

Air operated 2-port valve for low pressure  
(coolant valve)

# CVSE2/CVSE22-05/10 Series CVE2/CVE22-05/10 Series

- NC, NO
- Port size: Rc3/8 to Rc2, 32 to 80 flange
- Low pressure 0.5 MPa, 1.0 MPa

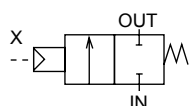
Refer to the Ending for details.



## JIS symbol

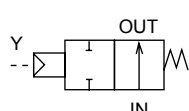
- CVE2 (air operated)

: NC



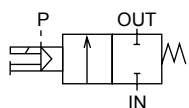
- CVE22 (air operated)

: NO



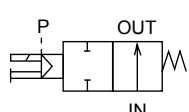
- CVSE2 (with solenoid valve)

: NC



- CVSE22 (with solenoid valve)

: NO



## Common specifications for 0.5 MPa

Model No.	CVE2/CVSE2	CVE22/CVSE22
Actuation	NC	NO
Working fluid	Coolant/other non-corrosive liquids (*1)	
Fluid viscosity	mm <sup>2</sup> /s 500 or less	
Working pressure	MPa 0 (≈0 psi, 0 bar) to 0.5 (≈73 psi, 5 bar)	
Proof pressure (water pressure)	MPa 2.0 (≈290 psi, 20 bar)	
Fluid temperature	°C -10 (14°F) to 60 (140°F) (no freezing)	
Ambient temperature	°C -10 (14°F) to 60 (140°F)	
Valve seat leakage	cm <sup>3</sup> /min 20 or less (water pressure) (*2)	
Mounting orientation	Unrestricted	
Pilot fluid	Air	
Pilot pressure	MPa 0.25 (≈36 psi, 2.5 bar) to 0.7 (≈100 psi, 7 bar)	
Water hammer value (for reference)	MPa 1 or less (steel pipe 10 m, total pressure 0.5 MPa, flow rate 5 m/sec.)	

\*1 : Fluids that do not affect cast iron (nickel plating), stainless steel, nitrile rubber or fluoro rubber

\*2 : 1 cm<sup>3</sup>/min or less for port size 10A (Rc3/8)

## Electrical specification (with solenoid valve/common specifications)

Rated voltage	100 VAC (50/60 Hz) / 110 VAC (60 Hz), 200 VAC (50/60 Hz) / 220 VAC (60 Hz), 24 VDC	
Apparent power (VA)	When holding	3.6(50 Hz), 2.8(60 Hz)
	Starting	11(50 Hz), 9(60 Hz)
Power consumption (W)	AC	1.9(50 Hz), 1.5(60 Hz)
	DC	2.0
Thermal class	Class 130 (B)	
Degree of protection (IEC standards 529)	Grommet lead wire	IPX2
	With DIN terminal box (Pg9)	IPX5
	DIN terminal box (M12-4P connector)	IPX5
	With T type terminal box (G1/2)	IPX5

\*3 : The voltage fluctuation range must be within ±10% of the rated voltage.

## Individual specifications for 0.5 MPa

Descriptions Model No.	Port size	Orifice size (mm)	Cv	Pilot port size	Weight (kg)	
					CVE2(2)	CVSE2(2)
CVE2 (2)/CVSE2 (2) -10A-05	Rc3/8	10	2.8	Rc1/8	0.35	0.45
CVE2 (2)/CVSE2 (2) -15A-05	Rc1/2	14	6.5		0.6	0.7
CVE2 (2)/CVSE2 (2) -20A-05	Rc3/4	19	11		1.2	1.3
CVE2 (2)/CVSE2 (2) -25A-05	Rc1	24	18		1.8	1.9
CVE2 (2)/CVSE2 (2) -32A-05	Rc1 1/4	31	28		2.7	2.8
CVE2 (2)/CVSE2 (2) -32F-05	32 flange	31	28		5.3	5.4
CVE2 (2)/CVSE2 (2) -40A-05	Rc1 1/2	40	43		4.4	4.5
CVE2 (2)/CVSE2 (2) -40F-05	40 flange	40	43		7.0	7.1
CVE2 (2)/CVSE2 (2) -50A-05	Rc2	50	70		6.5	6.6
CVE2 (2)/CVSE2 (2) -50F-05	50 flange	50	70		9.6	9.7
CVE2 (2)/CVSE2 (2) -65F-05	65 flange	65	70		19.5	19.5
CVE2 (2)/CVSE2 (2) -80F-05	80 flange	79	100		24.0	24.0

## Common specifications for 1.0 MPa

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Model No.	CVE2/CVSE2	CVE22/CVSE22
Actuation	NC	NO
Working fluid	Coolant/other non-corrosive liquids (*1)	
Fluid viscosity mm <sup>2</sup> /s	500 or less	
Working pressure MPa	0 (≈0 psi, 0 bar) to 1.0 (≈150 psi, 10 bar)	
Proof pressure (water pressure) MPa	2.0 (≈290 psi, 20 bar)	
Fluid temperature °C	-10 (14°F) to 60 (140°F) (no freezing)	
Ambient temperature °C	-10 (14°F) to 60 (140°F)	
Valve seat leakage cm <sup>3</sup> /min	20 or less (water pressure) (*2)	
Mounting orientation	Unrestricted	
Pilot fluid	Air	
Pilot pressure MPa	0.25 (≈36 psi, 2.5 bar) to 0.7 (≈100 psi, 7 bar)	
Water hammer value (for reference) MPa	2 or less (steel pipe 10 m, total pressure 1 MPa, flow rate 5 m/sec.)	

\*1 : Fluids that do not affect cast iron (nickel plating), stainless steel, nitrile rubber or fluoro rubber

\*2 : 1 cm<sup>3</sup>/min or less for port size 10A (Rc3/8)

### Electrical specification (with solenoid valve/common specifications)

Rated voltage	100 VAC (50/60 Hz) / 110 VAC (60 Hz), 200 VAC (50/60 Hz) / 220 VAC (60 Hz), 24 VDC	
Apparent power (VA)	When holding	3.6(50 Hz), 2.8(60 Hz)
	Starting	11(50 Hz), 9(60 Hz)
Power consumption (W)	AC	1.9(50 Hz), 1.5(60 Hz)
	DC	2.0
Thermal class	Class 130 (B)	
Degree of protection (IEC standards 529)	Grommet lead wire	IPX2
	With DIN terminal box (Pg9)	IPX5
	DIN terminal box (M12-4P connector)	IPX5
	With T type terminal box (G1/2)	IPX5

\*3 : The voltage fluctuation range must be within ±10% of the rated voltage.

## Individual specifications for 1.0 MPa

Descriptions Model No.	Port size	Orifice size (mm)	Cv	Pilot port size	Weight (kg)	
					CVE2(2)	CVSE2(2)
CVE2 (2)/CVSE2 (2) -10A-10	Rc3/8	7	1.7	Rc1/8	0.35	0.45
CVE2 (2)/CVSE2 (2) -15A-10	Rc1/2	10	4.5		0.6	0.7
CVE2 (2)/CVSE2 (2) -20A-10	Rc3/4	14	7		1.2	1.3
CVE2 (2)/CVSE2 (2) -25A-10	Rc1	17	11		1.8	1.9
CVE2 (2)/CVSE2 (2) -32A-10	Rc1 1/4	23	20		2.7	2.8
CVE2 (2)/CVSE2 (2) -32F-10	32 flange	23	20		5.3	5.4
CVE2 (2)/CVSE2 (2) -40A-10	Rc1 1/2	29	30		4.4	4.5
CVE2 (2)/CVSE2 (2) -40F-10	40 flange	29	30		7.0	7.1
CVE2 (2)/CVSE2 (2) -50A-10	Rc2	35	48		6.5	6.6
CVE2 (2)/CVSE2 (2) -50F-10	50 flange	35	48		9.6	9.7
CVE2 (2)/CVSE2 (2) -65F-10	65 flange	49	50		19.5	19.5
CVE2 (2)/CVSE2 (2) -80F-10	80 flange	57	73		24.0	24.0

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  
NPNAP/  
NVP  
SNP  
CHB/G  
MXB/G  
Other  
valves  
SWD/  
MWD  
DustColl  
CVE/  
CVSE  
CCH /  
CPE/D  
LifeSci  
Gas-  
Combus  
Auto-  
Water  
SpecFld  
Custom  
Ending

# CVE2/CVSE2-05/10 Series

## How to order

● Air operated

**CVE2** **2** - **20A** - **10** - **0**      **B** - ●

● With solenoid valve

**CVSE2** **2** - **15A** - **05** - **0** **2G** **S** - ● - **1**

**A** Actuation

**B** Port size

**H** Voltage

Model No.	
Air operated (2-port)	CVE2
With solenoid valve (2-port)	CVSE2

**C** Working pressure

**D** Body/sealant combination

**E** Coil

\*1

\*2

[Example of model No.]

**CVSE22-15A-05-02GS-1**

Model: CVSE2 : With solenoid valve (2-port)

**A** Actuation : NO

**B** Port size : Rc1/2

**C** Working pressure : 0 to 0.5 MPa

**D** Body/sealant combination

: Body - cast iron (plating), sealant - nitrile rubber

**E** Coil : With DIN terminal box (Pg9)

**F** Other options : With surge suppressor

**G** Assembly direction : No option

**H** Voltage : 100 VAC(50/60 Hz), 110 VAC(60 Hz)

**F** Other options

\*3

\*4

\*5

\*6

\*7

\*8

**G** Assembly direction \*8

\*1 : Surge suppressor is not available for Item **E** 2J.

\*2 : Item **E** 2K is available only for the type with surge suppressor and should be specified as 2KS.

\*3 : The mounting plate (Item **F** B) is provided and can be assembled to port size 10A, 15A, 20A and 25A only.

\*4 : Top mounted solenoid valve (Item **F** T) is available only for port sizes 15A, 20A and 25A.

\*5 : To add both the surge suppressor and mounting plate options, specify Item **F** as SB. For a solenoid valve mounted on top, indicate as STB.

\*6 : The surge suppressor is attached with the lead wire coil. When selecting a coil with a terminal box, the surge suppressor is mounted in the terminal box.

\*7 : A manual override (non-locking) is provided as standard for the solenoid valve mounted.

\*8 : Assembly direction option cannot be selected for the type with top mounted solenoid valve (Item **F** T).

Model No.

CVE2

CVSE2

Code	Content	CVE2	CVSE2		
<b>A Actuation</b>					
Blank	NC	●	●		
2	NO	●	●		
<b>B Port size</b>					
10A	Rc3/8	●	●		
15A	Rc1/2	●	●		
20A	Rc3/4	●	●		
25A	Rc1	●	●		
32A	Rc1 <sup>1</sup> / <sub>4</sub>	●	●		
32F	32 flange	●	●		
40A	Rc1 <sup>1</sup> / <sub>2</sub>	●	●		
40F	40 flange	●	●		
50A	Rc2	●	●		
50F	50 flange	●	●		
65F	65 flange	●	●		
80F	80 flange	●	●		
<b>C Working pressure</b>					
05	0 to 0.5 MPa	●	●		
10	0 to 1.0 MPa	●	●		
<b>D Body/sealant combination</b>					
		<b>Body</b>	<b>Seal</b>		
0	Standard	Cast iron (plating)	Nitrile rubber	●	●
B	Option	Cast iron (plating)	Fluoro rubber	●	●
<b>E Coil</b>					
2C	Standard	Grommet lead wire			●
2G	Option	With DIN terminal box (Pg9)			●
2H		DIN terminal box with lamp (Pg9)			●
2J		DIN terminal box (M12-4P connector)			●
2K		DIN term box, lamp (M12-4P connector)			●
3T		With T type terminal box (G1/2)			●
3R	T type terminal box with lamp (G1/2)			●	
<b>F Other options</b>					
Blank	No option		●	●	
S	With surge suppressor			●	
T	Top mounted solenoid valve			●	
B	Mounting plate		●	●	
<b>G Assembly direction</b>					
Blank	No option		●	●	
X	Cylinder cover rotated 90°			●	
Y	Cylinder cover rotated 180°			●	
Z	Cylinder cover rotated 270°			●	
R	Mounting plate reversed 180° [air operated]/ coil reversed 180° [with solenoid valve] Mounting plate/coil reversed 180° [with solenoid valve]		●	●	
Refer to the next page for the layout drawing.					
<b>H Voltage</b>					
1	100 VAC(50/60 Hz) 110 VAC(60 Hz)			●	
2	200 VAC(50/60 Hz) 220 VAC(60 Hz)			●	
3	24 VDC			●	

## Item ③ Assembly direction

CVSE2 [With solenoid valve] *9					
Code	Blank (standard)	X *10	Y *10	Z *10	R *10
Direction	No rotation	Cylinder cover rotated 90°	Cylinder cover rotated 180°	Cylinder cover rotated 270°	Coil reversed
Layout					

CVSE2 [With solenoid valve] *3/9					
Code	B (with mounting plate)	B-X	B-Y *11	B-Z *11	B-R *12
Direction	No rotation	Cylinder cover rotated 90°	Cylinder cover rotated 180° Mounting plate reversed	Cylinder cover rotated 270° Mounting plate reversed	Coil reversed Mounting plate reversed
Layout					

CVE2 [Air operated] *3/9		
Code	B (with mounting plate)	B-R *13
Direction	No rotation	Mounting plate reversed
Layout		

⇨ shows flow path direction and ◀ shows pilot port IN.

\*9 : Clockwise angle when viewed from above with the IN port on the right.

\*10 : Not available for port size 65F/80F.

\*11 : The mounting plate will be reversed 180° and attached.

\*12 : The mounting plate for port size 10A is installed at the bottom, so only the coil position is reversed.

\*13 : Not available for port size 10A.

