std.	100 VAC 50/60 Hz	●	●
AC200V		200 VAC 50/60 Hz	●	●
DC12V	Option	12 VDC	●	●
DC24V		24 VDC	●	●
DC48V		48 VDC	●	●
DC100V		100 VDC	●	●

Internal structure and parts list

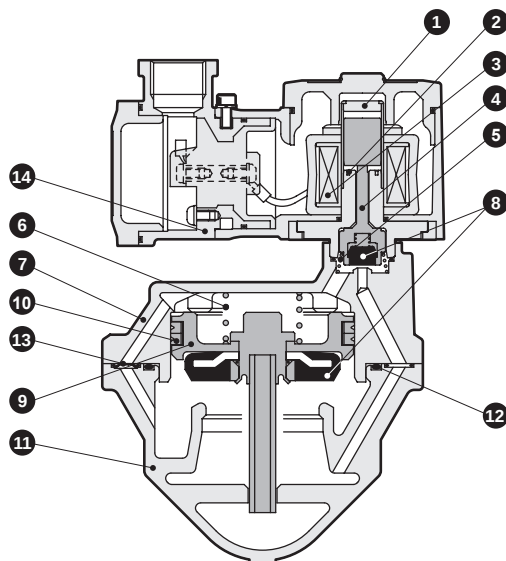
● AP21E4 Series



(The figure shows the closing operation)

Cannot be disassembled

● AP22E4 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	NBR (FKM, PTFE)	Nitrile rubber (fluoro rubber, 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	NBR (FKM, PTFE)	Nitrile rubber (fluoro rubber, tetrafluoroethylene resin)
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	POM (PPS/SUS303/PFA)	Body/sealant combination When O/D/H/L: Polyacetal resin When B/E/J/M: Polyphenylene sulfide resin When C/F/K/N: 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	NBR (FKM, PTFE)	Nitrile rubber (fluoro rubber, 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	NBR (FKM, PTFE)	Nitrile rubber (fluoro rubber, tetrafluoroethylene resin)
13	Orifice plate	SUS304	Stainless steel
14	Coil case	ADC12	Aluminum die-casting

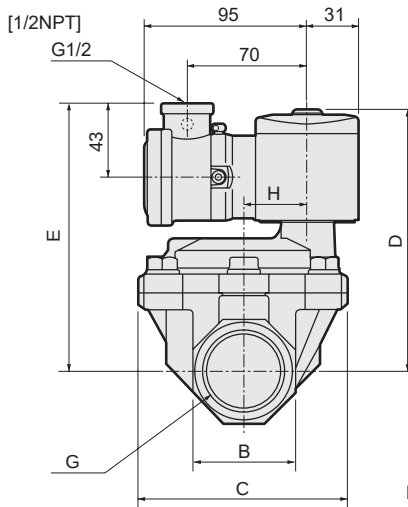
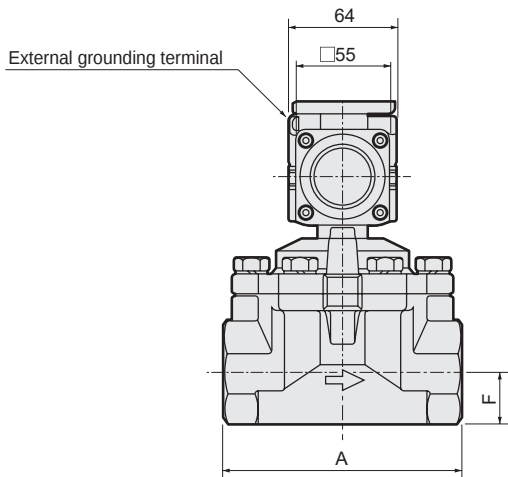
() shows options.

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

AP21E4/AP22E4 Series

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

AP21E4-32A/40A/50A-^{**}T
AP22E4

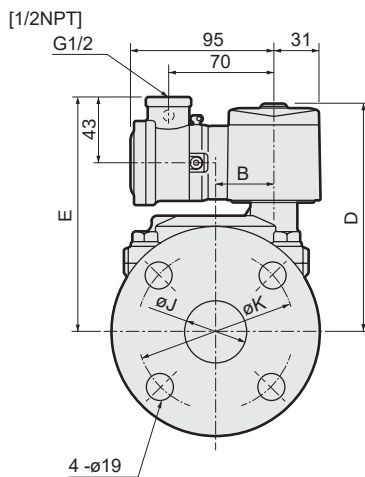
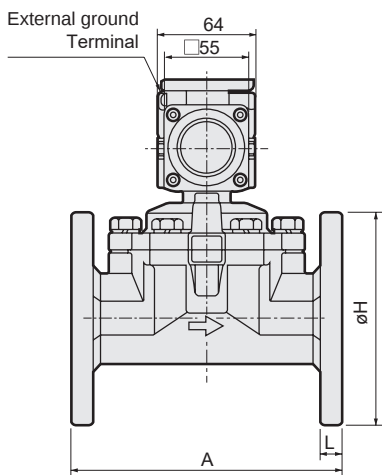


Dimensions shown in [] are for Chinese certified products.

Model No.	A	B	C	D	E	F	G	H
AP21E4-32A-***T	125	54	112	147	152	27	Rc1 1/4	32
AP21E4-40A-***T	140	60	122	153	158	30	Rc1 1/2	38
AP21E4-50A-***T	160	74	132	161	166	37	Rc2	45
AP22E4-32A-***T	125	54	112	151	156	27	Rc1 1/4	32
AP22E4-40A-***T	140	60	122	157	162	30	Rc1 1/2	38
AP22E4-50A-***T	160	74	132	165	170	37	Rc2	45

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

AP21E4-32F/40F/50F-**T
AP22E4



Dimensions shown in [] are for Chinese certified products.

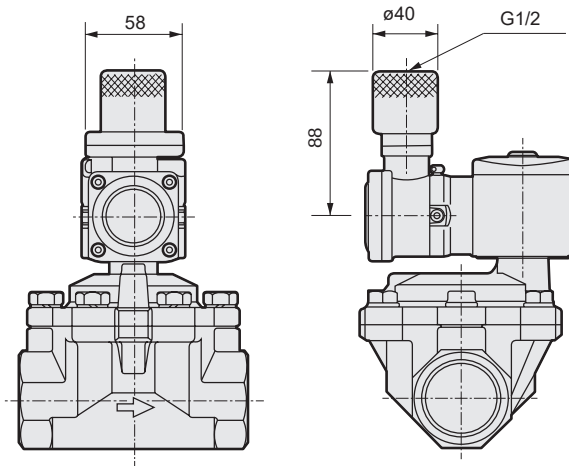
Model No.	A	B	D	E	H	J	K	L
AP21E4-32F-**T	170	32	147	152	135	36 (35)	100	12
AP21E4-40F-**T	180	38	153	158	140	42	105	14
AP21E4-50F-**T	180	45	161	166	155	53 (52)	120	14
AP22E4-32F-**T	170	32	151	156	135	36 (35)	100	12
AP22E4-40F-**T	180	38	157	162	140	42	105	14
AP22E4-50F-**T	180	45	165	170	155	53 (52)	120	14

Dimensions shown in () are for stainless steel body.

