

Compact pilot operated solenoid valve for water

FWD Series

- NC (open when energized)
- Port size: Rc1/4 to Rc1

Specifications

Item		FWD11-8A	FWD11-10A	FWD11-15A	FWD11-20A	FWD11-25A
Actuation		NC (open when energized)				
Working fluid		Water (excluding sewage, agricultural water, liquid manure and antifreeze liquid)				
Working pressure differential	MPa	0.02 (≈2.9 psi, 0.2 bar) to 0.7 (≈100 psi, 7 bar)				
Max. working pressure	MPa	0.7 (≈100 psi, 7 bar)				
Proof pressure (water pressure)	MPa	1.05 (≈150 psi, 10.5 bar)				
Fluid temperature	°C	5 (41°F) to 60 (140°F) (no freezing)				
Ambient temperature	°C	-10 (14°F) to 60 (140°F) (no freezing)				
Atmosphere		Place free of corrosive gas and explosive gas				
Valve structure		Pilot operated poppet, diaphragm drive				
Valve seat leakage	cm^3/min	0 (water pressure) (*1)				
Mounting orientation		Unrestricted				
Degree of protection		IPX5				
Port size		Rc1/4	Rc3/8	Rc1/2	Rc3/4	Rc1
Orifice size	mm	15 (*2)			22 (*2)	
Cv		2.8	4.2	6.0	11.0	12.0
Weight	g	340	320	390	730	950
Rated voltage		100 VAC 50/60 Hz, 200 VAC 50/60 Hz, 24 VDC				
Voltage fluctuation range		Rated voltage ±10%				
Apparent power	VA	When holding (50/60 Hz): 5/4, when starting (50/60 Hz): 9/8			When holding (50/60 Hz): 9.5/7, when starting (50/60 Hz): 23/20	
Power consumption	W	AC(50/60 Hz):2.7/2, DC:4			AC(50/60 Hz):4/3.2, DC:4	
Thermal class		Class 130 (B)				

*1 : Valve seat leakage of 0 cm^3/min means that no water drop leak is observed for one minute.
*2 : Orifice size means the size of valve seat.

How to order

FWD11 - 15 A - 0 2GS B - AC100V

Model No.
Ⓐ Port size
Ⓑ Thread
Ⓒ Body/sealant combination
Ⓓ Coil option
Ⓔ Mounting plate
Ⓕ Rated voltage *2

Code	Description
Ⓐ Port size	
8	1/4
10	3/8
15	1/2
20	3/4
25	1
Ⓑ Thread	
A	Rc thread
G	G thread
N	NPT thread
Ⓒ Body/sealant combination	
0	Copper alloy (port size: 8, 10, 15)/PPS Bronze (port size: 20, 25) — Seal: NBR
B	Copper alloy (port size: 8, 10, 15)/PPS Bronze (port size: 20, 25) — Seal: FKM
D	Stainless steel/PPS — Seal: NBR
E	Stainless steel/PPS — Seal: FKM
Ⓓ Coil option	
2C	Grommet lead wire
2CS	Grommet lead wire with surge suppressor
2G	With DIN terminal box (*1)
2GS	DIN terminal box/with surge suppressor (*1)
2H	DIN terminal box/with lamp (*1)
2HS	DIN terminal box/with lamp/surge suppressor (*1)
Ⓔ Mounting plate	
Blank	None
B	Mounting plate (port size: 8, 10 and 15 only)
Ⓕ Rated voltage	
AC100V	100 VAC 50/60 Hz, 110 VAC 60 Hz
AC200V	200 VAC 50/60 Hz, 220 VAC 60 Hz
DC24V	24 VDC

Precautions for model No. selection

*1 : Pg9 for port sizes 8, 10 and 15, and Pg11 for 20 and 25.
*2 : Rated voltages of 110 VAC, 50/60 Hz and 220 VAC, 50/60 Hz are also available. Contact CKD for details.

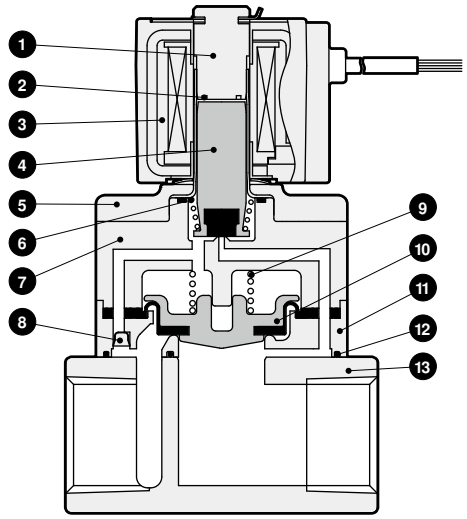
[Example of model No.]

