



Web



E-catalog

HONGSEN



ESCORT FOR SAFE REFRIGERATION

2026 HVAC&R LINE COMPONENTS

2026

HVAC&R LINE COMPONENTS



ESCORT FOR SAFE REFRIGERATION



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COMPANY PROFILE



30+ YEARS EXPERIENCE
IN REFRIGERATION



100000m² MODERN
PRODUCTION LAND



500+ EMPLOYEES



30+ EXPERIENCED
TECHNICAL TEAM



CE UL CQC ISO9001
ISO14001

Zhejiang Hongsen Machinery Co., Ltd was founded in 1992, which devotes itself in the R&D and manufacture of various valves in refrigeration and air conditioning system. For 30+ years, HONGSEN staffs persistently adhere to open up, keep forging ahead and never rest content with their achievements. They insist on new and high-tech as the guidance in the development and pursue the sustainable development road with high productivity and quality efficiency.

HONGSEN covers a land area of 100,000 square meters. There are over 500 staffs and workers including a

specialty team of 30+ technicians. HONGSEN has a close cooperation with the professors and experts in Xi'an Jiao Tong University and several senior engineers of leading domestic OEMs are invited as the consultants of the company. At present, HONGSEN is capable to manufacture multiple categories of refrigeration and A/C accessory parts such as electric expansion valve, motorized regulating valve, thermostic expansion valve, solenoid valve, ball valve, shut off valve, sight glass, safety valve, dry filter, vibration absorber etc.

HONGSEN is making every effort to "ESCORT FOR SAFE REFRIGERATION"

FOCUS ON REFRIGERATION FOR 30+ YEARS

Hongsen has three production divisions: A/C service tools, Refrigeration Control parts and Environmental equipment, with the support more than 300 sets of inspecting equipments and advanced CNC equipments.



1

ADVANCED PRODUCTION LINE

Domestic leading technology, highly automated production



2

SEMI-AUTOMATIC INFRARED ENERGY-SAVING OVEN

Energy efficient, convenient operation



3

HELIUM TESTING MACHINE

Accurate and efficient environmentally safe



4

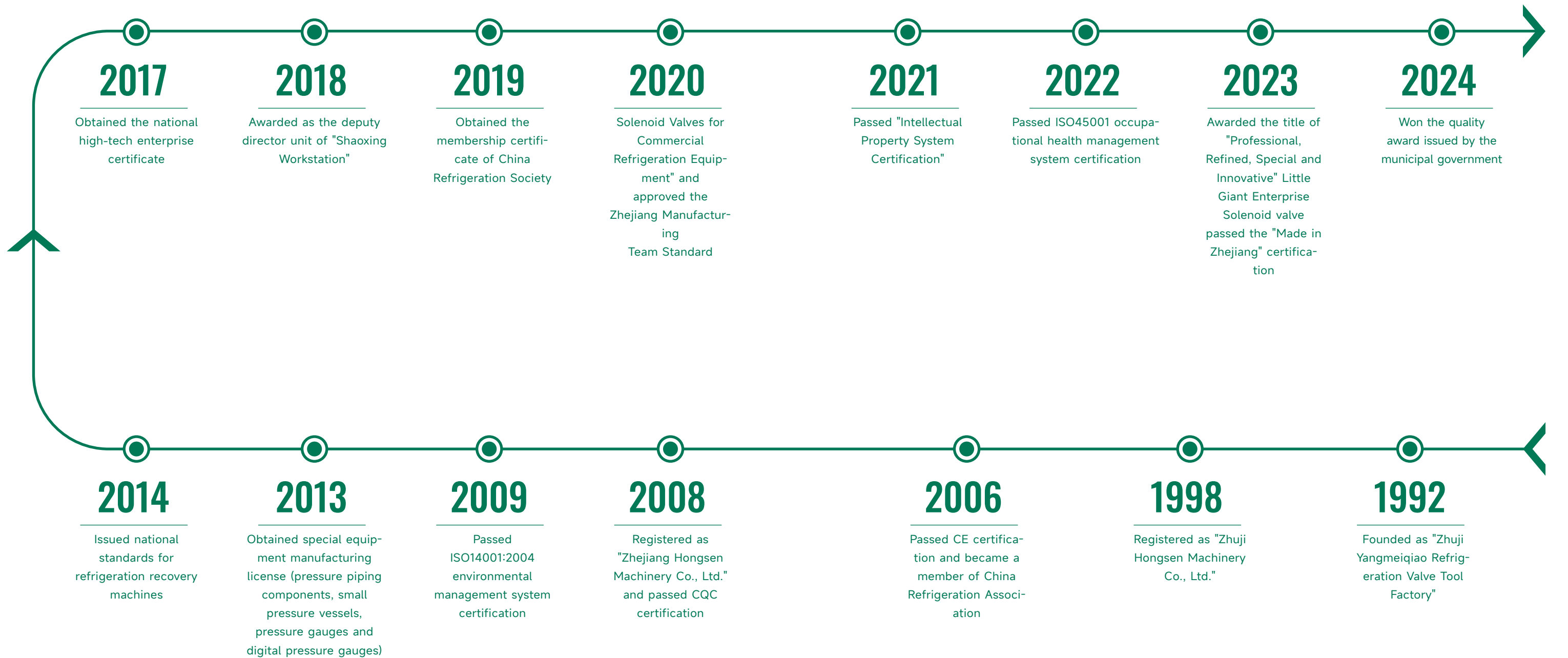
MACHINING CENTER

High-precision machining center CNC numerical control

The background of the entire page is an aerial photograph of a city with numerous skyscrapers, partially obscured by a thick layer of white fog or low clouds. In the distance, a range of mountains is visible under a clear sky. The overall color palette is dominated by greens and blues, with the fog providing a soft, ethereal atmosphere.

ESCORT FOR SAFE REFRIGERATION

DEVELOPMENT HISTORY



GLOBAL BRAND CHANNELS

With over 30 years development, Hongsen is not only popular in China, but also recognized by many foreign customers, and has established close ties with many well-known international brands. Up to now, Hongsen has agents in more than 50 countries, such as USA, Turkey, Spain, Germany, Italy, Brazil, Colombia, Venezuela, South Korea, Dubai, UAE, Egypt, Ukraine, Azerbaijan, etc.



NORTH AMERICA



ASIA



EUROPE



SOUTH AMERICA



AFRICA



AUSTRALIA

ESCORT FOR SAFE REFRIGERATION

THERMOSTATIC EXPANSION VALVE



DPF SERIES ELECTRONIC EXPANSION VALVE

DPF electronic expansion valve is suitable for refrigeration systems such as air conditioners, commercial refrigerators, small refrigeration storage and heat pumps. It can accurately control the refrigerant flow in the system, so that the system can always run in the best state, achieve rapid cooling, and achieve the goal of precise control and energy saving.



FEATURES

- Small size, light weight, stable and reliable performance;
- Fast response and action;
- New structure design of expansion valve, low noise and low failure rate;
- DPF-RL3/DPF-P03 series products apply design of balanced port, and the reverse valve opening pressure is high;
- Suitable for systems with little oil or no oil.

TECHNICAL PARAMETERS

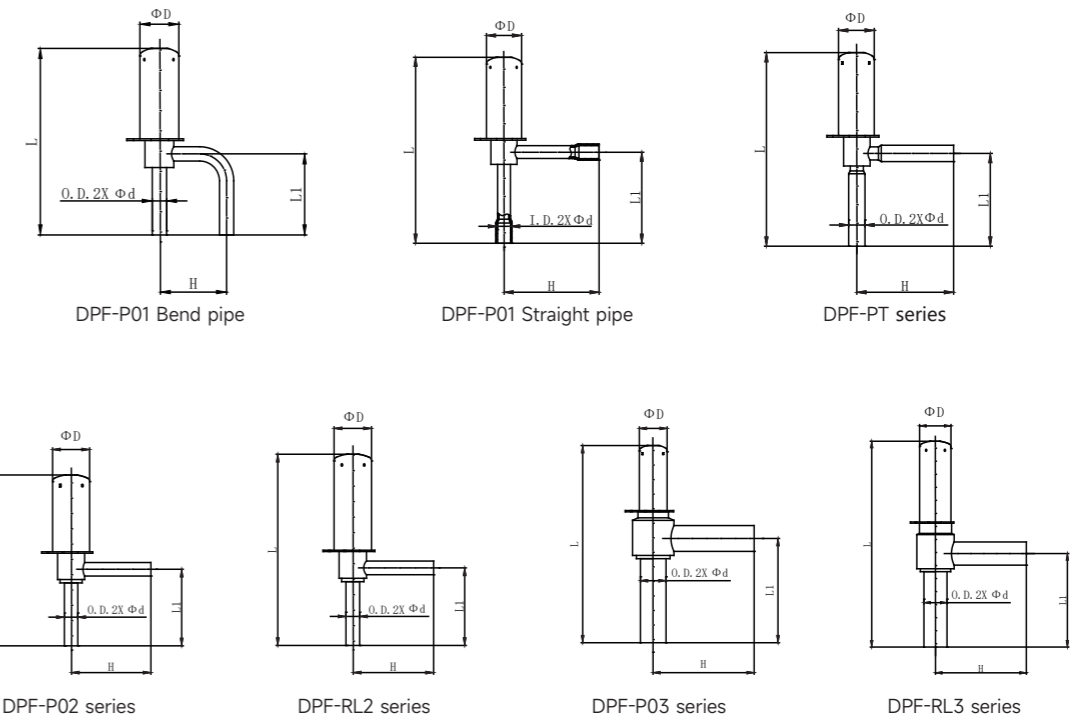
| | |
|---------------------------------|---|
| Applicable refrigerant | R22、R134a、R404A、R407C、R410A |
| Nominal capacity | 2.5-126KW |
| Medium temperature | -30~+70°C |
| Environment temperature | -30~+60°C |
| Environment humidity | < 95%RH |
| Full open pulse | 500/1000PS |
| Valve opening pulse | 32±20 |
| Rated voltage | 12V DC (±10%) , rectangular wave |
| Excitation mode | 1-2 phase excitation, single pole drive |
| Excitation speed | 30~90pps |
| Finishing excitation mode keeps | 0.1-1.0s |
| Time cost for whole course | 6s (83pps) |
| Drive current | 260mA |
| Coil resistance | 46±3.7Ω/phase |
| Coil insulation grade | Class E |
| Protect grade | IP65 |

APPLICATION

- Heat Pump
- Modular Air Cooled Chillers
- Inverter Mini Split
- Bus air conditioning
- IT cooling