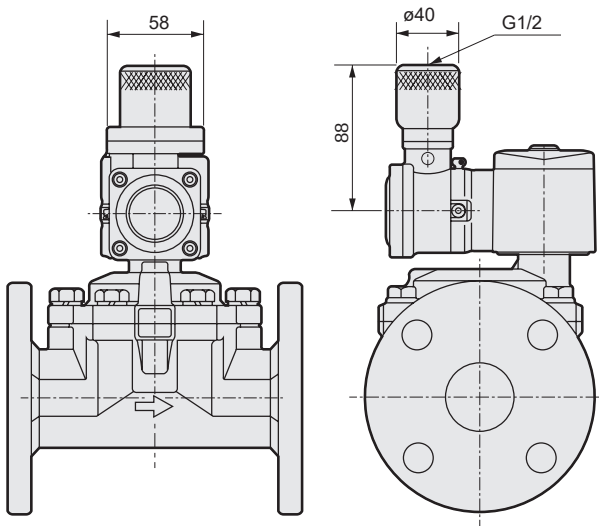
Optional dimensions



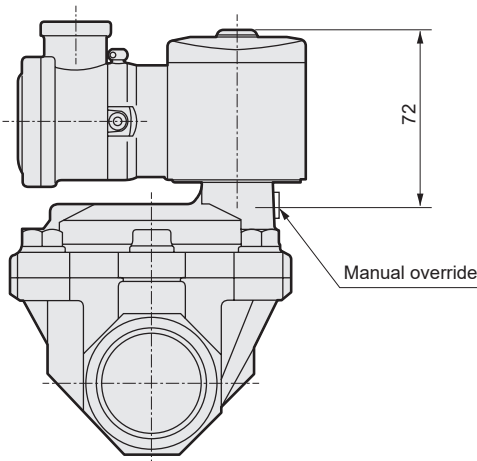
- Pressure proof packing (G1/2) connection (Rc screw-in)
AP21E4-32A/40A/50A-** [L, M]
AP22E4



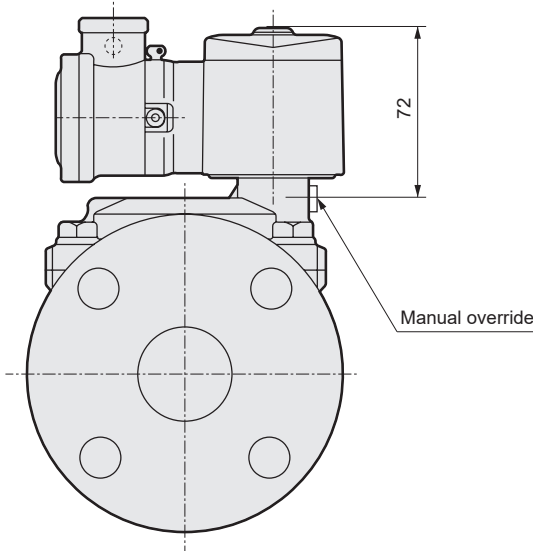
- Pressure proof packing (G1/2) connection (flange)
AP21E4-32F/40F/50F-** [L, M]
AP22E4



- Manual override (locking) (Rc screw-in)
AP21E4-32A/40A/50A-*** [A]



- Manual override (locking) (flange)
AP21E4-32F/40F/50F-*** [A]



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

Explosion-proof pilot operated 2-port solenoid valve
General purpose

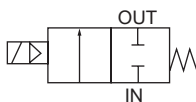
AD11E4/AD12E4 Series

- Pressure and explosion proof construction d2G4 (flame-proof grade 2/ignitability G4)
- NC (open when energized), NO (closed when energized)
- Japan Conformity Certificate No. AD11E4: No. T64349, AD12E4: No. T64352
- China Conformity Certificate No. 2020322307003155
- China explosion-proof standard NEPSI acquired GYB20. 2593X
- Port size: Rc1/2 to Rc1 ● Diaphragm drive

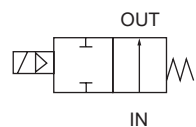


JIS symbol

● AD11E4: NC (normally closed)



● AD12E4: NO (closed when energized)



Common specifications

Item	AD11E4/AD12E4
Working fluid	Air/water/kerosene/oil (50mm ² /s or less)
Working pressure differential MPa	0.02 to 1 (refer to max. working pressure differential in individual specifications)
Max. working pressure MPa	2
Proof pressure (water pressure) MPa	8
Fluid temperature °C	-10 to 60 (no freezing)
Ambient temperature °C	-10 to 50
Thermal class	Class 130 (B)
Atmosphere	Outdoors/explosive gas (flame-proof grade 1 to 2/ignitability G1 to G4)
Valve structure	Pilot operated poppet, diaphragm drive
Valve seat leakage (*1) cm ³ /min (ANR)	0.2 or less (air)
Mounting orientation	Free (within working pressure range)
Degree of protection	IP 65 or equiv.

*1 : Pneumatic 0.02 to 1MPa for AD11E4 (NC), 0.02 to 0.5M for AD12E4 (NO) Value in Pa.

Individual specifications

Item		Port size	Orifice size (mm)	Min. working pressure differential (MPa)	Max. working pressure differential(MPa)						Rated voltage	Apparent power (VA)				Power consumption (W)		Weight (kg)	
Model No.	Air				Water/kerosene		Oil (50mm ² /s)		When holding			When starting		AC 50Hz /60Hz	DC				
					AC	DC	AC	DC	AC	DC		50Hz	60Hz			50Hz	60Hz		
NC (normally closed)																			
AD11E4	-15A	Rc 1/2	15	0.02	1	0.6	0.7	0.6	0.6	0.6	100 VAC 50/60 Hz AC110V 60Hz	18	15	29	24	8/7	11.6	1.7	
	-20A	Rc 3/4	20								200 VAC 50/60 Hz 220 VAC 60Hz								1.9
	-25A	Rc 1	25								(12 VDC) (24 VDC) (48 VDC) (100 VDC)*3								
NO (closed when energized)																			
AD12E4	-15A	Rc 1/2	15	0.02	0.5	0.5	0.5	0.5	0.5	0.5	100 VAC 50/60 Hz 110 VAC 60Hz	22	18	35	29	8.7 / 6.7	15.5	1.7	
	-20A	Rc 3/4	20								200 VAC 50/60 Hz 220 VAC 60Hz								1.9
	-25A	Rc 1	25								(12 VDC) (24 VDC) (48 VDC) (100 VDC)*3								

*1 : Refer to DC column for the max. working pressure differential of AD11E4 type coil with diode.

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

*3 : () shows options.

Flow Rate Characteristics

Model No.		Port size	Orifice size(mm)	Flow Rate Characteristics			
				C[dm³ /(s.bar)]	b	Cv	S(mm ²)
NC (normally closed)							
AD11E4	-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)							
AD12E4	-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

*1: Formula to calculate sonic conductance C from effective cross-sectional area S is S=5.0×C.

How to order

AD1 ① E4 - 20A - 0 3 T A CN - AC100V

Model No.

A Actuation

B Port size
*2

C Body/sealant combination

D Coil type
*3

E External wire pull
*4 method

F Other options

G Organizations for
explosive-proof
certification

H Voltage
*7
*8

Model No.

AD11E4

AD12E4

Code	Description		A	A			
A Actuation							
1	NC (normally closed)		●				
2	NO (closed when energized)			●			
B Port size							
15A	Rc1/2		●	●			
20A	Rc3/4		●	●			
25A	Rc1		●	●			
C Body/sealant combination							
	Body	Seal	Treatment	Remarks			
0	Std.	Nitrile rubber	-	Air/water/kerosene/oil (up to 60°C)	●	●	
B	Option	Fluoro rubber	-	-	●	●	
D		Stainless steel	Nitrile rubber	-	Air/water/kerosene/oil (up to 60°C)	●	●
E		Fluoro rubber	-	-	●	●	
H		Bronze	Nitrile rubber	Oil-prohibited	Air/water/kerosene/oil (up to 60°C)	●	●
J			Fluoro rubber		-	●	●
L		Stainless steel	Nitrile rubber		Air/water/kerosene/oil (up to 60°C)	●	●
M	Fluoro rubber		-		●	●	

Refer to Intro Page 39 for reference on material combinations.

Refer to Intro Page 39 for reference on material combinations.

