

# Discontinue

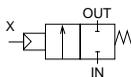
## 2 port air operated valves for coolant : Normally closed, normally open LOW PRESSURE COOLANT VALVE CV2/CV22-05/10 SERIES

- For 0.5MPa/1.0MPa
- Port size : Rc3/8, Rc1/2, Rc3/4, Rc1, Rc1<sup>1</sup>/<sub>4</sub>, Rc1<sup>1</sup>/<sub>2</sub>, Rc2, Flange 32, 40, 50, 65, 80

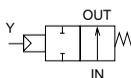


### JIS symbol

• NC type



• NO type



### Common specifications for 0.5MPa

Series	CV2	CV22
Actuation	Normally closed (NC type)	Normally open (NO type)
Working fluid	Coolant	
Fluid viscosity mm <sup>2</sup> /S	500 or less	
Working pressure range MPa	0 to 0.5	
Withstanding pressure (water) MPa	2.0	
Fluid temperature °C	-10 to 60 (no freezing)	
Ambient temperature °C	-10 to 60	
Valve seat leakage cm <sup>3</sup> /min	20 or less (under water pressure)	
Installation attitude	Free	
Pilot air pressure MPa	0.25 to 0.7	
Water hammer value (references) MPa	1 or less (copper tube 30m, full pressure 0.5MPa)	

Switch specifications	C2	C3
Applications	Programmable controller	Programmable controller, relay IC circuit, small solenoid valve
Power voltage	-	DC10 to 28V
Load voltage/current	DC10 to 30V, 5 to 30mA	DC30V, 150mA or less
Light	LED (ON lighting)	
Maximum shock resistance	30G	

\*1: See P. 558 about other switch specifications.

### Individual specifications for 0.5MPa

Descriptions	Port size	Orifice (mm)	Cv flow factor	Pilot port size	Mass (kg)
Series					
CV2/CV22-10A-05	Rc3/8	10	1.8	Rc1/4	0.3
CV2/CV22-15A-05	Rc1/2	14	5		0.65
CV2/CV22-20A-05	Rc3/4	19	8		1.0
CV2/CV22-25A-05	Rc1	24	12		1.5
CV2/CV22-32A-05	Rc1 <sup>1</sup> / <sub>4</sub>	31	20		2.8
CV2/CV22-32F-05	Flange 32	31	20		5.3
CV2/CV22-40A-05	Rc1 <sup>1</sup> / <sub>2</sub>	40	32		4.5
CV2/CV22-40F-05	Flange 40	40	32		7.0
CV2/CV22-50A-05	Rc2	50	50		7.6
CV2/CV22-50F-05	Flange 50	50	50		10.8
CV2/CV22-65F-05	Flange 65	65	70	19.5	
CV2/CV22-80F-05	Flange 80	79	100	24.0	



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### Common specifications for 1.0MPa

Series	CV2	CV22
Actuation	Normally closed (NC type)	Normally open (NO type)
Working fluid	Coolant	
Fluid viscosity mm <sup>2</sup> /S	500 or less	
Working pressure range MPa	0 to 1.0	
Withstanding pressure (water) MPa	2.0	
Fluid temperature °C	-10 to 60 (no freezing)	
Ambient temperature °C	-10 to 60	
Valve seat leakage cm <sup>3</sup> /min	20 or less (under water pressure)	
Installation attitude	Free	
Pilot air pressure MPa	0.25 to 0.7	
Water hammer value (references) MPa	1 or less (copper tube 30m, full pressure 0.5MPa)	

Switch specifications	C2	C3
Applications	Programmable controller	Programmable controller, relay IC circuit, small solenoid valve
Power voltage	-	DC10 to 28V
Load voltage/current	DC10 to 30V, 5 to 30mA	DC30V, 150mA or less
Light	LED (ON lighting)	
Maximum shock resistance	30G	

-1: See P. 558 about other switch specifications.

### Individual specifications for 1.0MPa

Descriptions Series	Port size	Orifice (mm)	Cv flow factor	Pilot port size	Mass (kg)
CV2/CV22-10A-10	Rc3/8	7	1.3	Rc1/8	0.3
CV2/CV22-15A-10	Rc1/2	10	3.5	Rc1/4	0.65
CV2/CV22-20A-10	Rc3/4	14	5.5		1.0
CV2/CV22-25A-10	Rc1	17	7.5		1.5
CV2-CV22-32A-10	Rc1 <sup>1</sup> / <sub>4</sub>	23	14		2.8
CV2-CV22-32F-10	Flange 32	23	14		5.3
CV2/CV22-40A-10	Rc1 <sup>1</sup> / <sub>2</sub>	29	23		4.5
CV2/CV22-40F-10	Flange 40	29	23		7.0
CV2/CV22-50A-10	Rc2	35	34		7.6
CV2/CV22-50F-10	Flange 50	35	34		10.8
CV2/CV22-65F-10	Flange 65	49	50		19.5
CV2/CV22-80F-10	Flange 80	57	73		24.0

Coolant valve

## How to order

• Air operated type



• Air operated type with switch



Series

**A** Actuation

**B** Port size

**C** Working pressure range

**D** Body/Sealing

**E** Other options

**F** Switch quantity

**G** Switch model No.

**H** Switch lead wire length

Series	
CV2/CV22	CV2/CV22 with switch

Symbol	Descriptions		Series			
	CV2/CV22	CV2/CV22 with switch	CV2/CV22	CV2/CV22 with switch		
<b>A</b>	Blank	Normally closed (NC type)	●	●		
	2	Normally open (NO type)	●	●		
<b>B</b>	10A	Rc3/8	●			
	15A	Rc1/2		●		
	20A	Rc3/4	●	●		
	25A	Rc1	●	●		
	32A	Rc1 1/4		●		
	32F	Flange 32	●	●		
	40A	Rc1 1/2	●	●		
	40F	Flange 40	●	●		
	50A	Rc2	●	●		
	50F	Flange 50	●	●		
	65F	Flange 65	●	●		
<b>C</b>	05	0 to 0.5MPa	●	●		
	10	0 to 1.0MPa	●	●		
<b>D</b>	0	STD	Cast iron	Nitrile rubber	●	●
		Option	Cast iron	Fluoro rubber	●	●
<b>E</b>	Blank	No options		●	●	
	B	Mounting plate		●	●	
<b>F</b>	Blank	No switch		●		
	X	No switch but w/detecting magnet		●		
	H	Detection at valve open			●	
	R	Detection at valve closed			●	
<b>G</b>	Blank	2 switches			●	
	Blank	No switch		●		
<b>H</b>	C2	Proximity/2 wire			●	
	C3	Proximity/3 wire			●	
<b>H</b>	Blank	No switch		●		
	3	3m			●	
	5	5m			●	

● shows availability.

## <Example of model number>

CV22-15A-05-0B-HC23

Series : CV2

- A** Actuation : Normally open (NO type)
- B** Port size : Rc1/2
- C** Working pressure range : 0 to 0.5MPa
- D** Body/Sealing : Body- cast iron/Sealing- nitrile
- E** Other options : Mounting plate
- F** Switch quantity : Detection at valve open
- G** Switch model No. : Proximity 2 wire
- H** Switch lead wire : 3m

- 1 : Mounting plate ("E" is B) is available for port size 10A, 15A, 20A and 25A.

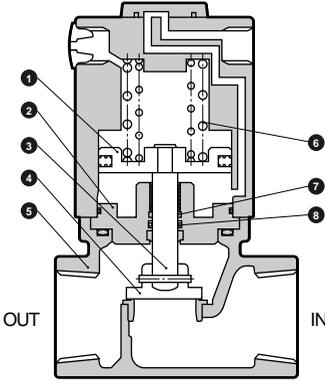
- 2 : When with mounting plate, since any switch cannot be installed on the mounting plate end, switch quantity should be X, H or R.

- 3 : When "F" is blank, any switch cannot be installed later.

- If switches will be installed later, indicate "F" as X.

- 4 : See P.558 about switch model.

Internal structure and main parts materials  
 • CV2



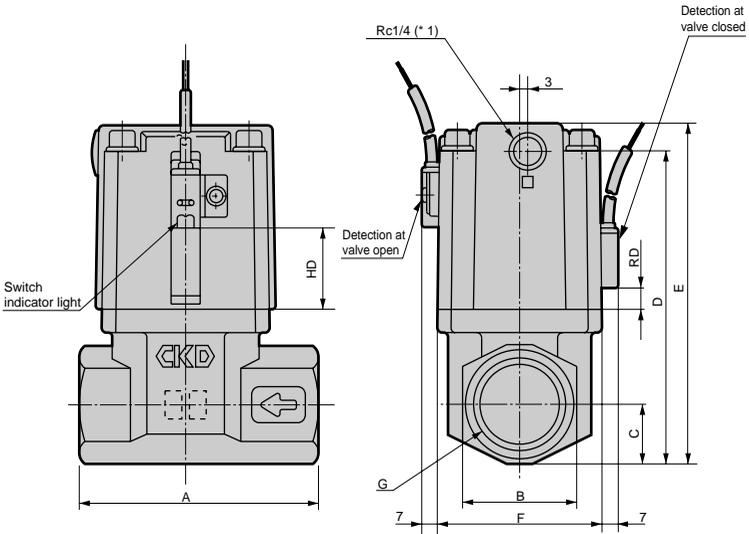
No.	Parts name	Material	
1	Piston	A2011	Aluminum
2	Adapter	SUS303	Stainless steel
3	Piston rod	SUS304	Stainless steel
4	Main valving element	SUS440	Stainless steel
5	Body	FCD450	Cast iron
6	Valve seat	SUS440	Stainless steel
7	Spring	SWP	Piano wire
8	O ring	NBR(FKM)	Nitrile rubber (Fluoro rubber)
	Rod packing	NBR(FKM)	Nitrile rubber (Fluoro rubber)

( ) shows options.

Dimensions

• CV2/CV22-10A to 50A-05/10- \* \* -  $\begin{matrix} H \\ R \\ D \end{matrix} \begin{matrix} C2 \\ C3 \end{matrix} \begin{matrix} 3 \\ 5 \end{matrix}$  (Rc screw in)

(File name : Page 559 to 560 or Ending 29 to 31)



Coolant valve

\*1: Rc1/8 when 10A.

Model	A	B	C	D	E	F	G	HD	RD
CV2 * -10A-05/10- *	50	24	12	60	73.5	32	Rc3/8	-	-
CV2 * -15A-05/10- *	71	29	14.5	85.5	95.5	45	Rc1/2	14	$\begin{matrix} 7.7 \\ (7.7) \end{matrix} \cdot 3$
CV2 * -20A-05/10- *	80	36	18	99	109	53	Rc3/4	16	$\begin{matrix} 8.7 \\ (10.2) \end{matrix} \cdot 3$
CV2 * -25A-05/10- *	90	43	21.5	113.5	123.5	63	Rc1	17	$\begin{matrix} 8.7 \\ (9.7) \end{matrix} \cdot 3$
CV2 * -32A-05/10- *	125	55	27.5	148	163.5	78	Rc1 1/4	25.5	$\begin{matrix} 16.8 \\ (18.8) \end{matrix} \cdot 3$
CV2 * -40A-05/10- *	140	61	30.5	165	180.5	95	Rc1 1/2	28.5	$\begin{matrix} 16.8 \\ (19.3) \end{matrix} \cdot 3$
CV2 * -50A-05/10- *	160	76	38	207.5	223	115	Rc2	32.5	$\begin{matrix} 18.8 \\ (21.8) \end{matrix} \cdot 3$

-2 : HD, RD dimensions show reference values.

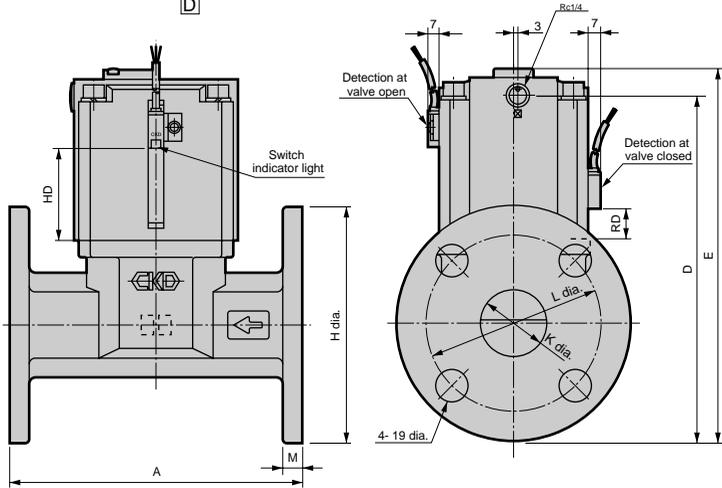
-3 : Dimensions in ( ) show the value for 1MPa.

# CV2-CV22-05-10 Series Discontinue

## Dimensions

• CV2/CV22-32F/40F/50F-05/10- \* \* -  (Flange)

 (File name : Page 559 to 560 or Ending 29 to 31)



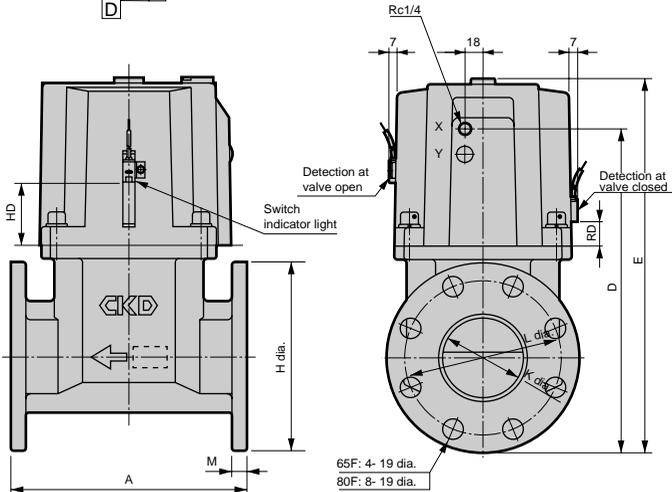
Model	A	D	E	H	K	L	M	HD	RD
CV2 * -32F-05/10- *	170	188	203.5	135	36	100	12	25.5	16.8 (18.8) -2
CV2 * -40F-05/10- *	180	204.5	220	140	42	105	12	28.5	16.8 (19.3) -2
CV2 * -50F-05/10- *	180	247	262.5	155	54	120	14	32.5	18.8 (21.8) -2

.1: HD, RD dimensions show reference values.

.2: Dimensions in ( ) show the value for 1MPa.

• CV2/CV22-65F/80F-05/10- \* \* -  (Flange)

 (File name : Page 559 to 560 or Ending 29 to 31)



Model	A	D	E	H	K	L	M	HD	RD
CV2 * -65F-05/10- *	210	297.5	347.5	175	68	140	16	47	30.3
CV2 * -80F-05/10- *	240	317.5	367.5	185	82	150	16	52	32.5

.1: HD, RD dimensions show reference values.

