



# General Product Catalogue

**AIR  
CONDITIONING**

**COMMERCIAL  
REFRIGERATION**

**HEAT PUMP**

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# SANHUA

*“Strive for perfection,  
Pursuit of excellence”*

Sanhua is a leading HVAC&R manufacturer of controls and components with a global footprint and 30 years of experience. Our co-operation with the largest companies in the Automotive, Appliance and HVAC&R industry makes Sanhua a leading worldwide OEM supplier providing the highest quality components at the most competitive price.

Furthermore, strategic acquisitions by Sanhua of leading HVAC brands such as Ranco and Aweco and joint venture projects with Danfoss transformed Sanhua into one of the largest manufacturers of Expansion, Solenoid and Reversing Valves with annual valve sales exceeding 100 Million pieces.

**SANHUA IS LISTED IN TOP 100 STRONGEST CHINESE INDUSTRIAL BRANDS.**

After sustainable growth over the last 3 decades, Sanhua have made significant progress to introduce a comprehensive range of controls and line components for the Commercial Air conditioning and Refrigeration Industries and to increase its service level coverage in the most important European markets.

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ideas worldwide



# GLOBAL FOOTPRINT & LOCAL SUPPORT



- Technical Service Hotline in 4 languages (English, Italian, German and Spanish)
- On site engineering support on request.
- Online Data Sheets and product catalogues.
- B2B Customer Platform, on line 24x7 order & stock management.

## EMEA CENTRAL WAREHOUSE

- LOCATION: BIERUN (POLAND)
- CAPACITY: 4000 SQ. M.-3.500 PALLETS
- ON-LINE DELIVERIES TRACKING SYSTEM
- OPENING HOURS FLEXIBILITY
- URGENCIES MANAGEMENT

## QUALITY AND R&D

The company has a sufficient number of modern manufacturing equipment, advanced production engineering and effective control tools.

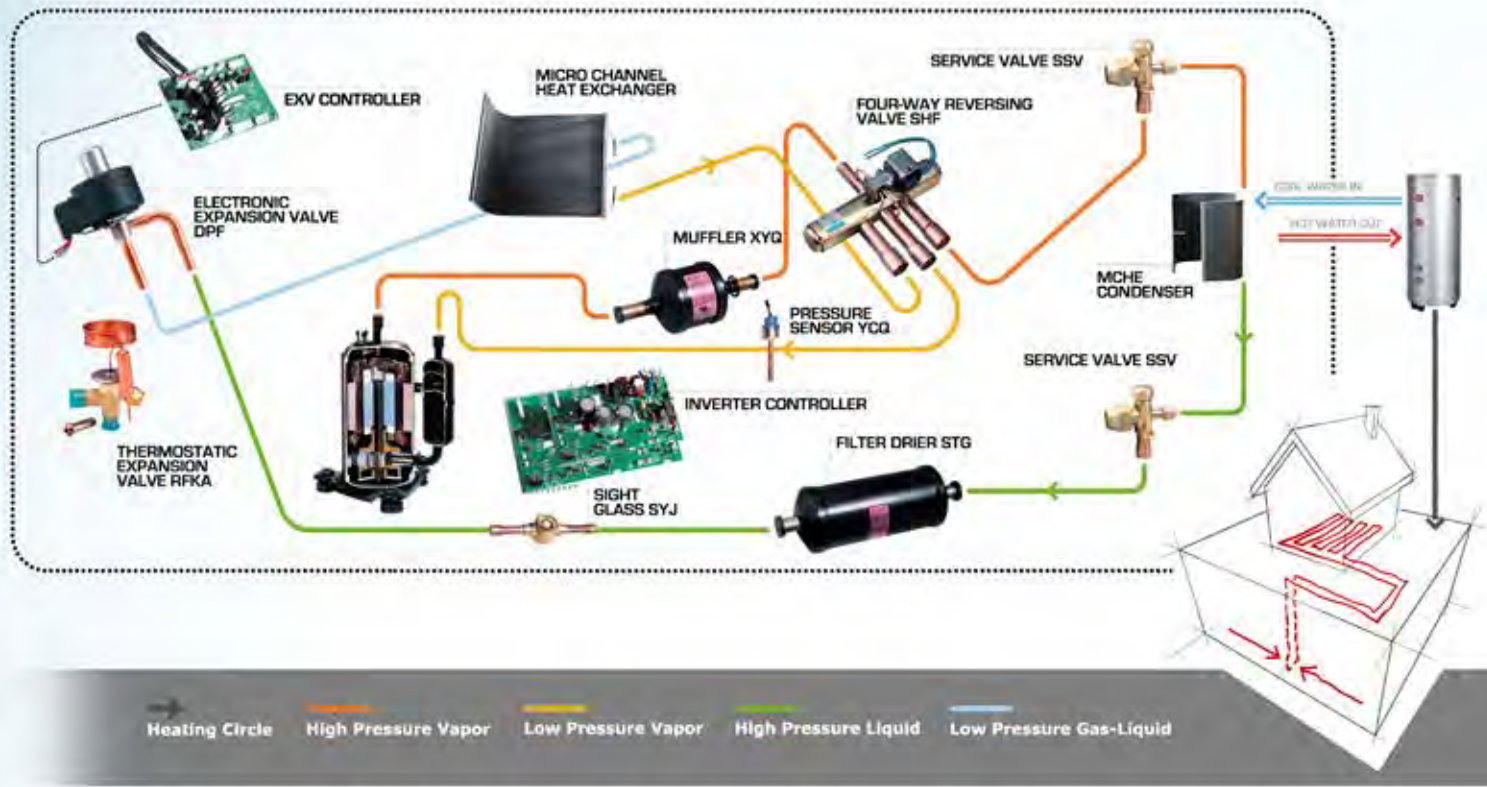
Products of Sanhua have passed many international and domestic safety certificates such as CQC, CE, TÜV, UL, VDE, and have gained trust and satisfaction from customers with reliable and continuous-improving quality.

ISO9001 Quality Management System  
ISO14001 Environment Manag.System  
QC080000 Hazardous Substance  
ISO10012 Measurement Manag System\*\*



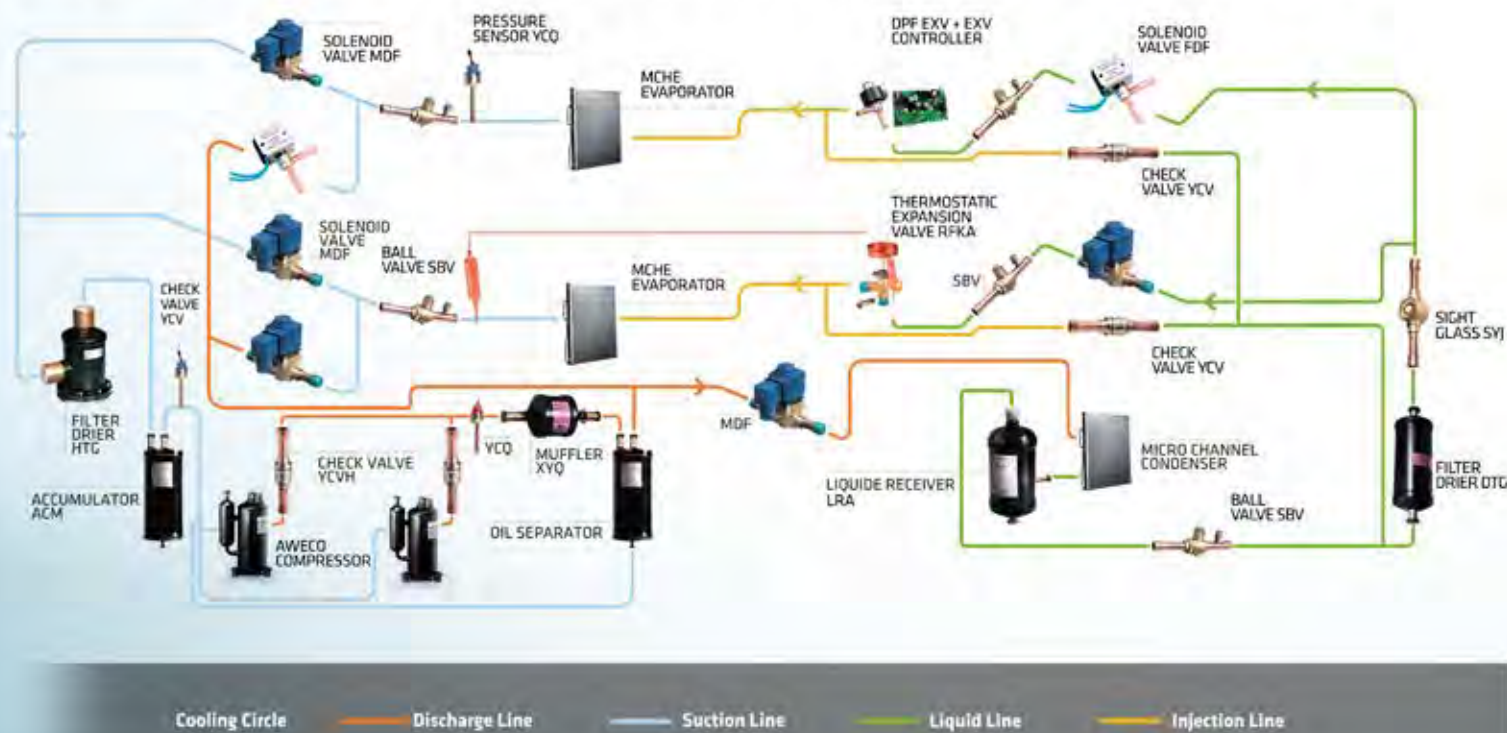


# Air to Water Heat Pump Application Solutions

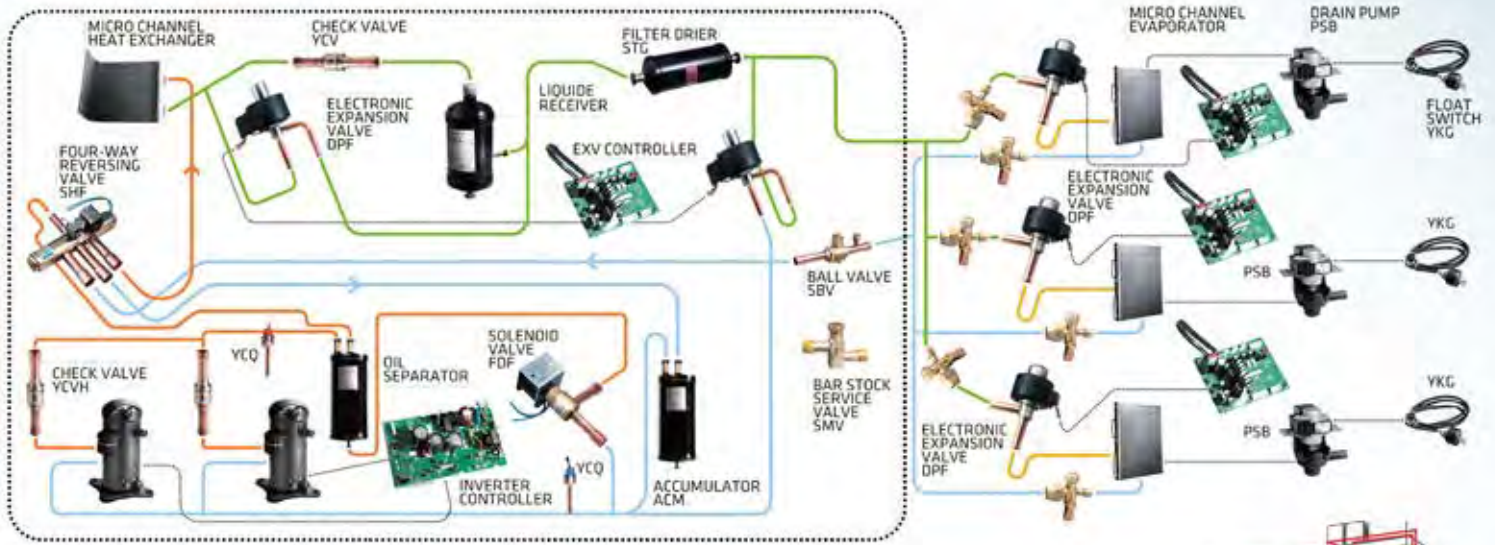


SANHUA IS YOUR PARTNER WITH COMPLETE RANGE AND TECHNOLOGY TO ADDRESS NEW EFFICIENCY CHALLENGES

# Commercial Refrigeration Application Solutions



# COMMERCIAL AIR CONDITIONING VRF SYSTEM



→ Heating Circle    
 — Discharge Line    
 — Suction Line    
 — Liquid Line    
 — Injection Line



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# SANHUA *YOUR ROAD MAP TO THE ECO-DESIGN DIRECTIVE\**

**KEEPS YOU ONE STEP AHEAD OF THE COMING EFFICIENCY AND ENVIRONMENTAL EUROPEAN CHALLENGES**



### EEV Technology + Electronic Controls

- Improves HVAC $\alpha$ -R system efficiency up to **20%**
- DPF $\alpha$ -VPF series from 2kW to 1400kW  
\*75kW and 1400kW available in Quarter 4
- Advanced MSS (Minimum Stable Superheat) control logic



### 4 Way Reversing Valve

- Improves efficiency by **5%**
- SHF series 1kW to 420 kW
- Widest range in the market with Single Body Design



### Inverter Controller for Large System

- Improves system efficiency up to **30%**
- Active Frequency Conversion Technology**
- Wide Range of voltage application



### MCHE

- Improves efficiency by **30%**
- Refrigerant Charge Reduction by **30%** Environmental Friendly
- MCHE is lighter in weight, smaller in volume Compact Design



ADIRALES

**ADVANCED**  
Technology & Solutions



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info@sanhuaeurope.com



2 out of 3 AC units are equipped  
with a **SANHUA**  
reversing valve

YEARLY SANHUA SUPPLIES OVER 50 MILLION  
FOUR WAY REVERSING VALVES TO THE  
COMMERCIAL AND RESIDENTIAL HVAC  
INDUSTRY WORLDWIDE



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**WHY**

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**ADVANCED**  
Technology & Solutions

- ✓ Improves efficiency by **5%**
- ✓ SHF series 1kW to 420 kW
- ✓ Widest range in the market with Single Body Design



1 kW

420kW

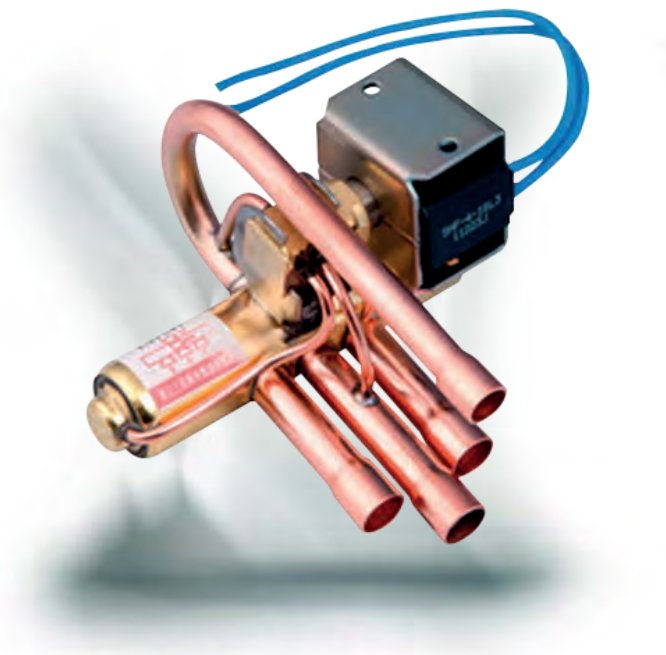


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# 4 Way Reversing Valve

SHF series four-way reversing valves are applicable for heat pump systems such as central, unitary and room air conditioners to realize switching between cooling mode and heating mode by changing the flow path of refrigerant.



## FEATURES

- WIDE APPLICATION RANGE
- SUITABLE FOR COOLING CAPACITIES FROM 3.6 TO 420KW (R410A, CONDITION 2)
- SEVERAL DESIGNS AVAILABLE

## GENERAL SPECIFICATION

- Applicable for all common HCFC, HFC, HC, HFO refrigerants such as: R22, R134a, R404A, R407C, R410A, R507, R290<sup>1)</sup>, R1234yf<sup>1)</sup>, R1234ze<sup>1)</sup>, R32<sup>1)</sup>, R450A/R513A
- Medium temperature TS min./max.: -30°C / +135°C<sup>2)</sup>
- Ambient temperature min./max.: -30°C / +50 or +70°C (Depending on used coil)
- Relative humidity: 0 to 95% RH
- Max. operating pressure PS: ≥4.5Mpa (45bar)
- Installation position:
  - Coil upwards or with body axis in horizontal alignment
  - Flow direction according to installation instruction
- Certifications: UL/CSA<sup>3)</sup> and declaration according to LVD or PED
  - 1) For all the flammable refrigerants only tube connections below 25 mm (1 inch) can be used
  - 2) SHF-50-911-D2: TS min./max. : -30°C / +120°C
  - 3) SHF(L)-4H to SHF-50 valves, coil selection on request
  - 4) Cooling capacity of R290, R1234yf, R1234ze, R32, R450A/R513A pls refer to SANHUA selection tool

# SHF SERIES

## 4 Way Reversing Valve



### GENERAL CHARACTERISTICS

General Characteristics									
Valve Model	Part Number	Ø Port	Kv	Connections ODF		MOP	OPD		PED Category
				ØD	ØE/S/C		Max.	Min.	
		[mm]	[m³/h]	[inch]	[inch]	[MPa]	[MPa]	[MPa]	
SHF(L)-3H-12U-51	10180944702	7,4	1,5	1/4	5/16	4,7	4	0,1	4,3
SHF(L)-4H-23U-51	10180944902	8	1,6	5/16	3/8	4,7	4	0,1	4,3
SHF(L)-7H-34U-51	10180945302	11,1	2,9	3/8	1/2	4,7	4	0,1	4,3
SHF(L)-7H-34-51	10180944002	11,1	2,9	3/8	1/2	4,7	4	0,1	4,3
SHF(L)-7H-35-51	10180945002	11,1	2,9	3/8	5/8	4,7	4	0,1	4,3
SHF(L)-11H-34U-51	10180947302	11,5	4,5	3/8	1/2	4,7	4	0,1	4,3
SHF(L)-11H-35U-51	10180942902	11,5	4,5	3/8	5/8	4,7	4	0,1	4,3
SHF(L)-11H-45D1-51	10180943002	11,5	4,5	1/2	5/8	4,7	4	0,1	4,3
SHF(L)-11H-46D1-51	10180944602	11,5	4,5	1/2	3/4	4,7	4	0,1	4,3
SHF-14A-46	10325030102	13,5	6,6	1/2	3/4	4,7	4	0,1	4,3
SHF-20D-46-02	10325020102	17,2	9,5	1/2	3/4	4,7	4	0,1	4,3
SHF-20D-47-02	10325030302	17,2	9,9	1/2	7/8	4,7	4	0,1	4,3
SHF-20D-57-02	10325032902	17,2	9,9	5/8	7/8	4,7	4	0,1	4,3
SHF-20D-67-02	10325039802	17,2	9,9	3/4	7/8	4,7	4	0,1	4,3
SHF-35B-47-04	10325033602	20	14,7	1/2	7/8	4,7	4	0,1	4,3
SHF-35B-57-04	10325035702	20	14,7	5/8	7/8	4,7	4	0,1	4,3
SHF-35B-59-04	10325039902	20	14,7	5/8	1 1/8	4,7	4	0,1	4,3
SHF-35B-67-04	10325031002	20	14,7	3/4	7/8	4,7	4	0,1	4,3
SHF-35B-69-04	10325035802	20,9	14,7	3/4	1 1/8	4,7	4	0,1	4,3
SHF-35B-79-04	10325033002	20,9	14,7	7/8	1 1/8	4,7	4	0,1	4,3
SHF-50A-79	10325030002	22,8	18,3	7/8	1 1/8	4,5	4	0,1	4,3
SHF-50-911D2	10325011602	25,6	18,5	1 1/8	1 3/8	4,7	4	0,1	I
SHF(L)-70-810	10325030202	28,6	28,5	1	1 1/4	4,5	4	0,15	4,3
SHF(L)-70-810-01	10325033102	28,6	28,5	1	1 1/4	4,5	4	0,15	4,3
SHF(L)-70-911	10325038302	28,6	28,5	1 1/8	1 3/8	4,5	4	0,15	I
SHF(L)-70-911-01	10325038302	28,6	28,5	1 1/8	1 3/8	4,5	4	0,15	I
SHF(L)-70-913-05	10325039502	28,6	28,5	1 1/8	1 5/8	4,5	4	0,15	I
SHF(L)-70-913-03	10325039702	28,6	28,5	1 1/8	1 5/8	4,5	4	0,15	I
SHF(L)-100-911	10325037902	34,8	40,5	1 1/8	1 3/8	4,5	4	0,15	I
SHF(L)-100-911-01	10325038002	34,8	40,5	1 1/8	1 3/8	4,5	4	0,15	I
SHF(L)-100-913	10325033702	34,8	40,5	1 1/8	1 5/8	4,5	4	0,15	I
SHF(L)-100-913-01	10325034702	34,8	40,5	1 1/8	1 5/8	4,5	4	0,15	I
SHF(L)-100-1012	10325027102	34,8	40,5	1 1/4	1 1/2	4,5	4	0,15	I
SHF(L)-100-1012-01	10325033202	34,8	40,5	1 1/4	1 1/2	4,5	4	0,15	I
SHF(L)-100-1013	10325035502	34,8	40,5	1 1/4	1 5/8	4,5	4	0,15	I
SHF(L)-100-1013-01	10325038902	34,8	40,5	1 1/4	1 5/8	4,5	4	0,15	I



## SHF SERIES 4 Way Reversing Valve



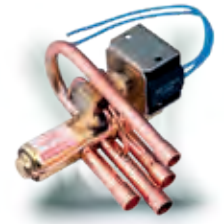
### GENERAL CHARACTERISTICS

General Characteristics									
Valve Model	Part Number	Ø Port	Kv	Connections ODF		MOP	OPD		PED Category
				ØD	ØE/S/C		Max.	Min.	
		[mm]	[m <sup>3</sup> /h]	[inch]	[inch]	[MPa]	[MPa]	[MPa]	
SHF(L)-140-1113	10325038102	41	58,4	1 3/8	1 5/8	4,5	4	0,15	I
SHF(L)-140-1213	10325038602	41	58,4	1 1/2	1 5/8	4,5	4	0,15	I
SHF(L)-140-1214	10180940402	41	58,4	1 1/2	1 3/4	4,5	4	0,15	I
SHF(L)-140-1313	10325034102	41	58,4	1 5/8	1 5/8	4,5	4	0,15	I
SHF(L)-175-1217	10325030402	46,4	70,5	1 1/2	2 1/8	4,5	4	0,15	I
SHF(L)-175-1317	10325034002	46,4	70,5	1 5/8	2 1/8	4,5	4	0,15	I
SHF(L)-210-1321	10325030502	50	84,4	1 5/8	2 5/8	4,5	4	0,15	I
SHF(L)-350-1721	10325043302	59	138,4	2 1/8	2 5/8	4,5	4	0,15	I
SHF(L)-420-2125	10325043602	69	177	2 5/8	3 1/8	4,5	4	0,15	I

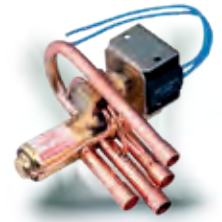
### NOMINAL OPERATING CONDITIONS

Nominal Operating Conditions	Condition 1	Condition 2
Condensing Temperature $t_c$	38°C	54,4°C
Evaporating Temperature $t_o$	5°C	7,2°C
Superheat $\Delta t_{sc}$	5K	5K
Subcooling $\Delta t_{sr}$	0K	5K

**Notes for Capacity Selection Tables:** 1) Pressure drop is valid for flow from ØC to ØS or from ØE to ØS  
2) R407C data based on dew point conditions



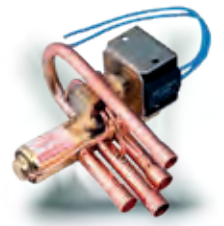
Capacity Selection Table									
Valve Model	Part Number	Nominal Cooling Capacity (condition 1)							
		R407C <sup>2)</sup>		R410A		R134a		R404A / R507	
		ΔP: 0,1 bar	ΔP: 0,2 bar	ΔP: 0,1 bar	ΔP: 0,2 bar	ΔP: 0,1 bar	ΔP: 0,2 bar	ΔP: 0,1 bar	ΔP: 0,2 bar
		[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
SHF(L)-3H-12U-51	10180944702	3,3	4,7	4,0	5,7	2,6	3,7	2,9	4,0
SHF(L)-4H-23U-51	10180944902	3,6	5,0	4,3	6,1	2,8	4,0	3,1	4,3
SHF(L)-7H-34U-51	10180945302	6,5	9,1	7,8	11,0	5,1	7,2	5,5	7,8
SHF(L)-7H-34-51	10180944002	6,5	9,1	7,8	11,0	5,1	7,2	5,5	7,8
SHF(L)-7H-35-51	10180945002	6,5	9,1	7,8	11,0	5,1	7,2	5,5	7,8
SHF(L)-11H-34U-51	10180947302	10,0	14,2	12,1	17,1	7,9	11,1	8,6	12,1
SHF(L)-11H-35U-51	10180942902	10,0	14,2	12,1	17,1	7,9	11,1	8,6	12,1
SHF(L)-11H-45D1-51	10180943002	10,0	14,2	12,1	17,1	7,9	11,1	8,6	12,1
SHF(L)-11H-46D1-51	10180944602	10,0	14,2	12,1	17,1	7,9	11,1	8,6	12,1
SHF-14A-46	10325030102	14,7	20,8	17,7	25,1	11,5	16,3	12,6	17,8
SHF-20D-46-02	10325020102	21,2	29,9	25,5	36,1	16,6	23,5	18,1	25,6
SHF-20D-47-02	10325030302	22,1	31,2	26,6	37,7	17,3	24,5	18,9	26,7
SHF-20D-57-02	10325032902	22,1	31,2	26,6	37,7	17,3	24,5	18,9	26,7
SHF-20D-67-02	10325039802	22,1	31,2	26,6	37,7	17,3	24,5	18,9	26,7
SHF-35B-47-04	10325033602	32,7	46,3	39,5	55,9	25,7	36,3	28,1	39,7
SHF-35B-57-04	10325035702	32,7	46,3	39,5	55,9	25,7	36,3	28,1	39,7
SHF-35B-59-04	10325039902	32,7	46,3	39,5	55,9	25,7	36,3	28,1	39,7
SHF-35B-67-04	10325031002	32,7	46,3	39,5	55,9	25,7	36,3	28,1	39,7
SHF-35B-69-04	10325035802	32,7	46,3	39,5	55,9	25,7	36,3	28,1	39,7
SHF-35B-79-04	10325033002	32,7	46,3	39,5	55,9	25,7	36,3	28,1	39,7
SHF-50A-79	10325030002	40,8	57,7	49,2	69,6	32,0	45,2	34,9	49,4
SHF-50-911D2	10325011602	41,2	58,3	49,8	70,4	32,3	45,7	35,3	49,9
SHF(L)-70-810	10325030202	63,5	89,8	76,6	108,4	49,8	70,4	54,4	76,9
SHF(L)-70-810-01	10325033102	63,5	89,8	76,6	108,4	49,8	70,4	54,4	76,9
SHF(L)-70-911	10325038302	63,5	89,8	76,6	108,4	49,8	70,4	54,4	76,9
SHF(L)-70-911-01	10325038302	63,5	89,8	76,6	108,4	49,8	70,4	54,4	76,9
SHF(L)-70-913-05	10325039502	63,5	89,8	76,6	108,4	49,8	70,4	54,4	76,9
SHF(L)-70-913-03	10325039702	63,5	89,8	76,6	108,4	49,8	70,4	54,4	76,9
SHF(L)-100-911	10325037902	90,2	127,6	108,9	154,0	70,8	100,1	77,3	109,3
SHF(L)-100-911-01	10325038002	90,2	127,6	108,9	154,0	70,8	100,1	77,3	109,3
SHF(L)-100-913	10325033702	90,2	127,6	108,9	154,0	70,8	100,1	77,3	109,3
SHF(L)-100-913-01	10325034702	90,2	127,6	108,9	154,0	70,8	100,1	77,3	109,3
SHF(L)-100-1012	10325027102	90,2	127,6	108,9	154,0	70,8	100,1	77,3	109,3
SHF(L)-100-1012-01	10325033202	90,2	127,6	108,9	154,0	70,8	100,1	77,3	109,3
SHF(L)-100-1013	10325035502	90,2	127,6	108,9	154,0	70,8	100,1	77,3	109,3
SHF(L)-100-1013-01	10325038902	90,2	127,6	108,9	154,0	70,8	100,1	77,3	109,3
SHF(L)-140-1113	10325038102	130,1	184,0	157,1	222,1	102,0	144,3	111,5	157,6
SHF(L)-140-1213	10325038602	130,1	184,0	157,1	222,1	102,0	144,3	111,5	157,6
SHF(L)-140-1214	10180940402	130,1	184,0	157,1	222,1	102,0	144,3	111,5	157,6
SHF(L)-140-1313	10325034102	130,1	184,0	157,1	222,1	102,0	144,3	111,5	157,6
SHF(L)-175-1217	10325030402	157,0	222,1	189,6	268,1	123,2	174,2	134,6	190,3
SHF(L)-175-1317	10325034002	157,0	222,1	189,6	268,1	123,2	174,2	134,6	190,3
SHF(L)-210-1321	10325030502	188,0	265,9	227,0	321,0	147,5	208,6	161,1	227,8
SHF(L)-350-1721	10325043302	308,3	436,0	372,2	526,4	241,8	342,0	264,2	373,6
SHF(L)-420-2125	10325043602	394,3	557,6	476,0	673,2	309,3	437,4	337,8	477,8



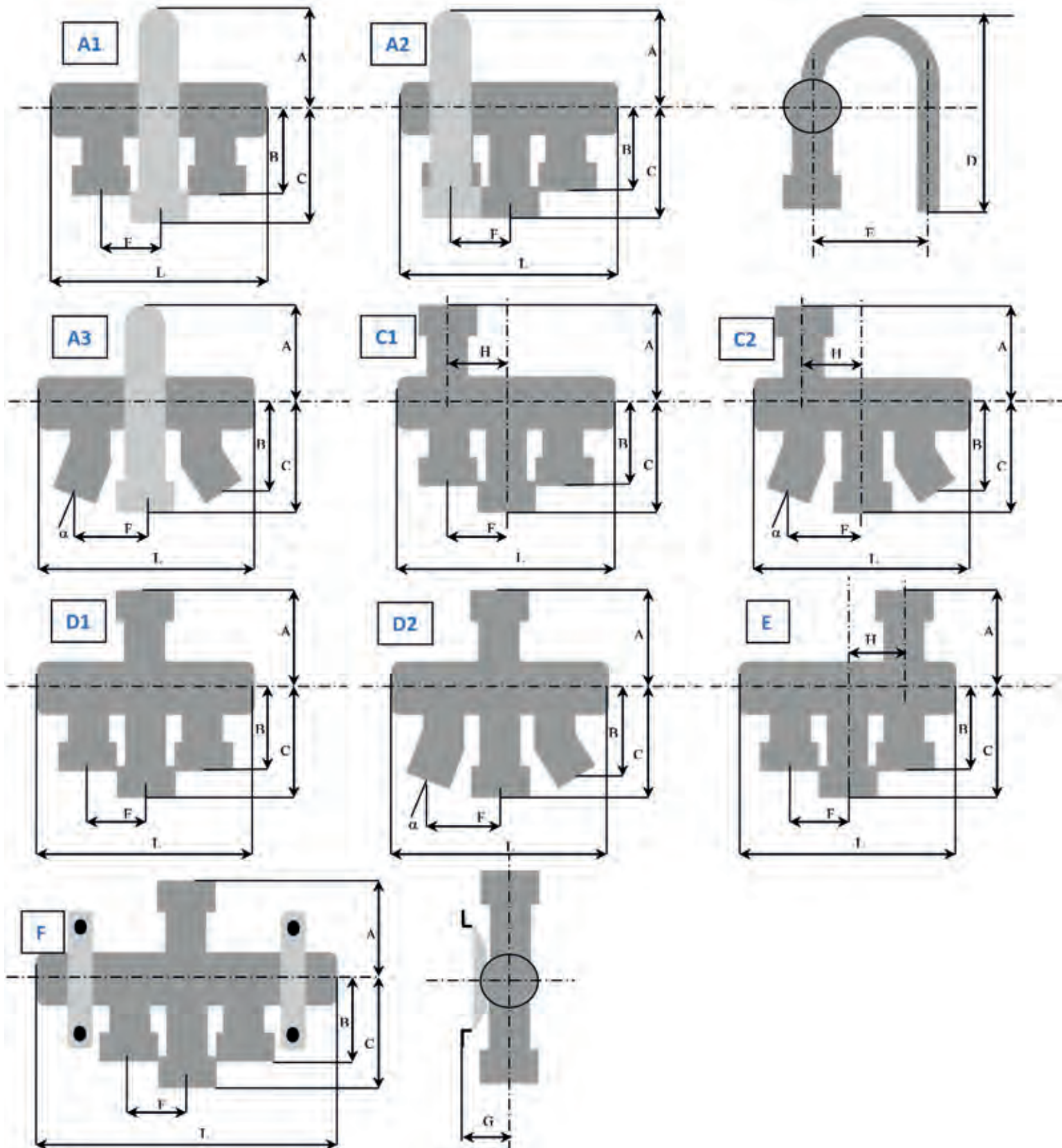
Capacity Selection Table									
Valve Model	Part Number	Nominal Cooling Capacity (condition 2)							
		R407C <sup>2)</sup>		R410A		R134a		R404A / R507	
		ΔP: 0,1 bar	ΔP: 0,2 bar	ΔP: 0,1 bar	ΔP: 0,2 bar	ΔP: 0,1 bar	ΔP: 0,2 bar	ΔP: 0,1 bar	ΔP: 0,2 bar
		[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
SHF(L)-3H-12U-51	10180944702	3,0	4,3	3,6	5,0	2,4	3,4	2,4	3,4
SHF(L)-4H-23U-51	10180944902	3,2	4,6	3,8	5,4	2,6	3,7	2,6	3,7
SHF(L)-7H-34U-51	10180945302	5,9	8,3	6,9	9,7	4,7	6,6	4,7	6,6
SHF(L)-7H-34-51	10180944002	5,9	8,3	6,9	9,7	4,7	6,6	4,7	6,6
SHF(L)-7H-35-51	10180945002	5,9	8,3	6,9	9,7	4,7	6,6	4,7	6,6
SHF(L)-11H-34U-51	10180947302	9,1	12,9	10,7	15,1	7,3	10,3	7,3	10,3
SHF(L)-11H-35U-51	10180942902	9,1	12,9	10,7	15,1	7,3	10,3	7,3	10,3
SHF(L)-11H-45D1-51	10180943002	9,1	12,9	10,7	15,1	7,3	10,3	7,3	10,3
SHF(L)-11H-46D1-51	10180944602	9,1	12,9	10,7	15,1	7,3	10,3	7,3	10,3
SHF-14A-46	10325030102	13,4	18,9	15,7	22,2	10,7	15,1	10,7	15,1
SHF-20D-46-02	10325020102	19,3	27,3	22,5	31,9	15,4	21,7	15,4	21,7
SHF-20D-47-02	10325030302	20,1	28,4	23,5	33,2	16,0	22,7	16,0	22,6
SHF-20D-57-02	10325032902	20,1	28,4	23,5	33,2	16,0	22,7	16,0	22,6
SHF-20D-67-02	10325039802	20,1	28,4	23,5	33,2	16,0	22,7	16,0	22,6
SHF-35B-47-04	10325033602	29,8	42,2	34,9	49,3	23,8	33,7	23,8	33,6
SHF-35B-57-04	10325035702	29,8	42,2	34,9	49,3	23,8	33,7	23,8	33,6
SHF-35B-59-04	10325039902	29,8	42,2	34,9	49,3	23,8	33,7	23,8	33,6
SHF-35B-67-04	10325031002	29,8	42,2	34,9	49,3	23,8	33,7	23,8	33,6
SHF-35B-69-04	10325035802	29,8	42,2	34,9	49,3	23,8	33,7	23,8	33,6
SHF-35B-79-04	10325033002	29,8	42,2	34,9	49,3	23,8	33,7	23,8	33,6
SHF-50A-79	10325030002	37,1	52,5	43,4	61,4	29,6	41,9	29,6	41,8
SHF-50-911D2	10325011602	37,5	53,1	43,9	62,1	29,9	42,4	29,9	42,3
SHF(L)-70-810	10325030202	57,8	81,8	67,6	95,7	46,1	65,2	46,1	65,2
SHF(L)-70-810-01	10325033102	57,8	81,8	67,6	95,7	46,1	65,2	46,1	65,2
SHF(L)-70-911	10325038302	57,8	81,8	67,6	95,7	46,1	65,2	46,1	65,2
SHF(L)-70-911-01	10325038302	57,8	81,8	67,6	95,7	46,1	65,2	46,1	65,2
SHF(L)-70-913-05	10325039502	57,8	81,8	67,6	95,7	46,1	65,2	46,1	65,2
SHF(L)-70-913-03	10325039702	57,8	81,8	67,6	95,7	46,1	65,2	46,1	65,2
SHF(L)-100-911	10325037902	82,2	116,2	96,1	136,0	65,6	92,7	65,5	92,6
SHF(L)-100-911-01	10325038002	82,2	116,2	96,1	136,0	65,6	92,7	65,5	92,6
SHF(L)-100-913	10325033702	82,2	116,2	96,1	136,0	65,6	92,7	65,5	92,6
SHF(L)-100-913-01	10325034702	82,2	116,2	96,1	136,0	65,6	92,7	65,5	92,6
SHF(L)-100-1012	10325027102	82,2	116,2	96,1	136,0	65,6	92,7	65,5	92,6
SHF(L)-100-1012-01	10325033202	82,2	116,2	96,1	136,0	65,6	92,7	65,5	92,6
SHF(L)-100-1013	10325035502	82,2	116,2	96,1	136,0	65,6	92,7	65,5	92,6
SHF(L)-100-1013-01	10325038902	82,2	116,2	96,1	136,0	65,6	92,7	65,5	92,6
SHF(L)-140-1113	10325038102	118,5	167,5	138,6	196,0	94,5	133,7	94,4	133,5
SHF(L)-140-1213	10325038602	118,5	167,5	138,6	196,0	94,5	133,7	94,4	133,5
SHF(L)-140-1214	10180940402	118,5	167,5	138,6	196,0	94,5	133,7	94,4	133,5
SHF(L)-140-1313	10325034102	118,5	167,5	138,6	196,0	94,5	133,7	94,4	133,5
SHF(L)-175-1217	10325030402	143,0	202,2	167,3	236,7	114,1	161,4	114,0	161,2
SHF(L)-175-1317	10325034002	143,0	202,2	167,3	236,7	114,1	161,4	114,0	161,2
SHF(L)-210-1321	10325030502	171,2	242,1	200,3	283,3	136,6	193,2	136,5	193,0
SHF(L)-350-1721	10325043302	280,7	397,0	328,5	464,6	224,1	316,9	223,8	316,4
SHF(L)-420-2125	10325043602	359,0	507,8	420,1	594,2	286,5	405,2	286,2	404,7



**SHF SERIES**  
**4 Way Reversing Valve**

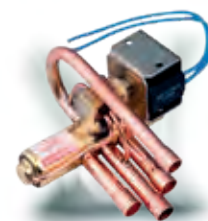


**DIMENSIONS - VALVES**



# SHF SERIES

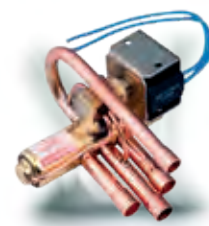
## 4 Way Reversing Valve



Dimensions - Valves													
Valve Model	Part Number	Valve Style	L	A	B	C	D	E	F	G	H	Angle α	Weight
			[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
SHF(L)-3H-12U-51	10180944702	A1	88,2	38,5	38	50	88,5	43	11	-	-	0	0,2
SHF(L)-4H-23U-51	10180944902	A1	94,4	43	50	62	105	43	12	-	-	0	0,2
SHF(L)-7H-34U-51	10180945302	A1	113	52	59	71	119	52	16	-	-	0	0,3
SHF(L)-7H-34-51	10180944002	D1	113	52	59	71	-	-	16	-	-	0	0,3
SHF(L)-7H-35-51	10180945002	D2	113	52	57	72	-	-	23,5	-	16	0	0,3
SHF(L)-11H-34U-51	10180947302	A1	115,5	51	59	71	119	52	16	-	-	0	0,3
SHF(L)-11H-35U-51	10180942902	A3	115,5	51	57	71	119	52	23,5	-	-	15	0,3
SHF(L)-11H-45D1-51	10180943002	C2	117	52	62	87	-	-	25	-	16	15	0,32
SHF(L)-11H-46D1-51	10180944602	C2	117	52	82	87	-	-	32,5	-	16	20	0,35
SHF-14A-46	10325030102	D1	163	67	83	95	-	-	23,8	-	-	0	0,72
SHF-20D-46-02	10325020102	D1	183,6	67	83	95	-	-	28,6	-	-	0	0,75
SHF-20D-47-02	10325030302	D1	183,6	67	83	95	-	-	28,6	-	-	0	0,75
SHF-20D-57-02	10325032902	D1	183,6	67	83	95	-	-	28,6	-	-	0	0,75
SHF-20D-67-02	10325039802	D1	183,6	67	83	95	-	-	28,6	-	-	0	0,75
SHF-35B-47-04	10325033602	D1	212,2	82	87	100	-	-	33	-	-	0	1,3
SHF-35B-57-04	10325035702	D1	212,2	82	87	100	-	-	33	-	-	0	1,3
SHF-35B-59-04	10325039902	D1	212,2	82	87	100	-	-	33	-	-	0	1,3
SHF-35B-67-04	10325031002	D1	212,2	82	87	100	-	-	33	-	-	0	1,3
SHF-35B-69-04	10325035802	D1	212,2	82	87	100	-	-	33	-	-	0	1,3
SHF-35B-79-04	10325033002	D1	212,2	82	87	100	-	-	33	-	-	0	1,3
SHF-50A-79	10325030002	D1	217	91	96	128	-	-	33	-	-	0	2,1
SHF-50-911D2	10325011602	E	269	97	149	174	-	-	41,3	-	41,3	0	2,1
SHF(L)-70-810	10325030202	D1	303	111	117	131	-	-	46	-	-	0	3
SHF(L)-70-810-01	10325033102	F	303	111	117	154	-	-	46	58	-	0	3
SHF(L)-70-911	10325038302	D1	303	111	117	154	-	-	46	-	-	0	3
SHF(L)-70-911-01	10325038302	F	321	111	117	131	-	-	49	58	-	0	3,5
SHF(L)-70-913-05	10325039502	D1	321	111	117	131	-	-	49	-	-	0	3,5
SHF(L)-70-913-03	10325039702	F	321	111	117	131	-	-	49	58	-	0	3,5
SHF(L)-100-911	10325037902	D1	321	111	117	131	-	-	49	-	-	0	3,5
SHF(L)-100-911-01	10325038002	F	303	111	117	131	-	-	46	58	-	0	3
SHF(L)-100-913	10325033702	D1	303	111	117	154	-	-	46	-	-	0	3
SHF(L)-100-913-01	10325034702	F	303	111	117	154	-	-	46	58	-	0	3
SHF(L)-100-1012	10325027102	D1	321	111	117	131	-	-	49	-	-	0	3,5
SHF(L)-100-1012-01	10325033202	F	321	111	117	131	-	-	49	58	-	0	3,5
SHF(L)-100-1013	10325035502	D1	321	111	117	131	-	-	49	-	-	0	3,5
SHF(L)-100-1013-01	10325038902	F	321	111	117	131	-	-	49	58	-	0	3,5
SHF(L)-140-1113	10325038102	F	390	135,6	148,7	168,7	-	-	58	63	-	0	7,2
SHF(L)-140-1213	10325038602	F	390	135,6	148,7	168,7	-	-	58	63	-	0	7,2
SHF(L)-140-1214	10180940402	F	390	135,6	148,7	168,7	-	-	58	63	-	0	7,2
SHF(L)-140-1313	10325034102	F	390	135,6	148,7	168,7	-	-	58	63	-	0	7,2
SHF(L)-175-1217	10325030402	F	390	135,6	148,7	198	-	-	58	63	-	0	7,6
SHF(L)-175-1317	10325034002	F	390	135,6	148,7	198	-	-	58	63	-	0	7,6
SHF(L)-210-1321	10325030502	F	452	135,6	148,7	198	-	-	71,5	63	-	0	8,7
SHF(L)-350-1721	10325043302	F	531	176,5	184	240	-	-	75	82,5	-	0	22
SHF(L)-420-2125	10325043602	F	611,7	176,5	184	240	-	-	93	82,5	-	0	26

# SHF SERIES

## 4 Way Reversing Valve



Coil Characteristics												
Coil Model <sup>1)</sup>	Winding Code	Part Number	Electrical Function/ Connection Type	Cable Length	Power Supply	Rated Voltage	Power Consumption			Protection Clas	Insulat. Class	Max. Op. Temp.
							AC	AC	DC			
							50Hz	60Hz				
[mm]	[-]	[V]	[W]	[W]	[W]	[-]	[-]	[°C]				
SQ-A25 22G-00 0001	SHF-4-10L3	10805029102	Lead Wires	500	AC	220-240	4,5	3,5	-	IP54	B <sup>2)</sup>	130
SQ-A25 200-00 0001	SHF-4-10L2	10805027002	Lead Wires	500	AC	200	4,5	3,5	-			
SQ-A25 100-00 0001	SHF-4-10L1	10805023602	Lead Wires	500	AC	100	4,5	3,5	-			
SQ-A25 11A-00 0001	SHF-4-10L4	10805150302	Lead Wires	500	AC	110-120	4,5	3,5	-			
SQ-A25 024-00 0001	SHF-4-10L5	10805227602	Lead Wires	500	AC	24	4,5	3,5	-			
SQ-A25 26H-00 0001	SHF-4-10L6	10805231902	Lead Wires	500	AC	265-277	4,5	3,5	-			
SQ-A25 22G-00 0870	SHF-4-10L3	10805240702	Lead Wires	1500	AC	220-240	4,5	3,5	-			
SQ-A25 11A-00 0840	SHF-4-10L4	10805240802	Lead Wires	1500	AC	110-120	4,5	3,5	-			
SQ-A25 024-00 0161	SHF-4-10L5	10805023002	Lead Wires	1500	AC	24	4,5	3,5	-			
SQ-A47 22G-00 0001	SHF-4-10FA5	10805263402	Spade (Faston) <sup>3)</sup>	-	AC	220-240	6	5	-	IP00	F <sup>2)</sup>	155
SQ-A47 220-00 0001	SHF-4-10FA1	10805273402	Spade (Faston) <sup>3)</sup>	-	AC	220	6	5	-			
SQ-A47 11B-00 0001	SHF-4-10FA2	10805273302	Spade (Faston) <sup>3)</sup>	-	AC	120	6	5	-			
SQ-A47 10A-00 0001	SHF-4-10FA3	10805268702	Spade (Faston) <sup>3)</sup>	-	AC	100-110	6	5	-			
SQ-A47 024-00 0001	SHF-4-10FA4	10805263302	Spade (Faston) <sup>3)</sup>	-	AC	24	6	5	-			
SQ-A47 26H-00 0001	SHF-4-10FA6	10805273502	Spade (Faston) <sup>3)</sup>	-	AC	265-277	6	5	-			
SQ-D44 012-00 0001	SHF-4-10FA8	10805231802	Spade (Faston) <sup>3)</sup>	-	DC	12	-	-	10	IP54	B <sup>2)</sup>	130
SQ-D44 024-00 0001	SHF-4-10FA9	10805070102	Spade (Faston) <sup>3)</sup>	-	DC	24	-	-	11			
SQ-A27 100-00 0001	-	10805063202	Bi-stable/Lead W.	500	AC	100	18	18	-	IP54	B <sup>2)</sup>	130
SQ-A27 200-00 0001	-	10805063802	Bi-stable/Lead W.	500	AC	200	18	18	-			
SQ-A27 20K-00 0001	-	10805222902	Bi-stable/Lead W.	500	AC	220-240	18	18	-			
SQ-D27 012-00 0001	-	10805069302	Bi-stable/Lead W.	500	DC	12	-	-	20			

**Note:** 1) Every coil is applicable to all above specified valve models  
 2) Max ambient temperature up to + 50°C  
 3) Wire Harness for coil with Faston connector available as accessory

### ACCESSORY

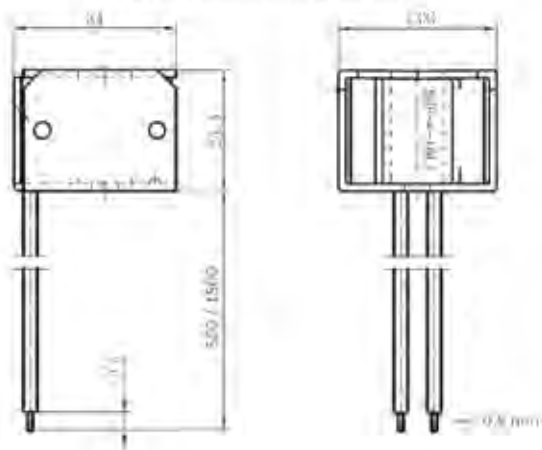
Wire Harness		
Model	Part Number	Cable Length [mm]
SQ-000000-090028	20805136302	1200
SQ-000000-090029	20805149202	2000

**SHF SERIES**  
**4 Way Reversing Valve**

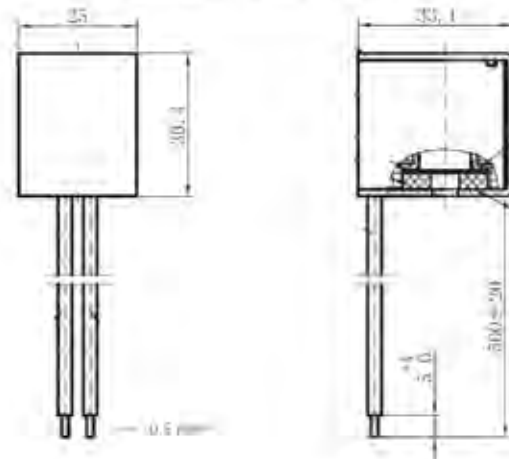


**DIMENSIONS - COILS**

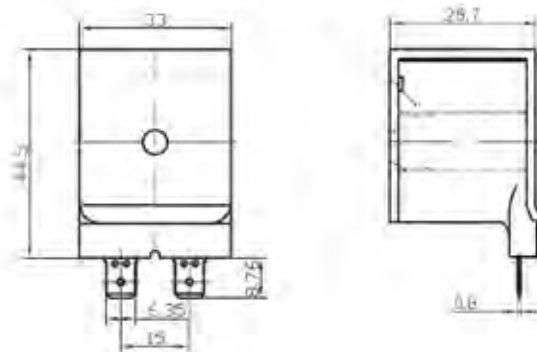
Coils with Lead Wires (SQ-A25 Series)



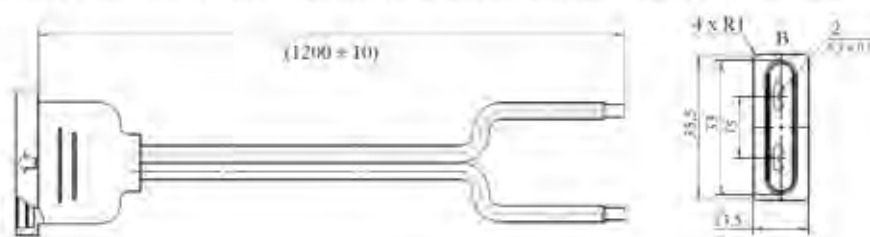
Bistable Coils (SQ-A/D27 Series)



Coils with Spade Connections (SQ-A47 and SQ-D44 Series)



Wire Harness (SQ-000000-0900xx)







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**B/S/H/**



# Electronic Expansion Valve

T/S series electronic expansion valves are designed for use in air conditioning and refrigeration systems or in heat pumps. The valve controls the automatic adjustment of refrigerant flow rate and makes the system work under optimized conditions for the purpose of fast cooling or heating, precise temperature control and energy saving. The valve can also be used e.g. for suction line pressure controls. These valves provide bidirectional operation to control the refrigerant flow rate in heating or cooling mode.



## FEATURES

- APPLICABLE FOR OIL-FREE SYSTEM (T SERIES)
- SMALLER INSTALLATION SPACE: LOW HEIGHT, SMALL VOLUME, LIGHT WEIGHT
- OPTIMIZED FLOW PATH DESIGN FOR NOISE REDUCTION
- FAST OPERATION, ENERGY SAVING
- APPLICABLE FOR REVERSIBLE SYSTEMS LIKE HEAT PUMPS: BIDIRECTIONAL FLOW

## GENERAL SPECIFICATIONS

- Applicable for all common HFC, HFO refrigerants such as: R134a, R404A, R407A/F, R407C, R410A, R448A, R449A, R450A, R452A, R513A, R507A<sup>1)</sup>
- Cooling capacity: 3,5 to 105 kW (R22 nominal capacity)
- 500 steps (full stroke); 32 ± 20 opening steps
- Medium temperature TS min./max.: -30°C / +70°C (duty cycle rate below 50%)
- Ambient temperature min./max.: -30°C / +60°C (duty cycle rate below 50%)
- Relative humidity: : 0 to 95% RH
- Installation position:
  - Coil installed in the upwards position, valve rotor central axis within ±15° versus vertical axis
  - Inlet connection preferably sidewise, outlet preferably downwards
- Certifications: UL/CSA and declaration according to LVD or PED

**Note:** 1) Flammable refrigerants like R32, R290, R1234ze(E), R1234yf on request

# DPF-T/S SERIES

## Electronic Expansion Valve



### ELECTRICAL PARAMETERS

- Rated voltage: 12V DC(± 10%), rectangular wave
- Actuating mode: 4-phase 8-step permanent magnet stepping motor of direct-acting type
- Excitation mode: 1 ~ 2 phase excitation, monopole actuation
- Excitation rate:
  - Seat Ø 1,3 to 3,2 mm: 30 to 90pps
  - Seat Ø 4,0 to 6,5 mm: 30 to 40pps
- Activation of self-holding mechanism: Maintain excitation in stop position min. 0,1~1,0 sec.
- Min. motion time from completely open to completely closed:
  - Seat Ø 1,3 to 3,2 mm: 6s @ 90pps
  - Seat Ø 4,0 to 6,5 mm: 13s @ 40pps
- Coil current:
  - Seat Ø 1,3 to 3,2 mm: 260mA/phase (20°C)
  - Seat Ø 4,0 to 6,5 mm: 375mA/phase (20°C)
- Coil resistance:
  - Seat Ø 1,3 to 3,2 mm: 46 ± 3.7 Ω/phase (20°C)
  - Seat Ø 4,0 to 6,5 mm: 32 ± 3.2 Ω/phase (20°C)
- Insulation class of coil: E
- Protection class: IP 67

### GENERAL CHARACTERISTICS

Valve Model	Part Number* 1)	Seat Φ (mm)	Kv (m <sup>3</sup> /h)	Nominal Cooling Capacity 2) [kW]					MOP Max. Oper. Press. [MPa]	MOPD Direct [MPa]	MOPD Rev. (MPa)
				R22	R134a	R407C <sup>3)</sup>	R404A R507A	R410A			
DPF(T01)1.3C-07	10130365902	1,3	0,05	5,2	4,1	5,4	3,6	6,1	4,5	3,5	≥2.1
DPF(T01)1.65C-05	10130316802	1,65	0,08	8,9	6,9	9,2	6,2	10,4			
DPF(T01)1.8C-08	10130364802	1,8	0,1	10,6	8,3	10,9	7,4	12,4			
DPF(T01)2.0C-03	10130365702	2	0,16	13,1	10,2	13,5	9,2	15,3			
DPF(T01)2.2C-01	10130320702	2,2	0,2	14,1	11,0	14,5	9,9	16,5			
DPF(T01)2.4C-01	10130361302	2,4	0,23	16,6	12,9	17,1	11,6	19,4			
DPF(TS1)3.0C-01	10130366102	3	0,39	27,8	21,7	28,6	19,4	32,5			≥1.5
DPF(TS1)3.2C-01	10130366002	3,2	0,43	30,3	23,7	31,3	21,2	35,5			
DPF(S03)4.0C-01	10130355702	4	0,5	50,4	39,3	51,9	35,3	59,0			
DPF(S03)4.5C-01	10130035502	4,5	0,7	67,9	53,0	70,0	47,6	79,5			≥0.7
DPF(S03)5.5C-01	10130355802	5,5	0,9	78,2	61,0	80,6	54,7	91,5			
DPF(S03)6.5C-02	10130355902	6,5	1,1	95,6	74,5	98,4	66,9	111,8			

**Note:** \* Available also as industrial package. Contact Sanhua for more details.

1) Extent of delivery without coil

2) Nominal working conditions: Condensing Temperature 38°C; Evaporating Temperature 5°C; Sub-cooling 0K; Superheat 0K

3) Nominal capacity is got at 480 fully open pulses of linear flow curve.

# DPF-T/S SERIES

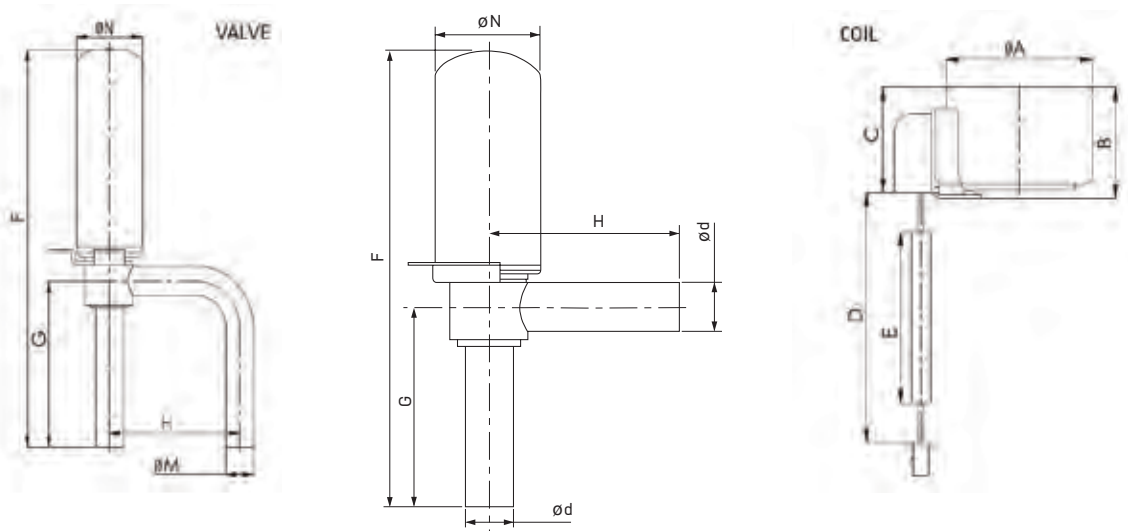
## Electronic Expansion Valve



### FLOW CHARACTERISTIC



### DIMENSIONS



Valve Model	Coil Series	Valve Dimensions [mm]				
		F	G	H	Ød	ØN
DPF(T01)1.3C-07 to DPF(T01)2.4C-01	PQ-M10	78	36	30	6,35	17,35
DPF(TS1)3.0C-01 to DPF(TS1)3.2C-01		82	40	30	7,94	17,35
DPF(S03)4.0C-01 to DPF(S03)6.5C-02	PQ-M03	148	64,7	63,4	15,88	35,3

Valve Model	Coil Model	Part Number	Coil Dimensions [mm]					Part Number
			ØA	B	C	D	E	
DPF(T01)1.3C-07 to DPF(TS1)3.2C-01	PQ-M10 012-000277	10810069001	38,5	26,4	25,6	700	600	10810069002
DPF(S03)4.0C-01 to DPF(S03)6.5C-02	PQ-M03 012-000001	10810011601	67,5	42,4	33	700	600	10810011602



# Every 4<sup>th</sup> car is equipped with a **SANHUA** expansion valve

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- ✓ DPFe-VPF series from 2kW to 1400kW  
\*75kW and 1400kW available in Quarter 4
- ✓ Advanced MSS (Minimum Stable Superheat) control logic



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# Electronic Expansion Valve Controller

Electronic Expansion Valve Controller SEC60X series is the controller with enhanced features for the refrigeration applications, A/C and HP applications.



## FEATURES

- ADVANCED PID ALGORITHM TO ENSURE ACCURATE AUTOMATIC ADJUSTMENT OF SUPERHEAT;
- QUICK-SAFE PREVENTION OF LOW AND HIGH SUPERHEAT TO ENSURE THE SYSTEM OPERATING WELL AT ANY CONDITIONS;
- SMALL SIZE, RAIL MOUNTING DESIGN, EASY TO INSTALL;
- ENERGY EFFICIENT, ACHIEVING THE MOST EFFICIENT USE OF THE EVAPORATOR.

## GENERAL SPECIFICATIONS

- Applicable for various refrigerants
- Operating temperature: -10~50°C;
- Storage temperature: -20~60°C;
- Relative humidity: ≤90%RH;
- Certification: CE Declaration according to EMC;
- Installation method: DIN rail snap-in or wall mounting with screws

## Electronic Expansion Valve Controller



### ELECTRICAL PARAMETERS

- Power supply: 24Vac/24Vdc (+10%/-15%, 50/60Hz)
- Requested transformer: ≥ 30VA
- Inputs: 1 Pressure sensor input  
1 Temperature sensor input  
1 Communication input (RS485 Modbus)
- Output: 1 Auxiliary relay output (30Vdc/5A)  
1 EEV output (12V DC±10%), rectangular wave

### TECHNICAL PARAMETERS

Model	Pressure Sensor	RS485 port	Refrigerant type	Application
SEC601-00	0.5-3.5V	No	R22, R410A, R1234ze, R1234yf, R290, R404A, R407C, R134a	A/C & HP
SEC601-R4	0.5-3.5V	Yes		
SEC602-R4	4-20mA	Yes		
SEC605-00	0.5-3.5V	No	R404A, R407A, R407F, R448A/R449A, R290, R452A, R744, R134a	Refrigeration
SEC605-R4	0.5-3.5V	Yes		
SEC606-R4	4-20mA	Yes		

### MODEL DESIGNATION LEGEND

NO.				Model Designation Legend
1	2	3	4	
<b>SEC</b>	6	01	00	SANHUA electronic Expansion valve Controller
SEC	<b>6</b>	01	00	Digital means the sixth-generation product
SEC	6	<b>01</b>	00	Odd means voltage P-sensor, even means current type
SEC	6	01	<b>00</b>	00 means basic model, R4 means with communication



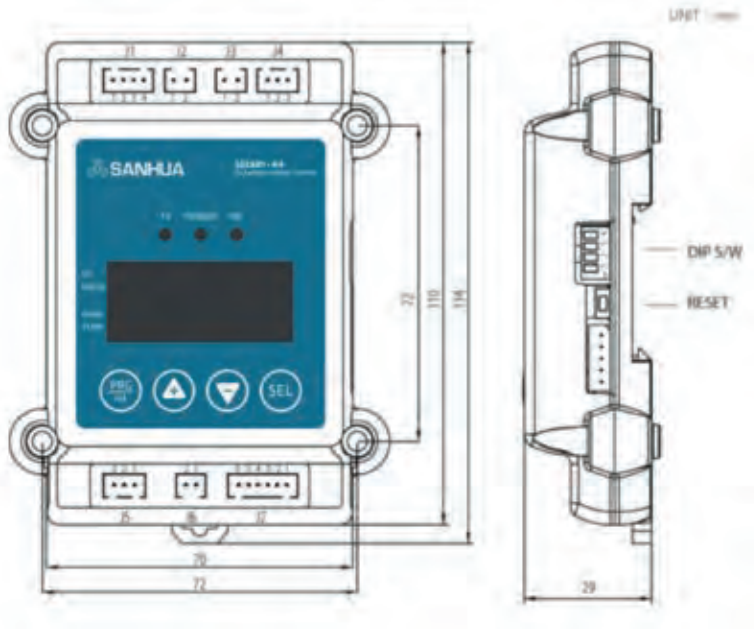
Item	Description	
Temperature Sensor	Type	NTC 5KΩ
	Wire	2C×0.5mm
	Protection class	IP 67
	Accuracy	±0.3°C (below 25°C)
	Temperature Range	-50 ~ 50°C
Connection Cable		

Item	Description		
Pressure sensor	Voltage supply	YCQB: 5±0.25 Vdc YCQC: 10-30 Vdc	
	Output	YCQB: 0.5~3.5 Vdc YCQC: 4-20mA	
	Pressure range	0~2MPa -0.1~1.2MPa	
	Test Pressure	5.25MPa	
	Accuracy	±0.8% F.S. (-40~40°C)	
	Protection class	IP 67	
	Connection Type	Solder 1/4" Thread SAE - 1/4" 7/16-20UNF	
Wire	YCQB: black, white, red YCQC: white, red		





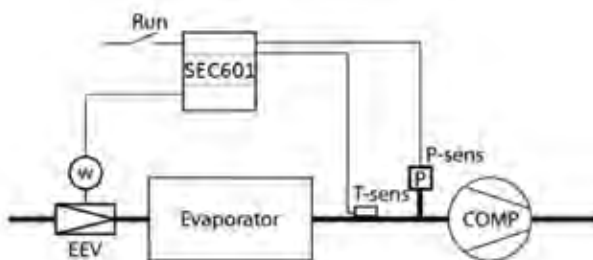
**DIMENSIONS AND INSTALLATION**



**CONNECTION PORTS**

No.	Function	Description
J1	AC/DC 24V	Power input port (AC/DC 24V)
J2	RUN	RUN signal input port
J3	RS485	RS485 comm. Input/output port
J4	AUX-RLY	Auxiliary relay output port
J5	P-SENS	Pressure sensor input port
J6	T-SENS	Temperature sensor input port
J7	EEV	EEV output port

**INSTALLATION DIAGRAM**



**Electronic Expansion Valve Controller**



**TECNHICAL PARAMETERS OF VALVE BODY**

NO.	Item	Model	Part Number	Details			
				Item			Qty.
1	Controller Package	SEC601-00	10680000102	EEV controller (Basic model)			1
		SEC605-00	10680000902	Package TP-00			1
		SEC601-R4	10680000202	EEV controller (With RS485)			1
		SEC605-R4	10680000702	Package TP-R4			1
		SEC602-R4	10680000402	EEV controller (current model with RS485)			1
		SEC606-R4	10680000802	Package TP-C5			1
2	Temperature sensor + cable Package	TP-00	20680000702	2m Temp. Sensor×1; Cable 2pin×1 Cable 3pin×1; Cable 4pin×1			
3		TP-R4	20680000802	2m Temp. Sensor×1; Cable 2pin×2 Cable 3pin×1; Cable 4pin×1			
4		TP-C5	20680000902	5m Temp. Sensor×1; Cable 2pin×2 Cable 3pin×1; Cable 4pin×1			
5		TP-C9	20680001002	9m Temp. Sensor×1; Cable 2pin×2 Cable 3pin×1; Cable 4pin×1			
6		Pressure Sensor	YCQB02H01-1	10185001502	Connection	Solder	Cable Length
7	YCQB02L12-1		10185015502	Thread		2m	
8	YCQB02H18-1		10185015402	Solder		4.9m	
9	YCQB02L28-1		10185015602	Thread		4.9m	
10	YCQC02L18		10185017102	Packard		/	
11	Packard cable	YCQB02-013054	20185016702	Packard cable for YCQC02L18			6m
12		YCQB02-013055	20185016802				9m

- Note:**
- 1) The controller packages already contain the corresponding temperature sensor and cable package.
  - 2) The temperature sensor + cable packages can be ordered separately.
  - 3) TP-00 corresponds to SEC60X-00, TP-R4 corresponds to SEC60X-R4.
  - 4) The pressure sensor is not included in the packages and should be ordered separately.