D Coil type			
3	Thermal class 130 (B) explosion-proof coil	●	●
5	Thermal class 130 (B) diode integrated explosion-proof coil	●	●

E External wire pull method			
T	Std.	Conduit screw connection (G1/2) * 9	●
L	Option	Pressure proof packing (G1/2) connection, cable O.D. ø7.5 to 8.4	●
M		Pressure proof packing (G1/2) connection, cable O.D. ø8.5 to 9.4	●

F Other options			
Blank	Std.	No option	●
A		Manual override (locking)	●

G Organizations for explosive-proof certification			
Blank		Japan Certification (TIIS) *10	●
CN		China certified (NEPSI) *11	●

H Voltage			
AC100V	Std.	100 VAC 50/60 Hz	●
AC200V		200 VAC 50/60 Hz	●
DC12V	Option	12 VDC	●
DC24V		24 VDC	●
DC48V		48 VDC	●
DC100V		100 VDC	●

[Example of model No.]

AD11E4-20A-03TACN-AC100V

Model: AD11E4

- A Actuation : NC (open when energized)
- B Port size : Rc 3/4
- C Body/sealant combination : Body - bronze/sealant - nitrile rubber
- D Coil : Thermal class 130 (B) explosion-proof coil
- E External wire pull method : Conduit screw connection (1/2NPT)
- F Other options : Manual override (locking)
- G Organizations for explosive-proof certification : China Certification (NEPSI)
- H 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 : For the thermal class 130 (B) diode integrated coil, the AC power supply voltage is converted into a DC coil voltage by the diode.
- *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 : When Item A is 2, the manual override (Item F A) is not available.
- *6 : Tropicalization (rust-proof coating) is available as a measure against rust. Contact CKD for more information. Note that tropicalization is not available when the manual override option (A) is selected.
- *7 : 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. The thermal class 130 (B) diode integrated explosion-proof coil (D 5) can be used with 100 VAC 50/60 Hz or 200 VAC 50/60 Hz.
- *8 : 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 (with diode) 110, 220 VAC 6, 110, 200, 220 VDC
- *9 : China certification will be 1/2 NPT.
- *10 : Japan certification (TIIS) is included.
- *11 : China certification (NEPSI) is included.

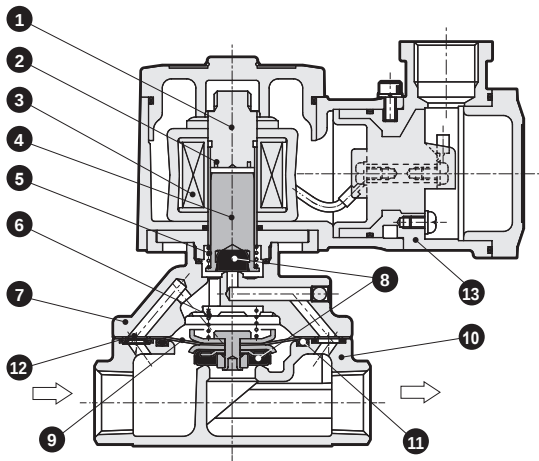
EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/AD
APK/ADK
DryAir
EX-XPLNprf
XPLNprf
HVB/HVL
S&B/NAB
LAD/NAD
Water-Rela
NP/NAP/NVP
SNP
CHB/G
MXB/G
Other valves
SWD/MWD
DustColl
CVE/CVSE
CCH/CPE/D
LifeSci
Gas-Combus
Auto-Water
Outdoor
SpecFld
Custom
Ending

AD11E4/AD12E4 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

● AD11E4 Series



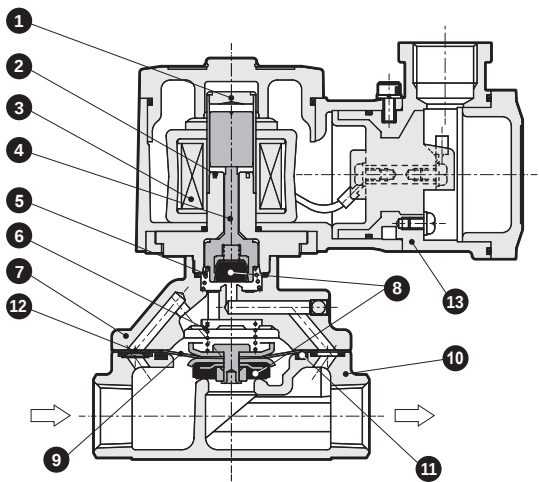
(The figure shows the closing operation)

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	Seal	NBR(FKM)	Nitrile rubber (fluoro rubber)
9	Diaphragm assembly	SUS303/SUS304/NBR (SUS303/SUS304/FKM)	Stainless steel/nitrile rubber (stainless steel/fluoro rubber)
10	Body	CAC408(SCS13)	Bronze casting (S.S. casting)
11	O-ring	NBR(FKM)	Nitrile rubber (fluoro rubber)
12	Orifice plate	SUS304	Stainless steel
13	Coil case	ADC12	Aluminum die-casting

() shows options.

● AD12E4 Series



(The figure shows the opening operation)

Cannot be disassembled

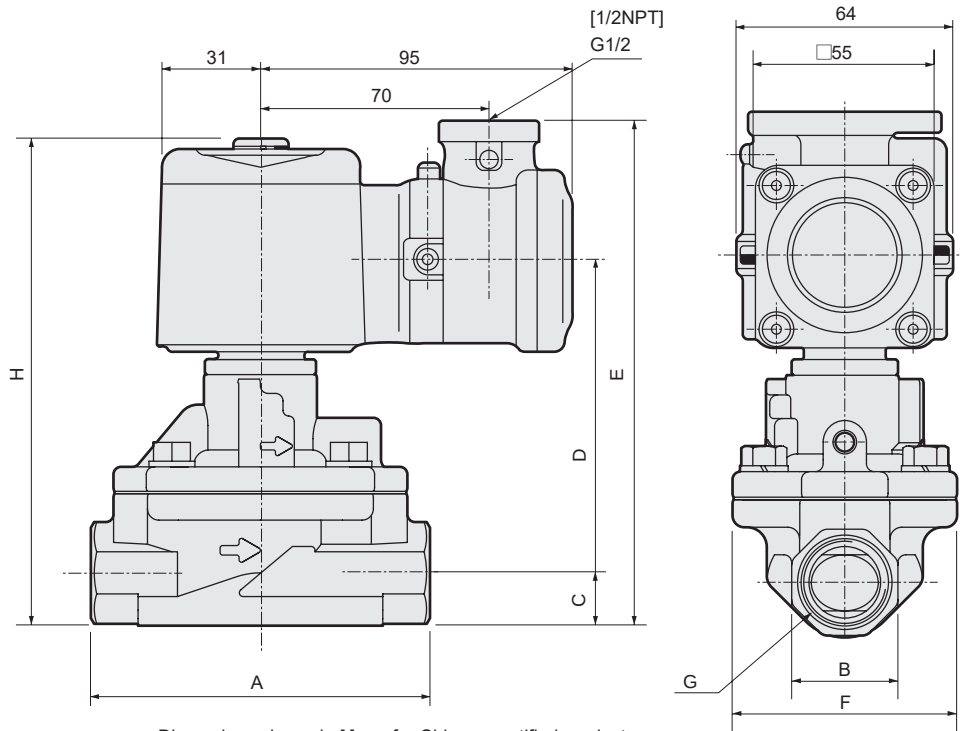
No.	Part name	Material	
1	Plunger/core assembly	SUS405 or equiv./ SUS316L/SUS304	Stainless steel
2	Shading coil	Cu (Ag for stainless steel body)	Copper (silver for stainless steel body)
3	Coil	-	-
4	NO valve	POM(PPS)	Body/sealant combination When O/D/H/L: Polyacetal resin When B/E/J/M: Polyphenylene sulfide resin
5	Spring	SUS304	Stainless steel
6	Valve spring	SUS304	Stainless steel
7	Body	CAC408(SCS13)	Bronze casting (S.S. casting)
8	Seal	NBR(FKM)	Nitrile rubber (fluoro rubber)
9	Diaphragm assembly	SUS303/SUS304/NBR (SUS303/SUS304/FKM)	Stainless steel/nitrile rubber (stainless steel/fluoro rubber)
10	Body	CAC408(SCS13)	Bronze casting (S.S. casting)
11	O-ring	NBR(FKM)	Nitrile rubber (fluoro rubber)
12	Orifice plate	SUS304	Stainless steel
13	Coil case	ADC12	Aluminum die-casting

() shows options.

