

DD-2,3

RED MAN™
ULTRA-HIGH PERFORMANCE SOLENOID

Pilot type	Direct type	Piston	Diaphragm
Normally closed	Normally opened	AC coil	DC coil
Stainless steel	110 V / 220 V	Explosion-proof	JWWA
Leak 0			



■Features

1. Outstanding corrosion resistance achieved by adopting stainless steel for major parts and body.
2. Significantly improved corrosion resistance with stainless steel made body and trim parts.
3. Various installation postures: Vertical or horizontal including intermediates.
4. Equipped with coil of AC 110/220V selective and common for 50 Hz/60 Hz.
5. DD-3-8N can be used as pilot solenoid valve for constant water level valve up to 50A.
(For 65A and larger, DP-200-N is recommended.)

■Specifications

Model		DD-2	DD-2-8	DD-3	DD-3-8	DD-3-8N
Application		Steam, Air, Cold and hot water, N ₂ gas, CO ₂ gas (dry), Ar gas, Oil		Air, Cold and hot water, N ₂ gas, CO ₂ gas (dry), Ar gas, Oil		
Fluid viscosity		20 cSt or less				
Working pressure		0-0.15 MPa	0-0.8 MPa	0-0.15 MPa	0-0.8 MPa	
Orifice (mm)		φ 9.5	φ 4.0	φ 9.5	φ 4.0	
Cv value		1.7	0.55	1.7	0.55	
Allowable valve seat leakage		50 mL/min under standard conditions		No (by confirming pressure gauge visually)		
MAX temperature		175°C		100°C		90°C
Operation		Normally closed				
Material	Body	Stainless steel (SCS14A)				
	Plunger	Stainless steel				
	Valve disc	PTFE		FKM		
Connection		JIS Rc screwed				

■Specification of Coil

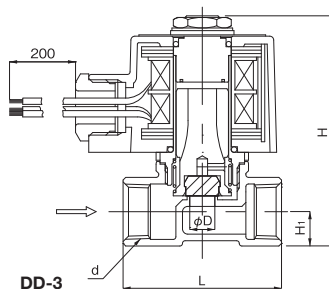
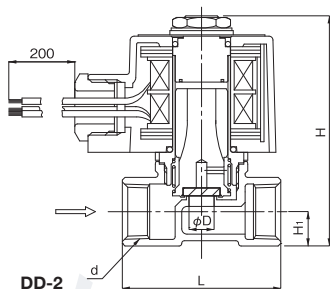
Rated voltage	AC 100 / 200 V selective type		AC 110 / 220 V selective type	
	50 / 60 Hz common			
Allowable fluctuation	Rated voltage ±10%			
Rated current	0.42 / 0.21 A		0.38 / 0.19 A	
Starting current	1.10 / 0.55 A		1.00 / 0.50 A	
Insulation class	Insulation class H			
Protective structure	Dust proof, Splash proof			
Ingress protection code	IP64 (JIS C0920)			
Insulation resistance	50 MΩ and more/500V megger			
Withstand voltage test	1500 V/min			

· Available with the terminal box.

■ Dimensions (mm) and Weights (kg)

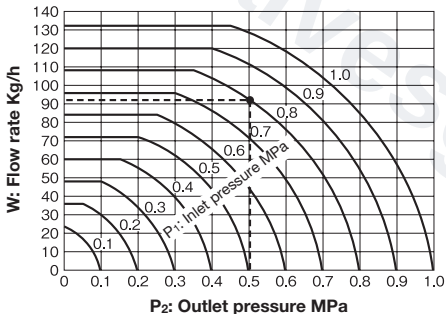
Nominal size	d	L	H	H ₁	Weight
10A	Rc 3/8	50	85.5	12	0.66
15A	Rc 1/2	60	87.5	13	0.69
20A	Rc 3/4	65	91	16.5	0.74

Model	φ D(mm)
DD-2	9.5
DD-3	
DD-2-8	4.0
DD-3-8	

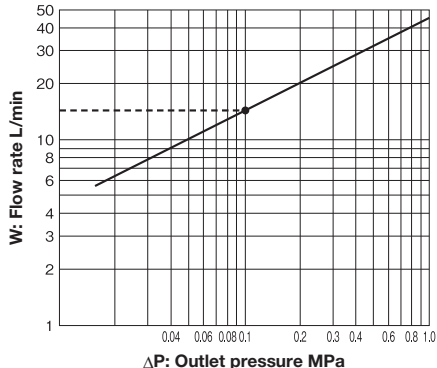


■ Nominal Size Selection Chart

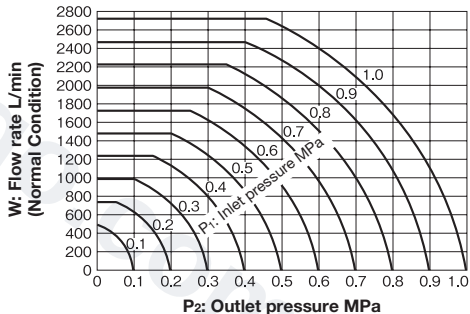
· For steam (Cv = 1)



· For water (Cv = 1)



· For air (Cv = 1)



· How to determine the flow rate (Steam, Air)

First find the flow rate (W for steam, Q for air), the intersection of inlet pressure P₁ and outlet pressure P₂. Secondly, multiply the flow rate Q or W by Cv value for each model.

[Example] · Model: DD-2-8 (Cv value: 0.55)

- Fluid: Steam
- Inlet Pressure (P₁): 0.8 MPa
- Outlet Pressure (P₂): 0.5 MPa

Flow rate W is 92 kg/h, which is the intersection of P₁ = 0.8 MPa and P₂ = 0.5 MPa, as shown by the dashed line. Next, multiply W = 92 kg/h by the Cv value of 0.55. Therefore: 92 kg/h x 0.55 = 50.6 kg/h

· How to determine the flow rate (Water)

First calculate pressure loss ΔP and then find the flow rate V in the above chart. Secondly, multiply the flow rate V by Cv value for each model.

[Example] · Model: DD-3 (Cv value: 1.7)

- Inlet Pressure (P₁): 0.15 MPa
- Outlet Pressure (P₂): 0.05 MPa

Pressure loss is calculated as ΔP = P₁ - P₂ = 0.1 MPa.

Then, find the flow rate V = 14 L/min as shown by the dashed lines in the above chart. Next, multiply V = 14 L/min by the Cv value of 1.7.

Therefore: 14 L/min x 1.7 = 23.8 L/min

* Please refer to P.11-9 for Cv value and calculation formula.