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# Electronic Expansion Valve

VPF series electronic expansion valves are designed for commercial and industrial applications. Typical VPF applications are air conditioning and refrigeration systems or heat pumps. The valve controls the automatic adjustment of refrigerant flow rate and makes the system work under optimized conditions for the purpose of fast cooling or heating, precise temperature control and energy saving. The valve can also be used e.g. for suction line pressure controls. These valves provide bidirectional operation to control the refrigerant flow rate in heating or cooling mode.



## FEATURES

- ENERGY SAVING THANKS TO VERY PRECISE CAPACITY CONTROL: UP TO 3800 STEPS
- INTERNAL TIGHTNESS LIKE A SOLENOID VALVE
- OPTIMIZED FLOW PATH DESIGN FOR NOISE REDUCTION
- APPLICABLE FOR REVERSIBLE SYSTEMS LIKE HEAT PUMPS: BIDIRECTIONAL FLOW
- CORROSION RESISTANT DESIGN, LONG LIFETIME, HIGH RELIABILITY
- COMPACT DESIGN
- MODELS WITH INTEGRATED SIGHT GLASS ARE AVAILABLE

## GENERAL SPECIFICATION

- Applicable for all common HFC, HFO refrigerants such as: R134a, R404A, R407A/F, R407C, R410A, R448A, R449A, R450A, R452A, R513A, R507A<sup>1)</sup>
- Cooling capacity: 54 to 1495 kW (R134a nominal capacity)
- Up to 3800 steps (full stroke); Valve starts opening with
  - VPF12.5, VPF25: 110 steps
  - VPH50... VPF400: 165 steps
- Medium temperature TS min./max.: -40°C / +90°C
- Ambient temperature min./max.: -40°C / +60°C
- Relative humidity: : 0 to 100% RH
- Installation position:
  - Major flow direction from connection A to B
  - Installation in horizontal and vertical pipes possible
  - Installation position in horizontal lines with stepper motor preferably upwards
- Certifications: EAC and PED Declaration

**Note:** 1) Flammable refrigerants like R32, R290, R1234ze(E), R1234yf on request



**Electronic Expansion Valve**



**ELECTRICAL PARAMETERS**

- Rated voltage: 12V DC, rectangular wave
- Actuating mode: 2-phase 4-step permanent magnet stepping motor
- Excitation mode: 2 phase excitation, bi-pole actuation
- Excitation rate:
  - 150 pps (Maximum for voltage drive)
  - 300 pps (Maximum for current drive)
- Motion time from completely open to completely closed (voltage drive/current drive):
  - VPF12.5...VPF50: 17,3s / 8,7s
  - VPF100: 23,3s / 11,7s
  - VPF150...VPF400: 25,3s / 12,7s

- Nominal motor current\*:
  - Voltage drive: 124mA RMS per phase in control operation
  - Current drive: 100mA RMS per phase in control operation
- Peak motor current\*:
  - Voltage drive: 238mA RMS per phase in control operation
  - Current drive: 140mA RMS per phase in control operation
- Coil resistance: 52 ± 5,2Ω/coil (20°C)
- Insulation class of coil: E
- Protection class: IP 67

\*Specified motor currents are based on max. excitation rates

**MODEL DESIGNATIONS**

Position Number	Model Designation Legend	
1	Product Code	Product Series
	VPF	Electronic expansion valve with bi-pole stepper motor
2	Capacity Size	Description
	12.5	Digits for valve capacity size
	25	
	50	
	100	
	150	
	250	
400		
3	Connections Type	Description
	H	Solder
4	Valve Body	Description
	0...4	With sight glass
	5...9	Without sight glass
5	Pipe Connection	Description
	1...9	Digit for pipe connection diameter

**MODEL DESIGNATION EXAMPLE**

Position Number					According to Model Designation Legend
1	2	3	4	5	
<b>VPF</b>	100	H	0	3	Electronic expansion valve
VPF	<b>100</b>	H	0	3	Digits for capacity size
VPF	100	<b>H</b>	0	3	Connection: Solder
VPF	100	H	<b>0</b>	3	Valve body: With sight glass
VPF	100	H	0	<b>3</b>	Digit for pipe connection diameter



**TECHNICAL PARAMETER**

Model	Part Number <sup>1)</sup>	Valve Shape	Sight Glass	Connections ød ODF Inlet A x Outlet B		Seat <sup>2)</sup> ø	Kv <sup>3)</sup>	MWP PS	MOPD Direct A->B	MOPD Rev. B->A																																																																																																																																																																																																																																																																
				[inch]	[mm]						[mm]	m <sup>3</sup> /h	[MPa]	[MPa]	[MPa]																																																																																																																																																																																																																																																											
VPF12.5H52	10130349502	straight	-	5/8 x 5/8	16 x 16	7,5	0,8																																																																																																																																																																																																																																																																			
VPF12.5H53	10130350202			7/8 x 7/8	22 x 22						VPF12.5H58	10130342102	L-shape	-	5/8 x 5/8	16 x 16						VPF12.5H59	10130349802	7/8 x 7/8	22 x 22	VPF25H52	10130349202	straight	-	5/8 x 5/8	16 x 16	7,5	1,4				VPF25H53	10130356202	7/8 x 7/8	22 x 22	VPF25H58	10130343202	L-shape	-	5/8 x 5/8	16 x 16						VPF25H59	10130356102	7/8 x 7/8	22 x 22	VPF50H51	10130337702	straight	-	7/8 x 7/8	22 x 22	11,4	2,3				VPF50H52	10130347002	7/8 x 1 1/8	-	VPF50H53	10130356502	1 1/8 x 1 1/8	-	VPF50H54	10130342302	1 1/8 x 1 3/8	-	VPF50H56	10130347102	-	22 x 28	VPF50H57	10130347202	-	28 x 28	VPF50H58	10130342402	-	28 x 35	VPF 50H01	10130341102	straight	with sight glass	7/8 x 7/8	22 x 22			5,0	3,9	3,9	VPF 50H02	10130346702	7/8 x 1 1/8	-	VPF 50H03	10130344802	1 1/8 x 1 1/8	-	VPF50H04	10130342802	1 1/8 x 1 3/8	-	VPF50H06	10130346802	-	22 x 28	VPF50H07	10130346902	-	28 x 28	VPF50H08	10130342502	-	28 x 35	VPF100H51	10130347502	straight	-	1 1/8 x 1 1/8	-	14,4	4,0				VPF100H52	10130347602	1 1/8 x 1 3/8	-	VPF100H53	10130342602	1 3/8 x 1 3/8	35 x 35	VPF100H54	10130347702	-	28 x 28	VPF100H55	10130347802	-	28 x 35	VPF100H01	10130356802	straight	with sight glass	1 1/8 x 1 1/8	-						VPF100H02	10130347302	1 1/8 x 1 3/8	-	VPF100H03	10130356602	1 3/8 x 1 3/8	35 x 35	VPF100H05	10130347402	-	28 x 35	VPF100H06	10130343102	-	28 x 28	VPF150H01	10130357002	L-shape	with sight glass	1 1/8 x 1 3/8	-	14,8	7,7				VPF150H02	10130356702	1 5/8 x 1 5/8	-	VPF250H01	10130348002	straight	with sight glass	1 1/8 x 1 1/8	-	25	11,9	4,5	3,5	3,5	VPF250H02	10130342902	1 3/8 x 1 3/8	35 x 35	VPF250H03	10130356402	1 5/8 x 1 5/8	-	VPF250H04	10130348102	-	28 x 28	VPF250H05	10130341202	-	-	VPF400H01	10130344902	straight	with sight glass	1 5/8 x 1 5/8	-	33	17,0				VPF400H02	10130349002	-	42 x 42	VPF400H03	10130343302	2 1/8 x 2 1/8	54 x 54																										
VPF12.5H58	10130342102	L-shape	-	5/8 x 5/8	16 x 16																																																																																																																																																																																																																																																																					
VPF12.5H59	10130349802			7/8 x 7/8	22 x 22						VPF25H52	10130349202	straight	-	5/8 x 5/8	16 x 16	7,5	1,4				VPF25H53	10130356202	7/8 x 7/8	22 x 22	VPF25H58	10130343202	L-shape	-	5/8 x 5/8	16 x 16						VPF25H59	10130356102	7/8 x 7/8	22 x 22	VPF50H51	10130337702	straight	-	7/8 x 7/8	22 x 22	11,4	2,3				VPF50H52	10130347002	7/8 x 1 1/8	-	VPF50H53	10130356502			1 1/8 x 1 1/8	-						VPF50H54	10130342302	1 1/8 x 1 3/8	-	VPF50H56	10130347102	-	22 x 28	VPF50H57	10130347202	-	28 x 28	VPF50H58	10130342402	-	28 x 35	VPF 50H01	10130341102	straight	with sight glass	7/8 x 7/8	22 x 22			5,0	3,9			3,9	VPF 50H02						10130346702	7/8 x 1 1/8	-	VPF 50H03	10130344802	1 1/8 x 1 1/8	-	VPF50H04	10130342802	1 1/8 x 1 3/8	-	VPF50H06	10130346802	-	22 x 28	VPF50H07	10130346902	-	28 x 28	VPF50H08	10130342502	-	28 x 35	VPF100H51	10130347502	straight			-	1 1/8 x 1 1/8						-	14,4	4,0				VPF100H52	10130347602	1 1/8 x 1 3/8	-	VPF100H53	10130342602	1 3/8 x 1 3/8	35 x 35	VPF100H54	10130347702	-	28 x 28			VPF100H55	10130347802						-	28 x 35	VPF100H01	10130356802	straight	with sight glass	1 1/8 x 1 1/8	-						VPF100H02	10130347302	1 1/8 x 1 3/8	-	VPF100H03	10130356602	1 3/8 x 1 3/8	35 x 35	VPF100H05	10130347402	-	28 x 35	VPF100H06	10130343102	-	28 x 28	VPF150H01	10130357002	L-shape	with sight glass			1 1/8 x 1 3/8	-						14,8	7,7				VPF150H02	10130356702	1 5/8 x 1 5/8	-	VPF250H01	10130348002	straight	with sight glass	1 1/8 x 1 1/8	-	25	11,9	4,5			3,5	3,5						VPF250H02	10130342902	1 3/8 x 1 3/8	35 x 35	VPF250H03	10130356402	1 5/8 x 1 5/8	-	VPF250H04	10130348102	-	28 x 28	VPF250H05	10130341202	-	-	VPF400H01	10130344902	straight	with sight glass	1 5/8 x 1 5/8	-	33	17,0				VPF400H02	10130349002	-	42 x 42	VPF400H03	10130343302	2 1/8 x 2 1/8
VPF25H52	10130349202	straight	-	5/8 x 5/8	16 x 16	7,5	1,4																																																																																																																																																																																																																																																																			
VPF25H53	10130356202			7/8 x 7/8	22 x 22						VPF25H58	10130343202	L-shape	-	5/8 x 5/8	16 x 16						VPF25H59	10130356102	7/8 x 7/8	22 x 22	VPF50H51	10130337702	straight	-	7/8 x 7/8	22 x 22	11,4	2,3				VPF50H52	10130347002	7/8 x 1 1/8	-	VPF50H53	10130356502			1 1/8 x 1 1/8	-						VPF50H54	10130342302	1 1/8 x 1 3/8	-	VPF50H56	10130347102			-	22 x 28						VPF50H57	10130347202	-	28 x 28	VPF50H58	10130342402	-	28 x 35	VPF 50H01	10130341102	straight	with sight glass	7/8 x 7/8	22 x 22			5,0	3,9			3,9	VPF 50H02								10130346702						7/8 x 1 1/8	-	VPF 50H03	10130344802	1 1/8 x 1 1/8	-	VPF50H04	10130342802	1 1/8 x 1 3/8	-	VPF50H06	10130346802	-	22 x 28	VPF50H07	10130346902	-	28 x 28	VPF50H08	10130342502	-	28 x 35	VPF100H51	10130347502	straight					-						1 1/8 x 1 1/8						-	14,4	4,0				VPF100H52	10130347602	1 1/8 x 1 3/8	-	VPF100H53	10130342602			1 3/8 x 1 3/8	35 x 35						VPF100H54	10130347702	-	28 x 28			VPF100H55	10130347802						-	28 x 35	VPF100H01	10130356802	straight	with sight glass	1 1/8 x 1 1/8	-						VPF100H02	10130347302	1 1/8 x 1 3/8	-	VPF100H03	10130356602	1 3/8 x 1 3/8			35 x 35	VPF100H05						10130347402	-	28 x 35	VPF100H06	10130343102	-	28 x 28	VPF150H01	10130357002	L-shape	with sight glass			1 1/8 x 1 3/8	-				14,8	7,7						VPF150H02	10130356702	1 5/8 x 1 5/8	-	VPF250H01	10130348002	straight	with sight glass	1 1/8 x 1 1/8	-	25	11,9	4,5	3,5	3,5	VPF250H02	10130342902	1 3/8 x 1 3/8	35 x 35	VPF250H03			10130356402	1 5/8 x 1 5/8						-	VPF250H04	10130348102	-	28 x 28	VPF250H05	10130341202
VPF25H58	10130343202	L-shape	-	5/8 x 5/8	16 x 16																																																																																																																																																																																																																																																																					
VPF25H59	10130356102			7/8 x 7/8	22 x 22						VPF50H51	10130337702	straight	-	7/8 x 7/8	22 x 22	11,4	2,3				VPF50H52	10130347002	7/8 x 1 1/8	-	VPF50H53	10130356502			1 1/8 x 1 1/8	-						VPF50H54	10130342302	1 1/8 x 1 3/8	-	VPF50H56	10130347102			-	22 x 28						VPF50H57	10130347202	-	28 x 28	VPF50H58	10130342402			-	28 x 35						VPF 50H01	10130341102	straight	with sight glass	7/8 x 7/8	22 x 22			5,0	3,9			3,9	VPF 50H02								10130346702								7/8 x 1 1/8						-	VPF 50H03	10130344802	1 1/8 x 1 1/8	-	VPF50H04	10130342802	1 1/8 x 1 3/8	-	VPF50H06	10130346802	-	22 x 28	VPF50H07	10130346902	-	28 x 28	VPF50H08	10130342502	-	28 x 35	VPF100H51	10130347502	straight			-	1 1/8 x 1 1/8			-	14,4	4,0									VPF100H52						10130347602	1 1/8 x 1 3/8	-	VPF100H53	10130342602	1 3/8 x 1 3/8	35 x 35	VPF100H54	10130347702	-	28 x 28	VPF100H55	10130347802	-	28 x 35	VPF100H01	10130356802	straight	with sight glass			1 1/8 x 1 1/8	-													VPF100H02						10130347302	1 1/8 x 1 3/8	-	VPF100H03	10130356602	1 3/8 x 1 3/8	35 x 35	VPF100H05	10130347402	-	28 x 35	VPF100H06	10130343102	-	28 x 28	VPF150H01	10130357002	L-shape	with sight glass	1 1/8 x 1 3/8	-	14,8	7,7				VPF150H02			10130356702	1 5/8 x 1 5/8				-	VPF250H01			10130348002	straight	with sight glass	1 1/8 x 1 1/8	-	25	11,9	4,5	3,5			3,5	VPF250H02						10130342902	1 3/8 x 1 3/8	35 x 35	VPF250H03	10130356402	1 5/8 x 1 5/8	-	VPF250H04	10130348102	-	28 x 28	VPF250H05	10130341202	-	-	VPF400H01	10130344902	straight	with sight glass	1 5/8 x 1 5/8	-
VPF50H51	10130337702	straight	-	7/8 x 7/8	22 x 22	11,4	2,3																																																																																																																																																																																																																																																																			
VPF50H52	10130347002			7/8 x 1 1/8	-																																																																																																																																																																																																																																																																					
VPF50H53	10130356502			1 1/8 x 1 1/8	-																																																																																																																																																																																																																																																																					
VPF50H54	10130342302			1 1/8 x 1 3/8	-																																																																																																																																																																																																																																																																					
VPF50H56	10130347102			-	22 x 28																																																																																																																																																																																																																																																																					
VPF50H57	10130347202			-	28 x 28																																																																																																																																																																																																																																																																					
VPF50H58	10130342402			-	28 x 35																																																																																																																																																																																																																																																																					
VPF 50H01	10130341102			straight	with sight glass						7/8 x 7/8	22 x 22			5,0	3,9	3,9																																																																																																																																																																																																																																																									
VPF 50H02	10130346702	7/8 x 1 1/8	-																																																																																																																																																																																																																																																																							
VPF 50H03	10130344802	1 1/8 x 1 1/8	-																																																																																																																																																																																																																																																																							
VPF50H04	10130342802	1 1/8 x 1 3/8	-																																																																																																																																																																																																																																																																							
VPF50H06	10130346802	-	22 x 28																																																																																																																																																																																																																																																																							
VPF50H07	10130346902	-	28 x 28																																																																																																																																																																																																																																																																							
VPF50H08	10130342502	-	28 x 35																																																																																																																																																																																																																																																																							
VPF100H51	10130347502	straight	-			1 1/8 x 1 1/8	-	14,4	4,0																																																																																																																																																																																																																																																																	
VPF100H52	10130347602			1 1/8 x 1 3/8	-																																																																																																																																																																																																																																																																					
VPF100H53	10130342602			1 3/8 x 1 3/8	35 x 35																																																																																																																																																																																																																																																																					
VPF100H54	10130347702			-	28 x 28																																																																																																																																																																																																																																																																					
VPF100H55	10130347802			-	28 x 35																																																																																																																																																																																																																																																																					
VPF100H01	10130356802			straight	with sight glass	1 1/8 x 1 1/8	-																																																																																																																																																																																																																																																																			
VPF100H02	10130347302	1 1/8 x 1 3/8	-																																																																																																																																																																																																																																																																							
VPF100H03	10130356602	1 3/8 x 1 3/8	35 x 35																																																																																																																																																																																																																																																																							
VPF100H05	10130347402	-	28 x 35																																																																																																																																																																																																																																																																							
VPF100H06	10130343102	-	28 x 28																																																																																																																																																																																																																																																																							
VPF150H01	10130357002	L-shape	with sight glass			1 1/8 x 1 3/8	-	14,8	7,7																																																																																																																																																																																																																																																																	
VPF150H02	10130356702			1 5/8 x 1 5/8	-	VPF250H01	10130348002						straight	with sight glass	1 1/8 x 1 1/8	-	25	11,9	4,5	3,5	3,5	VPF250H02	10130342902	1 3/8 x 1 3/8	35 x 35	VPF250H03	10130356402	1 5/8 x 1 5/8	-	VPF250H04	10130348102	-	28 x 28	VPF250H05	10130341202	-	-	VPF400H01	10130344902	straight	with sight glass	1 5/8 x 1 5/8	-	33	17,0				VPF400H02	10130349002	-	42 x 42	VPF400H03	10130343302	2 1/8 x 2 1/8	54 x 54																																																																																																																																																																																																																		
VPF250H01	10130348002	straight	with sight glass	1 1/8 x 1 1/8	-	25	11,9	4,5	3,5	3,5																																																																																																																																																																																																																																																																
VPF250H02	10130342902			1 3/8 x 1 3/8	35 x 35																																																																																																																																																																																																																																																																					
VPF250H03	10130356402			1 5/8 x 1 5/8	-																																																																																																																																																																																																																																																																					
VPF250H04	10130348102			-	28 x 28																																																																																																																																																																																																																																																																					
VPF250H05	10130341202			-	-																																																																																																																																																																																																																																																																					
VPF400H01	10130344902	straight	with sight glass	1 5/8 x 1 5/8	-	33	17,0																																																																																																																																																																																																																																																																			
VPF400H02	10130349002			-	42 x 42																																																																																																																																																																																																																																																																					
VPF400H03	10130343302			2 1/8 x 2 1/8	54 x 54																																																																																																																																																																																																																																																																					

**Note:** 1) Extent of delivery: valve body (reference number for connection cable see in the following pages)

2) Kv values valid for the flow direction inlet A to outlet B



**COOLING CAPACITIES**

Model	Steps Completely Open	Nominal Cooling Capacity <sup>1)</sup> [kW]							
		R22	R134a	R407A <sup>2)</sup>	R407C <sup>2)</sup>	R407F <sup>2)</sup>	R404A <sup>2)</sup> R507A	R410A <sup>2)</sup>	R1234ze <sup>2)</sup>
VPF12.5	2600	69	54	67	71	76	50	82	43
VPF25	2600	147	116	144	152	162	108	176	92
VPF50	2600	281	221	275	290	310	206	336	175
VPF100	3500	406	319	397	418	447	297	484	253
VPF150	3800	730	574	714	752	804	534	871	455
VPF250	3800	1133	892	1108	1168	1249	830	1353	706
VPF400	3800	1900	1495	1857	1958	2094	1392	2269	1183

Model	Steps Completely Open	Nominal Cooling Capacity <sup>1)</sup> [kW]							
		R22	R134a	R407A <sup>2)</sup>	R407C <sup>2)</sup>	R407F <sup>2)</sup>	R404A <sup>2)</sup> R507A	R410A <sup>2)</sup>	R1234ze <sup>2)</sup>
VPF12.5	2600	20	15	19	20	22	14	23	12
VPF25	2600	42	33	41	43	46	31	50	26
VPF50	2600	80	63	78	82	88	59	95	50
VPF100	3500	115	91	113	119	127	85	138	72
VPF150	3800	207	163	203	214	229	152	248	129
VPF250	3800	322	254	315	332	355	236	385	201
VPF400	3800	540	425	528	557	595	396	645	336

**Note:**

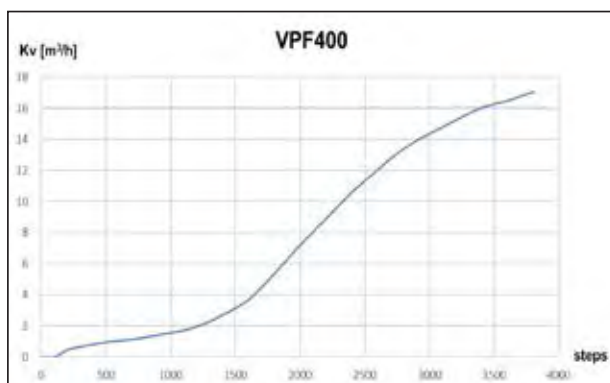
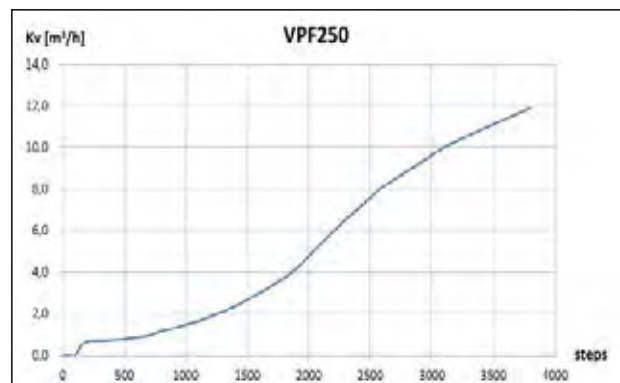
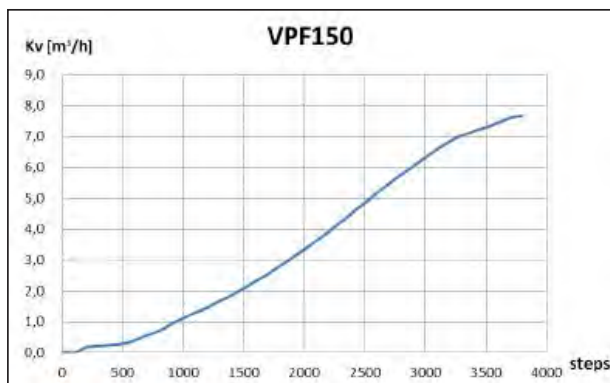
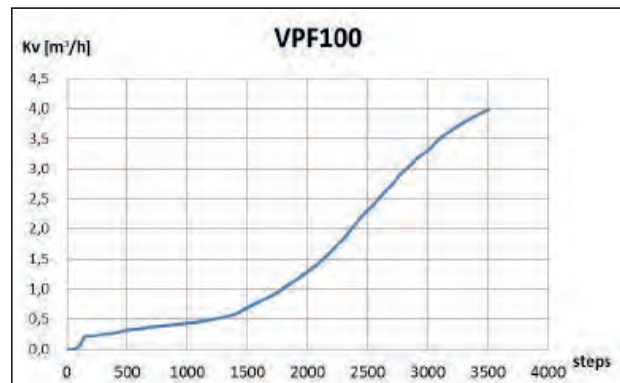
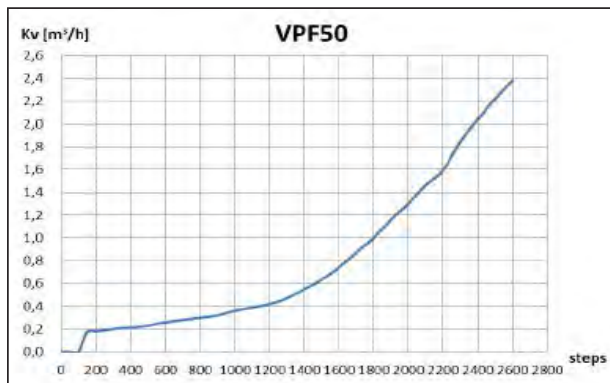
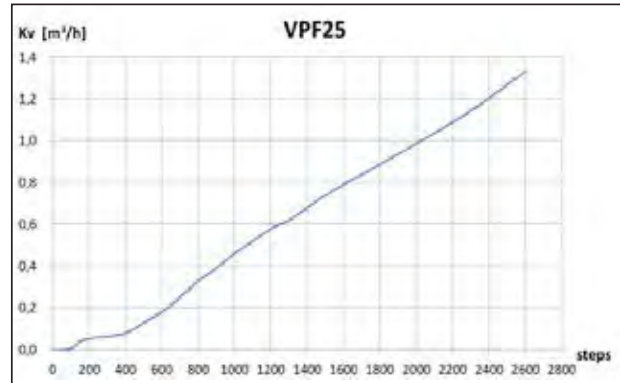
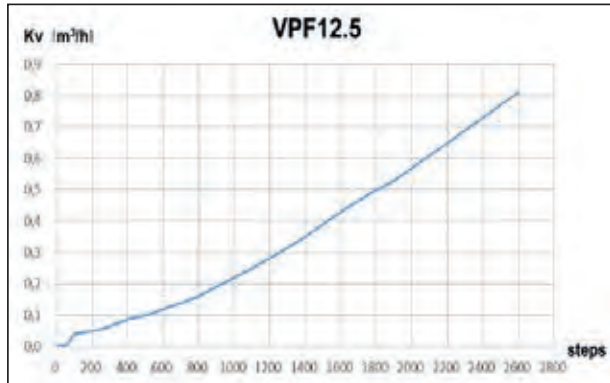
1) Nominal working conditions: Condensing temperature 38°C; evaporating temperature +4,4°C; liquid temperature 37°C

2) Data based on dew point conditions



**FLOW CHARACTERISTIC**

Add drawing for VPF12.5 + VPF 400 into catalogue

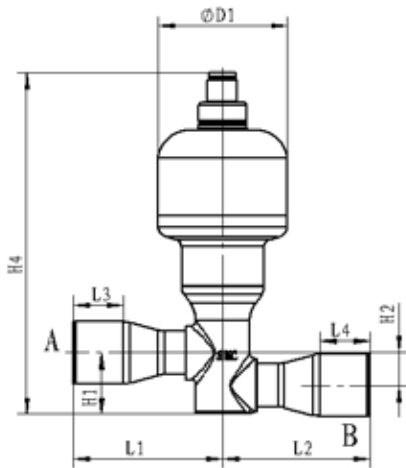




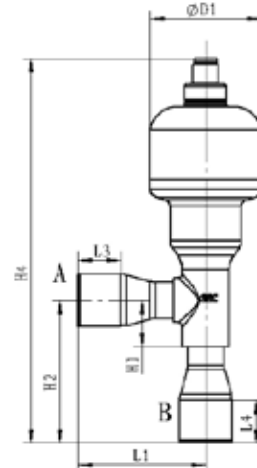
**VPF SERIES**  
**Electronic Expansion Valve**



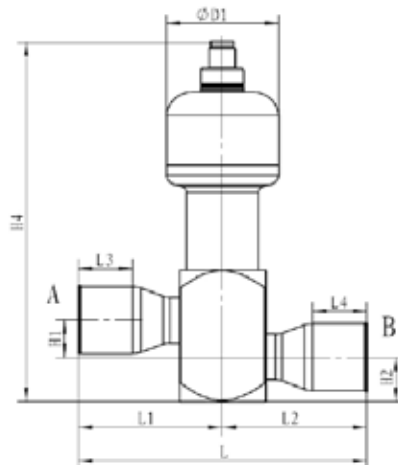
**DIMENSIONS**



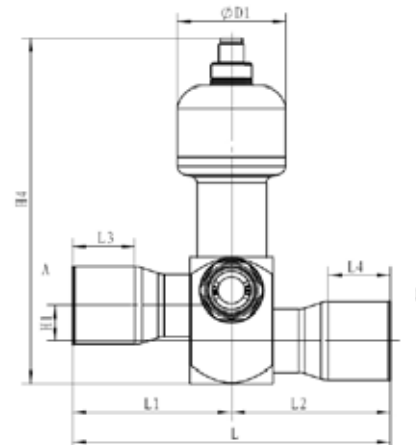
Valve Body - Straight: VPF12.5, VPF25



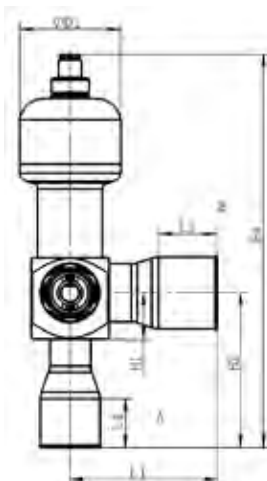
Valve Body - L-Shape: VPF12.5, VPF25



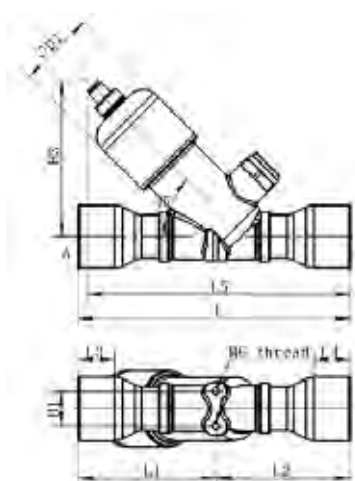
Valve Body - Without sight glass: VPF50, VPF100



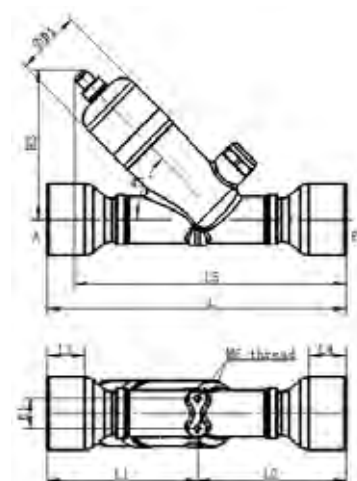
Valve Body - With sight glass: VPF50, VPF100



Valve Body - With sight glass: VPF150



Valve Body - With sight glass: VPF250



Valve Body - With sight glass: VPF400



Model	Part Number	Dimensions [mm]								
		L	L1	L2	L3	L4	H1	H2	H4	øD1
VPF12.5H52	10130349502	120	60	60	13	13	25,6	13	136	52
VPF12.5H53	10130350202	120	60	60	20	20	25,6	13	136	52
VPF12.5H58	10130342102	-	60	-	13	13	22,5	66,5	178	52
VPF12.5H59	10130349802	-	60	-	20	20	22,5	66,5	178	52
VPF25H52	10130349202	120	60	60	13	13	25,6	13	136	52
VPF25H53	10130356202	120	60	60	20	20	25,6	13	136	52
VPF25H58	10130343202	-	60	-	13	13	22,5	66,5	178	52
VPF25H59	10130356102	-	60	-	20	20	22,5	66,5	178	52
VPF50H51	10130337702	112	56	56	20	20	17	20,5	166	52
VPF50H52	10130347002	122	56	66	20	25	17	20,5	166	52
VPF50H53	10130356502	132	66	66	25	25	17	20,5	166	52
VPF50H54	10130342302	142	66	76	25	30	17	20,5	166	52
VPF50H56	10130347102	122	56	66	20	25	17	20,5	166	52
VPF50H57	10130347202	132	66	66	25	25	17	20,5	166	52
VPF50H58	10130342402	142	66	76	25	30	17	20,5	166	52
VPF50H01	10130341102	112	56	56	20	20	17	20,5	166	52
VPF50H02	10130346702	122	56	66	20	25	17	20,5	166	52
VPF50H03	10130344802	132	66	66	25	25	17	20,5	166	52
VPF50H04	10130342802	142	66	76	25	30	17	20,5	166	52
VPF50H06	10130346802	122	56	66	20	25	17	20,5	166	52
VPF50H07	10130346902	132	66	66	25	25	17	20,5	166	52
VPF50H08	10130342502	142	66	76	25	30	17	20,5	166	52
VPF100H51	10130347502	132	66	66	25	25	17	20,5	166	52
VPF100H52	10130347602	142	66	76	25	30	17	20,5	166	52
VPF100H53	10130342602	152	76	76	30	30	17	20,5	166	52
VPF100H54	10130347702	132	66	66	25	25	17	20,5	166	52
VPF100H55	10130347802	142	66	76	25	30	17	20,5	166	52
VPF100H01	10130356802	132	66	66	25	25	17	20,5	166	52
VPF100H02	10130347302	142	66	76	25	30	17	20,5	166	52
VPF100H03	10130356602	152	76	76	30	30	17	20,5	166	52
VPF100H05	10130347402	142	66	76	25	30	17	20,5	166	52
VPF100H06	10130343102	132	66	66	25	25	17	20,5	166	52
VPF150H01	10130357002	-	76	-	30	25	24	70	195	52
VPF150H02	10130356702	-	76	-	25	25	33,5	89	212	52
VPF250H01	10130348002	166	84	82	25	25	170	107	24	52
VPF250H02	10130342902	186	94	92	30	30	180	107	24	52
VPF250H03	10130356402	186	94	92	25	25	180	107	24	52
VPF250H04	10130348102	166	84	82	25	25	170	107	24	52
VPF250H05	10130341202	186	94	92	25	25	180	107	24	52
VPF400H01	10130344902	203	104	99	30	30	198	118	24	52
VPF400H02	10130349002	203	104	99	30	30	198	118	24	52
VPF400H03	10130343302	240	121	119	30	30	218	118	24	52

## VPF SERIES

### Electronic Expansion Valve



#### ACCESSORIES

##### Connection Cable

Model	Part Number <sup>1) 2)</sup>	Cable Length [m]
VPF100-006 005	20130669202	2
VPF100-006 006	20130661202	8

**Note:** 1) Extent of delivery: cable, connecting valve plug and cable sleeves for each single wire  
2) Cable-VPF valve connection in IP67

# Electronic Expansion Valve

O series electronic expansion valve are mainly used in air conditioning systems variable refrigerant flow to realize automatic adjustment of refrigerant flow rate and make the air conditioning system work under the best working condition for the purpose of fast cooling, precise temperature control and power saving. These valves can also be used for other controls. These valves are reversible which can automatically control the flow of refrigerant in either heating or cooling mode.



## FEATURES

- HIGH PRECISION: FULL OPEN PULSE 2000
- LONG LIFE
- LOW NOISE
- ENERGY SAVING

## GENERAL SPECIFICATIONS

- Applicable for all common HCFC, HFC, HC, HFO refrigerants<sup>1)</sup> such as: R22, R134a, R404A, R407C, R410A, R507, R407A/F, R290, R1234ze, R1234yf, R32, R448A/R449A, R452A, R450A/R513A
- Capacity: 1USRT~13.3USRT (R22 Nominal Capacity)
- Applicable medium temperature: -30°C ~ +70°C (electrified rate below 50%)
- Applicable ambient temperature: -30°C ~ +60°C (electrified rate below 50%)
- Relative humidity: below 95% RH
- Installation mode: Coil upwards, central axis of valve rotor within ±15° vertical to horizontal surface

### Note:

1) Cooling capacity besides R22 pls contact SANHUA local sales representative

## ELECTRICAL PARAMETERS

- Rated voltage: DC12V (±10%), rectangular wave;
- Actuating mode: 4-phase 4-step permanent magnet stepping motor of speed reduction type;
- Excitation mode: 2-2 phase excitation, monopole actuation;
- Excitation rate: 100PPS~250PPS (opening excitation speed ≤ closing excitation speed, the ending excitation mode maintains more than 0.1S);
- Current of coil: 80mA/phase(20°C)
- Resistance of coil: 150±15Ω/phase(20°C)
- Insulation grade of coil: E



**Electronic Expansion Valve**



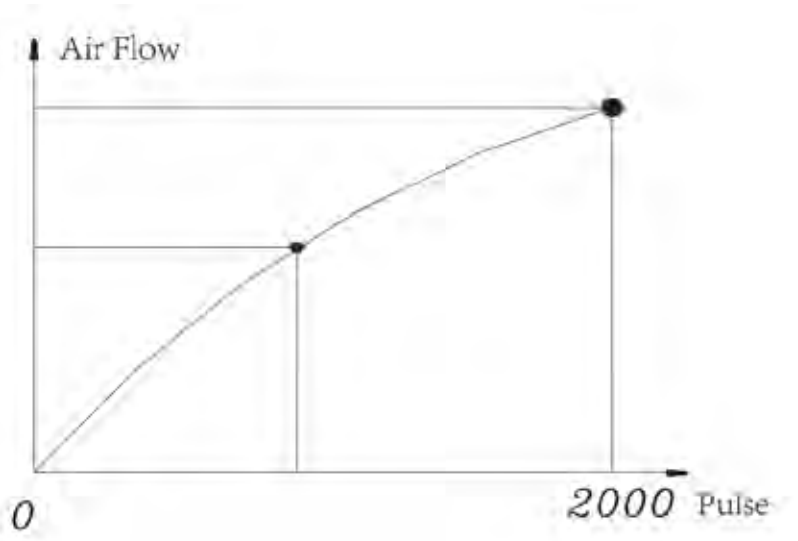
**TECHNICAL PARAMETERS**

Model	Port mm	R22 Nominal Capacity		Max. Operation Pressure Difference MPa			Internal Leakage ml/min	Reverse Open Valve Pressure Difference MPa		
		kW	US.R.T	R22	R407C	R410A		R22	R407C	R410A
DPF(O)1.3	1.3	5.28	1.5				≤600			
DPF(O)2.0	2.0	8.8	2.5							
DPF(O)2.4	2.4	10.56	3.0							
DPF(O)3.2	3.2	14.1	4.0				≤1000			
DPF(O)3.2	3.2	17.6	5.0	2.26	2.48	3.43		3.0	3.3	4.2
DPF(O)4.0	4.0	21.2	6.0							
DPF(O)5.2	5.2	28.1	8.0							
DPF(O)6.4	6.4	35.2	10.0							
DPF(O)8.0	8.0	47.6	13.3							

- Note:**
- 1) Nominal working conditions: Condensing temperature: 38°C, vaporing temperature 5°C, Supercooling temperature 0°C, superheat temperature 0°C
  - 2) When using other refrigerants, it is need to use a factor to adjust nominal capacity of R22.(R134A --0.75, R407C--1, R410A--1.2)

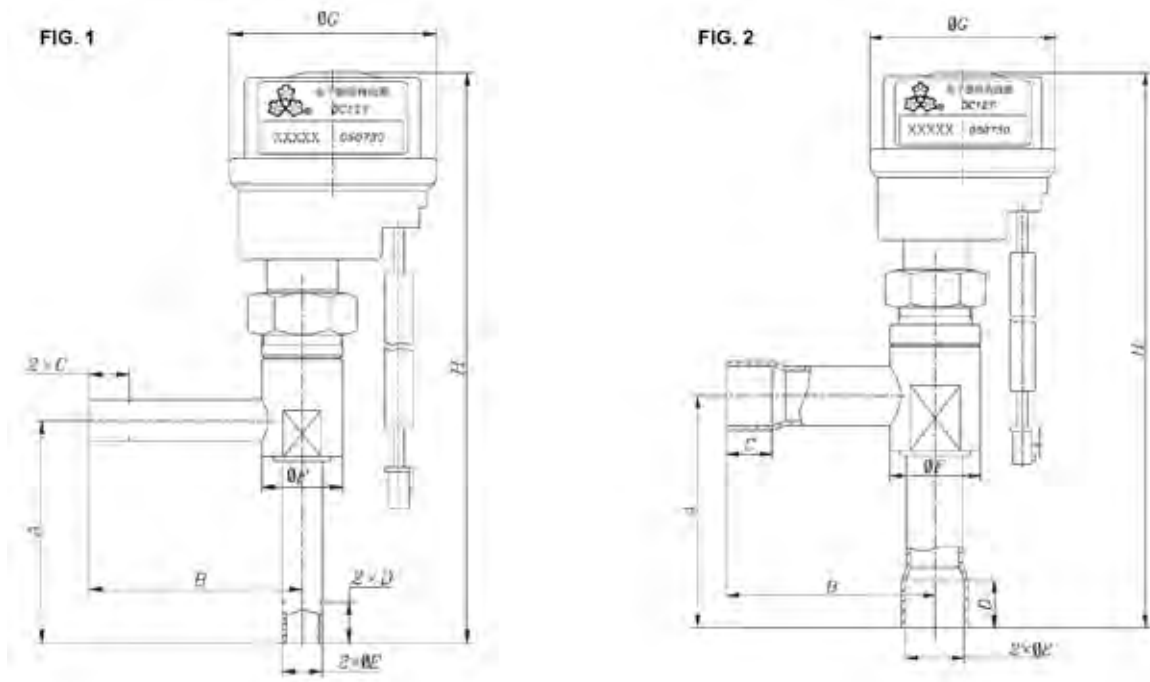
**STANDARD FLOW CURVE**

Standard Flow Curve





**DIMENSIONS**



Model	Dimensions (mm)								Note
	A	B	C	D	E	F	G	H	
DPF(O)1.3	43	42.5	8	8	7.94	16	41.2	110	Fig.1
DPF(O)2.0	43	42.5	8	8	7.94	16	41.2	110	
DPF(O)2.4	43	42.5	8	8	7.94	16	41.2	110	
DPF(O)3.2	43	42.5	8	8	7.94	16	41.2	110	
DPF(O)3.2	50	46	10	10	12.8	20	41.2	119	Fig.2
DPF(O)4.0	50	46	10	10	12.8	20	41.2	119	
DPF(O)5.2	50	46	10	10	12.8	20	41.2	119	
DPF(O)6.4	50	46	10	10	12.8	20	41.2	119	
DPF(O)8.0	50	46	10	10	12.8	20	41.2	119	

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# Electronic Expansion Valve

R series electronic expansion valve are mainly used in air conditioning systems with variable refrigerant flow to realize automatic adjustment of refrigerant flow rate and make the air conditioning system work under the best working condition for the purpose of fast cooling, precise temperature control and power saving. These valves can also be used for other controls. These valves are reversible which can automatically control the flow of refrigerant in either heating or cooling mode.



## FEATURES

- APPLICABLE FOR OIL-FREE COOLING SYSTEM
- SMALLER INSTALLATION SPACE: LOW HEIGHT, SMALL VOLUME AND LIGHT WEIGHT
- WIDER APPLICABILITY FOR ELIMINATING SYSTEM REFRIGERANT NOISE: WITH OPTIMIZED FLOW PATH DESIGN
- OUTER ENCAPSULATION COIL STRUCTURE: BETTER CORROSION RESISTANCE

## GENERAL SPECIFICATIONS

- Applicable refrigerant: R744(CO<sub>2</sub>)
- Applicable medium temperature: -30°C ~ 80°C (electrified rate below 40%)
- Applicable ambient temperature: -30°C ~ 60°C (electrified rate below 40%)
- Relative humidity: below 95% RH
- Installation mode: Coil upwards, central axis of valve rotor within ±15° vertical to horizontal surface.
- Direction of Medium: one direction from horizontal tube to Vertical tube

## ELECTRICAL PARAMETERS

- Rated voltage: DC12V (±10%), rectangular wave
- Actuating mode: 4-phase 8-step permanent magnet stepping motor of direct-operated type
- Excitation mode: 1-2 phase excitation, monopole actuation
- Excitation rate: 31,3PPS (the ending excitation mode maintains 0.1~1.0s)
- Current of coil: 260mA/phase(20°C)
- Resistance of coil: 46±3.7Ω/phase(20°C)
- Insulation grade of coil: E

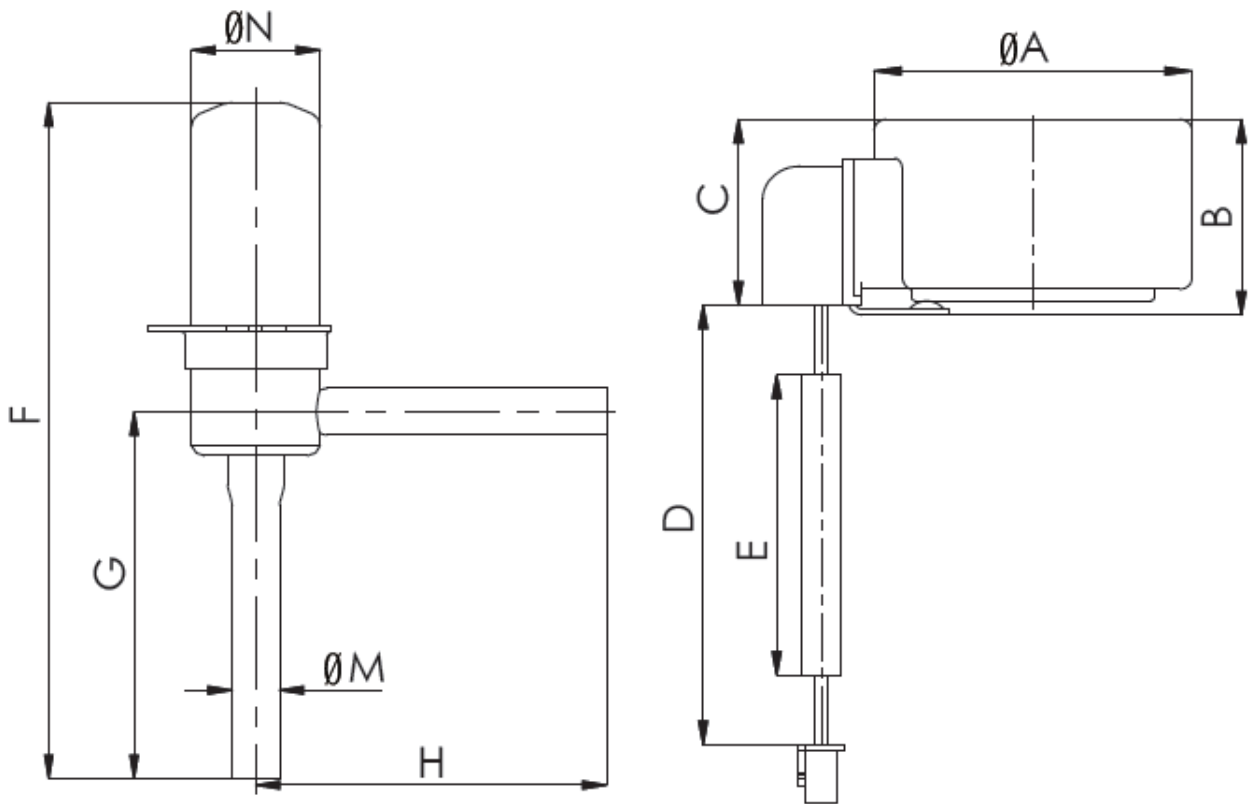




**TECHNICAL PARAMETERS**

Model	Port mm	R744 Nominal Capacity		Full Open Pulse	Opening Pulse	Max. Operation Pressure Difference MPa	Internal Leakage ml/min	Max. Working Pressure MPa
		kW	US.R.T					
DPF(R04)1.5D	1.5	10,5	3	500	32 ± 20	10	≤600	14

**DIMENSIONS**



Port mm	Code of the Coil Series	Dimensions (mm)									
		A	B	C	D	E	F	G	H	M	N
1.5	M10	38.5	26.4	25.6	700	600	93,5	50	47	6.35	17.3

# Pressure Sensor

Pressure sensors are widely used in Air Conditioning, Refrigeration and Heat Pump system. Using a 5 V excitation input these sensors provide a 0.5-3.5 V or 0.5-4.5 V ratiometric signal output proportional to the pressure of the medium. This device requires no end user amplification. Pressure sensors permit to control and guarantee the system working under safe and stability condition.



## FEATURES

- OVERALL FEATURES: APPLIED HIGH PERFORMANCE DIGITAL CIRCUIT WHICH HAS GOOD LINEAR, SMALL TEMPERATURE EXCURSION AND HIGH LEVEL OF ACCURACY OVER WIDE OPERATING RANGE
- SMALL SIZE AND SIMPLE INSTALLATION; MODELS AVAILABLE WITH LEAD WIRE DIRECT CONNECTOR OR WITH PACKARD AND MOLEX SOCKET CONNECTIONS;
- STABILITY: APPLIED SUPERIOR PRESSURE CORE, GOOD STABILITY UNDER STRICT PROCESS CONTROL;
- DIVERSIFICATION: DIFFERENT PRESSURE RANGES AND DIFFERENT LEVEL OF ACCURACY.

## GENERAL SPECIFICATION

- Applicable for all common HCFC, HFC, HFO refrigerants such as: R22, R134a, R404A, R407A/F, R407C, R410A, R448A, R449A, R450A, R452A, R513A, R507A<sup>1)</sup>
- Installation position: preferably with vertical axis and sensor upwards
- Certifications: UL/CSA and declaration according to EMC directive

## ELECTRICAL SPECIFICATION

- Supply Voltage : 5V  $\pm$  0.25V DC
- Current Consumption : Max. 10 mA
- Response Time<sup>3)</sup>: 10 ms
- Insulation Resistance<sup>4)</sup>: Min. 100 M $\Omega$
- Load Resistance : Min. 10 k $\Omega$
- Protection Class : IP66/IP67

**Note:** 1) Flammable refrigerants like R32, R290, R1234ze(E), R1234yf on request



**GENERAL CHARACTERISTICS**

Table 1: Operative Limits							
Model Name	Part Number	Ambient Temperature	Relative Humidity	Medium Temperature TS min / max	Temperature Range for maximum accuracy	Maximum Operating Pressure (MOP) [ Mpa ]	
YCQB02H01	10185004702	-30°C/+80°C	from 0 to 95%	-30°C / +120°C	± 2,0 % F.S. in the range -30°C / +85°C	5,25	
YCQB05H01	10185004802				± 2,0 % F.S. in the range -30°C / +120°C	7,50	
YCQB02L01	10185004902				± 2,0 % F.S. in the range -30°C / +85°C	5,25	
YCQB05L01	10185007002				± 2,0 % F.S. in the range -30°C / +120°C	7,50	
YCQB02H01-01 <sup>(1)</sup>	10185001502			-40°C / +120°C	± 0,8 % F.S. in the range -40°C / +40°C	5,25	
YCQB02H18-1 <sup>(1)</sup>	10185015402					5,25	
YCQB02L01-01	10185001402					5,25	
YCQB02L12-1 <sup>(1)</sup>	10185015502					5,25	
YCQB02L28-1 <sup>(1)</sup>	10185015602					5,25	
YCQB02H50	10185004502					± 2,0 % F.S. in the range -20°C / +120°C	5,25
YCQB04H50	10185004602					7,50	
YCQB01L50 <sup>(2)</sup>	10185004202					± 2,0 % F.S. in the range -30°C / +120°C	5,25
YCQB02L50	10185004002					5,25	
YCQB02L51	10185004102					± 1,0 % F.S. in the range -30°C / +85°C ± 2,0 % F.S. in the range -40°C / +30°C ± 2,5 % F.S. in the range +85°C / +125°C	5,25
YCQB04L50 <sup>(2)</sup>	10185004202			± 2,5 % F.S. in the range +85°C / +125°C	5,25		
YCQB05L50	10185004302			7,50			
YCQB05L53 <sup>(2)</sup>	10185013402			± 2,0 % F.S. in the range -30°C / +120°C	7,50		
YCQB02L100	10185009102			± 1,0 % F.S. in the range -30°C / +85°C	5,25		
YCQB05L100	10185009202			± 1,0 % F.S. in the range -30°C / +85°C ± 2,0 % F.S. in the range -40°C / +30°C ± 2,5 % F.S. in the range +85°C / +125°C	7,50		

**Note:** 1) Models suitable for usage with Sanhua EEV driver  
2) Models especially designed for distribution market



**GENERAL CHARACTERISTICS**

Model Name	Mechanical connection			Electrical connection	Cable Length [ mm ]	Pressure Range (0 to pr) [ Mpa ]	Output (VA0 to VApr) [ V ]	Maximum Accuracy
	Type	Pipe Size [ inch ]	Thread size					
YCQB02H01	Solder	1/4"	-	Lead Wires	2000	0 to 2	0,5 to 3,5 DC	± 2,0 % F.S.
YCQB05H01	Solder	1/4"	-	Lead Wires	2000	0 to 5	0,5 to 3,5 DC	± 2,0 % F.S.
YCQB02L01	Thread	SAE - 1/4"	7/16-20UNF	Lead Wires	2000	0 to 2	0,5 to 4,5 DC	± 2,0 % F.S.
YCQB05L01	Thread	SAE - 1/4"	7/16-20UNF	Lead Wires	2000	0 to 4,6	0,5 to 4,5 DC	± 2,0 % F.S.
YCQB02H01-01	Solder	1/4"	-	Lead Wires	2000	0 to 2	0,5 to 3,5 DC	± 0,8 % F.S.
YCQB02H18-1	Solder	1/4"	-	Lead Wires	4900	0 to 2	0,5 to 3,5 DC	± 0,8 % F.S.
YCQB02L01-01	Thread	SAE - 1/4"	7/16-20UNF	Lead Wires	2000	0 to 2	0,5 to 4,5 DC	± 0,8 % F.S.
YCQB02L12-1	Thread	SAE - 1/4"	7/16-20UNF	Lead Wires	2000	0 to 2	0,5 to 3,5 DC	± 0,8 % F.S.
YCQB02L28-1	Thread	SAE - 1/4"	7/16-20UNF	Lead Wires	4900	0 to 2	0,5 to 3,5 DC	± 0,8 % F.S.
YCQB02H50	Solder	1/4"	-	Packard	-	0 to 1,38	0,5 to 4,5 DC	± 2,0 % F.S.
YCQB04H50	Solder	1/4"	-	Packard	-	0 to 3,45	0,5 to 4,5 DC	± 2,0 % F.S.
YCQB01L50	Thread	SAE - 1/4"	7/16-20UNF	Packard	-	0 to 0,93	0,5 to 4,5 DC	± 2,0 % F.S.
YCQB02L50	Thread	SAE - 1/4"	7/16-20UNF	Packard	-	0 to 1,38	0,5 to 4,5 DC	± 1,0 % F.S.
YCQB02L51	Thread	SAE - 1/4"	7/16-20UNF	Packard	-	0 to 1,72	0,5 to 4,5 DC	± 1,0 % F.S.
YCQB04L50	Thread	SAE - 1/4"	7/16-20UNF	Packard	-	0 to 3,45	0,5 to 4,5 DC	± 1,0 % F.S.
YCQB05L50	Thread	SAE - 1/4"	7/16-20UNF	Packard	-	0 to 4,6	0,5 to 4,5 DC	± 1,0 % F.S.
YCQB05L53	Thread	SAE - 1/4"	7/16-20UNF	Packard	-	0 to 4,5	0,5 to 4,5 DC	± 2,0 % F.S.
YCQB02L100	Thread	SAE - 1/4"	7/16-20UNF	Molex	-	0 to 2	0,5 to 4,5 DC	± 2,0 % F.S.
YCQB05L100	Thread	SAE - 1/4"	7/16-20UNF	Molex	-	0 to 4,6	0,5 to 4,5 DC	± 1,0 % F.S.

- Note:**
- 1) Signal span:  $V_{FS}=FS$  (Full Scale) =  $V_A(p_r) - V_{A0}$
  - 2) Accuracy measured within the temperature ranges shown in Table 1:  
Included Nonlinearity (L) and pressure hysteresis. The Nonlinearity is the deviation of the real sensor characteristic  $V_A = f(p)$  from the ideal straight line. It can be approximated by a polynomial of second order, with the maximum at  $p_x = p_r / 2$ .  
The equation to calculate the nonlinearity is:  
$$L = (V_A(p_x) - V_{A0}) / (V_A(p_r) - V_{A0}) - p_x / p_r$$
  - 3) Response Time: delay between a pressure change (10 to 90% pr) and the corresponding signal output change (10 to 90% FS)
  - 4) Insulation Resistance measured with rated voltage: 500 V DC



**OPERATING TEMPERATURES**

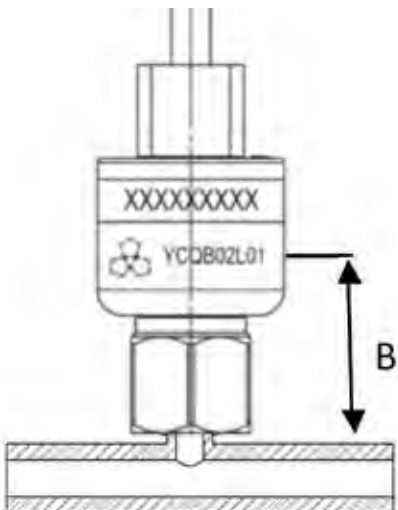


Fig. 1  
YCQB – version with Flare connection  
Distance B = 40mm

Medium Temperature [ °C ]	Ambient Temperature [ °C ]	Distance "B" [ mm ]	Max. Operational Temperature [ °C ]*
120	79.4	40	90
130	59.9	40	90
140	37.2	40	90

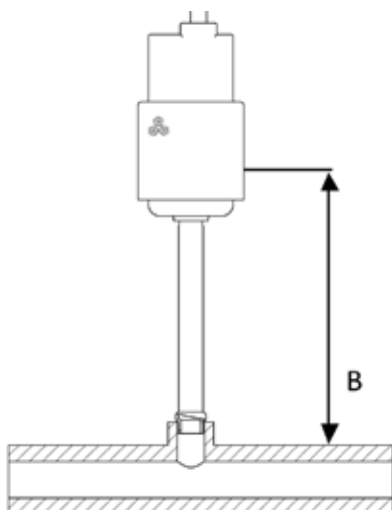


Fig. 2  
YCQB – version with Solder connection  
Distance B = 70mm

Medium Temperature [ °C ]	Ambient Temperature [ °C ]	Distance "B" [ mm ]	Max. Operational Temperature [ °C ]*
120	96.2	70	90
130	80.2	70	90
140	60.0	70	90

**Note:** Operational Temperature can exceed 90°C for a limited period. In this condition the indicated accuracy is not more guaranteed

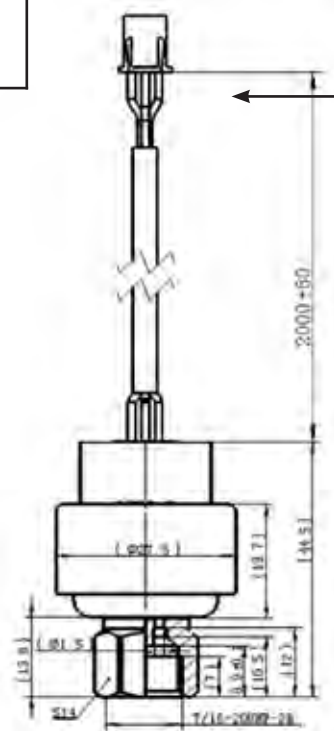
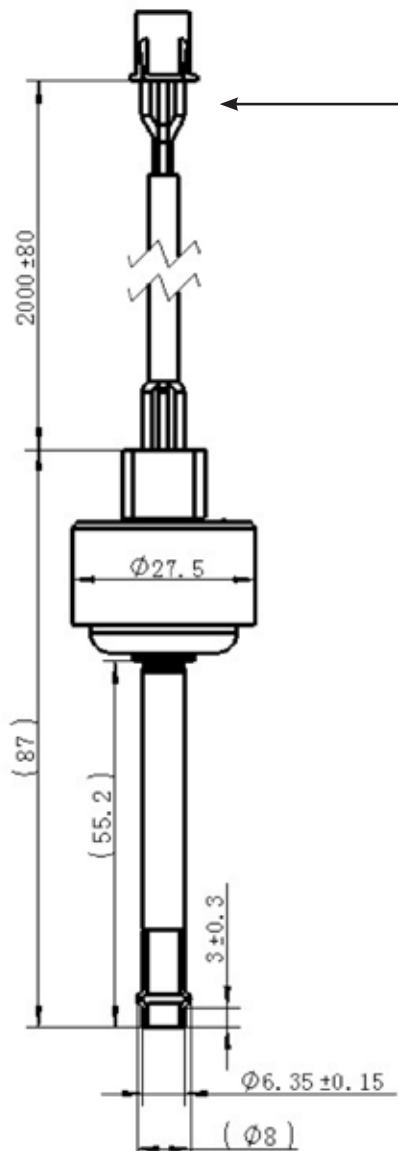




**DIMENSIONS**

a) Models with Lead wires

Cable Number 1: Vcc	- RED
Cable Number 2: VA(pr)	- WHITE
Cable Number 3: GND	- BLACK

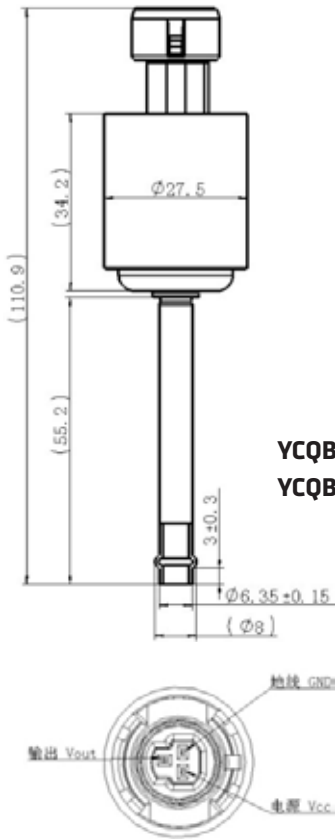


- YCQB02L01
- YCQB05L01
- YCQB02L01-1
- YCQB02L12-1
- YCQB02L28-1 (cable length = 4900mm)

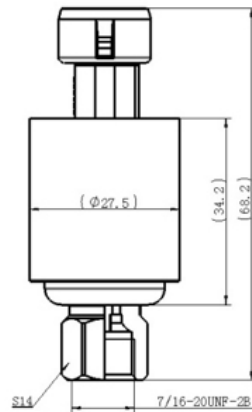
- YCQB02H01
- YCQB05H01
- YCQB02H01-1
- YCQB02H18-1 (cable length = 4900mm)



b) Models with Packard Socket

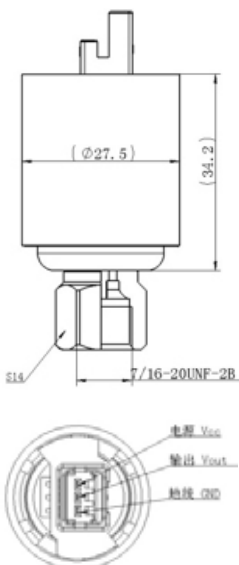


**YCQB02H50**  
**YCQB04H50**



**YCQB01L50**  
**YCQB02L50**  
**YCQB02L51**  
**YCQB04L50**  
**YCQB05L50**  
**YCQB05L53**

c) Models with Molex Socket

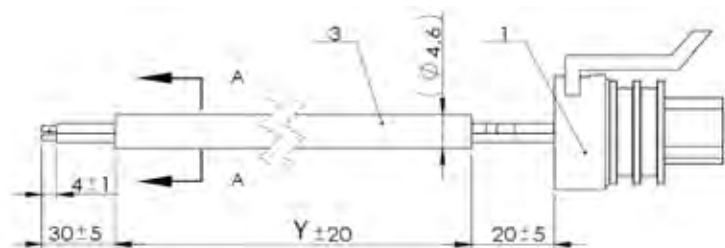


**YCQB02L100**  
**YCQB05L100**

**ACCESSORIES**

1) Lead wires cable suitable for connection with YCQB equipped with Packard connector.

Model Name	Part Number	Connector Type	Cable Length (Y)	Terminal
YCQB 02 - 013051	TBD	Packard	1500 mm	Lead Wires
YCQB 02 - 013052	TBD	Packard	5000 mm	Lead Wires



# Pressure Sensor

Pressure sensors are widely used in Air Conditioning, Refrigeration and Heat Pump system. YCQC pressure sensor uses a DC 10-30V excitation input to provide a 4-20mA signal output proportional to the pressure of the medium. This device requires no end user amplification. Pressure sensors permit to control and guarantee the system working under safe and stability condition.



