

# DP-100, 100F

# DP-100-C, 100F-C

**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			



DP-100



DP-100-C



DP-100F



DP-100F-C

## ■ Features

1. Ultra-high performance technology gives high precision in performance.
2. Three-times more durability than our conventional models.
3. ASM (Anti-Sticking Mechanism) for three-times more scale resistance.
4. Body and main parts made of stainless steel give higher corrosion resistance, making usable for clean fluid.
5. A combined internal component enables easy cartridge replacement with this product installed.
6. Improve air tightness by adopting PTFE gasket.
7. Usable for wide pressure range of 0-1.0 MPa (0.03-1.0 MPa if the coil is sideways).
8. Horizontal and vertical installation (within 90 degrees from upward position of the coil).

## ■ Specifications

Model	Normally closed	DP-100*	DP-100F*
	Normally opened	DP-100-C	DP-100F-C
Nominal size	10A-50A		15A-65A
Structure	Pilot-operated piston type		
Application	Steam, Air, Cold and hot water, N <sub>2</sub> gas, CO <sub>2</sub> gas (dry), Ar gas, Oil (20 cSt or less)		
Working pressure	0-1.0 MPa (unusable under vacuum)		
Min. differential pressure	0 MPa (0.03 MPa or more is required for vertical installation)		
Allowable valve seat leakage	50 mL/min under standard conditions (at air pressure of 0.6 MPa)		
Temperature range	5-180°C (no freeze condition)		
Ambient temperature	5-60°C (no freeze condition)		
Installation posture	Vertical or horizontal installation (within 90 degrees from upward position of the coil)		
Material	Body	Stainless steel (SCS14A)	
	Piston	Stainless steel (SCS14A)	
	Valve disc	PTFE	
Connection	JIS Rc screwed		JIS 10K FF flanged

\* Recommended to use DP-200, DP-200F when using cold and hot water application.

■ Specifications of Coil

Rated voltage	AC 100 / 200 V selective type		AC 110 / 220 V selective type	
	50 / 60 Hz common			
Nominal size	10-25A	32-65A	10-25A	32-65A
Allowable fluctuation	Rated voltage -5% to +10%			
Rated current	0.34 / 0.17 A	0.46 / 0.23 A	0.32 / 0.16 A	0.42 / 0.21 A
Starting current	1.64 / 0.82 A	1.90 / 0.95 A	1.48 / 0.74 A	1.80 / 0.90 A
Insulation class	Insulation class H			
Protective structure	Dust tight, Splash proof			
Ingress protection code	IP64 (JIS C0920)			
Insulation resistance	50 MΩ and more / 500 V megger			
Withstand voltage test	1500 V/min			
Removing lead wire	Conduit G 1/2 (CTG 16)			

\* Available with a terminal box.

■ Dimensions (mm) and Weights (kg)

· DP-100, DP-100-C

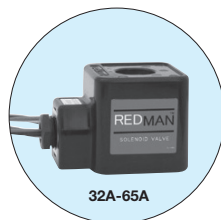
Nominal size	d	L	H <sub>1</sub>	DP-100		DP-100-C	
				H	Weight	H	Weight
10A	Rc 3/8	70	14.5	127	1.4	174	1.7
15A	Rc 1/2	70	14.5	127	1.4	174	1.7
20A	Rc 3/4	80	17.5	131	1.5	177	1.8
25A	Rc 1	95	21.0	135	1.9	181	2.2
32A	Rc 1-1/4	110	26.0	172	3.1	218	3.4
40A	Rc 1-1/2	120	29.5	178	4.0	225	4.3
50A	Rc 2	140	36.5	187	5.6	233	5.9