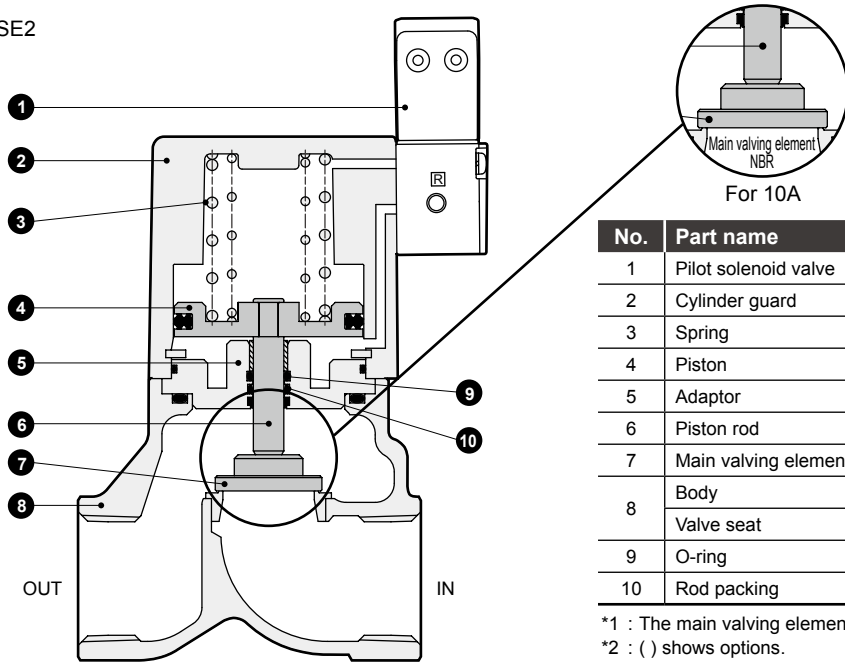
EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/ AD
APK/ ADK
DryAir
EX- XPLNprf
XPLNprf
HVB/ HVL
S◇B/ NAB
LAD/ NAD
Water- Rela
NP/NAP/ NVP
SNP
CHB/G
MXB/G
Other valves
SWD/ MWD
DustColl
<b>CVE/ CVSE</b>
CCH/ CPE/D
LifeSci
Gas- Combus
Auto- Water
SpecFld
Custom
Ending

# CVSE2-05/10 Series

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

## Internal structure and parts list

● CVSE2



No.	Part name	Material	
1	Pilot solenoid valve	-	
2	Cylinder guard	ADC12	Aluminum die-casting
3	Spring	SWP	Piano wire
4	Piston	A2017	Aluminum
5	Adaptor	SUS303	Stainless steel
6	Piston rod	SUS304	Stainless steel
7	Main valving element	SUS420J2	Stainless steel*1
8	Body	FCD450	Cast iron (plating)
	Valve seat	SUS420J2	Stainless steel
9	O-ring	NBR(FKM)	Nitrile rubber *2 (Fluoro rubber)*2
10	Rod packing	NBR(FKM)	Nitrile rubber *2 (Fluoro rubber)*2

\*1 : The main valving element material of 10A is NBR or FKM.

\*2 : ( ) shows options.

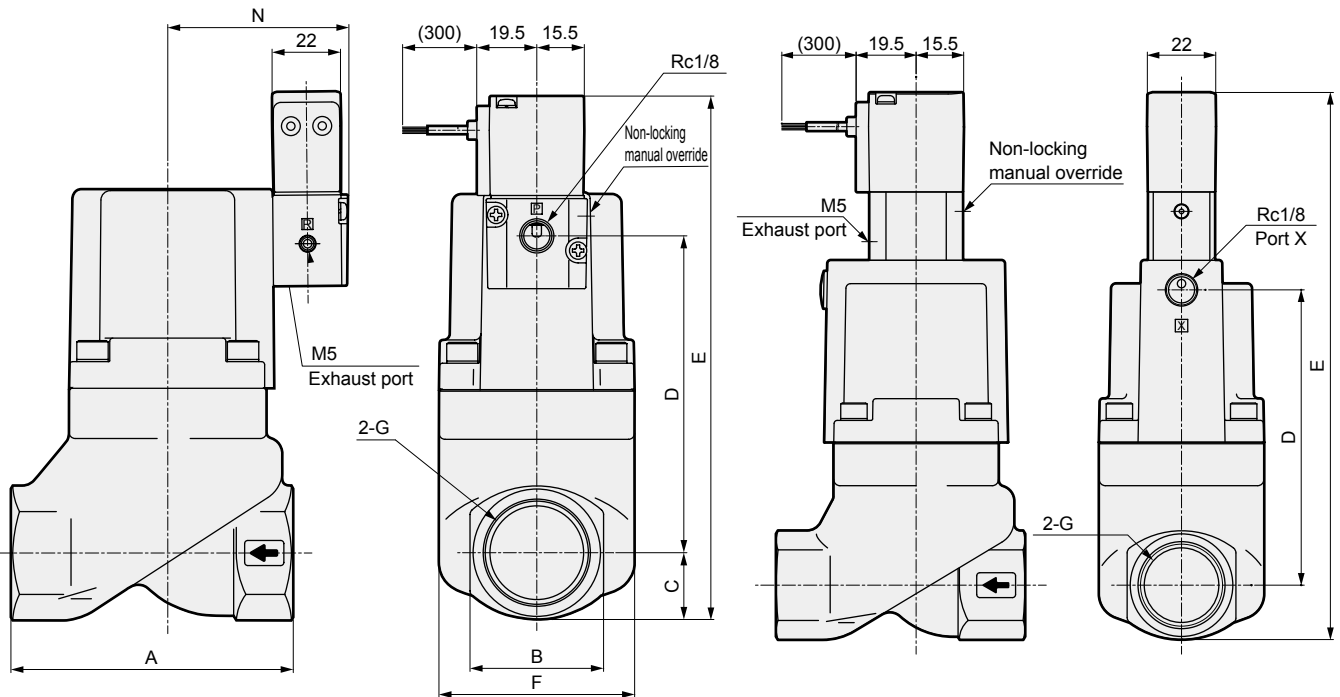
\*3 : The internal structure shown is of 15A to 50A.  
For 10A, 65F and 80F, contact CKD separately.

## Dimensions



● CVSE2/CVSE22-10A to 50A-05/10-\*2C  
(Rc screw-in)

● CVSE2/CVSE22-15A to 25A-05/10-\*2CT  
(Solenoid valve mounted on the top)



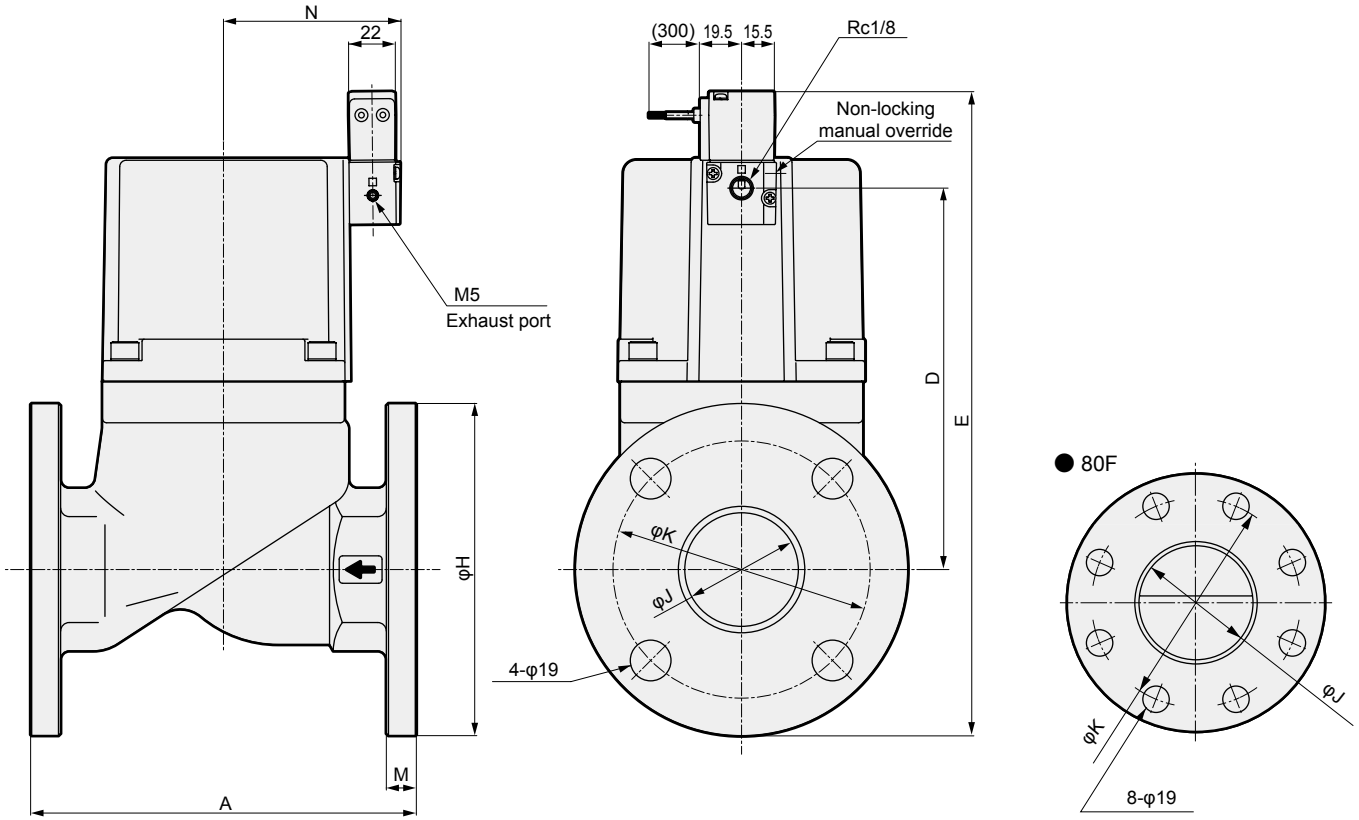
\* The figure shows the unit with no assembly direction option selected.

Model No.	A	B	C	D	E	F	G	N
CVSE*-10A-05/10-*2C	50	24	12	47.5	104.5	32	Rc3/8	48.5
CVSE*-15A-05/10-*2C	71	29	14.5	71.5	131	43	Rc1/2	49.5
CVSE*-20A-05/10-*2C	80	35	17.5	83.5	146	53	Rc3/4	53
CVSE*-25A-05/10-*2C	90	43	21.5	102	168.5	63	Rc1	57.5
CVSE*-32A-05/10-*2C	125	55	27.5	130.5	203	77	Rc1 1/4	64.5
CVSE*-40A-05/10-*2C	140	61	30.5	156.5	232	95	Rc1 1/2	72.5
CVSE*-50A-05/10-*2C	160	76	38	178	261	113	Rc2	82.5

Model No.	D	E
CVSE2*-15A-05/10-*2CT	83	161
CVSE2*-20A-05/10-*2CT	95	176
CVSE2*-25A-05/10-*2CT	113	198

## Dimensions

● CVSE2/CVSE22-32F to 80F-05/10-\*2C (flange)



\* The figure shows the unit with no assembly direction option selected.

Model No.	A	D	E	H	J	K	M	N
CVSE*-32F-05/10-*2C	170	130.5	243	135	35	100	12	64.5
CVSE*-40F-05/10-*2C	180	156.5	271.5	140	41	105	12	72.5
CVSE*-50F-05/10-*2C	180	178	300.5	155	53	120	14	82.5
CVSE*-65F-05/10-*2C	210	203	347.5	175	68	140	16	113
CVSE*-80F-05/10-*2C	240	218	367.5	185	82	150	16	123

## Optional dimensions

Refer to pages 818 and 819 for coil options and mounting plates.

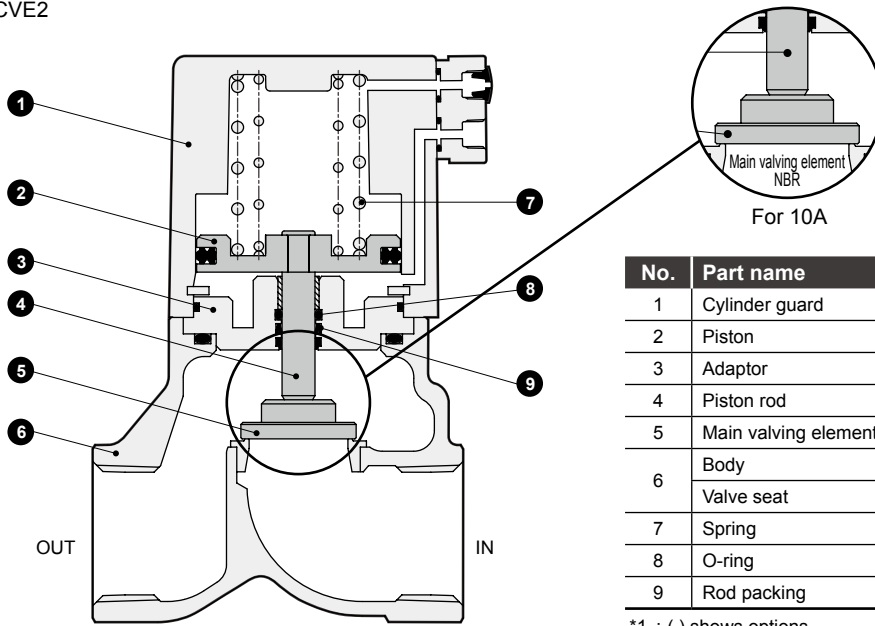
EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/ AD
APK/ ADK
DryAir
EX- XPLNprf
XPLNprf
HVB/ HVL
S $\Delta$ B/ NAB
LAD/ NAD
Water- Rela
NP/NAP/ NVP
SNP
CHB/G
MXB/G
Other valves
SWD/ MWD
DustColl
<b>CVE/ CVSE</b>
CCH / CPE/D
LifeSci
Gas- Combus
Auto- Water
SpecFld
Custom
Ending

# CVE2-05/10 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 $\nabla$ B/  
NAB  
LAD/  
NAD  
Water-  
Rela  
NP/NAP/  
NVP  
SNP  
CHB/G  
MXB/G  
Other  
valves  
SWD/  
MWD  
DustColl  
CVE/  
CVSE  
CCH /  
CPE/D  
LifeSci  
Gas-  
Combus  
Auto-  
Water  
SpecFld  
Custom  
Ending