## FEATURES

- OVERALL FEATURES: APPLIED HIGH PERFORMANCE DIGITAL CIRCUIT WHICH HAS GOOD LINEAR, SMALL TEMPERATURE SHIFT AND HIGH LEVEL OF ACCURACY OVER WIDE OPERATING RANGE
- SMALL SIZE AND SIMPLE INSTALLATION; MODELS AVAILABLE WITH HIRSCHMANN AND PARKARD SOCKET CONNECTIONS;
- STABILITY: APPLIED SUPERIOR PRESSURE CORE, GOOD STABILITY UNDER STRICT PROCESS CONTROL;
- DIVERSIFICATION: VARIOUS PRESSURE RANGE.

## GENERAL SPECIFICATION

- Applicable for all common HCFC, HFC, HFO refrigerants such as: R22, R134a, R404A, R407A/F, R407C, R410A, R448A, R449A, R450A, R452A, R513A, R507A<sup>1)</sup>
- Installation position: preferably with vertical axis and sensor upwards

**Note:** 1) Flammable refrigerants like R32, R290, R1234ze(E), R1234yf on request



**ELECTRICAL SPECIFICATION**

- Supply Voltage : from 10V to 30V DC
- Rated Output Signal: from 4 to 20 mA
- Voltage dependency : < 0,05% FS/10 V
- Current Limitation (linear output signal up to 1.5 x rated range) : 28 mA
- Signal Span (VFS) : 16 V
- Insulation Resistance 2 : Min. 100 MΩ
- Protection Class : IP65/IP66

Operative Limits						
Model Name	Part Number	Ambient Temperature	Relative Humidity	Medium Temperature TS min / max	Temperature Range for maximum accuracy	Maximum Operating Pressure (MOP) [ Mpa ]
YCQC02L04	10185009902	-40°C/+80°C	from 0 to 95%	-40°C / +80°C	± 0,5 % F.S. at +25°C ± 5°C ± 0,8 % F.S. in the range -40°C / +80°C	5,25
YCQC02L05	10185009802					5,25
YCQC03L04	10185011002					7,50
YCQC03L05	10185009302					7,50
YCQC03L06	10185009402					7,50
YCQC01L13 (3)	10185015202					5,25
YCQC03L11 (3)	10185014402					7,50
YCQC05L09 (3)	10185015302					7,50

**GENERAL CHARACTERISTICS**

Model Name	Part Number	Mechanical connection			Electrical connection	Pressure Range (0 to pr) [ Mpa ]	Maximum Accuracy
		Type	Pipe Size [ inch ]	Thread size			
YCQC02L04	10185009902	Thread	G3/8A	-	Hirschmann	-0,1 to 1,2	± 0,5 % F.S.
YCQC02L05	10185009802	Thread	G3/8A	-	Hirschmann	-0,1 to 2,0	± 0,5 % F.S.
YCQC03L04	10185011002	Thread	SAE - 1/4"	7/16-20UNF-2B	Hirschmann	0 to 3,0	± 0,5 % F.S.
YCQC03L05	10185009302	Thread	SAE - 1/4"	7/16-20UNF-2B	Packard	0 to 3,0	± 0,5 % F.S.
YCQC03L06	10185009402	Thread	SAE - 1/4"	7/16-20UNF-2A	Packard	0 to 3,0	± 0,5 % F.S.
YCQC01L13 (3)	10185015202	Thread	SAE - 1/4"	7/16-20UNF-2B	Packard	-0,05 to 0,7	± 0,8 % F.S.
YCQC03L11 (3)	10185014402	Thread	SAE - 1/4"	7/16-20UNF-2B	Packard	0 to 3,0	± 0,8 % F.S.
YCQC05L09 (3)	10185015302	Thread	SAE - 1/4"	7/16-20UNF-2B	Packard	0 to 4,48	± 0,8 % F.S.

- Note:**
- 1) Signal span:  $V_{FS}=FS$  (Full Scale) =  $V_A(p_r) - V_{A0}$
  - 2) Insulation Resistance measured with rated voltage: 500 V DC
  - 3) Models especially designed for distribution market



**OPERATING TEMPERATURES**

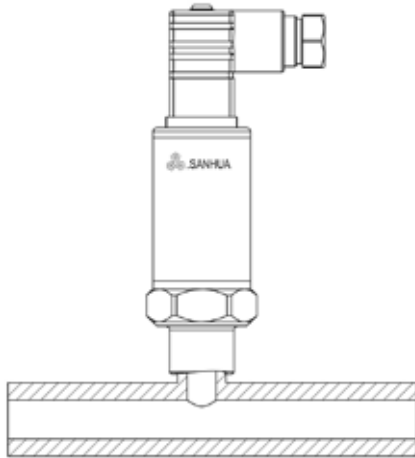


Fig. 1

YCQC – version with Flare connection

Distance B = 40mm

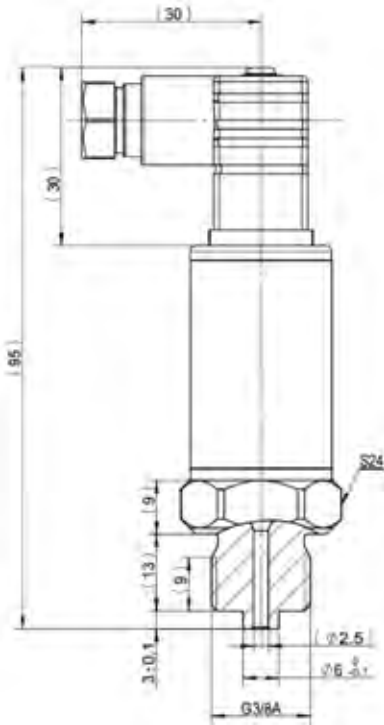
Medium Temperature [ °C ]	Ambient Temperature [ °C ]	Distance "B" [ mm ]	Max. Operational Temperature [ °C ]*
120	79.4	40	90
130	59.9	40	90
140	37.2	40	90

**Note:** Operational Temperature can exceed 90°C for a limited period. In this condition the indicated accuracy is not more guaranteed

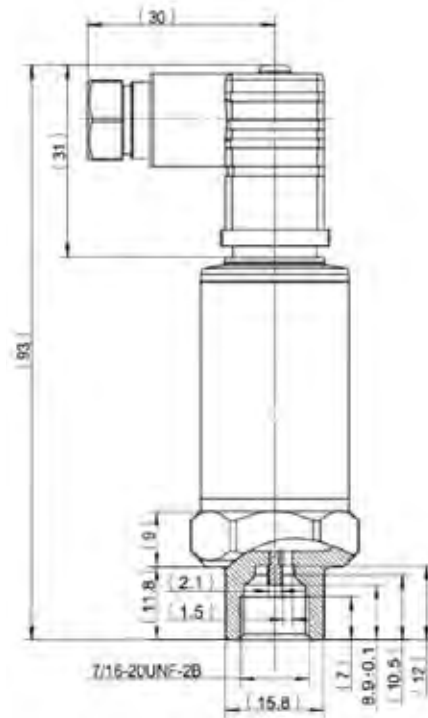




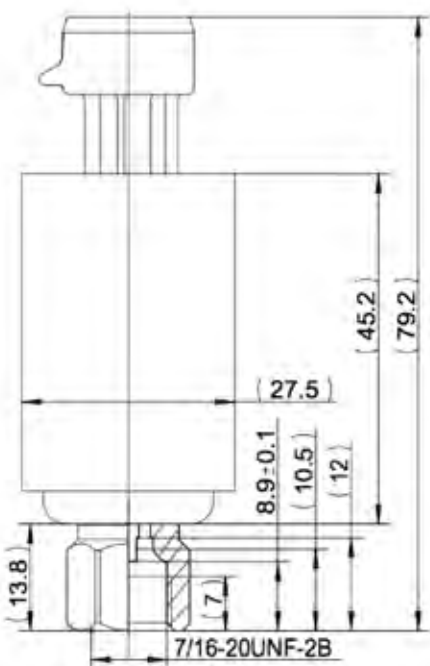
**DIMENSIONS**



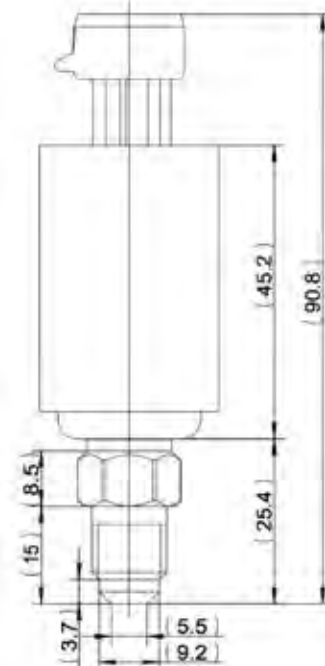
YCQC02L04, YCQC02L05 (Hirschmann Socket)



YCQC03L04 (Hirschmann Socket)



Female Packard Socket:  
YCQC03L05  
YCQC01L13  
YCQC03L11  
YCQC05L09



Male Packard Socket:  
YCQC03L06

# Pressure switch

Pressure switches can be used in refrigeration and air conditioning systems to protect the systems from extremely low suction pressure or extremely high discharge pressure. The pressure switches are also used to start or stop the refrigeration compressors and air-cooled condenser fans, to regulate other components in the systems which require pressure control function.



## FEATURES

- HIGH LEVEL OF ACCURACY AND STABLE REPEATABILITY
- LONG LIFE TIME WITH BOTH EXCELLENT ELECTRIC AND MECHANICAL RELIABILITY
- SPDT SWITCH TO ENSURE GOOD CONTACT AND DISCONNECT CONVERSION WITH FAST REACTIONS
- VARIOUS PRESSURE RANGES ARE AVAILABLE
- SUPPLY WITH STANDARD PLATE FOR INSTALLATION
- BELLOWS ELEMENTS ARE MADE OF TIN BRONZE AND PRESSURE CONNECTIONS ARE MADE OF BRASS

## GENERAL SPECIFICATION

- Applicable for all common HCFC, non-flammable HFC and HFO refrigerants such as: R134a, R404A/R507, R407C, R22, R407A/F, R448A/449A, R452A, R513A, R450A, R1234ze(E). (for R410A, R32, R717, R290 and R1234yf applications please contact Sanhua)
- Medium temperature TS min./max. -40°C / +120°C
- Ambient temperature min./max. -30°C / +65°C
- Relative humidity: 0 - 95% RH
- Max. working pressure (PS): HP: 3.5MPa; LP: 1.65MPa
- Enclosure: IP44
- Certification: CE, PED IV (In process) and UL Listed (In process)
- Contact load

	AC1	AC3	AC15	DC
Rated Voltage (V)	400	400	400	24
Rated Current (A)	16	16	10	8



**MODEL DESIGNATION LEGEND**

Position Number	Model Designation Legend	
1	<b>Type of pressure switch</b>	<b>Description</b>
	PS	Pressure switch
2	<b>Pressure regulating range</b>	<b>Description</b>
	01	LP:-0.5~7 bar(g)
	02	TBD
	03	TBD
	50	HP:6~32 bar(g)
	60	HP:6~42 bar(g)
	70	TBD
	80	TBD
	15	Dual (LP/HP): LP:-0.57 bar(g)/ HP:6~32 bar(g)
	16	Dual (LP/HP): LP:-0.5~7 bar(g)/ HP:6~42 bar(g)
55	Dual (HP/HP): HP:6~32 bar(g)/ HP:6~32 bar(g)	
3	<b>Type of reset</b>	<b>Description</b>
	A	Automatic reset
	M	Manual reset
	C	Convertible reset
	AA	Auto LP/ Auto HP
	AC	Auto LP/Convertible HP
	AM/MA/MM/MC/CA/CM/CC	.....
4	<b>Pressure connection type</b>	<b>Description</b>
	L	Flare
	H	Solder
	M	Capillary tube
5	<b>Product design (type)</b>	<b>Description</b>
	S	Standard
	C	Customized
6	<b>inch or mm pressure connection</b>	<b>Description</b>
	01 (03/05/07/09/11/13.....)	Inch or unified Inch & Metric (will be certified as Cat. IV)
	02 (04/06/08/10/12/14.....)	Metric only (will be certified as Cat. IV)
	51 (53/55/57/59/61/63.....)	Inch or unified Inch & Metric
	52 (54/56/58/60/62/64.....)	Metric only

# PS01/50/15 SERIES

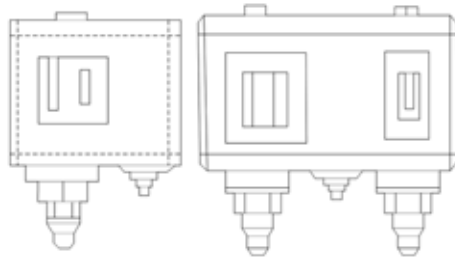
## Pressure switch



### MODEL DESIGNATION EXAMPLE

Position Number							Model designation example (according above legend)
1	2	3	4	-	5	6	
<b>PS</b>	15	AA	L	-	S	01	Pressure switch
PS	<b>15</b>	AA	L	-	S	01	Dual Pressure Range LP:-0.5~7 bar(g)/ HP:6~42 bar(g)
PS	15	<b>AA</b>	<b>L</b>	-	<b>S</b>	01	Auto reset HP, Auto reset LP
PS	<b>15</b>	AA	<b>L</b>	-	S	01	Flare connection type
PS	15	<b>AA</b>	<b>L</b>	-	<b>S</b>	01	Standard
PS	15	AA	L	-	<b>S</b>	<b>01</b>	Inch (or unified Inch & Metric) pressure connection Double bellows - fail safe in case of High pressure

### SELECTION AND ORDERING



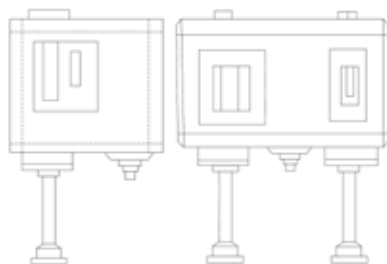
PS01, PS50, PS15, Flare Connection										
Pressure	Type	Low Pressure (LP)		High Pressure (HP)		Reset		PED 2014 68/EU EN 12263 Certified <sup>1)</sup>	Ordering Code	
		Range	Differential Pressure ΔP	Range	Differential Pressure ΔP	Low Pressure	High Pressure		Flare Connection 7/16-20UNF (1/4in. & 6mm)	
		[bar]	[bar]	[bar]	[bar]				Model	U11 Code
Low	PS01 <sup>2)</sup>	-0.5~7	0.5~5	—	—	Auto	—	In process	PS01AL-S01	10660003102
Low	PS01	-0.5~7	0.5	—	—	Manual	—	In process	PS01ML-S01	10660003202
High	PS50	—	—	6~32	3~15	—	Auto	NO	PS50AL-S51	10660002702
High	PS50	—	—	6~32	4	—	Manual	NO	PS50ML-S51	10660003302
High	PS50	—	—	6~32	3~15	—	Auto	In process	PS50AL-S01	10660003002
High	PS50	—	—	6~32	4	—	Manual	In process	PS50ML-S01	10660003402
Dual	PS15	-0.5~7	0.5~5	6~32	3~15	Auto	Auto	NO	PS15AAL-S51	10660002802
Dual	PS15	-0.5~7	0.5~5	6~32	4	Auto	Manual	NO	PS15AML-S51	10660003502
Dual	PS15	-0.5~7	0.5~5	6~32	3~15	Auto	Auto	In process	PS15AAL-S01	10660002902
Dual	PS15	-0.5~7	0.5~5	6~32	4	Auto	Manual	In process	PS15AML-S01	10660003602

# PS01/50/15 SERIES

## Pressure switch

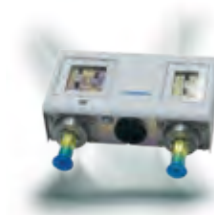


### SELECTION AND ORDERING

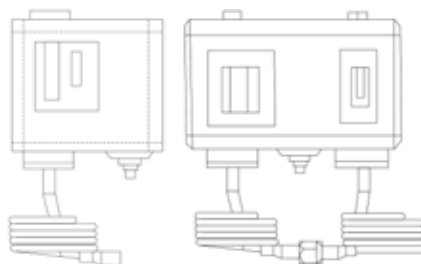


PS01, PS50, PS15, Solder ODF Connection												
Pressure	Type	Low Pressure (LP)		High Pressure (HP)		Reset		PED 2014 68/EU EN 12263 Certified <sup>1)</sup>	Ordering Code			
		Range	Differential Pressure ΔP	Range	Differential Pressure ΔP				Solder ODF 1/4 in.		Solder ODF 6mm	
		[bar]	[bar]	[bar]	[bar]	Low Pressure	High Pressure		Model	U11 Code	Model	U11 Code
Low	PS01	-0.5~7	0.5~5	—	—	Auto	—	In process	PS01AH-S01	10660003702	PS01AH-S02	10660005302
Low	PS01	-0.5~7	0.5	—	—	Manual	—	In process	PS01MH-S01	10660003802	PS01MH-S02	10660005202
High	PS50	—	—	6~32	3~15	—	Auto	NO	PS50AH-S51	10660003902	PS50AH-S52	10660005102
High	PS50	—	—	6~32	4	—	Manual	NO	PS50MH-S51	10660004002	PS50MH-S52	10660005002
High	PS50	—	—	6~32	3~15	—	Auto	In process	PS50AH-S01	10660004102	PS50AH-S02	10660004902
High	PS50	—	—	6~32	4	—	Manual	In process	PS50MH-S01	10660004602	PS50MH-S02	10660004802
Dual	PS15	-0.5~7	0.5~5	6~32	3~15	Auto	Auto	NO	PS15AAH-S51	10660004502	PS15AAH-S52	10660006702
Dual	PS15	-0.5~7	0.5~5	6~32	4	Auto	Manual	NO	PS15AMH-S51	10660004402	PS15AMH-S52	10660004702
Dual	PS15	-0.5~7	0.5~5	6~32	3~15	Auto	Auto	In process	PS15AAH-S01	10660004302	PS15AAH-S02	10660005402
Dual	PS15	-0.5~7	0.5~5	6~32	4	Auto	Manual	In process	PS15AMH-S01	10660004202	PS15AMH-S02	10660005602





**SELECTION AND ORDERING**



PS01, PS50, PS15, Capillary Connection										
Pressure	Type	Low Pressure (LP)		High Pressure (HP)		Reset		PED 2014 68/EU EN 12263 Certified <sup>1)</sup>	Connection	
		Range	Differential Pressure ΔP	Range	Differential Pressure ΔP	Low Pressure	High Pressure		Capillary with 7/16-20UNF Flare Nut (1/4in. & 6mm)	
		[bar]	[bar]	[bar]	[bar]				Model	U11 Code
Low	PS01	-0.5~7	0.5~5	—	—	Auto	—	In process	PS01AM-S01	10660006102
Low	PS01	-0.5~7	0.5	—	—	Manual	—	In process	PS01MM-S01	10660006002
High	PS50	—	—	6~32	3~15	—	Auto	NO	PS50AM-S51	10660005902
High	PS50	—	—	6~32	4	—	Manual	NO	PS50MM-S51	10660005802
High	PS50	—	—	6~32	3~15	—	Auto	In process	PS50AM-S01	10660005702
High	PS50	—	—	6~32	4	—	Manual	In process	PS50MM-S01	10660006602
Dual	PS15	-0.5~7	0.5~5	6~32	3~15	Auto	Auto	NO	PS15AAM-S51	10660006502
Dual	PS15	-0.5~7	0.5~5	6~32	4	Auto	Manual	NO	PS15AMM-S51	10660006402
Dual	PS15	-0.5~7	0.5~5	6~32	3~15	Auto	Auto	In process	PS15AAM-S01	10660006302
Dual	PS15	-0.5~7	0.5~5	6~32	4	Auto	Manual	In process	PS15AMM-S01	10660006202

**Notes:** 1) PS50 and PS15 which are planned to be certified by TÜV, Rheinland acc. to PED 2014 68/EU, EN12263 are designed with double bellows at high pressure and they provide fail-safe function (models without PED 2014 68/EU Certificate can be used as pressure regulation devices, usage them as pressure safety devices must be verified as per local legislation in the country of use). Regarding availability of PED 2014 68/EU (Category IV) Certificate please contact your Sanhua sales representative.

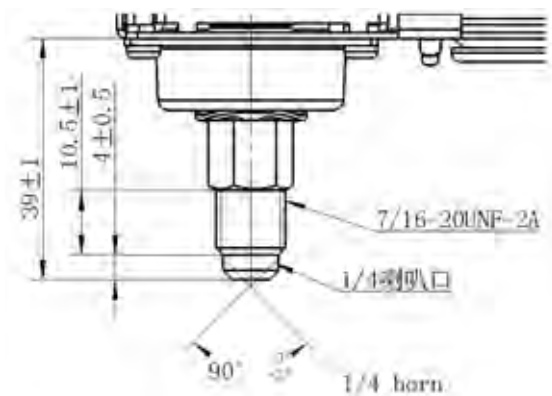
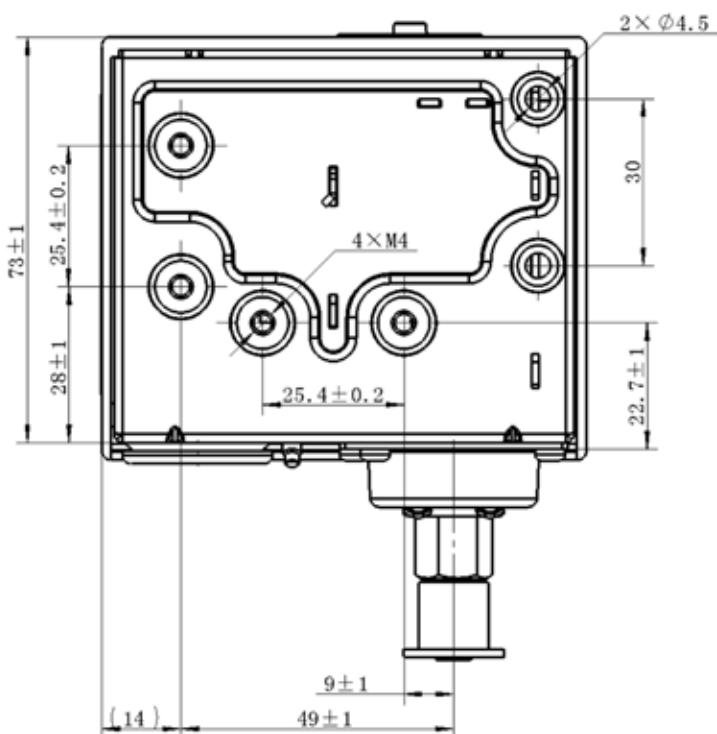
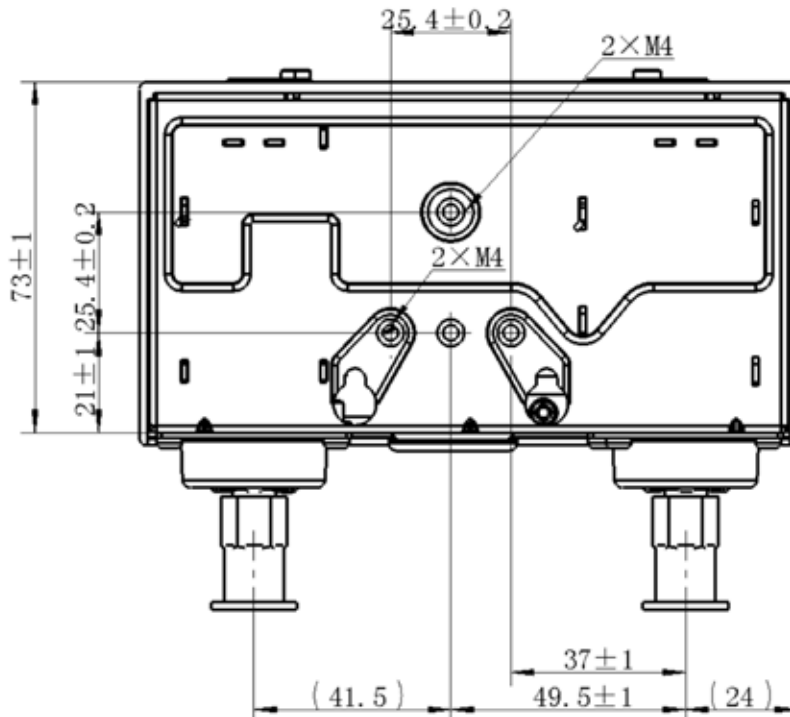
The double bellows system prevents loss of charge in the event of the inner bellow rupture. A rupture in the inner bellow will cause the control cut-out pressure to fall about 3 times less the set value and the compressor will stop. A rupture in the outer bellows will cause the control cut-out pressure to fall to about 3 bar under the set value and providing the so-called 'fail-safe' function.

2) The PS01 are planned to be certified by TÜV, Rheinland acc. to PED 2014 68/EU, EN12263 but due to the fact that they will not be used as high pressure protection function, PED IV is not required and they are designed with only single bellow.

**PS01/50/15 SERIES**  
**Pressure switch**



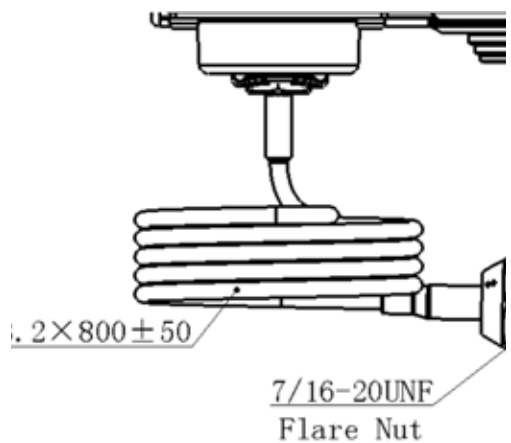
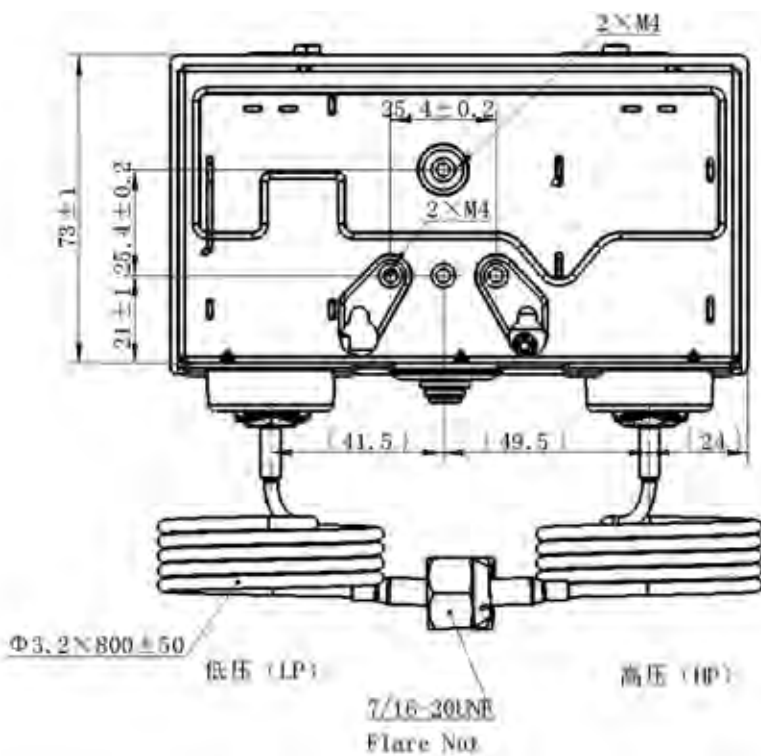
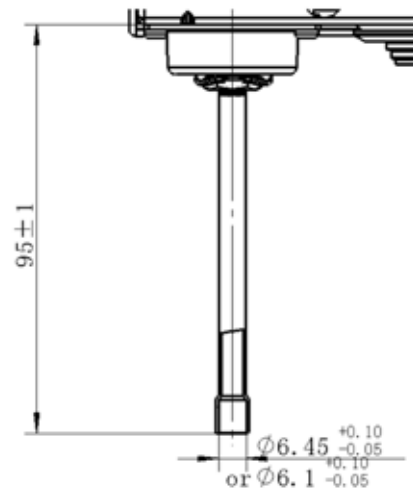
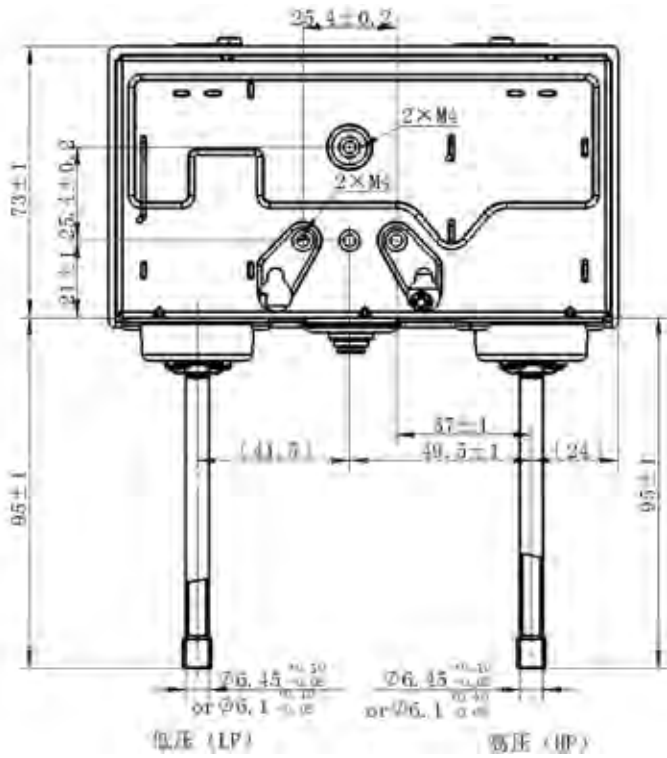
**DIMENSIONAL DRAWINGS**



**PS01/50/15 SERIES**  
**Pressure switch**



**DIMENSIONAL DRAWINGS**

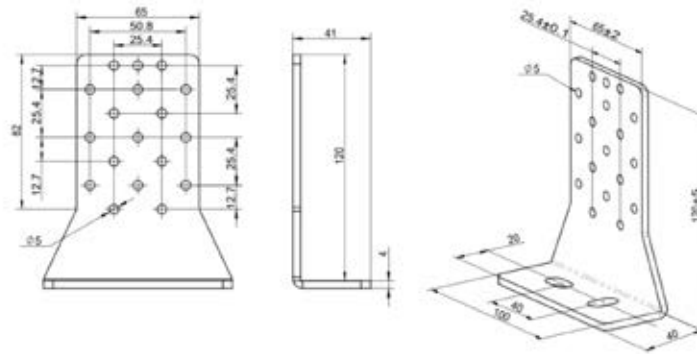


# PS01/50/15 SERIES

## Pressure switch

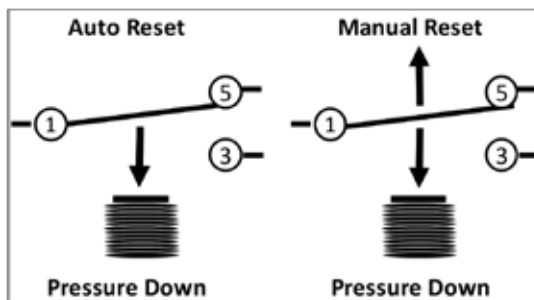


### MOUNTING PLATE

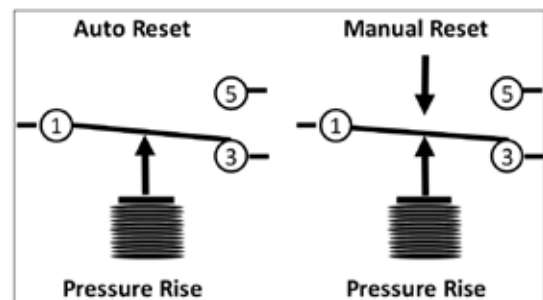


### CONTACT SYSTEM

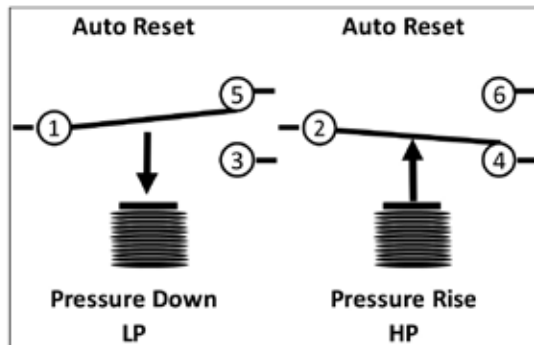
Single PS01



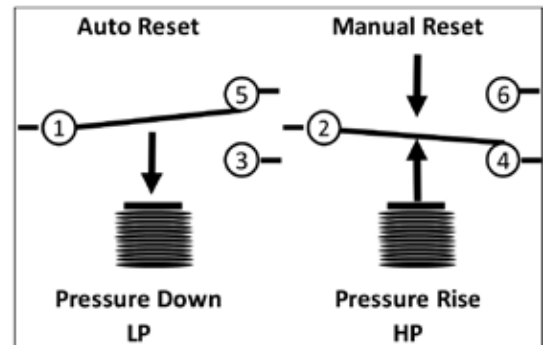
Single PS50



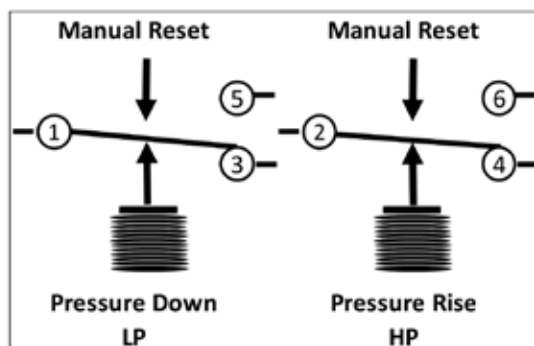
Dual PS15AA



Dual PS15AM



Dual PS15MM



# SANHUA

# Micro-Channel Heat Exchangers MCHE



## BENEFITS

- No galvanic corrosion (100% aluminum)
- Refrigerant charge reduction – up to 70%
- Long life alloy for very aggressive environments
- Helps manufacturers to meet high SEER (Seasonal Efficiency Ratio) and HSPF (Heating Seasonal Performance Factor) requirements.
- MCHE is more than 30% higher HT efficiency
- Up to 30% lower airside dP
- MCHE is lighter in weight, smaller in volume: up to 50%
- 100% Aluminum, easy to cycle
- Minimum performances decrease with lifetime (100% brazed)
- Special tube bending structure for A-coil
- Special desing for good refrigerant distribution
- Special fin desing for good water drainage.



## SANHUA MCHE Evaporator

Over 100,000 coils on the market since 2011

### The Sanhua MCHE Evaporator

- Performs in both heating, cooling and as a dehumidifier.
- Operates in both condensing and evaporating mode.

### Applications

- Commercial cooling and heating.
- Residential air conditioning and heating.
- Commercial retail refrigeration.

## SANHUA MCHE Heat Pump Coil

### The Sanhua MCHE Heat Pump Coil

- Designed to perform in both cooling and heating functions.

### Applications

- Commercial heating and cooling applications (Rooftop and chiller units).
- Residential air conditioning units.
- Heating Heat pump units.

## SANHUA MCHE Condenser

Over 1,3 million coils on the market since 2008

### The Sanhua MCHE Condenser

- Developed with a superior design and performance in cooling mode.

### Applications

- Commercial cooling application for chillers units .
- Residential air conditioning for outdoor units.
- Refrigeration application (transport and retail refrigeration).



CHILLING ideas worldwide

SANHUA INTERNATIONAL  
[info@sanhuaeurope.com](mailto:info@sanhuaeurope.com)



## COMMERCIAL AC

Key benefits

- Raise product efficiency or reduce footprint
- Save money on raw material, transport, storage
- Improve environmental performance and meet regulations
- Attract customers with lean, MCHE-based products

## TRANSPORT REFRIGERATION

Key benefits

- Create high-capacity products for transport
- Attract customers with reduced fuel costs and more cargo space
- Improve environmental performance and meet regulations

## PRECISION COOLING

Key benefits

- Precise temperature control to safeguard sensitive equipment
- Compact, space-saving units
- Low energy consumption
- Meet environmental regulations

## COLD ROOMS

Key benefits

- Hygiene - very easy to clean
- Build compact space saving units
- Reliable temperature control
- Meet environmental regulations
- Low energy consumption

## RESIDENTIAL AC and Heating Heat Pump

Key benefits

- Higher system efficiency
- Better environmental performance
- Lower noise levels

## APPLICABILITY

Refrigerant:

R410A, R134a, R22, R407C, R404A

Design pressure:

4.5MPa

Ambient air temperature:

-30°C to 72°C (-22°F to 161.6°F)

Expected refrigerant temperature:

-30°C to 121°C (-22°F to 250°F)

Storage temperature:

-30°C to 121°C (-22°F to 250°F)

## ASSEMBLY



## SHIPPING PALLET



## FIN PROCESS



## FIN MACHINE



## HELIUM DETECTOR



## FURNACES

# Manufacturing capabilities



# SANHUA

**CHILLING** ideas worldwide

FOR DETAILED  
INFORMATION  
PLEASE CONTACT:

**EMEA MCH  
MANAGER**

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Mobile: +33 620 586 838

# Thermostatic Expansion Valve

RFKH series thermostatic expansion valves are used to adjust mass flow of refrigerant into the evaporator while controlling the refrigerant's superheat at the outlet of the evaporator. They can be used for various refrigerants under all working conditions. Typical applications are refrigeration systems like freezers, ice makers, dehumidifiers as well as air conditioners and heat pumps at various evaporation temperature ranges.



## FEATURES

- STAINLESS STEEL CAPILLARY AND SENSING BULB
- EXCHANGEABLE VALVE ORIFICE, EASY TO STOCK HOLDING, CONVENIENT FOR CAPACITY MATCH AND REPAIR
- THERMAL BULB UTILIZES CROSS CHARGE TECHNOLOGY, PROVIDING CONSISTENT SUPERHEAT DEGREE OVER THE WHOLE EVAPORATION TEMPERATURE RANGE
- VALVES WITH MOP FUNCTION CAN BE PROVIDED TO ASSURE RELIABLE COMPRESSOR OPERATION
- APPLICABLE IN A WIDE EVAPORATION TEMPERATURE RANGE
- RELIABLE AND CONSISTENT PERFORMANCE OF SUPERHEAT CONTROL

## GENERAL SPECIFICATIONS

- Applicable for all common HCFC and HFC refrigerants such as: R22, R407C, R404A, R507, R134a, R404A, R410A, R407A, R407F, R448A/R449A, R452A, R450A/R513A
- Ambient temperature min./max.: -35°C / +55°C
- Medium temperature TS min./max.: -40°C / +70°C extended to -60°C / +70°C for range B models
- Max. operating pressure PS: 4.6 MPa (46 bar)
- Installation position:
  - Preferably valve head upwards
  - Flow direction from inlet A to outlet B
- Certifications: UL/CSA and PED declaration

**Thermostatic Expansion Valve**



**TECHNICAL PARAMETERS**

- RFKH series angle shape valve
- Inlet 3/8" flare connection
- Capillary tube length 1,5m
- Equalization port:
  - RFKH flare/flare type with 1/4" flare connection;
  - RFKH flare/solder type with 1/4" or 6mm solder connection

**MODEL DESIGNATION LEGEND**

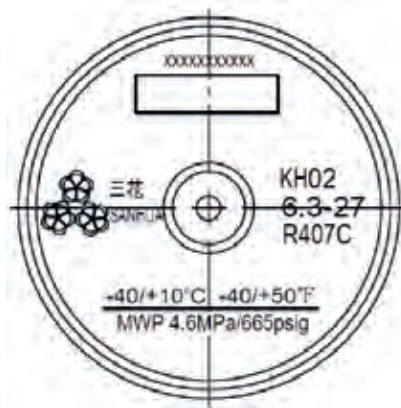
Position Number	Model Designation Legend	
1	Product Code	Product Series
	RFKH	Thermostatic expansion valve
2	Refrigerant	Description
	01	R22
	02	R407C
	03	R404A / R507A
	04	R134a
	05	R410A
	07	R407A / R407F
	08	R448A / R449A
	10	R450A
	11	R452A
	14	R513A
3	Pressure Equalization	Description
	E	External pressure equalization
	(Omitted)	Internal pressure equalization
4	Miscellaneous	Description
	xxxx	Digits for additional information

**Thermostatic Expansion Valve**



**MODEL DESIGNATION EXAMPLE**

Position Number				According to Model Designation Legend
1	2	3	4	
<b>RFKA</b>	01	E	xxxx	Thermostatic expansion valve
RFKA	<b>01</b>	E	xxxx	Refrigerant R22
RFKA	01	<b>E</b>	xxxx	Connection for external pressure equalization
RFKA	01	E	<b>xxxx</b>	Digits for additional information



**MODELS WITH MOP FUNCTION**

RFKH valves can be selected with MOP (Max. Operating Pressure) function. MOP protects the compressor motor against excessive evaporating pressure during normal operation.

Refrigerant	Range N (from -40°C to +10°C)	Range NM (from -40°C to -5°C)	Range NL (from -40°C to -15°C)	Range B (-60°C to -25°C)
	MOP = +15°C	MOP = 0°C	MOP = -10°C	MOP = -20°C
R22	6,9 bar (abs.) - STD	4,1 bar (abs.) - O.R.	2,4 bar (abs.) - STD	N.A.
R407C	6,6 bar (abs.) - STD	N.A.	N.A.	N.A.
R404A / R507	8,6 bar (abs.) - STD	5,2 bar (abs.) - O.R.	3,4 bar (abs.) - STD	3,0 bar (abs.) - STD
R134a	3,8 bar (abs.) - STD	2,1 bar (abs.) - O.R.	1,0 bar (abs.) - O.R.	N.A.
R410A	11,4 bar (abs.) - STD	8,0 bar (abs.) - O.R.	4,8 bar (abs.) - STD	N.A.
R407A / R407F	6,9 bar (abs.) - STD	N.A.	N.A.	N.A.
R448A / R449A	7,5 bar (abs.) - O.R.	4,3 bar (abs.) - O.R.	2,7 bar (abs.) - O.R.	2,47 bar (abs.) - O.R.
R450A	3,5 bar (abs.) - O.R.	1,7 bar (abs.) - O.R.	0,8 bar (abs.) - O.R.	N.A.
R452A	8,1 bar (abs.) - O.R.	4,8 bar (abs.) - O.R.	3,1 bar (abs.) - O.R.	2,76 bar (abs.) - O.R.
R513A	4,3 bar (abs.) - O.R.	2,3 bar (abs.) - O.R.	0,9 bar (abs.) - O.R.	N.A.

**Note:** STD : Standard product  
 O.R. : On Request  
 N.A. : Not Available

**Thermostatic Expansion Valve**

**TECHNICAL PARAMETERS**

Tab. A : Models with Range N : Temperature Range from -40°C to +10°C [ without MOP ]

Ref.	Model Valve Body	Part Number <sup>1 &amp; 4)</sup>	Connection type	Inlet ØA	Outlet ØB			Ext. ØC		
			In / Out / Ext. Pressure Equal.	Flare	Flare	Solder		Flare	Solder	Solder
				[inch]	[inch]	[mm]	[inch]	[inch]	[inch]	[mm]
R22	RFKH 01-6.0-22	10201002502	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH01E-6.0-13	10201002402	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH01-6.0-26	10201002602	flare / solder		-	12	-	-	-	-
	RFKH01E-6.0-06	10201002102	flare / solder / solder		-	12	-	-	-	6
	RFKH01-6.0-07	10201002202	flare / solder		-	-	1/2	-	-	-
	RFKH01E-6.0-08	10201002302	flare / solder / solder		-	-	1/2	-	1/4	-
R407C	RFKH02-6.3-24	10201002902	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH02E-6.3-20	10201002802	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH02-6.3-27	10201003002	flare / solder		-	12	-	-	-	-
	RFKH02E-6.3-28	10201003102	flare / solder / solder		-	12	-	-	-	6
	RFKH02-6.3-32	10201003202	flare / solder		-	-	1/2	-	-	-
	RFKH02E-6.3-18	10201002702	flare / solder / solder		-	-	1/2	-	1/4	-
R404A / R507A	RFKH03-4.8-21	10201003702	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH03E-4.8-15	10201003802	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH03-4.8-03	10201003402	flare / solder		-	12	-	-	-	-
	RFKH03E-4.8-02	10201003302	flare / solder / solder		-	12	-	-	-	6
	RFKH03-4.8-09	10201003502	flare / solder		-	-	1/2	-	-	-
	RFKH03E-4.8-10	10201003602	flare / solder / solder		-	-	1/2	-	1/4	-
R134a	RFKH04-2.9-23	10201004102	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH04E-2.9-19	10201004002	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH04-2.9-29	10201004202	flare / solder		-	12	-	-	-	-
	RFKH04E-2.9-17	10201003902	flare / solder / solder		-	12	-	-	-	6
	RFKH04-2.9-30	10201004302	flare / solder		-	-	1/2	-	-	-
	RFKH04E-2.9-31	10201004402	flare / solder / solder		-	-	1/2	-	-	1/4
R410A	RFKH05-6.8-66	10201005702	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH05E-6.8-33	10201005202	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH05-6.8-37	10201005602	flare / solder		-	12	-	-	-	-
	RFKH05E-6.8-36	10201005502	flare / solder / solder		-	12	-	-	-	6
	RFKH05-6.8-35	10201005402	flare / solder		-	-	1/2	-	-	-
	RFKH05E-6.8-34	10201005302	flare / solder / solder		-	-	1/2	-	-	1/4
R407A / R407F	RFKH07-6.0-43	10201004802	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH07E-6.0-42	10201004702	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH07-6.0-44	10201004902	flare / solder		-	12	-	-	-	-
	RFKH07E-6.0-41	10201004602	flare / solder / solder		-	12	-	-	-	6
	RFKH07-6.0-45	10201005002	flare / solder		-	-	1/2	-	-	-
	RFKH07E-6.0-46	10201005102	flare / solder / solder		-	-	1/2	-	-	1/4



**Thermostatic Expansion Valve**



**TECHNICAL PARAMETERS**

Tab. A : Models with Range N : Temperature Range from -40°C to +10°C [ without MOP ]

Ref.	Model Valve Body	Part Number <sup>1 &amp; 4)</sup>	Connection type	Inlet ØA	Outlet ØB			Ext. ØC		
			In / Out / Ext. Pressure Equal.	Flare	Flare	Solder		Flare	Solder	Solder
				[inch]	[inch]	[mm]	[inch]	[inch]	[inch]	[mm]
R448A / R449A	RFKH08-6.1-49	10201012802	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH08E-6.1-48	10201012402	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH08-6.1-50	10201013302	flare / solder		-	12	-	-	-	-
	RFKH08E-6.1-47	10201012302	flare / solder / solder		-	12	-	-	-	6
	RFKH08-6.1-51	10201012502	flare / solder		-	-	1/2	-	-	-
	RFKH08E-6.1-52	10201012602	flare / solder / solder		-	-	1/2	-	1/4	-
R450A	RFKH10-2.8-61	10201016102	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH10E-2.8-60	10201016002	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH10-2.8-72	10201016202	flare / solder		-	12	-	-	-	-
	RFKH10E-2.8-59	10201015902	flare / solder / solder		-	12	-	-	-	6
	RFKH10-2.8-63	10201016302	flare / solder		-	-	1/2	-	-	-
	RFKH10E-2.8-64	10201016402	flare / solder / solder		-	-	1/2	-	1/4	-
R452A	RFKH11-4.5-55	10201013602	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH11E-4.5-54	10201013502	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH11-4.5-56	10201013702	flare / solder		-	12	-	-	-	-
	RFKH11E-4.5-53	10201013402	flare / solder / solder		-	12	-	-	-	6
	RFKH11-4.5-57	10201013802	flare / solder		-	-	1/2	-	-	-
	RFKH11E-4.5-58	10201013902	flare / solder / solder		-	-	1/2	-	1/4	-
R513A	RFKH14-2.7-68	10201016802	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH14E-2.7-67	10201016702	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH14-2.7-70	10201016902	flare / solder		-	12	-	-	-	-
	RFKH14E-2.7-65	10201016502	flare / solder / solder		-	12	-	-	-	6
	RFKH14-2.7-71	10201017002	flare / solder		-	-	1/2	-	-	-
	RFKH14E-2.7-76	10201017102	flare / solder / solder		-	-	1/2	-	1/4	-

**Thermostatic Expansion Valve**


Tab. B : Models with Range N : Temperature Range from -40°C to +10°C [ with MOP = +15°C ]

Ref.	Model Valve Body	Part Number <sup>1 &amp; 4)</sup>	Connection type	Inlet ØA	Outlet ØB			Ext. ØC		
			In / Out / Ext. Pressure Equal.	Flare	Flare	Solder		Flare	Solder	Solder
				[inch]	[inch]	[mm]	[inch]	[inch]	[inch]	[mm]
R22	RFKH 01-6.0-205	10201006702	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH01E-6.0-204	10201006602	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH01-6.0-206	10201008102	flare / solder		-	12	-	-	-	-
	RFKH01E-6.0-201	10201006302	flare / solder / solder		-	12	-	-	-	6
	RFKH01-6.0-202	10201006402	flare / solder		-	-	1/2	-	-	-
	RFKH01E-6.0-203	10201006502	flare / solder / solder		-	-	1/2	-	1/4	-
R407C	RFKH02-6.3-209	10201007602	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH02E-6.3-208	10201007502	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH02-6.3-210	10201007702	flare / solder		-	12	-	-	-	-
	RFKH02E-6.3-211	10201007802	flare / solder / solder		-	12	-	-	-	6
	RFKH02-6.3-212	10201007902	flare / solder		-	-	1/2	-	-	-
	RFKH02E-6.3-207	10201007402	flare / solder / solder		-	-	1/2	-	1/4	-
R404A / R507A	RFKH03-4.8-218	10201008702	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH03E-4.8-216	10201008502	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH03-4.8-214	10201008302	flare / solder		-	12	-	-	-	-
	RFKH03E-4.8-213	10201008202	flare / solder / solder		-	12	-	-	-	6
	RFKH03-4.8-215	10201008402	flare / solder		-	-	1/2	-	-	-
	RFKH03E-4.8-217	10201008602	flare / solder / solder		-	-	1/2	-	1/4	-
R134a	RFKH04-2.9-221	10201009502	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH04E-2.9-220	10201009402	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH04-2.9-223	10201009702	flare / solder		-	12	-	-	-	-
	RFKH04E-2.9-219	10201009302	flare / solder / solder		-	12	-	-	-	6
	RFKH04-2.9-222	10201009602	flare / solder		-	-	1/2	-	-	-
	RFKH04E-2.9-224	10201009802	flare / solder / solder		-	-	1/2	-	-	1/4
R410A	RFKH05-7.6-230	10201010402	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH05E-7.6-225	10201009902	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH05-7.6-229	10201010302	flare / solder		-	12	-	-	-	-
	RFKH05E-7.6-228	10201010202	flare / solder / solder		-	12	-	-	-	6
	RFKH05-7.6-227	10201010102	flare / solder		-	-	1/2	-	-	-
	RFKH05E-7.6-226	10201010002	flare / solder / solder		-	-	1/2	-	-	1/4
R407A / R407F	RFKH07-6.0-233	10201011302	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH07E-6.0-232	10201011202	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH07-6.0-234	10201011402	flare / solder		-	12	-	-	-	-
	RFKH07E-6.0-231	10201011102	flare / solder / solder		-	12	-	-	-	6
	RFKH07-6.0-235	10201011502	flare / solder		-	-	1/2	-	-	-
	RFKH07E-6.0-236	10201011602	flare / solder / solder		-	-	1/2	-	-	1/4

**Thermostatic Expansion Valve**



Tab. C : Models with Range NL : Temperature Range from -40°C to -15°C [with MOP = -10°C]

Ref.	Model Valve Body	Part Number <sup>1 &amp; 4)</sup>	Connection type	Inlet ØA	Outlet ØB			Ext. ØC		
			In / Out / Ext. Pressure Equal.	Flare	Flare	Solder		Flare	Solder	Solder
				[inch]	[inch]	[mm]	[inch]	[inch]	[inch]	[mm]
R22	RFKH 01-6.0-305	10201007202	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH01E-6.0-304	10201007102	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH01-6.0-306	10201007302	flare / solder		-	12	-	-	-	-
	RFKH01E-6.0-301	10201006802	flare / solder / solder		-	12	-	-	-	6
	RFKH01-6.0-302	10201006902	flare / solder		-	-	1/2	-	-	-
	RFKH01E-6.0-303	10201008002	flare / solder / solder		-	-	1/2	-	1/4	-
R404A / R507A	RFKH03-4.8-312	10201009202	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH03E-4.8-311	10201009102	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH03-4.8-308	10201008902	flare / solder		-	12	-	-	-	-
	RFKH03E-4.8-307	10201008802	flare / solder / solder		-	12	-	-	-	6
	RFKH03-4.8-309	10201009002	flare / solder		-	-	1/2	-	-	-
	RFKH03E-4.8-69	10201005802	flare / solder / solder		-	-	1/2	-	1/4	-
R410A	RFKH05-7.6-318	10201011002	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH05E-7.6-313	10201010502	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH05-7.6-317	10201010902	flare / solder		-	12	-	-	-	-
	RFKH05E-7.6-316	10201010802	flare / solder / solder		-	12	-	-	-	6
	RFKH05-7.6-315	10201010702	flare / solder		-	-	1/2	-	-	-
	RFKH05E-7.6-314	10201010602	flare / solder / solder		-	-	1/2	-	-	1/4

- Note:**
- 1) Extent of delivery: valve body and bulb strap
  - 2) Different evaporation temperature range on request
  - 3) MOP function on request
  - 4) Part Number is referred to Multi Pack

**Thermostatic Expansion Valve**



Tab. D : Models with Range B : Temperature Range from -60°C to -25°C [ without MOP ]

Ref.	Model Valve Body	Part Number <sup>1 &amp; 4)</sup>	Connection type	Inlet ØA	Outlet ØB			Ext. ØC		
			In / Out / Ext. Pressure Equal.	Flare	Flare	Solder		Flare	Solder	Solder
				[inch]	[inch]	[mm]	[inch]	[inch]	[inch]	[mm]
R404A / R507A	RFKH03-4.8-106	10201017902	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH03E-4.8-105	10201017802	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH03-4.8-102	10201017502	flare / solder		-	12	-	-	-	-
	RFKH03E-4.8-101	10201017402	flare / solder / solder		-	12	-	-	-	6
	RFKH03-4.8-103	10201017602	flare / solder		-	-	1/2	-	-	-
	RFKH03E-4.8-104	10201017702	flare / solder / solder		-	-	1/2	-	1/4	-

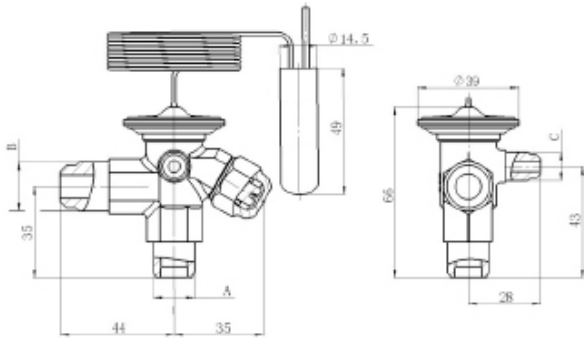
Tab. E : Models with Range B : Temperature Range from -60°C to -25°C [ with MOP -20°C ]

Ref.	Model Valve Body	Part Number <sup>1 &amp; 4)</sup>	Connection type	Inlet ØA	Outlet ØB			Ext. ØC		
			In / Out / Ext. Pressure Equal.	Flare	Flare	Solder		Flare	Solder	Solder
				[inch]	[inch]	[mm]	[inch]	[inch]	[inch]	[mm]
R404A / R507A	RFKH03-4.8-406	10201015602	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH03E-4.8-405	10201014402	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH03-4.8-402	10201015802	flare / solder		-	12	-	-	-	-
	RFKH03E-4.8-401	10201015302	flare / solder / solder		-	12	-	-	-	6
	RFKH03-4.8-403	10201015402	flare / solder		-	-	1/2	-	-	-
	RFKH03E-4.8-404	10201015502	flare / solder / solder		-	-	1/2	-	1/4	-

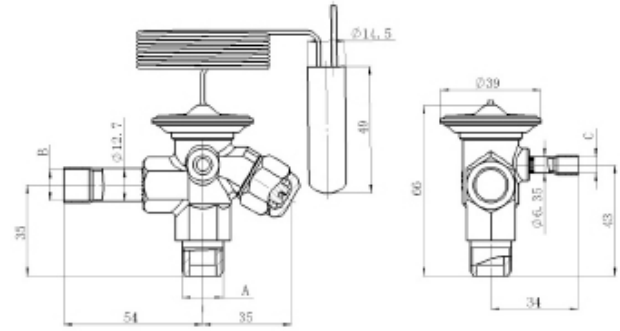
- Note:**
- 1) Extent of delivery: valve body and bulb strap
  - 2) Different evaporation temperature range on request
  - 3) MOP function on request
  - 4) Part Number is referred to Multi Pack



**DIMENSIONS**

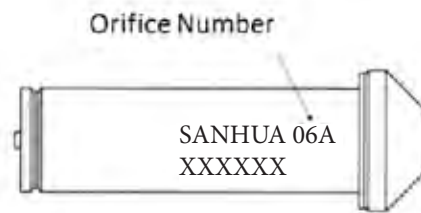


Valve Body - Connection Type: flare/flare/flare



Valve Body - Connection Type: flare/solder/solder

**ACCESSORIES**



**ORIFICE**

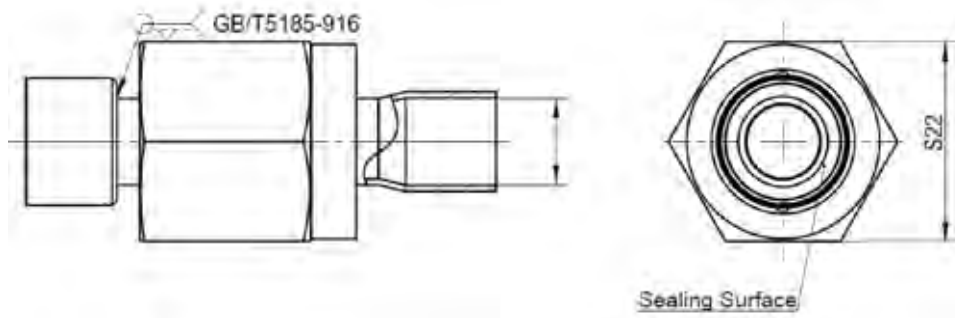
Valve Orifice Model	Part Number	Orifice Number	Nominal Capacity <sup>1)</sup> [ kW ]										
			R22	R407C	R404A R507A	R134a	R410A	R407A R407F	R448A	R449A	R450A	R452A	R513A
RFKH-023-0X	10202001702	0X	1.0	1.0	0.7	0.69	1.1	1.0	1,1	1,0	0,6	0,8	0,6
RFKH-023-00	10202001002	0	1.9	2.1	1.4	1.2	2.2	1.8	2,1	2,0	1,1	1,5	1,0
RFKH-023-01	10202001102	1	3.8	4.0	2.8	2.1	4.5	3.7	4,0	4,0	1,9	3,0	1,8
RFKH-023-02	10202001202	2	5.1	5.4	4.0	2.7	5.6	5.1	5,0	4,9	2,3	3,7	2,2
RFKH-023-03	10202001302	3	8.6	9.2	6.8	4.4	10.0	8.6	8,9	8,8	4,2	6,7	4,0
RFKH-023-04	10202001402	4	13.2	13.9	10.8	6.5	15.2	13.4	13,6	13,4	6,3	10,1	6,1
RFKH-023-05	10202001502	5	18.1	18.5	14.1	8.6	19.1	17.6	17,0	16,8	7,9	12,7	7,6
RFKH-023-06	10202001602	6	21.3	22.1	16.8	10.3	24.0	21.2	21,4	21,1	9,9	16,0	9,6

- Note:**
- 1) Nominal working conditions: Condensing temperature 38°C; evaporating temperature +4,4°C; liquid temperature 37°C
  - 2) R407C data based on dew point conditions
  - 3) Nominal capacity based on
    - Static Superheat (SS) 5K (for models without MOP) and 4K (for models with MOP)
    - Opening Superheat(OS) 6K



# RFKH SERIES

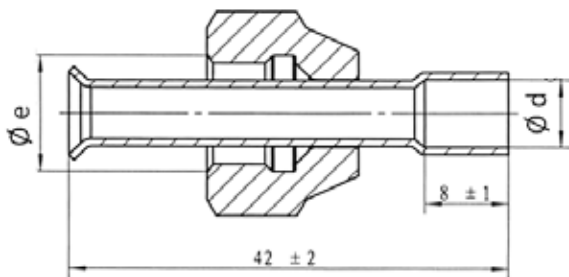
## Thermostatic Expansion Valve



### SOLDER ADAPTERS FOR RFKH INLET A

Model	Part Number <sup>1)</sup>	SAE Flare Ø e	Solder Connection Ø d
RFK-A04-038010	20200001602	3/8"	3/8"
RFK-A04-038011	20201002502		10mm
RFK-A04-038012	20201002602		1/4"
RFK-A04-038013	20201002702		6mm

**Note:** 1) Copper pipe and flare nut are in the extent of delivery



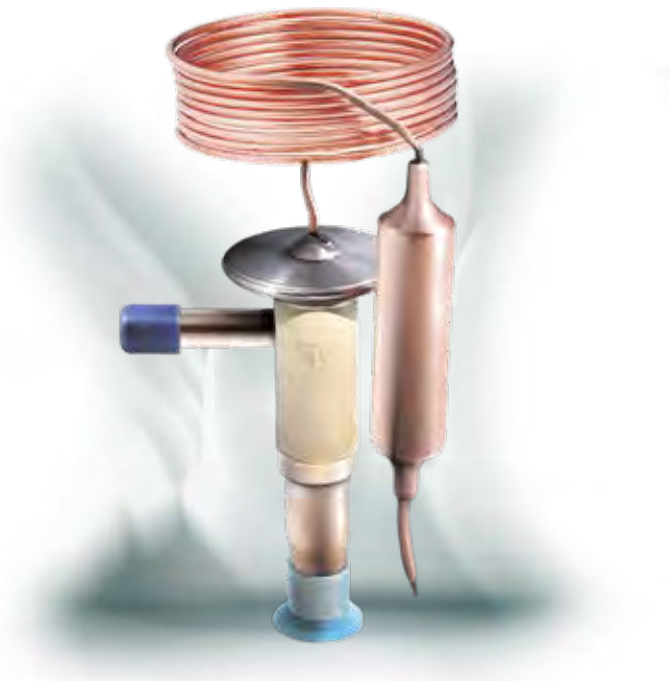
### SOLDER ADAPTERS FOR RFKH EXTERNAL PRESSURE EQUALIZATION C

Model	Part Number <sup>1)</sup>	SAE Flare Ø e	Solder Connection Ø d
RFKA-038-03	20201000502	1/4"	6mm
RFKA-038-04	20201000602		1/4"

**Note:** 1) Copper pipe and flare nut are in the extent of delivery

# Thermostatic Expansion Valve

RFGB series thermostatic expansion valves are used to adjust mass flow of refrigerant into the evaporator while controlling the refrigerant's superheat at the outlet of the evaporator. They can be used for various refrigerants under all working conditions. Typical applications are refrigeration systems like commercial refrigerators and freezers, icemakers, dehumidifiers as well as air conditioners at various evaporation temperature.



## FEATURES

- COMPACT DESIGN WITH BUILD-IN ORIFICE
- WARM THERMO HEAD CONSTRUCTION
- ALL CONNECTIONS PIPES ARE COMPLETELY IN COPPER
- VALVES WITH MOP FUNCTION CAN BE PROVIDED TO ASSURE RELIABLE COMPRESSOR OPERATION
- APPLICABLE IN A WIDE EVAPORATION TEMPERATURE RANGE
- RELIABLE AND CONSISTENT PERFORMANCE OF SUPERHEAT CONTROL

## GENERAL SPECIFICATION

- Applicable for all common HCFC, HFC, HC, HFO refrigerants such as: R22, R134a, R404A, R407C, R507, R407A/F, R290, R1234yf, R448A/R449A, R452A, R450A/R513A<sup>1)</sup>
- Ambient temperature min./max.: -35/+55°C
- Medium temperature TS min./max.: -40°C / +70°C
- Max. operating pressure PS: 2,1 ... 3,5 MPa (21 ... 35 bar)<sup>2)</sup>
- Installation position: - Preferably valve head upwards  
- Flow direction from inlet A to outlet B
- Certifications: UL/CSA and PED declaration

**Note:** 1) Models for R407A/F, R1234yf, R448A/R449A, R452A, R450A/R513A are on request  
2) Max. operating pressure is related to the used refrigerant

## TECHNICAL PARAMETERS

- RFGB valve available in straight shape with adjustable superheat on site
- RFGB valve available in angle shape with fixed factory super heat settings
- Both versions are available with the following solder connections
  - Metric: Inlet 6mm ODF/ Outlet 10mm ODF or Inlet 10mm ODF/ Outlet 12mm ODF
  - Imperial: Inlet 1/4" ODF/ Outlet 3/8" ODF or Inlet 3/8" ODF/ Outlet 1/2" ODF
- Equalization port available as option:
  - Metric: 6mm ODF (available for models with metric solder connections)
  - Imperial: 1/4" ODF (available for models with imperial solder connections)
- Capillary tube length 800mm



**MODEL DESIGNATION LEGEND**

Position Number	Model Designation Legend	
1	<b>Product Code</b>	<b>Product Series</b>
	RFGB	Thermostatic expansion valve with build-in orifice
2	<b>Refrigerant</b>	<b>Description</b>
	1	R22
	2	R407C
	3	R404A / R507A
	4	R134a
	6	R290
3	<b>Pressure Equalization</b>	<b>Description</b>
	E	External pressure equalization
	(Omitted)	Internal pressure equalization
4	<b>Valve Size</b>	<b>Internal Orifice Size</b>
	From 1 to 5	Valve size: proportional to the orifice size and to the nominal capacity
5	<b>Valve Shape</b>	<b>Description</b>
	S	Straight Version
	A	Angle Version
6	<b>Connections Type</b>	<b>Description</b>
	Mx	Metric: M6 inlet 6mm ; M10 inlet 10mm
	Ix	Imperial: I2 inlet 1/4" ; I3 inlet 3/8"
7	<b>Miscellaneous</b>	<b>Description</b>
	xxx	Digits for additional information e.g. static superheat, MOP, Bleed...

