SANHUA

STANDARD PRODUCT

Catalogue

Air conditioning

Commercial refrigeration

Heat Pump





"Strive for perfection
Pursuit of excellence"

Sanhua is a leading HVAC&R manufacturer of controls and components with a global footprint and 35 years of experience. Our cooperation 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.



HUA

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SANHUA IS LISTED AMONG 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.

CHILLING *IDEAS WORLDWIDE*

SANHUA

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SANHUA INTERNATIONAL
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CATALOGUE

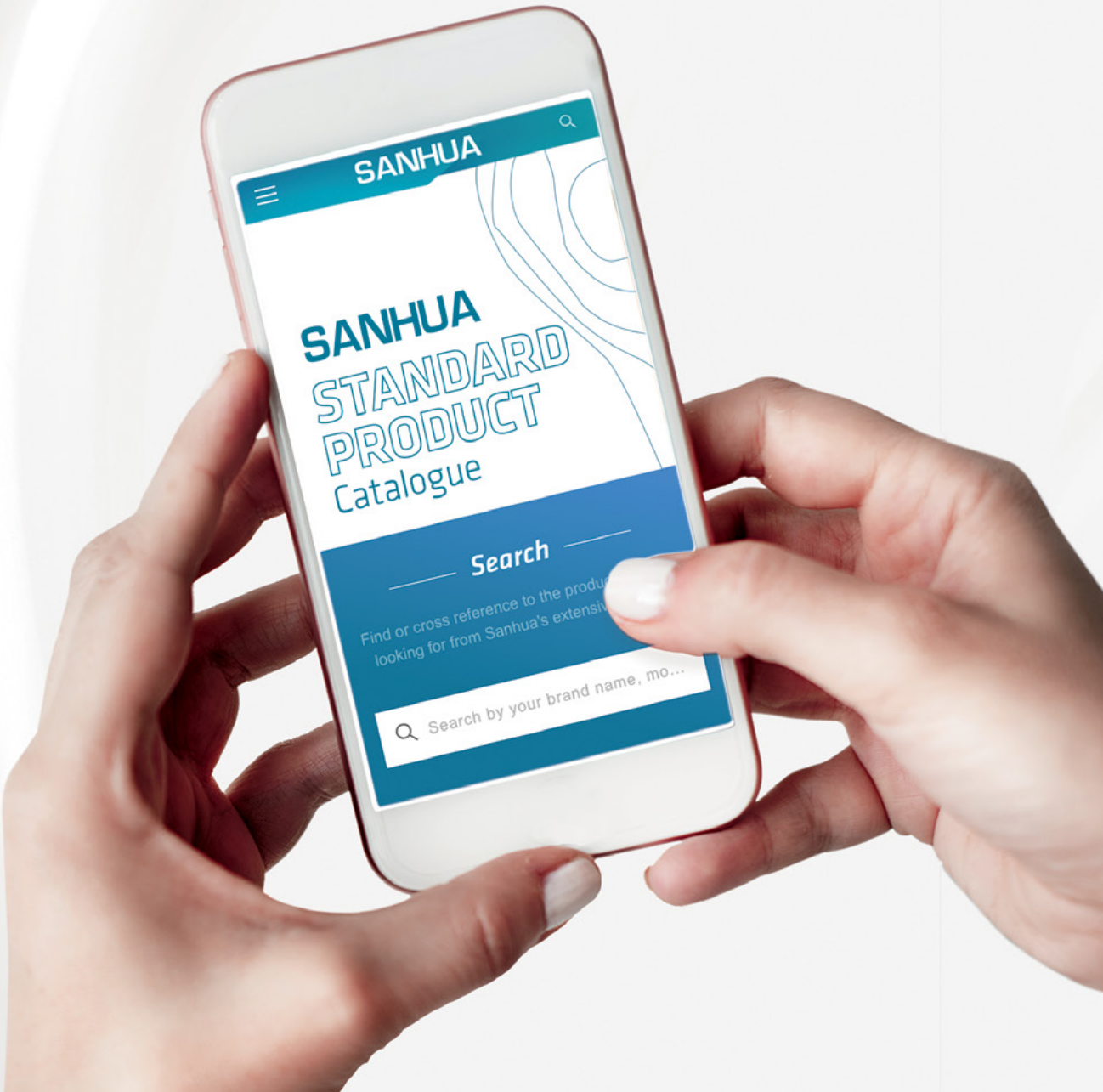
Certificate of registration
ISO 14001:2004

Certificate of registration
ISO 9001:2008

REACH
NR. 1907/2006
CONFORMITY DECLARATION

BEST SUPPLIER AWARDS

B/S/H/ Carrier TRANE



SUMMARY

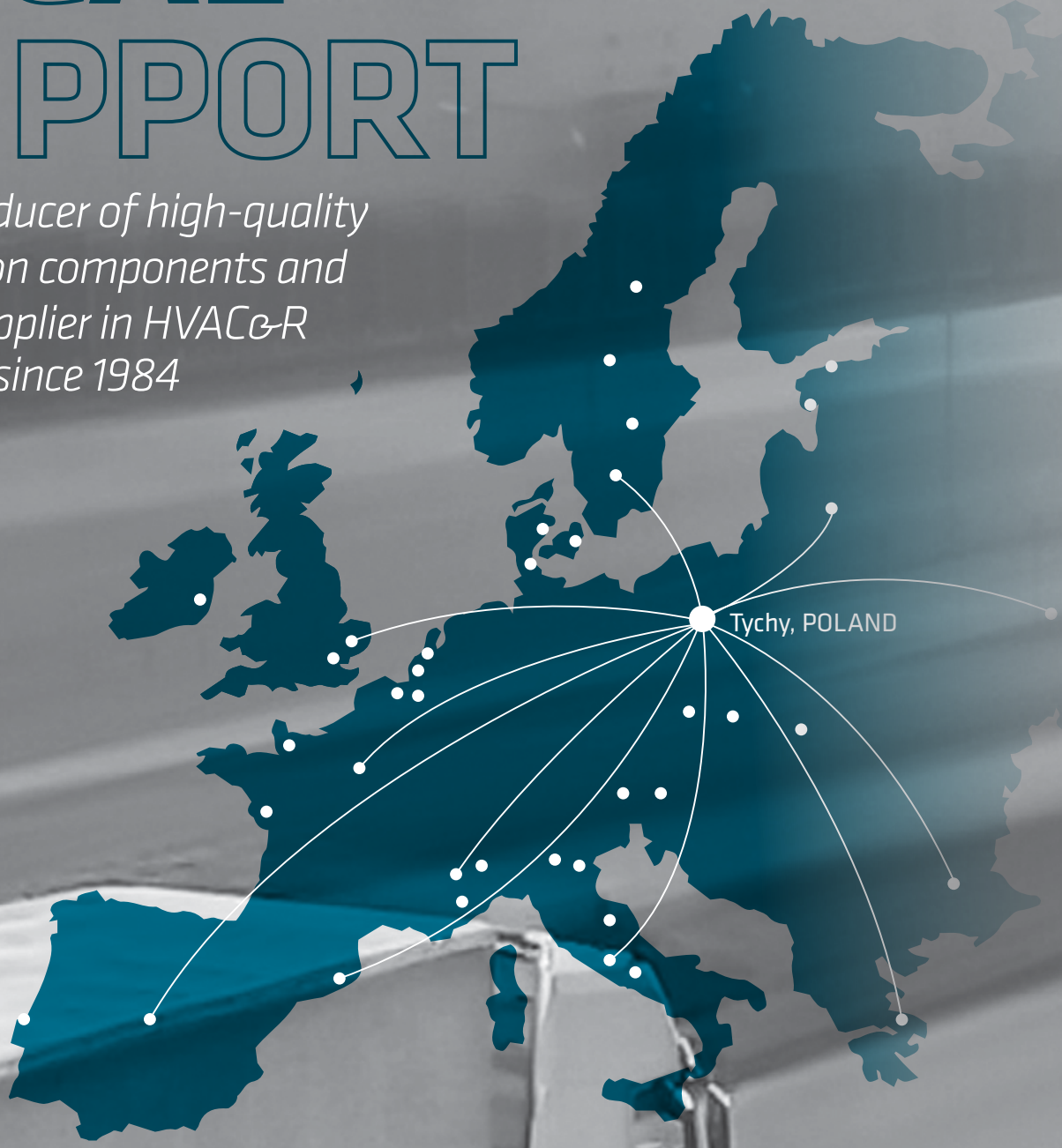
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Note: Sanhua accepts no responsibility for any errors that may occur in this catalogue. Sanhua accepts no responsibility for any product selection made from this material, it is the customers sole responsibility to ensure the correct selection of any components.

GLOBAL FOOTPRINT &

LOCAL SUPPORT

Global producer of high-quality refrigeration components and leading supplier in HVAC&R industries since 1984



SANHUA

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



EEV TECHNOLOGY AND ELECTRONIC CONTROLS

IMPROVES HVAC&R SYSTEM EFFICIENCY UP TO 20%

DPF&VPF SERIES FROM 2KW TO 1400KW
**75KW AND 1400KW AVAILABLE IN QUARTER 4*

ADVANCED MSS *(MINIMUM STABLE SUPERHEAT)* CONTROL LOGIC



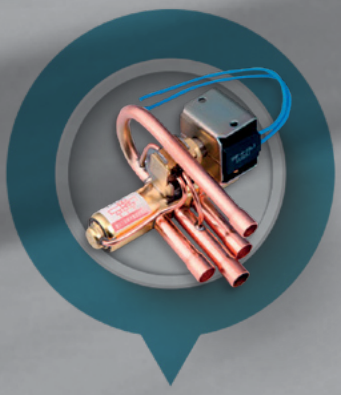
MICRO-CHANEL HEAT EXCHANGERS

IMPROVES EFFICIENCY BY 30%

REFRIGERANT CHARGE REDUCTION BY 30% *ENVIRONMENTAL FRIENDLY*

MCHE IS LIGHTER IN WEIGHT, SMALLER IN VOLUME *COMPACT DESIGN*





FOUR WAY REVERSING VALVE

IMPROVES EFFICIENCY BY 5%

SHF SERIES 1KW TO 420 KW

WIDEST RANGE IN THE MARKET WITH SINGLE BODY DESIGN



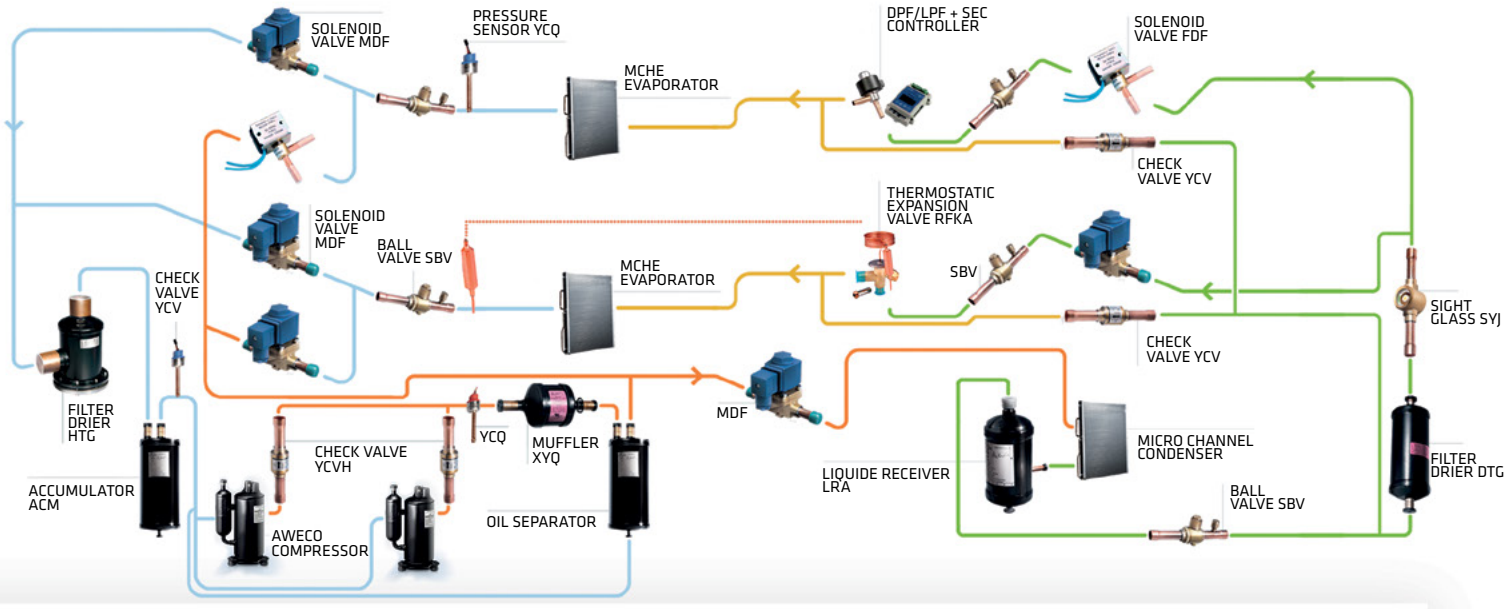
YOUR ROAD MAP TO THE ECO-DESIGN DIRECTIVE

SANHUA INTERNATIONAL
info@sanhuaeurope.com

THE SOLUTION IS HERE

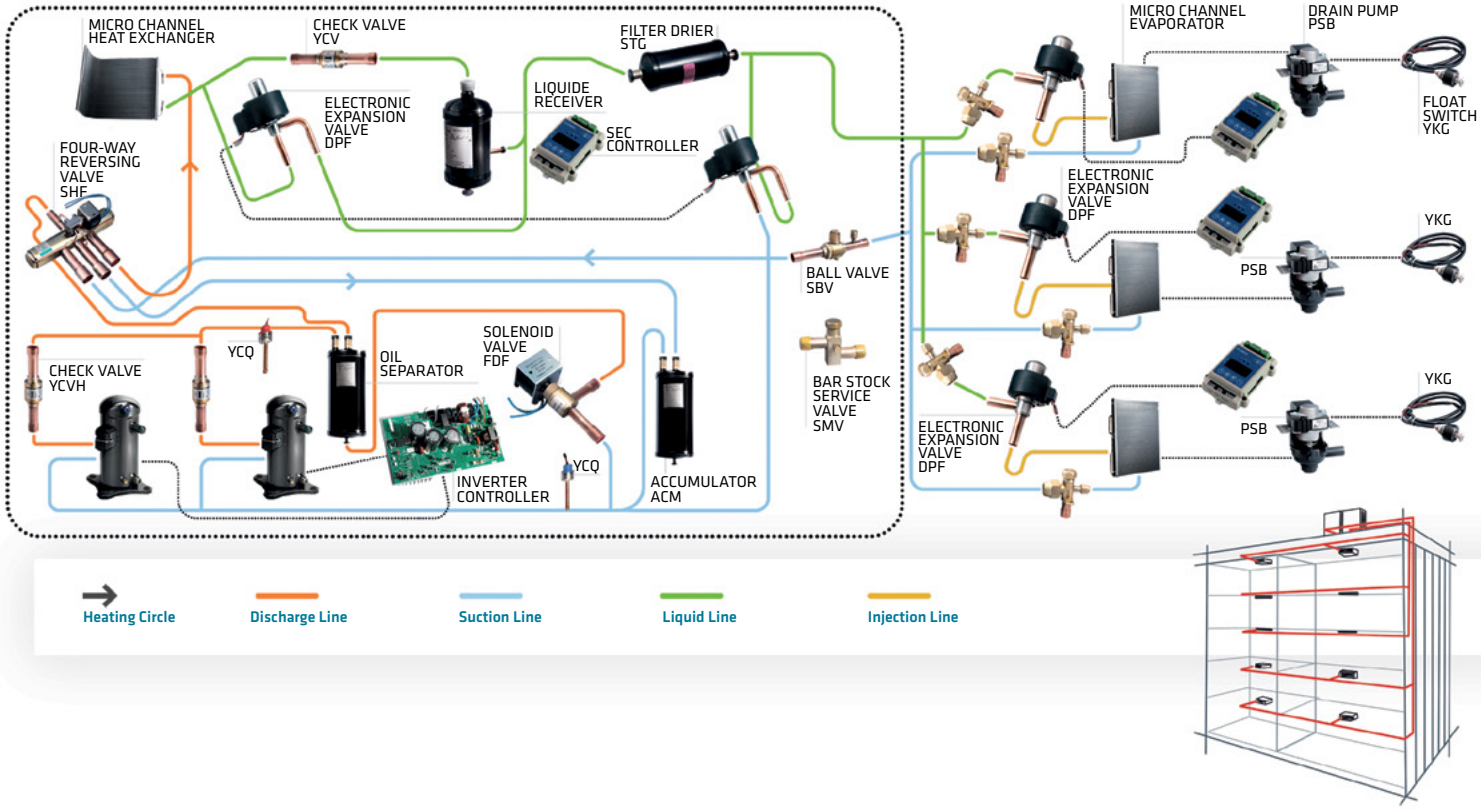
SANHUA IS YOUR PARTNER WITH COMPLETE RANGE AND TECHNOLOGY TO ADRESS NEW EFFICIENCY CHALLENGES

Commercial Refrigeration Application Solutions

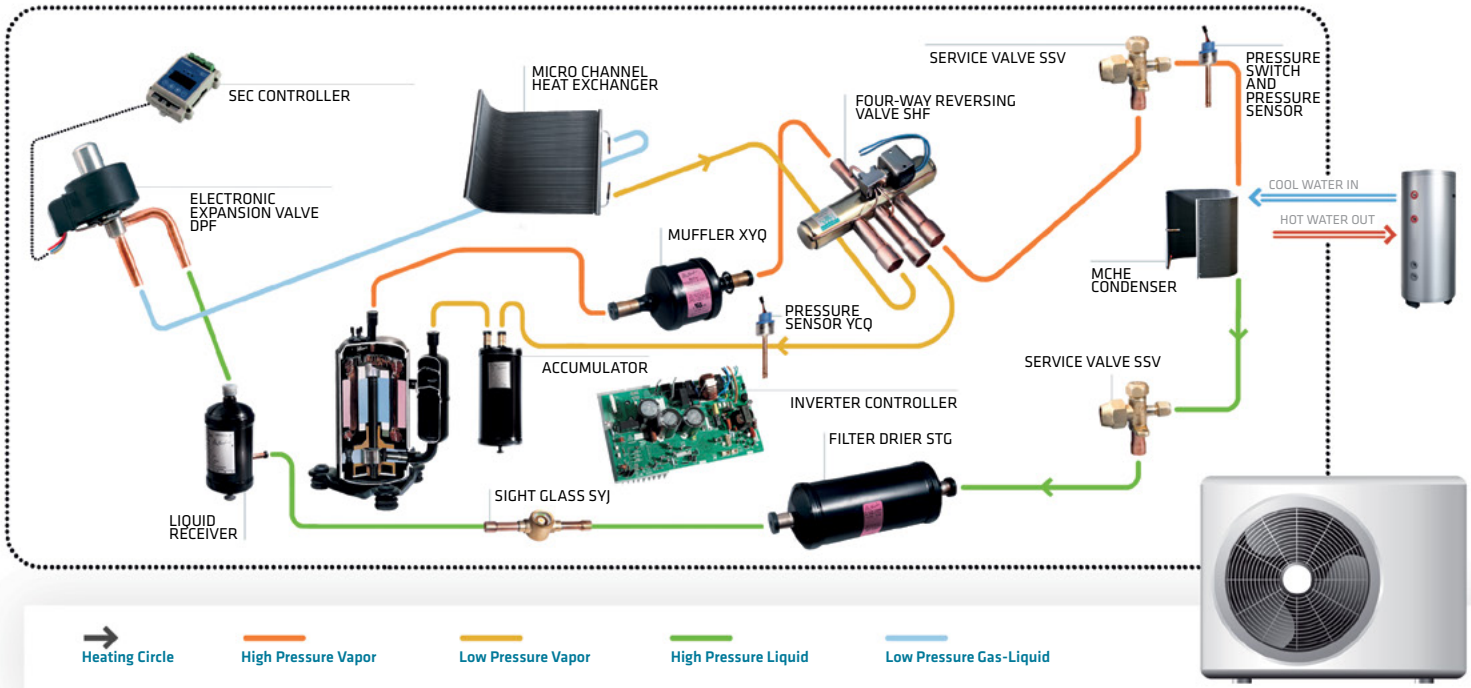


SANHUA

COMMERCIAL AIR CONDITIONING
VRF SYSTEM



Heat Pump Application Solutions



CHILLING IDEAS WORLDWIDE

***PEV** SERIES*

PULSE EXPANSION VALVE

PEV series pulse expansion valves are specially designed for use in refrigeration systems to precisely control the flow of refrigerant into the evaporator. Due to its solenoid valve structure, the flow is regulated by pulse width control (duration of on/off power).



FEATURES

- 90 BAR DESIGN FOR R744 REFRIGERANT
- LOWER KV VALUES CAN BE ACHIEVED (PEV0 IS ONLY 0.003M3/H)
- SOLENOID VALVE STRUCTURE, WITH DIRECT SHUT-OFF FUNCTION IN CASE OF SUDDEN POWER FAILURE
- THE VALVE BODY CAN BE REMOVED AND THE BUILT-IN FILTER CAN BE REPLACED FOR EASY CLEANING AND MAINTENANCE

GENERAL SPECIFICATIONS

- Applicable for all common HFCF, HFC and HFO refrigerants such as R134a, R22, R404A, R407A/F, R407C, R407H, R410A, R448A, R449A, R449B, R450A, R452A, R513A, R507A and R744 (Co2)
  For Flammable refrigerants, please contact your Sanhua local representative
- Medium temperature TS min./max.: -60°C to +70°C (Outlet side of Valve)
- Ambient temperature min./max.: -40°C to +55°C
- Max. working pressure: 90 bar
- Min. OPD: 0 bar

PULSE EXPANSION VALVE



ELECTRICAL PARAMETERS

- Recommended period of cycle time: 6 seconds
- Regulation range (capacity range): 10%-100%
- Voltage range: -15%~10%
- Insulation class of coil: F
- Protection class: IP 67

GENERAL CHARACTERISTICS

Valve Model	U11 Code Multi-Pack	kV m3/h	MWP [Bar]	MOPD [Bar]	Dimensions		Weight (g)
				liquid state	Øe inlet	Ød outlet	
PEV0-1	10386000502	0.003	90	35* (35)**	3/8	1/2	185
PEV0-2	10386001602				10mm	12mm	
PEV1-1	10386000402	0.009			3/8	1/2	
PEV1-2	10386001502				10mm	12mm	
PEV2-1	10386000702	0.016			3/8	1/2	
PEV2-2	10386001402				10mm	12mm	
PEV3-1	10386000102	0.024		35* (30)**	3/8	1/2	
PEV3-2	10386001202				10mm	12mm	
PEV3.5-1	10386000802	0.035		30* (23)**	3/8	1/2	
PEV3.5-2	10386001302				10mm	12mm	
PEV4-1	10386000302	0.046		30* (18)**	3/8	1/2	
PEV4-2	10386001102				10mm	12mm	
PEV5-1	10386000602	0.064		25* (12)**	3/8	1/2	
PEV5-2	10386001002				10mm	12mm	
PEV6-1	10386000202	0.114		18* (8)**	3/8	1/2	
PEV6-2	10386000902				10mm	12mm	

*Maximum Operating Pressure Differential with nominal voltage / 50Hz and 60Hz

**Maximum Operating Pressure Differential with 85% of the nominal voltage / 50 Hz and 60Hz

PULSE EXPANSION VALVE



DIMENSIONS

Condition 1: Tc/Te/Sc/SH: 45oC/-10oC/2K/6K
0oC/-20oC/2K/6K for R744

Valve Model	Maximal Cooling Capacity [kW]							
	R134a	R404A	R407F	R448A	R449A	R450A	R452A	R513A
PEV0	0.26	0.23	0.36	0.32	0.32	0.22	0.24	0.21
PEV1	0.75	0.66	1.06	0.95	0.93	0.65	0.69	0.62
PEV2	1.32	1.16	1.86	1.66	1.63	1.15	1.22	1.08
PEV3	2.34	2.06	3.30	2.94	2.88	2.04	2.16	1.92
PEV3.5	2.96	2.61	4.18	3.73	3.66	2.58	2.74	2.44
PEV4	3.91	3.44	5.52	4.92	4.83	3.41	3.61	3.22
PEV5	5.44	4.80	7.69	6.86	6.72	4.74	5.03	4.48
PEV6	9.33	8.22	13.18	11.75	11.52	8.13	8.62	7.68

Valve Model	Maximal Cooling Capacity [kW]							
	R454B	R454C	R455A	R1234yf	R1234ze	R290	R410A	R744
PEV0	0.46	0.28	0.30	0.18	0.20	0.35	0.40	0.54
PEV1	1.34	0.81	0.88	0.53	0.58	1.01	1.15	1.57
PEV2	2.36	1.43	1.55	0.92	1.02	1.76	2.02	2.75
PEV3	4.18	2.53	2.75	1.64	1.80	3.13	3.58	4.88
PEV3.5	5.30	3.20	3.48	2.08	2.29	3.96	4.54	6.18
PEV4	6.99	4.23	4.59	2.74	3.02	5.23	6.00	8.16
PEV5	9.74	5.89	6.40	3.82	4.21	7.29	8.35	11.36
PEV6	16.69	10.09	10.97	6.54	7.21	12.49	14.31	19.48

PULSE EXPANSION VALVE



Condition 2: Tc/Te/Sc/SH: 45°C/-35°C/2K/6K
-10°C/-40°C/2K/6K for R744

Valve Model	Maximal Cooling Capacity [kW]							
	R134a	R404A	R407F	R448A	R449A	R450A	R452A	R513A
PEV0	0.24	0.21	0.35	0.31	0.30	0.21	0.22	0.19
PEV1	0.71	0.61	1.02	0.90	0.88	0.60	0.63	0.57
PEV2	1.24	1.07	1.80	1.58	1.55	1.06	1.11	1.00
PEV3	2.20	1.90	3.18	2.80	2.74	1.87	1.97	1.76
PEV3.5	2.79	2.40	4.04	3.55	3.47	2.37	2.50	2.24
PEV4	3.68	3.17	5.33	4.69	4.58	3.13	3.30	2.95
PEV5	5.12	4.42	7.42	6.53	6.38	4.36	4.60	4.11
PEV6	8.78	7.58	12.71	11.19	10.94	7.47	7.88	7.05

Valve Model	Maximal Cooling Capacity [kW]							
	R454B	R454C	R455A	R1234yf	R1234ze	R290	R410A	R744
PEV0	0.47	0.26	0.28	0.16	0.18	0.33	0.40	0.62
PEV1	1.35	0.75	0.81	0.47	0.53	0.96	1.15	1.81
PEV2	2.38	1.32	1.43	0.82	0.93	1.69	2.02	3.17
PEV3	4.21	2.33	2.53	1.46	1.64	2.99	3.58	5.63
PEV3.5	5.34	2.96	3.21	1.85	2.08	3.80	4.54	7.13
PEV4	7.05	3.90	4.24	2.44	2.75	5.01	5.99	9.41
PEV5	9.82	5.44	5.91	3.40	3.82	6.98	8.35	13.11
PEV6	16.83	9.32	10.12	5.83	6.56	11.96	14.30	22.47

PULSE EXPANSION VALVE



COIL MODEL

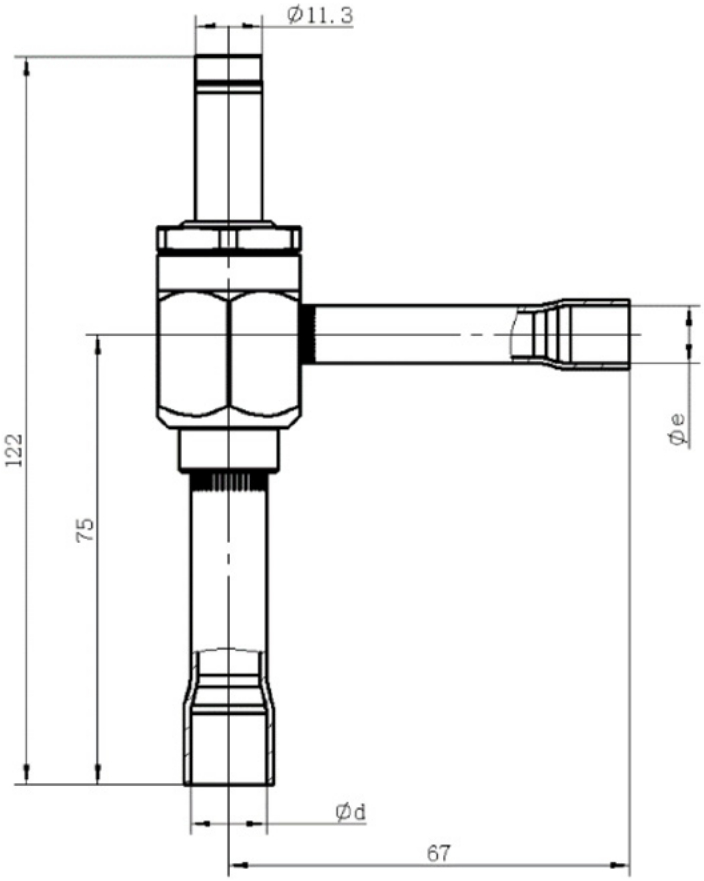
Model	U11 Code Multi-Pack	Rated Voltage	Frequency	Power	Insulation Class	Ingress Protection	Weight (g)
HQ1F11	10780001202	AC220~230V	50HZ	7W	F	IP 67	185.9
HQ1D17	10780001302	AC120V	50HZ	6W			
HQ1D80	10780001602	AC120V	60Hz	6w			
HQ1K17	10780001402	AC24V	50HZ	6W			
HQ1K80	10780001502	AC24V	60Hz	6w			

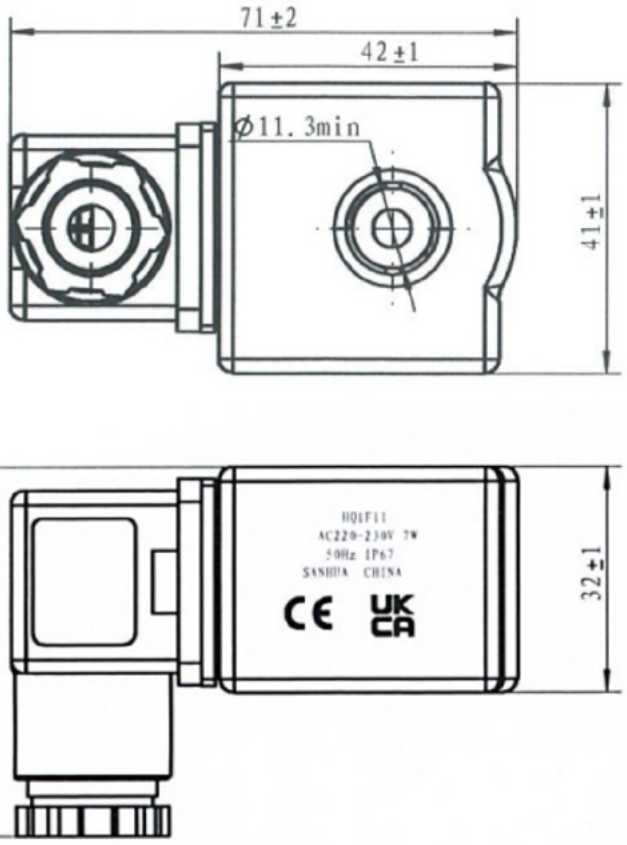
PULSE EXPANSION VALVE



DIMENSIONS

(unit is mm)





***SEK** SERIES*

ELECTRONIC EXPANSION VALVE KIT



FEATURES

- COMPLETE AND SIMPLE SOLUTION FOR REFRIGERATION SYSTEM
- QUICK AND ACCURATE SUPERHEAT CONTROL TO ENSURE THE SYSTEM OPERATING WELL
- KIT CONTAINS SEC SERIES CONTROLLER: EEV, PRESSURE TRANSDUCER WITH PACKARD CABLE, TEMPERATURE SENSOR
- LPF SERIES, EEV WITH VERY LOW INTERNAL LEAKAGE <1ML/MIN

MODEL DESIGNATION LEGEND

NO.			Model Designation Legend
1	2	3	
SEK	10	01	SANHUA electronic Expansion valve Kit
SEK	**10**	01	Valve orifice
SEK	10	01	Design code

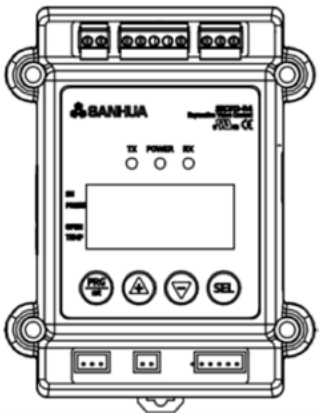
ELECTRONIC EXPANSION VALVE KIT



GENERAL SPECIFICATIONS

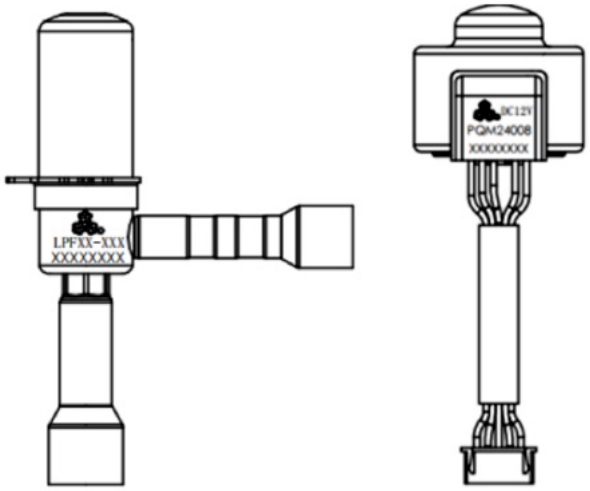
Controller:

Items	Description
Dimension	87(W)mm x 114(H)mm x 30 (D)mm
Power supply	24Vdc+10%/-15% Class II
Power consumption	15VA with LPF at 24VDC
Operation	-30~55°C, Humidity≤95%RH
Storage	-30~55°C, Humidity≤95%RH
Protection level	IP20



LPF and Coil with 3m cable length:

Items	Description
Rated voltage	12V DC (± 10%)
Excitation mode	1-2 phase excitation, uni-polar–500stps
Excitation rate	30 - 90pps
Current and resistance	260mA, 46 ± 3.7 Ω/phase(20°C)
Medium temp.	-40°C / +70°C (duty cycle≤40%)
Ambient temp.	-40°C / +60°C (duty cycle≤40%)
Relative humidity	0 to 95% RH
Design Pressure	42bar
MOPD	35 bar

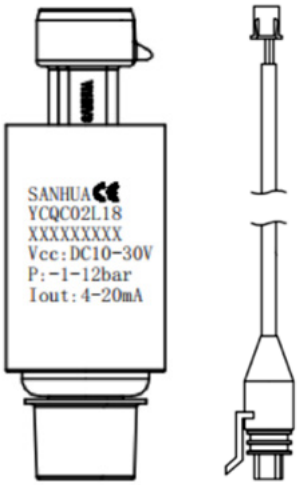


ELECTRONIC EXPANSION VALVE KIT



Pressure transducer and Packard cablewith 2m length:

Items	Description
Voltage supply	10-30Vdc
Output	4-20mA
Pressure range	-1~12 Bar
Test Pressure	52.5Bar
Accuracy	±0.8% F.S.(-40~+40°C)
Protection class	IP 67
Connection Type	Thread SAE - 1/4"7/16-20UNF
Electrical connector	Packard connector



Temperature sensor:

Items	Description
Type	NTC 5KΩat 25°C
Wire	2×0.5mm²-2m length
Protection class	IP 67
Accuracy	±0.3°C (below25°C)
Temperature Range	-50 ~50°C



ORDERING METHOD

Model	Part Number	Valve Connection	Common products	Valve type
SEK08-01	10142001402	3/8 – 1/2	SEC612-R4 -> Controller YCQC02L18 –> Pressure Transmitter YCQC02-013022 –> Packard Cable NTC2A1 -> Probe PQ-M24012-000008 –> EEV coil	LPF08-001
SEK10-01	10142000102			LPF10-002
SEK14-01	10142000302			LPF14-002
SEK18-01	10142000502			LPF18-002
SEK24-01	10142000702			LPF 24-002
SEK30-01	10142001302			LPF30-001
SEK32-01	10142001202			LPF32-001
SEK08-02	10142002102			LPF-08-003
SEK10-02	10142000202	10 -12 mm		LPF10-004
SEK14-02	10142000402			LPF14-004
SEK18-02	10142000602			LPF18-003
SEK24-02	10142000802			LPF24-003
SEK30-02	10142002002			LPF30-002
SEK32-02	10142001902			LPF32-003

Compatible with the main refrigerants on the market:
R404A, R134a, R407C, R507, R1234ze, R1234yf, R450A, R513A, R448A, R449A, R452A, R245fa, R23, R407A, R407F, R124, R407H , R454C, R455A.
For other refrigerants as R290, CO2, R410a... please contact your local representative.

ELECTRONIC EXPANSION VALVE KIT



CAPACITY SELECTION FOR LPF

Valve Model	Evap Temp. (°C)	Max cooling capacity [kW]				
		Cond. Temp. @35°C, SH=6K, SBC=2K				
		R404A	R449A	R452A	R513A	R455A
LPF08	-30	2.0	2.7	2.1	1.8	2.6
	-20	2.0	2.7	2.1	1.8	2.6
	-10	2.0	2.7	2.1	1.8	2.7
	0	1.9	2.7	2.1	1.8	2.6
	10	1.8	2.5	2.0	1.6	2.5
LPF10	-30	3.2	4.4	3.3	2.9	4.2
	-20	3.3	4.5	3.4	2.9	4.3
	-10	3.3	4.4	3.4	2.9	4.3
	0	3.2	4.3	3.4	2.9	4.3
	10	2.9	4.0	3.2	2.7	4.1
LPF14	-30	6.1	8.4	6.3	5.4	8.0
	-20	6.2	8.5	6.5	5.5	8.1
	-10	6.2	8.4	6.5	5.6	8.2
	0	6.0	8.2	6.4	5.4	8.1
	10	5.6	7.7	6.0	5.0	7.8
LPF18	-30	8.4	11.6	8.8	7.5	11.0
	-20	8.6	11.7	9.0	7.7	11.2
	-10	8.6	11.6	9.0	7.7	11.3
	0	8.3	11.3	8.8	7.5	11.2
	10	7.7	10.6	8.3	7.0	10.7
LPF24	-30	11.5	15.8	12.0	10.2	15.0
	-20	11.8	16.0	12.3	10.5	15.4
	-10	11.7	15.9	12.4	10.5	15.5
	0	11.4	15.5	12.1	10.2	15.3
	10	10.5	14.5	11.4	9.5	14.7
LPF30	-30	16.3	22.4	17.0	14.5	21.3
	-20	16.6	22.7	17.4	14.8	21.8
	-10	16.6	22.5	17.5	14.9	21.9
	0	16.1	21.9	17.1	14.5	21.7
	10	14.9	20.5	16.1	13.5	20.8
LPF32	-30	17.9	24.6	18.6	15.9	23.4
	-20	18.3	24.9	19.1	16.3	23.9
	-10	18.2	24.7	19.2	16.3	24.1
	0	17.7	24.0	18.8	15.9	23.8
	10	16.3	22.5	17.7	14.8	22.8

ELECTRONIC EXPANSION VALVE KIT



Valve Model	Evap Temp. (°C)	Max cooling capacity [kW]				
		Cond. Temp. @45°C, SH=6K, SBC=2K				
		R404A	R449A	R452A	R513A	R455A
LPF08	-30	1.9	2.7	1.9	1.7	2.5
	-20	1.9	2.7	2.0	1.8	2.6
	-10	2.0	2.8	2.1	1.8	2.6
	0	2.0	2.7	2.1	1.8	2.6
	10	1.9	2.6	2.0	1.8	2.6
LPF10	-30	3.0	4.3	3.2	2.8	4.0
	-20	3.1	4.4	3.3	2.9	4.2
	-10	3.2	4.5	3.4	3.0	4.3
	0	3.2	4.5	3.4	3.0	4.3
	10	3.1	4.3	3.3	2.9	4.2
LPF14	-30	5.7	8.2	6.0	5.3	7.7
	-20	6.0	8.4	6.2	5.6	7.9
	-10	6.1	8.5	6.4	5.7	8.1
	0	6.1	8.4	6.4	5.7	8.2
	10	5.9	8.2	6.3	5.5	8.0
LPF18	-30	7.9	11.4	8.3	7.4	10.6
	-20	8.2	11.6	8.6	7.7	11.0
	-10	8.4	11.8	8.8	7.9	11.2
	0	8.4	11.7	8.9	7.9	11.3
	10	8.1	11.3	8.7	7.7	11.1
LPF24	-30	10.8	15.5	11.3	10.1	14.5
	-20	11.3	15.9	11.8	10.5	15.0
	-10	11.5	16.1	12.1	10.8	15.3
	0	11.5	16.0	12.1	10.8	15.4
	10	11.1	15.5	11.9	10.5	15.2
LPF30	-30	15.3	22.0	16.0	14.3	20.5
	-20	15.9	22.5	16.7	14.9	21.2
	-10	16.3	22.8	17.1	15.2	21.7
	0	16.2	22.6	17.2	15.3	21.8
	10	15.7	21.9	16.8	14.8	21.5
LPF32	-30	16.8	24.1	17.5	15.7	22.5
	-20	17.5	24.7	18.3	16.3	23.3
	-10	17.8	25.0	18.8	16.7	23.8
	0	17.8	24.8	18.9	16.7	23.9
	10	17.2	24.0	18.4	16.3	23.6

ELECTRONIC EXPANSION VALVE KIT

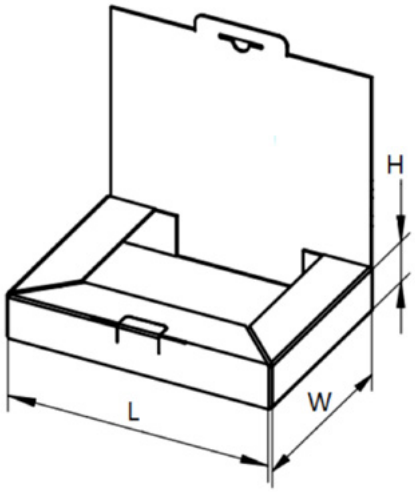


Valve Model	Evap Temp. (°C)	Max cooling capacity [kW]				
		Cond. Temp. @55°C, SH=6K, SBC=2K				
		R404A	R449A	R452A	R513A	R455A
LPF08	-30	1.6	2.5	1.7	1.6	2.3
	-20	1.7	2.6	1.8	1.7	2.4
	-10	1.8	2.7	1.9	1.8	2.5
	0	1.8	2.7	2.0	1.8	2.5
	10	1.8	2.7	2.0	1.9	2.5
LPF10	-30	2.6	4.1	2.8	2.7	3.7
	-20	2.8	4.2	3.0	2.8	3.9
	-10	2.9	4.3	3.1	2.9	4.0
	0	3.0	4.4	3.2	3.0	4.1
	10	3.0	4.3	3.2	3.0	4.2
LPF14	-30	5.0	7.7	5.3	5.1	7.0
	-20	5.3	8.0	5.6	5.3	7.4
	-10	5.6	8.2	5.9	5.6	7.7
	0	5.7	8.3	6.0	5.7	7.8
	10	5.7	8.2	6.1	5.7	7.9
LPF18	-30	6.9	10.7	7.3	7.0	9.7
	-20	7.4	11.1	7.7	7.4	10.2
	-10	7.7	11.4	8.1	7.7	10.6
	0	7.9	11.5	8.3	7.9	10.8
	10	7.8	11.4	8.4	7.9	10.9
LPF24	-30	9.5	14.6	10.0	9.6	13.3
	-20	10.1	15.2	10.6	10.1	14.0
	-10	10.5	15.5	11.1	10.5	14.5
	0	10.7	15.7	11.4	10.8	14.8
	10	10.7	15.6	11.5	10.8	14.9
LPF30	-30	13.4	20.7	14.1	13.5	18.8
	-20	14.2	21.5	15.0	14.3	19.8
	-10	14.9	22.0	15.7	14.9	20.5
	0	15.2	22.2	16.1	15.3	21.0
	10	15.2	22.0	16.2	15.3	21.1
LPF32	-30	14.7	22.7	15.5	14.8	20.7
	-20	15.6	23.5	16.5	15.7	21.7
	-10	16.3	24.1	17.2	16.4	22.5
	0	16.7	24.4	17.7	16.8	23.0
	10	16.7	24.1	17.8	16.8	23.1

ELECTRONIC EXPANSION VALVE KIT



PACKAGE DIMENSIONS



Name	Dimensions (mm)			Weight (kg)
	L	W	H	
SEK EEV kit	312	226	50	0.78



SANHUA

ECO-FRIENDLY PRODUCTS & SOLUTIONS

Our target is to provide components and solutions to different industries in order to help the protection of the environment by reducing their energy consumption and increasing their system efficiency.



ELECTRONIC EXPANSION VALVES



IMPROVES EFFICIENCY UP TO 20%

ADVANCED MSS (MINIMUM STABLE SUPERHEAT)
CONTROL LOGIC

SANHUA

"Yearly SANHUA supplies over 40 million thermostatic and electronic expansion valves to the HVAC&R Automotive industries worldwide."



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DPF-TS/S *SERIES*

ELECTRONIC EXPANSION VALVE



TS/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 REVERSIBLE SYSTEMS: BIDIRECTIONAL FLOW
- SMALLER INSTALLATION SPACE: LOW HEIGHT, SMALL VOLUME, LIGHT WEIGHT
- OPTIMIZED FLOW PATH DESIGN FOR NOISE REDUCTION
- FAST OPERATION, ENERGY SAVING

GENERAL SPECIFICATIONS

- Applicable for all common HFC, HFO refrigerants such as: R134a, R404A, R407A/F, R407C, R410A, R448A, R449A, R450A, R452A, R513A, R507A

  And also for flammable refrigerants like R32, R290, R1234ze(E), R1234yf
- Cooling capacity: 2 to 121 kW (for R410A)
- 500 steps (full stroke); 32 ± 20 opening steps
- Medium temperature TS min./max.: -40°C / +85°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
- Certifications: UL/CSA and declaration according to LVD or PED
- Suitable with the EN 60335-2-24 / 2-40 / 2-89

ELECTRONIC EXPANSION VALVE



ELECTRICAL PARAMETERS

- Rated voltage: 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, unipolar 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 1,0 to 3,2 mm: 6s @ 90pps
  - Seat Ø 4,0 to 6,5 mm: 13s @ 40pps
- Coil current:
  - Seat Ø 1,0 to 3,2 mm: 260mA/phase (20°C)
  - Seat Ø 4,0 to 6,5 mm: 375mA/phase (20°C)
- Coil resistance:
  - Seat Ø 1,0 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
- Compatible with Sanhua controller SEC series

GENERAL CHARACTERISTICS

Valve Model	Part Number[1)]	Seat Φ (mm)	Seat Φ (mm)	Kv (m^3/h)	MOP[2)] [Bar]	MOPD Direct[3)] [Bar]	MOPD Rev.[4)] [Bar]
DPF(TS1)1.0C-15	10130391602	n	1,0	0,03	49	35	≥25
DPF(TS1)1.0C-16	10130390002	L	1.0	0,03			
DPF(TS1)1.3C-21	10130389302	n	1,3	0,05			
DPF(TS1)1.3C-22	10130392002	L	1,3	0,05			
DPF(TS1)1.65C-36	10130391702	n	1,65	0,08			
DPF(TS1)1.65C-38	10130395102	L	1,65	0,08			
DPF(TS1)1.8C-69	10130391802	n	1,8	0,1			
DPF(TS1)1.8C-68	10130390402	L	1,8	0,1			
DPF(TS1)2.0C-33	10130392402	n	2	0,16			
DPF(TS1)2.0C-40	10130409402	L	2	0,16			
DPF(TS1)2.2C-24	10130392702	n	2,2	0,2			
DPF(TS1)2.2C-38	10130425202	L	2,2	0,2			
DPF(TS1)2.4C-40	10130392602	n	2,4	0,23			
DPF(TS1)2.4C-41	10130404802	L	2,4	0,23			
DPF(TS1)3.0C-29	10130389902	L	3	0,39			≥15
DPF(TS1)3.2C-30	10130389502	L	3,2	0,43			
DPF(S03)4.0C-01	10130355702	L	4	0,5			≥7
DPF(S03)4.5C-01	10130035502	L	4,5	0,7			
DPF(S03)5.5C-01	10130355802	L	5,5	0,9			
DPF(S03)6.5C-02	10130355902	L	6,5	1,1		30	

Note: 1) Coil is separated
2) MOP = Maximum Operating Pressure
3) MOPD Direct = Maximum Operating Pressure Difference in Direct flow direction
4) MOPD Rev = Maximum Operating Pressure Difference in Reversible flow direction

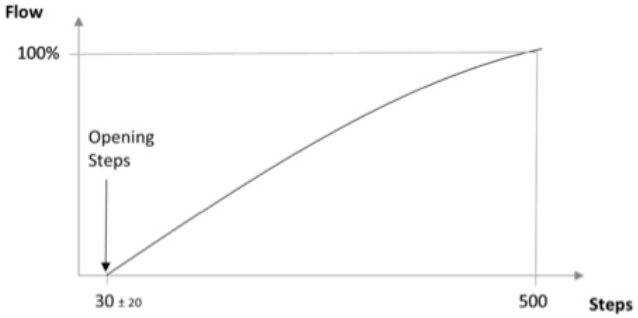
ELECTRONIC EXPANSION VALVE



Valve Model	Max Cooling Capacity @ 5°C/38°C/5K/5K [kW]												
	R134a	R513A	R407C	R404A R507A	R410A	R452A	R32	R290	R1234yf	R1234ze	R454B	R454C	R455A
DPF(TS1)1.0C-15 DPF(TS1)1.0C-16	3.1	2.7	4.3	2.9	4.8	3.1	7.0	4.2	2.3	2.5	5.5	3.6	4.0
DPF(TS1)1.3C-21 DPF(TS1)1.3C-22	4,5	3.8	6.2	4.2	6,9	4.5	9.9	5.8	3.2	3.4	7.6	5.0	5.5
DPF(TS1)1.65C-36 DPF(TS1)1.65C-38	7.6	6.4	10.4	7.1	11.6	7.6	16.7	10.0	5.6	5.9	13.1	8.6	9.5
DPF(TS1)1.8C-69 DPF(TS1)1.8C-68	9	7.7	12.4	8.5	13.8	9.1	19.9	12.0	6.6	7.1	15.7	10.3	11.4
DPF(TS1)2.0C-33 DPF(TS1)2.0C-40	11.1	9.5	15.3	10.5	17.1	11.2	24.6	14.9	8.2	8.8	19.5	12.8	14.1
DPF(TS1)2.2C-24 DPF(TS1)2.2C-38	12	10.2	16.4	11.3	18.3	12	26.4	16.0	8.9	9.4	21.0	13.8	15.2
DPF(TS1)2.4C-40 DPF(TS1)2.4C-41	14.1	12	19.4	13.3	21.6	14.2	31.1	18.8	10.4	11.1	24.6	16.2	17.8
DPF(TS1)3.0C-29	23.3	19.8	32.1	22	35.8	23.5	51.5	31.4	17.4	18.5	41.1	27.0	29.8
DPF(TS1)3.2C-30	25,7	21.8	35,3	24.2	39.4	25.9	56.8	34.4	19.0	20.2	45.0	29.5	32.5
DPF(S03)4.0C-01	42.8	36.3	58.8	40.3	65.5	43.1	94.4	57.2	31.6	33.7	74.9	49.2	54.2
DPF(S03)4.5C-01	57.2	48.6	78.7	63.9	67.7	57.6	126.3	77.1	42.6	45.4	100.9	66.3	73.1
DPF(S03)5.5C-01	66.2	56.3	91	62.4	101.5	66.7	146.2	88.6	49.0	52.2	116.0	76.2	84.0
DPF(S03)6.5C-02	80,5	68.5	110.7	75,9	123.4	81.1	177.9	108.4	59.9	63.8	141.9	93.2	102.7

For others running points or others refrigerants, please contact your local support or download our selection software – Quick Finder with the link : http://www.SanhuaSelector.com

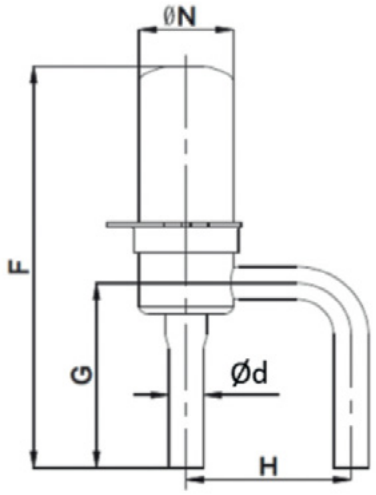
FLOW CHARACTERISTIC



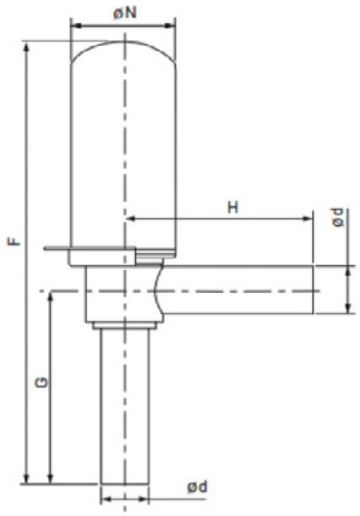
ELECTRONIC EXPANSION VALVE



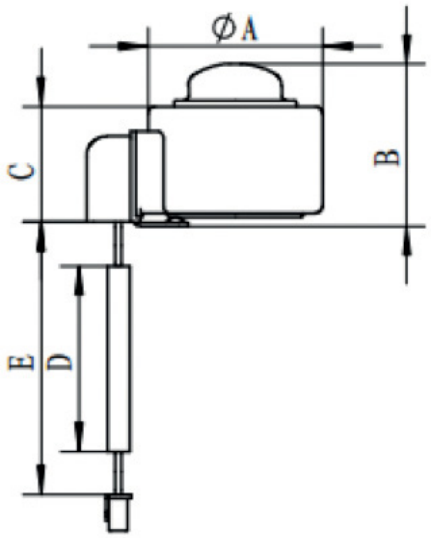
DIMENSIONS



DPF 1.0 ~ 2.4 n Design



DPF 3.0 ~ 6.5 L Design



Valve Model	Dimensions [mm]					Weight [kg]
	F	G	H	Ød	ØN	
DPF 1.0~2.4 n Design	77	36	30	6.35	17.35	0.04
DPF 1.0~2.4 L Design	77	36	36	6.35	17.35	0.04
DPF 3.0~3.2	85	43	53	7.94	17.35	0.05
DPF 4.0~6.5	148	64.7	63.4	15.88	35.3	0.26

Coil Model	Product Number	Valve Model	Dimensions [mm]					Terminal	Weight [kg]
			ØA	B	C	E	D		
PQ-M10012-001059	10810138802	DPF 1.0~3.2	38.5	35.8	25.6	700	600	XHP-5	0.12
PQ-M10012-001016	10810134602		38.5	35.8	25.6	1500	1400	XHP-5	
PQ-M10012-001002	10810130702		38.5	35.8	25.6	2000	1800	XHP-5	
PQ-M10012-001268	10810160602		38.5	35.8	25.6	5000	4500	XHP-5	0.3
PQ-M03012-001004	10810141302	DPF 4.0~6.5	67.5	74.4	33.3	2000	1900	XHP-5	0.5
PQ-M03012-001041	10810171302		67.5	74.4	33.3	5000	4500	XHP-5	0.6

***LPF** SERIES*

ELECTRONIC EXPANSION VALVE



LPF series Electronic Expansion Valves are especially designed for use in refrigeration systems. Thanks to the soft-sealing seat design, it can be as tight as a solenoid valve once it is completely shut off thus to prevent liquid refrigerant migrate to evaporator or compressor.