## Internal structure and parts list

### ● CVE2



No.	Part name	Material	
1	Cylinder guard	ADC12	Aluminum die-casting
2	Piston	A2017	Aluminum
3	Adaptor	SUS303	Stainless steel
4	Piston rod	SUS304	Stainless steel
5	Main valving element	SUS420J2	Stainless steel
6	Body	FCD450	Cast iron (plating)
	Valve seat	SUS420J2	Stainless steel
7	Spring	SWP	Piano wire
8	O-ring	NBR(FKM)	Nitrile rubber (fluoro rubber)
9	Rod packing	NBR(FKM)	Nitrile rubber (fluoro rubber)

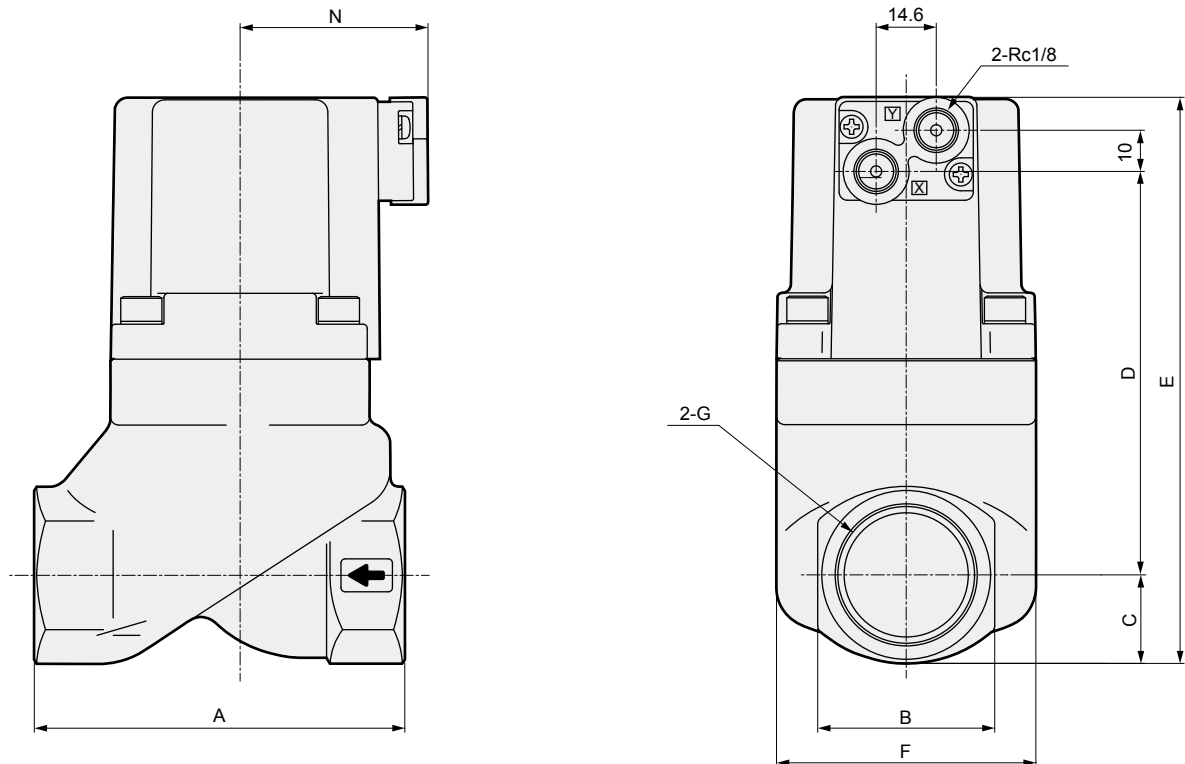
\*1 : ( ) shows options.

\*2 : The internal structure shown is of 15A to 50A.  
For 10A, 65F and 80F, contact CKD separately.

## Dimensions



### ● CVE2/CVE22-10A to 50A-05/10-\*\* (Rc screw-in)

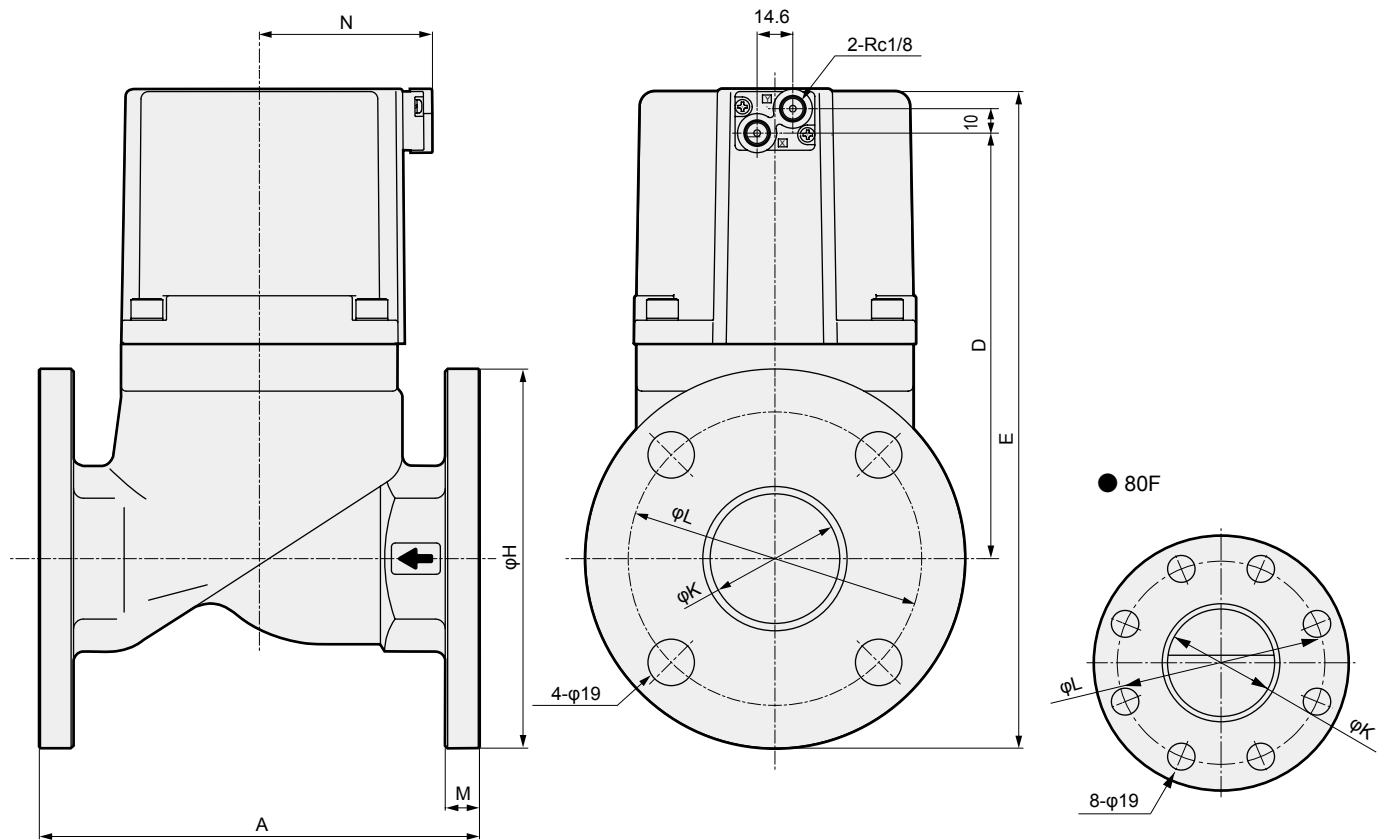


\* Pilot pressurization port is port X for the NC and port Y for the NO.

Model No.	A	B	C	D	E	F	G	N
CVE*-10A-05/10-*	50	24	12	43.5	73.5	32	Rc3/8	37
CVE*-15A-05/10-*	71	29	14.5	67.5	100	43	Rc1/2	38
CVE*-20A-05/10-*	80	35	17.5	79.5	115	53	Rc3/4	41.5
CVE*-25A-05/10-*	90	43	21.5	98	137.5	63	Rc1	46
CVE*-32A-05/10-*	125	55	27.5	126.5	172	77	Rc1 $\frac{1}{4}$	53
CVE*-40A-05/10-*	140	61	30.5	152.5	201	95	Rc1 $\frac{1}{2}$	61
CVE*-50A-05/10-*	160	76	38	174	230	113	Rc2	71

## Dimensions

● CVE2/CVE22-32F to 80F-05/10-\*\* (flange)



Model No.	A	D	E	H	K	L	M	N
CVE*-32F-05/10-*	170	126.5	212	135	35	100	12	53
CVE*-40F-05/10-*	180	152.5	240.5	140	41	105	12	61
CVE*-50F-05/10-*	180	174	269.5	155	53	120	14	71
CVE*-65F-05/10-*	210	199	347.5	175	68	140	16	101
CVE*-80F-05/10-*	240	214	367.5	185	82	150	16	111

## Optional dimensions

Refer to page 818 for mounting plates.

- 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 $\nabla$ B/  
NAB
- LAD/  
NAD
- Water-  
Rela
- NP/NAP/  
NVP
- SNP
- CHB/G
- MXB/G
- Other  
valves
- SWD/  
MWD
- DustColl
- CVE/  
CVSE**
- CCH/  
CPE/D
- LifeSci
- Gas-  
Combus
- Auto-  
Water
- SpecFld
- Custom
- Ending

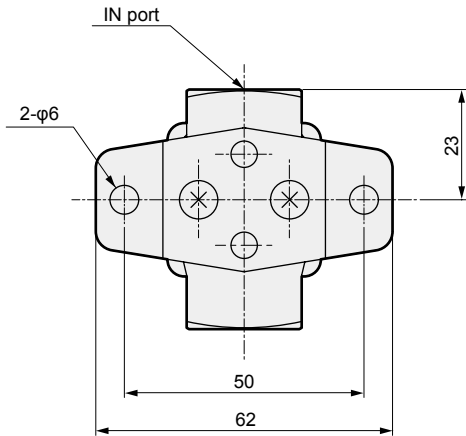
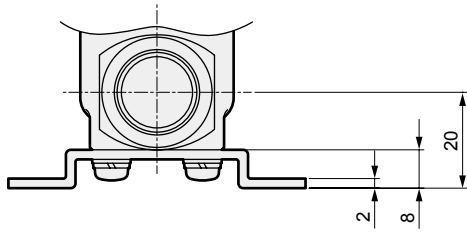


# CVE2/CVSE2-05/10 Series

## Optional dimensions

- 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 $\Delta$ B/  
NAB
- LAD/  
NAD
- Water-  
Rela
- NP/NAP/  
NVP
- SNP
- CHB/G
- MXB/G
- Other valves
- SWD/  
MWD
- DustColl
- CVE/  
CVSE**
- CCH /  
CPE/D
- LifeSci
- Gas-  
Combus
- Auto-  
Water
- SpecFld
- Custom
- Ending

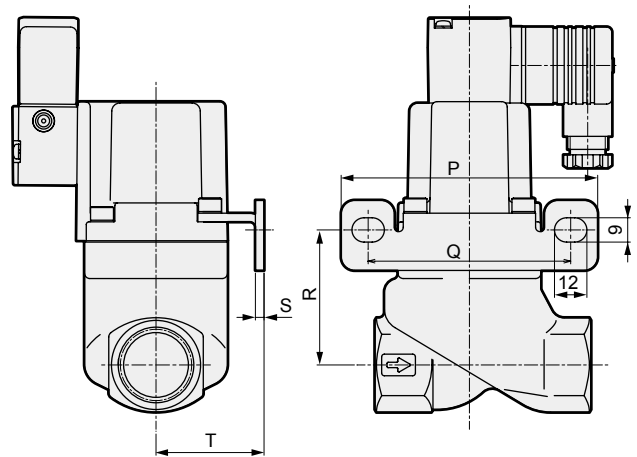
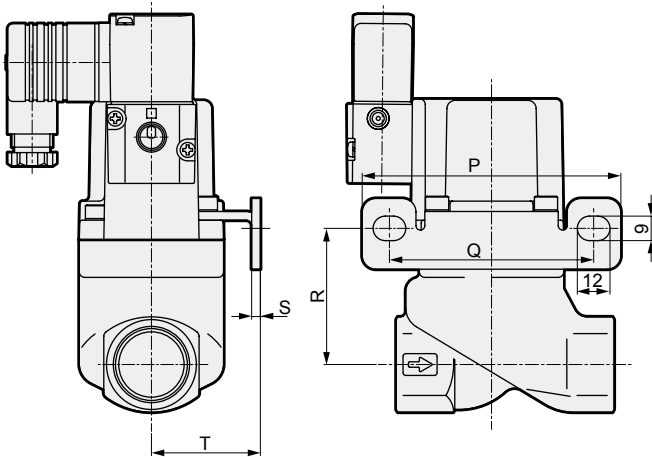
- Mounting plate  
CVE2/CVE22 -10A-05/10-\*\***[B]**  
CVSE2/CVSE22
- Material: Steel  
Zinc plated



\* Use the body mounting screws if fixing without a mounting plate.  
(thread size: M4 depth 7)

- Mounting plate  
CVE2/CVE22 -15A/20A/25A-05/10-\*\***[B]/[B-R]/[B-Y]**  
CVSE2/CVSE22

- Mounting plate  
CVE2/CVE22 -15A/20A/25A-05/10-\*\***[B-X]/[B-Z]**  
CVSE2/CVSE22



\* The figure shows **[B]**.

\* The figure shows **[B-X]**.

