

DP-12,14,16,18 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 ensured by stainless steel wetted parts.
2. Horizontal and vertical installation.



■Diaphragm Type Solenoid Valve

Voltage and operation	AC voltage		DC voltage	
	Normally closed	Normally opened	Normally closed	Normally opened
Screwed type	DP-16	DP-12C-DP-16C	DP-12D-DP-16D	DP-12CD-DP-16CD
Flanged type	DP-18	DP-14C-DP-18C	DP-14D-DP-18D	DP-14CD-DP-18CD

■Specifications

Model	AC coil	-	-	DP-12C	DP-14C
	DC coil	DP-12D	DP-14D	DP-12CD	DP-14CD
Application	Air, Cold and hot water, Oil (20 cSt or less)				
Working pressure	0-1.0 MPa (unusable under vacuum)				
Min. differential pressure	0 MPa (0.1 MPa or more is required for vertical installation)				
Valve seat leakage	No (by confirming pressure gauge visually)				
Max. temperature	60°C				
Operation	Normally closed		Normally opened		
Material	Body	Bronze			
	Valve	NBR (diaphragm)			
Connection	JIS Rc screwed	JIS 10K FF flanged	JIS Rc screwed	JIS 10K FF flanged	

Model	AC coil	DP-16	DP-18	DP-16C	DP-18C
	DC coil	DP-16D	DP-18D	DP-16CD	DP-18CD
Application	Air, Cold and hot water, Oil (20 cSt or less)				
Working pressure	0-1.0 MPa (unusable under vacuum)				
Min. differential pressure	0 MPa (0.1 MPa or more is required for vertical installation)				
Valve seat leakage	No (by confirming pressure gauge visually)				
Max. temperature	60°C				
Operation	Normally closed		Normally opened		
Material	Body	Stainless steel			
	Valve	NBR (diaphragm)			
Connection	JIS Rc screwed	JIS 10K FF flanged	JIS Rc screwed	JIS 10K FF flanged	

· Available with FKM.

· Available with a terminal box (made of resin).

■ Specifications of coil

Rated voltage	AC100/200V	AC110/220V	DC24V
	Connection method selection type 50/60 Hz common		
Voltage fluctuation tolerance	Rated voltage $\pm 10\%$		
Rated current	0.42/0.21A	0.38/0.19A	1.13A
Starting current	1.64/0.82A	1.48/0.74A	-
Insulation type	Class H		
Protection structure	Dust-proof · Splash-proof		
Degree of protection	IP64		
Insulation resistance	More than 50M Ω /500V megger		
Anti-voltage test	1500V/min		

■ Dimensions (mm) and Weights (kg)

· DP-16

Nominal size	d	L	H	H _i	Weight
15A	Rc 1/2	70	109.5	14.5	1.1
20A	Rc 3/4	80	116.5	17.5	1.3
25A	Rc 1	95	123.5	21.0	1.7
32A	Rc 1-1/4	110	150.5	26.0	2.5
40A	Rc 1-1/2	120	157.5	29.5	3.1
50A	Rc 2	140	172.5	36.5	5.0

· DP-12C, 16C (DP-16C: 15A-50A)

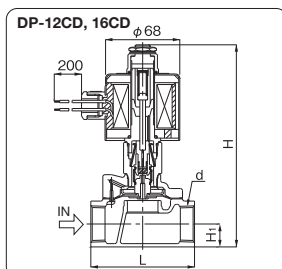
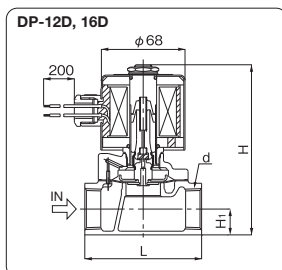
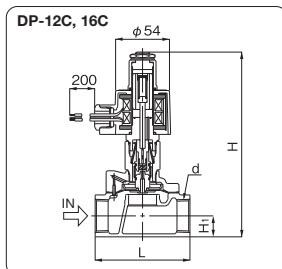
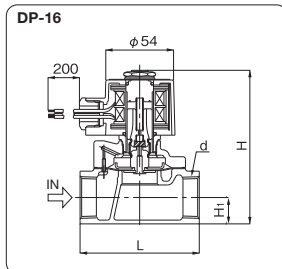
Nominal size	d	L	H	H _i	Weight
10A	Rc 3/8	70	172	14.5	1.4
15A	Rc 1/2	70	172	14.5	1.4
20A	Rc 3/4	80	179	17.5	1.6
25A	Rc 1	95	186	21.0	2.0
32A	Rc 1-1/4	110	213	26.0	2.8
40A	Rc 1-1/2	120	220	29.5	3.4
50A	Rc 2	140	235	36.5	5.3

· DP-12D, 16D (DP-16D: 15A-50A)

Nominal size	d	L	H	H _i	Weight
10A	Rc 3/8	70	124	14.5	1.9
15A	Rc 1/2	70	124	14.5	1.9
20A	Rc 3/4	80	131	17.5	2.1
25A	Rc 1	95	138	21.0	2.5
32A	Rc 1-1/4	110	166	26.0	3.3
40A	Rc 1-1/2	120	173	29.5	3.9
50A	Rc 2	140	187	36.5	5.8

· DP-12CD, 16CD (DP-16CD: 15A-50A)

Nominal size	d	L	H	H _i	Weight
10A	Rc 3/8	70	172	14.5	2.1
15A	Rc 1/2	70	172	14.5	2.1
20A	Rc 3/4	80	179	17.5	2.3
25A	Rc 1	95	186	21.0	2.7
32A	Rc 1-1/4	110	213	26.0	3.5
40A	Rc 1-1/2	120	220	29.5	4.1
50A	Rc 2	140	235	36.5	6.0