FEATURES

- EXTREMELY HIGH INTERNAL TIGHTNESS, WHICH IS AS GOOD AS WITH SOLENOID VALVES(<1ML/MIN)
- EQUAL PERCENTAGE FLOW DESIGN FOR BETTER FLOW REGULATION
- SNAP-ON COIL FOR EASIER INSTALLATION
- COIL WITH IP67 WORKS SAFELY IN EXTREMELY ENVIRONMENT
- APPLICABLE FOR OIL-FREE SYSTEM (NOT INCLUDE LPF45-62)
- BUILT-IN STRAINER AT INLET
- FLOW DIRECTION: UNI-FLOW
- LPF...T : 90 BAR DESIGN FOR R744 REFRIGERANT

GENERAL SPECIFICATION

- Applicable for all common HFCF, HFC and HFO refrigerants (such as: R134a, R404A, R407A/F, R407C, R410A, R448A, R449A, R450A, R452A, R513A, R507A and also for flammable refrigerants like R290,R1234ze, R454C, R455A, R1234yf and R744 (CO_2)
- 500 steps (full stroke); 32 ± 20 opening steps
- Temperature:

LPF Model	Medium temperature Min/Max	Ambient temperature Min/Max
LPF03 ~ 32	-40°C / +70°C (1)	-40°C / +60°C (1)
LPF45 ~ 62	-30°C / +70°C (2)	-30°C / +60°C (2)
LPF03T ~ 32T	-40°C / +70°C (1)	-40°C / +60°C (1)

(1)duty cycle rate below 40% / (2)duty cycle rate below 50%

- Relative humidity: 0 to 95% RH
- Pressures:

LPF Model	MPW	MOPD
LPF03 ~ 32	42 bar	35 bar
LPF45 ~ 62	49 bar	35 bar
LPF03T ~ 24T	90 bar	50 bar
LPF30T ~ 32T	90 bar	35 bar

- Declaration according to LVD and PED (on going for LPF-T range)
- Suitable with the EN 60335-2-24 / 2-40 / 2-89 (on going for LPF-T range)

ELECTRONIC EXPANSION VALVE



ELECTRICAL PARAMETERS

- Rated voltage: 12V DC(± 10%), rectangular wave
- Excitation mode: 1 - 2 phase excitation, uni-polar actuation

LPF Model	Excitation rate	Full stroke time
LPF03 ~ 32	30 - 90pps	6s@ 90pps
LPF45 ~ 62	30 - 40pps	13s@40pps
LPF03T ~ 32T	30 - 90pps	6s@ 90pps

- Coil current: 260mA/phase (20°C)
- Coil resistance: 46 ± 3.7 Ω/phase (20°C)
- Insulation class of coil: E
- Protection class: IP 67
- Compatible with Sanhua controller SEC series

GENERAL CHARACTERISTICS

Condition 1: Tc/Te/Sc/SH: 45oC/-10oC/2K/6K (0 °C/-20 °C/2K/6K for R744)

Valve Model	Seat Φ (mm)	Kv (m^3/h)	Maximal Cooling Capacity [kW]							
			R134a	R404A	R407F	R448A	R449A	R450A	R452A	R513A
LPF03/LPF03T	0.3	0.009	0.90	0.80	1.28	1.14	1.12	0.79	0.84	0.74
LPF05/LPF05T	0.5	0.014	1.39	1.23	1.97	1.75	1.72	1.21	1.29	1.15
LPF08/LPF08T	0.8	0.025	2.3	2.0	3.2	2.8	2.8	2.0	2.1	1.84
LPF10/LPF10T	1.0	0.04	3.6	3.2	5.1	4.6	4.5	3.2	3.4	3.0
LPF14/LPF14T	1.4	0.08	6.9	6.1	9.7	8.7	8.5	6.0	6.4	5.7
LPF18/LPF18T	1.8	0.12	9.5	8.4	13.5	12.0	11.8	8.3	8.8	7.9
LPF24/LPF24T	2.4	0.20	13.0	11.5	18.4	16.4	16.1	11.3	12.1	10.8
LPF30/LPF30T	3.0	0.27	18.4	16.2	26.0	23.3	22.7	16.0	17.1	15.2
LPF32/LPF32T	3.2	0.30	20.2	17.8	28.5	25.5	24.9	17.6	18.7	16.6
LPF45	4.5	0.5	45.3	39.9	64.0	57.1	55.9	39.5	41.9	37.3
LPF52	5.2	0.7	60.6	53.4	85.6	76.3	74.8	52.8	56.0	49.9
LPF55	5.5	0.9	70.2	61.8	99.1	88.4	86.6	61.1	64.8	57.7
LPF62	6.2	1.1	85.3	75.2	102.5	107.5	105.3	74.4	78.9	70.2

Valve Model	Seat Φ (mm)	Kv (m^3/h)	Maximal Cooling Capacity [kW]							
			R454B	R454C	R455A	R1234yf	R1234ze	R290	R410A	R744
LPF03/LPF03T	0.3	0.009	1.62	0.98	1.06	0.63	0.70	1.21	1.39	1.89
LPF05/LPF05T	0.5	0.014	2.49	1.51	1.64	0.98	1.08	1.86	2.14	2.91
LPF08/LPF08T	0.8	0.025	4.0	2.4	2.6	1.6	1.7	3.0	3.4	4.7
LPF10/LPF10T	1.0	0.04	6.5	3.9	4.3	2.6	2.8	4.9	5.6	7.6
LPF14/LPF14T	1.4	0.08	12.4	7.5	8.1	4.8	5.3	9.2	10.6	14.4
LPF18/LPF18T	1.8	0.12	17.1	10.3	11.2	6.7	7.4	12.8	14.6	19.9
LPF24/LPF24T	2.4	0.2	23.4	14.1	15.3	9.2	10.1	17.5	20.0	27.2
LPF30/LPF30T	3.0	0.27	33.0	19.9	21.7	12.9	14.2	24.7	28.3	38.5
LPF32/LPF32T	3.2	0.30	36.2	21.8	23.7	14.2	15.6	27.0	31.0	42.1
LPF45	4.5	0.5	81.1	49.0	53.3	31.7	35.0	60.6	69.5	-
LPF52	5.2	0.7	108.5	65.5	71.2	42.5	46.8	81.1	93.0	-
LPF55	5.5	0.9	125.5	75.8	82.5	49.2	54.2	93.9	107.6	-
LPF62	6.2	1.1	152.7	92.3	100.3	59.8	65.9	114.2	130.9	-

ELECTRONIC EXPANSION VALVE



Condition 2: Tc/Te/Sc/SH: 45°C/-35°C/2K/6K (-10°C/-40°C/2K/6K for R744)

Valve Model	Seat Φ (mm)	Kv (m^3/h)	Maximal Cooling Capacity [kW]							
			R134a	R404A	R407F	R448A	R449A	R450A	R452A	R513A
LPF03/LPF03T	0.3	0.009	0.85	0.73	1.23	1.08	1.06	0.72	0.76	0.68
LPF05/LPF05T	0.5	0.014	1.31	1.13	1.90	1.67	1.63	1.11	1.18	1.05
LPF08/LPF08T	0.8	0.025	2.1	1.8	3.1	2.7	2.6	1.8	1.9	1.7
LPF10/LPF10T	1.0	0.04	3.4	3.0	5.0	4.4	4.3	2.9	3.1	2.7
LPF14/LPF14T	1.4	0.08	6.5	5.6	9.4	8.3	8.1	5.5	5.8	5.2
LPF18/LPF18T	1.8	0.12	9.0	7.7	13.0	11.4	11.2	7.6	8.0	7.2
LPF24/LPF24T	2.4	0.2	12.3	10.6	17.8	15.6	15.3	10.5	11.0	9.9
LPF30/LPF30T	3.0	0.27	17.4	15.0	25.1	22.1	21.6	14.8	15.6	13.9
LPF32/LPF32T	3.2	0.30	19.0	16.4	27.5	24.2	23.7	16.2	17.0	15.3
LPF45	4.5	0.5	42.6	36.8	61.7	54.3	53.1	36.3	38.3	34.2
LPF52	5.2	0.7	57.0	49.2	82.6	72.7	71.7	48.5	51.2	45.8
LPF55	5.5	0.9	66.0	57.0	95.6	84.1	82.2	56.2	59.2	53.0
LPF62	6.2	1.1	80.3	69.3	116.3	102.3	100.0	68.3	72.1	64.5

Valve Model	Seat Φ (mm)	Kv (m^3/h)	Maximal Cooling Capacity [kW]							
			R454B	R454C	R455A	R1234yf	R1234ze	R290	R410A	R744
LPF03/LPF03T	0.3	0.009	1.63	0.90	0.98	0.56	0.63	1.16	1.39	2.18
LPF05/LPF05T	0.5	0.014	2.51	1.39	1.51	0.87	0.98	1.79	2.14	3.36
LPF08/LPF08T	0.8	0.025	4.0	2.2	2.4	1.4	1.6	2.9	3.5	5.4
LPF10/LPF10T	1.0	0.04	6.6	3.6	4.0	2.3	2.6	4.7	5.6	8.8
LPF14/LPF14T	1.4	0.08	12.5	6.9	7.5	4.3	4.8	8.8	10.6	16.6
LPF18/LPF18T	1.8	0.12	17.2	9.5	10.4	6.0	6.7	12.2	14.6	23.0
LPF24/LPF24T	2.4	0.2	23.5	13.0	14.2	8.2	9.2	16.7	20.0	31.5
LPF30/LPF30T	3.0	0.27	33.3	18.4	20.0	11.6	12.9	23.6	28.3	44.5
LPF32/LPF32T	3.2	0.30	36.4	20.2	21.9	12.7	14.2	25.9	30.9	48.7
LPF45	4.5	0.5	81.7	45.2	49.1	28.3	31.8	58.1	69.4	-
LPF52	5.2	0.7	109.3	60.5	65.8	37.9	42.5	77.7	92.9	-
LPF55	5.5	0.9	126.6	70.1	76.1	43.8	49.2	89.9	107.5	-
LPF62	6.2	1.1	153.9	85.2	92.6	53.3	59.9	109.4	130.8	-

Note: The Max capacity is given for full opened position

LPF... is standard series, LPF...T is designed for CO_2 application

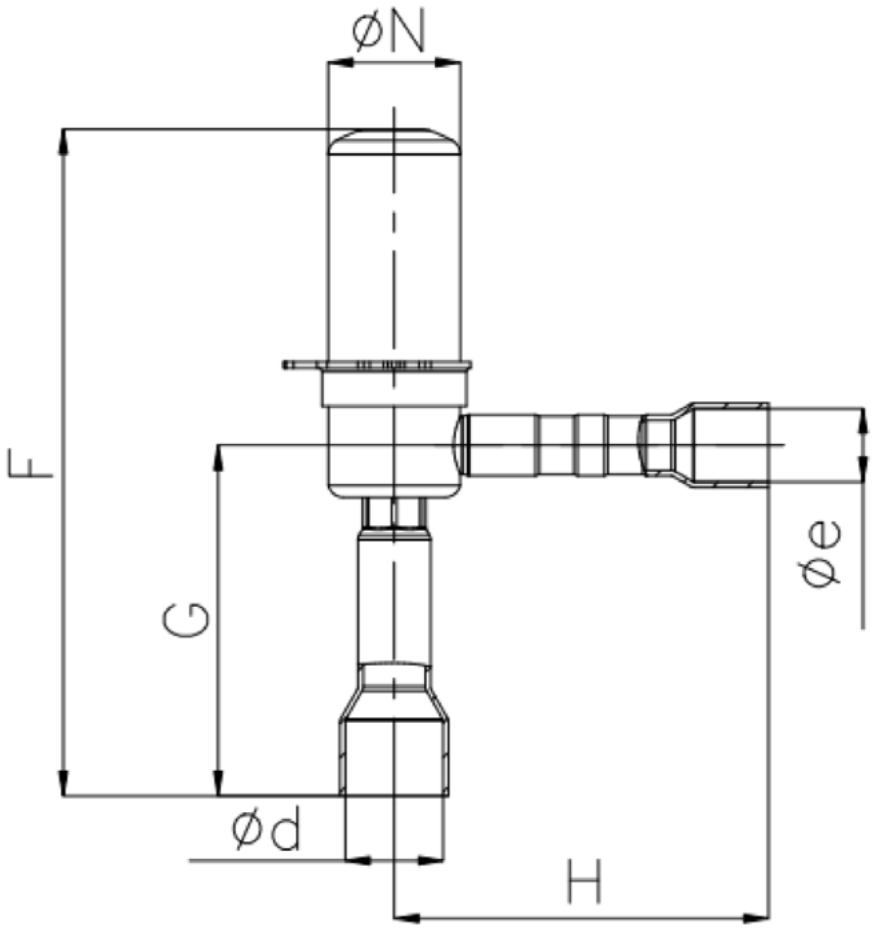
ELECTRONIC EXPANSION VALVE



DIMENSIONS

(Unit is mm)

ØN = 17.35 mm



ELECTRONIC EXPANSION VALVE



Valve Model	U11 Code Multi-Pack	Dimensions					Weight (g)
		F	G	H	Øe Inlet	Ød Outlet	
LPF03-001	10136007902	87	45.8	49	3/8	1/2	51.8
LPF05-001	10136008102				3/8	1/2	51.8
LPF08-001	10136003202				3/8	1/2	51.8
LPF08-002	10136003302				1/4	1/4	44.2
LPF08-003	10136004302				10mm	12mm	51
LPF10-002	10136000502				3/8	1/2	51.8
LPF10-003	10136000602				1/4	3/8	47.7
LPF10-004	10136000702				10mm	12mm	51
LPF10-005	10136000802				6mm	10mm	49.4
LPF14-002	10136000902				3/8	1/2	51.8
LPF14-003	10136001002				1/4	3/8	47.7
LPF14-004	10136001102				10mm	12mm	50.9
LPF14-005	10136001202				6mm	10mm	49.3
LPF18-002	10136001302				3/8	1/2	51.8
LPF18-003	10136001402				10mm	12mm	50.9
LPF24-002	10136001502				3/8	1/2	51.7
LPF24-003	10136001602				10mm	12mm	50.8
LPF30-001	10136003902				3/8	1/2	52.6
LPF30-002	10136004602				10mm	12mm	51.7
LPF32-001	10136003402				3/8	1/2	52.6
LPF32-002	10136004002				1/4	3/8	48.4
LPF32-003	10136004502				10mm	12mm	51.7
LPF45-001	10136007302	116	62.5	57.2	5/8	5/8	104.6
LPF52-001	10136007402						104.3
LPF55-001	10136007502						104.0
LPF62-001	10136007602						103.6

ELECTRONIC EXPANSION VALVE

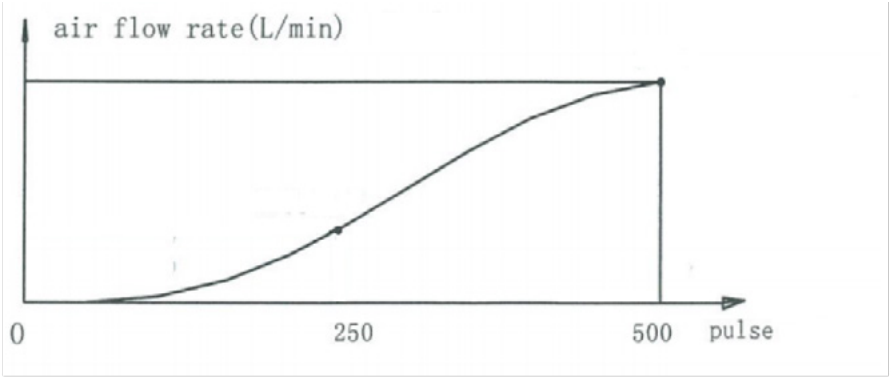


Valve Model	U11 Code Multi-Pack	Dimensions					Weight (g)
		F	G	H	Øe Inlet	Ød Outlet	
LPF03T-001	10136007702	88.5	45.8	49	3/8	1/2	60
LPF05T-001	10136007802				3/8	1/2	60
LPF08T-001	10136005402				3/8	1/2	60
LPF08T-002	10136006402	84.5	41.8	45	1/4	1/4	45.5
LPF08T-003	10136008202	88.5	45.8	49	10mm	12mm	59.8
LPF10T-002	10136005502			49	3/8	1/2	60
LPF10T-003	10136005602			45	1/4	3/8	49.2
LPF10T-004	10136006502			49	10mm	12mm	59.9
LPF10T-005	10136006602			45	6mm	10mm	49.2
LPF14T-002	10136005702			49	3/8	1/2	60
LPF14T-003	10136005802			45	1/4	3/8	49.2
LPF14T-004	10136006702			49	10mm	12mm	59.9
LPF14T-005	10136006802			45	6mm	10mm	49.2
LPF18T-002	10136005902			49	3/8	1/2	59.9
LPF18T-003	10136006902			49	10mm	12mm	59.8
LPF24T-002	10136006002			49	3/8	1/2	59.9
LPF24T-003	10136007002			49	10mm	12mm	59.8
LPF30T-001	10136006102			49	3/8	1/2	59.8
LPF30T-002	10136007102			49	10mm	12mm	59.7
LPF32T-001	10136006202			49	3/8	1/2	59.8
LPF32T-002	10136006302			45	1/4	3/8	49
LPF32T-003	10136007202			49	10mm	12mm	59.7

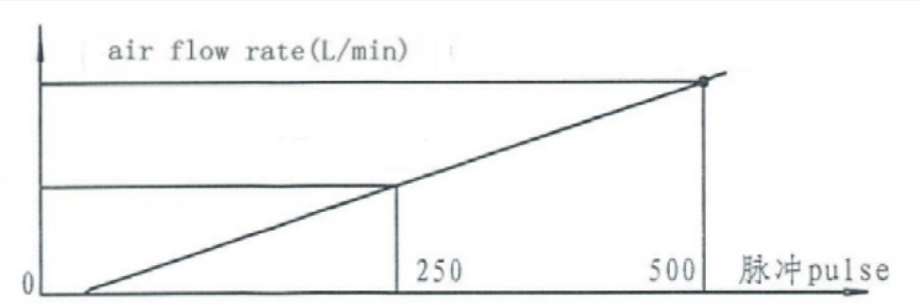
ELECTRONIC EXPANSION VALVE



FLOW CHARACTERISTIC (EQUAL PERCENTAGE)



LPF and LPF-T (03-32)

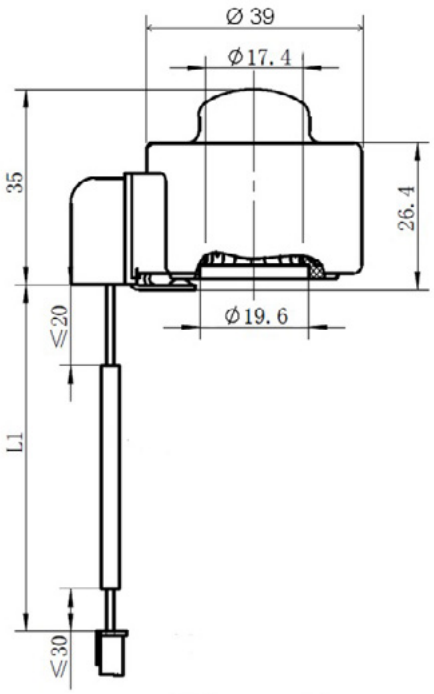


LPF 45-62

ELECTRONIC EXPANSION VALVE



The coil is separated
(Unit is mm)



Coil Model	Coil Code number	Coil Dimensions [mm]	Weight (g)
		L1	
PQ-M24012-000007	10810127602	1500	140,2
PQ-M24012-000008	10810129502	3000	
PQ-M24012-000009	10810129602	6000	
PQ-M24012-000010	10810129702	9000	

SECR03 *SERIES*

REFRIGERATED CABINET CONTROLLER SECR03 SERIES



FEATURES

- COMPLETE CABINET CONTROLLER INTEGRATED EEV CONTROL, CABINET TEMPERATURE CONTROL, DEFROSTING CONTROL, EVAPORATING FAN CONTROL AND OTHER FUNCTIONS
- INTERCOM FOR MULTIPLE CONTROLLERS SHARED SIGNAL
- DUAL TEMP MODE FOR MULTIPLE OPERATING CONDITIONS
- ENERGY EFFICIENT, ACHIEVING THE MOST EFFICIENT USE OF THE EVAPORATOR

GENERAL SPECIFICATIONS

- Applicable for various refrigerants
- Operating temperature: -30 ~ 55°C
- Storage temperature: -30 ~ 55°C
- Relative humidity: ≤95%RH
- Certification: CE Declaration according to EMC
- Installation method: DIN35 rail install
- Compatible with Sanhua DPF and LPF valves

ELECTRICAL PARAMETERS

- Power supply: 24Vac +10%/-15%, 50/60Hz
  24Vdc+10%/-15%, Class II
- Requested transformer: >15W (24Vdc) / >25VA (24Vac)
- Connection: Pluggable terminal (M3)
  Torque 0.5N.m, current ≤ 3A(220V),
  Min / Max wire diameter 0.34 ~ 2.5mm2
  XHP terminal (EEV and sensors)
- Communication: RS485, Remote Display, InterCom

REFRIGERATED CABINET CONTROLLER SECR03 SERIES



MODEL DESIGNATION LEGEND

NO. 1 2 3	Model Designation Legend
SECR03-R0	SANHUA electronic Expansion valve Controller
SEC**R03**-R0	Revo series refrigerated cabinet controller
SECR03-**R0**	R0 means no display on shell and need remote display

ORDERING METHOD

All the models are compatible with the main refrigerants on the market:
R22, R404A, R410A, R134a, R407C, R507, R1234ze, R1234yf, R290, R450A, R513A, R448A, R449A, R452A, R744(CO2), R744(N20), R32, R245fa, R23, R407A, R407F, R124, R717, R407H,R454C,R455A.

Model	Part Number	Details
SECR03-R0	10680001902	Cabinet controller
MD01-R4	10680002002	Remote display
YCQB02H01	10185001502	0-20bar, 0.5-3.5V, 1/4” soldering, 2m cable
YCQB02H18	10185015402	0-20bar, 0.5-3.5V, 1/4” soldering, 4.9m cable
YCQB02L12	10185015502	0-20bar, 0.5-3.5V, Thread: SAE-1/4" 7/16-20UNF-2B, 2m cable
YCQB02L28	10185015602	0-20bar, 0.5-3.5V, Thread: SAE-1/4" 7/16-20UNF-2B, 4.9m cable
NTC2A1	10665000102	Temperature Sensor (NTC 5 KΩ), 2m cable
NTC5A1	10665000202	Temperature Sensor (NTC 5 KΩ), 5m cable
NTC9A1	10665000402	Temperature Sensor (NTC 5 KΩ), 9m cable

Note: The temperature & pressure sensors should be ordered separately.
Other pressures transmitters are available on the YCQ datasheet.

REFRIGERATED CABINET CONTROLLER SECR03 SERIES



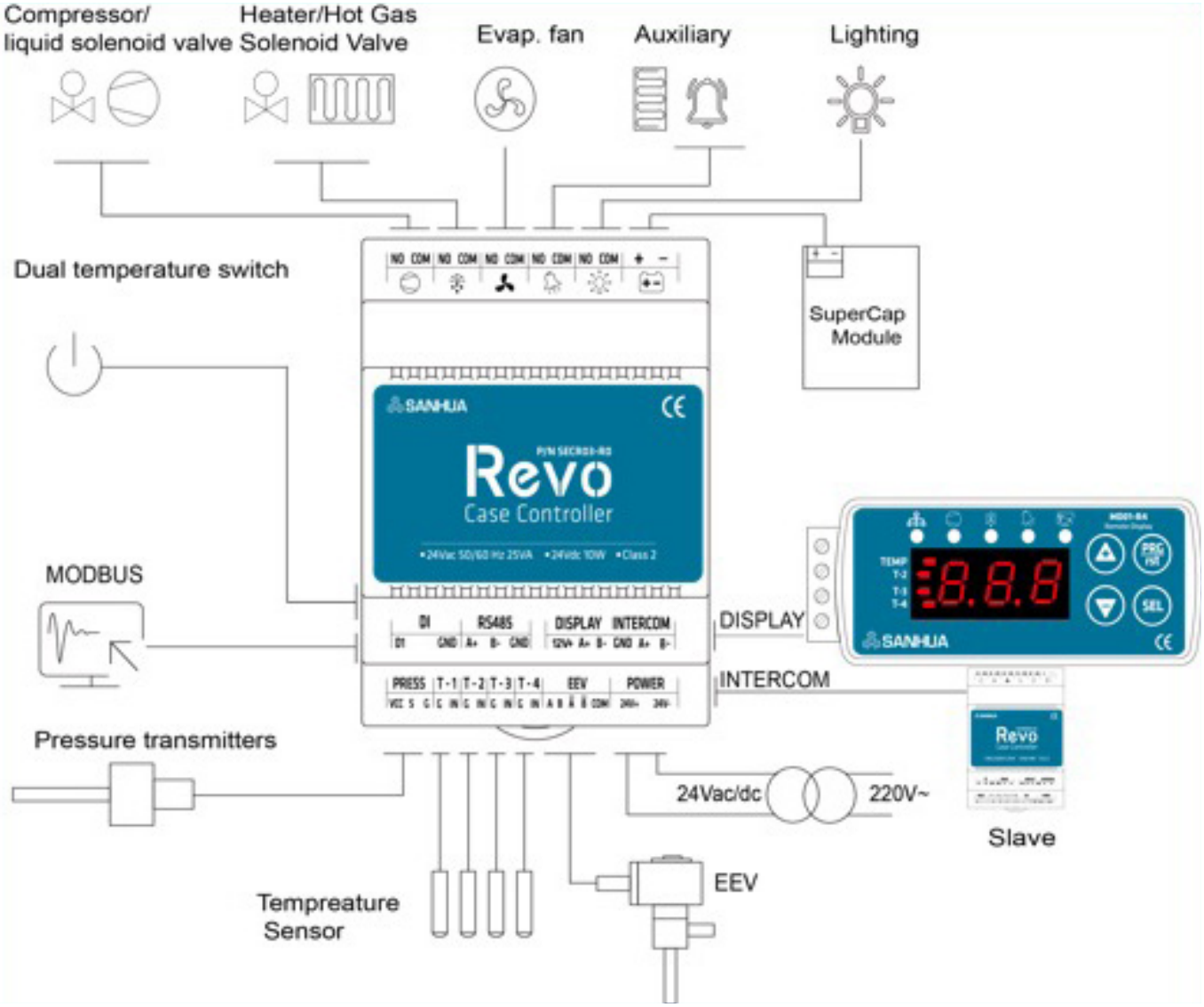
SENSOR INFORMATION

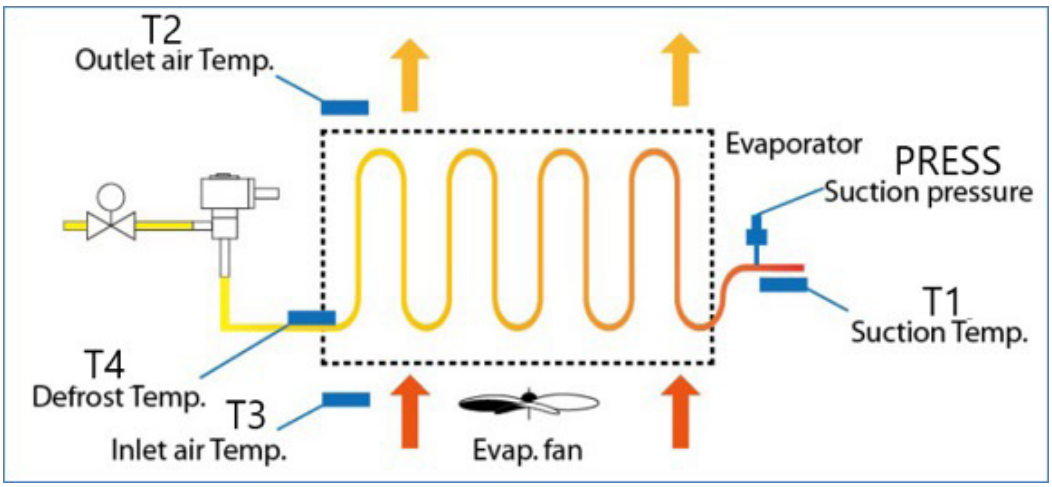
Items	Description	
Temperature sensor	Sensor type	NTC 5KΩ
	Cable specification	2 / 5 or 9 m × 0.5mm²
	Protection level	IP 67
	Accuracy	±0.3°C (at 25°C)
	Operating temperature range	-55 ~ 85°C
Pressure Transmitter	Power Supply	YCQB: (5±0.25) V DC
	Output signal	YCQB: (0.5 ~ 3.5) VDC
	Pressure range accuracy	±2.0% F.S. (-30°C/+85 °C)
	Protection level	IP 67
	Connection	Soldering: 1/4" or Thread: 1/4"SAE 7/16-20UNF

REFRIGERATED CABINET CONTROLLER SECR03 SERIES



INSTALLATION

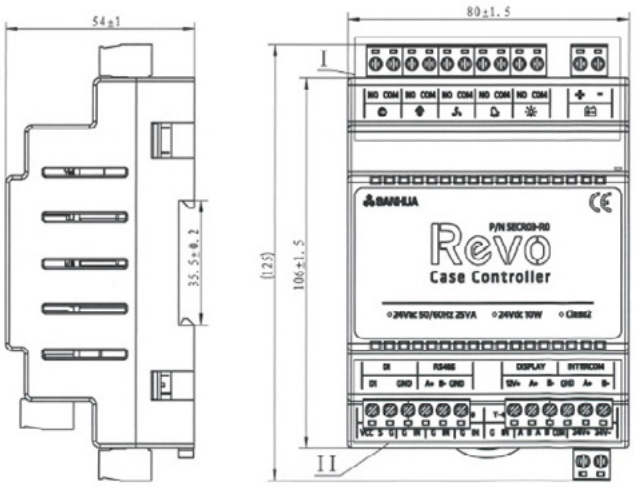


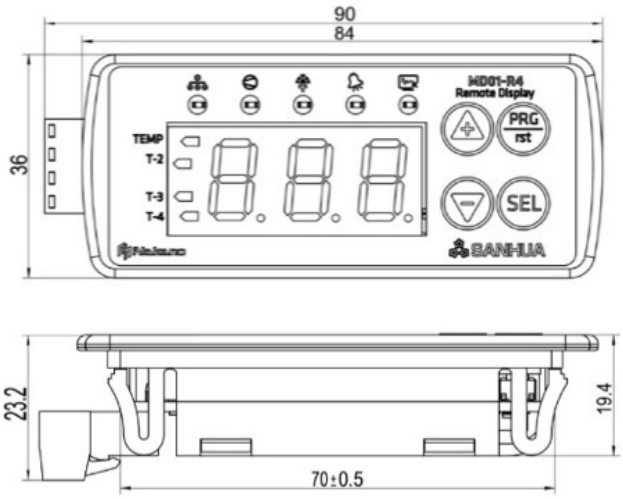


REFRIGERATED CABINET CONTROLLER SECR03 SERIES



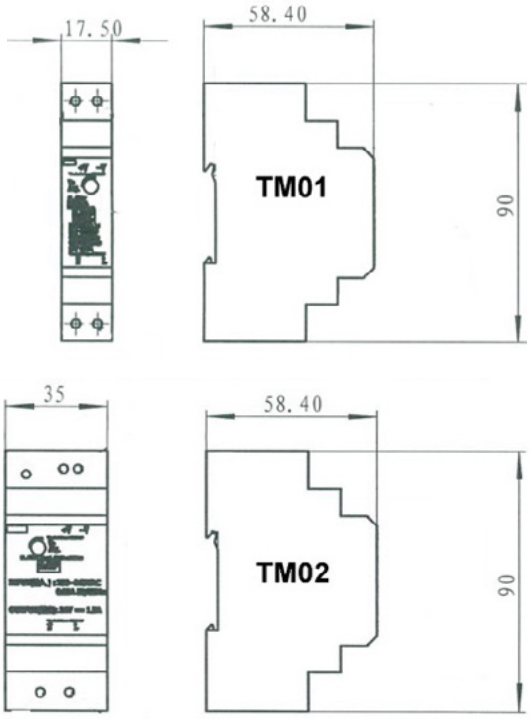
DIMENSIONS





ACCESSORIES

Transformer

Item			Description
Transformer	Supply Voltage	100 ~ 240 VAC	
	Output Voltage	From 21.6 to 29V, Set at 24 VDC	
	Output current	0.63 A for TM01 1.5 A for TM02	
	Operating Temperature	-30 ~ +70°C	
	Mounting	DIN 35mm	

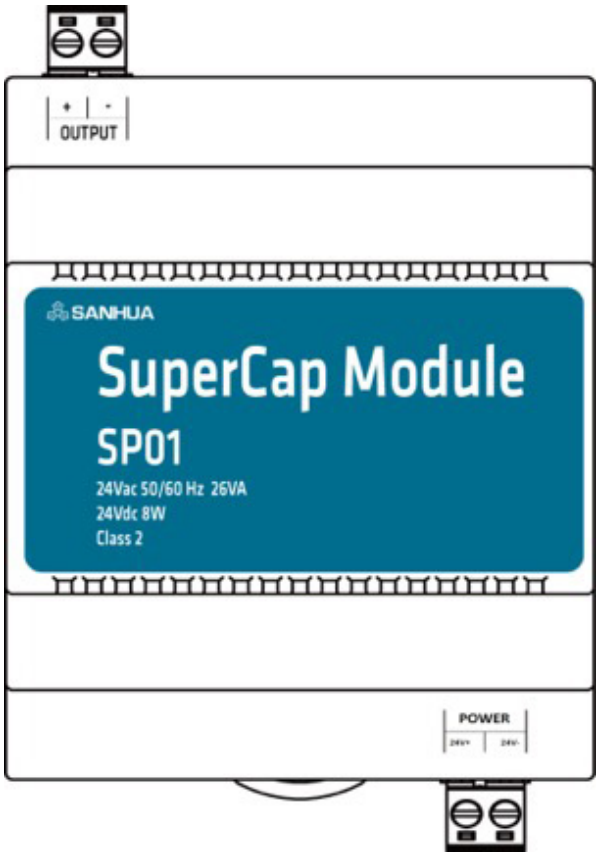
Model	Part number	Output current
TM01	20680008002	0.63 A
TM02	20680008102	1.5 A

REFRIGERATED CABINET CONTROLLER SECR03 SERIES



ULTRACAPACITOR

Item	Description
Model	SP01
Dimension	80 (W)mm x 106 (H)mm x 54(D)mm
Voltage input	24Vac, +10%/-15%, 50/60HZ 24Vdc, +10%/-15%
Voltage output	22.5~23.5V at Charging (24Vdc input), 14~16V at discharging
Discharging time	≥25s(Load current400mA)
Rated power	Max 8w(24Vdc)or 26VA(24Vac)
Operation	-30□+55°C,≤95%RH(Non-condensing)
Storage	30□+55°C,≤95%RH(Non-condensing)



Model	Part number
SP01	206800083

SEC61 *SERIES*

ELECTRONIC EXPANSION VALVE CONTROLLER

Electronic Expansion Valve Controller SEC61 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: -30~55°C
- Storage temperature: -30~55°C
- Relative humidity: ≤95%RH
- Certification: UL, CE Declaration according to EMC
- Installation method: DIN railsnap-in or wall mounting with screws
- Compatible with Sanhua DPF and LPF valves

ELECTRICAL PARAMETERS

- Power supply:
  24Vac +10%/-15%, 50/60Hz (SEC611 & SEC613 only)
  24Vdc+10%/-15% (Suitable for all the SEC models)
  Class II
- Requested transformer: ≥ 15VA
- Inputs: 1 Pressure sensor input
  1 Temperature sensor input
  1 Communicationinput (RS485 Modbus)
- Output: 1 Auxiliary relay output (30Vdc/3A)
  1 EEV output (12V DC±10%), rectangular wave

ELECTRONIC EXPANSION VALVE CONTROLLER



MODEL DESIGNATION LEGEND

NO.				Model Designation Legend
1	2	3	4	
SEC	6	11	R4	SANHUA electronic Expansion valve Controller
SEC	**6**	11	R4	Digital means the sixth-generation product
SEC	6	**11**	R4	Odd means voltage P-sensor, even means current type
SEC	6	11	**R4**	R4 means with RS485 modbus communication

ORDERING METHOD

All the models are compatible with the main refrigerants on the market :
R22, R404A, R410A, R134a, R407C, R507, R1234ze, R1234yf, R290, R450A, R513A, R448A, R449A, R452A, R744(CO2), R744(N20), R32, R245fa, R23, R407A, R407F, R124, R717, R407H, R454C, R455A, R454B, R452B, R600A.
All the models get a RS485 port for communication.

NO.	Item	Model	Part Number	Details		
				Item		Qty.
1	Controller Package[1)]	SEC611-R4 SEC613-R4	10680001002 10680001202	**Voltage** pressure sensor	**°C/Bar**	1
					°F/Psi	1
		SEC612-R4 SEC614-R4	10680001102 10680001302	**Current** pressure sensor	**°C/Bar**	1
					°F/Psi	1
2	Temp. Sensor[2)]	NTC2A1	10665000102	2m Temp. Sensor		
3		NTC5A1	10665000202	5m Temp. Sensor		
4		NTC9A1	10665000402	9m Temp. Sensor		
6	Pressure Sensor[3)]	YCQB02H01-1	10185001502	**0 / 20 bar - Ratio** with **Solder** connection, **2m** cable length		
7		YCQB02H18-1	10185015402	**0 /20 bar - Ratio** with **Solder** connection, **4.9m** cable length		
8		YCQB02L12-1	10185015502	**0 /20 bar - Ratio** with **Flare** connection, **2m** cable length		
9		YCQB02L28-1	10185015602	**0 /20 bar - Ratio** with **Flare** connection, **4.9m** cable length		
10		YCQC02L18	10185017102	**-1 / 12 bar** - **Current** with **Flare** connection, **Packard** connection		
10		YCQC09L02	10185042402	**0 / 90 bar – Current** with **Flare** connection, **Packard** connection		
11	Packard cable	YCQC02-013037	20185051102	**2m** cable length		
12		YCQC02-013038	20185051202	**5m** cable length		
13		YCQC02-013039	20185051302	**9m** cable length		

Note: The temperature & pressure sensors should be ordered separately.

Others YCQ models are available, please check the SANHUA YCQ Datasheet or ask your local support

ELECTRONIC EXPANSION VALVE CONTROLLER



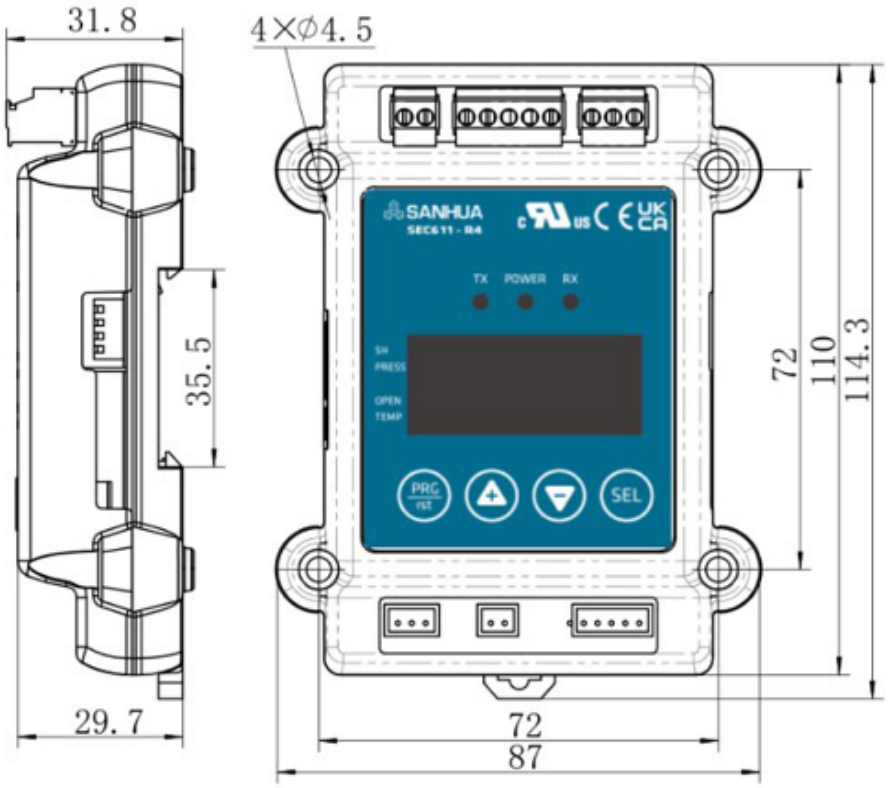
TEMPERATURE AND PRESSURE SENSORS

Item	Description	
Temperature Sensor	Type	NTC 5KΩ
	Wire	2×0.5mm²
	Protection class	IP 67
	Accuracy	±0.3ºC (below25ºC)
	Temperature Range	-50 ~50ºC
	Electrical connector	XH connector
Pressure sensor	Voltage supply	YCQB: 5±0.25 Vdc YCQC: 10-30 Vdc
	Output	YCQB: 0.5~3.5 Vdc YCQC: 4-20mA
	Accuracy	±0.8% F.S.(-40~40ºC)
	Protection class	IP 67
	Connection Type	Solder 1/4” Flare = Thread SAE - 1/4"7/16-20UNF-2B
	Electrical connector	XH connector Packard connector

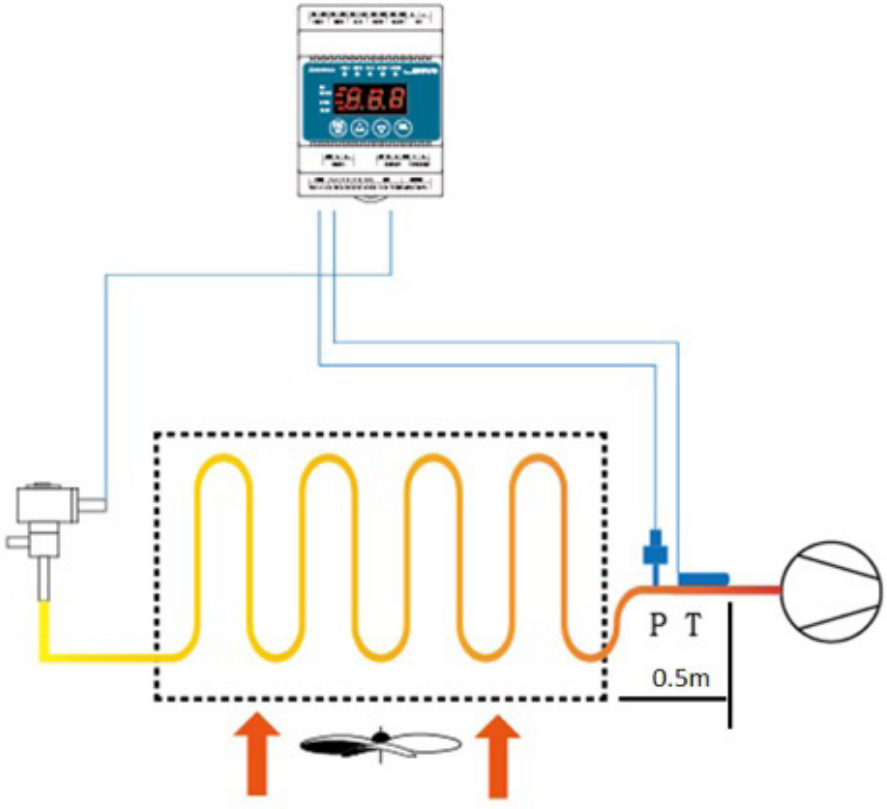
ELECTRONIC EXPANSION VALVE CONTROLLER



DIMENSIONS AND INSTALLATION



INSTALLATION DIAGRAM



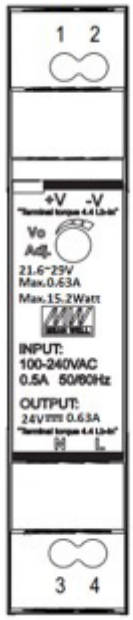
ELECTRONIC EXPANSION VALVE CONTROLLER



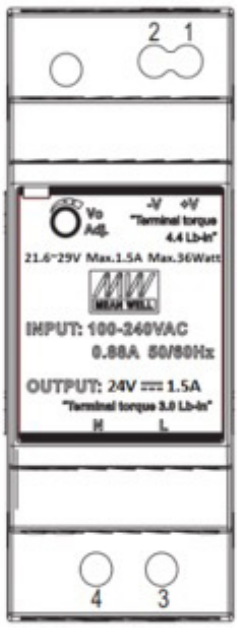
ACCESSORIES

Power supply

Items	Description
Model	TM01
Dimension	17.5(W)mm x 90 (H)mm x 58.3 (D)mm
Voltage input	85 ~ 264VAC, 47 ~ 63Hz
Current AC	0.5A/115VAC, 0.25A/230VAC
Rated voltage output	24Vdc, ±1.0%
Rated current output	0.63A
Rated power	15.2W
Operation	-30~+70°C, 20~90%RH (Non-condensing)
Storage	-40~+85°C, 10~95%RH (Non-condensing)
Wire	18~24AWG9 (0.2~0.8mm²)



Items	Description
Model	TM02
Dimension	35(W)mm x 90 (H)mm x 58.3 (D)mm
Voltage input	85 ~ 264VAC, 47 ~ 63Hz
Current AC	0.5A/115VAC, 0.25A/230VAC
Rated voltage output	24Vdc, ±1.0%
Rated current output	1.5A
Rated power	36W
Operation	-30~+70°C, 20~90%RH (Non-condensing)
Storage	-40~+85°C, 10~95%RH (Non-condensing)
Wire	18~24AWG9 (0.2~0.8mm²)



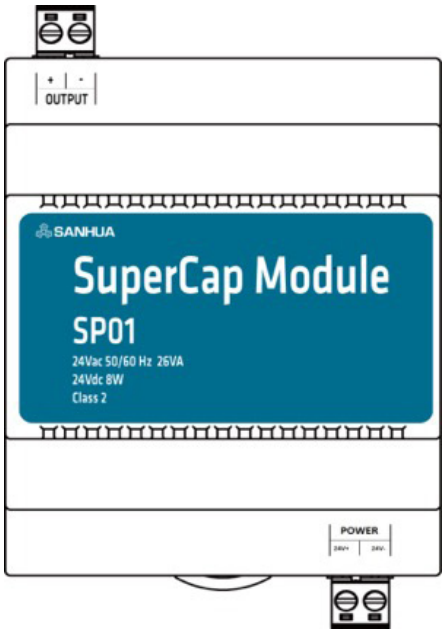
Model	Part Number	Output current	Code reported on the product label
TM01	20680008002	0.63 A	HDR 15
TM02	20680008102	1.5 A	HDR 30

ELECTRONIC EXPANSION VALVE CONTROLLER



Supercapacitor

Items	Description
Model	SP01
Dimension	80 (W)mm x 106 (H)mm x 54(D)mm
Voltage input	24Vac, +10%/-15%, 50/60HZ 24Vdc, +10%/-15%
Voltage output	22.5~23.5V at Charging (24Vdc input), 14~16V at discharging
Discharging time	≥25s (Load current 400mA)
Rated power	Max 8w (24Vdc) or 26VA (24Vac)
Operation	-30~+55°C, ≤95%RH (Non-condensing)
Storage	30~+55°C, ≤95%RH (Non-condensing)



Model	Part Number
SP01	10680001702

***VPF** SERIES*

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 HCFC, HFC, HFO and flammable refrigerants such as: R134a, R513A, R404A, R407A, R407C, R407F,R450A, R452A, R452B, R410A,R507A, R1234yf, R1234ze, R290, R32, R454C, R455A, ...
- 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, PED Declaration for fluids group 2 full range and fluid group 1 for VPF12.5 to 100.

ELECTRONIC EXPANSION VALVE



ELECTRICAL PARAMETERS

- Rated voltage: 12VDC, rectangular wave
- Actuating mode: 2-phase 4-step permanent magnet stepping motor
- Excitation mode: 2 phase excitation, bi-pole actuation
- Coil resistance: 52 ± 5,2Ω/coil (20°C)
- Insulation coil class: E
- Protection class: IP 67

	Voltage drive	Current drive
Excitation rate	150 pps Max	300 pps Max
Motion time from completely open to completely closed	VPF12.5...VPF50: 17,3s VPF100: 23,3s VPF150...VPF400: 25,3s	VPF12.5...VPF50: 8,7s VPF100: 11,7s VPF150...VPF400: 12,7s
Nominal motor current*	124mA RMS per phase in control operation	100mA RMS per phase in control operation
Peak motor current*	238mA RMS per phase in control operation	140mA RMS per phase in control operation

*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	
VPF	100	H	0	3	Electronic expansion valve
VPF	**100**	H	0	3	Digits for capacity size
VPF	100	**H**	0	3	Connection: Solder
VPF	100	H	**0**	3	Valve body: With sight glass
VPF	100	H	0	**3**	Digit for pipe connection diameter

ELECTRONIC EXPANSION VALVE



TECHNICAL PARAMETER

VPF 12.5 to 150

MWP (Max Working Pressure) = 50 bar

MOPD (Max Operating Pressure Differential) A->B or B-> A = 39 bar

Model	Part Number[1)]	Valve Shape	Sight Glass	Connections ød ODF Inlet A x Outlet B		Seat ø	Kv[2)]	PED Cat. Fluid	
				[inch]	[mm]	[mm]	m³/h	Group 1	Group 2
VPF12.5H52	10130349502	straight	without	5/8 x 5/8	16 × 16	7,5	0,8	Art. 4.3	Art. 4.3
VPF12.5H53	10130350202			7/8 x 7/8	22 × 22			Art. 4.3	Art. 4.3
VPF12.5H58	10130342102	L-shape	without	5/8 x 5/8	16 × 16			Art. 4.3	Art. 4.3
VPF12.5H59	10130349802			7/8 x 7/8	22 × 22			Art. 4.3	Art. 4.3
VPF25H52	10130349202	straight	without	5/8 x 5/8	16 × 16	7,5	1,4	Art. 4.3	Art. 4.3
VPF25H53	10130356202			7/8 x 7/8	22 × 22			Art. 4.3	Art. 4.3
VPF25H58	10130343202	L-shape	without	5/8 x 5/8	16 × 16			Art. 4.3	Art. 4.3
VPF25H59	10130356102			7/8 x 7/8	22 × 22			Art. 4.3	Art. 4.3
VPF50H51	10130337702	straight	without	7/8 x 7/8	22 x 22	11,4	2,3	Art. 4.3	Art. 4.3
VPF50H52	10130347002			7/8 x 1 1/8	-			Art. 4.3	Art. 4.3
VPF50H53	10130356502			1 1/8 x 1 1/8	-			Art. 4.3	Art. 4.3
VPF50H54	10130342302			1 1/8 x 1 3/8	-			Art. 4.3	Art. 4.3
VPF50H56	10130347102			-	22 x 28			Art. 4.3	Art. 4.3
VPF50H57	10130347202			-	28 x 28			Art. 4.3	Art. 4.3
VPF50H58	10130342402			-	28 x 35			Art. 4.3	Art. 4.3
VPF 50H01	10130341102	straight	with	7/8 x 7/8	22 x 22			Art. 4.3	Art. 4.3
VPF 50H02	10130346702			7/8 x 1 1/8	-			Art. 4.3	Art. 4.3
VPF 50H03	10130344802			1 1/8 x 1 1/8	-			Art. 4.3	Art. 4.3
VPF50H04	10130342802			1 1/8 x 1 3/8	-			Art. 4.3	Art. 4.3
VPF50H06	10130346802			-	22 x 28			Art. 4.3	Art. 4.3
VPF50H07	10130346902			-	28 x 28			Art. 4.3	Art. 4.3
VPF50H08	10130342502			-	28 x 35			Art. 4.3	Art. 4.3
VPF100H51	10130347502	straight	without	1 1/8 x 1 1/8	-	14,4	4,0	Cat. II	Art. 4.3
VPF100H52	10130347602			1 1/8 x 1 3/8	-			Cat. II	Art. 4.3
VPF100H53	10130342602			1 3/8 x 1 3/8	35 x 35			Cat. II	Art. 4.3
VPF100H54	10130347702			-	28 x 28			Cat. II	Art. 4.3
VPF100H55	10130347802			-	28 x 35			Cat. II	Art. 4.3
VPF100H01	10130356802	straight	with	1 1/8 x 1 1/8	-			Cat. II	Art. 4.3
VPF100H02	10130347302			1 1/8 x 1 3/8	-			Cat. II	Art. 4.3
VPF100H03	10130356602			1 3/8 x 1 3/8	35 x 35			Cat. II	Art. 4.3
VPF100H05	10130347402			-	28 x 35			Cat. II	Art. 4.3
VPF100H06	10130343102			-	28 x 28			Cat. II	Art. 4.3
VPF150H01	10130357002	L-shape	with	1 1/8 x 1 3/8	-	14,8	7,7	O.R	Art. 4.3
VPF150H02	10130356702			1 5/8 x 1 5/8	-			O.R	Art. 4.3

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
O.R =On Request

ELECTRONIC EXPANSION VALVE



VPF 250 & 400

MWP (Max Working Pressure) = 45 bar / 34 bar for the VPF400H10 model

MOPD (Max Operating Pressure Differential) A->B or B -> A = 35 bar / 21 bar for the VPF400H10 model

Model	Part Number[1)]	Valve Shape	Sight Glass	Connections ød ODF Inlet A x Outlet B		Seat ø	Kv[2)]	PED Cat. Fluid	
				[inch]	[mm]	[mm]	m³/h	Group 1	Group 2
VPF250H01	10130348002	straight	without	1 1/8 x 1 1/8	-	25	11,9	O.R	Art. 4.3
VPF250H02	10130342902			1 3/8 x 1 3/8	35 x 35			O.R	Art. 4.3
VPF250H03	10130356402			1 5/8 x 1 5/8	-			O.R	Art. 4.3
VPF250H04	10130348102			-	28 x 28			O.R	Art. 4.3
VPF250H05	10130341202			-	42 x 42			O.R	Art. 4.3
VPF400H01	10130344902	straight	with	1 5/8 x 1 5/8	-	33	17,0	O.R	Cat. I
VPF400H02	10130349002			-	42 x 42			O.R	Cat. I
VPF400H03	10130343302			2 1/8 x 2 1/8	54 x 54			O.R	Cat. I
VPF400H10	10130426002	angle	with	2 1/8 x 2 5/8	54 x 67	28,5	14,5	O.R	Cat. I

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
O.R =On Request

COOLING CAPACITIES

Model	Steps Completely Open	Nominal Cooling Capacity[1)] [kW]												
		R134a	R407A	R407C	R407F	R404A R507A	R410A	R32	R290	R454B	R454C	R455A	R1234yf	R1234ze
VPF12.5	2600	54	67	71	76	50	82	126	77.4	101.2	66.1	72.8	41.9	43
VPF25	2600	116	144	152	162	108	176	262	160.8	210.1	137.2	151.1	87	92
VPF50	2600	221	275	290	310	206	336	527	323.1	422.3	275.7	303.6	173	175
VPF100	3500	319	397	418	447	297	484	748	458.9	599.7	391.6	431.3	248	253
VPF150	3800	574	714	752	804	534	871	N.C	N.C	N.C	N.C	N.C	N.C	455
VPF250	3800	892	1108	1168	1249	830	1353	N.C	N.C	N.C	N.C	N.C	N.C	706
VPF400	3800	1495	1857	1958	2094	1392	2269	N.C	N.C	N.C	N.C	N.C	N.C	1183
VPF400	2700	1301	1616	1703	1822	1211	N.C	N.C	N.C	N.C	N.C	N.C	N.C	1029

Note: 1) Nominal conditions : Condensing temperature = 38°C / Evaporating temperature = +4,4°C / liquid temperature = 37°C
2) For refrigerants with glide, performances are given in dew point
N.C = Not Certified

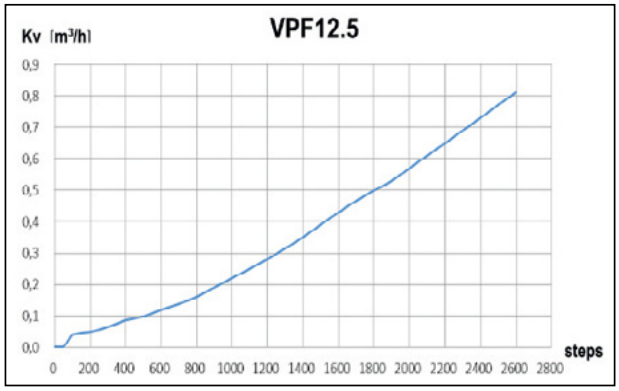
For others running points or others refrigerants, please contact your local support or download our selection software – Quick Finder with the link: **www.sanhuaeurope.com/en/quick-finder-software-download**

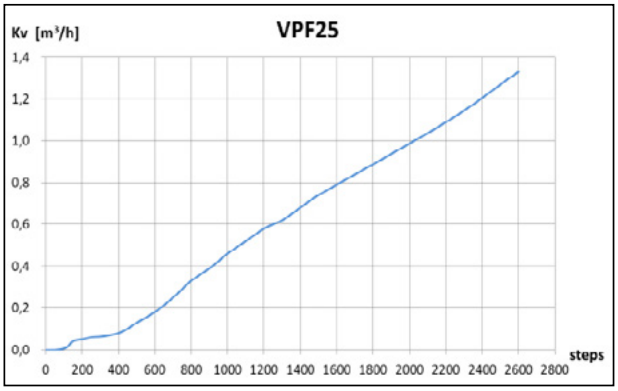
ELECTRONIC EXPANSION VALVE

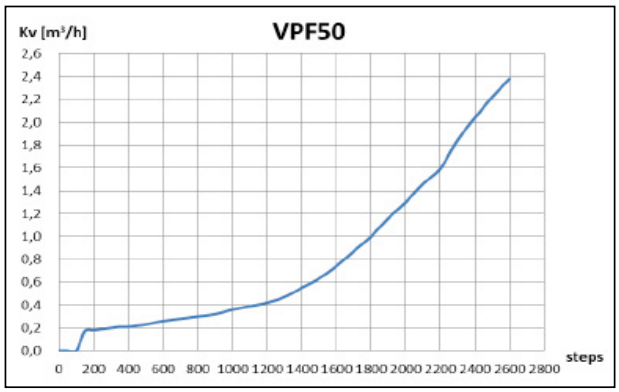


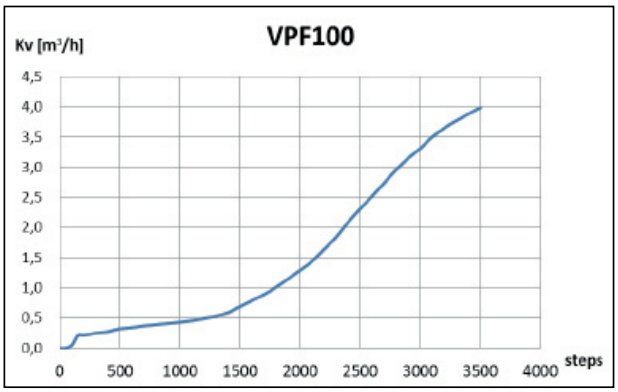
FLOW CHARACTERISTIC

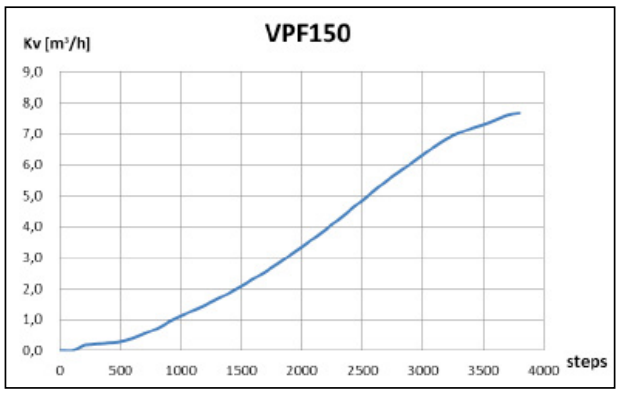
Add drawing for VPF12.5 + VPF 400 into catalogue