STRUCTURE

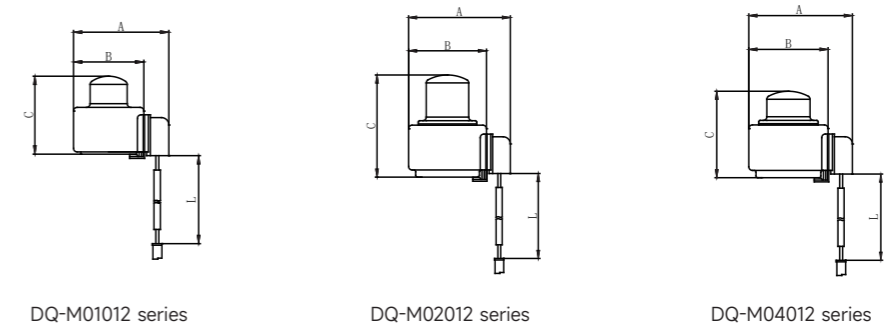


OVERALL DIMENSION

| Model | ΦD | L | L1 | H | Φd |
|---------------------------------|-------|-------|----|----|------|
| DPF-P01010-P01024Bend pipe | 17.36 | 83 | 36 | 30 | 6.35 |
| DPF-P01010-P01024 Straight pipe | 17.36 | 92 | 45 | 47 | 6.5 |
| DPF-PT028-PT032 | 17.36 | 94 | 45 | 47 | 7.94 |
| DPF-P02028-P02032 | 21.76 | 100.5 | 45 | 47 | 7.94 |
| DPF-RL2028-RL2032 | 21.76 | 106 | 42 | 42 | 7.94 |
| DPF-P03040-P03065 | 17.36 | 122 | 64 | 63 | 16 |
| DPF-RL3040-RL3065 | 21.76 | 142 | 64 | 63 | 16 |

Note: dimension of connecting pipe can be customized according to requirements

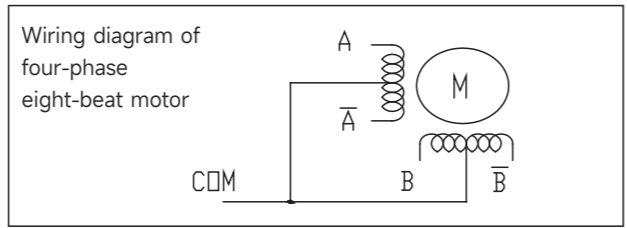
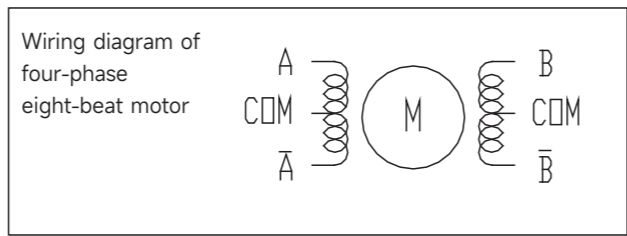
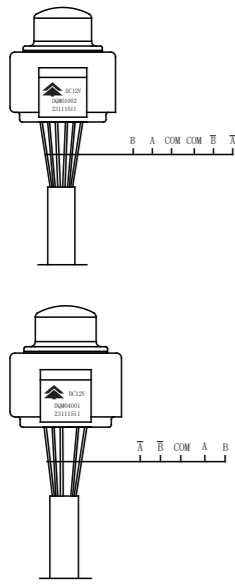
COIL



OVERALL DIMENSION

| Model | A | B | C | L | Compatible | Connector model |
|--|------|----|------|---|---|-----------------|
| DQ-M01012 series | 51 | 38 | 42 | / | DPF-P01 series、DPF-PT series、DPF-P03 series | XHP-5 |
| DQ-M02012 series | 57.5 | 44 | 57 | / | DPF-RL2 series、DPF-RL3 series | XHP-6 |
| DQ-M04012 series | 57.5 | 44 | 46.5 | / | DPF-P02 series | XAP-5 |
| Note: the lead wire length and connector can be customized according to customer's requirements. | | | | | | XAP-6 |

DRIVING SCHEDULE



| Excitation method | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-------------------|--|-----|-----|-----|-----|-----|-----|-----|-----|
| A | | /// | | | | | | | /// |
| B | | | /// | /// | /// | | | | |
| A-bar | | | | | /// | /// | /// | | |
| B-bar | | | | | | | /// | /// | /// |

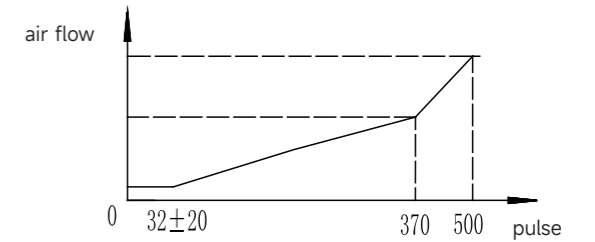
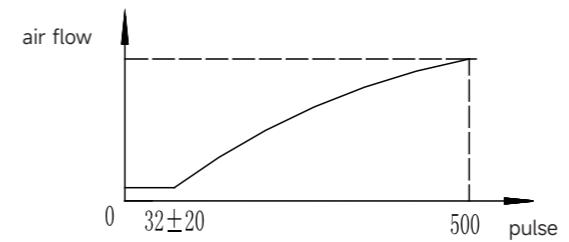
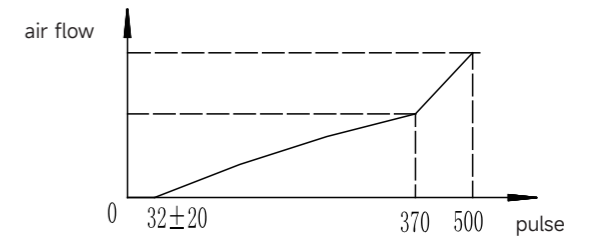
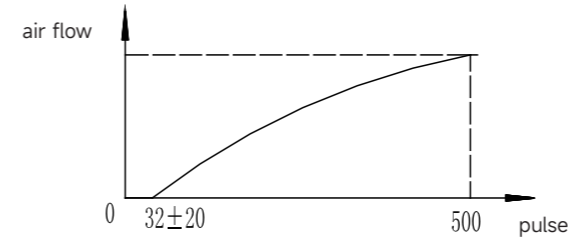
Action sequence: 1→2→3→4→5→6→7→8 Open the valve
 8→7→6→5→4→3→2→1 Close the valve

MODEL SELECTION

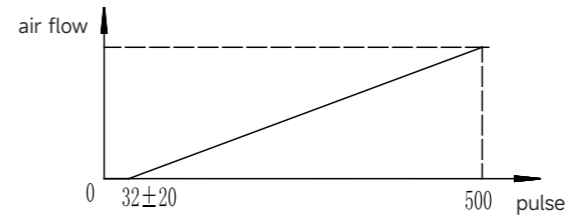
| Product series | Full open steps | Diameter [mm] | Kv ²¹ [m³/h] | Nominal capacity [KW] ¹⁾ | | | | | Max. working pressure [MPa] | Max. working pressure difference [MPa] | Reverse valve opening pressure difference [MPa] |
|----------------|-----------------|------------------|----------------------------|-------------------------------------|-------|---------------------|------------|---------------------|--------------------------------|---|--|
| | | | | R22 | R134a | R407C ¹⁾ | R404A/R507 | R410A ¹⁾ | | | |
| DPF-P01013 | 500 | 1.30 | 0.06 | 4.36 | 3.40 | 4.46 | 3.08 | 5.12 | 4.2 | 3.2 | ≥1.47 |
| DPF-P01016 | 500 | 1.65 | 0.08 | 8.01 | 6.26 | 8.22 | 5.65 | 9.42 | 4.2 | 3.2 | ≥1.47 |
| DPF-P01018 | 500 | 1.80 | 0.10 | 9.11 | 7.10 | 9.32 | 6.44 | 10.70 | 4.2 | 3.2 | ≥1.47 |
| DPF-P01020 | 500 | 2.00 | 0.16 | 11.25 | 8.77 | 11.51 | 7.95 | 13.21 | 4.2 | 2.8 | ≥1.47 |
| DPF-P01022 | 500 | 2.20 | 0.20 | 13.61 | 10.61 | 13.92 | 9.61 | 15.98 | 4.2 | 2.8 | ≥1.47 |
| DPF-P01024 | 500 | 2.40 | 0.23 | 16.20 | 12.63 | 16.57 | 11.44 | 19.02 | 4.2 | 2.8 | ≥1.47 |
| DPF-PT030 | 500 | 3.00 | 0.39 | 20.20 | 15.78 | 20.76 | 14.24 | 23.77 | 4.2 | 2.8 | ≥1.47 |
| DPF-PT032 | 500 | 3.20 | 0.43 | 27.85 | 21.76 | 28.62 | 19.63 | 32.78 | 4.2 | 2.8 | ≥1.47 |
| DPF-P03040 | 500 | 6.50 | 0.50 | 40.37 | 31.54 | 41.49 | 28.45 | 47.52 | 4.2 | 4.2 | ≥3.5 |
| DPF-P03045 | 500 | 6.50 | 0.70 | 50.48 | 39.44 | 51.88 | 35.58 | 59.42 | 4.2 | 4.2 | ≥3.5 |
| DPF-P03055 | 500 | 6.50 | 0.80 | 67.30 | 52.58 | 69.16 | 47.44 | 79.21 | 4.2 | 4.2 | ≥3.5 |
| DPF-P03065 | 500 | 6.50 | 1.10 | 100.96 | 78.88 | 103.75 | 71.16 | 118.83 | 4.2 | 4.2 | ≥3.5 |
| DPF-P02030 | 500 | 3.0 | 0.39 | 20.2 | 15.78 | 20.76 | 14.24 | 23.77 | 4.2 | 2.8 | ≥1.47 |
| DPF-P02032 | 500 | 3.20 | 0.43 | 27.85 | 21.76 | 28.62 | 19.63 | 32.78 | 4.2 | 2.8 | ≥1.47 |
| DPF-RL2030 | 1000 | 3.0 | 0.39 | 20.2 | 15.78 | 20.76 | 14.24 | 23.77 | 4.2 | 2.8 | ≥1.47 |
| DPF-RL2032 | 1000 | 3.20 | 0.43 | 27.85 | 21.76 | 28.62 | 19.63 | 32.78 | 4.2 | 2.8 | ≥1.47 |
| DPF-RL3040 | 1000 | 6.50 | 0.5 | 40.37 | 31.54 | 41.49 | 28.45 | 47.52 | 4.2 | 4.2 | ≥3.5 |
| DPF-RL3045 | 1000 | 6.50 | 0.7 | 50.48 | 39.44 | 51.88 | 35.58 | 59.42 | 4.2 | 4.2 | ≥3.5 |
| DPF-RL3055 | 1000 | 6.50 | 0.8 | 67.3 | 52.58 | 69.16 | 47.44 | 79.21 | 4.2 | 4.2 | ≥3.5 |
| DPF-RL3065 | 1000 | 6.50 | 1.1 | 100.96 | 78.88 | 103.75 | 71.16 | 118.83 | 4.2 | 4.2 | ≥3.5 |

Nominal condition:
 • Rated capacity is based on: R407C condensing temperature: +38°C; evaporating temperature: +5°C; super cooling degree: 0 K; super heat degree: 0 K;
 • Kv value: the pressure difference based on the two sides between water with density 1T/m3 and the valve is equal to the positive flow capacity at 100Kpa.