Dimensions and optional dimensions



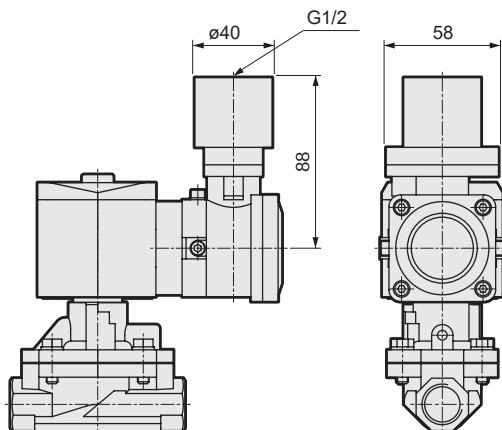
- Conduit screw (G1/2) connection
AD11E4-15A/20A/25A-** T



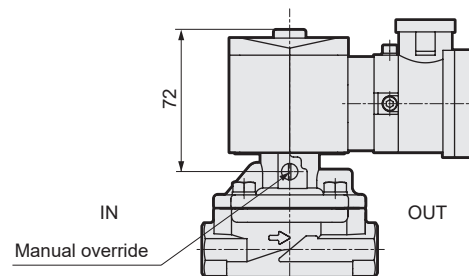
Dimensions shown in [] are for Chinese certified products.

Model No.	A	B	C	D	E	F	G	H
AD11E4-15A-**T	90	27	14	75.5	132.5	57	Rc1/2	127.5
AD11E4-20A-**T	100	32	17	81.5	141.5	65	Rc3/4	136.5
AD11E4-25A-**T	110	41	20.5	87	150.5	76	Rc1	145.5
AD12E4-15A-**T	90	27	14	80.5	137.5	57	Rc1/2	132.5
AD12E4-20A-**T	100	32	17	86.5	146.5	65	Rc3/4	141.5
AD12E4-25A-**T	110	41	20.5	92	155.5	76	Rc1	150.5

- Pressure proof packing (G1/2) connection
AD11E4-15A/20A/25A-** L, M



- Manual override (locking)
AD11E4-15A/20A/25A-*** A



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 $\diamond$ 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
Outdoor
SpecFld
Custom
Ending

Explosion-proof pilot operated 2-port solenoid valve
General purpose

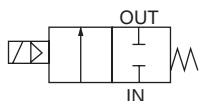
AD21E4/AD22E4 Series

- Pressure and explosion proof construction d2G4 (flame-proof grade 2/ignitability G4)
- NC (open when energized), NO (closed when energized)
- Japan Conformity Certificate No. AD21E4: No. T64349, AD22E4: No. T64352
- China Conformity Certificate No. 2020322307003155
- China explosion-proof standard NEPSI acquired GYB20. 2593X
- Port size: Rc1¹/₄ to Rc2, 32 to 50 flange ● Diaphragm drive

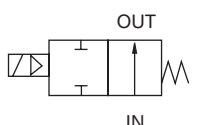


JIS symbol

● AD21E4: NC (open when energized)



● AD22E4: NO (closed when energized)



Common specifications

Item	AD21E4/AD22E4
Working fluid	Air/water/kerosene/oil (50 mm ² /s or less)
Working pressure differential MPa	0.02 to 0.7 (refer to max. working pressure differential in individual specifications)
Max. working pressure MPa	1
Proof pressure (water pressure) MPa	3.2
Fluid temperature °C	-10 to 60 (no freezing)
Ambient temperature °C	-10 to 50
Thermal class	Class 130 (B)
Atmosphere	Outdoors/explosive gas (flame-proof grade 1 to 2/ignitability G1 to G4)
Valve structure	Pilot operated poppet, diaphragm drive
Valve seat leakage(*1) cm ³ /min (ANR)	1 or less (air)
Mounting orientation	Free (within working pressure range)
Degree of protection	IP 65 or equiv.

*1: AD21E4 (NC) is the value at pneumatic pressure 0.02 to 0.7MPa, and AD22E4 (NO) is the value at pneumatic pressure 0.02 to 0.5MPa.

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)			When holding		When starting		AC	DC	
					AC	DC	AC	DC	AC	DC		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz/60 Hz		
NC																		
AD21E4	-32A	Rc1¼	35	0.02	0.7	0.6	0.7	0.6	0.6	0.6	100 VAC 50/60 Hz 110 VAC 60Hz	18	15	29	24	8/7	11.6	4.0
	-32F	32 flange									7.5							
	-40A	Rc1½	43								200 VAC 50/60 Hz 220 VAC 60Hz							5.0
	-40F	40 flange									8.5							
	-50A	Rc 2	53								(12 VDC) (24 VDC) (48 VDC) (100 VDC)*3							6.5
	-50F	50 flange									10.5							
NO																		
AD22E4	-32A	Rc1¼	35	0.02	0.5	0.5	0.5	0.5	0.5	0.5	100 VAC 50/60 Hz 110 VAC 60Hz	22	18	35	29	8.7 /6.7	15.5	4.0
	-32F	32 flange									7.5							
	-40A	Rc1½	43								200 VAC 50/60 Hz 220 VAC 60Hz							5.0
	-40F	40 flange									8.5							
	-50A	Rc 2	53								(12 VDC) (24 VDC) (48 VDC) (100 VDC)*3							6.5
	-50F	50 flange									10.5							

*1 : Refer to DC column for the max. working pressure differential of AD21E4 type coil with diode.

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

*3 : () shows options.

Flow characteristics

Model No.	Port size	Orifice size (mm)	Cv	Effective cross-sectional area (mm²)
NC (open when energized)				
AD21E4	-32A	Rc1½/4	25	460
	-32F	32 flange		
	-40A	Rc1½/2	34	625
	-40F	40 flange		
	-50A	Rc2	53	975
	-50F	50 flange		
NO (closed when energized)				
AD22E4	-32A	Rc1½/4	25	460
	-32F	32 flange		
	-40A	Rc1½/2	34	625
	-40F	40 flange		
	-50A	Rc2	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

AD21E4/AD22E4 Series

How to order

AD2 ① E4 - 40F - 0 3 T A CN - AC100V

Model No. **G** Organizations for explosive-proof certification **H** Voltage *8 *9

F Other options

A Actuation

B Port size

*2

*3

C Body/sealant combination

D Coil type

*4

E External wire pull

*5

method

[Example of model No.]

AD21E4-40F-03TACN-AC100V

Model: AD21E4

- A** Actuation : NC (open when energized)
- B** Port size : 40 flange
- C** Body/sealant combination : Body - bronze/sealant - nitrile rubber
- D** Coil : Thermal class 130 (B) explosion-proof coil
- E** External wire pull method : Conduit screw connection (1/2NPT)
- F** Other options : Manual override (locking)
- G** Organizations for explosive-proof certification : China Certification (NEPSI)
- H** 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 : For the thermal class 130 (B) diode integrated coil, the AC power supply voltage is converted into a DC coil voltage by the diode.
- *5 : 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.
- *6 : When Item **A** is 2, the manual override (Item **F** A) is not available.
- *7 : Tropicalization (rust-proof coating) is available as a measure against rust. Contact CKD for more information. Note that tropicalization is not available when the manual override option (A) is selected.
- *8 : 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. The thermal class 130 (B) diode integrated explosion-proof coil (**D** 5) can be used with 100 VAC 50/60 Hz or 200 VAC 50/60 Hz.
- *9 : 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 (with diode) 110, 220 VAC 6, 110, 200, 220 VDC
- *10 : China certification will be 1/2 NPT.
- *11 : Japan certification (TIIS) is included.
- *12 : China certification (NEPSI) is included.