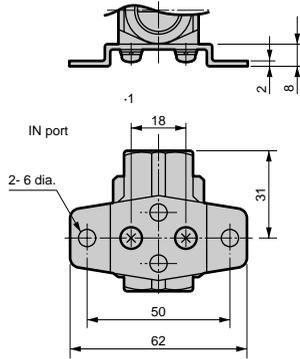
**Optional dimensions**

• Mounting plate

CV2/CV22-10A-05/10- \* B



(File name : Page 559 to 560 or Ending 29 to 31)



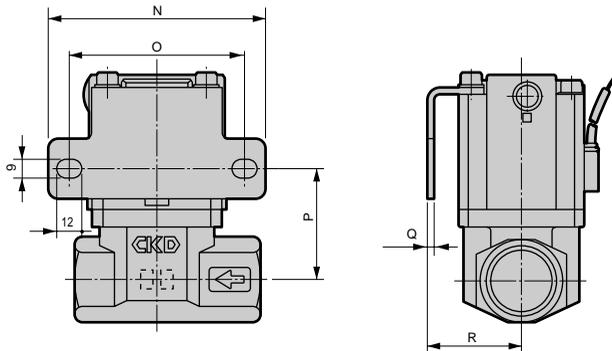
-1: When fixing without mounting plate, use set screws suit to the body. (Thread size : M5 depth 7)

• Mounting plate

CV2/CV22-15A/20A/25A-05/10- \* B



(File name : Page 559 to 560 or Ending 29 to 31)



Model	N	O	P	Q	R
CV2 * -15A-05/10- * B	90	70	45	2.3	30
CV2 * -20A-05/10- * B	95	75	50	3.2	40
CV2 * -25A-05/10- * B	105	85	55	3.2	45

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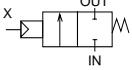
## 2 port air operated valves for coolant : Normally closed, normally open MEDIUM PRESSURE COOLANT VALVE CV2/CV22-16/30 SERIES

- For 1.6MPa/3.0MPa
- Port size : Rc3/8, Rc1/2, Rc3/4, Rc1

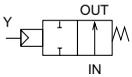


### JIS symbol

· NC type



· NO type



### Common specifications for 1.6MPa

Series	CV2	CV22
Actuation	Normally closed (NC type)	Normally open (NO type)
Working fluid	Coolant	
Fluid viscosity mm <sup>2</sup> /S	500 or less	
Working pressure range MPa	0 to 1.6	
Withstanding pressure (water)MPa	6.0	
Fluid temperature °C	-10 to 60 (no freezing)	
Ambient temperature °C	-10 to 60	
Valve seat leakage cm <sup>3</sup> /min	20 or less (under water pressure)	
Installation attitude	Free	
Pilot air pressure MPa	0.25 to 0.7	
Pilot port size	Rc1/4	

Switch specifications	C2	C3
Applications	Programmable controller	Programmable controller, relay IC circuit, small solenoid valve
Power voltage	-	DC10 to 28V
Load voltage/current	DC10 to 30V, 5 to 30mA	DC30V, 150mA or less
Light	LED (ON lighting)	
Maximum shock resistance	30G	

· 1: See P. 558 about other switch specifications.

### Individual specifications for 1.6MPa

Descriptions	Port size	Orifice (mm)	Cv flow factor	Mass (kg)
Series				
CV2/CV22-10A-16	Rc3/8	10	2.8	1.4
CV2/CV22-15A-16	Rc1/2	10	2.8	1.3
CV2/CV22-20A-16	Rc3/4	14	5	1.9
CV2/CV22-25A-16	Rc1	19	8	2.7

### Common specifications for 3.0MPa

Series	CV2	CV22
Actuation	Normally closed (NC type)	Normally open (NO type)
Working fluid	Coolant	
Fluid viscosity mm <sup>2</sup> /S	500 or less	
Working pressure range MPa	0 to 3.0	
Withstanding pressure (water) MPa	6.0	
Fluid temperature °C	-10 to 60 (no freezing)	
Ambient temperature °C	-10 to 60	
Valve seat leakage cm <sup>3</sup> /min	20 or less (under water pressure)	
Installation attitude	Free	
Pilot air pressure MPa	0.25 to 0.7	
Pilot port size	Rc1/4	

Switch specifications	C2	C3
Applications	Programmable controller	Programmable controller, relay IC circuit, small solenoid valve
Power voltage	-	DC10 to 28V
Load voltage/current	DC10 to 30V, 5 to 30mA	DC30V, 150mA or less
Light	LED (ON lighting)	
Maximum shock resistance	30G	

\* 1: See P. 558 about other switch specifications.

### Individual specifications for 3.0MPa

Descriptions	Port size	Orifice (mm)	Cv flow factor	Mass (kg)
Series				
CV2/CV22-10A-30	Rc3/8	8	1.8	1.4
CV2/CV22-15A-30	Rc1/2	10	2.8	2.0
CV2/CV22-20A-30	Rc3/4	14	5	2.9
CV2/CV22-25A-30	Rc1	17	7.5	3.9

### How to order

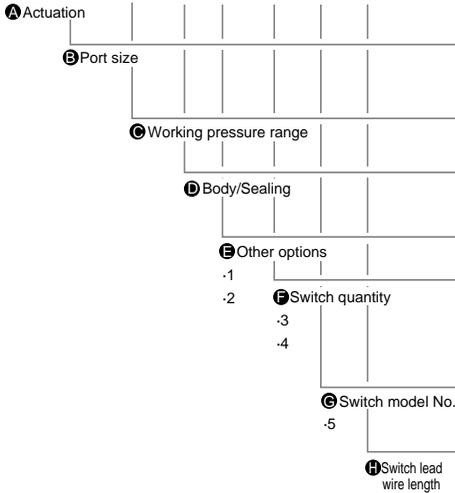
• Air operated type

CV2 - 2 - 10A - 16 - B B - X

• Air operated type with switch

CV2 - 2 - 15A - 30 - 0 B - H C2 - 3

Series



		Series		
		CV2/CV22	CV2/CV22 -with switch	
Symbol	Descriptions			
A	Blank	Normally closed (NC type)	●	
	2	Normally open (NO type)	●	
B Port size	10A	Rc3/8	●	
	15A	Rc1/2	●	
	20A	Rc3/4	●	
	25A	Rc1	●	
C	16	0 to 1.6MPa	●	
	30	0 to 3.0MPa	●	
D		Body	Seal	
	0	STD Cast iron	Nitrile rubber	●
B	Option	Cast iron	Fluoro rubber	●
E	Blank	No options		●
	B	Mounting plate		●
F Switch quantity	Blank	No switch		●
	X	No switch but w/detecting magnet		●
	H	Detection at valve open		●
	R	Detection at valve closed		●
D	2 switches		●	
G	Blank	No switch		●
	C2	Proximity/2 wire		●
	C3	Proximity/3 wire		●
H	Blank	No switch		●
	3	3m		●
	5	5m		●

● shows availability.

### <Example of model number>

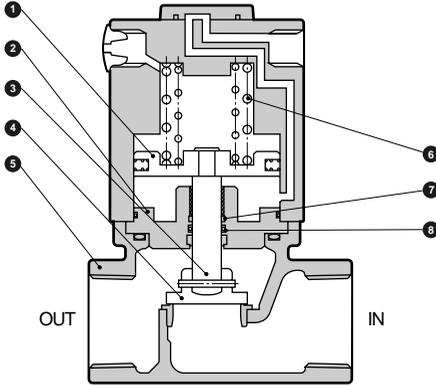
CV22-15A-16-0B-HC23

Series : CV2

- A Actuation : Normally open (NO type)
- B Port size : Rc1/2
- C Working pressure range : 0 to 1.6MPa
- D Body/Sealing : Body- cast iron/Sealing- nitrile
- E Other options : Mounting plate
- F Switch quantity : Detection at valve open
- G Switch model No. : Proximity 2 wire
- H Switch lead wire : 3m

- 1 : Mounting plate ("E" is B) isn't available for CV2 \*-25A-16 and CV2 \*-20A/25A-30.
- 2 : When with mounting plate, since any switch cannot be installed on the mounting plate end, switch quantity should be X, H or R.
- 3 : When "F" is blank, any switch cannot be installed later.  
If switches will be installed later, indicate "F" as X.
- 4 : When "F" switch quantity is X, H, R or D, it's subject to manufacturing after receiving the order.
- 5 : See P.558 about switch model.

Internal structure and main parts materials  
 • CV2

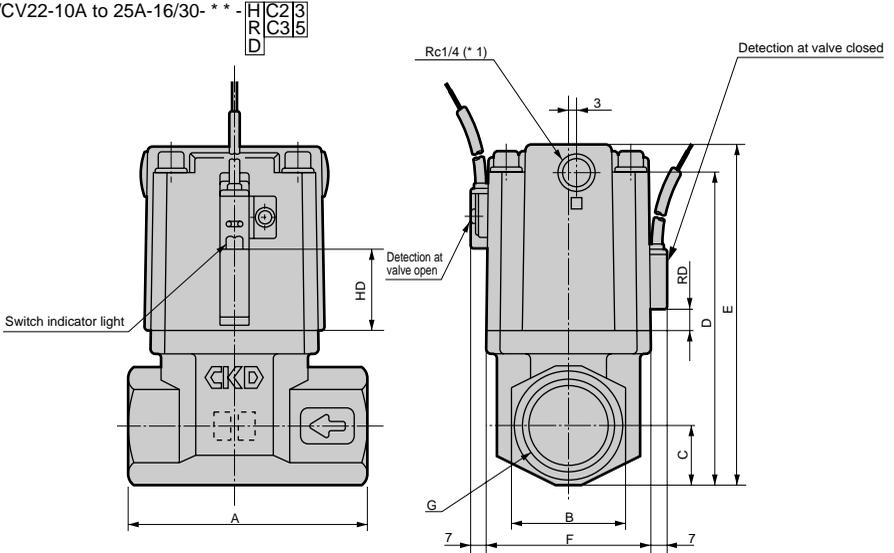


No.	Parts name	Material	
1	Piston	A2011	Aluminum
2	Adapter	SUS303	Stainless steel
3	Piston rod	SUS304	Stainless steel
4	Main valving element	SUS440	Stainless steel
5	Body	FCD450	Cast iron
	Valve seat	SUS440	Stainless steel
6	Spring	SWP	Piano wire
7	O ring	NBR(FKM)	Nitrile rubber (Fluoro rubber)
8	Rod packing	NBR(FKM)	Nitrile rubber (Fluoro rubber)

( ) shows options.

Dimensions

• CV2/CV22-10A to 25A-16/30- \*\*



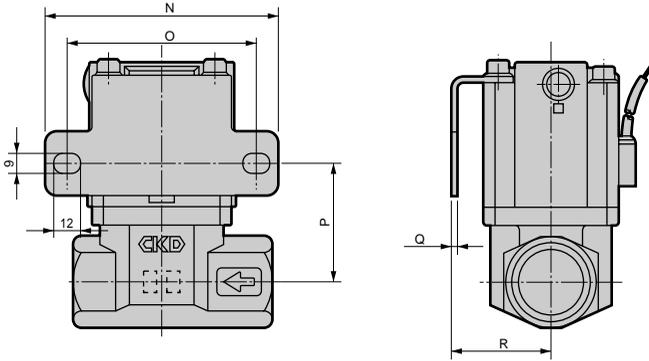
Model	A	B	C	D	E	F	G	HD	RD
CV2 * -10A-16-*	80	36	18	99	109	53	Rc3/8	16	9.2
CV2 * -15A-16-*	80	36	18	99	109	53	Rc1/2	16	9.2
CV2 * -20A-16-*	90	43	21.5	113.5	123.5	63	Rc3/4	17	9.7
CV2 * -25A-16-*	90	46	23	133.5	149	78	Rc1	25.5	17.8
CV2 * -10A-30-*	80	36	18	99	109	53	Rc3/8	16	9.2
CV2 * -15A-30-*	90	43	21.5	113.5	123.5	63	Rc1/2	17	9.7
CV2 * -20A-30-*	90	46	23	133.5	149	78	Rc3/4	25.5	19.3
CV2 * -25A-30-*	90	43	21.5	152	167.5	95	Rc1	28.5	15.8

\*1: HD, RD dimensions show reference values.

Optional dimensions

\* Mounting plate

CV2/CV22-10A/25A/20A-16/30- \* B



Model	N	O	P	Q	R
CV2 * -10A-16- * B	95	75	50	3.2	40
CV2 * -15A-16- * B	95	75	50	3.2	40
CV2 * -20A-16- * B	105	85	55	3.2	45
CV2 * -10A-30- * B	95	75	50	3.2	40
CV2 * -15A-30- * B	105	85	55	3.2	45

-1: Mounting plate isn't attached except the models above.

# Discontinue

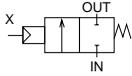
## 2 port air operated valves for coolant : Normally closed, normally open HIGH PRESSURE COOLANT VALVE CV2/CV22-70 SERIES

- 7.0MPa
- Port size : Rc3/8, Rc1/2, Rc3/4, Rc1

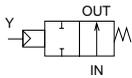


### JIS symbol

• NC type



• NO type



### Common specifications

Series	CV2	CV22
Actuation	Normally closed (NC type)	Normally open (NO type)
Working fluid	Coolant	
Fluid viscosity mm <sup>2</sup> /S	500 or less	
Working pressure range MPa	0 to 7.0	
Withstanding pressure (water)MPa	14	
Fluid temperature °C	-10 to 60 (no freezing)	
Ambient temperature °C	-10 to 60	
Valve seat leakage cm <sup>3</sup> /min	20 or less (under water pressure)	
Installation attitude	Free	
Pilot air pressure MPa	0.25 to 0.7	
Pilot port size	Rc1/4	

Switch specifications	C2	C3
Applications	Programmable controller	Programmable controller, relay IC circuit, small solenoid valve
Power voltage	-	DC10 to 28V
Load voltage/current	DC10 to 30V, 5 to 30mA	DC30V, 150mA or less
Light	LED (ON lighting)	
Maximum shock resistance	30G	

• 1: See P. 558 about other switch specifications.

### Individual specifications

Descriptions	Port size	Orifice (mm)	Cv flow factor	Mass (kg)
Series				
CV2/CV22-10A-70	Rc3/8	6.5	1.6	1.5
CV2/CV22-15A-70	Rc1/2	8	2.5	2.7
CV2/CV22-20A-70	Rc3/4	10	4.0	4.4
CV2/CV22-25A-70	Rc1	13	6.7	7.0



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### How to order

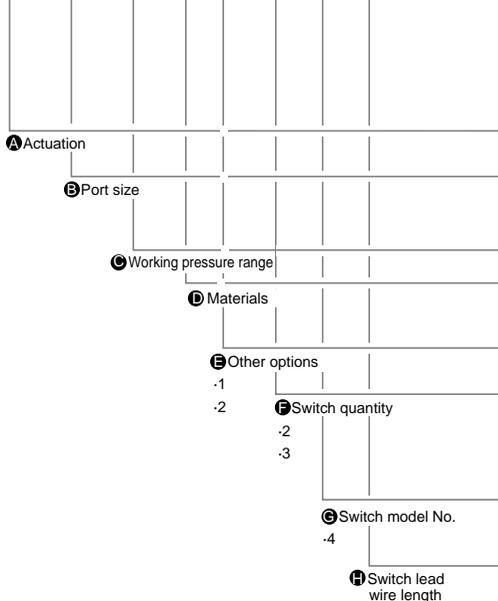
• Air operated type



• Air operated type with switch



Series



		Series		
		CV2/CV22	CV2/CV22 -with switch	
Symbol	Descriptions			
A	Blank	Normally closed (NC type)	●	●
	2	Normally open (NO type)	●	●
B	10A	Rc3/8	●	●
	15A	Rc1/2	●	●
	20A	Rc3/4	●	●
	25A	Rc1	●	●
C	70	0 to 7.0MPa	●	●
D Packing seal/gasket				
D	0	STD Nitrile rubber	●	●
	B	Option Fluoro rubber	●	●
E	Blank	No options	●	●
	B	Mounting plate	●	●
F	Blank	No switch	●	
	X	No switch but w/detecting magnet	●	
	H	Detection at valve open		●
	R	Detection at valve closed		●
	D	2 switches		●
G	Blank	No switch	●	
	C2	Proximity/2 wire		●
	C3	Proximity/3 wire		●
H	Blank	No switch	●	
	3	3m		●
	5	5m		●

● shows availability.