SCHEMATIC PIC. OF FLOW CURVE



DPF-P01010~P01024 DPF-PT028~PT032



DPF-P03040~P03065

Note: the flow curve can be customized according to requirement.

| RATED CAPACITY (KW) | | | | | | | | | | | | | | | |
|---------------------|-----------------------------|------------------------------|------|------|------|------|------|------|------------------------------|------|------|-------|-------|-------|-------|
| | Condensing temperature [°C] | DPF-P01013 | | | | | | | DPF-P01016 | | | | | | |
| | | Evaporating temperature [°C] | | | | | | | Evaporating temperature [°C] | | | | | | |
| | | 10 | 5 | 0 | -5 | -10 | -20 | -30 | 10 | 5 | 0 | -5 | -10 | -20 | -30 |
| R410A | 30 | 4.38 | 4.73 | 5.02 | 5.24 | 5.41 | 5.63 | 5.71 | 8.06 | 8.72 | 9.25 | 9.65 | 9.96 | 10.36 | 10.51 |
| | 35 | 4.72 | 5.00 | 5.22 | 5.41 | 5.54 | 5.70 | 5.73 | 8.68 | 9.21 | 9.63 | 9.95 | 10.20 | 10.49 | 10.56 |
| | 38 | 4.87 | 5.12 | 5.31 | 5.46 | 5.58 | 5.70 | 5.73 | 8.95 | 9.42 | 9.78 | 10.06 | 10.26 | 10.50 | 10.54 |
| | 40 | 4.93 | 5.17 | 5.36 | 5.49 | 5.59 | 5.70 | 5.70 | 9.10 | 9.53 | 9.86 | 10.11 | 10.29 | 10.49 | 10.50 |
| | 45 | 5.07 | 5.26 | 5.39 | 5.49 | 5.58 | 5.63 | 5.61 | 9.33 | 9.68 | 9.93 | 10.13 | 10.26 | 10.38 | 10.32 |
| | 50 | 5.10 | 5.24 | 5.36 | 5.42 | 5.48 | 5.49 | 5.42 | 9.39 | 9.65 | 9.85 | 9.99 | 10.07 | 10.11 | 10.00 |
| R407C | 30 | 3.79 | 4.06 | 4.28 | 4.43 | 4.55 | 4.66 | 4.66 | 6.96 | 7.47 | 7.86 | 8.15 | 8.36 | 8.57 | 8.60 |
| | 35 | 4.12 | 4.65 | 4.50 | 4.61 | 4.70 | 4.77 | 4.75 | 7.58 | 7.99 | 8.28 | 8.50 | 8.64 | 8.76 | 8.74 |
| | 38 | 4.28 | 4.46 | 4.60 | 4.70 | 4.77 | 4.80 | 4.77 | 7.88 | 8.22 | 8.47 | 8.65 | 8.76 | 8.85 | 8.78 |
| | 40 | 4.38 | 4.55 | 4.66 | 4.75 | 4.80 | 4.83 | 4.77 | 8.06 | 8.36 | 8.58 | 8.74 | 8.83 | 8.89 | 8.79 |
| | 45 | 4.56 | 4.68 | 4.77 | 4.83 | 4.85 | 4.85 | 4.77 | 8.39 | 8.63 | 8.79 | 8.89 | 8.95 | 8.92 | 8.76 |
| | 50 | 4.68 | 4.77 | 4.82 | 4.85 | 4.87 | 4.82 | 4.70 | 8.46 | 8.78 | 8.88 | 8.93 | 8.95 | 8.86 | 8.65 |
| R22 | 30 | 3.63 | 3.92 | 4.14 | 4.31 | 4.44 | 4.61 | 4.68 | 6.68 | 7.21 | 7.63 | 7.95 | 8.18 | 8.49 | 8.61 |
| | 35 | 3.97 | 4.21 | 4.39 | 4.53 | 4.63 | 4.75 | 4.78 | 7.32 | 7.75 | 8.08 | 8.33 | 8.53 | 8.75 | 8.81 |
| | 38 | 4.14 | 4.36 | 4.51 | 4.63 | 4.72 | 4.82 | 4.83 | 7.64 | 8.01 | 8.31 | 8.53 | 8.70 | 8.88 | 8.90 |
| | 40 | 4.26 | 4.44 | 4.58 | 4.70 | 4.77 | 4.85 | 4.87 | 7.82 | 8.17 | 8.43 | 8.64 | 8.78 | 8.93 | 8.95 |
| | 45 | 4.46 | 4.61 | 4.73 | 4.82 | 4.87 | 4.92 | 4.90 | 8.22 | 8.50 | 8.71 | 8.86 | 8.97 | 9.06 | 9.03 |
| | 50 | 4.63 | 4.75 | 4.83 | 4.90 | 4.93 | 4.95 | 4.90 | 8.53 | 8.74 | 8.90 | 9.01 | 9.08 | 9.11 | 9.04 |
| R134a | 30 | 2.89 | 3.08 | 3.23 | 3.33 | 3.40 | 3.45 | 3.41 | 5.31 | 5.67 | 5.93 | 6.11 | 6.24 | 6.33 | 6.29 |
| | 35 | 3.14 | 3.30 | 3.40 | 3.46 | 3.52 | 3.53 | 3.46 | 5.79 | 6.07 | 6.26 | 6.39 | 6.46 | 6.49 | 6.39 |
| | 38 | 3.28 | 3.40 | 3.48 | 3.53 | 3.57 | 3.57 | 3.50 | 6.04 | 6.26 | 6.42 | 6.51 | 6.57 | 6.56 | 6.43 |
| | 40 | 3.35 | 3.46 | 3.53 | 3.58 | 3.60 | 3.58 | 3.50 | 6.18 | 6.38 | 6.51 | 6.58 | 6.63 | 6.58 | 6.45 |
| | 45 | 3.52 | 3.58 | 3.63 | 3.65 | 3.65 | 3.60 | 3.50 | 6.46 | 6.60 | 6.68 | 6.72 | 6.72 | 6.63 | 6.43 |
| | 50 | 3.62 | 3.67 | 3.68 | 3.68 | 3.67 | 3.58 | 3.46 | 6.65 | 6.74 | 6.78 | 6.78 | 6.75 | 6.60 | 6.38 |
| R404A | 30 | 2.70 | 2.89 | 3.04 | 3.13 | 3.19 | 3.24 | 3.21 | 4.97 | 5.33 | 5.58 | 5.76 | 5.89 | 5.97 | 5.90 |
| | 35 | 2.89 | 3.03 | 3.13 | 3.19 | 3.23 | 3.23 | 3.18 | 5.32 | 5.57 | 5.76 | 5.88 | 5.95 | 5.96 | 5.83 |
| | 38 | 2.96 | 3.08 | 3.14 | 3.19 | 3.21 | 3.19 | 3.11 | 5.43 | 5.65 | 5.79 | 5.88 | 5.92 | 5.89 | 5.74 |
| | 40 | 2.97 | 3.08 | 3.14 | 3.18 | 3.19 | 3.16 | 3.06 | 5.47 | 5.67 | 5.78 | 5.85 | 5.88 | 5.82 | 5.64 |
| | 45 | 3.01 | 3.08 | 3.11 | 3.13 | 3.11 | 3.04 | 2.92 | 5.53 | 5.65 | 5.72 | 5.74 | 5.72 | 5.61 | 5.39 |
| | 50 | 2.96 | 2.99 | 3.01 | 2.99 | 2.97 | 2.87 | 2.72 | 5.45 | 5.51 | 5.53 | 5.51 | 5.46 | 5.29 | 5.01 |