Material: Steel  
Zinc plated

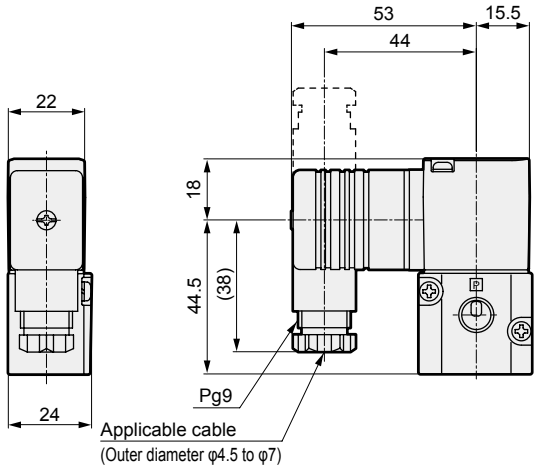
Model No.	P	Q	R	S	T
CV*E2*-15A-05/10-**B	90	70	45	2.3	30
CV*E2*-20A-05/10-**B	95	75	50	3.2	40
CV*E2*-25A-05/10-**B	105	85	55	3.2	45

## Optional dimensions

- With DIN terminal box (Pg9)

DIN terminal box with lamp (Pg9)

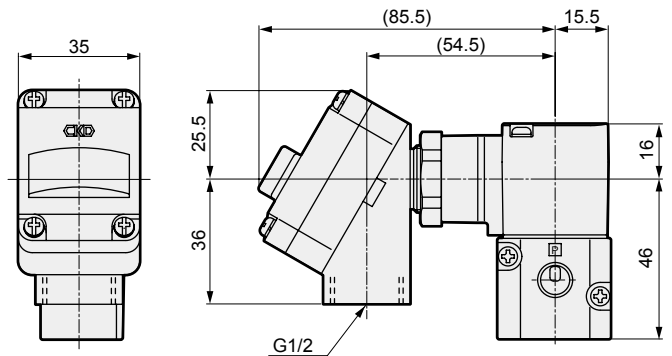
CVSE2/CVSE22\*-05/10-\* 2G  
2H



- With T type terminal box (G1/2)

T type terminal box with lamp (G1/2)

CVSE2/CVSE22\*-05/10-\* 3T  
3R

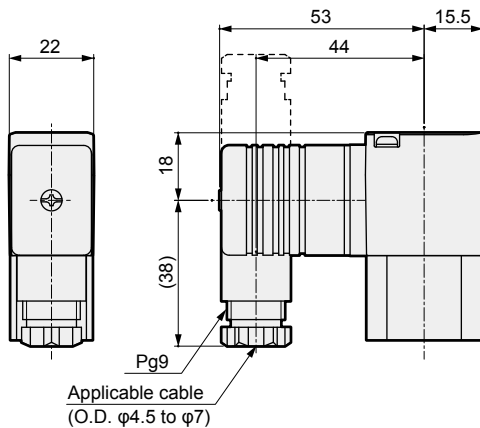


## Optional dimensions: Top mounted solenoid valve

- DIN terminal box (Pg 9)

DIN terminal box with lamp (Pg 9)

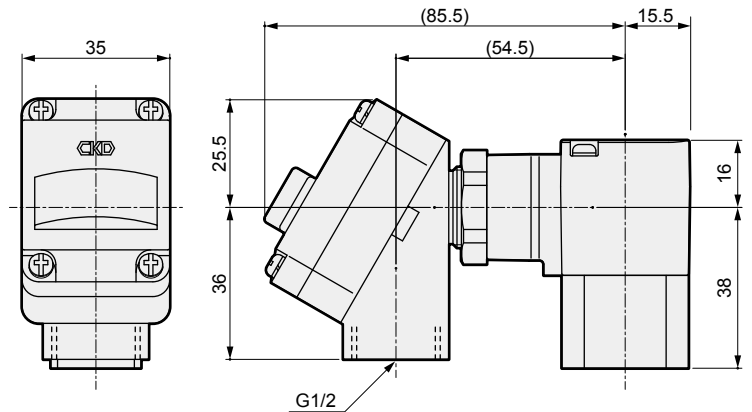
CVSE2/CVSE22\*-05/10/16/30-\* 2G T  
2H



- T type terminal box (G1/2)

T type terminal box with lamp (G1/2)

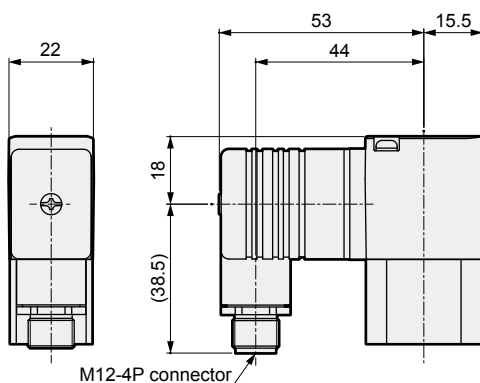
CVSE2/CVSE22\*-05/10/16/30-\* 3T T  
3R



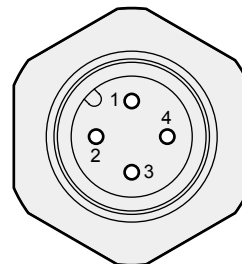
- DIN terminal box (M12-4P connector)

DIN terminal box with lamp/surge suppressor (M12-4P connector)

CVSE2/CVSE22\*-05/10/16/30-\* 2J T  
2KS



Connector pin array



PIN No.	Applications
1PIN	Ground
2PIN	(Not used)
3PIN	Power supply -
4PIN	Power supply +

\* As it is a screw-in, the connector pin positions may not be the same as those shown above.

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
SΔB/ NAB
LAD/ NAD
Water- Rela
NP/NAP/ NVP
SNP
CHB/G
MXB/G
Other valves
SWD/ MWD
DustColl
<b>CVE/ CVSE</b>
CCH / CPE/D
LifeSci
Gas- Combus
Auto- Water
SpecFld
Custom
Ending



Air operated 2-port valve for medium pressure  
(coolant valve)

# CVSE2/CVSE22-16/30 Series

# CVE2/CVE22-16/30 Series

- NC, NO
- Port size: Rc3/8 to Rc1
- Medium pressure 1.6 MPa, 3.0 MPa

Refer to the Ending for details.

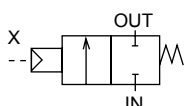


- EXA
- FWD
- HNB/G
- USB/G
- FAB/G
- FGB/G
- FVB
- FWB/G
- FHB
- FLB
- AB
- AG
- AP/AD
- APK/ADK
- DryAir
- EX-XPLNprf
- XPLNprf
- HVB/HVL
- SAB/NAB
- LAD/NAD
- Water-Rela
- NP/NAP/NVP
- SNP
- CHB/G
- MXB/G
- Other valves
- SWD/MWD
- DustColl
- CVE/CVSE
- CCH/CPE/D
- LifeSci
- Gas-Combus
- Auto-Water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

## JIS symbol

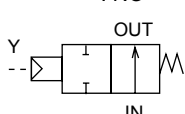
- CVE2 (air operated)

: NC



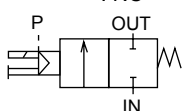
- CVE22 (air operated)

: NO



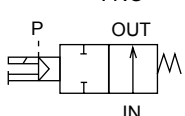
- CVSE2 (with solenoid valve)

: NC



- CVSE22 (with solenoid valve)

: NO



## Common specifications for 1.6 MPa

Model No.	CVE2/CVSE2	CVE22/CVSE22
Actuation	NC	NO
Working fluid	Coolant/other non-corrosive liquids (*1)	
Fluid viscosity mm <sup>2</sup> /s	500 or less	
Working pressure MPa	0 (≈0 psi, 0 bar) to 1.6 (≈230 psi, 16 bar)	
Proof pressure (water pressure) MPa	6.0 (≈870 psi, 60 bar)	
Fluid temperature °C	-10 (14°F) to 60 (140°F) (no freezing)	
Ambient temperature °C	-10 (14°F) to 60 (140°F)	
Valve seat leakage cm <sup>3</sup> /min	20 or less (water pressure)	
Mounting orientation	Unrestricted	
Pilot fluid	Air	
Pilot pressure MPa	0.25 (≈36 psi, 2.5 bar) to 0.7 (≈100 psi, 7 bar)	

\*1 : Fluids that do not affect cast iron (nickel plating), stainless steel, steel, nitrile rubber or fluoro rubber

## Electrical specification (with solenoid valve/common specifications)

Rated voltage	(*2)	100 VAC (50/60 Hz) / 110 VAC (60 Hz), 200 VAC (50/60 Hz) / 220 VAC (60 Hz), 24 VDC
Apparent power (VA)	When holding	3.6(50 Hz), 2.8(60 Hz)
	When starting	11(50 Hz), 9(60 Hz)
Power consumption (W)	AC	1.9(50 Hz), 1.5(60 Hz)
	DC	2.0
Thermal class	Class 130 (B)	
Degree of protection (IEC standards 529)	With DIN terminal box (Pg9)	IPX5
	DIN terminal box (M12-4P connector)	IPX5
	With T type terminal box (G1/2)	IPX5

\*2 : The voltage fluctuation range must be within ±10% of the rated voltage.

## Individual specifications for 1.6 MPa

Descriptions	Port size	Orifice size (mm)	Cv	Pilot port size	Weight (kg)	
					CVE2(2)	CVSE2(2)
Model No.						
CVE2 (2)/CVSE2 (2) -10A-16	Rc3/8	10.5	3.6	Rc1/8	0.9	1.0
CVE2 (2)/CVSE2 (2) -15A-16	Rc1/2	10.5	4.6		0.9	1.0
CVE2 (2)/CVSE2 (2) -20A-16	Rc3/4	14.5	7		1.3	1.4
CVE2 (2)/CVSE2 (2) -25A-16	Rc1	18.5	11.5		2.2	2.3

## Common specifications for 3.0 MPa

Model No.	CVE2/CVSE2	CVE22/CVSE22
Actuation	NC	NO
Working fluid	Coolant/other non-corrosive liquids (*1)	
Fluid viscosity mm <sup>2</sup> /s	500 or less	
Working pressure MPa	0 (≈0 psi, 0 bar) to 3.0 (≈440 psi, 30 bar)	
Proof pressure (water pressure) MPa	6.0 (≈870 psi, 60 bar)	
Fluid temperature °C	-10 (14°F) to 60 (140°F) (no freezing)	
Ambient temperature °C	-10 (14°F) to 60 (140°F)	
Valve seat leakage cm <sup>3</sup> /min	20 or less (water pressure)	
Mounting orientation	Unrestricted	
Pilot fluid	Air	
Pilot pressure MPa	0.25 (≈36 psi, 2.5 bar) to 0.7 (≈100 psi, 7 bar)	

\*1 : Fluids that do not affect cast iron (nickel plating), stainless steel, steel, nitrile rubber or fluoro rubber

### Electrical specification (with solenoid valve/common specifications)

Rated voltage (*2)	100 VAC (50/60 Hz) / 110 VAC (60 Hz), 200 VAC (50/60 Hz) / 220 VAC (60 Hz), 24 VDC	
Apparent power (VA)	When holding	3.6(50 Hz), 2.8(60 Hz)
	When starting	11(50 Hz), 9(60 Hz)
Power consumption (W)	AC	1.9(50 Hz), 1.5(60 Hz)
	DC	2.0
Thermal class	B	
Degree of protection (IEC standards 529)	With DIN terminal box (Pg9)	IPX5
	DIN terminal box (M12-4P connector)	IPX5
	With T type terminal box (G1/2)	IPX5

\*2 : The voltage fluctuation range must be within ±10% of the rated voltage.

## Individual specifications for 3.0 MPa

Descriptions Model No.	Port size	Orifice size (mm)	Cv	Pilot port size	Weight (kg)	
					CVE2(2)	CVSE2(2)
CVE2 (2)/CVSE2 (2) -10A-30	Rc3/8	8	2.6	Rc1/8	0.9	1.0
CVE2 (2)/CVSE2 (2) -15A-30	Rc1/2	10.5	4.2		1.3	1.4
CVE2 (2)/CVSE2 (2) -20A-30	Rc3/4	14	7.5		2.2	2.3
CVE2 (2)/CVSE2 (2) -25A-30	Rc1	18.5	11		3.4	3.5

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

# CVE2/CVSE2-16/30 Series

## How to order

● Air operated

**CVE2** **2** - **20A** - **30** - **0**      **B** - **○**

● With solenoid valve

**CVSE2** **2** - **15A** - **16** - **0** **2G** **S** - **○** - **1**

**A** Actuation

**B** Port size

**C** Working pressure

**D** Body/sealant combination

**E** Coil

\*1

\*2

**F** Other options

\*3

\*4

\*5

\*6

\*7

\*8

**G** Assembly direction

\*8

**H** Voltage

Model No.	
Air operated (2-port)	CVE2
With solenoid valve (2-port)	CVSE2

[Example of model No.]

**CVSE22-15A-16-02GS-1**

Model: CVSE2 : With solenoid valve (2-port)

**A** Actuation : NO

**B** Port size : Rc1/2

**C** Working pressure : 0 to 1.6 MPa

**D** Body/sealant combination

**E** Coil : With DIN terminal box (Pg9)

**F** Other options : With surge suppressor

**G** Assembly direction: No option

**H** Voltage : 100 VAC(50/60 Hz), 110 VAC(60 Hz)

\*1 : Surge suppressor is not available for Item **E** 2J.

\*2 : Item **E** 2K is available only for the type with surge suppressor and should be specified as 2KS.

\*3 : Mounting plate (Item **F** B) cannot be attached if the combination of Item **B** and Item **C** codes is 20A-30, 25A-16, or 25A-30.

\*4 : Top mounted solenoid valve (Item **F** T) is not available if the combination of Item **B** and Item **C** codes is 20A-30, 25A-16, or 25A-30.

\*5 : To add both the surge suppressor and mounting plate options, specify Item **F** as SB. For a solenoid valve mounted on top, indicate as STB.

\*6 : The surge suppressor is mounted in the terminal box.

\*7 : A manual override (non-locking) is provided as standard for the solenoid valve mounted.

\*8 : Assembly direction option cannot be selected for the type with top mounted solenoid valve (Item **F** T).