Coolant valve

### <Example of model number>

CV22-15A-70-BB-HC25

Series : CV2

- A Actuation : Normally open (NO type)
- B Port size : Rc1/2
- C Working pressure range : 0 to 7.0MPa
- D Materials : Packing seal/gasket - fluoro rubber
- E Other options : Mounting plate
- F Switch quantity : Detection at valve open
- G Switch model No. : Proximity 2 wire
- H Switch lead wire : 5m

-1 : Mounting plate is attached.

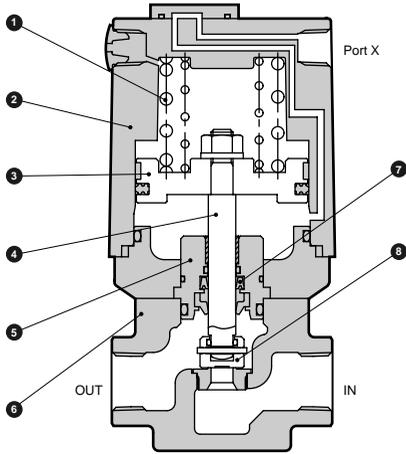
-2 : Since any mounting plate cannot be installed on the switch assembling end, when "E" is indicated as B, D (two switches) isn't available for "F".

-3 : When "F" is blank, any switch cannot be installed later.

If switches will be installed later, indicate "F" as X.

-4 : See P.558 about switch model.

Internal structure and main parts materials  
 · CV2



· Figure shows NC type.

No.	Parts name	Material	
1	Spring	SWP	Piano wire
2	Cylinder cover	ADC12	Aluminum die-casting
3	Piston	A2017	Aluminum
4	Piston rod	SUS304	Stainless steel
5	Adapter	SUS303	Stainless steel
6	Body	FCD450	Cast iron
7	Rod packing	NBR(FKM)	Nitrile rubber (Fluoro rubber)
8	Main valving element	SUS440	Stainless steel

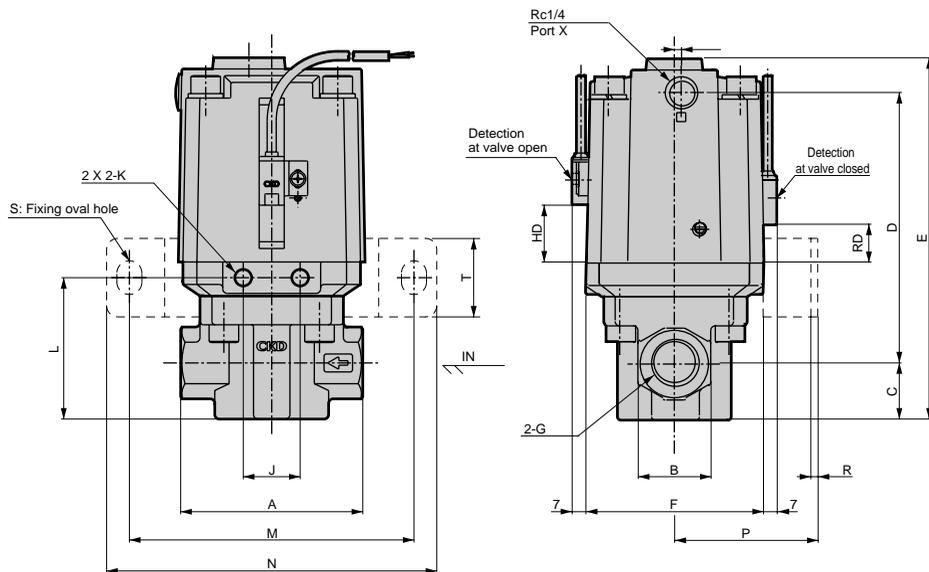
( ) shows options.

# Discontinue

## CV2-CV22-70 Series

### Dimensions

• CV2/CV22-10A to 25A-70- \*\* -  (File name : Page 559 to 560 or Ending 29 to 31)



Model	A	B	C	D	E	F	G	J	K	L	M	N	P
CV2/CV22-10A-70	60	28	22	98	130	63	Rc3/8	20	M6 thread length 9	57	85	100	45
CV2/CV22-15A-70	80	32	25	120.5	161	78	Rc1/2	25	M8 thread length 10	63	125	145	63
CV2/CV22-20A-70	90	40	29	134.5	179	95	Rc3/4	25	M8 thread length 10	72	125	145	71.5
CV2/CV22-25A-70	110	48	33.5	150.5	199.5	115	Rc1	45	M12 thread length 14	84	160	190	85
Model	R	S	T	HD	RD								
CV2/CV22-10A-70	3.2	9 X 12	25	17	10.2								
CV2/CV22-15A-70	3.2	11 X 15	35	25.5	18.3								
CV2/CV22-20A-70	3.2	11 X 15	35	28.5	18.3								
CV2/CV22-25A-70	4	14 X 20	40	32.5	20.3								

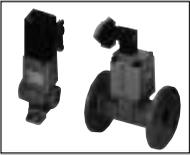
-1: HD, RD dimensions show reference values.

Coolant valve

# Discontinue

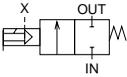
## 2-port solenoid valve for coolant : Normally closed, normally open LOW PRESSURE COOLANT VALVE CVS2/CVS22-05/10 SERIES

- For 0.5MPa/1.0MPa
- Port size : Rc3/8, Rc1/2, Rc3/4, Rc1, Rc1<sup>1</sup>/<sub>4</sub>, Rc1<sup>1</sup>/<sub>2</sub>, Rc2, Flange 32, 40, 50, 65, 80

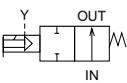


### JIS symbol

• NC type



• NO type



### Common specifications for 0.5MPa

Series	CVS2	CVS22
Actuation	Normally closed (NC type)	Normally open (NO type)
Working fluid	Coolant	
Fluid viscosity mm <sup>2</sup> /S	500 or less	
Working pressure range MPa	0 to 0.5	
Withstanding pressure (water) MPa	2.0	
Fluid temperature °C	-10 to 60 (no freezing)	
Ambient temperature °C	-10 to 60	
Valve seat leakage cm <sup>3</sup> /min	20 or less (under water pressure)	
Installation attitude	Free	
Pilot air pressure MPa	0.25 to 0.7	
Water hammer value (reference) MPa	1 or less (copper tube 30m, full pressure 0.5MPa)	

### Electrical specifications

Rated voltage	AC100V(50/60Hz) /110V(60Hz), AC200V(50/60Hz)/220V (60Hz), DC24V	
Apparent power (VA)	Holding	3.9VA(50Hz), 3.1VA(60Hz)
	Starting	9.2VA(50Hz), 7.9VA(60Hz)
Power consumption (W)	AC	2.0W(50Hz), 1.7W(60Hz)
	DC	4.0W
Insulation class	Class B	
Protection structure (IEC standards 529)	Grommet lead wire	IPX2
	DIN terminal box (Pg9)	IPX5
	T terminal box (G1/2)	IPX6

· 1: Allowable voltage range should be within ±10% of rated voltage.

Switch specifications	C2	C3
Applications	Programmable controller	Programmable controller, relay IC circuit, small solenoid valve
Power voltage	-	DC10 to 28V
Load voltage/current	DC10 to 30V, 5 to 30mA	DC30V, 150mA or less
Light	LED (ON lighting)	
Maximum shock resistance	30G	

· 2: See P.558 about other switch specifications.

### Individual specifications for 0.5MPa

Descriptions	Port size	Orifice (mm)	Cv flow factor	Pilot port size	Mass (kg)
Series					
CVS2/CVS22-10A-05	Rc3/8	10	1.8	Rc1/8	0.4
CVS2/CVS22-15A-05	Rc1/2	14	5	Rc1/4	0.75
CVS2/CVS22-20A-05	Rc3/4	19	8		1.1
CVS2/CVS22-25A-05	Rc1	24	12		1.6
CVS2/CVS22-32A-05	Rc1 <sup>1</sup> / <sub>4</sub>	31	20		2.9
CVS2/CVS22-32F-05	Flange 32	31	20		5.4
CVS2/CVS22-40A-05	Rc1 <sup>1</sup> / <sub>2</sub>	40	32		4.6
CVS2/CVS22-40F-05	Flange 40	40	32		7.1
CVS2/CVS22-50A-05	Rc2	50	50		7.7
CVS2/CVS22-50F-05	Flange 50	50	50		10.9
CVS2/CVS22-65F-05	Flange 65	65	70		19.5
CVS2/CVS22-80F-05	Flange 80	79	100		24.0



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### Common specifications for 1.0MPa

Series	CVS2	CVS22
Actuation	Normally closed (NC type)	Normally open (NO type)
Working fluid	Coolant	
Fluid viscosity mm <sup>2</sup> /S	500 or less	
Working pressure range MPa	0 to 1.0	
Withstanding pressure (water) MPa	2.0	
Fluid temperature °C	-10 to 60 (no freezing)	
Ambient temperature °C	-10 to 60	
Valve seat leakage cm <sup>3</sup> /min	20 or less (under water pressure)	
Installation attitude	Free	
Pilot air pressure MPa	0.25 to 0.7	
Water hammer value (references) MPa	1 or less (copper tube 30m, full pressure 0.5MPa)	
Electrical specifications		
Rated voltage	AC100V(50/60Hz) /110V(60Hz), AC200V(50/60Hz)/220V (60Hz), DC24V	
Apparent power (VA)	Holding	3.9VA(50Hz), 3.1VA(60Hz)
	Starting	9.2VA(50Hz), 7.9VA(60Hz)
Power consumption (W)	AC	2.0W(50Hz), 1.7W(60Hz)
	DC	4.0W
Insulation class	Class B	
Protection structure (IEC standards 529)	Grommet lead wire	IPX2
	DIN terminal box (Pg9)	IPX5
	T terminal box (G1/2)	IPX6

\* 1: Allowable voltage range should be within ±10% of rated voltage.

Switch specifications	C2	C3
Applications	Programmable controller	Programmable controller, relay IC circuit, small solenoid valve
Power voltage	-	DC10 to 28V
Load voltage/current	DC10 to 30V, 5 to 30mA	DC30V, 150mA or less
Light	LED (ON lighting)	
Maximum shock resistance	30G	

\* 2: See P.558 about other switch specifications.

### Individual specifications for 1.0MPa

Descriptions	Port size	Orifice (mm)	Cv flow factor	Pilot port size	Mass (kg)	
CVS2/CVS22-10A-10	Rc3/8	7	1.3	Rc1/8	0.4	
CVS2/CVS22-15A-10	Rc1/2	10	3.5		0.75	
CVS2/CVS22-20A-10	Rc3/4	14	5.5		1.1	
CVS2/CVS22-25A-10	Rc1	17	7.5		1.6	
CVS2/CVS22-32A-10	Rc1 1/4	23	14		2.9	
CVS2/CVS22-32F-10	Flange 32	23	14		5.4	
CVS2/CVS22-40A-10	Rc1 1/2	29	23		Rc1/4	4.6
CVS2/CVS22-40F-10	Flange 40	29	23			7.1
CVS2/CVS22-50A-10	Rc2	35	34			7.7
CVS2/CVS22-50F-10	Flange 50	35	34			10.9
CVS2/CVS22-65F-10	Flange 65	49	50	19.5		
CVS2/CVS22-80F-10	Flange 80	57	73	24.0		

How to order

• Solenoid valve mounted type



• Switch mounted solenoid valve



Series

**A** Actuation

**B** Port size

**C** Working pressure range

**D** Body/Sealing

**E** Coil

**F** Other options

**G** Switch quantity

**H** Switch model No.

**I** Switch lead wire length

**J** Voltage

<Example of model number>

CVS22-15A-05-02GS-HC23-1

Series : CVS2

- A** Actuation : Normally open (NO type)
- B** Port size : Rc1/2
- C** Working pressure range : 0 to 0.5MPa
- D** Body/Sealing : Body- cast iron/Sealing- nitrile
- E** Coil : DIN terminal box (Pg9)
- F** Other options : Surge suppressor
- G** Switch quantity : Detection at valve open
- H** Switch model No. : Proximity 2 wire
- I** Switch lead wire : 3m
- J** Voltage : AC100V(50/60Hz)AC110V(60Hz)

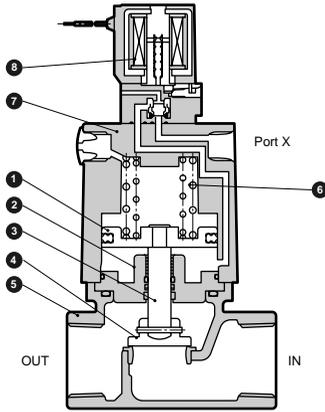
Series	
CVS2/CVS22	CVS2/CVS22 -with switch

Symbol	Descriptions		Series		
	Body	Seal	CVS2/CVS22	CVS2/CVS22 -with switch	
<b>A</b> Blank	Normally closed (NC type)		●	●	
2	Normally open (NO type)		●	●	
<b>B</b> Port size	10A	Rc3/8	●		
	15A	Rc1/2	●	●	
	20A	Rc3/4	●	●	
	25A	Rc1	●	●	
	32A	Rc1 1/4	●	●	
	32F	Flange 32	●	●	
	40A	Rc1 1/2	●	●	
	40F	Flange 40	●	●	
	50A	Rc2	●	●	
	50F	Flange 50	●	●	
<b>C</b>	05	0 to 0.5MPa	●	●	
	10	0 to 1.0MPa	●	●	
<b>D</b>	0	STD Cast iron	Nitrile rubber	●	●
	B	Option Cast iron	Fluoro rubber	●	●
<b>E</b> Coil	2C	STD	Grommet lead wire	●	●
	2G	Option	DIN terminal box (Pg9)	●	●
	2H		DIN terminal box + light (Pg9)	●	●
	3T		T terminal box (G1/2)	●	●
	3R		T terminal box + light (G1/2)	●	●
<b>F</b>	Blank	No options		●	●
	S	Surge suppressor		●	●
	B	Mounting plate		●	●
<b>G</b> Switch quantity	Blank	No switch		●	
	X	No switch but w/detecting magnet		●	
	H	Detection at valve open			●
	R	Detection at valve closed			●
	D	2 switches			●
<b>H</b> Switch model No.	Blank	No switch		●	
	C2	Proximity/2 wire			●
	C3	Proximity/3 wire			●
<b>I</b> Switch lead wire length	Blank	No switch		●	
	3	3m			●
	5	5m			●
<b>J</b> Voltage	1	AC100V(50/60Hz)		●	●
		AC110V(60Hz)			●
	2	AC200V(50/60Hz)		●	●
		AC220V(60Hz)			●
3	DC24V		●	●	

● shows availability.

- 1 : Mounting plate ("F" is B) is available for port size 10A, 15A, 20A and 25A.
- 2 : When selecting both surge suppressor and mounting plate options, indicate "F" as SB.
- 3 : When lead wire coil, surge suppressor is attached, while terminal box coil, mounted in the terminal box.
- 4 : When with mounting plate, since any switch cannot be installed on the mounting plate end, switch quantity should be X, H or R.
- 5 : When "G" is blank, any switch cannot be installed later. If switches will be installed later, indicate "G" as X.
- 6 : See P.558 about switch model.