| RATED CAPACITY (KW) | | | | | | | | | | | | | | | |
|---------------------|-----------------------------|------------------------------|-------|-------|-------|-------|-------|-------|------------------------------|-------|-------|-------|-------|-------|-------|
| | Condensing temperature [°C] | DPF-P01018 | | | | | | | DPF-P01020 | | | | | | |
| | | Evaporating temperature [°C] | | | | | | | Evaporating temperature [°C] | | | | | | |
| | | 10 | 5 | 0 | -5 | -10 | -20 | -30 | 10 | 5 | 0 | -5 | -10 | -20 | -30 |
| R410A | 30 | 9.15 | 9.88 | 10.49 | 10.95 | 11.31 | 11.77 | 11.93 | 11.30 | 12.20 | 12.95 | 13.52 | 13.96 | 14.52 | 14.73 |
| | 35 | 9.86 | 10.45 | 10.91 | 11.31 | 11.58 | 11.91 | 11.97 | 12.18 | 12.90 | 13.47 | 13.96 | 14.29 | 14.71 | 14.78 |
| | 38 | 10.18 | 10.70 | 11.10 | 11.41 | 11.66 | 11.91 | 11.97 | 12.56 | 13.21 | 13.70 | 14.09 | 14.40 | 14.71 | 14.78 |
| | 40 | 10.30 | 10.80 | 11.20 | 11.47 | 11.68 | 11.91 | 11.91 | 12.72 | 13.34 | 13.83 | 14.16 | 14.42 | 14.71 | 14.71 |
| | 45 | 10.59 | 10.99 | 11.26 | 11.47 | 11.66 | 11.77 | 11.72 | 13.08 | 13.57 | 13.91 | 14.16 | 14.40 | 14.52 | 14.47 |
| | 50 | 10.66 | 10.95 | 11.20 | 11.33 | 11.45 | 11.47 | 11.33 | 13.16 | 13.52 | 13.83 | 13.98 | 14.14 | 14.16 | 13.98 |
| R407C | 30 | 7.92 | 8.48 | 8.94 | 9.26 | 9.51 | 9.74 | 9.74 | 9.78 | 10.47 | 11.04 | 11.43 | 11.74 | 12.02 | 12.02 |
| | 35 | 8.61 | 9.72 | 9.40 | 9.63 | 9.82 | 9.97 | 9.93 | 10.63 | 12.00 | 11.61 | 11.89 | 12.13 | 12.31 | 12.25 |
| | 38 | 8.94 | 9.32 | 9.61 | 9.82 | 9.97 | 10.03 | 9.97 | 11.04 | 11.51 | 11.87 | 12.13 | 12.31 | 12.38 | 12.31 |
| | 40 | 9.15 | 9.51 | 9.74 | 9.93 | 10.03 | 10.09 | 9.97 | 11.30 | 11.74 | 12.02 | 12.25 | 12.38 | 12.46 | 12.31 |
| | 45 | 9.53 | 9.78 | 9.97 | 10.09 | 10.14 | 10.14 | 9.97 | 11.76 | 12.07 | 12.31 | 12.46 | 12.51 | 12.51 | 12.31 |
| | 50 | 9.78 | 9.97 | 10.07 | 10.14 | 10.18 | 10.07 | 9.82 | 12.07 | 12.31 | 12.44 | 12.51 | 12.56 | 12.44 | 12.13 |
| R22 | 30 | 7.59 | 8.19 | 8.65 | 9.01 | 9.28 | 9.63 | 9.78 | 9.36 | 10.11 | 10.68 | 11.12 | 11.45 | 11.89 | 12.07 |
| | 35 | 8.30 | 8.80 | 9.17 | 9.47 | 9.68 | 9.93 | 9.99 | 10.24 | 10.86 | 11.33 | 11.69 | 11.94 | 12.25 | 12.33 |
| | 38 | 8.65 | 9.11 | 9.42 | 9.68 | 9.86 | 10.07 | 10.09 | 10.68 | 11.25 | 11.64 | 11.94 | 12.18 | 12.44 | 12.46 |
| | 40 | 8.90 | 9.28 | 9.57 | 9.82 | 9.97 | 10.14 | 10.18 | 10.99 | 11.45 | 11.82 | 12.13 | 12.31 | 12.51 | 12.56 |
| | 45 | 9.32 | 9.63 | 9.88 | 10.07 | 10.18 | 10.28 | 10.24 | 11.51 | 11.89 | 12.20 | 12.44 | 12.56 | 12.69 | 12.64 |
| | 50 | 9.68 | 9.93 | 10.09 | 10.24 | 10.30 | 10.34 | 10.24 | 11.94 | 12.25 | 12.46 | 12.64 | 12.72 | 12.77 | 12.64 |
| R134a | 30 | 6.04 | 6.44 | 6.75 | 6.96 | 7.10 | 7.21 | 7.13 | 7.46 | 7.95 | 8.33 | 8.59 | 8.77 | 8.90 | 8.80 |
| | 35 | 6.56 | 6.90 | 7.10 | 7.23 | 7.36 | 7.38 | 7.23 | 8.10 | 8.51 | 8.77 | 8.93 | 9.08 | 9.11 | 8.93 |
| | 38 | 6.85 | 7.10 | 7.27 | 7.38 | 7.46 | 7.46 | 7.31 | 8.46 | 8.77 | 8.98 | 9.11 | 9.21 | 9.21 | 9.03 |
| | 40 | 7.00 | 7.23 | 7.38 | 7.48 | 7.52 | 7.48 | 7.31 | 8.64 | 8.93 | 9.11 | 9.24 | 9.29 | 9.24 | 9.03 |
| | 45 | 7.36 | 7.48 | 7.59 | 7.63 | 7.63 | 7.52 | 7.31 | 9.08 | 9.24 | 9.36 | 9.42 | 9.42 | 9.29 | 9.03 |
| | 50 | 7.56 | 7.67 | 7.69 | 7.69 | 7.67 | 7.48 | 7.23 | 9.34 | 9.47 | 9.49 | 9.49 | 9.47 | 9.24 | 8.93 |
| R404A | 30 | 5.64 | 6.04 | 6.35 | 6.54 | 6.67 | 6.77 | 6.71 | 6.97 | 7.46 | 7.84 | 8.08 | 8.23 | 8.36 | 8.28 |
| | 35 | 6.04 | 6.33 | 6.54 | 6.67 | 6.75 | 6.75 | 6.65 | 7.46 | 7.82 | 8.08 | 8.23 | 8.33 | 8.33 | 8.20 |
| | 38 | 6.19 | 6.44 | 6.56 | 6.67 | 6.71 | 6.67 | 6.50 | 7.64 | 7.95 | 8.10 | 8.23 | 8.28 | 8.23 | 8.02 |
| | 40 | 6.21 | 6.44 | 6.56 | 6.65 | 6.67 | 6.60 | 6.39 | 7.66 | 7.95 | 8.10 | 8.20 | 8.23 | 8.15 | 7.89 |
| | 45 | 6.29 | 6.44 | 6.50 | 6.54 | 6.50 | 6.35 | 6.10 | 7.77 | 7.95 | 8.02 | 8.08 | 8.02 | 7.84 | 7.53 |
| | 50 | 6.19 | 6.25 | 6.29 | 6.25 | 6.21 | 6.00 | 5.68 | 7.64 | 7.71 | 7.77 | 7.71 | 7.66 | 7.40 | 7.02 |

| RATED CAPACITY (KW) | | | | | | | | | | | | | | | | |
|---------------------|-----------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-----------------------------|-------|-------|-------|-------|-------|-------|--|
| | Condensing temperature [°C] | DPF-P01022 | | | | | | | DPF-P01024 | | | | | | | |
| | | Evaporating temperature[°C] | | | | | | | Evaporating temperature[°C] | | | | | | | |
| | | 10 | 5 | 0 | -5 | -10 | -20 | -30 | 10 | 5 | 0 | -5 | -10 | -20 | -30 | |
| R410A | 30 | 13.67 | 14.77 | 15.67 | 16.36 | 16.89 | 17.57 | 17.82 | 16.27 | 17.57 | 18.65 | 19.47 | 20.10 | 20.92 | 21.21 | |
| | 35 | 14.73 | 15.61 | 16.30 | 16.89 | 17.29 | 17.79 | 17.89 | 17.53 | 18.58 | 19.39 | 20.10 | 20.58 | 21.18 | 21.29 | |
| | 38 | 15.20 | 15.98 | 16.58 | 17.04 | 17.42 | 17.79 | 17.89 | 18.09 | 19.02 | 19.73 | 20.28 | 20.73 | 21.18 | 21.29 | |
| | 40 | 15.39 | 16.14 | 16.73 | 17.14 | 17.45 | 17.79 | 17.79 | 18.32 | 19.21 | 19.91 | 20.40 | 20.77 | 21.18 | 21.18 | |
| | 45 | 15.83 | 16.42 | 16.83 | 17.14 | 17.42 | 17.57 | 17.51 | 18.84 | 19.54 | 20.02 | 20.40 | 20.73 | 20.92 | 20.84 | |
| | 50 | 15.92 | 16.36 | 16.73 | 16.92 | 17.11 | 17.14 | 16.92 | 18.95 | 19.47 | 19.91 | 20.14 | 20.36 | 20.40 | 20.14 | |
| R407C | 30 | 11.83 | 12.67 | 13.36 | 13.83 | 14.20 | 14.55 | 14.55 | 14.08 | 15.08 | 15.90 | 16.46 | 16.90 | 17.31 | 17.31 | |
| | 35 | 12.86 | 14.52 | 14.05 | 14.39 | 14.67 | 14.89 | 14.83 | 15.31 | 17.27 | 16.72 | 17.13 | 17.46 | 17.72 | 17.65 | |
| | 38 | 13.36 | 13.92 | 14.36 | 14.67 | 14.89 | 14.98 | 14.89 | 15.90 | 16.57 | 17.09 | 17.46 | 17.72 | 17.83 | 17.72 | |
| | 40 | 13.67 | 14.20 | 14.55 | 14.83 | 14.98 | 15.08 | 14.89 | 16.27 | 16.90 | 17.31 | 17.65 | 17.83 | 17.94 | 17.72 | |
| | 45 | 14.23 | 14.61 | 14.89 | 15.08 | 15.14 | 15.14 | 14.89 | 16.94 | 17.39 | 17.72 | 17.94 | 18.02 | 18.02 | 17.72 | |
| | 50 | 14.61 | 14.89 | 15.05 | 15.14 | 15.20 | 15.05 | 14.67 | 17.39 | 17.72 | 17.91 | 18.02 | 18.09 | 17.91 | 17.46 | |
| R22 | 30 | 11.33 | 12.24 | 12.92 | 13.45 | 13.86 | 14.39 | 14.61 | 13.49 | 14.56 | 15.38 | 16.01 | 16.49 | 17.13 | 17.39 | |
| | 35 | 12.39 | 13.14 | 13.70 | 14.14 | 14.45 | 14.83 | 14.92 | 14.75 | 15.64 | 16.31 | 16.83 | 17.20 | 17.65 | 17.76 | |
| | 38 | 12.92 | 13.61 | 14.08 | 14.45 | 14.73 | 15.05 | 15.08 | 15.38 | 16.20 | 16.75 | 17.20 | 17.53 | 17.91 | 17.94 | |
| | 40 | 13.30 | 13.86 | 14.30 | 14.67 | 14.89 | 15.14 | 15.20 | 15.83 | 16.49 | 17.01 | 17.46 | 17.72 | 18.02 | 18.09 | |
| | 45 | 13.92 | 14.39 | 14.77 | 15.05 | 15.20 | 15.36 | 15.30 | 16.57 | 17.13 | 17.57 | 17.91 | 18.09 | 18.28 | 18.20 | |
| | 50 | 14.45 | 14.83 | 15.08 | 15.30 | 15.39 | 15.45 | 15.30 | 17.20 | 17.65 | 17.94 | 18.20 | 18.32 | 18.39 | 18.20 | |
| R134a | 30 | 9.02 | 9.61 | 10.08 | 10.40 | 10.61 | 10.77 | 10.64 | 10.74 | 11.44 | 12.00 | 12.37 | 12.63 | 12.82 | 12.67 | |
| | 35 | 9.80 | 10.30 | 10.61 | 10.80 | 10.99 | 11.02 | 10.80 | 11.67 | 12.26 | 12.63 | 12.85 | 13.08 | 13.11 | 12.85 | |
| | 38 | 10.24 | 10.61 | 10.86 | 11.02 | 11.14 | 11.14 | 10.93 | 12.19 | 12.63 | 12.93 | 13.11 | 13.26 | 13.26 | 13.00 | |
| | 40 | 10.46 | 10.80 | 11.02 | 11.18 | 11.24 | 11.18 | 10.93 | 12.45 | 12.85 | 13.11 | 13.30 | 13.37 | 13.30 | 13.00 | |
| | 45 | 10.99 | 11.18 | 11.33 | 11.39 | 11.39 | 11.24 | 10.93 | 13.08 | 13.30 | 13.49 | 13.56 | 13.56 | 13.37 | 13.00 | |
| | 50 | 11.30 | 11.46 | 11.49 | 11.49 | 11.46 | 11.18 | 10.80 | 13.45 | 13.63 | 13.67 | 13.67 | 13.63 | 13.30 | 12.85 | |
| R404A | 30 | 8.43 | 9.02 | 9.49 | 9.77 | 9.96 | 10.11 | 10.02 | 10.03 | 10.74 | 11.29 | 11.63 | 11.85 | 12.04 | 11.93 | |
| | 35 | 9.02 | 9.46 | 9.77 | 9.96 | 10.08 | 10.08 | 9.93 | 10.74 | 11.26 | 11.63 | 11.85 | 12.00 | 12.00 | 11.81 | |
| | 38 | 9.24 | 9.61 | 9.80 | 9.96 | 10.02 | 9.96 | 9.71 | 11.00 | 11.44 | 11.67 | 11.85 | 11.93 | 11.85 | 11.55 | |
| | 40 | 9.27 | 9.61 | 9.80 | 9.93 | 9.96 | 9.86 | 9.55 | 11.03 | 11.44 | 11.67 | 11.81 | 11.85 | 11.74 | 11.37 | |
| | 45 | 9.40 | 9.61 | 9.71 | 9.77 | 9.71 | 9.49 | 9.12 | 11.18 | 11.44 | 11.55 | 11.63 | 11.55 | 11.29 | 10.85 | |
| | 50 | 9.24 | 9.33 | 9.40 | 9.33 | 9.27 | 8.96 | 8.49 | 11.00 | 11.11 | 11.18 | 11.11 | 11.03 | 10.66 | 10.10 | |