Model No.

CVE2 CVSE2

Code	Content	CVE2	CVSE2
<b>A Actuation</b>			
Blank	NC	●	●
2	NO	●	●
<b>B Port size</b>			
10A	Rc3/8	●	●
15A	Rc1/2	●	●
20A	Rc3/4	●	●
25A	Rc1	●	●
<b>C Working pressure</b>			
16	0 to 1.6 MPa	●	●
30	0 to 3.0 MPa	●	●
<b>D Body/sealant combination</b>			
		<b>Body</b>	<b>Seal</b>
0	Standard	Cast iron (plating)	Nitrile rubber
B	Option	Cast iron (plating)	Fluoro rubber
<b>E Coil</b>			
2G	With DIN terminal box (Pg9)		●
2H	DIN terminal box with lamp (Pg9)		●
2J	DIN terminal box (M12-4P connector)		●
2K	DIN terminal box with lamp (M12-4P connector)		●
3T	With T type terminal box (G1/2)		●
3R	T type terminal box with lamp (G1/2)		●
<b>F Other options</b>			
Blank	No option	●	●
S	With surge suppressor		●
T	Top mounted solenoid valve		●
B	Mounting plate	●	●
<b>G Assembly direction</b>			
Blank	No option	●	●
X	Cylinder cover rotated 90°		●
Y	Cylinder cover rotated 180°		●
Z	Cylinder cover rotated 270°		●
R	Mounting plate reversed 180° [air operated]		
	Coil reversed 180° [with solenoid valve]	●	●
	Mounting plate/coil reversed 180° [with solenoid valve]		
Refer to the next page for the layout drawing.			
<b>H Voltage</b>			
1	100 VAC(50/60 Hz) 110 VAC(60 Hz)		●
2	200 VAC(50/60 Hz) 220 VAC(60 Hz)		●
3	24 VDC		●

## Item ③ Assembly direction

CVSE2 [With solenoid valve] *9					
Code	Blank (standard)	X	Y	Z	R
Direction	No rotation	Cylinder cover rotated 90°	Cylinder cover rotated 180°	Cylinder cover rotated 270°	Coil reversed
Layout					

CVSE2 [With solenoid valve] *3/9					
Code	B (with mounting plate)	B-X	B-Y *10	B-Z *10	B-R
Direction	No rotation	Cylinder cover rotated 90°	Cylinder cover rotated 180° Mounting plate reversed	Cylinder cover rotated 270° Mounting plate reversed	Coil reversed Mounting plate reversed
Layout					

CVE2 [Air operated] *3/9		
Code	B (with mounting plate)	B-R
Direction	No rotation	Mounting plate reversed
Layout		

⇐ shows flow path direction and ← shows pilot port IN.

\*9 : Clockwise angle when viewed from above with the IN port on the right.

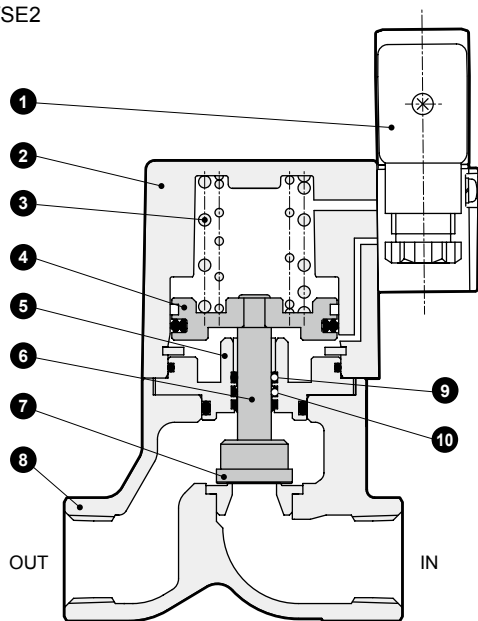
\*10 : The mounting plate will be reversed 180° and attached.

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
<b>CVE/ CVSE</b>
CCH / CPE/D
LifeSci
Gas- Combus
Auto- Water
SpecFld
Custom
Ending

# CVSE2-16/30 Series

## Internal structure and parts list

● CVSE2



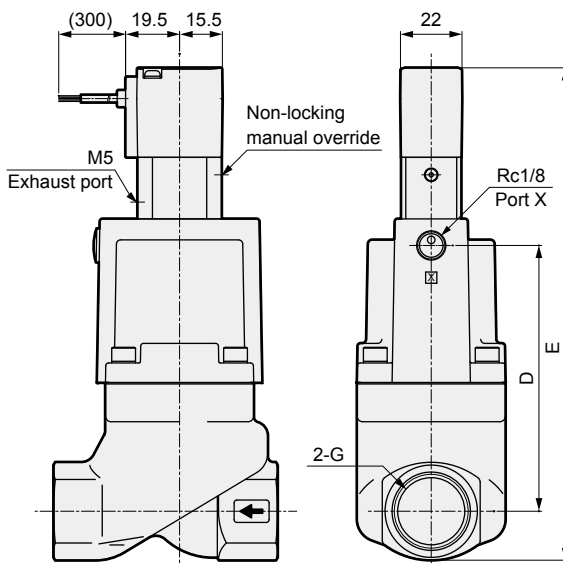
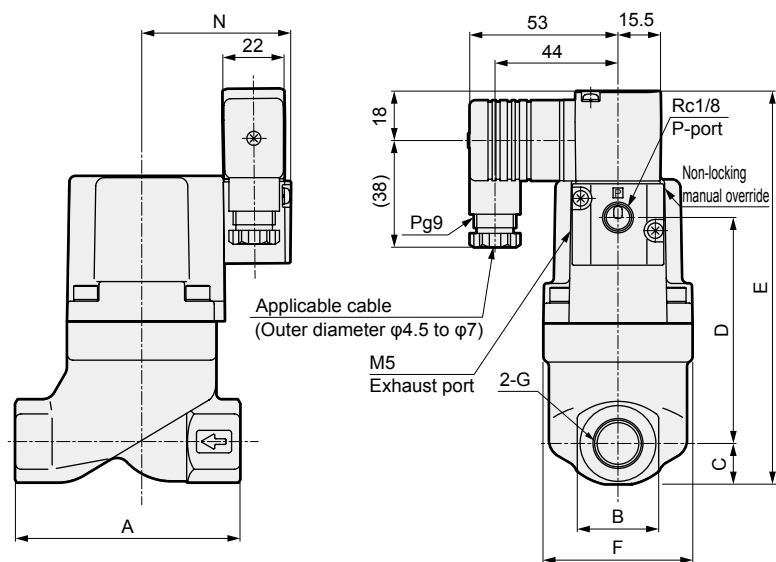
No.	Part name	Material	
1	Pilot solenoid valve	-	
2	Cylinder guard	ADC12	Aluminum die-casting
3	Spring	SWP	Piano wire
4	Piston	A2017	Aluminum
5	Adaptor	SUS303	Stainless steel
6	Piston rod	SUS304	Stainless steel
7	Main valving element	SUS420J2	Stainless steel
8	Body	FCD450	Cast iron (plating)
	Valve seat	SUS420J2	Stainless steel
9	O-ring	NBR(FKM)	Nitrile rubber (Fluoro rubber)
10	Rod packing	NBR(FKM)	Nitrile rubber (Fluoro rubber)

## Dimensions



● With DIN terminal box (Pg9)  
CVSE2/CVSE22-10A to 25A-16/30\*2G

● CVSE2/CVSE22-10A to 20A-16-\*\*\*T  
● CVSE2/CVSE22-10A to 15A-30-\*\*\*T



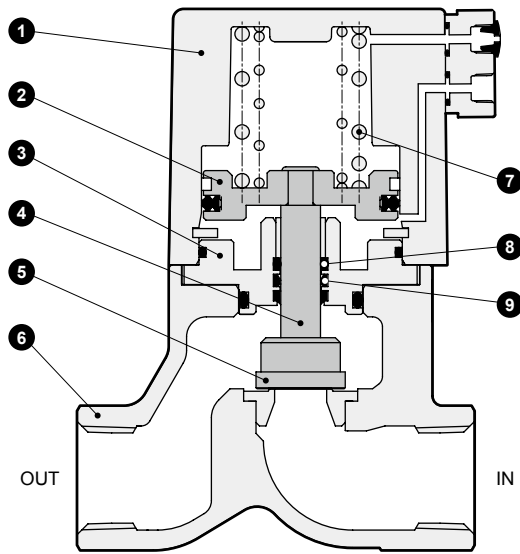
\* The figure shows the unit with no assembly direction option selected.

Model No.	A	B	C	D	E	F	G	N
CVSE2*-10A-16*2G	80	29	14.5	80.5	140	53	Rc3/8	53
CVSE2*-15A-16*2G	80	29	14.5	80.5	140	53	Rc1/2	53
CVSE2*-20A-16*2G	90	35	17.5	100.5	163	63	Rc3/4	57.5
CVSE2*-25A-16*2G	90	43	21.5	120	186.5	77	Rc1	64.5
CVSE2*-10A-30*2G	80	29	14.5	80.5	140	53	Rc3/8	53
CVSE2*-15A-30*2G	90	35	17.5	100.5	163	63	Rc1/2	57.5
CVSE2*-20A-30*2G	90	43	21.5	120	186.5	77	Rc3/4	64.5
CVSE2*-25A-30*2G	90	43	21.5	145.5	212	95	Rc1	72.5

Model No.	D	E
CVSE2*-10A-16-***T	92	170
CVSE2*-15A-16-***T	92	170
CVSE2*-20A-16-***T	111.5	192.5
CVSE2*-10A-30-***T	92	170
CVSE2*-15A-30-***T	111.5	192.5

## Internal structure and parts list

### ● CVE2

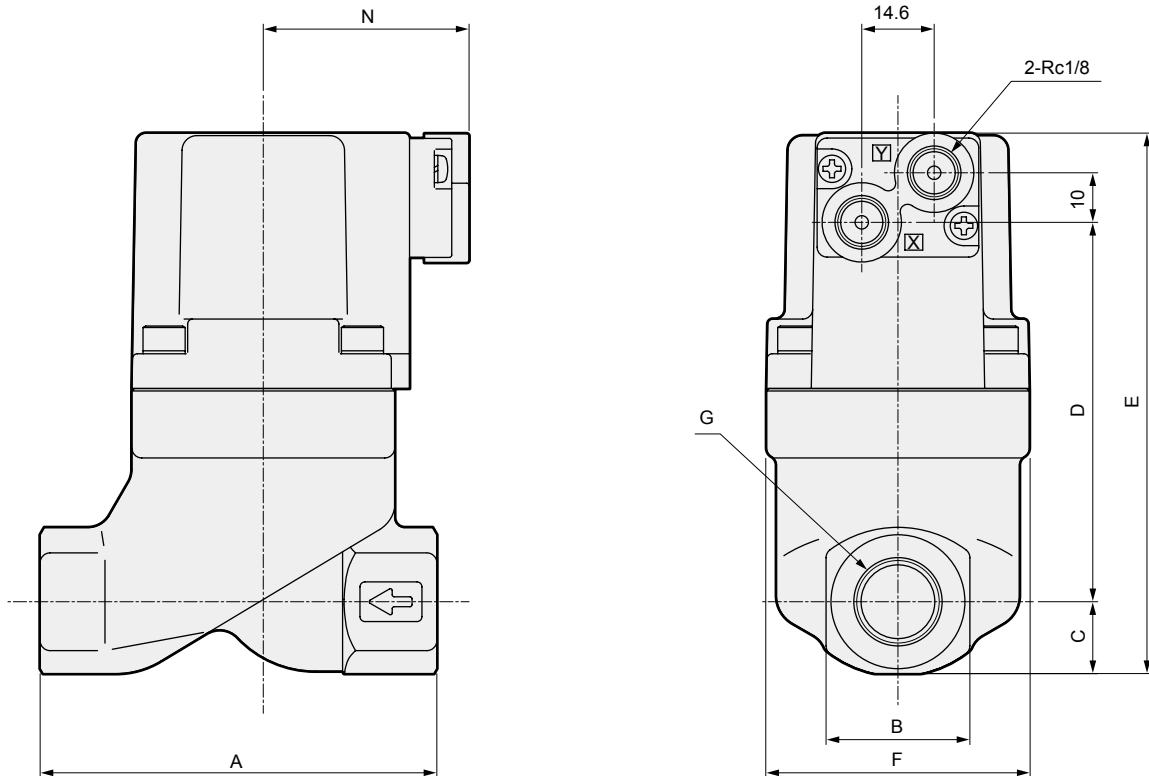


No.	Part name	Material	
1	Cylinder guard	ADC12	Aluminum die-casting
2	Piston	A2017	Aluminum
3	Adaptor	SUS303	Stainless steel
4	Piston rod	SUS304	Stainless steel
5	Main valving element	SUS420J2	Stainless steel
6	Body	FCD450	Cast iron (plating)
	Valve seat	SUS420J2	Stainless steel
7	Spring	SWP	Piano wire
8	O-ring	NBR(FKM)	Nitrile rubber (Fluoro rubber)
9	Rod packing	NBR(FKM)	Nitrile rubber (Fluoro rubber)

### Dimensions



### ● CVE2/CVE22-10A to 25A-16/30-\*\*



\* Pilot pressurization port is port X for the NC and port Y for the NO.