Internal structure and main parts materials  
 • CVS2

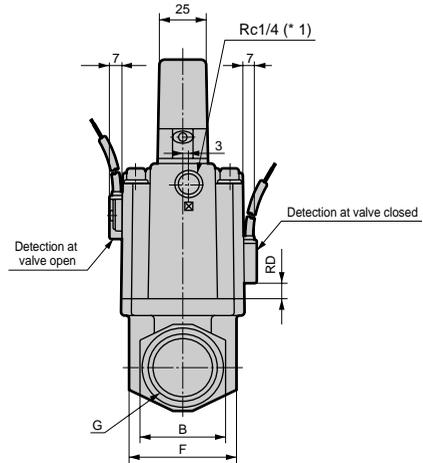
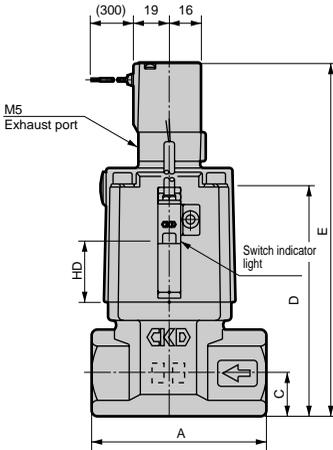


No.	Parts name	Material	
1	Piston	A2011	Aluminum
2	Adapter	SUS303	Stainless steel
3	Piston rod	SUS304	Stainless steel
4	Main valving element	SUS440	Stainless steel
5	Body	FCD450	Cast iron
5	Valve seat	SUS440	Stainless steel
6	Spring	SWP	Piano wire
7	Cylinder cover	ADC12	Aluminum die-casting
8	Pilot solenoid valve	-	

Dimensions

• CVS2/CVS22-10A to 50A-05/10- \* 2C  $\begin{matrix} H \\ R \\ C \\ D \end{matrix} \begin{matrix} C2 \\ C3 \\ C5 \end{matrix} \begin{matrix} 3 \\ 3 \\ 5 \end{matrix}$  (Rc screw in)

(File name : Page 559 to 560 or Ending 29 to 31)



Coolant valve

-1: Rc1/8 when 10A.

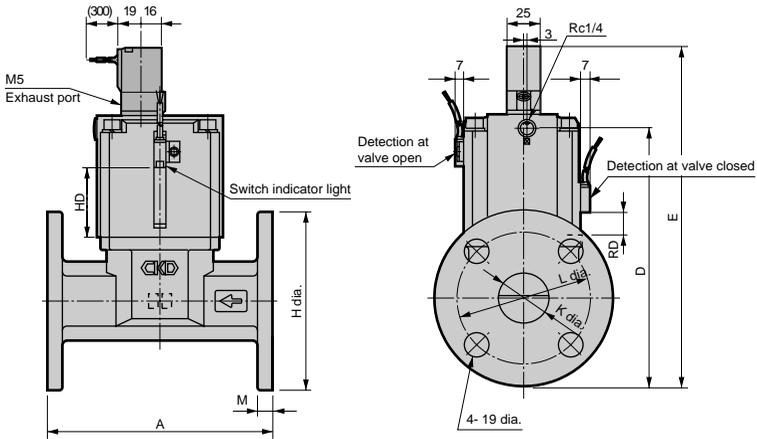
Model	A	B	C	D	E	F	G	HD	RD
CVS2 * -10A-05/10- * 2C	50	24	12	60	121	32	Rc3/8	-	-
CVS2 * -15A-05/10- * 2C	71	29	14.5	85.5	148	45	Rc1/2	14	$\begin{matrix} 7.7 \\ (7.7) \end{matrix} \cdot 3$
CVS2 * -20A-05/10- * 2C	80	36	18	99	161.5	53	Rc3/4	16	$\begin{matrix} 8.7 \\ (10.2) \end{matrix} \cdot 3$
CVS2 * -25A-05/10- * 2C	90	43	21.5	113.5	176	63	Rc1	17	$\begin{matrix} 8.7 \\ (9.7) \end{matrix} \cdot 3$
CVS2 * -32A-05/10- * 2C	125	55	27.5	148	211	78	Rc1 1/4	25.5	$\begin{matrix} 16.8 \\ (18.8) \end{matrix} \cdot 3$
CVS2 * -40A-05/10- * 2C	140	61	30.5	165	228	95	Rc1 1/2	28.5	$\begin{matrix} 16.8 \\ (19.3) \end{matrix} \cdot 3$
CVS2 * -50A-05/10- * 2C	160	76	38	207.5	270.5	115	Rc2	32.5	$\begin{matrix} 18.8 \\ (21.8) \end{matrix} \cdot 3$

-2 : HD, RD dimensions show reference values.

-3 : Dimensions in ( ) show the value for 1MPa.

• CVS2/CVS22-32F/40F/50F-05/10- \* 2C  $\begin{matrix} H \\ R \\ C \\ D \end{matrix} \begin{matrix} 2 \\ 3 \\ 3 \\ 5 \end{matrix}$  (flange)

 (File name : Page 559 to 560 or Ending 29 to 31)

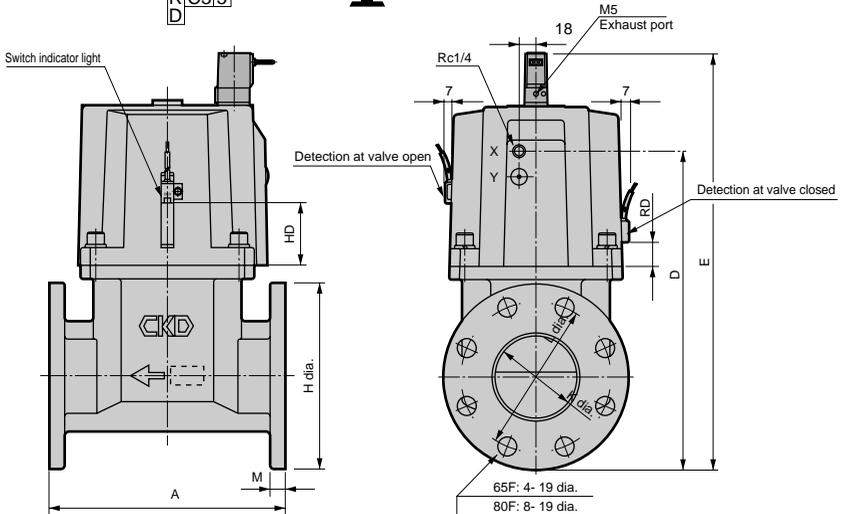


Model	A	D	E	H	K	L	M	HD	RD
CVS2 * -32F-05/10- * 2C	170	188	251	135	36	100	12	25.5	16.8 (18.8) :2
CVS2 * -40F-05/10- * 2C	180	204.5	267.5	140	42	105	12	28.5	16.8 (19.3) :2
CVS2 * -50F-05/10- * 2C	180	247	310	155	54	120	14	32.5	18.8 (21.8) :2

-1: HD, RD dimensions show reference values.  
-2: Dimensions in ( ) show the value for 1MPa.

• CVS2/CVS22-65F/80F-05- \* 2C  $\begin{matrix} H \\ R \\ C \\ D \end{matrix} \begin{matrix} 2 \\ 3 \\ 3 \\ 5 \end{matrix}$  (flange)

 (File name : Page 559 to 560 or Ending 29 to 31)



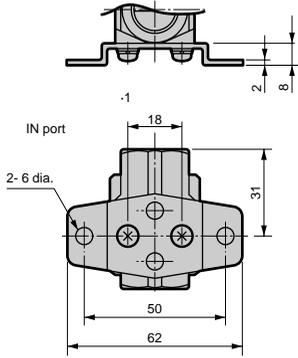
Model	A	D	E	H	K	L	M	HD	RD
CVS2 * -65F-05/10- * 2C	210	297.5	395	175	68	140	16	47	30.3
CVS2 * -80F-05/10- * 2C	240	317.5	415	185	82	150	16	52	32.5

-1: HD, RD dimensions show reference values.

### Optional dimensions

#### • Mounting plate

CVS2/CVS22-10A-05/10- \* \* B

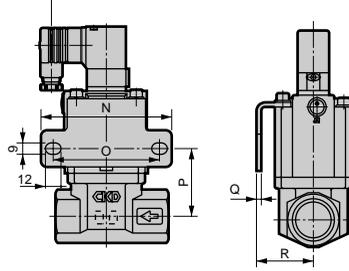


-1: When fixing without mounting plate, use set screws suit to the body. (Thread size : M5 depth 7)

#### • Mounting plate

CVS2/CVS22-15A/20A/25A-05/10- \* \* B

(File name : Page 559 to 560 or Ending 29 to 31)



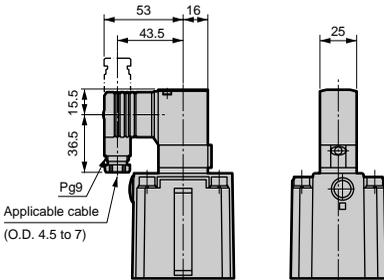
Model	N	O	P	Q	R
CVS2 * -15A-05/10- * * B	90	70	45	2.3	30
CVS2 * -20A-05/10- * * B	95	75	50	3.2	40
CVS2 * -25A-05/10- * * B	105	85	55	3.2	45

#### • DIN terminal box (Pg9)

DIN terminal box with indicator light (Pg9)

CVS2/CVS22- \* -05/10- \*

(File name : Page 559 to 560 or Ending 29 to 31)

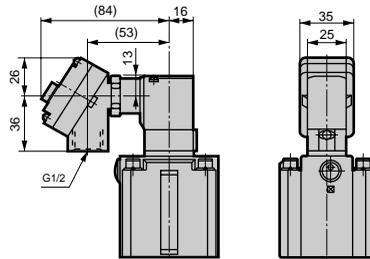


#### • T type terminal box (G1/2)

T type terminal box with indicator light (G1/2)

CVS2/CVS22- \* -05/10- \*

(File name : Page 559 to 560 or Ending 29 to 31)



# Discontinue

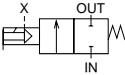
## 2-port solenoid valve for coolant : Normally closed, normally open MEDIUM PRESSURE COOLANT VALVE CVS2/CVS22-16/30 SERIES



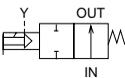
- For 1.6MPa/3.0MPa
- Port size : Rc3/8, Rc1/2, Rc3/4, Rc1

JIS symbol

• NC type



• NO type



### Common specifications for 1.6MPa

Descriptions	CVS2	CVS22
Actuation	Normally closed (NC type)	Normally open (NO type)
Working fluid	Coolant	
Fluid viscosity mm <sup>2</sup> /S	500 or less	
Working pressure range MPa	0 to 1.6	
Withstanding pressure (water)MPa	6.0	
Fluid temperature °C	-10 to 60 (no freezing)	
Ambient temperature °C	-10 to 60	
Valve seat leakage cm <sup>3</sup> /min	20 or less (under water pressure)	
Installation attitude	Free	
Pilot air pressure MPa	0.25 to 0.7	
Pilot port size	Rc1/4	

### Electrical specifications

Rated voltage	AC100V(50/60Hz) /110V(60Hz), AC200V(50/60Hz)/220V (60Hz), DC24V	
Apparent power (VA)	Holding	3.9VA(50Hz), 3.1VA(60Hz)
	Starting	9.2VA(50Hz), 7.9VA(60Hz)
Power consumption (W)	AC	2.0W(50Hz), 1.7W(60Hz)
	DC	4.0W
Insulation class	Class B	
Protection structure (IEC standards 529)	DIN terminal box (Pg9)	IPX5
	T terminal box (G1/2)	IPX6

· 1: Allowable voltage range should be within ±10% of rated voltage.

Switch specifications	C2	C3
Applications	Programmable controller	Programmable controller, relay IC circuit, small solenoid valve
Power voltage	-	DC10 to 28V
Load voltage/current	DC10 to 30V, 5 to 30mA	DC30V, 150mA or less
Light	LED (ON lighting)	
Maximum shock resistance	30G	

· 2 : See P.558 about other switch specifications.

Coolant valve

### Individual specifications for 1.6MPa

Descriptions	Port size	Orifice (mm)	Cv flow factor	Mass (kg)
Series				
CVS2/CVS22-10A-16	Rc3/8	10	2.8	1.4
CVS2/CVS22-15A-16	Rc1/2	10	2.8	1.3
CVS2/CVS22-20A-16	Rc3/4	14	5	1.9
CVS2/CVS22-25A-16	Rc1	19	8	2.7



CAD DATA AVAILABLE.

**Common specifications for 3.0MPa**

Series	CVS2	CVS22
Actuation	Normally closed (NC type)	Normally open (NO type)
Working fluid	Coolant	
Fluid viscosity mm <sup>2</sup> /S	500 or less	
Working pressure range MPa	0 to 3.0	
Withstanding pressure (water)MPa	6.0	
Fluid temperature °C	-10 to 60 (no freezing)	
Ambient temperature °C	-10 to 60	
Valve seat leakage cm <sup>3</sup> /min	20 or less (under water pressure)	
Installation attitude	Free	
Pilot air pressure MPa	0.25 to 0.7	
Pilot port size	Rc1/4	

Electrical specifications		
Rated voltage	AC100V(50/60Hz) /110V(60Hz), AC200V(50/60Hz)/220V (60Hz), DC24V	
Apparent power (VA)	Holding	3.9VA(50Hz), 3.1VA(60Hz)
	Starting	9.2VA(50Hz), 7.9VA(60Hz)
Power consumption (W)	AC	2.0W(50Hz), 1.7W(60Hz)
	DC	4.0W
Insulation class	Class B	
Protection structure (IEC standards 529)	DIN terminal box (Pg9)	IPX5
	T terminal box (G1/2)	IPX6

· 1: Allowable voltage range should be within ±10% of rated voltage.

Switch specifications	C2	C3
Applications	Programmable controller	Programmable controller, relay IC circuit, small solenoid valve
Power voltage	-	DC10 to 28V
Load voltage/current	DC10 to 30V, 5 to 30mA	DC30V, 150mA or less
Light	LED (ON lighting)	
Maximum shock resistance	30G	

· 2 : See P.558 about other switch specifications.