· DP-18

Nominal size	d	L	H	H ₁	Weight
15A	15	120	142.5	47.5	2.6
20A	20	130	149.0	50.0	3.2
25A	25	145	165.0	62.5	4.7
32A	32	160	192.0	67.5	6.5
40A	40	170	198.0	70.0	7.2
50A	50	195	213.0	77.5	9.9

· DP-14C, 18C

Nominal size	d	L	H	H ₁	Weight
15A	15	120	205	47.5	2.9
20A	20	130	212	50.0	3.5
25A	25	145	228	62.5	5.0
32A	32	160	255	67.5	6.8
40A	40	170	261	70.0	7.5
50A	50	195	276	77.5	10.2

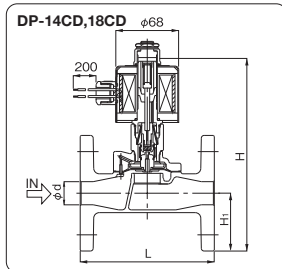
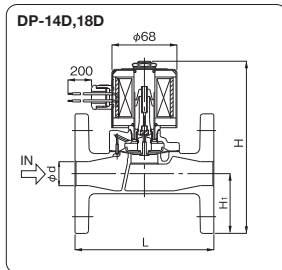
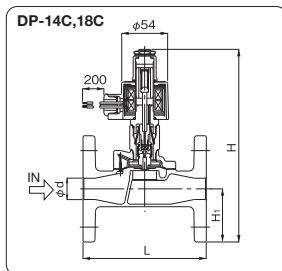
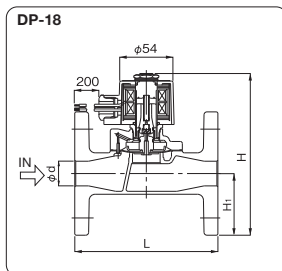
· DP-14D, 18D

Nominal size	d	L	H	H ₁	Weight
15A	15	120	157	47.5	3.4
20A	20	130	164	50.0	4.0
25A	25	145	180	62.5	5.5
32A	32	160	207	67.5	7.3
40A	40	170	213	70.0	8.0
50A	50	195	228	77.5	10.7

· DP-14CD, 18CD

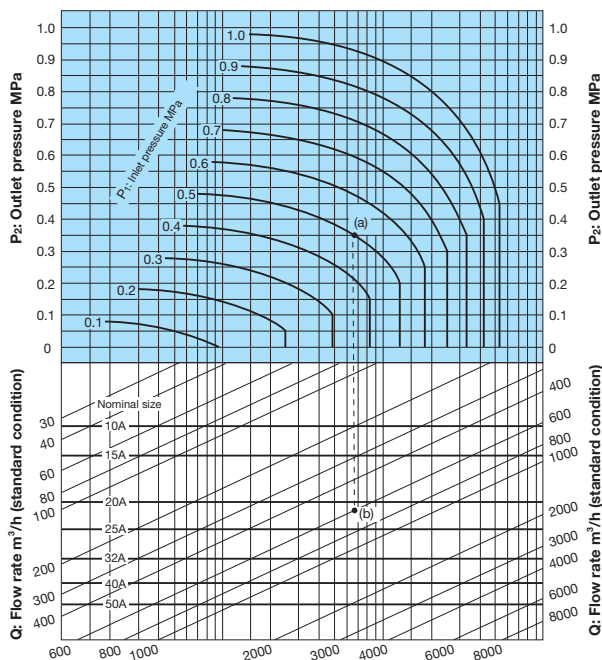
Nominal size	d	L	H	H ₁	Weight
15A	15	120	205	47.5	3.6
20A	20	130	212	50.0	4.2
25A	25	145	228	62.5	5.7
32A	32	160	255	67.5	7.5
40A	40	170	261	70.0	8.2
50A	50	195	276	77.5	10.9

· The DP-18 Series is slightly heavier.



* DP-18 series is welding flanged structure.

Nominal Size Selection Chart (For Air)

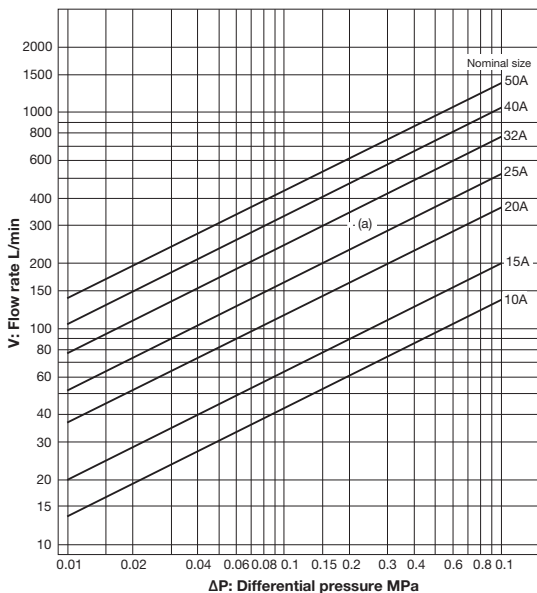


How to use the chart

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, 0.35 MPa, and 600 m^3/h (standard condition), respectively, first find intersection point (a) of $P_1 = 0.5$ MPa and $P_2 = 0.35$ MPa. Trace down vertically from this intersection point (a) to find intersection point (b) with $Q = 600$ m^3/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 0.7 MPa, 0.5 MPa, and 300 L/min, respectively, first find intersection point (a) of the differential pressure before and after the valve [$\Delta P = 0.7 - 0.5 = 0.2$ 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 C_v value and calculation formula.