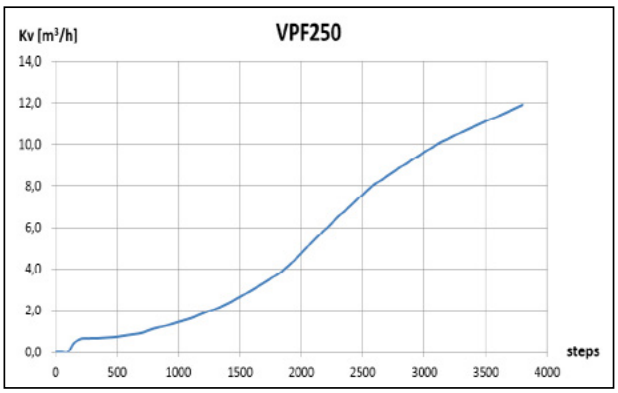


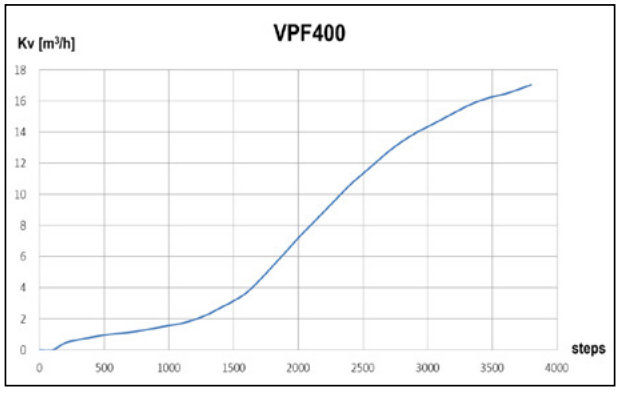










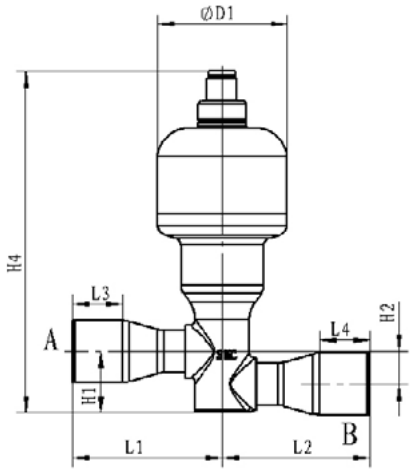


ELECTRONIC EXPANSION VALVE

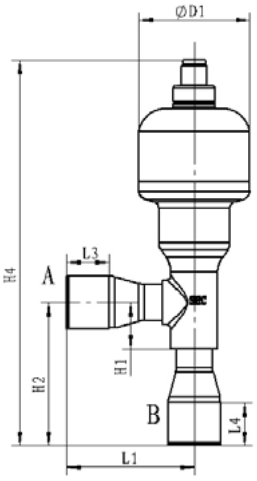


DIMENSIONS

Model	Part Number	Dimensions [mm]									Weight (kg)
		L	L1	L2	L3	L4	H1	H2	H4	øD1	
VPF12.5H52	10130349502	120	60	60	13	13	25,6	13	136	52	0.5
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	



VPF12.5, VPF25, Straight version

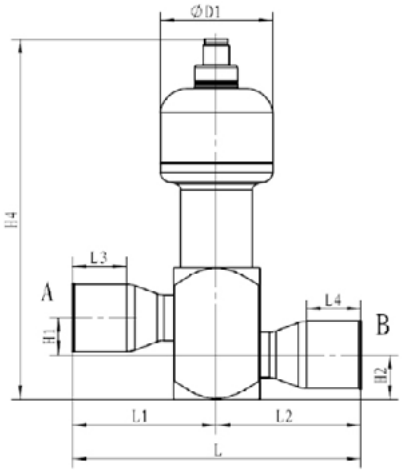


VPF12.5, VPF25, L-Shape version

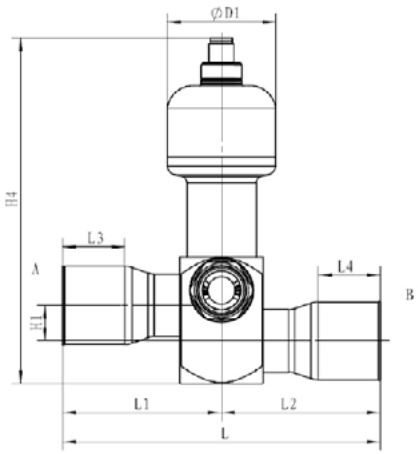
ELECTRONIC EXPANSION VALVE



Model	Part Number	Dimensions [mm]									Weight (kg)
		L	L1	L2	L3	L4	H1	H2	H4	øD1	
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	1.1
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	



VPF50, VPF100 without sight glass

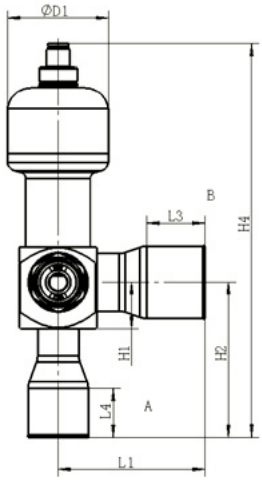


VPF50, VPF100 with sight glass

ELECTRONIC EXPANSION VALVE

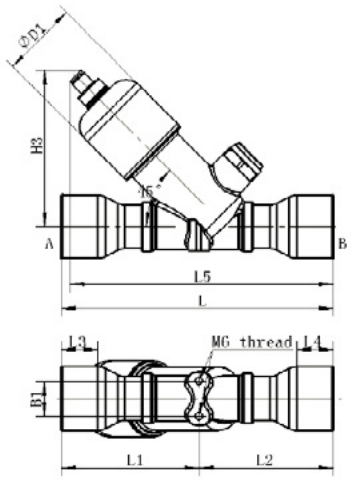


Model	Part Number	Dimensions [mm]									Weight (kg)
		L	L1	L2	L3	L4	H1	H2	H4	øD1	
VPF150H01	10130357002	-	76	-	30	25	24	70	195	52	1.0
VPF150H02	10130356702		76		25	25	33,5	89	212	52	

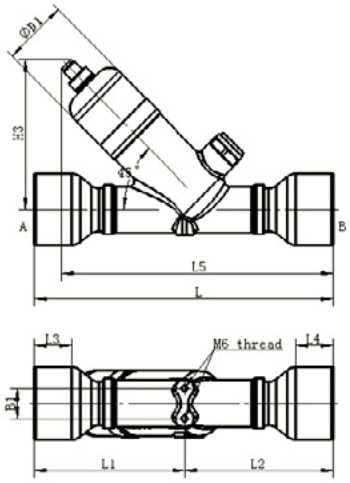


VPF150 with sight glass

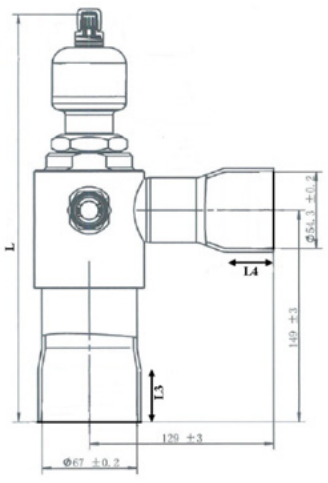
Model	Part Number	Dimensions [mm]									Weight (kg)
		L	L1	L2	L3	L4	H1	H2	H4	øD1	
VPF100H53	10130342602	166	84	82	25	25	170	107	24	52	
VPF100H54	10130347702	186	94	92	30	30	180	107	24	52	
VPF100H55	10130347802	186	94	92	25	25	180	107	24	52	1.1
VPF100H01	10130356802	166	84	82	25	25	170	107	24	52	
VPF100H02	10130347302	186	94	92	25	25	180	107	24	52	
VPF100H03	10130356602	203	104	99	30	30	198	118	24	52	
VPF100H05	10130347402	203	104	99	30	30	198	118	24	52	1.7
VPF100H06	10130343102	240	121	119	30	30	218	118	24	52	
VPF400H10	10130426002	286	-	-	36	32	-	-	-	-	3.7



VPF250with sight glass



VPF400 with sight glass



VPF400H10

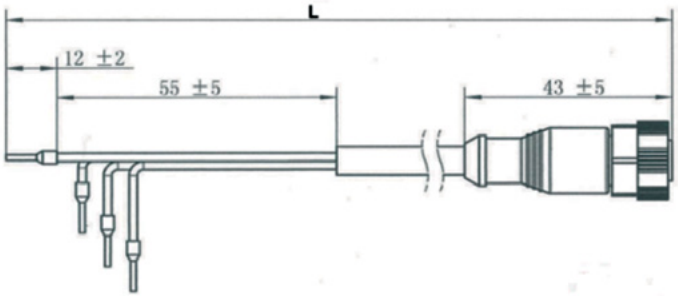
ELECTRONIC EXPANSION VALVE



ACCESSORIES

Connection Cable

Model	Part Number	Cable Length (L) [m]	Tolerance [mm]	IP
Y02A	20130674902	2000	± 40	67
Y08A	20130675102	8000	± 160	67



SANHUA

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VSD2010 *SERIES*

ELECTRONIC EXPANSION VALVE DRIVER



FEATURES

- UNIPOLAR EEV MOTOR DRIVER, SUITABLE FOR SANHUA DPF / LPF SERIES
- 0~10VDC OR 4~20mA ANALOG SIGNAL INPUT, CONTROL EEV OPENING
- MODEL WITH SUPERCAPACITOR AVAILABLE
- SMALL SIZE, SLIDE DESIGN, EASY TO INSTALL

GENERAL SPECIFICATIONS

- Suitable 1-2 phase unipolar type EEV, E.g DPF & LPF series.
- Operating temperature: -30 ~ +55°C
- Storage temperature: -30 ~ +55°C
- Relative humidity: ≤90%RH
- Dimension: 102(W)mm×100(H)mm×44(D)mm (with terminal)
- Protection level: IP20
- Certification: CE Declaration according to EMC

ELECTRONIC EXPANSION VALVE DRIVER



ELECTRICAL PARAMETERS

- Power supply:

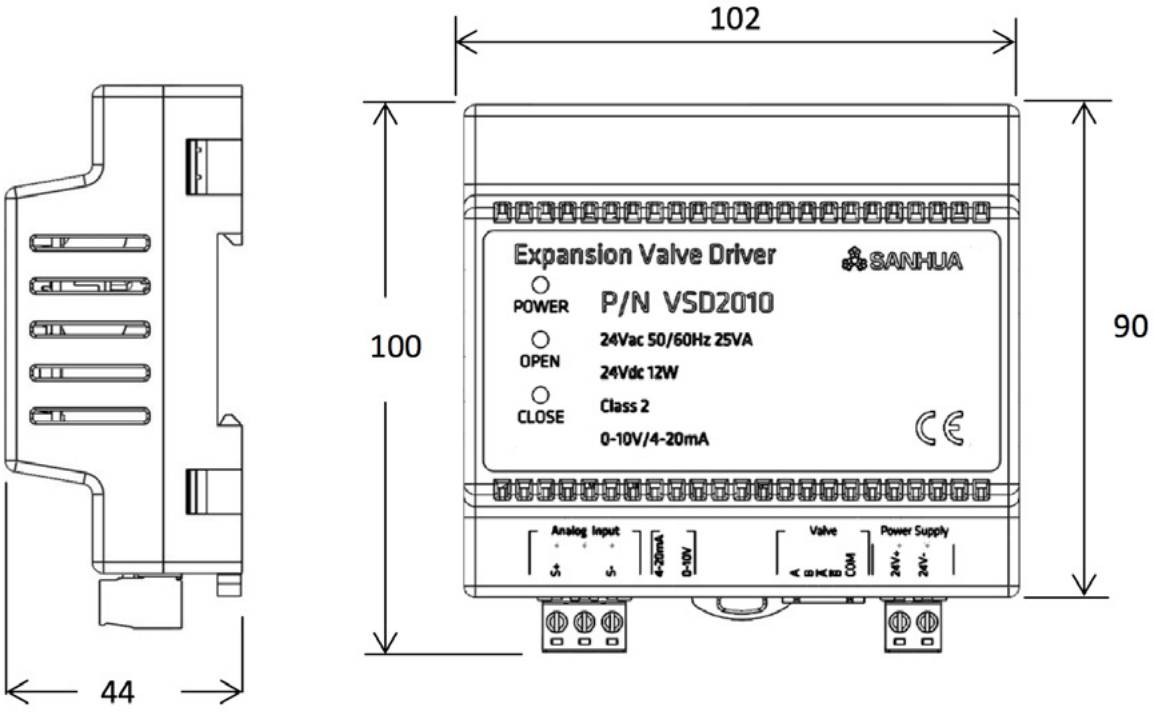
VSD2010	24Vac (20~28Vac) 50/60Hz 25VA or 24Vdc (20~28Vdc) 12W, class 2
VSD2010P	24Vac (20~28Vac) 50/60Hz 35VA or 24Vdc (20~28Vdc) 15W, class 2

- Inputs: 4~20mA or 0~10VDC analog signal
- Output: 5 wires EEV output
- Self-holding mechanism: Maintain excitation in stop position min. 0.1s
- Drive speed: 30pps (normal operation) / 90pps (during supercapacitor close valve)

MODEL LIST

Model	Part Number	Detail
VSD2010	10685001002	Standard model
VSD2010P	10685000902	Model with supercapacitor inside

DIMENSIONS (in mm)



VSD1002 *SERIES*

ELECTRONIC EXPANSION VALVE DRIVER



FEATURES

- CONSTANT CURRENT CONTROL STEPPER MOTOR, PRECISE DRIVE CURRENT
- 0~10VDC OR 4~20MA ANALOG SIGNAL INPUT, CONTROL EEV OPENING
- FORCED OPEN/CLOSE VALVE CONTROL TO FACILITATE DEBUGGING
- SUPPORT MODBUS COMMUNICATION, UP TO 32 CASCADES
- SMALL SIZE, SLIDE DESIGN, EASY TO INSTALL

GENERAL SPECIFICATION

- Suitable for all VPF series EEV
- Operating temperature: -30~+55°C
- Storage temperature: -30 ~ +55°C
- Relative humidity: ≤90%RH
- Dimension: 102(W)mm×90(H)mm×43.5(D)mm
- Protection level: IP20
- Certification: UL, CE Declaration according to EMC

ELECTRICAL PARAMETERS

- Power supply:
  24Vac (20~28), 50/60Hz
  24Vdc (20~28), class 2
- Power consumption: Max 6W at 24Vdc
- Terminals: Spacing 5.08mm Pluggable
- Inputs: 4~20mA or 0~10VDC analog signal
- Output: 4 wires EEV output
- Communication: RS485

ELECTRONIC EXPANSION VALVE DRIVER



MODEL LIST

Model	Part Number	Detail
VSD1002	10685000202	Standard model
VSD1002P	10685000302	Model with battery backup inside

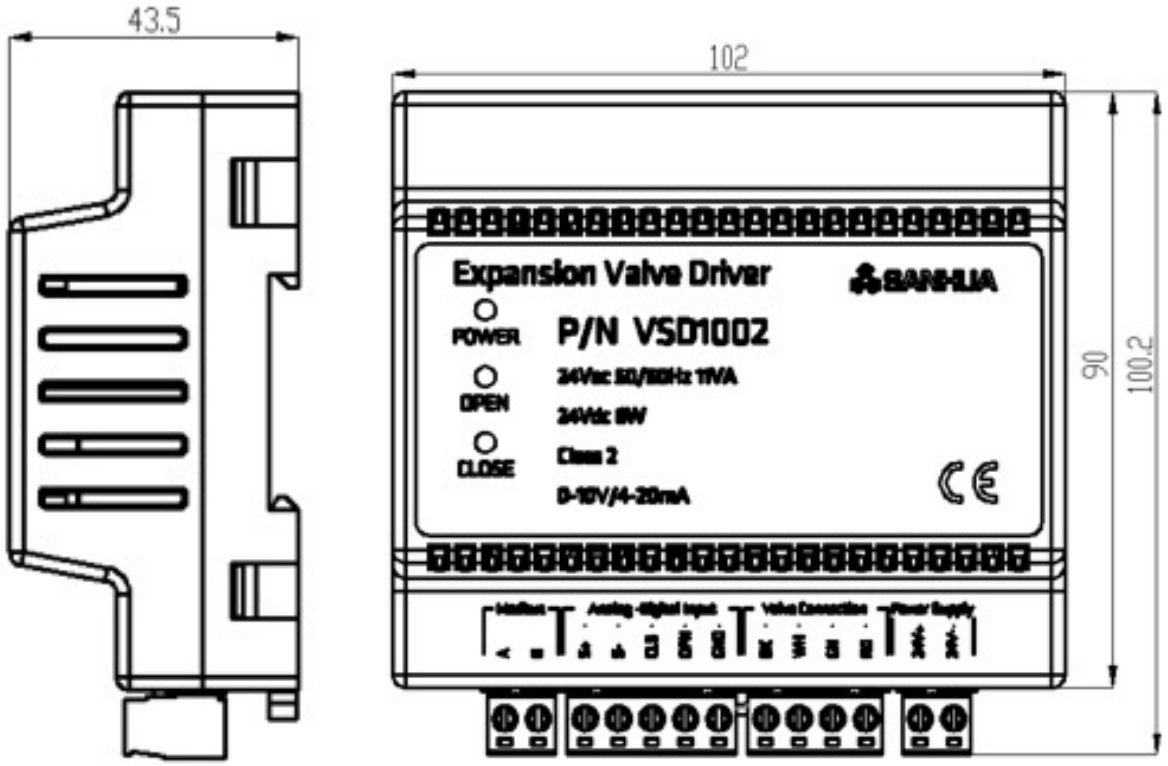
TECHNICAL PARAMETERS

Pulse for different VPF models

Pulse	VPF models
2700	VPF12.5 VPF25 VPF50
3500	VPF100
3800	VPF150 VPF250 VPF400

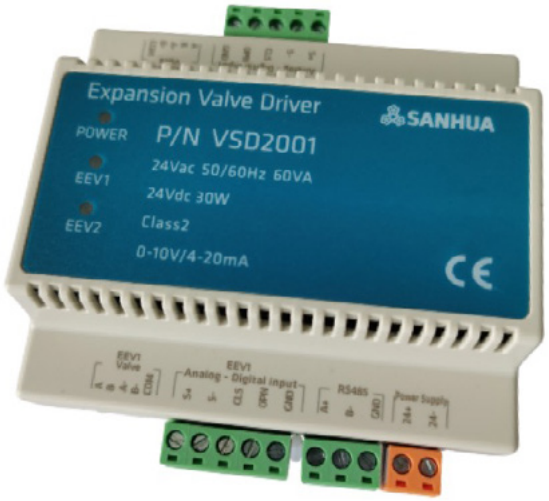
DIMENSIONS

(in mm)



VSD2001 *SERIES*

ELECTRONIC EXPANSION VALVE DRIVER



FEATURES

- DRIVER FOR TWO IN DEPENDENT EEV
- UNIPOLAR/ BIPOLAR EEV CAN BE SELECTED INDEPENDENTLY
- SUITABLE FOR SANHUA DPF / LPF / VPF SERIES
- 0~10VDC OR 4~20mA ANALOG SIGNAL INPUT, CONTROL EEV OPENING
- SMALL SIZE, SLIDE DESIGN, EASY TO INSTALL

GENERAL SPECIFICATIONS

- Operating temperature: -30 ~ +55°C
- Storage temperature: -30 ~ +55°C
- Relative humidity: ≤ 95%RH
- Dimension: 102(W)mm×111(H)mm×44(D)mm (with terminals)
- Protection level: IP20
- Certification: CE Declaration according to EMC

ELECTRICAL PARAMETERS

- Power supply:
  24Vac (20~28), 50/60Hz, 60VA
  24Vdc (20~28), 30W, class 2
- Inputs: 4~20mA or 0~10VDC analog signal
- Output: Unipolar / Bipolar EEV output
- Self-holding mechanism:
  Maintain excitation in stop position min. 0.1s
- Drive speed: 200pps (30-200pps can be selected)

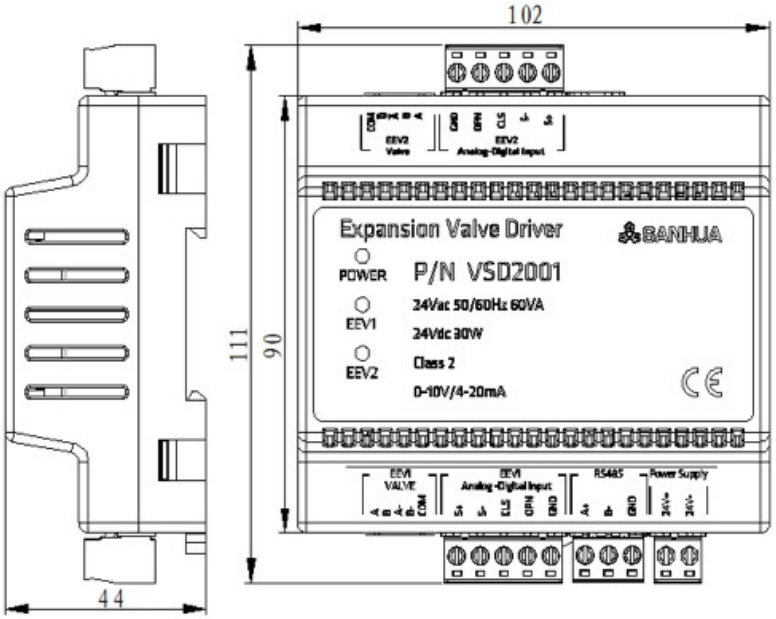
ELECTRONIC EXPANSION VALVE DRIVER



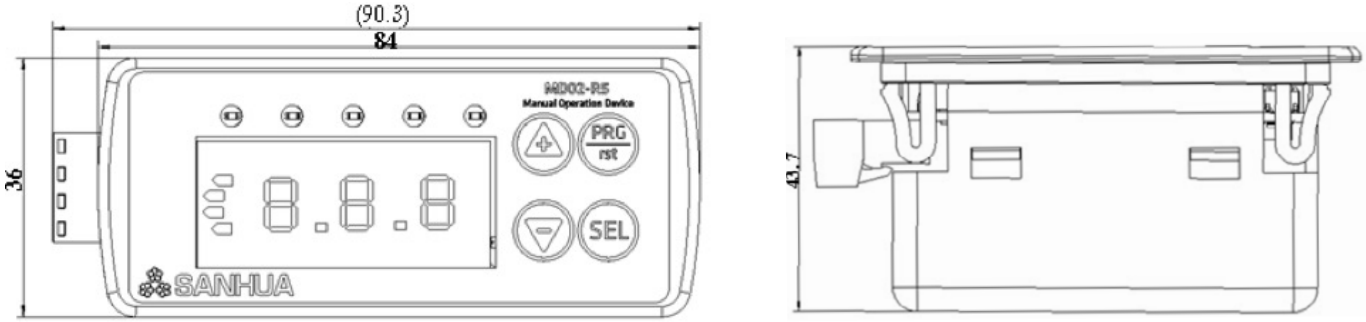
ORDERING

Model	Part Number	Detail
VSD2001	10685000602	Standard model
MD02-R5	10680002602	Manual operator

DIMENSIONS (in mm)



DIMENSIONS (in mm)



SD2 *SERIES*

VARIABLE SPEED DRIVE

SANHUA SD2 variable speed drive series are dedicated to BLDC compressor and fans.



FEATURES

- OPTIMIZED FOR HVAC&R APPLICATIONS SUCH AS HEAT PUMP, AIR CONDITIONING, REFRIGERATION RACKS AND CONDENSING UNITS.
- EXTENDED SPEED RANGE ALLOWING TO REDUCE THE NUMBER OF SHORT CYCLE AND PROVIDE MORE COOLING CAPACITY
- CUSTOMIZABLE HEATSINK ACCORDING TO THE CONFIGURATION OF YOUR UNITS
- REFRIGERANT COOLING AVAILABLE WITH EASY SERVICEABILITY
- THROUGH PANEL MOUNTING FOR LOWER FOOTPRINT
- COMPATIBLE WITH NUMEROUS OF HERMETIC BLDC COMPRESSOR. ALL TESTED IN OUR CERTIFIED TUV LABORATORY AT DIFFERENT CONDITIONS.
- DRIVE ALREADY SET ACCORDING TO YOUR COMPRESSOR AND YOUR APPLICATION

GENERAL SPECIFICATIONS

- Adapted for application using A3 refrigerants
- Operating temperature: -25°C to +65°C
- Storage temperature: -40°C to +85°C
- Relative humidity: ≤ 95%RH
- Safe Torque Off (STO)
- Harmonic compliant according to EMC Directive (2014/30/EU)
- Certification: UL, CE Declaration according to EMC
- Installation method: DIN rail snap-in or wall mounting with screws
- Works well with Sanhua DPF and LPF EEVs

ELECTRICAL SPECIFICATIONS

- Power supply:
  1Ph, 230VAC ±20%, 50/60Hz
  3Ph, 400VAC ±20%, 50/60Hz
- Modbus RTU (RS485)
- Pluggable terminals
- Digital Input – Start/Stop
- Analogue Input – Speed reference
- High Pressure switch
- NTC probe

VARIABLE SPEED DRIVE



MODEL DESIGNATION

N°							Model Designation Legend
1	2	3	4	5	6	7	
SD2	011	A1	H	0	X	A	SANHUA SD2 variable speed drive series
SD2	**011**	A1	H	0	X	A	**Output Current (Amps)** 011: 11A-RMS (Single Phase) 015: 15A-RMS (Single/Three Phase) 020: 20A-RMS (Single/Three Phase) 025: 25A-RMS (Three Phase) 032: 32A-RMS (Three Phase)
SD2	011	**A1**	H	0	X	A	**Input Power Supply (VAC)** A1: 1P 94-135VAC 50Hz (Under Development) A2: 1P 220-240VAC 50Hz/60HzMP B2: 3P 200-260VAC 60Hz (Under Development) B4: 3P 380-415VAC 50Hz/60HzMP C4: 3P 420-528VAC 60Hz (Under Development) C5: 3P 520-630VAC 50Hz (Under Development)
SD2	011	A1	**H**	0	X	A	**Cooling Version** A: Active Air Cooling FAN (Under Development) H: Horizontal Heat Sink Cooled Finned MP V: Vertical Hea t Sink Cooled Finned MP F: Flat Plate Fluid Cooled MP
SD2	011	A1	H	**0**	X	A	**IP CLASS / Housing** 0: IP00 W/O Enclosure MP 2: IP20 Plastic Enclosure MP 5: IP54 (Under Development)
SD2	011	A1	H	0	**X**	A	**Drive Version** X: Prototype Sample or Production Pilot S: Mass Production Single Package M: Mass Production Multi Package
SD2	011	A1	H	0	X	**A**	**Version Index:** A: First Edition of each Sample or MP B: Second Edition of each Sample or MP

VARIABLE SPEED DRIVE



ORDERING METHOD

All SD2 drives are tested in our TÜV certified laboratory. This ensures a perfect matching for your application.
Contact your sales representative for the drive selection and best advice adapted to your application.
SD2 are available in different cooling type (see below).

A Cooling type :

Horizontal Finned



Vertical Finned



Flat plate



Type	Max. output Current	Model	Cooling Type	SANHUA U11 Code	Frame size
1PH 2.6KW Inverter IP20	11 A	SD2011A2H2XA000	Horizontal Finned	10501030801	1
		SD2011A2V2XA000	Vertical Finned	10501031301	1
		SD2011A2F2XA000	Flat Plate	10501034301	1
1PH 3.8KW Inverter IP20	15 A	SD2015A2H2XA000	Horizontal Finned	10501030101	1
		SD2015A2V2XA000	Vertical Finned	10501031401	1
		SD2015A2F2XA000	Flat Plate	10501034401	1
1PH 5.0KW Inverter IP20	20 A	SD2020A2H2XA000	Horizontal Finned	10501030201	2
		SD2020A2V2XA000	Vertical Finned	10501031501	2
		SD2020A2F2XA000	Flat Plate	10501034101	2
3PH 3.8KW Inverter IP20	15 A	SD2015B4H2XA000	Horizontal Finned	10501030401	3
		SD2015B4V2XA000	Vertical Finned	10501031601	3
		SD2015B4F2XA000	Flat Plate	10501034501	3
3PH 5.0KW Inverter IP20	20 A	SD2020B4H2XA000	Horizontal Finned	10501030501	3
		SD2020B4V2XA000	Vertical Finned	10501031701	3
		SD2020B4F2XA000	Flat Plate	10501034601	3
3PH 8.0KW Inverter IP20	25 A	SD2025B4H2XA000	Horizontal Finned	10501030601	3
		SD2025B4V2XA000	Vertical Finned	10501031801	3
		SD2025B4F2XA000	Flat Plate	10501034701	3
3PH 11.5KW Inverter IP20	32 A	SD2032B4H2XA000	Horizontal Finned	10501033701	3
		SD2032B4V2XA000	Vertical Finned	10501033501	3
		SD2032B4F2XA000	Flat Plate	10501034201	3

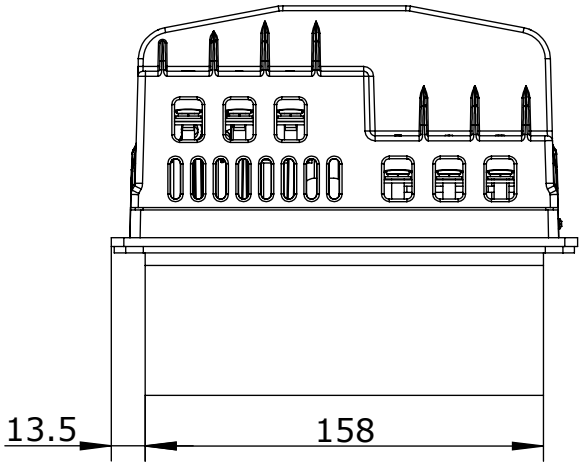
VARIABLE SPEED DRIVE

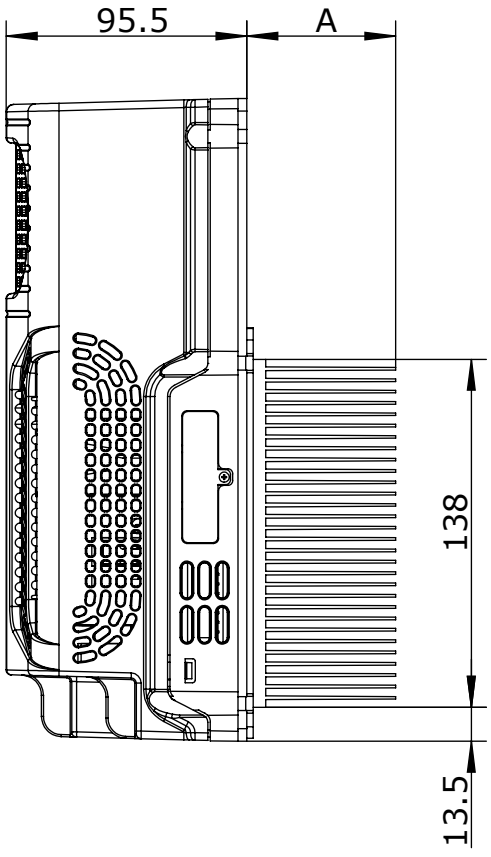


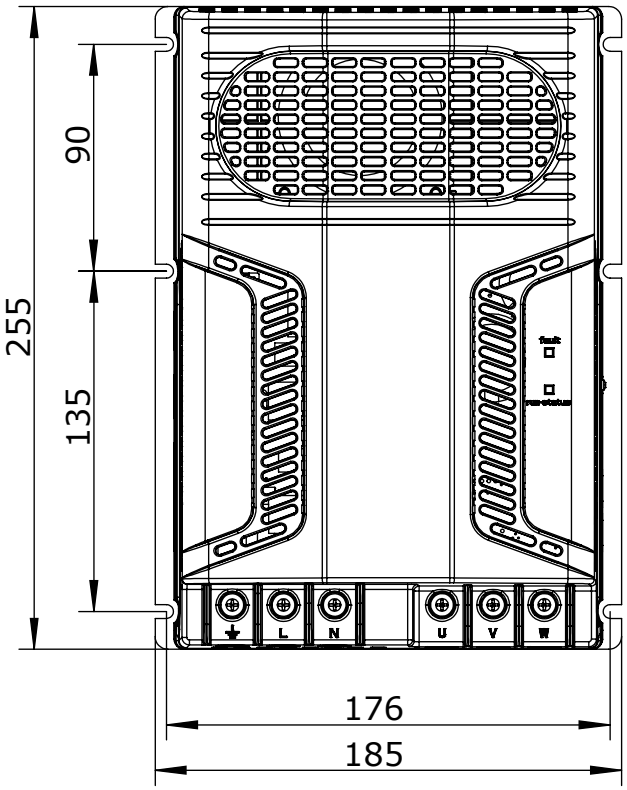
DIMENSIONS

Frame size 1

Model	A (Length of different Cooling type) (mm)			Weight (kg)		
	Horizontal	Vertical	Flat plate	Horizontal	Vertical	Flat plate
SD2011A2	39.5	39.5	8	2.38	2.38	2.24
SD2015A2	59	59	8	3.59	3.59	2.79





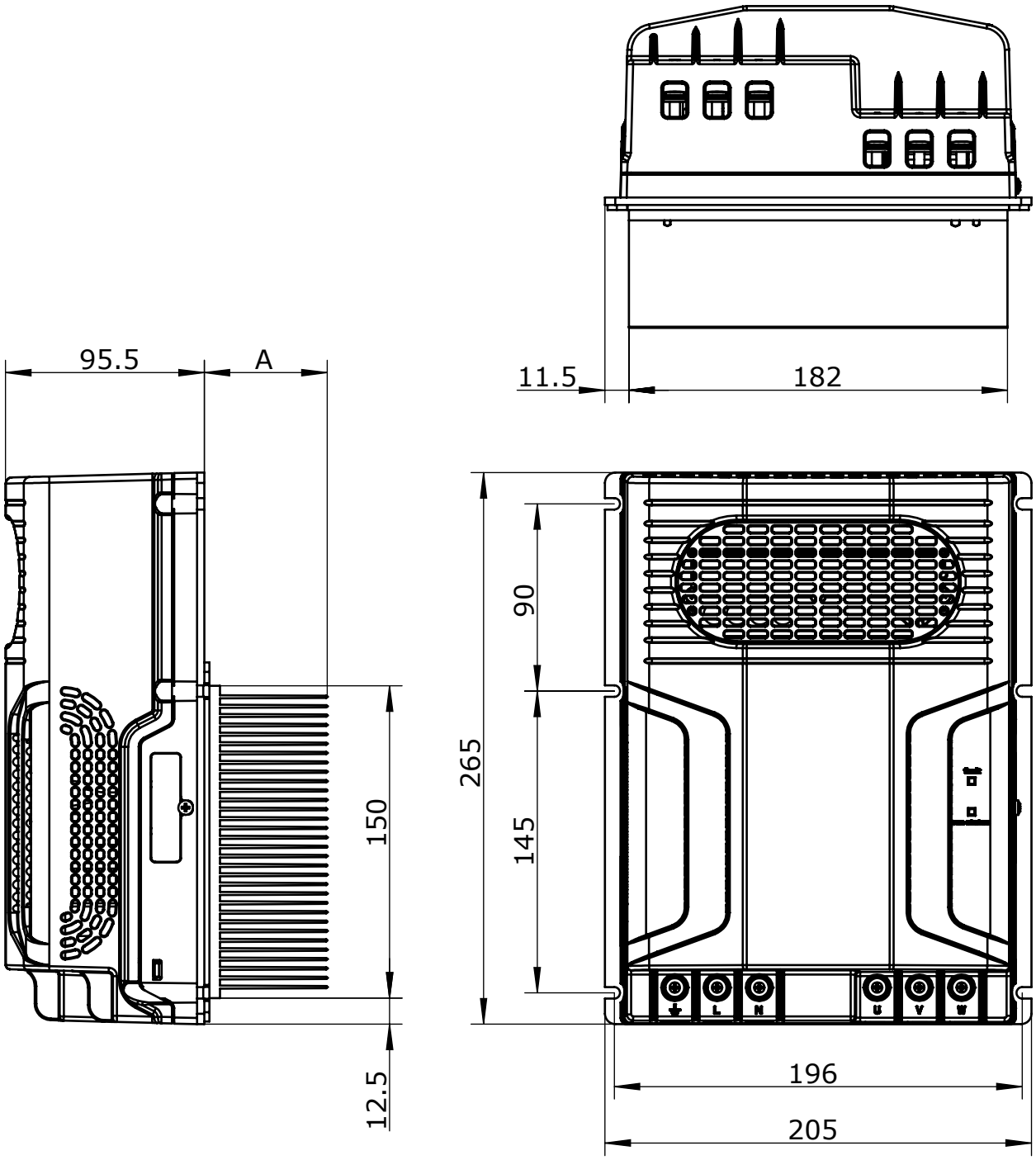


VARIABLE SPEED DRIVE



Frame size 2

Model	A (Length of different Cooling type) (mm)			Weight (kg)		
	Horizontal	Vertical	Flat plate	Horizontal	Vertical	Flat plate
SD2020A2	59	59	8	3.95	3.95	2.95

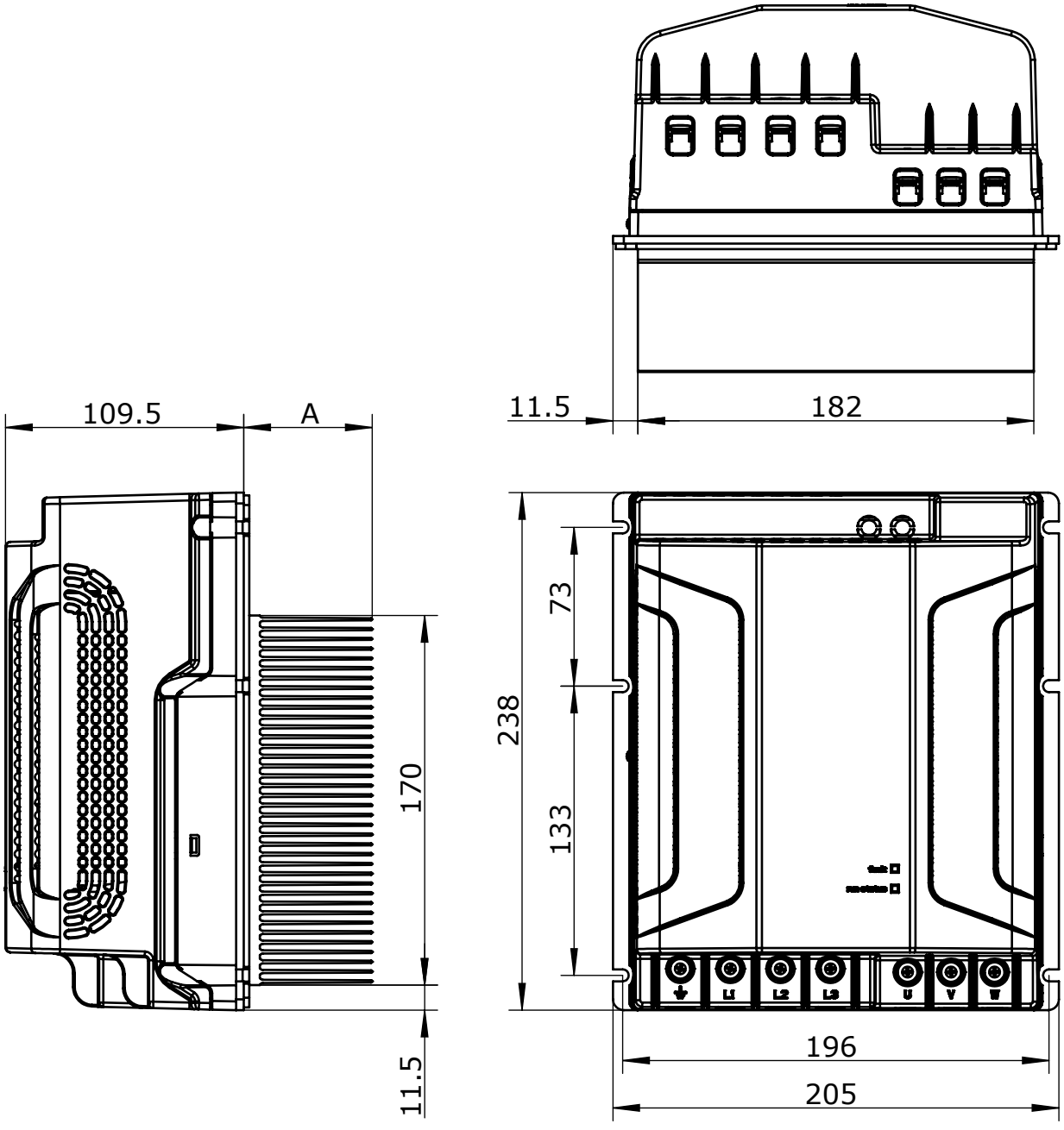


VARIABLE SPEED DRIVE



Frame size 3

Model	A (Length of different Cooling type) (mm)			Weight (kg)		
	Horizontal	Vertical	Flat plate	Horizontal	Vertical	Flat plate
SD2015B4	39.5	39.5	8	3.1	3.1	2.4
SD2020B4	59	59	8	3.84	3.84	2.61
SD2025B4	59	59	8	4.46	4.46	2.98
SD2032B4	69	69	8	4.14	4.14	3.13

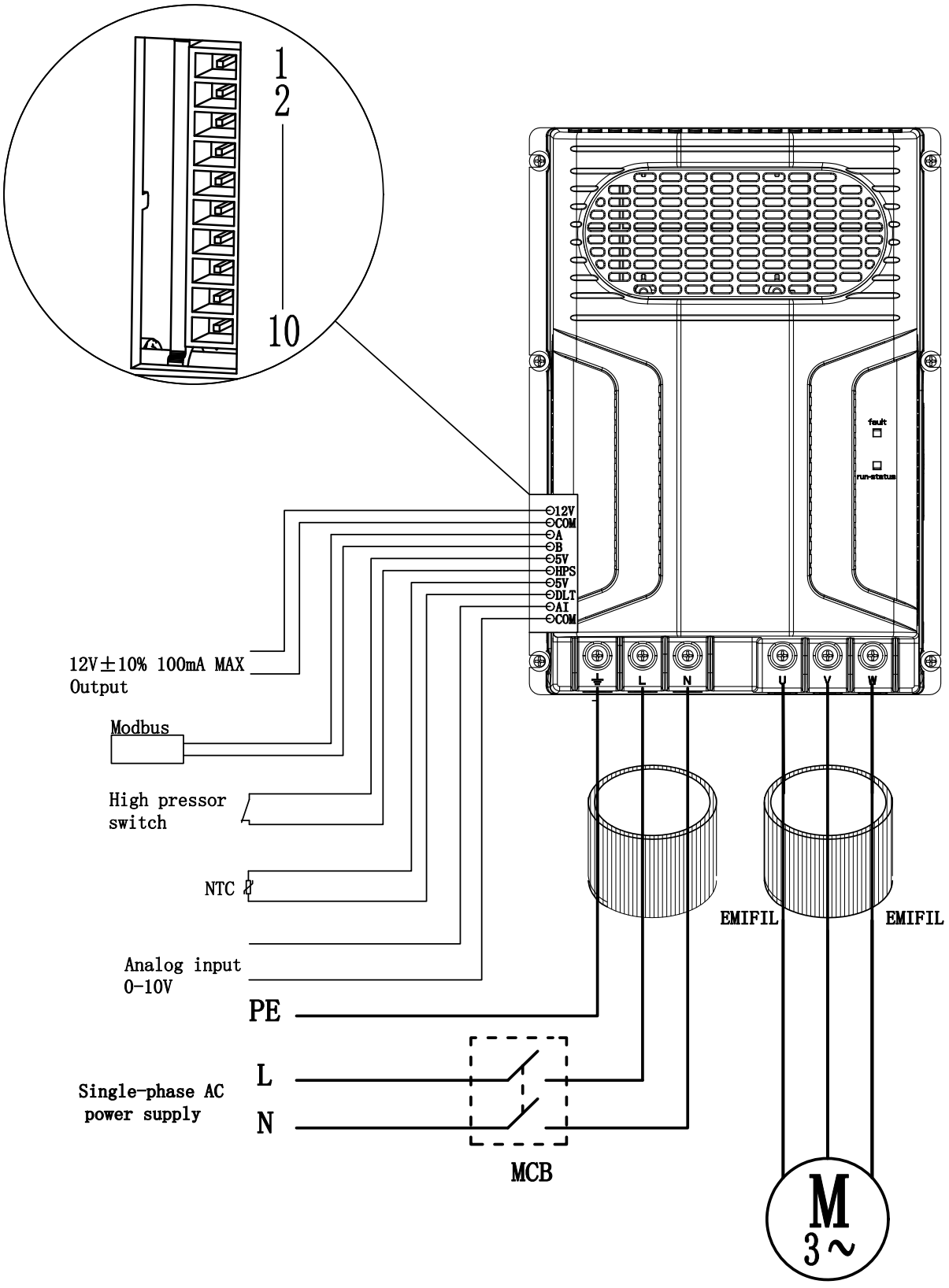


VARIABLE SPEED DRIVE



INSTALLATION DIAGRAM

1ph - SD2011 / SD2015 / SD2020

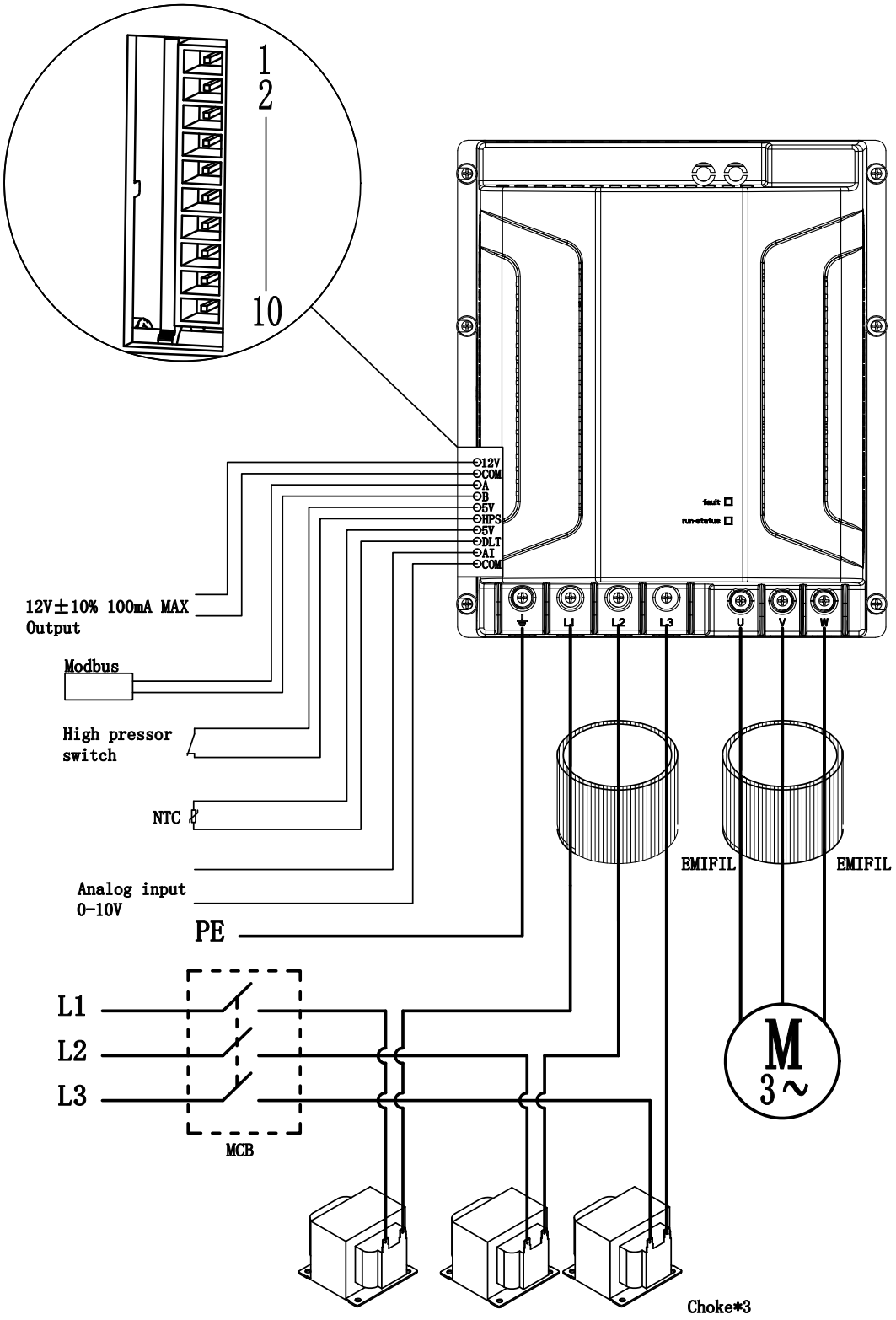


VARIABLE SPEED DRIVE



INSTALLATION DIAGRAM

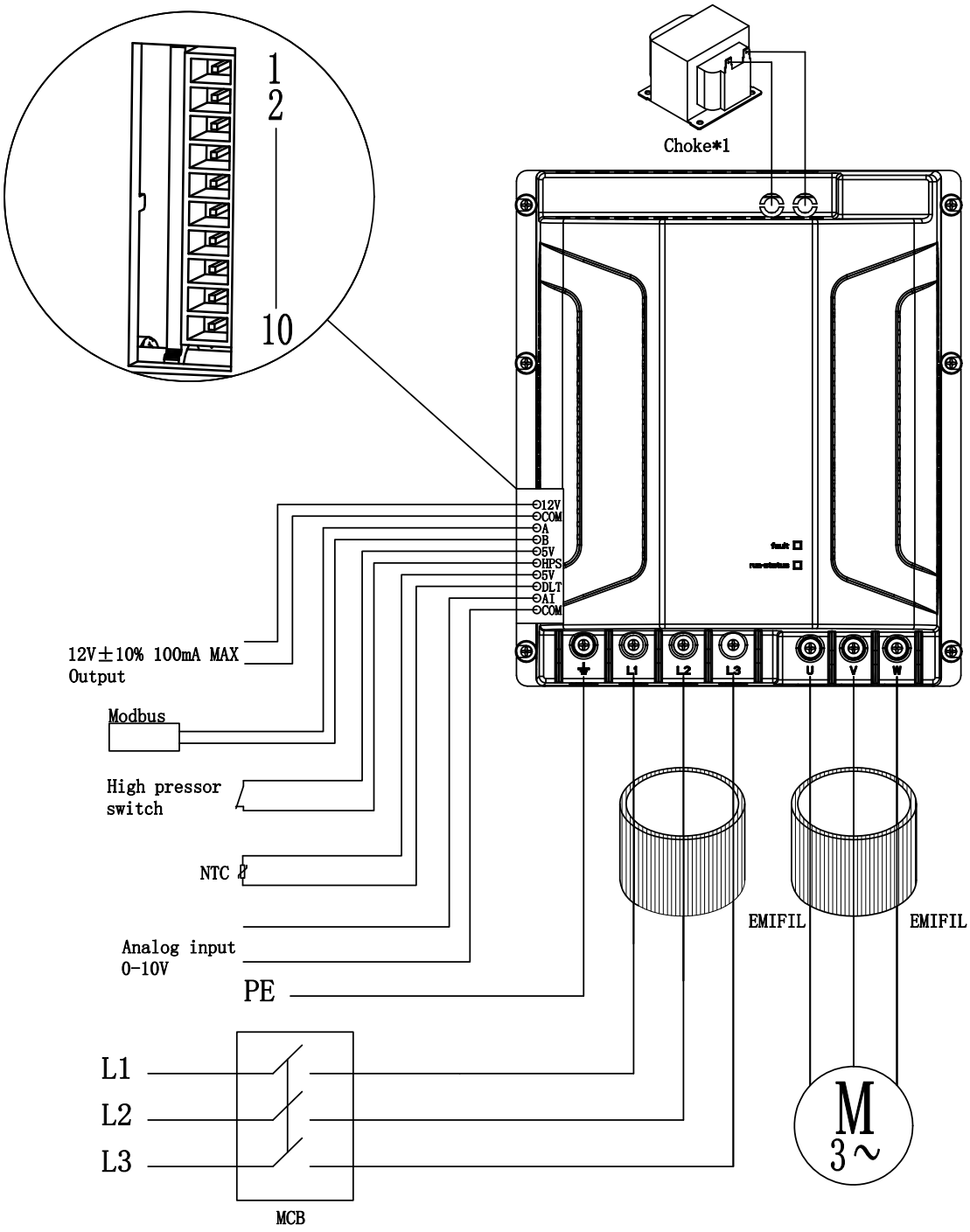
3ph - SD2015 / SD2020 / SD2025



VARIABLE SPEED DRIVE



3ph – SD2032



VARIABLE SPEED DRIVE



PRESSURE SWITCHES

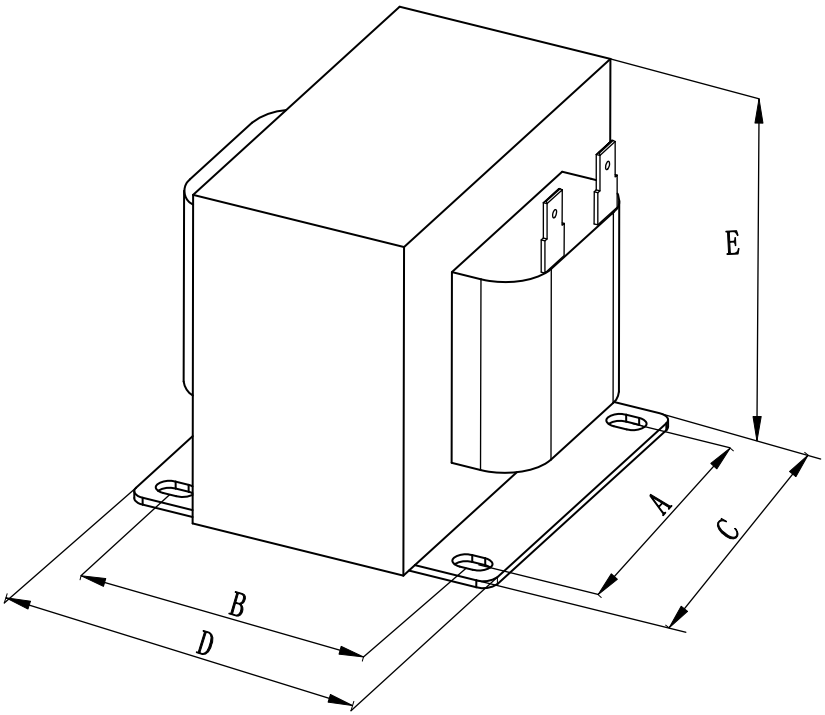
Pressure type	Reference	Electrical rating	Contact	Reset	Port fitting	Electrical connector
HP	MPS2AXXX	240V / 1-4A	NO/NC	Automatic	"1/4 SAE, 1/4 solder, 6mm solder, 1/8 NPTF Male"	Lead wires, AMP connector, Automotive connector...
LP	MPS1AXXX					

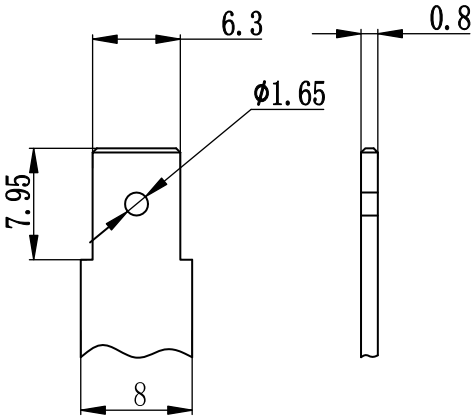
Contact your sales representative for the pressures switch selection and best advice adapted to your application.

CHOKES

Three-phase models are supplied together with chokes to be externally connected to the drives.
Chokes for single phase version are embedded in the drive.

