

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

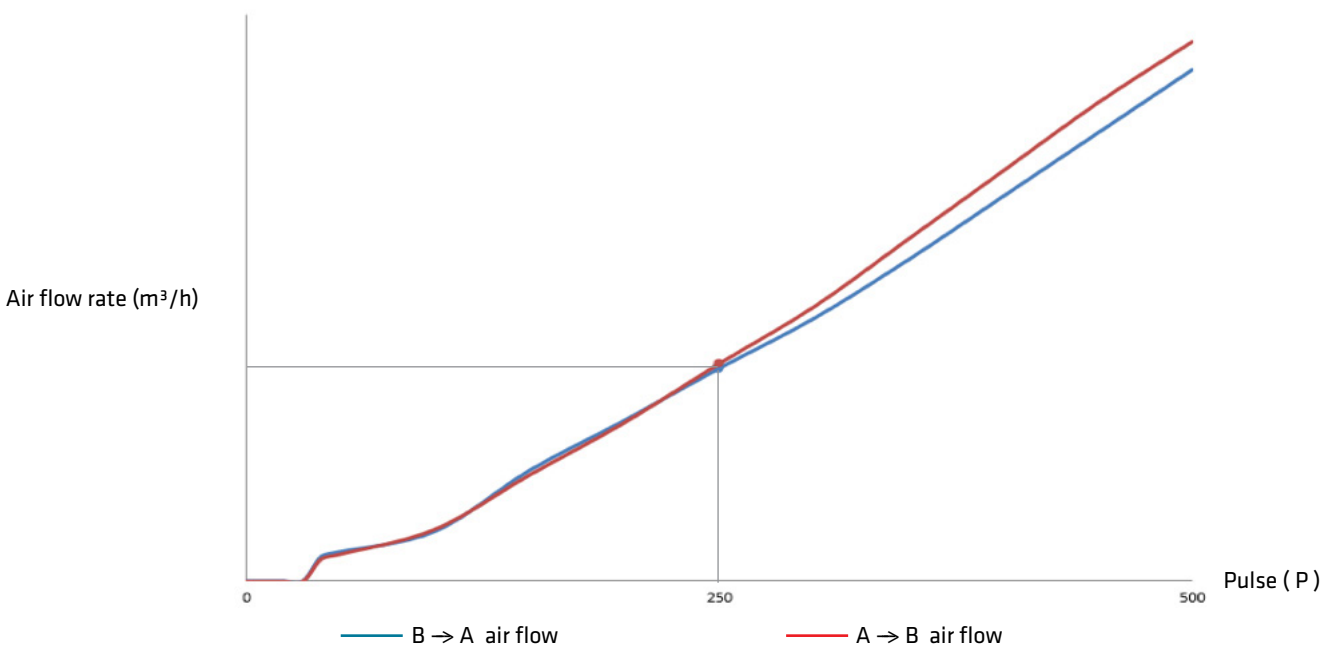
- Rated voltage: 12VDC ($\pm 10\%$), rectangular wave
- Actuating mode: 4-phase 8-step permanent magnet stepping motor of direct-acting type
- Excitation mode: 1 - 2 phase excitation, uni-polar actuation
- Excitation rate: 30-40pps
- Activation of self-holding mechanism: Maintain excitation in stop position 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
- Compatible with Sanhua controller SEC series

DBF SERIES TECHNICAL PARAMETERS

Model	Max Cooling Capacity @5°C/38°C/6K/2K [kW]										Kv [m ³ /h]	MOP ¹⁾ [Bar]	MOPD Direct ²⁾ [Bar]	MOPD Rev. ³⁾ [Bar]
	R134a	R513A	R407C	R404A R507	R410A	R452A	R32	R290	R1234ze	R454B				
DBF04H710	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
DBF05H710	55.9	47.4	76.7	52.0	85.1	55.7	123.5	75.2	44.4	97.9	0.7			
DBF06H710	64.7	54.9	88.8	60.2	98.5	64.5	142.9	87.1	51.3	113.3	0.9			
DBF07H710	78.8	66.8	108.0	73.2	119.8	78.5	173.8	105.9	62.4	137.9	1.1			

