

COMPONENTS

for Commercial Refrigeration and Air Conditioning

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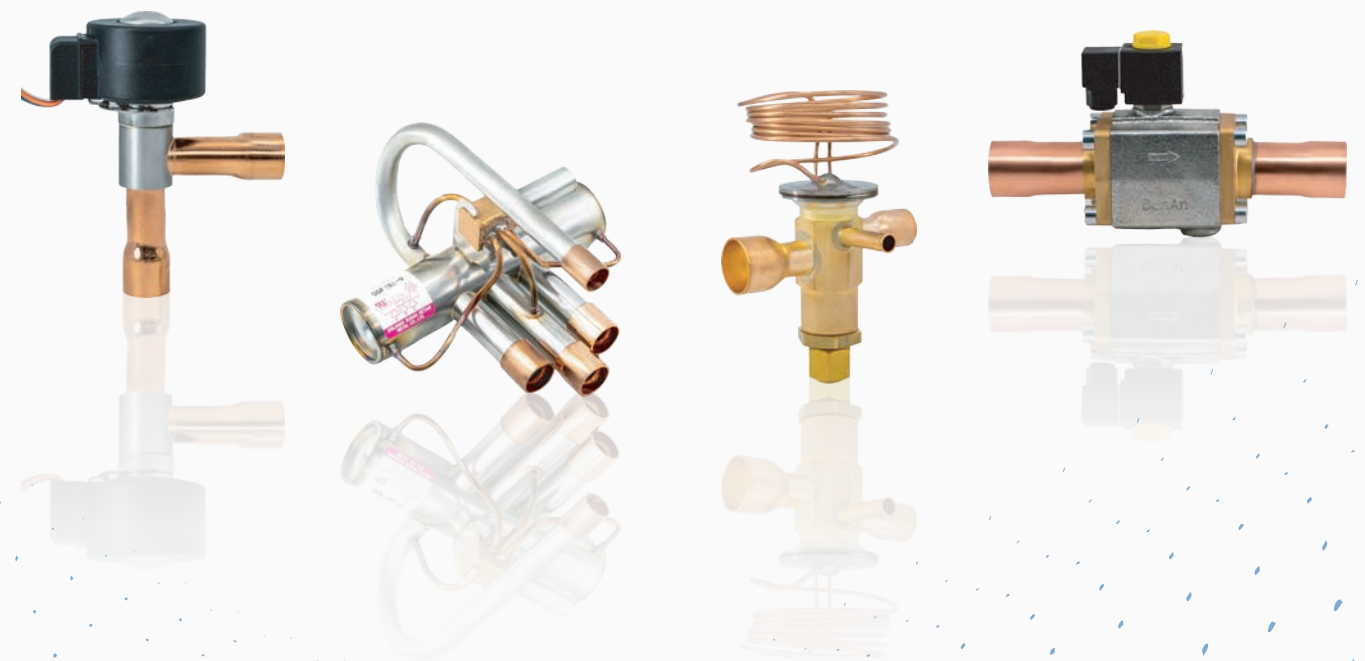
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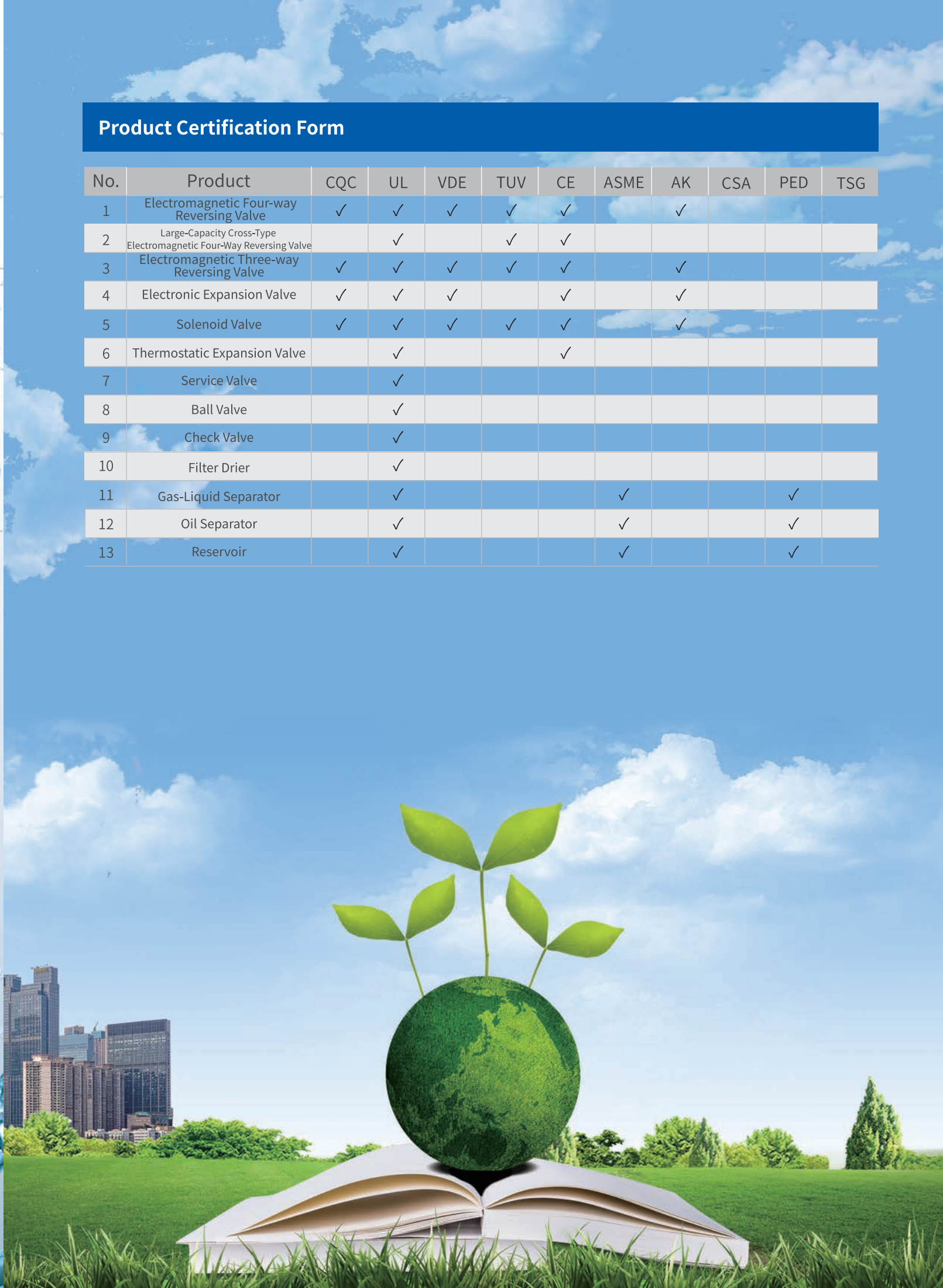
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Product Certification Form

No.	Product	CQC	UL	VDE	TUV	CE	ASME	AK	CSA	PED	TSG
1	Electromagnetic Four-way Reversing Valve	✓	✓	✓	✓	✓		✓			
2	Large-Capacity Cross-Type Electromagnetic Four-Way Reversing Valve		✓		✓	✓					
3	Electromagnetic Three-way Reversing Valve	✓	✓	✓	✓	✓		✓			
4	Electronic Expansion Valve	✓	✓	✓		✓		✓			
5	Solenoid Valve	✓	✓	✓	✓	✓		✓			
6	Thermostatic Expansion Valve		✓			✓					
7	Service Valve		✓								
8	Ball Valve		✓								
9	Check Valve		✓								
10	Filter Drier		✓								
11	Gas-Liquid Separator		✓				✓			✓	
12	Oil Separator		✓				✓			✓	
13	Reservoir		✓				✓			✓	



Reversing Valve



Model	Nominal capacity (kw)		Nominal capacity(kw)				Application fields
	Min.	Max.	0	200	400	850	
DSF Fixed frequency brass four-way valve	3.4	34.3					Residential air conditioners, module machines and unit machines of fixed frequency systems
DSF-HFixed frequency high temperature brass four way valve	3.9	203.0					Low ambient temperature module machine, low ambient temperature unit machine, heat pump water heater of fixed frequency systems
DSF-V Variable-frequency brass four-way valve	3.4	34.3					Residential air conditioners, VRV, module machine and unit machine with variable frequency systems
DSF-HV Variable-frequency high temperature brass	3.9	66.6					Low ambient temperature VRVs, low ambient temperature module machine, low ambient temperature unit machine, and heat pump water heater with variable frequency systems
DSF-S Fixed frequency stainless steel four-way valve	3.9	13.9					Residential air conditioners, module machines and unit machines with fixed frequency systems
DSF-SH Fixed frequency high temperature stainless steel four-way valve	3.9	67.9					Low ambient temperature module machine, low ambient temperature unit machine, heat pump water heater with fixed frequency systems
DSF-SV Variable-frequency stainless steel four-way valve	3.9	13.9					residential air conditioner, VRV, module machine, unit machine with variable frequency system
DSF-SHV Variable-frequency high-temperature stainless steel four-way valve	3.9	67.9					Residential air conditioners, VRVs, module machine, unit machine with variable frequency systems
DRVB Large-capacity cross type four-way valve	153.0	818.0					large heat pump refrigeration systems, large ice makers
HSF Three-way defrosting valve	16.1	30.5					Commercial refrigeration

- Notes:
- 1.Refrigerant for DRVB large-capacity cross-type four-way valve is R134A. Pressure difference $\Delta P = 0.15\text{bar}$
 2. Refrigerant for HSF three-way defrosting valve, R404A/R507. Pressure difference $\Delta P = 0.1\text{bar}$
 3. Refrigerant of other products is R410A. Pressure difference $\Delta P = 0.1\text{bar}$

Electromagnetic Four-way Reversing Valve

The electromagnetic four-way reversing valves are applicable for residential air conditioners, VRVs, module units, unit machines, heat pumps and other refrigeration systems. They are used to realize switching between cooling mode and heating mode by changing the flow path of refrigerant.

FEATURES

- ◆ Diversified designs with brass and stainless steel. Applicable for fixed frequency, variable frequency, fixed frequency high temperature and variable frequency high temperature systems.
- ◆ High strength, light weight, good vibration resistance, low heat loss and high energy efficiency.
- ◆ Connection tubes, valve body and seat are made of stainless steel.
- ◆ Reliable stainless steel valve welding, connection tube in a copper sleeve, easy to welding .
- ◆ Optional energy efficient coils

OPERATION CONDITIONS

- ◆ Applicable Refrigerants: R410A, R32, R134a, R404A, R507, R290, R407C, R22
(As for R290, please confirm before placing orders.)
- ◆ Maximum Operation Pressure: 4.5 MPa
- ◆ Ambient Temperature: -30°C~+55°C
- ◆ Relative Humidity: <95%

NOMINAL CAPACITY

(Condition 1: TC=45°C , TE=7°C , $\Delta T_{sh}=5K$, $\Delta T_{sc}=5K$ Condition 2: TC=48°C, TE=3°C, $\Delta T_{sh}=5K$, $\Delta T_{sc}=5K$)

Model	Pressure Difference ΔP [bar]											
	R410A(kW)				R32(kW)				R134a(kW)			
	Condition 1		Condition 2		Condition 1		Condition 2		Condition 1		Condition 2	
	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2
DSF-3	3.4	4.8	3.1	4.3	4.4	6.2	4.0	5.7	2.3	3.2	2.0	2.8
DSF-4	3.9	5.5	3.6	5.0	5.1	7.2	4.7	6.6	2.6	3.7	2.4	3.3
DSF-9	9.0	12.7	8.1	11.5	11.6	16.4	10.7	15.1	6.0	8.5	5.4	7.6
DSF-11	10.8	15.2	9.8	13.8	14.0	19.7	12.9	18.1	7.2	10.2	6.5	9.1
DSF-14	13.8	19.5	12.6	18.4	17.9	25.3	16.5	23.3	9.3	13.0	8.3	11.7
DSF-20	22.8	32.3	20.8	29.3	29.7	41.9	27.3	38.5	15.3	21.6	13.7	19.3
DSF-34	34.3	48.3	31.0	43.8	44.4	62.6	40.8	57.6	23.0	32.3	20.6	28.9
DSF-50	43.3	61.0	39.3	55.3	56.0	79.1	51.6	72.7	29.0	40.7	26.0	36.5
DSF-70	66.6	93.8	60.4	85.2	86.5	121.8	79.5	112.0	44.6	62.7	40.0	56.1
DSF-105	96.0	135.4	87.2	122.8	124.5	175.7	114.6	161.3	64.4	90.4	57.8	81.0
DSF-140	134.6	189.5	122.2	172.0	174.8	246.0	160.6	226.0	90.4	126.6	81.0	113.4
DSF-180	168.0	236.5	152.0	214.6	217.0	307.0	200.0	282.0	112.6	157.9	100.6	141.5
DSF-210	203.0	286.0	184.0	259.6	263.0	371.0	242.0	341.0	136.4	191.0	122.2	171.2
DSF(S)-4	3.9	5.5	3.6	5.0	5.1	7.2	4.7	6.6	2.6	3.7	2.4	3.3
DSF(S)-9	9.1	12.8	8.2	11.6	11.7	16.6	10.8	15.2	6.1	8.5	5.4	7.6
DSF(S)-14	13.9	19.7	12.7	18.5	18.0	25.5	16.6	23.4	9.3	13.1	8.4	11.8
DSF(S)-20	23.1	32.6	21.0	29.6	30.0	42.3	27.6	38.9	15.5	21.8	13.9	19.5
DSF(S)-34	34.7	48.9	31.4	44.4	45.0	63.4	41.3	58.3	23.3	32.7	20.9	29.3
DSF(S)-50	43.9	61.9	39.9	56.1	56.8	80.3	52.4	73.8	29.4	41.3	26.4	37.0
DSF(S)-70	67.9	95.7	61.6	86.9	88.2	124.2	81.1	114.2	45.5	64.0	40.8	57.2

- Note: Nominal capacity models are available for all series products.

Technical Parameters of DSF Series Fixed Frequency Brass Four-Way Valve Body

Model	Max Operation Pressure (MPa)	Working Pressure Difference (MPa)		Interface dimensions		Medium Temperature (°C)	Order Number
		Max.	Min.	ϕ D inch	ϕ ESC inch		
DSF3	4.5	3.1	0.25	1/4	5/16	-30~+120	DSF240003000001
DSF4	4.5	3.1	0.25	5/16	3/8	-30~+120	DSF240004000001
DSF9	4.5	3.1	0.3	3/8	1/2	-30~+120	DSF240009000001
DSF11	4.5	3.1	0.3	1/2	5/8	-30~+120	DSF240011000001
DSF20	4.5	3.1	0.3	1/2	3/4	-30~+120	DSF240020000001
DSF34	4.5	3.1	0.3	3/4	7/8	-30~+120	DSF240034000001

Technical Parameters Of DSF-V Series Variable Frequency Brass Four-Way Valve Body

Model	Max Operation Pressure (MPa)	Working Pressure Difference (MPa)		Interface dimensions		Medium Temperature (°C)	Order Number
		Max.	Min.	ϕ D inch	ϕ ESC inch		
DSF3V	4.5	3.1	0.1	1/4	5/16	-30~+120	DSF240003000002
DSF4V	4.5	3.1	0.1	5/16	3/8	-30~+120	DSF240004000002
DSF9V	4.5	3.1	0.1	3/8	1/2	-30~+120	DSF240009000002
DSF11V	4.5	3.1	0.1	1/2	5/8	-30~+120	DSF240011000002
DSF20V	4.5	3.1	0.2	1/2	3/4	-30~+120	DSF240020000002
DSF34V	4.5	3.1	0.2	3/4	7/8	-30~+120	DSF240034000002

Technical Parameters of DSF-H Series High Temperature Brass Four-Way Valve Body

Model	Max Operation Pressure (MPa)	Working Pressure Difference (MPa)		Interface dimensions		Medium Temperature (°C)	Order Number
		Max.	Min.	ϕ D inch	ϕ ESC inch		
DSF4H	4.5	3.1	0.25	5/16	3/8	-30~+130	DSF240004000003
DSF9H	4.5	3.1	0.3	3/8	1/2	-30~+130	DSF240009000003
DSF11H	4.5	3.1	0.3	1/2	5/8	-30~+130	DSF240011000003
DSF20H	4.5	3.1	0.3	1/2	3/4	-30~+130	DSF240020000003
DSF34H	4.5	3.1	0.3	3/4	7/8	-30~+130	DSF240034000003
DSF50H	4.5	3.1	0.3	7/8	1-1/8	-30~+130	DSF240050000001
DSF70H	4.5	3.1	0.3	1	1-1/4	-30~+130	DSF240007000001
DSF105H	4.5	3.1	0.3	1-1/4	1-1/2	-30~+130	DSF240010500001
DSF140H	4.5	3.1	0.3	1-1/2	1-3/4	-30~+130	DSF240014000001
DSF180H	4.5	3.1	0.3	1-1/2	2-1/8	-30~+130	DSF240018000001
DSF210H	4.5	3.1	0.25	1-5/8	2-5/8	-30~+130	DSF240021000001

Technical Parameters of DSF-HV Series Variable Frequency High Temperature Brass Four-Way Valve Body

Model	Max Operation Pressure (MPa)	Working Pressure Difference (MPa)		Interface dimensions		Medium Temperature (°C)	Order Number
		Max.	Min.	ϕ D inch	ϕ ESC inch		
DSF4HV	4.5	3.1	0.1	5/16	3/8	-30~+130	DSF240004000004
DSF9HV	4.5	3.1	0.1	3/8	1/2	-30~+130	DSF240009000004
DSF11 HV	4.5	3.1	0.1	1/2	5/8	-30~+130	DSF240011000004
DSF14 HV	4.5	3.1	0.15	1/2	3/4	-30~+130	DSF240014000002
DSF20 HV	4.5	3.1	0.2	1/2	3/4	-30~+130	DSF240020000004
DSF34 HV	4.5	3.1	0.2	3/4	7/8	-30~+130	DSF240034000004
DSF50 HV	4.5	3.1	0.3	7/8	9/8	-30~+130	DSF240050000002
DSF70HV	4.5	3.1	0.3	1	1-1/4	-30~+130	DSF240070000002

Technical Parameters of DSF-S Series Fixed Frequency Stainless Steel Four-Way Valve Body

Model	Max Operation Pressure (MPa)	Working Pressure Difference (MPa)		Interface dimensions		Medium Temperature (°C)	Order Number
		Max.	Min.	ϕ D inch	ϕ ESC inch		
DSF4S	4.5	3.1	0.25	5/16	3/8	-30~+120	DSF240004000005
DSF9S	4.5	3.1	0.3	3/8	1/2	-30~+120	DSF240009000005
DSF20S	4.5	3.1	0.3	1/2	3/4	-30~+120	DSF240020000005
DSF34S	4.5	3.1	0.3	3/4	7/8	-30~+120	DSF240034000005

Technical Parameters of DSF-SV Series Frequency Conversion Stainless Steel Four-Way Valve Body

Model	Max Operation Pressure (MPa)	Working Pressure Difference (MPa)		Interface dimensions		Medium Temperature (°C)	Order Number
		Max.	Min.	ϕ D inch	ϕ ESC inch		
DSF4SV	4.5	3.1	0.1	5/16	3/8	-30~+120	DSF240004000006
DSF9SV	4.5	3.1	0.1	3/8	1/2	-30~+120	DSF240009000006
DSF20SV	4.5	3.1	0.2	1/2	3/4	-30~+120	DSF240020000006
DSF34SV	4.5	3.1	0.2	3/4	7/8	-30~+120	DSF240034000006

Technical Parameters of DSF-SH Series High Temperature Stainless Steel Four-Way Valve Body

Model	Max Operation Pressure (MPa)	Working Pressure Difference (MPa)		Interface dimensions		Medium Temperature (°C)	Order Number
		Max.	Min.	φ D inch	φ ESC inch		
DSF4SH	4.5	3.1	0.25	5/16	3/8	-30~+130	DSF240004000007
DSF9SH	4.5	3.1	0.3	3/8	1/2	-30~+130	DSF240009000007
DSF20SH	4.5	3.1	0.3	1/2	3/4	-30~+130	DSF240020000007
DSF34SH	4.5	3.1	0.3	3/4	7/8	-30~+130	DSF240034000007
DSF50SH	4.5	3.1	0.3	7/8	1-1/8	-30~+130	DSF240050000003
DSF70SH	4.5	3.1	0.3	1	1-1/4	-30~+130	DSF240070000003

Technical Parameters of DSF-SHV Series Variable Frequency High Temperature Stainless Steel Four-Way Valve Body

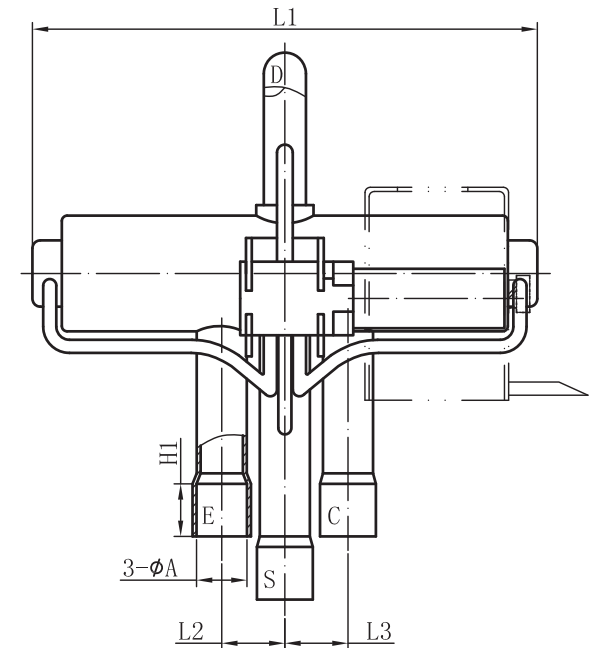
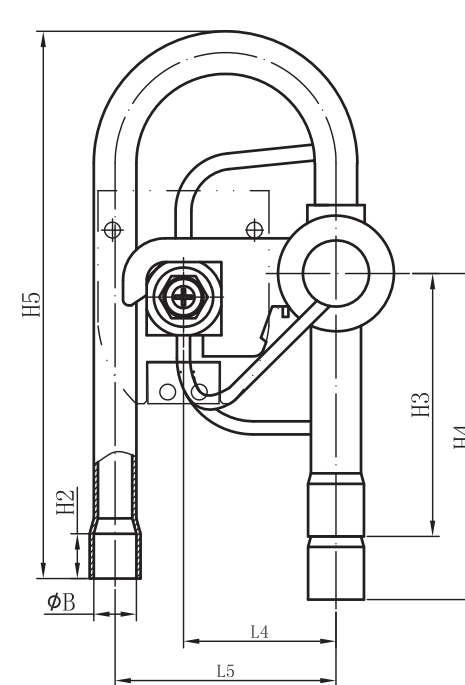
Model	Max Operation Pressure (MPa)	Working Pressure Difference (MPa)		Interface dimensions		Medium Temperature (°C)	Order Number
		Max.	Min.	φ D inch	φ ESC inch		
DSF4SHV	4.5	3.1	0.1	5/16	3/8	-30~+130	DSF240004000008
DSF9SHV	4.5	3.1	0.1	3/8	1/2	-30~+130	DSF240009000008
DSF20SHV	4.5	3.1	0.2	1/2	3/4	-30~+130	DSF240020000008
DSF34SHV	4.5	3.1	0.2	3/4	7/8	-30~+130	DSF240034000008
DSF50SHV	4.5	3.1	0.3	7/8	1-1/8	-30~+130	DSF240050000004
DSF70SHV	4.5	3.1	0.3	1	1-1/4	-30~+130	DSF240070000004

Technical Parameters of DXQ Coil

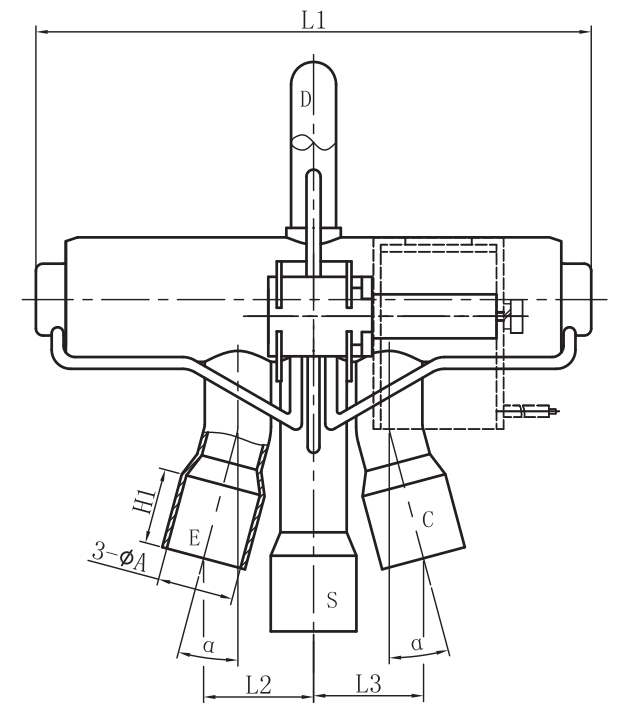
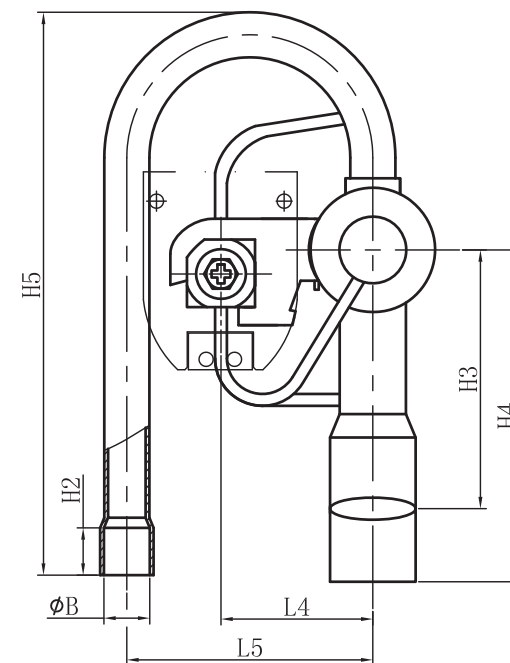
Model	Rated Voltage (V)	Voltage Range	Rated Power(W)		Length (mm)	Wiring Form	Insulation Class	Order Number
			AC(50/60Hz)	DC				
DXQ-822	AC220-240	-15%~+10%	7/5W	-	1000	Wire	B	DXQ244409082201
DXQ-115	AC220-240	-15%~+10%	7/5W	-	1500	Wire	B	DXQ244409011501
DXQ-986	AC220-240	-15%~+10%	7/5W	-	2000	Wire	B	DXQ244409098601
DXQ-862	AC220-240	-15%~+10%	7/5W	-	3000	Wire	B	DXQ244409086201
DXQ-1170	AC110-120	-15%~+10%	7/5W	-	500	Wire	B	DXQ244409117001
DXQ-1586	AC100	-15%~+10%	7/5W	-	500	Wire	B	DXQ244409158601
DXQ-242	AC24	-15%~+10%	7/5W	-	-	Insert	B	DXQ244409024201
DXQ-647	AC265-270	-15%~+10%	7/5W	-	1000	Wire	B	DXQ244409064701
DXQ-1583	AC100 (bi-stable)	-15%~+10%	-	18	1000	Wire	B	DXQ244409158301
DXQ-1114	AC200 (bi-stable)	-15%~+10%	-	18	1000	Wire	B	DXQ244409111401
DXQ-1574	DC120	±10%	-	26.4	1000	Wire	B	DXQ244409158401
DXQ-1585	DC15.4	±10%	-	9.4	1000	Wire	B	DXQ244409158501
DXQ-1377	DC12	±10%	-	9	500	Wire	B	DXQ244409137701
DXQ-1396	DC24	±10%	-	9	500	Wire	B	DXQ244409139601