SD2 drive	Type	Choke Model	SANHUA U11 Code	Dimensions [mm]						Weight (kg)
				A	B	C	D	E	F	
SD2015B4	3PH 3.8KW	LE76-0825-XT	10530500401	64	64	78	76,2	65	5,2	1,5
SD2020B4	3PH 5.0KW	LE105-1325-XTA	10530500501	88	90	105	110	89	6	3,9
SD2025B4	3PH 8.0KW	LE85.8-2503B-XTA	10530500601	64	64	76,2	78	73	4	2
SD2032B4	3PH 11.5KW	R3515	10521007201	79	88	93,2	112,5	73,5	5,8*16	1,86





YCQB *SERIES*

PRESSURE SENSORS YCQB



Pressure sensors are widely used in Air Conditioning, Refrigeration and Heat Pump system. Using a 5V 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 SPECIFICATIONS

- Applicable for HFC / HFO / flammables refrigerants and CO_2
- Relative humidity: 0 to 95% RH
- Installation position: preferably with vertical axis and sensor upwards
- Certifications: UL/CSA and declaration according to EMC directive

ELECTRICAL SPECIFICATIONS

- Supply voltage: 5V ± 0.25V DC
- Current consumption: Max. 10 mA
- Response time: 10 ms
- Insulation resistance: Min. 100 MΩ
- Load resistance: Min. 10 kΩ
- Protection class: IP66/IP67

PRESSURE SENSOR



MODEL DESIGNATION

YCQ	B	02	L	xxxx	YCQ = Pressure Transmitter
YCQ	**B**	02	L	xxxx	B = Voltage output / C = Current Output
YCQ	B	**02**	L	xxxx	Pressure range 01 : between 0 and 10 bar 02 : between 0 and 20 bar 03 : between 0 and 30 bar 04 : between 0 and 40 bar 05 : between 0 and 50 bar
YCQ	B	02	**L**	xxxx	L = Thread / H= Solder
YCQ	B	02	L	**xxxx**	Digits for additional information

GENERAL CHARACTERISTICS

YCQB with 0.5 to 3.5V output signal

Model Name	Output signal **= 0.5 to 3.5V** (compatible with Sanhua controller = SEC)						
	Part Number	Solder/ Flare*	Pressure range	Max Working pressure	Electrical connection	Accuracy	Medium Temp.
			[bar]	[bar]	Type	%	°C
YCQB02H01	10185004702	Solder	0-20	52,5	2m wires +XHP	±2% FS	-30 / 120
YCQB02H01-01	10185001502		0-20	52,5	2m wires +XHP	±0,8% FS	-40 / 120
YCQB02H18-1	10185015402		0-20	52,5	4.9m wires +XHP	±0,8% FS	-40 / 120
YCQB03H05	10185046602		0-30	75	2m wires +XHP	±0,8% FS	-40 / 120
YCQB05H01	10185004802		0-50	75	2m wires +XHP	±2% FS	-30 / 120
YCQB02L12-1	10185015502	Flare	0-20	52,5	2m wires +XHP	±0,8% FS	-40 / 120
YCQB02L28-1	10185015602		0-20	52,5	4.9m wires +XHP	±0,8% FS	-40 / 120
YCQB03L156	10185046302		0-30	75	2m wires +XHP	±0,8% FS	-40 / 120

*** Flare** = 7/16-20UNF-2B connector **/ Solder** = ¼" connector

PRESSURE SENSOR



YCQB with 0.5 to 4.5V output signal

Output signal = **0.5 to 4.5V**							
Model Name	**Part Number**	**Solder/Flare***	**Pressure range**	**Max Working pressure**	**Electrical connection**	**Accuracy**	**Medium Temp.**
			[bar]	**[bar]**	**Type**	**%**	**°C**
YCQB02H50	10185004502	Solder	0-13.8	52,5	Packard	±2% FS	-30 / 120
YCQB04H50	10185004602		0-34.5	75	Packard	±2% FS	-30 / 120
YCQB03H06	10185046502		0-30	75	2m wires +XHP	±0,8% FS	-40 / 120
YCQB05H11	10185046102		0-50	75	2m wires +XHP	±2% FS	-40 / 150
YCQB02L01	10185004902	Flare	0-20	52,5	2m wires +XHP	±2% FS	-30 / 120
YCQB02L01-01	10185001402		0-20	52,5	2m wires +XHP	±0,8% FS	-40 / 120
YCQB03L18	10185046402		0-30	75	2m wires +XHP	±0,8% FS	-40 / 120
YCQB05L01	10185007002		0-46	75	2m wires +XHP	±2% FS	-30 / 120
YCQB05L63	10185046002		0-50	75	2m wires +XHP	±2% FS	-40 / 150
YCQB01L50	10185015702		-1 -9.3	52,5	Packard	±2% FS	-30 / 130
YCQB02L50	10185004002		0-13.8	52,5	Packard	±1% FS	-30 / 120
YCQB02L51	10185014102		0-17.2	52,5	Packard	±1% FS	-30 / 120
YCQB03L157	10185046202		0-30	75	Packard	±0,8% FS	-40 / 120
YCQB04L50	10185004202		0-34.5	52,5	Packard	±1% FS	-30 / 120
YCQB05L50	10185004302		0-46	75	Packard	±1% FS	-30 / 120
YCQB05L53	10185013402		0-45	75	Packard	±2% FS	-30 / 130
YCQB05L161	10185045902		0-50	75	Packard	±2% FS	-40 / 150
YCQB02L100	10185009102		0-20	52,5	Molex	±2% FS	-30 / 120
YCQB05L100	10185009202		0-46	75	Molex	±1% FS	-30 / 120

Note: * **Flare** = 7/16-20UNF-2B connector / **Solder** = ¼" connector



YCQB for High pressure use - G ¼

Model Name	**U11**	**Pressure range**	**Max Working pressure**	**Electrical connection**	**Cable length**	**Output signal**	**Medium Temp.**
		[bar]	**[bar]**	**Type**	**[m]**	**[VDC]**	**°C**
YCQB15L01	10185030302	0-150	225	XHP	2	0.5 to 4.5	-30/+85
YCQB09L02*	10185044102	0-90	225	XHP	2	0.5 to 3.5	-40/+40

Note: * suitable with Sanhua superheat controller SEC61.

PRESSURE SENSOR



YCQB for water use

Suitable with pure water and water + glycol till 50%.

Output signal = 0.5 to 4.5V							
Model Name	**Part Number**	**Solder/Flare***	**Pressure range**	**Max Working pressure**	**Electrical connection**	**Cable length**	**Medium Temp.**
			[bar]	**[bar]**	**Type**	**[m]**	**°C**
YCQB01L503	10185042702	Flare	0-10	52.5	XHP	2	-30/+100

***Flare** = 7/16-20UNF-2B connector

Note: 1) Signal span: VFS=FS (Full Scale) = VA(pr) - VA0

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 VA = f(p) from the ideal straight line. It can be approximated by a polynomial of second order, with the maximum at px = pr / 2.
The equation to calculate the nonlinearity is: L = (VA(px) – VA0) / (VA(pr) – VA0) – px / pr

3) Response Time: delay between a pressure change (10 to 90% pr) and the corresponding signal output change (10 to 90% FS)

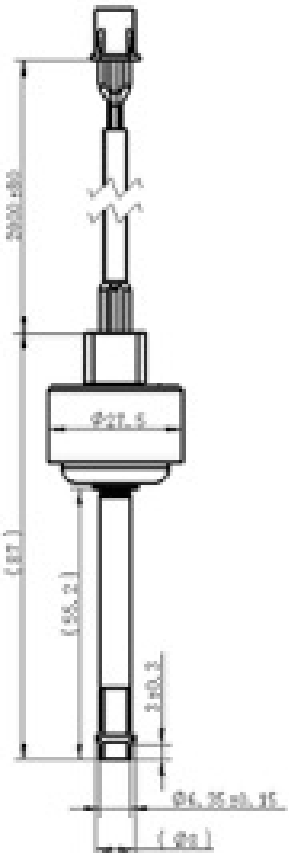
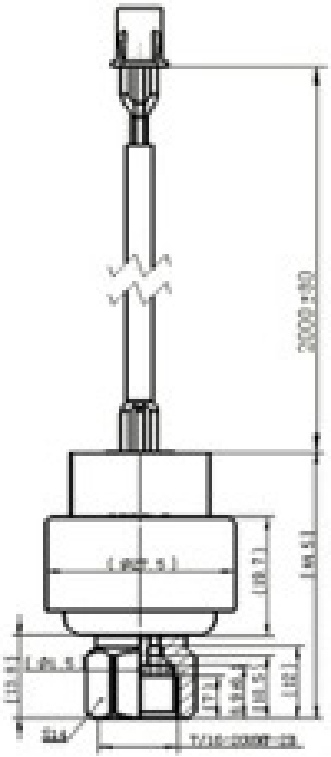
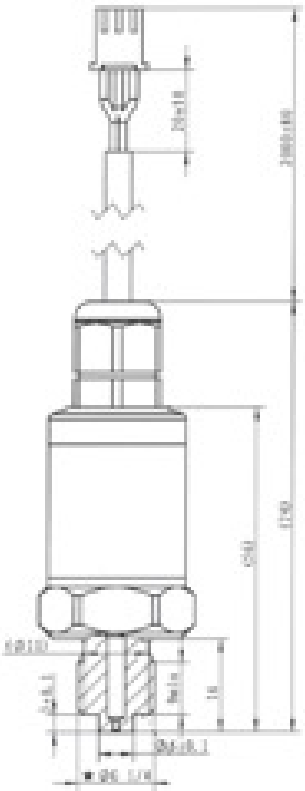
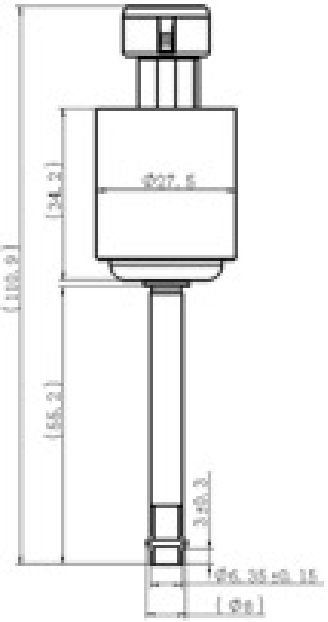
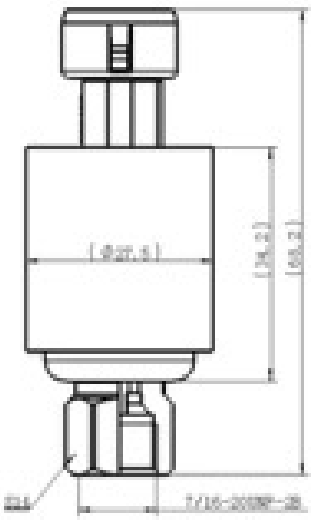
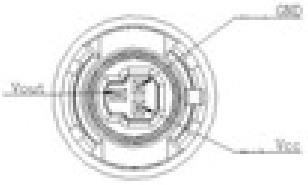
4) Insulation Resistance measured with rated voltage: 500 VDC

For other connection types (M12, M16...) please contact your Sanhua local representative.

PRESSURE SENSOR



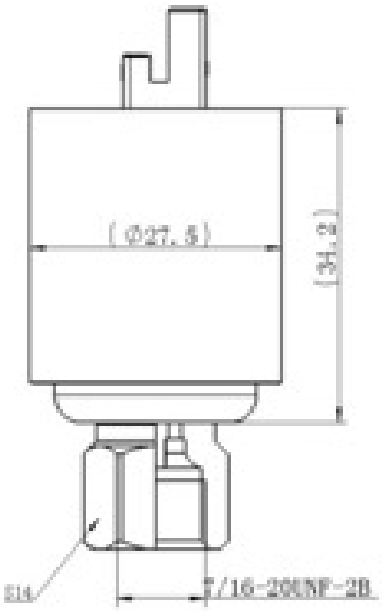
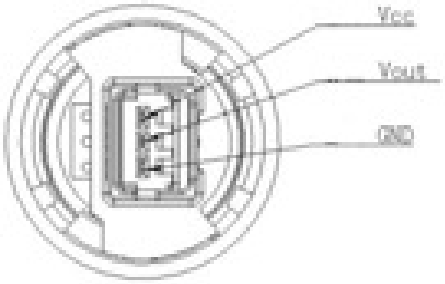
DIMENSIONS

Solder connector ¼”	7/16-20UNF-2B	G 1/4	Electrical connector
			**XHP Connector**  1: Vcc – RED 2: VA(pr) - WHITE 3: GND - BLACK
			**Packard connector** 

PRESSURE SENSOR



DIMENSIONS

7/16-20UNF-2B	Electrical connector
	**Molex Socket** 

***YCQC** SERIES*

PRESSURE SENSOR YCQC



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 4-20 mA 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 PACKARD CONNECTOR OR WIRES
- STABILITY: APPLIED SUPERIOR PRESSURE CORE, GOOD STABILITY UNDER STRICT PROCESS CONTROL

GENERAL SPECIFICATIONS

- Applicable for R32 and others HFC/HFO refrigerants
- Relative humidity: 0 to 95% RH
- Installation position: preferably with vertical axis and sensor upwards
- Certifications: declarations according to EMC & PED directives

ELECTRICAL SPECIFICATIONS

- 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 (V_{FS}) : 16 V
- Insulation resistance: Min. 100 MΩ
- Protection class: IP65/IP66

PRESSURE SENSOR



GENERAL CHARACTERISTICS

YCQC with 4-20mA signal output

Model Name	Output signal = 4- 20mA						
	Part Number	Solder/Flare*	Pressure range	Max Working pressure	Electrical connection	Accuracy	Medium Temp.
			[bar]	[bar]	Type	%	°C
YCQC03L04	10185011002	Flare	0-30	75	Hirschmann	±0,8% FS	40 / 80
YCQC01L13	10185015202		-0.5-7	52.5	Packard	±0,8% FS	-40 / 80
YCQC02L18	10185017102		-1-12	52.5	Packard	±0,8% FS	-40 / 80
YCQC03L05	10185009302		0-30	75	Packard	±0,5% FS	-40 / 80
YCQC03L06 1	10185009402		0-30	75	Packard	±0,5% FS	-40 / 80
YCQC03L11	10185014402		0-30	75	Packard	±0,8% FS	-40 / 80
YCQC05L09	10185015302		0-44.8	75	Packard	±0,8% FS	-40 / 80
YCQC05L25	10185047002		0-50	75	Packard	±0,8% FS	-40 / 150

*** Flare** = 7/16-20UNF-2B connector **/ Solder** = ¼" connector

1 Model with 7/16-20 UNF-A (Male), others are 7/16UNF-B (Female)

YCQC with G 3/8A connector

Output signal = 4- 20mA						
Model Name	Part Number	Pressure range	Max Working pressure	Electrical connection	Accuracy	Medium Temp.
		[bar]	[bar]	Type	%	°C
YCQC02L04	10185009902	-1 - 12	52.5	Hirschmann	±0,8% FS	-40 / 80
YCQC02L05	10185009802	-1 - 20	52.5	Hirschmann	±0,8% FS	-40 / 80



YCQC for High pressure use

Output signal = 4- 20mA						
Model Name	Part Number	Mechanical connection	Pressure range	Max Working pressure	Electrical connection	Medium Temp.
			[bar]	[bar]	Type	°C
YCQC15L02	10185042302	G 1/4	0-150	225	Packard +10cm	-20 / 100
YCQC09L02*	10185042402	Flare	0-90	135	Packard +10cm	-20 / 100

*****: suitable with Sanhua superheat controller SEC61.

YCQC for water use

Suitable with pure water and water + glycol till 50%.

Output signal = 4- 20mA						
Model Name	Part Number	Solder / Flare*	Pressure range	Max Working pressure	Electrical connection	Medium Temp.
			[bar]	[bar]	Type	°C
YCQC01L501	10185036002	Flare	-0.8 -7	52.5	Packard	-40/80

***Flare** = 7/16-20UNF-2B connector

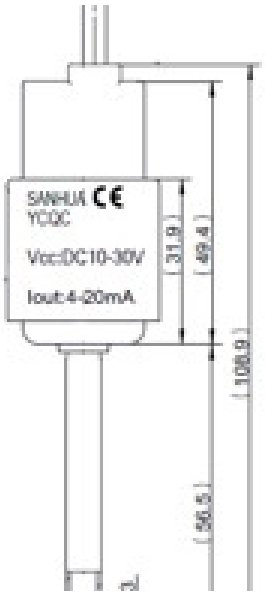
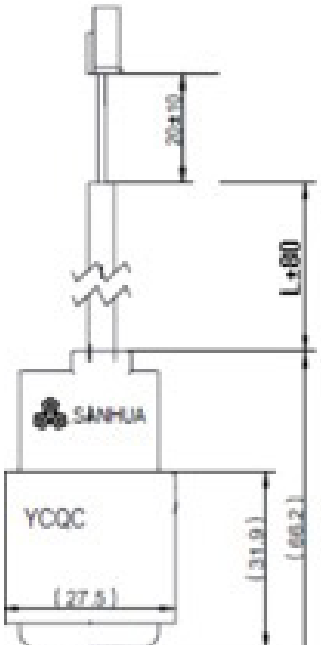
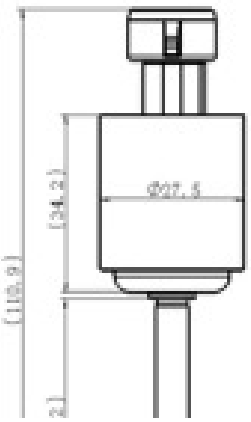
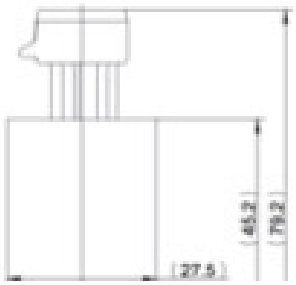
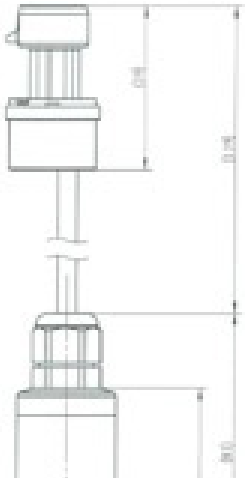
Note: 1) Signal span: V_{FS}=FS (Full Scale) = $V_A(p_r)$ - V_{A0}

2) Insulation Resistance measured with rated voltage: 500 VDC

PRESSURE SENSOR

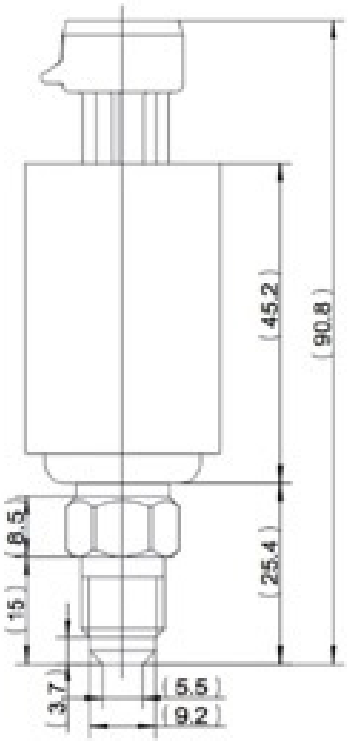
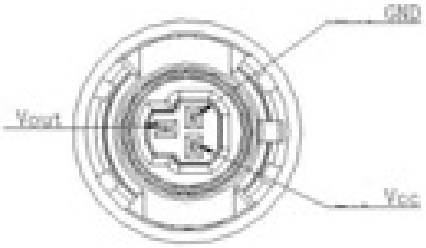
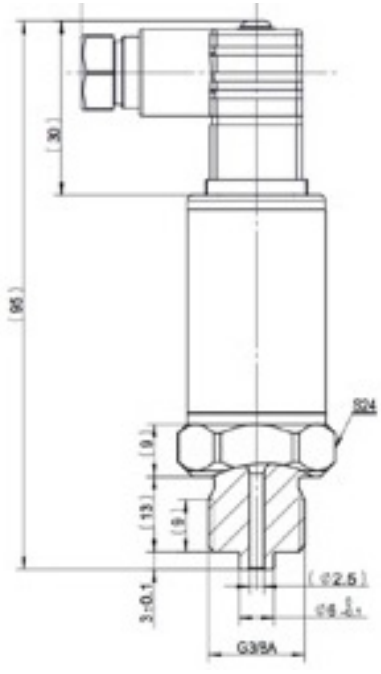
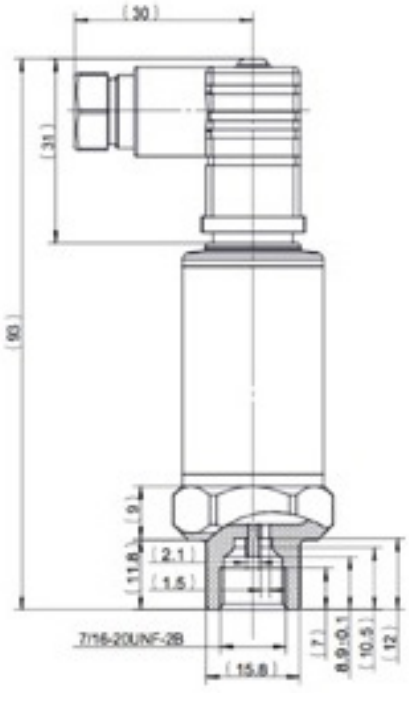


DIMENSIONS

Brazed copper tube	7/16-20UNF-2B		Electrical connector
			**XHP Connector**
			**Packard connector**

PRESSURE SENSOR



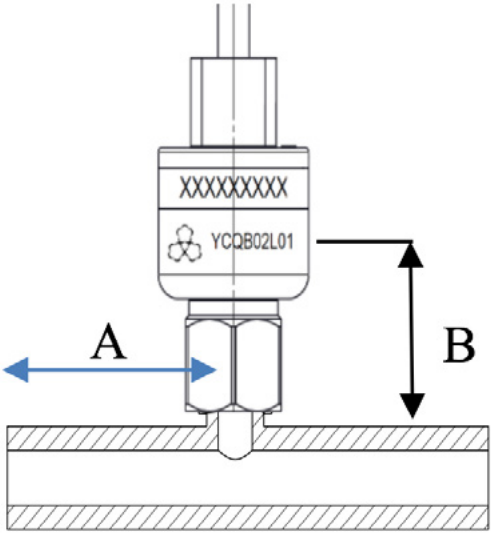
G 1/4	7/16-20UNF-2A (Male)	Electrical connector
		**Packard Connector** 
G 3/8A	**7/16-20UNF-2B (Female)**	**Electrical connector**
		**Hirschmann**

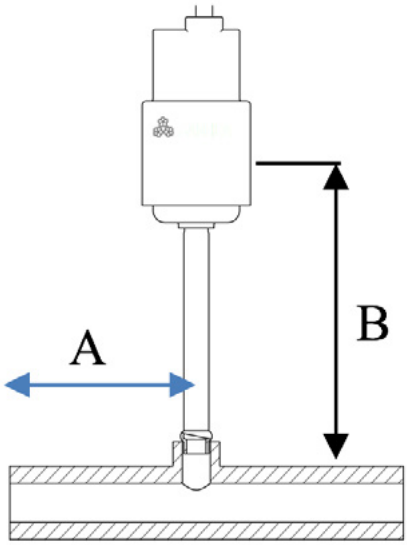
PRESSURE SENSOR



OPERATING TEMPERATURES

YCQB or YCQC
Flare and Brazed





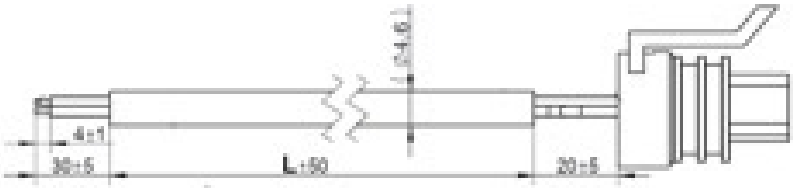
Maxi Medium Temperature	Ambient Temperature	Distance "A"	Distance "B" Flare	Distance "B" Brazed
[°C]	[°C]	[mm]	[mm]	[mm]
150	60	>30	40	70

ACCESSORIES

Packard Cables IP **55** with 3 wires

Model Name	Part Number	Connector Type	Total Cable Length	Terminal
YCQB02-013051	20185014302	Packard	1500 mm	Lead Wires
YCQB02-013052	20185013102	Packard	5000 mm	Lead Wires

Note: For usage with YCQC models, don't connect the white wire.

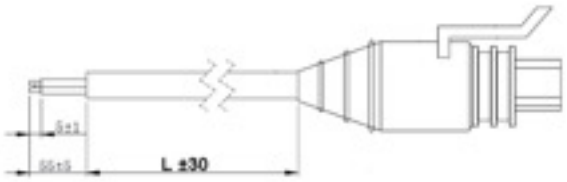


PRESSURE SENSOR



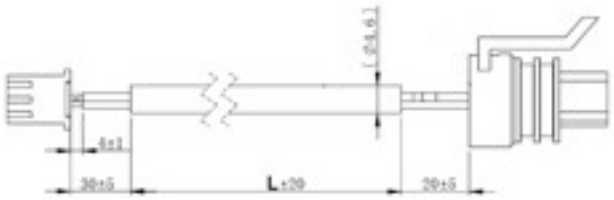
Packard Cables IP **67** with 3 wires

Model Name	Part Number	Connector Type	Total Cable Length	Terminal
YCQB02-013050	20185034002	Packard	1500 mm	Lead Wires
YCQB02-013056	20185034102	Packard	5000 mm	Lead Wires



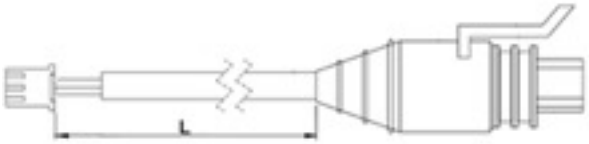
Packard Cables IP **55** + XHP connector with 3 wires

Model Name	Part Number	Connector Type	Total Cable Length	Terminal
YCQB02-013054	20185016702	Packard	6000 mm	XHP-3
YCQB02-013055	20185016802	Packard	9000 mm	XHP-3



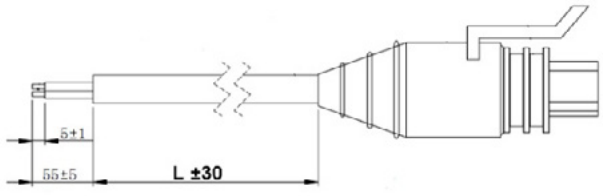
Packard Cables IP **67** + XHP connector with 3 wires

Model Name	Part Number	Connector Type	Total Cable Length	Terminal
YCQC02-013037	20185051102	Packard	2000 mm	XHP-3
YCQC02-013038	20185051202	Packard	5000 mm	XHP-3
YCQC02-013039	20185051302	Packard	9000 mm	XHP-3



Packard Cables IP **67** with 2 wires

Model Name	Part Number	Connector Type	Total Cable Length	Terminal
YCQC02-013034	20185046602	Packard	2000 mm	Lead Wires
YCQC02-013036	20185051002	Packard	4000 mm	Lead Wires



PS01/50/15 *SERIES*

PRESSURE CONTROLS



Pressure controls 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 controls 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 TIMEWITH BOTH EXCELLENT ELECTRIC AND MECHANICAL RELIABILITY
- SPDT SWITCH TO ENSURE GOOD CONTACT AND DISCONNECT CONVERSION WITH FAST REACTIONS
- VARIOUS PRESSURE RANGES ARE AVAILABLE
- STANDARD PLATE FOR INSTALLATION
- BELLOW 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,.
- Medium temperature TS min./max. -40°C /+120°C
- Ambient temperaturemin./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 and UL Listed
- Contact load

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

PRESSURE CONTROLS



MODEL DESIGNATION LEGEND

Position Number	Model Designation Legend	
1	**Type of pressure control**	**Description**
	PS	Pressure control
2	**Pressure regulating range**	**Description**
	01	LP:-0.5~7 bar(g)
	02	TBD
	03	TBD
	50	HP:6~32 bar(g)
	60	HP:642 bar(g)
	70	TBD
	80	TBD
	15	Dual (LP/HP): LP:-0.5 ~ 7 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	**Type of reset**	**Description**
	A	**A**utomatic reset
	M	**M**anual reset
	C	**C**onvertible reset
	AA	**A**uto LP/ **A**uto HP
	AC	**A**uto LP/**C**onvertible HP
	AM/MA/MM/MC/CA/CM/CC	……
4	**Pressure connection type**	**Description**
	L	Flare
	H	Solder
	M	Capillary tube
5	**Product design (type)**	**Description**
	S	Standard
	C	Customized
6	**inch or mm pressure connection**	**Description**
	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

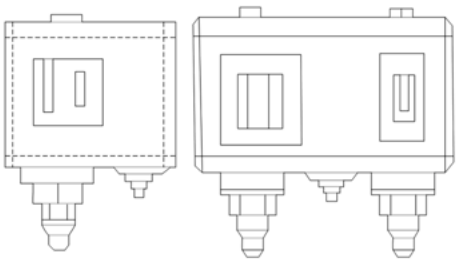
PRESSURE CONTROLS



MODEL DESIGNATION EXAMPLE

Position Number							Model designation example (according above legend)
1	2	3	4	-	5	6	
PS	15	AA	L	-	S	01	Pressure control
PS	**15**	AA	L	-	S	01	Dual Pressure Range LP:-0.5~7 bar(g)/ HP:6~32 bar(g)
PS	15	**AA**	L	-	S	01	Auto reset HP, Auto reset LP
PS	15	AA	**L**	-	S	01	Flare connection type
PS	15	AA	L	**-**	**S**	01	Standard
PS	15	AA	L	-	S	**01**	Inch (or unified Inch & Metric) pressure connection Double bellows - fail safe in case of High pressure

SELECTION AND ORDERING

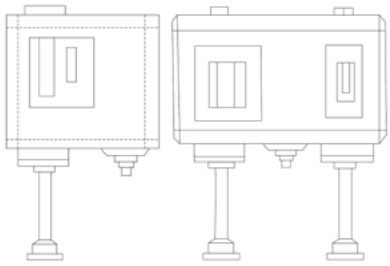


PS01, PS50, PS15, Flare Connection										
Pressure	Type	Low Pressure (LP		High Pressure (HP)		Reset		PED 2014 68/EU EN 12263 Certified[1)]	Ordering Code	
		Range	Differential Pressure ΔP	Range	Differential Pressure ΔP				Flare Connection 7/16-20UNF (1/4in. & 6mm)	
		[bar]	[bar]	[bar]	[bar]	Low Pressure	High Pressure		Model	U11 Code
Low	PS01[2)]	-0.5~7	0.5~5	—	—	Auto	—	Compliant	PS01AL-S01	10660003102
Low	PS01	-0.5~7	1	—	—	Manual	—	Compliant	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	Compliant	PS50AL-S01	10660003002
High	PS50	—	—	6~32	4	—	Manual	Compliant	PS50ML-S01	10660003402
Dual	PS15	-0.5~7	0.5~5	6~32	4	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	4	Auto	Auto	Compliant	PS15AAL-S01	10660002902
Dual	PS15	-0.5~7	0.5~5	6~32	4	Auto	Manual	Compliant	PS15AML-S01	10660003602

PRESSURE CONTROLS



SELECTION AND ORDERING

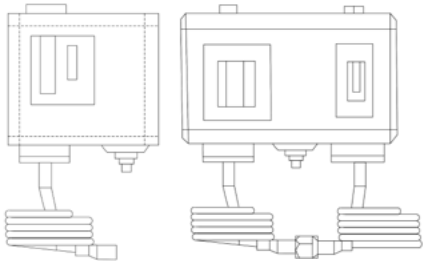


PS01, PS50, PS15, Solder ODF Connection												
Pressure	Type	Low Pressure (LP		High Pressure (HP)		Reset		PED 2014 68/EU EN 12263 Certified[1)]	Ordering Code			
		Range	Differential Pressure ΔP	Range	Differential Pressure ΔP				Solder ODF 1/4 in.		Solder ODF 6mm	
		[bar]	[bar]	[bar]	[bar]	Low Pressure	High Pressure		Model	U11 Code	Model	U11 Code
Low	PS01	-0.5~7	0.5~5	—	—	Auto	—	Compliant	PS01AH-S01	10660003702	PS01AH-S02	10660005302
Low	PS01	-0.5~7	1	—	—	Manual	—	Compliant	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	Compliant	PS50AH-S01	10660004102	PS50AH-S02	10660004902
High	PS50	—	—	6~32	4	—	Manual	Compliant	PS50MH-S01	10660004602	PS50MH-S02	10660004802
Dual	PS15	-0.5~7	0.5~5	6~32	4	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	4	Auto	Auto	Compliant	PS15AAH-S01	10660004302	PS15AAH-S02	10660005402
Dual	PS15	-0.5~7	0.5~5	6~32	4	Auto	Manual	Compliant	PS15AMH-S01	10660004202	PS15AMH-S02	10660005602

PRESSURE CONTROLS



SELECTION AND ORDERING



PS01, PS50, PS15, Capillary Connection										
Pressure	Type	Low Pressure (LP		High Pressure (HP)		Reset		PED 2014 68/EU EN 12263 Compliant [1)]	Connection	
		Range	Differential Pressure ΔP	Range	Differential Pressure ΔP				Capillary with 7/16-20UNF Flare Nut (1/4in. & 6mm)	
		[bar]	[bar]	[bar]	[bar]	Low Pressure	High Pressure		Model	U11 Code
Low	PS01	-0.5~7	0.5~5	—	—	Auto	—	Compliant	PS01AM-S01	10660006102
Low	PS01	-0.5~7	1	—	—	Manual	—	Compliant	PS01MM-S01	10660006002
High	PS50	—	—	6~32	3~15	—	Auto	Not	PS50AM-S51	10660005902
High	PS50	—	—	6~32	4	—	Manual	Not	PS50MM-S51	10660005802
High	PS50	—	—	6~32	3~15	—	Auto	Compliant	PS50AM-S01	10660005702
High	PS50	—	—	6~32	4	—	Manual	Compliant	PS50MM-S01	10660006602
Dual	PS15	-0.5~7	0.5~5	6~32	4	Auto	Auto	Not	PS15AAM-S51	10660006502
Dual	PS15	-0.5~7	0.5~5	6~32	4	Auto	Manual	Not	PS15AMM-S51	10660006402
Dual	PS15	-0.5~7	0.5~5	6~32	4	Auto	Auto	Compliant	PS15AAM-S01	10660006302
Dual	PS15	-0.5~7	0.5~5	6~32	4	Auto	Manual	Compliant	PS15AMM-S01	10660006202

Notes: 1) PS50 and PS15 which are 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.

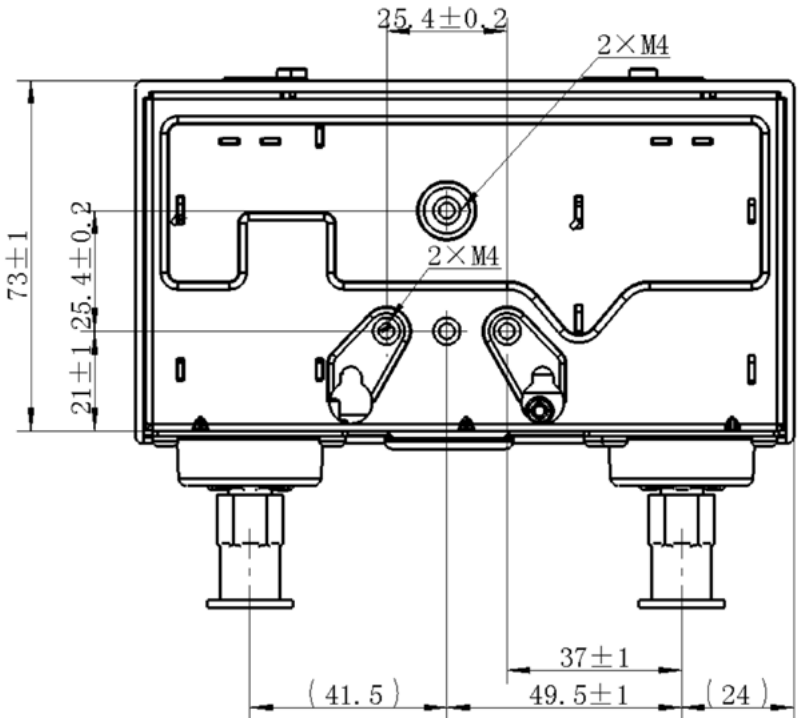
The double bellows system prevents loss of charge in the event of the inner bellow rupture. A rupture in the inner bellow will cause the control cut-out pressure to fall about 3 times less the set value and the compressor will stop. A rupture in the outer bellows will cause the control cut-out pressure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

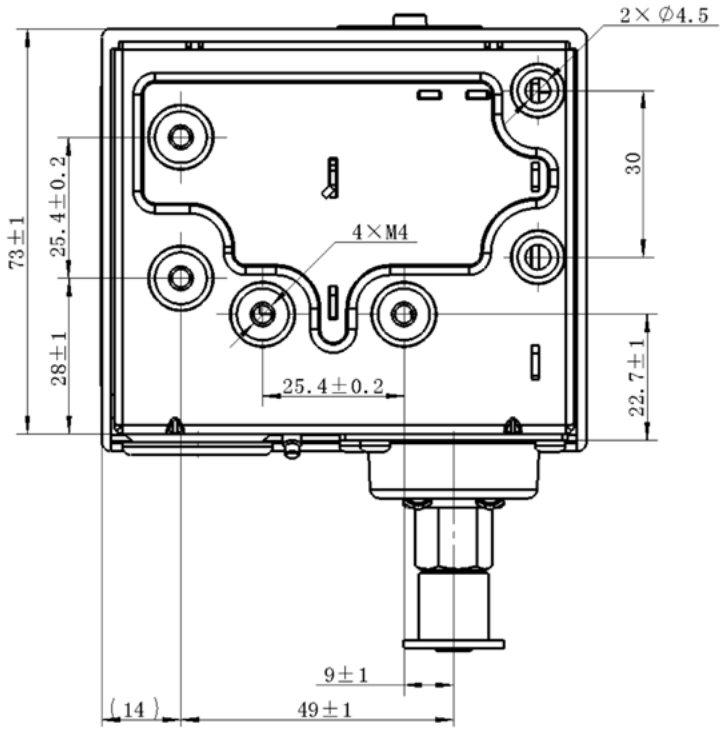
2) The PS01 are certified by TÜV, Rheinland acc. to PED 2014 68/EU, EN12263 but due to the fact that they will not be used as high pressure protection function, PED IV is not required and they are designed with only single bellow.

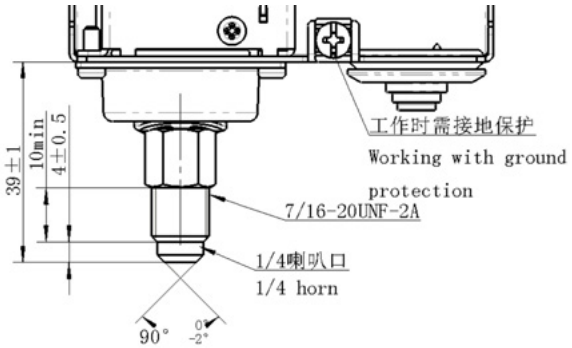
PRESSURE CONTROLS



DIMENSIONAL DRAWINGS



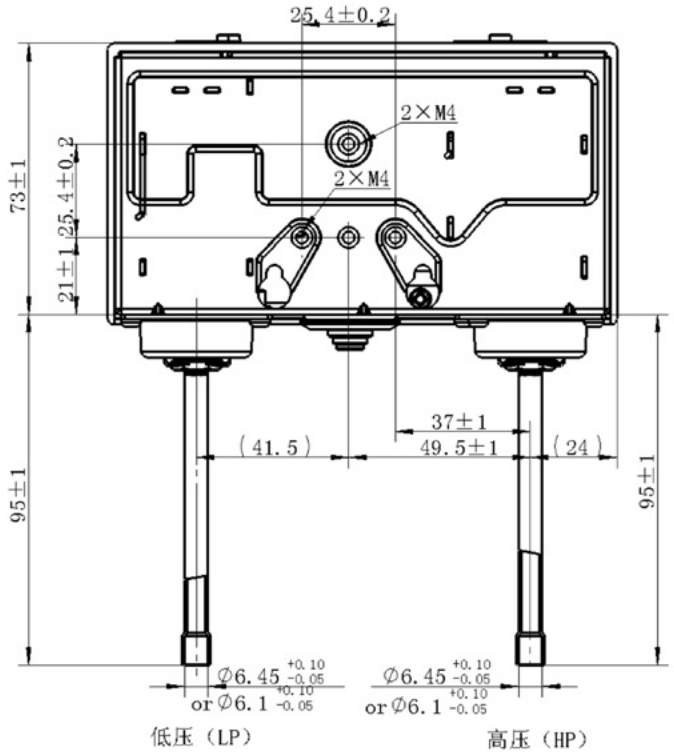


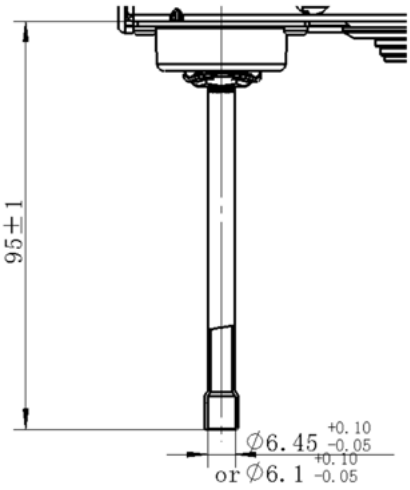


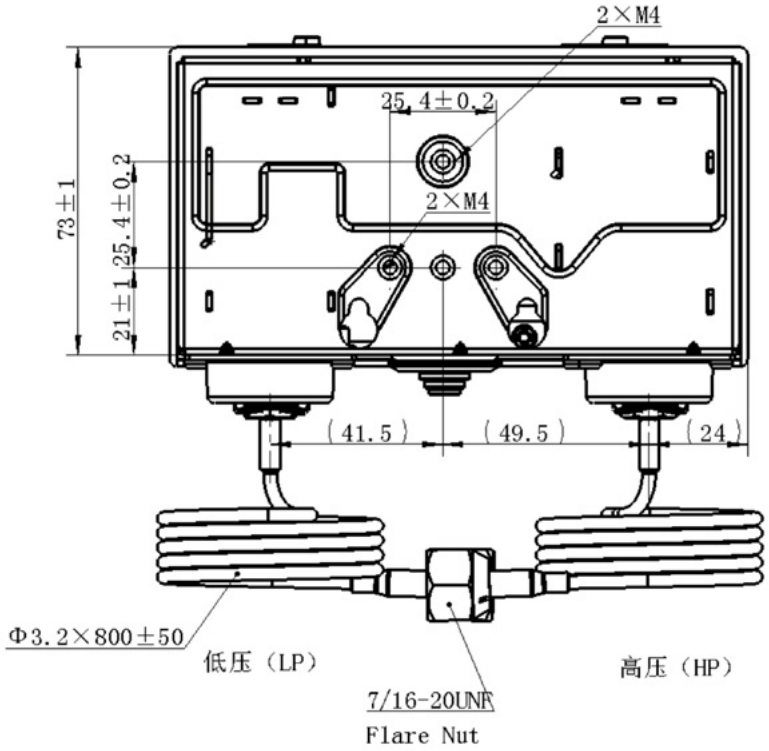
PRESSURE CONTROLS

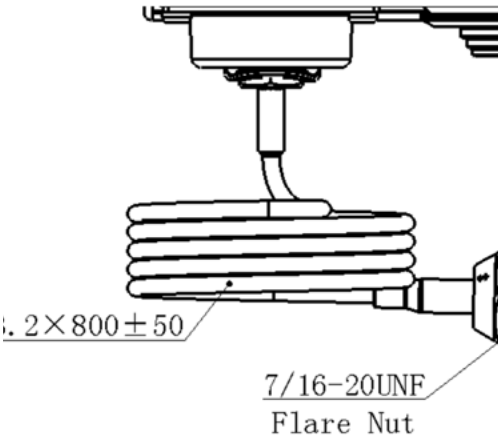


DIMENSIONAL DRAWINGS







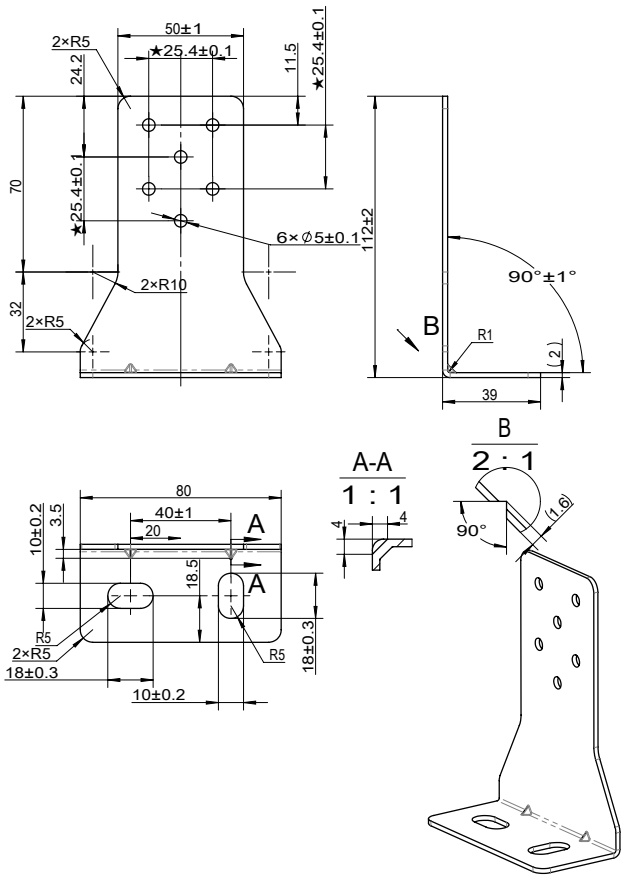


PRESSURE CONTROLS



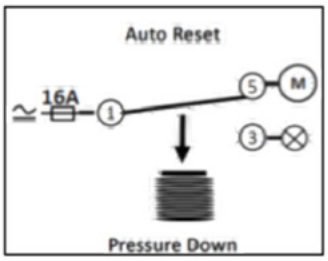
MOUNTING PLATE

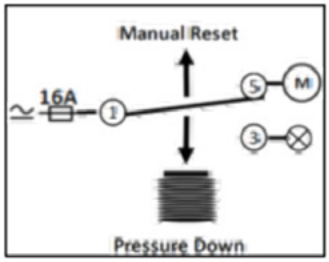
Model: PS50-50001
U11 code: 20660018502



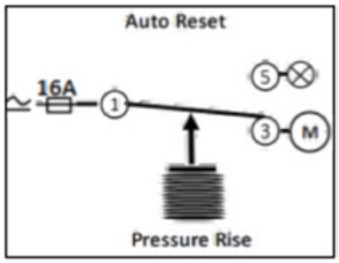
CONTACT SYSTEM

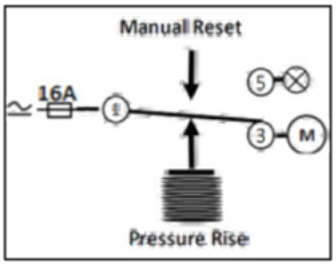
Single PS01



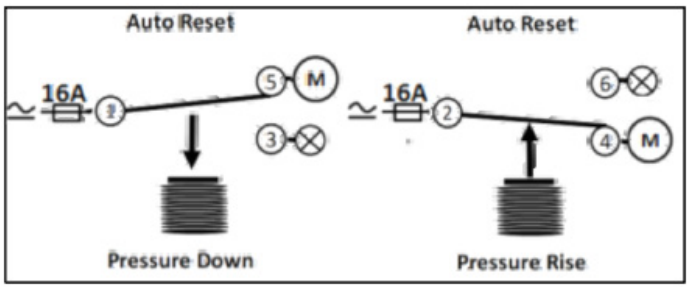


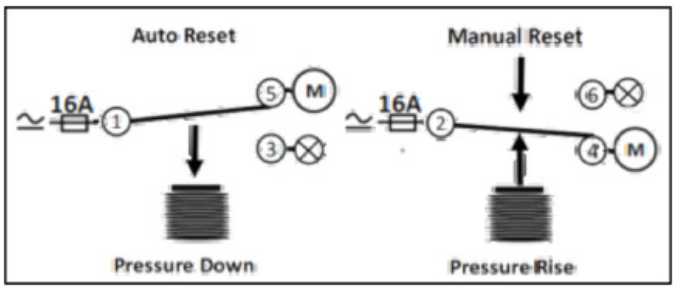
Single PS50





Dual PS15





SOLENOID VALVES



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***MDF** SERIES*

SOLENOID VALVE





(Standard range: for fluids GROUP 2 according to Directive 2014/68/EU or GROUP A1 according to ANSI-ASHRAE 34-2016).
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
- QUICK INSTALLATION COIL MQ-A11 FOR FAST AND EASY INSTALLATION AVAILABLE

GENERAL SPECIFICATIONS[1)]

- Applicable for all common HFC, HFO refrigerants such as: R134a, R404A, R407A/F, R407C, R410A, R448A, R449A, R450A, R452A, R513A, R507A
- Suitable for oil-free systems
- 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

SOLENOID VALVE



TECHNICAL PARAMETERS OF VALVE BODY

Valve Body		Usable Coils	Normal position	Actuation	Kv [m³/h]	MOP [Mpa]	Max. OPD [Mpa]		Min. OPD[7] [Mpa]
Solder	Flare						AC[4] coil	DC[5][6] coil	
MDF-A03-2H	MDF-A03-2L	AC + DC	NC[1]	Direct	0,16	4,5	3,1	3,1	0,00
MDF-A03-3H	MDF-A03-3L				0,23				
MDF-A03-6H	MDF-A03-6L	AC		Pilot[2]	0,8			NR	0,005
MDF-D03-6H	MDF-D03-6H	DC					NP	2,8	
MDF-A03-10H	MDF-A03-10L	AC			1,9		3,1	NR	
MDF-D03-10H	MDF-D03-10H	DC					NP	2,8	
MDF-A03-15H	MDF-A03-15L	AC			2,3		3,1	NR	
MDF-D03-15H	MDF-D03-15L	DC					NP	2,8	
MDF-A03-20H	-	AC + DC			5,0		3,1	3,1	0,02
MDF-A03-22H					5,9				
MDF-B03-25H				Pilot (P)[3]	10,0				
MDF-B03-32H					15,0				
MDF-B03-40H					25,0				

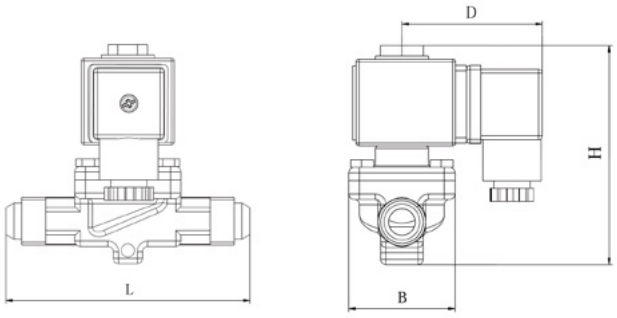
Note: 1) NC means: Normally closed valve
2) Membrane operated
3) Piston operated
4) NP means: not permitted to use, select MDF-A03 model
5) NR means: not recommended to use. Only possible with R134a and min. evaporation temp. / max. condensing temp. -15°C/+58°C, select MDF-D03 model
6) Pressure values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

SOLENOID VALVE



DIMENSIONS

Valve Body
Thread Connection



Model Valve Body	Part Number[1) 2)]	SAE Flare Connection [inch]	Kv [m³/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

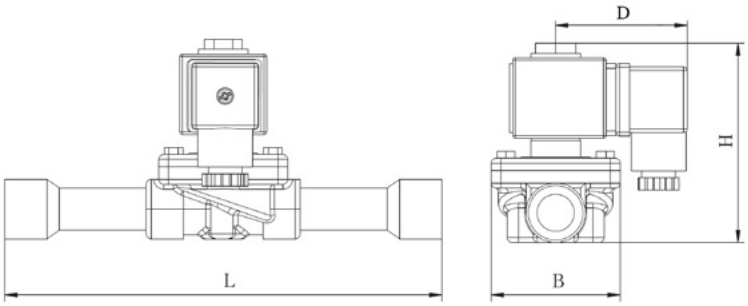
Note: 1) Extent of delivery: valve body without coil
2) Available also as industrial package. Contact Sanhua for more details.

SOLENOID VALVE



DIMENSIONS

Valve Body - Inch Solder Connection



Model Valve Body	Part Number[1) 2)]	Solder Connection ODF	Kv	PED Category Group 2	Dimensions [mm]			
		[inch]	[m³/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

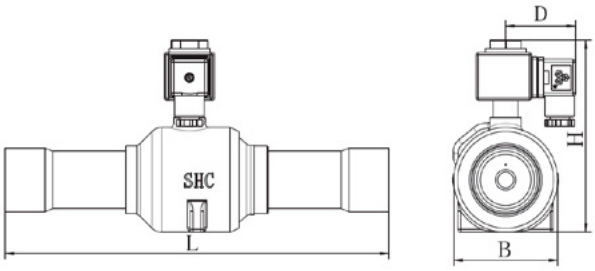
Note: 1) Extent of delivery: valve body without coil
2) Available also as industrial package. Contact Sanhua for more details.

SOLENOID VALVE



DIMENSIONS

Valve Body – Metrical Solder Connection



Model Valve Body	Part Number[1) 2)]	Solder Connection ODF [mm]	Kv [m³/h]	PED Category Group 2	Dimensions [mm]			
					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.

SOLENOID VALVE



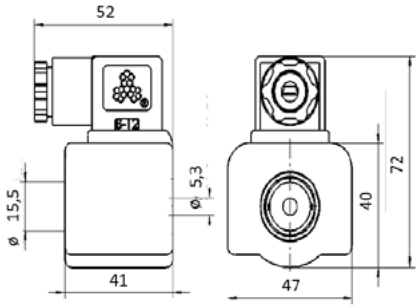
TECHNICAL PARAMETERS OF COIL

Model Coil[1)]	Part Number[2)]	Plug type	Supply	Rated Voltage [V]	Power [W]	Voltage Tolerance	Insu-lation Class	Protection Class (w/plug)	UL Approval
MQ-A03024-000001	10820009902	DIN Plug	AC	24	10,5W (50Hz) 8,5W (60Hz)	-15% +10%	F	IP67	NO
MQ-A03024-000018	10820013702							IP65	YES
MQ-A0311A-000001	10820010102			110 to 120	12W (50Hz) 10W (60Hz)			IP67	NO
MQ-A0311A-000005	10820016502							IP65	YES
MQ-A0322G-000001[4)]	10820010002			220 to 240	12W (50Hz) 10W (60Hz)			IP67	NO
MQ-A0322G-000024	10820015002							IP65	YES
MQ-A11024-000001	10820009402	Quick Install Plug[3)]	AC	24	9,5 (50Hz) 8,5 (60Hz)				OR[5)]
MQ-A1111A-000001	10820009202			110 to 120	11,5 (50Hz) 10,0 (60Hz)			IP67	OR
MQ-A1122G-000001	10820009002			220 to 240	11 (50Hz) 9,5 (60Hz)				OR
MQ-D03012-000002	10820001302	DIN Plug	DC	12	15	±10%		IP67	NO
MQ-D03024-000002	10820001002			24					NO
MQ-D03110-000003	OR			110					NO

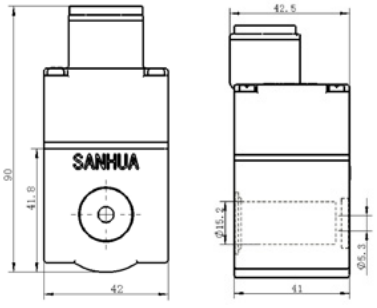
Note: 1) Match with valve body: Please respect information in table "Technical Parameters of valve body". See page 2 of this document
2) Extent of delivery: coil body, fastening screw for the coil body, plug for electrical connection incl. Gaskets and fastening screws
3) Outer cable diameter: 7,1 to 9,7mm and cable core 0,75 to 2,5mm^2
4) Coil MQ-A0322G-000001 is third party certified for usage with flammable refrigerants (A2L, A3). Usage of the other coils (only without UL approval) with flammable refrigerants – please contact Sanhua.
5) OR: On Request

DIMENSIONS - COILS

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

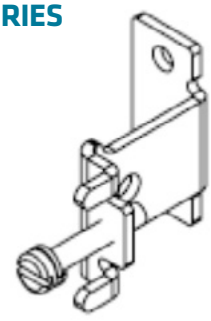


MQ-11 (Coils with Quick Install Plug):



ACCESSORIES

Bracket



Model[1)]	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

***MDF** SERIES*

SOLENOID VALVE





(GreenTech range: for fluids GROUP 1 according to Directive 2014/68/EU or GROUP A3/A2L according to ANSI-ASHRAE 34-2016).
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[1)]

- Applicable for HC, HFC/HFO, HFO refrigerants such as: R290, R1234ze(E), R1234yf, R447A, R452B, R454B, R454C, R455A
- Suitable for oil-free systems
- Maximum Operating Pressure:
  - MDF 2H...22H: 4,5 MPA (45 bar)
- Medium temperature TS min./max.: -30°C/105°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 and PED

SOLENOID VALVE



TECHNICAL PARAMETERS OF VALVE BODY

Valve Body Solder	Normal position	Actuation	Kv [m³/h]	MOP [Mpa]	Max. OPD [Mpa]	Min. OPD [Mpa]
MDF-A03-2H	NC[1]	Direct	0,16	4,5	3,1[3]	0,00
MDF-A03-3H			0,23			
MDF-A03-6H		Pilot[2]	0,8			0,005
MDF-A03-10H			1,9			
MDF-A03-15H			2,3			
MDF-A03-20H			5,0			0,02
MDF-A03-22H			5,9			

Note: 1) NC means: Normally closed valve
2) Membrane operated
3) Max. OPD at 85% Ue. Other coils on request

DIMENSIONS

Valve Body - Inch Solder Connection, Models with MOP 45 bar

Model Valve Body	Part Number[1) 2)]	SAE Flare Connection [inch]	Kv [m³/h]	PED Category Fluid Group I	Dimensions [mm]			
					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-A03-6H 003	10125004202	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-A03-10H 003	10125006302	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-A03-15H 003	10125005002	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

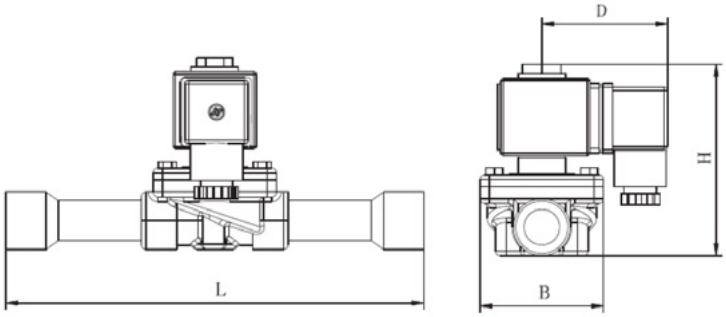
SOLENOID VALVE



Valve Body – Metrical Solder Connection, Models with MOP 45 bar

Model Valve Body	Part Number[1) 2)]	SAE Flare Connection [mm]	Kv [m³/h]	PED Category Fluid Group I	Dimensions [mm]			
					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-A03-6H 007	10125006702	12	0,8	4.3	127	36	53	88
MDF-A03-10H 005	10125003502	12	1,9	4.3	127	42	53	95
MDF-A03-10H 003	10125006302	16	1,9	4.3	160	42	53	95
MDF-A03-15H 005	10125003702	16	2,3	4.3	176	52	53	100
MDF-A03-15H 003	10125005002	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

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



SOLENOID VALVE



TECHNICAL PARAMETERS OF COIL

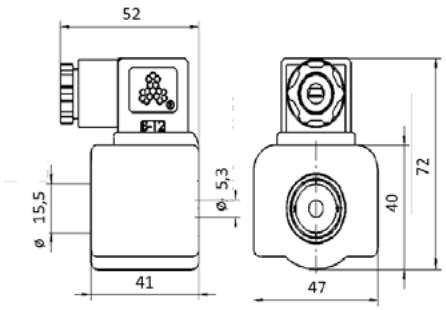
Model Coil	Part Number[1)]	Plug type	Supply	Rated Voltage [V]	Power [W]	Voltage Tolerance	Insulation Class	Protection Class (w/plug)	UL Approval
MQ-A0322G-000001[2)]	10820010002	DIN	AC	220 to 240	12 (50Hz) 10 (60Hz)	-15% +10%	F	IP67	NO

Note: 1) Extent of delivery: coil body, fastening screw for the coil body, plug for electrical connection incl. Gaskets and fastening screws

2) Coil MQ-A0322G-000001 is third party certified for usage with flammable refrigerants (A2L, A3). Usage of the other coils with flammable refrigerants – please contact Sanhua.