**MODEL DESIGNATION EXAMPLE**

Position Number							According to Model Designation Legend
1	2	3	4	5	6	7	
<b>RFGB</b>	04	E	3	S	M6	xxxx	Thermostatic expansion valve with build-in orifice
RFGB	<b>04</b>	E	3	S	M6	xxxx	Refrigerant: R134a
RFGB	04	<b>E</b>	3	S	M6	xxxx	With connection for external pressure equalization
RFGB	04	E	<b>3</b>	S	M6	xxxx	Capacity: Valve and orifice size 3
RFGB	04	E	3	<b>S</b>	M6	xxxx	Valve Shape: straight
RFGB	04	E	3	S	<b>M6</b>	xxxx	Valve pipe connections: metric inlet 6mm/outlet 10mm
RFGB	04	E	3	S	M6	<b>xxxx</b>	Digits for additional information



**TECHNICAL DATA**

Nominal Cooling Capacities <sup>1)2)</sup>						
Refrigerant	Size	Model Name <sup>4)</sup>	Drawing	Capacity		PS
				[ USRT ]	[ kW ]	[ MPa ]
R22	1	RFGB 01(E) -1	RFGB01(E)-0.35-xxx	0.35	1.2	2,8
	2	RFGB 01(E) -2	RFGB01(E)-0.7-xxx	0.7	2.5	
	3	RFGB 01(E) -3	RFGB01(E)-1.0-xxx	1	3.5	
	4	RFGB 01(E) -4	RFGB01(E)-1.5-xxx	1.5	5.3	
	5	RFGB 01(E) -5	RFGB01(E)-2.0-xxx	2	7	
R407C <sup>3)</sup>	1	RFGB 02(E) -1	RFGB02(E)-0.38-xxx	0.38	1.3	2,8
	2	RFGB 02(E) -2	RFGB02(E)-0.76-xxx	0.76	2.7	
	3	RFGB 02(E) -3	RFGB02(E)-1.1-xxx	1.1	3.9	
	4	RFGB 02(E) -4	RFGB02(E)-1.6-xxx	1.6	5.6	
	5	RFGB 02(E) -5	RFGB02(E)-2.2-xxx	2.2	7.7	
R404A / R507	1	RFGB 03(E) -1	RFGB03(E)-0.25-xxx	0.25	0.9	3,5
	2	RFGB 03(E) -2	RFGB03(E)-0.5-xxx	0.5	1.8	
	3	RFGB 03(E) -3	RFGB03(E)-0.7-xxx	0.7	2.5	
	4	RFGB 03(E) -4	RFGB03(E)-1.0-xxx	1	3.5	
	5	RFGB 03(E) -5	RFGB03(E)-1.4-xxx	1.4	4.9	
R134a	1	RFGB 04(E) -1	RFGB04(E)-0.23-xxx	0.22	0.8	2,1
	2	RFGB 04(E) -2	RFGB04(E)-0.44-xxx	0.44	1.5	
	3	RFGB 04(E) -3	RFGB04(E)-0.63-xxx	0.63	2.2	
	4	RFGB 04(E) -4	RFGB04(E)-0.94-xxx	0.94	3.3	
	5	RFGB 04(E) -5	RFGB04(E)-1.3-xxx	1.3	4.6	
R290	1	RFGB 06(E) -1	RFGB06(E)-0.35-xxx	0.35	1.2	2,8
	2	RFGB 06(E) -2	RFGB06(E)-0.7-xxx	0.7	2.5	
	3	RFGB 06(E) -3	RFGB06(E)-1.0-xxx	1	3.5	
	4	RFGB 06(E) -4	RFGB06(E)-1.5-xxx	1.5	5.3	
	5	RFGB 06(E) -5	RFGB06(E)-2.0-xxx	2	7	

**Note:**

- 1) Nominal capacity valid for: - Version "S" in straight shape and version "A" in angle shape  
 - Versions with metrical and imperial connections
- 2) Nominal working conditions: Condensing temperature: 38°C; evaporating temperature +4,4°C; Liquid temperature 37°C
- 3) R407C data based on dew point conditions
- 4) Model Name in this table is referred to the first 4 positions of the model designation

**Thermostatic Expansion Valve**



**MODEL LIST**

Evaporation Temp. Range to = +10...-40°C<sup>1)</sup>

Model Name <sup>2) 3) 4) 5)</sup>				Connections Size (Solder ODF)					
Valve Body All Refrigerants	Capacity Size All Sizes	Valve Shape <sup>6)</sup> Straight / Angle	Pipe connections Metric / Imperial	Inlet		Outlet		Pressure Equal.	
				[mm]	[inch]	[mm]	[inch]	[mm]	[inch]
RFGB 01 - RFGB 02 - RFGB 03 - RFGB 04 - RFGB 06 -	1 - 2 - 3 -	S -	M6	6	-	10	-	-	-
			M10	10	-	12	-	-	-
			2	-	1/4	-	3/8	-	-
	4 - 5 -	A -	3	-	3/8	-	1/2	-	-
			M6	6	-	10	-	-	-
			M10	10	-	12	-	-	-
RFGB 01E - RFGB 02E - RFGB 03E - RFGB 04E - RFGB 06E -	1 - 2 - 3 -	S -	M6	6	-	10	-	6	-
			M10	10	-	12	-	6	-
			2	-	1/4	-	3/8	-	1/4
	4 - 5 -	A -	3	-	3/8	-	1/2	-	1/4
			M6	6	-	10	-	6	-
			M10	10	-	12	-	6	-
			2	-	1/4	-	3/8	-	1/4
			3	-	3/8	-	1/2	-	1/4

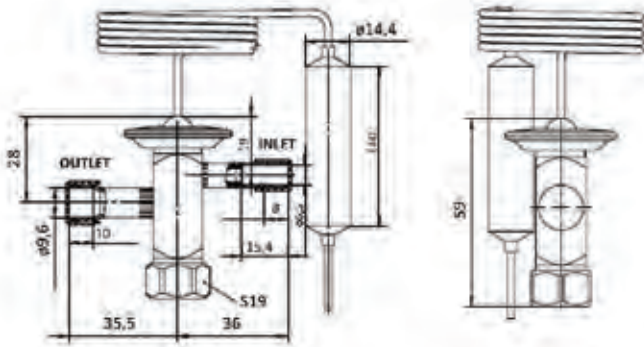
**Note:**

- 1) Different evaporation temperature range on request
- 2) Extent of delivery: valve body and bulb strap
- 3) MOP function on request
- 4) Delivery time on request
- 5) Model Name in this table is referred to the first 6 positions of the model designation
- 6) Superheat : - Straight version "S" with adjustable settings  
- Angle version "A" with fixed factory settings

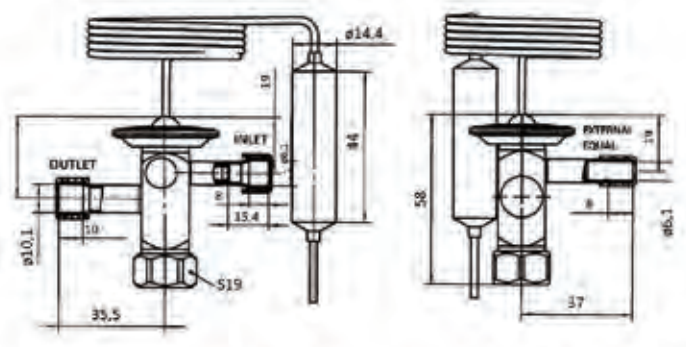




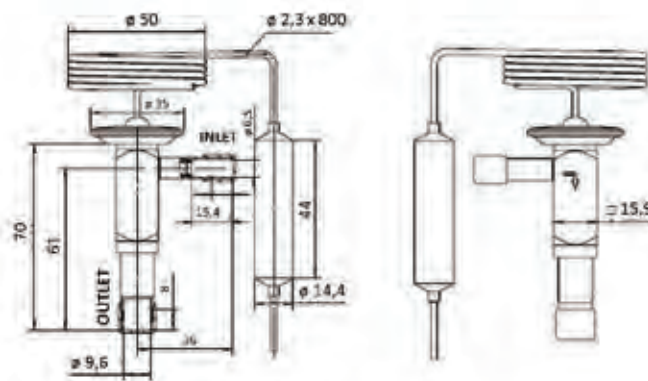
**DIMENSIONS**



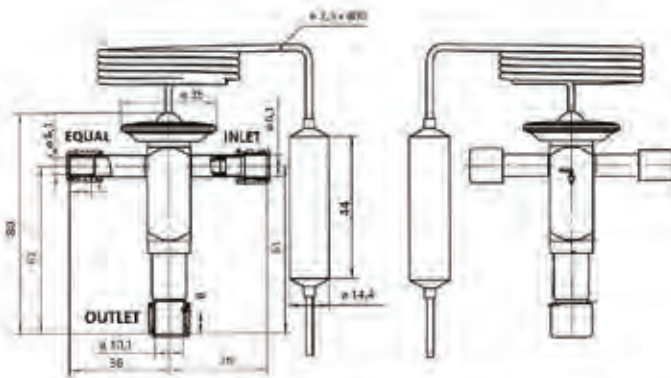
**Straight Shape with Internal Pressure Equalization**



**Straight Shape with External Pressure Equalization**



**Angle Shape with Internal Pressure Equalization**



**Angle Shape with External Pressure Equalization**



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# With replaceable strainer

RFGB thermostatic expansion valves are also available on request with a replaceable strainer placed on the inlet connection of the valve. This mechanical filter equipped with a metallic net (mesh 100) can block all the potential impurities present in the refrigeration circuit avoiding that some of them damage the valve. The particular layout of the inlet connection (from the bottom) allows the strainer to be removed for cleaning or replacement without having to remove the valve from the system

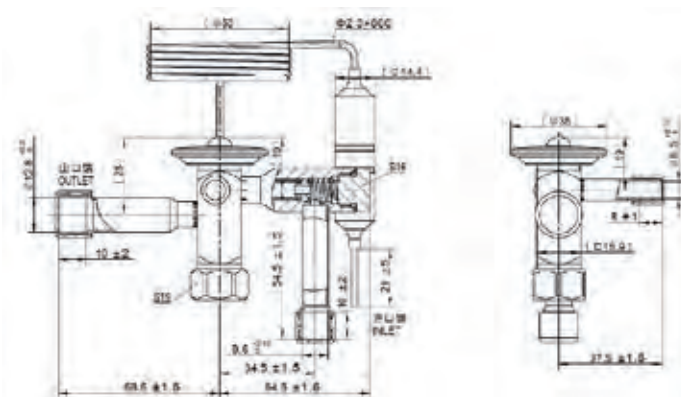
All the RFGB variants shown on “Technical Data” and “Model List” tables can be customized on request with the introduction of a replaceable strainer.



## MODEL DESIGNATION EXAMPLE

Position Number							According to Model Designation Legend
1	2	3	4	5	6	7	
<b>RFGB</b>	04	E	3	S	M6	xxxx	Thermostatic expansion valve with build-in orifice
RFGB	<b>04</b>	E	3	S	M6	xxxx	Refrigerant: R134a
RFGB	04	<b>E</b>	3	S	M6	xxxx	With connection for external pressure equalization
RFGB	04	E	<b>3</b>	S	M6	xxxx	Capacity: Valve and orifice size 3
RFGB	04	E	3	<b>S</b>	M6	xxxx	Valve Shape: straight
RFGB	04	E	3	S	<b>M6</b>	xxxx	Valve pipe connections: metric inlet 6mm/outlet 10mm
RFGB	04	E	3	S	M6	<b>xxxx</b>	"8" as first digits for RFGB with strainer

## DIMENSIONS (RFGB WITH REPLACEABLE STRAINER)



Straight shape with external equalization and replaceable strainer



EVERY SECOND HOME REFRIGERATOR IN EUROPE IS EQUIPPED WITH A **SANHUA** SOLENOID VALVE



Solenoid Valve



Check Valve Piston Type



Thermostatic Expansion Valve



Uni-Flow Filter Driers



4 Way Reversing Valve



Ball Valve



Electronic Expansion Valve



Filter Driers with Replaceable Core



Sight Glass

2 OUT OF 3 AC UNITS ARE EQUIPPED WITH A **SANHUA** REVERSING VALVE

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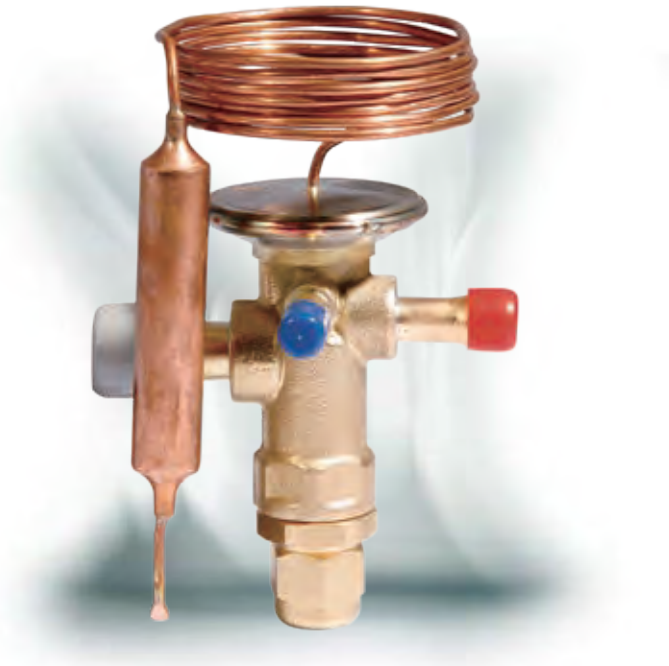
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# Thermostatic Expansion Valve

RFGD series thermostatic expansion valves are used to adjust mass flow of refrigerant into the evaporator while controlling the refrigerant's superheat at the outlet of the evaporator. They can be used for various refrigerants under all working conditions. Typical applications are refrigeration systems like commercial refrigerators and freezers, icemakers, dehumidifiers as well as air conditioners like water chillers and bus A/C at various evaporation temperatures.



## FEATURES

- COMPACT DESIGN WITH BUILD-IN ORIFICE
- WARM THERMO HEAD CONSTRUCTION
- ALL CONNECTIONS PIPES ARE COMPLETELY IN COPPER
- VALVES WITH MOP FUNCTION CAN BE PROVIDED TO ASSURE RELIABLE COMPRESSOR OPERATION
- APPLICABLE IN A WIDE EVAPORATION TEMPERATURE RANGE
- RELIABLE AND CONSISTENT PERFORMANCE OF SUPERHEAT CONTROL
- BALANCED PORT - SUITABLE FOR REVERSIBLE CYCLES
- THERMAL BULB UTILIZES CROSS CHARGE TECHNOLOGY, PROVIDING CONSISTENT SUPERHEAT DEGREE OVER THE WHOLE EVAPORATION TEMPERATURE RANGE
- WIDE CAPACITIES RANGE SPLIT IN 9 ORIFICES SIZES:
  - RFGD10: (ORIFICES 1 TO 6)
  - RFGD20: (ORIFICES 7 TO 9)

## GENERAL SPECIFICATION

- Applicable for all common HCFC and HFC refrigerants such as: R22, R134a, R404A, R407C, R410A, R507
- Ambient temperature min./max.: -35/+55°C
- Medium temperature TS min./max.: -40°C / +70°C
- Max. operating pressure PS: 4.8 Mpa<sup>1)</sup>
- Installation position: - Preferably valve head upwards  
- Main flow direction from inlet A to outlet B
- Certifications: UL/CSA and PED declaration

**Thermostatic Expansion Valve**



**TECHNICAL PARAMETERS**

- RFGD valves are available in straight shape with adjustable superheat on site
- RFGD valves are available with the different solder and flare connections (see more details in following tables)
- RFGD valves are available with 2 different temperature ranges:
  - from -40°C to +10°C
  - from -25°C to +10°C
- Equalization port available as option:
  - Metric: 6mm ODF (available for models with metric solder connections)
  - Imperial: 1/4" ODF (available for models with imperial solder connections)
- Capillary tube length 1500mm as standard. Different length customizable on request.
- Standard MOP values:
  - T. range -40°C to +10°C: MOP: +15°C or MOP not present
  - T. range -25°C to +10°C: MOP: +15°C

**MODEL DESIGNATION LEGEND**

Position Number	Model Designation Legend	
1	<b>Product Code</b>	<b>Product Series</b>
	RFGD	Thermostatic expansion valve with build-in orifice
2	<b>Refrigerant</b>	<b>Description</b>
	1	R22
	2	R407C
	3	R404A / R507
	4	R134a
	5	R410A
3	<b>Pressure Equalization</b>	<b>Description</b>
	E	External pressure equalization
	(Omitted)	Internal pressure equalization
4	<b>Valve Size</b>	<b>Internal Orifice Size</b>
	From 1 to 9	Valve size: proportional to the orifice size and to the nominal capacity
5	<b>Connections Type</b>	<b>Description</b>
	M10/16	Metric: inlet 10mm / outlet 16mm
	M12/22	Metric: inlet 12mm / outlet 22mm
	M16/22	Metric: inlet 16mm / outlet 22mm
	3/5	Imperial: inlet 3/8" / outlet 5/8"
	4/7	Imperial: inlet 1/2" / outlet 7/8"
	5/7	Imperial: inlet 5/8" / outlet 7/8"
	S5/6	Both SAE Flare: inlet 5/8" / outlet 3/4"
	I5/6	Both MIO Flare: inlet 5/8" / outlet 3/4"
	O5/6	Both ORFS inlet 5/8" / outlet 3/4"
6	<b>Miscellaneous</b>	<b>Description</b>
	xxx	Digits for additional information e.g. static superheat, MOP, Bleed...





**MODEL DESIGNATION EXAMPLE**

Position Number						According to Model Designation Legend
1	2	3	4	5	6	
<b>RFGD</b>	04	E	3	M16/22	xxxx	Thermostatic expansion valve with build-in orifice
RFGD	<b>04</b>	E	3	M16/22	xxxx	Refrigerant: R134a
RFGD	04	<b>E</b>	3	M16/22	xxxx	With connection for external pressure equalization
RFGD	04	E	<b>3</b>	M16/22	xxxx	Capacity: Valve and orifice size 3
RFGD	04	E	3	<b>M16/22</b>	xxxx	Valve pipe connections: metric inlet 16mm/outlet 22mm
RFGD	04	E	3	M16/22	<b>xxxx</b>	Digits for additional information

**TECHNICAL DATA**

*Nominal Capacities<sup>1</sup>*

R22			R407C <sup>2)</sup>			R404A / R507A			R134a			R410A		
PS: 2,8 MPa			PS: 2,8 MPa			PS: 3,5 MPa			PS: 2,1 MPa			PS: 4,5 MPa		
Model Name <sup>3)</sup>	Capacity		Model Name <sup>3)</sup>	Capacity		Model Name <sup>3)</sup>	Capacity		Model Name <sup>3)</sup>	Capacity		Model Name <sup>3)</sup>	Capacity	
	[USRT]	[kW]		[USRT]	[kW]		[USRT]	[kW]		[USRT]	[kW]		[USRT]	[kW]
RFGD 01-1	3,0	10,6	RFGD 02-1	3,1	10,9	RFGD 03-1	2,0	7,0	RFGD 04-1	1,8	6,3	RFGD 05-1	3,5	12,3
RFGD 01E-1			RFGD 02E-1			RFGD 03E-1			RFGD 04E-1			RFGD 05E-1		
RFGD 01-2	4,0	14,1	RFGD 02-2	4,2	14,8	RFGD 03-2	2,8	9,8	RFGD 04-2	2,5	8,8	RFGD 05-2	4,5	15,8
RFGD 01E-2			RFGD 02E-2			RFGD 03E-2			RFGD 04E-2			RFGD 05E-2		
RFGD 01-3	6,0	21,1	RFGD 02-3	6,3	22,2	RFGD 03-3	4,2	14,8	RFGD 04-3	3,6	12,7	RFGD 05-3	7,0	24,6
RFGD 01E-3			RFGD 02E-3			RFGD 03E-3			RFGD 04E-3			RFGD 05E-3		
RFGD 01-4	7,5	26,4	RFGD 02-4	8,1	28,5	RFGD 03-4	5,4	19,0	RFGD 04-4	4,6	16,2	RFGD 05-4	8,6	30,2
RFGD 01E-4			RFGD 02E-4			RFGD 03E-4			RFGD 04E-4			RFGD 05E-4		
RFGD 01-5	9,0	31,7	RFGD 02-5	9,4	33,1	RFGD 03-5	6,4	22,5	RFGD 04-5	5,5	19,3	RFGD 05-5	10,6	37,3
RFGD 01E-5			RFGD 02E-5			RFGD 03E-5			RFGD 04E-5			RFGD 05E-5		
RFGD 01-6	11,0	38,7	RFGD 02-6	11,7	41,1	RFGD 03-6	7,8	27,4	RFGD 04-6	6,8	23,9	RFGD 05-6	12,8	45,0
RFGD 01E-6			RFGD 02E-6			RFGD 03E-6			RFGD 04E-6			RFGD 05E-6		
RFGD 01-7	12,0	42,2	RFGD 02-7	12,0	42,2	RFGD 03-7	9,0	31,7	RFGD 04-7	8,0	28,1	RFGD 05-7	15,0	52,8
RFGD 01E-7			RFGD 02E-7			RFGD 03E-7			RFGD 04E-7			RFGD 05E-7		
RFGD 01-8	15,0	52,8	RFGD 02-8	15,0	52,8	RFGD 03-8	11,0	38,7	RFGD 04-8	10,0	35,2	RFGD 05-8	19,0	66,8
RFGD 01E-8			RFGD 02E-8			RFGD 03E-8			RFGD 04E-8			RFGD 05E-8		
RFGD 01-9	18,0	63,3	RFGD 02-9	18,0	63,3	RFGD 03-9	13,0	45,7	RFGD 04-9	12,0	42,2	RFGD 05-9	23,0	80,9
RFGD 01E-9			RFGD 02E-9			RFGD 03E-9			RFGD 04E-9			RFGD 05E-9		

**Note:**

- 1) Nominal capacities referred at the following working conditions:  
 Condensing temperature: 38°C; evaporating temperature +4,4°C; Liquid temperature 37°C  
 Static Super Heating: 4 K
- 2) R407C data based on dew point conditions
- 3) Model Name in this table is referred to the first 4 positions of the model designation



**RFGD10 MODEL LIST (WITH EXTERNAL EQUALIZATION) – SOLDER CONNECTION**

Model Name										Temperature Range	
Ref.	Valve Body	Capacity Size All Sizes	Pipe connections Metric / Imperial	Inlet		Outlet		Pressure Equal.		-40°C to +10°C	-25°C to +10°C
				[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	No MOP	MOP: +15°C
R22	RFGD 01E -	1	M10/16	10	-	16	-	6	-	O.R.	O.R.
		2	M12/22	12	-	22	-	6	-	O.R.	O.R.
		3	M16/22	16		22		6	-	O.R.	O.R.
		4	3/5	-	3/8	-	5/8	-	1/4	O.R.	O.R.
		5	4/7	-	1/2	-	7/8	-	1/4	O.R.	O.R.
		6	5/7		5/8		7/8	-	1/4	O.R.	O.R.
R407C	RFGD 02E -	1	M10/16	10	-	16	-	6	-	STD	O.R.
		2	M12/22	12	-	22	-	6	-	STD	O.R.
		3	M16/22	16		22		6	-	STD	O.R.
		4	3/5	-	3/8	-	5/8	-	1/4	STD	O.R.
		5	4/7	-	1/2	-	7/8	-	1/4	STD	O.R.
		6	5/7		5/8		7/8	-	1/4	STD	O.R.
R404A / R507	RFGD 03E -	1	M10/16	10	-	16	-	6	-	STD	O.R.
		2	M12/22	12	-	22	-	6	-	STD	O.R.
		3	M16/22	16		22		6	-	STD	O.R.
		4	3/5	-	3/8	-	5/8	-	1/4	STD	O.R.
		5	4/7	-	1/2	-	7/8	-	1/4	STD	O.R.
		6	5/7		5/8		7/8	-	1/4	STD	O.R.
R134a	RFGD 04E -	1	M10/16	10	-	16	-	6	-	STD	O.R.
		2	M12/22	12	-	22	-	6	-	STD	O.R.
		3	M16/22	16		22		6	-	STD	O.R.
		4	3/5	-	3/8	-	5/8	-	1/4	STD	O.R.
		5	4/7	-	1/2	-	7/8	-	1/4	STD	O.R.
		6	5/7		5/8		7/8	-	1/4	STD	O.R.
R410A	RFGD 05E -	1	M10/16	10	-	16	-	6	-	STD	O.R.
		2	M12/22	12	-	22	-	6	-	STD	O.R.
		3	M16/22	16		22		6	-	STD	O.R.
		4	3/5	-	3/8	-	5/8	-	1/4	STD	O.R.
		5	4/7	-	1/2	-	7/8	-	1/4	STD	O.R.
		6	5/7		5/8		7/8	-	1/4	STD	STD*)



**RFGD20 MODEL LIST (WITH EXTERNAL EQUALIZATION) – SOLDER CONNECTION**

Model Name										Temperature Range		
Ref.	Valve Body	Capacity Size All Sizes	Pipe connections Metric / Imperial	Inlet		Outlet		Pressure Equal.		-40°C to +10°C	-25°C to +10°C	
				[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	No MOP	MOP: +15°C	
R22	RFGD 01E -	7	M16/22	16		22		6		O.R.	O.R.	
		7	M16/28	16		28		6		O.R.	O.R.	
		8	M16/28	16		28		6		O.R.	O.R.	
		8	M22/28	22		28		6		O.R.	O.R.	
		9	M22/28	22		28		6		O.R.	O.R.	
		9	M22/35	22		35		6		O.R.	O.R.	
		7	5/7		5/8		7/8		1/4		O.R.	O.R.
		7	5/9		5/8		1-1/8		1/4		O.R.	O.R.
		8	5/9		5/8		1-1/8		1/4		O.R.	O.R.
		8	7/9		7/8		1-1/8		1/4		O.R.	O.R.
		9	7/9		7/8		1-1/8		1/4		O.R.	O.R.
		9	7/11		7/8		1-3/8		1/4		O.R.	O.R.
R407C	RFGD 02E -	7	M16/22	16		22		6		STD	STD	
		7	M16/28	16		28		6		STD	STD	
		8	M16/28	16		28		6		STD	STD	
		8	M22/28	22		28		6		STD	STD	
		9	M22/28	22		28		6		STD	STD	
		9	M22/35	22		35		6		STD	STD	
		7	5/7		5/8		7/8		1/4		STD	STD
		7	5/9		5/8		1-1/8		1/4		STD	STD
		8	5/9		5/8		1-1/8		1/4		STD	STD
		8	7/9		7/8		1-1/8		1/4		STD	STD
		9	7/9		7/8		1-1/8		1/4		STD	STD
		9	7/11		7/8		1-3/8		1/4		STD	STD
R404A / R507	RFGD 03E -	7	M16/22	16		22		6		STD	STD	
		7	M16/28	16		28		6		STD	STD	
		8	M16/28	16		28		6		STD	STD	
		8	M22/28	22		28		6		STD	STD	
		9	M22/28	22		28		6		STD	STD	
		9	M22/35	22		35		6		STD	STD	
		7	5/7		5/8		7/8		1/4		STD	STD
		7	5/9		5/8		1-1/8		1/4		STD	STD
		8	5/9		5/8		1-1/8		1/4		STD	STD
		8	7/9		7/8		1-1/8		1/4		STD	STD
		9	7/9		7/8		1-1/8		1/4		STD	STD
		9	7/11		7/8		1-3/8		1/4		STD	STD

## RFGD SERIES

### Thermostatic Expansion Valve



#### RFGD20 MODEL LIST (WITH EXTERNAL EQUALIZATION) – SOLDER CONNECTION

Model Name										Temperature Range		
Ref.	Valve Body	Capacity Size All Sizes	Pipe connections Metric / Imperial	Inlet		Outlet		Pressure Equal.		-40°C to +10°C	-25°C to +10°C	
				[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	No MOP	MOP: +15°C	
R134a	RFGD 04E -	7	M16/22	16		22		6		STD	STD	
		7	M16/28	16		28		6		STD	STD	
		8	M16/28	16		28		6		STD	STD	
		8	M22/28	22		28		6		STD	STD	
		9	M22/28	22		28		6		STD	STD	
		9	M22/35	22		35		6		STD	STD	
		7	5/7		5/8		7/8		1/4		STD	STD
		7	5/9		5/8		1-1/8		1/4		STD	STD
		8	5/9		5/8		1-1/8		1/4		STD	STD
		8	7/9		7/8		1-1/8		1/4		STD	STD
		9	7/9		7/8		1-1/8		1/4		STD	STD
		9	7/11		7/8		1-3/8		1/4		STD	STD
R410A	RFGD 05E -	7	M16/22	16		22		6		STD	STD	
		7	M16/28	16		28		6		STD	STD	
		8	M16/28	16		28		6		STD	STD	
		8	M22/28	22		28		6		STD	STD	
		9	M22/28	22		28		6		STD	STD	
		9	M22/35	22		35		6		STD	STD	
		7	5/7		5/8		7/8		1/4		STD	STD
		7	5/9		5/8		1-1/8		1/4		STD	STD
		8	5/9		5/8		1-1/8		1/4		STD	STD
		8	7/9		7/8		1-1/8		1/4		STD	STD
		9	7/9		7/8		1-1/8		1/4		STD	STD
		9	7/11		7/8		1-3/8		1/4		STD	STD



**RFGD20 MODEL LIST (WITH EXTERNAL EQUALIZATION) - FLARE CONNECTION**

Model Name							Temperature Range	
Ref.	Valve Body	Capacity Size All Sizes	Pipe connections Flare	Inlet	Outlet	Pressure Equal.	-40°C to +10°C	-25°C to +10°C
				[inch]	[inch]	[inch]	No MOP	MOP: +15°C
R134a	RFGD 04E -	7	SAE	5/8	3/4	1/4	O.R.	STD
		7	MIO	5/8	3/4	1/4	STD	STD
		7	ORFS	5/8	3/4	1/4	O.R.	O.R.
		8	SAE	5/8	3/4	1/4	STD	STD
		8	MIO	5/8	3/4	1/4	STD	STD
		8	ORFS	5/8	3/4	1/4	O.R.	O.R.
		9	SAE	5/8	3/4	1/4	STD	STD
		9	MIO	5/8	3/4	1/4	STD	STD
		9	ORFS	5/8	3/4	1/4	O.R.	STD

- Note:** 1) Extent of delivery: valve body and bulb strap  
 2) O.R. : On Request  
 3) N.A.: Not Available  
 4) STD: Standard Models available on stock (see Standard Model Table for further details)



**RFGD STANDARD RANGE**

A) Models with Metric Connections

RFGD10 (orifice 1-6) -40°C to +10°C (Models without MOP)

Ref.	Valve Body	Capacity Size All Sizes	Connections IN x OUT		Pressure Equal.	Model Name	Product Number U11 Code Multi-Pack
			Metric	[mm]	[mm]		
R407C	RFGD 02E	1 -	M10/16	10 x 16	6	RFGD 02E-3.1-57	10205009002
		2 -	M12/22	12 x 22	6	RFGD 02E-4.2-58	10205009102
		3 -	M12/22	12 x 22	6	RFGD 02E-6.3-59	10205009202
		4 -	M12/22	12 x 22	6	RFGD 02E-8.1-60	10205009302
		5 -	M16/22	16 x 22	6	RFGD 02E-9.4-61	10205009402
		6 -	M16/22	16 x 22	6	RFGD 02E-11.7-62	10205009502
R404A / R507	RFGD 03E	1 -	M10/16	10 x 16	6	RFGD 03E-2.0-63	10205009602
		2 -	M12/22	12 x 22	6	RFGD 03E-2.8-64	10205009702
		3 -	M12/22	12 x 22	6	RFGD 03E-4.2-65	10205009802
		4 -	M12/22	12 x 22	6	RFGD 03E-5.4-66	10205009902
		5 -	M16/22	16 x 22	6	RFGD 03E-6.4-67	10205010002
		6 -	M16/22	16 x 22	6	RFGD 03E-7.8-68	10205010102
R134a	RFGD 04E	1 -	M10/16	10 x 16	6	RFGD 04E-1.8-69	10205010202
		2 -	M12/22	12 x 22	6	RFGD 04E-2.5-70	10205010302
		3 -	M12/22	12 x 22	6	RFGD 04E-3.6-71	10205010402
		4 -	M12/22	12 x 22	6	RFGD 04E-4.6-72	10205010502
		5 -	M16/22	16 x 22	6	RFGD 04E-5.5-73	10205010602
		6 -	M16/22	16 x 22	6	RFGD 04E-6.8-74	10205010702
R410A	RFGD 05E	1 -	M10/16	10 x 16	6	RFGD 05E-3.5-75	10205010802
		2 -	M12/22	12 x 22	6	RFGD 05E-4.5-76	10205010902
		3 -	M12/22	12 x 22	6	RFGD 05E-7.0-77	10205011002
		4 -	M12/22	16 x 22	6	RFGD 05E-8.6-78	10205011102
		5 -	M16/22	16 x 22	6	RFGD 05E-10.6-79	10205011202
		6 -	M16/22	16 x 22	6	RFGD 05E-12.8-80	10205011302





**RFGD STANDARD RANGE**

*B) Models with Metric Connections*

*RFGD20 (orifice 7-9) -40°C to +10°C (Models without MOP)*

Ref.	Valve Body	Capacity Size All Sizes	Connections IN x OUT		Pressure Equal.	Model Name	Product Number U11 Code Multi-Pack
			Metric	[mm]	[mm]		
R407C	RFGD 02E	7 -	M16/22	16 x 22	6	RFGD02E-12.0-565	10205065202
		7 -	M16/28	16 x 28	6	RFGD02E-12.0-544	10205057502
		8 -	M16/28	16 x 28	6	RFGD02E-15.0-546	10205057702
		8 -	M22/28	22 x 28	6	RFGD02E-15.0-548	10205057902
		9 -	M22/28	22 x 28	6	RFGD02E-18.0-550	10205058102
		9 -	M22/35	22 x 35	6	RFGD02E-18.0-566	10205065302
R404A / R507	RFGD 03E	7 -	M16/22	16 x 22	6	RFGD03E-9.0-563	10205066502
		7 -	M16/28	16 x 28	6	RFGD03E-9.0-534	10205056502
		8 -	M16/28	16 x 28	6	RFGD03E-11.0-536	10205056702
		8 -	M22/28	22 x 28	6	RFGD03E-11.0-538	10205056902
		9 -	M22/28	22 x 28	6	RFGD03E-13.0-540	10205057102
		9 -	M22/35	22 x 35	6	RFGD03E-13.0-564	10205065102
R134a	RFGD 04E	7 -	M16/22	16 x 22	6	RFGD04E-8.0-559	10205066102
		7 -	M16/28	16 x 28	6	RFGD04E-8.0-503	10205054302
		8 -	M16/28	16 x 28	6	RFGD04E-10.0-515	10205054502
		8 -	M22/28	22 x 28	6	RFGD04E-10.0-521	10205054702
		9 -	M22/28	22 x 28	6	RFGD04E-12.0-523	10205054902
		9 -	M22/35	22 x 35	6	RFGD04E-12.0-560	10205066202
R410A	RFGD 05E	7 -	M16/22	16 x 22	6	RFGD05E-15.0-567	10205065402
		7 -	M16/28	16 x 28	6	RFGD05E-15.0-552	10205058502
		8 -	M16/28	16 x 28	6	RFGD05E-19.0-553	10205058702
		8 -	M22/28	22 x 28	6	RFGD05E-19.0-554	10205058902
		9 -	M22/28	22 x 28	6	RFGD05E-23.0-556	10205059102
		9 -	M22/35	22 x 35	6	RFGD05E-23.0-568	10205065502

**Thermostatic Expansion Valve**



**RFGD STANDARD RANGE**

*C) Models with Metric Connections*

*RFGD20 (orifice 7-9) -25°C to +10°C with MOP +15°C*

Ref.	Valve Body	Capacity Size All Sizes	Connections IN x OUT		Pressure Equal.	Model Name	Product Number U11 Code Multi-Pack
			Metric	[mm]	[mm]		
R407C	RFGD 02E	7 -	M16/22	16 x 22	6	RFGD02E-12.0-663	10205064702
		7 -	M16/28	16 x 28	6	RFGD02E-12.0-639	10205062802
		8 -	M16/28	16 x 28	6	RFGD02E-15.0-641	10205063002
		8 -	M22/28	22 x 28	6	RFGD02E-15.0-643	10205063202
		9 -	M22/28	22 x 28	6	RFGD02E-18.0-645	10205063402
		9 -	M22/35	22 x 35	6	RFGD02E-18.0-664	10205064802
R404A / R507	RFGD 03E	7 -	M16/22	16 x 22	6	RFGD03E-9.0-661	10205066002
		7 -	M16/28	16 x 28	6	RFGD03E-9.0-629	10205061802
		8 -	M16/28	16 x 28	6	RFGD03E-11.0-631	10205062002
		8 -	M22/28	22 x 28	6	RFGD03E-11.0-633	10205062202
		9 -	M22/28	22 x 28	6	RFGD03E-13.0-635	10205062402
		9 -	M22/35	22 x 35	6	RFGD03E-13.0-662	10205064602
R134a	RFGD 04E	7 -	M16/22	16 x 22	6	RFGD04E-8.0-657	10205065602
		7 -	M16/28	16 x 28	6	RFGD04E-8.0-603	10205059402
		8 -	M16/28	16 x 28	6	RFGD04E-10.0-605	10205059602
		8 -	M22/28	22 x 28	6	RFGD04E-10.0-607	10205059802
		9 -	M22/28	22 x 28	6	RFGD04E-12.0-609	10205060002
		9 -	M22/35	22 x 35	6	RFGD04E-12.0-658	10205065702
R410A	RFGD 05E	7 -	M16/22	16 x 22	6	RFGD05E-15.0-665	10205064902
		7 -	M16/28	16 x 28	6	RFGD05E-15.0-649	10205063802
		8 -	M16/28	16 x 28	6	RFGD05E-19.0-651	10205064002
		8 -	M22/28	22 x 28	6	RFGD05E-19.0-653	10205064202
		9 -	M22/28	22 x 28	6	RFGD05E-23.0-655	10205064402
		9 -	M22/35	22 x 35	6	RFGD05E-23.0-666	10205065002


**RFGD STANDARD RANGE**

D) Models with Imperial Connections

RFGD10 (orifice 1-6) -40°C to +10°C (Models without MOP)

Ref.	MWP [ MPa ]	Valve Body	Capacity Size All Sizes	Connections IN x OUT		Pressure Equal.	Model Name	Product Number U11 Code Multi-Pack
				Imperial	[inch]	[inch]		
R407C	2,8	RFGD 02E	1 -	3/5	3/8 x 5/8	1/4	RFGD 02E-3.1-33	10205008402
			2 -	4/7	1/2 x 7/8	1/4	RFGD 02E-4.2-34	10205007002
			3 -	4/7	1/2 x 7/8	1/4	RFGD 02E-6.3-35	10205008502
			4 -	5/7	5/8 x 7/8	1/4	RFGD 02E-8.1-36	10205007802
			5 -	5/7	5/8 x 7/8	1/4	RFGD 02E-9.4-37	10205007902
			6 -	5/7	5/8 x 7/8	1/4	RFGD 02E-11.7-38	10205008002
R404A / R507	3,5	RFGD 03E	1 -	3/5	3/8 x 5/8	1/4	RFGD 03E-2.0-39	10205008102
			2 -	4/7	1/2 x 7/8	1/4	RFGD 03E-2.8-40	10205008202
			3 -	4/7	1/2 x 7/8	1/4	RFGD 03E-4.2-41	10205008302
			4 -	5/7	5/8 x 7/8	1/4	RFGD 03E-5.4-42	10205008602
			5 -	5/7	5/8 x 7/8	1/4	RFGD 03E-6.4-43	10205008702
			6 -	5/7	5/8 x 7/8	1/4	RFGD 03E-7.8-44	10205008802
R134a	2,1	RFGD 04E	1 -	3/5	3/8 x 5/8	1/4	RFGD 04E-1.8-01	10205026702
			2 -	4/7	1/2 x 7/8	1/4	RFGD 04E-2.5-02	10205026702
			3 -	4/7	1/2 x 7/8	1/4	RFGD 04E-3.6-03	10205026902
			4 -	5/7	5/8 x 7/8	1/4	RFGD 04E-4.6-04	10205027002
			5 -	5/7	5/8 x 7/8	1/4	RFGD 04E-5.5-49	10205008902
			6 -	5/7	5/8 x 7/8	1/4	RFGD 04E-6.8-32	10205004402
R410A	4,5	RFGD 05E	1 -	3/5	3/8 x 5/8	1/4	RFGD 05E-3.5-22	10205002502
			2 -	4/7	1/2 x 7/8	1/4	RFGD 05E-4.5-23	10205002702
			3 -	4/7	1/2 x 7/8	1/4	RFGD 05E-7.0-24	10205002802
			4 -	5/7	5/8 x 7/8	1/4	RFGD 05E-8.6-25	10205002902
			5 -	5/7	5/8 x 7/8	1/4	RFGD 05E-10.6-27	10205003102
			6 -	5/7	5/8 x 7/8	1/4	RFGD 05E-12.8-26	10205003002



**RFGD STANDARD RANGE**

*E) Models with Imperial Connections*

*RFGD20 (orifice 7-9) -40°C to +10°C (Models without MOP)*

Ref.	Valve Body	Capacity Size All Sizes	Connections IN x OUT		Pressure Equal.	Model Name	Product Number U11 Code Multi-Pack
			Imperial	[inch]	[inch]		
R407C	RFGD 02E	7 -	5/7	5/8 x 7/8	1/4	RFGD02E-12.0-542	10205057302
		7 -	5/9	5/8 x 1-1/8	1/4	RFGD02E-12.0-543	10205057402
		8 -	5/9	5/8 x 1-1/8	1/4	RFGD02E-15.0-545	10205057602
		8 -	7/9	7/8 x 1-1/8	1/4	RFGD02E-15.0-547	10205057802
		9 -	7/9	7/8 x 1-1/8	1/4	RFGD02E-18.0-549	10205058002
		9 -	7/11	7/8 x 1-3/8	1/4	RFGD02E-18.0-551	10205058202
R404A / R507	RFGD 03E	7 -	5/7	5/8 x 7/8	1/4	RFGD03E-9.0-532	10205056302
		7 -	5/9	5/8 x 1-1/8	1/4	RFGD03E-9.0-533	10205056402
		8 -	5/9	5/8 x 1-1/8	1/4	RFGD03E-11.0-535	10205056602
		8 -	7/9	7/8 x 1-1/8	1/4	RFGD03E-11.0-537	10205056802
		9 -	7/9	7/8 x 1-1/8	1/4	RFGD03E-13.0-539	10205057002
		9 -	7/11	7/8 x 1-3/8	1/4	RFGD03E-13.0-541	10205057202
R134a	RFGD 04E	7 -	5/7	5/8 x 7/8	1/4	RFGD04E-8.0-501	10205054102
		7 -	5/9	5/8 x 1-1/8	1/4	RFGD04E-8.0-502	10205054202
		8 -	5/9	5/8 x 1-1/8	1/4	RFGD04E-10.0-504	10205054402
		8 -	7/9	7/8 x 1-1/8	1/4	RFGD04E-10.0-520	10205054602
		9 -	7/9	7/8 x 1-1/8	1/4	RFGD04E-12.0-522	10205054802
		9 -	7/11	7/8 x 1-3/8	1/4	RFGD04E-12.0-524	10205055002
R410A	RFGD 05E	7 -	5/7	5/8 x 7/8	1/4	RFGD05E-15.0-510	10205058302
		7 -	5/9	5/8 x 1-1/8	1/4	RFGD05E-15.0-511	10205058402
		8 -	5/9	5/8 x 1-1/8	1/4	RFGD05E-19.0-512	10205058602
		8 -	7/9	7/8 x 1-1/8	1/4	RFGD05E-19.0-517	10205058802
		9 -	7/9	7/8 x 1-1/8	1/4	RFGD05E-23.0-555	10205059002
		9 -	7/11	7/8 x 1-3/8	1/4	RFGD05E-23.0-557	10205059202



**RFGD STANDARD RANGE**

F) Models with Imperial Connections

RFGD20 (orifice 7-9) -25°C to +10°C with MOP +15°C

Ref.	Valve Body	Capacity Size All Sizes	Connections IN x OUT		Pressure Equal.	Model Name	Product Number U11 Code Multi-Pack
			Imperial	[inch]	[inch]		
R407C	RFGD 02E	7 -	5/7	5/8 x 7/8	1/4	RFGD02E-12.0-637	10205062602
		7 -	5/9	5/8 x 1-1/8	1/4	RFGD02E-12.0-638	10205062702
		8 -	5/9	5/8 x 1-1/8	1/4	RFGD02E-15.0-640	10205062902
		8 -	7/9	7/8 x 1-1/8	1/4	RFGD02E-15.0-642	10205063102
		9 -	7/9	7/8 x 1-1/8	1/4	RFGD02E-18.0-644	10205063302
		9 -	7/11	7/8 x 1-3/8	1/4	RFGD02E-18.0-646	10205063502
R404A / R507	RFGD 03E	7 -	5/7	5/8 x 7/8	1/4	RFGD03E-9.0-627	10205061602
		7 -	5/9	5/8 x 1-1/8	1/4	RFGD03E-9.0-628	10205061702
		8 -	5/9	5/8 x 1-1/8	1/4	RFGD03E-11.0-630	10205061902
		8 -	7/9	7/8 x 1-1/8	1/4	RFGD03E-11.0-632	10205062102
		9 -	7/9	7/8 x 1-1/8	1/4	RFGD03E-13.0-634	10205062302
		9 -	7/11	7/8 x 1-3/8	1/4	RFGD03E-13.0-636	10205062502
R134a	RFGD 04E	7 -	5/7	5/8 x 7/8	1/4	RFGD04E-8.0-601	10205051202
		7 -	5/9	5/8 x 1-1/8	1/4	RFGD04E-8.0-602	10205059302
		8 -	5/9	5/8 x 1-1/8	1/4	RFGD04E-10.0-604	10205059502
		8 -	7/9	7/8 x 1-1/8	1/4	RFGD04E-10.0-606	10205059702
		9 -	7/9	7/8 x 1-1/8	1/4	RFGD04E-12.0-608	10205059902
		9 -	7/11	7/8 x 1-3/8	1/4	RFGD04E-12.0-610	10205060102
R410A	RFGD 05E	7 -	5/7	5/8 x 7/8	1/4	RFGD05E-15.0-647	10205063602
		7 -	5/9	5/8 x 1-1/8	1/4	RFGD05E-15.0-648	10205063702
		8 -	5/9	5/8 x 1-1/8	1/4	RFGD05E-19.0-650	10205063902
		8 -	7/9	7/8 x 1-1/8	1/4	RFGD05E-19.0-652	10205064102
		9 -	7/9	7/8 x 1-1/8	1/4	RFGD05E-23.0-654	10205064302
		9 -	7/11	7/8 x 1-3/8	1/4	RFGD05E-23.0-656	10205064502



**RFGD STANDARD RANGE**

*G) Models with Flare Connections*

*RFGD20 -40°C to +10°C without MOP*

Ref.	Valve Body	Capacity Size All Sizes	Connections			Model Name	Product Number U11 Code Multi-Pack
			Flare	IN x OUT x E	Flare Type		
R134a	RFGD 04E -	7 -	I5/6	5/8×3/4×1/4	MIO x MIO x MIO	RFGD04E-8.0-525	10205055102
		8 -	I5/6	5/8×3/4×1/4	MIO x MIO x MIO	RFGD04E-10.0-526	10205055202
		8 -	S5/6	5/8×3/4×1/4	SAE x SAE x SAE	RFGD04E-10.0-527	10205055302
		9 -	I5/6	5/8×3/4×1/4	MIO x MIO x MIO	RFGD04E-12.0-528	10205055402

Connections

- 1) MIO: Inlet = 7/8-14UNF-2A ; Outlet = 17/16-14UNS-2A ; Ext. Equalization port = 7/16-20UNF-2A
- 2) SAE: Inlet = 7/8-14UNF-2A ; Outlet = 17/16-14UNS-2A ; Ext. Equalization port = 7/16-20UNF-2A

*H) Models with Flare Connections*

*RFGD20 -25°C to +10°C with MOP +15°C*

Ref.	Valve Body	Capacity Size All Sizes	Connections			Model Name	Product Number U11 Code Multi-Pack
			Flare	IN x OUT x E	Flare Type		
R134a	RFGD 04E -	7 -	I5/6	5/8×3/4×1/4	MIO x MIO x MIO	RFGD04E-8.0-611	10205051902
		7 -	S5/6	5/8×3/4×1/4	SAE x SAE x SAE	RFGD04E-8.0-612	10205060202
		8 -	I5/6	5/8×3/4×1/4	MIO x MIO x MIO	RFGD04E-10.0-613	10205052002
		8 -	S5/6	5/8×3/4×1/4	SAE x SAE x SAE	RFGD04E-10.0-614	10205060302
		9 -	S5/6	5/8×3/4×1/4	SAE x SAE x SAE	RFGD04E-12.0-615	10205060402
		9 -	O5/6	5/8×3/4×1/4	ORFS x ORFS x SAE	RFGD04E-12.0-616	10205060502

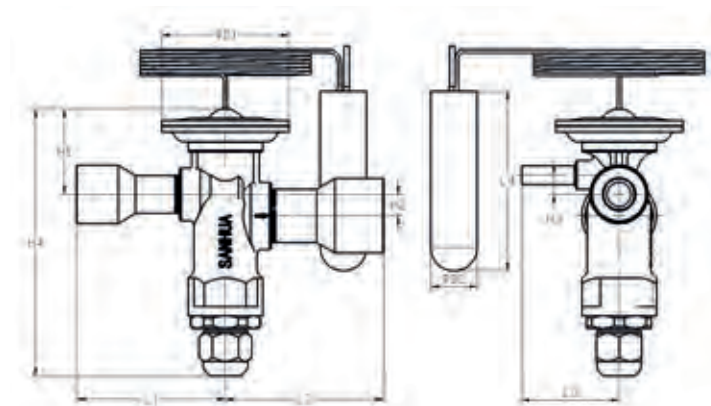
Connections

- 1) MIO: Inlet = 7/8-14UNF-2A ; Outlet = 17/16-14UNS-2A ; Ext. Equalization port = 7/16-20UNF-2A
- 2) SAE: Inlet = 7/8-14UNF-2A ; Outlet = 17/16-14UNS-2A ; Ext. Equalization port = 7/16-20UNF-2A
- 3) ORFS: Inlet = 1-14UNS-2A; Outlet = 1-3/16-12UN-2A; Ext. Equalization port = 7/16-20UNF-2A

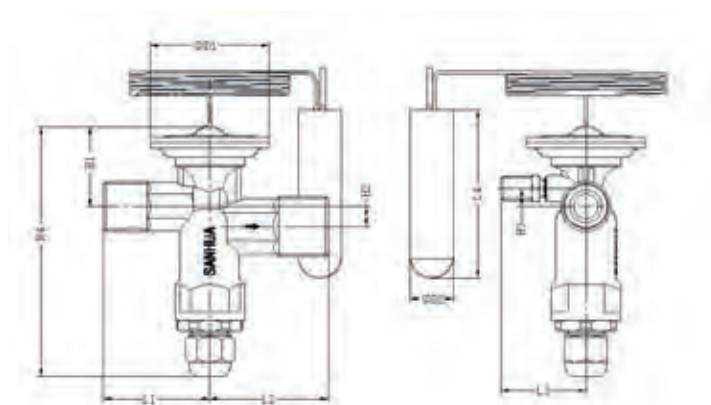




**DIMENSIONS**



Model	Connections		Capillary [mm]	Dimensions [mm]									
	Imperial [inch]	Metric [mm]		H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	ΦD1 [mm]	ΦD2 [mm]
	RFGD10	3/8×5/8		10×16	1.5	30	7.5	5	97	41.5	45.5	37.5	64
	1/2×7/8	12×22	41.5	59.5									
	5/8×7/8	16×22	45.5	59.5									
RFGD20	5/8×7/8	16×22	1.5	32	9	8	111	48	62	40.5	75	53	19,2
	5/8×1-1/8	16×28						48	66				
	7/8×1-1/8	22×28						62	66				
	7/8×1-3/8	22×35						62	66				



Model	Connections		Capillary [mm]	Dimensions [mm]									
	Flare			H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	ΦD1 [mm]	ΦD2 [mm]
	Inlet x Out x Ext. E												
RFGD20	5/8×3/4×1/4MIO		1.5	32	9	8	111	47.5	53	37.7	75	53	19,2
	5/8×3/4×1/4SAE												
	5/8×3/4 ORFS×1/4												



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**BEST SUPPLIER  
AWARDS**

**B/S/H/**



# Residential Inverter Controller



Residential inverter controller is applicable for controlling room air conditioners including heat pump air conditioning systems, which is the core component of inverter air conditioners.

## FEATURES

### • HIGH INTEGRATION DESIGN

IN ADDITION TO RESEARCHING AND DEVELOPING ELECTRIC CONTROL PRODUCTS, WE ALSO PROVIDE WHOLE SET OF ADVANCED COOLING CONTROL SOLUTIONS AND STRUCTURE DESIGN, INCLUDING CONTROL OF COMPRESSORS, ELECTRONIC EXPANSION VALVES, DEFROSTING, OUTSIDE TEMPERATURE, DISCHARGE TEMPERATURE, OVERHEAT PROTECTION AND ROTATING SPEED OF OUTDOOR BLOWERS APPLICABLE FOR SPLIT OR PACKAGED UNIT, EITHER COOLING OR BOTH COOLING AND HEATING WITH VARIOUS VOLTAGE

WE HAVE LABORATORIES FOR 10HP MULTIPLE INDOOR SYSTEM INCLUDING ENTHALPY DIFFERENCE LABORATORY, ENVIRONMENT & NOISE COMBINED LABORATORY, ENDURANCE LABORATORY, EMC LABORATORY, ELECTRIC ASSEMBLY LABORATORY, THERMAL SHOCK TESTER AND A LARGE BATCH OF HIGH PRECISION IMPORTED TESTING DEVICES TO ENSURE A GOOD DEVELOPING QUALITY

### • HIGH QUALITY DESIGN

MASTERING CORE FREQUENCY CONVERSION TECHNOLOGIES TO REALIZE TORQUE COMPENSATION CONTROL AND FIELD WEAKENING, REDUCE COMPRESSOR VIBRATION, NOISE AND IMPROVE THE OPERATION FREQUENCY OF THE COMPRESSOR UTILIZING IMPORTED HIGH QUALITY ELEMENTS FOR IMPORTANT COMPONENTS (MITSUBISHI IPM, FAIRCHILD IPM, NEC CHIPS AND TOSHIBA CHIPS ETC.)

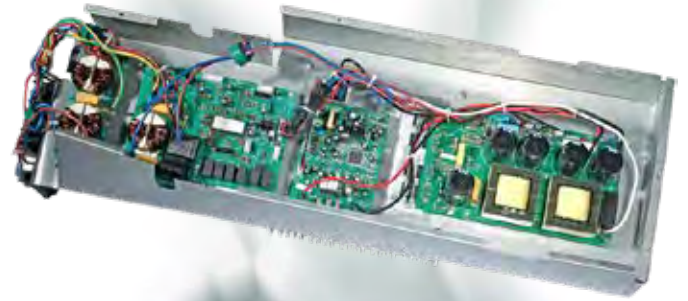
CONTROL TECHNIQUES WITH MULTIPLE SOLUTIONS TO MEET VARIOUS NEEDS OF THE CUSTOMERS

## TECHNICAL PARAMETERS

Project / Nominal Refrigerating Capacity	1HP	1.5HP	2HP	3HP
Voltage	220V±25%			
Frequency	50Hz/60Hz			
Frequency conversion range	Passive PFC 15-85Hz/Active PFC 15-120Hz			
Power factor	Passive PFC:0.85~0.90 Part PFC:0.95~0.98 Whole range PFC:0.97~0.997			
Construction	One-unit design/Split design			Split design
Allowed ambient temperature	-15°C ~ +55°C			-15°C ~ +55°C
Compressor actuating method	150° wide-angle actuating/Sine wave actuating			Sine wave actuating
Outdoor fan	DC motor/AC motor			
Throttle mode	Electronic expansion valve/capillary tubes			
Actuating compressor	GMCC, Panasonic, Hitachi, Sanyo, MITSUBISHI etc.			
Certification	3C\CE\ETL\TUV(including EMC)			

# Inverter Controller for Large System

Inverter controller for large System is mainly used to control whole electric control systems such in outdoor unit as commercial or multiple inverter air conditioners. They not only realize frequency conversion control over DC converter compressor, but also control all kinds of electric parts such as outdoor blowers, electronic expansion valves and solenoid valves, greatly improving the efficiency of the whole system.



## FEATURES

- UTILIZING ACTIVE FREQUENCY CONVERSION TECHNOLOGY FOR THE WHOLE PROCESS WITH A POWER FACTOR ABOVE 98.5%, APPLICABLE FOR A WIDER RANGE OF VOLTAGE
- USING DC FREQUENCY CONVERSION 180° SINE WAVE ACTUATING TECHNOLOGY, INCREASING TORQUE COMPENSATION, MORE INTELLIGENT CONTROL
- AVAILABLE WITH CIRCUIT CONTROLLED BY ELECTRONIC EXPANSION VALVE TO BETTER BRING WHOLE EFFICIENCY OF THE SYSTEM INTO FULL PLAY
- DC FREQUENCY CONVERSION BLOWER CAN BE EQUIPPED TO IMPROVE THE SYSTEM EFFICIENCY
- PASSING EMC TESTS WITH THE WHOLE FREQUENCY MEETING NATIONAL AND RELEVANT EXPORT STANDARDS

## GENERAL SPECIFICATIONS

- Applicable voltage: single phase AC 220V - 230V  $\pm$  20%, 3 phase AC380V - 400V  $\pm$  15%
- Nominal Refrigerating capacity: 3HP~12HP
- Frequency conversion range: 15~120Hz
- Temperature control accuracy:  $\pm$ 1°
- Compatible indoor units: wall mounted air conditioners, cabinet air conditioners, ceiling air conditioners and duct type air conditioners

# Inverter Controller for HP Water Heater

Inverter Controller for HP Water Heater is used to realize overall control of the outdoor unit of heat pump and water heating system. Energy efficiency of whole water heating system can be greatly improved by actuating frequency conversion control over DC converter compressor and electrical parts such as outdoor blower, electronic expansion valve and solenoid valves. Normally, the efficiency can be up to 3.2 with incomparable energy saving advantages over other water heating methods.



## FEATURES

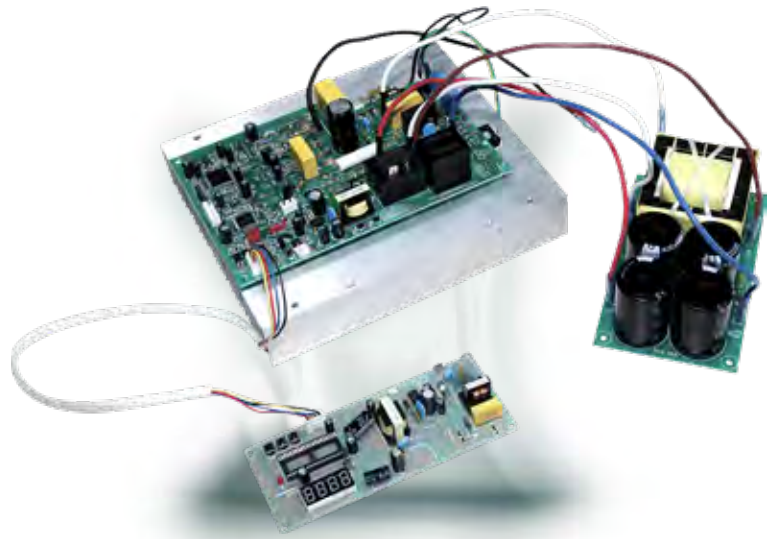
- INTELLIGENT ANTI-FREEZE PROTECTION UNDER LOW TEMPERATURE, SUITABLE FOR OUTDOOR USE IN LOW TEMPERATURE
- UTILIZING ACTIVE FREQUENCY CONVERSION TECHNOLOGY FOR THE WHOLE PROCESS WITH A POWER FACTOR ABOVE 98.5%, APPLICABLE FOR A WIDER RANGE OF VOLTAGE
- USING DC FREQUENCY CONVERSION 180° SINE WAVE ACTUATING TECHNOLOGY, INCREASING TORQUE COMPENSATION AND MORE INTELLIGENT CONTROL
- MULTIPLE STAGE TIMING SWITCH TO MEET THE CUSTOMERS' REQUIREMENTS IN DIFFERENT TIME INTERVALS
- SUB-CONTROLLER CAN NOT ONLY CONTROL TEMPERATURE OF THE WATER TANK BUT ALSO REALIZE INQUIRY OF REAL-TIME TEMPERATURE AND FAULTS ETC.
- AVAILABLE WITH CIRCUIT CONTROLLED BY ELECTRONIC EXPANSION VALVE TO BETTER BRING THE EFFICIENCY OF THE SYSTEM INTO FULL PLAY
- DC FREQUENCY CONVERSION BLOWER CAN BE EQUIPPED TO IMPROVE THE SYSTEM EFFICIENCY
- PASSING EMC TESTS WITH THE WHOLE FREQUENCY MEETING NATIONAL AND RELEVANT EXPORT STANDARDS

## GENERAL SPECIFICATIONS

- Applicable voltage: single phase AC220V-230V±20%, 3 phase AC380V-400V±15%
- Frequency conversion range: 15~150Hz
- Water heating temperature: 0~+55°
- Water temperature control accuracy: ±0.5°
- Specifications of controllers: inverter 3HP, inverter 5HP; inverter 3HP+fixed frequency 3HP, inverter 5HP + fixed frequency 5HP



# Standard inverter compressor controller



## FEATURES

- APPLICABLE FOR UNITS OF 1HP TO 5HP AND FOR MITSUBISHI, SANYO, TCC,GMCC, HITACHI, HIGHLY, PANASONIC,ETC.
- PCB ASSEMBLY WITHOUT C-BOX, OPTIONAL FOR HEATSINK PROVIDED OR HEATSINK OUTSOURCED BY CUSTOMERS THEMSELVES.
- OPTIONAL FOR EXTERNAL HIGH FREQUENCY REACTOR AND BIG ELECTROLYTIC CAPACITOR PROVIDED OR OUTSOURCED BY CUSTOMERS THEMSELVES.
- OPTIONAL DC12V FAN, WHICH CAN AUTOMATICALLY CONTROL TEMPERATURE ACCORDING TO TEMPERATURE OF HEATSINK.
- USE FAIRCHILD 20A,30A IPM AND MITSUBISHI 50 AIPM
- USE ISOLATED OPTICAL COUPLING ASYNCHRONOUS COMMUNICATION
- HAVE A COMMUNICATING DEBUGGING BOARD.
- USE ISOLATED OPTICAL COUPLING ASYNCHRONOUS COMMUNICATION
- PHASE CURRENT PROTECTION, AC BUSBAR VOLTAGE PROTECTION,HEATSINK OVERHEAT PROTECTION, ETC.

## TECHNICAL PARAMETERS

Storage Temperature	-30C° ~ +85C°
Humidity	30 ~ 95%RH
ambient temperature for operating	-20C° ~ +60C°
Power supply	AC187V ~ AC276V,50/60Hz;
PFC	0.97-0.998
Load electric power	max.5000W for inverter
Frequency	15 ~ 110Hz
Temperature control and measurement accuracy	±1C°
current measurement accuracy	0.1A
voltage measurement accuracy	2V



# Solenoid Valve

MDF series solenoid valves are direct operated or pilot operated solenoid valves, mainly used in refrigerant control of various devices such as refrigerating and freezing systems, air conditioners and heat pumps.



## FEATURES

- COILS: LOW ENERGY CONSUMPTION, RELIABLE
- GREAT VALVE OPENING PERFORMANCE, HIGH MOPD
- COILS ARE DOUBLE SEALED, WATER TIGHT AND SAFE

## GENERAL SPECIFICATIONS

- Applicable for all common HFC, HFO refrigerants such as: R134a, R404A, R407A/F, R407C, R410A, R448A, R449A, R450A, R452A, R513A, R507A<sup>1)</sup>
- Medium temperature TS min./max.:
  - MDF 2H...22H and MDF 2L...15L: -30°C/105°C
  - MDF 25H...40H: -40°C/140°C
- Ambient temperature min./max.: -30°C / +55°C
- Relative humidity: 0 to 95% RH
- Installation position:
  - Liquid, suction and discharge line
  - Preferably coil upwards and flow direction corresponds to the arrow
- Declaration according to LVD or PED

**Note:** 1) Flammable refrigerants like R32, R290, R1234ze(E), R1234yf on request



**TECHNICAL PARAMETERS OF VALVE BODY**

Valve Body		Usable Coils	Normal position	Actuation	Kv [m <sup>3</sup> /h]	MOP [Mpa]	Max. OPD [Mpa]		Min. OPD <sup>7)</sup> [Mpa]
Solder	Flare						AC <sup>4)</sup> coil	DC <sup>5)6)</sup> coil	
MDF-A03-2H	MDF-A03-2L	AC + DC	NC <sup>1)</sup>	Direct	0,16	4,5	3,1	3,1	0,00
MDF-A03-3H	MDF-A03-3L				0,23			NR	
MDF-A03-6H	MDF-A03-6L	AC		Pilot <sup>2)</sup>	0,8		NP	2,8	
MDF-D03-6H	MDF-D03-6H	DC			3,1		NR	0,005	
MDF-A03-10H	MDF-A03-10L	AC		1,9	NP		2,8		
MDF-D03-10H	MDF-D03-10H	DC		2,3	NP		2,8		
MDF-A03-15H	MDF-A03-15L	AC		Pilot (P) <sup>3)</sup>	5,0		3,1	3,1	0,007
MDF-D03-15H	MDF-D03-15L	DC			5,9				
MDF-A03-20H		AC + DC		10,0	0,02				
MDF-A03-22H				15,0					
MDF-B03-25H	-			25,0					
MDF-B03-32H									
MDF-B03-40H									

- Note:**
- 1) NC means: Normally closed valve
  - 2) Membrane operated
  - 3) Piston operated
  - 4) NP means: not permitted to use, select MDF-A03 model
  - 5) NR means: not recommended to use. Only possible with R134a and min. evaporation temp. / max. condensing temp. -15°C/+58°C, select MDF-D03 model
  - 6) Pressure values valid for 24V DC coil. Values for 12V DC coils on request
  - 7) Min. OPD: values referred to 60% of nominal flow

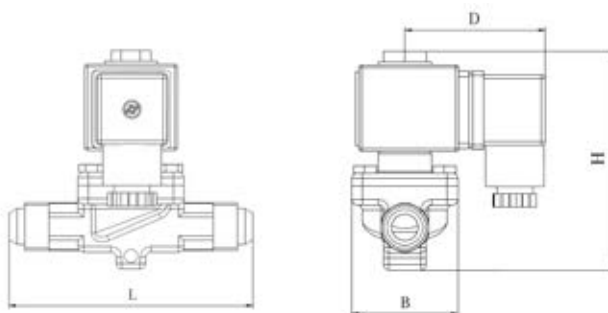
# MDF SERIES

## Solenoid Valve



### DIMENSIONS

Valve Body  
Thread Connection



Model Valve Body	Part Number* 1)	SAE Flare Connection [inch]	Kv [m <sup>3</sup> /h]	PED Category Group 2	Dimensions [mm]			
					L	B	D	H
MDF-A03-2L 001	10125000102	1/4	0,16	4.3	59	30	53	82
MDF-A03-3L 001	10125009202	1/4	0,23	4.3	59	30	53	82
MDF-A03-3L 003	10125004402	3/8	0,23	4.3	70	30	53	82
MDF-A03-6L 001	10125009302	3/8	0,8	4.3	69	36	53	88
MDF-D03-6L 005	10125018002	3/8	0,8	4.3	69	36	53	88
MDF-A03-6L 003	10125004502	1/2	0,8	4.3	75	36	53	88
MDF-D03-6L 003	10125017802	1/2	0,8	4.3	75	36	53	88
MDF-A03-10L 003	10125005402	1/2	1,9	4.3	84	42	53	96
MDF-D03-10L 003	10125018902	1/2	1,9	4.3	84	42	53	96
MDF-A03-10L 001	10125009402	5/8	1,9	4.3	92	42	53	96
MDF-D03-10L 001	10125018702	5/8	1,9	4.3	92	42	53	96
MDF-A03-15L 001	10125009502	5/8	2,3	4.3	104	52	53	100
MDF-D03-15L 001	10125019302	5/8	2,3	4.3	104	52	53	100
MDF-A03-15L 003	10125004802	7/8	2,3	4.3	119	52	53	100
MDF-D03-15L 003	10125019502	7/8	2,3	4.3	119	52	53	100

**Note:** 1) Extent of delivery: valve body without coil  
2) Available also as industrial package. Contact Sanhua for more details.