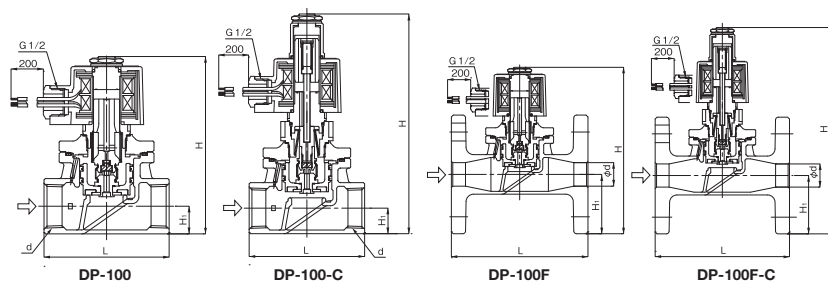
10A-25A

· DP-100F, DP-100F-C

Nominal size	d	L	H <sub>1</sub>	DP-100F		DP-100F-C	
				H	Weight	H	Weight
15A	15	120	47.5	161	2.7	207	3.0
20A	20	130	50.0	164	3.2	210	3.5
25A	25	145	62.5	177	4.5	223	4.8
32A	32	160	67.5	213	6.9	260	7.2
40A	40	170	70.0	219	8.0	265	8.3
50A	50	195	77.5	228	10.5	274	10.8
65A	65	198	87.5	238	12.3	284	12.6