FWD11-15A-02GSB-AC100V

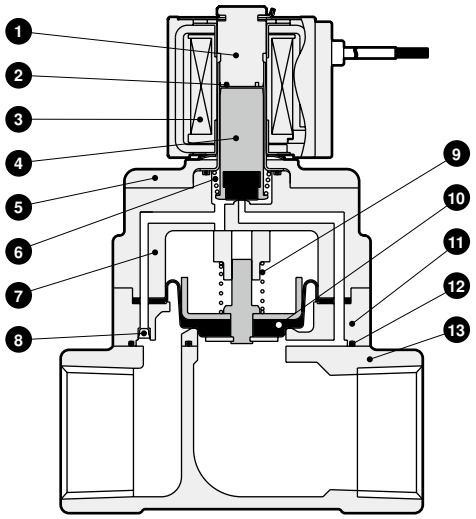
Ⓐ Port size : 1/2
Ⓑ Thread : Rc thread
Ⓒ Body/sealant combination : Copper alloy/PPS, NBR
Ⓓ Coil option : With DIN terminal box/surge suppressor (Pg9)
Ⓔ Mounting plate : With mounting plate
Ⓕ Rated voltage : 100 VAC 50/60 Hz, 110 VAC 60 Hz

Internal structure and parts list

● FWD11-8/10/15



● FWD11-20/25



No.	Part name	Material		No.	Part name	Material	
1	Core assembly	SUS	Stainless steel	8	Filter	SUS	Stainless steel
2	Shading coil *1	Cu (Ag for stainless steel body)	Copper (silver for stainless steel body)	9	Valve spring	SUS	Stainless steel
3	Coil	–	–	10	Diaphragm assembly	Port size: 8, 10, 15; PPS/NBR (FKM)	Polyphenylene sulfide/ nitrile rubber (fluoro rubber)
4	Plunger	SUS/NBR (FKM)	Stainless steel, nitrile rubber (fluoro rubber)			Port size: 20, 25; SUS/NBR (FKM)	Stainless steel, nitrile rubber (fluoro rubber)
5	Holder plate	PPS	Polyphenylene sulfide	11	Valve body	PPS	Polyphenylene sulfide
6	Plunger spring	SUS	Stainless steel	12	Gasket	NBR (FKM)	Nitrile rubber (fluoro rubber)
7	Stuffing assembly	PPS/SUS/NBR (FKM)	Polyphenylene sulfide/Stainless steel, nitrile rubber (fluoro rubber)	13	Main body	Port size: 8, 10, 15; C3771 (SCS13)	Copper alloy (stainless steel)
						Port size: 20, 25; CAC408 (SCS13)	Copper alloy (stainless steel)

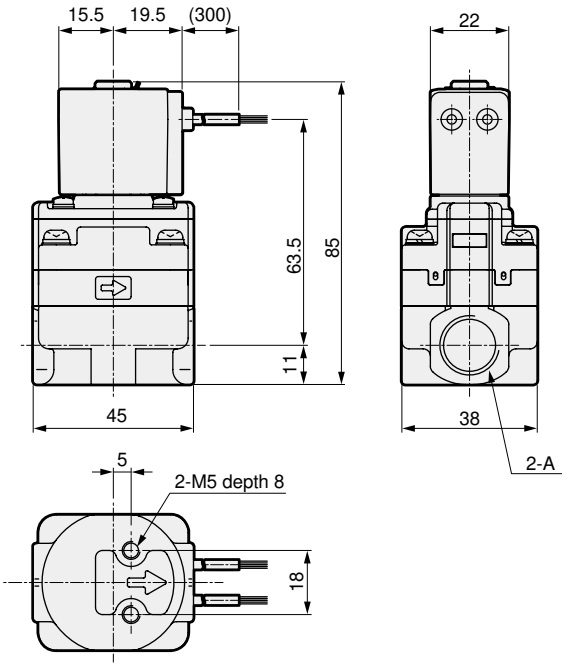
( ) shows options.
*1: No shading coil is used for DC coil.