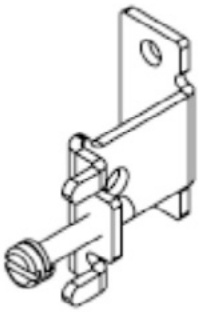
DIMENSIONS - COILS

MQ-A03 (Coil with DIN Plug):



ACCESSORIES

Bracket

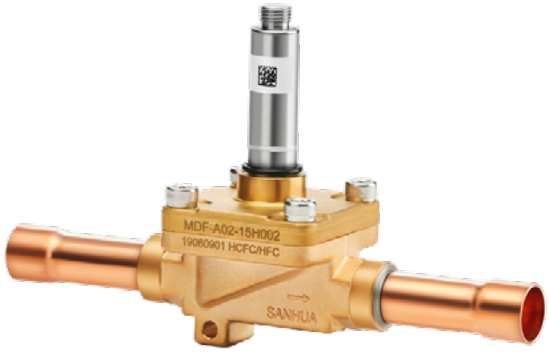


Model[1)]	Part Number	Applicable Valve Models
		Solder
MDF-A03-033001	20125000902	MDF-A03-2H
		MDF-A03-3H
		MDF-A03-6H
		MDF-A03-10H
		MDF-A03-15H

Note: 1) Extent of delivery: bracket and screw

MDF-A02 (NO) *SERIES*

SOLENOID VALVE



(Standard range: for fluids GROUP 2 according to Directive 2014/68/EU or GROUP A1 according to ANSI-ASHRAE 34-2016).
MDF-A02 series solenoid valves are normally open (NO) pilot operated solenoid valves, mainly used in refrigerant control of various devices such as refrigerating and freezing systems, air conditioners and heat pumps.

FEATURES

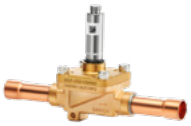
- COILS: LOW ENERGY CONSUMPTION, RELIABLE
- GREAT VALVE OPENING PERFORMANCE, HIGH MOPD
- COILS ARE DOUBLE SEALED, WATERTIGHT AND SAFE

GENERAL SPECIFICATIONS[1)]

- Applicable for all common HFC, HFO refrigerants such as: R134a, R404A, R407A/F, R407C, R410A, R448A, R449A, R450A, R452A, R513A, R507A
- Medium temperature: -30°C ~ +105°C
- Ambient temperature: -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 and PED

Note: 1) Please contact Sanhua to get models for oil-free application.

SOLENOID VALVE



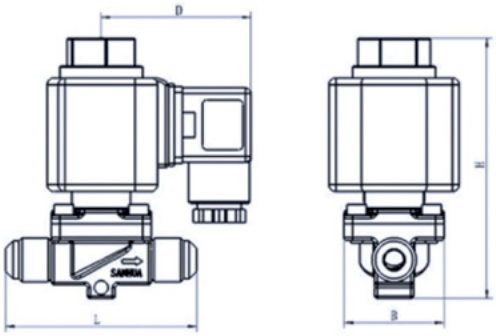
TECHNICAL PARAMETERS OF VALVE BODY

Valve Body		Usable Coils	Normal position	Actuation	Kv [m³/h]	MOP [Mpa]	Max. OPD [Mpa]	Min. OPD[4] [Mpa]
Solder	Flare							
MDF-A02-6H	MDF-A02-6L	AC/DC	NC[1]	Pilot[2]	0,8	4,5	2,8[3]	0,02
MDF-A02-10H	MDF-A02-10L				1,9			
MDF-A02-15H	MDF-A02-15L				2,3			
MDF-A02-20H					5			
MDF-A02-22H					6			

Note: 1) NO means: Normally open valve
2) Membrane operated
3) Max. OPD with liquid is 2,1 MPa, Max. OPD at 85% Ue
4) Min. OPD: values referred to 100% of nominal flow

DIMENSIONS

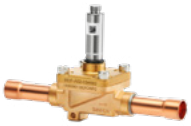
Valve Body - Thread Connection



Model Valve Body	Part Number[1)2)]	SAE Flare Connection [inch]	Kv [m³/h]	PED Category Group 2	Dimensions [mm]			
					L	B	D	H
MDF-A02-6L 002	10125012502	3/8	0,8	4.3	69	36	53	95
MDF-A02-6L 004	10125012602	1/2	0,8	4.3	75	36	53	95
MDF-A02-10L 002	10125012902	5/8	1,9	4.3	92	42	53	102,5
MDF-A02-10L 004	10125013002	1/2	1,9	4.3	84	42	53	102,5
MDF-A02-15L 002	10125013302	5/8	2,3	4.3	104	52	53	107,5
MDF-A02-15L 004	10125013402	7/8	2,3	4.3	119	52	53	107,5

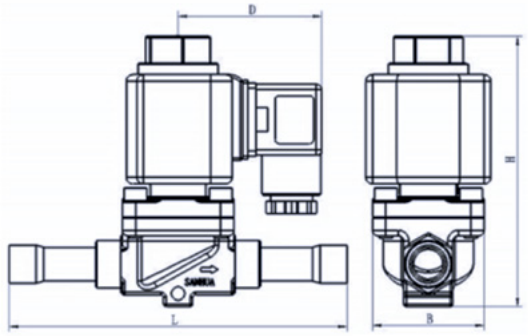
Note: 1) Extent of delivery: valve body without coil
2) Available also as industrial package. Contact Sanhua for more details.

SOLENOID VALVE



DIMENSIONS

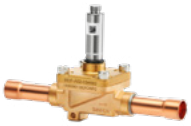
Valve Body - Solder Connection



Model Valve Body	Part Number[1)2)]	Solder Connection ODF		Kv	PED Category Fluid Group 2	Dimensions [mm]			
		[inch]	[mm]	[m³/h]		L	B	D	H
MDF-A02-6H 002	10125001802	3/8		0,8	4.3	111	36	53	95
MDF-A02-6H 004	10125012302	1/2		0,8	4.3	127	36	53	95
MDF-A02-6H 006	10125009702		10	0,8	4.3	111	36	53	95
MDF-A02-6H 008	10125012402		12	0,8	4.3	127	36	53	95
MDF-A02-10H 002	10125012002	1/2		1,9	4.3	127	42	53	102,5
MDF-A02-10H 004	10125012702	5/8	16	1,9	4.3	160	42	53	102,5
MDF-A02-10H 006	10125012802		12	1,9	4.3	127	42	53	102,5
MDF-A02-15H 004	10125013102	7/8	22	2,3	4.3	176	52	53	107,5
MDF-A02-15H 006	10125013202	5/8	16	2,3	4.3	176	52	53	107,5
MDF-A02-20H 002	10125013502	7/8	22	5	4.3	191	60	53	124
MDF-A02-20H 004	10125013602	1-1/8		5	4.3	214	60	53	124
MDF-A02-20H 008	10125013702		28	5	4.3	214	60	53	124
MDF-A02-22H 002	10125013802	7/8	22	6	4.3	281	60	53	124
MDF-A02-22H 004	10125013902	1-3/8	35	6	I	281	60	53	124
MDF-A02-22H 008	10125014002	1-1/8		6	4.3	281	60	53	124
MDF-A02-22H 012	10125015202		28	6	4.3	281	60	53	124

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

SOLENOID VALVE



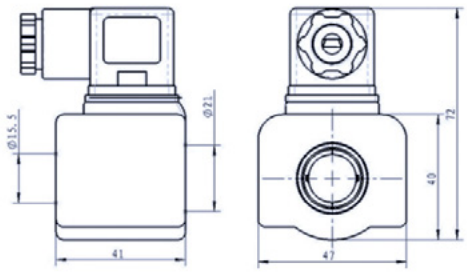
TECHNICAL PARAMETERS OF COIL

Model Coil	Part Number[1)]	Plug type[2)]	Supply	Rated Voltage [V]	Power [W]	Voltage Tolerance	Insu-lation Class	Protection Class (w/plug)	UL Approval
MQ-A02024-000001	10820004502	DIN Plug	AC	24	12,5 (50Hz) 10,5 (60Hz)	-15% +10%	F	IP67	NO
MQ-A0211A-000001	10820003702			110 to 120					NO
MQ-A0222G-000001	10820004102			220 to 240					NO
MQ-D02012-000001	10820006702		DC	12	10	±10%			NO
MQ-D02024-000001	10820006902			24					NO

Note: 1) Extent of delivery: coil body, fastening screw for the coil body, plug for electrical connection incl. Gaskets and fastening screws
2) Outer cable diameter: 7,1 to 9,7mm and cable core 0,75 to 2,5mm^2

DIMENSIONS - COILS

MQ-A02 (Coils with DIN Plug):

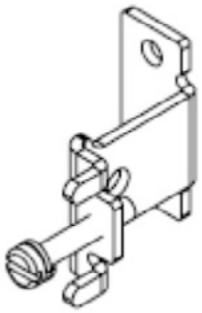


ACCESSORIES

Bracket

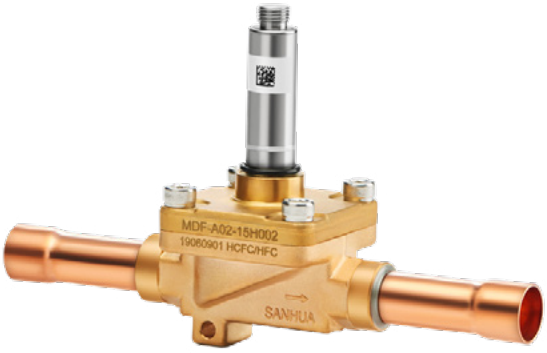
Model[1)]	Part Number	Applicable Valve Models	
		Solder	Flare
MDF-A03-033001	20125000902	MDF-A02-6H	MDF-A02-6L
		MDF-A02-10H	MDF-A02-10L
		MDF-A02-15H	MDF-A02-15L

Note: 1) Extent of delivery: bracket and screw



MDF-A02 (NO) *SERIES*

SOLENOID VALVE



(GreenTech range: for fluids GROUP 1 according to Directive 2014/68/EU or GROUP A3/A2L according to ANSI-ASHRAE 34-2016)
MDF-A02 series solenoid valves are normally open (NO) pilot operated solenoid valves, mainly used in refrigerant control of various devices such as refrigerating and freezing systems, air conditioners and heat pumps.

FEATURES

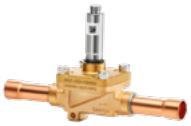
- COILS: LOW ENERGY CONSUMPTION, RELIABLE
- GREAT VALVE OPENING PERFORMANCE, HIGH MOPD
- COILS ARE DOUBLE SEALED, WATERTIGHT AND SAFE

GENERAL SPECIFICATIONS[1)]

- Applicable for all common HFC/HFO/HC refrigerants such as: R290, R1234yf, R1234ze(E), R32[2)], R454B, R454C
- Medium temperature: -30°C ~ +105°C
- Ambient temperature: -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 and PED

Note: 1) MDF series is not suitable for "oil free" systems; customized models for such application are available on request
2) With R32 only respecting MOP 45 bar

SOLENOID VALVE

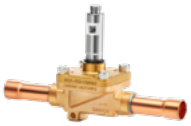


TECHNICAL PARAMETERS OF VALVE BODY

Valve Body Solder	Usable Coils	Normal position	Actuation	Kv [m³/h]	MOP [Mpa]	Max. OPD [Mpa]	Min. OPD[4] [Mpa]
MDF-A02-6H	AC/DC	NC[1]	Pilot[2]	0,8	4,5	2,8[3]	0,02
MDF-A02-10H				1,9			
MDF-A02-15H				2,3			
MDF-A02-20H				5			
MDF-A02-22H				6			

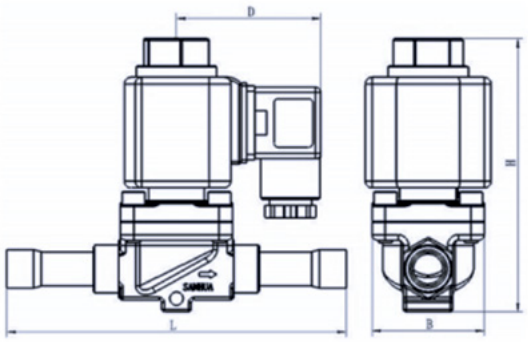
Note: 1) NO means: Normally open valve
2) Membrane operated
3) Max. OPD with liquid is 2,1 MPa, Max. OPD at 85% Ue
4) Min. OPD: values referred to 100% of nominal flow

SOLENOID VALVE



DIMENSIONS

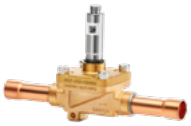
Valve Body - Solder Connection



Model Valve Body	Part Number[1)2)]	Solder Connection ODF		Kv [m³/h]	PED Category Fluid Group 1	Dimensions [mm]			
		[inch]	[mm]			L	B	D	H
MDF-A02-6H 002	10125001802	3/8		0,8	4.3	111	36	53	95
MDF-A02-6H 004	10125012302	1/2		0,8	4.3	127	36	53	95
MDF-A02-6H 006	10125009702		10	0,8	4.3	111	36	53	95
MDF-A02-6H 008	10125012402		12	0,8	4.3	127	36	53	95
MDF-A02-10H 002	10125012002	1/2		1,9	4.3	127	42	53	102,5
MDF-A02-10H 004	10125012702	5/8	16	1,9	4.3	160	42	53	102,5
MDF-A02-10H 006	10125012802		12	1,9	4.3	127	42	53	102,5
MDF-A02-15H 004	10125013102	7/8	22	2,3	4.3	176	52	53	107,5
MDF-A02-15H 006	10125013202	5/8	16	2,3	4.3	176	52	53	107,5
MDF-A02-20H 002	10125013502	7/8	22	5	4.3	191	60	53	124
MDF-A02-20H 004	10125013602	1-1/8		5	4.3	214	60	53	124
MDF-A02-20H 008	10125013702		28	5	4.3	214	60	53	124
MDF-A02-22H 002	10125013802	7/8	22	6	4.3	281	60	53	124
MDF-A02-22H 008	10125014002	1-1/8		6	4.3	281	60	53	124
MDF-A02-22H 012	10125015202		28	6	4.3	281	60	53	124

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

SOLENOID VALVE



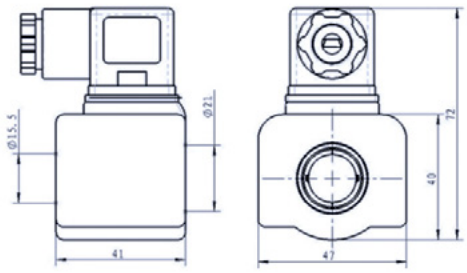
TECHNICAL PARAMETERS OF COIL

Model Coil	Part Number[1)]	Plug type[2)]	Supply	Rated Voltage [V]	Power [W]	Voltage Tolerance	Insu-lation Class	Protection Class (w/plug)	UL Approval
MQ-A02024-000001	10820004502	DIN Plug	AC	24	12,5 (50Hz) 10,5 (60Hz)	-15% +10%	F	IP67	NO
MQ-A0211A-000001	10820003702			110 to 120					NO
MQ-A0222G-000001	10820004102			220 to 240					NO
MQ-D02012-000001	10820006702		DC	12	10	±10%			NO
MQ-D02024-000001	10820006902			24					NO

Note: 1) Extent of delivery: coil body, fastening screw for the coil body, plug for electrical connection incl. Gaskets and fastening screws
2) Outer cable diameter: 7,1 to 9,7mm and cable core 0,75 to 2,5mm^2

DIMENSIONS - COILS

MQ-A02 (Coils with DIN Plug):

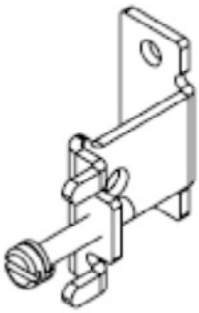


ACCESSORIES

Bracket

Model[1)]	Part Number	Applicable Valve Models	
		Solder	Flare
MDF-A03-033001	20125000902	MDF-A02-6H	MDF-A02-6L
		MDF-A02-10H	MDF-A02-10L
		MDF-A02-15H	MDF-A02-15L

Note: 1) Extent of delivery: bracket and screw



MQ-A11 *SERIES*

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[1)]	Part Number[2)]	Rated Voltage [V]	Supply	Power [W]	Frequ. [Hz]	Voltage Tolerance	Insulation Class	Protection class	Outer Cable φ [mm]	Cable core [mm²]
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)						

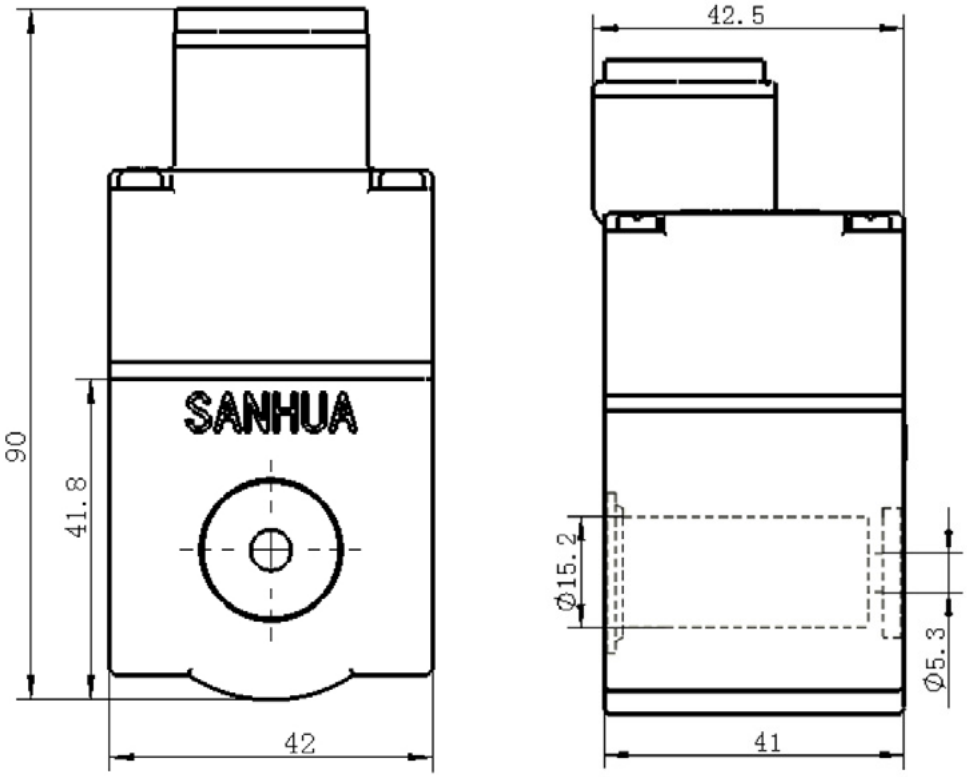
Note: 1) Applicable to MDF-A03 and MDF-B03 valve bodies
2) Extent of delivery: coil body, junction box, gasket, 4x fixing screws, terminal strip and jam screw

SOLENOID COIL



DIMENSIONS - COIL

Coils with junction box (MQ-A11)



FDF (NC) *SERIES*

SOLENOID VALVE



(**Standard range**: for fluids GROUP 2 according to Directive 2014/68/EU or GROUP A1 according to ANSI-ASHRAE 34-2016)
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

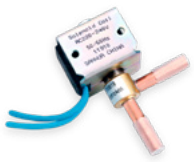
- Applicable for all common HCFC, HFC refrigerants such as: R22, R134a, R404A, R407C, R410A, R507, R407A/F, R448A/R449A, R452A, R450A/R513A
- Medium temperature TS min./max.: -30°C / 120°C
- Ambient temperature min./max.: -30°C / +50°C
- Relative humidity: 0 to 95% RH
- Installation position: - Liquid,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

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]	[m³/h]	[MPa]	[MPa]	[MPa]	[mm]	[inch]	L	L1	L2
FDF 2A 81	10120046002	NC	Direct	1,9	0,08	4,5	3,4	0	6,35	1/4	66,5	32	34
FDF 2.5A 08	10120021102		Pilot	2,5	0,21		2,1	0,01	6,35	1/4	85	37,5	38
FDF 3A 16	10120044602			2,7	0,26		3,4		7,94	5/16	81,4	34,5	35,5
FDF 4A 10	10120025302			4,0	0,30		2,8	0	6,35	1/4	81	35	38
FDF 6A 98	10120044702			5,8	0,56		3,4	0,01	7,94	5/16	81,6	34,5	35,5
FDF 11A 36	10120043202			11	2,40		2,8	0,02	12,7	1/2	117,5	62	62
FDF 13A 26	10120046702			13	3,50				15,88	5/8	117,5	62	62,3

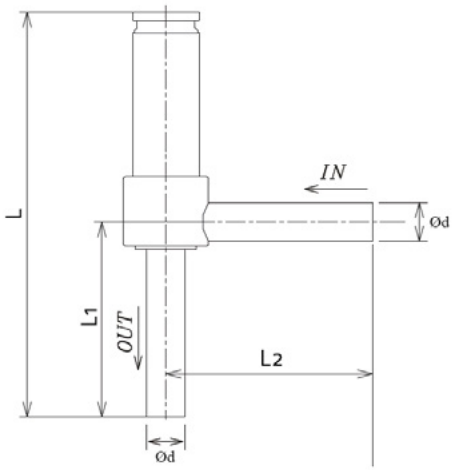
* Available also as industrial package. Contact Sanhua for more details.

SOLENOID VALVE

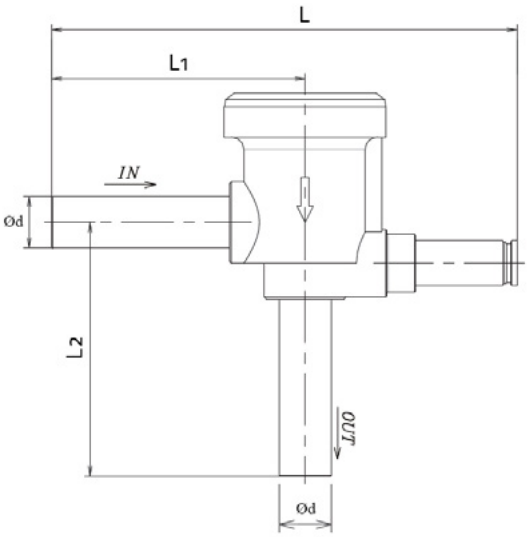


DIMENSIONS - VALVE BODY

FDF 2A ... FDF 6A



FDF 8A ... FDF 13A



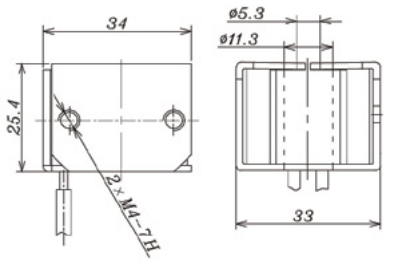
TECNHICAL PARAMETERS OF COIL

Model Coil	Part Number*	Rated Voltage [V]	Supply	Power [1] [W]	Freq. [Hz]	Voltage Tolerance	Insulation Class	Wiring type: flying leads [mm]
FQ-A05 024-000709	10800072302	24	AC	5 (50Hz) 4,5 (60Hz)	50/60	-15% +10%	B	1800±50
FQ-A05 120-001098	10800062002	110 to 120		5 (50Hz) 4,5 (60Hz)				800±30
FQ-A05 22G-001022	10800057302	220 to 240		5 (50Hz) 4,5 (60Hz)				600±20

Note: * Available also as industrial package. Contact Sanhua for more details.
1) FQ-A0522G power consumption based on 240V; FQ-A05120 power consumption based on 120V

DIMENSIONS - COIL

FQA-55001 ... FQA -55003



FDF (NC) SERIES

SOLENOID VALVE



(**GreenTech range:** for fluids GROUP 1 according to Directive 2014/68/EU or GROUP A3/A2L according to ANSI-ASHRAE 34-2016)
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 HFC/HFO/HC refrigerants such as: R290, R1234yf, R1234ze(E), R32[1)], R447A, R452B, R454B, R454C, R600a
- 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 ± 15° tolerance versus vertical axis
  - Flow direction corresponds to the arrow
- Certifications: UL/CSA* and declaration according to LVD or PED

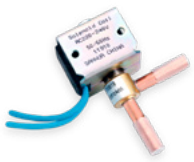
Note: 1) With R32 only respecting MOP 45 bar

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]	[m³/h]	[MPa]	[MPa]	[MPa]	[mm]	[inch]	L	L1	L2
FDF 2A 81	10120046002	NC	Direct	1,9	0,08	4,5	3,4	0	6,35	1/4	66,5	32	34
FDF 2.5A 08	10120021102		Pilot	2,5	0,21		2,1	0,01	6,35	1/4	85	37,5	38
FDF 3A 16	10120044602			2,7	0,26		3,4		7,94	5/16	81,4	34,5	35,5
FDF 4A 10	10120025302			4,0	0,30		2,8	0	6,35	1/4	81	35	38
FDF 6A 98	10120044702			5,8	0,56		3,4	0,01	7,94	5/16	81,6	34,5	35,5
FDF 11A 36	10120043202			11	2,40		2,8	0,02	12,7	1/2	117,5	62	62
FDF 13A 26	10120046702			13	3,50				15,88	5/8	117,5	62	62,3

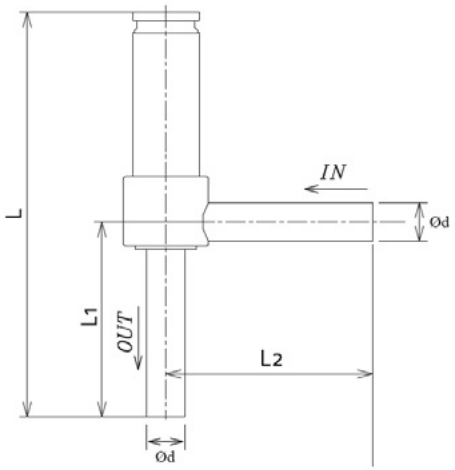
* Available also as industrial package. Contact Sanhua for more details.

SOLENOID VALVE

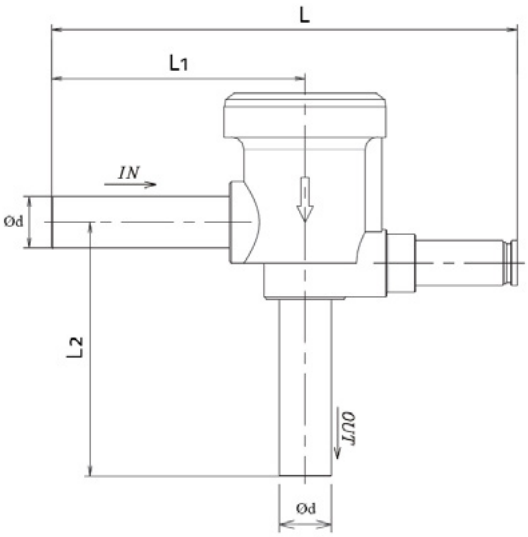


DIMENSIONS - VALVE BODY

FDF 2A ... FDF 6A



FDF 8A ... FDF 13A



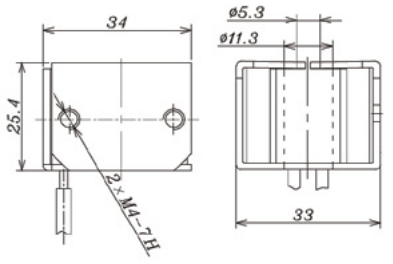
TECNHICAL PARAMETERS OF COIL

Model Coil	Part Number*	Rated Voltage [V]	Supply	Power [1] [W]	Freq. [Hz]	Voltage Tolerance	Insulation Class	Wiring type: flying leads [mm]
FQ-A05 22G-001022	10800057302	220 to 240	AC	5 (50Hz) 4,5 (60Hz)	50/60	-15% +10%	B	600±20

Note: 1) Power consumption based on 240V

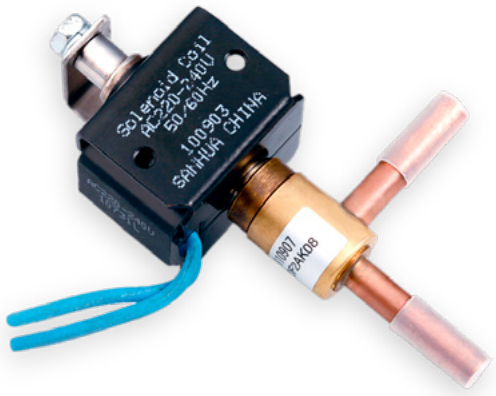
DIMENSIONS - COIL

FQA-55001 ... FQA -55003



FDF2AK (NO) *SERIES*

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[1)]
- 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

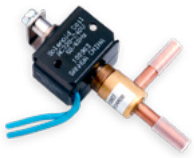
Note: 1) Flammable refrigerants like R32, R290 on request

TECHNICAL PARAMETERS OF VALVE BODY

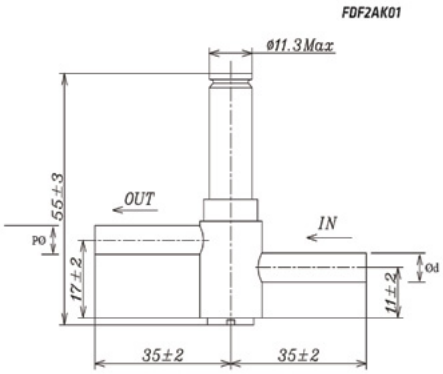
Valve Body Model	Part Number*	Normal Position	Actuation	Ø Seat [mm]	Kv [m³/h]	MOP [MPa]	Max. OPD [MPa]	Min. OPD [MPa]	Connection OD Ød	
									[mm]	[inch]
FDF2AK19	10120047402	NO	Direct	1,8	0,05	4,5	2,1	0	6,35 ±0,1	1/4
FDF2AK08	10120009702			1,9	0,08	4,5	1,5			

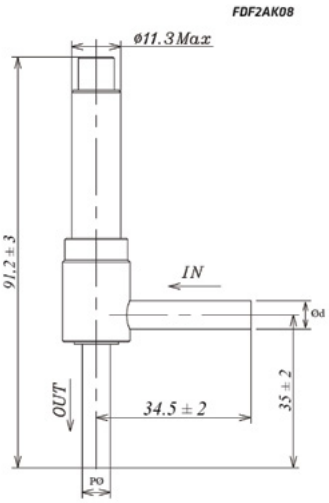
* Available also as industrial package. Contact Sanhua for more details.

SOLENOID VALVE



DIMENSIONS - VALVE BODY





TECNHICAL PARAMETERS OF COIL

Coil Model	Part Number*	Rated Voltage [V]	Supply	Power[3] [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[1]	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[2]				

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

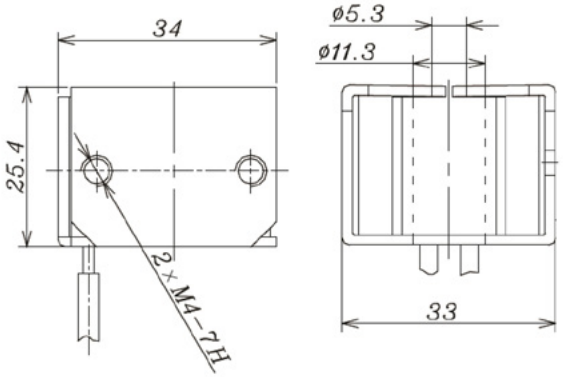
1) Dimensions: drawing 1

2) Dimensions: drawing 2

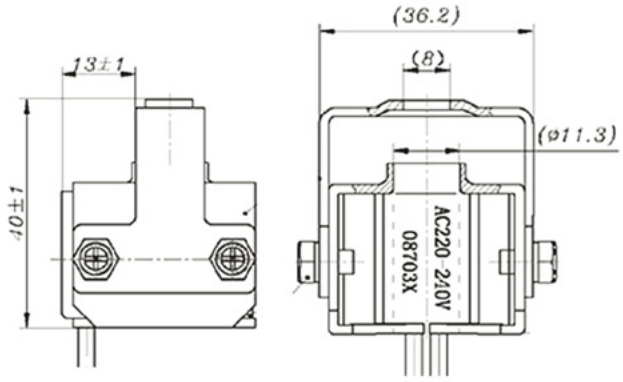
3) Power consumption based on 220V

DIMENSIONS - COIL

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



Drawing 2: FQA-55007



***LDF** SERIES*

SOLENOID VALVE



(GreenTech range: aplicapable for fluids GROUP 1 and GROUP 2 according to Directive 2014/68/EU or GROUP A3/A2L and GROUP A1 according to ANSI-ASHRAE 34-2016)

LDF 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
- LOW INTERNAL LEAKAGE
- COMPACT DESIGN, EASY TO INSTALL.

GENERAL SPECIFICATIONS

- Applicable for all common HFC/HFO/HC refrigerants such as: R134a, R404A, R407A/F, R407C, R410A, R448A, R449A, R450A, R452A, R513A, R507A, R290, R1234yf, R1234ze(E), R32[1)], R447A, R452B, R454B, R454C
- Medium temperature TS min./max.: -30°C/+120°C
- Ambient temperature min./max.: -30°C /+50°C
- Relative humidity:0 to 95%RH
- Max. operating pressure PS: 4.5Mpa
- Installation position:
  - Liquid, suction and discharge line
  - Coil upwards, coil axis ±15° to tolerance versus vertical axis
  - Flow direction corresponds to the arrow
- Declaration according to LVD or PED, UL approval

Note: 1) With R32 only respecting MOP 45 bar

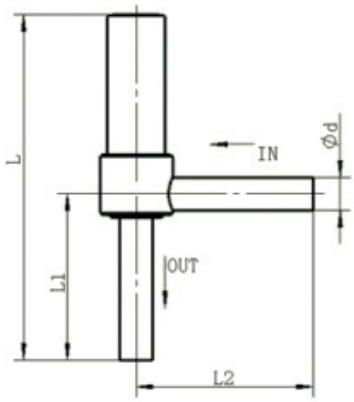
SOLENOID VALVE

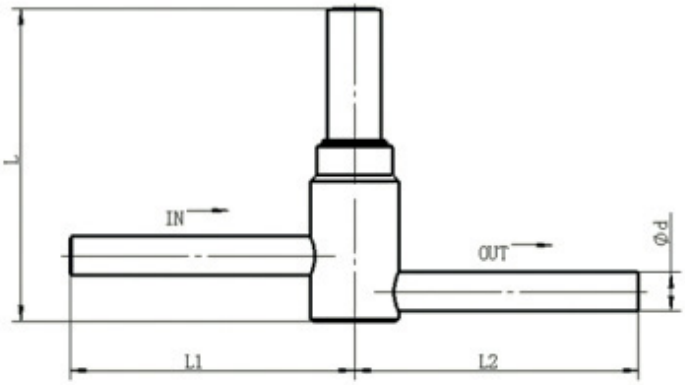


TECHNICAL PARAMETERS OF VALVE BODY

Model Valve Body	Part Number	Normal Position	Actuation	Ø Seat [mm]	Kv [mm]	MOP [MPa]	OPD [MPa]		Ød ODM [inch]
							Max	Min	L2
LDF2A01	10127000102	NC	Direct	2	0.12	4.5	3.1	0	1/4
LDF2A02	10127000402			2	0.12	4.5	3.1	0	1/4
LDF3A08	10127001802		Pilot	3	0.26	4.5	3.1	0.005	1/4
LDF4A08	10127001102			4	0.3	4.5	3.1	0.005	1/4
LDF6A08	10127001202			5.8	0.6	4.5	3.1	0.005	5/16
LDF8A01	10127000502			8	0.9	4.5	3.1	0.005	3/8
LDF8A02	10127000602			8	1.1	4.5	3.1	0.005	3/8

Model Valve Body	Ød ODM [inch]	Dimensions			Drawings number
		L	L1	L2	
LDF2A01	1/4	51,6	40	39,5	2
LDF2A02	1/4	79,6	38,5	40	1
LDF3A08	1/4	91	45,8	46,7	1
LDF4A08	1/4	91	45	46	1
LDF6A08	5/16	95	48,5	49	1
LDF8A01	3/8	67	71	71	2
LDF8A02	3/8	120,7	69,5	71	1





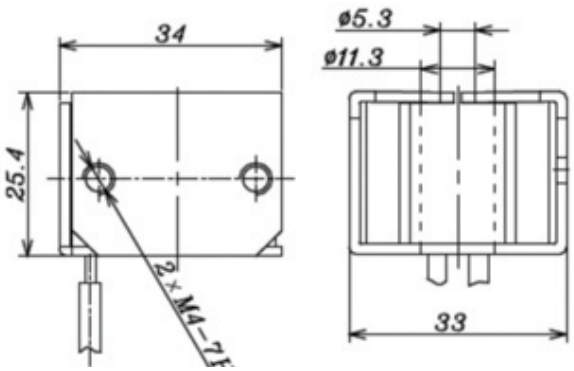
SOLENOID VALVE



TECHNICAL PARAMETERS OF COIL

Model Coil	Rated voltage [V]	Power [W]	Voltage Tolerance	Insulation Class	Wiring type	Cable length, [mm]	Part Number
FQ-A05 024-000709	AC 24	5 (50Hz) 4,5 (60Hz)	+10% -15%	B	Lead Wires	1800	10800072302
FQ-A05 120-001098	AC 120	5 (50Hz) 4,5 (60Hz)				800	10800062002
FQ-A05 22G-001022	AC 220-240	5 (50Hz) 4,5 (60Hz)				600	10800057302

DIMENSIONS - COIL




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THERMOSTATIC EXPANSION VALVES



FLEXIBILITY OF CHOICE
INCREASED MECHANICAL STRENGTH

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RFKH *SERIES*

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, R455A, R454C
- 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 ¼" flare connection;
  - RFKH flare/solder type with ¼" 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
	20	R455A / R454C
3	**Pressure Equalization**	**Description**
	E	External pressure equalization
	(Omitted)	Internal pressure equalization
4	**Miscellaneous**	**Description**
	xxxx	Digits for additional information

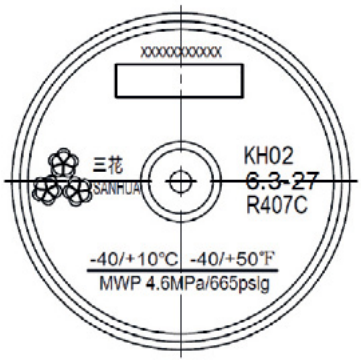
THERMOSTATIC EXPANSION VALVE



MODEL DESIGNATION EXAMPLE

Position Number					According to Model Designation Legend
1	2	3	4	5	
RFKH	01	E	xxx	xxx	Thermostatic expansion valve
RFKH	**01**	E	xxx	xxx	Refrigerant R22
RFKH	01	**E**	xxx	xxx	Connection for external pressure equalization
RFKH	01	E	**xxx**	xxx	Nominal Capacity (in USRT)
RFKH	01	E	xxx	**xxx**	Digits for additional information

MODELS DESIGNATION (VALVE HEAD)



Code	Description
KH11E-4.5-323	Part number
MOP 45/-10°C	With MOP
-40/-15°F	Evaporating temperature (°C)
-40/+5°F	Evaporating temperature (°F)
R452A	Refrigerant
MWP 4.6Mpa	Max. Working Pressure (MPa)
MWP 665psig	Max. Working Pressure (Psig)

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 (-40°C to +10°C)	Range NM (-40°C to -5°C)	Range NL (-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 barg - STD	4,0 barg – O.R.	2,5 barg - STD	N.A.
R407C	6,6 barg - STD	N.A.	N.A.	N.A.
R404A / R507	8,4 barg - STD	5,0 barg – O.R.	3,3 barg - STD	2,0 barg - STD
R134a	3,9 barg - STD	1,9 barg – O.R.	1,0 barg – O.R.	N.A.
R410A	11,5 barg - STD	7,0 barg – O.R.	4,7 barg - STD	N.A.
R407A / R407F	7,9 barg - STD	N.A.	N.A.	N.A.
R448A / R449A	7,3 barg - O.R.	4,2 barg – O.R.	2,6 barg - STD	1,5 barg - O.R.
R450A	3,2 barg - O.R.	1,5 barg – O.R.	0,7 barg - O.R.	N.A.
R452A	8,0 barg - O.R.	4,6 barg – O.R.	3,0 barg - STD	1,7 barg - STD
R513A	4,3 barg - O.R.	2,3 barg – O.R.	1,3 barg - O.R.	N.A.
R455A	6,8 barg - O.R.	3,8 barg – O.R.	2,4 barg - O.R.	N.A.
R454C	6,3 barg - O.R.	3,5 barg – O.R.	2,2 barg - 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[1 & 4)]	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	RFKH05-7.6-66	10201005702	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH05E-7.6-33	10201005202	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH05-7.6-37	10201005602	flare / solder		-	12	-	-	-	-
	RFKH05E-7.6-36	10201005502	flare / solder / solder		-	12	-	-	-	6
	RFKH05-7.6-35	10201005402	flare / solder		-	-	1/2	-	-	-
	RFKH05E-7.6-34	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[1 & 4)]	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	-
R455A / R454C	RFKH20-4.3-80	10201024902	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH20E-4.3-79	10201024802	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH20-4.3-81	10201025002	flare / solder		-	12	-	-	-	-
	RFKH20E-4.3-78	10201024702	flare / solder / solder		-	12	-	-	-	6
	RFKH20-4.3-82	10201024502	flare / solder		-	-	1/2	-	-	-
	RFKH20E-4.3-83	10201024402	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[1 & 4)]	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-4.8-217	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-4.8-216	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[1 & 4)]	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-4.8-310	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
R448A / R449A	RFKH08-6.1-315	10201019702	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH08E-6.1-314	10201019602	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH08-6.1-316	10201019802	flare / solder		-	12	-	-	-	-
	RFKH08E-6.1-313	10201019902	flare / solder / solder		-	12	-	-	-	6
	RFKH08-6.1-317	10201012902	flare / solder		-	-	1/2	-	-	-
	RFKH08E-6.1-318	10201013002	flare / solder / solder		-	-	1/2	-	1/4	-
R452A	RFKH11-4.5-320	10201020002	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH11E-4.5-319	10201014202	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH11-4.5-321	10201014002	flare / solder		-	12	-	-	-	-
	RFKH11E-4.5-324	10201014102	flare / solder / solder		-	12	-	-	-	6
	RFKH11-4.5-322	10201013102	flare / solder		-	-	1/2	-	-	-
	RFKH11E-4.5-323	10201013202	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[1 & 4)]	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]

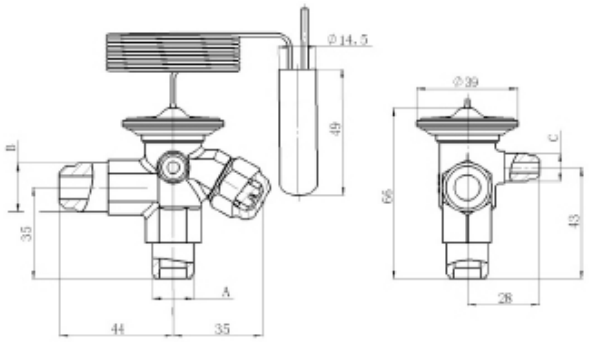
Ref.	Model Valve Body	Part Number[1 & 4)]	Connection type	Inlet ØA	Outlet ØB			Ext. ØC		
			In / Out / Ext. Pressure Equal.	Flare	Flare	Solder		Flare	Solder	Solder
				[inch]	[inch]	[mm]	[inch]	[inch]	[inch]	[mm]
R404A / R507A	RFKH03-4.8-406	10201015602	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH03E-4.8-405	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	-
R452A	RFKH11-4.5-409	10201014802	flare / flare	3/8	1/2	-	-	-	-	-
	RFKH11E-4.5-408	10201014302	flare / flare / flare		1/2	-	-	1/4	-	-
	RFKH11-4.5-410	10201015002	flare / solder		-	12	-	-	-	-
	RFKH11E-4.5-407	10201014702	flare / solder / solder		-	12	-	-	-	6
	RFKH11-4.5-411	10201015102	flare / solder		-	-	1/2	-	-	-
	RFKH11E-4.5-412	10201015202	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

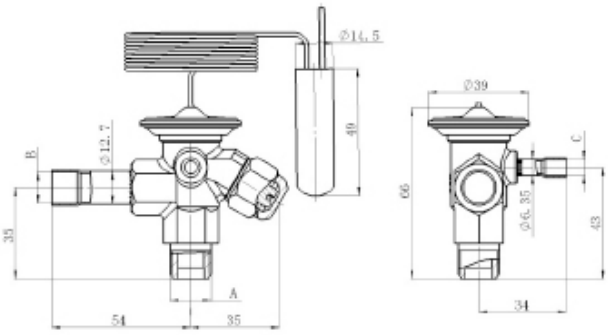
THERMOSTATIC EXPANSION VALVE



DIMENSIONS

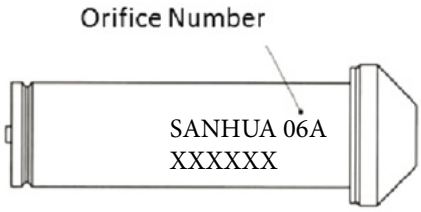


Valve Body - Connection Type: flare/flare/flare



Valve Body - Connection Type: flare/solder/solder

ACCESSORIES



ORIFICES

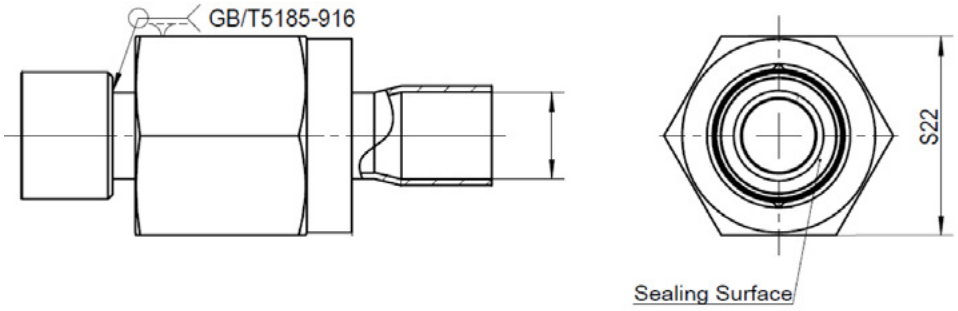
Orifice Number	Valve Orifice Model	Valve Orifice Part Number	Nominal Capacity[1] [kW]					
			R22	R407C	R404A R507A	R134a	R410A	R407A R407F
0X	RFKH-023-0X	10202001702	1	1	0,7	0,69	1,3	1
0	RFKH-023-00	10202001002	1,9	2,1	1,4	1,2	2,5	1,8
1	RFKH-023-01	10202001102	3,8	4	2,8	2,1	5	3,7
2	RFKH-023-02	10202001202	5,1	5,4	4	2,7	6,2	5,1
3	RFKH-023-03	10202001302	8,6	9,2	6,8	4,4	11,2	8,6
4	RFKH-023-04	10202001402	13,2	13,9	10,8	6,5	17	13,4
5	RFKH-023-05	10202001502	18,1	18,5	14,1	8,6	21,3	17,6
6	RFKH-023-06	10202001602	21,3	22,1	16,8	10,3	26,8	21,2

Orifice Number	Valve Orifice Model	Valve Orifice Part Number	Nominal Capacity[1] [kW]						
			R448A	R449A	R450A	R452A	R513A	R455A	R454C
0X	RFKH-023-0X	10202001702	1,1	1,0	0,6	0,8	0,6	0,6	0,6
0	RFKH-023-00	10202001002	2,1	2,0	1,1	1,5	1,0	1,3	1,2
1	RFKH-023-01	10202001102	4,0	4,0	1,9	3,0	1,8	2,5	2,4
2	RFKH-023-02	10202001202	5,0	4,9	2,3	3,7	2,2	3,5	3,3
3	RFKH-023-03	10202001302	8,9	8,8	4,2	6,7	4,0	6,0	5,8
4	RFKH-023-04	10202001402	13,6	13,4	6,3	10,1	6,1	9,8	9,4
5	RFKH-023-05	10202001502	17,0	16,8	7,9	12,7	7,6	12,6	12,1
6	RFKH-023-06	10202001602	21,4	21,1	9,9	16,0	9,6	15,1	14,5

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

THERMOSTATIC EXPANSION VALVE

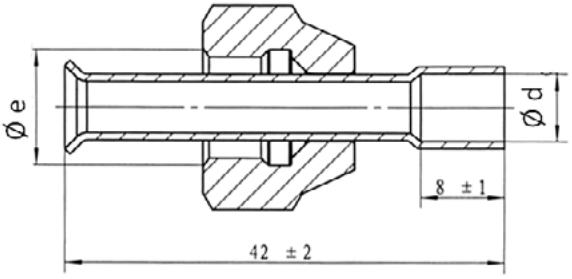




SOLDER ADAPTERS FOR RFKH INLET A

Model	Part Number[1)]	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



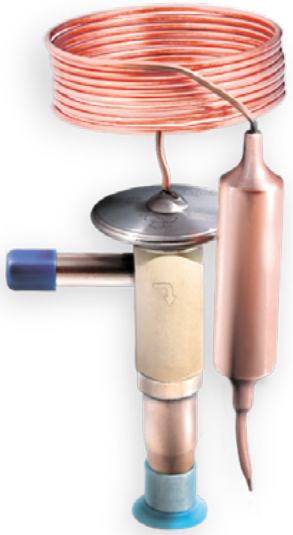
SOLDER ADAPTERS FOR RFKH EXTERNAL PRESSURE EQUALIZATION C

Model	Part Number[1)]	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

***RFGB** SERIES*

THERMOSTATIC EXPANSION VALVE



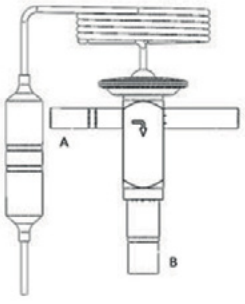
RFGB series thermostatic expansion valves are used to adjust mass flow of refrigerant into the evaporator while controlling the refrigerant´s superheat at the outlet of the evaporator. They can be used for various refrigerants under all working conditions. Typical applications are refrigeration systems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

FEATURES

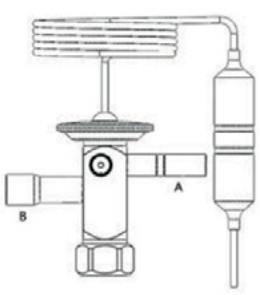
- COMPACT DESIGN WITH BUILD-IN ORIFICE
- WARM THERMO HEAD CONSTRUCTION
- ALL CONNECTIONS PIPES ARE COMPLETELY IN COPPER
- VALVES WITH MOP FUNCTION CAN BE PROVIDED TO ASSURE RELIABLE COMPRESSOR OPERATION
- APPLICABLE IN A WIDE EVAPORATION TEMPERATURE RANGE
- RELIABLE AND CONSISTENT PERFORMANCE OF SUPERHEAT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

GENERAL SPECIFICATION

- Applicable for all common HCFC and HFC refrigerants such as: R22, R134a, R404A, R407C, R507A...
- Ambient temperature min./max.: -35/+55°C
- Medium temperature TS min./max.: -40°C / +70°C
- Max. operating pressure PS: 3,5 MPa (35 bar)
- Installation position: - Preferably valve head upwards
  - Flow direction from inlet A to outlet B
- Certifications: UL/CSA and PED declaration



Angle version



Straight version

THERMOSTATIC EXPANSION VALVE



TECHNICAL PARAMETERS

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

THERMOSTATIC EXPANSION VALVE



MODEL DESIGNATION EXAMPLE

Position Number					According to Model Designation Legend
1	2	3	4	5	
RFGB	04	E	1.0	xxx	Thermostatic expansion valve with build-in orifice
RFGB	**04**	E	1.0	xxx	Refrigerant: R134a
RFGB	04	**E**	1.0	xxx	With connection for external pressure equalization
RFGB	04	E	**1.0**	xxx	Nominal Capacity (expressed in USRT)
RFGB	04	E	1.0	**xxx**	Additional digits

MODELS DESIGNATION (VALVE HEAD)



Code	Description
GB06E-1.0-518	Model
-40/+10°C	Evaporating temperature (°C)
-40/+50°F	Evaporating temperature (°F)
R290	Refrigerant
MWP 3.5Mpa	Max. Working Pressure (MPa)
MWP 505psig	Max. Working Pressure (Psig)

FIXING BULB OPTIONS

For customized RFGB thermostatic expansion valves it is possible to select the preferred bulb mounting element. The available options are the following two:

Strap		Suitable for Tube diameter: 1/4''; 3/8''; 1/2''; 5/8''; 3/4''; 7/8''; 1''
Clip		Suitable for Tube diameter: 1/4''; 3/8''; 1/2''