32A-65A



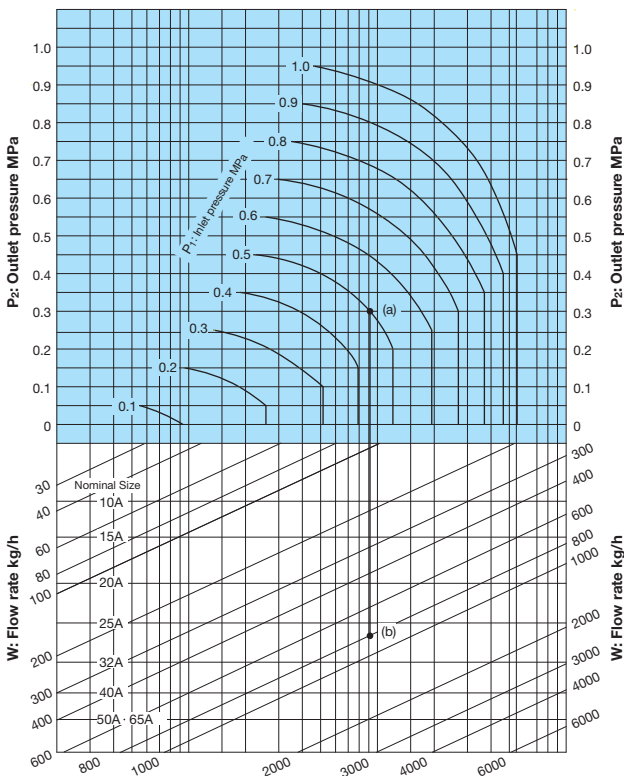
DP-100

DP-100-C

DP-100F

DP-100F-C

## Nominal Size Selection Chart (For Steam)



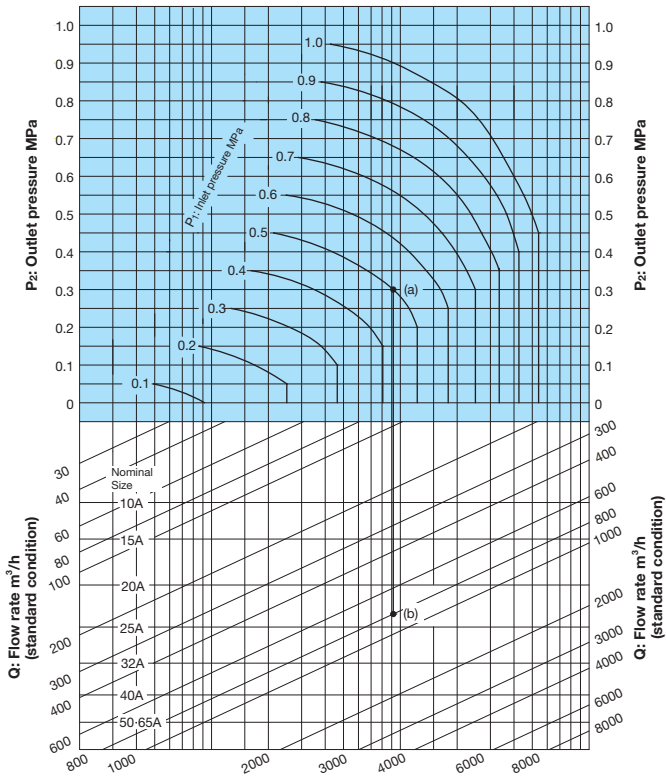
### How to use the chart

When selecting the nominal size of a solenoid valve whose inlet pressure ( $P_1$ ), outlet pressure ( $P_2$ ), and steam (saturated steam) flow rate ( $W$ ) are 0.5 MPa, 0.3 MPa, and 800 kg/h, respectively, first find intersection point (a) of  $P_1 = 0.5$  MPa and  $P_2 = 0.3$  MPa.

Trace down vertically from intersection point (a) to find intersection point (b) with  $W = 800$  kg/h. Since this intersection point (b) lies between nominal sizes 25A and 32A, select the larger one, 32A.

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

## Nominal Size Selection Chart (For Air)

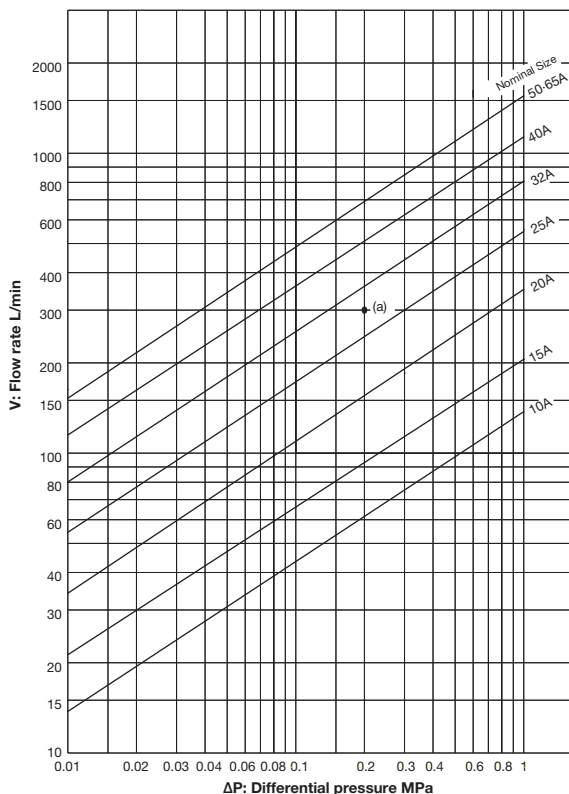


### How to use the chart

When selecting the nominal size of a solenoid valve whose inlet pressure ( $P_1$ ), outlet pressure ( $P_2$ ), and air (20°C) flow rate ( $Q$ ) are 0.5 MPa, 0.3 MPa, and 800 m<sup>3</sup>/h (standard condition), respectively, first find intersection point (a) of  $P_1 = 0.5$  MPa and  $P_2 = 0.3$  MPa. Trace down vertically from this intersection point (a) to find intersection point (b) with  $Q = 800$  m<sup>3</sup>/h (standard condition). Since this intersection point (b) lies between nominal sizes 20A and 25A, select the larger one, 25A.

\* Please refer to P.11-9 for  $C_v$  value and calculation formula.

### ■ Nominal Size Selection Chart (For Water)



#### How to use the chart

When selecting the nominal size of a solenoid valve whose inlet pressure ( $P_1$ ), outlet pressure ( $P_2$ ), and flow rate ( $V$ ) are 0.5 MPa, 0.3 MPa, and 300 L/min, respectively, first find intersection point (a) of the differential pressure before and after the valve [ $\Delta P = 0.5 - 0.3 = 0.2$  MPa] and  $V = 300$  L/min. Since this intersection point (a) lies between nominal sizes 25A and 32A, select the larger one, 32A.

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