**Individual specifications for 3.0MPa**

Descriptions	Port size	Orifice (mm)	Cv flow factor	Mass (kg)
CVS2/CVS22-10A-30	Rc3/8	8	1.8	1.4
CVS2/CVS22-15A-30	Rc1/2	10	2.8	2.0
CVS2/CVS22-20A-30	Rc3/4	14	5	2.9
CVS2/CVS22-25A-30	Rc1	17	7.5	3.9

### How to order

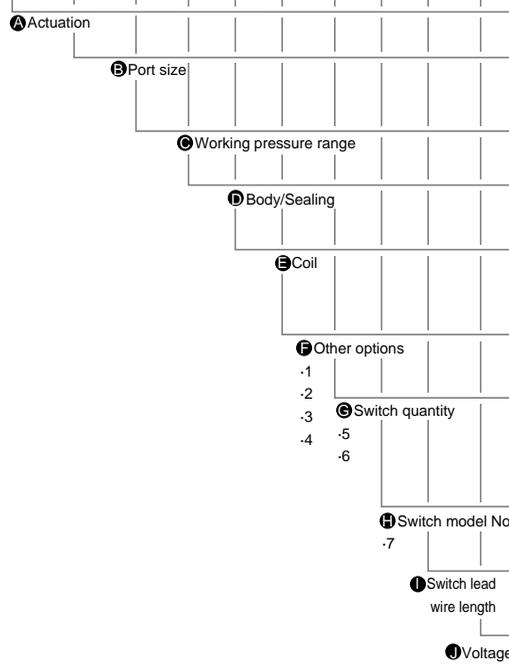
• Solenoid valve mounted type



• Switch mounted solenoid valve



Series



Series	
CVS2/CVS22	CVS2/CVS22 -with switch

Symbol	Descriptions		
A	Blank	Normally closed (NC type)	● ●
	2	Normally open (NO type)	● ●
B	10A	Rc3/8	● ●
	15A	Rc1/2	● ●
	20A	Rc3/4	● ●
	25A	Rc1	● ●
C	16	0 to 1.6MPa	● ●
	30	0 to 3.0MPa	● ●
D	Body Seal		
	0	STD Cast iron Nitrile rubber	● ●
E	B	Option Cast iron Fluoro rubber	● ●
	2G	DIN terminal box (Pg9)	● ●
F	2H	DIN terminal box + light (Pg9)	● ●
	3T	T terminal box (G1/2)	● ●
	3R	T terminal box + light (G1/2)	● ●
	Blank	No options	● ●
G	S	Surge suppressor	● ●
	B	Mounting plate	● ●
	Blank	No switch	● ●
H	X	No switch but w/detecting magnet	● ●
	H	Detection at valve open	● ●
	R	Detection at valve closed	● ●
	D	2 switches	● ●
I	Blank	No switch	● ●
	C2	Proximity/2 wire	● ●
	C3	Proximity/3 wire	● ●
J	Blank	No switch	● ●
	3	3m	● ●
	5	5m	● ●
K	1	AC100V(50/60Hz) AC110V(60Hz)	● ●
	2	AC200V(50/60Hz) AC220V(60Hz)	● ●
	3	DC24V	● ●

Coolant valve

● shows availability.

### <Example of model number>

CVS22-15A-16-02GS-HC23-1

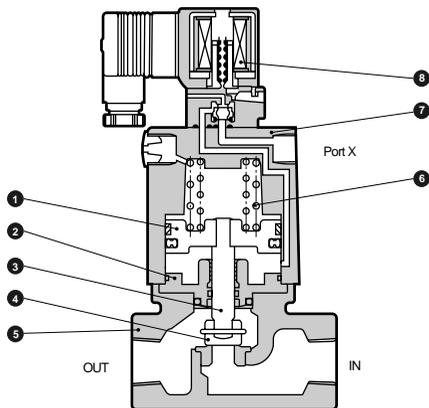
Series : CVS2

- A Actuation : Normally open (NO type)
- B Port size : Rc1/2
- C Working pressure range : 0 to 1.6MPa
- D Body/Sealing : Body- cast iron/Sealing- nitrile
- E Coil : DIN terminal box (Pg9)
- F Other options : Surge suppressor
- G Switch quantity : Detection at valve open
- H Switch model No. : Proximity 2 wire
- I Switch lead wire : 3m
- J Voltage : AC100V(50/60Hz)AC110V(60Hz)

-1 : Mounting plate ("F" is B) isn't available for port size CVS2 \* -25A-16 and CVS2 \* -20A/25A-30.  
 -2 : When selecting both surge suppressor and mounting plate options, indicate "F" as SB.  
 -3 : Surge suppressor is mounted in the terminal box.  
 -4 : When with mounting plate, since any switch cannot be installed on the mounting plate end, switch quantity should be X, H or R.  
 -5 : When "G" is blank, any switch cannot be installed later. If switches will be installed later, indicate "G" as X.  
 -6 : When "G" switch quantity is X, H, R or D, it's subject to manufacturing after receiving the order.  
 -7 : See P.558 about switch model.

## Internal structure and main parts materials

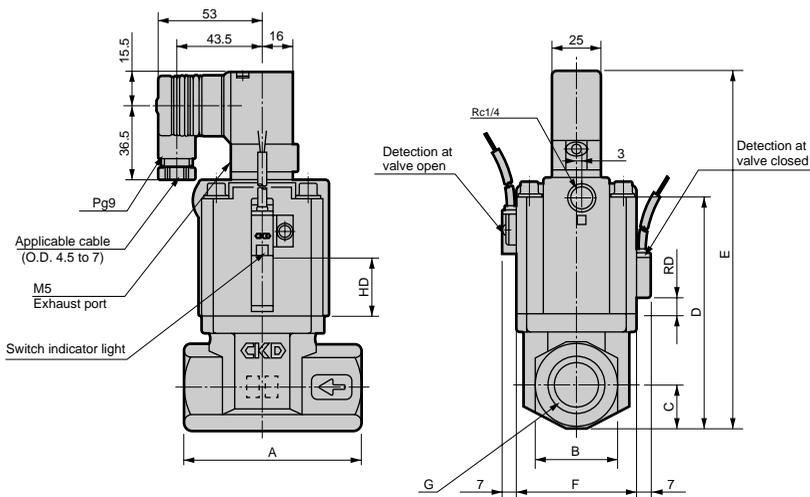
• CVS2



No.	Parts name	Material	
1	Piston	A2011	Aluminum
2	Adapter	SUS303	Stainless steel
3	Piston rod	SUS304	Stainless steel
4	Main valving element	SUS440	Stainless steel
5	Body	FCD450	Cast iron
6	Valve seat	SUS440	Stainless steel
7	Spring	SWP	Piano wire
8	Cylinder cover	ADC12	Aluminum die-casting
8	Pilot solenoid valve	-	-

## Dimensions

• CVS2/ CVS22-10A to 25A-16/30- \* $\frac{2G}{2H}$  \*  $\frac{HC23}{RC35}$  \*  $\frac{D}{35}$  (File name : Page 559 to 560 or Ending 29 to 31)



Model	A	B	C	D	E	F	G	HD	RD
CVS2 * -10A-16- * 2G/H	80	36	18	99	161.5	53	Rc3/8	16	9.2
CVS2 * -15A-16- * 2G/H	80	36	18	99	161.5	53	Rc1/2	16	9.2
CVS2 * -20A-16- * 2G/H	90	43	21.5	113.5	176	63	Rc3/4	17	9.7
CVS2 * -25A-16- * 2G/H	90	46	23	133.5	196.5	78	Rc1	25.5	17.8
CVS2 * -10A-30- * 2G/H	80	36	18	99	161.5	53	Rc3/8	16	9.2
CVS2 * -15A-30- * 2G/H	90	43	21.5	113.5	176	63	Rc1/2	17	9.7
CVS2 * -20A-30- * 2G/H	90	46	23	133.5	196.5	78	Rc3/4	25.5	19.3
CVS2 * -25A-30- * 2G/H	90	43	21.5	152	215	95	Rc1	28.5	15.8

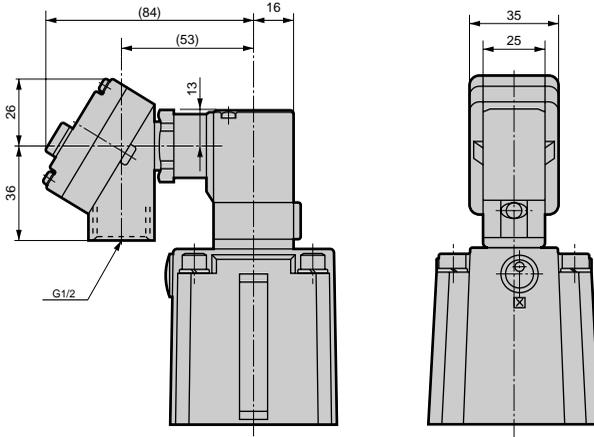
\*1: HD, RD dimensions show reference values.

**Optional dimensions**

- T type terminal box (G1/2)
- T terminal box + light (G1/2)



(File name : Page 559 to 560 or Ending 29 to 31)

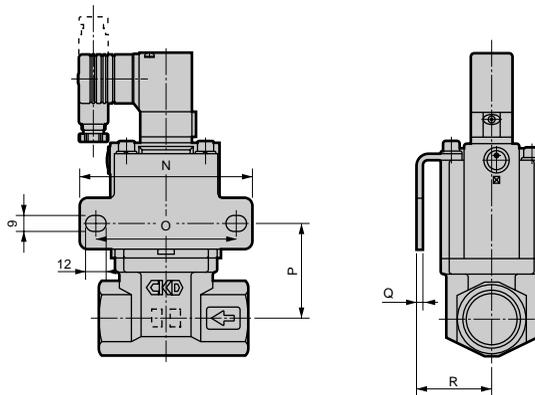


**Mounting plate**

CVS2/CVS22-10A to 20A-16/30- \*\* B



(File name : Page 559 to 560 or Ending 29 to 31)



Model	N	O	P	Q	R
CVS2 * -10A-16- ** B	95	75	50	3.2	40
CVS2 * -15A-16- ** B	95	75	50	3.2	40
CVS2 * -20A-16- ** B	105	85	55	3.2	45
CVS2 * -10A-30- ** B	95	75	50	3.0	40
CVS2 * -15A-30- ** B	105	85	55	3.2	45

-1: Mounting plate isn't attached except the models above.

# Discontinue

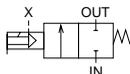
2-port solenoid valve for coolant : Normally closed, normally open  
**HIGH PRESSURE COOLANT VALVE CVS2/CVS22-70 SERIES**

- 7.0MPa
- Port size : Rc3/8, Rc1/2, Rc3/4, Rc1

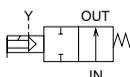


### JIS symbol

• NC type



• NO type



### Common specifications

Series	CVS2	CVS22
Actuation	Normally closed (NC type)	Normally open (NO type)
Working fluid	Coolant	
Fluid viscosity mm <sup>2</sup> /S	500 or less	
Working pressure range MPa	0 to 7.0	
Withstanding pressure (water) MPa	14	
Fluid temperature °C	-10 to 60 (no freezing)	
Ambient temperature °C	-10 to 60	
Valve seat leakage cm <sup>3</sup> /min	20 or less (under water pressure)	
Installation attitude	Free	
Pilot air pressure MPa	0.25 to 0.7	
Pilot port size	Rc1/4	

### Electrical specifications

Rated voltage	AC100V(50/60Hz) /110V(60Hz), AC200V(50/60Hz)/220V (60Hz), DC24V	
Apparent power (VA)	Holding	3.9VA(50Hz), 3.1VA(60Hz)
	Starting	9.2VA(50Hz), 7.9VA(60Hz)
Power consumption (W)	AC	2.0W(50Hz), 1.7W(60Hz)
	DC	4.0W
Insulation class	Class B	
Protection structure (IEC standards 529)	Grommet lead wire	IPX2
	DIN terminal box (Pg9)	IPX5
	T terminal box (G1/2)	IPX6

- 1: Allowable voltage range should be within ±10% of rated voltage.

Switch specifications	C2	C3
Applications	Programmable controller	Programmable controller, relay IC circuit, small solenoid valve
Power voltage	-	DC10 to 28V
Load voltage/current	DC10 to 30V, 5 to 30mA	DC30V, 150mA or less
Light	LED (ON lighting)	
Maximum shock resistance	30G	

- 2 : See P.558 about other switch specifications.

### Individual specifications

Descriptions	Port size	Orifice (mm)	Cv flow factor	Mass (kg)
Series				
CVS2/CVS22-10A-70	Rc3/8	6.5	1.6	1.6
CVS2/CVS22-15A-70	Rc1/2	8	2.5	2.8
CVS2/CVS22-20A-70	Rc3/4	10	4.0	4.5
CVS2/CVS22-25A-70	Rc1	13	6.7	7.1



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### How to order

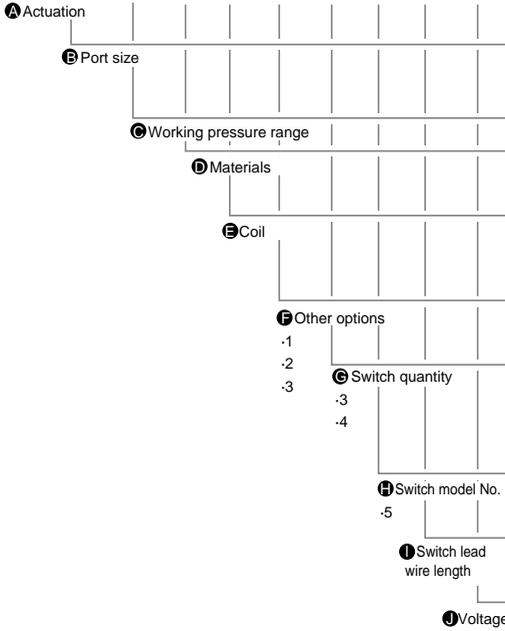
• Solenoid valve mounted type

CVS2 2 - 10A - 70 - 0 2G B - 1

• Switch mounted solenoid valve

CVS2 2 - 15A - 70 - 0 2G S - H C2 3 - 1

Series



		Series	
		CVS2/CVS22	CVS2/CVS22 -with switch
Symbol	Descriptions		
<b>A</b>	Blank	Normally closed (NC type)	●
	2	Normally open (NO type)	●
<b>B</b>	10A	Rc3/8	●
	15A	Rc1/2	●
	20A	Rc3/4	●
	25A	Rc1	●
<b>C</b>	70	0 to 7.0MPa	●
<b>D</b> Packing seal/gasket			
<b>D</b>	0	STD Nitrile rubber	●
	B	Option Fluoro rubber	●
<b>E</b>	2G	DIN terminal box (Pg9)	●
	2H	DIN terminal box + light (Pg9)	●
	3T	T terminal box (G1/2)	●
	3R	T terminal box + light (G1/2)	●
<b>F</b>	Blank	No options	●
	S	Surge suppressor	●
	B	Mounting plate	●
<b>G</b>	Blank	No switch	●
	X	No switch but w/detecting magnet	●
	H	Detection at valve open	●
	R	Detection at valve closed	●
<b>H</b>	Blank	No switch	●
	C2	Proximity/2 wire	●
	C3	Proximity/3 wire	●
<b>I</b>	Blank	No switch	●
	3	3m	●
	5	5m	●
<b>J</b>	1	AC100V(50/60Hz) AC110V(60Hz)	●
	2	AC200V(50/60Hz) AC220V(60Hz)	●
	3	DC24V	●

● shows availability.

Coolant valve

### <Example of model number>

CVS22-15A-70-02GS-HC23-1

Series : CVS2

- A** Actuation : Normally open (NO type)
- B** Port size : Rc1/2
- C** Working pressure range : 0 to 7.0MPa
- D** Materials : Packing seal/gasket - nitrile rubber
- E** Coil : DIN terminal box (Pg9)
- F** Other options : Surge suppressor
- G** Switch quantity : Detection at valve open
- H** Switch model No. : Proximity 2 wire
- I** Switch lead wire : 3m
- J** Voltage : AC100V(50/60Hz)AC110V(60Hz)

-1 : When selecting both surge suppressor and mounting plate options, indicate "F" as SB.

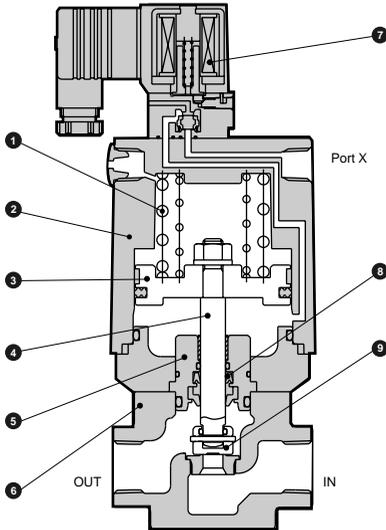
-2 : Mounting plate is attached.

-3 : Since any mounting plate cannot be installed on the switch assembling end, when "F" is indicated as B, D (two switches) isn't available for "G".