THERMOSTATIC EXPANSION VALVE



TECHNICAL DATA

Nominal Cooling Capacities[1)2)]						
Refrigerant	Size	Model Name[4)]	Drawing	Capacity		PS
				[USRT]	[kW]	[MPa]
R22	0	RFGB 01(E) -0	RFGB01(E)-0.17-xxx	0,17	0,60	3,5
	1	RFGB 01(E) -1	RFGB01(E)-0.35-xxx	0,35	1,20	
	2	RFGB 01(E) -2	RFGB01(E)-0.7-xxx	0,70	2,50	
	3	RFGB 01(E) -3	RFGB01(E)-1.0-xxx	1,00	3,50	
	4	RFGB 01(E) -4	RFGB01(E)-1.5-xxx	1,50	5,30	
	5	RFGB 01(E) -5	RFGB01(E)-2.0-xxx	2,00	7,00	
R407C[3)]	0	RFGB 02(E) -0	RFGB02(E)-0.19-xxx	0,19	0,67	3,5
	1	RFGB 02(E) -1	RFGB02(E)-0.38-xxx	0,38	1,30	
	2	RFGB 02(E) -2	RFGB02(E)-0.76-xxx	0,76	2,70	
	3	RFGB 02(E) -3	RFGB02(E)-1.1-xxx	1,10	3,90	
	4	RFGB 02(E) -4	RFGB02(E)-1.6-xxx	1,60	5,60	
	5	RFGB 02(E) -5	RFGB02(E)-2.2-xxx	2,20	7,70	
R404A / R507	0	RFGB 03(E) -0	RFGB03(E)-0.13-xxx	0,13	0,50	3,5
	1	RFGB 03(E) -1	RFGB03(E)-0.25-xxx	0,25	0,90	
	2	RFGB 03(E) -2	RFGB03(E)-0.5-xxx	0,50	1,80	
	3	RFGB 03(E) -3	RFGB03(E)-0.7-xxx	1,70	2,50	
	4	RFGB 03(E) -4	RFGB03(E)-1.0-xxx	1,00	3,50	
	5	RFGB 03(E) -5	RFGB03(E)-1.4-xxx	1,40	4,90	
R134a	0	RFGB 04(E) -0	RFGB04(E)-0.12-xxx	0,12	0,40	3,5
	1	RFGB 04(E) -1	RFGB04(E)-0.23-xxx	0,22	0,80	
	2	RFGB 04(E) -2	RFGB04(E)-0.44-xxx	0,44	1,50	
	3	RFGB 04(E) -3	RFGB04(E)-0.63-xxx	0,63	2,20	
	4	RFGB 04(E) -4	RFGB04(E)-0.94-xxx	0,94	3,30	
	5	RFGB 04(E) -5	RFGB04(E)-1.3-xxx	1,30	4,60	
R290	0	RFGB 06(E) -0	RFGB06(E)-0.17-xxx	0,17	1,69	3,5
	1	RFGB 06(E) -1	RFGB06(E)-0.35-xxx	0,35	1,20	
	2	RFGB 06(E) -2	RFGB06(E)-0.7-xxx	0,70	2,50	
	3	RFGB 06(E) -3	RFGB06(E)-1.0-xxx	1,00	3,50	
	4	RFGB 06(E) -4	RFGB06(E)-1.5-xxx	1,50	5,30	
	5	RFGB 06(E) -5	RFGB06(E)-2.0-xxx	2,00	7,00	

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 [1)]

Model Name [2) 3) 4) 5)]				Connections Size (Solder ODF)					
				Inlet		Outlet		Pressure Equal.	
Valve Body All Refrigerants	**Capacity Size** All Sizes	**Valve Shape**[6)] Straight / Angle	**Pipe connections** Metric / Imperial	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]
RFGB 01 - RFGB 02 - RFGB 03 - RFGB 04 - RFGB 06 -	0 - 1 - 2 - 3 - 4 - 5 -	S -	M6 M10	6	-	10	-	-	-
				10	-	12	-	-	-
			2 3	-	1/4	-	3/8	-	-
				-	3/8	-	1/2	-	-
		A -	M6 M10	6	-	10	-	-	-
				10	-	12	-	-	-
			2 3	-	1/4	-	3/8	-	-
				-	3/8	-	1/2	-	-
RFGB 01E - RFGB 02E - RFGB 03E - RFGB 04E - RFGB 06E -	0 - 1 - 2 - 3 - 4 - 5 -	S -	M6 M10	6	-	10	-	6	-
				10	-	12	-	6	-
			2 3	-	1/4	-	3/8	-	1/4
				-	3/8	-	1/2	-	1/4
		A -	M6 M10	6	-	10	-	6	-
				10	-	12	-	6	-
			2 3	-	1/4	-	3/8	-	1/4
					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

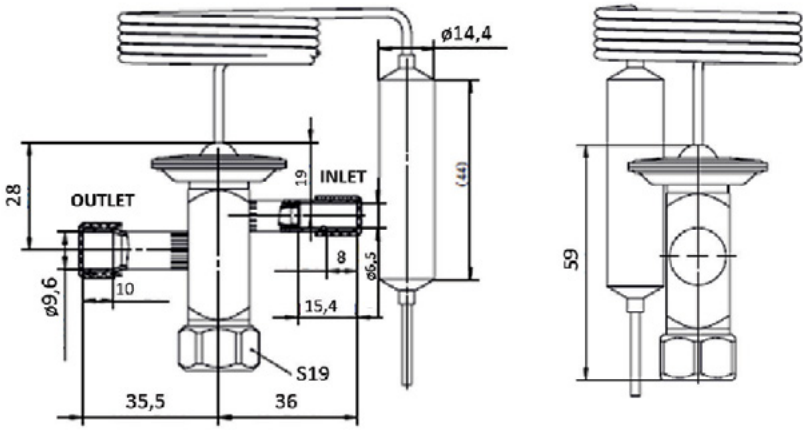
5) Model Name in this table is referred to the first 6 positions of the model designation

6) Superheat : - Straight version "S" with adjustable settings
- Angle version "A" with fixed factory settings

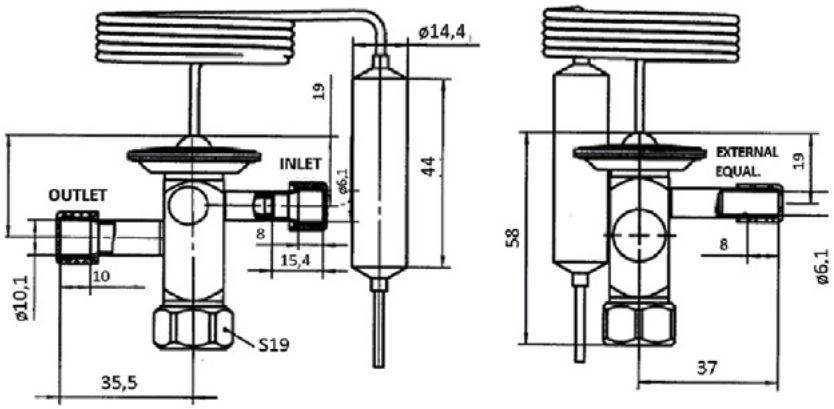
THERMOSTATIC EXPANSION VALVE



DIMENSIONS



Straight Shape with Internal Pressure Equalization

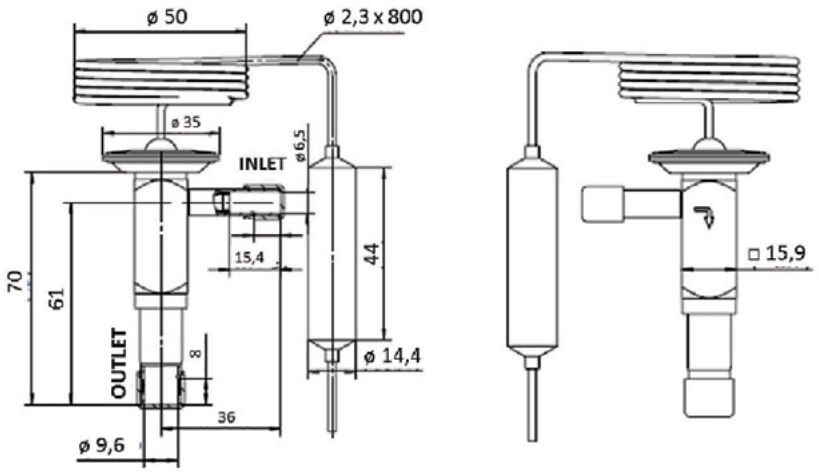


Straight Shape with External Pressure Equalization

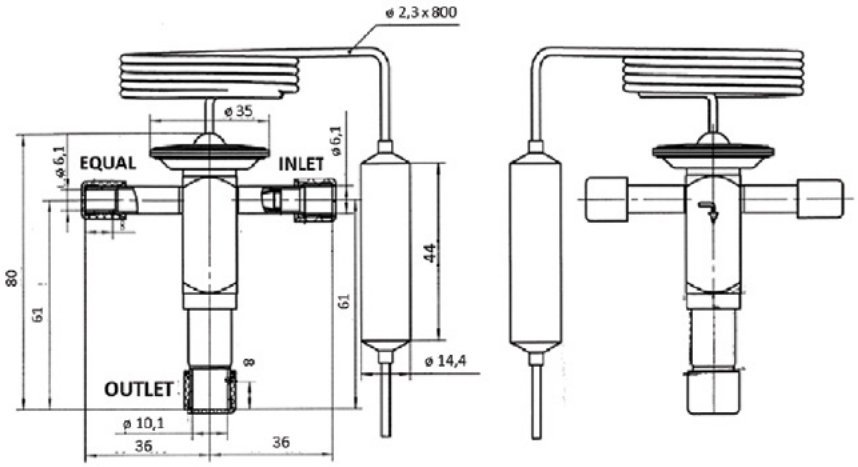
THERMOSTATIC EXPANSION VALVE



DIMENSIONS



Angle Shape with Internal Pressure Equalization



Angle Shape with External Pressure Equalization

RFGB *SERIES*

THERMOSTATIC EXPANSION VALVE WITH REPLACABLE STRAINER



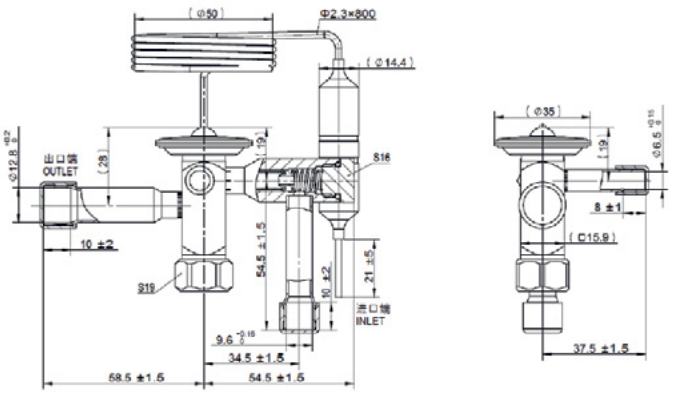
RFGB thermostatic expansion valves are also available on request with a replaceable strainer placed on the inlet connection of the valve. This mechanical filter equipped with a metallic net (mesh 100) can block all the potential impurities present in the refrigeration circuit avoiding that some of them 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	
RFGB	04	E	3	S	M6	xxx	Thermostatic expansion valve with build-in orifice
RFGB	**04**	E	3	S	M6	xxx	Refrigerant: R134a
RFGB	04	**E**	3	S	M6	xxx	With connection for external pressure equalization
RFGB	04	E	**3**	S	M6	xxx	Capacity: Valve and orifice size 3
RFGB	04	E	3	**S**	M6	xxx	Valve Shape: straight
RFGB	04	E	3	S	**M6**	xxx	Valve pipe connections: metric inlet 6mm/outlet 10mm
RFGB	04	E	3	S	M6	**8xx**	"8" as first digits for RFGB with strainer

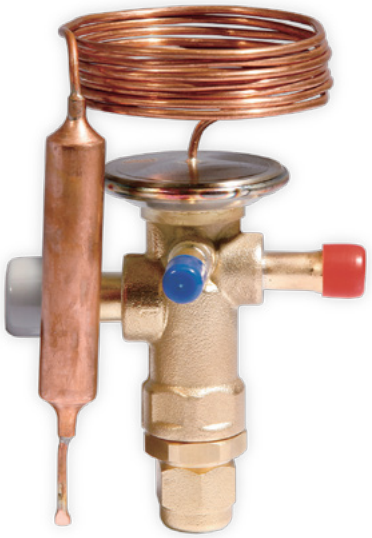
DIMENSIONS (RFGB WITH REPLACEABLE STRAINER)



Straight shape with external equalization and replaceable strainer

RFGD *SERIES*

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 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[1)]
- Installation position: - Preferably valve head upwards
  - Main flow direction from inlet A to outlet B
- Certifications: UL/CSA and PED declaration

Note: 1) Max. operating pressure is related to the used refrigerant

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	**Product Code**	**Product Series**
	RFGD	Thermostatic expansion valve with build-in orifice
2	**Refrigerant**	**Description**
	1	R22
	2	R407C
	3	R404A / R507
	4	R134a
	5	R410A
3	**Pressure Equalization**	**Description**
	E	External pressure equalization
	(Omitted)	Internal pressure equalization
4	**Valve Size**	**Internal Orifice Size**
	From 1 to 6	Valve size: proportional to the orifice size and to the nominal capacity
5	**Connections Type**	**Description**
	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	**Miscellaneous**	**Description**
	xxx	Digits for additional information e.g. static superheat, MOP, Bleed...

THERMOSTATIC EXPANSION VALVE



MODEL DESIGNATION EXAMPLE

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

TECHNICAL DATA

Nominal Capacities[1]

R22			R407C[2]			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[3]	Capacity		Model Name[3]	Capacity		Model Name[3]	Capacity		Model Name[3]	Capacity		Model Name[3]	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

THERMOSTATIC EXPANSION VALVE



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*)

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
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

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

THERMOSTATIC EXPANSION VALVE



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)

THERMOSTATIC EXPANSION VALVE



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 -	M16/22	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 -	M16/22	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 -	M16/22	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 -	M16/22	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

THERMOSTATIC EXPANSION VALVE



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

THERMOSTATIC EXPANSION VALVE



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

THERMOSTATIC EXPANSION VALVE



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

THERMOSTATIC EXPANSION VALVE



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

THERMOSTATIC EXPANSION VALVE



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

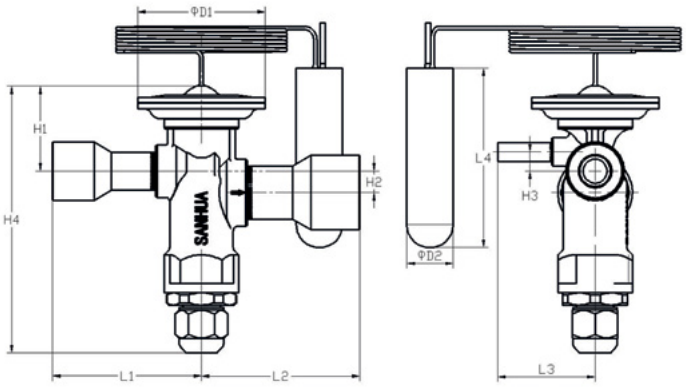
Connections

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

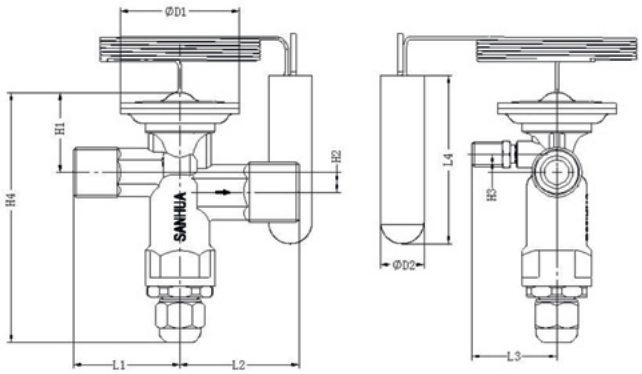
THERMOSTATIC EXPANSION VALVE



DIMENSIONS



Model	Connections		Capillary	Dimensions [mm]									
	Imperial	Metric		H1	H2	H3	H4	L1	L2	L3	L4	ΦD1	ΦD2
	[inch]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
RFGD10	3/8×5/8	10×16	1.5	30	7.5	5	97	41.5	45.5	37.5	64	48	14.4
	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	Dimensions [mm]									
	Flare		H1	H2	H3	H4	L1	L2	L3	L4	ΦD1	ΦD2
	Inlet x Out x Ext. E	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
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											

Quick Finder



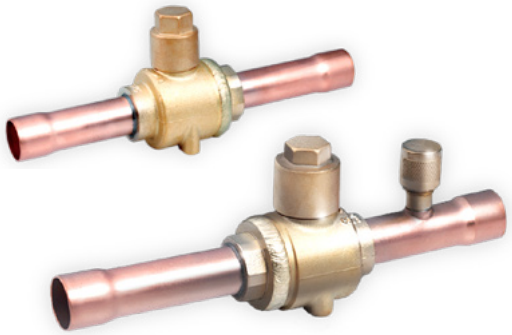
SELECT THE RIGHT PRODUCT

SANHUA

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SBV *SERIES*

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 FOR SIZES ≥ SBV-11
- SPECIAL SEALING MATERIALS TO PREVENT INTERNAL LEAKAGE

GENERAL SPECIFICATIONS

- Applicable for all common HCFC, HFC and HFO refrigerants such as: R22, R134a, R404A, R407A/C/F, R410A, R507A, R448A, R449A, R450A, R452A, R513A[1)]
- Medium temperature TS min./max.: -40°C / +120°C[2)]
- 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
2) Peak temperature of +150°C for short term use

BALL VALVE



GENERAL CHARACTERISTICS

1. Standard SBV models with FULL PORT passage

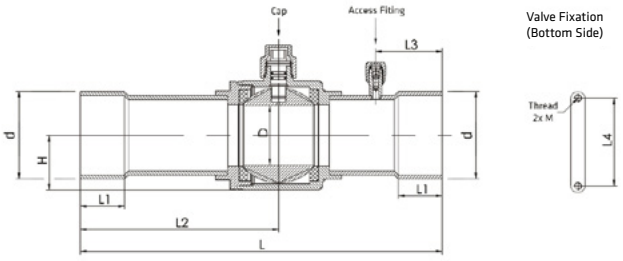
Without Access Fitting		Connections Ø d ODF		Kv	Wrench Size Cap	PED category		With Access Fitting	
Model	Part Number*	[inch]	[mm]	[m³/h]	[mm]	Fluids Group 1**	Fluids Group 2	Model	Part Number*
SBV02-020	10150092002	-	6	1,9	19	4.3	4.3	SBV02-320	10150094702
SBV02-019	10150091902	1/4	-	1,9	19	4.3	4.3	SBV02-319	10150094602
SBV03-019	10150091802	3/8	-	5,5	19	4.3	4.3	SBV03-319	10150094802
SBV03-020	10150092102	-	10	5,5	19	4.3	4.3	SBV03-320	10150094902
SBV04-020	10150092202	-	12	7,3	19	4.3	4.3	SBV04-320	10150095102
SBV04-019	10150090502	1/2	-	7,3	19	4.3	4.3	SBV04-319	10150095002
SBV(M)-A5YHSY-2-SA	10150057602	-	15	13,8	14	4.3	4.3	SBV(M)-JA5YHSY-2-SA	10150057702
SBV(M)-A5YHSY-1-SA	10150053302	5/8	16	13,8	14	4.3	4.3	SBV(M)-JA5YHSY-1-SA	10150053402
SBV(M)-A6YHSY-2-SA	10150054602	-	18	20,6	17	4.3	4.3	SBV(M)-JA6YHSY-2-SA	10150054502
SBV(M)-A6YHSY-1-SA	10150054302	3/4	-	20,6	17	4.3	4.3	SBV(M)-JA6YHSY-1-SA	10150054202
SBV(M)-A7YHSY-1-SA	10150053502	7/8	22	29	17	4.3	4.3	SBV(M)-JA7YHSY-1-SA	10150053602
SBV(M)-A9YHSY-2-SA	10150055102	-	28	54,3	17	II	4.3	SBV(M)-JA9YHSY-2-SA	10150055202
SBV(M)-A9YHSY-1-SA	10150054702	1 1/8	-	54,3	17	II	4.3	SBV(M)-JA9YHSY-1-SA	10150054802
SBV(M)-A11YHSY-1-SA	10150055002	1 3/8	35	85,5	17	II	4.3	SBV(M)-JA11YHSY-1-SA	10150054902
SBV(M)-A13YHSY-2-SA	10150055502	1 5/8	-	133,7	17	II	I	SBV(M)-JA13YHSY-2-SA	10150055402
SBV(M)-A13YHSY-1-SA	10150055302	-	42	133,7	17	II	I	SBV(M)-JA13YHSY-1-SA	10150057802
SBV(M)-A17YHSY-1-SA	10150055702	2 1/8	54	225	19	II	I	SBV(M)-JA17YHSY-1-SA	10150055802
SBV(M)-A19YHSY-1-SA	10150055902	-	64	225	19	II	I	SBV(M)-JA19YHSY-1-SA	10150056002
SBV(M)-A21YHSY-2-SA	10150056302	2 5/8	-	380	19	II	I	SBV(M)-JA21YHSY-2-SA	10150056402
SBV(M)-A25YHSY-2-SA	10150056502	3 1/8	80	530	24	II	I	SBV(M)-JA25YHSY-2-SA	10150056602
SBV(M)-A29YHSY-1-SA	10150057002	3 5/8	92	700	24	II	I	SBV(M)-JA29YHSY-1-SA	10150056902
SBV(M)-A33YHSY-2-SA	10150056102	4 1/8	105	950	29	II	I	SBV(M)-JA33YHSY-2-SA	10150056202
SBV(M)-A34YHSY-1-SA	10150057102	4 1/4	108	950	29	II	I	SBV(M)-JA34YHSY-1-SA	10150057202

Note:
- SBV model with different connection sizes available on request
- * Available also as industrial package. Contact Sanhua for more details
- ** SBV models with DN>25mm are not certified according to PED category II and cannot be used in combination with flammable refrigerants (Fluid Group 1).

BALL VALVE



DIMENSIONS & WEIGHT



Part Number		L	L1	L2	L3[1)]	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-SA	SBV(M)-JA5YHSY-2-SA	160	13	85	31	22	14	16	M4 x 0,7	0,30
SBV(M)-A5YHSY-1-SA	SBV(M)-JA5YHSY-1-SA	160	13	85	31	22	14	16	M4 x 0,7	0,30
SBV(M)-A6YHSY-2-SA	SBV(M)-JA6YHSY-2-SA	185	16	99	37	30	19	20	M4 x 0,7	0,51
SBV(M)-A6YHSY-1-SA	SBV(M)-JA6YHSY-1-SA	185	16	99	37	30	19	20	M4 x 0,7	0,51
SBV(M)-A7YHSY-1-SA	SBV(M)-JA7YHSY-1-SA	185	17	99	37	30	19	20	M4 x 0,7	0,52
SBV(M)-A9YHSY-2-SA	SBV(M)-JA9YHSY-2-SA	208	21	112	44	38	25	25	M4 x 0,7	0,73
SBV(M)-A9YHSY-1-SA	SBV(M)-JA9YHSY-1-SA	208	21	112	44	38	25	25	M4 x 0,7	0,73
SBV(M)-A11YHSY-1-SA	SBV(M)-JA11YHSY-1-SA	251	25	136	44	48	32	31	M6 x 1,0	1,42
SBV(M)-A13YHSY-2-SA	SBV(M)-JA13YHSY-2-SA	281	28	151	56	55	38	35	M6 x 1,0	1,90
SBV(M)-A13YHSY-1-SA	SBV(M)-JA13YHSY-1-SA	281	28	151	56	55	38	35	M6 x 1,0	1,90
SBV(M)-A17YHSY-1-SA	SBV(M)-JA17YHSY-1-SA	305	34	167	56	74	50	46	M6 x 1,0	3,74
SBV(M)-A19YHSY-1-SA	SBV(M)-JA19YHSY-1-SA	305	34	167	70	74	50	46	M6 x 1,0	3,79
SBV(M)-A21YHSY-2-SA	SBV(M)-JA21YHSY-2-SA	305	37	167	56	74	60	56	M6 x 1,0	6,08
SBV(M)-A25YHSY-2-SA	SBV(M)-JA25YHSY-2-SA	378	42	186	80	90	70	63	M6 x 1,0	8,81
SBV(M)-A29YHSY-1-SA	SBV(M)-JA29YHSY-1-SA	423	42	208	75	108	80	75	M6 x 1,0	11,47
SBV(M)-A33YHSY-2-SA	SBV(M)-JA33YHSY-2-SA	423	42	210,0	75	148	95	91	M6 x 1,0	20,17
SBV(M)-A34YHSY-1-SA	SBV(M)-JA34YHSY-1-SA	423	42	210,0	75	148	95	91	M6 x 1,0	20,17

Note: 1) Applicable to versions with access fitting

BALL VALVE



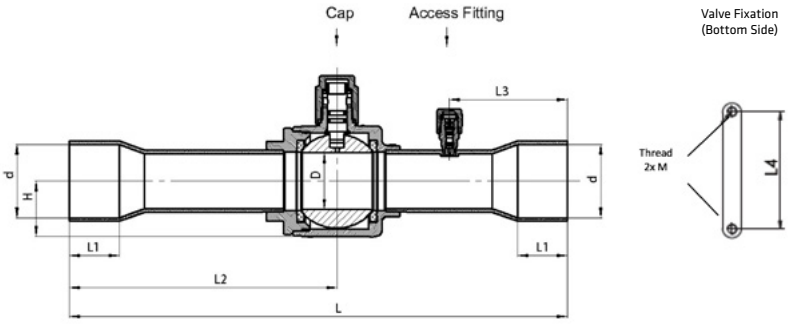
GENERAL CHARACTERISTICS

2. Standard SBV models with REDUCED PORT passage

Without Access Fitting		Connections Ø d ODF		Kv	Wrench Size Cap	PED category		With Access Fitting	
Model	Part Number*	[inch]	[mm]	[m³/h]	[mm]	Fluids Group 1**	Fluids Group 2	Model	Part Number*
SBV06-602	10150116502	-	18	13,8	14	4.3	4.3	SBV06-802	10150116402
SBV06-601	10150115002	3/4	-	13,8	14	4.3	4.3	SBV06-801	10150115102
SBV07-601	10150115302	7/8	22	13,8	14	4.3	4.3	SBV07-801	10150087602
SBV09-602	10150116302	-	28	29	17	4.3	4.3	SBV09-802	10150116202
SBV09-601	10150084902	1 1/8	-	29	17	4.3	4.3	SBV09-801	10150115402
SBV11-601	10150102702	1 3/8	35	54,3	17	II	4.3	SBV11-801	10150093102
SBV13-601	10150102502	1 5/8	-	85,5	17	II	4.3	SBV13-801	10150093202
SBV13-602	10150116102	-	42	85,5	17	II	4.3	SBV13-802	10150116002
SBV17-601	10150115502	2 1/8	54	133,7	17	II	I	SBV17-801	10150087502
SBV21-601	10150102602	2 5/8	-	225	19	II	I	-	-
SBV25-601	10150115602	3 1/8	80	380	19	II	I	-	-
SBV29-601	10150115702	3 5/8	92	530	24	II	I	-	-
SBV33-601	10150115802	4 1/8	105	700	24	II	I	-	-
SBV34-601	10150115902	4 1/4	108	700	24	II	I	-	-

Note:

- SBV model with different connection sizes available on request
- * Available also as industrial package. Contact Sanhua for more details
- ** SBV models with DN>25mm are not certified according to PED category II and cannot be used in combination with flammable refrigerants (Fluid Group 1).



BALL VALVE



DIMENSIONS & WEIGHT

Part Number		L	L1	L2	L3[1)]	L4	D	H	M	Weight
Without access fitting	With Access Fitting	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
SBV06-602	SBV06-802	185	16	99	46	22	14	16	M4 x 0,7	0,33
SBV06-601	SBV06-801	185	16	99	46	22	14	16	M4 x 0,7	0,33
SBV07-601	SBV07-801	185	17	99	46	22	14	16	M4 x 0,7	0,34
SBV09-602	SBV09-802	208	21	112	53	30	19	20	M4 x 0,7	0,56
SBV09-601	SBV09-801	208	21	112	53	30	19	20	M4 x 0,7	0,56
SBV11-601	SBV11-801	251	25	136	63	38	25	25	M4 x 0,7	0,81
SBV13-301	SBV13-801	281	28	151	66.5	48	32	31	M6 x 1,0	1,51
SBV13-602	SBV13-802	281	28	151	66.5	48	32	31	M6 x 1,0	1,51
SBV17-601	SBV17-801	305	34	167	63	55	38	35	M6 x 1,0	2,31
SBV21-601	-	305	37	135	-	74	50	46	M6 x 1,0	3,80
SBV25-601	-	378	42	186	-	74	60	56	M6 x 1,0	6,58
SBV29-601	-	423	42	208	-	90	70	63	M6 x 1,0	9,35
SBV33-601	-	423	42	210	-	108	80	75	M6 x 1,0	11,71
SBV34-601	-	423	42	210	-	108	80	75	M6 x 1,0	11,76

Note: 1) Applicable to versions with access fitting

SANHUA

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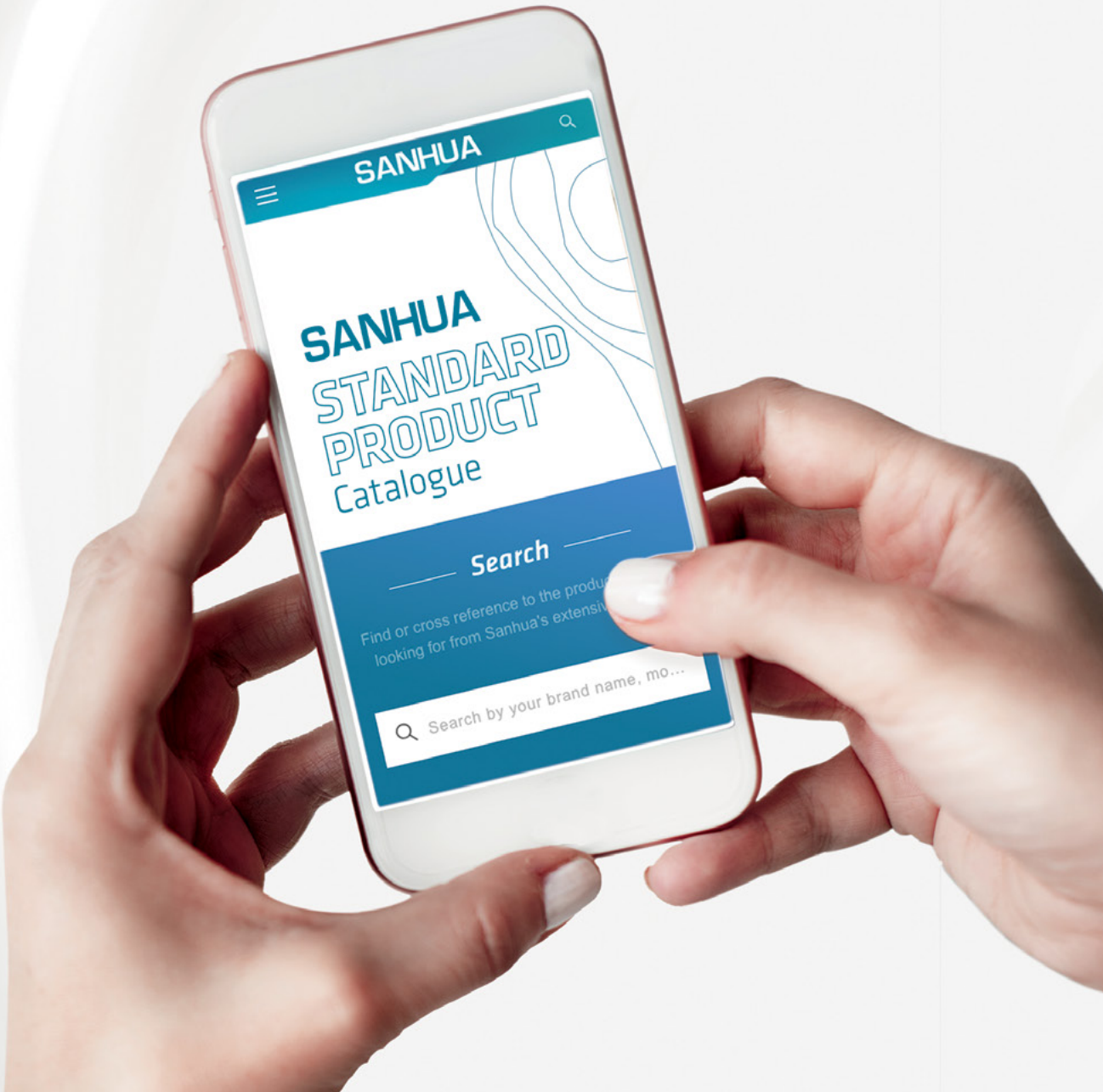
Certificate of registration
ISO 14001:2004

Certificate of registration
ISO 9001:2008

REACH
NR. 1907/2006
CONFORMITY DECLARATION

BEST SUPPLIER AWARDS

B/S/H/ Carrier TRANE



CBV *SERIES*

BALL VALVE

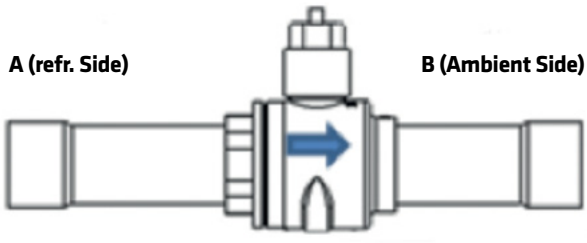


CBV valves are typically used in commercial CO_2 refrigeration applications in order to open and to shut off inner flow path by operating the valve stem. The ball valve of series CBV is applicable for subcritical CO_2 refrigeration systems and is a perfect choice for all similar CO_2 systems.

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 [1)]
- 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 (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 SPECIFICATION

- Applicable for R744 (CO_2)
- 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.

BALL VALVE



GENERAL CHARACTERISTICS

Model	Part Number*[1)]	Connection Ø d ODF		Kv	Wrench Size Cap	PED Category
		[inch]	[mm]	[m³/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	7,3	H14	4.3
CBV04-001	10150074502	1/2	-	7,3	H14	4.3
CBV05-001	10150074702	5/8	16	13,8	H14	4.3
CBV06-002	10150074902	-	18	20,6	H17	4.3
CBV06-001	10150074802	3/4	-	20,6	H17	4.3
CBV07-001	10150063002	7/8	22	29,0	H17	4.3
CBV09-002	10150075002	-	28	54,3	H17	4.3
CBV09-001	10150062902	1 1/8	-	54,3	H17	4.3
CBV11-001	10150075102	1 3/8	35	85,5	H17	I
CBV13-002	10150062802	1 5/8	-	133,7	H17	I
CBV13-003	10150075202	-	42	133,7	H17	I
CBV17-001	10150075302	2 1/8	54	225,0	H19	I

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

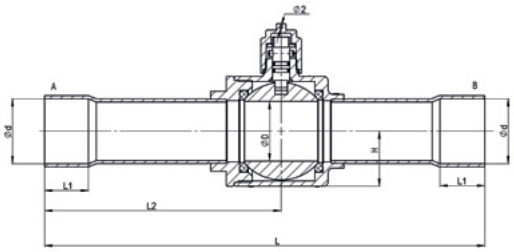
1) Extent of delivery: valve body and standard cap

BALL VALVE

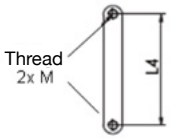


DIMENSIONS & WEIGHT

Cap



Valve Fixation
(Bottom Side)



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.

GREEN TECHNOLOGY FOR LOW CARBON FOOTPRINT

SANHUA

CBVT *SERIES*

BALL VALVE

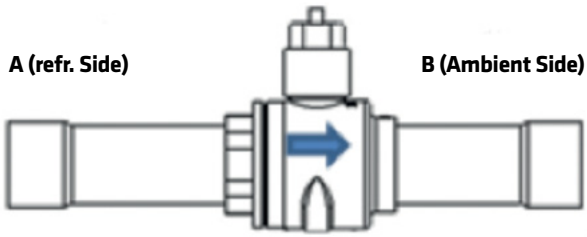


The ball valve of series CBVT is applicable for commercial CO_2 refrigeration applications in order to open and to shut off inner flow path by operating the valve stem. The ball valve of CBVT is applicable for transcritical CO_2 refrigeration systems and is a perfect choice for all similar CO_2 systems.

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[1)]
- VERSION WITH BI-METAL CONNECTIONS – EASY AND FAST BRAZING FOR SYSTEMS WITH K65 PIPING
- VERSION WITH STAINLESS-STEEL BUTT-WELDING CONNECTIONS – SUITABLE FOR SYSTEMS WITH STAINLESS STEEL PIPING

Note: 1) CBVT valves fulfill internal tightness requirements of the standard EN12284, paragraph 9.6.3 only in the direction indicated by the arrow [refrigerant on connection "A"; airside on connection "B"]. Installations with shut off function to the atmosphere (just temporarily for service purpose): Please install the solder connection "B" at the airside. Remark: Welding body junction is always at solder connection "A"



GENERAL SPECIFICATIONS

- Applicable for R744 (CO_2)
- Medium temperature TS min./max.: -40°C / +150°C
- Max. operating pressure PS: 14 MPa (burst pressure: 42MPa)
- Installation position: liquid, suction and discharge line in all directions
- Certifications: PED declaration
- UL attestation

BALL VALVE



GENERAL CHARACTERISTICS

1) Models with Bi-Metal Connections

Model	Part Number	Connection Ø d ODF		Kv	Wrench Size Cap	PED Category
		[inch]	[mm]	[m³/h]	[mm]	
CBVT 02H002	10150108802	-	6	1,9	H19	4.3
CBVT 02H001	10150103102	1/4	-	1,9	H19	4.3
CBVT 03H001	10150099502	3/8	-	5,5	H19	4.3
CBVT 03H002	10150109102	-	10	5,5	H19	4.3
CBVT 04H002	10150108902	-	12	7,3	H19	4.3
CBVT 04H001	10150099202	1/2	-	7,3	H19	4.3
CBVT 05H002	10150109002	-	15	13,8	H14	4.3
CBVT 05H001	10150099302	5/8	16	13,8	H14	4.3
CBVT 06H002	10150109302	-	18	20,6	H17	4.3
CBVT 06H001	10150099102	3/4	-	20,6	H17	4.3
CBVT 07H001	10150099002	7/8	22	29,0	H17	4.3
CBVT 09H002	10150109202	-	28	54,2	H17	4.3
CBVT 09H001	10150098902	1-1/8	-	54,2	H17	4.3
CBVT 11H001	10150098502	1-3/8	35	85,5	H17	I
CBVT 13H001	10150098602	1-5/8	-	133,7	H17	I
CBVT 13H002	10150109402	-	42	133,7	H17	I
CBVT 17H001	10150098402	2-1/8	54	225,0	H19	I

2) Models with Stainless-Steel Butt-Welding Connections

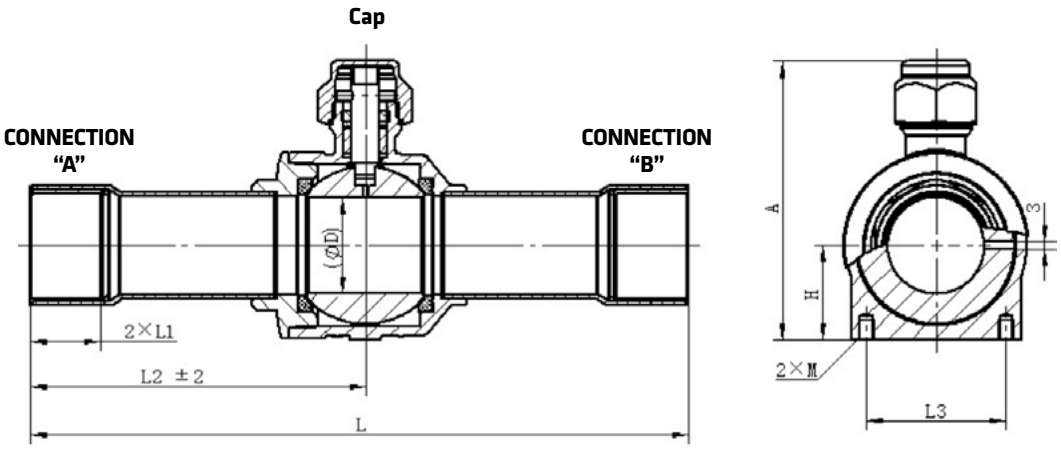
Model	Part Number	Connection Ø d ODF		Kv	Wrench Size Cap	PED Category
		[inch]	[mm]	[m³/h]	[mm]	
CBVT 03H302	10150111402	-	10	5,5	H19	4.3
CBVT 04H302	10150111602	-	12	7,3	H19	4.3
CBVT 05H301	10150111702	5/8	16	13,8	H14	4.3
CBVT 06H302	10150111902	-	18	20,6	H17	4.3
CBVT 07H301	10150110302	7/8	22	29,0	H17	4.3
CBVT 09H302	10150112102	-	28	54,2	H17	4.3
CBVT 11H301	10150112202	1-3/8	35	85,5	H17	I
CBVT 13H302	10150112402	-	42	133,7	H17	I

BALL VALVE



DIMENSIONS

1) Models with Bi-Metal Connections

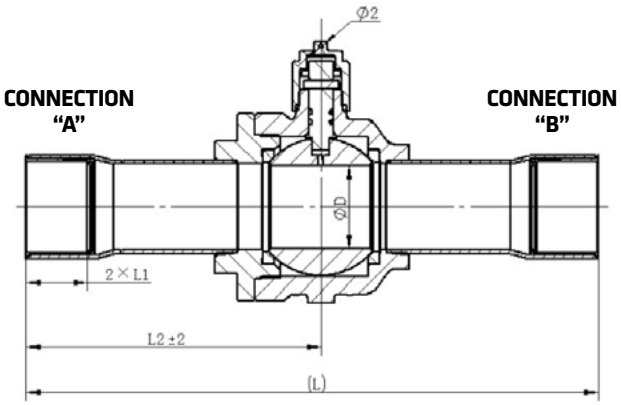


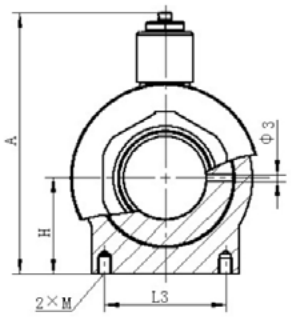
Model	L	L1	L2	L3	D	H	A	M	Weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[g]
CBVT 02H002	126	8	66.5	16	10	14	50,4	M4×0.7	190
CBVT 02H001	126	8	66,5	16	10	14	50,4	M4×0.7	176
CBVT 03H001	132	10	69,5	16	10	14	50,4	M4×0.7	180
CBVT 03H002	132	10	69.5	16	10	14	50,4	M4×0.7	183
CBVT 04H002	139	12	73	16	10	14	50,4	M4×0.7	190
CBVT 04H001	139	12	73	16	10	14	50,4	M4×0.7	188
CBVT 05H002	148	16	77	22	14	16	58,5	M4×0.7	279
CBVT 05H001	148	16	77	22	14	16	58,5	M4×0.7	289
CBVT 06H002	148	16	76	30	19	20	73	M4×0.7	470
CBVT 06H001	152	16	78	30	19	20	72	M4×0.7	491
CBVT 07H001	189	19	97	30	19	20	73	M4×0.7	526
CBVT 09H002	185,5	20	95	38	25	27	85.3	M4×0.7	748
CBVT 09H001	185,5	20	95	38	25	27	85,3	M4×0.7	749
CBVT 11H001	204	25	105	48	32	37	105	M6×1.0	1814
CBVT 13H001	260	28	134	55	38	43,5	118,5	M6×1.0	2734
CBVT 13H002	260	28	134	55	38	43,5	118,5	M6×1.0	2736
CBVT 17H001	284	33	145	74	50	58,5	145	M6×1.0	5787

BALL VALVE



2) Models with Stainless-Steel Butt-Welding Connections

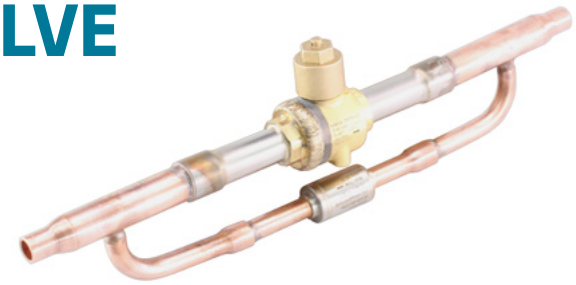




Model	L	L1	L2	L3	D	H	A	M	Weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[g]
CBVT 03H302	132	8	69,5	16	10	14	47,7	M4×0.7	184
CBVT 04H302	139	8	73	16	10	14	47,7	M4×0.7	188
CBVT 05H301	148	/	77	22	14	16	58,7	M4×0.7	269
CBVT 06H302	148	8	76	30	19	20	73	M4×0.7	481
CBVT 07H301	185	/	94,5	30	19	20	73	M4×0.7	512
CBVT 09H302	205	/	105	38	25	27	85.3	M4×0.7	760
CBVT 11H301	205	/	106	48	32	37	105	M6×1.0	1836
CBVT 13H302	242	/	125	55	38	43,5	118,5	M6×1.0	2853

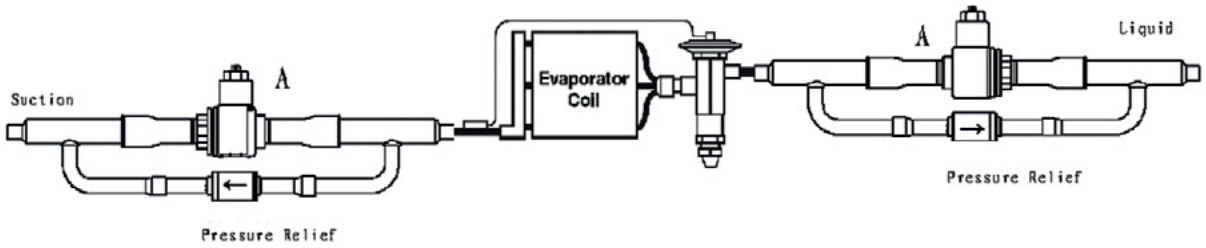
***GZJA** SERIES*

GZJA SUB ASSEMBLY SERIES: BALL VALVE + CHECK VALVE [R744 SUB-CRITICAL]



GZJA sub-assemblies include a CBVT ball valve (PS=140bar) and a BCV check valve (PS=90bar); they are typically used in commercial CO_2 refrigeration applications, to isolate specific parts or components present in the system. With the ball valves in closed position the refrigerant cannot achieve the isolated component, but it can be suck up through the check valves. A typical application is keeping evaporator coil isolated without over pressurizing due to warm up.

Figure 1



The symbol 'A' indicates the pressure relief side of the sub assembly. Any pressure builds up on the 'A' side with the ball valve in the closed position can relieve to the other side of the ball valve. When used on an evaporator coil, the 'A' side of the assembly should always be on the coil side. (Refer to Figure 1.)

FEATURES

- RELIABLE WELDING QUALITY, AND AVOID WELDING MISTAKE OF CHECK VALVE DIRECTION
- COMPACT DESIGN TO SAVE INSTALLATION SPACE

GENERAL SPECIFICATIONS

- Applicable for R744 (CO_2)
- Medium temperature TS min./max.: -40°C/+90°C
- Max. Operation pressure PS: 9MPa (90bar)
- Certification: PED declaration
- UL certification – Not available (on request)

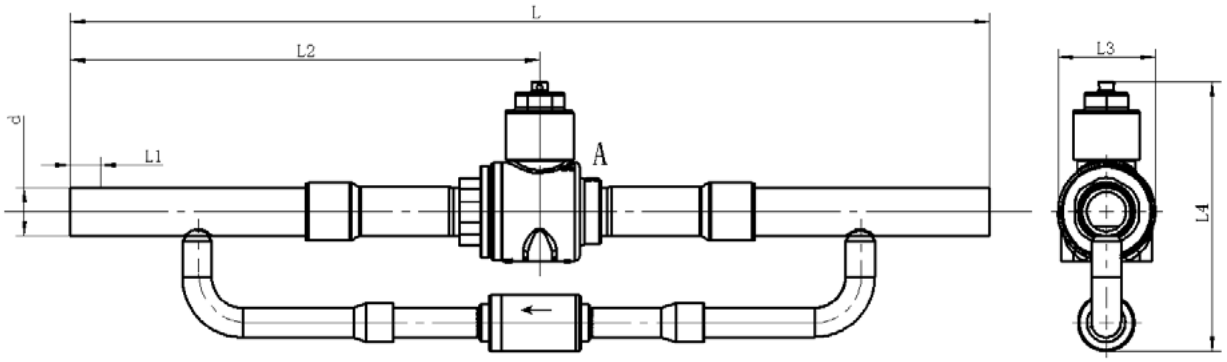
GZJA SUB ASSEMBLY SERIES: BALL VALVE + CHECK VALVE [R744 SUB-CRITICAL]



GENERAL CHARACTERISTICS

Model	Part Number	Solder connection Ø d (ODM)	KV [BALL VALVE]	KV [CHECK VALVE]	Wrench Size Cap	PED Category
		[inch]	[m³/h]	[m³/h]	[mm]	
GZJA66004	10245294201	3/8	13,8	0,9	H19	4.3
GZJA66005	10245294301	1/2	13,8	0,9	H19	4.3
GZJA66006	10245294401	5/8	13,8	0,9	H19	4.3
GZJA66007	10245294501	3/4	20,6	0,9	H19	4.3
GZJA66008	10245294601	7/8	29,0	0,9	H19	4.3
GZJA66009	10245294701	1 1/8	54,2	0,9	H19	4.3

DIMENSIONS AND WEIGHTS



Model	Part number (Industrial pack)	Solder connection Ø d (ODM)	Wrench Size Cap					
			L	L1	L2	L3	L4	Weight
		[inch]	[mm]	[mm]	[mm]	[mm]	[mm]	[g]
GZJA66004	10245294201	3/8	302	10	151	32.2	87.3	550
GZJA66005	10245294301	1/2	302	10	151	32.2	88	550
GZJA66006	10245294401	5/8	302	10	151	32.2	88	550
GZJA66007	10245294501	3/4	383.3	10	196.7	40.2	104.8	940
GZJA66008	10245294601	7/8	383.3	10	196.7	40.2	105.4	1000
GZJA66009	10245294701	1 1/8	382.6	10	196.7	53.6	111.8	1600

YCVS *SERIES*

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[1)], R32[1)], R1234yf[1)], R1234ze[1)], 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

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]	[m³/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

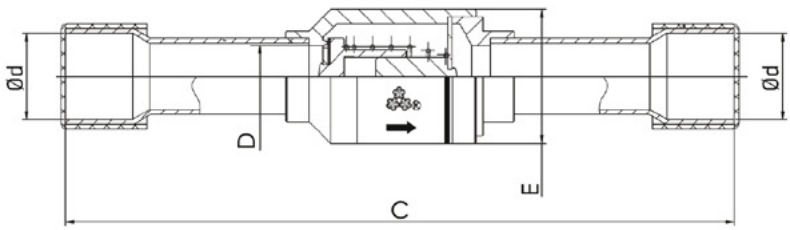
* Available also as industrial package. Contact Sanhua for more details.

CHECK VALVE PISTON TYPE

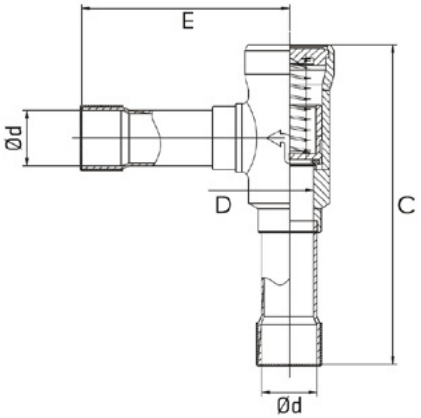


GENERAL CHARACTERISTICS

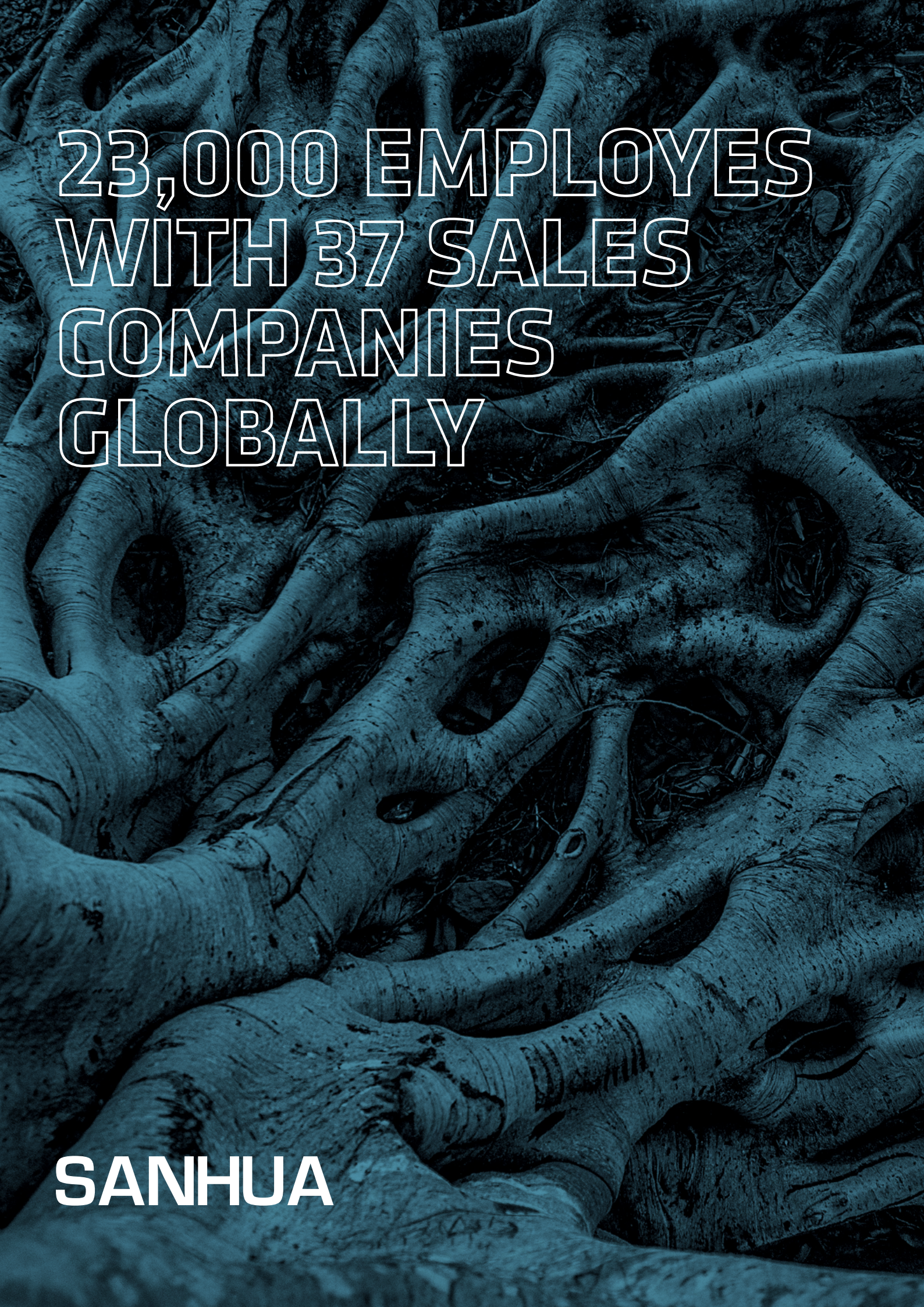
Straight-way



L-shape






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***BCV** SERIES*

CO_2 CHECK VALVE



BCV series of check valves are designed for installation in transcritical CO_2 refrigeration system and HPWH systems. They are used to ensure correct flow direction of refrigerant so as to prevent backflow.

FEATURES

- THIS VALVE PERMITS UNI-DIRECTIONAL FLOW ONLY.
- STAINLESS STEEL VALVE BODY FOR HIGHER STRENGTH, WHICH CAN WITHSTAND PRESSURE OF MAX. 140BAR MOP.
- FURNACE WELDING AND LASER WELDING FOR EXCELLENT WELDING QUALITY, WHICH ENSURES IDEAL AIR TIGHTNESS IN HIGH PRESSURE SYSTEM.
- COPPER CONNECTION TUBE OR BI-METAL CONNECTION TUBE WITH INNER EXTENDED COPPER TUBE FOR EASY SOLDER.

GENERAL SPECIFICATION

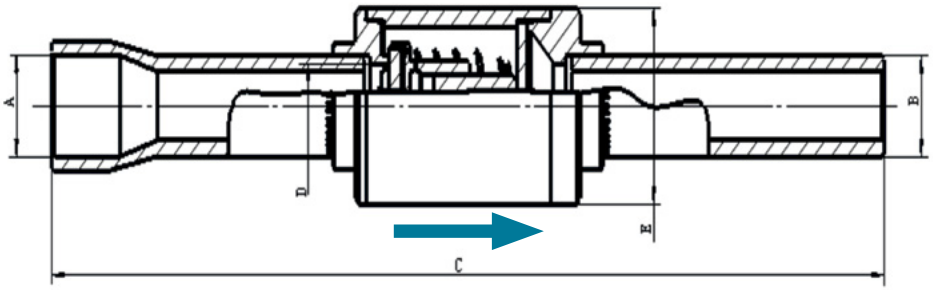
- Applicable for R744 (CO_2)
- Medium temperature TS min./max.: -50°C /140°C
- Max. operating pressure PS: 140bar[1)]
- Installation position:
  -Flow direction corresponds to the arrow
- Declaration according to CE/PED

1: max. operating pressure PS of BCV08-005 is 90bar.

