

Series W-DP71-25Q (DN50-DN500)

Dynamic Flow Balancing Valve

◆ Application

The Series W-DP71 dynamic flow balancing valve is designed for air-conditioning or heating system to keep the flow less than or equal to design value. It is generally used in constant flow systems.

◆ Features

- Dynamic Balancing: constant flow is achieved through the valve plug's auto-adjustment of the opening rate when ΔP fluctuates in the system
- Precision calibrated valve plug keeps the flow deviation no greater than $\pm 5\%$
- The flow rate is factory preset multiple ΔP ranges available for each size
- No on-site commissioning is needed, saving time and labor costs
- No need of re-balancing after system changes

◆ Operating Principles

- Acting as a simple orifice plate, the valve plug will fully open when ΔP across the valve is below its control range. This allows the flow rate increases with the growth of ΔP (Figure 1).
- If ΔP is in the control range, the valve plug will adjust its opening in terms of the system's ΔP change. This ensures a constant flow rate with a deviation no greater than $\pm 5\%$ (Figure 2).
- If ΔP exceeds the control range, the valve plug will work as an orifice plate again to achieve the smallest opening rate. And the flow rate increases with the growth of ΔP (Figure 3).
- ΔP -Flow Curve shows that in the in the working ΔP range, the flow rate stay the same (Figure 4).

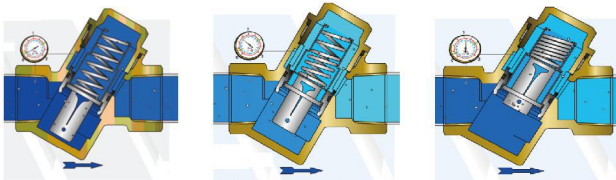


Figure 1

Figure 2

Figure 3

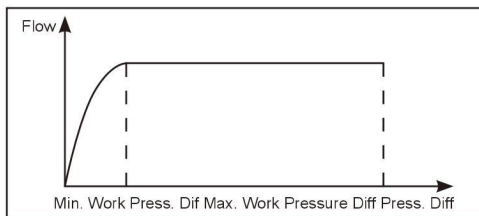


Figure 4

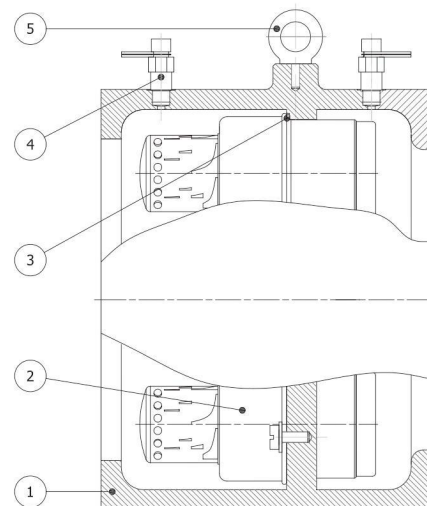


◆ Technical Specification

Dimensions:	DN50-DN500
Working Temperature:	0~110°C
Working Pressure:	PN25
Fluid Medium:	Water / Ethylene Glycol
Connection:	Wafer Connection
Connection Standard:	GB/T 17241.6, GB/T 9113.1-2000

Materials:

① Valve Body:	Ductile Iron QT450-10
② Valve Plug:	Valve Core:Stainless Steel 304 Spring:Stainless Steel 304
③ O ring:	EPDM
④ Measuring Points:	Brass SCuZn40Pb2
⑤ Ring Bolt:	Stainless Steel 304



◆ Technical Parameters

Product Type:

Type	Size	Δ P Code	Δ P Range (KPa)	Flow Range (m ³ /h)
W-DP71050_-25Q W-DP71065_-25Q W-DP71080_-25Q	DN50 DN65 DN80	A	15-150	3~15
		F	22-220	4~19
		G	33-330	5~23
		K	35-250	5~45
W-DP71100_-25Q	DN100	H	90-900	8~38
		A	15-150	3~52
		F	22-220	4~66
		G	33-330	5~46
W-DP71125_-25Q	DN125	K	35-250	5~90
		H	90-900	8~140
		A	15-150	3~78
		F	22-220	4~99
W-DP71150_-25Q	DN150	G	33-330	5~69
		K	35-250	5~135
		H	90-900	8~210
		A	15-150	3~104
W-DP71150_-25Q	DN150	F	22-220	4~132
		G	33-330	5~92
		K	35-250	5~180
		H	90-900	8~280
W-DP71200_-25Q	DN200	A	15-150	3~182
		F	22-220	4~231
		G	33-330	5~161
		K	35-250	5~315
W-DP71250_-25Q	DN250	H	90-900	8~490
		A	15-150	3~286
		F	22-220	4~363
		G	33-330	5~253
W-DP71250_-25Q	DN250	K	35-250	5~495
		H	90-900	8~770
		A	15-150	3~390
		F	22-220	4~495
W-DP71300_-25Q	DN300	G	33-330	5~345
		K	35-250	5~675
		H	90-900	8~1050
		A	15-150	3~520
W-DP71350_-25Q	DN350	F	22-220	4~660
		G	33-330	5~460
		K	35-250	5~900
		H	90-900	8~1400
W-DP71400_-25Q	DN400	A	15-150	3~650
		F	22-220	4~825
		G	33-330	5~575
		K	35-250	5~1125
W-DP71400_-25Q	DN400	H	90-900	8~1750
		A	15-150	3~806
		F	22-220	4~1023
		G	33-330	5~713
W-DP71450_-25Q	DN450	K	35-250	5~1395
		H	90-900	8~2170
		A	15-150	3~962
		F	22-220	4~1221
W-DP71500_-25Q	DN500	G	33-330	5~851
		K	35-250	5~1665
		H	90-900	8~2590
		A	15-150	3~962

*According to design requirements, select a valve with suitable ΔP range. Design flow should be in the valve's flow range.

Coding Rules:

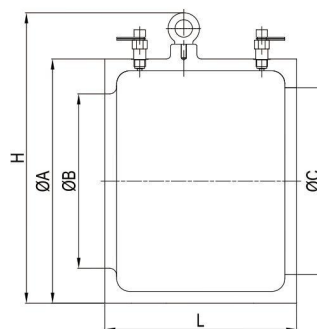
W	WATTS	W-	DP	71	050	A-	25	Q
DP	Dynamic Flow Balancing Valve							
71	Series Code							
Size								
050-DN50	065-DN65							
080-DN80	100-DN100							
125-DN125	150-DN150							
200-DN200	250-DN250							
300-DN300	350-DN350							
400-DN400	450-DN450							
500-DN500								
ΔP Range (KPa)								
A=15-150	F=22-200							
G=33-300	K=35-350							
H=90-900								
Pressure Class	PN25							
Body Material	Ductile Iron							

◆ Installation

- Valves can be installed horizontally or vertically.
- The direction of the arrow head on the valve body must accord with the direction of the flow. Wrong installation will lead to clog in the system.
- Same-sized valves might have different calibration values. The rated parameters of other equipment should be checked to ensure that the valve's rated parameters satisfy the application requirements.

Installation Dimensions:

- Installed flange: GB/T 17241.6, GB/T 9113.1-2000 PN25 FF/ RF Integral Flange
- Installed stud: GB/T901-2000 Double End Studs - Product Grade B



Size	L(mm)	H(mm)	A(mm)	B(mm)	C(mm)	Weight(Kg)
DN50	180	106	106	50	83	5.7
DN65	180	120	120	65	83	5.9
DN80	180	132	132	80	83	6.2
DN100	220	177	177	100	133	10.7
DN125	220	193	193	125	140	15.3
DN150	220	273	220	150	162	21.7
DN200	220	333	280	200	214	30.2
DN250	220	394	341	250	280	34.5
DN300	223	469	400	300	328	50.7
DN350	223	517	448	350	382	58.8
DN400	242	579	510	400	440	90.3
DN450	242	629	560	450	487	110.8
DN500	242	687	618	500	545	149.7