| RATED CAPACITY (KW) | | | | | | | | | | | | | | | | |
|---------------------|-----------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------------------------|-------|-------|-------|-------|-------|-------|--|
| | Condensing temperature [°C] | DPF-PT030 | | | | | | | DPF-PT032 | | | | | | | |
| | | Evaporating temperature[°C] | | | | | | | Evaporating temperature | | | | | | | |
| | | 10 | 5 | 0 | -5 | -10 | -20 | -30 | 10 | 5 | 0 | -5 | -10 | -20 | -30 | |
| R410A | 30 | 20.33 | 22.02 | 23.35 | 24.33 | 25.18 | 26.16 | 26.51 | 28.04 | 30.36 | 32.20 | 33.55 | 34.72 | 36.07 | 36.55 | |
| | 35 | 21.88 | 23.21 | 24.33 | 25.11 | 25.74 | 26.44 | 26.65 | 30.17 | 32.01 | 33.55 | 34.62 | 35.49 | 36.46 | 36.75 | |
| | 38 | 22.58 | 23.77 | 24.69 | 25.39 | 25.95 | 26.51 | 26.58 | 31.14 | 32.78 | 34.04 | 35.01 | 35.78 | 36.55 | 36.65 | |
| | 40 | 23.00 | 24.06 | 24.90 | 25.53 | 26.02 | 26.51 | 26.51 | 31.72 | 33.17 | 34.33 | 35.20 | 35.88 | 36.55 | 36.55 | |
| | 45 | 23.56 | 24.40 | 25.11 | 25.60 | 25.88 | 26.16 | 26.02 | 32.49 | 33.65 | 34.62 | 35.30 | 35.68 | 36.07 | 35.88 | |
| | 50 | 23.70 | 24.33 | 24.90 | 25.18 | 25.45 | 25.53 | 25.24 | 32.68 | 33.55 | 34.33 | 34.72 | 35.10 | 35.20 | 34.81 | |
| R407C | 30 | 17.54 | 18.86 | 19.85 | 20.55 | 21.04 | 21.60 | 21.67 | 24.18 | 26.01 | 27.37 | 28.33 | 29.01 | 29.78 | 29.88 | |
| | 35 | 19.15 | 20.12 | 20.90 | 21.39 | 21.81 | 22.09 | 22.02 | 26.40 | 27.75 | 28.82 | 29.49 | 30.07 | 30.46 | 30.36 | |
| | 38 | 19.85 | 20.76 | 21.39 | 21.81 | 22.09 | 22.30 | 22.09 | 27.37 | 28.62 | 29.49 | 30.07 | 30.46 | 30.75 | 30.46 | |
| | 40 | 20.27 | 21.11 | 21.67 | 22.02 | 22.30 | 22.37 | 22.16 | 27.95 | 29.11 | 29.88 | 30.36 | 30.75 | 30.85 | 30.56 | |
| | 45 | 21.18 | 21.74 | 22.16 | 22.44 | 22.51 | 22.51 | 22.09 | 29.20 | 29.98 | 30.56 | 30.94 | 31.04 | 31.04 | 30.46 | |
| | 50 | 21.67 | 22.09 | 22.37 | 22.51 | 22.58 | 22.30 | 21.81 | 29.88 | 30.46 | 30.85 | 31.04 | 31.14 | 30.75 | 30.07 | |
| R22 | 30 | 16.83 | 18.23 | 19.28 | 20.06 | 20.69 | 21.46 | 21.74 | 23.21 | 25.14 | 26.59 | 27.66 | 28.53 | 29.59 | 29.98 | |
| | 35 | 18.44 | 19.57 | 20.41 | 21.04 | 21.53 | 22.09 | 22.23 | 25.43 | 26.98 | 28.14 | 29.01 | 29.69 | 30.46 | 30.65 | |
| | 38 | 19.28 | 20.20 | 20.97 | 21.53 | 21.95 | 22.37 | 22.44 | 26.59 | 27.85 | 28.91 | 29.69 | 30.27 | 30.85 | 30.94 | |
| | 40 | 19.78 | 20.62 | 21.32 | 21.81 | 22.16 | 22.58 | 22.58 | 27.27 | 28.43 | 29.40 | 30.07 | 30.56 | 31.14 | 31.14 | |
| | 45 | 20.76 | 21.46 | 22.02 | 22.37 | 22.65 | 22.86 | 22.79 | 28.62 | 29.59 | 30.36 | 30.85 | 31.23 | 31.52 | 31.43 | |
| | 50 | 21.53 | 22.09 | 22.44 | 22.79 | 22.93 | 23.00 | 22.79 | 29.69 | 30.46 | 30.94 | 31.43 | 31.62 | 31.72 | 31.43 | |
| R134a | 30 | 13.39 | 14.31 | 15.00 | 15.43 | 15.78 | 15.99 | 15.85 | 18.47 | 19.73 | 20.69 | 21.27 | 21.76 | 22.05 | 21.85 | |
| | 35 | 14.66 | 15.36 | 15.78 | 16.13 | 16.34 | 16.41 | 16.13 | 20.21 | 21.18 | 21.76 | 22.24 | 22.53 | 22.63 | 22.24 | |
| | 38 | 15.21 | 15.78 | 16.20 | 16.48 | 16.55 | 16.55 | 16.20 | 20.98 | 21.76 | 22.34 | 22.72 | 22.82 | 22.82 | 22.34 | |
| | 40 | 15.57 | 16.06 | 16.41 | 16.62 | 16.69 | 16.55 | 16.27 | 21.47 | 22.14 | 22.63 | 22.92 | 23.01 | 22.82 | 22.43 | |
| | 45 | 16.34 | 16.69 | 16.90 | 16.97 | 16.97 | 16.69 | 16.27 | 22.53 | 23.01 | 23.30 | 23.40 | 23.40 | 23.01 | 22.43 | |
| | 50 | 16.83 | 17.04 | 17.11 | 17.11 | 17.04 | 16.69 | 16.06 | 23.21 | 23.50 | 23.59 | 23.59 | 23.50 | 23.01 | 22.14 | |
| R404A | 30 | 12.55 | 13.47 | 14.10 | 14.58 | 14.87 | 15.08 | 14.94 | 17.31 | 18.57 | 19.44 | 20.11 | 20.50 | 20.79 | 20.60 | |
| | 35 | 13.39 | 14.10 | 14.52 | 14.87 | 15.00 | 15.00 | 14.73 | 18.47 | 19.44 | 20.02 | 20.50 | 20.69 | 20.69 | 20.31 | |
| | 38 | 13.74 | 14.24 | 14.66 | 14.87 | 14.94 | 14.87 | 14.52 | 18.95 | 19.63 | 20.21 | 20.50 | 20.60 | 20.50 | 20.02 | |
| | 40 | 13.82 | 14.31 | 14.58 | 14.79 | 14.79 | 14.66 | 14.24 | 19.05 | 19.73 | 20.11 | 20.40 | 20.40 | 20.21 | 19.63 | |
| | 45 | 13.95 | 14.16 | 14.45 | 14.52 | 14.45 | 14.16 | 13.60 | 19.24 | 19.53 | 19.92 | 20.02 | 19.92 | 19.53 | 18.76 | |
| | 50 | 13.74 | 13.89 | 13.95 | 13.89 | 13.82 | 13.32 | 12.69 | 18.95 | 19.15 | 19.24 | 19.15 | 19.05 | 18.37 | 17.50 | |