Model No.	A	B	C	D	E	F	G	N
CVE2*-10A-16-*	80	29	14.5	76.5	109	53	Rc3/8	41.5
CVE2*-15A-16-*	80	29	14.5	76.5	109	53	Rc1/2	41.5
CVE2*-20A-16-*	90	35	17.5	96.5	132	63	Rc3/4	46
CVE2*-25A-16-*	90	43	21.5	116	155.5	77	Rc1	53
CVE2*-10A-30-*	80	29	14.5	76.5	109	53	Rc3/8	41.5
CVE2*-15A-30-*	90	35	17.5	96.5	132	63	Rc1/2	46
CVE2*-20A-30-*	90	43	21.5	116	155.5	77	Rc3/4	53
CVE2*-25A-30-*	90	43	21.5	141.5	181	95	Rc1	61

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

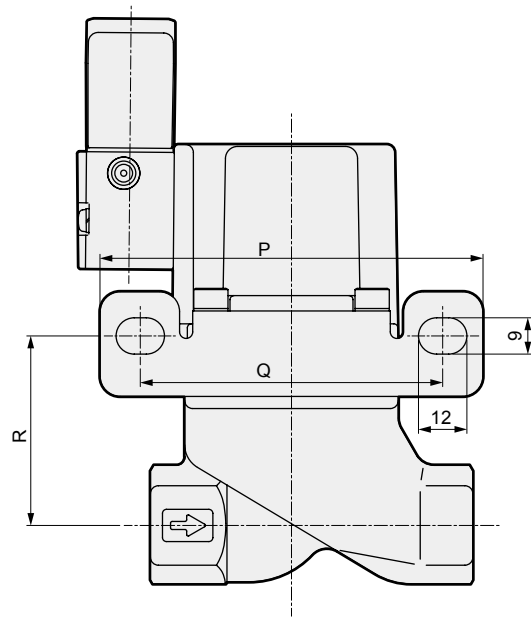
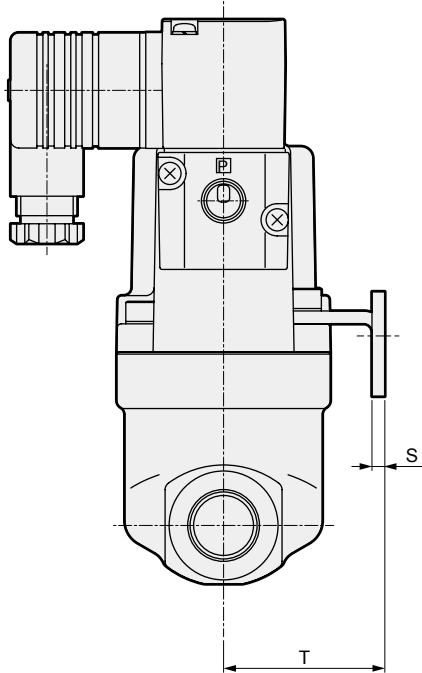


# CVE2/CVSE2-16/30 Series

## Optional dimensions

- Mounting plate  
 CVE2/CVE22 -10A to 20A-16/30-\*\* **B** / **B-R** / **B-Y**  
 CVSE2/CVSE22

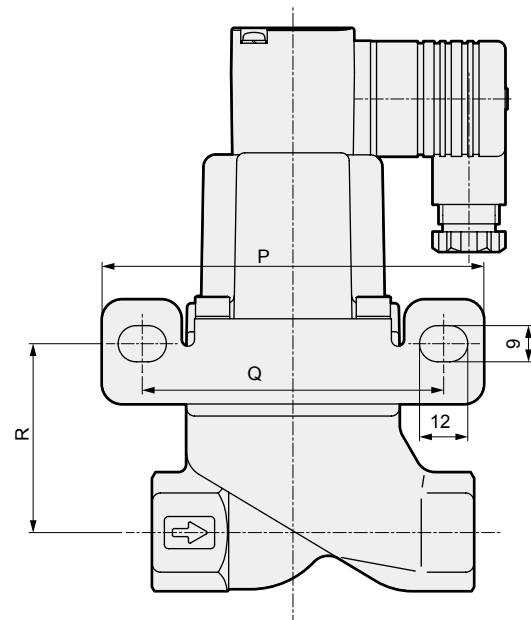
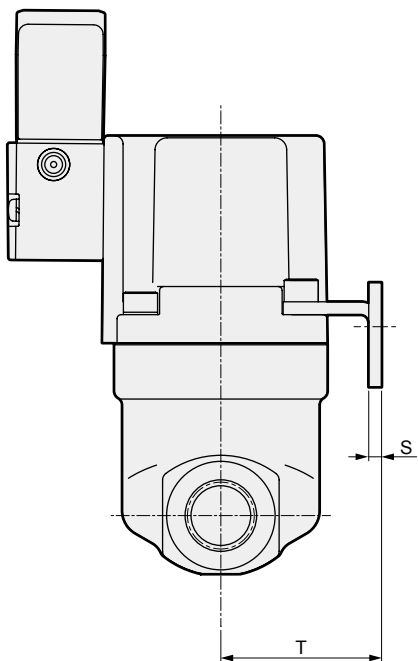
Material: Steel  
Zinc plated



\* The figure shows **B**.

- Mounting plate  
 CVE2/CVE22 -10A to 20A-16/30-\*\* **B-X** / **B-Z**  
 CVSE2/CVSE22

Material: Steel  
Zinc plated



\* The figure shows **B-X**.

Model No.	P	Q	R	S	T
CV*E2*-10A-16-*B	95	75	47	3.2	40
CV*E2*-15A-16-*B	95	75	47	3.2	40
CV*E2*-20A-16-*B	105	85	53.5	3.2	45
CV*E2*-10A-30-*B	95	75	47	3.2	40
CV*E2*-15A-30-*B	105	85	53.5	3.2	45

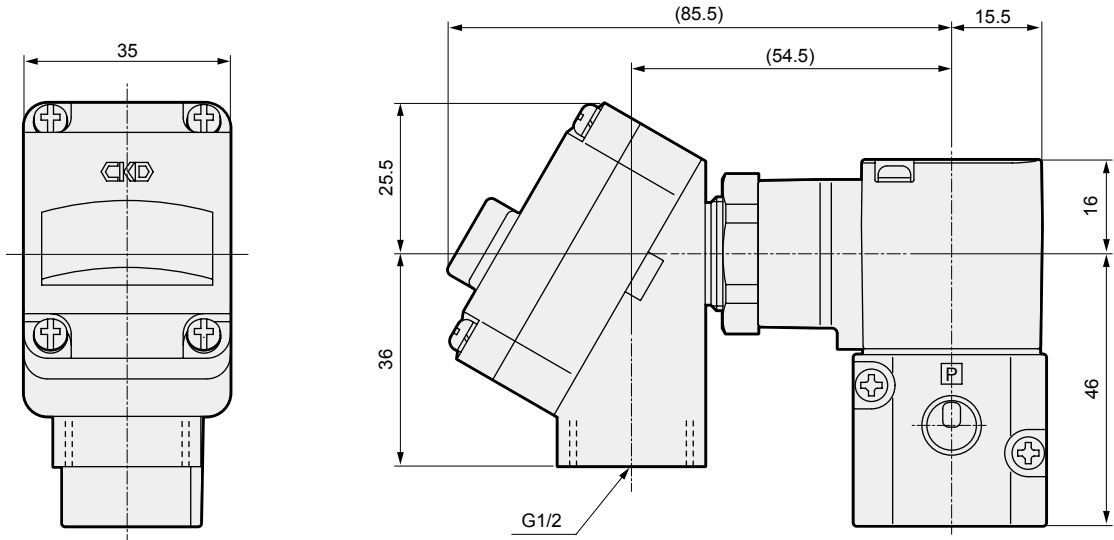
\* A mounting plate is provided only with the models listed above.

- 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 $\updownarrow$ B/  
NAB
- LAD/  
NAD
- Water-  
Rela
- NP/NAP/  
NVP
- SNP
- CHB/G
- MXB/G
- Other  
valves
- SWD/  
MWD
- DustColl
- CVE/  
CVSE**
- CCH /  
CPE/D
- LifeSci
- Gas-  
Combus
- Auto-  
Water
- SpecFld
- Custom
- Ending

### Optional dimensions

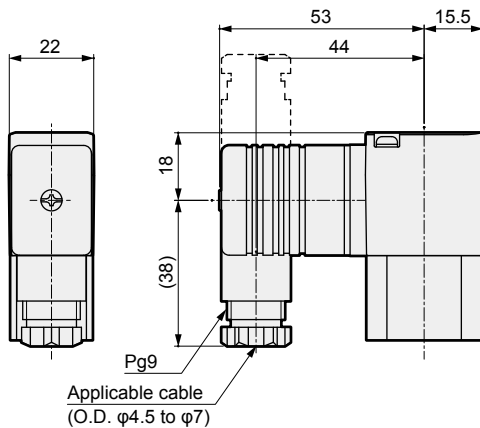


- With T type terminal box (G1/2)  
T type terminal box with lamp (G1/2)  
CVSE2/CVSE22\*-16/30-\* 3T  
3R

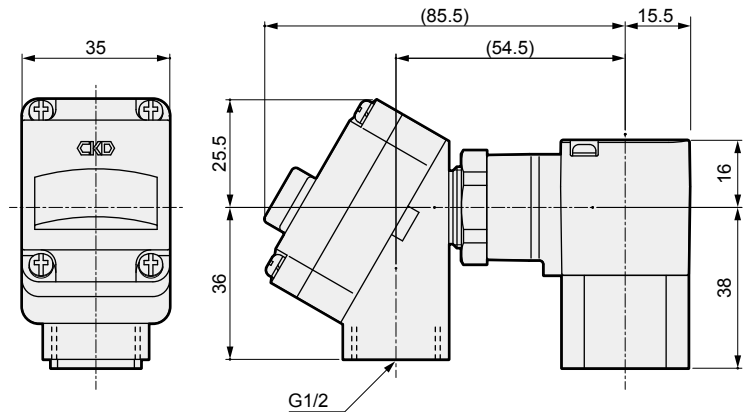


### Optional dimensions: Top mounted solenoid valve

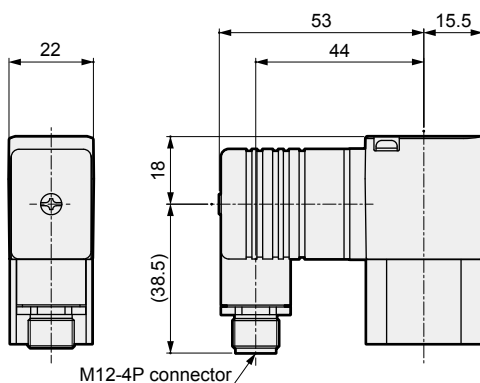
- DIN terminal box (Pg 9)  
DIN terminal box with lamp (Pg 9)  
CVSE2/CVSE22\*-05/10/16/30-\* 2G T  
2H



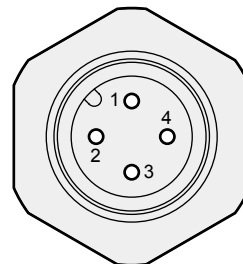
- T type terminal box (G1/2)  
T type terminal box with lamp (G1/2)  
CVSE2/CVSE22\*-05/10/16/30-\* 3T T  
3R



- DIN terminal box (M12-4P connector)  
DIN terminal box with lamp/surge suppressor (M12-4P connector)  
CVSE2/CVSE22\*-05/10/16/30-\* 2J T  
2KS



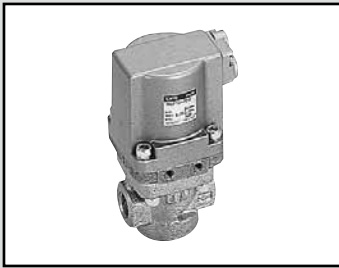
Connector pin array



PIN No.	Applications
1PIN	Ground
2PIN	(Not used)
3PIN	Power supply -
4PIN	Power supply +

\* As it is a screw-in, the connector pin positions may not be the same as those shown above.

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
SΔB/ NAB
LAD/ NAD
Water- Rela
NP/NAP/ NVP
SNP
CHB/G
MXB/G
Other valves
SWD/ MWD
DustColl
<b>CVE/ CVSE</b>
CCH / CPE/D
LifeSci
Gas- Combus
Auto- Water
SpecFld
Custom
Ending



Air operated 2-port valve for high pressure  
(coolant valve)

# CVSE2/CVSE22-70 Series CVE2/CVE22-70 Series

- NC, NO
- Port size: Rc3/8 to Rc1
- High pressure 7.0 MPa

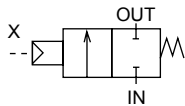
Refer to the Ending for details.



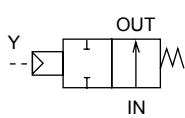
- EXA
- FWD
- HNB/G
- USB/G
- FAB/G
- FGB/G
- FVB
- FWB/G
- FHB
- FLB
- AB
- AG
- AP/AD
- APK/ADK
- DryAir
- EX-XPLNprf
- XPLNprf
- HVB/HVL
- SAB/NAB
- LAD/NAD
- Water-Rela
- NP/NAP/NVP
- SNP
- CHB/G
- MXB/G
- Other valves
- SWD/MWD
- DustColl
- CVE/CVSE
- CCH/CPE/D
- LifeSci
- Gas-Combus
- Auto-Water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

## JIS symbol

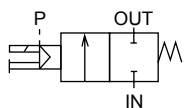
- CVE2 (air operated)  
: NC



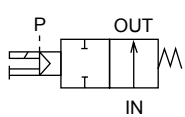
- CVE22 (air operated)  
: NO



- CVSE2 (with solenoid valve)  
: NC



- CVSE22 (with solenoid valve)  
: NO



## Common specifications

Model No.	CVE2/CVSE2	CVE22/CVSE22
Actuation	NC	NO
Working fluid	Coolant/other non-corrosive liquids (*1)	
Fluid viscosity mm <sup>2</sup> /s	500 or less	
Working pressure MPa	0 (≈0 psi, 0 bar) to 7.0 (≈1000 psi, 70 bar)	
Proof pressure (water pressure) MPa	14 (≈2000 psi, 140 bar)	
Fluid temperature °C	-10 (14°F) to 60 (140°F) (no freezing)	
Ambient temperature °C	-10 (14°F) to 60 (140°F)	
Valve seat leakage cm <sup>3</sup> /min	20 or less (water pressure)	
Mounting orientation	Unrestricted	
Pilot fluid	Air	
Pilot pressure MPa	0.25 (≈36 psi, 2.5 bar) to 0.7 (≈100 psi, 7 bar)	

\*1 : Fluids that do not affect cast iron (nickel plating), stainless steel, steel, nitrile rubber or fluoro rubber

## Electrical specification (with solenoid valve/common specifications)

Rated voltage (*2)	100 VAC (50/60 Hz) / 110 VAC (60 Hz), 200 VAC (50/60 Hz) / 220 VAC (60 Hz), 24 VDC	
Apparent power (VA)	When holding	3.6(50 Hz), 2.8(60 Hz)
	Starting	11(50 Hz), 9(60 Hz)
Power consumption (W)	AC	1.9(50 Hz), 1.5(60 Hz)
	DC	2.0
Thermal class	Class 130 (B)	
Degree of protection (IEC standards 529)	With DIN terminal box (Pg9)	IPX5
	DIN terminal box (M12-4P connector)	IPX5
	With T type terminal box (G1/2)	IPX5

\*2 : The voltage fluctuation range must be within ±10% of the rated voltage.