DIMENSIONS

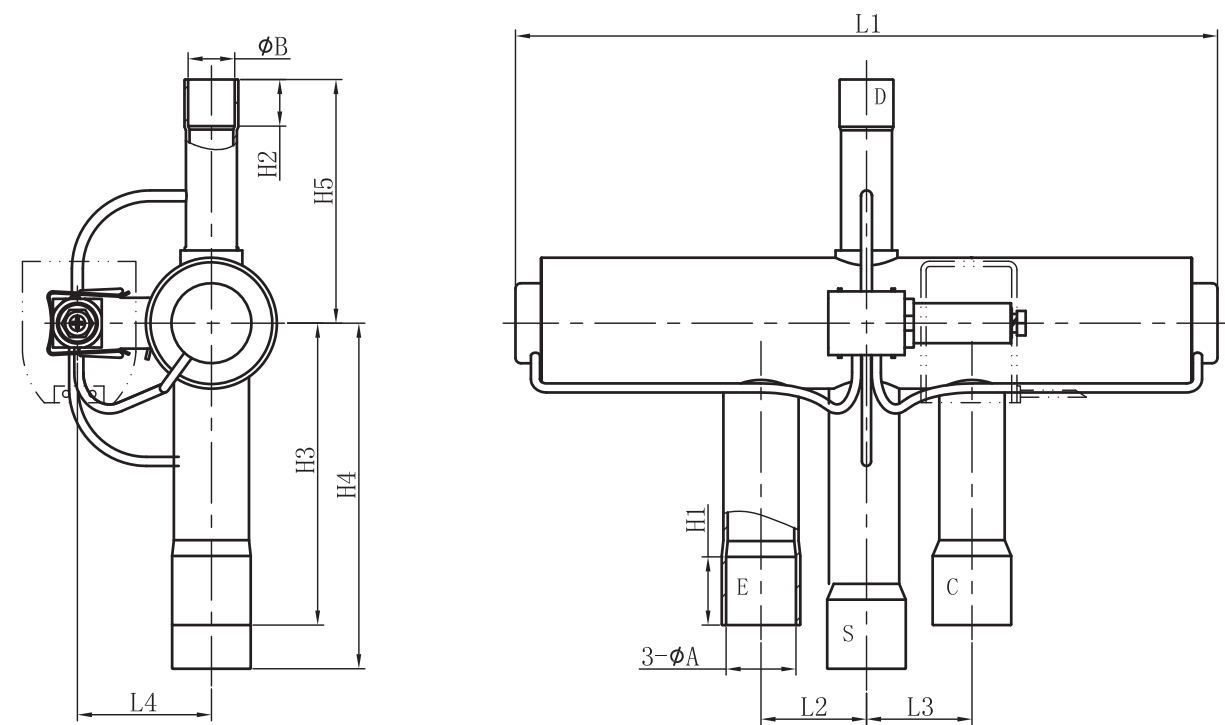
DSF Series Brass Valve Body



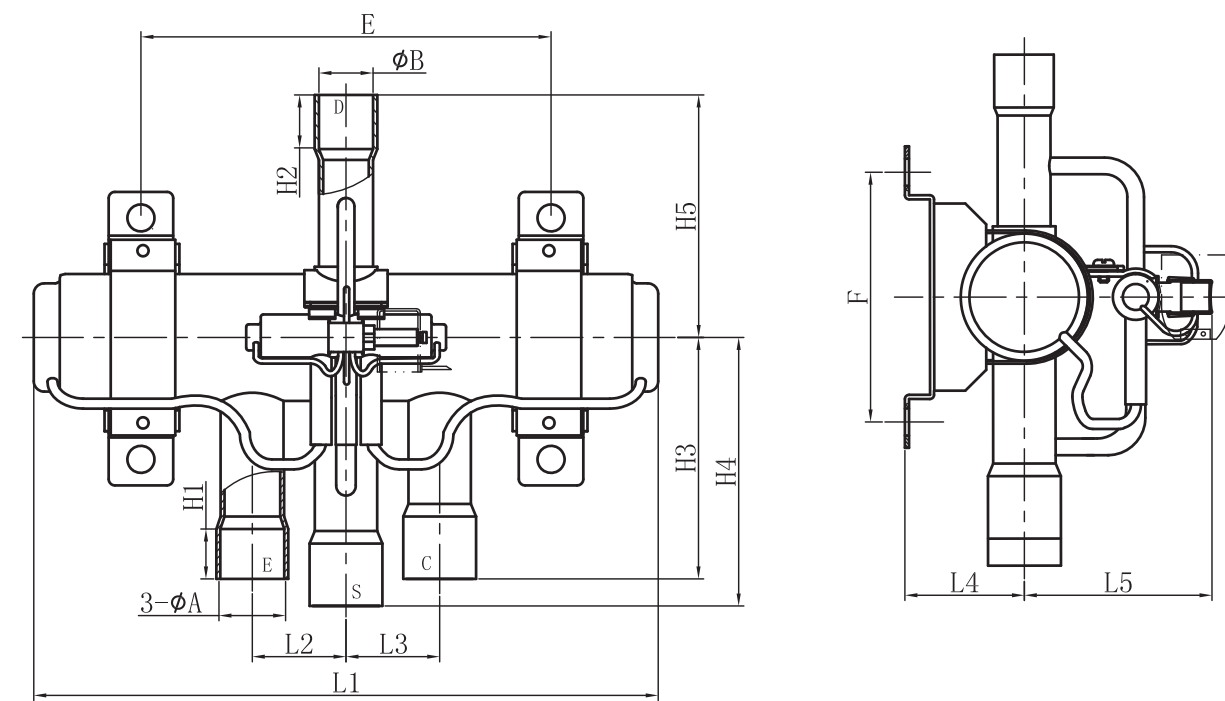
A1



A2



B1



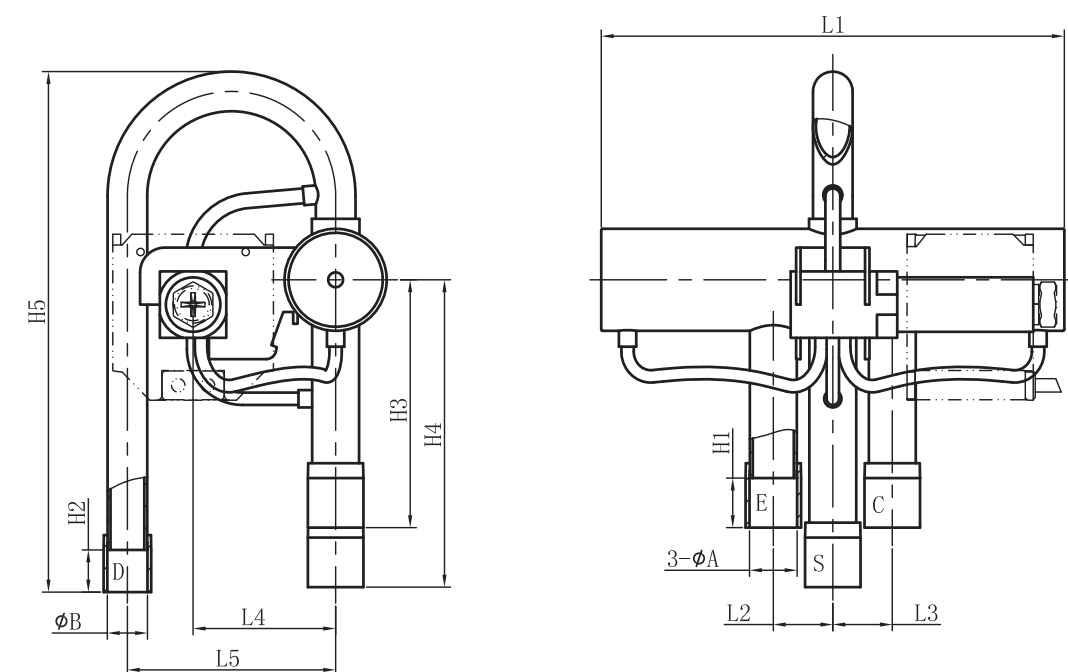
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DIMENSIONS

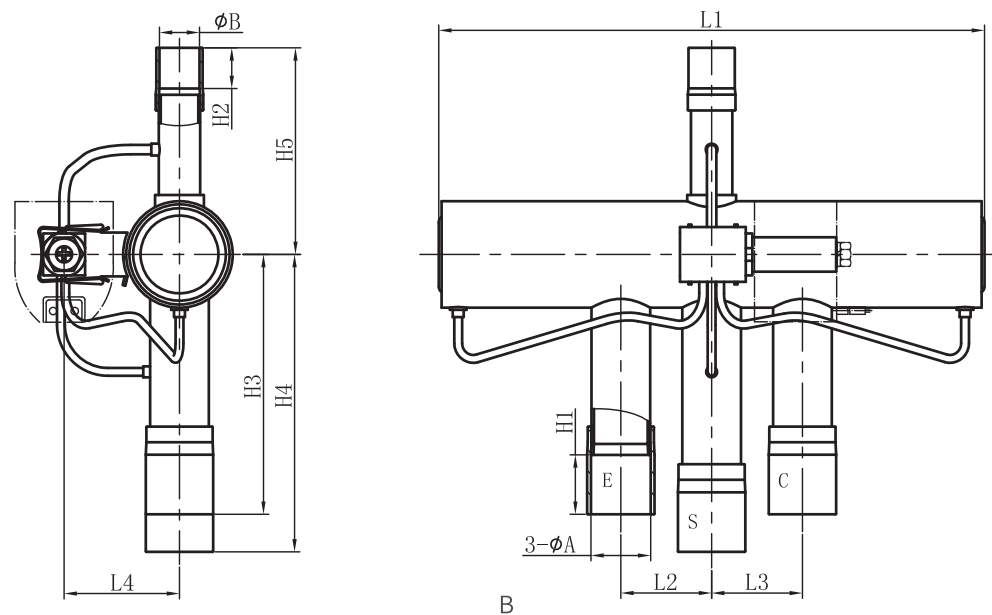
Model	Type	A [mm]	B [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]	H5 [mm]	α [°]
DSF3	A1	8.1	6.35	85.5	11.1	11.1	28	42.5	8.5	7	38	50	93.5	-
DSF4	A1	9.6	8.1	94	12	12	29	42.5	10	8.5	50	62	104.5	-
DSF9	A1	12.8	9.6	117	16	16	32	52	10	10	59	71	119	-
DSF11	A2	16.1	9.6	117	23.5	23.5	32	52	16	10	57	72	119	15
DSF-14	B1	19.2	12.8	187	29	29	36	-	19	13	83	95	67	-
DSF20	B1	19.2	12.8	187	29	29	36	-	19	13	83	95	67	-
DSF34	B1	22.3	19.2	224	33.5	33.5	41.5	-	22	19	86	98.6	82	-
DSF50	B1	28.6	22.5	245	37	37	40	-	30	25	94	107	93	-

Model	Type	A [mm]	B [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]	H5 [mm]	E [mm]	F [mm]
DSF70	C1	32	25.6	300	45	45	57	90	30	25	116	129	116.5	196	120
DSF105	C1	38.1	31.8	300	45	45	56	90	30	25	117	130	117	196	120
DSF140	C1	45	38.1	383	58	58	65	90.3	40	35	147.1	167.1	139.6	230	166
DSF180	C1	54.2	38.1	383	58	58	65	90.4	40	35	147	197	139.6	230	166
DSF210	C1	66.96	50	480	71.5	71.5	65	90.5	40	33	147.1	198.6	135.6	262	166

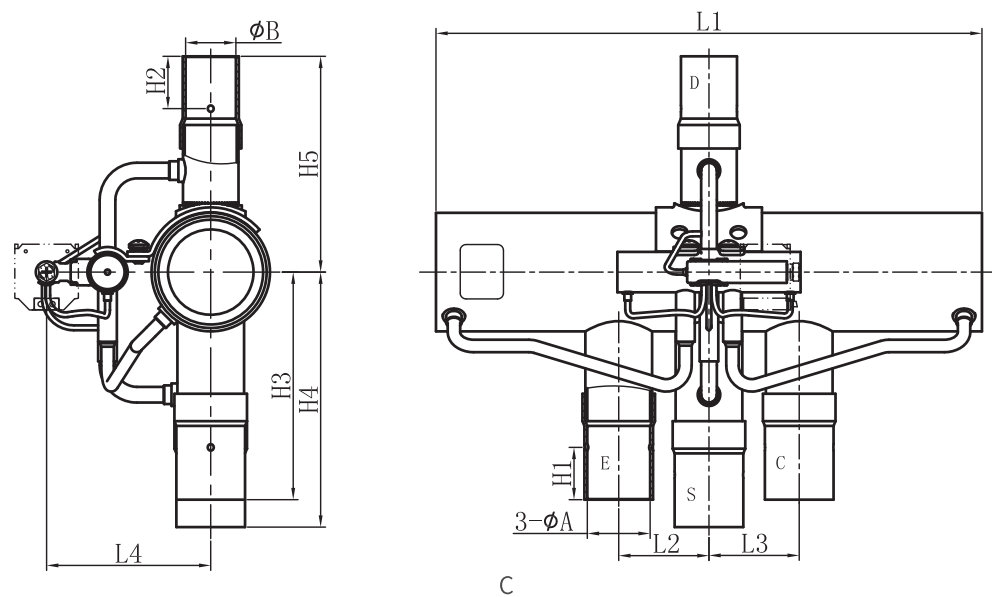
DSFS Series Stainless Steel Valve Body



A

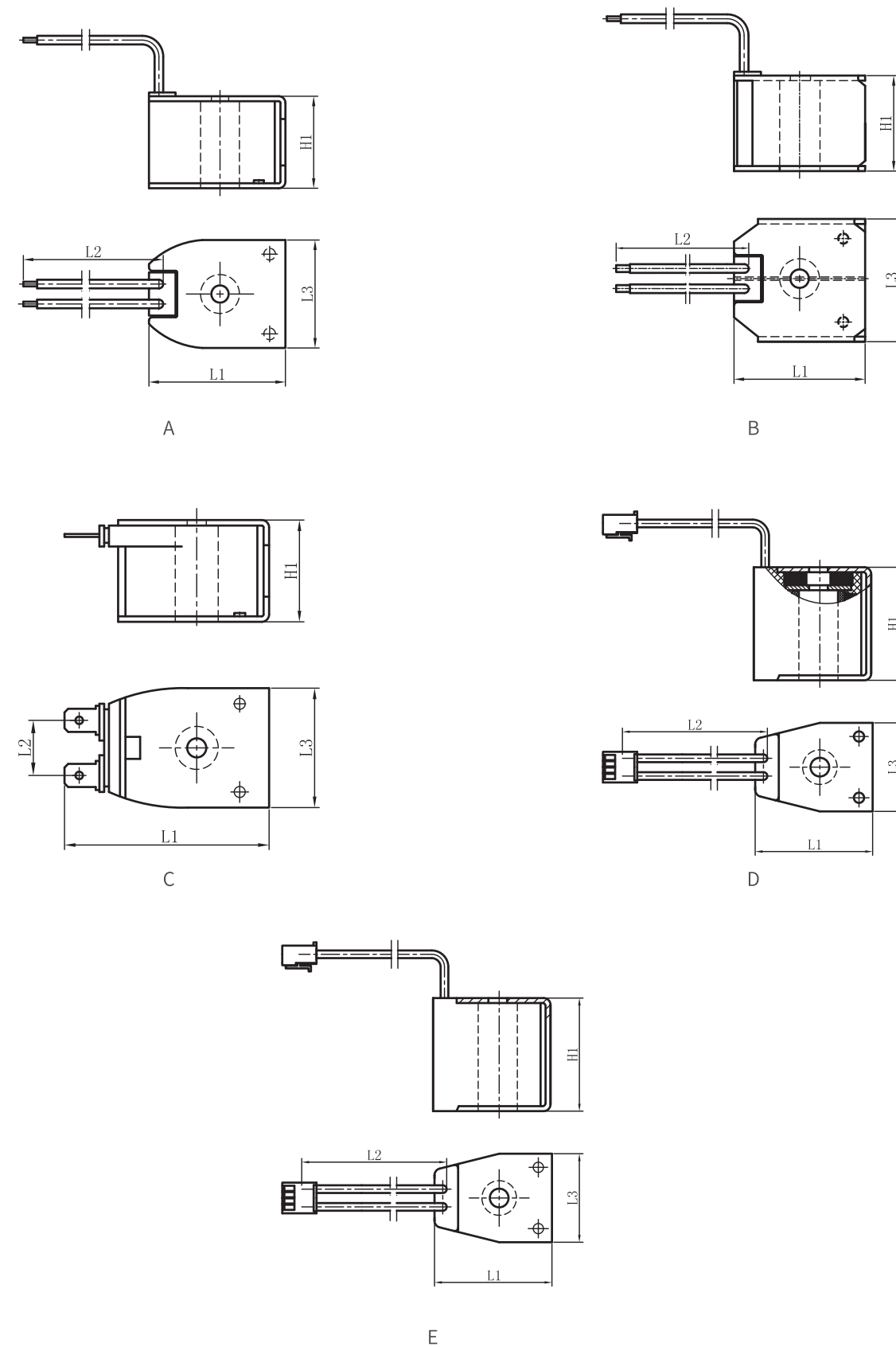


Model	Type	A	B	L1	L2	L3	L4	L5	H1	H2	H3	H4	H5
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
DSF4S	A	9.6	8.1	96	12	12	29	42	10	8.5	50	62	102
DSF9S	A	12.8	9.6	120	16	16	32.5	52	10	10	59	71	119
DSF20S	B	19.2	12.8	174	29	29	36	-	19	13	83	95	67
DSF34S	B	22.3	19.2	224	33.5	33.5	41.5	-	22	13	86	98.6	82
DSF50S	B	22.3	19.2	224	33.5	33.5	41.5	-	22	13	86	98.6	82



Model	Type	A	B	L1	L2	L3	L4	H1	H2	H3	H4	H5
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
DSF70S	C	32	25.6	278	46	46	84	30	25	116	129	110

COIL DIMENSIONS



Technical Parameters of Coil

Model	Type	L1 [mm]	L2 [mm]	L3 [mm]	H1 [mm]
DXQ-242	C	53.5	15	33	28.5
DXQ-1586	A	40.5	500	33	27.5
DXQ-1170	A	40.5	500	33	27.5
DXQ-1496	A	40.5	500	33	27.5
DXQ-1584	A	40.5	500	33	27.5
DXQ-822	B	33.5	1000	32.5	27.5
DXQ-647	B	33.5	1000	32.5	27.5
DXQ-1583	D	34.5	1000	26	33
DXQ-1114	D	34.5	1000	26	33
DXQ-1377	D	34.5	1000	26	33
DXQ-1585	E	36	1000	28	28.4
DXQ-115	B	33.5	1500	32.5	27.5
DXQ-986	B	33.5	2000	32.5	27.5
DXQ-862	B	33.5	3000	32.5	27.5

• Note: The coils and valve bodies are matched for each other.

Large-Capacity Cross-Type Electromagnetic Four Way Reversing Valve



Large capacity cross-type four-way electromagnetic reversing valves are applicable for large-scale heat pump systems and ice machines and other equipment to realize the switching between cooling and heating modes by changing the flow direction of refrigerants, which is realized by the on/off control of the external pilot valve solenoid coil, leading the flow direction of the external high pressure gas in the valve body. As a result, the pressure difference between the both ends of piston is changed so that the piston moves inside the valve body, which changes the location fitting between the piston flow passage and the four connecting pipes outside the valve body.

FEATURES

- ◆ Low pressure loss, high energy efficiency
- ◆ Self-lubricating, anti-jamming
- ◆ Removable, easy to maintain

OPERATION CONDITIONS

- ◆ Applicable Refrigerants: R134a, R410A, R32, R404A, R507, R290, R407C, and R22, etc.
(As for R290, please confirm before placing orders.)
- ◆ Maximum Operating Pressure: 4.9MPa
- ◆ Medium Temperature: -30°C ~ +130°C
- ◆ Ambient Temperature: -30°C ~ +55°C
- ◆ Relative Humidity: <95%

NOMINAL CAPACITY

(Operation Condition 1: TC=48°C, TE=3°C, ΔTsh=5K, ΔTsc=5K, low pressure side pressure drop Δp=0.015MPa)

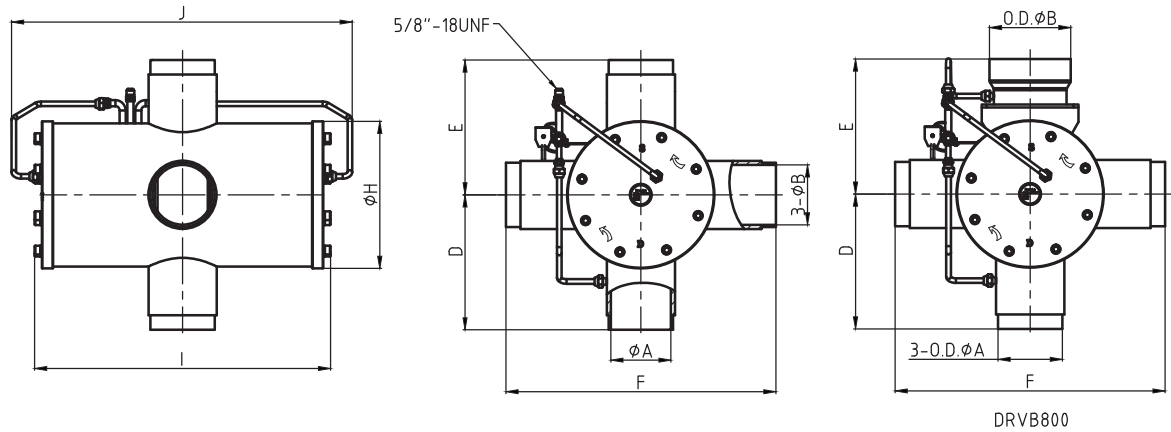
Model	High Pressure Side Flow Area (mm ²)	Low Pressure Side Flow Area (mm ²)	R134a (kW)	R22 (kW)	R407C (kW)	R410A (kW)	R32 (kW)
DRVB150	2142	2300	153	202	194	232	260
DRVB200	2721	2909	206	272	261	312	349
DRVB300	3608	4264	286	377	362	433	484
DRVB350	5200	5867	373	490	471	563	631
DRVB400	5847	7272	417	543	528	632	709
DRVB600	7410	10200	597	785	752	901	1009
DRVB800	10431	13593	818	1074	1033	1234	1384

TECHNICAL PARAMETERS OF VALVE BODY

Model	Internal Leakage (≤)	Minimum Reversing Pressure Difference	Maximum Reversing Pressure Difference
	L/min	MPa	MPa
DRVB150	20	0.3	3.1
DRVB200	30	0.35	3.1
DRVB300	45	0.35	3.1
DRVB350	60	0.4	3.1
DRVB400	90	0.4	3.1
DRVB600	120	0.4	3.1
DRVB800	200	0.4	3.1

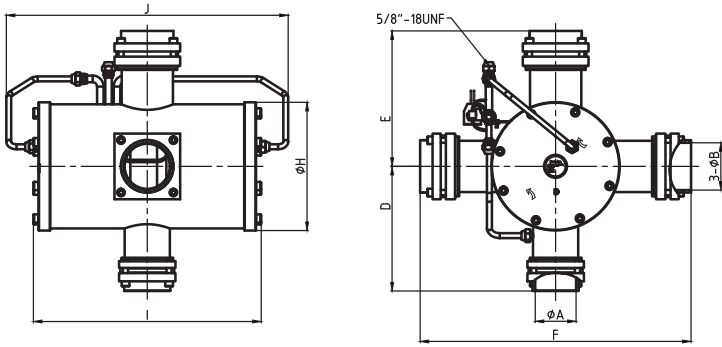
DIMENSIONS

Welded Type



Model	A	B	D	E	F	H	I	J	Reference Weight	Order Number
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]	
DRVB150	54	67	138	138	276	140	302	399	25	DRVB340093000143
DRVB200	54	67	152	152	304	170	325	417	37	DRVB340092000143
DRVB300	67	79	180	180	360	184	386	488	50	DRVB340091000143
DRVB350	79	92	210	210	420	224	439	540	80	DRVB340090000143
DRVB400	92	105	223	223	446	224	473	632	89	DRVB340088000101
DRVB600	106	134	235	235	470	250	546	698	124	DRVB340089002349
DRVB800	133	168	279	279	558	278	612	695	175	DRVB340087002601

Flange Type



Model	A	B	D	E	F	H	I	J	Reference Weight	Order Number
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]	
DRVB150F	54	67	133	138	276	140	302	399	2.638	DRVB340093000948
DRVB200F	54	67	152	152	304	170	325	417	2.638	DRVB340092000948
DRVB300F	67	79	168	180	360	184	386	488	3.110	DRVB340091000948
DRVB350F	79	92	195	210	420	224	439	540	3.622	DRVB340090000148
DRVB600F	106	134	235	235	470	250	546	698	5.276	DRVB340089002550

Three-Way Defrosting Valve

HSF Series three-way defrosting valves, adopting high-temperature refrigerant to defrost, are applicable for defrosting & deicing switchover of multi-evaporator commercial refrigeration systems, which is energy saving, safe and reliable.

FEATURES

- ◆ Four-way valve platform products, mature and reliable technology and craft
- ◆ Outstanding reversing performance, low internal leakage
- ◆ Several coils available

OPERATION CONDITION

- ◆ Applicable Refrigerants: R404A, R507, R410A, R134a, R32, R290, R407C and R22(As for R290, please confirm before placing orders.)
- ◆ Maximum Operating Pressure: 4.5Mpa
- ◆ Ambient Temperature: -30°C~+55°C
- ◆ Relative Humidity: <95%

Nominal Capacity (kW)

(Operation condition 1: TC=45°C, TE=7°C, ΔTsh=5K, ΔTsc=5K Operation condition 2: TC=48°C, TE=3°C, ΔTsh=5K, ΔTsc=5K)

TECHNICAL PARAMETERS OF VALVE BODY																
Model	Pressure Difference Δ P [bar]															
	R404A(kW)				R410A(kW)				R407C(kW)				R134a(kW)			
	Operation Condition 1		Operation Condition 2		Operation Condition 1		Operation Condition 2		Operation Condition 1		Operation Condition 2		Operation Condition 1		Operation Condition 2	
	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2
DSF-20	13.9	19.1	14.5	20.9	22.6	32.4	21.1	31.0	19.1	27.5	17.9	25.1	14.3	20.6	20.0	18.8
DSF-34	20.2	28.4	21.6	31.0	33.8	48.5	31.5	46.2	28.7	41.1	26.8	37.5	21.4	30.8	22.1	28.1
DSF-50	26.1	36.2	28.1	39.8	43.3	61.9	40.3	59.1	36.7	52.5	34.2	47.9	27.5	39.4	40.1	36.0

Model	Max Operating Pressure (MPa)	Operation Pressure Difference (MPa)		Interface Dimensions		Medium emperature (°C)	Order Number
		Max	Min	φ D inch	φ ES inch		
HSF20	4.5	3.1	0.3	1/2	3/4	-30~+130	HSF240020000009
HSF34	4.5	3.1	0.3	3/4	7/8	-30~+130	HSF240034000009
HSF50	4.5	3.1	0.3	7/8	9/8	-30~+130	HSF240050000004

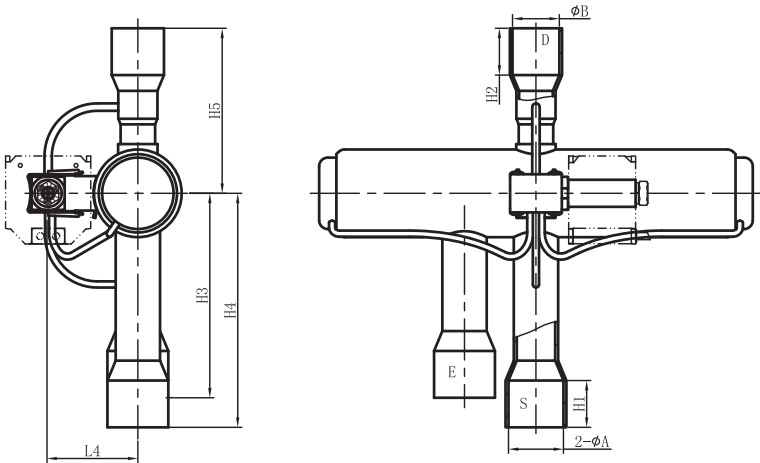
- Note: Coils and valve bodies are matched to each other.