| RATED CAPACITY (KW) | | | | | | | | | | | | | | | |
|---------------------|-----------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-----------------------------|-------|-------|-------|-------|-------|-------|
| | Condensing temperature [°C] | DPF-P03040 | | | | | | | DPF-P03045 | | | | | | |
| | | Evaporating temperature[°C] | | | | | | | Evaporating temperature[°C] | | | | | | |
| | | 10 | 5 | 0 | -5 | -10 | -20 | -30 | 10 | 5 | 0 | -5 | -10 | -20 | -30 |
| R410A | 30 | 40.64 | 44.01 | 46.67 | 48.63 | 50.33 | 52.28 | 52.98 | 50.83 | 55.03 | 58.37 | 60.81 | 62.93 | 65.38 | 66.25 |
| | 35 | 43.73 | 46.40 | 48.63 | 50.18 | 51.44 | 52.85 | 53.27 | 54.69 | 58.02 | 60.81 | 62.75 | 64.33 | 66.09 | 66.61 |
| | 38 | 45.14 | 47.52 | 49.34 | 50.75 | 51.86 | 52.98 | 53.13 | 56.45 | 59.42 | 61.70 | 63.46 | 64.86 | 66.25 | 66.43 |
| | 40 | 45.98 | 48.08 | 49.76 | 51.02 | 52.01 | 52.98 | 52.98 | 57.50 | 60.13 | 62.23 | 63.80 | 65.04 | 66.25 | 66.25 |
| | 45 | 47.09 | 48.78 | 50.18 | 51.17 | 51.72 | 52.28 | 52.01 | 58.89 | 61.00 | 62.75 | 63.99 | 64.67 | 65.38 | 65.04 |
| | 50 | 47.37 | 48.63 | 49.76 | 50.33 | 50.88 | 51.02 | 50.46 | 59.24 | 60.81 | 62.23 | 62.93 | 63.62 | 63.80 | 63.10 |
| R407C | 30 | 35.05 | 37.70 | 39.67 | 41.06 | 42.05 | 43.17 | 43.31 | 43.83 | 47.15 | 49.61 | 51.35 | 52.58 | 53.98 | 54.16 |
| | 35 | 38.27 | 40.22 | 41.78 | 42.75 | 43.59 | 44.15 | 44.01 | 47.85 | 50.30 | 52.24 | 53.45 | 54.51 | 55.21 | 55.03 |
| | 38 | 39.67 | 41.49 | 42.75 | 43.59 | 44.15 | 44.57 | 44.15 | 49.61 | 51.88 | 53.45 | 54.51 | 55.21 | 55.74 | 55.21 |
| | 40 | 40.51 | 42.20 | 43.31 | 44.01 | 44.57 | 44.72 | 44.30 | 50.66 | 52.77 | 54.16 | 55.03 | 55.74 | 55.92 | 55.39 |
| | 45 | 42.33 | 43.46 | 44.30 | 44.85 | 44.99 | 44.99 | 44.15 | 52.93 | 54.34 | 55.39 | 56.08 | 56.26 | 56.26 | 55.21 |
| | 50 | 43.31 | 44.15 | 44.72 | 44.99 | 45.14 | 44.57 | 43.59 | 54.16 | 55.21 | 55.92 | 56.26 | 56.45 | 55.74 | 54.51 |
| R22 | 30 | 33.64 | 36.44 | 38.54 | 40.09 | 41.35 | 42.89 | 43.46 | 42.07 | 45.57 | 48.20 | 50.14 | 51.71 | 53.64 | 54.34 |
| | 35 | 36.86 | 39.11 | 40.79 | 42.05 | 43.04 | 44.15 | 44.43 | 46.10 | 48.90 | 51.01 | 52.58 | 53.82 | 55.21 | 55.56 |
| | 38 | 38.54 | 40.37 | 41.91 | 43.04 | 43.88 | 44.72 | 44.85 | 48.20 | 50.48 | 52.40 | 53.82 | 54.87 | 55.92 | 56.08 |
| | 40 | 39.53 | 41.21 | 42.62 | 43.59 | 44.30 | 45.14 | 45.14 | 49.43 | 51.53 | 53.29 | 54.51 | 55.39 | 56.45 | 56.45 |
| | 45 | 41.49 | 42.89 | 44.01 | 44.72 | 45.27 | 45.69 | 45.56 | 51.88 | 53.64 | 55.03 | 55.92 | 56.61 | 57.13 | 56.97 |
| | 50 | 43.04 | 44.15 | 44.85 | 45.56 | 45.83 | 45.98 | 45.56 | 53.82 | 55.21 | 56.08 | 56.97 | 57.32 | 57.50 | 56.97 |
| R134a | 30 | 26.77 | 28.60 | 29.99 | 30.83 | 31.54 | 31.96 | 31.67 | 33.48 | 35.76 | 37.50 | 38.55 | 39.44 | 39.97 | 39.61 |
| | 35 | 29.29 | 30.70 | 31.54 | 32.24 | 32.66 | 32.80 | 32.24 | 36.63 | 38.39 | 39.44 | 40.31 | 40.84 | 41.02 | 40.31 |
| | 38 | 30.41 | 31.54 | 32.38 | 32.93 | 33.08 | 33.08 | 32.38 | 38.03 | 39.44 | 40.49 | 41.18 | 41.36 | 41.36 | 40.49 |
| | 40 | 31.12 | 32.09 | 32.80 | 33.22 | 33.35 | 33.08 | 32.51 | 38.92 | 40.13 | 41.02 | 41.55 | 41.71 | 41.36 | 40.66 |
| | 45 | 32.66 | 33.35 | 33.77 | 33.92 | 33.92 | 33.35 | 32.51 | 40.84 | 41.71 | 42.23 | 42.42 | 42.42 | 41.71 | 40.66 |
| | 50 | 33.64 | 34.06 | 34.19 | 34.19 | 34.06 | 33.35 | 32.09 | 42.07 | 42.60 | 42.76 | 42.76 | 42.60 | 41.71 | 40.13 |
| R404A | 30 | 25.09 | 26.92 | 28.18 | 29.15 | 29.72 | 30.14 | 29.86 | 31.38 | 33.66 | 35.24 | 36.45 | 37.16 | 37.68 | 37.34 |
| | 35 | 26.77 | 28.18 | 29.02 | 29.72 | 29.99 | 29.99 | 29.44 | 33.48 | 35.24 | 36.29 | 37.16 | 37.50 | 37.50 | 36.81 |
| | 38 | 27.47 | 28.45 | 29.29 | 29.72 | 29.86 | 29.72 | 29.02 | 34.35 | 35.58 | 36.63 | 37.16 | 37.34 | 37.16 | 36.29 |
| | 40 | 27.61 | 28.60 | 29.15 | 29.57 | 29.57 | 29.29 | 28.45 | 34.53 | 35.76 | 36.45 | 36.98 | 36.98 | 36.63 | 35.58 |
| | 45 | 27.89 | 28.31 | 28.87 | 29.02 | 28.87 | 28.31 | 27.19 | 34.88 | 35.40 | 36.11 | 36.29 | 36.11 | 35.40 | 34.01 |
| | 50 | 27.47 | 27.76 | 27.89 | 27.76 | 27.61 | 26.63 | 25.37 | 34.35 | 34.71 | 34.88 | 34.71 | 34.53 | 33.30 | 31.72 |

| RATED CAPACITY (KW) | | | | | | | | | | | | | | | |
|---------------------|-----------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-----------------------------|--------|--------|--------|--------|--------|--------|
| | Condensing temperature [°C] | DPF-P03055 | | | | | | | DPF-P03065 | | | | | | |
| | | Evaporating temperature[°C] | | | | | | | Evaporating temperature[°C] | | | | | | |
| | | 10 | 5 | 0 | -5 | -10 | -20 | -30 | 10 | 5 | 0 | -5 | -10 | -20 | -30 |
| R410A | 30 | 67.76 | 73.37 | 77.81 | 81.07 | 83.90 | 87.16 | 88.32 | 101.65 | 110.06 | 116.73 | 121.62 | 125.86 | 130.76 | 132.50 |
| | 35 | 72.91 | 77.35 | 81.07 | 83.66 | 85.76 | 88.11 | 88.81 | 109.37 | 116.04 | 121.62 | 125.50 | 128.65 | 132.17 | 133.22 |
| | 38 | 75.25 | 79.21 | 82.26 | 84.60 | 86.46 | 88.32 | 88.57 | 112.88 | 118.83 | 123.40 | 126.91 | 129.71 | 132.50 | 132.86 |
| | 40 | 76.65 | 80.16 | 82.96 | 85.06 | 86.71 | 88.32 | 88.32 | 114.99 | 120.24 | 124.45 | 127.60 | 130.07 | 132.50 | 132.50 |
| | 45 | 78.51 | 81.32 | 83.66 | 85.30 | 86.22 | 87.16 | 86.71 | 117.78 | 121.98 | 125.50 | 127.97 | 129.34 | 130.76 | 130.07 |
| | 50 | 78.97 | 81.07 | 82.96 | 83.90 | 84.82 | 85.06 | 84.12 | 118.47 | 121.62 | 124.45 | 125.86 | 127.24 | 127.60 | 126.19 |
| R407C | 30 | 58.43 | 62.85 | 66.14 | 68.46 | 70.10 | 71.96 | 72.21 | 87.65 | 94.29 | 99.22 | 102.70 | 105.16 | 107.95 | 108.32 |
| | 35 | 63.80 | 67.06 | 69.64 | 71.26 | 72.67 | 73.61 | 73.37 | 95.70 | 100.60 | 104.47 | 106.90 | 109.01 | 110.42 | 110.06 |
| | 38 | 66.14 | 69.16 | 71.26 | 72.67 | 73.61 | 74.31 | 73.61 | 99.22 | 103.75 | 106.90 | 109.01 | 110.42 | 111.47 | 110.42 |
| | 40 | 67.54 | 70.35 | 72.21 | 73.37 | 74.31 | 74.55 | 73.85 | 101.32 | 105.53 | 108.32 | 110.06 | 111.47 | 111.83 | 110.78 |
| | 45 | 70.56 | 72.45 | 73.85 | 74.77 | 75.01 | 75.01 | 73.61 | 105.85 | 108.68 | 110.78 | 112.16 | 112.52 | 112.52 | 110.42 |
| | 50 | 72.21 | 73.61 | 74.55 | 75.01 | 75.25 | 74.31 | 72.67 | 108.32 | 110.42 | 111.83 | 112.52 | 112.88 | 111.47 | 109.01 |
| R22 | 30 | 56.09 | 60.75 | 64.26 | 66.84 | 68.94 | 71.51 | 72.45 | 84.14 | 91.13 | 96.39 | 100.27 | 103.42 | 107.27 | 108.68 |
| | 35 | 61.45 | 65.20 | 68.00 | 70.10 | 71.75 | 73.61 | 74.07 | 92.19 | 97.80 | 102.01 | 105.16 | 107.63 | 110.42 | 111.11 |
| | 38 | 64.26 | 67.30 | 69.86 | 71.75 | 73.15 | 74.55 | 74.77 | 96.39 | 100.96 | 104.80 | 107.63 | 109.73 | 111.83 | 112.16 |
| | 40 | 65.90 | 68.70 | 71.05 | 72.67 | 73.85 | 75.25 | 75.25 | 98.86 | 103.06 | 106.58 | 109.01 | 110.78 | 112.88 | 112.88 |
| | 45 | 69.16 | 71.51 | 73.37 | 74.55 | 75.47 | 76.17 | 75.95 | 103.75 | 107.27 | 110.06 | 111.83 | 113.21 | 114.26 | 113.94 |
| | 50 | 71.75 | 73.61 | 74.77 | 75.95 | 76.41 | 76.65 | 75.95 | 107.63 | 110.42 | 112.16 | 113.94 | 114.62 | 114.99 | 113.94 |
| R134a | 30 | 44.63 | 47.68 | 50.00 | 51.40 | 52.58 | 53.28 | 52.80 | 66.96 | 71.52 | 75.00 | 77.11 | 78.88 | 79.93 | 79.21 |
| | 35 | 48.84 | 51.18 | 52.58 | 53.74 | 54.44 | 54.69 | 53.74 | 73.26 | 76.78 | 78.88 | 80.62 | 81.67 | 82.04 | 80.62 |
| | 38 | 50.70 | 52.58 | 53.99 | 54.90 | 55.15 | 55.15 | 53.99 | 76.05 | 78.88 | 80.98 | 82.36 | 82.72 | 82.72 | 80.98 |
| | 40 | 51.88 | 53.50 | 54.69 | 55.39 | 55.60 | 55.15 | 54.20 | 77.83 | 80.26 | 82.04 | 83.09 | 83.41 | 82.72 | 81.31 |
| | 45 | 54.44 | 55.60 | 56.31 | 56.55 | 56.55 | 55.60 | 54.20 | 81.67 | 83.41 | 84.46 | 84.83 | 84.83 | 83.41 | 81.31 |
| | 50 | 56.09 | 56.79 | 57.01 | 57.01 | 56.79 | 55.60 | 53.50 | 84.14 | 85.19 | 85.52 | 85.52 | 85.19 | 83.41 | 80.26 |
| R404A | 30 | 41.83 | 44.88 | 46.98 | 48.60 | 49.54 | 50.24 | 49.78 | 62.75 | 67.32 | 70.47 | 72.90 | 74.31 | 75.37 | 74.68 |
| | 35 | 44.63 | 46.98 | 48.38 | 49.54 | 50.00 | 50.00 | 49.08 | 66.96 | 70.47 | 72.57 | 74.31 | 75.00 | 75.00 | 73.63 |
| | 38 | 45.79 | 47.44 | 48.84 | 49.54 | 49.78 | 49.54 | 48.38 | 68.70 | 71.16 | 73.26 | 74.31 | 74.68 | 74.31 | 72.57 |
| | 40 | 46.04 | 47.68 | 48.60 | 49.30 | 49.30 | 48.84 | 47.44 | 69.06 | 71.52 | 72.90 | 73.95 | 73.95 | 73.26 | 71.16 |
| | 45 | 46.49 | 47.19 | 48.14 | 48.38 | 48.14 | 47.19 | 45.33 | 69.75 | 70.80 | 72.21 | 72.57 | 72.21 | 70.80 | 68.01 |
| | 50 | 45.79 | 46.28 | 46.49 | 46.28 | 46.04 | 44.39 | 42.29 | 68.70 | 69.42 | 69.75 | 69.42 | 69.06 | 66.59 | 63.44 |