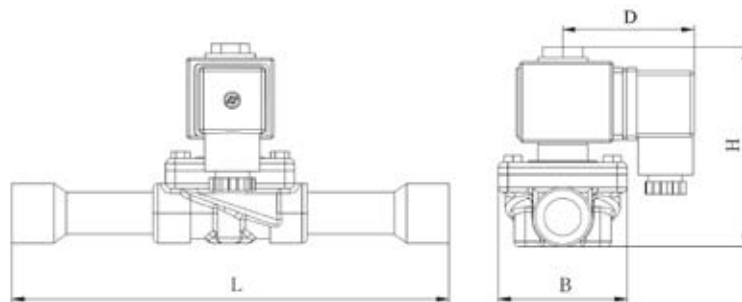
# MDF SERIES

## Solenoid Valve



### DIMENSIONS

Valve Body - Inch Solder Connection



Model Valve Body	Part Number*1)	Solder Connection ODF	Kv	PED Category Group 2	Dimensions [mm]			
		[inch]	[m <sup>3</sup> /h]		L	B	D	H
MDF-A03-2H 001	10125011202	1/4	0,16	4.3	102	30	53	82
MDF-A03-3H 001	10125011302	1/4	0,23	4.3	102	30	53	82
MDF-A03-3H 003	10125003602	3/8	0,23	4.3	102	30	53	82
MDF-A03-6H 001	10125011402	3/8	0,8	4.3	111	36	53	88
MDF-D03-6H 001	10125017402	3/8	0,8	4.3	111	36	53	88
MDF-A03-6H 003	10125004202	1/2	0,8	4.3	127	36	53	88
MDF-D03-6H 003	10125017502	1/2	0,8	4.3	127	36	53	88
MDF-A03-10H 001	10125011502	1/2	1,9	4.3	127	42	53	95
MDF-D03-10H 001	10125017202	1/2	1,9	4.3	127	42	53	95
MDF-A03-10H 003	10125006302	5/8	1,9	4.3	160	42	53	95
MDF-D03-10H 003	10125018402	5/8	1,9	4.3	160	42	53	95
MDF-A03-15H 005	10125003702	5/8	2,3	4.3	176	52	53	100
MDF-D03-15H 005	10125017102	5/8	2,3	4.3	176	52	53	100
MDF-A03-15H 003	10125005002	7/8	2,3	4.3	176	52	53	100
MDF-D03-15H 003	10125019002	7/8	2,3	4.3	176	52	53	100
MDF-A03-20H 001	10125011702	7/8	5	4.3	191	52	53	117
MDF-A03-22H 001	10125011802	7/8	5,9	4.3	281	60	53	117
MDF-A03-20H 003	10125005602	1-1/8	5	4.3	214	52	53	117
MDF-A03-22H 009	10125006202	1-1/8	5,9	4.3	281	60	53	117
MDF-B03-25H 003	10125006902	1-1/8	10	4.3	256	76	53	144
MDF-A03-22H 003	10125005102	1-3/8	5,9	I	281	60	53	117
MDF-B03-25H 004	10125006802	1-3/8	10	I	280	76	53	144
MDF-B03-32H 001	10125009102	1-3/8	15	I	281	76	53	144
MDF-B03-32H 002	10125007502	1-5/8	15	I	281	76	53	144
MDF-B03-40H 002	10125004302	1-5/8	25	I	281	84	53	152
MDF-B03-40H 004	10125007702	2-1/8	25	I	281	84	53	152

**Note:** 1) Extent of delivery: valve body without coil  
 2) Available also as industrial package. Contact Sanhua for more details.

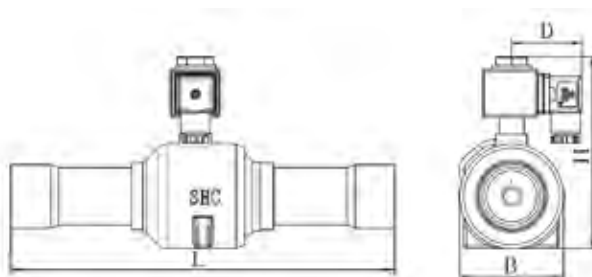
# MDF SERIES

## Solenoid Valve



### DIMENSIONS

Valve Body – Metrical Solder Connection



Model Valve Body	Part Number <sup>1)</sup>	Solder Connection ODF	Kv	PED Category Group 2	Dimensions [mm]			
		[mm]	[m <sup>3</sup> /h]		L	B	D	H
MDF-A03-2H 003	10125006502	6	0,16	4.3	102	30	53	82
MDF-A03-3H 005	10125003802	6	0,23	4.3	102	30	53	82
MDF-A03-3H 007	10125003402	10	0,23	4.3	117	30	53	82
MDF-A03-6H 005	10125004102	10	0,8	4.3	111	36	53	88
MDF-D03-6H 005	10125016802	10	0,8	4.3	111	36	53	88
MDF-A03-6H 007	10125006702	12	0,8	4.3	127	36	53	88
MDF-D03-6H 007	10125018202	12	0,8	4.3	127	36	53	88
MDF-A03-10H 005	10125003502	12	1,9	4.3	127	42	53	95
MDF-D03-10H 005	10125017002	12	1,9	4.3	127	42	53	95
MDF-A03-10H 003	10125006302	16	1,9	4.3	160	42	53	95
MDF-D03-10H 003	10125018402	16	1,9	4.3	160	42	53	95
MDF-A03-15H 005	10125003702	16	2,3	4.3	176	52	53	100
MDF-D03-15H 005	10125017102	16	2,3	4.3	176	52	53	100
MDF-A03-15H 003	10125005002	22	2,3	4.3	176	52	53	100
MDF-D03-15H 003	10125019002	22	2,3	4.3	176	52	53	100
MDF-A03-20H 001	10125011702	22	5	4.3	191	52	53	117
MDF-A03-22H 001	10125011802	22	5,9	4.3	281	60	53	117
MDF-A03-20H 007	10125005702	28	5	4.3	214	52	53	117
MDF-A03-22H 011	10125000302	28	5,9	4.3	281	60	53	117
MDF-B03-25H 005	10125007002	28	10	4.3	256	76	53	144
MDF-A03-22H 003	10125005102	35	5,9	I	281	60	53	117
MDF-B03-25H 004	10125006802	35	10	I	280	76	53	144
MDF-B03-32H 001	10125009102	35	15	I	281	76	53	144
MDF-B03-32H 003	10125007102	42	15	I	281	76	53	144
MDF-B03-40H 003	10125007602	42	25	I	281	84	53	152
MDF-B03-40H 004	10125007702	54	25	I	281	84	53	152

**Note:** 1) Extent of delivery: valve body without coil  
 2) Available also as industrial package. Contact Sanhua for more details.



**TECHNICAL PARAMETERS OF COIL**

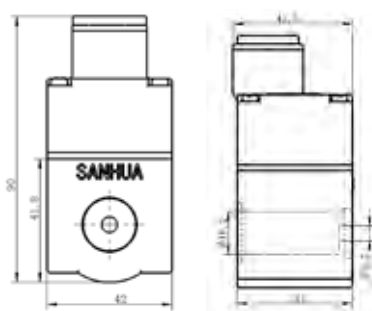
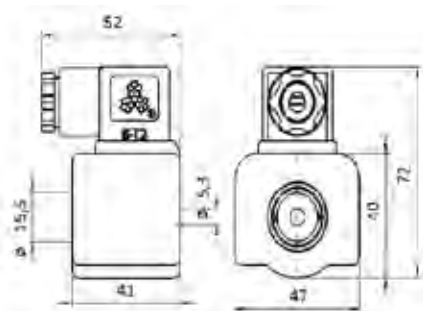
Model Coil <sup>1)</sup>	Part Number <sup>2)</sup>	Plug type	Supply	Rated Voltage [V]	Power [W]	Voltage Tolerance	Insulation Class	Protection Class (w/plug)
MQ-A03024-000001	10820009902	DIN Plug	AC	24	10,5W (50Hz) 8,5W (60Hz)	-15% +10%	F	IP67
MQ-A0311A-000001	10820010102			110 to 120	12W (50Hz) 10W (60Hz)			
MQ-A0322G-000001	10820010002			220 to 240	12W (50Hz) 10W (60Hz)			
MQ-A11024-000001	10820009402	Quick Install Plug <sup>3)</sup>	AC	24	9,5 (50Hz) 8,5 (60Hz)	-15% +10%		
MQ-A1111A-000001	10820009202			110 to 120	11,5 (50Hz) 10,0 (60Hz)			
MQ-A1122G-000001	10820009002			220 to 240	11 (50Hz) 9,5 (60Hz)			
MQ-D03012-000002	10820001302	DIN Plug	DC	12	15	+10% -10%		
MQ-D03024-000002	10820001002			24				

- Note:** 1) Match with valve body: Please respect information in table “Technical Parameters of valve body”. See page 2 of this document  
 2) Extent of delivery: coil body, fastening screw for the coil body, plug for electrical connection incl. Gaskets and fastening screws  
 3) Outer cable diameter: 7,1 to 9,7mm and cable core 0,75 to 2,5mm<sup>2</sup>

**DIMENSIONS - COILS**

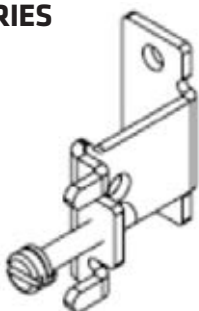
MQ-A03 and MQ-D03 (Coils with DIN Plug):

MQ-11 (Coils with Quick Install Plug):



**ACCESSORIES**

Bracket



Model <sup>1)</sup>	Part Number	Applicable Valve Models	
		Solder	Flare
MDF-A03-033001	20125000902	MDF-A03-2H	MDF-A03-2L
		MDF-A03-3H	MDF-A03-3L
		MDF-A03-6H	MDF-A03-6L
		MDF-A03-10H	MDF-A03-10L
		MDF-A03-15H	MDF-A03-15L

**Note:** 1) Extent of delivery: bracket and screw



# Solenoid Coil

The special strength of the MQ-A11 coil series is the quick and easy installation. At the same time the product offers outstanding product features and it fulfill additionally the installation requirements of a wide range of applications. Typically are such coils used e.g. in the refrigeration, freezing systems, air conditioning and heat pump industry. The MQ-A11 coil fits to all MDF-A03 and MDF-B03 solenoid valves.



## FEATURES

- QUICK INSTALLATION VIA TOOLLESS WIRE CONNECTION SYSTEM
- EASY CABLE ENTRY MANAGEMENT DUE TO JAM SCREW CABLE TIGHTENING
- IMPROVED PROTECTION CLASS
- FLEXIBLE AND SOLID CABLES USABLE
- REDUCED ENERGY CONSUMPTION

## TECNHICAL PARAMETERS

Model Coil <sup>1)</sup>	Part Number <sup>2)</sup>	Rated Voltage [V]	Supply	Power [W]	Frequ. [Hz]	Voltage Tolerance	Insulation Class	Protection class	Outer Cable $\phi$ [mm]	Cable core [mm <sup>2</sup> ]
MQ-A11 024-000001	10820009402	24	AC	9,5 (50Hz) 8,5 (60Hz)	50/60	-15% to +10%	F	IP67	7,1 to 9,7	0,75 to 2,5
MQ-A11 11A-000001	10820009202	110 to 120		11,5 (50Hz) 10,0 (60Hz)						
MQ-A11 22G-000001	10820009002	220 to 240		11,0 (50Hz) 9,5 (60Hz)						

**Note:** 1) Applicable to MDF-A03 and MDF-B03 valve bodies  
 2) Extent of delivery: coil body, junction box, gasket, 4x fixing screws, terminal strip and jam screw

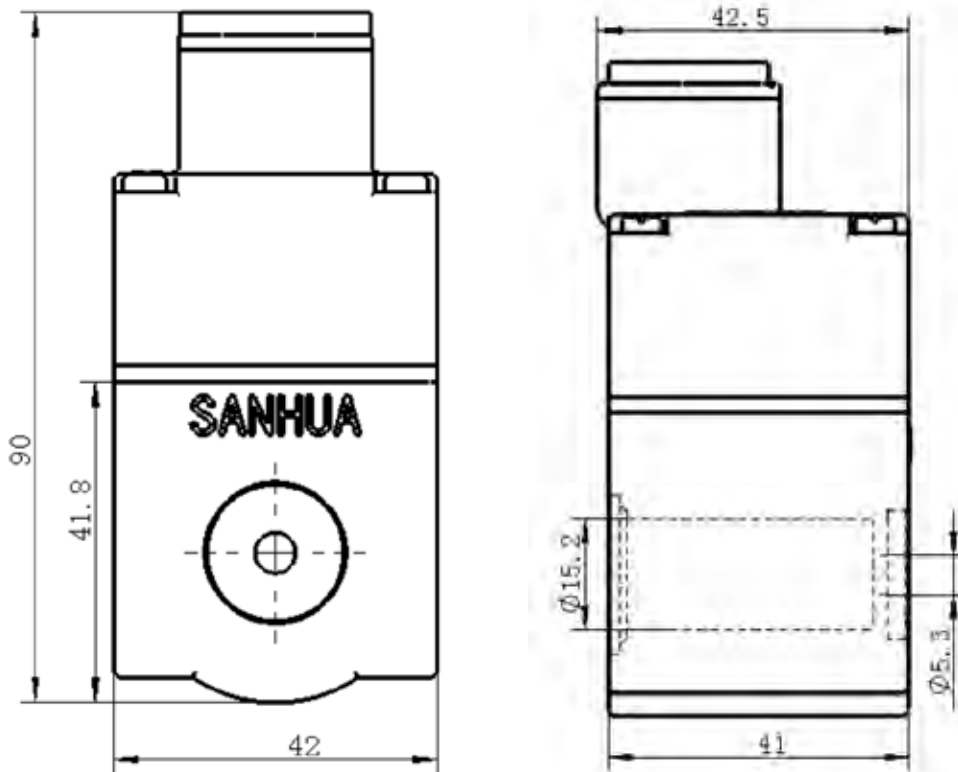
# MQ-A11 SERIES

## Solenoid Coil



### DIMENSIONS - COIL

Coils with junction box (MQ-A11)



# Solenoid Valve

FDF series solenoid valves are direct operated or pilot operated solenoid valves, mainly used in refrigerant control of various devices such as refrigerating and freezing systems, air conditioners and heat pumps.



### FEATURES

- COILS: LOW ENERGY CONSUMPTION, RELIABLE
- GREAT VALVE OPENING PERFORMANCE, HIGH MOPD

### GENERAL SPECIFICATIONS

- Applicable for all common HCFC, HFC refrigerants such as: R22, R134a, R404A, R407C, R410A, R507, R407A/F, R448A/R449A, R452A, R450A/R513A<sup>1)</sup>
- Medium temperature TS min./max.: -30°C / 120°C
- Ambient temperature min./max.: -30°C / +50°C
- Relative humidity: 0 to 95% RH
- Installation position: - Liquid, suction and discharge line  
- Coil upwards, coil axis  $\pm 15^\circ$  tolerance versus vertical axis  
- Flow direction corresponds to the arrow
- Certifications: UL/CSA\* and declaration according to LVD or PED

**Note:** 1) Flammable refrigerants like R32, R290 on request  
\*For FDF 3A 08 on request

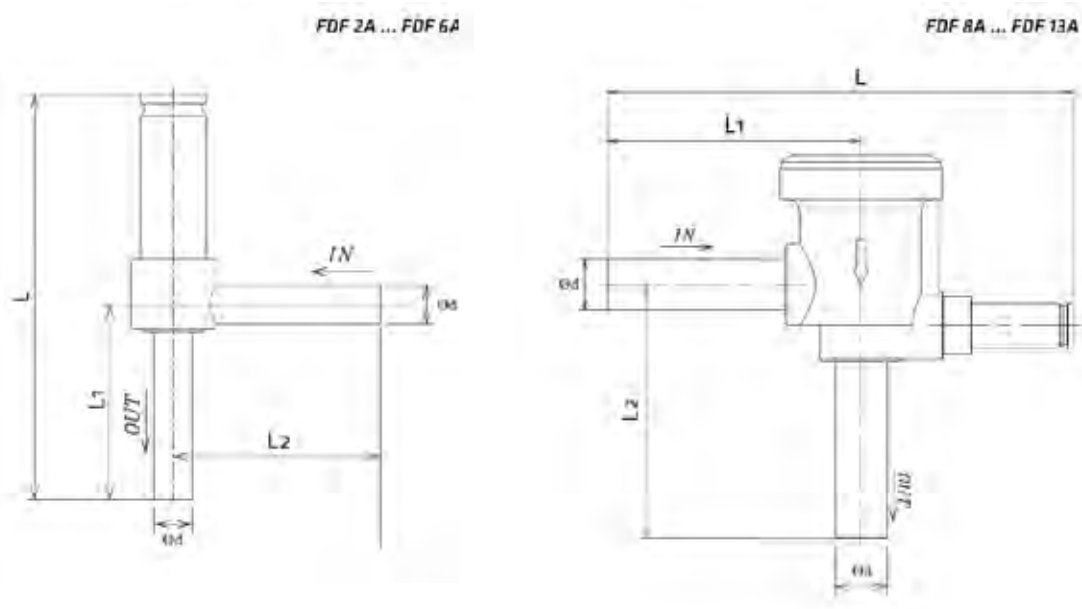
### TECHNICAL PARAMETERS OF VALVE BODY

Model Valve Body	Part Number*	Normal Position	Actuation	Ø Seat	Kv	MOP	Max. OPD	Min. OPD	Ød OD	Ød OD	Measurement [mm]		
				[mm]	[m <sup>3</sup> /h]	[MPa]	[MPa]	[MPa]	[mm]	[inch]	L	L1	L2
FDF 2A 94	10120019802	NC	Direct	1,9	0,08	4,5	3,4	0	6,35	1/4	66,5	32	34
FDF 2.5A 08	10120021102			2,5	0,21		2,1	0,01	6,35	1/4	85	37,5	38
FDF 3A 08	10120019302		2,7	0,26	3,4		7,94		5/16	81	34,5	35,5	
FDF 4A 10	10120006502		4,0	0,30	3,4		6,35	1/4	81	35	38		
FDF 6A 58	10120018702		5,8	0,56	3,0		7,94	5/16	81	34,5	35,5		
FDF 8A 21	10120020902		8,0	1,29			12,7	1/2	114	61	61		
FDF 11A 16	10120020302		11	2,40	2,8		12,7	1/2	114	61	61		
FDF 13A 12	10120020502		13	3,44			15,88	5/8	114	61	61		

\* Available also as industrial package. Contact Sanhua for more details.



**DIMENSIONS - VALVE BODY**

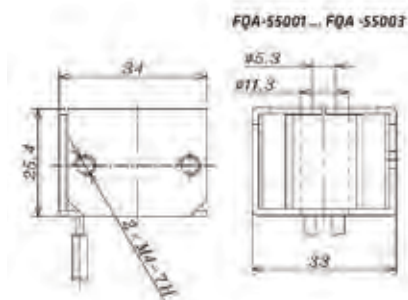


**TECNHICAL PARAMETERS OF COIL**

Model Coil	Part Number*	Rated Voltage [V]	Supply	Power <sup>1)</sup> [W]	Freq. [Hz]	Voltage Tolerance	Insulation Class	Wiring type
FQ-A05 024-000709	10800072302	24	AC	5 (50Hz) 4,5 (60Hz)	50/60	-15% +10%	B	flying leads
FQ-A05 120-001098	10800062002	110 to 120		5 (50Hz) 4,5 (60Hz)				
FQ-A05 22G-001022	10800058002	220 to 240		5 (50Hz) 4,5 (60Hz)				

**Note:** \* Available also as industrial package. Contact Sanhua for more details.  
 1) Power consumption based on 220V

**DIMENSIONS - COIL**



## Solenoid Valve

FDF2AK series solenoid valves are direct operated, normally open solenoid valves, mainly used in refrigerant control of various devices such as refrigerating and freezing systems, air conditioners and heat pumps.



### FEATURES

- COMPACT DESIGN
- LOW ENERGY CONSUMPTION
- EXCELLENT OPERATION PERFORMANCE

### GENERAL SPECIFICATIONS

- Applicable for all common HCFC, HFC refrigerants such as: R22, R134a, R404A, R407C, R410A, R507, R407A/F, R448A/R449A, R452A, R450A/R513A<sup>1)</sup>
- Medium temperature TS min./max.: -30°C / 120°C
- Ambient temperature: -30°C / +50°C
- Relative humidity: 0 to 95% RH
- Installation position:
  - Liquid, suction and discharge line
  - Coil upwards, coil axis ±15° tolerance versus vertical axis
  - Flow direction corresponds to the arrow
- Declaration according to LVD or PED

**Note:** 1) Flammable refrigerants like R32, R290 on request

### TECHNICAL PARAMETERS OF VALVE BODY

Valve Body Model	Part Number*	Normal Position	Actuation	Ø Seat [mm]	Kv [m <sup>3</sup> /h]	MOP [MPa]	Max. OPD [MPa]	Min. OPD [MPa]	Connection OD Ød	
									[mm]	[inch]
FDF 2AK 01	10120006702	NO	Direct	1,8	0,05	4,5	1,5	0	6,35 ±0,1	1/4
FDF 2AK 08	10120009702			1,9	0,08					

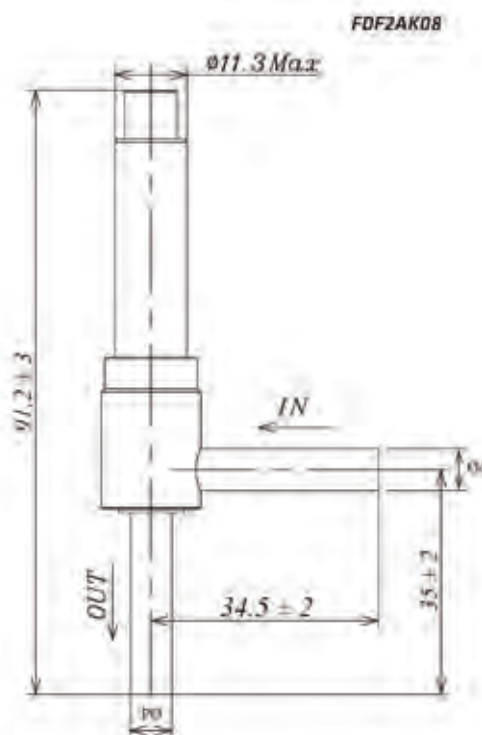
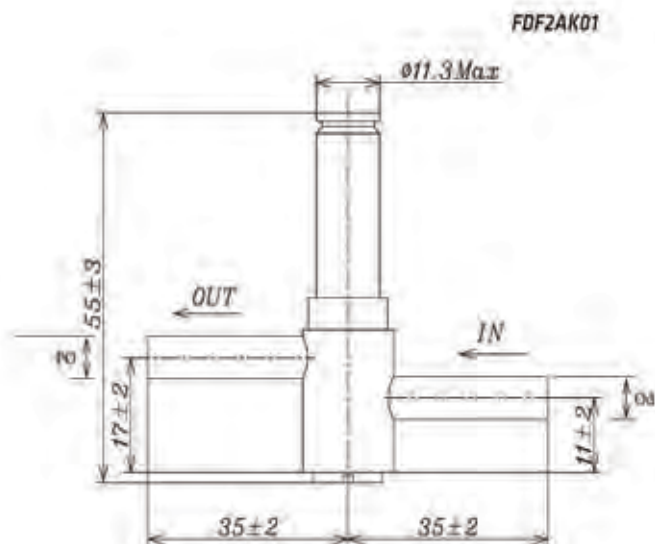
\* Available also as industrial package. Contact Sanhua for more details.

# FDF2AK (NO) SERIES

## Solenoid Valve



### DIMENSIONS - VALVE BODY



### TECNHICAL PARAMETERS OF COIL

Coil Model	Part Number*	Rated Voltage [V]	Supply	Power <sup>3)</sup> [W]	Used for	Freq. [Hz]	Voltage Tolerance	Insulation Class	Wiring type
FQ-A05024-000709	10800072302	24	AC	5 (50Hz) 4,5 (60Hz)	FDF 2AK 01 <sup>1)</sup>	50/60	-15% +10%	B	flying leads
FQ-A05120-001098	10800062002	110 to 120		5 (50Hz) 4,5 (60Hz)					
FQ-A0522G-001022	10800057302	220 to 240		5 (50Hz) 4,5 (60Hz)					
FQ-A0522G-001066	10800060102	220 to 240		6,5 (50Hz) 5 (60Hz)	FDF 2AK 08 <sup>2)</sup>				

**Note:** \* Available also as industrial package. Contact Sanhua for more details.

1) Dimensions: drawing 1

2) Dimensions: drawing 2

3) Power consumption based on 220V

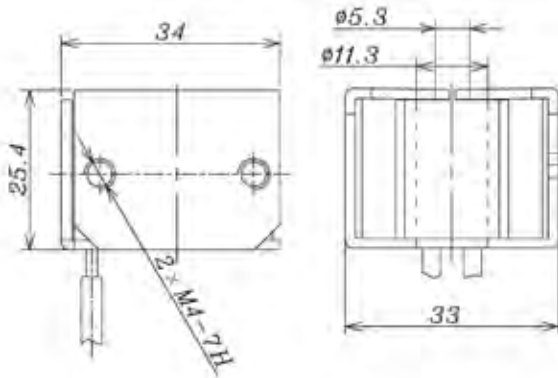


**FDF2AK (NO) SERIES**  
**Solenoid Valve**

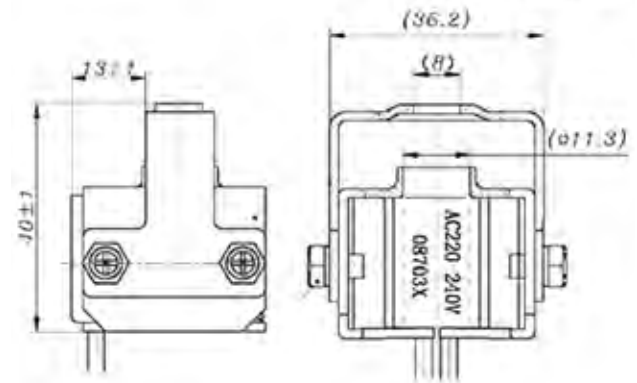


**DIMENSIONS - COIL**

Drawing 1: FQ-A05024-000709, FQ-A05120-001098, FQ-A0522G-001022



Drawing 2: FQA-55007



Every 2<sup>nd</sup> home refrigerator  
 in Europe is equipped

with a **SANHUA**  
 solenoid valve



YEARLY SANHUA SUPPLIES OVER  
 20 MILLION SOLENOID VALVES TO THE  
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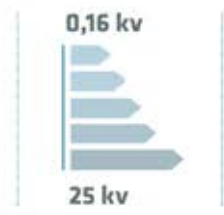
Every 2<sup>nd</sup> home refrigerator  
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YEARLY SANHUA SUPPLIES OVER  
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# Solenoid Valve

HDF series solenoid valves are piston type pilot operated solenoid valves, mainly used in refrigerant control of various devices such as refrigerating and freezing systems, air conditioners and heat pumps. The maximum admitted refrigerant temperature (equal to +140°C) permits to install HDF valves in gas injection or hot gas bypass lines such as in the compressor discharge line.



### FEATURES

- VALVE BODY WITH A COMPACT DESIGN, EASY TO MANAGE AND INSTALL
- VALVE BODY WITH HERMETIC DESIGN TO ELIMINATE THE RISK OF EXTERNAL LEAKAGE
- SOLENOID VALVES PILOTED BY PISTON ACTUATION. WIDE MEDIUM TEMPERATURE RANGE ALLOWED
- GREAT VALVE OPENING PERFORMANCE, HIGH MAX. OPD
- COILS: LOW ENERGY CONSUMPTION, RELIABLE
- COILS ARE DOUBLE SEALED, WATER TIGHT AND SAFE
- COILS CAN BE SELECTED WITH DIN CONNECTOR

### GENERAL SPECIFICATIONS

- Applicable for all common HCFC, HFC refrigerants such as: R22, R134a, R404A, R407C, R410A, R507, R407A/F, R448A/R449A, R452A, R450A/R513A<sup>1)</sup>
- Medium temperature TS min./max.: -40°C/+140°C
- Ambient temperature min./max.: -30°C /+55°C
- Relative humidity: 0 to 95% RH
- Installation position:
  - Liquid, suction and discharge line
  - Preferably coil upwards and flow direction corresponds to the arrow
- Certifications: Declaration according to LVD and PED (2014/68/EU)

**Note:** 1) Flammable refrigerants like R32, R290, R1234ze(E), R1234yf on request

### TECHNICAL PARAMETERS OF VALVE BODY

Valve body (solder connections)	Normal Position	Actuation	Kv [m <sup>3</sup> /h]	MOP [MPa]	Max. OPD [MPa]		Min. OPD [MPa]
					AC coil	DC coil	
HDF 3	NC	Pilot (piston operated)	0,3	4,5	3,8	2,8	0.007
HDF 6			0,8	4,5	3,8	2,8	0.007
HDF 10			1,9	4,5	3,8	2,8	0.007
HDF 15			2,6	4,5	3,8	2,8	0.007
HDF 20			4,0	4,5	3,8	2,8	0.007
HDF 22			5,7	4,5	3,8	2,8	0.007

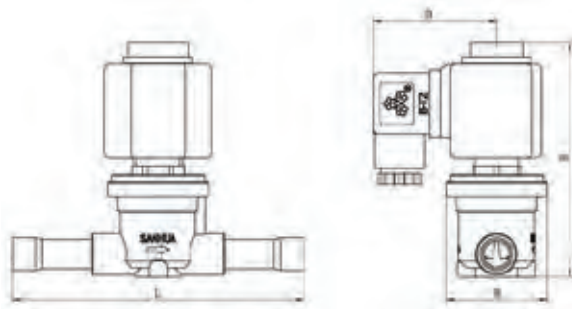




**DIMENSIONS**

Model Valve body	Part Number <sup>1)</sup>	Solder Connection (ODF)		Kv [m <sup>3</sup> /h]	PED Category Group 2	Dimensions [mm]			
		[inch]	[inch]			L	B	D	H
HDF3H01	10129000302	1/4"	-	0,3	4.3	118	33	54	95
HDF3H03	10129000502	-	6	0,3	4.3	118	33	54	95
HDF3H02	10129000402	3/8"	-	0,3	4.3	118	33	54	95
HDF3H05	10129000602	-	10	0,3	4.3	118	33	54	95
HDF6H02	10129000102	3/8"	-	0,8	4.3	118	33	54	95
HDF6H04	10129000802	-	10	0,8	4.3	118	33	54	95
HDF6H03	10129000702	1/2"	-	0,8	4.3	127	33	54	95
HDF6H07	10129000202	-	12	0,8	4.3	127	33	54	95
HDF10H01	10129003402	1/2"	-	1,9	4.3	127	44	54	102
HDF10H03	10129000902	-	12	1,9	4.3	127	44	54	102
HDF10H02	10129001702	5/8"	16	1,9	4.3	166	44	54	102
HDF15H01	10129003502	5/8"	16	2,6	4.3	175	48	54	105
HDF15H02	10129001002	7/8"	22	2,6	4.3	175	48	54	105
HDF20H01	10129001102	7/8"	22	4,0	4.3	181	57	54	114
HDF20H02	10129001202	1 1/8"	-	4,0	4.3	214	57	54	114
HDF20H03	10129001302	-	28	4,0	4.3	214	57	54	114
HDF22H01	10129003602	7/8"	22	5,7	4.3	190	58	54	114
HDF22H03	10129001502	1 1/8"	-	5,7	4.3	214	58	54	114
HDF22H04	10129001602	-	28	5,7	4.3	214	58	54	114
HDF22H02	10129001402	1 3/8"	35	5,7	I	281	58	54	114

**Note:** 1) Extent of delivery: valve body without coil



Valve Body Solder Connection- with standard coils (DIN connector) - (MQ-A03)



**TECHNICAL PARAMETERS OF COIL**

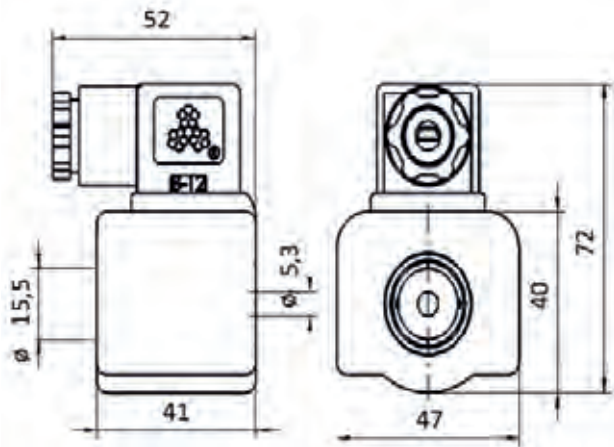
Standard coils with DIN connector (MQ-A03)

Model Coil <sup>1)</sup>	Part Number <sup>2)</sup>	Rated Voltage [V]	Supply	Power [W]	Frequency [Hz]	Voltage Tolerance	Insulation Class	Protection Class (w/plug)	Wiring type
MQ-A03 024-001001	10820006102	24	AC	8,5 (50Hz) 7,5 (60Hz)	50/60	-15% to +10%	F	IP65	DIN Plug
MQ-A03 11A-001001	10820006302	110 to 120		8,5 (50Hz) 7,5 (60Hz)					
MQ-A03 22G-001001	10820005702	220 to 240		8,5 (50Hz) 7,5 (60Hz)					

**Note:** Extent of delivery: coil body, fastening screw for the coil body, DIN plug for electrical connection incl. gaskets

**DIMENSIONS OF THE COILS**

Coils with DIN Plug (MQ-A03)



Coils with DIN Plug (MQ-A03 and MQ-D03 Series)

# Solenoid Valve

MDF flange solenoid valve are used in the oil return line of compressors, applicable for various POE refrigeration oil and general refrigerants such as R22. But applicable maximum differential pressure is different in pure oil and in non-pure oil environments for the oil temperature and viscosity.



## FEATURES

- APPLICABLE FOR STOP-AND-GO CONTROL OF OIL RETURN LINE IN REFRIGERATING COMPRESSORS
- DIRECT OPERATED, NORMALLY CLOSE VALVE WITH ZERO MIN. VALVE OPENING PRESSURE DIFFERENCE
- APPLICABLE FOR POE REFRIGERATION OIL AND VARIOUS FLUORIDE REFRIGERANTS
- MAXIMUM VALVE OPENING PRESSURE DIFFERENCE FOR GASSY OIL AND 90°C PURE OIL IS 2.2MPa
- UTILIZING NO CONNECTION TUBE STRUCTURE, BUT FLANGE CONNECTION IS COMPACT, LIGHT, EASY TO INSTALL AND HAVE GOOD PERFORMANCE OF ANTI-VIBRATION
- THE VALVE BODY IS ALL WELDED FOR TIGHTNESS WITH LITTLE LEAKAGE RIS

## GENERAL SPECIFICATIONS

- Applicable refrigerant: POE refrigeration oil, R22, R134a, R407C, R404A etc.

- Applicable medium temperature: 0°C ~90°C
- Applicable ambient temperature: -30C ~+55°C
- Maximum working pressure: 4.5MPa(655Psig)

## TECHNICAL PARAMETERS *Technical Parameters of Valve Body*

Model	Operation Type	Cv Value	Operation Pressure Difference MPa		
			Max		Min
			Gas and 90°C pure oil	0°C pure oil	
FDF2A905	Directoperated	0.14	2.2	0.8	0

## *Electrical Parameters of Coil*

Series	Insulation Grade	Voltage Change	Frequency Hz	Wiring Type	IP Grade
Matching Coil MQ-A01220	F	AC220V	50	DIN junction box	IP65



# Solenoid Valve

FDF series Solenoid Valve are used in the new compressor system developed by Copeland, which uses a flange to connect the compressor. It is available in high ambient temperature and medium temperature with long service life.



## FEATURES

- LOW TEMPERATURE RISE OF THE COIL, LOW ENERGY CONSUMPTION AND RELIABLE;
- LONG SERVICE LIFE, UP TO 35,000,000 TIMES;

## GENERAL SPECIFICATIONS

- Applicable refrigerant: R22, R134a, R404A, R407A, R407C and R507 etc.;
- Applicable medium temperature: +10°C ~ +146°C (non-persistent);
- Applicable ambient temperature: -30°C ~ +60°C;
- Relative humidity: below 95% RH

## TECHNICAL PARAMETERS *Technical Parameters Of Valve Body*

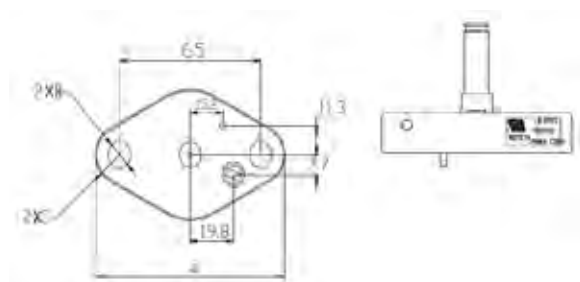
Model	Flow L/min ( $\Delta P=0.345\text{MPa}$ )	Operation Pressure Difference MPa		Max. Working Pressure MPa
		Max	Min	
FDF2A903-01	42.5	2.8	0	3.5
FDF2A903-02				

## *Electrical Parameters of Coil*

Model	Insulation Grade	Rated Voltage V	Voltage Change	Frequency Hz
SHF-4-10FA5	F	AC220V~240V	85%~110%	50/60
SHF-4-10FA2		AC120V		
SHF-4-10FA4		AC24V		

## DIMENSIONS

Model	A	B	C
FDF2A903-01	(87)	10.30	R11.1
FDF2A903-02	(90)	13.47	R12.7



# Ball Valve

The ball valve of series SBV is applicable for commercial air conditioner, freezing or deep-freezing equipment or other refrigeration circuits in order to open and to shut off inner flow path by operating the valve stem. It can also be used as service valve for vacuum pumping and refrigerant injection etc.



## FEATURES

- STRAIGHTWAY TYPE, FULL PORT, LOW PRESSURE DROP , COST-EFFECTIVE
- VALVE BODY AND VALVE SEAT WITH WELDED STRUCTURE, WITH HIGH PRODUCT RELIABILITY
- ROTATE 1/4 CIRCLES FROM FULL-OPEN TO FULL-CLOSE, EASY TO OPERATE
- BIDIRECTIONAL FLOW
- ROTATION STOP ON REQUEST FOR FULL-OPEN AND FULL-CLOSE OF THE VALVE
- SPECIAL SEALING MATERIALS TO PREVENT INTERNAL LEAKAGE

## GENERAL SPECIFICATIONS

- Applicable for all common HCFC, HFC, HFO refrigerants such as: R22, R134a, R404A, R407A/F, R407C, R410A, R448A, R449A, R450A, R452A, R513A, R507A<sup>1)</sup>
- Medium temperature TS min./max.: -40°C / +120°C
- Max. operating pressure PS: 4,5 MPa (45 bar)
- Installation position: liquid, suction and discharge line in all directions
- Certifications: UL/CSA and PED declaration

**Note:** 1) Flammable refrigerants like R32, R290, R1234ze(E), R1234yf on request



**GENERAL CHARACTERISTICS**

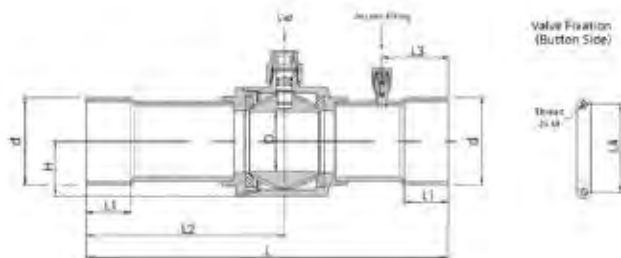
Without Access Fitting		Connections Ø d ODF		Kv	Wrench Size Cap	PED category	With Access Fitting	
Model	Part Number*	[inch]	[mm]	[m <sup>3</sup> /h]	[mm]		Model	Part Number*
SBV02-020	10150092002	-	6	1,9	19	4.3	SBV02-320	10150094702
SBV02-019	10150091902	1/4	-	1,9	19	4.3	SBV02-319	10150094602
SBV03-019	10150091802	3/8	-	5,5	19	4.3	SBV03-319	10150094802
SBV03-020	10150092102	-	10	5,5	19	4.3	SBV03-320	10150094902
SBV04-020	10150092202	-	12	10,2	19	4.3	SBV04-320	10150095102
SBV04-019	10150090502	1/2	-	10,2	19	4.3	SBV04-319	10150095002
SBV(M)-A5YHSY-2-S	10150057602	-	15	13,2	14	4.3	SBV(M)-JA5YHSY-2-S	10150057702
SBV(M)-A5YHSY-1-S	10150053302	5/8	16	13,8	14	4.3	SBV(M)-JA5YHSY-1-S	10150053402
SBV(M)-A6YHSY-2-S	10150054602	-	18	19,5	17	4.3	SBV(M)-JA6YHSY-2-S	10150054502
SBV(M)-A6YHSY-1-S	10150054302	3/4	-	19,5	17	4.3	SBV(M)-JA6YHSY-1-S	10150054202
SBV(M)-A7YHSY-1-S	10150053502	7/8	22	28,0	17	4.3	SBV(M)-JA7YHSY-1-S	10150053602
SBV(M)-A9YHSY-2-S	10150055102	-	28	51,5	17	4.3	SBV(M)-JA9YHSY-2-S	10150055202
SBV(M)-A9YHSY-1-S	10150054702	1 1/8	-	51,5	17	4.3	SBV(M)-JA9YHSY-1-S	10150054802
SBV(M)-A11YHSY-1-S	10150055002	1 3/8	35	80,0	17	I	SBV(M)-JA11YHSY-1-S	10150054902
SBV(M)-A13YHSY-2-S	10150055502	1 5/8	-	119,8	17	I	SBV(M)-JA13YHSY-2-S	10150055402
SBV(M)-A13YHSY-1-S	10150055302	-	42	119,8	17	I	SBV(M)-JA13YHSY-1-S	10150057802
SBV(M)-A17YHSY-1-S	10150055702	2 1/8	54	225	19	I	SBV(M)-JA17YHSY-1-S	10150055802
SBV(M)-A19YHSY-1-S	10150055902	-	64	225	19	I	SBV(M)-JA19YHSY-1-S	10150056002
SBV(M)-A21YHSY-2-S	10150056302	2 5/8	-	305	19	I	SBV(M)-JA21YHSY-2-S	10150056402
SBV(M)-A25YHSY-2-S	10150056502	3 1/8	80	635	24	I	SBV(M)-JA25YHSY-2-S	10150056602
SBV(M)-A29YHSY-1-S	10150057002	3 5/8	92	805	26	I	SBV(M)-JA29YHSY-1-S	10150056902
SBV(M)-A33YHSY-2-S	10150056102	4 1/8	105	950	32	I	SBV(M)-JA33YHSY-2-S	10150056202
SBV(M)-A34YHSY-1-S	10150057102	4 1/4	108	950	32	I	SBV(M)-JA34YHSY-1-S	10150057202

**Note:** SBV model with connection size 3-1/2" (89mm) available on request

\* Available also as industrial package. Contact Sanhua for more details.



**DIMENSIONS & WEIGHT**



Part Number		L	L1	L2	L3 <sup>1)</sup>	L4	D	H	M	Weight
Without access fitting	With Access Fitting	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
SBV02-020	SBV02-320	132	10	68	31	16	10	14	M4 x 0,7	0,20
SBV02-019	SBV02-319	132	10	68	31	16	10	14	M4 x 0,7	0,20
SBV03-019	SBV03-319	132	10	68	31	16	10	14	M4 x 0,7	0,20
SBV03-020	SBV03-320	132	10	68	31	16	10	14	M4 x 0,7	0,20
SBV04-020	SBV04-320	160	10	85	42,5	16	10	14	M4 x 0,7	0,21
SBV04-019	SBV04-319	160	10	85	42,5	16	10	14	M4 x 0,7	0,21
SBV(M)-A5YHSY-2-S	SBV(M)-JA5YHSY-2-S	160	13	85	31	22	14	16	M4 x 0,7	0,30
SBV(M)-A5YHSY-1-S	SBV(M)-JA5YHSY-1-S	160	13	85	31	22	14	16	M4 x 0,7	0,30
SBV(M)-A6YHSY-2-S	SBV(M)-JA6YHSY-2-S	185	16	99	37	30	19	20	M4 x 0,7	0,51
SBV(M)-A6YHSY-1-S	SBV(M)-JA6YHSY-1-S	185	16	99	37	30	19	20	M4 x 0,7	0,51
SBV(M)-A7YHSY-1-S	SBV(M)-JA7YHSY-1-S	185	17	99	37	30	19	20	M4 x 0,7	0,52
SBV(M)-A9YHSY-2-S	SBV(M)-JA9YHSY-2-S	208	21	112	44	38	25	25	M4 x 0,7	0,73
SBV(M)-A9YHSY-1-S	SBV(M)-JA9YHSY-1-S	208	21	112	44	38	25	25	M4 x 0,7	0,73
SBV(M)-A11YHSY-1-S	SBV(M)-JA11YHSY-1-S	251	25	136	44	48	32	31	M6 x 1,0	1,42
SBV(M)-A13YHSY-2-S	SBV(M)-JA13YHSY-2-S	281	28	151	56	55	38	35	M6 x 1,0	1,90
SBV(M)-A13YHSY-1-S	SBV(M)-JA13YHSY-1-S	281	28	151	56	55	38	35	M6 x 1,0	1,90
SBV(M)-A17YHSY-1-S	SBV(M)-JA17YHSY-1-S	305	34	167	56	74	50	46	M6 x 1,0	3,74
SBV(M)-A19YHSY-1-S	SBV(M)-JA19YHSY-1-S	305	34	167	70	74	50	46	M6 x 1,0	3,79
SBV(M)-A21YHSY-2-S	SBV(M)-JA21YHSY-2-S	305	37	167	56	74	60	56	M6 x 1,0	6,08
SBV(M)-A25YHSY-2-S	SBV(M)-JA25YHSY-2-S	378	42	186	80	90	70	63	M6 x 1,0	8,81
SBV(M)-A29YHSY-1-S	SBV(M)-JA29YHSY-1-S	423	42	208	75	108	80	75	M6 x 1,0	11,47
SBV(M)-A33YHSY-2-S	SBV(M)-JA33YHSY-2-S	423	42	210,0	75	148	95	91	M6 x 1,0	20,17
SBV(M)-A34YHSY-1-S	SBV(M)-JA34YHSY-1-S	423	42	210,0	75	148	95	91	M6 x 1,0	20,17

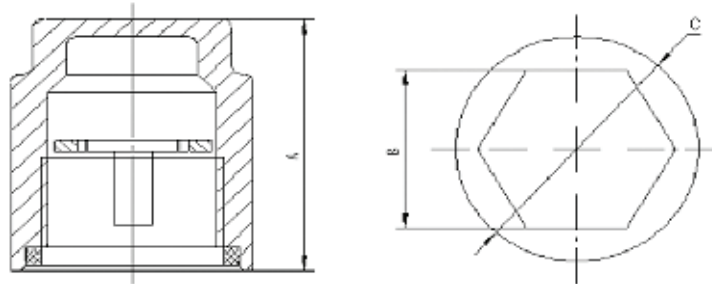
**Note:** 1) Applicable to versions with access fitting

# SBV SERIES

## Ball Valve



### ACCESSORIES



#### Anti-Rotation Device

Model	Part Number*	Applicable for SBV models with:		Cap Nut	Dimensions mm		
		Inch connections:	Metric connections:		A	B	C
SK01	10150061902	1" 1/8 - 1" 3/8	28mm - 35mm	M18X1-6H	27,0	H17	Ø 24
SK02	10150062002	1" 5/8	42mm	M22X1-6H	27,5	H17	Ø 26
SK03	10150062102	2" 1/8 - 2" 5/8	54mm - 64mm	M22X1-6H	27,5	H19	Ø 28
SK04	10150062202	3" 1/8 - 3" 5/8	80mm - 92mm	M26X1-6H	29,5	H24	Ø 32
SK05	10150062302	4" 1/8 - 4" 1/4	105mm - 108mm	M32X1-6H	32,0	H29	Ø 38

\* Available also as industrial package. Contact Sanhua for more details.



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# Ball Valve

CBV valves are typically used in commercial CO<sub>2</sub> refrigeration applications in order to open and to shut off inner flow path by operating the valve stem. The ball valve of series CBV is applicable for subcritical CO<sub>2</sub> refrigeration systems and is a perfect choice for all similar CO<sub>2</sub> systems.



## FEATURES

- STRAIGHTWAY TYPE, FULL PORT, LOW PRESSURE DROP, COST-EFFECTIVE
- VALVE BODY AND VALVE SEAT WITH WELDED STRUCTURE, WITH HIGH PRODUCT RELIABILITY
- ROTATE ¼ CIRCLES FROM FULL-OPEN TO FULL-CLOSE, EASY TO OPERATE
- BIDIRECTIONAL FLOW<sup>1)</sup>
- ROTATION STOP FOR FULL-OPEN AND FULL-CLOSE OF THE VALVE AVAILABLE
- SPECIAL SEALING MATERIALS TO PREVENT INTERNAL LEAKAGE

**Note:** 1) CBV valves fulfill internal tightness requirements of the standard EN12284, paragraph 9.6.3 in both flow directions.  
 Installations with shut off function to the atmosphere: Please install the solder connection "B" at the airside. Please see solder connection "A" and "B" at the dimensional drawing page 3.  
 Remark: Welding body junction is always at solder connection "A"

## GENERAL SPECIFICATION

- Applicable for R744 (CO<sub>2</sub>)
- Medium temperature TS min./max.:  
-40°C/+150°C
- Max. operating pressure PS: 6,0 MPa (60bar)
- Installation position: liquid, suction and discharge line in all directions
- Certification: PED declaration.



**GENERAL CHARACTERISTICS**

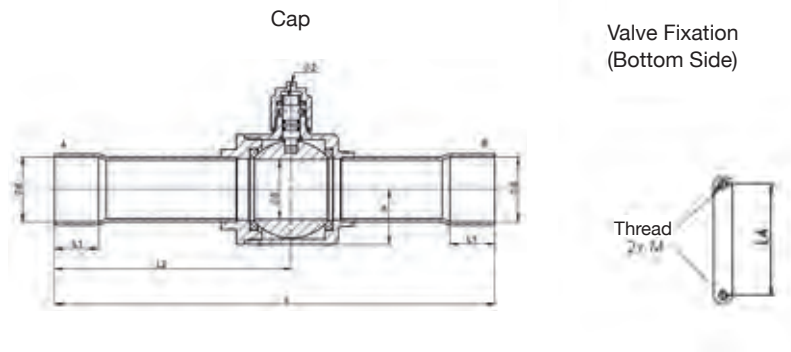
Model	Part Number* <sup>1)</sup>	Connection Ø d ODF		Kv	Wrench Size Cap	PED Category
		[inch]	[mm]	[m <sup>3</sup> /h]	[mm]	
CBV02-002	10150074202	-	6	1,9	H14	4.3
CBV02-001	10150074102	1/4	-	1,9	H14	4.3
CBV03-001	10150074302	3/8	-	5,5	H14	4.3
CBV03-002	10150074402	-	10	5,5	H14	4.3
CBV04-002	10150074602	-	12	10,2	H14	4.3
CBV04-001	10150074502	1/2	-	10,2	H14	4.3
CBV05-001	10150074702	5/8	16	13,8	H14	4.3
CBV06-002	10150074902	-	18	19,5	H17	4.3
CBV06-001	10150074802	3/4	-	19,5	H17	4.3
CBV07-001	10150063002	7/8	22	28,0	H17	4.3
CBV09-002	10150075002	-	28	51,5	H17	4.3
CBV09-001	10150062902	1 1/8	-	51,5	H17	4.3
CBV11-001	10150075102	1 3/8	35	80,0	H17	I
CBV13-002	10150062802	1 5/8	-	119,8	H17	I
CBV13-003	10150075202	-	42	119,8	H17	I
CBV17-001	10150075302	2 1/8	54	225,0	H19	I

**Note:** \* Available also as industrial package. Contact Sanhua for more details.

1) Extent of delivery: valve body and standard cap



**DIMENSIONS & WEIGHT**



Model	Part Number	L	L1	L2	L4	D	H	M	Weight
CBV02-002	10150074202	132	8	68	22	14	16	M4 x 0,7	0,28
CBV02-001	10150074102	132	8	68	22	14	16	M4 x 0,7	0,28
CBV03-001	10150074302	132	8	68	22	14	16	M4 x 0,7	0,29
CBV03-002	10150074402	132	8	68	22	14	16	M4 x 0,7	0,29
CBV04-002	10150074602	160	10	85	22	14	16	M4 x 0,7	0,30
CBV04-001	10150074502	160	10	85	22	14	16	M4 x 0,7	0,30
CBV05-001	10150074702	160	12	85	22	14	16	M4 x 0,7	0,30
CBV06-002	10150074902	185	14	99	30	19	20	M4 x 0,7	0,51
CBV06-001	10150074802	185	14	99	30	19	20	M4 x 0,7	0,51
CBV07-001	10150063002	185	17	99	30	19	20	M4 x 0,7	0,52
CBV09-002	10150075002	208	20	112	38	25	25	M4 x 0,7	0,73
CBV09-001	10150062902	208	20	112	38	25	25	M4 x 0,7	0,73
CBV11-001	10150075102	251	25	136	48	32	31	M6 x 1,0	1,42
CBV13-002	10150062802	281	29	151	55	38	35	M6 x 1,0	1,90
CBV13-003	10150075202	281	29	151	55	38	35	M6 x 1,0	1,90
CBV17-001	10150075302	305	34	167	74	50	46	M6 x 1,0	3,74

\* Available also as industrial package. Contact Sanhua for more details.



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# Ball Valve

The ball valve of series CBVT is applicable for commercial CO<sub>2</sub> refrigeration applications in order to open and to shut off inner flow path by operating the valve stem. The ball valve of CBVT is applicable for transcritical CO<sub>2</sub> refrigeration systems and is a perfect choice for all similar CO<sub>2</sub> systems.



## FEATURES

- STRAIGHTWAY TYPE, FULL PORT, LOW PRESSURE DROP – HIGH EFFICIENCY
- VALVE BODY WITH WELDED STRUCTURE – PRODUCT STRENGTH AND RELIABILITY
- ROTATE 1/4 CIRCLES FROM FULL-OPEN TO FULL-CLOSE – EASY AND FAST TO OPERATE
- BIDIRECTIONAL FLOW<sup>1)</sup>
- VALVE BODY AND CONNECTION TUBES ARE FULL STAINLESS STEEL – INCREASED STRENGTH AND HIGH CORROSION RESISTANCE
- BI-METAL CONNECTIONS - EASY AND FAST SOLDERING

**Note:** 1) CBVT valves fulfill internal tightness requirements of the standard EN12284, paragraph 9.6.3 in both flow directions.  
Installations with shut off function to the atmosphere (just temporarily for service purpose): Please install the solder connection "B" at the airside. Please see solder connection "A" and "B" at the dimensional drawing page 3.  
Remark: Welding body junction is always at solder connection "A"

## GENERAL SPECIFICATIONS

- Applicable for R744 (CO<sub>2</sub>)
- Medium temperature TS min./max.: -56°C / +150°C
- Max. operating pressure PS: 14 MPa (140 bar)
- Installation position: liquid, suction and discharge line in all directions
- Certifications: PED declaration

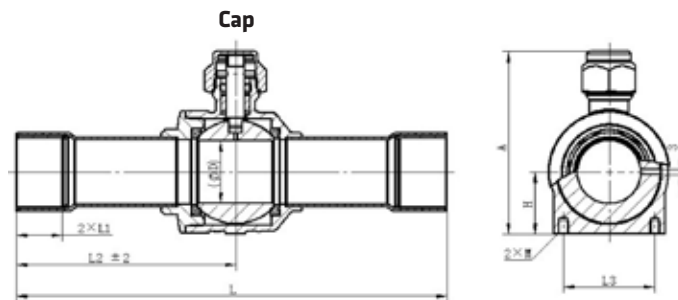


**GENERAL CHARACTERISTICS**

Model	Part Number*1)	Connection Ø d ODF		Kv [m³/h]	Wrench Size Cap [mm]	PED Category
		[inch]	[mm]			
CBVT 02-001	10150079202	1/4	-	1,9	H24	4.3
CBVT 02-002	10150079902	-	6	1,9	H24	4.3
CBVT 03-001	10150079302	3/8	-	5,5	H24	4.3
CBVT 03-002	10150080002	-	10	5,5	H24	4.3
CBVT 04-001	10150079402	1/2	-	10,2	H24	4.3
CBVT 04-002	10150080102	-	12	10,2	H24	4.3
CBVT 05-002	10150079602	-	15	13,8	H24	4.3
CBVT 05-001	10150079502	5/8	16	13,8	H24	4.3
CBVT 06-001	10150079702	3/4	-	19,5	H27	4.3
CBVT 06-002	10150079802	-	18	19,5	H27	4.3
CBVT 07-001	10150077902	7/8	22	28,0	H27	4.3
CBVT 09-001	10150077802	1 1/8	-	51,5	H27	4.3
CBVT 09-002	10150080202	-	28	51,5	H27	4.3
CBVT 11-001	10150077602	1 3/8	35	80,0	H30	I
CBVT 13-001	10150075602	1 5/8	-	119,8	H32	I
CBVT 13-002	10150080302	-	42	119,8	H32	I

**Note:** 1) Extent of delivery: valve body and standard cap

**DIMENSIONS**



Model	L	L1	L2	L3	D	H	I	M	Weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[g]
CBVT 02-001	126	8	66,5	22	14	16,2	64	M4×0.7	268
CBVT 02-002	126	8	66,5	22	14	16,2	64	M4×0.7	269
CBVT 03-001	132	10	69,5	22	14	16,2	64	M4×0.7	273
CBVT 03-002	132	10	69,5	22	14	16,2	64	M4×0.7	274
CBVT 04-001	139	12	73	22	14	16,2	64	M4×0.7	283
CBVT 04-002	139	12	73	22	14	16,2	64	M4×0.7	284
CBVT 05-002	148	16	77,5	22	14	16,2	64	M4×0.7	287
CBVT 05-001	148	16	77,5	22	14	16,2	64	M4×0.7	300
CBVT 06-001	148	16	77	30	19	20,5	72	M4×0.7	443
CBVT 06-002	148	16	77	30	19	20,5	72	M4×0.7	420
CBVT 07-001	185	17	95	30	19	20,5	72	M4×0.7	478
CBVT 09-001	185	20	95	38	25	26	81,5	M4×0.7	683
CBVT 09-002	185	20	95	38	25	26	81,5	M4×0.7	680
CBVT 11-001	205	25	104,5	48	32	34	102	M6×1.0	1367
CBVT 13-001	260	29	132,5	55	38	37	109,5	M6×1.0	1891
CBVT 13-002	260	29	132,5	55	38	37	109,5	M6×1.0	1890



# Check Valve Piston Type

Piston type check valves are designed for installation in commercial refrigerating systems and in residential or industrial air conditioning plants. 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
- EQUIPPED WITH DAMPING SPRING TO FREELY INSTALL THE VALVE AT POSITIONS WITH PRESSURE PULSE
- AVAILABLE IN TWO TYPES OF MODEL: STRAIGHTWAY VALVE AND L-SHAPE VALVE, EASY TO CONNECT
- SPECIAL VERSION OF CHECK VALVE EQUIPPED WITH REINFORCED SPRING AVAILABLE, APPLICABLE TO COMPRESSOR DISCHARGE PIPES IN SINGLE OR MULTI COMPRESSOR SYSTEMS (YCVSH SERIES)
- LOW PRESSURE DROP DURING OPERATION

## GENERAL SPECIFICATIONS

- Applicable for all common HCFC, HFC, HC refrigerants such as: R22, R134a, R404A, R407C, R410A, R507A, R407A/F, R290<sup>1)</sup>, R32<sup>1)</sup>, R1234yf<sup>1)</sup>, R1234ze<sup>1)</sup>, R448A/R449A, R452A, R450A/R513A, R744
- Medium temperature TS min./max.: -50°C / +140°C
- Max. operating pressure PS: 4,6 MPa (46 bar)
- Installation position:
  - Flow direction corresponds to the arrow
  - Straight-way type: preferably installed with vertical axis and flow upwards, sloping axis up to horizontal is tolerable
  - L-shape type: flow direction from bottom to top
- Declaration according to PED

**Note:** 1) For all the flammable refrigerants only tube connections below 25 mm (1 inch) can be used

# YCVS SERIES

## Check Valve Piston Type



### GENERAL CHARACTERISTICS

Model	Part Number*	Type	Connections ODF		Kv	Min. OPD	Dimensions			PED category
			Ø d				ØD	C	E	
			[inch]	[mm]	[m <sup>3</sup> /h]	[kPa]	[mm]	[mm]	[mm]	
YCVS 5-11GSHC-1	10160030202	straight-way	-	6	0,56	5	5	90	18	3,3
YCVS 5-22GSHC-1	10160024502	straight-way	1/4	-	0,56	5	5	90	18	3,3
YCVS 8-33GSHC-1	10160024602	straight-way	3/8	-	1,43	5	8	110	18	3,3
YCVSH 8-33GSHC-1	10160030502	straight-way	3/8	-	1,43	15	8	110	18	3,3
YCVS 8-33GSHC-2	10160031302	straight-way	-	10	1,43	5	8	110	18	3,3
YCVSH 8-33GSHC-2	10160033202	straight-way	-	10	1,43	15	8	110	18	3,3
YCVS 10-33GSHC-1	10160023802	straight-way	-	12	2,1	5	10	130	22	3,3
YCVSH 10-33GSHC-1	10160029102	straight-way	-	12	2,1	15	10	130	22	3,3
YCVS 10-44GSHC-1	10160023902	straight-way	1/2	-	2,1	5	10	130	22	3,3
YCVSH10-44GSHC-1	10160024802	straight-way	1/2	-	2,1	15	10	130	22	3,3
YCVS 13-55GSHC-1	10160024002	straight-way	5/8	16	3,9	5	13	140	28	3,3
YCVSH 13-55GSHC-1	10160024902	straight-way	5/8	16	3,9	15	13	140	28	3,3
YCVS 17-55GSHC-1	10160024202	straight-way	-	18	5,52	5	17	165	34	3,3
YCVSH 17-55GSHC-1	10160036902	straight-way	-	18	5,52	15	17	165	34	3,3
YCVS 17-66GSHC-1	10160024102	straight-way	3/4	-	5,52	5	17	165	34	3,3
YCVSH 17-66GSHC-1	10160028202	straight-way	3/4	-	5,52	15	17	165	34	3,3
YCVS 17-77GSHC-1	10160025002	straight-way	7/8	22	5,52	5	17	165	34	3,3
YCVSH 17-77GSHC-1	10160037502	straight-way	7/8	22	5,52	15	17	165	34	3,3
YCVS 20-77GSHC-1	10160030002	L-shape	7/8	22	13,2	10	20	132	87	3,3
YCVSH 20-77GSHC-1	10160034602	L-shape	7/8	22	13,2	30	20	132	87	3,3
YCVS 26-88GSHC-1	10160037202	L-shape	-	28	19,02	10	26	196	123	3,3
YCVSH 26-88GSHC-1	10160023702	L-shape	-	28	19,02	30	26	196	123	3,3
YCVS 26-99GSHC-1	10160030102	L-shape	1 1/8	-	19,02	10	26	196	123	3,3
YCVSH 26-99GSHC-1	10160034702	L-shape	1 1/8	-	19,02	30	26	196	123	3,3
YCVS 31-BBGSHC-1	10160024402	L-shape	1 3/8	35	29,1	10	31	196	123	I
YCVSH 31-BBGSHC-1	10160037402	L-shape	1 3/8	35	29,1	30	31	196	123	I
YCVS 31-DDGSHC-1	10160037002	L-shape	1 5/8	-	29,1	10	31	196	123	I
YCVSH 31-DDGSHC-1	10160037102	L-shape	1 5/8	-	29,1	30	31	196	123	I
YCVS 31-DDGSHC-2	10160032402	L-shape	-	42	29,1	10	31	196	123	I
YCVSH 31-DDGSHC-2	10160042302	L-shape	-	42	29,1	30	31	196	123	I

\* Available also as industrial package. Contact Sanhua for more details.