Code	Description	AD21E4	AD22E4
A Actuation			
1	NC	●	
2	NO		●

B Port size			
32A	Rc1¼	●	●
32F	32 flange	●	●
40A	Rc1½	●	●
40F	40 flange	●	●
50A	Rc2	●	●
50F	50 flange	●	●

C Body/Sealant combination								
		Body	Seal	Treatment	Remarks			
0	Standard	Bronze	Nitrile rubber	-	Air/water/kerosene/oil (up to 60°C)	●	●	
B			Fluoro rubber		-	●	●	
D		Stainless steel	Nitrile rubber	-	Air/water/kerosene/oil (up to 60°C)	●	●	
E			Fluoro rubber		-	●	●	
H		Option	Bronze	Nitrile rubber	Oil-	Air/water/kerosene/oil (up to 60°C)	●	●
J				Fluoro rubber		-	●	●
L			Stainless steel	Nitrile rubber		Air/water/kerosene/oil (up to 60°C)	●	●
M				Fluoro rubber		-	●	●

Refer to Intro Page 39 for reference on material combinations.

D Coil type			
3	Thermal class 130 (B) explosion-proof coil	●	●
5	Thermal class 130 (B) diode integrated explosion-proof coil	●	●

E External wire pull method				
T	Standard	Conduit screw connection (G1/2) * 10	●	●
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	●	●

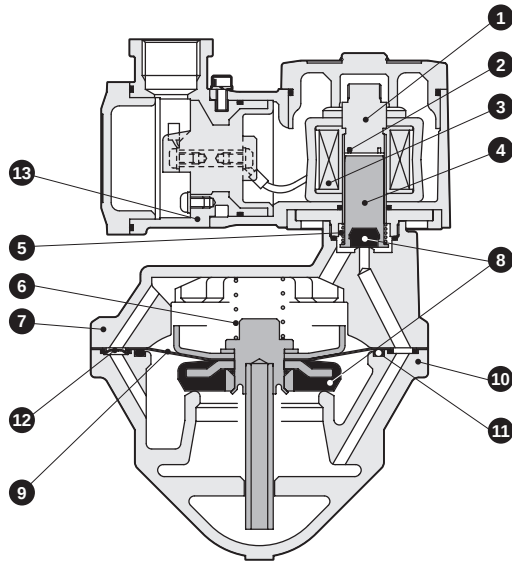
F Other options				
Blank	Standard	No option	●	●
A		Manual override (locking)	●	

G Organizations for explosive-proof certification			
Blank	Japan Certification (TIIS) *11	●	●
CN	China certification (NEPSI) *12	●	●

H Voltage				
AC100V	Std.	100 VAC 50/60 Hz	●	●
AC200V		200 VAC 50/60 Hz	●	●
DC12V	Option	12 VDC	●	●
DC24V		24 VDC	●	●
DC48V		48 VDC	●	●
DC100V		100 VDC	●	●

Internal structure and parts list

● AD21E4 Series



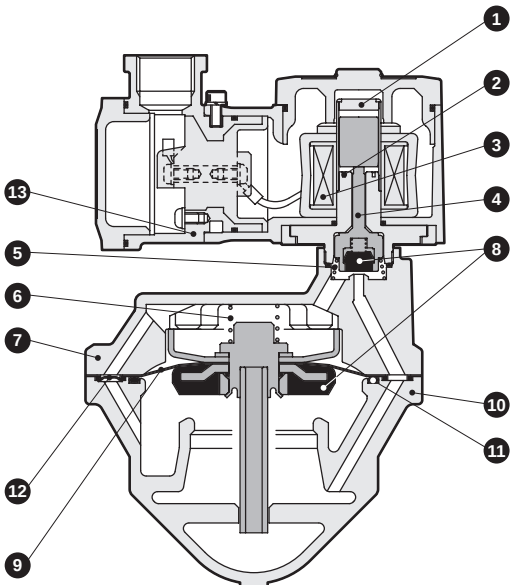
(The figure shows the closing operation)

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	Seal	NBR(FKM)	Nitrile rubber (fluoro rubber)
9	Diaphragm assembly	SUS303/SUS304/NBR (SUS303/SUS304/FKM)	Stainless steel/nitrile rubber (stainless steel/fluoro rubber)
10	Body	CAC408(SCS13)	Bronze casting (S.S. casting)
11	O-ring	NBR(FKM)	Nitrile rubber (fluoro rubber)
12	Orifice plate	SUS304	Stainless steel
13	Coil case	ADC12	Aluminum die-casting

() shows options.

● AD22E4 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	POM(PPS)	Body/sealant combination When O/D/H/L: Polyacetal resin When B/E/J/M: Polyphenylene sulfide resin
5	Spring	SUS304	Stainless steel
6	Valve spring	SUS304	Stainless steel
7	Body	CAC408 (SCS13)	Bronze casting (S.S. casting)
8	Seal	NBR (FKM)	Nitrile rubber (fluoro rubber)
9	Diaphragm assembly	SUS303/SUS304/NBR (SUS303/SUS304/FKM)	Stainless steel/nitrile rubber (stainless steel/fluoro rubber)
10	Body	CAC408 (SCS13)	Bronze casting (S.S. casting)
11	O-ring	NBR (FKM)	Nitrile rubber (fluoro rubber)
12	Orifice plate	SUS304	Stainless steel
13	Coil case	ADC12	Aluminum die-casting

() shows options.

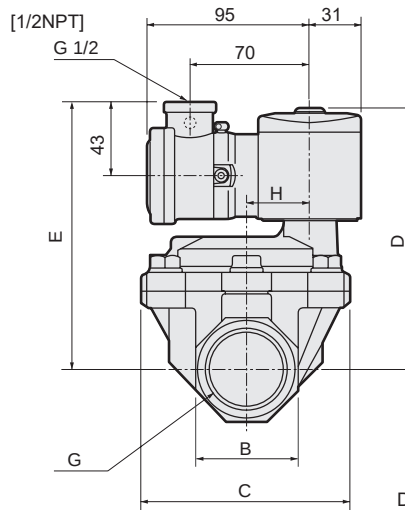
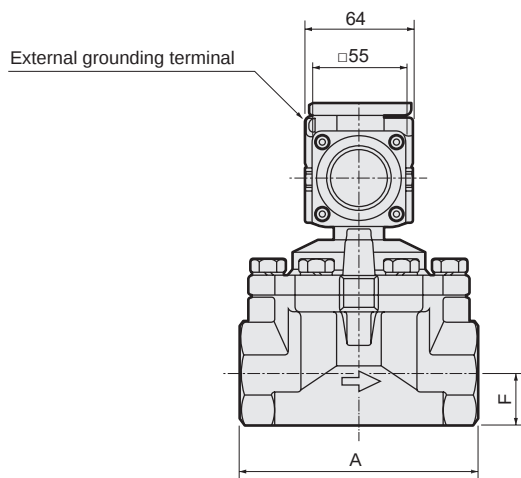
AD21E4/AD22E4 Series

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

Dimensions



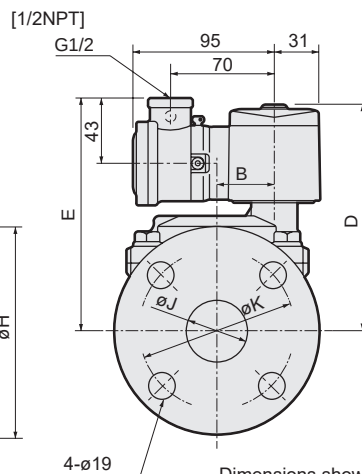
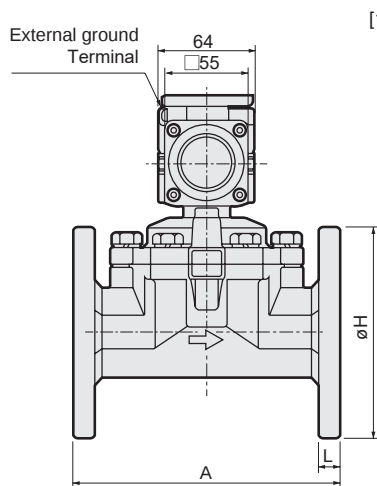
- Conduit thread (G1/2) connection (Rc screw-in)
AD21E4 -32A/40A/50A-**T
AD22E4



Dimensions shown in [] are for Chinese certified products.