-4 : When "G" is blank, any switch cannot be installed later. If switches will be installed later, indicate "G" as X.

-5 : See P.558 about switch model.

Internal structure and main parts materials  
 • CVS2



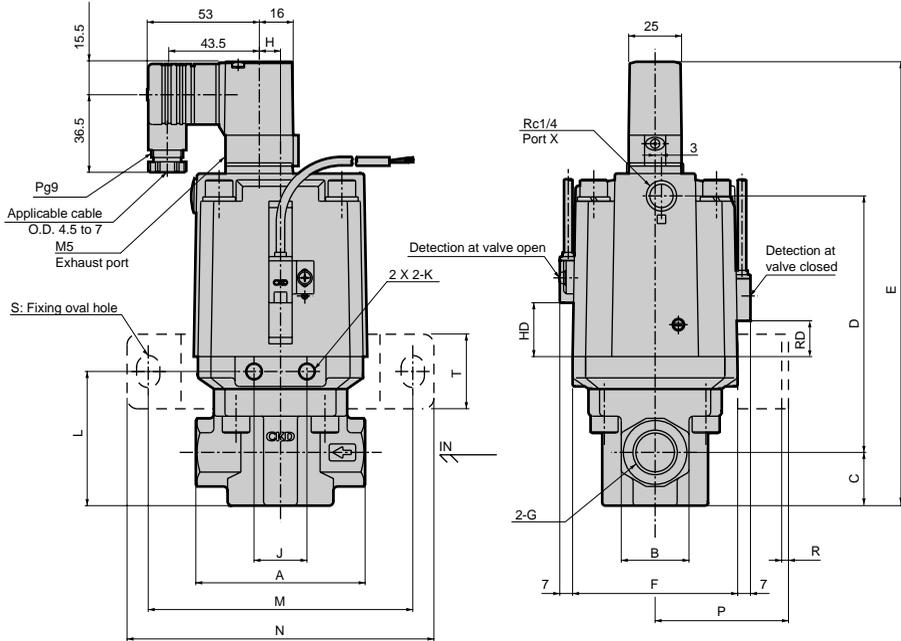
• Figure shows NC type.

No.	Parts name	Material	
1	Spring	SWP	Piano wire
2	Cylinder cover	ADC12	Aluminum die-casting
3	Piston	A2017	Aluminum
4	Piston rod	SUS304	Stainless steel
5	Adapter	SUS303	Stainless steel
6	Body	FCD450	Cast iron
7	Pilot solenoid valve	-	-
8	Rod packing	NBR(FKM)	Nitrile rubber (Fluoro rubber)
9	Main valving element	SUS440	Stainless steel

( ) shows options.

### Dimensions

• CVS2/CVS22-10A to 25A-70 \*  \*   (File name : Page 559 to 560 or Ending 29 to 31)



Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P
CVS2/CVS22-10A-70	60	28	22	98	182.5	63	Rc3/8	0	20	M6 thread length 9	57	85	100	45
CVS2/CVS22-15A-70	80	32	25	120.5	208.5	78	Rc1/2	10	25	M8 thread length 10	63	125	145	63
CVS2/CVS22-20A-70	90	40	29	134.5	226.5	95	Rc3/4	15	25	M8 thread length 10	72	125	145	71.5
CVS2/CVS22-25A-70	110	48	33.5	150.5	247	115	Rc1	25	45	M12 thread length 14	84	160	190	85

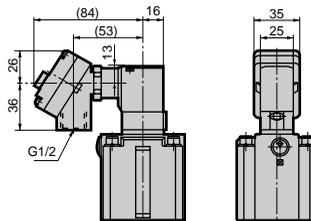
Model	R	S	T	HD	RD
CVS2/CVS22-10A-70	3.2	9 X 12	25	17	10.2
CVS2/CVS22-15A-70	3.2	11 X 15	35	25.5	18.3
CVS2/CVS22-20A-70	3.2	11 X 15	35	28.5	18.3
CVS2/CVS22-25A-70	4	14 X 20	40	32.5	20.3

-1: HD, RD dimensions show reference values.

### Optional dimensions

- T type terminal box (G1/2)
- T terminal box + light (G1/2)

 (File name : Page 559 to 560 or Ending 29 to 31)



# Discontinue

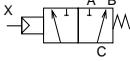
## 3 port air operated valves for coolant : Directional type MEDIUM/HIGH PRESSURE COOLANT VALVE CV31-35/70 SERIES

- For 3.5MPa/7.0MPa
- Port size : Rc3/8, Rc1/2, Rc3/4, Rc1



### JIS symbol

· Directional type



### Common specifications

Series	Standard specifications
Actuation	Directional type (C port pressurized only)
Working fluid	Coolant
Fluid viscosity mm <sup>2</sup> /S	500 or less
Working pressure range MPa	0 to 7.0 (refer to working pressure range on individual specifications.)
Fluid temperature °C	-10 to 60 (no freezing)
Ambient temperature °C	-10 to 60
Valve seat leakage cm <sup>3</sup> /min	20 or less (under water pressure)
Installation attitude	Free
Pilot air pressure MPa	0.25 to 0.5
Pilot port size	Rc1/4

Switch specifications	C2	C3
Applications	Programmable controller	Programmable controller, relay IC circuit, small solenoid valve
Power voltage	-	DC10 to 28V
Load voltage/current	DC10 to 30V, 5 to 30mA	DC30V, 150mA or less
Light	LED (ON lighting)	
Maximum shock resistance	30G	

· 1: See P. 558 about other switch specifications.

### Individual specifications

Descriptions Series	Port size	Orifice (mm)		Cv flow factor	Working pressure range (MPa)	Withstanding pressure (water) (MPa)	Mass (kg)
		NC end	NO end				
CV31-10A-35	Rc3/8	Equivalent to 5.8	4.5	1.0	0 to 3.5	7	1.1
CV31-15A-35	Rc1/2	Equivalent to 7.1	6	1.8			1.7
CV31-20A-35	Rc3/4	Equivalent to 8.9	7	3			3.1
CV31-25A-35	Rc1	Equivalent to 10.7	9	4			5.0
CV31-10A-70	Rc3/8	Equivalent to 5.8	4.5	1.0	0 to 7.0	14	1.6
CV31-15A-70	Rc1/2	Equivalent to 7.1	6	1.8			2.8
CV31-20A-70	Rc3/4	Equivalent to 7.9	7	2.8			4.5
CV31-25A-70	Rc1	Equivalent to 9.8	9	3.8			7.1



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### How to order

· Air operated type

CV31 - 20A - 35 - B B - X

· Air operated type with switch

CV31 - 15A - 70 - 0 B - R C3 5

Series

**A** Port size

**B** Working pressure range

**C** Materials

**D** Other options

-1 **E** Switch quantity

.2

.3

**F** Switch model No.

**G** Switch lead wire length

Series	
CV31	CV31 -with switch

Symbol	Descriptions	CV31	CV31 -with switch
<b>A</b> Port size	10A Rc3/8	●	●
	15A Rc1/2	●	●
	20A Rc3/4	●	●
	25A Rc1	●	●
<b>B</b>	35 0 to 3.5MPa	●	●
	70 0 to 7.0MPa	●	●
<b>C</b> Packing seal/gasket	0 STD Nitrile rubber	●	●
	B Option Fluoro rubber	●	●
	Blank No options	●	●
<b>D</b>	B Mounting plate	●	●
	Blank No switch	●	
<b>E</b> Switch quantity	X No switch but w/detecting magnet	●	
	H Detection at valve return		●
	R Detection at valve operating		●
	D 2 switches		●
<b>F</b>	Blank No switch	●	
	C2 Proximity/2 wire		●
	C3 Proximity/3 wire		●
<b>G</b>	Blank No switch	●	
	3 3m		●
	5 5m		●

● shows availability.

Coolant valve

### <Example of model number>

CV31-15A-70-0B-RC35

Series : CV31

<b>A</b> Port size	: Rc1/2
<b>B</b> Working pressure range	: 0 to 7.0MPa
<b>C</b> Materials	: Packing seal/gasket - nitrile rubber
<b>D</b> Other options	: Mounting plate
<b>E</b> Switch quantity	: Detection at valve operating
<b>F</b> Switch model No.	: Proximity 3 wire
<b>G</b> Switch lead wire	: 5m

-1 : Mounting plate is attached.

-2 : Since any mounting plate cannot be installed on the switch assembling end, when "D" is indicated as B, D (two switches) isn't available for "E".

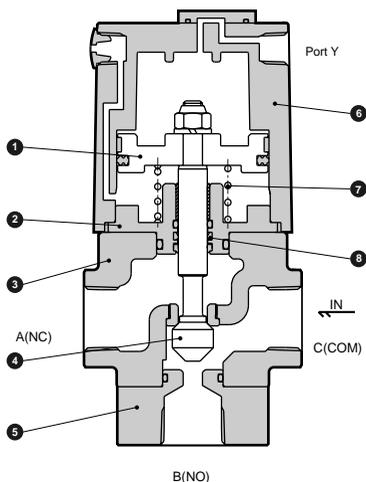
-3 : When "F" is blank, any switch cannot be installed later.

If switches will be installed later, indicate "D" as X.

-4 : See P.558 about switch model.

## Internal structure and main parts materials

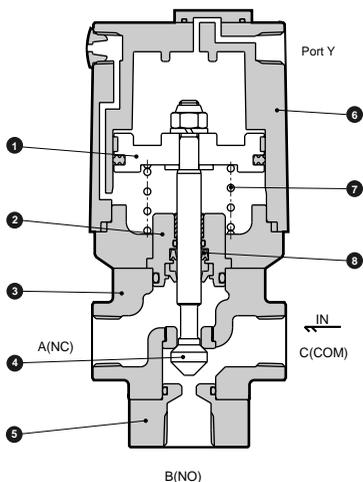
• CV31 (3.5MPa)



No.	Parts name	Material	
1	Piston	A2017	Aluminum
2	Adapter	SUS303	Stainless steel
3	Body	FCD450	Cast iron
4	Valve stem	SUS420J2	Stainless steel
5	NO Body	SUS303	Stainless steel
6	Cylinder cover	ADC12	Aluminum die-casting
7	Spring	SWP	Piano wire
8	Rod packing	NBR(FKM)	Nitrile rubber (Fluoro rubber)

( ) shows options.

• CV31 (7.0MPa)



No.	Parts name	Material	
1	Piston	A2017	Aluminum
2	Adapter	SUS303	Stainless steel
3	Body	FCD450	Cast iron
4	Valve stem	SUS420J2	Stainless steel
5	NO Body	SUS303	Stainless steel
6	Cylinder cover	ADC12	Aluminum die-casting
7	Spring	SWP	Piano wire
8	Rod packing	NBR(FKM)	Nitrile rubber (Fluoro rubber)

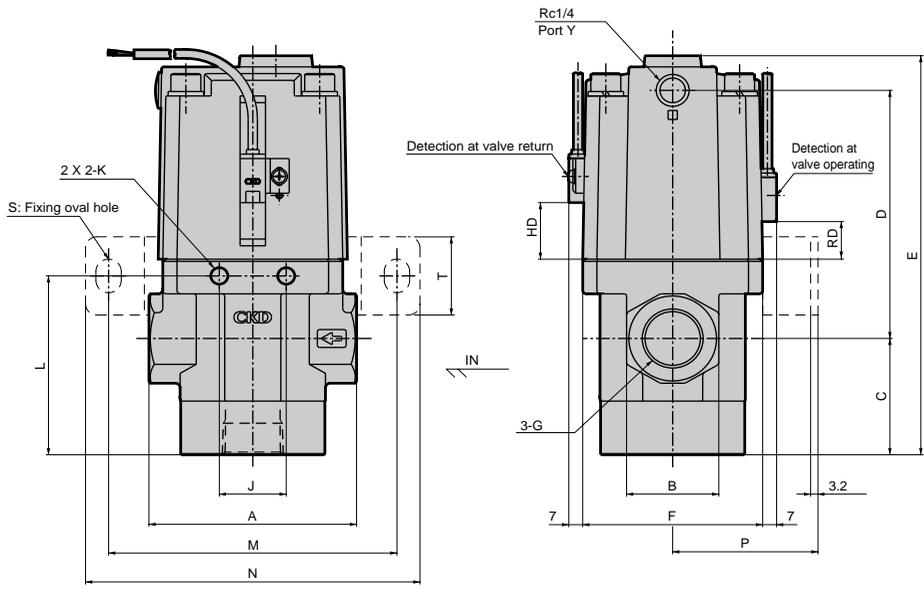
( ) shows options.

### Dimensions

• CV31 (3.5MPa)



(File name : Page 559 to 560 or Ending 29 to 31)



Coolant valve

Model	A	B	C	D	E	F	G	J	K	L	M	N	P
CV31-10A-35	60	28	35.5	78.5	124	53	Rc3/8	20	M6 thread length 9	57	85	100	40
CV31-15A-35	80	32	43.5	87.5	141	63	Rc1/2	20	M6 thread length 9	66	85	100	45
CV31-20A-35	90	40	52	111	178.5	78	Rc3/4	25	M8 thread length 10	80	125	145	63
CV31-25A-35	110	48	61	125	201.5	95	Rc1	25	M8 thread length 10	94	125	145	71.5

Model	S	T	HD	RD
CV31-10A-35	9 X 12	25	15	9
CV31-15A-35	9 X 12	25	16	9.2
CV31-20A-35	11 X 15	35	24	17.8
CV31-25A-35	11 X 15	35	27	17.8

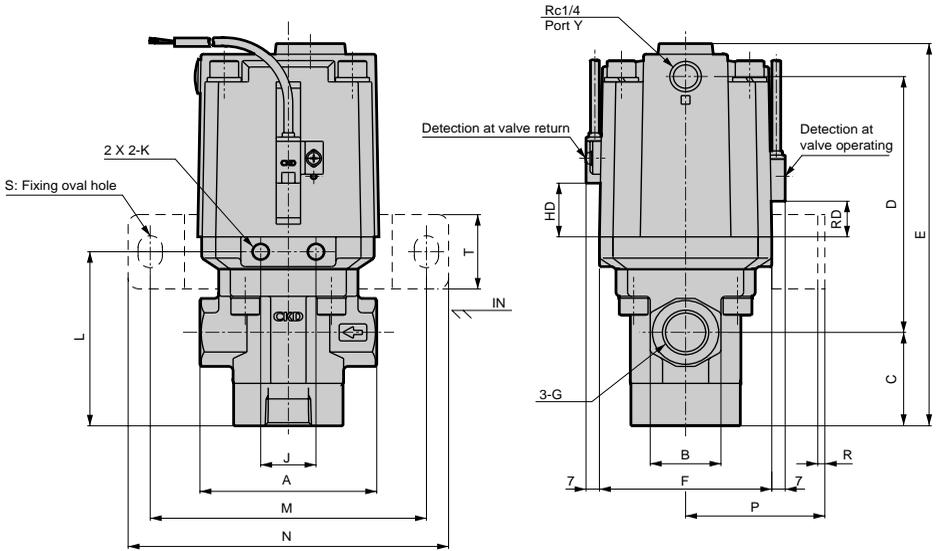
·1: HD, RD dimensions show reference values.