TECHNICAL PARAMETERS OF COILS

Model	Rated Voltage (V)	Voltage Change	Rated Power (W)		Wire Length (in)	Wiring method	Insulation Class	Order Number
			AC(50/60Hz)	DC				
DXQ-822	AC220-240	-15%~+10%	7/5W	-	39.4	Wire	B	DXQ244409082201
DXQ-115	AC220-240	-15%~+10%	7/5W	-	59.1	Wire	B	DXQ244409011501
DXQ-986	AC220-240	-15%~+10%	7/5W	-	78.7	Wire	B	DXQ244409098601
DXQ-862	AC220-240	-15%~+10%	7/5W	-	118.1	Wire	B	DXQ244409086201
DXQ-647	AC265-270	-15%~+10%	7/5W	-	39.4	Wire	B	DXQ244409064701

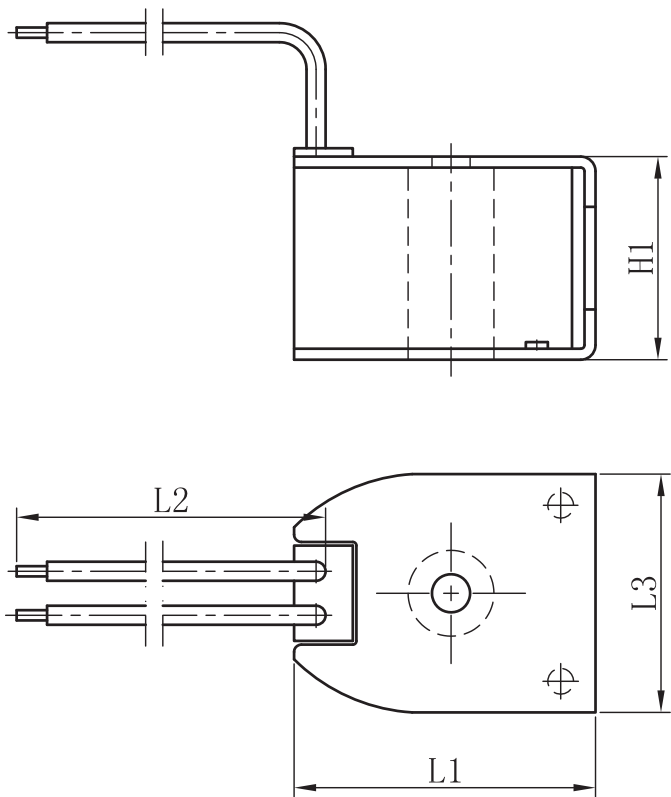
- Note: Coils and valve bodies are matched to each other.

DIMENSIONS



Model	A	B	C	L1	L2	L3	L4	H1	H2	H3	H4	H5
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
HSF20	22.3	19.2	35.6	187	29	29	36	19	13	83	95	67
HSF34	22.3	19.2	45	224	33.5	33.5	41.5	22	19	86	98.6	82
HSF50	28.6	22.5	45	245	37	37	40	30	25	94	107	93

COIL



Model	Type	L1	L2	L3	L4
		[mm]	[mm]	[mm]	[mm]
DXQ-822	B	33.5	1000	32.5	27.5
DXQ-647	B	33.5	1000	32.5	27.5
DXQ-115	B	33.5	1500	32.5	27.5
DXQ-986	B	33.5	2000	32.5	27.5
DXQ-862	B	33.5	3000	32.5	27.5

Electronic Expansion Valve

Series	size	Min kw	Max kw	Nominal Capcity (kWR410A)				Application Fields
				0	50	100	150	
A	0.4-0.8	0.68	1.6					Room air conditioners, light commercial air conditioners, VRV outdoor units, heat pump water heaters
B	1.0-3.2	3.4	40.2					Room air conditioners, light commercial air conditioners, VRV outdoor units, heat pump water heaters
C	1.3-3.2	6.7	40.2					American duct units, VRV outdoor units
P	3.5-6.5	58.7	126.4					Light commercial air conditioners, heat pump water heaters, modular machine, light commercial screw machine, VRV outdoor units
N	1.3-3.2	6.7	40.2					VRV indoor units

Nominal operation conditions: Condensing temperature: 45°C ; evaporating temperature: 7°C; superheating degree: 5K; subcooling degree: 5K

OPERATION CONDITIONS

- ◆ Applicable Refrigerants: R410A, R32, R134a, R404A, R507, R290, R407C and R22 (For R290, please confirm before placing orders.)
- ◆ Maximum Working Pressure: 4.5 MPa
- ◆ Medium Temperature: -30°C~ +70°C (energization rate below 50%)
- ◆ Ambient Temperature: -30°C~ +60°C (energization rate below 50%)
- ◆ Relative Humidity: <95%

A SERIES Electronic Expansion Valve

A Series electronic expansion valves are widely used in room air conditioners, heat pump water heaters, commercial refrigeration systems, etc.. The valve supports automatic adjustment of refrigerant flow so that refrigeration systems can operate under optimized working conditions. The valve can also be used to realize rapid cooling or heating, precise temperature control and energy-saving operation.

FEATURES

- ◆ Fast and reliable operation
- ◆ High flow accuracy, two-way precise adjustment
- ◆ Outer plastic seal coil design, good weather resistance

TECHNICAL PARAMETERS

- ◆ Medium Flow Direction: Bi-directional flow
- ◆ Open Valve Pulses: 30±20 pulses
- ◆ Full-Open Pulses: 500 pulses
- ◆ Rated Voltage: DC12V±10%, rectangular wave
- ◆ Excitation Mode: 1~2 phase excitation, 4 phase 8 step
- ◆ Excitation Rate: 30~90 pps
- ◆ Coil Resistance (20°C): 46±3.7Ω
- ◆ Coil Current (20°C): 260 mA/phase
- ◆ • Coil Insulation Class: E
- ◆ • Protection Class: IP67



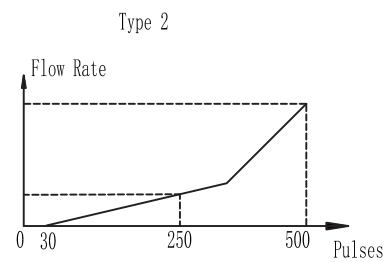
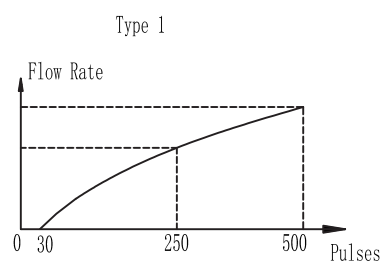
Technical Parameters of Valve Body

Model	Size	Nominal Capacity [kW]						Max. Operation Pressure (MPa)	MOPD (MPa)	MOPD Rev. (MPa)	Type of Flow Curve	Order Number
	(mm)	R410A	R32	R134a	R407C	R404A	R22					
DPF0.4A	0.4	0.68	1.00	0.46	0.45	0.41	0.58	4.5	3.5	≥2.2	2	DPF3100240013
DPF0.6A	0.6	1.1	1.6	0.8	0.7	0.7	1.0				2	DPF3100240014
DPF0.8A	0.8	1.6	2.3	1.1	1.0	0.9	1.3				1	DPF3100250008

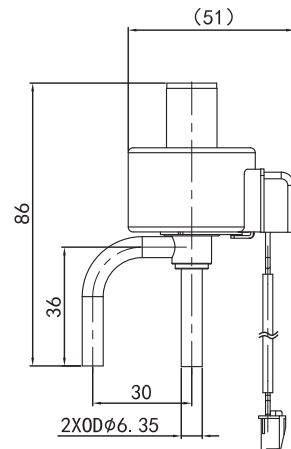
Operation condition 1: Condensing temperature: 45°C; evaporating temperature: 7°C; superheating degree: 5K; subcooling degree: 5K

Model	Size	Nominal Capacity [kW]						Max. Operation Pressure (MPa)	MOPD (MPa)	MOPD Rev. (MPa)	Type of Flow Curve	Order Number
	(mm)	R410A	R32	R134a	R407C	R404A	R22					
DPF0.4A	0.4	0.70	1.05	0.47	0.45	0.41	0.6	4.5	3.5	≥2.2	2	DPF3100240013
DPF0.6A	0.6	1.2	1.7	0.8	0.7	0.7	1.0				2	DPF3100240014
DPF0.8A	0.8	1.6	2.4	1.1	1.0	1.0	1.4				1	DPF3100250008

Operation condition 2: Condensing temperature: 48°C ; evaporating temperature: 3°C; superheating degree: 5K; subcooling degree: 5K



Standard Flow Curve



DIMENSIONS

Technical Parameters of Coil

Suitable Series	Model	Length of Wire (mm)	Number of Wiring Harness	Connector Model	Order Number
A Series	DPF06-055	2000	5	XHP-5	DPF3107061062
	DPF06-080	2000	6	XHP-6	DPF3107011767

B Series Electronic Expansion Valve



B Series electronic expansion valves are widely used in room air conditioners, VRV outdoor units, modular units, unit machines, heat pump hot water heaters, commercial refrigeration systems, etc.. The valve supports automatic adjustment of refrigerant flow so that refrigeration systems can operate under optimized working conditions. The valve can also be used to realize rapid cooling or heating, precise temperature control and energy-saving operation.

FEATURES

- ◆ Fast and reliable operation
- ◆ High flow accuracy, two-way precise adjustment
- ◆ Outer plastic seal coil design, good weather resistance

TECHNICAL PARAMETERS

- ◆ Medium Flow Direction: Bi-directional flow
- ◆ Open Valve Pulses: 30±20 pulses
- ◆ Full-Open Pulses: 500 pulses
- ◆ Rated Voltage: DC12V±10%, rectangular wave
- ◆ Excitation Mode: 1~2 phase excitation, 4 phase 8 step
- ◆ Excitation Rate: 30~90 pps
- ◆ Coil Resistance (20°C): 46±3.7Ω
- ◆ Coil Current (20°C): 260 mA/phase
- ◆ Coil Insulation Class: E
- ◆ Protection Class: IP67

Technical Parameters of Valve Body

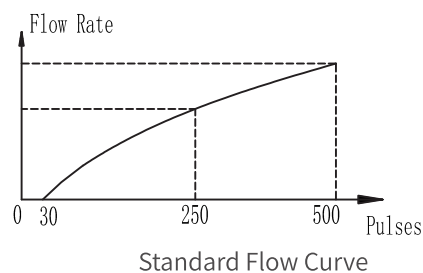
Model	Size	Nominal Capacity [kW]						Max. Operation Pressure (MPa)	MOPD (MPa)	MOPD Rev. (MPa)	Order Number
	(mm)	R410A	R32	R134a	R407C	R404A	R22				
DPF1.0B	1.0	3.4	5.1	2.3	2.3	2.1	2.9	4.5	3.5	≥2.2	DPF3100111076
DPF1.3B	1.3	6.7	9.9	4.5	4.5	4.0	5.7				DPF3100120215
DPF1.65B	1.65	12.0	17.6	8.1	8.0	7.2	10.2				DPF3100011500
DPF1.8B	1.8	14.2	20.9	9.6	9.5	8.6	12.1				DPF3100061267
DPF2.0B	2.0	17.4	25.6	11.7	11.6	10.5	14.8				DPF3100071464
DPF2.2B	2.2	19.0	27.9	12.8	12.6	11.4	16.1				DPF3100020104
DPF2.4B	2.4	22.4	32.9	15.0	14.9	13.5	19.0				DPF3100032143
DPF2.6B	2.6	28.6	42.0	19.2	19.0	17.2	24.3				DPF3100160009
DPF2.8B	2.8	30.1	44.3	20.3	20.1	18.2	25.6			≥1.5	DPF3100080052
DPF3.0B	3.0	37.4	54.9	25.1	24.9	22.5	31.8				DPF3100040081
DPF3.2B	3.2	40.2	59.1	27.0	26.8	24.2	34.2				DPF3100090109

Operation condition 1: Condensing temperature: 45°C ; evaporating temperature: 7°C; superheating degree: 5K; subcooling degree: 5K

Technical Parameters of Valve Body

Model	Size	Nominal Capacity [kW]						Max. Operation Pressure (MPa)	MOPD (MPa)	MOPD Rev. (MPa)	Order Number
	(mm)	R410A	R32	R134a	R407C	R404A	R22				
DPF1.0B	1.0	3.5	5.3	2.4	2.3	2.1	3.0	4.5	3.5	≥2.2	DPF3100111076
DPF1.3B	1.3	6.9	10.3	4.7	4.4	4.1	5.9				DPF3100120215
DPF1.65B	1.65	12.4	18.4	8.3	7.9	7.3	10.6				DPF3100011500
DPF1.8B	1.8	14.6	21.8	9.9	9.4	8.6	12.6				DPF3100061267
DPF2.0B	2.0	18.0	26.8	12.1	11.5	10.6	15.5				DPF3100071464
DPF2.2B	2.2	19.6	29.2	13.2	12.5	11.5	16.8				DPF3100020104
DPF2.4B	2.4	23.1	34.4	15.5	14.7	13.6	19.8				DPF3100032143
DPF2.6B	2.6	29.5	43.9	19.8	18.8	17.4	25.3				DPF3100160009
DPF2.8B	2.8	31.1	46.4	20.9	19.9	18.4	26.7			≥1.5	DPF3100080052
DPF3.0B	3.0	38.5	57.5	25.9	24.6	22.8	33.1				DPF3100040081
DPF3.2B	3.2	41.5	61.8	27.9	26.5	24.5	35.6				DPF3100090109

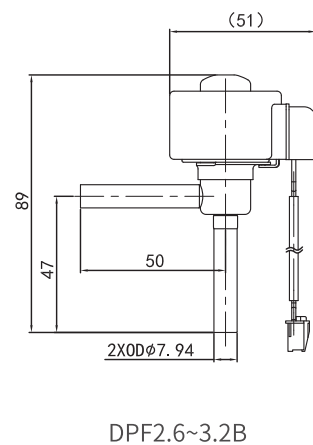
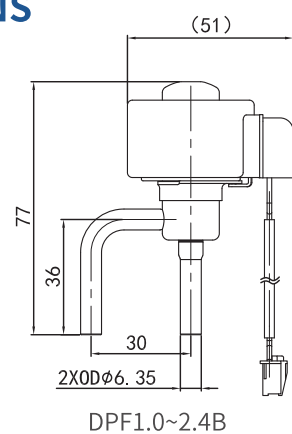
Operation condition 2: Condensing temperature: 48°C; evaporating temperature: 3°C; superheating degree: 5K; subcooling degree: 5K



Technical Parameters of Coil

Suitable Series	Model	Length of Wire mm	Number of Wiring Harness	Connector Model	Order Number
B Series	DPFX07-037	2000	5	XHP-5	DPFX3107011748
	DPFX07-118	2000	6	XHP-6	DPFX3107011768

DIMENSIONS



C Series Electronic Expansion Valve



C Series electronic expansion valves are widely used in American duct units, VRV outdoor units, etc.. The valve supports automatic adjustment of refrigerant flow so that refrigeration systems can operate under optimized working conditions. The valve can also be used to realize rapid cooling or heating, precise temperature control and energy-saving operation. The built-in check valve structure of valve realizes accurate and rapid adjustment of circulation flow by positive 500 steps without reverse bypass throttling, which can save a check valve in parallel with a expansion valve in refrigeration system pipelines.

FEATURES

- ◆ Fast and reliable operation
- ◆ High flow accuracy, two-way precise adjustment
- ◆ Outer plastic seal coil design, good weather resistance

TECHNICAL PARAMETERS

- ◆ Medium Flow Direction: Bi-directional flow
- ◆ Open Valve Pulses: 30±20 pulses
- ◆ Full-Open Pulses: 500 pulses
- ◆ Rated Voltage: DC12V±10%, rectangular wave
- ◆ Excitation Mode: 1~2 phase excitation, 4 phase 8 step
- ◆ Excitation Rate: 30~90 pps
- ◆ Coil Resistance (20°C): 46±3.7Ω
- ◆ Coil Current (20°C): 260 mA/phase
- ◆ Coil Insulation Class: E
- ◆ Protection Class: IP67

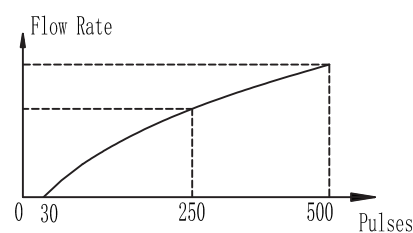
Technical Parameters of Valve Body

Model	Size	Nominal Capacity (kW)						Max. Operation Pressure (MPa)	MOPD (MPa)	MOPD Rev. (MPa)	Order Number
	(mm)	R410A	R32	R134a	R407C	R404A	R22				
DPF1.3C	1.3	6.7	9.9	4.5	4.5	4.0	5.7	4.5	3.5	≥3	DPF3100120230
DPF1.65C	1.65	12.0	17.6	8.1	8.0	7.2	10.2				DPF3100011497
DPF1.8C	1.8	14.2	20.9	9.6	9.5	8.6	12.1				DPF3100061264
DPF2.0C	2.0	17.4	25.6	11.7	11.6	10.5	14.8				DPF3100071461
DPF2.2C	2.2	19.0	27.9	12.8	12.6	11.4	16.1				DPF3100020106
DPF2.4C	2.4	22.4	32.9	15.0	14.9	13.5	19.0				DPF3100032144
DPF2.6C	2.6	28.6	42.0	19.2	19.0	17.2	24.3				DPF3100160010
DPF2.8C	2.8	30.1	44.3	20.3	20.1	18.2	25.6			≥1.5	DPF3100080053
DPF3.0C	3.0	37.4	54.9	25.1	24.9	22.5	31.8				DPF3100040082
DPF3.2C	3.2	40.2	59.1	27.0	26.8	24.2	34.2				DPF3100090110

Operation condition 1: Condensing temperature: 45°C; evaporating temperature: 7°C; superheating degree: 5K; subcooling degree: 5K

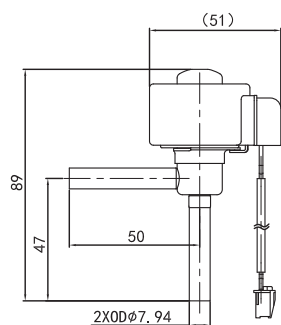
Model	Size	Nominal Capacity (kW)						Max. Operation Pressure (MPa)	MOPD (MPa)	MOPD Rev. (MPa)	Order Number
	(mm)	R410A	R32	R134a	R407C	R404A	R22				
DPF1.3C	1.3	6.9	10.3	4.7	4.4	4.1	5.9	4.5	3.5	≥3	DPF3100120230
DPF1.65C	1.65	12.4	18.4	8.3	7.9	7.3	10.6				DPF3100011497
DPF1.8C	1.8	14.6	21.8	9.9	9.4	8.6	12.6				DPF3100061264
DPF2.0C	2.0	18.0	26.8	12.1	11.5	10.6	15.5				DPF3100071461
DPF2.2C	2.2	19.6	29.2	13.2	12.5	11.5	16.8				DPF3100020106
DPF2.4C	2.4	23.1	34.4	15.5	14.7	13.6	19.8				DPF3100032144
DPF2.6C	2.6	29.5	43.9	19.8	18.8	17.4	25.3				DPF3100160010
DPF2.8C	2.8	31.1	46.4	20.9	19.9	18.4	26.7				DPF3100080053
DPF3.0C	3.0	38.5	57.5	25.9	24.6	22.8	33.1			≥1.5	DPF3100040082
DPF3.2C	3.2	41.5	61.8	27.9	26.5	24.5	35.6				DPF3100090110

Operation condition 2: Condensing temperature: 48°C ; evaporating temperature: 3°C; superheating degree: 5K; subcooling degree: 5K



Standard Flow Curve

DIMENSIONS



Technical Parameters of Coil

Suitable Series	Model	Length of Wire mm	Number of Wiring Harness	Connector Model	Order Number
C Series	DPFX07-037	2000	5	XHP-5	DPFX3107011748
	DPFX07-118	2000	6	XHP-6	DPFX3107011768

P Series of Electronic Expansion Valves



P Series electronic expansion valves are widely used in VRV outdoor units, modular units, unit machines, heat pump hot water heaters, commercial refrigeration systems, etc.. The valve supports automatic adjustment of refrigerant flow so that refrigeration systems can operate under optimized working conditions. The valve can also be used to realize rapid cooling or heating, precise temperature control and energy-saving operation.

FEATURES

- ◆ Internal balance design and installation size decreased by 60% compared to similar products
- ◆ Fast and reliable operation
- ◆ High flow accuracy, two-way precise adjustment
- ◆ Outer plastic seal coil design, good weather resistance

TECHNICAL PARAMETERS

- ◆ Medium Flow Direction: Bi-directional flow
- ◆ Open Valve Pulses: 30±20 pulses
- ◆ Full-Open Pulses: 500 pulses
- ◆ Rated Voltage: DC12V±10%, rectangular wave
- ◆ Excitation Mode: 1~2 phase excitation, 4 phase 8 step
- ◆ Excitation Rate: 30~90 pps
- ◆ Coil Resistance (20°C): 46±3.7Ω
- ◆ Coil Current (20°C): 260 mA/phase
- ◆ Coil Insulation Class: E
- ◆ Protection Class: IP67

Technical Parameters of Valve Body

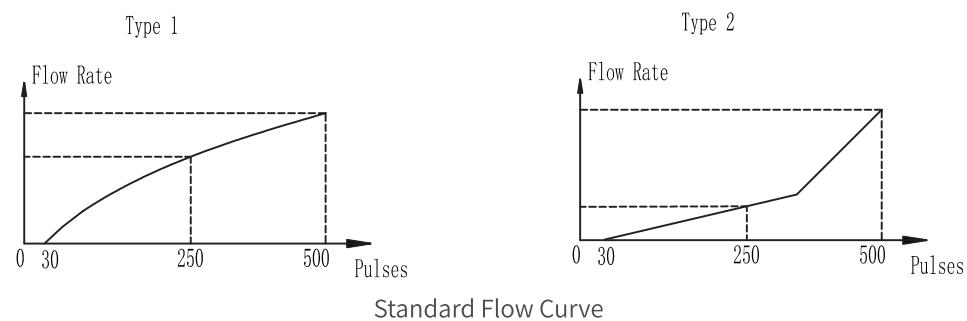
Model	Size	Nominal Capacity (kW)					Max. Operation Pressure (MPa)	MOPD (MPa)	MOPD Rev. (MPa)	Order Number	Order Number
	(mm)	R410A	R32	R134a	R407C	R404A					
DPF3.5P	3.5	48.7	71.6	32.8	32.5	29.4	4.5	3.5	3.5	1	DPF3100260006
DPF4.0P	4.0	77.8	114.3	52.3	51.8	46.9				1	DPF3100170069
DPF4.0P	4.0	77.8	114.3	52.3	51.8	46.9				2	DPF3100170074
DPF4.5P	4.5	90.8	133.5	61.1	60.5	54.8				1	DPF3100180047
DPF4.5P	4.5	90.8	133.5	61.1	60.5	54.8				2	DPF3100180049
DPF5.5P	5.5	106.3	156.3	71.5	70.8	64.1				1	DPF3100200035
DPF5.5P	5.5	106.3	156.3	71.5	70.8	64.1				2	DPF3100200036
DPF6.5P	6.5	126.4	185.7	85.0	84.2	76.2				1	DPF3100220027
DPF6.5P	6.5	126.4	185.7	85.0	84.2	76.2				2	DPF3100220028

Operation condition 1: Condensing temperature: 45°C; evaporating temperature: 7°C; superheating degree: 5K; subcooling degree: 5K

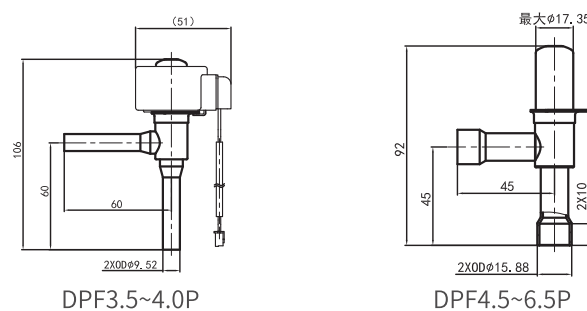
Technical Parameters of Valve Body

Model	Size	Nominal Capacity (kW)					Max. Operation Pressure	MOPD	MOPD Rev.	Order Number	Order Number
	(mm)	R410A	R32	R134a	R407C	R404A	(MPa)	(MPa)	(MPa)		
DPF3.5P	3.5	50.3	75.0	33.8	33.8	29.7	4.5	3.5	3.5	1	DPF3100260006
DPF4.0P	4.0	80.2	119.7	54.0	54.0	47.4				1	DPF3100170069
DPF4.0P	4.0	80.2	119.7	54.0	54.0	47.4				2	DPF3100170074
DPF4.5P	4.5	93.7	139.8	63.0	63.0	55.4				1	DPF3100180047
DPF4.5P	4.5	93.7	139.8	63.0	63.0	55.4				2	DPF3100180049
DPF5.5P	5.5	109.7	163.6	73.8	73.8	64.8				1	DPF3100200035
DPF5.5P	5.5	109.7	163.6	73.8	73.8	64.8				2	DPF3100200036
DPF6.5P	6.5	130.4	194.4	87.7	87.7	77.0				1	DPF3100220027
DPF6.5P	6.5	130.4	194.4	87.7	87.7	77.0				2	DPF3100220028

Operation condition 2: Condensing temperature: 48°C ; evaporating temperature: 3°C ; superheating degree: 5K; subcooling degree: 5K



DIMENSIONS



Technical Parameters of Coil

Suitable Series	Model	Length of Wire mm	Number of Wiring Harness	Connector Model	Order Number
P Series	DPFX07-037	2000	5	XHP-5	DPFX3107011748
	DPFX07-118	2000	6	XHP-6	DPFX3107011768

N Series of Electronic Expansion Valves



N Series electronic expansion valves are widely used in VRV indoor units, room air conditioners and unit machine indoor units with low-noise requirements, etc.. The valve supports automatic adjustment of refrigerant flow so that refrigeration systems can operate under optimized working conditions. The valve can also be used to realize rapid cooling or heating, precise temperature control and energy-saving operation.