Model No.	A	B	C	D	E	F	G	H
AD21E4-32A-**T	125	54	112	147.5	152.5	27	Rc1 $\frac{1}{4}$	32
AD21E4-40A-**T	140	60	122	153.5	158.5	30	Rc1 $\frac{1}{2}$	38
AD21E4-50A-**T	160	74	132	161.5	166.5	37	Rc2	45
AD22E4-32A-**T	125	54	112	151.5	156.5	27	Rc1 $\frac{1}{4}$	32
AD22E4-40A-**T	140	60	122	157.5	162.5	30	Rc1 $\frac{1}{2}$	38
AD22E4-50A-**T	160	74	132	165.5	170.5	37	Rc2	45

- Conduit screw (G1/2) connection (flange)
AD21E4 -32F/40F/50F-**T
AD22E4



Dimensions shown in [] are for Chinese certified products.

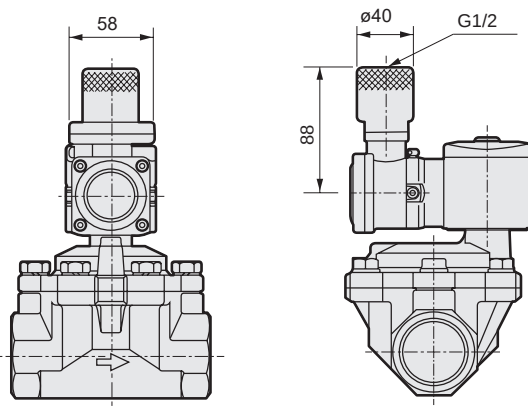
Model No.	A	B	D	E	H	J	K	L
AD21E4-32F-**T	170	32	147.5	152.5	135	36 (35)	100	12
AD21E4-40F-**T	180	38	153.5	158.5	140	42	105	14
AD21E4-50F-**T	180	45	161.5	166.5	155	53 (52)	120	14
AD22E4-32F-**T	170	32	151.5	156.5	135	36 (35)	100	12
AD22E4-40F-**T	180	38	157.5	162.5	140	42	105	14
AD22E4-50F-**T	180	45	165.5	170.5	155	53 (52)	120	14

Dimensions shown in () are for stainless steel body.

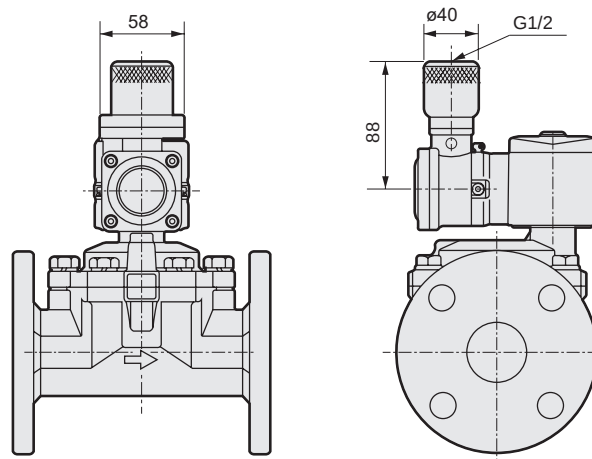
Optional dimensions



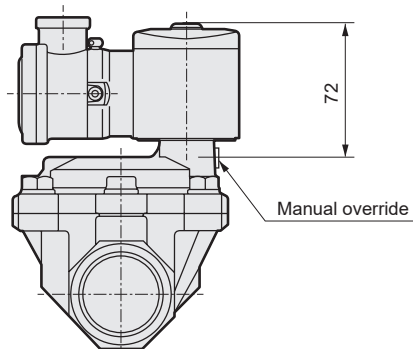
- Pressure proof packing (G1/2) connection (Rc screw-in)
AD21E4 -32A/40A/50A-** [L, M]
AD22E4



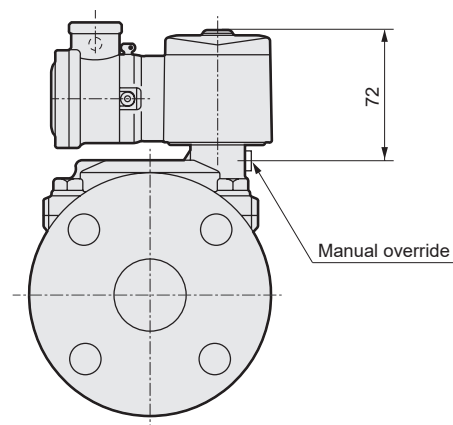
- Pressure proof packing (G1/2) connection (flange)
AD21E4 -32F/40F/50F-** [L, M]
AD22E4



- Manual override (locking) (Rc screw-in)
AD21E4-32A/40A/50A-*** [A]



- Manual override (locking) (flange)
AD21E4-32F/40F/50F-*** [A]



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



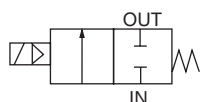
ADK11E4/ADK12E4 Series

- Pressure and explosion proof construction d2G4 (flame-proof grade 2/ignitability G4)
- NC (open when energized), NO (closed when energized)
- Japan Conformity Certificate No. ADK11E4: No. T64355, ADK12E4: No. T64358
- China Conformity Certificate No. 2020322307003155
- China explosion-proof standard NEPSI acquired GYB20. 2593X
- Port size: Rc1/2, Rc3/4, Rc1 ● Diaphragm drive

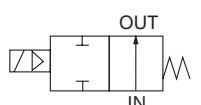


JIS symbol

- ADK11E4: NC (open when energized)



- ADK12E4: NO (closed when energized)



Common specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item	ADK11E4/ADK12E4
Working fluid	Air/low vacuum (1.33 x 10 ³ Pa)/water/kerosene/oil (50 mm ² /s or less)
Working pressure differential MPa	0 to 1 (refer to max. working pressure differential in individual specifications.)
Max. working pressure MPa	2 (≈290 psi, 20 bar)
Proof pressure (water pressure) MPa	4 (≈580 psi, 40 bar)
Fluid temperature °C	-10 (14°F) to 60 (140°F) (no freezing)
Ambient temperature °C	-10 (14°F) to 50 (122°F)
Thermal class	Class 130 (B)
Atmosphere	Outdoors/explosive gas (flame-proof grade 1 to 2/ignitability G1 to G4)
Valve structure	Pilot kick poppet, diaphragm drive
Valve seat leakage (*1) cm ³ /min(ANR)	1 or less (air)
Mounting orientation	Unrestricted
Degree of protection	IP65 or equivalent

*1: Pneumatic pressure used for measurement is 0.02 to 1 MPa for ADK11E4 (NC [open when energized]), and 0.02 to 0.6 MPa for ADK12E4 (NO [closed when energized]).

When used at a pressure less than 0.02 MPa, the sealant may be unstable. Contact CKD in this case.