Note: Screws are steel.

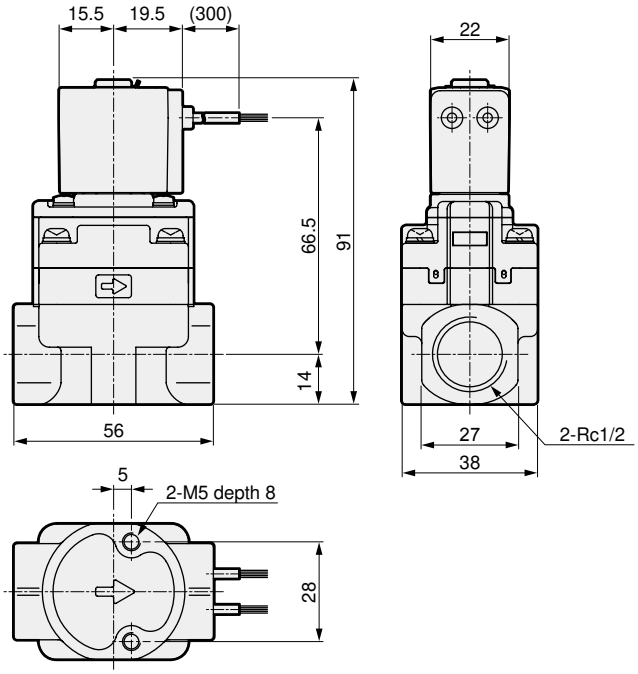
Dimensions (port size: 8A, 10A, 15A)

● Grommet lead wire

FWD11-8A/10A-*2C



FWD11-15A-*2C

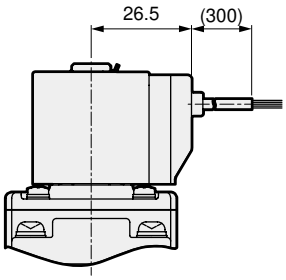


Model No.	A
FWD11-8A	Rc1/4
FWD11-10A	Rc3/8

Optional dimensions (port size: 8A, 10A, 15A)

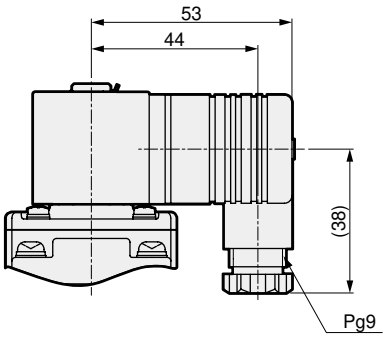
● Grommet lead wire with surge suppressor