FEATURES

- ◆ Low noise to meet indoor use demands
- ◆ High reliability design and better operating performance
- ◆ Anti-wear design for valve needle, long product life
- ◆ Outer plastic seal coil design, good weather resistance

TECHNICAL PARAMETERS

- ◆ Medium Flow Direction: Bi-directional flow
- ◆ Open Valve Pulses: 30±20 pulses
- ◆ Full-Open Pulses: 500 pulses
- ◆ Rated Voltage: DC12V±10%, rectangular wave
- ◆ Excitation Mode: 1~2 phase excitation, 4 phase 8 step
- ◆ Excitation Rate: 30~90 pps
- ◆ Coil Resistance (20°C): 46±3.7Ω
- ◆ Coil Current (20°C): 260 mA/phase
- ◆ Coil Insulation Class: E
- ◆ Protection Class: IP67

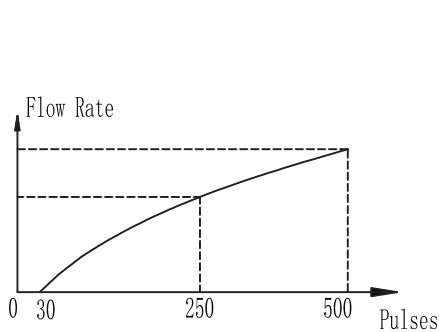
Technical Parameters of Valve Body

Model	Size	Nominal Capacity (kW)						Max. Operation Pressure	MOPD	MOPD Rev.	Order Number
	(mm)	R410A	R32	R134a	R407C	R404A	R22	(MPa)	(MPa)	(MPa)	
DPF1.3N	1.3	6.7	9.9	4.5	4.5	4.0	5.7	4.5	3.5	≥3	DPF3100120231
DPF1.65N	1.65	12.0	17.6	8.1	8.0	7.2	10.2				DPF3100011498
DPF1.8N	1.8	14.2	20.9	9.6	9.5	8.6	12.1				DPF3100061265
DPF2.0N	2.0	17.4	25.6	11.7	11.6	10.5	14.8				DPF3100071460
DPF2.2N	2.2	19.0	27.9	12.8	12.6	11.4	16.1				DPF3100020105
DPF2.4N	2.4	22.4	32.9	15.0	14.9	13.5	19.0				DPF3100032145
DPF2.6N	2.6	28.6	42.0	19.2	19.0	17.2	24.3			≥1.5	DPF3100160012
DPF2.8N	2.8	30.1	44.3	20.3	20.1	18.2	25.6				DPF3100080054
DPF3.0N	3.0	37.4	54.9	25.1	24.9	22.5	31.8				DPF3100040083
DPF3.2N	3.2	40.2	59.1	27.0	26.8	24.2	34.2				DPF3100090111

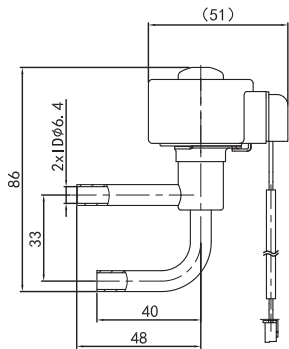
Working condition 1: Condensing temperature TC=45°C, evaporation temperature TE=7°C, degree of superheat Tsh=5K, degree of super-cooling Tsc=5K

Model	Size	Nominal Capacity (kW)						Max. Operation Pressure (MPa)	MOPD (MPa)	MOPD Rev. (MPa)	Order Number
	(mm)	R410A	R32	R134a	R407C	R404A	R22				
DPF1.3N	1.3	6.9	10.3	4.7	4.4	4.1	5.9	4.5	3.5	≥3	DPF3100120231
DPF1.65N	1.65	12.4	18.4	8.3	7.9	7.3	10.6				DPF3100011498
DPF1.8N	1.8	14.6	21.8	9.9	9.4	8.6	12.6				DPF3100061265
DPF2.0N	2.0	18.0	26.8	12.1	11.5	10.6	15.5				DPF3100071460
DPF2.2N	2.2	19.6	29.2	13.2	12.5	11.5	16.8				DPF3100020105
DPF2.4N	2.4	23.1	34.4	15.5	14.7	13.6	19.8				DPF3100032145
DPF2.6N	2.6	29.5	43.9	19.8	18.8	17.4	25.3				DPF3100160012
DPF2.8N	2.8	31.1	46.4	20.9	19.9	18.4	26.7				DPF3100080054
DPF3.0N	3.0	38.5	57.5	25.9	24.6	22.8	33.1	4.5	3.5	≥1.5	DPF3100040083
DPF3.2N	3.2	41.5	61.8	27.9	26.5	24.5	35.6				DPF3100090111

Working condition 2: Condensing temperature TC=48°C, evaporation temperature TE=3°C, degree of superheat Tsh=5K, degree of super-cooling Tsc=5K



Standard Flow Curve



Dimensions

Technical Parameters of Coil

Suitable Series	Model	Length of Wire mm	Number of Wiring Harness	Connector Model	Order Number
N Series	DPFX07-137	900	5	XHP-5	DPFX3107140240
	DPFX07-043	900	6	XHP-6	DPFX3107011769

Controller for Electronic Expansion Valve



EC series controllers for electronic expansion valve include EC112A, EC131A and EC133A. EC112A, a controller integrating superheat control, system protection, defrosting and dehumidification for EEV, receives temperature and pressure signals. EC131A controller controls EEV by MODBUS communication signal. EC133A controller controls EEV by receiving current or voltage analog signal.

FEATURES

- ◆ Applicable for air conditioning, heat pumps, and commercial refrigeration systems.
- ◆ Applicable for various EEV.
- ◆ Manual opening setting.
- ◆ Accurate system control with superheat control by integration PID algorithm.

OPERATING CONDITIONS

- ◆ Power Supply: 24±15% V DC/ AC, 50/60Hz;
- ◆ Ambient Temperature: -20°C~ +60°C (Electrified rate <50%)
- ◆ Ambient Humidity: 20~80%Rh (No condensation)
- ◆ Applicable Refrigerants: R22, R134a, R404A, R407C, R410A, R32, R290, R1234yf, R1234ze, R744, R600a and R507, etc. As for R290, please confirm before placing orders.

EC112A

Based on the degree of superheat.
Applicable for signals such as: heat pump defrosting signal, computer room air conditioning dehumidification signal and commercial refrigeration system defrosting signal.

Power Supply	24±15% V DC/ AC, 50/60Hz
Power	Standby 1.5W, max 20W (Depends on stepper motor load)
Input Signal	Evaporator outlet temperature and pressure, discharge temperature, passive signals of compressor and 4 way reversing valve
Output Signal	Pulse signal, alarm signal, LED display
Wiring Method	Thread wiring terminals, applicable for wire diameter of 0.5-2.5mm2
Installation Method	DIN rail installation, screw fastening
Operating Environment	-20~+60°C during operation 20~80%Rh (No condensation)
Insulation Voltage	500VDC 1min
Protection Class	IP20
Standard	EMC EN61326-1, EN50081, EN50082, LVD EN60730-1, EN60730-2-9

SUPPORTING INSTRUCTION

Production	Specifications
Pressure Sensor	Supply Voltage: 5±0.25Vdc Output Voltage: 0.5-4.5/0.5-3.5/0-5Vdc
Temperature Sensor	Suction Temperature Sensor: NTC 3950-10K Discharge Temperature Sensor: NTC 3950-50K
EEV	4 phase 4 step and 4 phase 8 step EEV

EC131A

Opening EEV based on RS-485 mode (MODBUS-RTU mode).
Support 4800bps 9600bps communication baud rate.
32 configurable module addresses.

Power Supply	24±15% V DC, 50/60Hz; max0.8A
Power	Standby 1.5W, Max. 20W (Depends on stepper motor load)
Input Signal	MODBUS signal
Output Signal	Pulse signal, alarm signal, LED display
Wiring Method	Thread wiring terminals, applicable for wire diameter of 0.5-2.5mm2
Installation Method	DIN rail installation, screw fastening
Operating Environment	-20~+60°C during operation 20~80%Rh (No condensation)
Insulation Voltage	DC500V 1min
Protection Class	IP20
Standard	EMC EN61326-1, EN50081, EN50082, LVD EN60730-1 and EN60730-2-9

EC133A

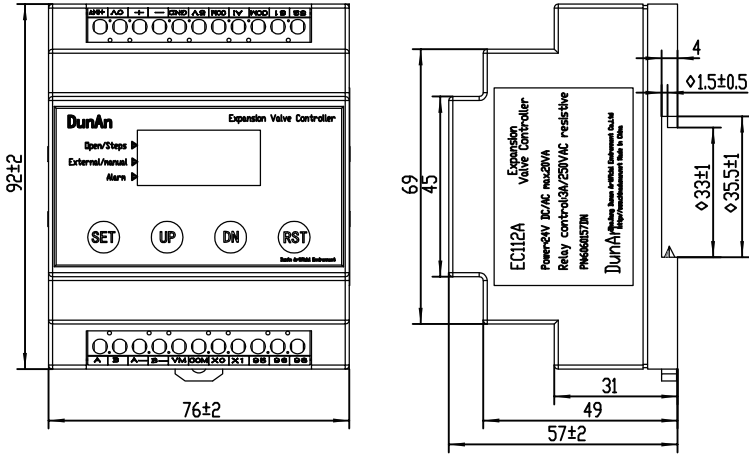
Based on external current and voltage analog control mode.
3 analog control options: 0~10V or 0~20mA or 4~20mA

Power Supply	24±15% V DC/ AC, 50/60Hz
Power	Standby 1.5W, Max 20W (Depends on stepper motor load)
Input Signal	0-10V/0-20mA/4-20mA
Output Signal	Pulse signal, alarm signal, LED display
Wiring Method	Thread wiring terminals, applicable for wire diameter of 0.5-2.5mm2
Installation Method	DIN rail installation, screw fastening
Operating Environment	-20~+60°C during operation 20~80%Rh (No condensation)
Insulation Voltage	500VDC 1min
Protection Class	IP20
Standard	EMC EN61326-1, EN50081, EN50082, LVD EN60730-1, EN60730-2-9

SPECIFICATIONS

Model	Description	Order Number
EC112A	Unipolar drive, pressure acquisition, EEV controller without host communication.	EC990000000405
EC131A	Unipolar drive, EEV controller by MODBUS.	EC990000000406
EC133A	Unipolar drive, EEV controller by analog signal.	EC990000000407

DIMENSIONS



Series	Size	Min.	Max.	Flow capacity Kv								Application fields
				0	0.05	0.8	1.5	4.0	15	25		
FDF Straight-waysolenoid valve	2-40	0.16	25									Commercialrefrigeration, centrair conditioners
FDF-A Right-angle solenoid valve	2-13	0.08	4.0									VRVs, air source heatpumps
FDF-M Dehumidification solenoid valve	6-8	0.94	1.45									Dehum idifying airconditioners
FDF-O Oil pipeline solenoid valve	1.6-1.9	0.06	0.08									VRV oil return lines

FDF Series Straight-way Solenoid Valves

FDF series straight-through solenoid valves are widely used in liquid lines, suction and exhaust tubes of commercial refrigeration systems and central air conditioners.

FEATURES

- ◆ O-ring leads to good compatibility and long usage life
- ◆ High purity PTFE sealing material ensures good sealing performance
- ◆ Strong valve opening performance, high MOPD
- ◆ Various options of AC and DC solenoid coils

OPERATION CONDITIONS

- ◆ Applicable Refrigerants: R134a, R404A, R507, R410A, R32, R290, R407C and R22, etc. (For R290, please confirm before placing orders)
- ◆ Maximum Working Pressure:FDF2~FDF10: 4.5 MPa FDF15~FDF40: 4.2 MPa
- ◆ Medium Temperature: -30℃~ +105℃
- ◆ Ambient Temperature: -30℃~ +55℃
- ◆ Relative Humidity: below 95%
- ◆ Maximum Temperature for Defrosting: 130 ℃, Maximum Duration for Defrosting: 2h



TECHNICAL PARAMETERS

Model	Nominal Capacity (kW)											
	Liquid				Suction				Hot Steam			
	R134A	R22	R404A /R507	R410A	R134A	R22	R404A /R507	R410A	R134A	R22	R404A /R507	R410A
FDF2	2.9	3.2	2.2	3.4	/	/	/	/	1.2	1.5	1.2	1.7
FDF3	5	5.4	3.8	5.8	/	/	/	/	2	2.5	2	3.0
FDF6	15	16	11	17	1.3	1.8	1.6	2.2	5.9	7.4	6	8.8
FDF10	35	38	27	40	3.1	4.3	3.9	5.3	14	18	14	21
FDF15	48	52	37	55	4.2	5.9	5.3	7.2	19	24	20	28.6
FDF20	107	116	80	121	9	13	12	15.4	43	53	44	56.1
FDF22	138	151	105	160	12	18	15	19	55	69	56	72.9
FDF25	186	201	141	215	16.3	23	20.4	27.8	73	92	75	110
FDF32	297	322	225	345	26.1	37	32.6	44.7	117	148	120	176
FDF40	464	503	351	535	40.8	57	51	69	183	231	188	275

Liquid/suction nominal capacity under below operation condition:

Evaporating Temperature t_e =-10℃

Inlet Liquid Temperature t_l =25℃

Pressure Drop Δp =0.015 MPa

Hot Gas nominal capacity under below operation condition:

Condensing Temperature t_c =40℃

Pressure Drop through Valve Δp =0.08 MPa

Hot Steam Temperature t_h =65℃

Subcooling Degree Δt_{sub} =4℃

Technical Parameters of Valve Body

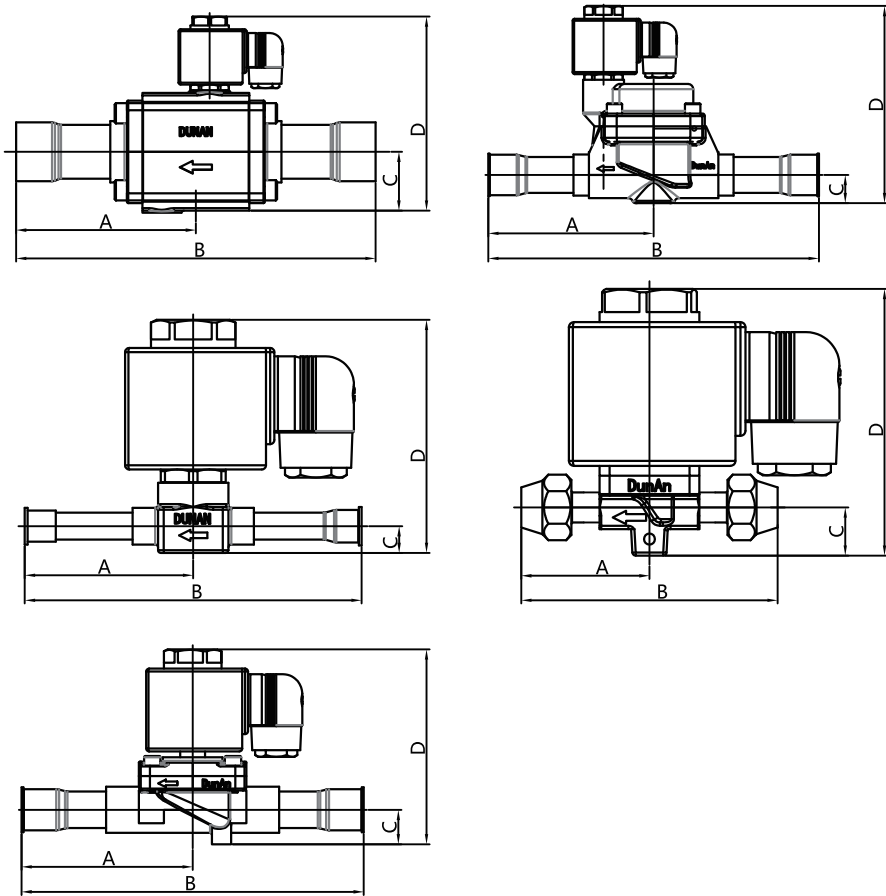
Model	Normal Position	Actuation	Kv	MOP	Max. OPD (MPa)		Min. OPD
			(m ³ /h)	(MPa)	AC Coil	DC Coil	(MPa)
FDF2	NC	Direct	0.16	4.5	3.1	1.8	0
FDF3	NC	Direct	0.27	4.5	3.1	1.8	0
FDF6	NC	Diaphragm	0.8	4.5	3.1	1.8	0.02
FDF10	NC	Diaphragm	1.9	4.5	3.1	1.8	0.02
FDF15	NC	Diaphragm	2.6	4.2	3.1	1.8	0.02
FDF20	NC	Diaphragm	6.0	4.2	3.1	1.8	0.02
FDF22	NC	Diaphragm	8.0	4.2	3.1	1.8	0.02
FDF25	NC	Piston	10.0	4.2	3.1	1.8	0.03
FDF32	NC	Piston	16.0	4.2	3.1	1.8	0.03
FDF40	NC	Piston	25	4.2	3.1	1.8	0.03

Technical Parameters of Coils

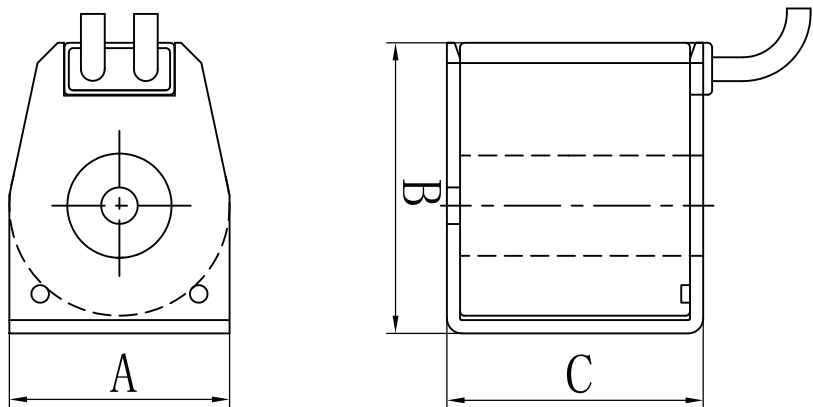
Model	Rated Voltage	Voltage Change	Rated Power	Frequency HZ	Connection Type	Insulation Class	Protection Class
	V		W				
FDFXAC110	AC110	-15%~+10%	16VA	50/60 Hz	DIN plug	F	IP65
FDFXAC220	AC220	-15%~+10%	16VA	50/60 Hz	DIN plug	F	IP65
FDFXAC380	AC380	-15%~+10%	16VA	50/60 Hz	DIN plug	F	IP65
FDFXAC24	AC24	-15%~+10%	16VA	50/60 Hz	DIN plug	F	IP65
FDFXAC36	AC36	-15%~+10%	16VA	50/60 Hz	DIN plug	F	IP65
FDFXDC12	DC12	-5%~+5%	13W	/	DIN plug	F	IP65
FDFXDC24	DC24	-5%~+5%	18W	/	DIN plug	F	IP65

DIMENSIONS

Valve Body



Model	Connections (ODF)		Connections (SAE)	Dimensions (mm)				Weight	Order Number
	inch	mm	inch	A	B	C	D	Kg	
FDF2	1/4	/	/	102	51	12	78	0.14	FDF3200050081
FDF2	/	6	/	102	51	12	78	0.14	FDF3200050083
FDF2	/	/	1/4	58	29	12	78	0.14	FDF3200050084
FDF3	1/4	/	/	102	51	12	78	0.15	FDF3200070001
FDF3	3/8	/	/	108	54	12	78	0.15	FDF3200070002
FDF3	/	6	/	108	54	12	78	0.15	FDF3200070005
FDF3	/	10	/	108	54	12	78	0.15	FDF3200070007
FDF3	/	/	1/4	58	29	12	78	0.15	FDF3200070008
FDF3	/	/	3/8	64	32	12	78	0.15	FDF3200070009
FDF6	3/8	/	/	112	56	13	85	0.22	FDF3200090049
FDF6	1/2	/	/	128	64	13	85	0.22	FDF3200090050
FDF6	/	10	/	128	64	13	85	0.22	FDF3200090051
FDF6	/	12	/	128	64	13	85	0.22	FDF3200090052
FDF6	/	8	3/8	70	35	13	85	0.22	FDF3200090053
FDF6	/	8	1/2	74	37	13	85	0.22	FDF3200090054
FDF10	1/2	/	/	128	64	17	100	0.38	FDF3200110003
FDF10	5/8	/	/	156	78	17	100	0.38	FDF3200110004
FDF10	/	12	/	128	64	17	100	0.38	FDF3200110009
FDF10	/	/	1/2	86	43	17	100	0.38	FDF3200110010
FDF10	/	/	5/8	92	46	17	100	0.39	FDF3200110011
FDF15	5/8	/	/	166	83	18	105	0.62	FDF3200120002
FDF15	3/4	/	/	166	83	18	105	0.62	FDF3200120004
FDF15	7/8	/	/	176	88	18	105	0.62	FDF3200120005
FDF15	/	/	5/8	102	51	18	105	0.62	FDF3200120010
FDF15	/	/	7/8	106	53	18	105	0.62	FDF3200120011
FDF20	3/4	/	/	182	91	20	112	1.23	FDF3200130038
FDF20	7/8	/	/	182	91	20	112	1.23	FDF3200130039
FDF20	1-1/8	/	/	232	116	20	112	1.26	FDF3200130040
FDF20	/	28	/	232	116	20	112	1.26	FDF3200130043
FDF22	1-3/8	/	/	258	129	20	112	1.26	FDF3200140001
FDF25	1-1/8	/	/	256	128	22	154	2.6	FDF3200150003
FDF25	1-3/8	/	/	282	141	22	154	2.6	FDF3200150004
FDF25	/	28	/	256	128	22	154	2.6	FDF3200150005
FDF32	1-3/8	/	/	282	141	48	153	4.1	FDF3200160001
FDF32	1-5/8	/	/	282	141	48	153	4.1	FDF3200160002
FDF40	1-5/8	/	/	282	141	48	153	4.2	FDF3200170006
FDF40	2-1/8	/	/	282	141	48	153	4.2	FDF3200170007



Model	Dimensions (mm)			Order Number
	A	B	C	
FDFXAC110	43	78	38	FDFX3210050130
FDFXAC220	43	78	38	FDFX3210020002
FDFXAC380	43	78	38	FDFX3210030001
FDFXAC24	43	78	38	FDFX3210040001
FDFXAC36	43	78	38	FDFX3210040003
FDFXDC12	43	78	38	FDFX3210010005
FDFXDC24	43	78	38	FDFX3210010009

FDF-A Series Right-angle Solenoid Valve

FDF-A Series right-angle solenoid valves with compact design are widely used in VRVs, air source heat pumps, etc..

FEATURES

- ◆ Small volume
- ◆ Low energy consumption
- ◆ Stable and reliable operation performance

OPERATION CONDITIONS

- ◆ Applicable Refrigerants: R410A, R32, R134a, R404A, R507, R290, R407C and R22, etc.
(For R290, please confirm before placing orders)
- ◆ Maximum working pressure: 4.2 MPa
- ◆ Medium Temperature: -30°C~ +120°C
- ◆ Ambient Temperature: -30°C~ +50°C
- ◆ Relative Humidity: below 95%



TECHNICAL PARAMETERS

Model	Nominal Capacity(kW)											
	Liquid				Suction				Hot Steam			
	R410A	R22	R134a	R404A / R507	R410A	R22	R134a	R404A / R507	R410A	R22	R134a	R404A / R507
FDF2A	1.7	1.5	3.2	1.1	0.2	0.1	0.2	0.2	0.9	0.6	0.9	0.6
FDF2.2A	2.7	2.4	5.0	1.8	0.4	0.2	0.4	0.3	1.4	0.9	1.4	1
FDF2.5A	4.2	3.7	7.8	2.8	0.5	0.3	0.5	0.4	2.1	1.5	2.2	1.5
FDF6A	11.8	10.3	21.9	7.8	1.5	0.9	1.5	1.1	6	4.1	6.2	4.2

Liquid/suction nominal capacity under below operation condition:

Evaporating Temperature $t_e = -10^{\circ}\text{C}$

Inlet Liquid Temperature $t_l = 25^{\circ}\text{C}$

Pressure Drop $\Delta p = 0.015 \text{ MPa}$

Hot Gas nominal capacity under below operation condition:

Condensing Temperature $t_c = 40^{\circ}\text{C}$

Pressure Drop through Valve $\Delta p = 0.08 \text{ MPa}$

Hot Steam Temperature $t_h = 65^{\circ}\text{C}$

Subcooling Degree $\Delta t_{\text{sub}} = 4^{\circ}\text{C}$

TECHNICAL PARAMETERS

Model	Normal Position	Actuation	Kv	MOP	Max. OPD (MPa)	Min. OPD
			(m³/h)	(MPa)	AC Coil	(MPa)
FDF2A	NC	Direct	0.08	4.2	3.4	0
FDF2.2A	NC	Direct	0.13	4.2	2.1	0
FDF2.5A	NC	Pilot	0.16	4.2	2.1	0
FDF6A	NC	Pilot	0.56	4.2	3.4	0.01

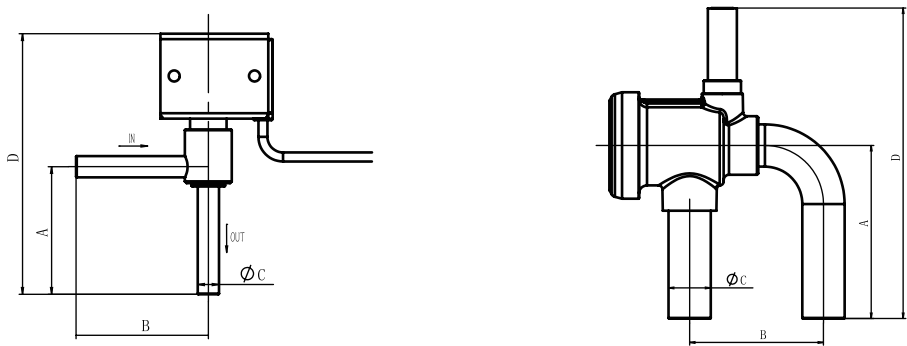
Technical Parameters of Coils

Model	Rated Voltage	Voltage Change	Rated Power	Frequency HZ	Wire Length	Insulation Class
	V		W			
FDFXAC100A	AC100	-15%~+10%	7/5W	50/60 Hz	0.6m	B
FDFXAC110A	AC110	-15%~+10%	7/5W	50/60 Hz	0.6m	B
FDFXAC200A	AC200	-15%~+10%	7/5W	50/60 Hz	0.6m	B
FDFXAC220A	AC220	-15%~+10%	7/5W	50/60 Hz	0.6m	B
FDFXAC230A	AC230	-15%~+10%	7/5W	50/60 Hz	0.6m	B

- Note: Match with FDF-A series and FDF-O series valve body

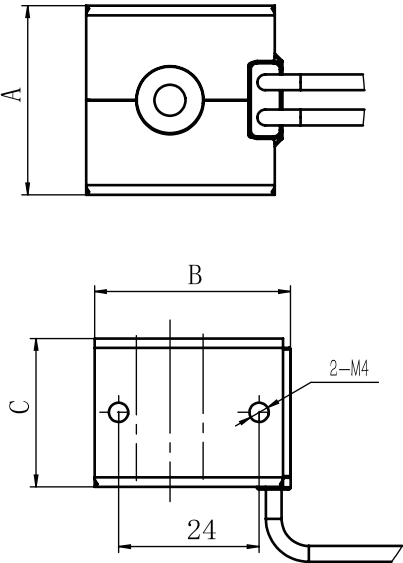
DIMENSIONS

Valve Body



Model	Connection (mm)	Dimensions (mm)			Weight	Order Number
	Φ C	A	B	D	Kg	
FDF2A	6.35	33	35	72	0.038	FDF3200050036
FDF2.2A	6.35	33	35	72	0.038	FDF3200050039
FDF2.5A	6.35	33	36	81	0.038	FDF3200060005
FDF6A	7.94	34	35	80	0.060	FDF3200090026

Coils



Model	Dimensions (mm)				Order Number
	A	B	C	Wire Length	
FDFXAC100A	33	34	27.5	600	FDFX3210130067
FDFXAC110A	33	34	27.5	600	FDFX3210050134
FDFXAC200A	33	34	27.5	600	FDFX3210130068
FDFXAC220A	33	34	27.5	600	FDFX3210050045
FDFXAC230A	33	34	27.5	600	FDFX3210090006

FDF-M Series Dehumidification Solenoid Valve

FDF-M Series dehumidification solenoid valves are widely used in constant temperature dehumidification air conditioners, etc..