## Dimensions

- CV31 (7.0MPa)



(File name : Page 559 to 560 or Ending 29 to 31)



Model	A	B	C	D	E	F	G	J	K	L	M	N	P
CV31-10A-70	60	28	35.5	98	143.5	63	Rc3/8	20	M6 thread length 9	70.5	85	100	45
CV31-15A-70	80	32	43.5	120.5	179.5	78	Rc1/2	25	M8 thread length 10	81.5	125	145	63
CV31-20A-70	90	40	52	134.5	202	95	Rc3/4	25	M8 thread length 10	95	125	145	71.5
CV31-25A-70	110	48	61	150.5	227	115	Rc1	45	M12 thread length 14	111.5	160	190	85
Model	R	S	T	HD	RD								
CV31-10A-70	3.2	9 X 12	25	15.5	9.5								
CV31-15A-70	3.2	11 X 15	35	24	17.8								
CV31-20A-70	3.2	11 X 15	35	26.5	18.3								
CV31-25A-70	4	14 X 20	40	30.5	20.3								

.1: HD, RD dimensions show reference values.

# Discontinue

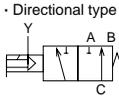
3-port solenoid valve for coolant : Directional type

## MEDIUM/HIGH PRESSURE COOLANT VALVE CVS31-35/70 SERIES

- For 3.5MPa/7.0MPa
- Port size : Rc3/8, Rc1/2, Rc3/4, RC1



### JIS symbol



### Common specifications

Series	Standard specifications	
Actuation	Directional type (C port pressurized only)	
Working fluid	Coolant	
Fluid viscosity mm <sup>2</sup> /S	500 or less	
Working pressure range MPa	0 to 7.0 (refer to working pressure range on individual specifications.)	
Fluid temperature °C	-10 to 60 (no freezing)	
Ambient temperature °C	-10 to 60	
Valve seat leakage cm <sup>3</sup> /min	20 or less (under water pressure)	
Installation attitude	Free	
Pilot air pressure MPa	0.25 to 0.5	
Pilot port size	Rc1/4	

### Electrical specifications

Rated voltage	AC100V(50/60Hz) /110V(60Hz), AC200V(50/60Hz)/220V (60Hz), DC24V	
Apparent power (VA)	Holding	3.9VA(50Hz), 3.1VA(60Hz)
	Starting	9.2VA(50Hz), 7.9VA(60Hz)
Power consumption (W)	AC	2.0W(50Hz), 1.7W(60Hz)
	DC	4.0W
Insulation class	Class B	
Protection structure (IEC standards 529)	DIN terminal box (Pg9)	IPX5
	T terminal box (G1/2)	IPX6

·1: Allowable voltage range should be within ±10% of rated voltage.

Switch specifications	C2	C3
Applications	Programmable controller	Programmable controller, relay IC circuit, small solenoid valve
Power voltage	-	DC10 to 28V
Load voltage/current	DC10 to 30V, 5 to 30mA	DC30V, 150mA or less
Light	LED (ON lighting)	
Maximum shock resistance	30G	

·2 : See P.558 about other switch specifications.

Coolant valve

### Individual specifications

Descriptions	Port size	Orifice (mm)		Cv flow factor	Working pressure range (MPa)	Withstanding pressure (water) (MPa)	Mass (kg)
		NC end	NO end				
CVS31-10A-35	Rc3/8	Equivalent to 5.8	4.5	1.0	0 to 3.5	7	1.2
CVS31-15A-35	Rc1/2	Equivalent to 7.1	6	1.8			1.8
CVS31-20A-35	Rc3/4	Equivalent to 8.9	7	3			3.2
CVS31-25A-35	Rc1	Equivalent to 10.7	9	4	0 to 7.0	14	5.1
CVS31-10A-70	Rc3/8	Equivalent to 5.8	4.5	1.0			1.7
CVS31-15A-70	Rc1/2	Equivalent to 7.1	6	1.8			2.9
CVS31-20A-70	Rc3/4	Equivalent to 7.9	7	2.8			4.6
CVS31-25A-70	Rc1	Equivalent to 9.8	9	3.8	7.2		



CAD DATA AVAILABLE.

### How to order

· Solenoid valve mounted type

CVS31 - 20A - 70 - B 2G S - 1

· Switch mounted solenoid valve

CVS31 - 15A - 35 - 0 2H B - R C3 5 - 3

Series

**A** Port size

**B** Working pressure range

**C** Materials

**D** Coil

**E** Other options

.1  
.2  
.3

**F** Switch quantity

.3  
.4  
.5

**G** Switch model No.

.5

**H** Switch lead wire length

**I** Voltage

Series	
CVS31	CVS31 -with switch

Symbol	Descriptions	CVS31	CVS31 -with switch
<b>A</b> Port size	10A Rc3/8	●	●
	15A Rc1/2	●	●
	20A Rc3/4	●	●
	25A Rc1	●	●
<b>B</b> Working pressure range	35 0 to 3.5MPa	●	●
	70 0 to 7.0MPa	●	●
<b>C</b> Packing seal/gasket	0 STD Nitrile rubber	●	●
	B Option Fluoro rubber	●	●
<b>D</b> Coil	2G DIN terminal box (Pg9)	●	●
	2H DIN terminal box + light (Pg9)	●	●
	3T T terminal box (G1/2)	●	●
	3R T terminal box + light (G1/2)	●	●
<b>E</b> Other options	Blank No options	●	●
	S Surge suppressor	●	●
<b>F</b> Switch quantity	B Mounting plate	●	●
	Blank No switch	●	
<b>G</b> Switch model No.	X No switch but w/detecting magnet	●	
	H Detection at valve return		●
	R Detection at valve operating		●
	D 2 switches		●
<b>H</b> Switch lead wire length	Blank No switch	●	
	C2 Proximity/2 wire		●
	C3 Proximity/3 wire		●
<b>I</b> Voltage	Blank No switch	●	
	3 3m		●
	5 5m		●
<b>I</b> Voltage	1 AC100V(50/60Hz) AC110V(60Hz)	●	●
	2 AC220V(50/60Hz) AC220V(60Hz)	●	●
	3 DC24V	●	●

● shows availability.

### <Example of model number>

CVS31-15A-35-02HB-RC35-3

Series : CVS31

- A** Port size : Rc1/2
- B** Working pressure range : 0 to 3.5MPa
- C** Materials : Packing seal/gasket - nitrile rubber
- D** Coil : DIN terminal box + light (Pg9)
- E** Other options : Mounting plate
- F** Switch quantity : Detection at valve operating
- G** Switch model No. : Proximity 3 wire
- H** Switch lead wire : 5m
- I** Voltage : DC24V

.1 : When selecting both surge suppressor and mounting plate, indicate "E" as SB.

.2 : Mounting plate is attached.

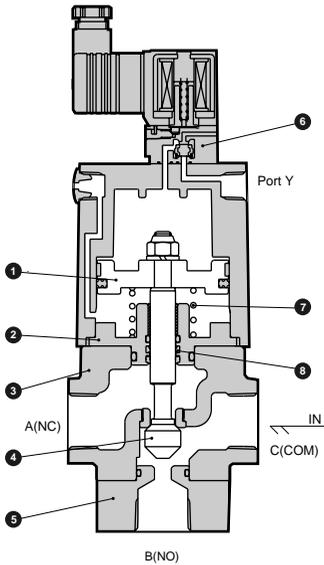
.3 : Since any mounting plate cannot be installed on the switch assembling end, when "E" is indicated as B, D (two switches) isn't available for "F".

.4 : When "F" is blank, any switch cannot be installed later.

If switches will be installed later, indicate "F" as X.

.5 : See P.558 about switch model.

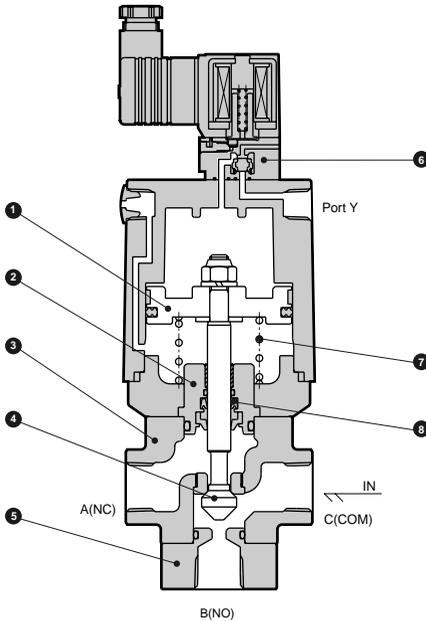
Internal structure and main parts materials  
 • CVS31 (3.5MPa)



No.	Parts name	Material	
1	Piston	A2017	Aluminum
2	Adapter	SUS303	Stainless steel
3	Body	FCD450	Cast iron
4	Valve stem	SUS420J2	Stainless steel
5	NO body	SUS303	Stainless steel
6	Pilot solenoid valve	-	-
7	Spring	SWP	Piano wire
8	Rod packing	NBR(FKM)	Nitrile rubber (Fluoro rubber)

( ) shows options.

• CVS31 (7.0MPa)

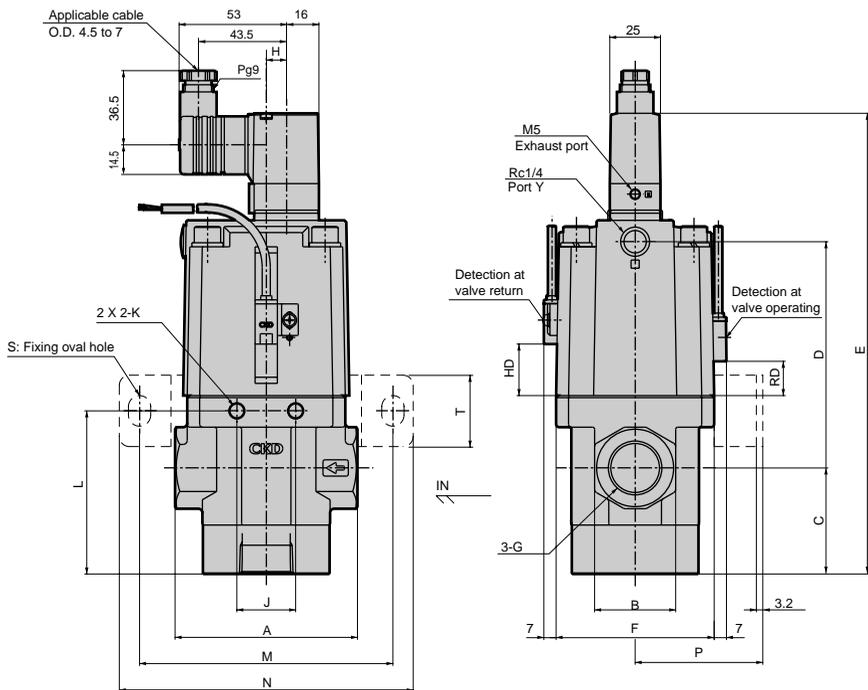


No.	Parts name	Material	
1	Piston	A2017	Aluminum
2	Adapter	SUS303	Stainless steel
3	Body	FCD450	Cast iron
4	Valve stem	SUS420J2	Stainless steel
5	NO body	SUS303	Stainless steel
6	Pilot solenoid valve	-	-
7	Spring	SWP	Piano wire
8	Rod packing	NBR(FKM)	Nitrile rubber (Fluoro rubber)

( ) shows options.

## Dimensions

- CVS31-10A to 25A-35- \*  -   (File name : Page 559 to 560 or Ending 29 to 31)

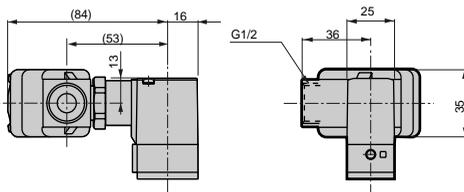


Model	A	B	C	D	E	F	G	H	J	K	L	M	N
CVS31-10A-35	60	28	35.5	78.5	176.5	53	Rc3/8	0	20	M6 thread length 9	57	85	100
CVS31-15A-35	80	32	43.5	87.5	193.5	63	Rc1/2	0	20	M6 thread length 9	66	85	100
CVS31-20A-35	90	40	52	111	226	78	Rc3/4	10	25	M8 thread length 10	80	125	145
CVS31-25A-35	110	48	61	125	249	95	Rc1	15	25	M8 thread length 10	94	125	145

Model	P	S	T	HD	RD
CVS31-10A-35	40	9 X 12	25	15	9
CVS31-15A-35	45	9 X 12	25	16	9.2
CVS31-20A-35	63	11 X 15	35	24	17.8
CVS31-25A-35	71.5	11 X 15	35	27	17.8

·1: HD, RD dimensions show reference values.

- T type terminal box (G1/2)  (File name : Page 559 to 560 or Ending 29 to 31)
- T terminal box + light (G1/2)

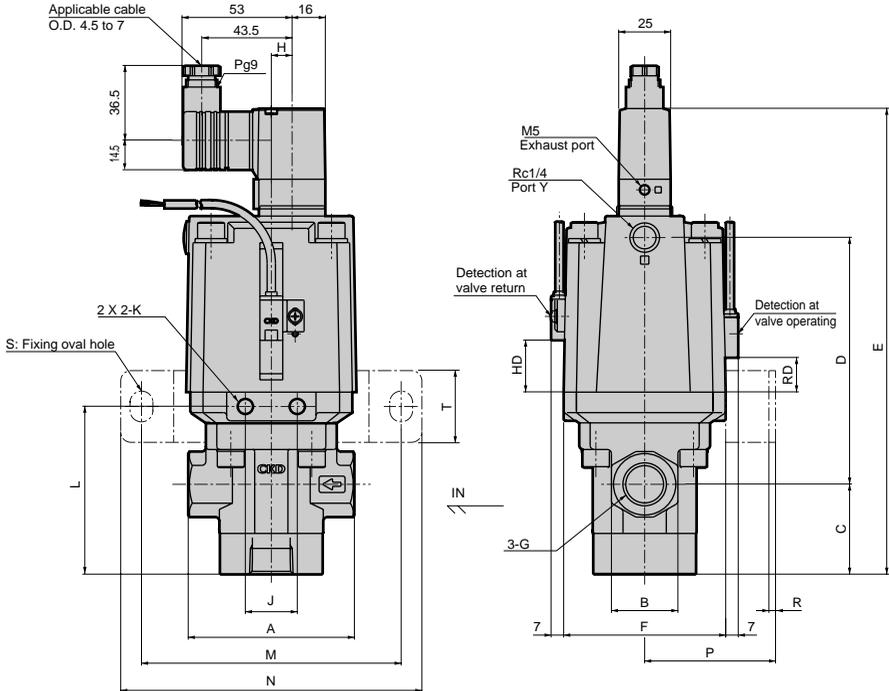


# Discontinue

CVS31-35-70 Series

## Dimensions

- CVS31-10A to 25A-70- \*  \*  \*  (File name : Page 559 to 560 or Ending 29 to 31)



Coolant valve

Model	A	B	C	D	E	F	G	H	J	K	L	M	N
CVS31-10A-70	60	28	35.5	98	196	63	Rc3/8	0	20	M6 thread length 9	70.5	85	100
CVS31-15A-70	80	32	43.5	120.5	227	78	Rc1/2	10	25	M8 thread length 10	81.5	125	145
CVS31-20A-70	90	40	52	134.5	249.5	95	Rc3/4	15	25	M8 thread length 10	95	125	145
CVS31-25A-70	110	48	61	150.5	274.5	115	Rc1	25	45	M12 thread length 14	111.5	160	190
Model	P	R	S	T	HD	RD							
CVS31-10A-70	45	3.2	9 X 12	25	15.5	9.5							
CVS31-15A-70	63	3.2	11 X 15	35	24	17.8							
CVS31-20A-70	71.5	3.2	11 X 15	35	26.5	18.3							
CVS31-25A-70	85	4	14 X 20	40	30.5	20.3							

·1: HD, RD dimensions show reference values.