FWD11-8A/10A/15A-*2CS



● With DIN terminal box

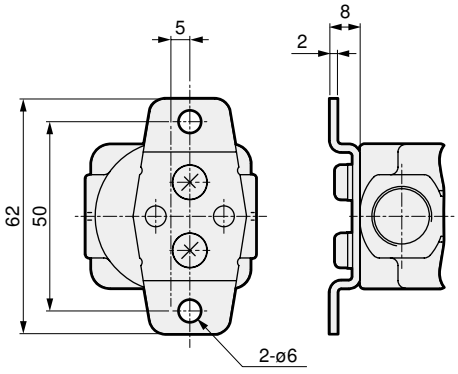
FWD11-8A/10A/15A-*2G/2GS/2H/2HS



● Mounting plate

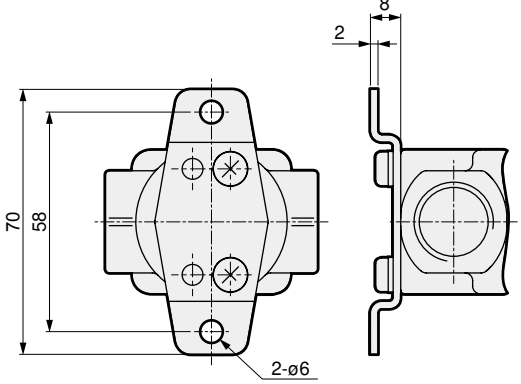
FWD11-8A/10A-**B

Material: Steel
Zinc plated



FWD11-15A-**B

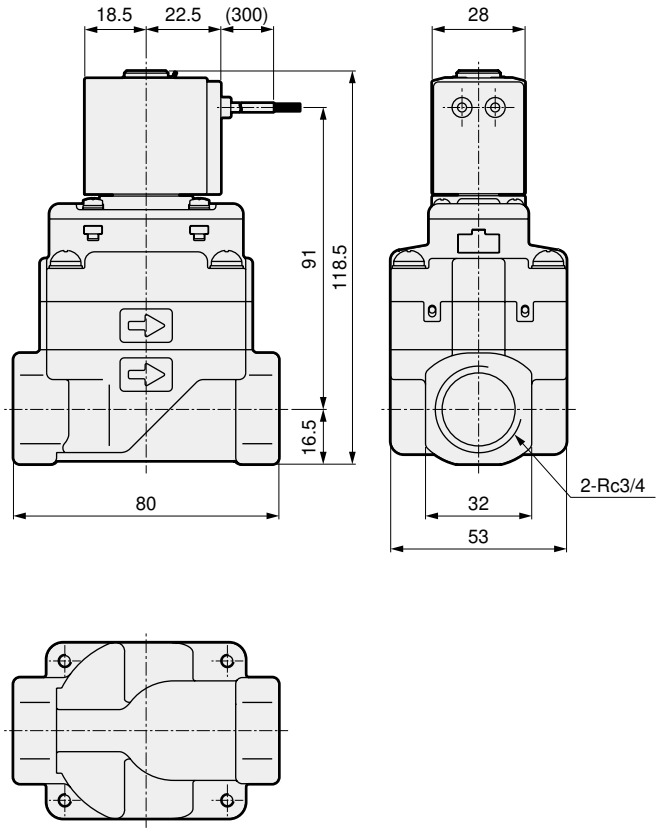
Material: Steel
Zinc plated



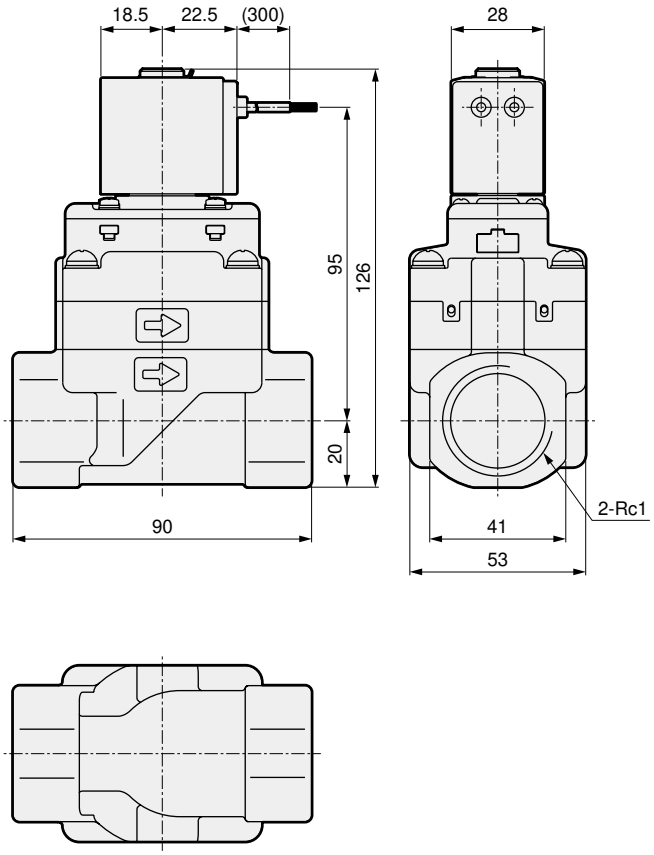
Dimensions (port size 20A, 25A)

● Grommet lead wire

FWD11-20A-*2C



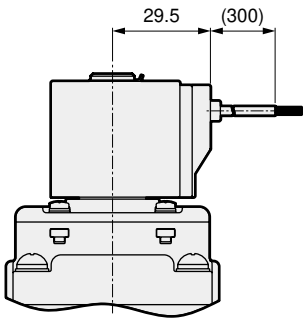
FWD11-25A-*2C



Optional dimensions (port size: 20A, 25A)

● Grommet lead wire with surge suppressor

FWD11-20A/25A-*2CS



● With DIN terminal box

FWD11-20A/25A-*2G/2GS/2H/2HS