FEATURES

- ◆ Small volume, low energy consumption, stable and reliable operation performance
- ◆ Low noise
- ◆ Adjustable Closed valve flow

OPERATION CONDITIONS

- ◆ Applicable Refrigerants: R410A, R32, R134a, R404A, R507, R290, R407C and R22, etc. (For R290, please confirm before placing orders)
- ◆ Maximum working pressure: 4.2MPa
- ◆ Medium temperature: -30°C~+120°C
- ◆ Ambient temperature: -30°C~+50°C
- ◆ Relative humidity: below 95%



Technical Parameters of Valve Body

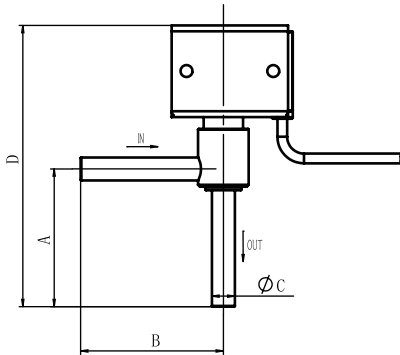
Model	Kv	Closed Valve Flow ($\Delta p=98\text{Kpa}$)	Open Valve Pressure Difference	Normal State
		L/min	Kpa	
FDF6MK	0.94	11 ± 1	78	On
FDF8MK	1.45	8 ± 1	20	On

Technical Parameters of Coils

Model	Rated Voltage	Voltage Change	Rated Power	Wire Length	Insulation Class	Installation Mode
	V		W			
FDFXDC140A	DC140	-15%~+10%	13W	0.4m	B	No Screw
FDFXDC280A	DC280	-15%~+10%	13W	0.4m	B	No Screw
FDFXDC140A	DC140	-15%~+10%	13W	0.4m	B	Screw
FDFXDC280A	DC280	-15%~+10%	13W	0.4m	B	Screw

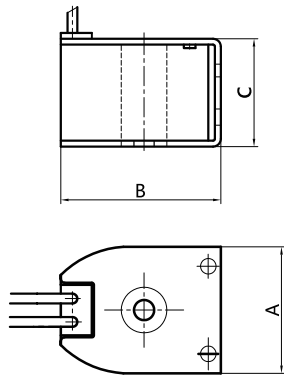
DIMENSIONS

Valve Body



Model	Connections (mm)	Dimensions (mm)			Weight	Part Number
	ΦC	A	B	D	Kg	
FDF6MK	8	33	36	76	0.05	FDF3200090057
FDF8MK	9.52	52	37	91	0.055	FDF3200100004

Coils



Model	Dimensions (mm)				Order Number
	A	B	C	Wire Length	
FDFXDC140A	25	33	27.4	400	FDFX3210130080
FDFXDC280A	25	33	27.4	400	FDFX3210130082
FDFXDC140A	25	33	27.4	400	FDFX3210150003
FDFXDC280A	25	33	27.4	400	FDFX3210150004

FDF-O Series Oil Tube Solenoid Valve

FDF-O Series of oil circuit solenoid valves with compact design are widely used in oil return tubes of VRVs, etc..

FEATURES

- ◆ Small volume
- ◆ Low energy consumption
- ◆ Stable and reliable operation performance

OPERATION CONDITIONS

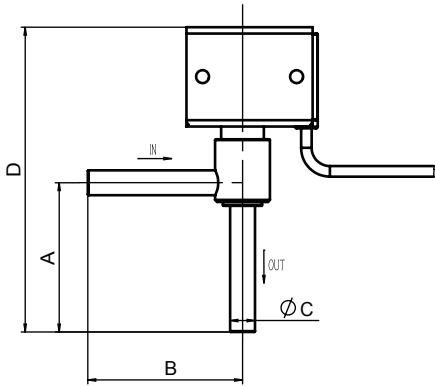
- ◆ Applicable Refrigerants: R410A, R32, R134a, R404A, R507, R290, R407C and R22, etc.
(For R290 , please confirm before placing orders)
- ◆ Maximum working pressure: 4.2MPa
- ◆ Medium temperature: -30°C~ +120°C
- ◆ Ambient temperature: -30°C~ +50°C
- ◆ Relative humidity: below 95%

TECHNICAL PARAMETERS

Model	Normal Position	Actuation	Kv	MOP	Max. OPD (MPa)	Min. OPD
			(m ³ /h)	(MPa)	AC coil	(MPa)
FDF1.60	NC	Direct	0.06	4.2	3.4	0
FDF1.90	NC	Direct	0.08	4.2	3.4	0

DIMENSIONS

Valve Body



Model	Connections (mm)	Dimensions (mm)			Weight	Order Number
	Φ C	A	B	D	Kg	
FDF1.60	6.35	33	35	67	0.038	FDF3200020003
FDF1.90	6.35	33	35	67	0.038	FDF3200040006

Thermostatic Expansion Valve

DunAn

Series	Min.	Max.	Nominal capacity kW						Application Fields
			0	20	40	60	80	100	
TA-R404A/R507	0.38	9.1							Commercial refrigeration Heat pump water heaters
TI-R404A/R507	0.65	15.6							Commercial refrigeration
TCC-R410A	7	24.5							Commercial air conditioners
TC-R410A	12	79							Commercial air conditioners
TS-R407C	9	62							Transport refrigeration

TA Series Thermostatic Expansion Valve

TA Series thermostatic expansion valves are used to adjust refrigerant supply volume in the evaporator by sensing the superheat degree of evaporator outlet through thermal bulb and external (internal) balance tube.

FEATURES

- ◆ Nominal capacity (R134a): 0.11~3TR/0.4~10.5kW
- ◆ 2 optional designs: adjustable superheat degree (straight-way style) and non-adjustable (right-angle style) structure
- ◆ Compact structure of valve body
- ◆ Power head uses continuous laser welding, which has high welding strength and long diaphragm life
- ◆ Available BP capability, 15% or 30%
- ◆ Available MOP function
- ◆ Optional imported filter
- ◆ Connection: weld
- ◆ standard capillary tube length: 0.75m.

OPERATION CONDITIONS

- ◆ Applicable refrigerants: R134a, R404A, R407C, R22, R290, R448A and R449A, etc.
- ◆ Maximum working pressure: 3.4 Mpa
- ◆ Medium temperature: -40°C~+70°C
- ◆ Maximum thermal bulb temperature: 100°C
- ◆ Maximum valve body temperature: 110°C
- ◆ Static state superheat degree adjustment change: 0K~8K
- ◆ Static state superheat degree setting: 4K
- ◆ Ambient temperature: -30°C~+55°C
- ◆ Relative humidity: below 95%.

NOMINAL CAPACITY

(Operation condition: Condensing temperature: 32°C; evaporating temperature: 5°C; refrigerant temperature of valve head: 28°C; superheating degree: 4K.)

Series/ Valve Port	R404A/R507		R134a		R407C		R22		R290		R448A/R449A	
	kW	TR	kW	TR	kW	TR	kW	TR	kW	TR	kW	TR
TA0	0.38	0.11	0.4	0.11	0.5	0.16	0.5	0.15	0.6	0.17	0.5	0.15
TA1	0.7	0.21	0.9	0.25	1.1	0.3	1.0	0.3	1.2	0.32	1.0	0.3
TA2	1.6	0.45	1.8	0.5	2.7	0.8	2.5	0.7	2.6	0.74	2.5	0.7
TA3	2.1	0.6	2.7	0.78	3.8	1.1	3.5	1.0	3.9	1.1	3.5	1.0
TA4	4.2	1.2	4.6	1.3	5.6	1.6	5.2	1.5	5.6	1.6	5.2	1.5
TA5	6.0	1.7	6.7	1.9	8.6	2.5	8.0	2.3	8.4	2.4	8.0	2.3
TA6	7.7	2.2	8.6	2.5	11.3	3.2	10.5	3.0	11.2	3.2	10.5	3.0
TA7	9.1	2.6	10.5	3.0	16.7	4.9	15.5	4.5	16.5	4.7	15.5	4.5

MOP Options

Refrigerants	K:-25~+10°C	AC: -25 ~ +15°C
	MOP15°C	MOP20°C
R404A/R507	8.3 bar	9.9 bar
R134a	3.9 bar	4.7 bar
R407C	6.6 bar	7.8 bar
R22	6.9 bar	8.1 bar
R290	6.3 bar	7.4 bar

- Note: In order to avoid the migration of refrigerant in thermometer bulb to valve head leading to product failure, the temperature of thermostatic expansion valve with MOP function should be lower than the temperature of power head.

PRODUCT SELECTION

(N: -40°C ~ +10°C Internal balance, right-angle structure, non-adjustable superheat degree)

Model	Refrigerant	Valve Port Number	Nominal Capacity		Connection (inlet x outlet) [inch]	Order Number
			【TR】	【kW】		
TAN0.11	R134a	0	0.11	0.4	1/4×3/8	TA4300800143
TAN0.25		1	0.25	0.9	1/4×3/8	TA4300800144
TAN0.5		2	0.5	1.8	1/4×3/8	TA4300800145
TAN0.78		3	0.78	2.7	1/4×3/8	TA4300800146
TAN1.3		4	1.3	4.6	1/4×3/8	TA4300800147
TAN1.9		5	1.9	6.7	3/8×1/2	TA4300800148
TAN2.5		6	2.5	8.6	3/8×1/2	TA4300800149
TAN3		7	3	10.5	3/8×1/2	TA4300800150
TAZ0.16	R407C	0	0.16	0.5	1/4×3/8	TA4300800095
TAZ0.3		1	0.3	1.1	1/4×3/8	TA4300800096
TAZ0.8		2	0.8	2.7	1/4×3/8	TA4300800097
TAZ1.1		3	1.1	3.8	1/4×3/8	TA4300800098
TAZ1.6		4	1.6	5.6	1/4×3/8	TA4300800058
TAZ2.5		5	2.5	8.6	3/8×1/2	TA4300800100
TAZ3.2		6	3.2	11.3	3/8×1/2	TA4300800101
TAZ4.9		7	4.9	16.7	3/8×1/2	TA4300800102
TAX0.15	R22	0	0.15	0.5	1/4×3/8	TA4300800111
TAX0.3		1	0.3	1	1/4×3/8	TA4300800112
TAX0.7		2	0.7	2.5	1/4×3/8	TA4300800113
TAX1		3	1	3.5	1/4×3/8	TA4300800114
TAX1.5		4	1.5	5.2	1/4×3/8	TA4300800115
TAX2.3		5	2.3	8	3/8×1/2	TA4300800116
TAX3		6	3	10.5	3/8×1/2	TA4300800117
TAX4.5		7	4.5	15.5	3/8×1/2	TA4300800118
TAS0.11	R404A/R507	0	0.11	0.38	1/4×3/8	TA4300800126
TAS0.21		1	0.21	0.7	1/4×3/8	TA4300800128
TAS0.45		2	0.45	1.6	1/4×3/8	TA4300800129
TAS0.6		3	0.6	2.1	1/4×3/8	TA4300800130
TAS1.2		4	1.2	4.2	1/4×3/8	TA4300800131
TAS1.7		5	1.7	6	3/8×1/2	TA4300800132
TAS2.2		6	2.2	7.7	3/8×1/2	TA4300800133
TAS2.6		7	2.6	9.1	3/8×1/2	TA4300800134
TAP0.17	R290	0	0.17	0.6	1/4×3/8	TA4300800159
TAP0.32		1	0.32	1.2	1/4×3/8	TA4300800016
TAP0.74		2	0.74	2.6	1/4×3/8	TA4300800017
TAP1.1		3	1.1	3.9	1/4×3/8	TA4300800018
TAP1.6		4	1.6	5.6	1/4×3/8	TA4300800160
TAP2.4		5	2.4	8.4	3/8×1/2	TA4300800161
TAP3.2		6	3.2	11.2	3/8×1/2	TA4300800162
TAP4.7		7	4.7	16.5	3/8×1/2	TA4300800163

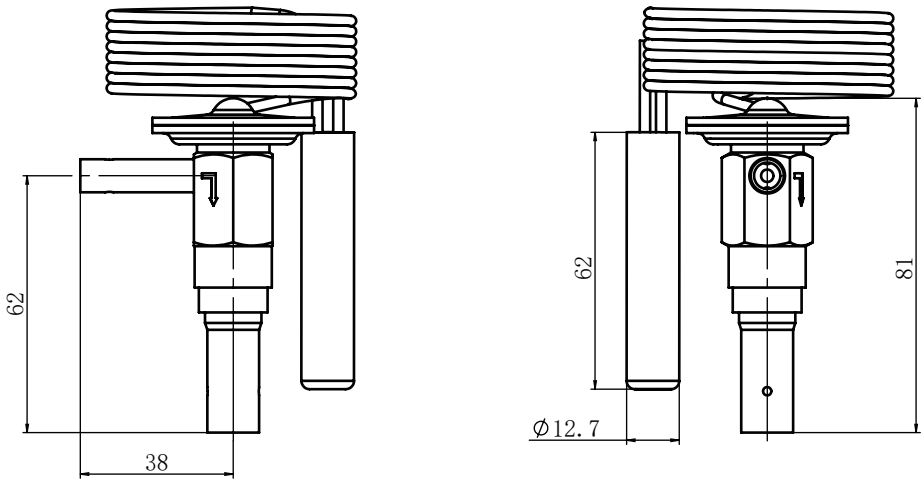
PRODUCT SELECTION

(N: -40°C ~ +10°C Internal balance, straight-way structure, adjustable superheat degree)

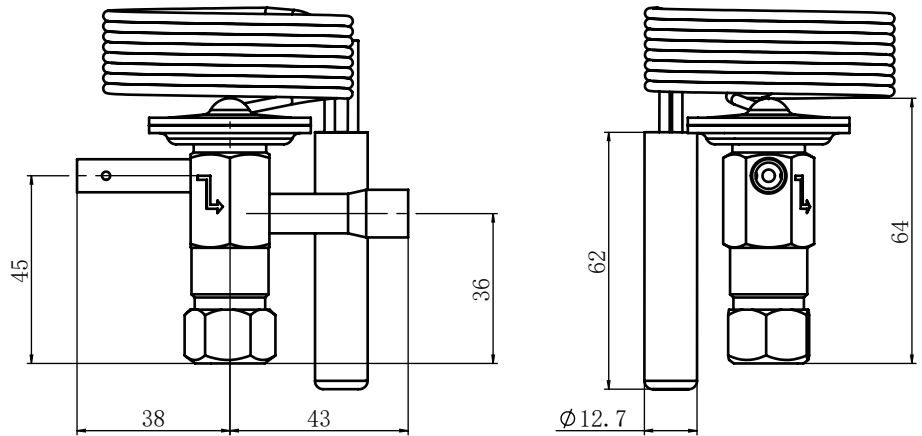
Model	Refrigerant	Valve Port Number	Nominal Capacity		Connection (inlet x outlet) [inch]	Order Number
			【TR】	【kW】		
TAN0.11	R134a	0	0.11	0.4	1/4×3/8	TA4300800151
TAN0.25		1	0.25	0.9	1/4×3/8	TA4300800032
TAN0.5		2	0.5	1.8	1/4×3/8	TA4300800152
TAN0.78		3	0.78	2.7	1/4×3/8	TA4300800154
TAN1.3		4	1.3	4.6	1/4×3/8	TA4300800155
TAN1.9		5	1.9	6.7	3/8×1/2	TA4300800156
TAN2.5		6	2.5	8.6	3/8×1/2	TA4300800157
TAN3		7	3	10.5	3/8×1/2	TA4300800158
TAZ0.16	R407C	0	0.16	0.5	1/4×3/8	TA4300800103
TAZ0.3		1	0.3	1.1	1/4×3/8	TA4300800104
TAZ0.8		2	0.8	2.7	1/4×3/8	TA4300800105
TAZ1.1		3	1.1	3.8	1/4×3/8	TA4300800106
TAZ1.6		4	1.6	5.6	1/4×3/8	TA4300800107
TAZ2.5		5	2.5	8.6	3/8×1/2	TA4300800108
TAZ3.2		6	3.2	11.3	3/8×1/2	TA4300800109
TAZ4.9		7	4.9	16.7	3/8×1/2	TA4300800110
TAX0.15	R22	0	0.15	0.5	1/4×3/8	TA4300800119
TAX0.3		1	0.3	1	1/4×3/8	TA4300800120
TAX0.7		2	0.7	2.5	1/4×3/8	TA4300800121
TAX1		3	1	3.5	1/4×3/8	TA4300800122
TAX1.5		4	1.5	5.2	1/4×3/8	TA4300800024
TAX2.3		5	2.3	8	3/8×1/2	TA4300800124
TAX3		6	3	10.5	3/8×1/2	TA4300800125
TAX4.5		7	4.5	15.5	3/8×1/2	TA4300800127
TAS0.11	R404A/R507	0	0.11	0.38	1/4×3/8	TA4300800135
TAS0.21		1	0.21	0.7	1/4×3/8	TA4300800136
TAS0.45		2	0.45	1.6	1/4×3/8	TA4300800137
TAS0.6		3	0.6	2.1	1/4×3/8	TA4300800138
TAS1.2		4	1.2	4.2	1/4×3/8	TA4300800139
TAS1.7		5	1.7	6	3/8×1/2	TA4300800140
TAS2.2		6	2.2	7.7	3/8×1/2	TA4300800141
TAS2.6		7	2.6	9.1	3/8×1/2	TA4300800142
TAP0.17	R290	0	0.17	0.6	1/4×3/8	TA4300800164
TAP0.32		1	0.32	1.2	1/4×3/8	TA4300800029
TAP0.74		2	0.74	2.6	1/4×3/8	TA4300800031
TAP1.1		3	1.1	3.9	1/4×3/8	TA4300800041
TAP1.6		4	1.6	5.6	1/4×3/8	TA4300800042
TAP2.4		5	2.4	8.4	3/8×1/2	TA4300800165
TAP3.2		6	3.2	11.2	3/8×1/2	TA4300800166
TAP4.7		7	4.7	16.5	3/8×1/2	TA4300800167

DIMENSIONS

TA Series Right-angle Type



TA Series Straight-way Type



TI Series Thermostatic Expansion Valve INTRODUCTION

TI series is a replaceable port component type thermostatic expansion valve used to adjust refrigerant supply volume in the evaporator by sensing the superheat degree of evaporator outlet through thermal bulb and external (internal) balance

FEATURES

- ◆ Nominal Capacity (R134a): 0.11~3TR/0.4~10.5kW
- ◆ Replaceable port components for easy stocking, matching and maintenance
- ◆ Adjustable superheat degree design
- ◆ Power head uses continuous laser welding, which has high welding strength and long diaphragm life
- ◆ Available MOP function
- ◆ Connection: weld, screw
- ◆ Standard capillary tube length: 1.5m.

OPERATION CONDITIONS

- ◆ Applicable refrigerants: R134a, R404A, R407C, R448A, R449A, R22, R410A and R507, etc.
- ◆ Max working pressure: 4.6Mpa
- ◆ Medium temperature: -40°C~+70°C
- ◆ Maximum thermal bulb Temperature: 100°C
- ◆ Maximum valve body Temperature: 110°C
- ◆ Static state superheat degree adjustment change: 0K~8K
- ◆ Static state superheat degree setting: 5K
- ◆ Ambient temperature: -30°C~+55°C
- ◆ Relative humidity: below 95%

MOP Options

Refrigerant	N : -40 ~ +10°C	NL : -40 ~ -15°C
	MOP15°C	MOP-10°C
R22/R407C	100psig/6.9bar	35psig/2.4bar
R404A/R507	120psig/8.3bar	50psig/3.4bar
R407C	95psig/6.6bar	—
R134a	55psig/3.8bar	15psig/1.0bar
R410A	167psig/11.5bar	—

PRODUCT SELECTION

Valve Body: N: -40 ~ +10°C, without MOP

Model	Refrigerant	Connection	Inlet 【inch】	Outlet 【inch】		Balance Tube 【inch】		Order Number
			Screw	Screw	Weld	Screw	Weld	
TIN	R134a	Screw × Screw	3/8	1/2	-	-	-	TI4300800070
TIEN		Screw × Screw × Screw	3/8	1/2	-	1/4	-	TI4300800071
TIN		Screw × Weld	3/8	-	1/2	-	-	TI4300800072
TIEN		Screw × Weld × Weld	3/8	-	1/2	-	1/4	TI4300800073
TIS	R404A/ R507	Screw × Screw	3/8	1/2	-	-	-	TI4300800074
TIES		Screw × Screw × Screw	3/8	1/2	-	1/4	-	TI4300800075
TIS		Screw × Weld	3/8	-	1/2	-	-	TI4300800076
TIES		Screw × Weld × Weld	3/8	-	1/2	-	1/4	TI4300800077
TIZ	R407C	Screw × Screw	3/8	1/2	-	-	-	TI4300800066
TIEZ		Screw × Screw × Screw	3/8	1/2	-	1/4	-	TI4300800067
TIZ		Screw × Weld	3/8	-	1/2	-	-	TI4300800068
TIEZ		Screw × Weld × Weld	3/8	-	1/2	-	1/4	TI4300800069
TIL	R410A	Screw × Screw	3/8	1/2	-	-	-	TI4300800078
TIEL		Screw × Screw × Screw	3/8	1/2	-	1/4	-	TI4300800079
TIL		Screw × Weld	3/8	-	1/2	-	-	TI4300800080
TIEL		Screw × Weld × Weld	3/8	-	1/2	-	1/4	TI4300800081
TIX	R22	Screw × Screw	3/8	1/2	-	-	-	TI4300800060
TIEX		Screw × Screw × Screw	3/8	1/2	-	1/4	-	TI4300800063
TIX		Screw × Weld	3/8	-	1/2	-	-	TI4300800064
TIEX		Screw × Weld × Weld	3/8	-	1/2	-	1/4	TI4300800065
TIK	R448A/R449A	Screw × Screw	3/8	1/2	-	-	-	TI4300800059
TIEK		Screw × Screw × Screw	3/8	1/2	-	1/4	-	TI4300800082
TIK		Screw × Weld	3/8	-	1/2	-	-	TI4300800043
TIEK		Screw × Weld × Weld	3/8	-	1/2	-	1/4	TI4300800039



Flow Port



Inlet Adapter



Connection Nut

NOMINAL CAPACITY (Operation condition: Condensing temperature: 38°C; evaporating temperature: 4.4°C; refrigerant temperature of valve head: 37°C; superheating degree: 6K.)

Model	R134a		R404A/R507		R407C		R410A		R22		R448A/R449A		Order Number
	kW	TR	kW	TR	kW	TR	kW	TR	kW	TR	kW	TR	
0X	0.68	0.19	0.65	0.18	0.96	0.27	1.05	0.29	0.9	0.25	0.87	0.25	TI-602-00
00	1.2	0.34	1.3	0.37	1.87	0.53	2.08	0.60	1.78	0.51	1.67	0.50	TI-604-00
01	2.08	0.59	2.64	0.75	3.67	1.04	4.07	1.16	3.48	0.99	3.43	0.95	TI-606-00
02	2.55	0.73	3.7	1.05	4.96	1.41	5.52	1.57	4.72	1.34	4.60	1.30	TI-608-00
03	4.3	1.22	6.29	1.79	8.45	2.4	9.37	2.66	8.01	2.27	7.92	2.29	TI-610-00
04	6.4	1.82	9.97	2.83	12.9	3.67	14.27	4.04	12.2	3.45	12.05	3.50	TI-612-00
05	8.43	2.4	13.1	3.71	17.1	4.86	19.66	5.57	16.67	4.76	15.07	4.50	TI-614-00
06	10.1	2.87	15.6	4.42	20.5	5.82	23.05	6.55	19.70	5.60	19.05	5.50	TI-616-00

Inlet Adapter

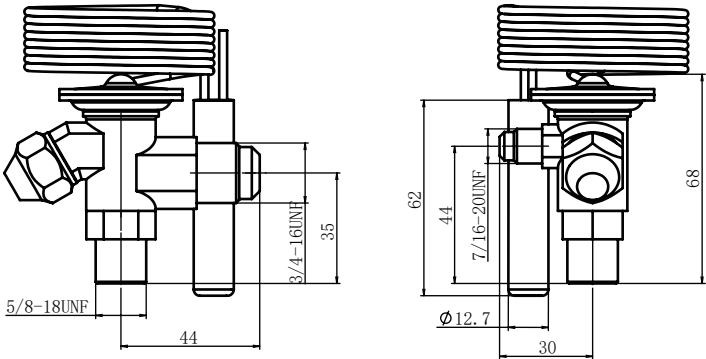
Nut Size [inch]	Adapter Weld [inch]	Order Number
3/8"	3/8"	TI-804-00

Connection Nut

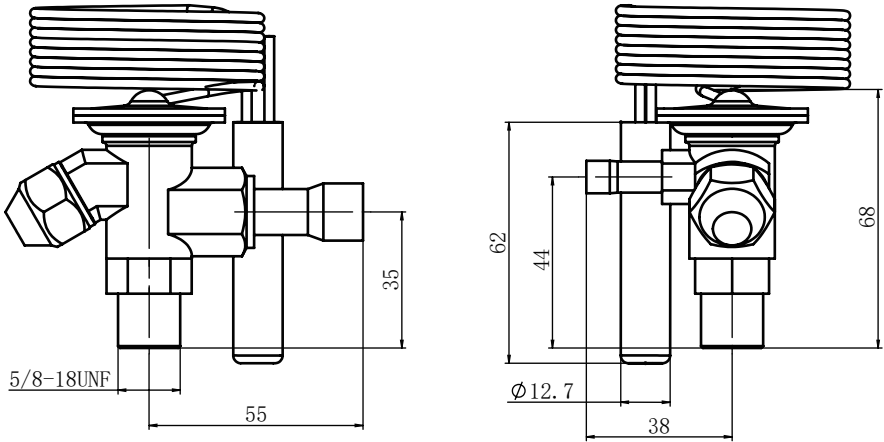
Nut Size [inch]	Order Number
1/4"	TI-702-25-04
3/8"	TI-702-25-08
1/2"	TI-702-25-10

DIMENSIONS

TI Series Screw External Balancing Valve



TI Series Welded External Balancing Valve



TCC Series Thermostatic Expansion Valve

TCC Series thermostatic expansion valves are used to adjust refrigerant supply volume in the evaporator by controlling the superheat degree of gas state refrigerant at evaporator outlet.

FEATURES

- ◆ Nominal capacity (R410A2): ~7TR/7~24.5kW
- ◆ 2 optional designs: adjustable and non-adjustable structure
- ◆ Power head uses continuous laser welding, which has high welding strength and long diaphragm life
- ◆ Available BP capability
- ◆ Available MOP functionality
- ◆ Built-in check valve
- ◆ Standard capillary tube length: 1.5m

OPERATION CONDITIONS

- ◆ Applicable refrigerants: R410A and R22, etc. ;
- ◆ Maximum working pressure: 4.6MPa
- ◆ Medium temperature: -40°C~+70°C
- ◆ Maximum thermal bulb temperature: 100°C
- ◆ Maximum valve body temperature: 110°C
- ◆ Static state superheat degree adjustment change: 0K~8K
- ◆ Static state superheat degree setting: 4K
- ◆ Ambient Temperature: -30°C~+55°C
- ◆ Relative Humidity: below 95%

NOMINAL CAPACITY

(Operation condition: Condensing temperature: 32°C; evaporating temperature: 5°C; refrigerant temperature of valve head: 28°C; superheating degree: 4K.)