Individual specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item	Port size	Orifice size (mm)	Min. working pressure differential (MPa)	Max. working pressure differential (MPa)						Rated voltage	Apparent power (VA)				Power consump (W)		Weigh (kg)	
				Air		Water/kerosene		Oil (50 mm ² /s)			When holding		When starting		AC	DC		
				AC	DC	AC	DC	AC	DC		50 Hz	60 Hz	50 Hz	60 Hz	50/60 Hz	DC		
NC (open when energized)																		
ADK11E4	-15A	Rc1/2	16	0	1	0.6	1	0.6	0.6	0.5	100 VAC 50/60 Hz 110 VAC 60 Hz	20	16	80	64	10/8.5	15	1.4
	-20A	Rc3/4	23								200 VAC 50/60 Hz 220 VAC 60 Hz							1.5
	-25A	Rc1	28								(12 VDC) (24 VDC) (48 VDC) (100 VDC) *4							1.9
NO (closed when energized)																		
ADK12E4	-15A	Rc1/2	16	0	0.6	0.6	0.6	0.6	0.5	0.5	100 VAC 50/60 Hz 110 VAC 60 Hz	25	21	100	84	12/10	15	1.5
	-20A	Rc3/4	23								200 VAC 50/60 Hz 220 VAC 60 Hz							1.7
	-25A	Rc1	28								(12 VDC) (24 VDC) (48 VDC) (100 VDC) *4							2.1

*1 : Refer to DC column for the max. working pressure differential of coil with diode.

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

*3 : When using at low vacuum, vacuum the OUT port side.

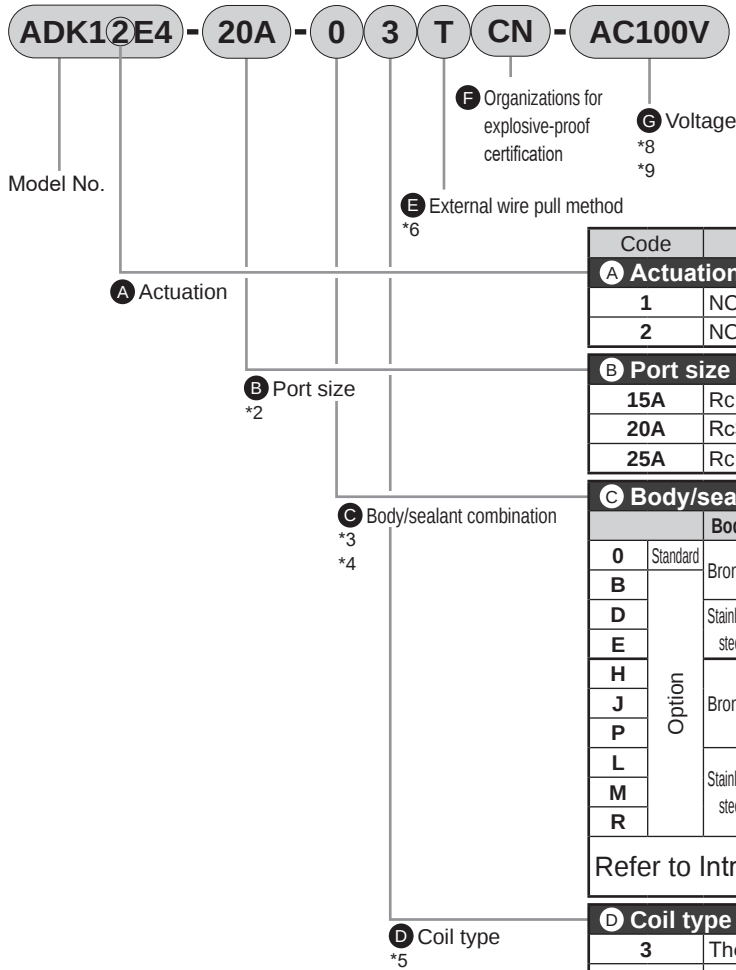
*4 : () shows options.

Flow characteristics

Model No.		Port size	Orifice size (mm)	Flow characteristics			
				C[dm³/(s·bar)]	b	Cv	S(mm²)
NC (open when energized)							
ADK11E4	-15A	Rc1/2	16	20	0.31	4.5	-
	-20A	Rc3/4	23	-	-	8.6	162
	-25A	Rc1	28	-	-	12.0	231
NO (closed when energized)							
ADK12E4	-15A	Rc1/2	16	20	0.31	4.5	-
	-20A	Rc3/4	23	-	-	8.6	162
	-25A	Rc1	28	-	-	12.0	231

*1: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 x C.

How to order



[Example of model No.]

ADK12E4-20A-03TCN-AC100V

Model: ADK12E4

- A** Actuation : NO (closed when energized)
B Port size : Rc3/4
C Body/sealant combination : Body - bronze/sealant - nitrile rubber
D Coil : Thermal class 130 (B) 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

G Voltage			Model No.				
			ADK11E4	ADK12E4			
Method							
Code		Description					
A Actuation							
1	NC (normally closed)		●				
2	NO (closed when energized)			●			
B Port size							
15A	Rc1/2		●	●			
20A	Rc3/4		●	●			
25A	Rc 1		●	●			
C Body/sealant combination							
		Body	Seal	Treatment	Remarks		
0	Standard	Bronze	Nitrile rubber	-	Air/water/low vacuum/kerosene/oil (up to 60°C)	●	●
B			Fluoro rubber		-	●	●
D		Stainless steel	Nitrile rubber	-	Air/water/low vacuum/kerosene/oil (up to 60°C)	●	●
E			Fluoro rubber		-	●	●
H		Bronze	Nitrile rubber	Oil-	Air/water/low vacuum/kerosene/oil (up to 60°C)	●	●
J			Fluoro rubber		-	●	●
P			Ethylene propylene rubber		-	●	●
L		Stainless steel	Nitrile rubber	prohibited	Air/water/low vacuum/kerosene/oil (up to 60°C)	●	●
M			Fluoro rubber		-	●	●
R			Ethylene propylene rubber		-	●	●
Refer to Intro Page 39 for reference on material combinations.							
D Coil type							
3	Thermal class 130 (B) explosion-proof coil					●	●
5	Thermal class 130 (B) diode integrated explosion-proof coil					●	●
E External wire pull method							
T	Standard	Conduit screw connection (G1/2) * 10				●	●
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) *11					●	●
CN	China certification (NEPSI) *12					●	●
G Voltage							
AC100V	Std.	100 VAC 50/60 Hz				●	●
AC200V		200 VAC 50/60 Hz				●	●
DC12V	Option	12 VDC				●	●
DC24V		24 VDC				●	●
DC48V		48 VDC				●	●
DC100V		100 VDC				●	●

⚠ 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 : The max. working pressure differential of the ethylene propylene rubber seal combination (Item C P/R) is 0.6 MPa.
*4 : The ethylene propylene rubber seal combination (Item C P/R) cannot be used with air. (Compressed air contains oil, and ethylene propylene rubber is not oil-resistant.)
*5 : For the thermal class 130 (B) diode integrated coil, the AC power supply voltage is converted into a DC coil voltage by the diode.
*6 : 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.
*7 : Tropicalization (rust-proof coating) is available as a measure against rust. Contact CKD for more information.
*8 : 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.
The thermal class 130 (B) diode integrated explosion-proof coil (Item D 5) can be used with 100 VAC 50/60 Hz or 200 VAC 50/60 Hz.
*9 : 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 (with diode) 110, 220 V
6, 110, 200, 220 VDC
*10 : China certification will be 1/2 NPT.
*11 : Japan certification (TIIS) is included.
*12 : China certification (NEPSI) is included.