DPF SERIES ELECTRONIC EXPANSION VALVE CONTROLLER

DPF-K01 controller is used for super-heat control and unit control of DPF series electronic expansion valve, and suitable for the electronic expansion valve driven by 4 phase stepper motors and controlled by 4 phase 8 beat 1-2 phase excitation driving mode. Ensure the system to be operated within a safe range, improve the reliability of compressor and system.



Includes 1 pcs transformer, 1 pcs controller, and 1 pcs temperature sensor.

FEATURES

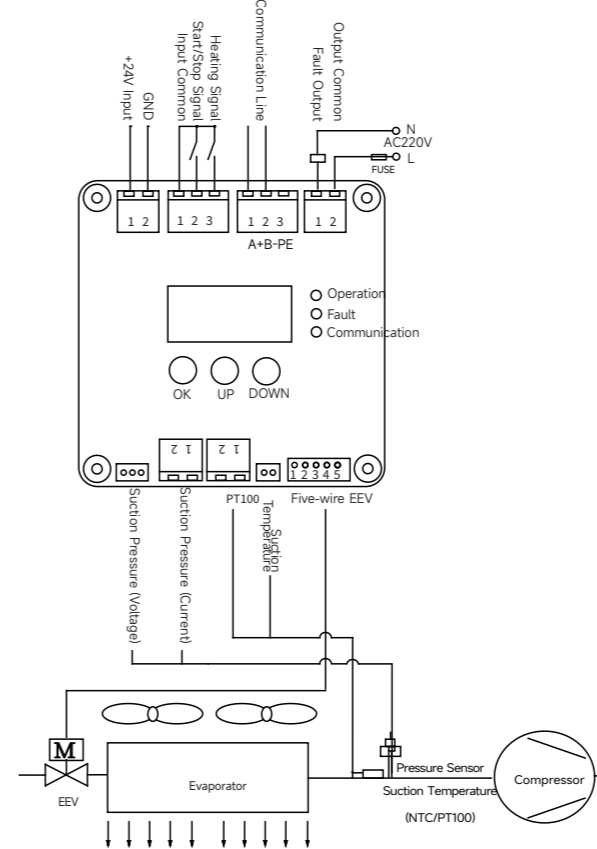
- Analyzes the system current running state by collecting temperature information of each part of the system, and uses fuzzy algorithms, and adopts self-adaptive control
- Fast response and action, precise adjustment
- The electronic expansion valve controller can be set according to the system parameters to adapt demands of different equipments and conditions
- Electronic expansion valve repair function: The electronic expansion valve opening will move back and forth between 0~110%, and with continuous appropriate force tapping, it can solve some valve sticking problems

TECHNICAL PARAMETERS

| | |
|-----------------------------------|--|
| Working environment: | -10°C~55°C, ≤85%RH non-condensation ≤95%RH |
| Input power: | DC 24V |
| Electronic expansion valve input: | 1 way, 5 wires/6 wires, 12V power supply, load coil current ≤0.4A |
| Temperature sensor input: | Temperature sensor input: 1 way NTC temperature probe, 1 way PT100 temperature probe |
| Pressure sensor input: | 2 passive signal inputs, do not connect to power supply, external load resistance ≤2KΩ |
| Switch input: | 2 ways, 4~20mA current type or 0~5V voltage type |
| Relay output: | 1 way relay, load capacity: 5A/220V |
| Communication interface: | 1 way, standard Modbus-RTU protocol interface |

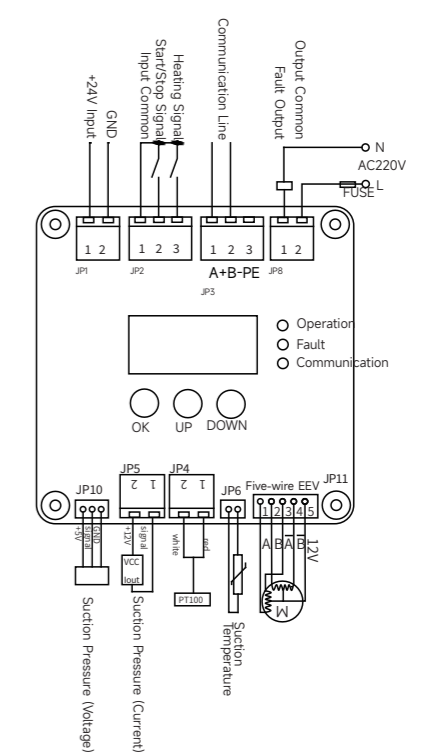
SYSTEM CONNECTION DIAGRAM

HS-DPF-K01 System Connection Diagram



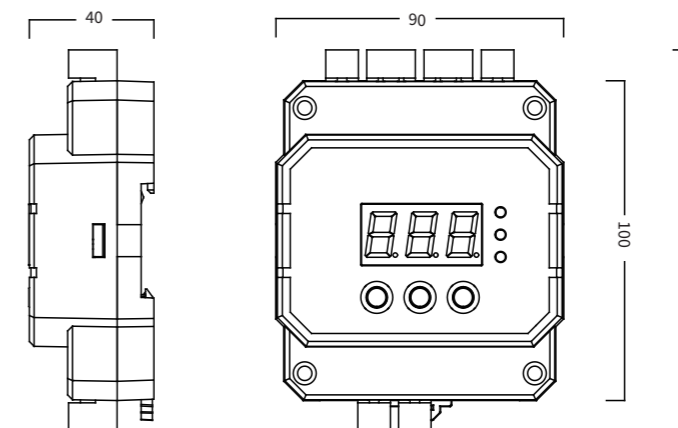
WIRING DIAGRAM

HS-DPF-K01 EEV Controller(5 wire)



- Note:
- This electrical connection diagram is for reference only.
 - For parameter P21 [whether to use low temperature], when set to "use", the suction temperature should be tested by PT100 probe.
 - For 3-wire PT100, connect the two red wires together.
 - JP6 can be customized: exhaust temperature.
 - JP8 can be customized: nozzle valve.

OVERALL DIMENSION



ELECTRONIC EXPANSION VALVE KIT

The electronic expansion valve kit is an intelligent throttling component for refrigeration systems, consisting of four parts: electronic expansion valve, pressure sensor, temperature sensor, and electronic expansion valve controller. This professional integrated product is widely used in commercial refrigeration, cold-chain transport, air-conditioning systems, heat-pump units, and other applications requiring precise superheat control. Through coordinated operation of sensors, controller, and actuator, the kit achieves high-precision, real-time adjustment of refrigerant flow, serving as a key component for energy efficiency and stable operation in modern refrigeration systems.

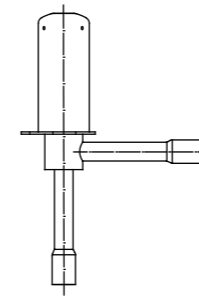


FEATURES

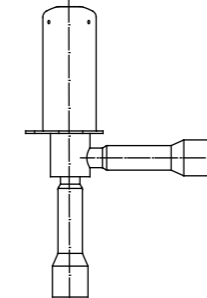
- Small size, light weight, stable and reliable performance
- Fast response and actuation speed
- Intelligent, supports RS485 and other communication protocols for remote monitoring and integration
- Modular design, some kits plug-and-play for easy installation and maintenance
- Strong adaptability, parameters can be adjusted to suit different equipment and working conditions

KIT

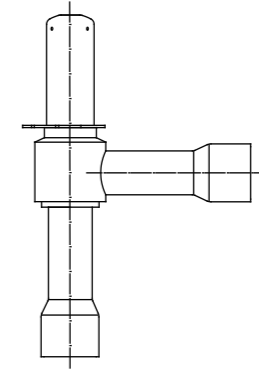
Electronic expansion valve and coil



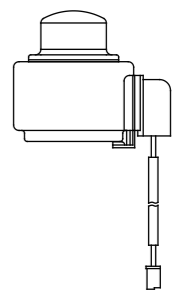
DPF-P01010-024



DPF-PT028-032

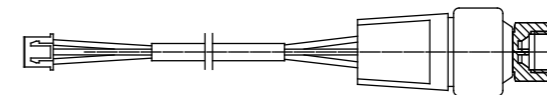


DPF-P03040-065

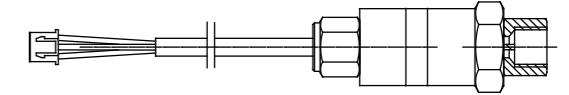


Coil

Pressure sensor

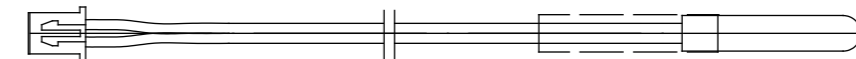


Voltage-signal pressure sensor

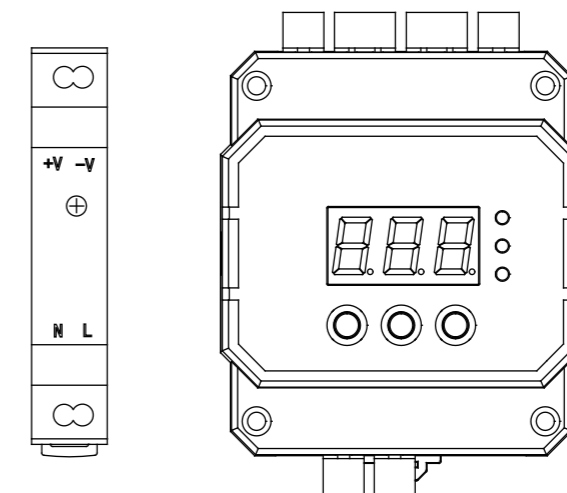


Current-signal pressure sensor

Temperature sensor



Controller



EC391 ELECTRONIC EXPANSION VALVE CONTROLLER

EC391 controller is suitable for medium/low temperature forced air cooling refrigeration system micro temperature controllers and unit controllers, using 4-phase 8-step 1-2 phase excitation drive method to precisely control refrigerant flow, improve system COP, and achieve rapid cooling and energy saving. For DPF series electronic expansion valve.



