

**DBF SERIES****ELECTRONIC EXPANSION VALVE**

DBF series electronic expansion valves are especially designed for commercial air conditioning and heat pump. The balanced flow port design is adopted to realize the accurate bidirectional adjustment of refrigerant flow. The wide adjustment range can be accurately matched with the actual load of the system, so that the system can operate in the best working condition, so as to achieve accurate temperature control, rapid cooling and heating or defrosting and reduce energy consumption.

**FEATURES**

- COMPACT INSTALLATION: SAME DPF(T) COILS TYPE, SMALLER SIZE, LIGHTER WEIGHT
- BALANCED FLOW PORT DESIGN, FORWARD AND REVERSE PRESSURE DIFFERENCE UP TO 35BAR
- QUICK ACTION, ENERGY EFFICIENT
- BIDIRECTIONAL FLOW IS SUITABLE FOR REVERSIBLE SYSTEMS SUCH AS HEAT PUMPS
- COMPATIBLE WITH SANHUA SEC CONTROLLERS

**GENERAL SPECIFICATIONS**

- Applicable for all common HFC, HFC and HFO refrigerants such as: R134a, R404A, R407C, R410A, R448A, R449A, R450A, R452A, R454B, R513A, R507A  
And also for flammable refrigerants like R32, R290, R1234ze(E), R1234yf..
- Cooling capacity: 10 ~ 120 KW (for R410A)
- Medium Temperature min./max. :  
-30°C~+80°C (duty cycle rate below 50%)
- Ambient temperature min./max. :  
-30°C~+60°C (duty cycle rate below 50%)
- Relative humidity: 0 to 95% RH
- 500 steps (full stroke); 42 ± 30 opening steps
- Installation method:
  - Preferably vertical axial angle within ±15°, coil upright
  - Preferably horizontal pipe as inlet and vertical pipe as outlet
- Certifications: UL/CSA and declaration according to LVD or PED
- Suitable with the EN 60335-2-24 / 2-40 / 2-89

# ELECTRONIC EXPANSION VALVE



## ELECTRICAL PARAMETERS

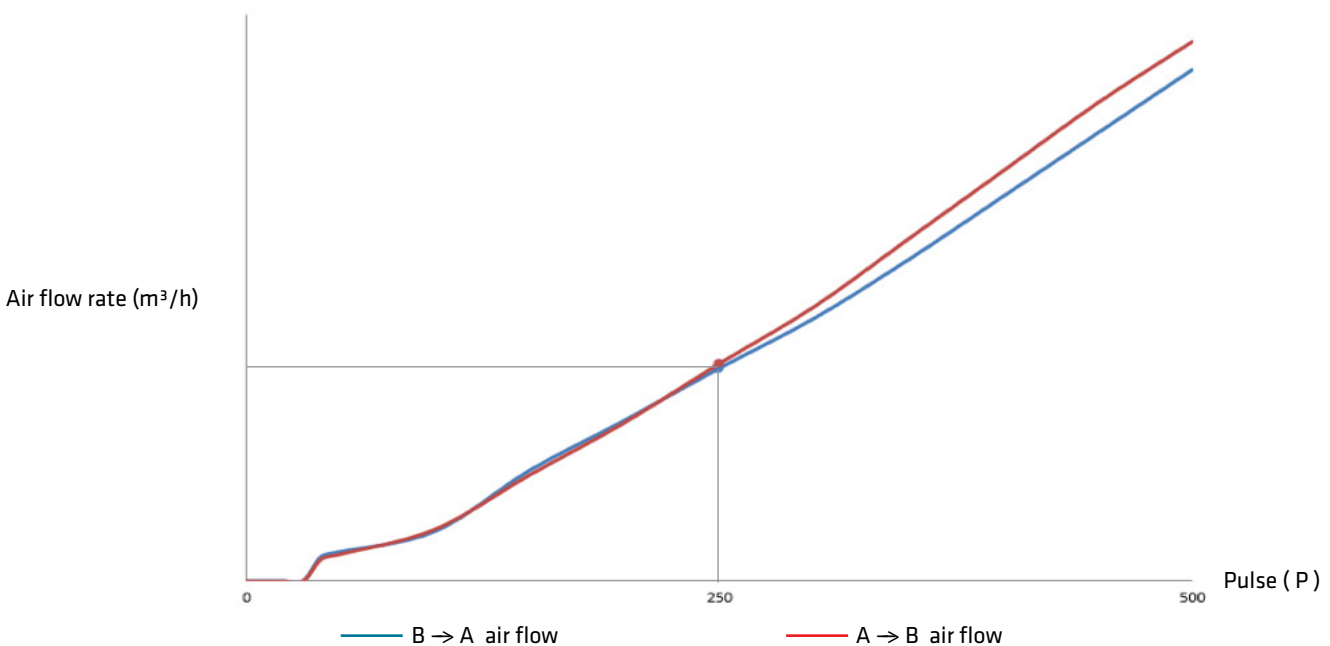
- Rated voltage: 12VDC ( $\pm 10\%$ ), rectangular wave
- Actuating mode: 4-phase 8-step permanent magnet stepping motor of direct-acting type
- Excitation mode: 1 - 2 phase excitation, uni-polar actuation
- Excitation rate: 30-40pps
- Activation of self-holding mechanism:  
Maintain excitation in stop position min. 0,1~1,0sec.
- Full stroke time: 13s (40pps)
- Coil current: 260mA/phase (20°C)
- Coil resistance:  $46 \pm 3.7 \Omega$ /phase (20°C)
- Insulation class of coil: E
- Protection class: IP67