ADK11E4/ADK12E4 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 $\diamond$ 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

Outdoor

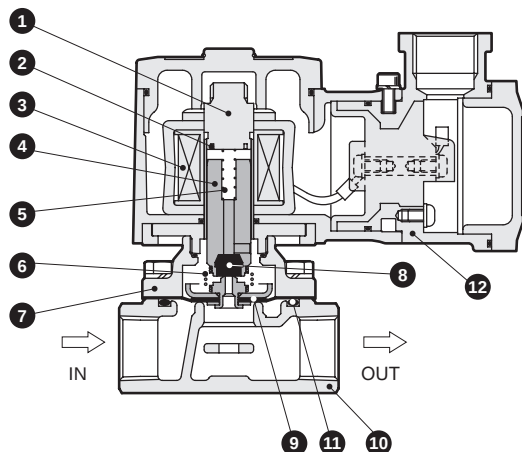
SpecFld

Custom

Ending

Internal structure and parts list

● ADK11E4 Series



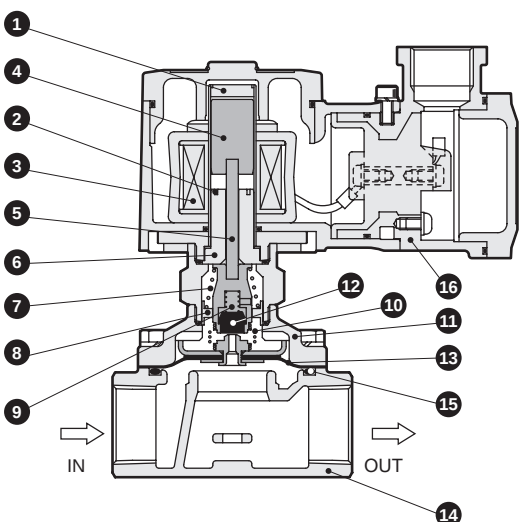
Cannot be disassembled

No.	Part name	Material	
1	Core assembly	SUS405 or equiv./ SUS316L/SUS403	Stainless steel
2	Shading coil *1	Cu (Ag for stainless steel body)	Copper (silver for stainless steel body)
3	Coil	-	-
4	Plunger assembly	SUS405 or equiv./NBR (SUS405 or equiv./FKM or EPDM)	Stainless steel
5	Plunger spring	SUS304	Stainless steel
6	Kick spring	SUS304	Stainless steel
7	Body	C3771(SCS13)	Copper alloy (stainless steel casting)
8	Seal	NBR (FKM, EPDM)	Nitrile rubber (fluoro rubber, ethylene propylene rubber)
9	Diaphragm assembly	SUS304/NBR (SUS304/FKM or EPDM)	Stainless steel/nitrile rubber (Stainless steel/fluoro rubber or ethylene propylene rubber)
10	Body	CAC408(SCS13)	Bronze casting (S.S. casting)
11	O-ring	NBR (FKM, EPDM)	Nitrile rubber (fluoro rubber, ethylene propylene rubber)
12	Coil case	ADC12	Aluminum die-casting

() shows options.

*1 No shading coil is used for DC coil or coil with diode.

● ADK12E4 Series



Cannot be disassembled

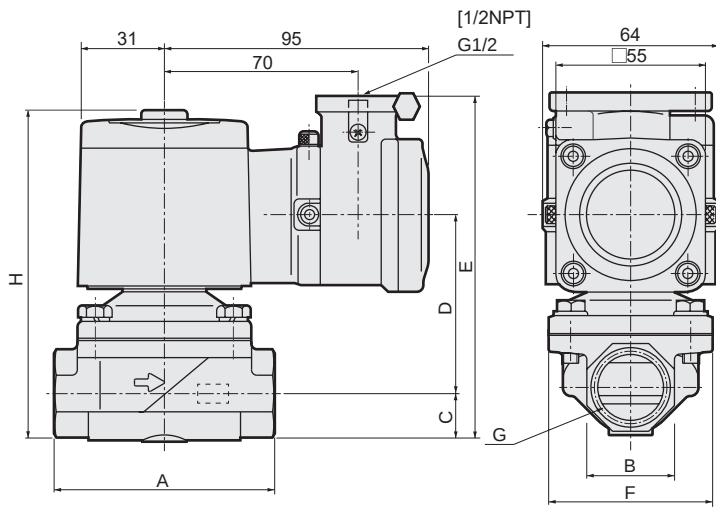
No.	Part name	Material	
1	Core assembly	SUS403/SUS316L/ SUS304	Stainless steel
2	Shading coil *1	Cu (Ag for stainless steel body)	Copper (silver for stainless steel body)
3	Coil		
4	Plunger	SUS405 or equiv.	Stainless steel
5	Push rod	SUS304	Stainless steel
6	Fixed core	SUS405 or equiv.	Stainless steel
7	Spring	SUS304	Stainless steel
8	Spring holder	POM(SUS303)	Acetal resin (stainless steel)
9	NO valve assembly	SUS303/SUS304/NBR (SUS303/SUS304/FKM or EPDM)	Stainless steel/nitrile rubber (stainless steel/fluoro rubber or ethylene propylene rubber)
10	Kick spring	SUS304	Stainless steel
11	Body	C3771(SCS13)	Copper alloy (stainless steel casting)
12	Seal	NBR (FKM, EPDM)	Nitrile rubber (fluoro rubber, ethylene propylene rubber)
13	Diaphragm assembly	SUS304/NBR (SUS304/FKM or EPDM)	Stainless steel/nitrile rubber (Stainless steel/fluoro rubber or ethylene propylene rubber)
14	Body	CAC408(SCS13)	Bronze casting (S.S. casting)
15	O-ring	NBR (FKM, EPDM)	Nitrile rubber (fluoro rubber, ethylene propylene rubber)
16	Coil case	ADC12	Aluminum die-casting

() shows options.

*1 No shading coil is used for DC coil or coil with diode.

Dimensions

- Conduit screw (G1/2) connection
ADK11E4-15A/20A/25A-**T

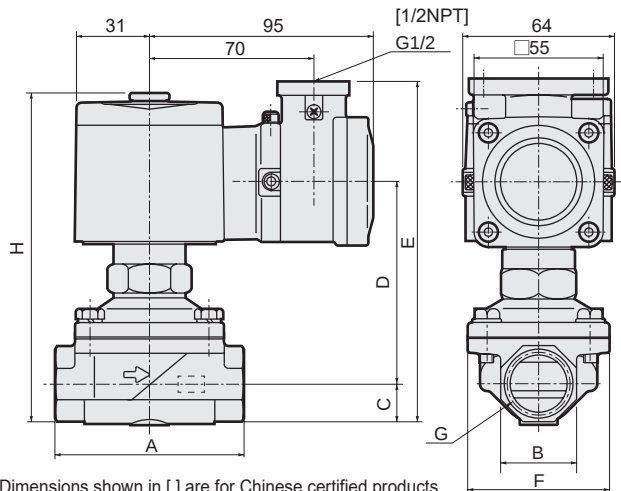


Dimensions shown in [] are for Chinese certified products.

Model No.	A	B	C	D	E	F	G	H
ADK11E4-15A-**T	71	27 (29)	14.5	59	116.5	50	Rc1/2	111.5
ADK11E4-20A-**T	80	32 (35)	17.5	62.5	123	60	Rc3/4	118
ADK11E4-25A-**T	90	41 (45)	21.5 (22.5)	68	132.5 (133.5)	71	Rc1	127.5 (128.5)

Dimensions shown in () are for stainless steel body.

- Conduit thread (G1/2) type
ADK12E4-15A/20A/25A-**T



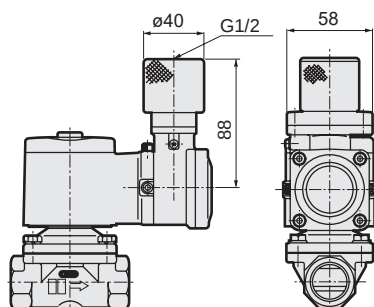
Dimensions shown in [] are for Chinese certified products.

Model No.	A	B	C	D	E	F	G	H
ADK12E4-15A-**T	71	27 (29)	14.5	79.5	137	50	Rc1/2	132
ADK12E4-20A-**T	80	32 (35)	17.5	83	143.5	60	Rc3/4	138.5
ADK12E4-25A-**T	90	41 (45)	21.5 (22.5)	88.5	153 (154)	71	Rc1	148 (149)

Dimensions shown in () are for stainless steel body.

Optional dimensions

- Pressure proof packing (G1/2) connection
ADK11E4-15A/20A/25A-** L, M



- Pressure proof packing (G1/2) connection
ADK12E4-15A/20A/25A-** L, M