Series/ Valve Port	R410A		R22	
	Kw	TR	Kw	TR
TCC 1	7.0	2.0	5.6	1.6
TCC 2	8.8	2.5	7.4	2.1
TCC 3	10.5	3.0	8.8	2.5
TCC 4	12.3	3.5	10.2	2.9
TCC 5	14.0	4.0	11.5	3.3
TCC 6	17.5	5.0	14.4	4.1
TCC 7	21.0	6.0	17.2	4.9
TCC 8	24.5	7.0	20.3	5.8

PRODUCT SELECTION

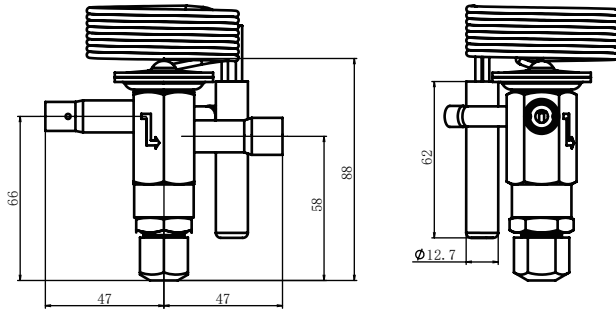
(N: -40 ~ +10°C, without check valve, adjustable superheat)

Model	Refrigerant	Series/ Valve Port	Nominal Capacity		Weld Size		Order Number
			【TR】	【kW】	Inlet x Outlet 【inch】	Balance Tube 【inch】	
TCCEL2	R410A	TCC 1	2.0	7.0	3/8×1/2	1/4	TCC4400800121
TCCEL2.5		TCC 2	2.5	8.8	3/8×1/2	1/4	TCC4400800123
TCCEL3		TCC 3	3.0	10.5	3/8×1/2	1/4	TCC4400800122
TCCEL3.5		TCC 4	3.5	12.3	3/8×1/2	1/4	TCC4400800124
TCCEL4		TCC 5	4.0	14.0	1/2×5/8	1/4	TCC4400800129
TCCEL5		TCC 6	5.0	17.5	1/2×5/8	1/4	TCC4400800130
TCCEL6		TCC 7	6.0	21.0	1/2×5/8	1/4	TCC4400800131
TCCEL7		TCC 8	7.0	24.5	1/2×5/8	1/4	TCC4400800132
TCCEX1.6	R22/R407C	TCC 1	1.6	5.6	3/8×1/2	1/4	TCC4400800149
TCCEX2.1		TCC 2	2.1	7.4	3/8×1/2	1/4	TCC4400800150
TCCEX2.5		TCC 3	2.5	8.8	3/8×1/2	1/4	TCC4400800151
TCCEX2.9		TCC 4	2.9	10.2	3/8×1/2	1/4	TCC4400800152
TCCEX3.3		TCC 5	3.3	11.5	1/2×5/8	1/4	TCC4400800153
TCCEX4.1		TCC 6	4.1	14.4	1/2×5/8	1/4	TCC4400800154
TCCEX4.9		TCC 7	4.9	17.2	1/2×5/8	1/4	TCC4400800155
TCCEX5.8		TCC 8	5.8	20.3	1/2×5/8	1/4	TCC4400800156

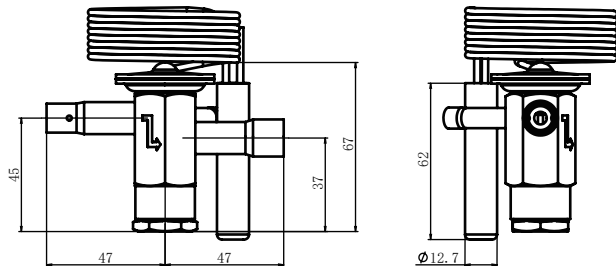
- For more information about products, please contact DunAn representatives.

DIMENSIONS

TCC Adjustable Type



TCC Non-adjustable Type



TC Series Thermostatic Expansion Valve

TC series thermostatic expansion valve are used to adjust refrigerant supply volume in the evaporator by sensing the superheat degree of evaporator outlet through thermal bulb and external (internal) balance tube.

FEATURES

- ◆ Nominal Capacity (R410A): 3.5~23TR/12~79kW
- ◆ Adjustable superheat degree design
- ◆ Power head uses continuous laser welding, which has high welding strength and long diaphragm life
- ◆ Available MOP function
- ◆ Rare hysteresis and good adjustment performance
- ◆ Balanced port design for bidirectional throttling
- ◆ Standard capillary tube length: 1.5m.

OPERATION CONDITIONS

- ◆ Applicable refrigerants: R410A, R22, R134a, R404A, R507, R290 and R407C,etc.
- ◆ Maximum working pressure: 4.6MPa
- ◆ Medium temperature: -40°C~+70°C
- ◆ Maximum thermal bulb temperature: 100°C
- ◆ Maximum valve body temperature: 110°C
- ◆ Static state superheat degree adjustment change: 0K~8K
- ◆ Static state superheat degree setting: 4K
- ◆ Ambient temperature: -30°C~+55°C
- ◆ Relative humidity: below 95%

NOMINAL CAPACITY (Operation condition: Condensing temperature: 38°C; evaporating temperature: 4.4°C; refrigerant temperature of valve head: 37°C; superheating degree: 4K.)

Series	Valve Port Number	R410A		R22		R134a		R404A/R507		R407C		R32		R290	
		kW	TR	kW	TR	kW	TR	kW	TR	kW	TR	kW	TR	kW	TR
TC	3.5	12	3.5	10	3	6	1.5	7	2	9	2.5	18	5	10	3
	4.5	16	4.5	14	4	8	2.5	9	2.5	13	3.5	24	7	14	4
	6.5	24	6.5	20	6	12	3.5	14	4	19	5	35	10	19	5
	9	32	9	27	7.5	17	4.5	18	5	25	7	47	13	25	7
	11	37	11	32	9	20	5.5	21	6	30	8.5	54	15	32	9
	13	45	13	38	11	24	7	26	7.5	36	10	68	19	36	10
	15	54	15	43	12	29	8	31	9	42	12	81	23	44	12
	19	68	19	54	15	37	10	39	11	53	15	102	29	54	15
	23	79	23	63	18	44	12	45	13	62	18	120	34	63	18

MOP Options

Ref.	N : -40 ~ +10°C	K: -25 ~ +10°C
	No MOP	MOP15°C
R410A	No MOP	11.4 bar
R22/R407C	No MOP	6.9 bar
R134a	No MOP	3.8bar
R404A/R507	No MOP	8.3 bar
R407C	No MOP	6.6bar

PRODUCT SELECTION R410A (N: -40~+10°C)

Model	Valve Port Number	Nominal Capacity		Connection		Order Number
		【kW】	【TR】	Inlet x Outlet 【inch】	Balance Tube 【inch】	
TCEL3.5	3.5	12	3.5	1/2×5/8	1/4	TC4400800296
TCEL4.5	4.5	16	4.5	1/2×5/8	1/4	TC4400800297
TCEL6.5	6.5	24	6.5	5/8×7/8	1/4	TC4400800300
TCEL9	9	32	9	5/8×7/8	1/4	TC4400800301
TCEL11	11	37	11	5/8×7/8	1/4	TC4400800327
TCEL13	13	45	13	5/8×7/8	1/4	TC4400800302
TCEL15	15	54	15	5/8×7/8	1/4	TC4400800305
TCEL19	19	68	19	7/8×1-1/8	1/4	TC4400800308
TCEL23	23	79	23	7/8×1-1/8	1/4	TC4400800309

PRODUCT SELECTION R22/R407C (N: -40~+10°C)

Model	Valve Port Number	Nominal Capacity		Connection		Order Number
		【kW】	【TR】	Inlet x Outlet 【inch】	Balance Tube 【inch】	
TCEX3	3.5	6	1.5	1/2×5/8	1/4	TC4400800166
TCEX4	4.5	8	2.5	1/2×5/8	1/4	TC4400800167
TCEX6	6.5	12	3.5	5/8×7/8	1/4	TC4400800170
TCEX7.5	9	17	4.5	5/8×7/8	1/4	TC4400800171
TCEX9	11	20	5.5	5/8×7/8	1/4	TC4400800345
TCEX11	13	24	7	5/8×7/8	1/4	TC4400800172
TCBEX12	15	29	8	5/8×7/8	1/4	TC4400800175
TCBEX15	19	37	10	7/8×1-1/8	1/4	TC4400800179
TCBEX18	23	44	12	7/8×1-1/8	1/4	TC4400800180

PRODUCT SELECTION R134a (N: -40~+10°C)

Model	Valve Port Number	Nominal Capacity		Connection		Order Number
		【kW】	【TR】	Inlet x Outlet 【inch】	Balance Tube 【inch】	
TCEN1.5	3.5	6	3.5	1/2×5/8	1/4	TC4400800201
TCEN2.5	4.5	8	4.5	1/2×5/8	1/4	TC4400800202
TCEN3.5	6.5	12	6.5	5/8×7/8	1/4	TC4400800205
TCEN4.5	9	17	9	5/8×7/8	1/4	TC4400800206
TCEN5.5	11	20	11	5/8×7/8	1/4	TC4400800347
TCEN7	13	24	13	5/8×7/8	1/4	TC4400800207
TCBEN8	15	29	15	5/8×7/8	1/4	TC4400800210
TCBEN10	19	37	19	7/8×1-1/8	1/4	TC4400800213
TCBEN12	23	44	23	7/8×1-1/8	1/4	TC4400800214

PRODUCT SELECTION R404A/R507 (N: -40~+10°C)

Model	Valve Port Number	Nominal Capacity		Connection		Order Number
		【kW】	【TR】	Inlet x Outlet 【inch】	Balance Tube 【inch】	
TCES2	3.5	7	2	1/2×5/8	1/4	TC4400800233
TCES2.5	4.5	9	2.5	1/2×5/8	1/4	TC4400800234
TCES4	6.5	14	4	5/8×7/8	1/4	TC4400800237
TCES5	9	18	5	5/8×7/8	1/4	TC4400800239
TCES6	11	21	6	5/8×7/8	1/4	TC4400800349
TCES7.5	13	26	7.5	5/8×7/8	1/4	TC4400800240
TCBES9	15	31	9	5/8×7/8	1/4	TC4400800243
TCBES11	19	39	11	7/8×1-1/8	1/4	TC4400800246
TCBES13	23	45	13	7/8×1-1/8	1/4	TC4400800247

PRODUCT SELECTION R407 (N: -40~+10°C)

Model	Valve Port Number	Nominal Capacity		Connection		Order Number
		【kW】	【TR】	Inlet x Outlet 【inch】	Balance Tube 【inch】	
TCEZ2.5	3.5	9	2.5	1/2×5/8	1/4	TC4400800265
TCEZ3.5	4.5	13	3.5	1/2×5/8	1/4	TC4400800266
TCEZ5	6.5	19	5	5/8×7/8	1/4	TC4400800269
TCEZ7	9	25	7	5/8×7/8	1/4	TC4400800270
TCEZ8.5	11	30	8.5	5/8×7/8	1/4	TC4400800351
TCEZ10	13	36	10	5/8×7/8	1/4	TC4400800271
TCBEZ12	15	42	12	5/8×7/8	1/4	TC4400800273
TCBEZ15	19	53	15	7/8×1-1/8	1/4	TC4400800276
TCBEZ18	23	62	18	7/8×1-1/8	1/4	TC4400800277

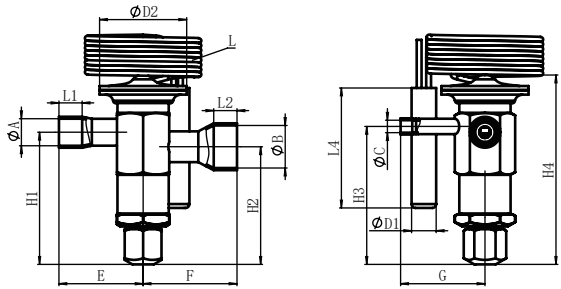
PRODUCT SELECTION R32 (N: -40~+10°C)

Model	Valve Port Number	Nominal Capacity		Connection		Order Number
		【kW】	【TR】	Inlet x Outlet 【inch】	Balance Tube 【inch】	
TCEB5	3.5	18	5	1/2×5/8	1/4	TC4400800329
TCEB7	4.5	24	7	1/2×7/8	1/4	TC4400800330
TCEB10	6.5	35	10	5/8×7/8	1/4	TC4400800333
TCEB13	9	47	13	5/8×7/8	1/4	TC4400800335
TCEB15	11	54	15	5/8×7/8	1/4	TC4400800336
TCEB19	13	68	19	5/8×7/8	1/4	TC4400800337
TCBEB23	15	81	23	5/8×7/8	1/4	TC4400800339

PRODUCT SELECTION R290 (N: -40~+10°C)

Model	Valve Port Number	Nominal Capacity		Connection		Order Number
		【kW】	【TR】	Inlet x Outlet 【inch】	Balance Tube 【inch】	
TCEP5	6.5	19	5	5/8×7/8	1/4	TC4400800340
TCEP10	13	36	10	5/8×7/8	1/4	TC4400800341
TCBEP12	15	44	12	5/8×7/8	1/4	TC4400800342
TCBEP15	19	54	15	7/8×7/8	1/4	TC4400800343
TCBEP18	23	63	18	7/8×7/8	1/4	TC4400800344

DIMENSIONS



Series	$\phi A \times \phi B$ ODF Solder	L	E	F	G	H1	H2	H3	H4	L1	L2	L3	L4	$\phi D1$	$\phi D2$	ϕC	Weight
		m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	Kg
TC	1/2x5/8	1.5	43.5	43.5	44	68	60.5	71	97.5	12	12	6	62	12.7	45	6.4	0.48
	1/2x7/8	1.5	43.5	48.5	44	68	60.5	71	97.5	12	12	6	62	12.7	45	6.4	0.48
	5/8x7/8	1.5	43.5	48.5	44	68	60.5	71	97.5	12	12	6	62	12.7	45	6.4	0.48
	5/8x7/8	1.5	50.5	57.5	44	72.5	65	78.5	106	12	12	6	76	19	53	6.4	0.62
	7/8x1-1/8	1.5	57.5	60.5	44	72.5	65	78.5	106	12	16	6	76	19	53	6.4	0.62

Series	Min.	Max.	Nominal capacity kW										Application Fields
			0	5	10	15	20	25	30	35	40		
FJ service valve	6.35	19											Roo, air conditionres,heat pump water heaters
FJV dual-tube service valve	9.52	35											VRVs,unit machine
SFJI square service valve	9.52	22											American air conditioners

Service valves are widely used in split room air conditioners, heat pump water heaters, VRVs, unit machines, American air conditioners, etc.. Service valves can also open or close refrigerantion circuits to connect indoor and outdoor units in refrigeration systems .

FEATURES

- ◆ Diversified design. The valves are divided into service valve, double-tube service valve and square according to product structure.
- ◆ One-line hard sealing, low internal leakage
- ◆ Both inlet and outlet of double-tube service valve and square service valve are copper tubes which are highly reliable with high stress corrosion resistance performance.

Operation Conditions

- ◆ Applicable Refrigerants: R410A, R32, R134a, R404A, R507, R290, R407C and R22, etc..(For R290, please confirm before placing orders.)
- ◆ Maximum Working Pressure: 4.5MPa;
- ◆ Medium Temperature: -30°C~+120°C;
- ◆ Ambient Temperature: -30°C~+70°C;
- ◆ Relative Humidity: below 95%



FJ Service Valve



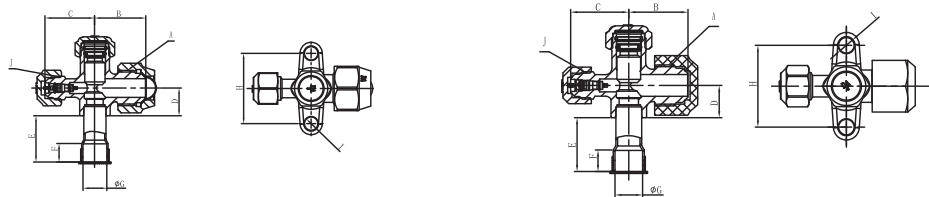
FJV Double-tube Service Valve

SFJI Square Service Valve

Model	Kv(m³/h)		Order Number		
	Connection Tube Nut Side Inlet	Connection Copper Tube Side Inlet	R22	R410A/R32	R407C/R134a
FJ04	0.51	0.57	FJ2800048894	FJ2800048895	FJ2800048896
FJ08	0.91	1.19	FJ2800088894	FJ2800088895	FJ2800088896
FJ10	1.90	2.30	FJ2800108894	FJ2800108895	FJ2800108896
FJ13	3.17	3.47	FJ2800138894	FJ2800138895	FJ2800138896
FJ16	4.68	5.55	FJ2800168894	FJ2800168895	FJ2800168896
FJV08	0.91	1.19	/	FJV2800082864	/
FJV10	1.90	2.30	/	FJV2800102854	/
FJV13	3.17	3.47	/	FJV2800132846	/
FJV16	4.68	5.55	/	FJV2800162896	/
FJV20	5.38	5.20	/	FJV2800200157	/
FJV25	6.50	6.26	/	FJV2800250031	/
FJV28	7.61	7.33	/	FJV2800280023	/
FJV32	8.73	8.39	/	FJV2800320002	/
FJV35	9.85	9.45	/	FJV2800350001	/
SFJI08	0.83	0.82	SFJI2900080396	SFJI2900080426	/
SFJI10	2.27	2.34	SFJI2900100396	SFJI2900100397	/
SFJI13	3.13	3.21	SFJI2900130396	SFJI2900130397	/
SFJI16	3.85	3.90	SFJI2900160396	SFJI2900160397	/
SFJI20	5.63	5.36	SFJI2900200396	SFJI2900200397	/

DIMENSIONS

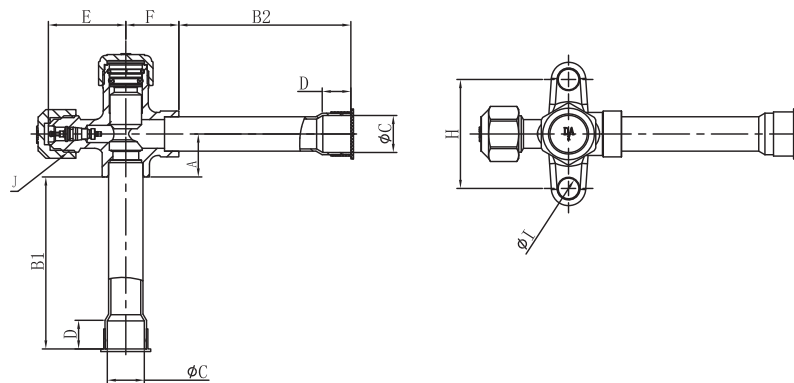
FJ Service Valve



Model	A	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	Filling Nozzle Thread J	Ref.	Order Number
FJ04	7/16-20UNF	24	-	14	60	8	6.5	38	7.2	7/16-20UNF	R22	FJ2800048894
										1/2-20UNF	R410A/R32	FJ2800048895
										7/16-20UNF	R407C/R134a	FJ2800048896
FJ08	5/8-18UNF	25.5	28	14.5		10	9.7	38		7/16-20UNF	R22	FJ2800088894
										1/2-20UNF	R410A/R32	FJ2800088895
										7/16-20UNF	R407C/R134a	FJ2800088896
FJ10	3/4-16UNF	30	28	16		10	12.9	38		7/16-20UNF	R22	FJ2800108894
										1/2-20UNF	R410A/R32	FJ2800108895
										7/16-20UNF	R407C/R134a	FJ2800108896
FJ13	7/8-14UNF	34.5	28.5	17		15	16.1	38		7/16-20UNF	R22	FJ2800138894
										1/2-20UNF	R410A/R32	FJ2800138895
										7/16-20UNF	R407C/R134a	FJ2800138896
FJ16	1-1/16-14UNS	38.5	30	22.5		15	19.2	44		7/16-20UNF	R22	FJ2800168894
										1/2-20UNF	R410A/R32	FJ2800168895
										7/16-20UNF	R407C/R134a	FJ2800168896

DIMENSIONS

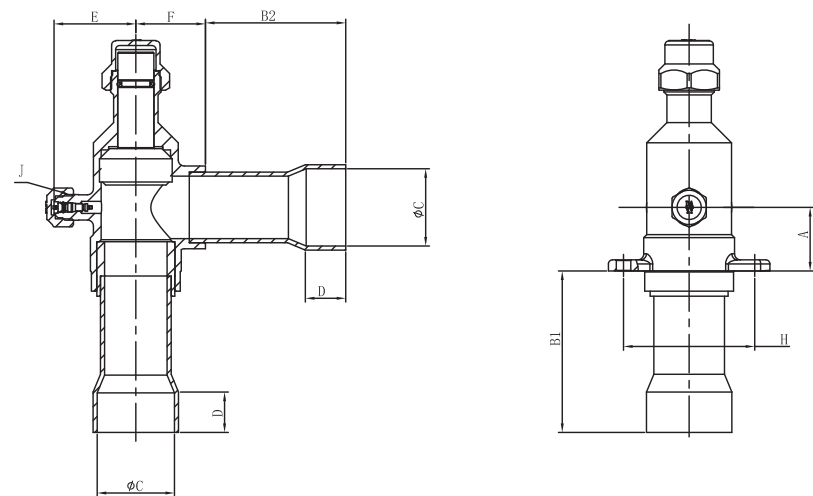
FJV Dual-tube Service Valve



Model	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	Filling Nozzle Thread J	Ref.	Order Number
FJV08	14.5	60	9.7	10	28	20	38	7.2	1/2-20UNF	R410A/R32	FJV2800082864
FJV10	16.5	60	12.9	10	29	25	38			R410A/R32	FJV2800102854
FJV13	18	60	16.1	15	31	33.5	38			R410A/R32	FJV2800132846
FJV16	23	60	19.2	15	32	38	44			R410A/R32	FJV2800162896

DIMENSIONS

FJV Dual-tube Service Valve



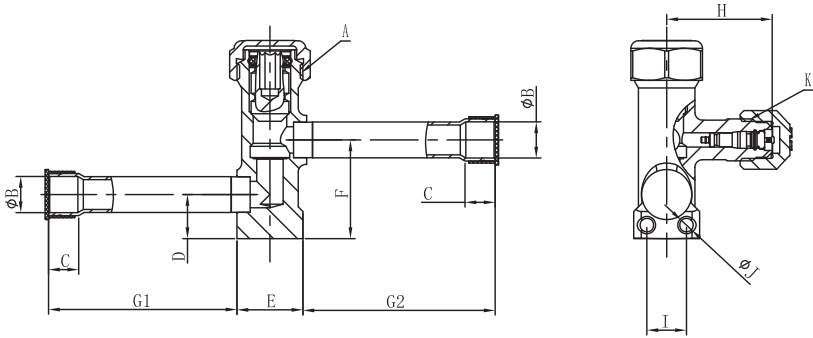
Model	A [mm]	B1 [mm]	C1 [mm]	C1 [mm]	B2 [mm]	C2 [mm]	D2 [mm]	E [mm]	F [mm]	H [mm]	I [mm]	Filling Nozzle Thread J	Ref.	Order Number
FJV20	25	80	22.1	14	125	22	23	34	25	52	7.2	1/2-20UNF	R410A/R32	FJV2800200157
FJV25	15	85	25.15	15	137	25.4	23	36	28	54			R410A/R32	FJV2800250031
FJV28	16.5	86.5	28.75	15	135	28.6	23	36	30	54			R410A/R32	FJV2800280023
FJV32	31.5	103.5	32.15	20	105.5	31.7	23	40.5	34.5	65			R410A/R32	FJV2800320002
FJV35	31.5	111.5	38.3	20	130.5	34.8	23	40.5	34.5	65			R410A/R32	FJV2800350001

SFJI Square Service Valve

Model	A	B	C	D	E	F	G1	G2	H	I	J	Filling Nozzle Thread J	Ref.	Order Number
SFJI08	11/16-20UNF	9.6	8	11.7	17.5	26.2	50	50	28	10.5	3.6	7/16-20UNF	R22	SFJI2900080425
													R410A/R32	SFJI2900080426
SFJI10	15/16-20UNEF	12.78	12.7	18.5	25.4	39.5	50	49.5	32	14	3.6		R22	SFJI2900100396
													R410A/R32	SFJI2900100397
SFJI13	15/16-20UNEF	15.95	12.7	18.5	25.4	39.5	50.5	50	32	14	3.6		R22	SFJI2900130396
													R410A/R32	SFJI2900130397
SFJI16	15/16-20UNEF	19.12	14.2	18.5	25.4	39.5	50.8	50.6	32	14	3.6		R22	SFJI2900160396
													R410A/R32	SFJI2900160397
SFJI20	1-1/16-20UN	22.35	14.2	18.5	28.4	41.7	45.5	44.5	33	14	3.6		R22	SFJI2900200396
													R410A/R32	SFJI2900200397

DIMENSIONS

SFJI Square Service Valve



Charge Valve



Charge valves are mainly installed in air conditioning and refrigeration systems. They are used as service valve for circuit evacuation to vacuum and for refrigerant injection during commissioning or maintenance.

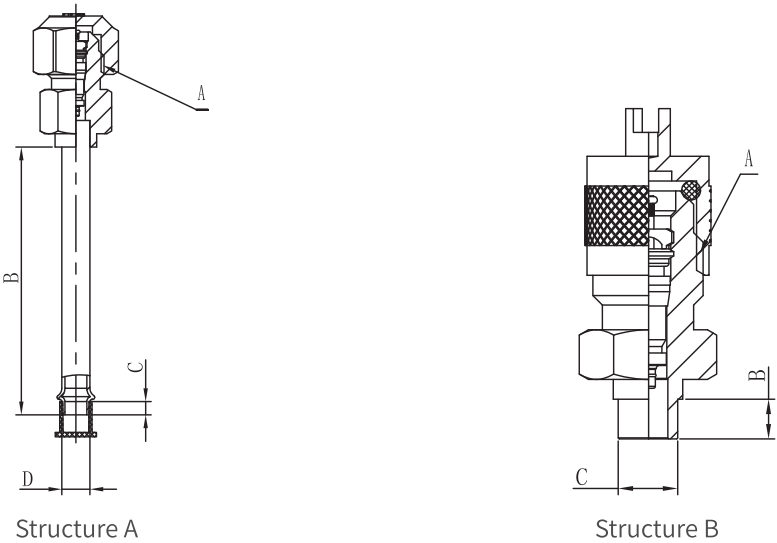
FEATURES

- ◆ Two seals ensure sealing performance: hard seal for valve caps, soft seal for O-ring.
- ◆ Simple structure, easy for installation.

OPERATION CONDITIONS

- ◆ Applicable Refrigerants: R410A, R32, R134a, R404A, R290, R407C and R22, etc.
(For R290, please confirm before placing orders.)
- ◆ Maximum Working Pressure: 4.5MPa ;
- ◆ Medium Temperature: -30°C~+120°C;
- ◆ Ambient Temperature: -30°C~+55°C;
- ◆ Relative Humidity: below 95%

DIMENSIONS



Model		B[mm]	C[mm]	D[mm]	Thread A	Refrigerant	Order Number
Type A	FJC04	60	6.35	3	1/2-20UNF	R410A/R32	FJC2800048881
					7/16-20UNF	R22	FJC2800048882
					7/16-20UNF	R407C/R134a	FJC2800048883
Type B	FJC04	4	6	/	7/16-20UNF	R410A/R32/ R407C/R134a	FJC2800041439
					7/16-20UNF	R22	FJC2800041992

Ball Valve



Ball valves are applicable for tubes in commercial refrigeration and commercial air conditioners, etc. in order to open and shut off inner flow path by operating valve stem. It can also be used as service valve for vacuum pumping and refrigerant injection etc..

Maximum flow is provided with full-open ball valve.

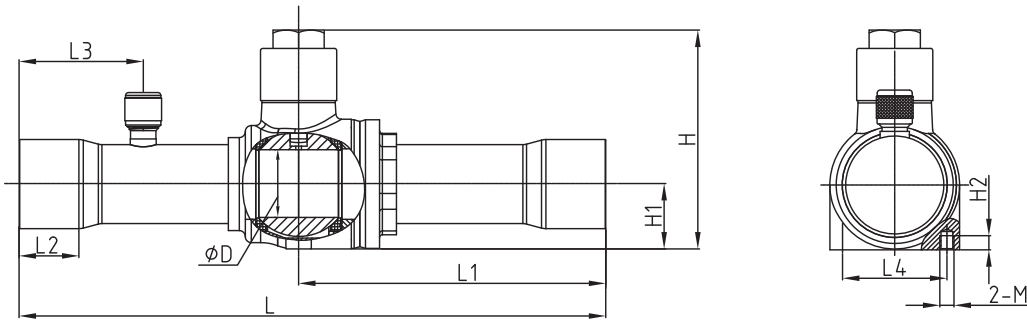
FEATURES

- ◆ Straight-way type, full port, low pressure drop and low energy consumption;
- ◆ Valve body and valve seat with welding structure with higher product reliability;
- ◆ Explosion-proof valve stem design;
- ◆ Rotate 1/4 circles from full-open to full-close, easy to operate;
- ◆ Bidirectional flow;
- ◆ High-performance sealing materials to prevent internal/external leakage;
- ◆ Optional with mounting brackets.