## Individual specifications for 7.0 MPa

Descriptions Model No.	Port size	Orifice size (mm)	Cv	Pilot port size	Weight (kg)	
					CVE2(2)	CVSE2(2)
CVE2 (2)/CVSE2 (2) -10A-70	Rc3/8	6.5	1.7	Rc1/8	1.4	1.5
CVE2 (2)/CVSE2 (2) -15A-70	Rc1/2	8	2.8		2.4	2.5
CVE2 (2)/CVSE2 (2) -20A-70	Rc3/4	10.5	4.7		3.9	4.0
CVE2 (2)/CVSE2 (2) -25A-70	Rc1	13	7.0		6.1	6.2

## How to order

● Air operated

**CVE2** **2** - **20A** - **70** - **0** **B**

● With solenoid valve

**CVSE2** **2** - **15A** - **70** - **0** **2G** **S** - **1**

**A** Actuation

**B** Port size

Model No.	
Air operated (2-port)	CVE2
With solenoid valve (2-port)	CVSE2

**C** Working pressure

**D** Body/sealant combination

[Example of model No.]

**CVSE22-15A-70-02GS-1**

Model: CVSE2 : With solenoid valve  
(2-port)

- A** Actuation : NO
- B** Port size : Rc1/2
- C** Working pressure : 0 to 7.0 MPa
- D** Body/sealant combination : Body - cast iron (plating), sealant - nitrile rubber

- E** Coil : With DIN terminal box (Pg9)
- F** Other options : With surge suppressor
- G** Assembly direction: No option
- H** Voltage : 100 VAC(50/60 Hz), 110 VAC(60 Hz)

**E** Coil  
\*1  
\*2

**F** Other options  
\*3  
\*4  
\*5  
\*6  
\*7  
\*10

**G** Assembly  
\*8 direction  
\*10

**H** Voltage

- \*1 : Surge suppressor is not available for Item **E** 2J.
- \*2 : Item **E** 2K is available only for the type with surge suppressor and should be specified as 2KS.
- \*3 : To add both the surge suppressor and mounting plate options, specify Item **F** as SB. For a solenoid valve mounted on top, indicate as STB.
- \*4 : Top mounted solenoid valve (Item **F** T) is available only for port size 10 A.
- \*5 : The surge suppressor is mounted in the terminal box.
- \*6 : A manual override (non-locking) is provided as standard for the solenoid valve mounted.
- \*7 : Mounting plate is attached.
- \*8 : Assembly direction option cannot be selected for the air operated.
- \*9 : Clockwise angle when viewed from above with the IN port on the right.
- \*10 : Assembly direction option cannot be selected for the type with top mounted solenoid valve (Item **F** T).

## Item **G** Assembly direction

**CVSE2 [With solenoid valve] \*9**

Code	Blank (standard)	X	Y	Z	R
Direction	No rotation	Cylinder cover rotated 90°	Cylinder cover rotated 180°	Cylinder cover rotated 270°	Coil reversed
Layout					

		Model No.			
		CVE2	CVSE2		
Code	Content				
<b>A Actuation</b>					
Blank	NC	●	●		
2	NO	●	●		
<b>B Port size</b>					
10A	Rc3/8	●	●		
15A	Rc1/2	●	●		
20A	Rc3/4	●	●		
25A	Rc1	●	●		
<b>C Working pressure</b>					
70	0 to 7.0 MPa	●	●		
<b>D Body/sealant combination</b>					
		Body	Seal		
0	Standard	Cast iron (plating)	Nitrile rubber	●	●
B	Option	Cast iron (plating)	Fluoro rubber	●	●
<b>E Coil</b>					
2G	With DIN terminal box (Pg9)		●		
2H	DIN terminal box with lamp (Pg9)		●		
2J	DIN terminal box (M12-4P connector)		●		
2K	DIN terminal box with lamp (M12-4P connector)		●		
3T	With T type terminal box (G1/2)		●		
3R	T type terminal box with lamp (G1/2)		●		
<b>F Other options</b>					
Blank	No option	●	●		
S	With surge suppressor		●		
T	Top mounted solenoid valve		●		
B	Mounting plate	●	●		
<b>G Assembly direction</b>					
Blank	No option	●	●		
X	Cylinder cover rotated 90°		●		
Y	Cylinder cover rotated 180°		●		
Z	Cylinder cover rotated 270°		●		
R	Coil reversed 180° [with solenoid valve]		●		
Refer to the figure below for the layout drawing.					
<b>H Voltage</b>					
1	100 VAC(50/60 Hz) 110 VAC(60 Hz)		●		
2	200 VAC(50/60 Hz) 220 VAC(60 Hz)		●		
3	24 VDC		●		

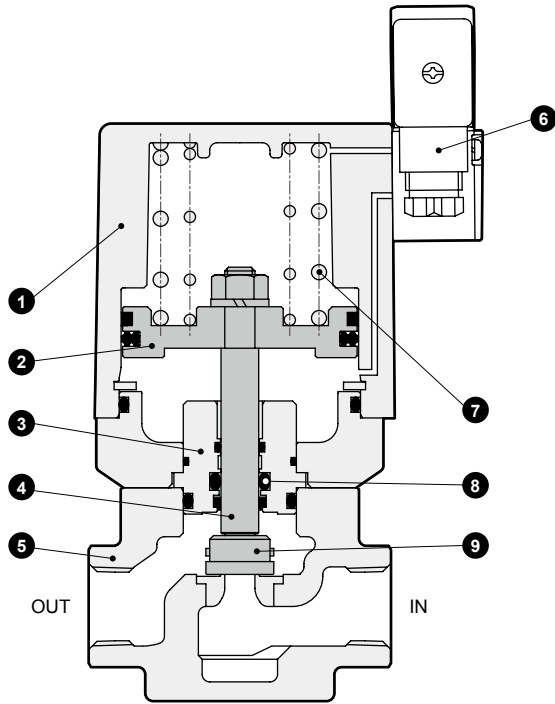
EXA  
FWD  
HNB/G  
USB/G  
FAB/G  
FGB/G  
FVB  
FWB/G  
FHB  
FLB  
AB  
AG  
AP/  
AD  
APK/  
ADK  
DryAir  
EX-  
XPLNprf  
XPLNprf  
HVB/  
HVL  
S B/  
NAB  
LAD/  
NAD  
Water-  
Rela  
NP/NAP/  
NVP  
SNP  
CHB/G  
MXB/G  
Other  
valves  
SWD/  
MWD  
DustCoil  
**CVE/  
CVSE**  
CCH/  
CPE/D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

# CVSE2-70 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 $\nabla$ 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
- SpecFld
- Custom
- Ending

## Internal structure and parts list

● CVSE2



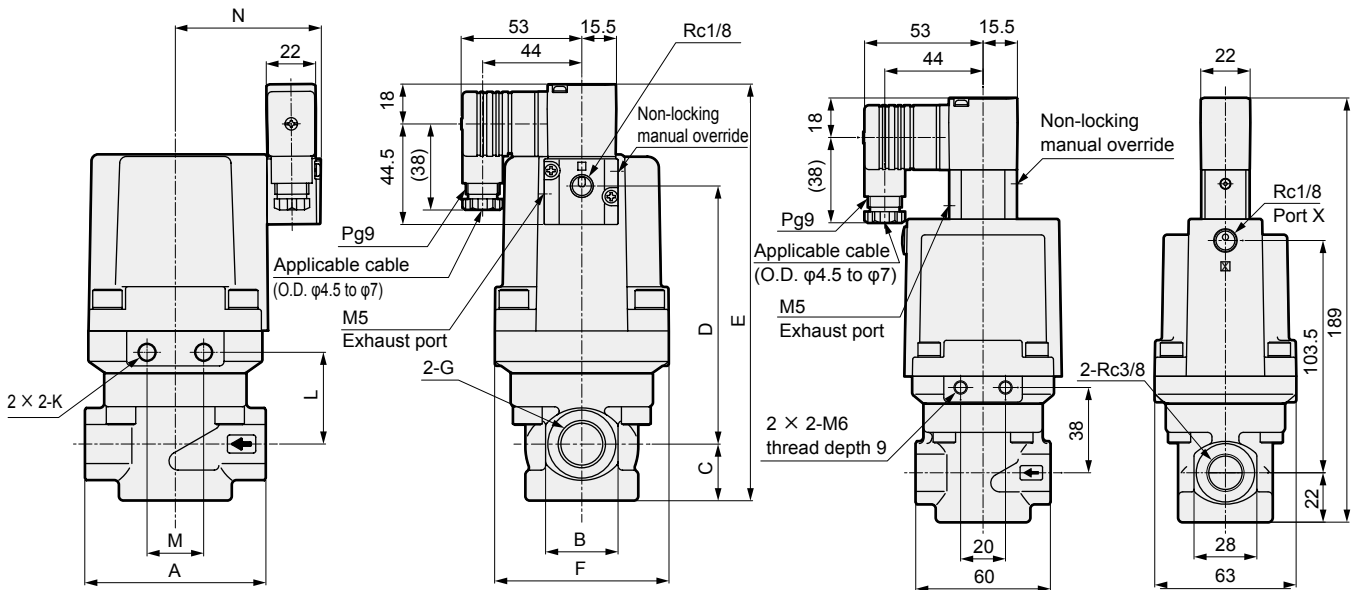
No.	Part name	Material	
1	Cylinder guard	ADS12	Aluminum die-casting
2	Piston	A2017	Aluminum
3	Adaptor	SUS303	Stainless steel
4	Piston rod	SUS304	Stainless steel
5	Body	FCD450	Cast iron (plating)
6	Pilot solenoid valve	-	-
7	Spring	SWP	Piano wire
8	Rod packing	NBR(FKM)	Nitrile rubber (fluoro rubber)
9	Main valving element	SUS420J2	Stainless steel

## Dimensions



● With DIN terminal box (Pg9)  
CVSE2/CVSE22-10A to 25A-70-\*2G

● CVSE2/CVSE22-10A-70-\*2GT

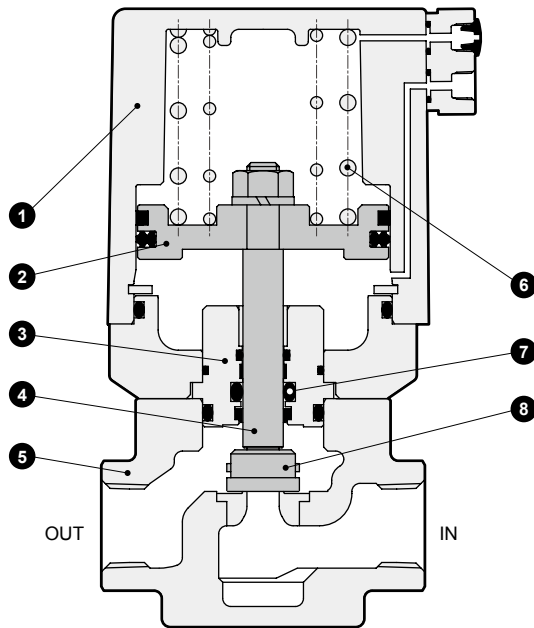


\* The figure shows the unit with no assembly direction option selected.