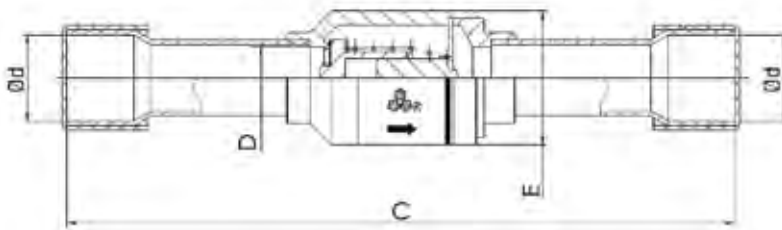
## YCVS SERIES

### Check Valve Piston Type

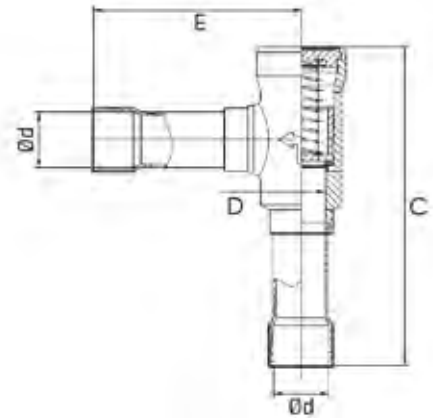


#### GENERAL CHARACTERISTICS

*Straight-way*



*L-shape*



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## Check Valve

Float type check valve are used in air conditioning system in shunt connection with capillary tubes to control the forward and reverse flow of refrigerant and make refrigerant flow in a specified direction.



### FEATURES

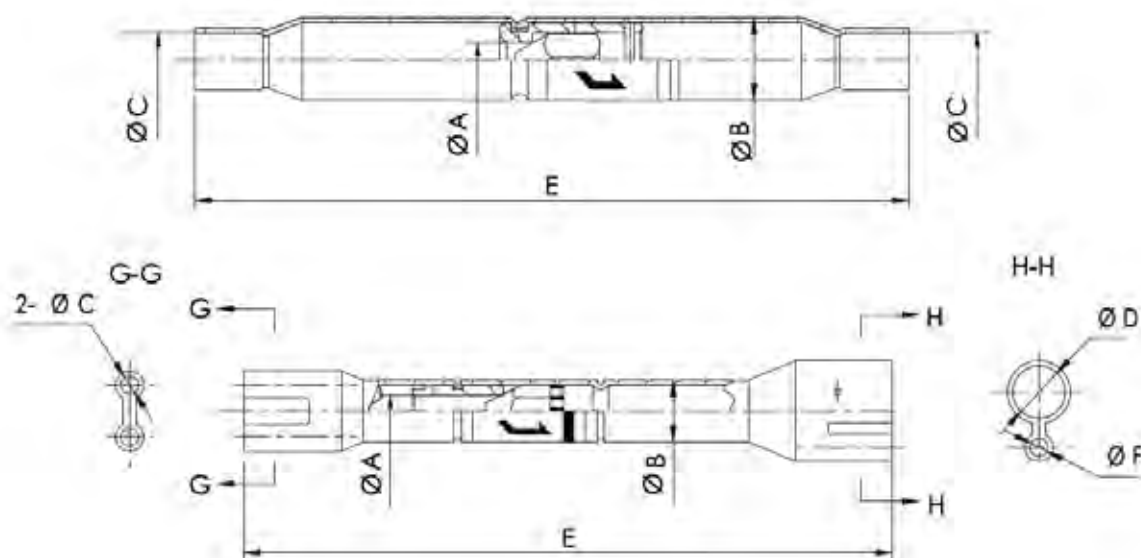
- GOOD SEALING PERFORMANCE, STABLE STRUCTURE: USING HIGH QUALITY ENGINEERING PLASTIC VALVE CORE
- SMALL FLOW RESISTANCE, BIG FLOW RATE

### GENERAL SPECIFICATIONS

- Applicable refrigerant: R22, R407C, R410A etc.

- Applicable medium temperature:  $-30^{\circ}\text{C}\sim+120^{\circ}\text{C}$
- Maximum working pressure: 4.2MPa

### DIMENSIONS



# Float Type SERIES

## Check Valve



### DIMENSIONS

Model	Dimensions mm				
	A	B	C	D/F	E
YCV3	3	9.52	3.18	3.18	100
			6.35	6.35	
YCV5	5	12.7	9.52	9.52	110
			12.7	12.7	
YCV8	8	19.05	12.7	12.7	150
			15.88	15.88	
YCV11	11	22.2	15.88	15.88	160
			19.05	19.05	
YCV14	14	28	19.05	19.05	
			22.2	22.2	
CV/CAV	4.8	9.52	2.7	6.0/3.1	100
			2.9	6.5/2.7	
			3.1	6.5/2.9	
			3.3	8.1/2.7	
			3.5	8.1/3.3	



# Sight Glass

Sight glasses are installed after the filter drier in liquid line of refrigerating systems, in order to observe property changes of the refrigerant (liquid/vapor) and to indicate the moisture level by colors.



## FEATURES

- HIGH PRECISION COLOR INDICATOR
- INDICATOR PASTED CLOSELY TO THE GLASS TO PREVENT SURFACE CONTAMINATION
- SOLID AND CORROSION RESISTANT BRASS MATERIAL
- GOOD READABILITY DUE TO HIGH CLEAR SIGHT GLASS OF WIDE ANGLE
- SEALING OF LOW CREEP PTFE TO ENSURE LEAKAGE FREE PERFORMANCE
- NEW ANNULAR HUMIDITY COLOR INDICATOR. FULL PORT PASSAGE WITH LOW PRESSURE DROP

## GENERAL SPECIFICATION

- Applicable for all common HCFC, HFC, HFO refrigerants such as: R22, R134a, R404A, R407C, R410A, R507, R407A/F, R448A/R449A, R452A, R450A/R513A<sup>1)</sup>
- Ambient temperature min./max.: -50°C / +80°C
- Medium temperature TS min./max.: -50°C / +80°C
- Max. operating pressure PS: 4,6 MPa (46 bar)
- Installation position:
  - Liquid and suction line
  - Preferably in vertical lines, recommended position for horizontal lines is upwards without inclination in any direction
- Declaration according to PED (all products have been covered by Art.4.3 PED Directive 2014/68/EU)

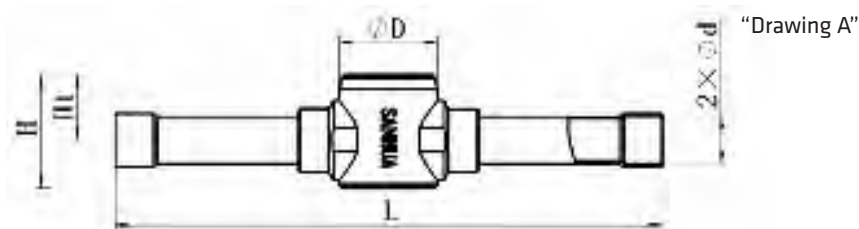
**Note:** 1) Flammable refrigerants like R32, R290, R1234ze(E) on request



Version with Solder Connections

General Characteristics												
Model Series	Model Name	Part Number*	Connection Type [inch]	Connecting dimensions		Dimensions & Weight						drawing
						L	H	H1	ØD	B	Weight	
				[inch]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[g]	
SYJ6	SYJ06H12	10285007102	solder ODF x ODF	-	6	101	23	14	26	/	100	A
SYJ6	SYJ06H11	10285007002	solder ODF x ODF	1/4	-	101	23	14	26	/	100	
SYJ10	SYJ10H11	10285007202	solder ODF x ODF	3/8	-	119	23	14	26	/	100	
SYJ10	SYJ10H12	10285007302	solder ODF x ODF	-	10	119	23	14	26	/	100	
SYJ12	SYJ12H11	10285006902	solder ODF x ODF	1/2	-	146	30	17	26	/	200	
SYJ12	SYJ12H12	10285007402	solder ODF x ODF	-	12	146	30	17	26	/	200	
SYJ16	SYJ16H11	10285007502	solder ODF x ODF	5/8	16	146	30	17	26	/	200	
SYJ19	SYJ19H11	10285007602	solder ODF x ODF	3/4	-	173	36	21	27	/	300	
SYJ22	SYJ22H11	10285007702	solder ODF x ODF	7/8	22	173	36	21	27	/	300	

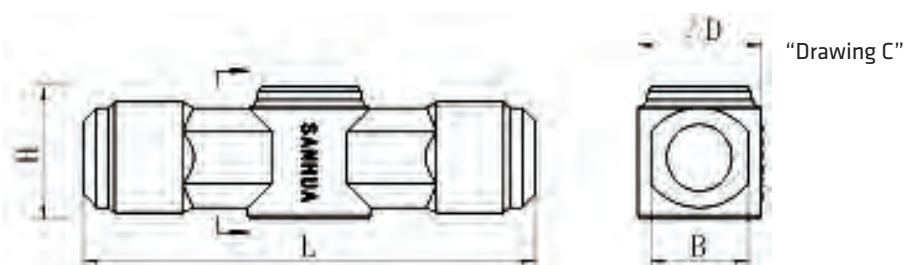
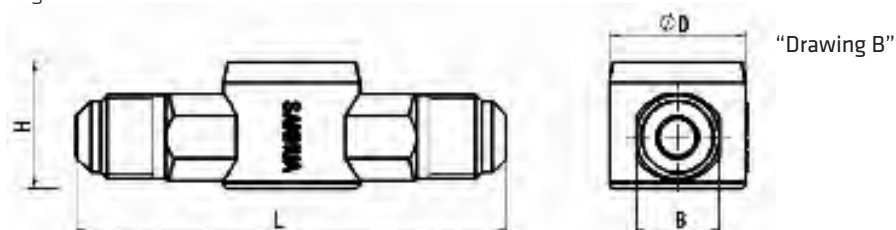
\* Available also as industrial package. Contact Sanhua for more details.



Version with male/male Flare Connections

General Characteristics												
Model Series	Model Name	Part Number*	Connection Type [inch]	Connecting dimensions		Dimensions & Weight						drawing
						L	H	H1	ØD	B	Weight	
				[inch]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[g]	
SYJ6	SYJ06L11	10285007902	flare M x M	1/4	-	67	23,5		27	14	110	B
SYJ10	SYJ10L11	10285008102	flare M x M	3/8	-	82	30		32	22	240	
SYJ12	SYJ12L11	10285008302	flare M x M	1/2	-	88	30		32	22	250	
SYJ16	SYJ16L11	10285008502	flare M x M	5/8	-	104	32		30	24	320	
SYJ19	SYJ19L11	10285008702	flare M x M	3/4	-	110	32		30	24	340	C

\* Available also as industrial package. Contact Sanhua for more details.

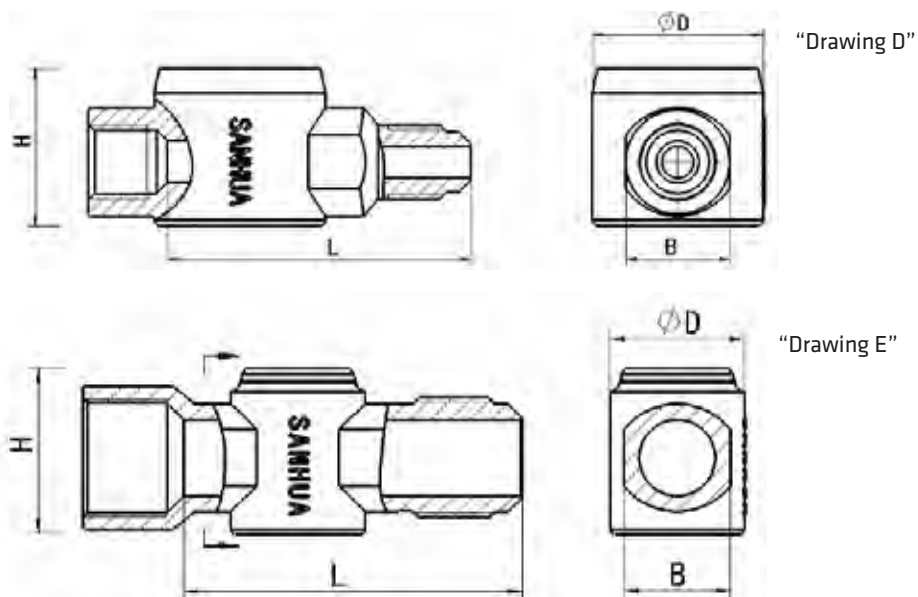




Version with male/female Flare connections

General Characteristics												
Model Series	Model Name	Part Number*	Connection Type [inch]	Connecting dimensions		Dimensions & Weight						drawing
				[inch]	[mm]	L	H	H1	ØD	B	Weight	
				[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[g]		
SYJ6	SYJ06L41	10285008002	flare F x M	1/4	-	46	30		32	22	200	d
SYJ10	SYJ10L41	10285008202	flare F x M	3/8	-	57	30		32	22	240	
SYJ12	SYJ12L41	10285008402	flare F x M	1/2	-	59	32		30	24	250	
SYJ16	SYJ16L41	10285008602	flare F x M	5/8	-	71	37		30	24	320	e
SYJ19	SYJ19L41	10285008802	flare F x M	3/4	-	75	37		30	24	330	

\* Available also as industrial package. Contact Sanhua for more details.



Every second A/C system  
in the world is equipped with  
**Inverter Technology**

**SANHUA IS PROVIDING INVERTER CONTROLLER SOLUTIONS TO ITS CUSTOMERS HELPING THEM TO IMPROVE SYSTEM EFFICIENCY BY 30%**

**ADVANCED Technology & Solutions**

- ✓ Improves system efficiency up to **30%**
- ✓ Active Frequency Conversion Technology
- ✓ Wide Range of voltage application



Moisture Indication Limits

Refrigerant	Moisture Content 25°C: PPM		
	Green/Dry	Middle Color	Yellow/Wet
R22	<100	100~200	>200
R134a	<90	90~180	>180
R404A	<40	40~100	>100
R410A	<90	90~300	>300
R507	<15	15~90	>90
R407C	<120	120~280	>280

Refrigerant	Moisture Content 40°C: PPM		
	Green/Dry	Middle Color	Yellow/Wet
R22	<140	140~350	>350
R134a	<120	120~330	>335
R404A	<80	80~160	>160
R410A	<200	200~580	>580
R507	<80	80~170	>170
R407C	<100	100~260	>260

2 out of 3 AC units are equipped  
**with a SANHUA**  
reversing valve

**ADVANCED**  
Technology & Solutions

- ✓ Improves efficiency by 5%
- ✓ SHF series 1kW to 420 kW
- ✓ Widest range in the market with Single Body Design

YEARLY SANHUA SUPPLIES OVER 50 MILLION  
FOUR WAY REVERSING VALVES TO THE  
COMMERCIAL AND RESIDENTIAL HVAC  
INDUSTRY WORLDWIDE



# Brass Service Valve

Brass service valves of series SSV are applicable for split air conditioners to connect indoor unit and outdoor unit. It can also be used in other cooling or refrigeration systems. The inner path of the valve can be closed by operating the valve stem. The 3way version (with charge port) can be used as service valve for vacuum pumping and refrigerant injection.



## FEATURES

- AVAILABLE WITHOUT AND WITH CHARGE PORT
- COST EFFICIENT SOLUTION
- RELIABLE AND ROBUST DESIGN

## GENERAL SPECIFICATIONS

- Applicable for all common HFC, HFO refrigerants<sup>1)</sup> such as: R134a, R404A, R407C, R410A, R507A, R407A, R407F, R448A, R449A, R452A, R450A/R513A<sup>2)</sup>
- Ambient temperature min./max.: -30°C / +55°C
- Medium temperature TS min./max.: -30 °C / +120°C
- Max. operating pressure PS: 4,5 MPa (45 bar)
- Installation position: Preferably liquid and suction line
- Certifications: UL/CSA and PED declaration

**Note:** 1) Cooling capacity of refrigerants pls refer to Sanhua selection tool  
2) Flammable refrigerants like R32, R290, R1234ze(E), R1234yf on request

## GENERAL CHARACTERISTICS

Model	Part Number <sup>1)</sup>	Connections				Cooling capacity	PED Category
		ØA Flare	Ød ODF	ØI Pipe	Charge Port Flare		
		[ inch ]	[inch]	[mm]	[ inch ]	[ kW ]	
SSV-A2GSHC-23	10165068702	7/16-20UNF	1/4	4,8	-	0,7 - 1,5	4.3
SSV-JA3GSHC-20	10165068602	5/8-18UNF	3/8	7	5/16	0,7 - 3,7	4.3
SSV-JA4GSHC-19	10165070602	3/4-16UNF	1/2	10	5/16	1,1 - 7,5	4.3
SSV-JA5GSHC-15	10165068802	7/8-14UNF	5/8	12,5	5/16	1,5 - 8,8	4.3
SSV-JA6GSHC-13	10165070302	1 1/16-14UNS	3/4	16	5/16	3,7 - 5,9	4.3
SSV-JA3GSHC-44	10165366802	5/8-18UNF	3/8	7	1/4	0,7 - 3,7	4.3
SSV-JA4GSHC-44	10165366902	3/4-16UNF	1/2	10	1/4	1,1 - 7,5	4.3
SSV-JA5GSHC-32	10165367002	7/8-14UNF	5/8	12,5	1/4	1,5 - 8,8	4.3
SSV-JA6GSHC-25	10165375502	1 1/16-14UNS	3/4	16	1/4	3,7 - 5,9	4.3

**Note:** 1) Extent of delivery:  
- SSV-JA valve body with schrader valve, cap charge port, cap shut-off valve, nut pipe connection  
- SSV-A valve body, cap shut-off valve, nut pipe connection, without charge port

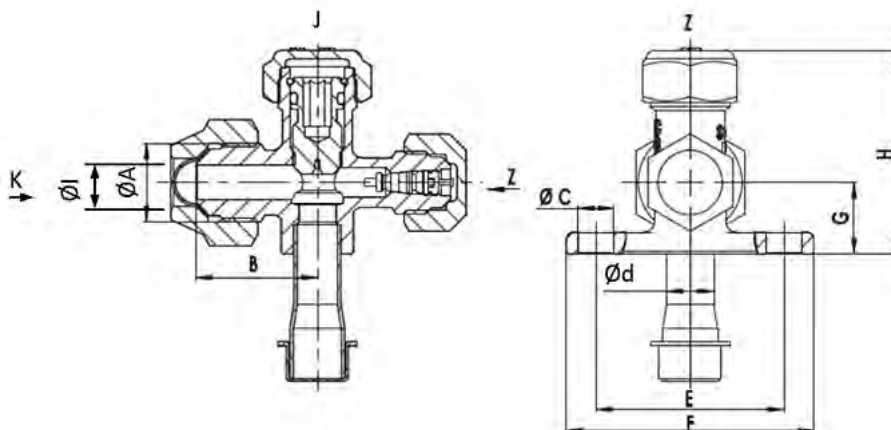


# SSV SERIES

## Brass Service Valve



### DIMENSIONS



Model	Part Number	Dimensions [ mm ]						Wrench Size [ mm ]			
		B	ØC	E	F	G	H	Nut Pipe Connection K	Cap Shut-off Valve J	Valve <sup>1)</sup> Steam J	Cap Charge Port Z
SSV-A2GSHC-23	10165068702	23,5	7,2	38	50	14	36	19	17	5	-
SSV-JA3GSHC-20	10165068602	25	7,2	38	50	14	41	22	19	5	17
SSV-JA4GSHC-19	10165070602	32	7,2	38	50	16	44	24	22	5	17
SSV-JA5GSHC-15	10165068802	35	7,2	38	54	18	50	27	26	5	17
SSV-JA6-GSHC-13	10165070302	48,5	8	44	60	25	64	32	30	5	17
SSV-JA3GSHC-44	10165366802	25	7,2	38	50	14	41	22	19	5	17
SSV-JA4GSHC-44	10165366902	32	7,2	38	50	16	44	24	22	5	17
SSV-JA5GSHC-32	10165367002	35	7,2	38	54	18	50	27	26	5	17
SSV-JA6GSHC-25	10165375502	48,5	8	44	60	25	64	32	30	5	17

**Note:** 1) Allen screw



# Angle Valve

Applicable for compressors, reservoirs of commercial air conditioner, freezing or deep-freezing equipment or for pipe connection; it can close inner passage of the valve by operating the valve stem.



## FEATURES

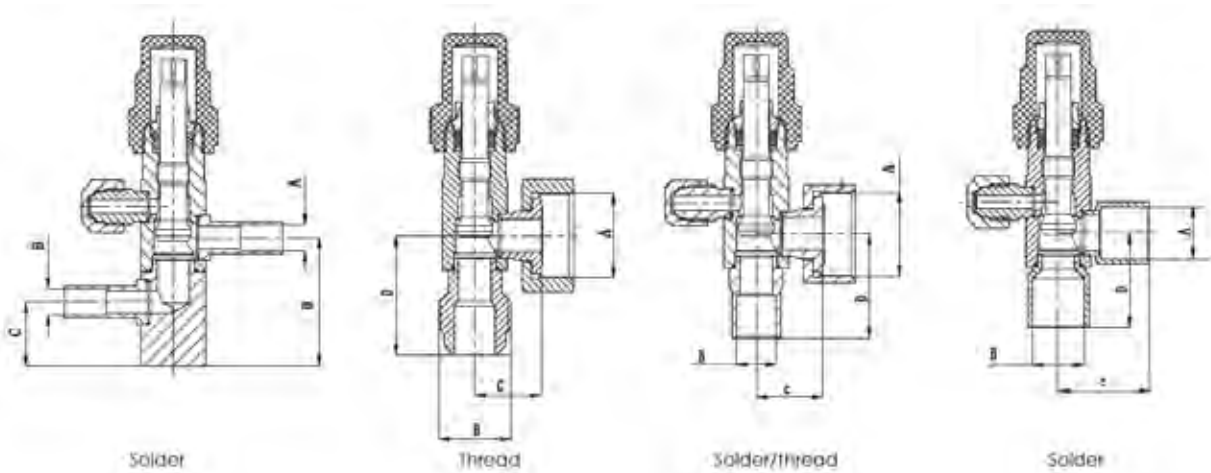
- BIDIRECTIONAL FLOW
- PRODUCTS ARE 100% H/HE INSPECTED
- HIGH PRECISION AND RELIABILITY: PROCESSED BY DEDICATED EQUIPMENT
- GOOD CONSISTENCY: MULTI-SPOT WELDED BY TUNNEL FURNACE
- EXCELLENT TEMPERATURE RESISTANCE: UTILIZING SPECIAL SEALING MATERIALS

## GENERAL SPECIFICATIONS

- Applicable refrigerant: R22, R134a, R407C and R410A etc.

- Applicable medium temperature:  $-40^{\circ}\text{C} \sim +150^{\circ}\text{C}$
- Maximum working pressure: 4.83MPa
- Certification: UL

## DIMENSIONS





**GENERAL CHARACTERISTICS**

Model	Dimensions						Connection Type	
	Diagonal Size of Valve Body mm	A		B		Structure Size mm		
		Thread	Solder in	Thread	Solder in	C		D
GZF(20)-ZB022	20	/	1/4	/	1/4	28	29	Solder
GZF(20)-ZB033		/	3/8	/	3/8	28	29	
GZF(20)-ZB044		/	1/2	/	1/2	28	29	
GZF(20)-ZB055		/	5/8	/	5/8	28	29	
GZF(20)-ZA042		3/4-16UNF	/	7/16-20UNF	/	19,8	30	Thread
GZF(20)-ZA043			/	5/8-18UNF	/	19,8	30	
GZF(20)-ZA044			/	3/4-16UNF	/	19,8	30	
GZF(20)-ZA045			/	7/8-14UNF	/	19,8	30	
GZF(20)-ZC042			/	/	1/4	19	27	Solder / thread
GZF(20)-ZC043			/	/	3/8	16,5	39,5	
GZF(20)-ZC044			/	/	1/2	19	27	
GZF(20)-ZC045			/	/	5/8	19	27	
GZF(20)-ZC083		/	/	3/8	20,5	32		
GZF(20)-ZC084		/	/	1/2	20,5	32		
GZF(20)-ZC085		1-14UNS	/	/	5/8	20,5	37	Thread
GZF(20)-ZA082			/	7/16-20UNF	/	20,5	33,5	
GZF(20)-ZA083			/	5/8-18UNF	/	20,5	33,5	
GZF(20)-ZA084			/	3/4-16UNF	/	20,5	33,5	
GZF(20)-ZA085		/	7/8-14UNF	/	30,5	36,5		
GZF(22)-ZB055		22	/	5/8	/	5/8	33,5	40
GZF(22)-ZB085	1-14UNS		/	7/8-14UNF	/	36	39,5	Thread
GZF(30)-ZB066	30	/	3/4	/	3/4	17,5	50	Solder
GZF(30)-ZB077		/	7/8	/	7/8	40	42	
GZF(30)-ZB099		/	1 1/8	/	1 1/8	51	53	
GZF(30)-ZC0A7		1 1/4-12UNF	/	/	7/8	25	42	Solder / thread
GZF(30)-ZC0A9		1 1/4-12UNF	/	/	1 1/8	25	56,5	
GZF(30)-ZC0B7		1 3/4-12UN	/	/	7/8	25	56,5	
GZF(30)-ZC0B9		1 3/4-12UN	/	/	1 1/8	27,5	57	



**GENERAL CHARACTERISTICS**

Model	Dimensions						Connection Type	
	Diagonal Size of Valve Body mm	A		B		Structure Size mm		
		Thread	Solder in	Thread	Solder in	C		D
GZF(35)-ZB099	35	/	1 1/8	/	1 1/8	52,5	58	Solder
GZF(35)-ZB0BB		/	1 3/8	/	1 3/8	52,5	58	
GZF(35)-ZB0DD		/	1 5/8	/	1 5/8	52,5	58	
GZF(35)-ZC0E9		1 3/4-12UN	/	/	1 1/8	31	56,5	Solder / thread
GZF(35)-ZC0EB		1 3/4-12UN	/	/	1 3/8	31	62,5	
GZF(35)-ZC0ED		1 3/4-12UN	/	/	1 5/8	31	62,5	
GZF(50)-ZB0DD	50	/	1 5/8	/	1 5/8	62,5	69	Solder
GZF(50)-ZB0HH		/	2 1/8	/	2 1/8	67,5	74	Solder
GZF(50)-ZC0ED		1 3/4-12UN	/	/	1 5/8	62,5	69	Solder / thread
GZF(50)-ZC0IH		1 3/4-12UN	/	/	2 1/8	41,8	72,5	

## ZJF SERIES

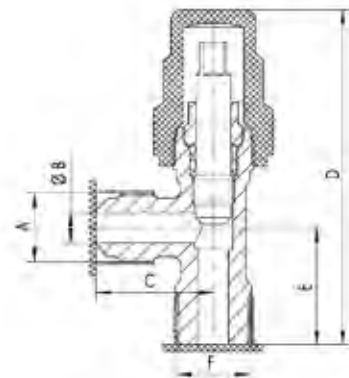
# Receiver Valve

Receiver valve are used for tube connection or compressor and reservoirs of commercial air conditioner, freezing or deep-freezing equipment. Inner path of the valve can be closed or opened by operating the valve stem.

## FEATURES

- COST EFFECTIVE: OPTIMAL DESIGN BASED ON PERFORMANCE
- GOOD APPEARANCE AND ENDURABLE: THE VALVE BODY TREATED WITH SHOT BLAST.
- WELL SEALING PERFORMANCE: WITH PARTICULAR SEALING STRUCTURE AND DESIGN

## DIMENSIONS



Model	A in	Dimensions mm				F in
		B	C	D	E	
ZJF-A22	7/16-20UNF	4.8	23.5	74	23.5	NPT 1/4
ZJF-A23	7/16-20UNF	4.8	27	77	27	NPT 3/8
ZJF-A33	5/8-18UNF	7	27	77	27	NPT 3/8
ZJF-A32	5/8-18UNF	7	27	77	27	NPT 1/4
ZJF-A34	5/8-18UNF	7	32	114	37	NPT 1/2
ZJF-A44	3/4-16UNF	10	36	114	37	NPT 1/2
ZJF-A43	3/4-16UNF	10	36	114	37	NPT 3/8
ZJF-A54	7/8-14UNF	12.5	36	114	37	NPT 1/2
ZJF-A66	1 1/16-14UNS	16	42	122	43	NPT 3/4
ZJF-A76	1 1/4-12UNF	20	48	122	43	NPT 3/4



## GENERAL SPECIFICATIONS

- Applicable refrigerant: R22, R124a, R407C, R410A, R404A, R507, R1234ze
- Applicable medium temperature: -40°C ~ +120°C
- Maximum working pressure: 4.83 MPa
- Certification: UL

# 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.



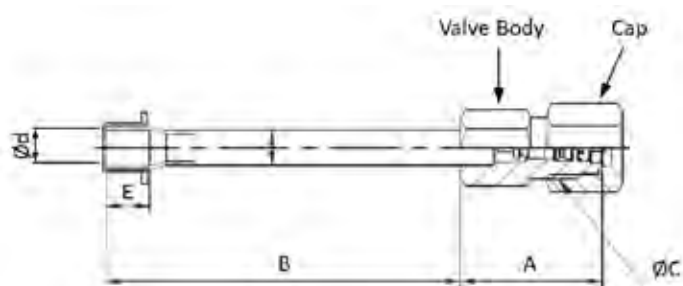
## FEATURES

- SIMPLE STRUCTURE, CONVENIENT TO USE
- PREVENT REFRIGERANT LOSS THROUGH INTEGRATED SHRADER VALVE

## GENERAL SPECIFICATION

- Applicable for all common HCFC and HFC refrigerants such as: R22, R134a, R404A, R407C, R410A, R507A ...
- Ambient temperature min./max.: -30/+55°C
- Medium temperature TS min./max.: -30°C / +80°C
- Max. operating pressure PS: 4,5 MPa (45 bar)
- Installation position: liquid or suction line
- Declaration according to PED

## DIMENSIONS

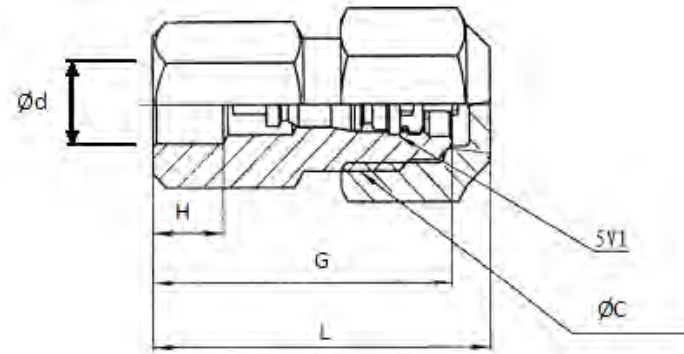


Model	Part Number* 1)	Connections			Dimensions			Wrench Size		Refrigerant
		Solder ODF Ød		Flare UNF ØC	A	B	E	Valve Body	Cap	
		[mm]	[inch]	[inch]	[mm]			[mm]		
TCJ-2HMSZ-1	10155004802	6,35	1/4	7/16-20	26	65	8	12	14	R22
TCJ-2GMS-1	10155001502	6,35	1/4	1/2-20	26	65	8	14	17	R134a/R404A/R407C R410A/R507

**Note:** \* Available also as industrial package. Contact Sanhua for more details.

1) Extent of delivery: valve body, schrader valve and cap

**TCJ SERIES**  
**Charge Valve**



Model	Part Number* 1)	Connections			Dimensions			Wrench Size		Refrigerant
		Solder ODF $\varnothing d$		Flare UNF $\varnothing C$	L	G	H	Valve Body	Cap	
		[mm]	[inch]	[inch]	[mm]			[mm]		
TCJ-2HLEN-1	10155010302	6,35	1/4	7/16-20	29	26	6	12	14	R22
TCJ-2GLEN-2	10155009202	6,35	1/4	1/2-20	29	26	6	14	17	R134a/R404A/R407C R410A/R507

**Note:** \* Available also as industrial package. Contact Sanhua for more details.

1) Extent of delivery: valve body, schrader valve and cap



# Bar-Stock Service Valve

Bar-stock service valve can be used in split air conditioners to connect indoor unit and outdoor unit, which can close the inner passage of the valve by operating the valve stem; it can be used as service valve during maintenance for the purpose of vacuum pumping and refrigerant injection. It can also be used in other refrigerating systems.



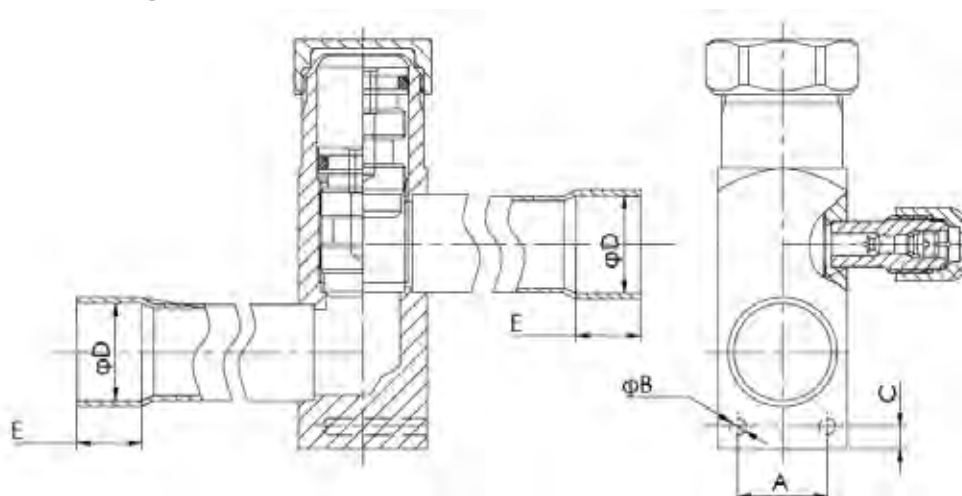
## FEATURES

- COST-EFFECTIVE: UNIQUE METAL CAPTURE STRUCTURE, ENSURE HIGH QUALITY
- VARIOUS SQUARE SHAPES TO MEET SPECIAL INSTALLATION MODE AND FLOW REQUIREMENTS OF EQUIPMENT
- GOOD CONSISTENCY: SIMULTANEOUS WELDING OF MULTIPLE SPOTS BY TUNNEL FURNACE
- HIGH TESTING PRECISION: PRODUCTS ARE 100% H/HE INSPECTED

## GENERAL SPECIFICATIONS

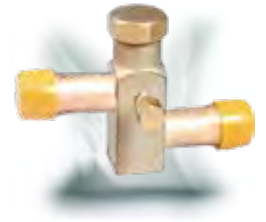
- Applicable refrigerant: R22, R134a, R407C, R410A etc.
- Applicable medium temperature:  $-30^{\circ}\text{C} \sim +120^{\circ}\text{C}$
- Maximum working pressure: 4.2MPa, 4.83 MPa for special square body valve
- Certification: UL

## TECHNICAL PARAMETERS

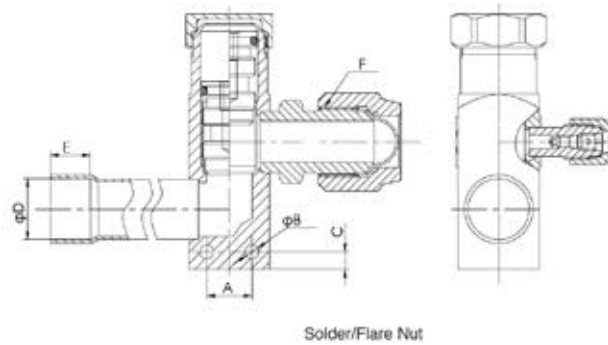


Solder Connection

**SMV SERIES**  
**Bar-Stock Service Valve**



Type	Model	Copper tube Size in	Dimensions mm					Thread Size F
			A	B	C	D	E	
Solder Connection	SMV-JA3Y	3/8	10.6±0.5	3.6±0.10	3,6	9,6	8±1.0	/
	SMV-JA4Y	1/2	17.7±0.5	3.6±0.10	3,6	12,8	9.7±1.0	/
	SMV-JA5Y	5/8	17.7±0.5	3.6±0.10	3,6	15,95	14.2±1.0	/
	SMV-JA6Y	3/4	17.7±0.5	3.6±0.10	3,6	19,13	15.7±1.0	/
	SMV-JA7Y	7/8	17.7±0.5	3.6±0.10	3,6	22,33	19±1.0	/
	SMV-JA8Y	1	17.7±0.5	3.6±0.10	3,6	25,4	15±1.0	/
	SMV-JA9Y	9/8	17.7±0.5	3.6±0.10	3,6	28,8	15±1.0	/
	SMV-8JA3Y	3/8	10.6±0.5	3.6±0.10	3,6	9,6	8±1.0	/
	SMV-15JA4Y	1/2	17.7±0.5	3.6±0.10	3,6	12,8	9.7±1.0	/
	SMV-15JA5Y	5/8	17.7±0.5	3.6±0.10	3,6	15,95	14.2±1.0	/
	SMV-15JA6Y	3/4	17.7±0.5	3.6±0.10	3,6	19,13	15.7±1.0	/
	SMV-17JA7Y	7/8	17.7±0.5	3.6±0.10	3,6	22,33	19±1.0	/



Type	Model	Copper tube Size in	Dimensions mm					Thread Size F
			A	B	C	D	E	
Solder / Flare Nut	SMV-JA3	3/8	10.6±0.5	3.6±0.10	3,6	9,6	8±1.0	5/8-18UNF
	SMV-JA4	1/2	17.7±0.5	3.6±0.10	3,6	12,8	9.7±1.0	3/4-16UNF
	SMV-JA5	5/8	17.7±0.5	3.6±0.10	3,6	15,95	14.2±1.0	7/8-14UNF
	SMV-JA6	3/4	17.7±0.5	3.6±0.10	3,6	19,13	15.7±1.0	1 1/16-14UNS
	SMV-JA7	7/8	17.7±0.5	3.6±0.10	3,6	22,33	19±1.0	1 1/16-14UNS
	SMV-8JA3	3/8	10.6±0.5	3.6±0.10	3,6	9,6	8±1.0	5/8-18UNF
	SMV-15JA4	1/2	17.7±0.5	3.6±0.10	3,6	12,8	9.7±1.0	3/4-16UNF
	SMV-15JA5	5/8	17.7±0.5	3.6±0.10	3,6	15,95	14.2±1.0	7/8-14UNF
	SMV-15JA6	3/4	17.7±0.5	3.6±0.10	3,6	19,13	15.7±1.0	1 1/16-14UNS
	SMV-17JA7	7/8	17.7±0.5	3.6±0.10	3,6	22,33	19±1.0	1 1/16-14UNS

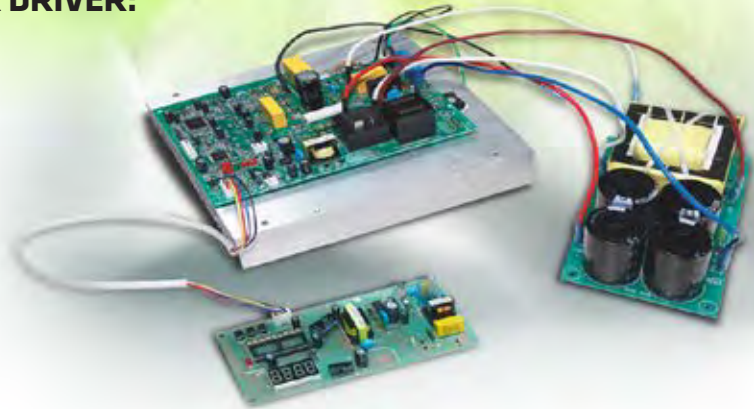
# SANHUA

# Electronic Controls



## FEATURES OF STANDARD INVERTER DRIVER:

- Up to 30% high energy efficiency.
- Mutually optimized and qualified:  
More than 20 Years Experienced Japanese Experts in Compressor Inverter Driver.
- Famous Compressor Brand: Mitsubishi, Sanyo, Toshiba, Hitachi, Panasonic...
- Capacity from 1HP to 12HP, Single phase or Three phase Power.
- Wide compressor speed range from 10Hz to 120Hz.
- Excellent compressor noise and vibration reduce technology.
- Protects compressor with current and voltage monitoring.
- Active power factor correction (PF > 0.985).
- Total core algorithms developed by Sanhua inside the CPU.
- Multi board easy for combine, update, after sale service and good for qualified power management.
- Wide application: Industrial, Refrigeration, RAC, CAC, Heat pump water heater, HVAC, DC motors...



**Controller for EEV**



**Inverter Controller for HP Water Heater**



**Inverter Controller for Large System**



**Residential Inverter Controller**



**CHILLING** ideas worldwide

SANHUA INTERNATIONAL  
[info@sanhuaeurope.com](mailto:info@sanhuaeurope.com)



## Manufacturing capabilities

**ANNUAL CAPACITY OF INVERTER CONTROLLER FOR 2012 IS 500,000 SETS, AND THE CAPACITY WILL BE EXPANDED TO 1 MILLION SETS IN 2013.**

**ALL EQUIPMENT IS IMPORTED, FOR EXAMPLE DEK ENGLAND PRINTING MACHINE, JUKI JAPAN SMT MACHINE, HELLER AMERICA REFLOW SOLDERING MACHINE, OMRON JAPAN AUTO OPTICAL INSPECTOR, AND PANASONIC JAPAN AUTO PLUG-IN MACHINE.**



**Production Line & Product Warehouse**



**IQC, Raw Material Ware House & SMT Workshop Equipments**

The former Foxconn management team brings scientific manufacturing process and strict quality control. Along with all the advanced equipment, we achieve a modern production process from raw material input to product output.

- > IQC, Raw Material Ware House & SMT Workshop Equipment:
- > Transistor Curve Tracer ,Precision LCR Meter etc. (IQC Equipment)
- > Electric Moisture-proof Cabinet, Vacuum Packaging Machine, Hygrothermograph, Check List (Raw material warehouse and Equipment)
- > Silk screen printing machine (DEK UK)
- > SMT machine (JUKI Japan)
- > Re-flow Welding Machine (HELLER USA)
- > Auto optics inspector (Omron Japan)
- > Auto plug-in machine (Panasonic Japan)





# Uni-Flow Filter Driers

The filter driers of series DTG are used in refrigeration system with unidirectional flow to absorb moisture and acid in the system and to filter out the impurities.



## FEATURES

- HIGH EFFICIENT IN MOISTURE ABSORPTION, FILTERING IMPURITY, ACID, PAINT REMAINS AND MUD REMOVAL
- HYBRID DESICCANT
- DURABLE AND SOLID FILTER CORES
- FILTERING FINENESS: 20µm
- CORROSION RESISTANT PAINTING SURVIVES SALT SPRAY TEST OF 500 HOURS
- CONNECTION TYPE: FLARE OR SOLDER

## GENERAL SPECIFICATIONS

- Applicable for all common HCFC, HFC, HC, HFO<sup>1)</sup> refrigerants such as: R22, R134a, R404A, R407C, R410A, R507, R407A/F, R290<sup>2)</sup>, R1234ze<sup>2)</sup>, R1234yf<sup>2)</sup>, R32<sup>2)</sup>, R448A/R449A, R452A, R450A/R513A
- Ambient temperature min./max.: -30°C / +55°C
- Medium temperature TS min./max.: -30°C / +120°C
- Max. operating pressure PS max.: 4,83 MPa (48,3 bar) - 700 PSI
- Installation position:
  - Flow direction corresponds to the arrow
  - Preferably installed in liquid line
- Certifications: UL/CSA and PED declaration

## TECNHICAL PARAMETERS *Desiccant Selection Table*

	Medium Type	80% 3Å desiccant and 20% active alumina	100% 3Å desiccant
Refrigerant	HFC	Applicable	Applicable
	HCFC	Applicable	Applicable
	HC	Applicable	Applicable
Oil <sup>3)</sup>	Mineral oil or AB	Applicable	Applicable
	Pure POE or PAG	Applicable	Applicable
	POE or PAG with additive	Not Applicable	Applicable

- Note:**
- 1) Please contact Sanhua representative regarding applications with HFO
  - 2) For flammable refrigerants only solder versions with tube connections below 25 mm (1 inch) can be used
  - 3) When the systems use oil with additive, it is not recommended to use a core with alumina.

For liquid capacity of filters with R407A/F, R290, R1234ze, R1234yf, R32, R448A/R449A, R452A, R450A/R513A please contact Sanhua.

# DTGB/F SERIES

## Uni-Flow Filter Driers



### Model Designation Legend

1	Product Code	Filter Drier Series	
	DTG	Indicates unidirectional filter drier	
2	Filter Core	Structure and Material	
	B	Solid core, 100% 3Å desiccant	
F	Solid core, 80% 3Å desiccant and 20% active alumina		
3	Internal Volume	Expressed in [ inch <sup>3</sup> ]	Expressed in [ cm <sup>3</sup> ]
	03	3	49
	05	5	82
	08	8	131
	16	16	262
	30	30	492
	41	41	672
	75	75	1229
4	Connection Size	Pos. 5 shows "0": Solder [inch]	Pos. 5 shows "4": SAE Flare [inch]
	02	1/4	1/4
	25	5/16	-
	03	3/8	3/8
	04	1/2	1/2
	05	5/8	5/8
	06	3/4	3/4
	07	7/8	7/8
	09	1 1/8	-
	Connection Size	Pos. 5 shows "1": Solder [mm]	
	06	6	
	(08) *	(5/16" version can be used e.g. DTG-B03 <b>250</b> )	
	10	10	
	12	12	
	(16) *	(5/8" version can be used e.g. DTG-B08 <b>050</b> )	
(22) *	(7/8" version can be used e.g. DTG-B16 <b>070</b> )		
28	28		
5	Pipe Connection	Type	
	0	Solder with inch connections	
	1 *	Solder with metric connections	
	4	SAE flare connections	
6	Version Number	Description	
	901	Standard product	

**Note:** \* Solder connections which fit to metric and inch are marked with inch product codes e.g. 8, 16 and 22 mm.





**MODEL DESIGNATION EXAMPLE**

Position Number						According to Model Designation Legend
1	2	3	4	5	6	
<b>DTG</b>	B	03	06	1	901	Unidirectional filter drier
DTG	<b>B</b>	03	06	1	901	Solid filter core with 100% 3Å desiccant
DTG	B	<b>03</b>	06	1	901	3 inch <sup>3</sup> internal volume
DTG	B	03	<b>06</b>	1	901	When Pos. 5 is "1": connection size 6mm
DTG	B	03	06	<b>1</b>	901	Solder connection metric
DTG	B	03	06	1	<b>901</b>	Standard product

**GENERAL CHARACTERISTICS OF DTG-B FILTER - FLARE CONNECTION**

Filter	Model	Part Number*	Nominal Volume		Connection	Dimensions & Weight <sup>1)</sup>				PED Category <sup>2)</sup>
			[inch <sup>3</sup> ]	[cm <sup>3</sup> ]	SAE Flare	ØD	B	A	Weight	
					[inch]	[mm]	[mm]	[mm]	[g]	
DTGB032	DTG-B03 024-901	10230009202	3	49	1/4	45	65	112	160	Art. 4.3
DTGB033	DTG-B03 034-901	10230009102	3	49	3/8	45	65	125	160	Art. 4.3
DTGB034	DTG-B03 044-901	10230009002	3	49	1/2	45	65	133	160	Art. 4.3
DTGB052	DTG-B05 024-901	10230009802	5	82	1/4	69	76	123	450	Art. 4.3
DTGB053	DTG-B05 034-901	10230009902	5	82	3/8	69	76	136	450	Art. 4.3
DTGB082	DTG-B08 024-901	10230010002	8	131	1/4	69	98	145	550	Art. 4.3
DTGB083	DTG-B08 034-901	10230010302	8	131	3/8	69	98	158	550	Art. 4.3
DTGB084	DTG-B08 044-901	10230010102	8	131	1/2	69	98	166	550	Art. 4.3
DTGB162	DTG-B16 024-901	10230011502	16	262	1/4	69	118	165	660	Art. 4.3
DTGB163	DTG-B16 034-901	10230011702	16	262	3/8	69	118	178	660	Art. 4.3
DTGB164	DTG-B16 044-901	10230011902	16	262	1/2	69	118	186	660	Art. 4.3
DTGB165	DTG-B16 054-901	10230011802	16	262	5/8	69	118	195	660	Art. 4.3
DTGB166	DTG-B16 064-901	10230013102	16	262	3/4	69	118	195	660	Art. 4.3
DTGB303	DTG-B30 034-901	10230015402	30	492	3/8	81	193	253	1550	Art. 4.3
DTGB304	DTG-B30 044-901	10230015502	30	492	1/2	81	193	261	1550	Art. 4.3
DTGB305	DTG-B30 054-901	10230015702	30	492	5/8	81	193	270	1550	Art. 4.3
DTGB306	DTG-B30 064-901	10230015802	30	492	3/4	81	193	270	1550	Art. 4.3
DTGB053	DTG-B30 074-901	10230015602	30	492	7/8	81	193	283	1550	Art. 4.3
DTGB414	DTG-B41 044-901	10230015302	41	672	1/2	94	194	262	2050	Art. 4.3
DTGB415	DTG-B41 054-901	10230015202	41	672	5/8	94	194	271	2050	Art. 4.3

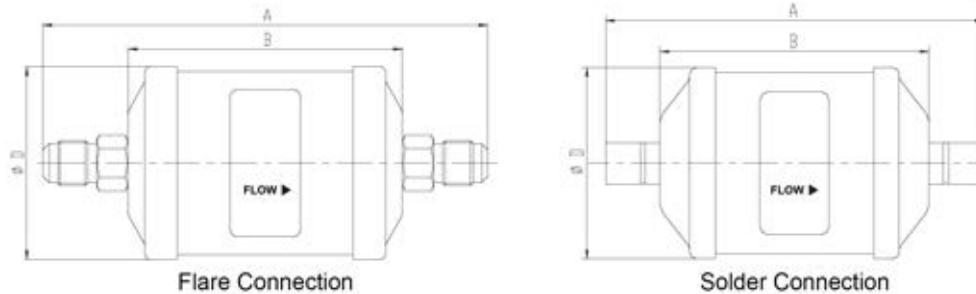
**Note:** \* Available also as industrial package. Contact Sanhua for more details.

1) Dimensions are rounded up to integral mm

2) PED Directive 2014/68/EU

# DTGB/F SERIES

## Uni-Flow Filter Driers



### GENERAL CHARACTERISTICS OF DTG-B FILTER - SOLDER CONNECTION

Filter	Model [inch]	Part Number (multi package)* [inch]	Model [mm]	Part Number (multi package)* [mm]	Nominal Volumen		Connection		Dimensions & Weight <sup>1)</sup>				PED Category <sup>2)</sup>
							Solder		ØD	B	A	Weight	
					[inch <sup>3</sup> ]	[cm <sup>3</sup> ]	[inch]	[mm]	[mm]	[mm]	[mm]	[g]	
DTGB032s	DTG-B03 020-901	10230008302	DTG-B03 061-901	10230008702	3	49	1/4	6	45	65	103	160	Art. 4.3
DTGB0325s	DTG-B03 250-901	10230008402	DTG-B03 250-901	10230008402	3	49	5/16	8	45	65	103	160	Art. 4.3
DTGB033s	DTG-B03 030-901	10230008502	DTG-B03 101-901	10230008802	3	49	3/8	10	45	65	103	160	Art. 4.3
DTGB034s	DTG-B03 040-901	10230008602	DTG-B03 121-901	10230008902	3	49	1/2	12	45	65	113	160	Art. 4.3
DTGB052s	DTG-B05 020-901	10230010202	DTG-B05 061-901	10230010802	5	82	1/4	6	69	76	114	450	Art. 4.3
DTGB0525s	DTG-B05 250-901	10230010402	DTG-B05 250-901	10230010402	5	82	5/16	8	69	76	114	450	Art. 4.3
DTGB053s	DTG-B05 030-901	10230010502	DTG-B05 101-901	10230010902	5	82	3/8	10	69	76	114	450	Art. 4.3
DTGB054s	DTG-B05 040-901	10230010602	DTG-B05 121-901	10230011002	5	82	1/2	12	69	76	124	450	Art. 4.3
DTGB055s	DTG-B05 050-901	10230010702	DTG-B05 050-901	10230010702	5	82	5/8	16	69	76	124	450	Art. 4.3
DTGB082s	DTG-B08 020-901	10230009502	DTG-B08 061-901	10230011302	8	131	1/4	6	69	98	136	550	Art. 4.3
DTGB0825s	DTG-B08 250-901	10230009402	DTG-B08 250-901	10230009402	8	131	5/16	8	69	98	136	550	Art. 4.3
DTGB083s	DTG-B08 030-901	10230009302	DTG-B08 101-901	10230011402	8	131	3/8	10	69	98	136	550	Art. 4.3
DTGB084s	DTG-B08 040-901	10230009602	DTG-B08 121-901	10230011602	8	131	1/2	12	69	98	146	550	Art. 4.3
DTGB085s	DTG-B08 050-901	10230009702	DTG-B08 050-901	10230009702	8	131	5/8	16	69	98	146	550	Art. 4.3
DTGB162s	DTG-B16 020-901	10230012002	DTG-B16 061-901	10230012702	16	262	1/4	6	69	118	156	660	Art. 4.3
DTGB1625s	DTG-B16 250-901	10230012102	DTG-B16 250-901	10230012102	16	262	5/16	8	69	118	156	660	Art. 4.3
DTGB163s	DTG-B16 030-901	10230012202	DTG-B16 101-901	10230012802	16	262	3/8	10	69	118	156	660	Art. 4.3
DTGB164s	DTG-B16 040-901	10230012302	DTG-B16 121-901	10230015902	16	262	1/2	12	69	118	166	660	Art. 4.3
DTGB165s	DTG-B16 050-901	10230012402	DTG-B16 050-901	10230012402	16	262	5/8	16	69	118	166	660	Art. 4.3
DTGB166s	DTG-B16 060-901	10230012502	-	-	16	262	3/4	-	69	118	178	660	Art. 4.3
DTGB167s	DTG-B16 070-901	10230012602	DTG-B16 070-901	10230012602	16	262	7/8	22	69	118	178	660	Art. 4.3
DTGB303s	DTG-B30 030-901	10230013902	DTG-B30 101-901	10230014502	30	492	3/8	10	81	193	231	1550	Art. 4.3
DTGB304s	DTG-B30 040-901	10230014002	DTG-B30 121-901	10230014602	30	492	1/2	12	81	193	241	1550	Art. 4.3
DTGB305s	DTG-B30 050-901	10230014102	DTG-B30 050-901	10230014102	30	492	5/8	16	81	193	241	1550	Art. 4.3
DTGB306s	DTG-B30 060-901	10230014202	-	-	30	492	3/4	-	81	193	253	1550	Art. 4.3

**Note:** \* Available also as industrial package. Contact Sanhua for more details.

1) Dimensions are rounded up to integral mm

2) PED Directive 2014/68/EU



**GENERAL CHARACTERISTICS OF DTG-B FILTER - SOLDER CONNECTION**

Filter	Model [inch]	Part Number (multi package)* [inch]	Model [mm]	Part Number (multi package)* [mm]	Nominal Volumen		Connection		Dimensions & Weight <sup>1)</sup>				PED Category <sup>3)</sup>
							Solder		ØD	B	A	Weight	
					[inch <sup>3</sup> ]	[cm <sup>3</sup> ]	[inch]	[mm]	[mm]	[mm]	[mm]	[g]	
DTGB307s	DTG-B30 070-901	10230014302	DTG-B30 070-901	10230014302	30	492	7/8	22	81	193	253	1550	Art. 4.3
DTGB309s	DTG-B30 090-901	10230014402	DTG-B30 281-901	10230014802	30	492	1 1/8	28	81	193	263	1550	Art. 4.3
DTGB414s	DTG-B41 040-901	10230013202	DTG-B41 121-901	10230013602	41	672	1/2	12	94	194	242	2050	Art. 4.3
DTGB415s	DTG-B41 050-901	10230013302	DTG-B41 050-901	10230013302	41	672	5/8	16	94	194	242	2050	Art. 4.3
DTGB417s	DTG-B41 070-901	10230013402	DTG-B41 070-901	10230013402	41	672	7/8	22	94	194	254	2050	Art. 4.3
DTGB419s	DTG-B41 090-901	10230013502	DTG-B41 281-901	10230013802	41	672	1 1/8	28	94	194	264	2050	Art. 4.3
DTGB757s	DTG-B75 070-901	10230014902	DTG-B75 070-901	10230014902	75	1229	7/8	22	94	333	393	3400	Art. 4.3
DTGB759s	DTG-B75 090-901	10230015002	DTG-B75 281-901	10230015102	75	1229	1 1/8	28	94	333	403	3400	Art. 4.3

**Note:** \* Available also as industrial package. Contact Sanhua for more details.

1) Dimensions are rounded up to integral mm

2) PED Directive 2014/68/EU

**GENERAL CHARACTERISTICS OF DTG-F FILTER - FLARE CONNECTION**

Filter	Model <sup>1)</sup>	Part Number (multi package)*	Nominal Volume		Connection		Dimensions & Weight <sup>2)</sup>				PED Category <sup>3)</sup>
					SAE Flare		ØD	B	A	Weight	
			[inch <sup>3</sup> ]	[cm <sup>3</sup> ]	[inch]	[mm]	[mm]	[mm]	[mm]	[g]	
DTGF032	DTG-F03 024-901	10230018002	3	49	1/4	45	65	112	160	Art. 4.3	
DTGF033	DTG-F03 034-901	10230017902	3	49	3/8	45	65	125	160	Art. 4.3	
DTGF034	DTG-F03 044-901	10230017802	3	49	1/2	45	65	133	160	Art. 4.3	
DTGF052	DTG-F05 024-901	10230016802	5	82	1/4	69	76	123	450	Art. 4.3	
DTGF053	DTG-F05 034-901	10230016702	5	82	3/8	69	76	136	450	Art. 4.3	
DTGF082	DTG-F08 024-901	10230019002	8	131	1/4	69	98	145	550	Art. 4.3	
DTGF083	DTG-F08 034-901	10230019102	8	131	3/8	69	98	158	550	Art. 4.3	
DTGF084	DTG-F08 044-901	10230019202	8	131	1/2	69	98	166	550	Art. 4.3	
DTGF162	DTG-F16 024-901	10230020402	16	262	1/4	69	118	165	660	Art. 4.3	
DTGF163	DTG-F16 034-901	10230020502	16	262	3/8	69	118	178	660	Art. 4.3	
DTGF164	DTG-F16 044-901	10230020602	16	262	1/2	69	118	186	660	Art. 4.3	
DTGF165	DTG-F16 054-901	10230020702	16	262	5/8	69	118	195	660	Art. 4.3	
DTGF166	DTG-F16 064-901	10230020802	16	262	3/4	69	118	195	660	Art. 4.3	
DTGF303	DTG-F30 034-901	10230021902	30	492	3/8	81	193	253	1550	Art. 4.3	
DTGF304	DTG-F30 044-901	10230022002	30	492	1/2	81	193	261	1550	Art. 4.3	
DTGF305	DTG-F30 054-901	10230022102	30	492	5/8	81	193	270	1550	Art. 4.3	
DTGF306	DTG-F30 064-901	10230022202	30	492	3/4	81	193	270	1550	Art. 4.3	
DTGF307	DTG-F30 074-901	10230022302	30	492	7/8	81	193	283	1550	Art. 4.3	
DTGF414	DTG-F41 044-901	10230031402	41	672	1/2	94	194	262	2050	Art. 4.3	
DTGF414	DTG-F41 054-901	10230031502	41	672	5/8	94	194	271	2050	Art. 4.3	

**Note:** \* Available also as industrial package. Contact Sanhua for more details.

1) Delivery time on request

2) Dimensions are rounded up to integral mm

3) PED Directive 2014/68/EU



**GENERAL CHARACTERISTICS OF DTG-F FILTER - SOLDER CONNECTION**

Filter	Model <sup>1)</sup> [inch]	Part Number (multi package)* [inch]	Model <sup>1)</sup> [mm]	Part Number (multi package)* [mm]	Nominal Volumen		Connection		Dimensions & Weight <sup>2)</sup>				PED Category <sup>3)</sup>
							Solder		ØD	B	A	Weight	
					[inch <sup>3</sup> ]	[cm <sup>3</sup> ]	[inch]	[mm]	[mm]	[mm]	[mm]	[g]	
DTGF032s	DTG-F03 020-901	10230016102	DTG-F03 061-901	10230016502	3	49	1/4	6	45	65	103	160	Art. 4.3
DTGF0325s	DTG-F03 250-901	10230016202	DTG-F03 250-901	10230016202	3	49	5/16	8	45	65	103	160	Art. 4.3
DTGF033s	DTG-F03 030-901	10230016302	DTG-F03 101-901	10230016602	3	49	3/8	10	45	65	103	160	Art. 4.3
DTGF034s	DTG-F03 040-901	10230016402	DTG-F03 121-901	10230016002	3	49	1/2	12	45	65	113	160	Art. 4.3
DTGF052s	DTG-F05 020-901	10230017702	DTG-F05 061-901	10230017202	5	82	1/4	6	69	76	114	450	Art. 4.3
DTGF0525s	DTG-F05 250-901	10230017602	DTG-F05 250-901	10230017602	5	82	5/16	8	69	76	114	450	Art. 4.3
DTGF053s	DTG-F05 030-901	10230017502	DTG-F05 101-901	10230017102	5	82	3/8	10	69	76	114	450	Art. 4.3
DTGF054s	DTG-F05 040-901	10230017402	DTG-F05 121-901	10230017002	5	82	1/2	12	69	76	124	450	Art. 4.3
DTGF055s	DTG-F05 050-901	10230017302	DTG-F05 050-901	10230017302	5	82	5/8	16	69	76	124	450	Art. 4.3
DTGF082s	DTG-F08 020-901	10230018102	DTG-F08 061-901	10230018602	8	131	1/4	6	69	98	136	550	Art. 4.3
DTGF0825s	DTG-F08 250-901	10230018202	DTG-F08 250-901	10230018202	8	131	5/16	8	69	98	136	550	Art. 4.3
DTGF083s	DTG-F08 030-901	10230018302	DTG-F08 101-901	10230018702	8	131	3/8	10	69	98	136	550	Art. 4.3
DTGF084s	DTG-F08 040-901	10230018402	DTG-F08 121-901	10230018802	8	131	1/2	12	69	98	146	550	Art. 4.3
DTGF085s	DTG-F08 050-901	10230018502	DTG-F08 050-901	10230018502	8	131	5/8	16	69	98	146	550	Art. 4.3
DTGF162s	DTG-F16 020-901	10230019302	DTG-F16 061-901	10230020002	16	262	1/4	6	69	118	156	660	Art. 4.3
DTGF1625s	DTG-F16 250-901	10230019402	DTG-F16 250-901	10230019402	16	262	5/16	8	69	118	156	660	Art. 4.3
DTGF163s	DTG-F16 030-901	10230019502	DTG-F16 101-901	10230020102	16	262	3/8	10	69	118	156	660	Art. 4.3
DTGF164s	DTG-F16 040-901	10230019602	DTG-F16 121-901	10230020202	16	262	1/2	12	69	118	166	660	Art. 4.3
DTGF165s	DTG-F16 050-901	10230019702	DTG-F16 050-901	10230019702	16	262	5/8	16	69	118	166	660	Art. 4.3
DTGF166s	DTG-F16 060-901	10230019802	-	-	16	262	3/4	-	69	118	178	660	Art. 4.3
DTGF167s	DTG-F16 070-901	10230019902	DTG-F16 070-901	10230019902	16	262	7/8	22	69	118	178	660	Art. 4.3
DTGF303s	DTG-F30 030-901	10230020902	DTG-F30 101-901	10230021502	30	492	3/8	10	81	193	231	1550	Art. 4.3
DTGF304s	DTG-F30 040-901	10230021002	DTG-F30 121-901	10230021602	30	492	1/2	12	81	193	241	1550	Art. 4.3
DTGF305s	DTG-F30 050-901	10230021102	DTG-F30 050-901	10230021102	30	492	5/8	16	81	193	241	1550	Art. 4.3
DTGF306s	DTG-F30 060-901	10230021202	-	-	30	492	3/4	-	81	193	253	1550	Art. 4.3
DTGF307s	DTG-F30 070-901	10230021302	DTG-F30 070-901	10230021302	30	492	7/8	22	81	193	253	1550	Art. 4.3
DTGF309s	DTG-F30 090-901	10230021402	DTG-F30 281-901	10230021802	30	492	1 1/8	28	81	193	263	1550	Art. 4.3
DTGF414s	DTG-F41 040-901	10230022402	DTG-F41 121-901	10230022802	41	672	1/2	12	94	194	242	2050	Art. 4.3
DTGF415s	DTG-F41 050-901	10230022502	DTG-F41 050-901	10230022502	41	672	5/8	16	94	194	242	2050	Art. 4.3
DTGF417s	DTG-F41 070-901	10230022602	DTG-F41 070-901	10230022602	41	672	7/8	22	94	194	254	2050	Art. 4.3
DTGF419s	DTG-F41 090-901	10230022702	DTG-F41 281-901	10230023002	41	672	1 1/8	28	94	194	264	2050	Art. 4.3
DTGF757s	DTG-F75 070-901	10230023102	DTG-F75 070-901	10230023102	75	1229	7/8	22	94	333	393	3400	Art. 4.3
DTGF759s	DTG-F75 090-901	10230031102	DTG-F75 281-901	10230023302	75	1229	1 1/8	28	94	333	403	3400	Art. 4.3

**Note:** \* Available also as industrial package. Contact Sanhua for more details.

1) Delivery time on request

2) Dimensions are rounded up to integral mm

3) PED Directive 2014/68/EU



**SELECTION TABLE**

Model	Capacity <sup>1)</sup> [ kW ]					Moisture Absorption (gram H <sub>2</sub> O)							
	R134a	R404A	R22	R407C <sup>2)</sup>	R410A	R134a		R404A		R407C <sup>2)</sup>		R22	
		R507A				R507A		R410A		R22			
						75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F
						23,9°C	51,7°C	23,9°C	51,7°C	23,9°C	51,7°C	23,9°C	51,7°C
DTGB032s	7,7	6,7	8,1	8,1	8,1	4,2	3,8	5,7	3,4	3,4	3,1	3,7	3,4
DTGB032	7,7	6,7	8,1	8,1	8,1	4,2	3,8	5,7	3,4	3,4	3,1	3,7	3,4
DTGB0325s	9,5	6,7	9,5	9,5	9,8	4,2	3,8	5,7	3,4	3,4	3,1	3,7	3,4
DTGB033s	14,4	10,6	14,8	14,8	14,8	4,2	3,8	5,7	3,4	3,4	3,1	3,7	3,4
DTGB033	14,4	10,6	14,8	14,8	14,8	4,2	3,8	5,7	3,4	3,4	3,1	3,7	3,4
DTGB034s	24,6	17,2	25,0	24,6	25,0	4,2	3,8	5,7	3,4	3,4	3,1	3,7	3,4
DTGB034	24,6	17,2	25,0	24,6	25,0	4,2	3,8	5,7	3,4	3,4	3,1	3,7	3,4
DTGB052s	8,4	6,0	8,4	8,4	8,4	11,6	10,9	10,9	8,9	10,9	9,5	11,4	9,7
DTGB052	8,4	6,0	8,4	8,4	8,4	11,6	10,9	10,9	8,9	10,9	9,5	11,4	9,7
DTGB0525s	10,9	7,4	10,9	10,9	11,3	11,6	10,9	10,9	8,9	10,9	9,5	11,4	9,7
DTGB053s	23,9	16,9	24,3	23,9	24,6	11,6	10,9	10,9	8,9	10,9	9,5	11,4	9,7
DTGB053	23,9	16,9	24,3	23,9	24,6	11,6	10,9	10,9	8,9	10,9	9,5	11,4	9,7
DTGB054s	25,3	17,9	25,7	25,7	26,0	11,6	10,9	10,9	8,9	10,9	9,5	11,4	9,7
DTGB055s	34,8	24,6	35,5	35,2	35,9	11,6	10,9	10,9	8,9	10,9	9,5	11,4	9,7
DTGB082s	8,4	6,0	8,4	8,4	8,4	14,8	14,2	16,3	13,4	14,8	13,0	15,5	13,1
DTGB082	8,4	6,0	8,4	8,4	8,4	14,8	14,2	16,3	13,4	14,8	13,0	15,5	13,1
DTGB0825s	11,6	8,1	12,0	11,6	12,0	14,8	14,2	16,3	13,4	14,8	13,0	15,5	13,1
DTG-B083s	25,0	17,6	25,3	25,0	25,7	14,8	14,2	16,3	13,4	14,8	13,0	15,5	13,1
DTGB083	25,0	17,6	25,3	25,0	25,7	14,8	14,2	16,3	13,4	14,8	13,0	15,5	13,1
DTGB084s	30,6	21,5	31,3	30,9	31,7	14,8	14,2	16,3	13,4	14,8	13,0	15,5	13,1
DTGB084	30,6	21,5	31,3	30,9	31,7	14,8	14,2	16,3	13,4	14,8	13,0	15,5	13,1
DTGB085s	44,7	31,7	45,7	45,4	46,1	14,8	14,2	16,3	13,4	14,8	13,0	15,5	13,1
DTGB162s	10,9	7,7	11,3	10,9	11,3	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7
DTGB162	10,9	7,7	11,3	10,9	11,3	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7
DTGB1625s	11,6	8,1	12,0	11,6	12,0	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7
DTGB163s	25,7	17,9	26,0	26,0	26,4	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7
DTGB163	25,7	17,9	26,0	26,0	26,4	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7
DTGB164s	32,4	22,9	33,1	32,7	33,8	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7

**Note:** 1) The above data is based on filter driers with inch connections and clean system at ideal conditions; with impurities accumulated in the filter, the capacity may decrease.  
2) R407C data based on dew point conditions



**SELECTION TABLE**

Model	Capacity <sup>1)</sup> [ kW ]					Moisture Absorption (gram H <sub>2</sub> O)							
	R134a	R404A	R22	R407C <sup>2)</sup>	R410A	R134a		R404A		R407C <sup>2)</sup>		R22	
		R507A				R507A		R410A		R22			
						75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F
	23,9°C	51,7°C	23,9°C	51,7°C	23,9°C	51,7°C	23,9°C	51,7°C					
DTGB164	32,4	22,9	33,1	32,7	33,8	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7
DTGB165s	43,3	30,6	43,6	43,6	44,3	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7
DTGB165	43,3	30,6	43,6	43,6	44,3	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7
DTGB166s	46,4	32,7	47,1	46,8	47,8	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7
DTGB166	46,4	32,7	47,1	46,8	47,8	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7
DTGB167s	47,1	33,4	48,2	47,8	48,5	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7
DTGB303s	25,7	17,9	26,0	26,0	26,4	51,4	48,7	83,4	51,4	51,3	43,7	52,1	44,1
DTGB303	25,7	17,9	26,0	26,0	26,4	51,4	48,7	83,4	51,4	51,3	43,7	52,1	44,1
DTGB304s	33,1	23,2	33,8	33,4	34,1	51,4	48,7	83,4	51,4	51,3	43,7	52,1	44,1
DTGB304	33,1	23,2	33,8	33,4	34,1	51,4	48,7	83,4	51,4	51,3	43,7	52,1	44,1
DTGB305s	45,7	32,0	46,4	46,1	46,8	51,4	48,7	83,4	51,4	51,3	43,7	52,1	44,1
DTGB305	45,7	32,0	46,4	46,1	46,8	51,4	48,7	83,4	51,4	51,3	43,7	52,1	44,1
DTGB306s	62,6	44,0	63,7	63,3	64,4	51,4	48,7	83,4	51,4	51,3	43,7	52,1	44,1
DTGB306	62,6	44,0	63,7	63,3	64,4	51,4	48,7	83,4	51,4	51,3	43,7	52,1	44,1
DTGB307s	63,0	44,3	64,0	63,7	64,7	51,4	48,7	83,4	51,4	51,3	43,7	52,1	44,1
DTGB307	63,0	44,3	64,0	63,7	64,7	51,4	48,7	83,4	51,4	51,3	43,7	52,1	44,1
DTGB309s	70,7	52,1	75,3	74,6	76,0	51,4	48,7	83,4	51,4	51,3	43,7	52,1	44,1
DTGB414s	35,2	24,6	35,9	35,5	36,2	63,7	59,7	103,5	55,7	63,7	58,9	70,2	59,4
DTGB414	35,2	24,6	35,9	35,5	36,2	63,7	59,7	103,5	55,7	63,7	58,9	70,2	59,4
DTGB415s	60,8	42,9	61,9	61,5	62,6	63,7	59,7	103,5	55,7	63,7	58,9	70,2	59,4
DTGB415	60,8	42,9	61,9	61,5	62,6	63,7	59,7	103,5	55,7	63,7	58,9	70,2	59,4
DTGB417s	90,4	63,7	91,8	91,4	92,8	63,7	59,7	103,5	55,7	63,7	58,9	70,2	59,4
DTGB419s	92,1	64,7	93,6	92,8	94,6	63,7	59,7	103,5	55,7	63,7	58,9	70,2	59,4
DTGB757s	91,4	64,0	92,8	91,8	93,9	123,3	115,6	200,3	107,9	123,3	114,0	135,8	114,9
DTGB759s	95,3	67,2	97,1	96,4	98,1	123,3	115,6	200,3	107,9	123,3	114,0	135,8	114,9

**Note:** 1) The above data is based on filter driers with inch connections and clean system at ideal conditions; with impurities accumulated in the filter, the capacity may decrease.  
2) R407C data based on dew point conditions

**SELECTION FORMULAS**

Filter Driers for liquid line are manufactured in compliance with ARI Standard 710. Maximum flow rate of liquid refrigerant at a differential pressure of 0,07bar (1psi) is indicated by kW (ton) which is based on the temperature of liquid refrigerant 30°C (86°F), the evaporating temperature of -15°C (5°F) and the following mass flow:

- 0,40 kg/min/kW (3.1 lb/min/ton) R134a
- 0,53 kg/min/kW (4.1 lb/min/ton) R404A, R507A
- 0,39 kg/min/kW (3.0 lb/min/ton) R22, R407C
- 0,36 kg/min/kW (2.8 lb/min/ton) R410A

**Note:** Data on water absorption is based on the following EPD (method: ASHRAE Standard 63.1):

- 60ppm R22
- 50ppm R134a
- 50ppm R404A
- 50ppm R407C
- 50ppm R410A
- 50ppm R507A



# Bi-Flow Filter Driers

The filter driers of series STG are used in refrigeration system with bidirectional flow to absorb moisture and acid in the system and to filter out the impurities.