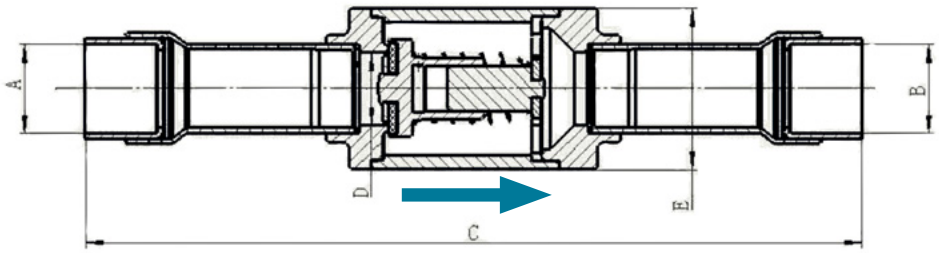
CO_2 CHECK VALVE



GENERAL CHARACTERISTICS



Model	Part number	Connection Tube Material	Type	Connection		Kv	Min.OPD	Dimension		
				ØA ODF	ØB ODM			D	C	E
				[inch]	[inch]	[m³/h]	[kPa]	[mm]	[mm]	[mm]
BCV08-005	10160059702	Copper	Straight-way	3/8	3/8	0.9	H14	8	110.6	18.5
BCV08-001	10160046702	Copper	Straight-way	3/8	3/8	0.9	H19	8	110.6	18.5



Model	Part number	Connection Tube Material	Type	Connection		Kv	Min.OPD	Dimension		
				ØA ODF	ØB ODF			D	C	E
				[inch]	[inch]	[m³/h]	[kPa]	[mm]	[mm]	[mm]
BCV13-002	10160058802	Copper+ Stainless Steel	Straight-way	1/2	1/2	2.9	5	13	127.6	29
BCV13-001	10160058902	Copper+ Stainless Steel	Straight-way	5/8	5/8	3.3	5	13	140	29
BCV17-001	10160060802	Copper+ Stainless Steel	Straight-way	7/8	7/8	5.1	5	17	178.4	34

SYJ *SERIES*

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, R410A, R507, R407C, R407A/F, R448A/R449A, R452A, R450A/R513A
- 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)

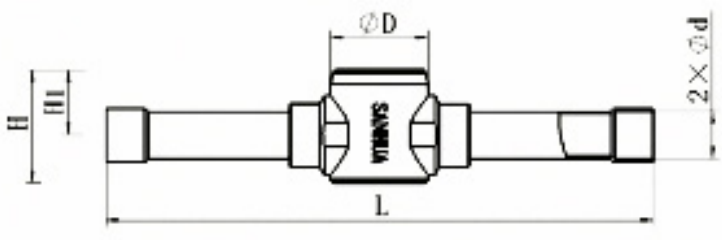
SIGHT GLASS



Version with Solder Connections

General Characteristics										
Model Series	Model Name	Part Number (multi package)[1)]	Connection Type	Connecting ODF Ød		Dimensions & Weight L	H	H1	Weight	Drawing
				[inch]	[mm]	[mm]	[mm]	[mm]	[g]	
SYJ6	SYJ06H12	10285007102	ODF x ODF solder	-	6	101	24	14	100	A
SYJ6	SYJ06H11	10285007002		1/4	-	101	24	14	100	
SYJ10	SYJ10H11	10285007202		3/8	-	119	24	14	100	
SYJ10	SYJ10H12	10285007302		-	10	119	24	14	100	
SYJ12	SYJ12H11	10285006902		1/2	-	146	30	17	200	
SYJ12	SYJ12H12	10285007402		-	12	146	30	17	200	
SYJ16	SYJ16H11	10285007502		5/8	16	146	30	17	200	
SYJ19	SYJ19H11	10285007602		3/4	-	173	37	21	300	
SYJ22	SYJ22H11	10285007702		7/8	22	173	37	21	300	

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

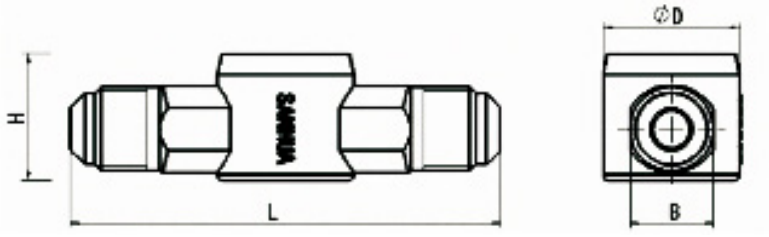


"Drawing A"

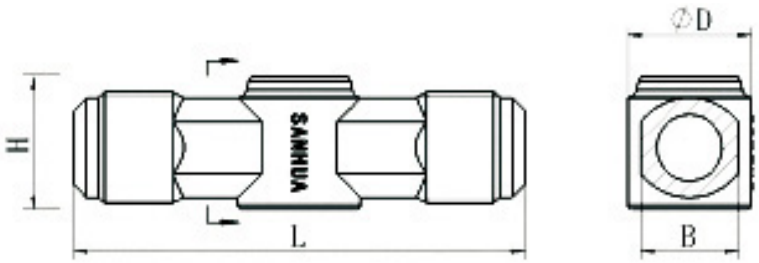
Version with male/male Flare Connections

General Characteristics									
Model Series	Model Name	Part Number (multi package)[1)]	Connection Type	SAE Flare Ød	Dimensions & Weight L	H	H1	Weight	Drawing
				[inch]	[mm]	[mm]	[mm]	[g]	
SYJ6	SYJ06L11	10285007902	Flare M x M	1/4	67	24	14	110	B
SYJ10	SYJ10L11	10285008102		3/8	82	24	14	240	
SYJ12	SYJ12L11	10285008302		1/2	88	30	17	250	
SYJ16	SYJ16L11	10285008502		5/8	104	32	17	320	
SYJ19	SYJ19L11	10285008702		3/4	110	32	15	340	C

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



"Drawing B"



"Drawing C"

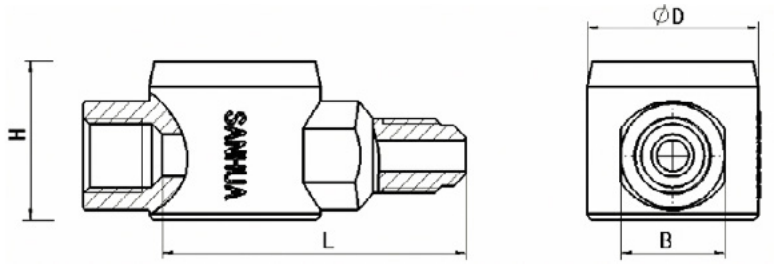
SIGHT GLASS



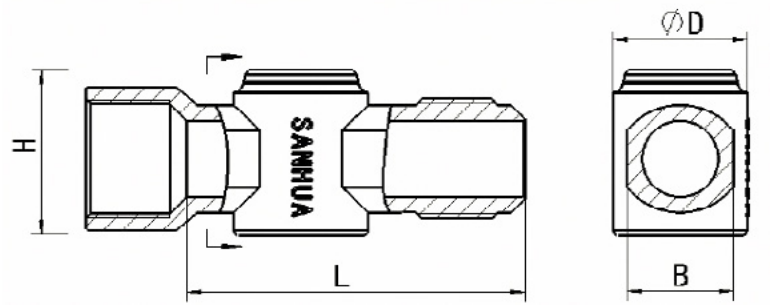
Version with male/female Flare connections

General Characteristics									
Model Series	Model Name	Part Number (multi package)[1)]	Connection Type	SAE Flare	Dimensions & Weight				
				Ød	H	φD	B	Weight	Drawing
				[inch]	[mm]	[mm]	[mm]	[g]	
SYJ6	SYJ06L41	10285008002	Flare F x M	1/4	30	32	22	200	D
SYJ10	SYJ10L41	10285008202		3/8	30	32	22	240	
SYJ12	SYJ12L41	10285008402		1/2	32	30	24	250	
SYJ16	SYJ16L41	10285008602		5/8	37	30	24	320	E
SYJ19	SYJ19L41	10285008802		3/4	37	30	24	330	

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



"Drawing D"



"Drawing E"

SIGHT GLASS



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
R507A	<15	15~90	>90
R407C	<120	120~280	>280
R407A	<180	180~340	>340
R448A	<220	220~440	>440
R449A	<180	180~380	>380
R452A[1)]	<50	50~120	>120
R450A[1)]	<45	45~260	>260
R513A	<180	180~280	>280

Note: 1) Calculated data based on refrigerant properties

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
R507A	<80	80~170	>170
R407C	<100	100~260	>260
R407A	<200	200~560	>560
R448A	<220	220~480	>480
R449A	<200	200~450	>450
R452A[1]□	<90	90~170	>170
R450A[1]□	<110	110~420	>420
R513A	<200	200~380	>380

Note: 1) Calculated data based on refrigerant properties

SSV *SERIES*

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 and HFO refrigerants[1)] such as: R134a, R404A, R407C, R410A, R507A, R407A, R407F, R448A, R449A, R452A, R450A, R513A, R290, R1234ze(E), R1234yf, R32, R452B, R454B, R454C
- Ambient temperature min./max.: -30°C / +55°C
- Medium temperature TS min./max.: -30 °C / +120°C
- Max. operating pressure PS: 4,9 MPa (49 bar)
- Installation position: Preferably liquid and suction line
- Certifications: PED declaration

Note: 1) For cooling capacities please refer to Sanhua selection tool

GENERAL CHARACTERISTICS

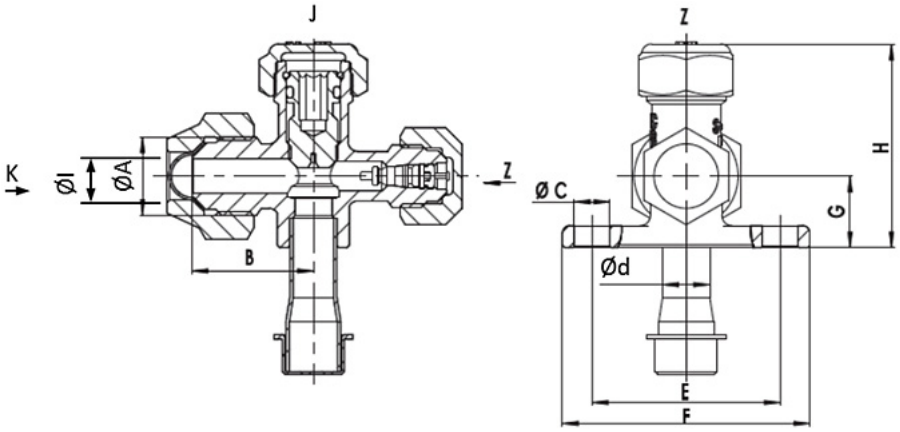
Model	Part Number[1)]	Connections				Cooling capacity	PED Category
		ØA Flare	Ød ODF	ØI Pipe	Charge Port Flare (SAE)		
		[inch]	[inch]	[mm]	[inch]	[kW]	
SSV-A2GSHC-23	10165068702	7/16-20UNF	1/4	4,8	-	0,7 - 1,5	4.3
SSV-JA3GSHC-20	10165068602	5/8-18UNF	3/8	7	5/16	0,7 - 3,7	4.3
SSV-JA4GSHC-19	10165070602	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

BRASS SERVICE VALVE



DIMENSIONS

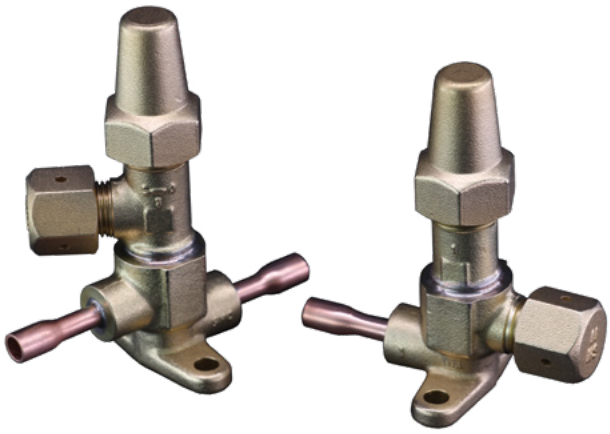


Model	Part Number	Dimensions [mm]						Wrench Size [mm]			
		B	ØC	E	F	G	H	Nut Pipe Connection K	Cap Shut-off Valve J	Valve[1] Steam J	Cap Charge Port Z
SSV-A2GSHC-23	10165068702	23,5	7,2	38	50	14	36	17	19	5	-
SSV-JA3GSHC-20	10165068602	25	7,2	38	50	14	41	22	19	5	17
SSV-JA4GSHC-19	10165070602	32	7,2	38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

Note: 1) Allen screw

CSV *SERIES*

SERVICE VALVES



Brass service valves of CSV series are applicable for R744 systems. The inner path of the valve can be closed by operating the valve stem. The units can be used as service valve for vacuum pumping and refrigerant injection.

FEATURES

- COST EFFICIENT SOLUTION
- RELIABLE AND ROBUST DESIGN
- EASY OPERATION

GENERAL SPECIFICATIONS

- Applicable for R744
- Max. operating pressure PS:12MPa (120 bar)
- Ambient temperature min./max.: -30°C / +60°C
- Medium temperature TS min./max.: -45 °C / +125°C
- Installation position: Preferably liquid and suction line
- Certifications: PED declaration (all the models are in Art.4.3 according to PED Directive 2014/68/EU)

GENERAL CHARACTERISTICS

Model	Part Number[1)]	Connections				Kv
		Port "A"[2)]		Port "B"[3)]		
		Type	Size [inch]	Type	Size [inch]	[m³/h]
CSV-Z22ST-11	10165413301	-	-	Solder - ODF	1/4"	-
CSV-Z22ST-13	10165413401	Solder - ODF	1/4"	Solder - ODF	1/4"	0.33
CSV-Z33ST-10	10165413201	Solder - ODF	3/8"	Solder - ODF	3/8"	0.95
CSV-Z44ST-9	10165413101	Solder - ODF	1/2"	Solder - ODF	1/2"	1.40

Note: 1) Extent of delivery: valve body with charge port & pipe connection(s), dust cap for shut-off port, caps for charge port and pipe connection

2) Port "A" for model CSV-Z22ST-11 is charge connection (Fig.1)

3) Port "B" for model CSV-Z22ST-11 is the connection to system (Fig.1)

SERVICE VALVES



DIMENSIONS

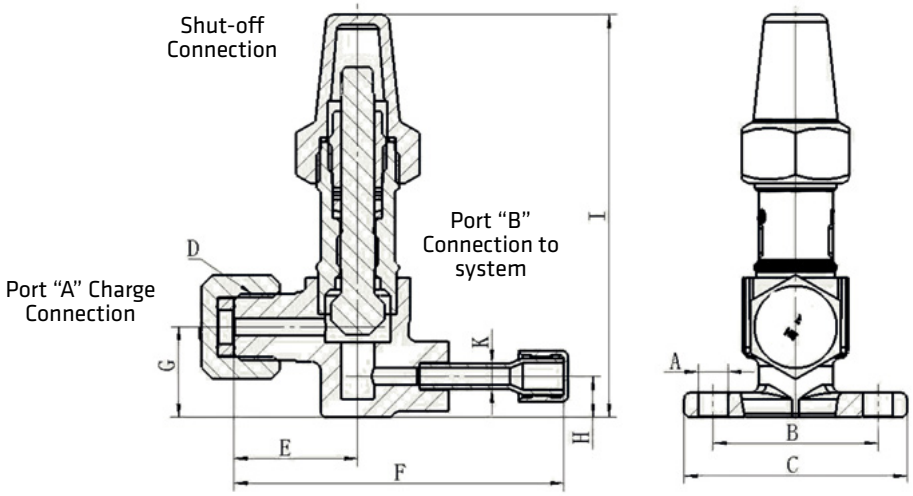


Fig.1 Model: CSV-Z22ST-11

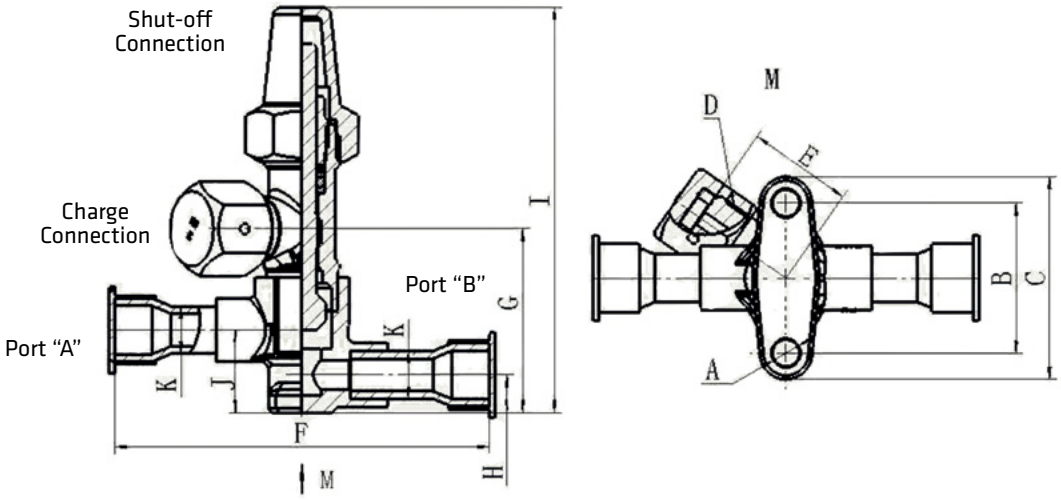
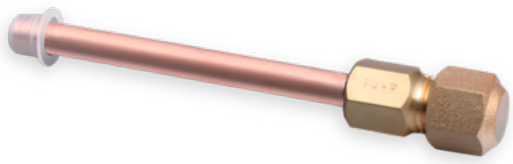


Fig.2 Models: CSV-Z22ST-13, CSV-Z33ST-10 & CSV-Z44ST-9

Model	Charge Connection		Shut-off Connection			Dimensions [mm]							
	Size [inch]	Cap wrench Size	Size [inch]	Cap wrench Size	Stem Size Ø [mm]	ØA	B	C	E	F	H	I	J
CSV-Z22ST-11	M16	H22	M20	H26	6.35	7.2	40	50	28	80	10	98	-
CSV-Z22ST-13	M16	H22	M21	H26	6.35	7.2	40	50	28	100	10	108	22
CSV-Z33ST-10	M16	H22	M22	H26	6.35	7.2	40	50	28	100	10	108	22
CSV-Z44ST-9	M16	H22	M23	H26	6.35	7.2	40	50	28	100	10	108	22

TCJ *SERIES*

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.

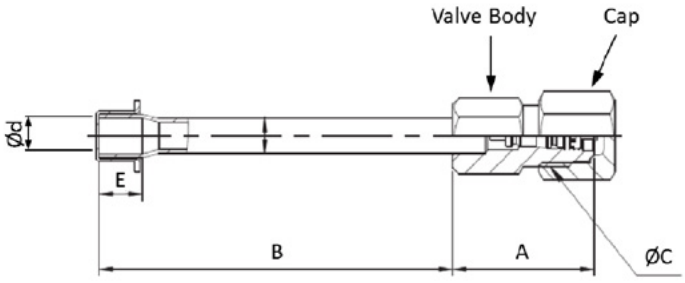
FEATURES

- 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

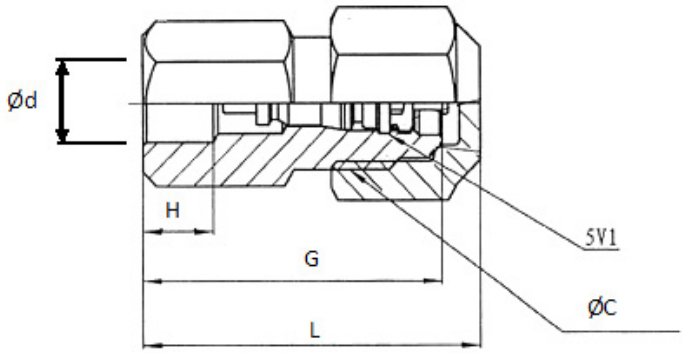


Model	Part Number* 1)	Connections			Dimensions			Wrench Size		Refrigerant
		Solder ODF Ød		Flare UNF ØC	A	B	E	Valve Body	Cap	
		[mm]	[inch]	[inch]	[mm]			[mm]		[mm]
TCJ-2HMSZ-1	10155004802	6,35	1/4	7/16-20	26	65	8	12	14	R22
TCJ-2GMS-1	10155001502	6,35	1/4	1/2-20	26	65	8	14	17	R134a/R404A/R407C R410A/R507

Note: * Available also as industrial package. Contact Sanhua for more details.
1) Extent of delivery: valve body, schrader valve and cap

CHARGE VALVE





Model	Part Number* 1)	Connections			Dimensions			Wrench Size		Refrigerant
		Solder ODF Ød		Flare UNF ØC	L	G	H	Valve Body	Cap	
		[mm]	[inch]	[inch]	[mm]			[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

***DTG** SERIES*

UNI-FLOW FILTER DRIERS



(GreenTech range: for fluids GROUP 1 according to Directive 2014/68/EU or GROUP A3/A2L according to ANSI-ASHRAE 34-2016).

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

- HIGHLY 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: SOLDER

GENERAL SPECIFICATIONS

- Applicable for HC, HFC, HFO refrigerants such as:R290, R1234ze(E), R1234yf, R447A, R452B, R454B, R454C
- Ambient temperature min./max.: -30°C / +70°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 (all products have been covered by Art.4.3 PED Directive 2014/68/EU)

TECNHICAL PARAMETERS *Desiccant Selection Table*

	Medium Type	80% 3Å desiccant and 20% active alumina	100% 3Å desiccant
Refrigerant	HC	Applicable	Applicable
	HFC	Applicable	Applicable
	HFO	Applicable	Applicable
Oil[1)]	Mineral oil or AB	Applicable	Applicable
	Pure POE or PAG	Applicable	Applicable
	POE or PAG with additive	Not Applicable	Applicable

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

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 [inch³]**	**Expressed in [cm³]**
	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]**	
	02	1/4	
	25	5/16	
	03	3/8	
	04	1/2	
	05	5/8	
	06	3/4	
	07	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 250)	
	10	10	
	12	12	
	(16) *	(5/8” version can be used e.g. DTG-B08 050)	
	(22) *	(7/8” version can be used e.g. DTG-B16 070)	
	28	28	
5	**Pipe Connection**	**Type**	
	0	Solder with inch connections	
	1*	Solder with metric 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

UNI-FLOW FILTER DRIERS



MODEL DESIGNATION EXAMPLE

Position Number						According to Model Designation Legend
1	2	3	4	5	6	
DTG	B	03	06	1	901	Unidirectional filter drier
DTG	**B**	03	06	1	901	Solid filter core with 100% 3Å desiccant
DTG	B	**03**	06	1	901	3 inch³ internal volume
DTG	B	03	**06**	1	901	When Pos. 5 is "1": connection size 6mm
DTG	B	03	06	**1**	901	Solder connection metric
DTG	B	03	06	1	**901**	Standard product

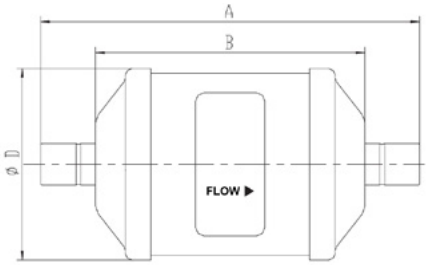
UNI-FLOW FILTER DRIERS



GENERAL CHARACTERISTICS OF DTG-B FILTER - SOLDER CONNECTION

Filter	Model[1] [inch]	Part Number (multi package)[2] [inch]	Model[1] [mm]	Part Number (multi package)[2] [mm]	Nominal Volumen		Connection		Dimensions & Weight[3]				PED Category[4] (Fluid Group 1)
							Solder		ØD	B	A	Weight	
					[inch³]	[cm³]	[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
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: 1) Available also as industrial package. Contact Sanhua for more details.
2) Dimensions are rounded up to integral mm
3) PED Directive 2014/68/EU. Category evaluated considering product as a "vessel"



Solder Connection

UNI-FLOW FILTER DRIERS



GENERAL CHARACTERISTICS OF DTG-F FILTER - SOLDER CONNECTION

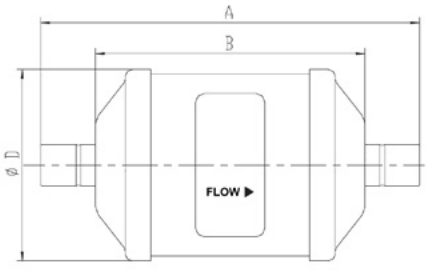
Filter	Model[1] [inch]	Part Number (multi package)[2] [inch]	Model[1] [mm]	Part Number (multi package)[2] [mm]	Nominal Volumen		Connection		Dimensions & Weight[3]				PED Category[4] (Fluid Group 1)
							Solder		ØD	B	A	Weight	
					[inch³]	[cm³]	[inch]	[mm]	[mm]	[mm]	[mm]	[g]	
DTGF032s	DTG-F03 020-901	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: 1) Delivery time on request

2) Available also as industrial package. Contact Sanhua for more details

3) Dimensions are rounded up to integral mm

4) PED Directive 2014/68/EU. Category evaluated considering product as a "vessel"



Solder Connection

UNI-FLOW FILTER DRIERS



SELECTION TABLE

Model	Capacity[1) 2)] [kW]			
	R290	R454B	R1234yf	R1234ze(E)
DTGB032s	9.22	9,50	5.55	6.76
DTGB0325s	11.17	11,51	6.72	8.19
DTGB033s	14.53	14,98	8.75	10.65
DTGB034s	28.58	29,45	17.21	20.95
DTGB052s	10.44	10,75	6.28	7.65
DTGB0525s	11.12	11,56	6.75	8.22
DTGB053s	23.80	24,52	14.33	17.44
DTGB054s	29.36	30,25	17.67	21.52
DTGB055s	40.58	41,81	24.43	29.74
DTGB082s	10.88	11,21	6.55	7.97
DTGB0825s	12.49	12,86	7.52	9.15
DTGB083s	25.36	26,13	15.27	18.59
DTGB084s	30.19	31,11	18.17	22.13
DTGB085s	52.62	54,22	31.68	38.57
DTGB162s	12.92	13,32	7.78	9.47
DTGB1625s	12.49	12,86	7.52	9.15
DTGB163s	25.36	26,13	15.27	18.59
DTGB164s	32.92	33,92	19.82	24.13
DTGB165s	50.62	52,16	30.48	37.10
DTGB166s	54.57	56,23	32.85	40.00
DTGB167s	55.35	57,04	33.32	40.57
DTGB303s	30.19	31,11	18.17	22.13
DTGB304s	39.02	40,20	23.49	28.59
DTGB305s	53.40	55,03	32.15	39.14
DTGB306s	73.55	75,78	44.28	53.90
DTGB307s	73.89	76,13	44.48	54.15
DTGB309s	82.81	85,33	49.85	60.69
DTGB414s	41.36	42,61	24.90	30.31
DTGB415s	70.67	72,82	42.54	51.79
DTGB417s	105.44	108,65	63.48	77.28
DTGB419s	107.98	111,26	65.00	79.14
DTGB757s	107.20	110,45	64.53	78.56
DTGB759s	111.98	115,38	67.41	82.07

SELECTION TABLE

Model	Capacity[1) 2)] [kW]			
	R290	R454B	R1234yf	R1234ze(E)
DTGF032s	9.22	9,50	5.55	6.76
DTGF0325s	11.17	11,51	6.72	8.19
DTGF033s	14.53	14,98	8.75	10.65
DTGF034s	28.58	29,45	17.21	20.95
DTGF052s	10.44	10,75	6.28	7.65
DTGF0525s	11.12	11,56	6.75	8.22
DTGF053s	23.80	24,52	14.33	17.44
DTGF054s	29.36	30,25	17.67	21.52
DTGF055s	40.58	41,81	24.43	29.74
DTGF082s	10.88	11,21	6.55	7.97
DTGF0825s	12.49	12,86	7.52	9.15
DTG-F083s	25.36	26,13	15.27	18.59
DTGF084s	30.19	31,11	18.17	22.13
DTGF085s	52.62	54,22	31.68	38.57
DTGF162s	12.92	13,32	7.78	9.47
DTGF1625s	12.49	12,86	7.52	9.15
DTGF163s	25.36	26,13	15.27	18.59
DTGF164s	32.92	33,92	19.82	24.13
DTGF165s	50.62	52,16	30.48	37.10
DTGF166s	54.57	56,23	32.85	40.00
DTGF167s	55.35	57,04	33.32	40.57
DTGF303s	30.19	31,11	18.17	22.13
DTGF304s	39.02	40,20	23.49	28.59
DTGF305s	53.40	55,03	32.15	39.14
DTGF306s	73.55	75,78	44.28	53.90
DTGF307s	73.89	76,13	44.48	54.15
DTGF309s	82.81	85,33	49.85	60.69
DTGF414s	41.36	42,61	24.90	30.31
DTGF415s	70.67	72,82	42.54	51.79
DTGF417s	105.44	108,65	63.48	77.28
DTGF419s	107.98	111,26	65.00	79.14
DTGF757s	107.20	110,45	64.53	78.56
DTGF759s	111.98	115,38	67.41	82.07

Note: 1) the above data is based on clean system at ideal conditions; with impurities accumulated in the filter, the capacity may decrease
2) given capacity is for all available types of connection for the same model: solder [inch] and equivalent solder [mm]

SELECTION FORMULAS

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

DTG *SERIES*

UNI-FLOW FILTER DRIERS



(Standard range: for fluids GROUP 2 according to Directive 2014/68/EU or GROUP A1 according to ANSI-ASHRAE 34-2016).

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, HFO refrigerants such as: R22, R134a, R404A, R407C, R410A, R507, R407A/F, R448A/ R449A, R452A, R450A/R513A
- Ambient temperature min./max.: -30°C / +70°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
	HFO	Applicable	Applicable
Oil[1)]	Mineral oil or AB	Applicable	Applicable
	Pure POE or PAG	Applicable	Applicable
	POE or PAG with additive	Not Applicable	Applicable

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

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 [inch³]**	**Expressed in [cm³]**
	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]**	
	02	1/4	
	25	5/16	
	03	3/8	
	04	1/2	
	05	5/8	
	06	3/4	
	07	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 **25**0)	
	10	10	
	12	12	
	(16) *	(5/8” version can be used e.g. DTG-B08 **05**0)	
	(22) *	(7/8” version can be used e.g. DTG-B16 **07**0)	
	28	28	
5	**Pipe Connection**	**Type**	
	0	Solder with inch connections	
	1*	Solder with metric 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

UNI-FLOW FILTER DRIERS



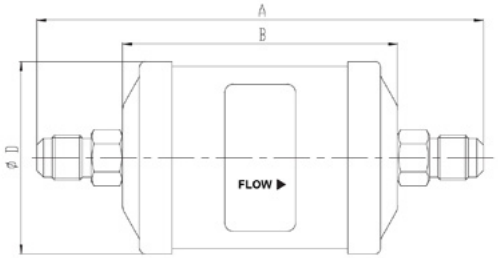
MODEL DESIGNATION EXAMPLE

Position Number						According to Model Designation Legend
1	2	3	4	5	6	
DTG	B	03	06	1	901	Unidirectional filter drier
DTG	**B**	03	06	1	901	Solid filter core with 100% 3Å desiccant
DTG	B	**03**	06	1	901	3 inch³ internal volume
DTG	B	03	**06**	1	901	When Pos. 5 is "1": connection size 6mm
DTG	B	03	06	**1**	901	Solder connection metric
DTG	B	03	06	1	**901**	Standard product

GENERAL CHARACTERISTICS OF DTG-B FILTER - FLARE CONNECTION

Filter	Model	Part Number (multi package)[1]	Nominal Volume		Connection	Dimensions & Weight [2]				PED Category[3] (Fluid Group 2)
					SAE Flare	ØD	B	A	Weight	
			[inch³]	[cm³]	[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: 1) Available also as industrial package. Contact Sanhua for more details.
2) Dimensions are rounded up to integral mm
3) PED Directive 2014/68/EU



Flare Connection

UNI-FLOW FILTER DRIERS



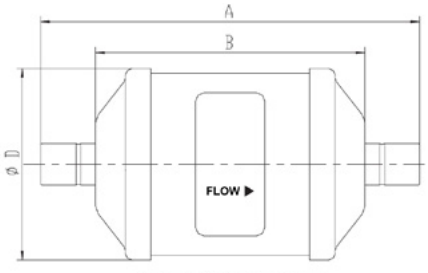
GENERAL CHARACTERISTICS OF DTG-B FILTER - SOLDER CONNECTION

Filter	Model[1] [inch]	Part Number (multi package)[2] [inch]	Model[1] [mm]	Part Number (multi package)[2] [mm]	Nominal Volumen		Connection		Dimensions & Weight[3]				PED Category[4] (Fluid Group 1)
							Solder		ØD	B	A	Weight	
					[inch³]	[cm³]	[inch]	[mm]	[mm]	[mm]	[mm]	[g]	
DTGF032s	DTG-B03 020-901	10230008302	DTG-B03 061-901	10230008702	3	49	1/4	6	45	65	103	160	Art. 4.3
DTGF0325s	DTG-B03 250-901	10230008402	DTG-B03 250-901	10230008402	3	49	5/16	8	45	65	103	160	Art. 4.3
DTGF033s	DTG-B03 030-901	10230008502	DTG-B03 101-901	10230008802	3	49	3/8	10	45	65	103	160	Art. 4.3
DTGF034s	DTG-B03 040-901	10230008602	DTG-B03 121-901	10230008902	3	49	1/2	12	45	65	113	160	Art. 4.3
DTGF052s	DTG-B05 020-901	10230010202	DTG-B05 061-901	10230010802	5	82	1/4	6	69	76	114	450	Art. 4.3
DTGF0525s	DTG-B05 250-901	10230010402	DTG-B05 250-901	10230010402	5	82	5/16	8	69	76	114	450	Art. 4.3
DTGF053s	DTG-B05 030-901	10230010502	DTG-B05 101-901	10230010902	5	82	3/8	10	69	76	114	450	Art. 4.3
DTGF054s	DTG-B05 040-901	10230010602	DTG-B05 121-901	10230011002	5	82	1/2	12	69	76	124	450	Art. 4.3
DTGF055s	DTG-B05 050-901	10230010702	DTG-B05 050-901	10230010702	5	82	5/8	16	69	76	124	450	Art. 4.3
DTGF082s	DTG-B08 020-901	10230009502	DTG-B08 061-901	10230011302	8	131	1/4	6	69	98	136	550	Art. 4.3
DTGF0825s	DTG-B08 250-901	10230009402	DTG-B08 250-901	10230009402	8	131	5/16	8	69	98	136	550	Art. 4.3
DTGF083s	DTG-B08 030-901	10230009302	DTG-B08 101-901	10230011402	8	131	3/8	10	69	98	136	550	Art. 4.3
DTGF084s	DTG-B08 040-901	10230009602	DTG-B08 121-901	10230011602	8	131	1/2	12	69	98	146	550	Art. 4.3
DTGF085s	DTG-B08 050-901	10230009702	DTG-B08 050-901	10230009702	8	131	5/8	16	69	98	146	550	Art. 4.3
DTGF162s	DTG-B16 020-901	10230012002	DTG-B16 061-901	10230012702	16	262	1/4	6	69	118	156	660	Art. 4.3
DTGF1625s	DTG-B16 250-901	10230012102	DTG-B16 250-901	10230012102	16	262	5/16	8	69	118	156	660	Art. 4.3
DTGF163s	DTG-B16 030-901	10230012202	DTG-B16 101-901	10230012802	16	262	3/8	10	69	118	156	660	Art. 4.3
DTGF164s	DTG-B16 040-901	10230012302	DTG-B16 121-901	10230015902	16	262	1/2	12	69	118	166	660	Art. 4.3
DTGF165s	DTG-B16 050-901	10230012402	DTG-B16 050-901	10230012402	16	262	5/8	16	69	118	166	660	Art. 4.3
DTGF166s	DTG-B16 060-901	10230012502	-	-	16	262	3/4	-	69	118	178	660	Art. 4.3
DTGF167s	DTG-B16 070-901	10230012602	DTG-B16 070-901	10230012602	16	262	7/8	22	69	118	178	660	Art. 4.3
DTGF303s	DTG-B30 030-901	10230013902	DTG-B30 101-901	10230014502	30	492	3/8	10	81	193	231	1550	Art. 4.3
DTGF304s	DTG-B30 040-901	10230014002	DTG-B30 121-901	10230014602	30	492	1/2	12	81	193	241	1550	Art. 4.3
DTGF305s	DTG-B30 050-901	10230014102	DTG-B30 050-901	10230014102	30	492	5/8	16	81	193	241	1550	Art. 4.3
DTGF306s	DTG-B30 060-901	10230014202	-	-	30	492	3/4	-	81	193	253	1550	Art. 4.3
DTGF307s	DTG-B30 070-901	10230014302	DTG-B30 070-901	10230014302	30	492	7/8	22	81	193	253	1550	Art. 4.3
DTGF309s	DTG-B30 090-901	10230014402	DTG-B30 281-901	10230014802	30	492	1 1/8	28	81	193	263	1550	Art. 4.3
DTGF414s	DTG-B41 040-901	10230013202	DTG-B41 121-901	10230013602	41	672	1/2	12	94	194	242	2050	Art. 4.3
DTGF415s	DTG-B41 050-901	10230013302	DTG-B41 050-901	10230013302	41	672	5/8	16	94	194	242	2050	Art. 4.3
DTGF417s	DTG-B41 070-901	10230013402	DTG-B41 070-901	10230013402	41	672	7/8	22	94	194	254	2050	Art. 4.3
DTGF419s	DTG-B41 090-901	10230013502	DTG-B41 281-901	10230013802	41	672	1 1/8	28	94	194	264	2050	Art. 4.3
DTGF757s	DTG-B75 070-901	10230014902	DTG-B75 070-901	10230014902	75	1229	7/8	22	94	333	393	3400	Art. 4.3
DTGF759s	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



Solder Connection

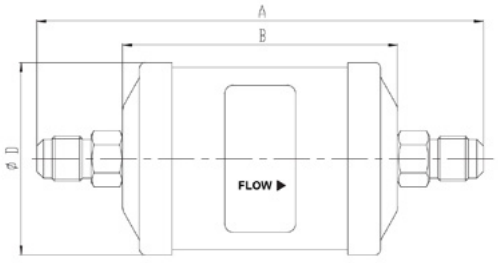
UNI-FLOW FILTER DRIERS



GENERAL CHARACTERISTICS OF DTG-F FILTER - FLARE CONNECTION

Filter	Model[1]	Part Number (multi package)[2]	Nominal Volume		Connection	Dimensions & Weight[3]				PED Category[4] (Fluid Group 2)
					SAE Flare	ØD	B	A	Weight	
			[inch³]	[cm³]	[inch]	[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: 1) Available also as industrial package. Contact Sanhua for more details.
2) Delivery time on request
3) Dimensions are rounded up to integral mm
4) PED Directive 2016/68/EU. Category evaluated considering product as a "vessel"



Flare Connection

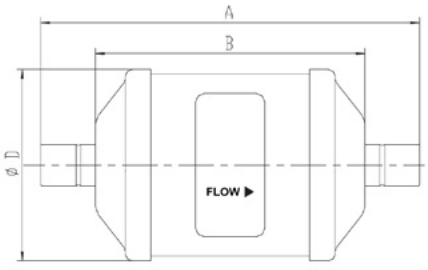
UNI-FLOW FILTER DRIERS



GENERAL CHARACTERISTICS OF DTG-F FILTER - SOLDER CONNECTION

Filter	Model[1] [inch]	Part Number (multi package)[2] [inch]	Model[1] [mm]	Part Number (multi package)[2] [mm]	Nominal Volumen		Connection		Dimensions & Weight[3]				PED Category[4] (Fluid Group 1)
							Solder		ØD	B	A	Weight	
					[inch³]	[cm³]	[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: 1) Available also as industrial package. Contact Sanhua for more details.
2) Delivery time on request
3) Dimensions are rounded up to integral mm
4) PED Directive 2016/68/EU. Category evaluated considering product as a "vessel"



Solder Connection

UNI-FLOW FILTER DRIERS



SELECTION TABLE

Model	Capacity [kW] 1) 3)					Moisture Absorption (gram H_2O)							
	R134a	R404A / R507A	R22	R407C 2	R410A	R134a		R404A / R507A		R407C 2 / 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
DTGB0325s	9,5	6,7	9,8	9,8	9,8	4,2	3,8	5,7	3,4	3,4	3,1	3,7	3,4
DTGB033s	12,3	8,8	12,7	12,7	12,7	4,2	3,8	5,7	3,4	3,4	3,1	3,7	3,4
DTGB034s	24,6	17,2	25,0	25,0	25,0	4,2	3,8	5,7	3,4	3,4	3,1	3,7	3,4
DTGB052s	9,5	6,0	9,1	9,1	9,1	11,6	10,9	10,9	8,9	10,9	9,5	11,4	9,7
DTGB0525s	9,5	6,7	9,8	9,8	9,8	11,6	10,9	10,9	8,9	10,9	9,5	11,4	9,7
DTGB053s	20,0	14,1	20,8	20,8	20,8	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	25,7	11,6	10,9	10,9	8,9	10,9	9,5	11,4	9,7
DTGB055s	34,8	24,6	35,5	35,5	35,5	11,6	10,9	10,9	8,9	10,9	9,5	11,4	9,7
DTGB082s	9,1	6,3	9,5	9,5	9,5	14,8	14,2	16,3	13,4	14,8	13,0	15,5	13,1
DTGB0825s	10,6	7,4	10,9	10,9	10,9	14,8	14,2	16,3	13,4	14,8	13,0	15,5	13,1
DTGB083s	21,5	15,1	22,2	22,2	22,2	14,8	14,2	16,3	13,4	14,8	13,0	15,5	13,1
DTGB084s	25,7	17,9	26,4	26,4	26,4	14,8	14,2	16,3	13,4	14,8	13,0	15,5	13,1
DTGB085s	44,7	31,7	46,1	46,1	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	11,3	11,3	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7
DTGB1625s	10,6	7,4	10,9	10,9	10,9	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7
DTGB163s	21,5	15,1	22,2	22,2	22,2	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7
DTGB164s	27,8	19,3	28,8	28,8	28,8	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7
DTGB165s	43,3	30,6	44,3	44,3	44,3	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7
DTGB166s	46,4	32,7	47,8	47,8	47,8	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7
DTGB167s	47,1	33,4	48,5	48,5	48,5	20,6	19,5	33,2	18,3	20,6	17,6	20,9	17,7
DTGB303s	25,7	17,9	26,4	26,4	26,4	51,4	48,7	83,4	51,4	51,3	43,7	52,1	44,1
DTGB304s	33,1	23,2	34,1	34,1	34,1	51,4	48,7	83,4	51,4	51,3	43,7	52,1	44,1
DTGB305s	45,7	32,0	46,8	46,8	46,8	51,4	48,7	83,4	51,4	51,3	43,7	52,1	44,1
DTGB306s	62,6	44,0	64,4	64,4	64,4	51,4	48,7	83,4	51,4	51,3	43,7	52,1	44,1
DTGB307s	63,0	44,3	64,7	64,7	64,7	51,4	48,7	83,4	51,4	51,3	43,7	52,1	44,1
DTGB309s	70,0	49,2	72,5	72,5	72,5	51,4	48,7	83,4	51,4	51,3	43,7	52,1	44,1
DTGB414s	35,2	24,6	36,2	36,2	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	61,9	62,9	63,7	59,7	103,5	55,7	63,7	58,9	70,2	59,4
DTGB417s	90,4	63,7	92,5	92,5	92,5	63,7	59,7	103,5	55,7	63,7	58,9	70,2	59,4
DTGB419s	92,1	64,7	94,6	94,6	94,6	63,7	59,7	103,5	55,7	63,7	58,9	70,2	59,4
DTGB757s	91,4	64,0	93,9	93,9	93,9	123,3	115,6	200,3	107,9	123,3	114,0	135,8	114,9
DTGB759s	95,3	67,2	98,1	98,1	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 clean system at ideal conditions: with impurities, accumulated in the filter, the capacity may decrease
2) R407C capacity is based on dew point conditions
3) given capacity is for all available types of connection for the same model: flare/solder [inch] and equivalent solder [mm]

UNI-FLOW FILTER DRIERS



SELECTION TABLE

Model	Capacity[1) 2)] [kW]						
	R407A	R407F	R448A	R449A	R452A	R450A	R513A
DTGB032	7,27	8,02	7,29	7,20	5,52	7,04	6,28
DTGB0325	8,81	9,72	8,83	8,72	6,68	8,53	7,61
DTGB033	11,47	12,64	11,50	11,35	8,7	11,10	9,90
DTGB034	22,55	24,86	22,61	22,32	17,10	21,82	19,48
DTGB052	8,24	9,08	8,26	8,15	6,25	7,97	7,11
DTGB0525	8,85	9,76	8,87	8,76	6,71	8,57	7,64
DTGB053	18,78	20,70	18,83	18,59	14,24	18,17	16,22
DTGB054	23,17	25,54	23,22	22,93	17,57	22,42	20,01
DTGB055	32,02	35,30	32,10	31,69	24,28	30,99	27,65
DTGB082	8,58	9,46	8,60	8,49	6,51	8,31	7,41
DTGB0825	9,85	10,86	9,88	9,75	7,47	9,53	8,51
DTGB083	20,01	22,06	20,06	19,80	15,18	19,37	17,28
DTGB084	23,83	26,26	23,88	23,58	18,07	23,05	20,57
DTGB085	41,53	45,78	41,63	41,09	31,49	40,19	35,86
DTGB162	10,20	11,24	10,22	10,09	7,73	9,87	8,81
DTGB1625	9,85	10,86	9,88	9,75	7,47	9,53	8,51
DTGB163	20,01	22,06	20,06	19,80	15,18	19,37	17,28
DTGB164	25,98	28,64	26,04	25,71	19,70	25,14	22,43
DTGB165	39,95	44,04	40,05	39,53	30,29	38,66	34,50
DTGB166	43,07	47,48	43,17	42,62	32,66	41,68	37,19
DTGB167	43,69	48,16	43,79	43,23	33,13	42,27	37,72
DTGB303	23,83	26,26	23,88	23,58	18,07	23,05	20,57
DTGB304	30,79	33,94	30,86	30,47	23,35	29,79	26,59
DTGB305	42,15	46,46	42,24	41,70	31,96	40,78	36,39
DTGB306	58,04	63,98	58,18	57,43	44,01	56,16	50,12
DTGB307	58,31	64,28	58,45	57,70	44,22	56,42	50,35
DTGB309	65,36	72,04	65,51	64,67	49,56	63,24	56,43
DTGB414	32,64	35,98	32,72	32,30	24,75	31,58	28,18
DTGB415	55,77	61,48	55,90	55,19	42,29	53,97	48,16
DTGB417	83,21	91,73	83,41	82,34	63,10	80,52	71,85
DTGB419	85,22	93,93	85,41	84,32	64,62	82,46	73,58
DTGB757	84,60	93,26	84,80	83,71	64,15	81,86	73,05
DTGB759	88,37	97,41	88,58	87,44	67,01	85,51	76,31

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) given capacity is for all available types of connection for the same model: flare/solder [inch] and equivalent solder [mm]

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

STG *SERIES*

BI-FLOW FILTER DRIERS

(GreenTech range: for fluids GROUP 1 according to Directive 2014/68/EU or GROUP A3/A2L according to ANSI-ASHRAE 34-2016)



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: SOLDER

GENERAL SPECIFICATIONS

- Applicable for HC, HFC, HFO refrigerants such as: R290, R1234ze(E), R1234yf, R447A, R452B, R454B, R454C
- Ambient temperature min./max.: -30°C / +70°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 (all products have been covered by Art.4.3 PED Directive 2014/68/EU)

TECNHICAL PARAMETERS *Desiccant Selection Table*

	Medium Type	80% 3Å Desiccant and 20% Active Alumina	100% 3Å Desiccant
Refrigerant	HC	Applicable	Applicable
	HFC	Applicable	Applicable
	HFO	Applicable	Applicable
Oil[3]	Mineral oil or AB	Applicable	Applicable
	Pure POE or PAG	Applicable	Applicable
	POE or PAG with additive	Not Applicable	Applicable

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

BI-FLOW FILTER DRIERS



Model Designation Legend

1	**Product Code**	**Filter Drier Series**	
	STG	Indicates bidirectional 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 [inch³]**	**Expressed in [cm³]**
	03	3	49
	05	5	82
	08	8	131
	16	16	262
	30	30	492
4	**Connection Size**	**Pos. 5 shows "0": Solder [inch]**	
	02	1/4	
	25	5/16	
	03	3/8	
	04	1/2	
	05	5/8	
	06	3/4	
	07	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. STG-B08 **25**0)	
	10	10	
	12	12	
	(16) *	(5/8" version can be used e.g. STG-B16 **05**0)	
	(22) *	(7/8" version can be used e.g. STG-B16 **07**0)	
	28	28	
5	**Pipe Connection**	**Type**	
	0	Solder with inch connections	
	1 *	Solder with metric 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.

BI-FLOW FILTER DRIERS



MODEL DESIGNATION EXAMPLE

Position Number						According to Model Designation Legend
1	2	3	4	5	6	
STG	B	05	06	1	901	Bidirectional filter drier
STG	**B**	05	06	1	901	Solid filter core with 100% 3Å desiccant
STG	B	**05**	06	1	901	3 inch³ internal volume
STG	B	05	**06**	1	901	When Pos. 5 is "1": connection size 6mm
STG	B	05	06	**1**	901	Solder connection metric
STG	B	05	06	1	**901**	Standard product

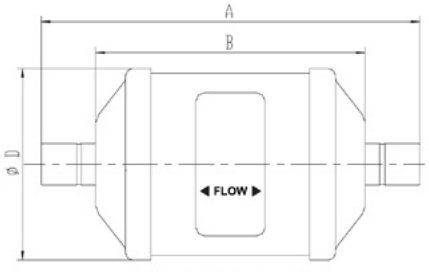
GENERAL CHARACTERISTICS OF STG-B FILTER - SOLDER CONNECTION

Filter	Model [inch]	Part Number (multi package)* [inch]	Model [mm]	Part Number (multi package)* [mm]	Nominal Volume		Connection		Dimensions & Weight[1]				PED Category [2]
							Solder		ØD	B	A	Weight	
					[inch³]	[cm³]	[inch]	[mm]	[mm]	[mm]	[mm]	[g]	
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. Category evaluated considering product as a "vessel"



Solder Connection

BI-FLOW FILTER DRIERS



GENERAL CHARACTERISTICS OF STG-F FILTER - SOLDER CONNECTION

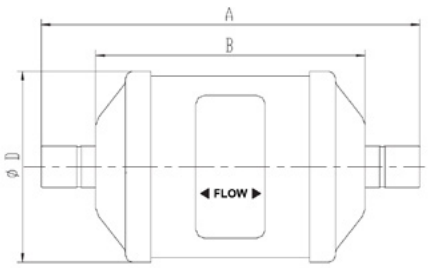
Filter	Model[1] [inch]	Part Number (multi package)* [inch]	Model[1] [mm]	Part Number (multi package)* [mm]	Nominal Volumen		Connection		Dimensions & Weight[2]				PED Category [3]
							Solder		ØD	B	A	Weight	
					[inch³]	[cm³]	[inch]	[mm]	[mm]	[mm]	[mm]	[g]	
STGF052s	STG-F05 020-901	10235010302	STG-F05 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. Category evaluated considering product as a "vessel"



Solder Connection

BI-FLOW FILTER DRIERS



SELECTION TABLE

Model	Capacity[1) 2)] [kW]		
	R290	R1234yf	R1234ze(E)
STGB052s	9	5.45	6.6
STGB053s	20.1	12.1	14.7
STGB054s	30.4	18.4	22.3
STGB082s	10.7	6.45	7.85
STGB0825s	19.2	11.6	14.1
STGB083s	21	12.6	15.3
STGB084s	31.2	18.85	23
STGB163s	24	14.5	17.6
STGB164s	36.8	22.2	27
STGB165s	41.6	25	30.4
STGB167s	51.4	31	37.6
STGB303s	30.4	18.4	22.3
STGB304s	37.6	22.7	27.5
STGB305s	43.2	26	31.6
STGB306s	48.3	29	35.2
STGB307s	56.6	34	41.4
STGB309s	66	39.8	48.3

SELECTION TABLE

Model	Capacity[1) 2)] [kW]		
	R290	R1234yf	R1234ze(E)
STGF052s	9	5.45	6.6
STGF053s	20.1	12.1	14.7
STGF054s	30.4	18.4	22.3
STGF082s	10.7	6.45	7.85
STGF0825s	19.2	11.6	14.1
STGF083s	21	12.6	15.3
STGF084s	31.2	18.85	23
STGF163s	24	14.5	17.6
STGF164s	36.8	22.2	27
STGF165s	41.6	25	30.4
STGF167s	51.4	31	37.6
STGF303s	30.4	18.4	22.3
STGF304s	37.6	22.7	27.5
STGF305s	43.2	26	31.6
STGF306s	48.3	29	35.2
STGF307s	56.6	34	41.4
STGF309s	66	39.8	48.3

Note: 1) the above data is based on clean system at ideal conditions; with impurities, accumulated in the filter, the capacity may decrease
2) given capacity is for all available types of connection for the same model: solder [inch] and equivalent solder [mm]

SELECTION FORMULAS

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

SANHUA

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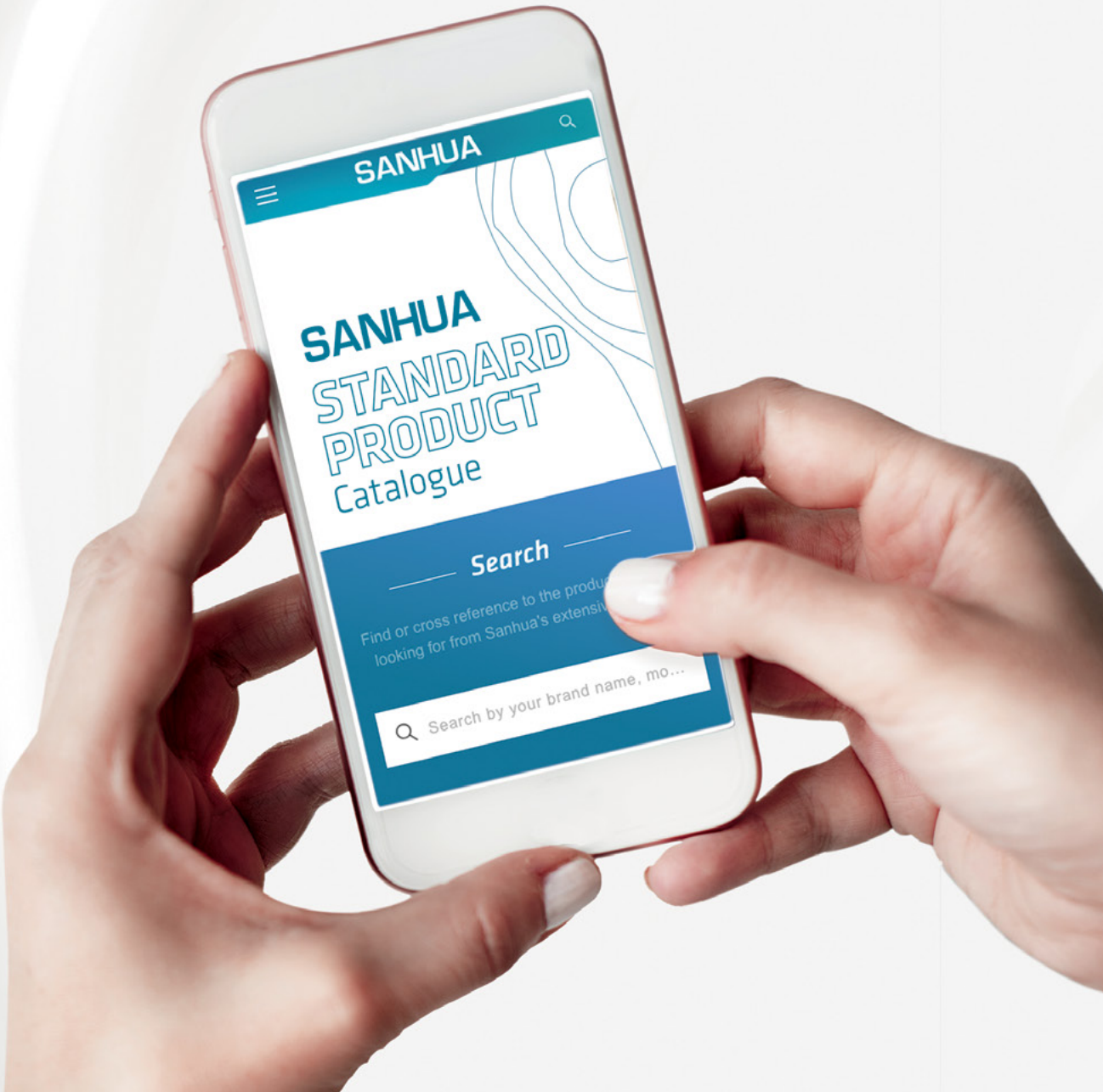
Certificate of registration
ISO 14001:2004

Certificate of registration
ISO 9001:2008

REACH
NR. 1907/2006
CONFORMITY DECLARATION

BEST SUPPLIER AWARDS

B/S/H/ Carrier TRANE



STG *SERIES*

BI-FLOW FILTER DRIERS



(Standard range: for fluids GROUP 2 according to Directive 2014/68/EU or GROUP A1 according to ANSI-ASHRAE 34-2016)

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, HFO refrigerants such as: R22, R134a, R404A, R407C, R410A, R507, R407A/F, R448A/R449A, R452A, R450A/R513A
- Ambient temperature min./max.: -30°C / +70°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

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[3]	Mineral oil or AB	Applicable	Applicable
	Pure POE or PAG	Applicable	Applicable
	POE or PAG with additive	Not Applicable	Applicable

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

BI-FLOW FILTER DRIERS



Model Designation Legend

1	**Product Code**	**Filter Drier Series**	
	STG	Indicates bidirectional 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 [inch³]**	**Expressed in [cm³]**
	03	3	49
	05	5	82
	08	8	131
	16	16	262
	30	30	492
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. STG-B08 **25**0)	
	10	10	
	12	12	
	(16) *	(5/8" version can be used e.g. STG-B16 **05**0)	
	(22) *	(7/8" version can be used e.g. STG-B16 **07**0)	
	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.