# Discontinue

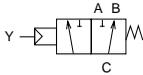
3 port air operated valve for coolant

## MEDIUM PRESSURE COOLANT VALVE CV3-35 SERIES

- 3.5MPa
- Port size : Rc1<sup>1</sup>/<sub>4</sub>, Rc1<sup>1</sup>/<sub>2</sub>, Rc2

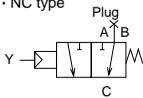


### JIS symbol

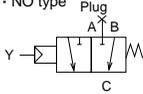


When using as 2 way valve

· NC type



· NO type



### Common specifications

Series	CV3-35
Actuation	Port C pressurized type
Working fluid	Coolant
Fluid viscosity mm <sup>2</sup> /S	500 or less
Working pressure range MPa	0 to 3.5
Withstanding pressure (water)MPa	7.0
Fluid temperature °C	-10 to 60 (no freezing)
Ambient temperature °C	-10 to 60
Valve seat leakage cm <sup>3</sup> /min	10 or less (under water pressure)
Installation attitude	Free
Pilot air pressure MPa	0.25 to 0.5
Pilot port size	Rc1/4

Switch specifications	C2	C3
Applications	Programmable controller	Programmable controller, relay IC circuit, small solenoid valve
Power voltage	-	DC10 to 28V
Load voltage/current	DC10 to 30V, 5 to 30mA	DC30V, 150mA or less
Light	LED (ON lighting)	
Maximum shock resistance	30G	

· 1: See P. 558 about other switch specifications.

### Individual specifications

Descriptions	Port size	Orifice (mm)		Cv flow factor	Mass (kg)
		NC end	NO end		
CV3-32A-35	Rc1 <sup>1</sup> / <sub>4</sub>	Equivalent to 22	20	16.7	22.3
CV3-40A-35	Rc1 <sup>1</sup> / <sub>2</sub>	Equivalent to 22	20	16.7	22.3
CV3-50A-35	Rc2	Equivalent to 28.5	26	25	37.3

### How to order

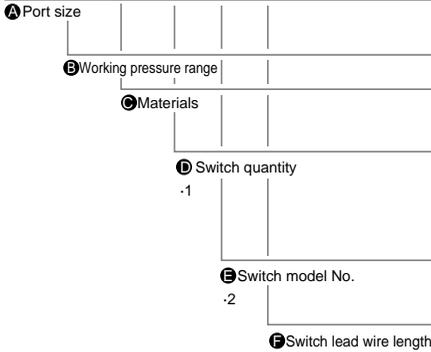
• Air operated type

CV3 - 32A - 35 - 0 - X

• Air operated type with switch

CV3 - 32A - 35 - B - H C2 3

Series



		Series	
		CV3	CV3 -with switch
Symbol	Descriptions		
<b>A</b>	32A Rc1 <sup>1</sup> / <sub>4</sub>	●	●
	40A Rc1 <sup>1</sup> / <sub>2</sub>	●	●
	50A Rc2	●	●
<b>B</b>	35 0 to 3.5MPa	●	●
<b>C Packing seal/gasket</b>			
	0 STD Nitrile rubber	●	●
	B Option Fluoro rubber	●	●
<b>D</b>	Blank No switch	●	
	X No switch but w/detecting magnet	●	
	H Detection at valve return		●
	R Detection at valve operating		●
	D 2 switches		●
<b>E</b>	Blank No switch	●	
	C2 Proximity/2 wire		●
	C3 Proximity/3 wire		●
<b>F</b>	Blank No switch	●	
	3 3m		●
	5 5m		●

● shows availability.

### <Example of model number>

CV3-32A-35-B-HC23

Series : CV3

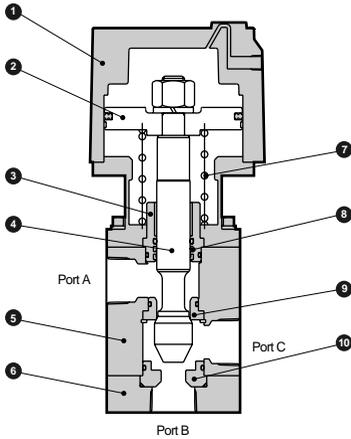
- A** Port size : Rc1<sup>1</sup>/<sub>4</sub>
- B** Working pressure range : 0 to 3.5MPa
- C** Materials : Packing seal/gasket-(Fluoro)
- D** Switch quantity : Detection at valve return
- E** Switch model No. : Proximity 2 wire
- F** Switch lead wire : 3m

<sup>1</sup>: When "D" is blank, any switch cannot be installed later.

If switches will be installed later, indicate "F" as X.

<sup>2</sup>: See P.558 about switch model.

Internal structure and main parts materials  
 • CV3



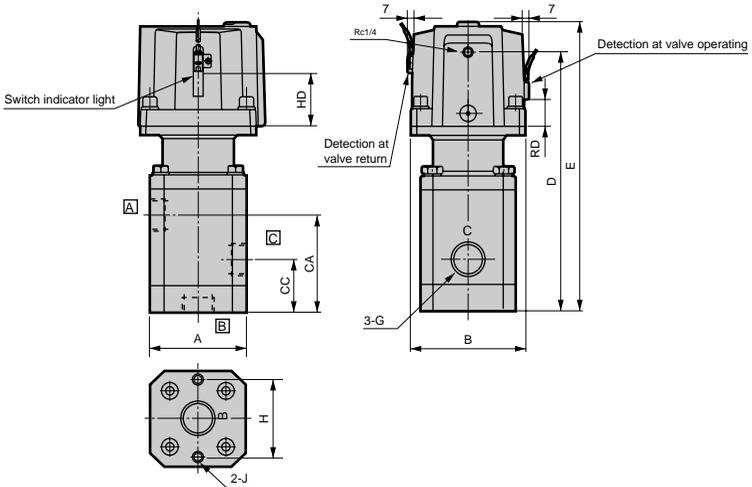
No.	Parts name	Material	
1	Cylinder cover	AC7A	Aluminum die casting
2	Piston	A2017	Aluminum
3	Rod bushing	SUS303	Stainless steel
4	Valve stem	SUS420J2	Stainless steel
5	NC body	S45C	Carbon steel
6	NO body	S45C	Carbon steel
7	Spring	SUP	Spring steel
8	Rod packing	NBR(FKM)	Nitrile rubber (Fluoro rubber)
9	NC valve seat	SUS303	Stainless steel
10	NO valve seat	SUS303	Stainless steel

( ) shows options.

Dimensions

• CV3-32A/40A/50A-35- \* 

H	C2	3
R	C3	5
D		



Model	A	B	CA	CC	D	E	G	H	J	HD	RD
CV3-32A-35- *	120	145	118	63	313	349	Rc1/4	100	M12 depth: 33	40.5	27.8
CV3-40A-35- *	120	145	118	63	313	349	Rc1 1/2	100	M12 depth: 33	40.5	27.8
CV3-50A-35- *	140	176	135	75	380	430	Rc2	106	M12 depth: 38	49.5	35

.1: HD, RD dimensions show reference values.

# Discontinue

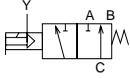
3-port solenoid valve for coolant

## MEDIUM PRESSURE COOLANT VALVE CVS3-35 SERIES

- 3.5MPa
- Port size : Rc1<sup>1</sup>/<sub>4</sub>, Rc1<sup>1</sup>/<sub>2</sub>, Rc2

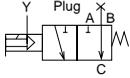


### JIS symbol

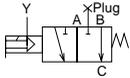


When using as 2 way valve

• NC type



• NO type



### Common specifications

Series	CVS3-35
Actuation	Port C pressurized type
Working fluid	Coolant
Fluid viscosity mm <sup>2</sup> /S	500 or less
Working pressure range MPa	0 to 3.5
Withstanding pressure (water) MPa	7.0
Fluid temperature °C	-10 to 60 (no freezing)
Ambient temperature °C	-10 to 60
Valve seat leakage cm <sup>3</sup> /min	10 or less (under water pressure)
Installation attitude	Free
Pilot air pressure MPa	0.25 to 0.5
Pilot port size	Rc1/4

### Electrical specifications

Rated voltage	AC100V(50/60Hz) /110V(60Hz), AC200V(50/60Hz)/220V (60Hz), DC24V	
Apparent power (VA)	Holding	3.9VA(50Hz), 3.1VA(60Hz)
	Starting	9.2VA(50Hz), 7.9VA(60Hz)
Power consumption (W)	AC	2.0W(50Hz), 1.7W(60Hz)
	DC	4.0W
Insulation class	Class B	
Protection structure (IEC standards 529)	DIN terminal box (Pg9)	IPX5
	T terminal box (G1/2)	IPX6

· 1: Allowable voltage range should be within ±10% of rated voltage.

Switch specifications	C2	C3
Applications	Programmable controller	Programmable controller, relay IC circuit, small solenoid valve
Power voltage	-	DC10 to 28V
Load voltage/current	DC10 to 30V, 5 to 30mA	DC30V, 150mA or less
Light	LED (ON lighting)	
Maximum shock resistance	30G	

· 2: See P.558 about other switch specifications.

### Individual specifications

Descriptions	Port size	Orifice (mm)		Cv flow factor	Mass (kg)
		NC end	NO end		
Series CVS3-32A-35	Rc1 <sup>1</sup> / <sub>4</sub>	Equivalent to 22	20	16.7	22.4
CVS3-40A-35	Rc1 <sup>1</sup> / <sub>2</sub>	Equivalent to 22	20	16.7	22.4
CVS3-50A-35	Rc2	Equivalent to 28.5	26	25	37.4



CAD DATA AVAILABLE.

### How to order

· Solenoid valve mounted type

CVS3 - 40A - 35 - B 2H S - 1

· Switch mounted solenoid valve

CVS3 - 32A - 35 - 0 2G S - H C2 3 - 3

Series

A Port size

B Working pressure range

C Materials

D Coil

E Other options

F Switch quantity

G Switch model No.

H Switch lead wire length

I Voltage

		Series	
		CVS3	CVS3 -with switch
Symbol	Descriptions		
A	32A	Rc1¼	● ●
	40A	Rc1½	● ●
	50A	Rc2	● ●
B	35	0 to 3.5MPa	● ●
C Packing seal/gasket			
	0	STD Nitrile rubber	● ●
	B	Option Fluoro rubber	● ●
D	2G	DIN terminal box (Pg9)	● ●
	2H	DIN terminal box + light (Pg9)	● ●
	3T	T terminal box (G1/2)	● ●
	3R	T terminal box + light (G1/2)	● ●
E	Blank	No options	● ●
	S	Surge suppressor	● ●
F	Blank	No switch	●
	X	No switch but w/detecting magnet	●
	H	Detection at valve return	●
	R	Detection at valve operating	●
	D	2 switches	●
G	Blank	No switch	●
	C2	Proximity/2 wire	●
	C3	Proximity/3 wire	●
H	Blank	No switch	●
	3	3m	●
	5	5m	●
I	1	AC100V(50/60Hz)	● ●
		AC110V(60Hz)	● ●
	2	AC200V(50/60Hz)	● ●
		AC220V(60Hz)	● ●
3	DC24V	● ●	

● shows availability.

Coolant valve

### <Example of model number>

CVS3-32A-35-02GS-HC23-3

Series : CVS3

- A Port size : Rc1¼
- B Working pressure range : 0 to 3.5MPa
- C Materials : Packing seal/gasket - nitrile rubber
- D Coil : DIN terminal box (Pg9)
- E Other options : Surge suppressor
- F Switch quantity : Detection at valve return
- G Switch model No. : Proximity 2 wire
- H Switch lead wire : 3m
- I Voltage : DC24V

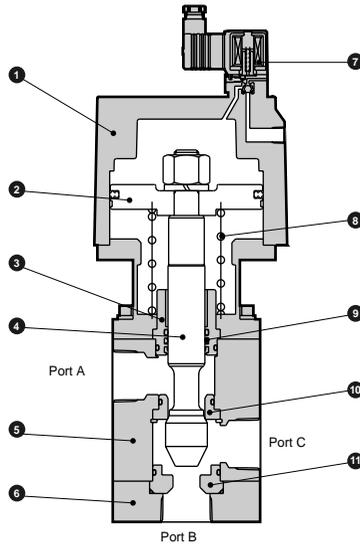
-1 : Surge suppressor is mounted in the terminal box.

-2 : When "F" is blank, any switch cannot be installed later. If switches will be installed later, indicate "F" as X.

-3 : When "F" switch quantity is X, H, R, or D, it's subject to manufacturing after receiving the order.

-4 : See P.558 about switch model.

Internal structure and main parts materials  
 • CVS3

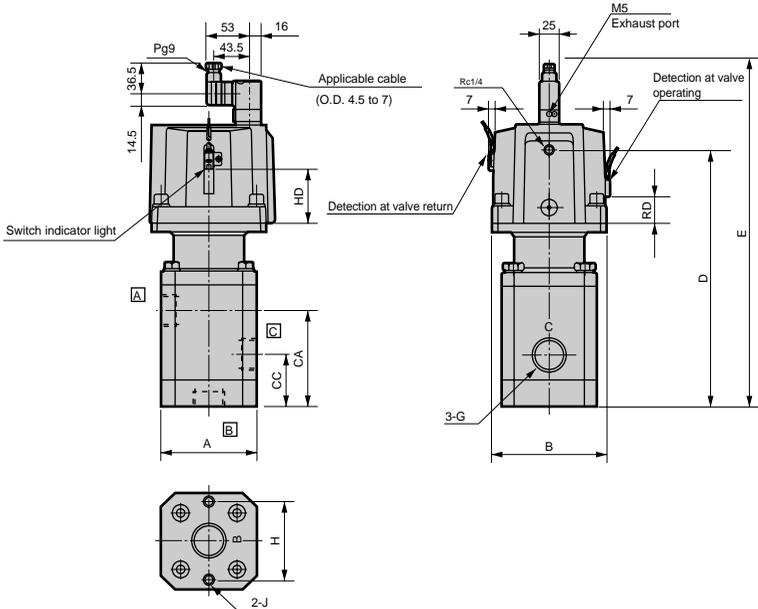


No.	Parts name	Material	
1	Cylinder cover	AC7A	Aluminum die casting
2	Piston	A2017	Aluminum
3	Rod bushing	SUS303	Stainless steel
4	Valve stem	SUS420J2	Stainless steel
5	NC body	S45C	Carbon steel
6	NO body	S45C	Carbon steel
7	Pilot solenoid valve	-	-
8	Spring	SUP	Spring steel
9	Rod packing	NBR(FKM)	Nitrile rubber (Fluoro rubber)
10	NC valve seat	SUS303	Stainless steel
11	NO valve seat	SUS303	Stainless steel

( ) shows options.

### Dimensions

- CVS3-32A/40A/50A-35- \* \* \* (File name : Page 559 to 560 or Ending 29 to 31)



Model	A	B	CA	CC	D	E	G	H	J	HD	RD
CVS3-32A-35- * 2G/H	120	145	118	63	313	417.5	Rc1 <sup>1</sup> / <sub>4</sub>	100	M12 depth 33	40.5	27.8
CVS3-40A-35- * 2G/H	120	145	118	63	313	417.5	Rc1 <sup>1</sup> / <sub>2</sub>	100	M12 depth 33	40.5	27.8
CVS3-50A-35- * 2G/H	140	176	135	75	380	498.5	Rc2	106	M12 depth 38	49.5	35

.1: HD, RD dimensions show reference values.

### Optional dimensions

- T type terminal box (G1/2) (File name : Page 559 to 560 or Ending 29 to 31)
- T terminal box + light (G1/2)
- CVS3-32A/40A/50A-35- \*