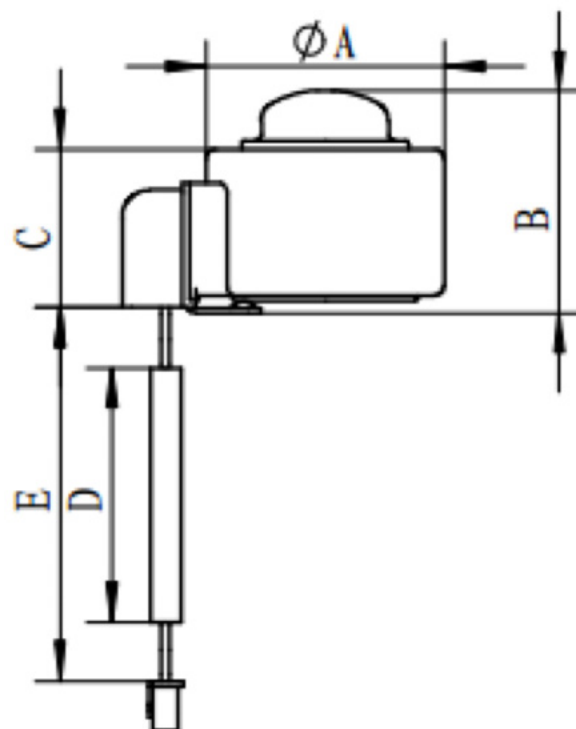
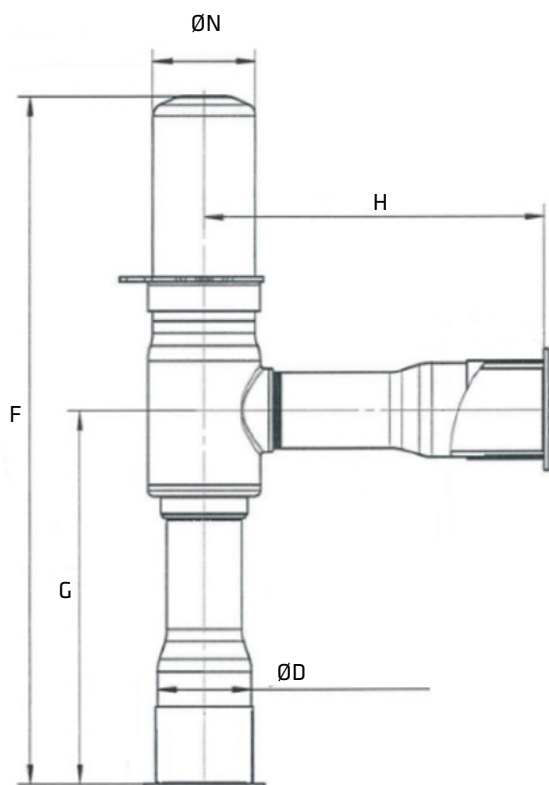
- Note:**
- 1) MOP = Maximum Operating Pressure
 - 2) MOPD Direct = Maximum Operating Pressure Difference in Direct flow direction
 - 3) MOPD Rev = Maximum Operating Pressure Difference in Reversible flow direction

FLOW CHARACTERISTIC





DIMENSIONS



ELECTRONIC EXPANSION VALVE



Valve Model	Part Number	Dimensions [mm]					Weight [g]
		F	G	H	Ø D	Ø N	
DBF04H710	DBFX0000102	116	63	57.5	15.88	17.35	104
DBF05H710	DBFX0000202						
DBF06H710	DBFX0000302						
DBF07H710	DBFX0000402						

Coil Model	Part Number	Dimensions [mm]				Weight	Weight [kg]
		Ø A	B	C	E		
PQ-M10012-004002	10810208802	38.5	35.8	37.6	700	XHP-5	0.12
PQ-M10012-004274	10810210602	38.5	35.8	37.6	1500	XHP-5	0.14
PQ-M10012-004213	10810232402	38.5	35.8	37.6	2000	XHP-5	0.16
PQ-M10012-004035	10810231902	38.5	35.8	37.6	5000	XHP-5	0.30