## DBF SERIES TECHNICAL PARAMETERS

Model	Max Cooling Capacity @5°C/38°C/6K/2K [kW]										Kv [m <sup>3</sup> /h]	MOP <sup>1)</sup> [Bar]	MOPD Direct <sup>2)</sup> [Bar]	MOPD Rev. <sup>3)</sup> [Bar]
	R134a	R513A	R407C	R404A R507	R410A	R452A	R32	R290	R1234ze	R454B				
DBF04H300	41.8	35.4	57.3	38.9	63.6	41.7	92.3	56.2	33.1	73.2	0.5	49	35	35
DBF05H300	55.9	47.4	76.7	52.0	85.1	55.7	123.5	75.2	44.4	97.9	0.7			
DBF06H300	64.7	54.9	88.8	60.2	98.5	64.5	142.9	87.1	51.3	113.3	0.9			
DBF07H300	78.8	66.8	108.0	73.2	119.8	78.5	173.8	105.9	62.4	137.9	1.1			

- Note:**
- 1) MOP = Maximum Operating Pressure
  - 2) MOPD Direct = Maximum Operating Pressure Difference in Direct flow direction
  - 3) MOPD Rev = Maximum Operating Pressure Difference in Reversible flow direction

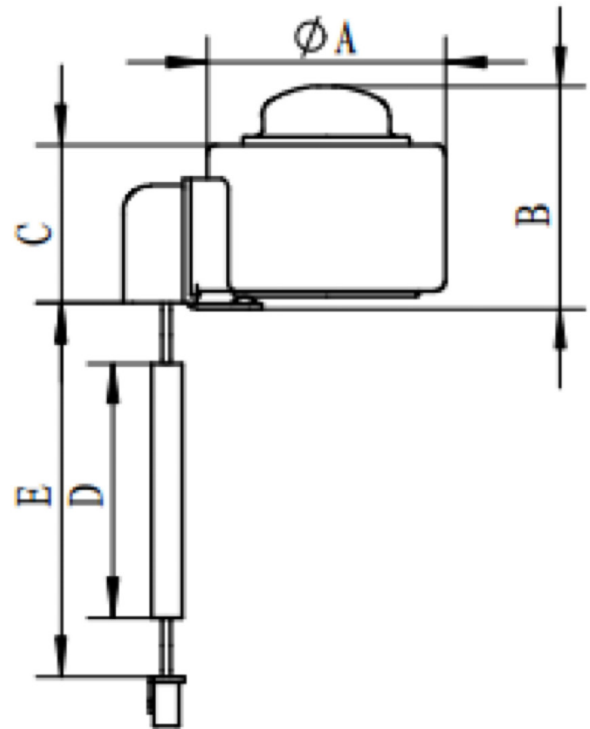
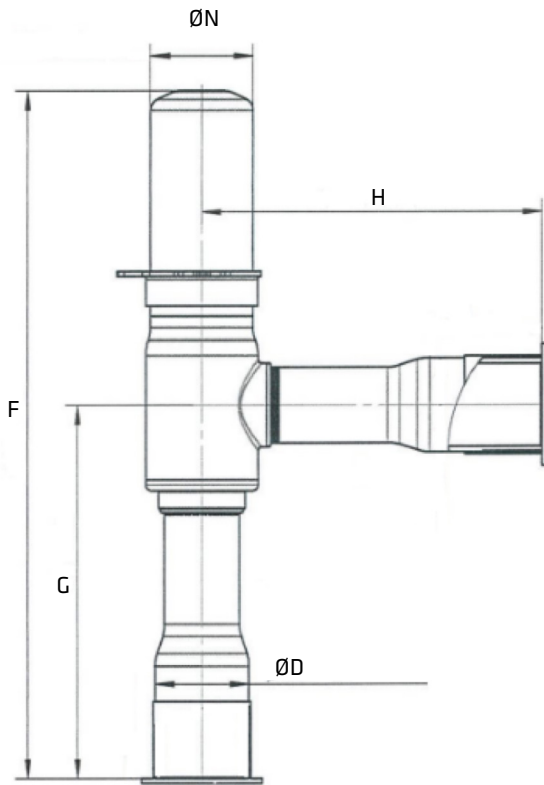
## FLOW CHARACTERISTIC



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## DIMENSIONS



**ELECTRONIC EXPANSION VALVE**



Valve Model	Part Number	Dimensions [mm]					Weight [g]
		F	G	H	Ø D	Ø N	
DBF04H300	10132002002	116	63	57.5	15.88	17.35	104
DBF05H300	10132002102						
DBF06H300	10132002202						
DBF07H300	10132002302						

Coil Model	Part Number	Dimensions [mm]					Weight	Weight [kg]
		Ø A	B	C	E	D		
PQ-M10012-001059	10810138802	38.5	35.8	25.6	700	600	XHP-5	100
PQ-M10012-001016	10810134602	38.5	35.8	25.6	1500	1400	XHP-5	121
PQ-M10012-001002	10810130702	38.5	35.8	25.6	2000	1800	XHP-5	142
PQ-M10012-001268	10810160602	38.5	35.8	25.6	5000	4500	XHP-5	300