## FEATURES

- HIGH EFFICIENT IN MOISTURE ABSORPTION, FILTERING IMPURITY, ACID, PAINT REMAINS AND MUD REMOVAL
- HYBRID DESICCANT
- DURABLE AND SOLID FILTER CORES
- FILTERING FINENESS: 20µm
- CORROSION RESISTANT PAINTING CAN SURVIVE SALT SPRAY TEST OF 500 HOURS
- CONNECTION TYPE: FLARE OR SOLDER

## GENERAL SPECIFICATIONS

- Applicable for all common HCFC, HFC, HC, HFO<sup>1)</sup> refrigerants such as: R22, R134a, R404A, R407C, R410A, R507, R407A/F, R290<sup>2)</sup>, R1234ze<sup>2)</sup>, R1234yf<sup>2)</sup>, R32<sup>2)</sup>, R448A/R449A, R452A, R450A/R513A
- Ambient temperature min./max.: -30°C / +55°C
- Medium temperature TS min./max.: -30°C / +120°C
- Max. operating pressure PS: 4,83 MPa (48,3 bar)
- Installation position: preferably installed in liquid line
- Certifications: UL/CSA and PED declaration

## TECHNICAL PARAMETERS *Desiccant Selection Table*

	Medium Type	80% 3Å Desiccant and 20% Active Alumina	100% 3Å Desiccant
Refrigerant	HFC	Applicable	Applicable
	HCFC	Applicable	Applicable
	HC	Applicable	Applicable
Oil <sup>3)</sup>	Mineral oil or AB	Applicable	Applicable
	Pure POE or PAG	Applicable	Applicable
	POE or PAG with additive	Not Applicable	Applicable

- Note:** 1) Please contact Sanhua representative regarding applications with HFO  
 2) For flammable refrigerants only solder versions with tube connections below 25 mm (1 inch) can be used  
 3) When the systems use oil with additive, it is not recommended to use a core with alumina  
 For liquid capacity of filters with R407A/F, R290, R1234ze, R1234yf, R32, R448A/R449A, R452A, R450A/R513A please contact Sanhua.

# STGB/F SERIES

## Bi-Flow Filter Driers



### Model Designation Legend

1	<b>Product Code</b>	<b>Filter Drier Series</b>		
	STG	Indicates bidirectional filter drier		
2	<b>Filter Core</b>	<b>Structure and Material</b>		
	B	Solid core, 100% 3Å desiccant		
	F	Solid core, 80% 3Å desiccant and 20% active alumina		
3	<b>Internal Volume</b>	<b>Expressed in [ inch<sup>3</sup> ]</b>	<b>Expressed in [ cm<sup>3</sup> ]</b>	
	03	3	49	
	05	5	82	
	08	8	131	
	16	16	262	
	30	30	492	
4	<b>Connection Size</b>	<b>Pos. 5 shows "0": Solder [inch]</b>	<b>Pos. 5 shows "4": SAE Flare [inch]</b>	
	02	1/4	1/4	
	25	5/16	-	
	03	3/8	3/8	
	04	1/2	1/2	
	05	5/8	5/8	
	06	3/4	3/4	
	07	7/8	7/8	
	09	1 1/8	-	
		<b>Connection Size</b>	<b>Pos. 5 shows "1": Solder [mm]</b>	
		06	6	
		(08) *	(5/16" version can be used e.g. STG-B08 250)	
		10	10	
		12	12	
		(16) *	(5/8" version can be used e.g. STG-B16 050)	
	(22) *	(7/8" version can be used e.g. STG-B16 070)		
	28	28		
5	<b>Pipe Connection</b>	<b>Type</b>		
	0	Solder with inch connections		
	1 *	Solder with metric connections		
	4	SAE flare connections		
6	<b>Version Number</b>	<b>Description</b>		
	901	Standard product		

**Note:** \* Solder connections which fit to metric and inch are marked with inch product codes e.g. 8, 16 and 22 mm.



**MODEL DESIGNATION EXAMPLE**

Position Number						According to Model Designation Legend
1	2	3	4	5	6	
<b>STG</b>	B	05	06	1	901	Bidirectional filter drier
STG	<b>B</b>	05	06	1	901	Solid filter core with 100% 3Å desiccant
STG	B	<b>05</b>	06	1	901	5 inch <sup>3</sup> internal volume
STG	B	05	<b>06</b>	1	901	When Pos. 5 is "1": connection size 6mm
STG	B	05	06	<b>1</b>	901	Solder connection metric
STG	B	05	06	1	<b>901</b>	Standard product

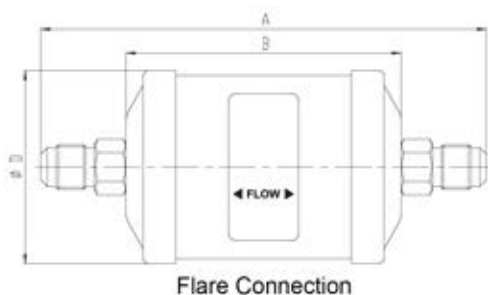
**GENERAL CHARACTERISTICS OF STG-B FILTER - FLARE CONNECTION**

Filter	Model	Part Number (multi package)*	Nominal Volume		Connection	Dimensions & Weight <sup>1)</sup>				PED Category <sup>2)</sup>
			[inch <sup>3</sup> ]	[cm <sup>3</sup> ]	SAE Flare	ØD	B	A	Weight	
					[inch]	[mm]	[mm]	[mm]	[g]	
STGB052	STG-B05 024-901	10235009002	5	82	1/4	69	76	123	450	Art. 4.3
STGB053	STG-B05 034-901	10235009102	5	82	3/8	69	76	137	450	Art. 4.3
STGB054	STG-B05 044-901	10235009202	5	82	1/2	69	76	145	450	Art. 4.3
STGB082	STG-B08 024-901	10235008702	8	131	1/4	69	98	145	580	Art. 4.3
STGB083	STG-B08 034-901	10235008802	8	131	3/8	69	98	159	580	Art. 4.3
STGB084	STG-B08 044-901	10235008902	8	131	1/2	69	98	167	580	Art. 4.3
STGB163	STG-B16 034-901	10235009302	16	262	3/8	81	118	179	900	Art. 4.3
STGB164	STG-B16 044-901	10235009402	16	262	1/2	81	118	187	900	Art. 4.3
STGB165	STG-B16 054-901	10235008602	16	262	5/8	81	118	196	900	Art. 4.3
STGB303	STG-B30 034-901	10235009502	30	492	3/8	81	193	254	1700	Art. 4.3
STGB304	STG-B30 044-901	10235009602	30	492	1/2	81	193	262	1700	Art. 4.3
STGB305	STG-B30 054-901	10235009702	30	492	5/8	81	193	271	1700	Art. 4.3
STGB306	STG-B30 064-901	10235009802	30	492	3/4	81	193	271	1700	Art. 4.3

**Note:** \* Available also as industrial package. Contact Sanhua for more details.

1) Dimensions are rounded up to integral mm

2) PED Directive 2014/68/EU





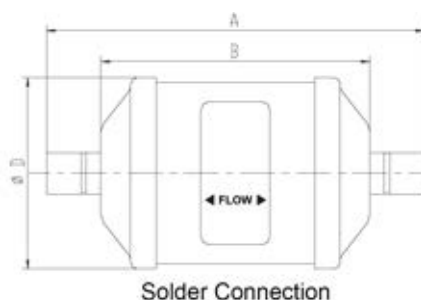
**GENERAL CHARACTERISTICS OF STG-B FILTER - SOLDER CONNECTION**

Filter	Model [inch]	Part Number (multi package)* [inch]	Model [mm]	Part Number (multi package)* [mm]	Nominal Volume		Connection		Dimensions & Weight <sup>1)</sup>				PED Category <sup>2)</sup>
							Solder		ØD	B	A	Weight	
					[inch <sup>3</sup> ]	[cm <sup>3</sup> ]	[inch]	[mm]					
STGB052s	STG-B05 020-901	10235005902	STG-B05 061-901	10235007602	5	82	1/4	6	69	76	114	450	Art. 4.3
STGB053s	STG-B05 030-901	10235006002	STG-B05 101-901	10235007802	5	82	3/8	10	69	76	114	450	Art. 4.3
STGB054s	STG-B05 040-901	10235006102	STG-B05 121-901	10235007902	5	82	1/2	12	69	76	124	450	Art. 4.3
STGB082s	STG-B08 020-901	10235006202	STG-B08 061-901	10235007702	8	131	1/4	6	69	98	136	580	Art. 4.3
STGB0825s	STG-B08 250-901	10235007402	STG-B08 250-901	10235007402	8	131	5/16	8	69	98	136	580	Art. 4.3
STGB083s	STG-B08 030-901	10235006302	STG-B08 101-901	10235008002	8	131	3/8	10	69	98	136	580	Art. 4.3
STGB084s	STG-B08 040-901	10235006402	STG-B08 121-901	10235008102	8	131	1/2	12	69	98	146	580	Art. 4.3
STGB163s	STG-B16 030-901	10235006602	STG-B16 101-901	10235008202	16	262	3/8	10	81	118	156	900	Art. 4.3
STGB164s	STG-B16 040-901	10235006502	STG-B16 121-901	10235008402	16	262	1/2	12	81	118	166	900	Art. 4.3
STGB165s	STG-B16 050-901	10235006702	STG-B16 050-901	10235006702	16	262	5/8	16	81	118	166	900	Art. 4.3
STGB167s	STG-B16 070-901	10235006802	STG-B16 070-901	10235006802	16	262	7/8	22	81	118	178	900	Art. 4.3
STGB303s	STG-B30 030-901	10235006902	STG-B30 101-901	10235008302	30	492	3/8	10	81	193	231	1700	Art. 4.3
STGB304s	STG-B30 040-901	10235007002	STG-B30 121-901	10235008502	30	492	1/2	12	81	193	241	1700	Art. 4.3
STGB305s	STG-B30 050-901	10235007102	STG-B30 050-901	10235007102	30	492	5/8	16	81	193	241	1700	Art. 4.3
STGB306s	STG-B30 060-901	10235007202	-	-	30	492	3/4	-	81	193	253	1700	Art. 4.3
STGB307s	STG-B30 070-901	10235007302	STG-B30 070-901	10235007302	30	492	7/8	22	81	193	253	1700	Art. 4.3
STGB309s	STG-B30 090-901	10235007502	STG-B30 281-901	10235010202	30	492	1 1/8	28	81	193	263	1700	Art. 4.3

**Note:** \* Available also as industrial package. Contact Sanhua for more details.

1) Dimensions are rounded up to integral mm

2) PED Directive 2014/68/EU





**GENERAL CHARACTERISTICS OF STG-F FILTER - FLARE CONNECTION**

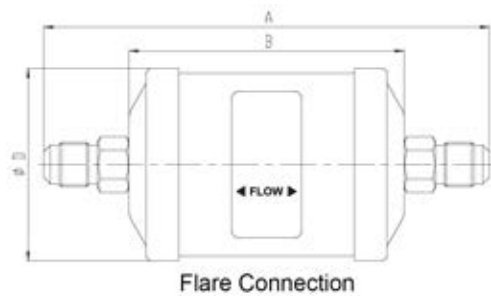
Filter	Model <sup>1)</sup>	Part Number (multi package)*	Nominal Volume		Connection	Dimensions & Weight <sup>2)</sup>				PED Category <sup>3)</sup>
					SAE Flare	ØD	B	A	Weight	
			[inch <sup>3</sup> ]	[cm <sup>3</sup> ]	[inch]	[mm]	[mm]	[mm]	[g]	
STGF052	STG-F05 024-901	10235010902	5	82	1/4	69	76	123	450	Art. 4.3
STGF053	STG-F05 034-901	10235011002	5	82	3/8	69	76	137	450	Art. 4.3
STGF054	STG-F05 044-901	10235011102	5	82	1/2	69	76	145	450	Art. 4.3
STGF082	STG-F08 024-901	10235011902	8	131	1/4	69	98	145	580	Art. 4.3
STGF083	STG-F08 034-901	10235012002	8	131	3/8	69	98	159	580	Art. 4.3
STGF084	STG-F08 044-901	10235012102	8	131	1/2	69	98	167	580	Art. 4.3
STGF163	STG-F16 034-901	10235014902	16	262	3/8	81	118	179	900	Art. 4.3
STGF164	STG-F16 044-901	10235015002	16	262	1/2	81	118	187	900	Art. 4.3
STGF165	STG-F16 054-901	10235015102	16	262	5/8	81	118	196	900	Art. 4.3
STGF303	STG-F30 034-901	10235013802	30	492	3/8	81	193	254	1700	Art. 4.3
STGF304	STG-F30 044-901	10235013502	30	492	1/2	81	193	262	1700	Art. 4.3
STGF305	STG-F30 054-901	10235013602	30	492	5/8	81	193	271	1700	Art. 4.3
STGF306	STG-F30 064-901	10235013702	30	492	3/4	81	193	271	1700	Art. 4.3

**Note:** \* Available also as industrial package. Contact Sanhua for more details.

1) Delivery time on request

2) Dimensions are rounded up to integral mm

3) PED Directive 2014/68/EU



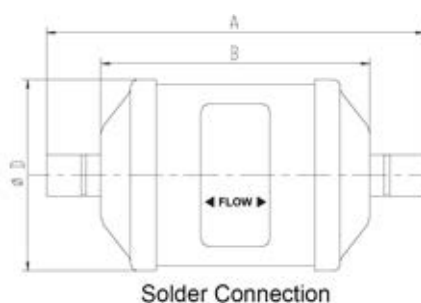


**GENERAL CHARACTERISTICS OF STG-F FILTER - SOLDER CONNECTION**

Filter	Model <sup>1)</sup> [inch]	Part Number (multi package)* [inch]	Model <sup>1)</sup> [mm]	Part Number (multi package)* [mm]	Nominal Volumen		Connection		Dimensions & Weight <sup>2)</sup>				PED Category <sup>3)</sup>
							Solder		ØD	B	A	Weight	
					[inch <sup>3</sup> ]	[cm <sup>3</sup> ]	[inch]	[mm]	[mm]	[mm]	[mm]	[g]	
STGF052s	STG-F05 020-901	10235010302	STG-F05 061-901	10235010602	5	82	1/4	6	69	76	114	450	Art. 4.3
STGF053s	STG-F05 030-901	10235010402	STG-F05 101-901	10235010702	5	82	3/8	10	69	76	114	450	Art. 4.3
STGF054s	STG-F05 040-901	10235010502	STG-F05 121-901	10235010802	5	82	1/2	12	69	76	124	450	Art. 4.3
STGF082s	STG-F08 020-901	10235011202	STG-F08 061-901	10235011602	8	131	1/4	6	69	98	136	580	Art. 4.3
STGF0825s	STG-F08 250-901	10235011302	STG-F08 250-901	10235011302	8	131	5/16	8	69	98	136	580	Art. 4.3
STGF083s	STG-F08 030-901	10235011402	STG-F08 101-901	10235011702	8	131	3/8	10	69	98	136	580	Art. 4.3
STGF084s	STG-F08 040-901	10235011502	STG-F08 121-901	10235011802	8	131	1/2	12	69	98	146	580	Art. 4.3
STGF163s	STG-F16 030-901	10235012202	STG-F16 101-901	10235012602	16	262	3/8	10	81	118	156	900	Art. 4.3
STGF164s	STG-F16 040-901	10235012302	STG-F16 121-901	10235012702	16	262	1/2	12	81	118	166	900	Art. 4.3
STGF165s	STG-F16 050-901	10235012402	STG-F16 050-901	10235012402	16	262	5/8	16	81	118	166	900	Art. 4.3
STGF167s	STG-F16 070-901	10235012502	STG-F16 070-901	10235012502	16	262	7/8	22	81	118	178	900	Art. 4.3
STGF303s	STG-F30 030-901	10235013902	STG-F30 101-901	10235013102	30	492	3/8	10	81	193	231	1700	Art. 4.3
STGF304s	STG-F30 040-901	10235014002	STG-F30 121-901	10235013202	30	492	1/2	12	81	193	241	1700	Art. 4.3
STGF305s	STG-F30 050-901	10235014102	STG-F30 050-901	10235014102	30	492	5/8	16	81	193	241	1700	Art. 4.3
STGF306s	STG-F30 060-901	10235014202	-	-	30	492	3/4	-	81	193	253	1700	Art. 4.3
STGF307s	STG-F30 070-901	10235012902	STG-F30 070-901	10235012902	30	492	7/8	22	81	193	253	1700	Art. 4.3
STGF309s	STG-F30 090-901	10235013002	STG-F30 281-901	10235013402	30	492	1 1/8	28	81	193	263	1700	Art. 4.3

**Note:** \* Available also as industrial package. Contact Sanhua for more details.

- 1) Delivery time on request
- 2) Dimensions are rounded up to integral mm
- 3) PED Directive 2014/68/EU





# STGB/F SERIES

## Bi-Flow Filter Driers



### SELECTION TABLE

Model	Capacity [ kW ] <sup>1</sup>					Moisture Absorption (gram H <sub>2</sub> O)							
	R134a	R404A	R22	R407C <sup>2</sup>	R410A	R134a		R404A		R407C <sup>2</sup>		R22	
		R507A				75°F	125°F	75°F	125°F	R410A		75°F	125°F
										23,9°C	51,7°C		
	23,9°C	51,7°C	23,9°C	51,7°C	23,9°C	51,7°C	23,9°C	51,7°C					
STGB052s	7,4	5,3	7,7	7,7	7,7	4,3	4,0	4,1	3,8	3,7	3,4	4,1	3,7
STGB052	7,4	5,3	7,7	7,7	7,7	4,3	4,0	4,1	3,8	3,7	3,4	4,1	3,7
STGB053s	16,5	11,6	16,9	16,5	16,9	4,3	4,0	4,1	3,8	3,7	3,4	4,1	3,7
STGB053	16,5	11,6	16,9	16,5	16,9	4,3	4,0	4,1	3,8	3,7	3,4	4,1	3,7
STGB054s	25,0	17,6	25,3	25,0	25,3	4,3	4,0	4,1	3,8	3,7	3,4	4,1	3,7
STGB054	25,0	17,6	25,3	25,0	25,3	4,3	4,0	4,1	3,8	3,7	3,4	4,1	3,7
STGB082s	8,8	6,0	8,8	8,8	8,8	9,8	9,0	9,2	8,6	8,5	7,8	9,2	8,5
STGB082	8,8	6,0	8,8	8,8	8,8	9,8	9,0	9,2	8,6	8,5	7,8	9,2	8,5
STGB0825s	15,8	10,9	16,2	15,8	16,2	9,8	9,0	9,2	8,6	8,5	7,8	9,2	8,5
STGB083s	17,2	12,0	17,6	17,2	17,6	9,8	9,0	9,2	8,6	8,5	7,8	9,2	8,5
STGB083	17,2	12,0	17,6	17,2	17,6	9,8	9,0	9,2	8,6	8,5	7,8	9,2	8,5
STGB084s	25,7	17,9	26,4	26,0	26,4	9,8	9,0	9,2	8,6	8,5	7,8	9,2	8,5
STGB084	25,7	17,9	26,4	26,0	26,4	9,8	9,0	9,2	8,6	8,5	7,8	9,2	8,5
STGB163s	19,7	13,7	20,0	19,7	20,0	17,6	16,3	16,6	15,5	15,2	14,0	16,6	14,2
STGB163	19,7	13,7	20,0	19,7	20,0	17,6	16,3	16,6	15,5	15,2	14,0	16,6	14,2
STGB164s	30,2	21,5	30,9	30,6	30,9	17,6	16,3	16,6	15,5	15,2	14,0	16,6	14,2
STGB164	30,2	21,5	30,9	30,6	30,9	17,6	16,3	16,6	15,5	15,2	14,0	16,6	14,2
STGB165s	34,1	23,9	34,8	34,5	35,2	17,6	16,3	16,6	15,5	15,2	14,0	16,6	14,2
STGB165	34,1	23,9	34,8	34,5	35,2	17,6	16,3	16,6	15,5	15,2	14,0	16,6	14,2
STGB167s	42,2	29,9	42,9	42,6	43,3	17,6	16,3	16,6	15,5	15,2	14,0	16,6	14,2
STGB303s	25,0	17,6	25,3	25,0	25,7	41,3	38,4	38,9	36,5	35,9	32,9	39,1	33,1
STGB303	25,0	17,6	25,3	25,0	25,7	41,3	38,4	38,9	36,5	35,9	32,9	39,1	33,1
STGB304s	30,9	21,8	31,7	31,7	32,0	41,3	38,4	38,9	36,5	35,9	32,9	39,1	33,1
STGB304	30,9	21,8	31,7	31,7	32,0	41,3	38,4	38,9	36,5	35,9	32,9	39,1	33,1
STGB305s	35,5	25,0	36,2	35,9	36,6	41,3	38,4	38,9	36,5	35,9	32,9	39,1	33,1
STGB305	35,5	25,0	36,2	35,9	36,6	41,3	38,4	38,9	36,5	35,9	32,9	39,1	33,1
STGB306s	39,6	28,1	40,1	39,7	40,4	41,3	38,4	38,9	36,5	35,9	32,9	39,1	33,1
STGB306	39,6	28,1	40,1	39,7	40,4	41,3	38,4	38,9	36,5	35,9	32,9	39,1	33,1
STGB307s	46,4	32,4	47,1	46,8	47,5	41,3	38,4	38,9	36,5	35,9	32,9	39,1	33,1
STGB309s	54,2	38,0	55,2	54,5	55,6	41,3	38,4	38,9	36,5	35,9	32,9	39,1	33,1

**Note:** 1) The above data is based on filter driers with inch connections and clean system at ideal conditions; with impurities accumulated in the filter, the capacity may decrease.  
 2) R407C data based on dew point conditions

## STGB/F SERIES Bi-Flow Filter Driers



### SELECTION FORMULAS

Filter driers for liquid line are manufactured in compliance with ARI Standard 710. Maximum flow rate of liquid refrigerant at a differential pressure of 0,07bar (1psi) is indicated by kW (ton) which is based on the temperature of liquid refrigerant 30°C (86°F), the evaporating temperature of -15°C (5°F) and the following mass flow:

- 0,40 kg/min/kW (3.1 lb/min/ton) R134a
- 0,53 kg/min/kW (4.1 lb/min/ton) R404A, R507A
- 0,39 kg/min/kW (3.0 lb/min/ton) R22, R407C
- 0,36 kg/min/kW (2.8 lb/min/ton) R410A

**Note:** Data on water absorption is based on the following EPD (method: ASHRAE Standard 63.1):

- 60ppm R22
- 50ppm R134a
- 50ppm R404A
- 50ppm R407C
- 50ppm R410A
- 50ppm R507A

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# Filter Driers with Replaceable Core

The filter driers with replaceable core (HTG series) are used in liquid line and suction line of refrigerating, freezing and air conditioning system. The filter housing allows to choose different kinds of cores. It's sealed by bottom cover for an easy removal and replacement of core from the bottom. The core holder requires minimum free space to remove the core for replacement.



## FEATURES

- HIGH EFFICIENT IN MOISTURE ABSORPTION, FILTERING IMPURITY, ACID, PAINT REMAINS AND MUD REMOVAL
- DIFFERENT TYPES OF FILTER CORES
- DURABLE AND SOLID FILTER CORES
- FILTERING FINENESS: 20 $\mu$ m
- CORROSION RESISTANT PAINTING CAN SURVIVE SALT SPRAY TEST OF 500 HOURS
- CONNECTION TYPE: SOLDER

## FEATURES OF FILTER ELEMENT

### • SH48-A80 FILTER ELEMENT:

80% 3A DESICCANT AND 20% ACTIVATED ALUMINA,  
It provides a good desiccation ability and an acid absorption capability in a wide temperature range. The core resistance is guaranteed with high level of vibration thanks to an anti-shock design. Suggested installation position on liquid line

### • SH48-A00 FILTER ELEMENT:

100% 3A DESICCANT  
It provides the maximum level of desiccation ability in a wide temperature range. The core resistance is guaranteed with high level of vibration thanks to an anti-shock design. Suggested installation position on liquid line

### • SH48-A30 FILTER ELEMENT:

30% 3A DESICCANT, 70% ACTIVATED ALUMINA  
This solid filter element provides an excellent acid absorption together with a standard desiccation ability in a wide temperature range. The suggested installation position is on the suction line; it is suitable after compressor burnout because it removes acid, impurities and other harmful substance avoiding the damage of the new compressor.

SH48-A30 filter core is compatible with HCFC / HFC refrigerants and its design optimizes the flow passage generating low internal pressure drop. The core resistance is guaranteed with high level of vibration thanks to an anti-shock design.

### • SH48-B100 FILTER ELEMENT:

"Strainer core for filtering dirt particles. Compatible with HCFC, HFC, refrigerants. Suggested installation position on suction line."



### GENERAL SPECIFICATION

- Applicable for all common HCFC and HFC, HFO<sup>1)</sup> refrigerants such as: R22, R134a, R404A, R407C, R410A, R507, R407A/F, R448A/R449A, R452A, R450A/R513A, R1234ze<sup>1)</sup>.
- Ambient temperature min./max.: -30°C / +55°C
- Medium temperature TS min./max.: -40°C / +70°C
- Max. operating pressure PS: from 4,5 MPa (45 bar) (see table 1)
- Installation position:  
HTG with SH48-A80 or SH48-A00 in liquid line,  
HTG with SH48-A30 or mechanical strainer SH48-B100 in suction line
- Certifications: UL/CSA and PED declaration

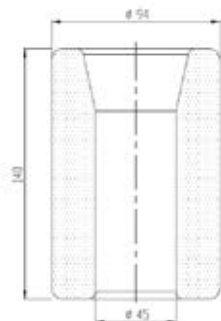
**Note:** 1) Please contact Sanhua representative regarding applications with HFO  
For liquid capacity of filters with R407A/F, R1234ze, R448A/R449A, R452A, R450A/R513A please contact Sanhua.

### TECHNICAL PARAMETERS

#### Desiccant Selection Table

	Medium Type	30% 3A desiccant 70% active alumina	80% 3A desiccant 20% active alumina	100% 3A desiccant	Mechanical strainer
Core Model	-	SH48-A30	SH48-A80	SH48-A00	SH48-B00
Part Number	-	20225000102	20225000902	20225001102	20225003302
Suggested Installation position	-	Suction Line	Liquid Line	Liquid Line	Suction Line
Refrigerant	HFC	Applicable	Applicable	Suggested	Suggested
	HCFC	Suggested	Suggested	Applicable	Applicable
	HC/HFO	Applicable	Applicable	Applicable	-
Oil <sup>1)</sup>	Mineral oil or AB	Suggested	Suggested	Applicable	Applicable
	Pure POE or PAG	Applicable	Applicable	Suggested	Suggested
	POE or PAG with additive	Not applicable	Not applicable	Applicable	Applicable

**Note:** 1) When the systems use oil with additive, it is not recommended to use a core with alumina.



Filter core dimensions



**MODEL DESIGNATION EXAMPLE**

Position Number						According to Model Designation Legend
1	2	3	4	5	6	
<b>HTG</b>	A96	28	1	901		Replaceable core filter drier
HTG	<b>A96</b>	28	1	901		96 inch <sup>3</sup> internal volume
HTG	A96	<b>28</b>	1	901		When Pos. 4 is "1": connection size 28mm
HTG	A96	28	<b>1</b>	901		Solder connection metric
HTG	A96	28	1	<b>901</b>		Standard product

*Model Designation Legend*

<b>1</b>	<b>Product Code</b>	<b>Filter Drier Series</b>	
	HTG	Indicates replaceable core filter drier	
<b>2</b>	<b>Internal volume</b>	<b>Expressed in inch<sup>3</sup></b>	
	A48	48	787
	A96	96	1573
	B44	144	2360
	B92	192	3146
<b>3</b>	<b>Connection size</b>	<b>Pos. 4 shows "0": Solder [inch]</b>	
	05	5/8	
	07	7/8	
	09	1 1/8	
	11	1 3/8	
	13	1 5/8	
	17	2 1/8	
	21	2 5/8	
	<b>Connection size</b>	<b>Pos. 4 shows "1": Solder [mm]</b>	
	05	16 - (5/8" version can be used e.g. HTG-A48 050)	
	07	22 - (7/8" version can be used e.g. HTG-A48 070)	
	28	28	
	11	35 - (1 3/8" version can be used e.g. HTG-A48 110)	
	42	42	
17	54 - (2 1/8" version can be used e.g. HTG-A48 170)		
<b>4</b>	<b>Pipe Connection</b>	<b>Type</b>	
	0	Solder with inch connections	
	1 *	Solder with metric connections	
<b>5</b>	<b>Version Number</b>	<b>Description</b>	
	901	Standard product	

**Note:** \* Solder connections which fit to metric and inch are marked with inch product codes e.g. 16, 22, 35 and 54mm



**GENERAL CHARACTERISTICS OF FILTER** Table 1

Series	Model	Part Number*	Solder Connections ODF		Number of cores	Dimensions & Weight					Design Pressure (MPa)	PED category
			[inch]	[mm]		A	B	L	G	Weight <sup>1)</sup>		
			[mm]	[mm]		[mm]	[mm]	[mm]	[kg]			
HTG A48s	HTG-A48050-901	10225004502	5/8	16	1	250	164	170	116	5,1	4,5	Cat. I
	HTG-A48070-901	10225004402	7/8	22		249	163	170	116	5,1	4,5	
	HTG-A48090-901	10225004302	1 1/8	-		254	168	170	121	5,1	4,5	
	HTG-A48281-901	10225004202	-	28		254	168	170	121	5,1	4,5	
	HTG-A48110-901	10225004102	1 3/8	35		253	167	170	121	5,1	4,5	
	HTG-A48130-901	10225004002	1 5/8	-		272	186	170	141	5,1	4,5	
	HTG-A48421-901	10225003802	-	42		272	186	170	141	5,1	4,5	
	HTG-A48170-901	10225003902	2 1/8	54		275	182	170	145	5,1	4,5	
	HTG-A48210-901	10225003702	2 5/8	-		277	177	170	149	5,1	4,5	
HTG A96s	HTG-A96050-901	10225003602	5/8	16	2	391	305	310	116	6,2	4,5	
	HTG-A96070-901	10225003502	7/8	22		390	304	310	116	6,2	4,5	
	HTG-A96090-901	10225003302	1 1/8	-		395	309	310	121	6,2	4,5	
	HTG-A96281-901	10225003402	-	28		395	309	310	121	6,2	4,5	
	HTG-A96110-901	10225003202	1 3/8	35		394	308	310	121	6,2	4,5	
	HTG-A96130-901	10225003102	1 5/8	-		413	327	310	141	6,2	4,5	
	HTG-A96421-901	10225003002	-	42		413	327	310	141	6,2	4,5	
	HTG-A96170-901	10225002902	2 1/8	54		416	323	310	145	6,2	4,5	
	HTG-A96210-901	10225002802	2 5/8	-		418	318	310	149	6,2	4,5	
HTG B44s	HTG-B44050-901	10225002702	5/8	16	3	532	446	310	116	7,6	4,5	
	HTG-B44070-901	10225002602	7/8	22		531	445	310	116	7,6	4,5	
	HTG-B44090-901	10225002502	1 1/8	-		536	450	310	121	7,6	4,5	
	HTG-B44281-901	10225002402	-	28		536	450	310	121	7,6	4,5	
	HTG-B44110-901	10225002302	1 3/8	35		535	449	310	121	7,6	4,5	
	HTG-B44130-901	10225002202	1 5/8	-		554	468	310	141	7,6	4,5	
	HTG-B44421-901	10225002102	-	42		554	468	310	141	7,6	4,5	
	HTG-B44170-901	10225001902	2 1/8	54		557	464	310	145	7,6	4,5	
	HTG-B44210-901	10225001802	2 5/8	-		559	459	310	149	7,6	4,5	
HTG B92s	HTG-B92050-901	10225001702	5/8	16	4	677	591	310	116	9,1	4,5	
	HTG-B92070-901	10225001602	7/8	22		676	590	310	116	9,1	4,5	
	HTG-B92090-901	10225001502	1 1/8	-		681	595	310	121	9,1	4,5	
	HTG-B92281-901	10225004602	-	28		681	595	310	121	9,1	4,5	
	HTG-B92110-901	10225001402	1 3/8	35		680	594	310	121	9,1	4,5	
	HTG-B92130-901	10225002002	1 5/8	-		699	613	310	141	9,1	4,5	
	HTG-B92421-901	10225001302	-	42		699	613	310	141	9,1	4,5	
	HTG-B92170-901	10225001202	2 1/8	54		702	609	310	145	9,1	4,5	
	HTG-B92210-901	10225001102	2 5/8	-		704	604	310	149	9,1	4,5	

**Note:** \* Available also as industrial package. Contact Sanhua for more details.

1) Weight of filter shell (must be added the filter core weight: 0.6 kg)





**SELECTION TABLE - WITH CORE SH48-A00** Table 2

Model	Acid Absorption capacity (g) <sup>3</sup>	Capacity [kW] <sup>1</sup>					Moisture Absorption [gram H <sub>2</sub> O]							
		R134a	R404A	R22	R407C <sup>2</sup>	R410A	R134a		R404A		R407C <sup>2</sup>		R22	
			R507A				75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F
							23,9°C	51,7°C	23,9°C	51,7°C	23,9°C	51,7°C	23,9°C	51,7°C
HTG-A48050-901		65,5	45,9	67,6	67,6	67,6	67,4	58,1	72,6	59,6	57,0	51,8	62,2	57,0
HTG-A48070-901		104,7	73,5	108,2	108,2	108,2	67,4	58,1	72,6	59,6	57,0	51,8	62,2	57,0
HTG-A48090-901		150,5	105,7	155,4	155,4	155,4	67,4	58,1	72,6	59,6	57,0	51,8	62,2	57,0
HTG-A48281-901		150,5	105,7	155,4	155,4	155,4	67,4	58,1	72,6	59,6	57,0	51,8	62,2	57,0
HTG-A48110-901	-	202,7	142,5	209,3	209,3	209,3	67,4	58,1	72,6	59,6	57,0	51,8	62,2	57,0
HTG-A48130-901		248,9	174,7	256,6	256,6	256,6	67,4	58,1	72,6	59,6	57,0	51,8	62,2	57,0
HTG-A48421-901		59,9	174,7	256,6	256,6	256,6	67,4	58,1	72,6	59,6	57,0	51,8	62,2	57,0
HTG-A48170-901		353,5	248,2	364,7	364,7	364,7	67,4	58,1	72,6	59,6	57,0	51,8	62,2	57,0
HTG-A48210-901		392,7	276,2	405,7	405,7	405,7	67,4	58,1	72,6	59,6	57,0	51,8	62,2	57,0
HTG-A96050-901		65,5	45,9	67,6	67,6	67,6	134,8	116,1	145,2	119,2	114,0	103,7	124,4	114,0
HTG-A96070-901		104,7	73,5	108,2	108,2	108,2	134,8	116,1	145,2	119,2	114,0	103,7	124,4	114,0
HTG-A96090-901		150,5	105,7	155,4	155,4	155,4	134,8	116,1	145,2	119,2	114,0	103,7	124,4	114,0
HTG-A96281-901		150,5	105,7	155,4	155,4	155,4	134,8	116,1	145,2	119,2	114,0	103,7	124,4	114,0
HTG-A96110-901	-	202,7	142,5	209,3	209,3	209,3	134,8	116,1	145,2	119,2	114,0	103,7	124,4	114,0
HTG-A96130-901		248,9	174,7	256,6	256,6	256,6	134,8	116,1	145,2	119,2	114,0	103,7	124,4	114,0
HTG-A96421-901		248,9	174,7	256,6	256,6	256,6	134,8	116,1	145,2	119,2	114,0	103,7	124,4	114,0
HTG-A96170-901		353,5	248,2	364,7	364,7	364,7	134,8	116,1	145,2	119,2	114,0	103,7	124,4	114,0
HTG-A96210-901		392,7	276,2	405,7	405,7	405,7	134,8	116,1	145,2	119,2	114,0	103,7	124,4	114,0
HTG-B44050-901		65,5	45,9	67,6	67,6	67,6	202,2	174,3	217,8	178,8	171,0	155,4	186,6	171,0
HTG-B44070-901		104,7	73,5	108,2	108,2	108,2	202,2	174,3	217,8	178,8	171,0	155,4	186,6	171,0
HTG-B44090-901		150,5	105,7	155,4	155,4	155,4	202,2	174,3	217,8	178,8	171,0	155,4	186,6	171,0
HTG-B44281-901		150,5	105,7	155,4	155,4	155,4	202,2	174,3	217,8	178,8	171,0	155,4	186,6	171,0
HTG-B44110-901	-	202,7	142,5	209,3	209,3	209,3	202,2	174,3	217,8	178,8	171,0	155,4	186,6	171,0
HTG-B44130-901		248,9	174,7	256,6	256,6	256,6	202,2	174,3	217,8	178,8	171,0	155,4	186,6	171,0
HTG-B44421-901		248,9	174,7	256,6	256,6	256,6	202,2	174,3	217,8	178,8	171,0	155,4	186,6	171,0
HTG-B44170-901		353,5	248,2	364,7	364,7	364,7	202,2	174,3	217,8	178,8	171,0	155,4	186,6	171,0
HTG-B44210-901		392,7	276,2	405,7	405,7	405,7	202,2	174,3	217,8	178,8	171,0	155,4	186,6	171,0
HTG-B92050-901		65,5	45,9	67,6	67,6	67,6	269,6	232,4	290,4	238,4	228,0	207,2	248,8	228,0
HTG-B92070-901		104,7	73,5	108,2	108,2	108,2	269,6	232,4	290,4	238,4	228,0	207,2	248,8	228,0
HTG-B92090-901		150,5	105,7	155,4	155,4	155,4	269,6	232,4	290,4	238,4	228,0	207,2	248,8	228,0
HTG-B92281-901		150,5	105,7	155,4	155,4	155,4	269,6	232,4	290,4	238,4	228,0	207,2	248,8	228,0
HTG-B92110-901	-	202,7	142,5	209,3	209,3	209,3	269,6	232,4	290,4	238,4	228,0	207,2	248,8	228,0
HTG-B92130-901		248,9	174,7	256,6	256,6	256,6	269,6	232,4	290,4	238,4	228,0	207,2	248,8	228,0
HTG-B92421-901		248,9	174,7	256,6	256,6	256,6	269,6	232,4	290,4	238,4	228,0	207,2	248,8	228,0
HTG-B92170-901		353,5	248,2	364,7	364,7	364,7	269,6	232,4	290,4	238,4	228,0	207,2	248,8	228,0
HTG-B92210-901		392,7	276,2	405,7	405,7	405,7	269,6	232,4	290,4	238,4	228,0	207,2	248,8	228,0



**SELECTION TABLE - WITH CORE SH48-A80** Table 3

Model	Acid Absorption capacity (g)	Capacity [kW] <sup>1</sup>					Moisture Absorption [gram H <sub>2</sub> O]									
		R134a	R404A	R22	R407C <sup>2</sup>	R410A	R134a		R404A		R407C <sup>2</sup>		R22			
			R507A				75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F
		R507A		R507A	R410A	R410A										
		23,9°C		51,7°C	23,9°C	51,7°C										
HTG-A48050-901	10	65,5	45,9	67,6	67,6	67,6	58,0	50,0	61,7	50,7	47,9	43,5	52,9	48,5		
HTG-A48070-901		104,7	73,5	108,2	108,2	108,2	58,0	50,0	61,7	50,7	47,9	43,5	52,9	48,5		
HTG-A48090-901		150,5	105,7	155,4	155,4	155,4	58,0	50,0	61,7	50,7	47,9	43,5	52,9	48,5		
HTG-A48281-901		150,5	105,7	155,4	155,4	155,4	58,0	50,0	61,7	50,7	47,9	43,5	52,9	48,5		
HTG-A48110-901		202,7	142,5	209,3	209,3	209,3	58,0	50,0	61,7	50,7	47,9	43,5	52,9	48,5		
HTG-A48130-901		248,9	174,7	256,6	256,6	256,6	58,0	50,0	61,7	50,7	47,9	43,5	52,9	48,5		
HTG-A48421-901		59,9	174,7	256,6	256,6	256,6	58,0	50,0	61,7	50,7	47,9	43,5	52,9	48,5		
HTG-A48170-901		353,5	248,2	364,7	364,7	364,7	58,0	50,0	61,7	50,7	47,9	43,5	52,9	48,5		
HTG-A48210-901		392,7	276,2	405,7	405,7	405,7	58,0	50,0	61,7	50,7	47,9	43,5	52,9	48,5		
HTG-A96050-901	20	65,5	45,9	67,6	67,6	67,6	115,9	99,8	123,4	101,3	95,8	87,1	105,7	96,9		
HTG-A96070-901		104,7	73,5	108,2	108,2	108,2	115,9	99,8	123,4	101,3	95,8	87,1	105,7	96,9		
HTG-A96090-901		150,5	105,7	155,4	155,4	155,4	115,9	99,8	123,4	101,3	95,8	87,1	105,7	96,9		
HTG-A96281-901		150,5	105,7	155,4	155,4	155,4	115,9	99,8	123,4	101,3	95,8	87,1	105,7	96,9		
HTG-A96110-901		202,7	142,5	209,3	209,3	209,3	115,9	99,8	123,4	101,3	95,8	87,1	105,7	96,9		
HTG-A96130-901		248,9	174,7	256,6	256,6	256,6	115,9	99,8	123,4	101,3	95,8	87,1	105,7	96,9		
HTG-A96421-901		248,9	174,7	256,6	256,6	256,6	115,9	99,8	123,4	101,3	95,8	87,1	105,7	96,9		
HTG-A96170-901		353,5	248,2	364,7	364,7	364,7	115,9	99,8	123,4	101,3	95,8	87,1	105,7	96,9		
HTG-A96210-901		392,7	276,2	405,7	405,7	405,7	115,9	99,8	123,4	101,3	95,8	87,1	105,7	96,9		
HTG-B44050-901	30	65,5	45,9	67,6	67,6	67,6	173,9	149,9	185,1	152,0	143,6	130,5	158,6	145,4		
HTG-B44070-901		104,7	73,5	108,2	108,2	108,2	173,9	149,9	185,1	152,0	143,6	130,5	158,6	145,4		
HTG-B44090-901		150,5	105,7	155,4	155,4	155,4	173,9	149,9	185,1	152,0	143,6	130,5	158,6	145,4		
HTG-B44281-901		150,5	105,7	155,4	155,4	155,4	173,9	149,9	185,1	152,0	143,6	130,5	158,6	145,4		
HTG-B44110-901		202,7	142,5	209,3	209,3	209,3	173,9	149,9	185,1	152,0	143,6	130,5	158,6	145,4		
HTG-B44130-901		248,9	174,7	256,6	256,6	256,6	173,9	149,9	185,1	152,0	143,6	130,5	158,6	145,4		
HTG-B44421-901		248,9	174,7	256,6	256,6	256,6	173,9	149,9	185,1	152,0	143,6	130,5	158,6	145,4		
HTG-B44170-901		353,5	248,2	364,7	364,7	364,7	173,9	149,9	185,1	152,0	143,6	130,5	158,6	145,4		
HTG-B44210-901		392,7	276,2	405,7	405,7	405,7	173,9	149,9	185,1	152,0	143,6	130,5	158,6	145,4		
HTG-B92050-901	40	65,5	45,9	67,6	67,6	67,6	231,9	199,9	246,8	202,6	191,5	174,0	211,5	193,8		
HTG-B92070-901		104,7	73,5	108,2	108,2	108,2	231,9	199,9	246,8	202,6	191,5	174,0	211,5	193,8		
HTG-B92090-901		150,5	105,7	155,4	155,4	155,4	231,9	199,9	246,8	202,6	191,5	174,0	211,5	193,8		
HTG-B92281-901		150,5	105,7	155,4	155,4	155,4	231,9	199,9	246,8	202,6	191,5	174,0	211,5	193,8		
HTG-B92110-901		202,7	142,5	209,3	209,3	209,3	231,9	199,9	246,8	202,6	191,5	174,0	211,5	193,8		
HTG-B92130-901		248,9	174,7	256,6	256,6	256,6	231,9	199,9	246,8	202,6	191,5	174,0	211,5	193,8		
HTG-B92421-901		248,9	174,7	256,6	256,6	256,6	231,9	199,9	246,8	202,6	191,5	174,0	211,5	193,8		
HTG-B92170-901		353,5	248,2	364,7	364,7	364,7	231,9	199,9	246,8	202,6	191,5	174,0	211,5	193,8		
HTG-B92210-901		392,7	276,2	405,7	405,7	405,7	231,9	199,9	246,8	202,6	191,5	174,0	211,5	193,8		

- Note:**
1. The data reported in the Table 2 and 3 is based on filter driers in a clean system at ideal conditions; with impurities accumulated in the filter, the capacity may decrease.
  2. R407C data based on dew point conditions
  3. Adsorption capacity of oleic acid at 0.05 TAN (Total Acid Number)



**SELECTION FORMULAS**

Filter driers for liquid line are manufactured in compliance with ARI Standard 710. Maximum flow rate of liquid refrigerant at a differential pressure of 0,07bar (1psi) is indicated by kW (ton) which is based on the temperature of liquid refrigerant 30°C (86°F), the evaporating temperature of -15°C (5°F) and the following mass flow:

- 0,40 kg/min/kW (3.1 lb/min/ton) R134a
- 0,53 kg/min/kW (4.1 lb/min/ton) R404A, R507A
- 0,39 kg/min/kW (3.0 lb/min/ton) R22, R407C
- 0,36 kg/min/kW (2.8 lb/min/ton) R410A

**Note:** Data on water absorption is based on the following EPD (method: ASHRAE Standard 63.1):

- 60ppm R22
- 50ppm R134a
- 50ppm R404A
- 50ppm R407C
- 50ppm R410A
- 50ppm R507A

**SUCTION LINE FILTER-DRIERS:**

Any pressure loss in the suction line also reduces system capacity significantly. Obtaining a low pressure drop is particularly important for energy savings on all the air conditioning and refrigeration systems. Therefore, suction line filter-driers should be sized generously on these systems. Sanhua suggests that the pressure drop across it should not exceed the values given in the table below (table 4: DP limits in metric units; table 5: DP limits in imperial units)

Table 4

Suction Line Filter Drier Maximum Recommended Pressure Drop (bar)					
System	Evaporator Saturated Suction Temperature <sup>4)</sup> (°C)	Permanent Installation		Temporary Installation	
		Refrigerant			
		R22; R404A; R407C; R410A, R507	R134a	R22; R404A; R407C; R410A, R507	R134a
Air conditioning	4	0,21	0,14	0,56	0,42
Commercial	-7	0,14	0,105	0,28	0,21
Low temperature	-29	0,07	0,035	0,14	0,07

Table 5

Suction Line Filter Drier Maximum Recommended Pressure Drop (psi)					
System	Evaporator Saturated Suction Temperature <sup>5)</sup> (°F)	Permanent Installation		Temporary Installation	
		Refrigerant			
		R22; R404A; R407C; R410A, R507	R134a	R22; R404A; R407C; R410A, R507	R134a
Air conditioning	40	3	2	8	6
Commercial	20	2	1,5	4	3
Low temperature	-20	1	0,5	2	1



**SUCTION LINE FLOW CAPACITY WITH CORE SH48-A30 (kW)<sup>1</sup> Table 6**

Model	Capacity (kW)											
	Evaporation temperature (°C)											
	-40	-20	4,4	-30	-20	4,4	-40	-20	4,4	-40	-20	4,4
	Pressure drop (bar)											
	0,04	0,10	0,21	0,04	0,07	0,14	0,04	0,10	0,21	0,04	0,10	0,21
R22/R407C			R134a			R404A/R507			R410A			
HTG-A48050-901	3,0	8,5	20,0	2,9	5,1	12,4	2,3	6,7	16,6	3,0	8,5	20,0
HTG-A48070-901	5,5	15,5	36,0	5,3	9,4	22,2	4,3	12,3	29,6	5,5	15,3	36,0
HTG-A48090-901	7,4	20,5	48,5	7,1	12,6	30,0	5,7	16,3	40,0	7,4	20,5	48,5
HTG-A48281-901	7,4	20,5	48,5	7,1	12,6	30,0	5,7	16,3	40,0	7,4	20,5	48,5
HTG-A48110-901	9,5	26,0	61,0	9,1	16,0	37,5	7,3	20,7	50,0	9,5	26,0	61,0
HTG-A48130-901	9,5	26,0	61,0	9,1	16,0	37,5	7,3	20,7	50,0	9,5	26,0	61,0
HTG-A48421-901	9,5	26,0	61,0	9,1	16,0	37,5	7,3	20,7	50,0	9,5	26,0	61,0
HTG-A48170-901	9,5	26,0	61,0	9,1	16,0	37,5	7,3	20,7	50,0	9,5	26,0	61,0
HTG-A48210-901	9,5	26,0	61,0	9,1	16,0	37,5	7,3	20,7	50,0	9,5	26,0	61,0
HTG-A96050-901	3,1	8,6	20,3	3,0	5,4	12,7	2,4	7,0	17,1	3,1	8,7	20,5
HTG-A96070-901	5,5	15,4	36,2	5,3	9,4	22,4	4,3	12,3	29,8	5,5	15,4	36,2
HTG-A96090-901	8,3	23,4	55,4	8,0	14,3	34,1	6,5	18,7	46,0	8,3	23,4	56,0
HTG-A96281-901	8,3	23,4	55,4	8,0	14,3	34,1	6,5	18,7	46,0	8,3	23,4	56,0
HTG-A96110-901	11,3	32,0	76,0	10,8	19,4	46,5	8,8	25,5	63,0	11,3	32,0	76,0
HTG-A96130-901	13,5	38,0	91,0	13,0	23,1	55,6	10,5	30,4	75,0	13,4	38,0	91,0
HTG-A96421-901	13,5	38,0	91,0	13,0	23,1	55,6	10,5	30,4	75,0	13,4	38,0	91,0
HTG-A96170-901	13,5	38,0	91,0	13,0	23,1	55,6	10,5	30,4	75,0	13,4	38,0	91,0
HTG-A96210-901	13,5	38,0	91,0	13,0	23,1	55,6	10,5	30,4	75,0	13,4	38,0	91,0
HTG-B44050-901	3,3	9,5	21,7	3,2	5,7	13,3	2,6	7,3	16,5	3,3	9,5	21,7
HTG-B44070-901	6,3	18,0	41,0	6,0	10,6	25,1	4,8	13,8	34,0	6,3	18,0	41,0
HTG-B44090-901	8,4	24,0	55,0	8,0	14,3	34,0	6,5	18,5	46,0	8,4	24,0	55,0
HTG-B44281-901	8,4	24,0	55,0	8,0	14,3	34,0	6,5	18,5	46,0	8,4	24,0	55,0
HTG-B44110-901	12,5	36,5	89,0	12,1	22,0	54,0	9,8	29,2	73,0	12,5	36,5	89,0
HTG-B44130-901	12,5	36,5	89,0	12,1	22,0	54,0	9,8	29,2	73,0	12,5	36,5	89,0
HTG-B44421-901	12,5	36,5	89,0	12,1	22,0	54,0	9,8	29,2	73,0	12,5	36,5	89,0
HTG-B44170-901	12,5	36,5	89,0	12,1	22,0	54,0	9,8	29,2	73,0	12,5	36,5	89,0
HTG-B44210-901	12,5	36,5	89,0	12,1	22,0	54,0	9,8	29,2	73,0	12,5	36,5	89,0
HTG-B92050-901	4,0	10,9	25,9	3,8	6,7	16,0	3,0	8,7	21,6	4,0	10,9	25,9
HTG-B92070-901	7,5	20,5	48,8	7,2	12,7	30,0	5,8	16,5	40,6	7,5	20,5	48,8
HTG-B92090-901	10,1	27,5	66,0	9,7	17,1	40,0	7,8	22,1	54,3	10,1	27,5	66,0
HTG-B92281-901	10,1	27,5	66,0	9,7	17,1	40,0	7,8	22,1	54,3	10,1	27,5	66,0
HTG-B92110-901	14,1	39,7	95,0	13,6	24,2	58,1	11,0	31,9	78,1	14,1	39,7	95,0
HTG-B92130-901	17,1	49,0	118,0	16,5	30,0	72,0	13,4	39,0	97,0	17,1	49,0	118,0
HTG-B92421-901	17,1	49,0	118,0	16,5	30,0	72,0	13,4	39,0	97,0	17,1	49,0	118,0
HTG-B92170-901	17,1	49,0	118,0	16,5	30,0	72,0	13,4	39,0	97,0	17,1	49,0	118,0
HTG-B92210-901	17,1	49,0	118,0	16,5	30,0	72,0	13,4	39,0	97,0	17,1	49,0	118,0



The capacities listed in the table 6 are rated at the maximum recommended pressure drop for permanent installation. Suction line Filter-Driers guarantees an acid removal and a drying capacity described in table 7:

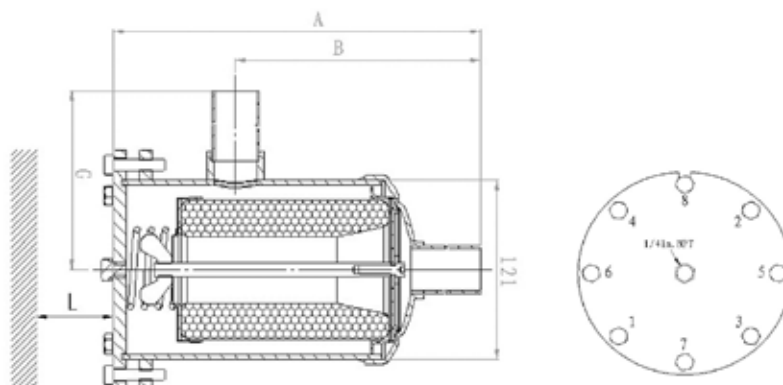
Table 7

Drying capacity: SH48-A30 <sup>1)</sup>					
Filter Type		HTG-A48	HTG-A96	HTG-B44	HTG-B92
Number of cores		1	2	3	4
Acid Adsorption capacity (g) <sup>3)</sup>		28,0	56,0	84,0	112,0
Refrigerant	Evaporating Temp. (°C) <sup>4)</sup>	Moisture Absorption [gram H <sub>2</sub> O]			
R22/ R407C <sup>2)</sup>	-40,0	26,0	52,0	78,0	104,0
	-20,0	18,0	36,3	54,0	72,0
	4,4	11,0	22,0	32,0	43,0
R134a	-30,0	43,0	86,0	129,0	172,0
	-20,0	36,0	72,0	108,0	144,0
	4,4	25,0	50,0	75,0	100,0
R404A / R507	-40,0	45,0	90,0	135,0	180,0
	-20,0	28,0	56,0	84,0	112,0
	4,4	18,0	36,0	54,0	72,0
R410A	-40,0	40,0	80,0	120,0	160,0
	-20,0	33,0	66,0	99,0	132,0
	4,4	24,0	48,0	72,0	96,0

Drying capacity is expressed during drying in:

- R22: EPD = 10 ppm W, corresponding dew point temperature is -50°C
- R134a: EPD = 50 ppm W, corresponding dew point temperature is -37°C
- R404A: EPD = 10 ppm W, corresponding dew point temperature is -40°C
- R407C: EPD = 10 ppm W, corresponding dew point temperature is -40°C

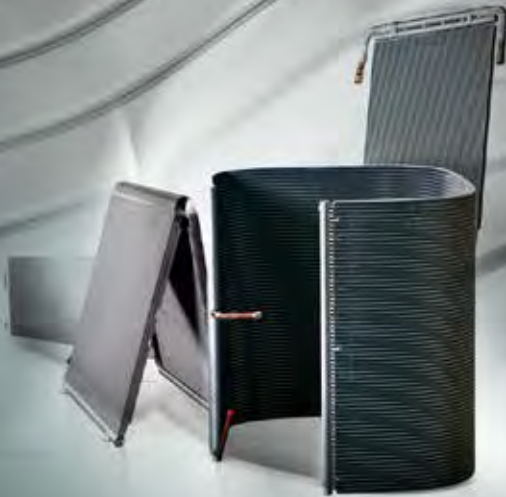
- Note:**
1. The data reported in the Table 2, 3, 6 and 7 are based on filter driers in a clean system at ideal conditions; with impurities accumulated in the filter, the capacity may decrease.
  2. R407C data based on dew point conditions
  3. Adsorption capacity of oleic acid at 0.05 TAN (Total Acid Number)
  4. Standard Evaporating Temperature defined by ANSI.AHRI Standard 731 (SI)-2013
  5. Standard Evaporating Temperature defined by ANSI.AHRI Standard 730 (I-P)-2013





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# Liquid line Filter Drier with Sight Glass

DSG Series liquid line filter drier/sight glass combination is a liquid line filter drier with a sight glass connected to the outlet side of the filter drier are used in refrigeration system with unidirectional flow to absorb moisture in the system and to filter out the impurities. Observe property changes of the refrigerant (liquid / vapor) and indicate the moisture level by the sight glass as well



## FEATURES

- HIGHLY EFFICIENT IN MOISTURE ABSORPTION, FILTERING IMPURITY, PAINT REMAINS AND MUD REMOVAL
- DURABLE AND SOLID FILTER CORES
- FILTERING FINENESS: 20µm
- CORROSION RESISTANT PAINTING SURVIVES SALT SPRAY TEST OF 500 HOURS
- SIGHT GLASS WITH NEW ANNULAR HUMIDITY COLOR INDICATOR TO REALIZE HIGH PRECISION AND FULL PORT PASSAGE WITH LOW PRESSURE DROP
- COMPACT UNIT: REDUCE CUSTOMER INSTALLATION TIME AND REDUCE POTENTIAL LEAKAGE RISK

## GENERAL SPECIFICATION

- Applicable for all common HFC, HFO refrigerants such as: R134a, R404A, R407A/F, R407C, R410A, R448A, R449A, R450A, R452A, R513A, R507A
- Ambient temperature min./max.: -30°C / +55°C
- Medium temperature TS min./max.: -30°C / +80°C
- Max. operating pressure PS max.: 4,6 MPa
- Installation position:
  - Flow direction corresponds to the arrow
  - Preferably installed in liquid line
- Certifications: UL/CSA and PED declaration



**TECNHICAL PARAMETERS** *Desiccant Selection Table*

	Medium Type	100% 3Å Desiccant
Refrigerant	HFC	Applicable
	HFO	Applicable
Oil <sup>3</sup>	Mineral oil or AB	Applicable
	Pure POE or PAG	Applicable
	POE or PAG with additive	Applicable

*Model Designation Legend*

1	Product Code	Product Series	
	DSG	Indicates unidirectional filter drier with Sight glass	
2	Filter Core	Structure and Material	
	B	Solid core, 100%3Å desiccant	
3	Internal Volume <sup>1)</sup>	Expressed in [ inch <sup>3</sup> ]	Expressed in [ cm <sup>3</sup> ]
	05	5	82
	08	8	131
	16	16	262
4	Connection Size	Pos. 5 shows "4": SAE Flare [inch]	
	02	1/4	
	03	3/8	
	04	1/2	
5	Pipe Connection	Type	
	4	SAE flare connections	
6	Version Number	Description	
	002	Series number	

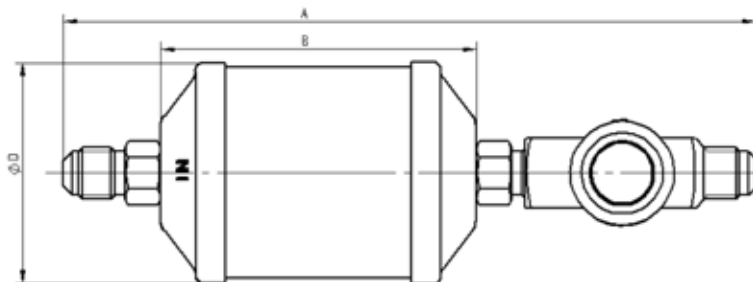
**MODEL DESIGNATION EXAMPLE**

Position Number						According to Model Designation Legend
1	2	3	4	5	6	
<b>DSG</b>	B	05	02	4	002	Unidirectional filter drier & sight glass assembly
DSG	<b>B</b>	05	02	4	002	Solid filter core with 100% 3Å desiccant
DSG	B	<b>05</b>	02	4	002	5 inch <sup>3</sup> internal volume
DSG	B	05	<b>02</b>	4	002	When Pos. 5 is "4": SAE flare connection size 1/4"
DSG	B	05	02	<b>4</b>	002	SAE flare connection
DSG	B	05	02	4	<b>002</b>	Series number

**Liquid line Filter Drier with Sight Glass**



**VERSION WITH MALE/MALE FLARE CONNECTIONS**



Series	Model	Part Number <sup>1)</sup>	Nominal Volume		Connection	Dimensions & Weight				PED Category <sup>2)</sup>
			[inch <sup>3</sup> ]	[cm <sup>3</sup> ]	SAE Flare	ØD	A	B	Weight	
					[inch]	[mm]	[mm]	[mm]	[g]	
DSGB 052	DSG-B05 024-002	10221000102	5	82	1/4	69	168	76	620	Art. 4.3
DSGB 082	DSG-B08 024-002	10221000202	8	131	1/4	69	190	89	640	Art. 4.3
DSGB 083	DSG-B08 034-002	10221000302	8	131	3/8	69	214	89	640	Art. 4.3
DSGB 163	DSG-B16 034-002	10221000402	16	262	3/8	69	234	118	700	Art. 4.3
DSGB 164	DSG-B16 044-002	10221000502	16	262	1/2	69	245	118	700	Art. 4.3

**Note:** 1) Available also as industrial package. Contact Sanhua for more details.

2) PED Directive 2014/68/EU

**SELECTION TABLE**

Model	Capacity <sup>1)</sup> [ kW ]					Moisture Absorption (gram H <sub>2</sub> O)							
	R134a	R404A	R22	R407C <sup>2)</sup>	R410A	R134a		R404A		R407C <sup>2)</sup>		R22	
		R507A				75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F
						23,9°C	51,7°C	23,9°C	51,7°C	23,9°C	51,7°C	23,9°C	51,7°C
DSGB 052	8,4	6,0	8,4	8,4	8,4	11,6	10,9	10,9	8,9	10,9	9,5	11,4	9,7
DSGB 082	8,4	6,0	8,4	8,4	8,4	14,8	14,2	16,3	13,4	14,8	13,0	15,5	13,1
DSGB 083	25,0	17,6	25,3	25,0	25,7	14,8	14,2	16,3	13,4	14,8	13,0	15,5	13,1
DSGB 163	25,7	17,9	26,0	26,0	26,4	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7
DSGB 164	32,4	22,9	33,1	32,7	33,8	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7

**Note:** 1) The above data is based on clean system at ideal conditions; with impurities accumulated in the filter, the capacity may decrease

2) R407C capacity is based on dew point conditions

**Liquid line Filter Drier with Sight Glass**



**SELECTION FORMULAS**

Filter Driers for liquid line are manufactured in compliance with ARI Standard 710. Maximum flow rate of liquid refrigerant at a differential pressure of 0,07bar (1psi) is indicated by kW (ton) which is based on the temperature of liquid refrigerant 30°C (86°F), the evaporating temperature of -15°C (5°F) and the following mass flow:

- 0,40 kg/min/kW (3.1 lb/min/ton) R134a
- 0,53 kg/min/kW (4.1 lb/min/ton) R404A, R507A
- 0,39 kg/min/kW (3.0 lb/min/ton) R22, R407C
- 0,36 kg/min/kW (2.8 lb/min/ton) R410A

**Note:** Data on water absorption is based on the following EPD (method: ASHRAE Standard 63.1):

- 60ppm R22
- 50ppm R134a
- 50ppm R404A
- 50ppm R407C
- 50ppm R410A
- 50ppm R507A

*Moisture Indication Limits*

Refrigerant	Moisture Content 25°C: PPM		
	Green/Dry	Middle Color	Yellow/Wet
R22	<100	100~200	>200
R134a	<90	90~180	>180
R404A	<40	40~100	>100
R410A	<90	90~300	>300
R507	<15	15~90	>90
R407C	<120	120~280	>280

Refrigerant	Moisture Content 40°C: PPM		
	Green/Dry	Middle Color	Yellow/Wet
R22	<140	140~350	>350
R134a	<120	120~330	>335
R404A	<80	80~160	>160
R410A	<200	200~580	>580
R507	<80	80~170	>170
R407C	<100	100~260	>260

## DTG-M02 SERIES

# 1.5 in<sup>3</sup> filter drier

DTG-M02 series 1.5in<sup>3</sup> filter drier are mainly used for light commercial refrigeration applications, with unidirectional flow to absorb moisture and filter out the impurities.