BI-FLOW FILTER DRIERS



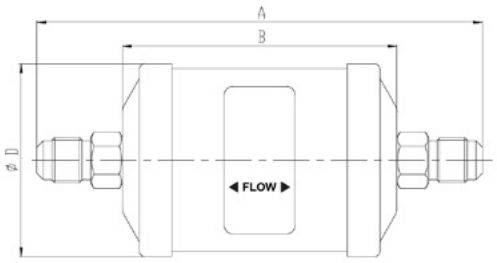
MODEL DESIGNATION EXAMPLE

Position Number						According to Model Designation Legend
1	2	3	4	5	6	
STG	B	05	06	1	901	Bidirectional filter drier
STG	**B**	05	06	1	901	Solid filter core with 100% 3Å desiccant
STG	B	**05**	06	1	901	5 inch³ internal volume
STG	B	05	**06**	1	901	When Pos. 5 is "1": connection size 6mm
STG	B	05	06	**1**	901	Solder connection metric
STG	B	05	06	1	**901**	Standard product

GENERAL CHARACTERISTICS OF STG-B FILTER - FLARE CONNECTION

Filter	Model	Part Number (multi package)*	Nominal Volume		Connection	Dimensions & Weight [1]				PED Category [2]
					SAE Flare	ØD	B	A	Weight	
			[inch³]	[cm³]	[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



Flare Connection

BI-FLOW FILTER DRIERS



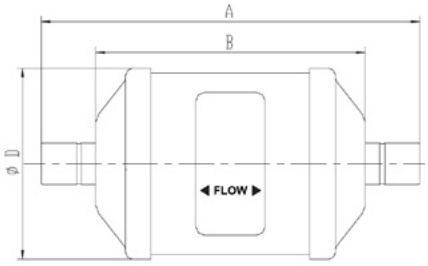
GENERAL CHARACTERISTICS OF STG-B FILTER - SOLDER CONNECTION

Filter	Model [inch]	Part Number (multi package)* [inch]	Model [mm]	Part Number (multi package)* [mm]	Nominal Volume		Connection		Dimensions & Weight[1]				PED Category [2]
							Solder		ØD	B	A	Weight	
					[inch³]	[cm³]	[inch]	[mm]	[mm]	[mm]	[mm]	[g]	
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



Solder Connection

BI-FLOW FILTER DRIERS



GENERAL CHARACTERISTICS OF STG-F FILTER - FLARE CONNECTION

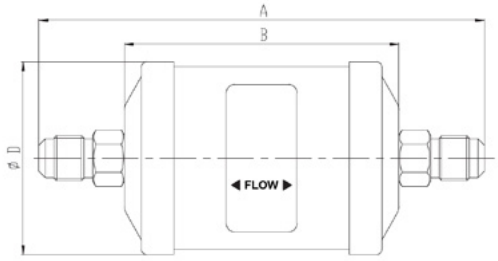
Filter	Model[1]	Part Number (multi package)*	Nominal Volume		Connection	Dimensions & Weight [2]				PED Category [3]
					SAE Flare	ØD	B	A	Weight	
			[inch³]	[cm³]	[inch]	[mm]	[mm]	[mm]	[g]	
STGF052	STG-F05 024-901	10235010902	5	82	1/4	69	76	123	450	Art. 4.3
STGF053	STG-F05 034-901	10235011002	5	82	3/8	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



Flare Connection

BI-FLOW FILTER DRIERS



GENERAL CHARACTERISTICS OF STG-F FILTER - SOLDER CONNECTION

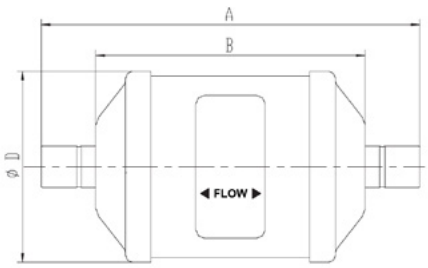
Filter	Model[1] [inch]	Part Number (multi package)* [inch]	Model[1] [mm]	Part Number (multi package)* [mm]	Nominal Volumen		Connection		Dimensions & Weight[2]				PED Category [3]
							Solder		ØD	B	A	Weight	
					[inch³]	[cm³]	[inch]	[mm]	[mm]	[mm]	[mm]	[g]	
STGF052s	STG-F05 020-901	10235010302	STG-F05 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. Category evaluated considering product as a "vessel"



Solder Connection

BI-FLOW FILTER DRIERS



SELECTION TABLE

Model	Capacity [kW] 1) 3)					Moisture Absorption (gram H_2O)							
	R134a	R404A / R507A	R22	R407C 2	R410A	R134a		R404A / R507A		R407C 2 / 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
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
3) given capacity is for all available types of connection for the same model: flare/solder [inch] and equivalent solder [mm]

BI-FLOW FILTER DRIERS



SELECTION TABLE

Model	Capacity[1) 2)] [kW]						
	R407A	R407F	R448A	R449A	R452A	R450A	R513A
STGB052	7.1	7.85	7.15	7.05	5.4	6.85	6.15
STGB053	15.9	17.5	15.9	15.7	12.1	16.5	13.7
STGB054	24	26.5	24.1	23.8	18.3	23.3	20.8
STGB082	8.45	9.3	8.5	8.35	6.45	8.2	7.3
STGB0825	15.2	16.7	15.2	15	11.55	14.7	13.1
STGB083	16.5	18.2	16.6	16.4	12.6	16	14.3
STGB084	24.7	27.3	24.7	24.5	18.8	23.8	21.4
STGB163	19	20.8	19	18.7	14.4	18.3	16.4
STGB164	29	32	29	28.7	22.1	28	25
STGB165	32.7	36	32.8	32.5	25	31.6	28.4
STGB167	40.6	44.6	40.6	40.2	30.8	39.2	35
STGB303	24	26.4	24.1	23.8	18.3	23.3	20.7
STGB304	29.7	32.7	29.7	29.4	22.6	28.7	25.6
STGB305	34.2	37.5	34.2	33.8	26	33	29.5
STGB306	38	42	38.2	37.8	29	36.8	33
STGB307	44.6	49	44.6	44	34	43	38.6
STGB309	52	57.5	52.4	51.7	39.6	50.2	45

Note: 1) the above data is based on clean system at ideal conditions: with impurities accumulated in the filter, the capacity may decrease
2) given capacity is for all available types of connection for the same model: flare/solder [inch] and equivalent solder [mm]

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

***HTG** SERIES*

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: 20μm
- 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-B00 FILTER ELEMENT:**
  Strainer core for filtering dirt particles. Compatible with HCFC, HFC refrigerants. Suggested installation position on suction line.

FILTER DRIERS WITH REPLACEABLE CORE



GENERAL SPECIFICATION

- Applicable for all common HCFC and HFC, HFO[1] refrigerants such as: R22, R134a, R404A, R407C, R410A, R507, R407A/F, R448A/R449A, R452A, R450A/R513A, R1234ze[1].
- 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

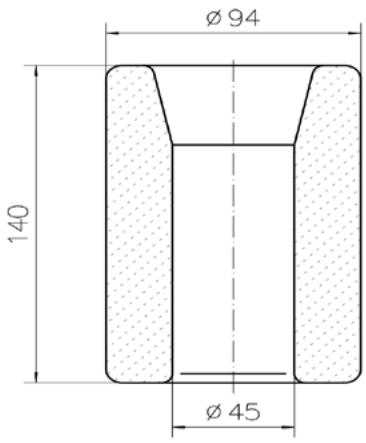
Desiccant Selection Table

	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
With flange gasket suitable for Sanhua shells: Ø113,6 mm x Ø121,4 mm	-	20225000102	20225000902	20225001102	20225003302
With flange gasket suitable for Sanhua and other shells: Ø113,6 mm x Ø121,4 mm and Ø105,4 mm x Ø113,6 mm	-	20225028602	20225027702	20225028502	20225028702
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 [1]	Mineral oil or AB	Suggested	Suggested	Applicable	Applicable
	Pure POE or PAG	Applicable	Applicable	Suggested	Suggested
	POE or PAG with addictive	Not applicable	Not applicable	Applicable	Applicable

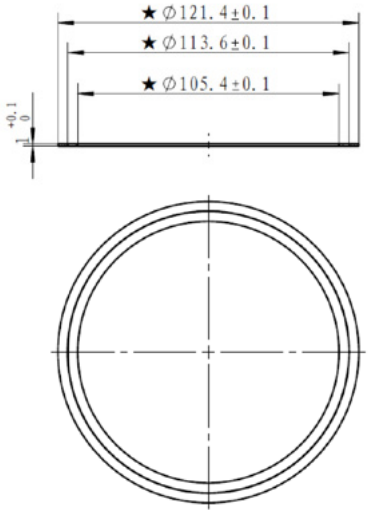
Note: 1) When the systems use oil with additive, it is not recommended to use a core with alumina.

Accessories and spare parts:

Universal flange gaskets set	Model	Part Number (multi package)
	HTG-000-024003	20225023802



Filter core dimensions



Universal flange gaskets set

FILTER DRIERS WITH REPLACEABLE CORE



MODEL DESIGNATION EXAMPLE

Position Number						According to Model Designation Legend
1	2	3	4	5	6	
HTG	A96	28	1	901		Replaceable core filter drier
HTG	**A96**	28	1	901		96 inch³ internal volume
HTG	A96	**28**	1	901		When Pos. 4 is "1": connection size 28mm
HTG	A96	28	**1**	901		Solder connection metric
HTG	A96	28	1	**901**		Standard product

Model Designation Legend

1	**Product Code**	**Filter Drier Series**	
	HTG	Indicates replaceable core filter drier	
2	**Internal volume**	**Expressed in inch³**	**Expressed in cm³**
	A48	48	787
	A96	96	1573
	B44	144	2360
	B92	192	3146
3	**Connection size**	**Pos. 4 shows "0": Solder [inch]**	
	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	
	Connection size	**Pos. 4 shows "1": Solder [mm]**	
	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)	
4	**Pipe Connection**	**Type**	
	0	Solder with inch connections	
	1 *	Solder with metric connections	
5	**Version Number**	**Description**	
	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

FILTER DRIERS WITH REPLACEABLE CORE



GENERAL CHARACTERISTICS OF FILTER *Table 1*

Series	Model	Part Number*	Solder Connections ODF		Number of cores	Dimensions & Weight					Design Pressure (MPa)	PED category
						A	B	L	G	Weight[1)]		
			[inch]	[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)

FILTER DRIERS WITH REPLACEABLE CORE



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

Model	Acid Absorption capacity (g)	Capacity [kW] [1]					Moisture Absorption [gram H_2O]							
		R134a	R404A / R507A	R22	R407C[2]	R410A	R134a		R404A / R507A		R407C [2] / 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
HTG-A48050-901		78,6	55,8	80,7	80	81,5								
HTG-A48070-901		125,6	89,2	128,9	128	130,3								
HTG-A48090-901		180,6	128,2	185,4	183,9	187,2								
HTG-A48281-901		180,6	128,2	185,4	183,9	187,2								
HTG-A48110-901	-	243,2	172,6	249,6	247,7	252,2	87,4	75,3	94,1	77,3	73,9	67,2	80,6	73,9
HTG-A48130-901		298,7	212	306,5	304,2	309,7								
HTG-A48421-901		298,7	212	306,5	304,2	309,7								
HTG-A48170-901		424,2	301,1	435,4	432	439,8								
HTG-A48210-901		471,2	334.4	483,6	479,9	488,6								
HTG-A96050-901		80,6	57,2	82,7	82	83,5								
HTG-A96070-901		128,8	91,4	132,2	131,2	133.5								
HTG-A96090-901		185,1	131,4	190	188,5	191,9								
HTG-A96281-901		185,1	131,4	190	188,5	191,9								
HTG-A96110-901	-	249,3	176,9	255,9	253,9	258,5	174,7	150,5	188,2	154,6	147,8	134,4	161,3	147,8
HTG-A96130-901		306,1	217,3	314,2	311,8	317,4								
HTG-A96421-901		306,1	217,3	314,2	311,8	317,4								
HTG-A96170-901		434,8	308,6	446,3	442,8	450,8								
HTG-A96210-901		483	342,8	495,7	491,9	500,8								
HTG-B44050-901		82,5	58,6	84,7	84	85,6								
HTG-B44070-901		131,9	93,6	135,4	134,3	136,8								
HTG-B44090-901		189,6	134,6	194,6	193,1	196,6								
HTG-B44281-901		189,6	134,6	194,6	193,1	196,6								
HTG-B44110-901	-	255,4	181,3	262,1	260,1	264,8	262,1	225,8	282,2	231,8	221,8	201,6	241,9	221,8
HTG-B44130-901		313,6	222,6	321,9	319,4	325,1								
HTG-B44421-901		313,6	222,6	321,9	319,4	325,1								
HTG-B44170-901		445,4	316,1	457,1	453,6	461,8								
HTG-B44210-901		494,8	351,2	507,8	503,9	513,0								
HTG-B92050-901		84,5	60	86,7	86	87,6								
HTG-B92070-901		135,1	95,9	138,6	137,5	140								
HTG-B92090-901		194,1	137,8	199,3	197,7	201,3								
HTG-B92281-901		194,1	137,8	199,3	197,7	201,3								
HTG-B92110-901	-	261,5	185,6	268,4	266,3	271,1	349,4	301,1	376,3	309,1	295,7	268,8	322,6	295,7
HTG-B92130-901		321,1	227,9	329,5	327	332,9								
HTG-B92421-901		321,1	227,9	329,5	327	332,9								
HTG-B92170-901		456	323,6	468	464,4	472,8								
HTG-B92210-901		506.6	359,5	519,9	515,9	525,2								

FILTER DRIERS WITH REPLACEABLE CORE



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

Model	Acid Absorption capacity (g)	Capacity [kW] [1]					Moisture Absorption [gram H_2O]							
		R134a	R404A / R507A	R22	R407C[2]	R410A	R134a		R404A / R507A		R407C [2] / 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
HTG-A48050-901		78,6	55,8	80,7	80	81,5								
HTG-A48070-901		125,6	89,2	128,9	128	130,3								
HTG-A48090-901		180,6	128,2	185,4	183,9	187,2								
HTG-A48281-901		180,6	128,2	185,4	183,9	187,2								
HTG-A48110-901	10	243,2	172,6	249,6	247,7	252,2	74,3	64	80	65,7	62,8	57,1	68,5	62,8
HTG-A48130-901		298,7	212	306,5	304,2	309,7								
HTG-A48421-901		298,7	212	306,5	304,2	309,7								
HTG-A48170-901		424,2	301,1	435,4	432	439,8								
HTG-A48210-901		471,2	334.4	483,6	479,9	488,6								
HTG-A96050-901		80,6	57,2	82,7	82	83,5								
HTG-A96070-901		128,8	91,4	132,2	131,2	133.5								
HTG-A96090-901		185,1	131,4	190	188,5	191,9								
HTG-A96281-901		185,1	131,4	190	188,5	191,9								
HTG-A96110-901	20	249,3	176,9	255,9	253,9	258,5	148,5	128	159,9	131,4	125,7	114,2	137,1	125,7
HTG-A96130-901		306,1	217,3	314,2	311,8	317,4								
HTG-A96421-901		306,1	217,3	314,2	311,8	317,4								
HTG-A96170-901		434,8	308,6	446,3	442,8	450,8								
HTG-A96210-901		483	342,8	495,7	491,9	500,8								
HTG-B44050-901		82,5	58,6	84,7	84	85,6								
HTG-B44070-901		131,9	93,6	135,4	134,3	136,8								
HTG-B44090-901		189,6	134,6	194,6	193,1	196,6								
HTG-B44281-901		189,6	134,6	194,6	193,1	196,6								
HTG-B44110-901	30	255,4	181,3	262,1	260,1	264,8	222,8	191,9	239,9	197,1	188,5	171,4	205,6	188,5
HTG-B44130-901		313,6	222,6	321,9	319,4	325,1								
HTG-B44421-901		313,6	222,6	321,9	319,4	325,1								
HTG-B44170-901		445,4	316,1	457,1	453,6	461,8								
HTG-B44210-901		494,8	351,2	507,8	503,9	513,0								
HTG-B92050-901		84,5	60	86,7	86	87,6								
HTG-B92070-901		135,1	95,9	138,6	137,5	140								
HTG-B92090-901		194,1	137,8	199,3	197,7	201,3								
HTG-B92281-901		194,1	137,8	199,3	197,7	201,3								
HTG-B92110-901	40	261,5	185,6	268,4	266,3	271,1	297	255,9	319,9	262,8	251,3	228,5	274,2	251,3
HTG-B92130-901		321,1	227,9	329,5	327	332,9								
HTG-B92421-901		321,1	227,9	329,5	327	332,9								
HTG-B92170-901		456	323,6	468	464,4	472,8								
HTG-B92210-901		506.6	359,5	519,9	515,9	525,2								

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)

FILTER DRIERS WITH REPLACEABLE CORE



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[4] (°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[5] (°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

FILTER DRIERS WITH REPLACEABLE CORE



SUCTION LINE FLOW CAPACITY WITH CORE SH48-A30 (KW)[1] *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

FILTER DRIERS WITH REPLACEABLE CORE



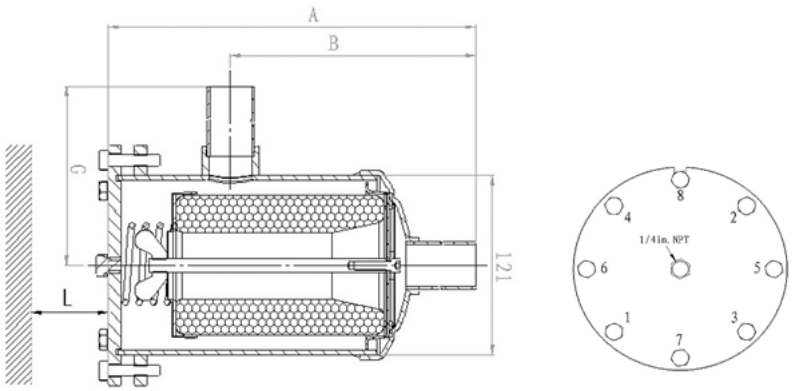
The capacities listed in the table 6 are rated at the maximum recommended pressure drop for permanent installation.
Suction line Filter-Driers guarantees an acid removal and a drying capacity described in table 7:

Table 7

Drying capacity: SH48-A30[1]					
Filter Type		**HTG-A48**	**HTG-A96**	**HTG-B44**	**HTG-B92**
Number of cores		**1**	**2**	**3**	**4**
Acid Adsorption capacity (g)[3]		**28,0**	**56,0**	**84,0**	**112,0**
Refrigerant	**Evaporating Temp. (°C)[4]**	**Moisture Absorption [gram H2O]**			
R22/ R407C[2]	-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

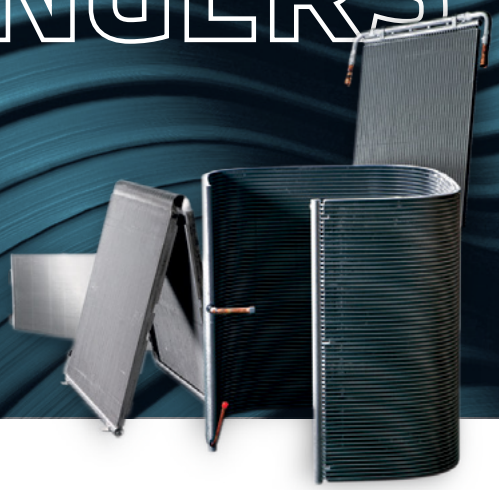


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***DSG** SERIES*

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

LIQUID LINE FILTER DRIER WITH SIGHT GLASS



TECNHICAL PARAMETERS *Desiccant Selection Table*

	Medium Type	100% 3Å Desiccant
Refrigerant	HFC	Applicable
	HFO	Applicable
Oil[3]	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[1)]**	**Expressed in [inch³]**	**Expressed in [cm³]**
	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	

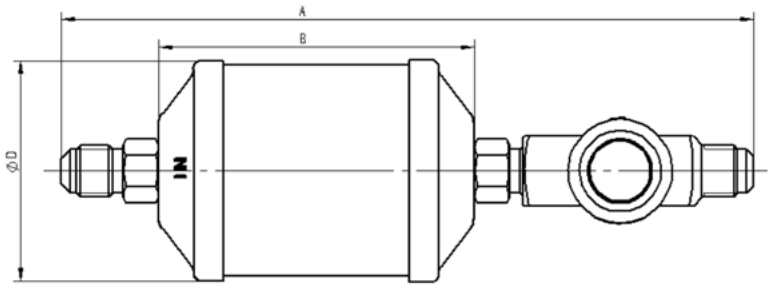
MODEL DESIGNATION EXAMPLE

Position Number						According to Model Designation Legend
1	2	3	4	5	6	
DSG	B	05	02	4	002	Unidirectional filter drier & sight glass assembly
DSG	**B**	05	02	4	002	Solid filter core with 100% 3Å desiccant
DSG	B	**05**	02	4	002	5 inch³ internal volume
DSG	B	05	**02**	4	002	When Pos. 5 is "4": SAE flare connection size 1/4"
DSG	B	05	02	**4**	002	SAE flare connection
DSG	B	05	02	4	**002**	Series number

LIQUID LINE FILTER DRIER WITH SIGHT GLASS



VERSION WITH MALE/MALE FLARE CONNECTIONS



Series	Model	Part Number[1]	Nominal Volume		Connection	Dimensions & Weight				PED Category [2]
					SAE Flare	ØD	A	B	Weight	
			[inch³]	[cm³]	[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[1] [kW]					Moisture Absorption (gram H_2O)							
	R134a	R404A R507A	R22	R407C[2]	R410A	R134a		R404A R507A		R407C[2] 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
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):

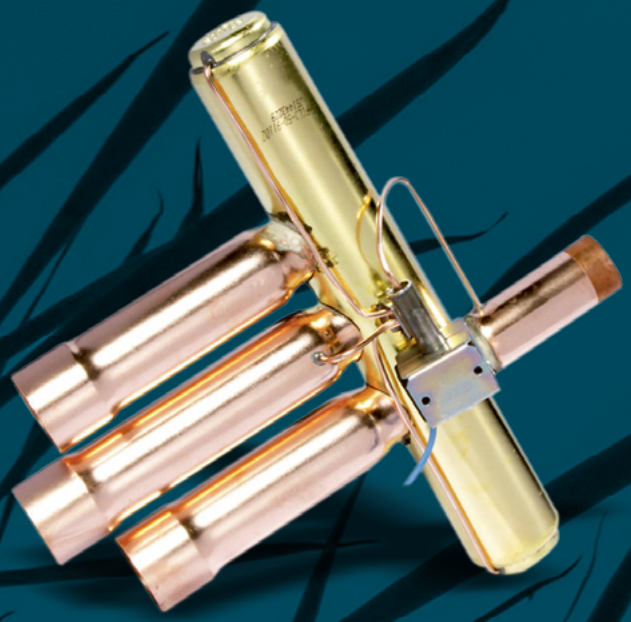
- 60ppm R22
- 50ppm R134a
- 50ppm R404A
- 50ppm R407C
- 50ppm R410A
- 50ppm R507A

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

4 WAY REVERSING VALVES



IMPROVES EFFICIENCY BY 5%

SHF SERIES 1KW TO 420 KW

WIDEST RANGE IN THE MARKET WITH SINGLE BODY DESIGN

SANHUA

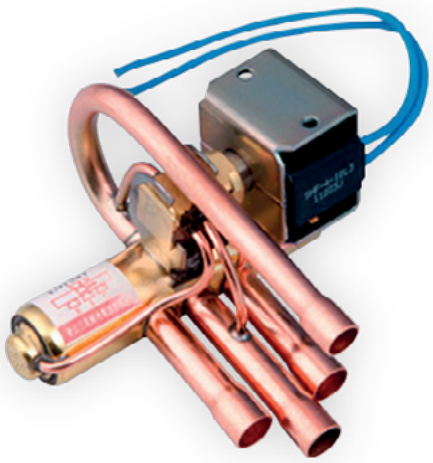
"Yearly SANHUA supplies over 50 million four way reversing valves to the commercial and residential HVAC&R industry worldwide"

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***SHF** SERIES*

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, HFO, HC refrigerants such as: R22, R134a, R404A, R407C, R410A, R507, R450A/R513A, R32, R290, R1234ze(E), R1234yf
- Medium temperature TS min./max.: -30°C / +135°C[2)]
- Ambient temperature min./max.: -30°C / +50°C
- 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 and declaration according to LVD or PED

4 WAY REVERSING VALVE



TABLE 1: MODELS SUITABLE FOR USAGE ON SYSTEM WITH VARIABLE SPEED (INVERTER)

General Characteristics											
Valve Model	Product Number	Type of System [Variable or Fixed Speed]	Ø Port	Kv	Connections ODF		MOP	OPD		PED Category	
					ØD	ØE/S/C		Max.	Min.	Fluid	Fluid
			[mm]	[m³/h]	[inch]	[inch]	[MPa]	[MPa]	[MPa]	Group 2	Group 1
SHF(L)-3H-12U-52	10180953202	Variable & Fixed	7,4	1,5	1/4	5/16	4,7	4	0,1	4,3	4,3
SHF(L)-4H-23U-52	10180952502	Variable & Fixed	8	1,6	5/16	3/8	4,7	4	0,1	4,3	4,3
SHF(L)-7H-34U-52	10180952602	Variable & Fixed	11,1	2,9	3/8	1/2	4,7	4	0,1	4,3	4,3
SHF(L)-7H-34-52	10180953302	Variable & Fixed	11,1	2,9	3/8	1/2	4,7	4	0,1	4,3	4,3
SHF(L)-7H-35-52	10180950002	Variable & Fixed	11,1	2,9	3/8	5/8	4,7	4	0,1	4,3	4,3
SHF(L)-11H-34U-52	10180953402	Variable & Fixed	11,5	4,5	3/8	1/2	4,7	4	0,1	4,3	4,3
SHF(L)-11H-35U-52	10180952402	Variable & Fixed	11,5	4,5	3/8	5/8	4,7	4	0,1	4,3	4,3
SHF(L)-11H-45D1-52	10180950102	Variable & Fixed	11,5	4,5	1/2	5/8	4,7	4	0,1	4,3	4,3
SHF(L)-11H-46D1-52	10180953502	Variable & Fixed	11,5	4,5	1/2	3/4	4,7	4	0,1	4,3	4,3
SHF-14A-46	10325030102	Variable & Fixed	13,5	6,6	1/2	3/4	4,7	4	0,1	4,3	4,3
SHF-20D-46-02	10325051602	Variable	17,2	9,5	1/2	3/4	4,7	4	0,1	4,3	4,3
SHF-20D-47-02	10325055702	Variable	17,2	9,9	1/2	7/8	4,7	4	0,1	4,3	4,3
SHF-20D-57-02	10325060202	Variable	17,2	9,9	5/8	7/8	4,7	4	0,1	4,3	4,3
SHF-20D-67-02	10325060102	Variable	17,2	9,9	3/4	7/8	4,7	4	0,1	4,3	4,3
SHF-35B-47-04	10325058802	Variable	20	14,7	1/2	7/8	4,7	4	0,1	4,3	4,3
SHF-35B-57-04	10325059002	Variable	20	14,7	5/8	7/8	4,7	4	0,1	4,3	4,3
SHF-35B-59-04	10325059102	Variable	20	14,7	5/8	1 1/8	4,7	4	0,1	4,3	4,3
SHF-35B-67-04	10325050802	Variable	20	14,7	3/4	7/8	4,7	4	0,1	4,3	4,3
SHF-35B-69-04	10325058502	Variable	20,9	14,7	3/4	1 1/8	4,7	4	0,1	4,3	4,3
SHF-35B-79-04	10325058302	Variable	20,9	14,7	7/8	1 1/8	4,7	4	0,1	4,3	4,3
SHF-50A-79	10325059702	Variable & Fixed	22,8	18,3	7/8	1 1/8	4,5	4	0,1	4,3	4,3
SHF(L)-70-810-20	10325049401	Variable	28,6	28,5	1	1 1/4	4,5	4	0,15	4,3	II
SHF(L)-70-810-21	10325048501	Variable	28,6	28,5	1	1 1/4	4,5	4	0,15	4,3	II
SHF(L)-70-911-20	10325048701	Variable	28,6	28,5	1 1/8	1 3/8	4,5	4	0,15	4,3	II
SHF(L)-70-911-21	10325048901	Variable	28,6	28,5	1 1/8	1 3/8	4,5	4	0,15	4,3	II
SHF(L)-70-913-25	10325049301	Variable	28,6	28,5	1 1/8	1 5/8	4,5	4	0,15	I	II
SHF(L)-70-913-23	10325049101	Variable	28,6	28,5	1 1/8	1 5/8	4,5	4	0,15	I	II
SHF(L)-100-911	10325054502	Variable & Fixed	34,8	40,5	1 1/8	1 3/8	4,5	4	0,15	I	II
SHF(L)-100-911-01	10325054602	Variable & Fixed	34,8	40,5	1 1/8	1 3/8	4,5	4	0,15	I	II
SHF(L)-100-913	10325054302	Variable & Fixed	34,8	40,5	1 1/8	1 5/8	4,5	4	0,15	I	II
SHF(L)-100-913-01	10325054402	Variable & Fixed	34,8	40,5	1 1/8	1 5/8	4,5	4	0,15	I	II
SHF(L)-100-1012	10325053702	Variable & Fixed	34,8	40,5	1 1/4	1 1/2	4,5	4	0,15	I	II
SHF(L)-100-1012-01	10325054002	Variable & Fixed	34,8	40,5	1 1/4	1 1/2	4,5	4	0,15	I	II
SHF(L)-100-1013	10325053902	Variable & Fixed	34,8	40,5	1 1/4	1 5/8	4,5	4	0,15	I	II
SHF(L)-100-1013-01	10325054202	Variable & Fixed	34,8	40,5	1 1/4	1 5/8	4,5	4	0,15	I	II

4 WAY REVERSING VALVE



TABLE 1: MODELS SUITABLE FOR USAGE ON SYSTEM WITH VARIABLE SPEED (INVERTER)

General Characteristics											
Valve Model	Product Number	Type of System [Variable or Fixed Speed]	Ø Port	Kv	Connections ODF		MOP	OPD		PED Category	
					ØD	ØE/S/C		Max.	Min.	Fluid	Fluid
			[mm]	[m³/h]	[inch]	[inch]	[MPa]	[MPa]	[MPa]	Group 2	Group 1
SHF(L)-140-1113	10325053402	Variable & Fixed	41	58,4	1 3/8	1 5/8	4,5	4	0,15	I	II
SHF(L)-140-1213	10325053502	Variable & Fixed	41	58,4	1 1/2	1 5/8	4,5	4	0,15	I	II
SHF(L)-140-1214	10325053302	Variable & Fixed	41	58,4	1 1/2	1 3/4	4,5	4	0,15	I	II
SHF(L)-140-1313	10325053602	Variable & Fixed	41	58,4	1 5/8	1 5/8	4,5	4	0,15	I	II
SHF(L)-175-1217	10325054902	Variable & Fixed	46,4	70,5	1 1/2	2 1/8	4,5	4	0,15	I	II
SHF(L)-175-1317	10325055002	Variable & Fixed	46,4	70,5	1 5/8	2 1/8	4,5	4	0,15	I	II
SHF(L)-210-1321	10325055102	Variable & Fixed	50	84,4	1 5/8	2 5/8	4,5	4	0,15	I	II
SHF(L)-350-1721	10325055202	Variable & Fixed	59	138,4	2 1/8	2 5/8	4,5	4	0,15	I	II
SHF(L)-420-2125	10325055302	Variable & Fixed	69	177	2 5/8	3 1/8	4,5	4	0,15	I	II

TABLE 2: MODELS OPTIMIZED FOR USAGE ON SYSTEM WITH FIXED SPEED (ON/OFF COMPRESSORS)

General Characteristics											
Valve Model	Product Number	Type of System [Variable or Fixed Speed]	Ø Port	Kv	Connections ODF		MOP	OPD		PED Category	
					ØD	ØE/S/C		Max.	Min.	Fluid	Fluid
			[mm]	[m³/h]	[inch]	[inch]	[MPa]	[MPa]	[MPa]	Group 2	Group 1
SHF-20D-46-01	10325051502	Fixed	17,2	9,5	1/2	3/4	4,7	4	0,1	4,3	4,3
SHF-20D-47-01	10325057402	Fixed	17,2	9,9	1/2	7/8	4,7	4	0,1	4,3	4,3
SHF-20D-57-01	10325057302	Fixed	17,2	9,9	5/8	7/8	4,7	4	0,1	4,3	4,3
SHF-20D-67-01	10325050102	Fixed	17,2	9,9	3/4	7/8	4,7	4	0,1	4,3	4,3
SHF-35B-47-01	10325058702	Fixed	20	14,7	1/2	7/8	4,7	4	0,1	4,3	4,3
SHF-35B-57-01	10325058902	Fixed	20	14,7	5/8	7/8	4,7	4	0,1	4,3	4,3
SHF-35B-59-01	10325050202	Fixed	20	14,7	5/8	1 1/8	4,7	4	0,1	4,3	4,3
SHF-35B-67-01	10325050702	Fixed	20	14,7	3/4	7/8	4,7	4	0,1	4,3	4,3
SHF-35B-69-01	10325058402	Fixed	20,9	14,7	3/4	1 1/8	4,7	4	0,1	4,3	4,3
SHF-35B-79-01	10325052702	Fixed	20,9	14,7	7/8	1 1/8	4,7	4	0,1	4,3	4,3
SHF(L)-70-810-10	10325048302	Fixed	28,6	28,5	1	1 1/4	4,5	4	0,15	4,3	II
SHF(L)-70-810-11	10325048402	Fixed	28,6	28,5	1	1 1/4	4,5	4	0,15	4,3	II
SHF(L)-70-911-10	10325048602	Fixed	28,6	28,5	1 1/8	1 3/8	4,5	4	0,15	4,3	II
SHF(L)-70-911-11	10325048802	Fixed	28,6	28,5	1 1/8	1 3/8	4,5	4	0,15	4,3	II
SHF(L)-70-913-15	10325049202	Fixed	28,6	28,5	1 1/8	1 5/8	4,5	4	0,15	I	II
SHF(L)-70-913-13	10325049002	Fixed	28,6	28,5	1 1/8	1 5/8	4,5	4	0,15	I	II

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 Δt_{sc}	5K	5K
Subcooling Δt_{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

4 WAY REVERSING VALVE



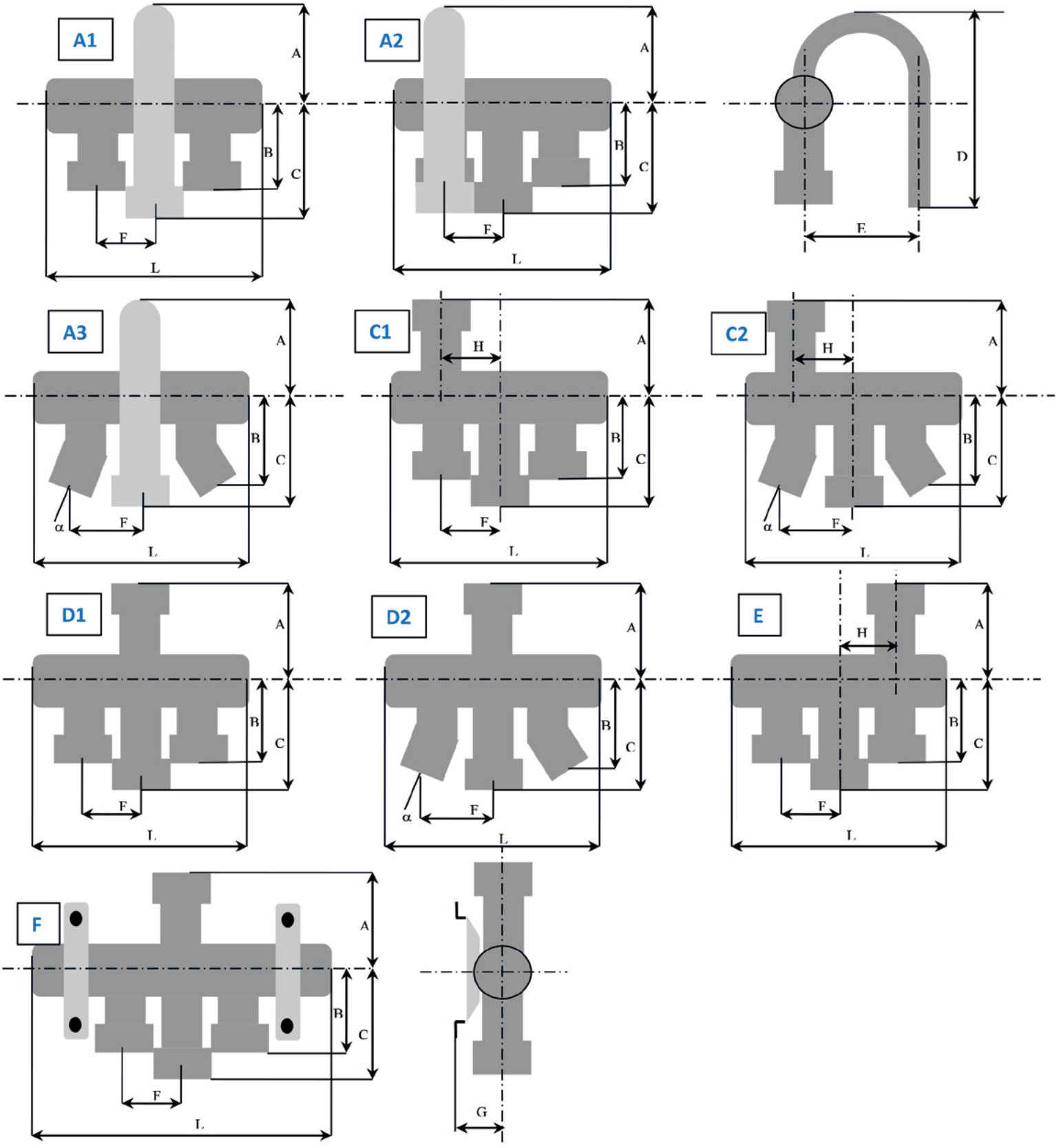
Capacity Selection Table								
Valve Size	Nominal Cooling Capacity (condition 1)							
	R407C[2)]		R410A		R134a		R404A / R507	
	ΔP: 0,1 bar	ΔP: 0,2 bar	ΔP: 0,1 bar	ΔP: 0,2 bar	ΔP: 0,1 bar	ΔP: 0,2 bar	ΔP: 0,1 bar	ΔP: 0,2 bar
	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]	[kW]
SHF(L)-3H	3,3	4,7	4,0	5,7	2,6	3,7	2,9	4,0
SHF(L)-4H	3,6	5,0	4,3	6,1	2,8	4,0	3,1	4,3
SHF(L)-7H	6,5	9,1	7,8	11,0	5,1	7,2	5,5	7,8
SHF(L)-11H	10,0	14,2	12,1	17,1	7,9	11,1	8,6	12,1
SHF-14A-46	14,7	20,8	17,7	25,1	11,5	16,3	12,6	17,8
SHF-20D-46	21,2	29,9	25,5	36,1	16,6	23,5	18,1	25,6
SHF-20D-xx	22,1	31,2	26,6	37,7	17,3	24,5	18,9	26,7
SHF-35B	32,7	46,3	39,5	55,9	25,7	36,3	28,1	39,7
SHF-50A-79	40,8	57,7	49,2	69,6	32,0	45,2	34,9	49,4
SHF(L)-70	63,5	89,8	76,6	108,4	49,8	70,4	54,4	76,9
SHF(L)-100	90,2	127,6	108,9	154,0	70,8	100,1	77,3	109,3
SHF(L)-140	130,1	184,0	157,1	222,1	102,0	144,3	111,5	157,6
SHF(L)-175	157,0	222,1	189,6	268,1	123,2	174,2	134,6	190,3
SHF(L)-210	188,0	265,9	227,0	321,0	147,5	208,6	161,1	227,8
SHF(L)-350	308,3	436,0	372,2	526,4	241,8	342,0	264,2	373,6
SHF(L)-420	394,3	557,6	476,0	673,2	309,3	437,4	337,8	477,8

Capacity Selection Table								
Valve Size	Nominal Cooling Capacity (condition 2)							
	R407C[2)]		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	3,0	4,3	3,6	5,0	2,4	3,4	2,4	3,4
SHF(L)-4H	3,2	4,6	3,8	5,4	2,6	3,7	2,6	3,7
SHF(L)-7H	5,9	8,3	6,9	9,7	4,7	6,6	4,7	6,6
SHF(L)-11H	9,1	12,9	10,7	15,1	7,3	10,3	7,3	10,3
SHF-14A-46	13,4	18,9	15,7	22,2	10,7	15,1	10,7	15,1
SHF-20D-46	19,3	27,3	22,5	31,9	15,4	21,7	15,4	21,7
SHF-20D-xx	20,1	28,4	23,5	33,2	16,0	22,7	16,0	22,6
SHF-35B	29,8	42,2	34,9	49,3	23,8	33,7	23,8	33,6
SHF-50A-79	37,1	52,5	43,4	61,4	29,6	41,9	29,6	41,8
SHF(L)-70	57,8	81,8	67,6	95,7	46,1	65,2	46,1	65,2
SHF(L)-100	82,2	116,2	96,1	136,0	65,6	92,7	65,5	92,6
SHF(L)-140	118,5	167,5	138,6	196,0	94,5	133,7	94,4	133,5
SHF(L)-175	143,0	202,2	167,3	236,7	114,1	161,4	114,0	161,2
SHF(L)-210	171,2	242,1	200,3	283,3	136,6	193,2	136,5	193,0
SHF(L)-350	280,7	397,0	328,5	464,6	224,1	316,9	223,8	316,4
SHF(L)-420	359,0	507,8	420,1	594,2	286,5	405,2	286,2	404,7

4 WAY REVERSING VALVE



DIMENSIONS - VALVES



4 WAY REVERSING VALVE



TABLE 3: MODELS SUITABLE FOR USAGE ON SYSTEM WITH VARIABLE SPEED (INVERTER)

Dimensions - Valves												
Valve Model	Valve Style	L	A	B	C	D	E	F	G	H	Angle α	Weight
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[°]	[kg]
SHF(L)-3H-12U-52	A1	88,2	38,5	38	50	88,5	43	11	-	-	0	0,2
SHF(L)-4H-23U-52	A1	94,4	43	50	62	105	43	12	-	-	0	0,2
SHF(L)-7H-34U-52	A1	113	52	59	71	119	52	16	-	-	0	0,3
SHF(L)-7H-34-52	D1	113	52	59	71	-	-	16	-	-	0	0,3
SHF(L)-7H-35-52	D2	113	52	57	72	-	-	23,5	-	16	0	0,3
SHF(L)-11H-34U-52	A1	115,5	51	59	71	119	52	16	-	-	0	0,3
SHF(L)-11H-35U-52	A3	115,5	51	57	71	119	52	23,5	-	-	15	0,3
SHF(L)-11H-45D1-52	C2	117	52	62	87	-	-	25	-	16	15	0,32
SHF(L)-11H-46D1-52	C2	117	52	82	87	-	-	32,5	-	16	20	0,35
SHF-14A-46	D1	163	67	83	95	-	-	23,8	-	-	0	0,72
SHF-20D-46-02	D1	183,6	67	83	95	-	-	28,6	-	-	0	0,75
SHF-20D-47-02	D1	183,6	67	83	95	-	-	28,6	-	-	0	0,75
SHF-20D-57-02	D1	183,6	67	83	95	-	-	28,6	-	-	0	0,75
SHF-20D-67-02	D1	183,6	67	83	95	-	-	28,6	-	-	0	0,75
SHF-35B-47-04	D1	212,2	82	87	100	-	-	33	-	-	0	1,3
SHF-35B-57-04	D1	212,2	82	87	100	-	-	33	-	-	0	1,3
SHF-35B-59-04	D1	212,2	82	87	100	-	-	33	-	-	0	1,3
SHF-35B-67-04	D1	212,2	82	87	100	-	-	33	-	-	0	1,3
SHF-35B-69-04	D1	212,2	82	87	100	-	-	33	-	-	0	1,3
SHF-35B-79-04	D1	212,2	82	87	100	-	-	33	-	-	0	1,3
SHF-50A-79	D1	217	91	96	109	-	-	33	-	-	0	2,1
SHF(L)-70-810-20	D1	303	111	117	131	-	-	46	-	-	0	3
SHF(L)-70-810-21	F	303	111	117	154	-	-	46	58	-	0	3
SHF(L)-70-911-20	D1	303	111	117	154	-	-	46	-	-	0	3
SHF(L)-70-911-21	F	321	111	117	131	-	-	49	58	-	0	3,5
SHF(L)-70-913-25	D1	321	111	117	131	-	-	49	-	-	0	3,5
SHF(L)-70-913-23	F	321	111	117	131	-	-	49	58	-	0	3,5
SHF(L)-100-911	D1	321	111	117	131	-	-	49	-	-	0	3,5
SHF(L)-100-911-01	F	303	111	117	131	-	-	46	58	-	0	3
SHF(L)-100-913	D1	303	111	117	154	-	-	46	-	-	0	3
SHF(L)-100-913-01	F	303	111	117	154	-	-	46	58	-	0	3
SHF(L)-100-1012	D1	321	111	117	131	-	-	49	-	-	0	3,5
SHF(L)-100-1012-01	F	321	111	117	131	-	-	49	58	-	0	3,5
SHF(L)-100-1013	D1	321	111	117	131	-	-	49	-	-	0	3,5
SHF(L)-100-1013-01	F	321	111	117	131	-	-	49	58	-	0	3,5
SHF(L)-140-1113	F	390	135,6	148,7	168,7	-	-	58	63	-	0	7,2
SHF(L)-140-1213	F	390	135,6	148,7	168,7	-	-	58	63	-	0	7,2
SHF(L)-140-1214	F	390	135,6	148,7	168,7	-	-	58	63	-	0	7,2
SHF(L)-140-1313	F	390	135,6	148,7	168,7	-	-	58	63	-	0	7,2
SHF(L)-175-1217	F	390	135,6	148,7	198	-	-	58	63	-	0	7,6
SHF(L)-175-1317	F	390	135,6	148,7	198	-	-	58	63	-	0	7,6
SHF(L)-210-1321	F	452	135,6	148,7	198	-	-	71,5	63	-	0	8,7
SHF(L)-350-1721	F	531	176,5	184	240	-	-	75	82,5	-	0	22
SHF(L)-420-2125	F	611,7	176,5	184	240	-	-	93	82,5	-	0	26

4 WAY REVERSING VALVE



TABLE 4: MODELS OPTIMIZED FOR USAGE ON SYSTEM WITH FIXED SPEED (ON/OFF COMPRESSORS)

Dimensions - Valves												
Valve Model	Valve Style	L	A	B	C	D	E	F	G	H	Angle α	Weight
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[°]	[kg]
SHF-20D-46-01	D1	183,6	67	83	95	-	-	28,6	-	-	0	0,75
SHF-20D-47-01	D1	183,6	67	83	95	-	-	28,6	-	-	0	0,75
SHF-20D-57-01	D1	183,6	67	83	95	-	-	28,6	-	-	0	0,75
SHF-20D-67-01	D1	183,6	67	83	95	-	-	28,6	-	-	0	0,75
SHF-35B-47-01	D1	212,2	82	87	100	-	-	33	-	-	0	1,3
SHF-35B-57-01	D1	212,2	82	87	100	-	-	33	-	-	0	1,3
SHF-35B-59-01	D1	212,2	82	87	100	-	-	33	-	-	0	1,3
SHF-35B-67-01	D1	212,2	82	87	100	-	-	33	-	-	0	1,3
SHF-35B-69-01	D1	212,2	82	87	100	-	-	33	-	-	0	1,3
SHF-35B-79-01	D1	212,2	82	87	100	-	-	33	-	-	0	1,3
SHF(L)-70-810-10	D1	303	111	117	131	-	-	46	-	-	0	3
SHF(L)-70-810-11	D1	303	111	117	131	-	-	46	-	-	0	3
SHF(L)-70-911-10	D1	303	111	117	154	-	-	46	-	-	0	3
SHF(L)-70-911-11	F	321	111	117	131	-	-	49	58	-	0	3,5
SHF(L)-70-913-15	D1	321	111	117	131	-	-	49	-	-	0	3,5
SHF(L)-70-913-13	F	321	111	117	131	-	-	49	58	-	0	3,5

4 WAY REVERSING VALVE



Coil Characteristics												
Coil Model [1]	Winding Code	Part Number	Electrical Function/ Connection Type	Cable Length	Power Supply	Rated Voltage	Power Consumption			Protection Clas	Insulat. Class	Max. Op. Temp.
							AC 50Hz	AC 60Hz	DC			
				[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[2]	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)[3]	-	AC	220-240	6	5	-	IP00	F[2]	155
SQ-A47 220-00 0001	SHF-4-10FA1	10805273402	Spade (Faston)[3]	-	AC	220	6	5	-			
SQ-A47 11B-00 0001	SHF-4-10FA2	10805273302	Spade (Faston)[3]	-	AC	120	6	5	-			
SQ-A47 10A-00 0001	SHF-4-10FA3	10805268702	Spade (Faston)[3]	-	AC	100-110	6	5	-			
SQ-A47 024-00 0001	SHF-4-10FA4	10805263302	Spade (Faston)[3]	-	AC	24	6	5	-			
SQ-A47 26H-00 0001	SHF-4-10FA6	10805273502	Spade (Faston)[3]	-	AC	265-277	6	5	-			
SQ-D44 012-00 0001	SHF-4-10FA8	10805231802	Spade (Faston)[3]	-	DC	12	-	-	10			
SQ-D44 024-00 0001	SHF-4-10FA9	10805070102	Spade (Faston)[3]	-	DC	24	-	-	11			
SQ-A27 100-00 0001	-	10805063202	Bi-stable/Lead W.	500	AC	100	18	18	-	IP54	B[2]	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

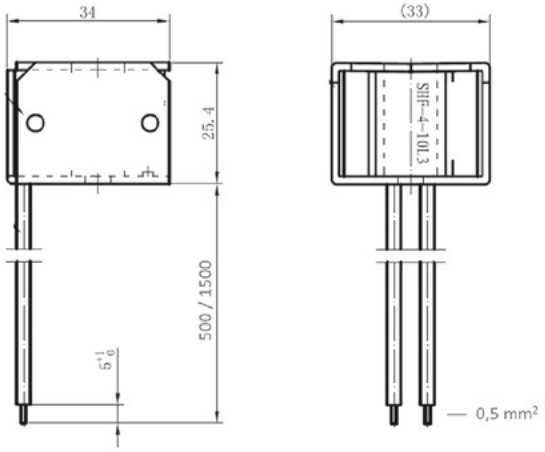
Wire Harness		
Model	Part Number	Cable Length [mm]
SQ-000000-090028	20805136302	1200
SQ-000000-090029	20805149202	2000

4 WAY REVERSING VALVE

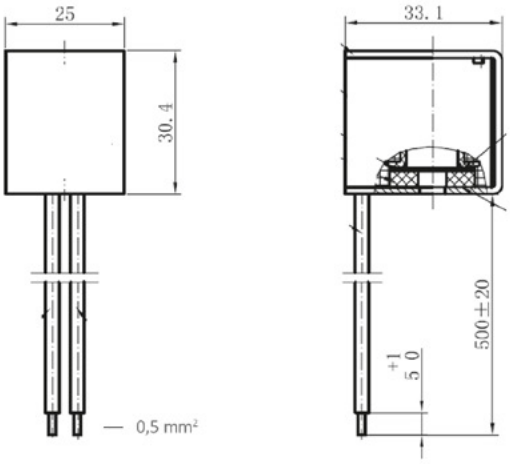


DIMENSIONS - COILS

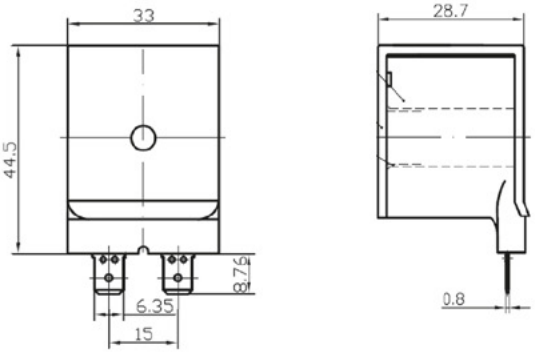
Coils with Lead Wires (SQ-A25 Series)



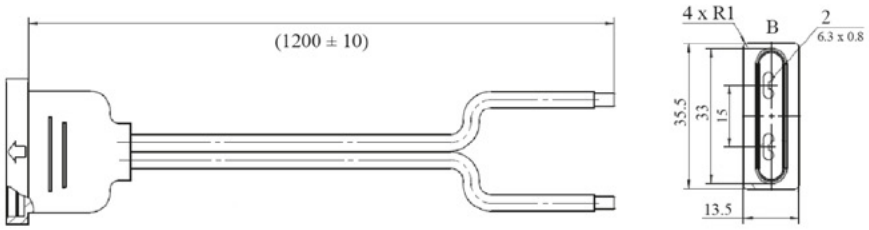
Bistable coil (SQ-A/D27)



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



Connecteur Faston avec câble (1200mm) (SQ-000000-090028) / **Code Sanhua : SHF-56026**



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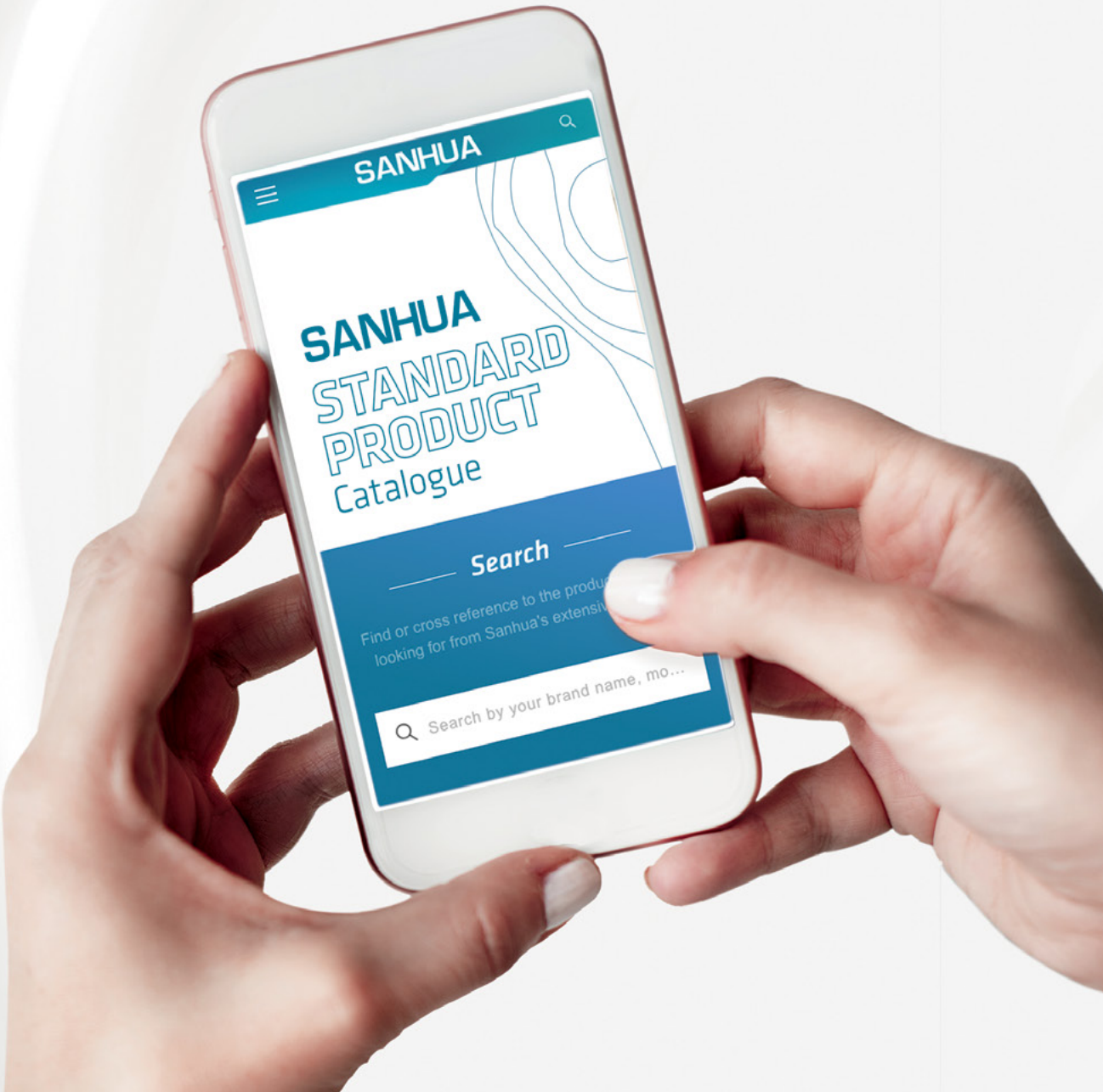
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