OPERATION CONDITIONS

- ◆ Applicable Refrigerants: R410A, R32, R134a, R404A, R507, R290, R407C and R22
(For R290, please confirm before placing orders.)
- ◆ Maximum Working Pressure: DN4~DN20: 4.9MPa
DN25~DN75: 4.5MPa
- ◆ Medium Temperature: -30°C~~+120°C
- ◆ Ambient Temperature: -40°C~~+70°C
- ◆ Relative Humidity: below 95%

DIMENSIONS



TECHNICAL PARAMETERS

Model	Connection		Kv	w/ Charge Nozzle	w/o Charge Nozzle
	inch	mm	m3/h	Order Number	Order Number
FQ 06J	1/4	-	1.66	FQ3800040116	FQ3800040110
FQ 10J	3/8	-	4.68	FQ3800080116	FQ3800080110
FQ 10J	-	10	4.68	FQ3800080118	FQ3800080112
FQ 12J	1/2	-	6.73	FQ3800100116	FQ3800100110
FQ 12J	-	12	6.73	FQ3800100118	FQ3800100112
FQ 16J	5/8	-	10.4	FQ3800130116	FQ3800130110
FQ 19J	3/4	-	15.7	FQ3800150116	FQ3800150110
FQ 22J	7/8	-	23.6	FQ3800200116	FQ3800200110
FQ 28J	1-1/8	-	43.8	FQ3800250116	FQ3800250110
FQ 28J	-	28	43.8	FQ3800250118	FQ3800250112
FQ 35J	1-3/8	-	76.8	FQ3800320116	FQ3800320110
FQ 42J	1-5/8	-	98.5	-	FQ3800400110
FQ 42J	-	42	98.5	FQ3800400118	FQ3800400112
FQ 54J	2-1/8	-	210.3	FQ3800500116	FQ3800500110
FQ 67J	2-5/8	-	346.6	FQ3800650116	FQ3800650110
FQ 79J	3-1/8	-	477.6	FQ3800750116	FQ3800750110

Model	D	L	L1	L2	L3	L4	H	H1	H2	Thread M
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
FQ 06J	10	155	83	8	30	16	52	16.5	5	M5×0.8
FQ 10J	10	138.5	74.5	10	29	16	52	16.5	5	M5×0.8
FQ 12J	10	138.5	74.5	10	29	16	52	16.5	5	M5×0.8
FQ 16J	12.5	160	85	12.5	31	19	53	16	5	M5×0.8
FQ 19J	15	160.5	84.5	17	34	23.5	55	17	5	M5×08
FQ 22J	19	184.5	97	17	37	29.5	66	19.5	5	M5×0.8
FQ 28J	24	208	109	22	44	37	78	23	5	M5×0.8
FQ 35J	32	251	133	25	52	43	91.5	30	5	M5×0.8
FQ 42J	38	280	146	28	57	58	105.5	35	10	M6×1.0
FQ 54J	50	305	157.5	35	61	78	125	45	10	M6×1.0
FQ 67J	63	343.5	177.5	37	72	89	146.5	55	15	M10×1.0
FQ 79J	74	408	208	42	79	114	177	67	15	M10×1.0

Check Valve



Series	Min.	Max.	Flow capacity Kv					Application fields
			0	20	40	60	80	
FDM diaphragm check value	0.65	74.98						VRVs, commercial air conditioners, heat pump hot water heaters, commercial refrigeration
FDH piston type check value	1.03	5.48						VRVs, commercial air conditioners, heat pump hot water heaters, commercial refrigeration and exhaust air tubes are preferred. FDHY reinforced spring-type valve for multiple compressors in parallel

FDM Series Diaphragm Check Valves

FDM Series diaphragm check valves are widely used in VRVs, commercial air conditioners, heat pump hot water heaters, and commercial refrigeration. They are used to control the unidirectional flow of refrigerant so as to prevent backflow.

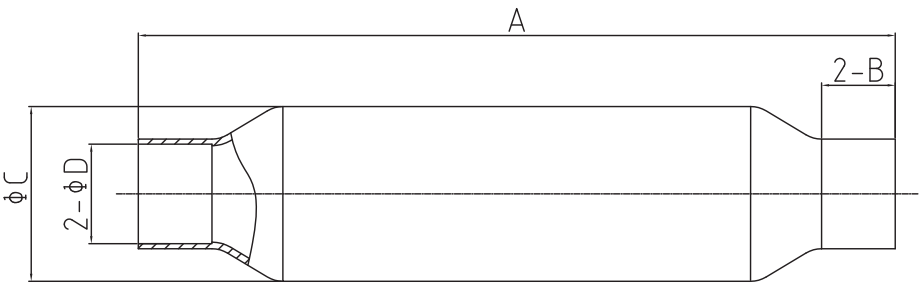
FEATURES

- ◆ This valve can ensure the only correct flow direction to prevent back flow
- ◆ Filter screen installed at the inlet of this valve to effectively filter impurities
- ◆ Magnetic valve plate design without installation angles limits
- ◆ Red copper valve body without any solder joints ensures no leakage

OPERATION CONDITIONS

- ◆ Applicable Refrigerants: R410A, R32, R134a, R404A, R507, R290, R407C and R22 (For R290, please confirm before placing orders.)
- ◆ Maximum Working Pressure: 4.5MPa
- ◆ Medium Temperature: -30°C~ +120°C
- ◆ Ambient Temperature: -30°C~ +55°C
- ◆ Relative Humidity: below 95%

DIMENSIONS



TECHNICAL PARAMETERS

Model	Kv(m³/h)	Max Working Pressure	Min Open Differ Press
		MPa	MPa
FDM6	0.65	5	0.01
FDM10	1.29	5	0.01
FDM12	2.49	5	0.01
FDM16	2.83	5	0.01
FDM19	3.17	4.5	0.01
FDM22	3.51	4.5	0.01
FDM22	3.77	4.5	0.01
FDM19	4.54	4.5	0.02
FDM22	7.2	4.5	0.02
FDM29	13.11	4.5	0.02
FDM29	14.48	4.5	0.02
FDM35	19.02	3.5	0.02
FDM42	31.96	3.5	0.03
FDM54	56.04	3.5	0.05
FDM67	65.04	3.5	0.05
FDM80	74.98	3.5	0.05

Model	Connections (ΦD)		A	B	C	Weight	Order Number
	inch	mm	mm	mm	mm	g	
FDM06	1/4	6.4	102	10	22.3	80	FDM2605100001
FDM10	3/8	9.7	100	10	22.3	85	FDM2605110001
FDM12	1/2	12.8	127	14	28.5	150	FDM2605120001
FDM16	5/8	16	127	15.5	28.5	140	FDM2605130001
FDM19	3/4	19.1	127	14	28.5	140	FDM2605140001
FDM22	7/8	22.3	127	18	28.5	160	FDM2605230001
FDM22	7/8	22.3	178	15	35	320	FDM2605150001
FDM19	3/4	19.1	178	18	41	350	FDM2605240001
FDM22	7/8	22.3	178	21	41	350	FDM2605330001
FDM29	1-1/8	28.6	206	18	41	500	FDM2605160001
FDM29	1-1/8	28.6	213	25.5	54	700	FDM2605170001
FDM35	1-3/8	35.1	238	26	67	1200	FDM2605180001
FDM42	1-5/8	42	267	28	80	1680	FDM2605190001
FDM54	2-1/8	54	305	34	92	2400	FDM2605200001
FDM67	2-5/8	67	330	38	105	3500	FDM2605210001
FDM80	3-1/8	80	330	44	105	3500	FDM2605220001

FDH Series Piston Type Check Valve



FDH series piston type check valves are widely used in VRVs and commercial air conditioners, heat pump hot water heaters and commercial refrigeration. The piston type check valves are preferred at exhaust air tube because of better high temperature resistance performance. They are used to control the unidirectional flow of refrigerant so as to prevent backflow.

FEATURES

- ◆ This valve can ensure the only correct flow direction to prevent back flow
- ◆ Damping spring design without installation angles limits
- ◆ FDHY reinforced spring-type valve for multiple compressors in parallel

OPERATION CONDITIONS

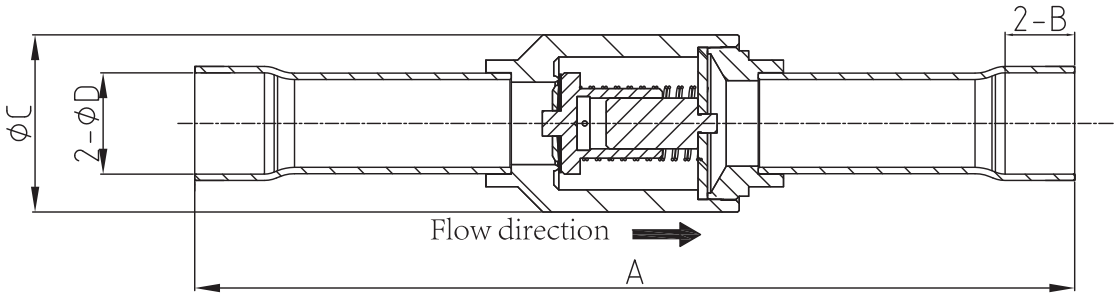
- ◆ Applicable Refrigerants: R410A, R32, R134a, R404A, R507, R290, R407C and R22, etc.
(For R290, please confirm before placing orders.)
- ◆ Maximum Working Pressure: 4.5MPa
- ◆ Medium Temperature: -50°C~ +140°C
- ◆ Ambient Temperature: -30°C~ +55°C
- ◆ Relative Humidity: below 95%

TECHNICAL PARAMETERS

Model	Kv(m³/h)	Maximum Working Pressure	Min Open Differ Press
		MPa	MPa
FDH10	1.03	4.6	0.005
FDH12	2.06	4.6	0.005
FDH16	3.6	4.6	0.005
FDH19	5.48	4.6	0.005

Model	Connections (ΦD)		A	B	C	Weight	Order Number
	inch	mm	mm	mm	mm	g	
FDH10	3/8	9.6	109	9	18	55.3	FDH2605701000
FDH12	1/2	12.7	131	10	22	90	FDH2606100005
FDH16	5/8	16.1	139	12	28	165	FDH2605270001
FDH19	3/4	19.25	165	15	34	235	FDH2606100018

DIMENSIONS



As the main cooling device of the inverter air conditioner controllers, cooling modules are widely used for room air conditioners, VRVs and commercial air conditioners. The cooling modules support temperature decrease of heating equipment such as variable frequency modules, rectifier modules. The cooling module adopting free cold source realizes cooling effect by losing heat with liquid-state refrigerants.

FEATURES

- ◆ Detachable base plate design, convenient for installation and after-sales service
- ◆ Refrigeration system adopts free cold source with cooling effect much better than air-cooled radiators
- ◆ The copper tubes fit with heat transfer plates reach more than 99%
- ◆ Mounting holes design for easy installation

OPERATION CONDITIONS

- ◆ Applicable Refrigerants: R410A, R32, R134a, R404A, R507, R290, R407C and R22 (For R290, please confirm before placing orders.)
- ◆ Maximum Working Pressure: 4.5MPa
- ◆ Medium Temperature: -30°C~ +70°C (energization rate below 50%)
- ◆ Ambient Temperature: -30°C~ +120°C (energization rate below 50%)
- ◆ Relative Humidity: below 95%

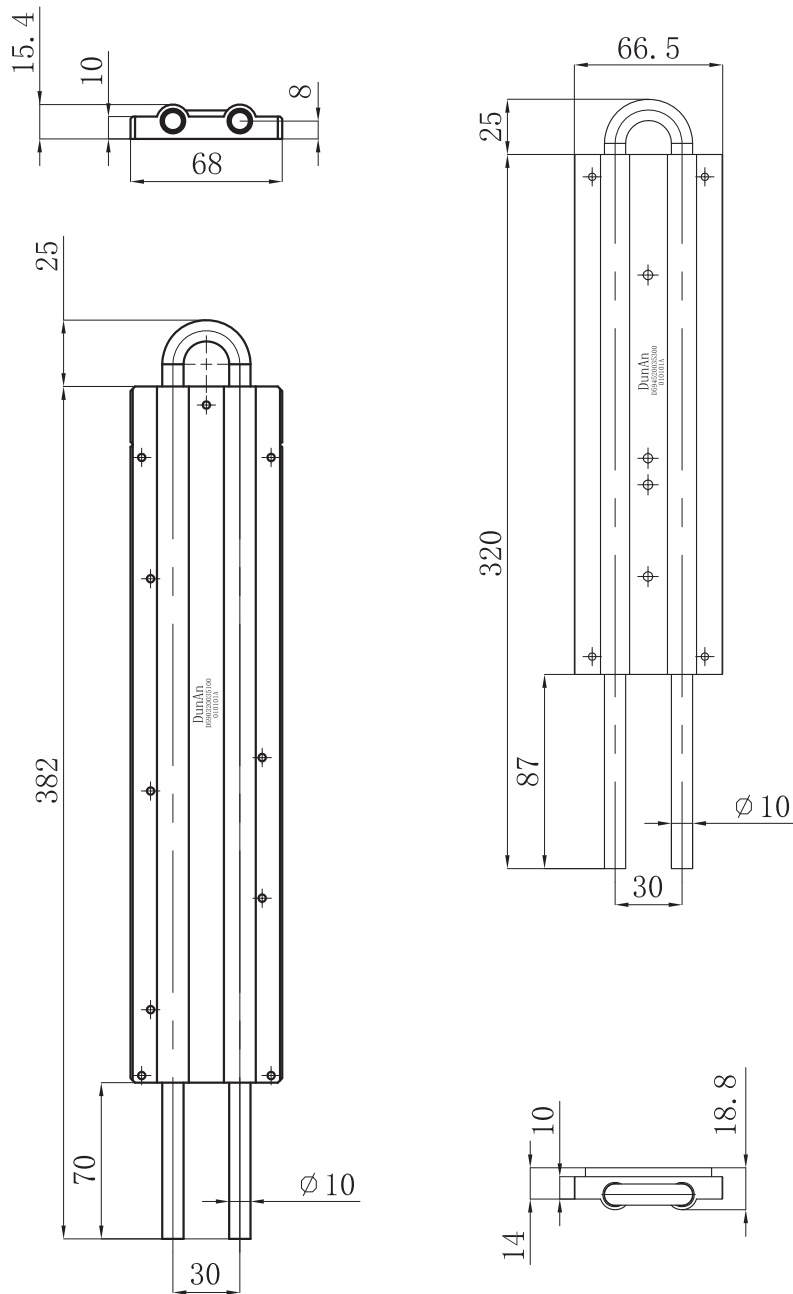
TECHNICAL PARAMETERS

- ◆ Medium Flow Direction: Bi-directional flow
- ◆ Surface Roughness of Chip Fitting Part : Ra 0.8
- ◆ Surface Flatness of Chip Fitting Part: 0.1mm
- ◆ Protection Class: IP67



DIMENSIONS

Product dimensions can be customized



SPECIFICATIONS

Model	Maximum Working Pressure (MPa)	Copper Tube Extension Length A (mm)	Center Distance of Connections B (mm)	Connections		Medium Temperature (°C)	Order Number
				φ C inch	φ D inch		
CM9.52	4.5	70	30	3/8	3/8	-30~+70	D590320035100
CM9.52	4.5	87	30	3/8	3/8	-30~+70	D594520035300

Filter Drier



Series	Min.	Max.	Volume (in ³)										Application Fields
			0	50	100	150	200	250	300	350	400		
DQA uni-flow filter	3	75											Commercialrefrigeration and centralair-conditioners, etc.
DQB bi-flow filter	5	16											
DT re-core filter	48	400											

DQA Series Uni-flow Filter Drier

DQA series uni-flow filter driers in refrigeration system are used to absorb moisture, collect and filter out the impurities. DQA series uni-flow filter driers installed at inlet of throttle element can ensure flow fluently and prevent throttle element from being blocked by collecting solid impurities in refrigeration system and lubricant oil.

FEATURES

- ◆ Applicable for existing refrigeration oils and mixtures
- ◆ High efficient in moisture absorption and filtering impurity water and other pollutants
- ◆ 50μm filter screen can maintain high-efficiency filtration under the minimum pressure drop
- ◆ ODF braze connection port is optional
- ◆ The bracket structure effectively decreases vibration influence on internal components

OPERATION CONDITIONS

- ◆ Applicable Refrigerants:R410A,R32, R134a, R404A, R507, R407C and R22
(For R290, please confirm before placing orders.)
- ◆ Maximum Working Pressure: 4.6MPa
- ◆ Medium Temperature:-40℃ ~ 80℃
- ◆ Ambient Temperature: -40℃ ~55℃
- ◆ Relative Humidity: below 95%

DIMENSIONS

Flow direction		Uni-flow	Uni-flow
Dimensions		φ42、φ54	φ63.5、φ76、φ89
Figure		Two-stage type	Three-stage type
ODF port			

Type Of Connection Port

ODF connection port

No.	Port Series No.	Port (in)	D (Port Inner Diameter [m])	E (Connection Depth [m])
1	2	1/4	6.4	8.75
2	2.5	5/16	8	9
3	3	3/8	9.6	9.5
4	4	1/2	12.8	10.5
5	5	5/8	15.9	11.5
6	6	3/4	19.1	15
7	7	7/8	22.3	15.5

Technical parameters of DQA series uni-flow filter driers

Specification and Dimensions							Nominal Volume under 1Psig Pressure Drop (TR)				Moisture Absorption (g)					
Model	Order Number	Nominal volume (in3)	Type of Connection (in)	Dimensions (mm)			R134a	R22	R407C	R404A	R134a		R404A/ R507		R22/ R407C/ R410A	
			ODF	A	B	C					24°C	52°C	24°C	52°C	24°C	52°C
DQA032S	DQA360001000007	3	1/4	98	42	66	2.3	2.5	2.4	1.8	4.7	4.4	5.2	4.9	4.65	4.3
DQA033S	DQA360001000011		3/8	104			4.9	5.4	5.4	3.7						
DQA034S	DQA360001000016		1/2	108			6.9	7.4	7.4	4.9						
DQA052S	DQA360002000007	5	1/4	109	63.5	77	2.9	3.1	3.1	2.1	11.9	11.2	12.7	10.3	11.6	10
DQA053S	DQA360002000008		3/8	115			6.8	7	6.9	4.8						
DQA054S	DQA360002000035		1/2	119			7.2	7.4	7.3	5.1						
DQA055S	DQA360002000037		5/8	123			9.9	10.3	10.3	7.1						
DQA082S	DQA360003000013	8	1/4	129	63.5	97	3.1	3.4	3.3	2.2	13.3	12.3	13.8	13	12.5	11.3
DQA083S	DQA360003000014		3/8	135			7.1	7.3	7.2	5						
DQA084S	DQA360003000015		1/2	139			7.9	8.7	8	5.9						
DQA085S	DQA360003000016		5/8	143			12.1	13.1	13.1	8.8						
DQA162S	DQA360005000013	16	1/4	141	76	110	3.1	3.2	3.1	2.2	25.6	24	27.9	25.4	23.1	21
DQA163S	DQA360005000014		3/8	148			6.3	6.9	6.9	4.6						
DQA164S	DQA360005000015		1/2	152			9.7	10.5	10.6	6.9						
DQA165S	DQA360005000016		5/8	156			12.6	13.8	12.7	9.2						
DQA166S	DQA360005000044		3/4	170			13.3	13.9	13.5	9.3						
DQA167S	DQA360005000046	30	7/8	172	76	191	16	17.3	17	11.8	45.3	42	46.8	44.3	42.5	39
DQA303S	DQA360007000012		3/8	229			7.3	7.4	7.3	5.1						
DQA304S	DQA360007000026		1/2	233			8.6	9.3	9.1	6.2						
DQA305S	DQA360007000009		5/8	237			14.5	15.7	15.4	10.5						
DQA306S	DQA360007000006		3/4	251			17.7	19.4	19.4	12.9						
DQA307S	DQA360007000010	41	7/8	253	89	195	19.8	21.6	19.8	14.4	77.9	73.6	82.6	77	78.1	72.2
DQA309S	DQA360107000013		1-1/8	257			24.9	27	26.5	18						
DQA413S	DQA360008000008		3/8	233			6.1	6.7	6.7	4.4						
DQA414S	DQA360008000010		1/2	237			10.7	11.6	11.4	7.8						
DQA415S	DQA360008000001	75	5/8	241	89		16.5	17.9	17.5	12						
DQA417S	DQA360008000003		7/8	257			20.3	22	21.7	14.7						
DQA419S	DQA360008000004		1-1/8	261			26.3	27	26.5	18.5						
DQA755S	DQA360011000012		5/8	383			19.1	21.2	20.2	14.4						
DQA757S	DQA360011000009		7/8	399	89		34.2	37.1	36.3	24.8						
DQA759S	DQA360011000008		1-1/8	403			37.3	40.4	39.6	27						

DQB Series Bi-Flow Filter Driers



DQB series bi-flow filter driers protect refrigerant from impurity pollution in refrigeration and heating cycles, which ensures effectively the impurities collected in one direction return back at opposite direction. This design successfully decreases two external check valves and two conventional filter dryers, which reduces complicated tubes and corresponding initial costs.

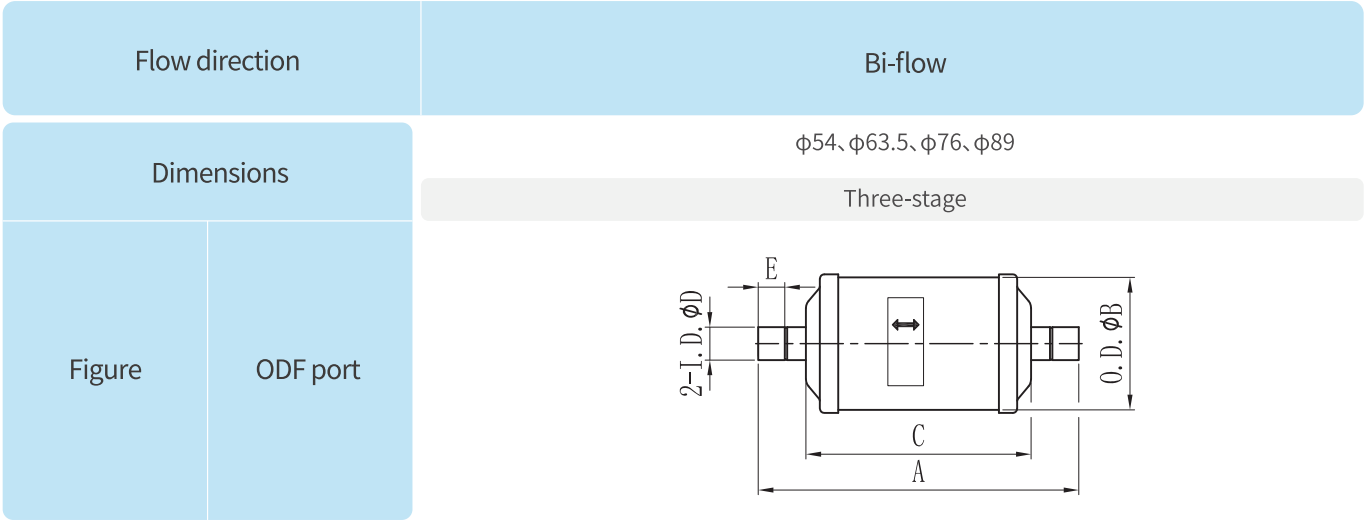
FEATURES

- ◆ With the functions of drying and filtration, irreversible-flow valves installed at both ends, impurity can be filtered with bi-flow operation, variable flow and filtration can be realized in heat pumps and reversible cycles, built-in check valves achieve precise bi-flow control.
- ◆ High efficient in moisture absorption, filtering impurity, acid, paint remains and mud removal
- ◆ Unlimited installation position
- ◆ Corrosion resistant painting can survive salt spray test of 500 Hours
- ◆ Connection type: ODF solder

OPERATION CONDITIONS

- ◆ Applicable Refrigerants:R410A,R32, R134a, R404A, R507, R407C and R22 (For R290, please confirm before placing orders.)
- ◆ Maximum Working Pressure: 4.6MPa
- ◆ Medium Temperature:-40°C ~ 80°C
- ◆ Ambient Temperature: -40°C ~55°C
- ◆ Relative Humidity: below 95%

DIMENSIONS



ODF connection port

No.	Port Series No.	Port (in)	D (Port Inner Diameter [m])	E (Connection Depth [m])
1	2	1/4	6.4	8.75
2	2.5	5/16	8	9
3	3	3/8	9.6	9.5
4	4	1/2	12.8	10.5
5	5	5/8	15.95	11.5
6	6	3/4	19.1	15
7	7	7/8	22.3	15.5
8	9	1-1/8	28.7	16.5

Technical parameters of DQB series bi-flow filter driers

	Specification and Dimensions						Nominal Volume under 1Psig Pressure Drop (TR)				Moisture Absorption (g)					
Model	Order Number	Nominal volume (in3)	Type of Connection (in)	Dimensions (mm)			R134a	R22	R407C	R404A	R134a		R404A/ R507		R22/ R407C/ R410A	
			ODF	A	B	C		R410A			R507	24°C	52°C	24°C	52°C	24°C
DQB052S	DQB360002000013	5	1/4	109	63.5	77	2.2	2.2	2.2	1.5	4.2	4	4.1	3.8	4.1	3.7
DQB053S	DQB360002000006		3/8	115			4.7	4.8	4.7	3.3						
DQB054S	DQB360002000048		1/2	119			7.1	7.2	7.1	5						
DQB082S	DQB360003000058	8	1/4	129	63.5	97	2.2	2.2	2.2	1.5	9.1	8.6	9.4	8.9	9.1	8.4
DQB083S	DQB360003000020		3/8	135			5.1	5.1	5	3.4						
DQB084S	DQB360003000022		1/2	139			6.7	6.7	6.6	4.4						
DQB085S	DQB360003000024	16	5/8	143	76	110	8.1	8.1	7.9	5.2	17	16	18	17	17	16
DQB163S	DQB360005000025		3/8	148			5.2	5.2	5.1	3.4						
DQB164S	DQB360005000027		1/2	152			8	9.1	9.1	5.7						
DQB165S	DQB360005000030	30	5/8	156	76	191	10.6	11.4	11.4	8.3	34	32.6	32.6	32.8	34	30
DQB166S	DQB360005000053		3/4	170			15.5	15.5	15.2	10.4						
DQB167S	DQB360005000055		7/8	172			16.2	16.2	15.9	10.8						
DQB303S	DQB360007000033	30	3/8	229	76	191	7.1	7.3	7.1	5.1	34	32.6	32.6	32.8	34	30
DQB304S	DQB360007000017		1/2	233			8.9	9.3	8.9	6.2						
DQB305S	DQB360007000020		5/8	237			13.7	14.2	13.7	10.3						
DQB306S	DQB360007000022		3/4	251			15.7	16	15.7	11.5						
DQB307S	DQB360007000023		7/8	253			16.4	16.7	16.4	13.6						
DQB309S	DQB360007000024		1-1/8	257			17.5	18.1	17.5	15.9						

DT Series Re-Core Filter Driers



DT series re-core filter driers are used in liquid and air suction tubes of refrigeration systems . They are connected and sealed by flange, which make the equipment commissioning and maintance easier.

FEATURES

- ◆ By detaching the flange, the internal filter elements can be quickly replaced to eliminate impurities
- ◆ The 100 mesh stainless steel filter screens are used to effectively filter the solid impurities
- ◆ the space to replace the filter elements can be greatly reduced because of the filter rod is grafted,
- ◆ Applicable for any refrigerant
- ◆ The cylinder body and connection port are designed with a large weld surface, which increases weld strength.