Model No.	A	B	C	D	E	F	G	K	L	M	N
CVSE2/CVSE22-10A-70-*2G	60	28	22	92.5	159.5	63	Rc3/8	M6 thread depth 9	38	20	57.5
CVSE2/CVSE22-15A-70-*2G	80	32	25	114	184	77	Rc1/2	M8 thread depth 10	40.5	25	64.5
CVSE2/CVSE22-20A-70-*2G	90	40	29	136.5	210.5	95	Rc3/4	M8 thread depth 10	45.5	25	72.5
CVSE2/CVSE22-25A-70-*2G	110	48	33.5	149.5	228	113	Rc1	M12 thread depth 14	49	45	82.5

## Internal structure and parts list

● CVE2

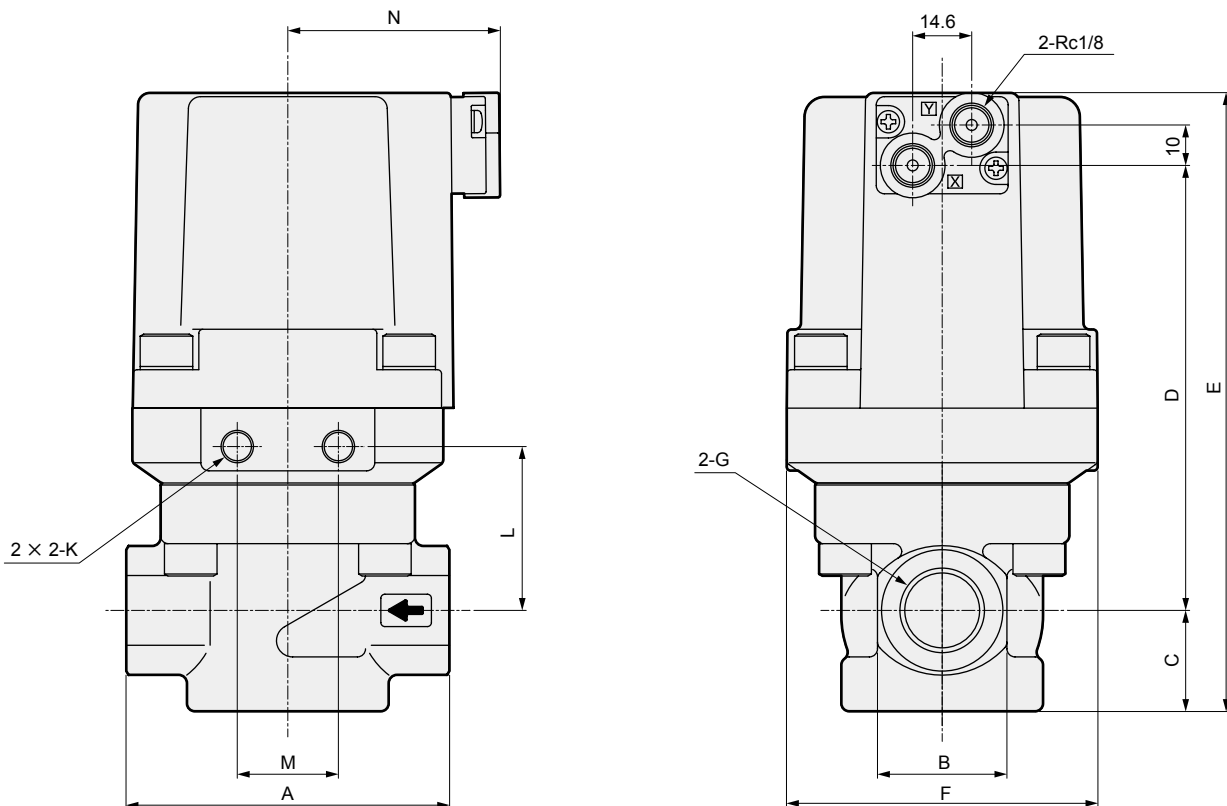


No.	Part name	Material	
1	Cylinder guard	ADC12	Aluminum die-casting
2	Piston	A2017	Aluminum
3	Adaptor	SUS303	Stainless steel
4	Piston rod	SUS304	Stainless steel
5	Body	FCD450	Cast iron (plating)
6	Spring	SWP	Piano wire
7	Rod packing	NBR(FKM)	Nitrile rubber (fluoro rubber)
8	Main valving element	SUS420J2	Stainless steel

## Dimensions



● CVE2/CVE22-10A to 25A-70-\*\*



\* Pilot pressurization port is port X for the NC and port Y for the NO.

Model No.	A	B	C	D	E	F	G	K	L	M	N
CVE2/CVE22-10A-70-*	60	28	22	88.5	128.5	63	Rc3/8	M6 thread depth 9	38	20	46
CVE2/CVE22-15A-70-*	80	32	25	110	153	77	Rc1/2	M8 thread depth 10	40.5	25	53
CVE2/CVE22-20A-70-*	90	40	29	132.5	179.5	95	Rc3/4	M8 thread depth 10	45.5	25	61
CVE2/CVE22-25A-70-*	110	48	33.5	145.5	197	113	Rc1	M12 thread depth 14	49	45	71

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

# CVE2/CVSE2-70 Series

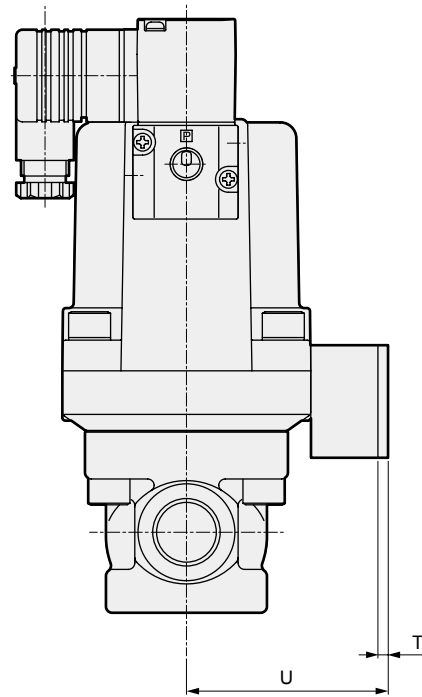
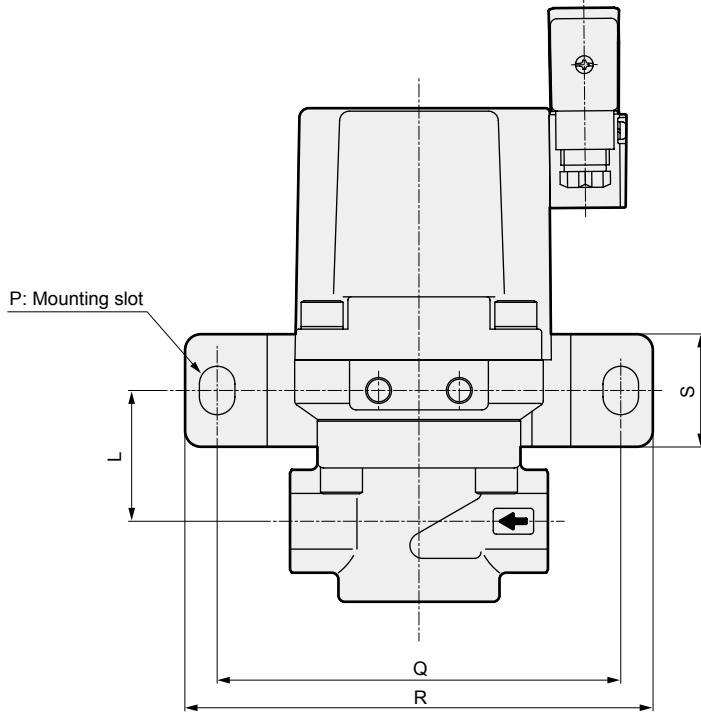
## Optional dimensions



### ● Mounting plate

CVE2/CVE22 -10A to 25A-70-\*\* **B** / **B-R** / **B-Y**  
 CVSE2/CVSE22

Material: Steel  
 Zinc plated

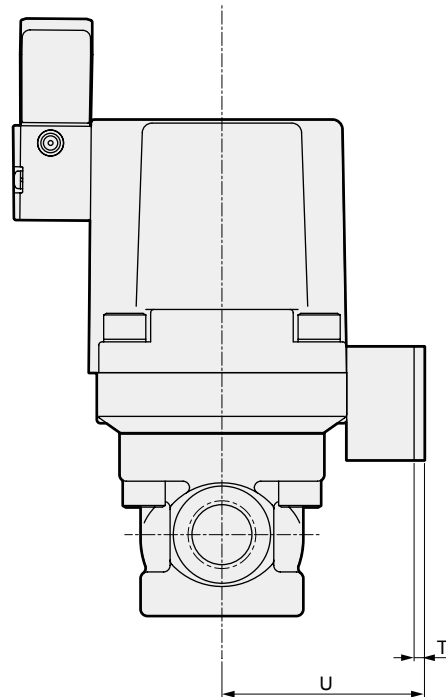
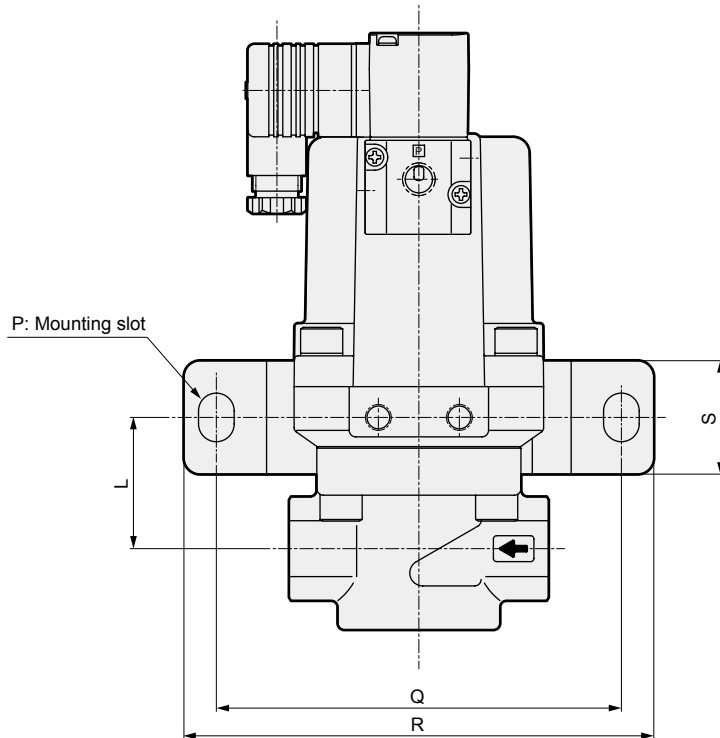


\* The figure shows **B**.

### ● Mounting plate

CVE2/CVE22 -10A to 25A-70-\*\* **B-X** / **B-Z**  
 CVSE2/CVSE22

Material: Steel  
 Zinc plated



\* The figure shows **B-X**.

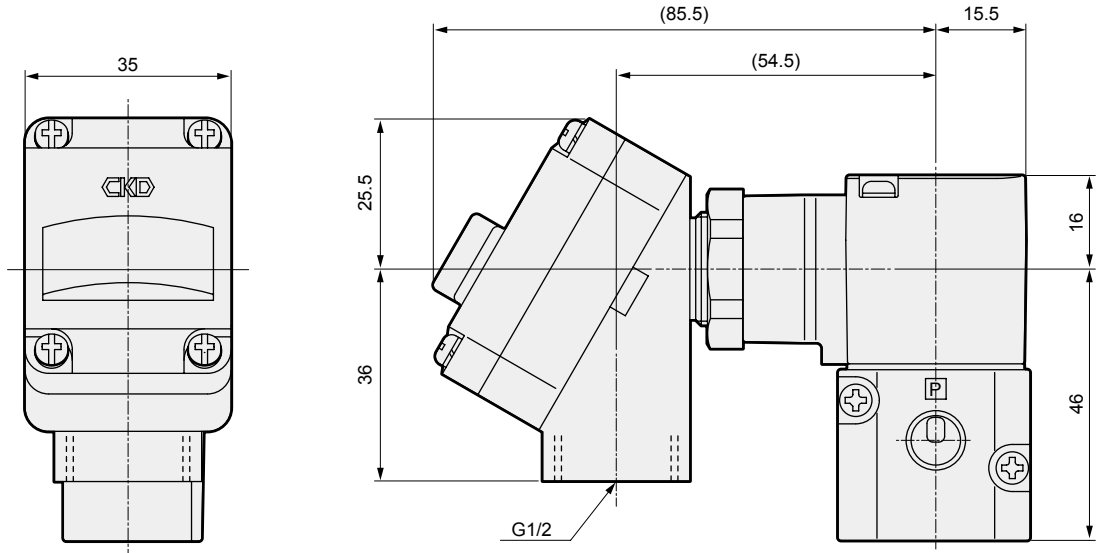
Model No.	L	P	Q	R	S	T	U
CV*E2*-10A-70*B	38	9 × 12	85	100	25	3.2	45
CV*E2*-15A-70*B	40.5	11 × 15	125	145	35	3.2	62.5
CV*E2*-20A-70*B	45.5	11 × 15	125	145	35	3.2	71.5
CV*E2*-25A-70*B	49	14 × 20	160	190	40	4	84

## Optional dimensions



- With T type terminal box (G1/2)  
T type terminal box with lamp (G1/2)  
CVSE2/CVSE22-\*<sup>-70</sup>-\* 

3T
3R

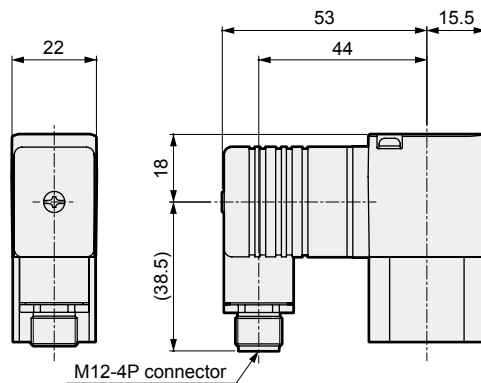


## Optional dimensions: Top mounted solenoid valve

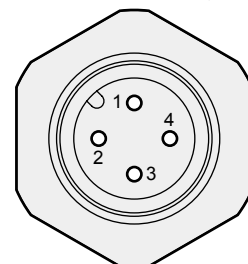
- DIN terminal box (M12-4P connector)  
DIN terminal box with lamp/surge suppressor (M12-4P connector)  
CVSE2/CVSE22-10A-70-\* 

2J
2KS

 T



Connector pin array



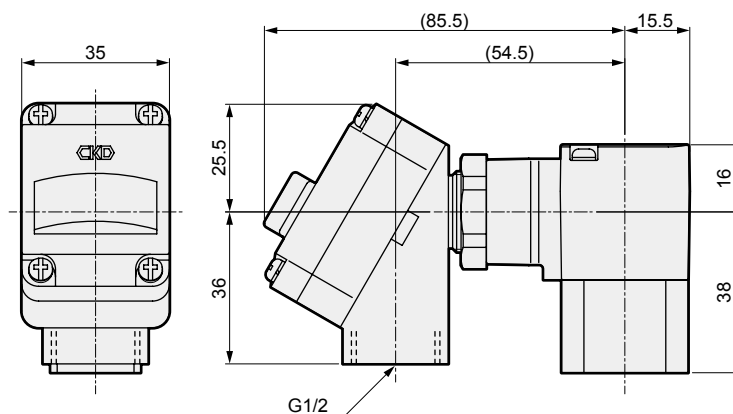
PIN No.	Applications
1PIN	Ground
2PIN	(Not used)
3PIN	Power supply -
4PIN	Power supply +

\* As it is a screw-in, the connector pin positions may not be the same as those shown above.

- T type terminal box (G1/2)  
T type terminal box with lamp (G1/2)  
CVSE2/CVSE22-\*<sup>-10A-70</sup>-\* 

3T
3R

 T



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