### FEATURES

- STAINLESS STEEL HOUSING WITH HIGH-STRENGTH
- HOUSING SURFACE ADOPTS ADSORPTION PRINCIPLE TO FORM A NANO-SOLID FILM TO ANTI-RUST, SURVIVES MORE THAN 1500 HOURS OF NEUTRAL SALT SPRAY TEST.
- SOLID FILER CORES, HIGHLY EFFICIENT IN MOISTURE ABSORPTION, FILTERING IMPURITY.
- COMPACT DESIGN, MEETING THE STRICT 150G SYSTEM LIMITS FOR FLAMMABLE REFRIGERANTS SUCH AS R290.

### GENERAL SPECIFICATIONS

- Applicable refrigerants: HCFC, HFC, HC, HFO
- Medium temperature: -30°C~+120°C
- Ambient temperature: -30°C~ +55°C
- Max. Operation pressure PS max:  
4.83MPa (48,3bar) – 700 PSI
- Installation position:
  - Flow direction corresponds to the arrow
  - Preferably installed in liquid line
- Certification: UL/CSA and PED declaration

# DTG-M02 SERIES

## 1.5 in<sup>3</sup> filter drier



### Model Designation Legend

1	<b>Product Code</b>	<b>Filter Drier Series</b>	
	DTG	Indicates unidirectional filter drier	
2	<b>Filter Core</b>	<b>Structure and Material</b>	
	M	Solid core, 100%3Å desiccant, stainless steel housing	
3	<b>Filter core volume</b>	<b>[ inch<sup>3</sup> ]</b>	<b>[ cm<sup>3</sup> ]</b>
	02	1.5	25
4	<b>Connection Size</b>	<b>Pos. 5 shows "0": Solder [inch]</b>	
	02	1/4	
	03	3/8	
	04	1/2	
4	<b>Connection Size</b>	<b>Pos. 5 shows "1": Solder [mm]</b>	
	06	6	
	10	10	
	12	12	
5	<b>Pipe Connection</b>	<b>Type</b>	
	0	Solder with inch connections	
	1 *	Solder with metric connections	
6	<b>Version Number</b>	<b>Description</b>	
	901	Series number	

### MODEL DESIGNATION EXAMPLE

Position Number						According to Model Designation Legend
1	2	3	4	5	6	
<b>DTG</b>	M	02	02	0	901	Unidirectional filter drier
DTG	<b>M</b>	02	02	0	901	Solid filter core with 100% 3Å desiccant, stainless steel housing
DTG	M	<b>02</b>	02	0	901	1.5 inch <sup>3</sup> filter core volume
DTG	M	02	<b>02</b>	0	901	When Pos. 5 is "0": connection size 1/4" inch
DTG	M	02	02	<b>0</b>	901	Solder connection inch
DTG	M	02	02	0	<b>901</b>	Series number

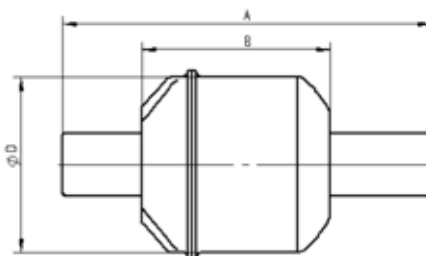


# DTG-M02 SERIES

## 1.5 in<sup>3</sup> filter drier



### GENERAL CHARACTERISTICS



Filter	Model	Part number (Industrial pack) <sup>1)</sup>	Solder connection		Dimensions & Weight				PED Category
			[inch]	[mm]	ØD	B	A	Weight	
					[mm]	[mm]	[mm]	[g]	
DTGM022s	DTG-M02020-901		1/4		42	45	77	95	Art. 4.3
DTGM023s	DTG-M02030-901		3/8		42	45	77	95	Art. 4.3
DTGM024s	DTG-M02040-901		1/2		42	45	83	95	Art. 4.3

**Note:** 1) Please contact Sanhua representative regarding availability and exact item number. Products can be supplied in industrial boxes only.

### SELECTION TABLE

Model	Capacity <sup>1)</sup> [ kW ]					Moisture Absorption (gram H <sub>2</sub> O)							
	R134a	R404A	R22	R407C <sup>2)</sup>	R410A	R134a		R404A		R407C <sup>2)</sup>		R22	
		R507A				75°F	125°F	R507A		R410A		75°F	125°F
						23,9°C	51,7°C	75°F	125°F	75°F	125°F	75°F	125°F
23,9°C	51,7°C	23,9°C	51,7°C	23,9°C	51,7°C	23,9°C	51,7°C	23,9°C	51,7°C				
DTGM022s	4.67	3.28	5.13	4.72	4.82	3.2	2.8	3.5	2.9	2.7	2.5	3.0	2.2
DTGM023s	3.50	2.46	3.85	3.54	3.54	3.2	2.8	3.5	2.9	2.7	2.5	3.0	2.2
DTGM024s	2.33	1.64	2.56	2.36	2.36	3.2	2.8	3.5	2.9	2.7	2.5	3.0	2.2

**Note:** 1) The above data is based on clean system at ideal conditions; with impurities, accumulated in the filter, the capacity may decrease  
 2) R407C capacity is based on dew point conditions

**DTG-M02 SERIES****1.5 in<sup>3</sup> filter drier****SELECTION FORMULAS**

Filter Driers for liquid line are manufactured in compliance with ARI Standard 710. Maximum flow rate of liquid refrigerant at a differential pressure of 0,07bar (1psi) is indicated by kW (ton) which is based on the temperature of liquid refrigerant 30°C (86°F), the evaporating temperature of -15°C (5°F) and the following mass flow:

- 0,40 kg/min/kW (3.1 lb/min/ton) R134a
- 0,53 kg/min/kW (4.1 lb/min/ton) R404A, R507A
- 0,39 kg/min/kW (3.0 lb/min/ton) R407C
- 0,36 kg/min/kW (2.8 lb/min/ton) R410A

**Note:** Data on water absorption is based on the following EPD (method: ASHRAE Standard 63.1):

- 50ppm R134a
- 50ppm R404A
- 50ppm R407C
- 50ppm R410A
- 50ppm R507A

# Bi-stable Solenoid Valve

BDF/KMV bi-stable solenoid valve are used in dual temperature/double control household refrigerators, deep freezers, wine cabinet, water dispenser and other similar small scale cooling systems to switch the flow path of refrigerants.



## FEATURES

- MAINTAINING WORKING CONDITIONS WITH PULSE ACTUATION AND MAGNET LATCHING MODE
- GOOD INNER LEAKAGE PERFORMANCE
- LOW NOISE

## GENERAL SPEC.

- Applicable refrigerant: R600a, R134a etc.
- Applicable medium temperature: -30°C ~ +65°C
- Ambient temperature: -20°C ~ +60°C
- Relative humidity: below 95% RH
- Maximum working pressure: 2.5MPa

## TECHNICAL PARAMETERS

Model	Voltage V	Frequency Hz	Sealing Structure	Max. Opening Differential Pressure MPa	Air Flow L/h ( $\Delta P=0.4\text{MPa}$ )	Inner Leakage ml/min ( $\Delta P=0.4\text{MPa}$ )
BDF	AC110V~120V	50/60	Rubber	1.6	$\geq 1000$	$\leq 10$
KMV	AC220V~240V	50/60	Steel ball	1.6	$\geq 1000$	$< 83.3$

## DIMENSIONS

- Product structure and interface dimensions can be customized according to customers' requirements.

# Step Valve

DDF series step valve are mainly used in dual temperature/ double control household refrigerators with variable temperature areas (with 0°C preservation area or -7°C temperature area) and similar refrigeration systems for controlling and switching the flow direction of refrigerant.



## FEATURES

- OPTIMIZED DESIGN OF REFRIGERATION SYSTEM, LOWER POWER CONSUMPTION
- LOW OPERATION NOISE: UTILIZING ROTARY ACTUATION

## GENERAL SPEC.

- Applicable refrigerant: R600a and R134a
- Applicable medium temperature: -20°C ~ +65°C
- Applicable ambient temperature: -20°C ~ +60°C
- Relative humidity: below 95%RH
- Noise: Distance 15cm, starting noise ≤ 50dB (A), rotary noise ≤ 40dB (A)

## TECHNICAL PARAMETERS

Technical Parameters of Valve Body				
Model	Port mm	Air Flow L/h ( $\Delta P=0.8\text{MPa}$ )	Inner Leakage mL/min ( $\Delta P=0.8\text{MPa}$ )	Max. Working Pressure MPa
DDF	0.8	≥1500	150	2.5
Electrical Parameters of Coil				
Resistance at 20°C $\Omega$	Rated Voltage V	Voltage Change	Rated Current When Unidirectional Winding is Powered mA	Max. Differential Pressure of Opening Valve MPa
46±3	DC12V	90%~110%	260	1.8

## DIMENSIONS

- Product structure and interface dimensions can be customized according to the customer's requirements.

## A SERIES

# Drain Pump

Drain pumps are used in packaged air conditioners, indoor units of ceiling air conditioners to drain the condensing water generated by heat exchangers during cooling and dehumidification.



## FEATURES

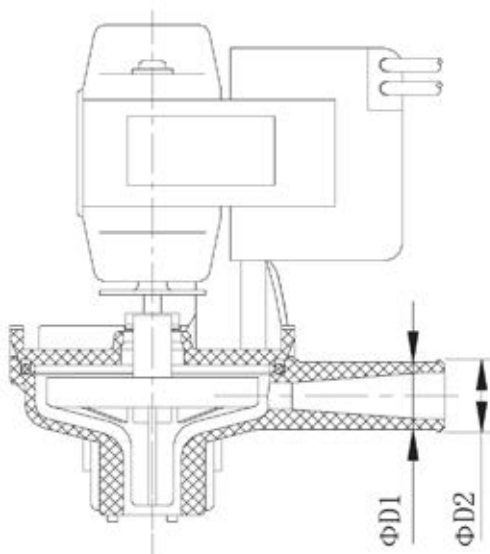
- LOW NOISE, LOW VIBRATION AND LIGHT WEIGHT
- SMALL SCALE WITH ENOUGH FLOW RATE, LONG LIFE
- COST-EFFECTIVE

## GENERAL SPECIFICATIONS

- Applicable fluid temperature: 0°C ~ +40°C (but no fluid frozen)

- Applicable ambient temperature: -10°C ~ 45°C
- Relative humidity: below 95% RH
- Certification: UL, CQC and VDE

## DIMENSIONS



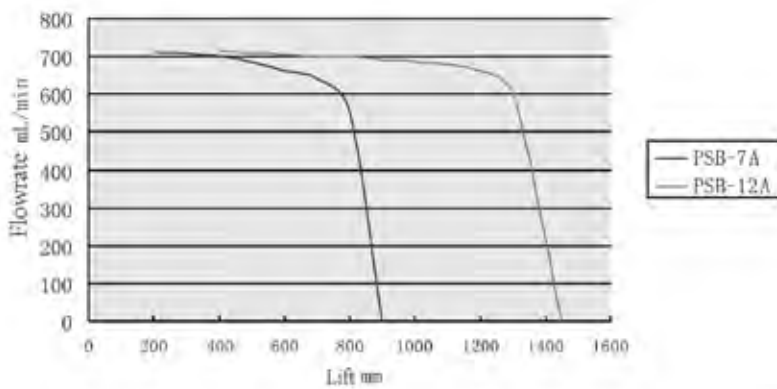
Model	Dimensions mm			
	D1		D2	
PSB-7A	13	16	14	17
PSB-12A	13	16	14	17

- Note:**
- 1) Type and length of leads, terminal insulation casing and support will be optional subject to the customers' needs.
  - 2) In addition to the water outlet direction shown in the figure, there are another three optional outlet directions every 90°.



**TECHNICAL PARAMETERS**

Model	Rated Lift mm	Rated Flow ml/min	Rated Voltage V	Rated Current mA	Input Power W
PSB-7A	700	≥450	AC220V~240V	<108/96	<10.8/96
		≥320	AC115V	<108/96	<10.8/96
PSB-12A	1200	≥400	AC220V~240V	120/108	12/10.8

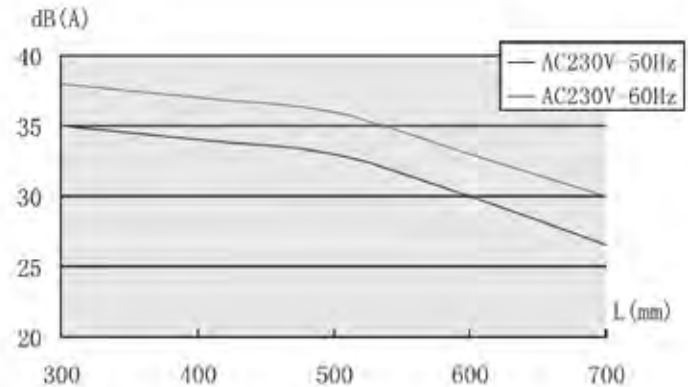


*Lift and Flowrate Graph*

- AC230V 50Hz/60Hz, at a water level of 10mm, testing draining noise in 1min under different lift (at the distance of 1m)

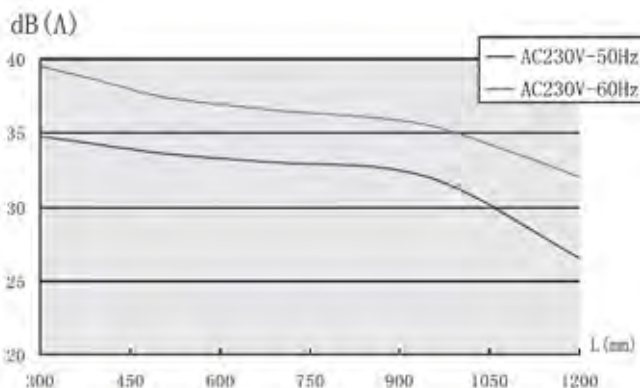
*PSB-7A Model Lift - Noise Graph*

- PSB-12A Model Lift - Noise Graph AC230V 50Hz/60Hz, at a water level of 10mm, testing draining noise in 1min under different lift (at the distance of 1m)



*PSB-12A Model Lift - Noise Graph*

- AC230V 50Hz/60Hz, at a water level of 10mm, testing draining noise in 1min under different lift (at the distance of 1m)





**B SERIES**

# Drain Pump

PSB 12B series drain pump are used in packaged air conditioners and indoor unit of ceiling air conditioners to drain the condensate generated by the heat exchanger during cooling and dehumidification.

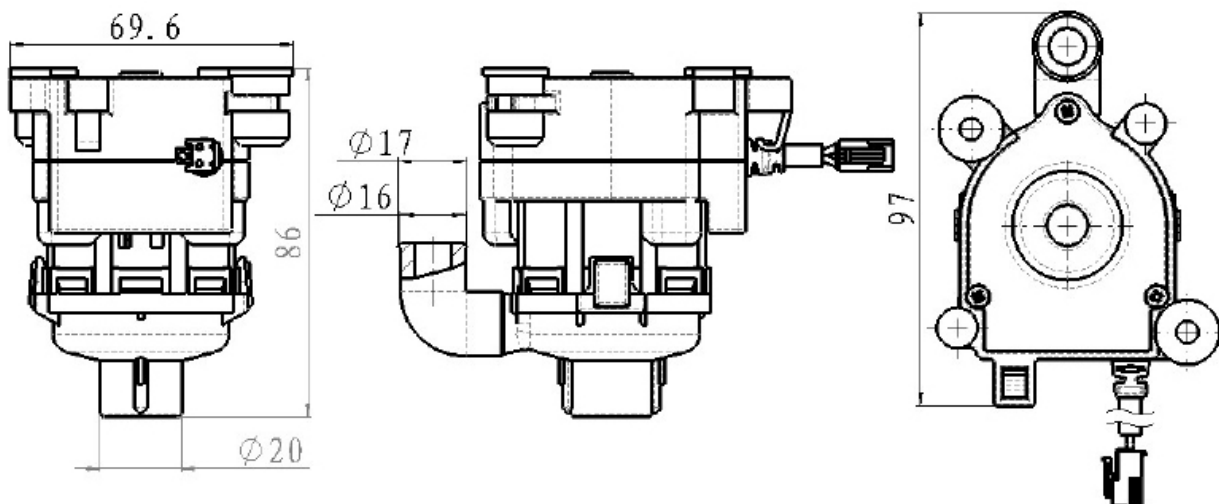
**FEATURES**

- LOW NOISE, LOW VIBRATION AND LIGHT WEIGHT
- SMALL VOLUME, BIG FLOW AND LONG SERVICE LIFE
- LOW ENERGY CONSUMPTION
- COST-EFFECTIVE

**GENERAL SPECIFICATIONS**

- Applicable fluid temperature: 0°C ~ +50°C (but no fluid frozen)

- Applicable ambient temperature: -10°C ~ 50 °C
- Relative humidity: below 95% RH

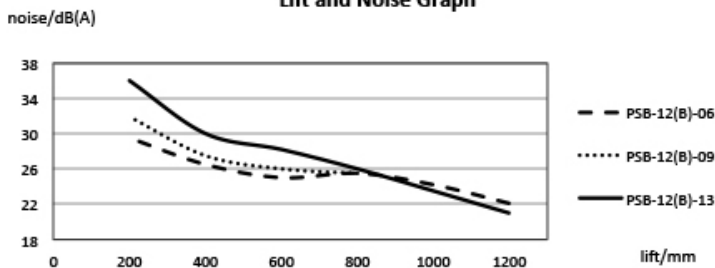
**DIMENSIONS**



**TECHNICAL PARAMETERS**

Model	Nominal lift	Nominal flow	Rated voltage	Rated current	input power
	mm	ml/min	V	mA	W
PSB-12(B)-06	1200	≥400	DC13V	<323	<4.2
PSB-12(B)-09	850	≥450	DC12V	<300	<3.6
PSB-12(B)-13	1200	≥400	DC12V	<350	<4.2

**Lift and Noise Graph**



*Lift and Noise Graph*

- AC230V 50Hz/60Hz, at a water level of 10mm, testing draining noise in 1min under different lift (at the distance of 1m)

# SANHUA

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Technology & Solutions



## YKG (A) SERIES

# Float Level Switch

YKG (A) series level switches are applicable to many environments, usually connected to actuators such as drain pumps or electromagnetic valves to control the fluid level in the equipment for the purpose of level warning in the system.



### FEATURES

- RELIABLE ACTION POINT, AND LONG LIFE
- COST EFFECTIVE

### GENERAL SPECIFICATIONS

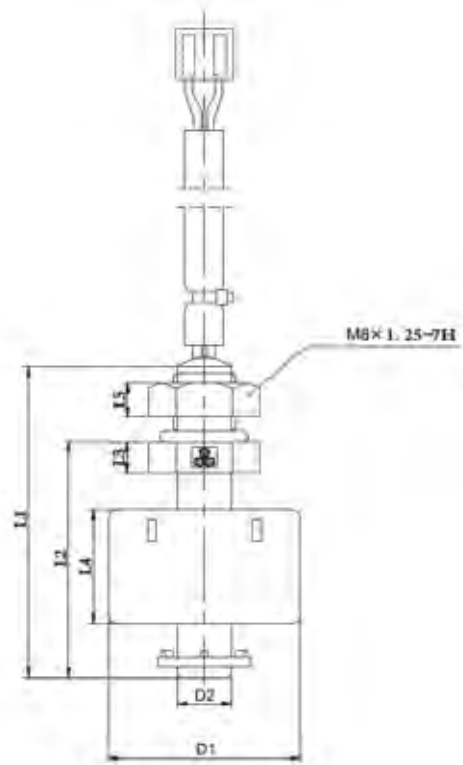
- Applicable fluid temperature: 0°C ~ +40°C (but no fluid frozen)
- Applicable ambient temperature: -10°C ~ +60°C
- Relative humidity: below 95% RH

### TECHNICAL PARAMETERS

Model	Max. Contact Power W	Max. Switching Voltage V	Max. Switching Current A	Action Life 10 thousand times	Contact Resistance between Reed Contacts mΩ
YKG(A)-10	10	DC 100/AC 100	DC 0.5/AC 0.5	100	≤300
YKG(A)-50	50	DC 300/AC 300	DC 0.7/AC 0.5	100	≤300



**DIMENSIONS**



Model	Dimension	
L1	41±0.5	44±0.5
L2	31±0.5	34±0.5
D1	φ25	
D2	φ7	
L3	15	
L4	4	
L5	4.5	

**Notes:**

- 1) Type and length of leads, terminal insulation casing will be optional subject to the customers' needs.
- 2) See above figure for external dimensions of nuts. Recommended to tighten the nut to 0.25 N.m;

# Accumulator

Accumulator is installed between the suction port of the refrigerating system compressors and evaporator to separate gas and fluid, store fluid, return oil and filter.



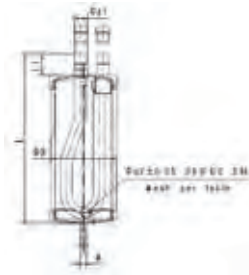
## FEATURES

- INLET AND OUTLET ARE MADE OF COPPER TUBES
- AIR GUIDING PART DIRECT THE REFRIGERANT TOWARD THE WALL WHICH FROM A SLIPSTREAM TO MAKE THE REFRIGERANT EXPAND QUICKLY AND SLOW THE FLOW TO LET THE LIQUID DROP DOWN. THIS EFFECTIVELY SEPARATES THE LIQUID AND GAS.
- THE U TUBE DESIGN GUARANTEE A MAX FLOW OF REFRIGERANT AND STOP LITTLE LUBRICATION OIL. THE INLET OF U TUBE IS BEHIND AIR GUIDING PART WHICH CAN PREVENT THE LIQUID FROM ENTERING COMPRESSOR. AT THE SAME TIME, IT CAN CHANGE THE DIRECTION OF REFRIGERANT TO COMPLETELY SEPARATE THE LIQUID AND GAS.
- THE BALANCING HOLE IN THE UPPER U TUBE CAN EFFECTIVELY ELIMINATE THE SIPHON CAUSED THE RESTART OF SYSTEM SO AS TO AVOID EXCESSIVE LIQUID ENTERING COMPRESSOR.
- THE OIL RETURN HOLE IS MATCHING THE SYSTEM CAPACITY TO OPTIMIZE THE FLOW OF LIQUID REFRIGERANT AND LUBRICATION OIL INTO COMPRESSOR
- CONNECTION TUBE, U TUBE AND VOLUME OF ACCUMULATOR IS DESIGNED BASED ON THE BASIC DEMAND OF HEAT PUMP SYSTEM ALLOWS A PROPER AND RELIABLE LIQUID REFRIGERANT AND LUBRICATION OIL BACK TO COMPRESSOR. THIS COMBINATION IS TO ACHIEVE A MINIMUM PRESSURE DROP AND LARGEST REFRIGERANT CAPACITY.
- POWER COATED SURFACE CAN SURVIVE 500 HOURS OF SALT SPRAY TEST.
- INCORPORATED FUSE OF 220°C

## GENERAL SPECIFICATIONS

- Applicable refrigerant: CFC, HCFC, HFC and HFO
- Applicable medium temperature: -30°C ~+120°C (22°F~+240°F)
- Applicable ambient temperature: -35°C ~+55°C (22°F~+131°F)
- Maximum working pressure: 2.5MPa
- Certification: UL, CSA and PED

**TECHNICAL PARAMETERS**



Model	D mm	L mm	d1 mm	L1 mm	d2 mm	N meshes/in	Screw Size M	d2 mm	Volume L
ACM-P21076-901	76	185,8	16,12	34,3	1,0	60	3/8-16UNC-2A	1,0	0,63
ACM-P22076-901	76	268,8	16,12	34,3	1,0	60	3/8-16UNC-2A	1,0	0,98
ACM-P23076-901	76	382,3	16,12	34,3	1,0	60	3/8-16UNC-2A	1,0	1,46
ACM-P21101-901	101,6	251	16,12	34,3	1,0	60	3/8-16UNC-2A	1,0	1,59
ACM-P22101-901	101,6	251	16,12	34,3	1,4	30	3/8-16UNC-2A	1,4	1,59
ACM-P23101-901	101,6	251	19,17	34,3	1,0	60	3/8-16UNC-2A	1,0	1,59
ACM-P24101-901	101,6	251	19,17	34,3	1,4	30	3/8-16UNC-2A	1,4	1,59
ACM-P25101-901	101,6	282,3	16,12	34,3	1,0	60	3/8-16UNC-2A	1,0	1,83
ACM-P26101-901	101,6	282,3	16,12	34,3	1,4	30	3/8-16UNC-2A	1,4	1,83
ACM-P27101-901	101,6	282,3	19,17	34,3	1,0	60	3/8-16UNC-2A	1,0	1,83
ACM-P28101-901	101,6	282,3	19,17	34,3	1,4	30	3/8-16UNC-2A	1,4	1,83
ACM-P29101-901	101,6	320	16,12	34,3	1,0	60	3/8-16UNC-2A	1,0	2,11
ACM-P30101-901	101,6	320	16,12	34,3	1,4	30	3/8-16UNC-2A	1,4	2,11
ACM-P31101-901	101,6	320	19,17	34,3	1,0	60	3/8-16UNC-2A	1,0	2,11
ACM-P32101-901	101,6	320	19,17	34,3	1,4	30	3/8-16UNC-2A	1,4	2,11
ACM-P33101-901	101,6	357,1	16,12	34,3	1,0	60	3/8-16UNC-2A	1,0	2,39
ACM-P34101-901	101,6	357,1	16,12	34,3	1,4	30	3/8-16UNC-2A	1,4	2,39
ACM-P35101-901	101,6	357,1	19,17	34,3	1,0	60	3/8-16UNC-2A	1,0	2,39
ACM-P36101-901	101,6	357,1	19,17	34,3	1,4	30	3/8-16UNC-2A	1,4	2,39
ACM-P37101-901	101,6	432,1	16,12	34,3	1,0	60	3/8-16UNC-2A	1,0	2,96
ACM-P38101-901	101,6	432,1	16,12	34,3	1,4	30	3/8-16UNC-2A	1,4	2,96
ACM-P39101-901	101,6	432,1	19,17	34,3	1,0	60	3/8-16UNC-2A	1,0	2,96
ACM-P40101-901	101,6	432,1	19,17	34,3	1,4	30	3/8-16UNC-2A	1,4	2,96
ACM-P21127-901	127	250,4	22,35	40,4	1,4	30	3/8-16UNC-2A	1,4	2,49
ACM-P22127-901	127	250,4	22,35	40,4	1,0	60	3/8-16UNC-2A	1,0	2,49
ACM-P23127-901	127	244,3	19,17	34,3	1,4	30	3/8-16UNC-2A	1,4	2,49
ACM-P24127-901	127	244,3	19,17	34,3	1,0	60	3/8-16UNC-2A	1,0	2,49
ACM-P25127-901	127	293,9	22,35	40,4	1,4	30	3/8-16UNC-2A	1,4	3,01
ACM-P26127-901	127	293,9	22,35	40,4	1,0	60	3/8-16UNC-2A	1,0	3,01
ACM-P27127-901	127	287,8	19,17	34,3	1,4	30	3/8-16UNC-2A	1,4	3,01
ACM-P28127-901	127	287,8	19,17	34,3	1,0	60	3/8-16UNC-2A	1,0	3,01
ACM-P29127-901	127	327,2	22,35	40,4	1,4	30	3/8-16UNC-2A	1,4	3,41
ACM-P30127-901	127	327,2	22,35	40,4	1,0	60	3/8-16UNC-2A	1,0	3,41
ACM-P31127-901	127	321,1	19,17	34,3	1,4	30	3/8-16UNC-2A	1,4	3,41
ACM-P32127-901	127	321,1	19,17	34,3	1,0	60	3/8-16UNC-2A	1,0	3,41
ACM-P33127-901	127	389,6	22,35	40,4	1,4	30	3/8-16UNC-2A	1,4	4,14
ACM-P34127-901	127	389,6	22,35	40,4	1,0	60	3/8-16UNC-2A	1,0	4,14
ACM-P35127-901	127	383,5	19,17	34,3	1,4	30	3/8-16UNC-2A	1,4	4,14
ACM-P36127-901	127	383,5	19,17	34,3	1,0	60	3/8-16UNC-2A	1,0	4,14
ACM-P37127-901	127	438,2	22,35	40,4	1,4	30	3/8-16UNC-2A	1,4	4,72
ACM-P38127-901	127	438,2	22,35	40,4	1,0	60	3/8-16UNC-2A	1,0	4,72
ACM-P39127-901	127	432,1	19,17	34,3	1,4	30	3/8-16UNC-2A	1,4	4,72
ACM-P40127-901	127	432,1	19,17	34,3	1,0	60	3/8-16UNC-2A	1,0	4,72
ACM-P21153-901	152,4	366,3	28,63	48,3	2,03	30	1/2-13UNC-2A	2,03	5
ACM-P22153-901	152,4	370,3	35,15	52,3	2,03	30	1/2-13UNC-2A	2,03	5
ACM-P23153-901	152,4	408,3	28,63	48,3	2,03	30	1/2-13UNC-2A	2,03	5,7
ACM-P24153-901	152,4	412,3	35,15	52,3	2,03	30	1/2-13UNC-2A	2,03	5,7
ACM-P25153-901	152,4	475,5	28,63	48,3	2,03	30	1/2-13UNC-2A	2,03	6,8
ACM-P26153-901	152,4	479,5	35,15	52,3	2,03	30	1/2-13UNC-2A	2,03	6,8
ACM-P27153-901	152,4	530,1	28,63	48,3	2,03	30	1/2-13UNC-2A	2,03	7,8
ACM-P28153-901	152,4	534,1	35,15	52,3	2,03	30	1/2-13UNC-2A	2,03	7,8



# Accumulator

S series accumulator is installed between the suction port of the refrigerating system compressors and evaporator to separate gas and fluid, store fluid, return oil and filter.



## FEATURES

- INLET AND OUTLET ARE MADE OF COPPER TUBES
- AIR GUIDING PART DIRECT THE REFRIGERANT TOWARD THE WALL WHICH FORM A SLIPSTREAM TO MAKE THE REFRIGERANT EXPAND QUICKLY AND SLOW THE FLOW TO LET THE LIQUID DROP DOWN. THIS EFFECTIVELY SEPARATES THE LIQUID AND GAS.
- THE U TUBE DESIGN GUARANTEE A MAX FLOW OF REFRIGERANT AND STOP LITTLE LUBRICATION OIL. THE INLET OF U TUBE IS BEHIND AIR GUIDING PART WHICH CAN PREVENT THE LIQUID FROM ENTERING COMPRESSOR. AT THE SAME TIME, IT CAN CHANGE THE DIRECTION OF REFRIGERANT TO COMPLETELY SEPARATE THE LIQUID AND GAS.
- THE BALANCING HOLE IN THE UPPER U TUBE CAN EFFECTIVELY ELIMINATE THE SIPHON CAUSED THE RESTART OF SYSTEM SO AS TO AVOID EXCESSIVE LIQUID ENTERING COMPRESSOR
- THE OIL RETURN HOLE IS MATCHING THE SYSTEM CAPACITY TO OPTIMIZE THE FLOW OF LIQUID REFRIGERANT AND LUBRICATION OIL INTO COMPRESSOR.
- CONNECTION TUBE, U TUBE AND VOLUME OF ACCUMULATOR IS DESIGNED BASED ON THE BASIC DEMAND OF HEAT PUMP SYSTEM INCLUDING SAFETY STORE CAPACITY (VS. TOTAL CAPACITY) ; PROTECTIVE FLOW CONTROL BACK TO COMPRESSOR ALLOWS A PROPER AND RELIABLE LIQUID REFRIGERANT AND LUBRICATION OIL BACK TO COMPRESSOR. THIS COMBINATION IS TO ACHIEVE A MINIMUM PRESSURE DROP AND LARGEST REFRIGERANT CAPACITY.
- POWDER COATED SURFACE CAN SURVIVE 500HOURS OF SALT SPRAY TEST
- ADVANCED STRUCTURE DESIGN AND PROCESS, COST-EFFECTIVE

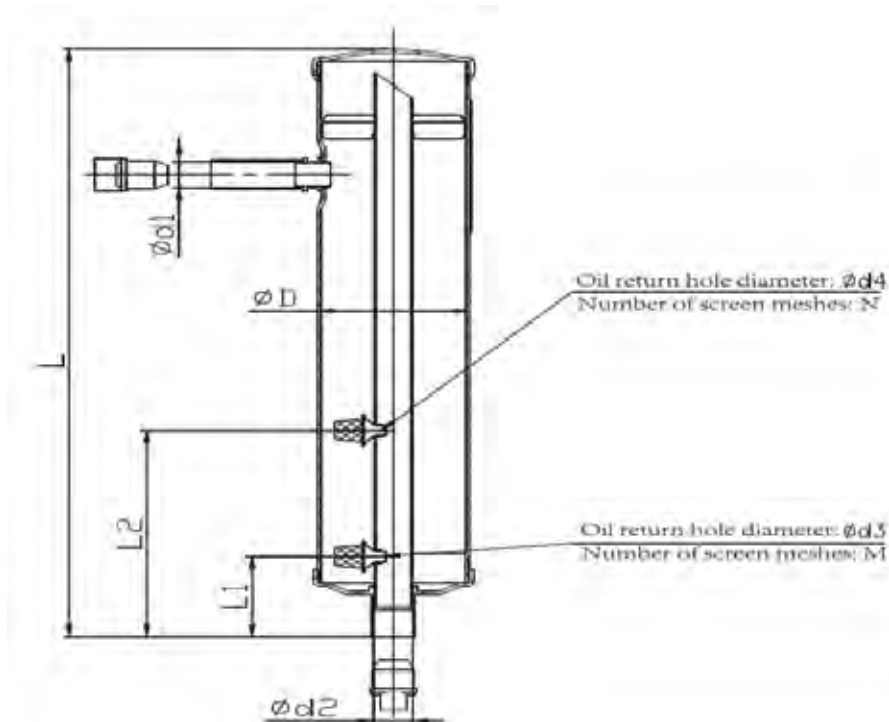
## GENERAL SPECIFICATIONS

- Applicable refrigerant: CFC, HCFC, HFC and HFO
- Applicable medium temperature: -30°C~+120°C (-22°F~+240°F)
- Applicable ambient temperature: -35°C~+55°C (-22°F~+131°F)
- Maximum working pressure: 2.5MPa (362.5Psig)
- Certification: UL, CSA and PED

**Note:** 1) Please contact Sanhua representative for details regarding refrigerants.



**TECHNICAL PARAMETERS**



Model	L mm	D mm	d1 mm	d2 mm	L1 mm	L2 mm	d3 mm	d4 mm	M meshes/in	N meshes/in
ACM-S00063-004	355.6	63.5	16	16	51	127	1.52	0.74	60	60
ACM-S00063-005	355.6	63.5	16	16	51	127	3.2	0.74	60	60
ACM-S00063-006	355.6	63.5	16	16	51	127	0.74	0.74	60	60
ACM-S00063-012	431.8	63.5	19.2	19.2	51	127	1.14	0.74	60	60
ACM-S00076-007	279.4	76	19.2	19.2	64.3	140.5	1.52	1.52	30	30
ACM-S00076-008	330.2	76	22.4	22.4	70.6	146.8	1.52	1.52	30	30
ACM-S00101-023	333.3	101.6	19.2	19.2	50.8	127	1.52	0.74	30	60
ACM-S00101-033	333.3	101.6	22.4	22.4	50.8	127	1.52	0.74	60	60
ACM-S00101-017	371.4	101.6	19.2	19.2	50.8	127	1.52	0.74	60	60
ACM-S00101-012	371.4	101.6	22.4	22.4	50.8	127	1.52	0.74	60	60
ACM-S00101-022	438	101.6	22.4	22.4	50.8	127	1.52	0.74	30	60
ACM-S00101-021	485.7	101.6	22.4	22.4	50.8	127	1.52	0.74	60	60
ACM-S00101-016	523.7	101.6	22.4	22.4	50.8	127	1.52	0.74	60	60
ACM-S00101-025	558.8	101.6	19.2	19.2	50.8	127	0.74	0.74	60	60
ACM-S00101-024	612.7	101.6	22.4	22.4	50.8	152.4	1.52	0.74	60	60

## V SERIES

# Liquid Receiver

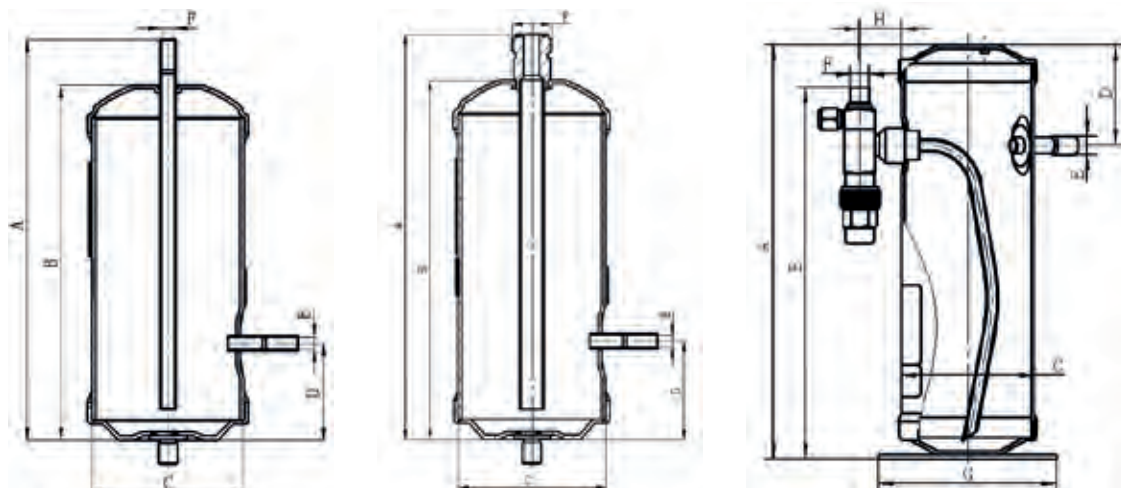
Liquid receiver are usually installed on high pressure liquid line of refrigeration systems to store excessive refrigerant when the load of the system changes.

**FEATURES**

- THE INLET USE SOLDER CONNECTION AND 3 TYPES OUTLET ARE AVAILABLE: A SERIES WITH SOLDER CONNECTION, B SERIES WITH FLARE CONNECTION, AND C SERIES WITH ANGLE VALVE STRUCTURE
- INTERNAL FLOW-OUT IS REALIZED BY SUCTION TUBE
- POWDER COATED SURFACE CAN SURVIVE 500 HOURS OF SALT SPRAY TEST

**GENERAL SPECIFICATIONS**

- Applicable refrigerant: HCFC, HFC and HFO
- Applicable medium temperature: -30°C+120°C-22°F~+248°F)
- Applicable ambient temperature: -30°C~+55°C-22°F~+131°F)
- Maximum working pressure: 3.5MPa(500psig)
- Certification: UL&CUL, PED

**TECHNICAL PARAMETERS**

**V SERIES**  
**Liquid Receiver**



Series	Model	Internal Volume (L)	Dimensions (mm)							
			A	B	C	D	E (Inlet)	F (Outlet)	G	H
A	LRA-A01063-901	0.4	171	143	Φ63.5	51	Φ6.5	Φ6.5	/	/
	LRA-A02076-901	0.75	210	186	Φ76	51	Φ6.5	Φ6.5	/	/
B	LRA-B02076-901	0.75	210	186	Φ76	51	Φ6.5	3/4-16UNF-2A	/	/
	LRA-B05127-901	2.1	221	197	Φ127	63.5	Φ6.5	3/4-16UNF-2A	/	/
C	LRA-C01089-901	1.5	254	224	Φ89	63.5	Φ9.7	Φ9.7	120	28
	LRA-C02127-901	3.3	257	240	Φ127	63.5	Φ9.7	Φ9.7	165	28

# Suction line Accumulator (Compressor)

Applicable for household air conditioner compressor, the Accumulator is installed in front of the compressor to separate refrigerant and refrigeration oil and impurities not completely gasified by evaporators. It has functions of gas-liquid separation, liquid storage, oil return and noise reduction to ensure that the compressor would not be damaged by fluid impact.



## FEATURES

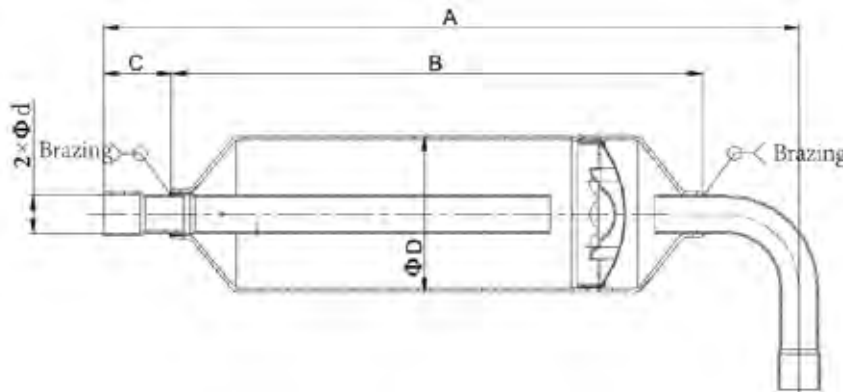
- CORROSION RESISTANCE: FINISHED WITH POWDER PAINTING SURVIVING 500 HOURS OF SALT SPRAY TEST
- LONG SERVICE LIFE: STEEL CASING, MORE ENDURABLE

## GENERAL SPECIFICATIONS

- Applicable refrigerant: CFC, HCFC, HFC etc.
- Applicable medium temperature:  $-30^{\circ}\text{C} \sim +120^{\circ}\text{C}$  ( $-22^{\circ}\text{F} \sim +240^{\circ}\text{F}$ )
- Applicable ambient temperature:  $-30^{\circ}\text{C} \sim +65^{\circ}\text{C}$  ( $-22^{\circ}\text{F} \sim +131^{\circ}\text{F}$ )
- Maximum working pressure: 4.8MPa
- Certification: UL and CSA

## TECHNICAL PARAMETERS

Steel Receiver



**Suction line Accumulator  
(Compressor)**



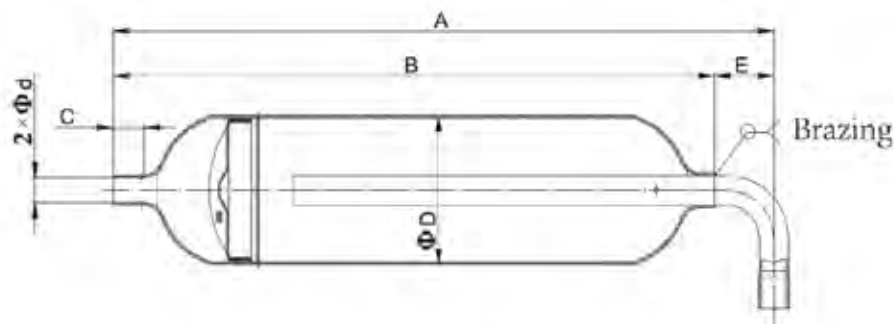
**TECHNICAL PARAMETERS**

*Steel Receiver*

Model	Dimensions					Connection Type
	D mm	B mm	A mm	C mm	d in	
KCY-FXX025	25,4	70~330	120~450	25~150	1/2, 1/4, 3/8	Solder Connection
KCY-FXX031	31,75	70~330	120~450	25~150	1/2, 1/4, 3/8	
KCY-FXX035	35	70~330	120~450	25~150	1/2, 1/4, 3/8	
KCY-FXX040	40	90~330	140~450	25~150	1/2, 1/4, 3/8	
KCY-FXX048	48	90~330	140~450	25~150	1/2, 1/4, 3/8	
KCY-FXX050	50,8	90~330	140~450	25~150	1/2, 1/4, 3/8	
KCY-FXX065	65	130~330	180~450	25~150	1/2, 1/4, 3/8	

**DIMENSIONS**

*Copper Receiver*



Model	Dimensions						Connection Type
	D mm	B mm	A mm	C mm	E mm	d in	
KCY-CXX025	25,4	70~330	120~450	5~15	25~150	1/2, 1/4, 3/8	Solder Connection
KCY-CXX030	30	70~330	120~450	5~15	25~150	1/2, 1/4, 3/8	
KCY-CXX031	31,75	70~330	120~450	5~15	25~150	1/2, 1/4, 3/8	
KCY-CXX035	35	90~330	140~450	5~15	25~150	1/2, 1/4, 3/8	
KCY-CXX041	41,3	90~330	140~450	5~15	25~150	1/2, 1/4, 3/8	
KCY-CXX048	48	90~330	140~450	5~15	25~150	1/2, 1/4, 3/8	
KCY-CXX050	50,8	130~330	180~450	5~15	25~150	1/2, 1/4, 3/8	
KCY-CXX057	57,2	130~330	180~450	5~15	25~150	1/2, 1/4, 3/8	



# Compensator

The Compensator is applicable for commercial air conditioner, freezing or deep-freezing equipment or other refrigeration circuits in order to open and to shut off inner flow path by operating the valve stem. It can also be used as service valve for vacuum pumping and refrigerant injection etc.



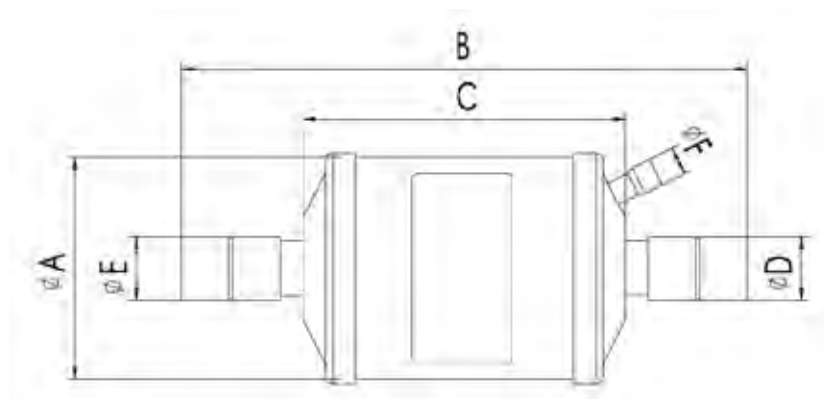
## FEATURES

- SOLID COPPER SOLDER CONNECTION
- MINIMIZE PRESSURE DROP
- GUARANTEE THE MAXIMUM WORKING PRESSURE
- POWDER COATED SURFACE CAN SURVIVE 500 HOURS OF SALT SPRAY TEST
- EXCELLENT ANTI-SHOCK AND VIBRATION PERFORMANCE: USING STEEL CASING

## GENERAL SPECIFICATIONS

- Applicable refrigerant: HFC, HCFC, HC and HFO
- Applicable medium temperature: -30°C~ +120°C (-22°F~+240°F)
- Applicable ambient temperature: -30°C~ +55°C (-22°F~+131°F)
- Maximum working pressure: 4.83MPa
- Certification: UL, CSA Declaración PED

## DIMENSIONS TECHNICAL PARAMETERS



**Note:** 1) Please contact Sanhua representative for details regarding refrigerants.



**TECHNICAL PARAMETERS**

Model	Dimensions						Connection Type
	A mm	B mm	C mm	D in	E in	F in	
JYQ-A23060-901	89	182,6	84,6	6/8	6/8	3/8	Solder Connection
JYQ-A36060-901	89	226,5	128,5	6/8	6/8	3/8	
JYQ-A45060-901	89	258	160	6/8	6/8	3/8	
JYQ-A55060-901	89	280,4	182,7	6/8	6/8	3/8	
JYQ-A66060-901	89	306,3	208,3	6/8	6/8	3/8	
JYQ-A78060-901	89	358,4	260,4	6/8	6/8	3/8	
JYQ-A89060-901	89	402,8	304,8	6/8	6/8	3/8	
JYQ-B13060-901	89	463,8	365,8	6/8	6/8	3/8	
JYQ-A23070-901	89	182,6	84,6	7/8	7/8	3/8	
JYQ-A36070-901	89	226,5	128,5	7/8	7/8	3/8	
JYQ-A45070-901	89	258	160	7/8	7/8	3/8	
JYQ-A55070-901	89	280,4	182,7	7/8	7/8	3/8	
JYQ-A66070-901	89	306,3	208,3	7/8	7/8	3/8	
JYQ-A78070-901	89	358,4	260,4	7/8	7/8	3/8	
JYQ-A89070-901	89	402,8	304,8	7/8	7/8	3/8	
JYQ-B13070-901	89	463,8	365,8	7/8	7/8	3/8	



**HI I'M SOLY, THE SANHUA SOLENOID VALVE, I CAN HELP YOU TO FIND SANHUA'S BEST SOLUTION FOR YOU**



# SANHUA

**SELECTION TOOL**





**CROSS REFERENCE TOOL**



**SANHUA Selection Tool** gives you the possibility to identify the best component suitable in our range which covers your system requirement.

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SANHUA with the collaboration of his dealers and technical team makes you easy to identify our products compared to other components and brands in the market.

Don't forget to double check if our suggestion covers your entire requirements.



# Muffler

Muffler are used in refrigerating systems such as household air conditioners or commercial air conditioners. Muffler are installed in discharge line or other pipes with vibration and noise to eliminate and alleviate noises.



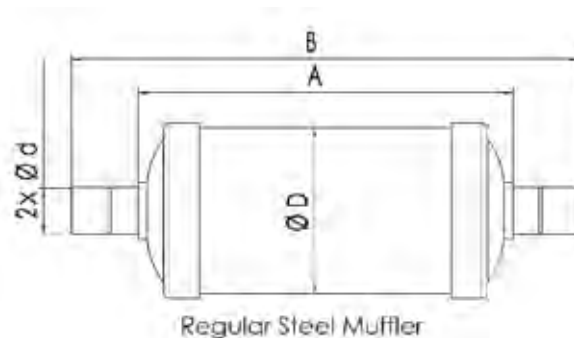
## FEATURES

- CORROSION RESISTANT: FINISHED WITH EPOXY POWDER PAINTING
- EXCELLENT ANTI-SHOCK AND ANTI-VIBRATION PERFORMANCE WITH STEEL OR COPPER CASING

## GENERAL SPECIFICATIONS

- Applicable refrigerant: HCFC, HFC and HC
- Applicable medium temperature: -30°C~+120°C (-22°F~+240°F)
- Applicable ambient temperature: -30°C~ +55°C (-22°F~+131°F)
- Maximum working pressure: 4.8MPa
- Certification: UL, CSA and PED declaration

## TECHNICAL PARAMETERS

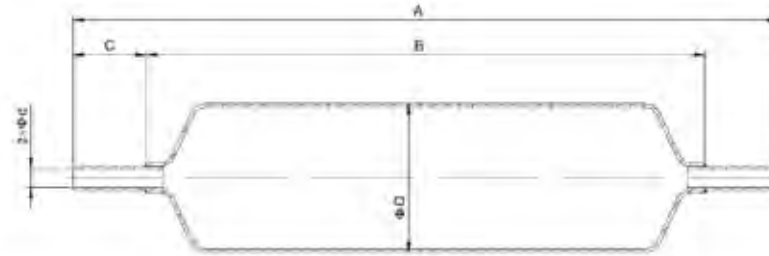


Model	Dimensions					Connection Type
	D mm	A mm	B mm	d in	d in	
TXY-A12040-002	65	76.2	154.4	1/2	1/2	Solder Connections
TXY-A29040-001	76	115.6	163.8	1/2	1/2	
TXY-A49040-001	76	190.5	238.7	1/2	1/2	
TXY-A30040-003	76	123.9	231.9	1/2	1/2	

**Note:** 1) Please contact Sanhua representative for details regarding refrigerants.

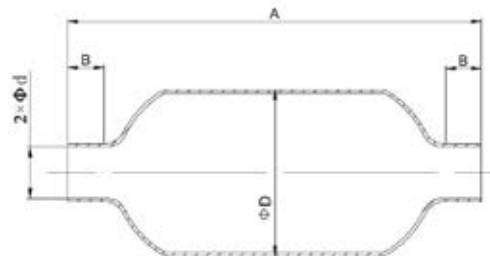
# TXY/XYQ SERIES

## Muffler



Spun Steel Muffler

Model	Dimensions					Connecction Type
	D mm	A mm	B mm	C mm	d in	
XYQ-FXX025	25,4	70~330	120~450	25~150	1/2, 1/4, 3/8	Solder Connections
XYQ-FXX031	31,75	70~330	120~450	25~150	1/2, 1/4, 3/8	
XYQ-FXX035	35	70~330	120~450	25~150	1/2, 1/4, 3/8	
XYQ-FXX040	40	70~330	120~450	25~150	1/2, 1/4, 3/8	
XYQ-FXX048	48	90~330	120~450	25~150	1/2, 1/4, 3/8	
XYQ-FXX050	50,8	90~330	120~450	25~150	1/2, 1/4, 3/8	
XYQ-FXX065	65	130~330	120~450	25~150	1/2, 1/4, 3/8	



Spun Copper Muffler

Model	Dimensions				Connecction Type
	D mm	B mm	A mm	d in	
XYQ-CXX025	25,4	5~15	70~330	1/2, 1/4, 3/8	Solder Connections
XYQ-CXX030	30	5~15	70~330	1/2, 1/4, 3/8	
XYQ-CXX031	31,75	5~15	70~330	1/2, 1/4, 3/8	
XYQ-CXX035	35	5~15	70~330	1/2, 1/4, 3/8	
XYQ-CXX041	41,3	5~15	90~330	1/2, 1/4, 3/8	
XYQ-CXX048	48	5~15	90~330	1/2, 1/4, 3/8	
XYQ-CXX050	50,8	5~15	90~330	1/2, 1/4, 3/8	

# Pressure Vessel

## FEATURES

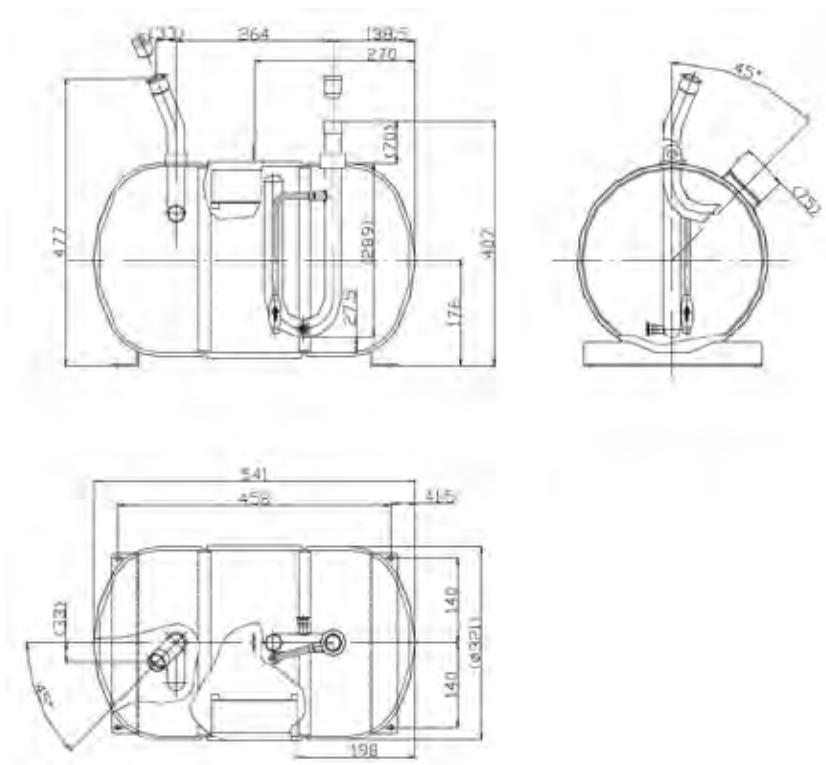
- THE DESIGN, MANUFACTURING AND INSPECTION IS BASED ON NB/T 47012 AND TSG R0004 STANDARD
- THE WELDING IS GOVERNED BY JB/T 4709
- THE INSPECTION OF WELDING LINE IS GOVERNED BY GRADE II IN JB/T 4730.2 WITH X-RAY.
- THE PRESSURE TEST IS FOLLOWING NB/T 47012



## GENERAL SPECIFICATIONS

- Type of the vessel: D2
- Maximum operating pressure: 10 MPa
- Material of the main pressure parts: Carbon Steel and stainless steel
- Applicable refrigerant: as per customer
- Diameter range of body:  $\Phi 150 \sim \Phi 700$  mm
- Maximum length of the product: 4000 mm

## TECHNICAL PARAMETERS



## GZJ SERIES

# Assembly

GZJ series piping assembly is applicable for heat pump air conditioning systems such as room air conditioners to provide flow path for refrigerant.

### FEATURES

- ALL HAVE BEEN TESTED AGAINST AIR TIGHTNESS TO ENSURE NO LEAKAGE UPON DELIVERY
- COMPLETE PERFORMANCE TEST ON VALVES SUCH AS 4-WAY VALVES AND ELECTRONIC EXPANSION VALVES TO ENSURE THE PRODUCT PERFORMANCE UPON DELIVERY



### GENERAL SPECIFICATIONS

- Applicable refrigerant: HFC, HCFC and CFC etc.

- Applicable medium temperature: -30°C~+120°C
- Maximum working pressure: R22, R407C: 3MPa  
R410A: 4.15MPa

### TECHNICAL PARAMETERS

Item	Refrigerant	Standard
Content of undissolved impurities	R22	≤5mg
	R407C	≤5mg
	R410A	≤5mg
Content of mineral oil	R22	≤20mg
	R407C	≤15mg
	R410A	≤15mg
Content of chloride ion	R22	/
	R407C	≤5PPM
	R410A	≤5PPM

### DIMENSIONS

Due to the particularity of pipe components, the installation position, product structure and connection size required by different customers differs, even those required by different model of products of one customer differs. Therefore, product structure and interface size are varied subject to the specific customer and product model.



# WE ANNOUNCE SELECTION TOOL APP



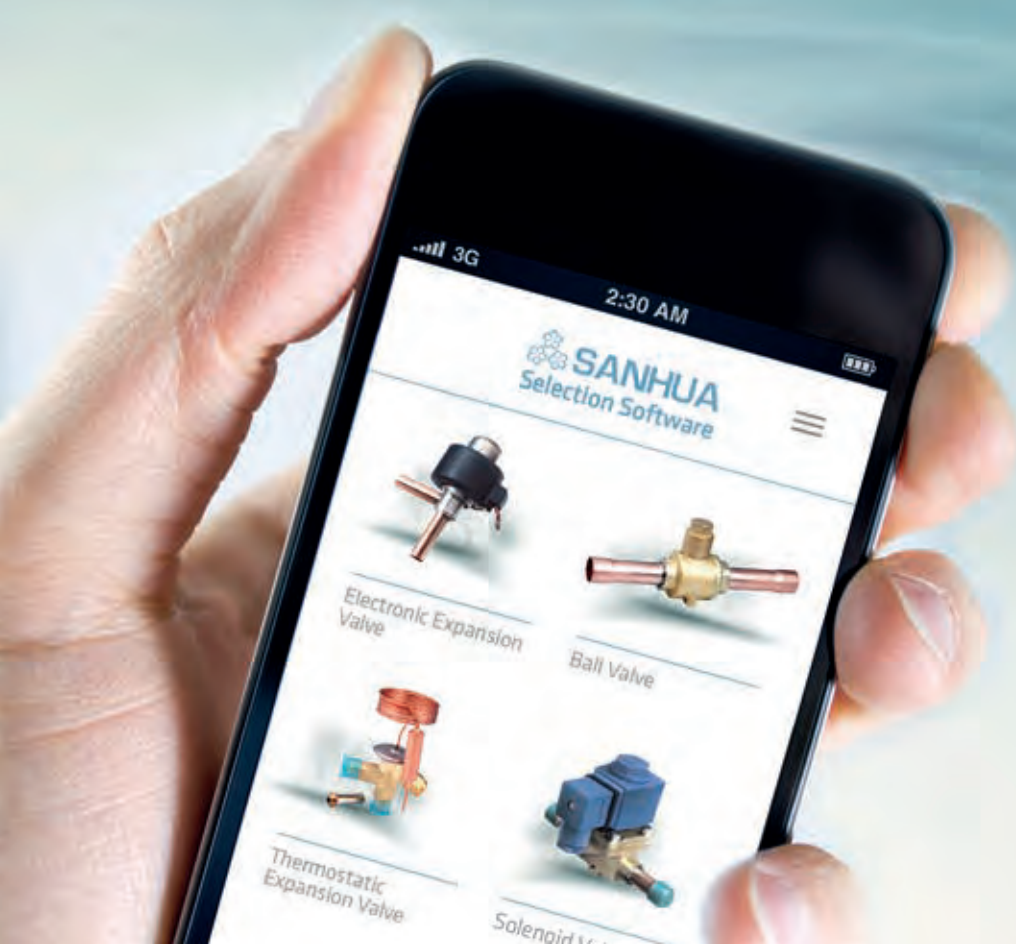
This app offers you suggestions for the **selection of refrigeration and air-conditioning components** based on the user's requirements or on standard operating conditions in common refrigeration and A/C system.

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