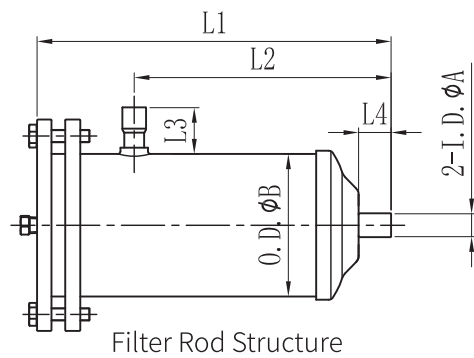
OPERATION CONDITIONS

- ◆ Applicable Refrigerants: R410A, R32, R134a, R404A, R507, R407C and R22 (For R290, please confirm before placing orders.)
- ◆ Maximum Working Pressure: 3.4MPa
- ◆ Medium Temperature: -40°C ~ 80°C
- ◆ Ambient Temperature: -40°C ~55°C
- ◆ Relative Humidity: below 95%

Re-core filter drier classification

No.	Volume Series No.	Nominal Volume (in ³)	No.	Port Series No.	Port (in ³)
1	48	48	1	5	5/8
2	96	96	2	7	7/8
3	144	144	3	9	1-1/8
4	192	192	4	11	1-3/8
5	300	300	5	13	1-5/8
6	400	400	6	17	2-1/8
			7	21	2-5/8
			8	24	3
			9	25	3-1/8

Technical parameters of DT series re-core filter driers



Filter Rod Structure		Port ΦA		L1	L2	L3	L4	ΦB	Filter element No.	Nominal Capacity (kW)				
Model	Order Number	in		mm	mm	mm	mm	mm		R-22	R134a	R407C	R404A / R507	R502
DT485	DT300058000300	5/8	16	226	150	20	26	114	1	73.5	66.5	70.5	49.0	45.5
DT487	DT300058000100	7/8	22.3	227	150	22	27	114	1	133.0	122.5	129.5	87.5	84.0
DT489	DT300058000200	1-1/8	28.6	227	150	24	26	114	1	185.5	168.0	178.5	122.5	119.0
DT4811	DT300058000700	1-3/8	35	232	156	28	32	114	1	213.5	196.0	206.5	140.0	136.5
DT4821	DT300017000100	2-5/8	67	242	148	50	54	114	1	297.5	273.0	224.0	196.0	192.5
DT967	DT300061000500	7/8	22.3	373	297	22	27	114	2	143.5	129.5	140.0	94.5	91.0
DT969	DT300061000200	1-1/8	28.6	373	297	24	26	114	2	220.5	203.0	7	147.0	140.0
DT9611	DT300061000100	1-3/8	35	378	302	28	32	114	2	276.5	252.0	213.5	182.0	178.5
DT9613	DT300061000800	1-5/8	42	375	300	25	32	114	2	297.5	273.0	269.5	196.0	192.5
DT9625	DT300054000500	3-1/8	80	388	290	42	52	114	2	297.5	273.0	290.5	196.0	192.5
DT1449	DT300033000200	1-1/8	28.6	516	440	24	26	114	3	213.5	196.0	224.0	140.0	136.5
DT14411	DT300034000700	1-3/8	35	521	445	28	32	114	3	308.0	283.5	206.5	203.0	199.5
DT14413	DT300062000100	1-5/8	42	521	445	25	32	114	3	339.5	311.5	301.0	224.0	220.5
DT14417	DT300036000200	2-1/8	54	524	445	32	38	114	3	392.0	360.5	332.5	259.0	252.0
DT14424	DT300055000300	3	76.3	530	435	38	58	114	3	392.0	360.5	381.5	259.0	252.0
DT19211	DT300044000200	1-3/8	35	671	595	28	32	114	4	329.0	301.0	294.0	217.0	213.5
DT19213	DT300063000100	1-5/8	42	671	595	25	32	114	4	360.5	332.5	322.0	238.0	231.0
DT19217	DT300063000300	2-1/8	54	677	593	32	38	114	4	402.5	371.0	353.5	266.0	259.0
DT19221	DT300047000200	2-5/8	67	667	593	37	43	114	4	402.0	371.0	392.0	266.0	259.0
DT30013	DT360015000001	1-5/8	42	625	504	25	32	152	3	266.0	245.0	304.5	175.0	171.5
DT30017	DT300049000200	2-1/8	54	628	507	32	38	152	3	322.0	294.0	259.0	213.5	206.5
DT30021	DT300050000200	2-5/8	67	640	522	52	54	152	3	357.0	329.0	315.0	248.5	241.5
DT30024	DT360007000004	3	76.3	637	513	48	50	152	3	392.0	364.0	276.0	283.5	276.5
DT40017	DT300052000200	2-1/8	54	760	668	32	38	152	4	339.5	311.5	311.5	224.0	220.5
DT40021	DT300056000300	2-5/8	67	798	677	50	54	152	4	385.0	353.5	332.5	255.5	248.5
DT40025	DT300048000100	3-1/8	80	800	677	48	50	152	4	392.0	364.0	374.5	283.5	276.5

Iron Rod Structure		Port ΦA		L1	L2	L3	L4	ΦB	Filter element No.	Nominal Capacity (kW)				
Model	Order Number	in		mm	mm	mm	mm	mm		R-22	R134a	R407C	R404A / R507	R502
DT485S	DT300011000300	5/8	16	226	150	20	26	114	1	73.5	66.5	70.5	49.0	45.5
DT487S	DT300012000200	7/8	22.3	227	150	22	27	114	1	133.0	122.5	129.5	87.5	84.0
DT489S	DT300013000200	1-1/8	28.6	227	150	24	26	114	1	185.5	168.0	178.5	122.5	119.0
DT4811S	DT300014000200	1-3/8	35	232	156	28	32	114	1	213.5	196.0	206.5	140.0	136.5
DT4821S	DT300017000200	2-5/8	67	242	148	50	54	114	1	297.5	273.0	224.0	196.0	192.5
DT967S	DT300022000200	7/8	22.3	373	297	22	27	114	2	143.5	129.5	140.0	94.5	91.0
DT969S	DT300023000200	1-1/8	28.6	373	297	24	26	114	2	220.5	203.0	213.5	147.0	140.0
DT9611S	DT300025000200	1-3/8	35	378	302	28	32	114	2	276.5	252.0	269.5	182.0	178.5
DT9613S	DT300024000300	1-5/8	42	375	300	25	32	114	2	297.5	273.0	290.5	196.0	192.5
DT9625S	DT300054000400	3-1/8	80	388	290	42	52	114	2	297.5	273.0	224.0	196.0	192.5
DT1449S	DT300033000400	1-1/8	28.6	516	440	24	26	114	3	213.5	196.0	206.5	140.0	136.5
DT14411S	DT300034000800	1-3/8	35	521	445	28	32	114	3	308.0	283.5	301.0	203.0	199.5
DT14413S	DT300035000300	1-5/8	42	521	445	25	32	114	3	339.5	311.5	332.5	224.0	220.5
DT14417S	DT300036000300	2-1/8	54	524	445	32	38	114	3	392.0	360.5	381.5	259.0	252.0
DT14424S	DT300055000400	3	76.3	530	435	38	58	114	3	392.0	360.5	294.0	259.0	252.0
DT19211S	DT300044000400	1-3/8	35	671	595	28	32	114	4	329.0	301.0	322.0	217.0	213.5
DT19213S	DT300045000300	1-5/8	42	671	595	25	32	114	4	360.5	332.5	353.5	238.0	231.0
DT19217S	DT300046000500	2-1/8	54	677	593	32	38	114	4	402.5	371.0	392.0	266.0	259.0
DT19221S	DT300047000300	2-5/8	67	667	593	37	43	114	4	402.0	371.0	304.5	266.0	259.0

Gas-Liquid Separator

Dun An



The gas-liquid separator is an important unit installed between compressor and evaporator in refrigeration systems to separate gas and liquid, store liquid, return and filter oil and prevent the liquid from flowing into the compressor leading to liquid shock.

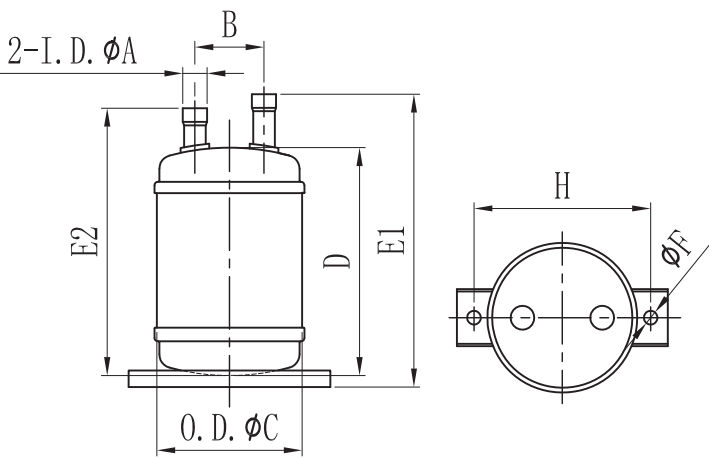
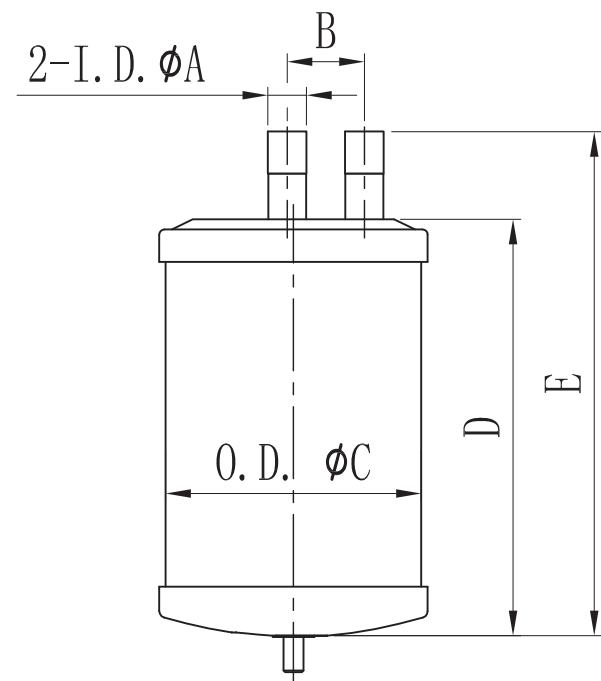
FEATURES

- ◆ Made of high-quality steel plates, steel tubes and copper tubes;
- ◆ Gas-shielded welding is adopted to ensure welding performance;
- ◆ Professional powder coating can survive neutral salt spray test for more than 500 hours.

OPERATION CONDITIONS

- ◆ Applicable Refrigerants:
R410A, R32, R134a, R404A, R507, R290, R407C and R22, etc.
- ◆ Working Pressure: 2.2MPa~4.5MPa
- ◆ Medium Temperature: -30°C ~ +120°C
- ◆ Ambient Temperature:-20°C ~ +55°C

DIMENSIONS



Note: “*” indicates that the product has a fusible plug

Model	A	B	C	D	E1	E2	F	H	Weight	Volume	Order Number
	mm	mm	mm	mm	mm	mm	mm	mm	kg	L	
QF035127B	19.2	70	127	300	355	340	9	180	2.5	3.5	QF3500000357
QF079165B	28.8	80	165	403.5	462	472	8	190	6.8	7.9	QF3500000370
QF046152B	28	73.9	152.4	285	338	363	9	190	6	4.6	QF3500000625
QF041127B	19.3	80	127	360	435	435	9	180	2.9	4.1	QF3500000592
QF063165B	28.1	80	165	324	374	374	8.5	186	5.6	6.3	QF3500000299
QF060152B	28.58	73.9	152.4	361.5	430	450	9	190	3.1	6.0	QF3500000637
QF035127B	19.2	80	127	300	355	355	8	140	2.5	3.5	QF3500001141
QF023127B	19.2	70	127	200	250	250	12	155	2	2.3	QF3500000464

Model	Volume	Dimensions (mm)			Size of Port (φmm)	
	Cu in	Length	Width	Height	Inlet	Outlet
SQV-015	15	250	250	635	54	54
SQV-030	30	320	320	765	57	57
SQV-040	40	350	350	735	80	80
SQV-080	80	450	450	905	108	108
SQV-100	100	500	500	870	133	133
SQV-120	120	600	600	940	133	133
SQV-150	150	600	600	1035	159	159
SQV-175	175	600	600	1035	159	159
SQV-250	250	700	700	1105	219	219



Oil separator is used to separate lubricating oil from the oil-air mixture before removing the lubricating oil particles from compressed gas. The compressor has no lack of oil because that oil separator separate compressor lubricating oil from the refrigerant so the oil is returned to the compressor crankcase.

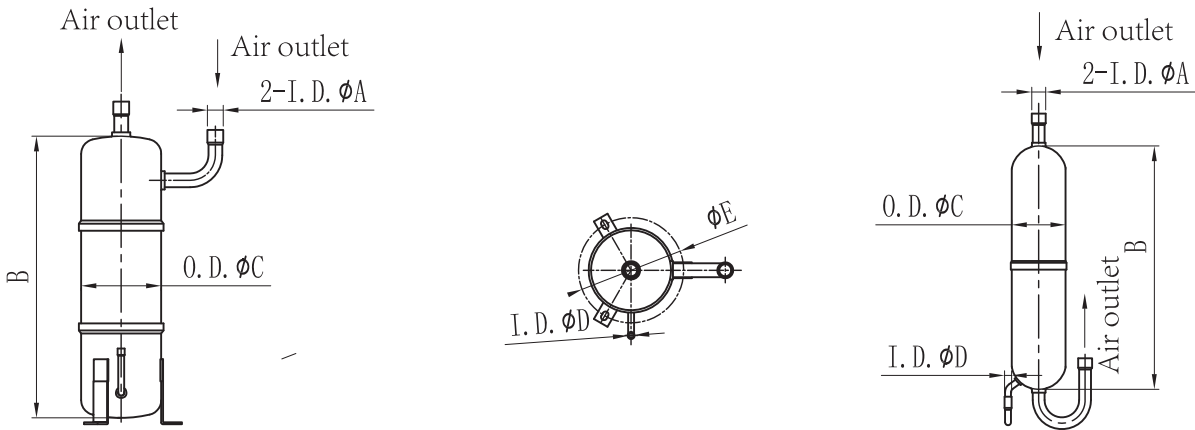
FEATURES

- ◆ Made of high-quality steel plates, steel tubes and copper tubes;
- ◆ Gas-shielded welding is adopted to ensure welding performance;
- ◆ Professional powder coating can survive neutral salt spray test for more than 500 hours.

OPERATION CONDITIONS

- ◆ Applicable Refrigerants: R410A, R32, R134a, R404A, R507, R290, R407C and R22, etc.
- ◆ Working Pressure: 2.2MPa~4.5MPa
- ◆ Medium Temperature:-30°C ~ +120°C
- ◆ Ambient Temperature: -20°C ~ +55°C

DIMENSIONS



DIMENSIONS

Model	A	B	C	D	E	Weight	Volume	Order Number
	mm	mm	mm	mm	mm	kg	L	
YF019102C	16.2	280	101.6	9.7	140	0.32	1.9	YF3500000305
YF050127C	22.15	447	127	9.7	168	5.88	5	YF3500001036

Model	A	B	C	D	Weight	Volume	Order Number
	mm	mm	mm	mm	kg	L	
YF002042	9.67	166	42	6.15	0.32	0.18	YF3500001229
YF005057	12.85	218	58	6.15	0.60	0.45	YF3500001045
YF010080	12.85	265	80	6.15	1.4	1.0	YF3500001202

Model	Volume	Dimensions (mm)			Size of Port (φmm)	
	L	Length	Width	Height	Inlet	Outlet
SYV-025	25	500	300	650	42	42
SYV-040	40	550	400	770	54	54
SYV-070	70	650	450	840	76	76
SYV-090	90	700	500	850	89	89
SYV-110	110	750	550	900	108	108
SYV-180	180	900	700	1150	133	133

Reservoir



The refrigerant can be returned to the reservoir, due to changes in working conditions or adjustments to the refrigeration system, to ensure the normal circulation amount of refrigerant so that refrigeration device is under normal operation. The refrigerant in the system can be collected into the reservoir to avoid a large amount of refrigerant outflow when a certain part of the refrigeration device needs to be repaired.

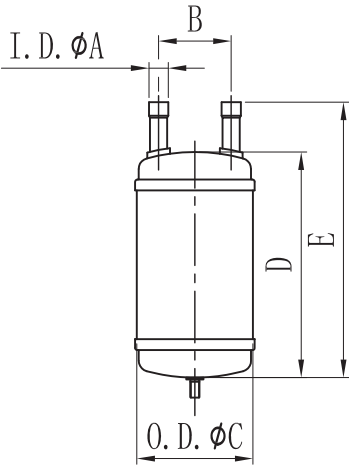
FEATURES

- ◆ Made of high-quality steel plates, steel pipes, and copper pipes;
- ◆ Gas-shielded welding is adopted to ensure welding performance;
- ◆ Professional powder coating endures neutral salt spray test for more than 500 hours.

OPERATION CONDITIONS

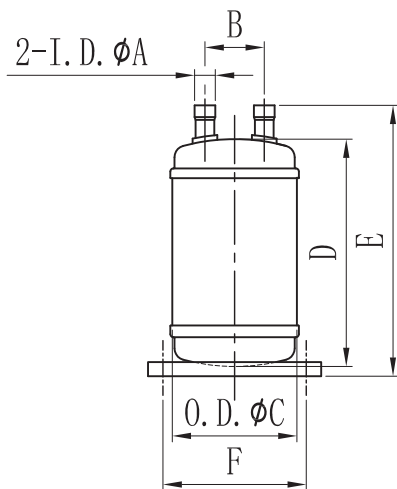
- ◆ Applicable Refrigerants:
R410A, R32, R134a, R404A, R507, R290, R407C and R22, etc.
- ◆ Working Pressure: 2.2MPa~4.5MPa
- ◆ Medium Temperature: -30°C ~ +120°C
- ◆ Ambient Temperature: -20°C ~ +55°C

DIMENSIONS



Model	A	B	C	D	E	Mounting Screws	Weight	Volume	Order Number
	mm	mm	mm	mm	mm	mm	kg	L	
CY015102A	9.6	70	101.6	216	295	M10×1.5	2.26	1.5	CY3500000428
CY018102A	9.6	70	101.6	261	295	M10×1.5	2.66	1.8	CY3500000429

DIMENSIONS



Model	A	B	C	D	E	F	Weight	Volume	Order Number
	mm	mm	mm	mm	mm	mm	kg	L	
CY012089B	12.9	35	89	210	260	140	1.4	1.2	CY3500000803
CY024127B	12.9	70	127	210	260	140	1.8	2.4	CY3500000670
CY035127B	16.2	70	127	300	350	140	2.6	3.5	CY3500000672
CY053127B	12.3	80	127	480	540	150	3.6	5.3	CY3500000387
CY044127B	12.9	70	127	406	456	150	4.5	4.4	CY3500000639
CY040127B	12.9	70	127	336	386	150	4.2	4	CY3500000638
CY070165B	19.2	80	165	360	400	190	5.12	7.0	CY3500000864
CY150219B	16.2	60	219	458	498	240	11	15	CY3500000751

CO₂ Electronic Expansion Valve



CO₂ electronic expansion valves are widely used in transcritical R744 (CO₂) refrigeration systems to realize automatic adjustment of refrigerant flow rate and improve system's operation performance for the purpose of fast cooling and heating, precise temperature control and power saving. Those valves are mainly used in CO₂ heat pump water heaters, refrigeration systems.

FEATURES

- ◆ Compact and lightweight design, small installation space
- ◆ Noise reduction design ensures low operation noise
- ◆ Outer encapsulated coil ensures better corrosion resistance
- ◆ High pressure bearing ensures reliable operation under the maximum working pressure of 15.0MPa

OPERATION CONDITIONS

- ◆ Applicable Refrigerants: R744 (CO₂)
- ◆ Maximum Working Pressure:15MPa
- ◆ Medium Temperature: -30°C~ +70°C
- ◆ Ambient Temperature: -30°C~ +60°C
- ◆ Relative Humidity: below 95%



TECHNICAL PARAMETERS

Item	Parameter
MOPD	10MPa
Internal leakage	≤600mL/min (all valves are shut of except for flow valve)
Flow direction	Uni-flow (A→B)
Power supply	DC12V±10%, rectangular wave
Actuation mode	4-phase 8-step permanent magnetic stepper motor
Excitation mode	1 to 2 phase excitation
Full open pulse	500
Opening pulse	32±20 (all valves are shut of except for flow valve)
Excitation rate	30~90 PPS
Insulation class	E

Coil Parameters

Model	Rated Voltage	Voltage Change	Rated Power	Wiring Connection	Insulation Class	Protection Grade	Order Number
	V		W				
DPFX07-007	DC12V	±10%	6.24	插头式	E	IP67	DPFX07-007

TECHNICAL PARAMETERS

(Working conditions: the valve is fully open, the outlet temperature of the gas cooler is 22°C, the working pressure is 10MPa, the evaporating temperature is 6°C and the superheat degree is 0°C.)

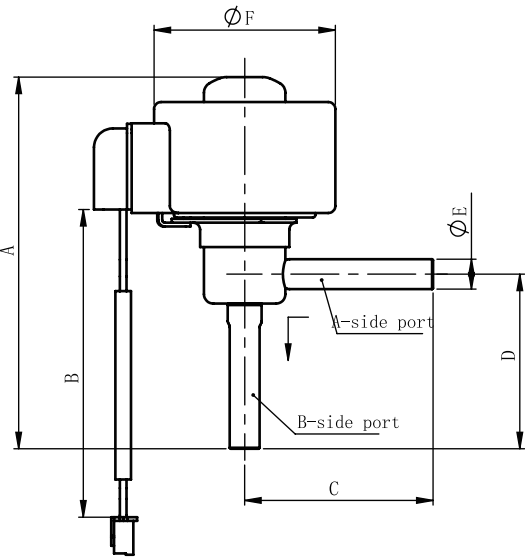
Model	Port (mm)	Nominal capacity (kW)
DPF1.0E	1.0	5.0
DPF1.2E	1.2	6.9
DPF1.4E	1.4	9.0
DPF1.8E	1.8	15.5
DPF2.0E	2.0	20.2

Technical Parameters of Valve Body

Model	Actuation	Maximum Working Pressure	MOPD [MPa]	Order Number
		[MPa]	DC coil	
DPF1.0E	Direct	15	10	DPF1.0E-001
DPF1.2E	Direct	15	10	DPF1.2E-001
DPF1.4E	Direct	15	10	DPF1.4E-001
DPF1.8E	Direct	15	10	DPF1.8E-001
DPF2.0E	Direct	15	10	DPF2.0E-001

DIMENSIONS

Model	Port(ODF)			Dimension [mm]			
	inch	mm	A	B	C	D	F
DPF1.0E~2.0E	-	6.35	80	700	40	40	38



CO₂ Solenoid Valve



CO₂ solenoid valves are widely used in heat pump water heaters, liquid lines, suction lines and hot gas lines of refrigeration systems with R744 (CO₂). The solenoid valves are controlled by the switching power of solenoid coils to control flow direction of refrigerant in order to realize the automatic adjustment.

FEATURES

- ◆ Empty stroke design and improved valve opening capacity ensure normal operation under pressure difference of 10MPa
- ◆ Improved materials ensures longer service life and excellent corrosion resistance
- ◆ Optimized products for stable performance and high temperature resistance
- ◆ Compact design and small size
- ◆ High reliability ensures reliable operation under the maximum working pressure of 15.0MPa .

OPERATION CONDITIONS

- ◆ Applicable Refrigerants: R744 (CO₂)
- ◆ Maximum Working Pressure: 15MPa
- ◆ Medium Temperature: -30°C~ +120°C
- ◆ Ambient Temperature: -35°C~ +55°C
- ◆ Relative Humidity: below 95%

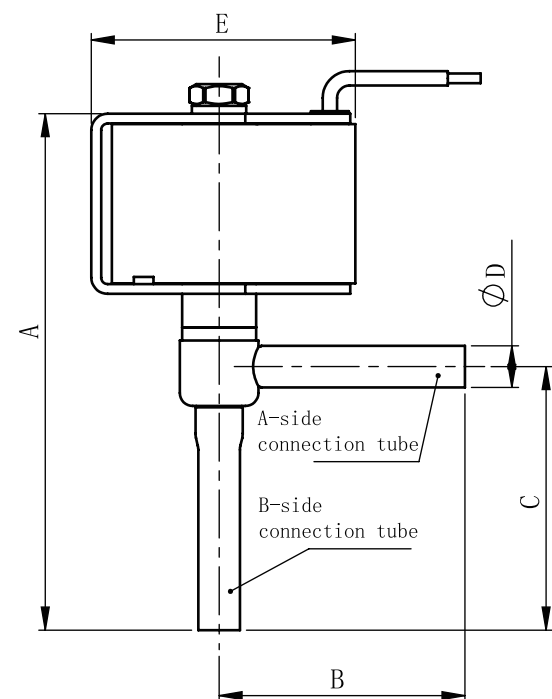
TECHNICAL PARAMETERS

Item	Parameter
MOPD	10MPa
Flow direction	Uni-flow (A→B)
Working mode	Normally closed

SPECIFICATIONS

Model	Port (mm)	Kv (m ³ /h)	Maximum working pressure (MPa)	OPD (MPa)		Connection Size (mm)	Order Number
				Max	Min		
FDF1.0E	1.0	0.024	15	10	0	A: Φ6.35	FDF1.0E-001
FDF1.2E	1.2	0.033		10	0	B: Φ6.35	FDF1.2E-001

DIMENSIONS



Model	A	B	C	D	E
FDF1.0E	80	35	36	6.35	41
FDF1.2E					

CO₂ Check Valve



CO₂ check valves control the forward and reverse flow of refrigerant and make refrigerant flow in a specified direction and ensures normal operation under high working pressure in the CO₂ transcritical system.

FEATURES

- ◆ Stainless steel housing ensures reliable operation under maximum high pressure of 45MPa
- ◆ Soft sealing structure, low internal leakage
- ◆ Built-in sliding piston design enables valve-opening under low differential pressure
- ◆ Elastic adjustment parts allow installation in any position
- ◆ Standardization design, compact size

OPERATION CONDITIONS

- ◆ Applicable Refrigerants: R744 (CO₂)
- ◆ Maximum Working Pressure: 15MPa
- ◆ Medium Temperature: -30°C~ +120°C
- ◆ Ambient Temperature: -30°C~ +55°C
- ◆ Relative Humidity: below 95%

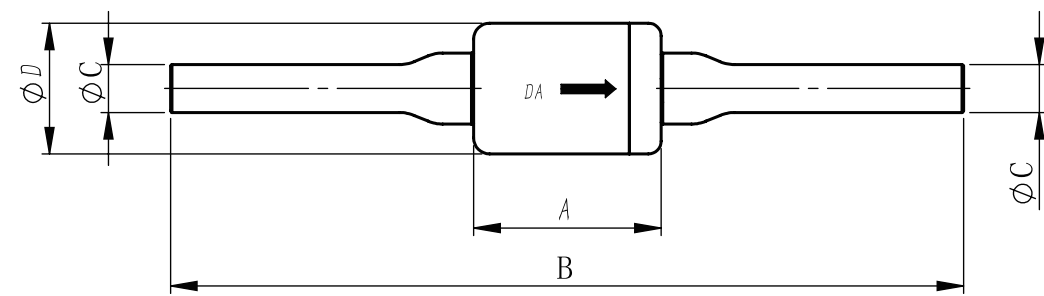
TECHNICAL PARAMETERS

Item	Parameter
Internal leakage	≤100mL/min
Minimum opening pressure difference	0.04MPa
Burst pressure	45MPa
Compressive strength	22.5MPa

SPECIFICATIONS

Model	Type	Connection Size(mm)	Port(mm)	Kv (m ³ /h)	Order Number
FDE6	Straight-way	6.35	4.0	0.40	FDE6-001
FDE8		7.94	5.5	0.66	FDE8-001
FDE10		9.52	7.0	1.04	FDE10-001

DIMENSIONS



Model	Dimensions (mm)			
	A	B	C	D
FDE6	25	105	6.35	17.3
FDE8			7.94	
FDE10			9.52	