Includes 1 pcs transformer, 1 pcs controller, and 3 pcs temperature sensors.

FEATURES

- Integrated with fan control, defrost control, liquid supply valve control, expansion valve opening adjustment, etc., combining the functions of a refrigerator/freezer temperature controller
- Controls superheat through pressure corresponding to temperature, with small superheat fluctuation and more stable storage temperature
- Multiple built-in programs ensure precise electronic expansion valve control, ensuring safe and reliable operation of the refrigeration system
- Uses variable superheat algorithm control to make the refrigeration system more efficient
- Multiple temperature controllers can share one pressure value control, suitable for one host driving multiple cold fans or refrigerators, easy installation and commissioning
- Equipped with RS485 communication port, can be connected to an external network

TECHNICAL PARAMETERS

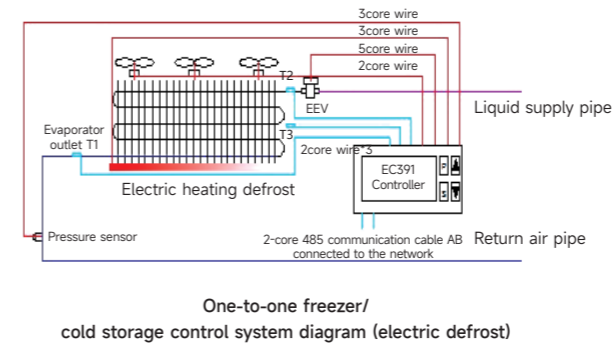
| | |
|-----------------------------|---|
| Length of sensor | 2 meters (including probe) |
| Temperature sensing element | NTC, NTC(R25°C=10K, B=3435) |
| Environment temperature | -10~45°C |
| Working humidity | 5~85%RH(no condensation) |
| Setting range | -45.0~50.0°C |
| Display range | -50.0~+150°C |
| Power voltage | 12VDC, 50/60Hz |
| Terminal wiring | lead wire no more than 2*1.5mm ² , or 1*2.5mm ² |
| Dimension of whole machine | length78 * width 34.5 * depth 82(mm) |
| Load current | 5A, 250Vac (resistive load) |
| Installing hole | length71 * width 29(mm) |
| Protection grade | IP65 (front panel) |
| Enclosure | PC+ABS Flame Retardant |

STRUCTURE

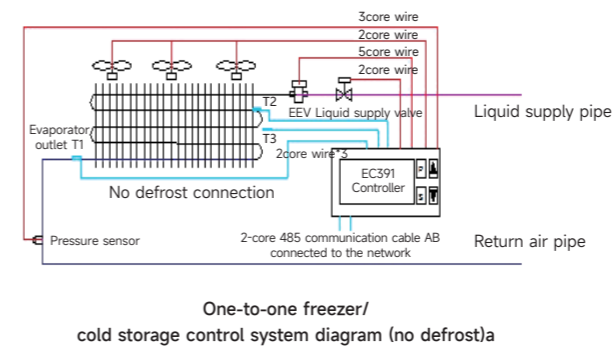
| | | | | |
|-------------|------------------|-----|-------------|------------|
| Public port | Auxiliary output | Fan | De-frosting | Compressor |
| 1 | 2 | 3 | 4 | 5 |
| COM | RO4 | RO3 | RO4 | RO1 |

| | | | | | | | | |
|---------|--------|--------|-----|-----|-----|-----------|-----|-----|
| 12DVC + | 485_1A | 485_1B | P1 | P2 | P3 | +5DVC--P4 | DI1 | DI2 |
| 1 | 3 | 5 | 7 | 9 | 11 | 13 | 15 | 17 |
| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 |
| 12DVC - | 485_2A | 485_2B | GND | GND | GND | P4(Vout) | GND | GND |

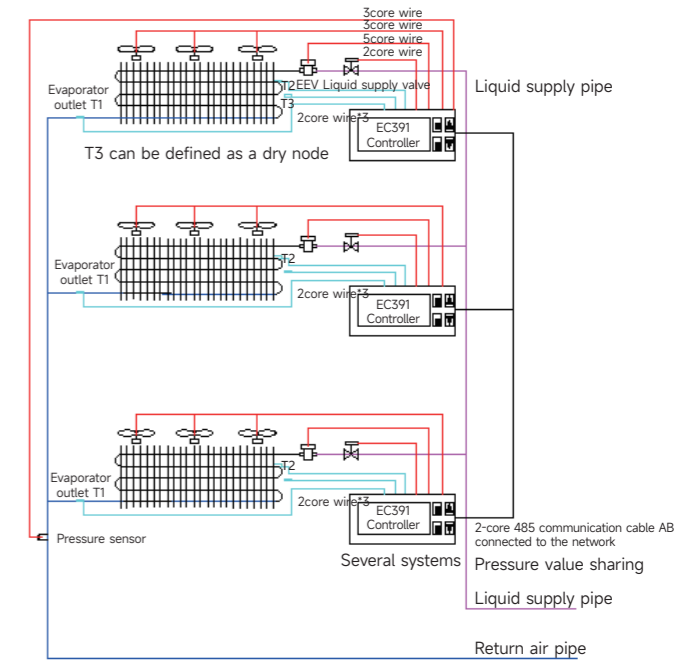
APPLICATION



One-to-one freezer/
cold storage control system diagram (electric defrost)



One-to-one freezer/
cold storage control system diagram (no defrost)



One-to-multiple high-temperature freezer/
cold storage control system diagram

length78 * width 34.5 * depth 82(mm)

SPF SERIES ELECTRONIC EXPANSION VALVE

SPF series electronic expansion valve is suitable for refrigeration systems such as commercial refrigerators, large refrigeration storages and heat pumps. It can accurately control the refrigerant flow in the system, so that the system can always run in the best state, achieve rapid cooling, and achieve the goal of precise control and energy saving.



FEATURES

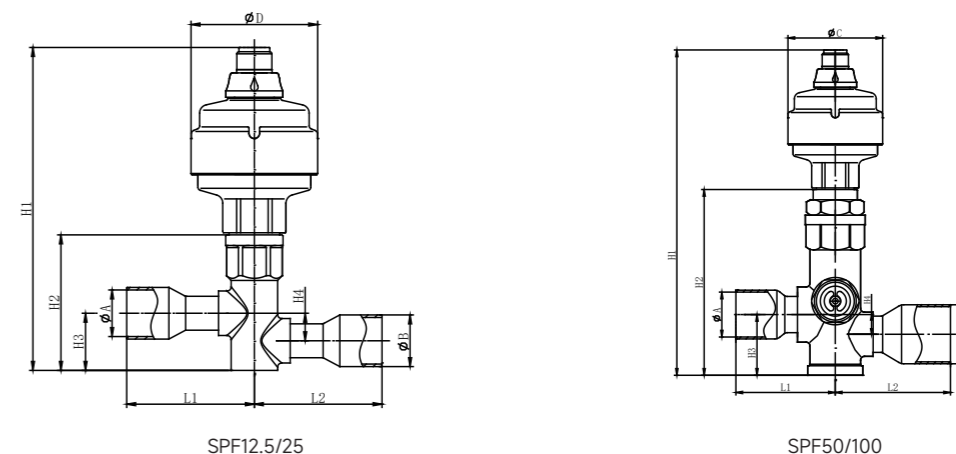
- Integrated with the function of solenoid valve, expansion valve and sight glass, stable and reliable performance;
- Fast response and action, precise adjustment;
- New structure design of expansion valve, easy to dismantle and clean, low noise;
- SPF series products apply a balanced port design with high reverse valve opening pressure, and have bidirectional cut-off function;
- Suitable for systems with little oil or no oil.

| TECHNICAL PARAMETERS | |
|---------------------------------|--|
| Applicable refrigerant | HCFC or HFC |
| Nominal capacity | 43-1936KW |
| Medium temperature | -40~+65°C |
| Environment temperature | -40°C ~ +60°C |
| Environment humidity | < 95%RH |
| Full open pulse | 2620-3800see model select table for detail |
| Rated voltage | 12V DC(±10%), rectangular wave |
| Excitation mode | 2-2 phase excitation, double pole drive |
| Excitation speed | 250pps/300pps,voltage/ current |
| Finishing excitation mode keeps | 0.1-1.0s |
| Drive current | 230mA |
| Coil resistance | 52Ω/phase |
| Coil insulation grade | Class E |
| Protect grade | IP65 |

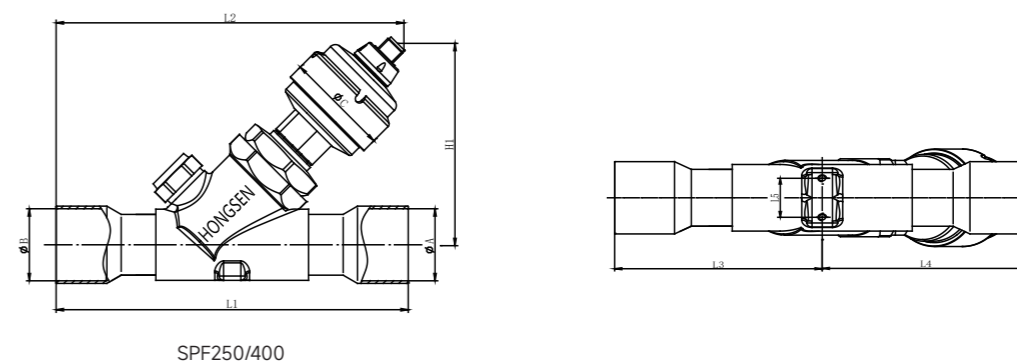
APPLICATION

- Refrigeration
- Heat pump
- Air conditioning
- Chillers

OVERALL DIMENSION



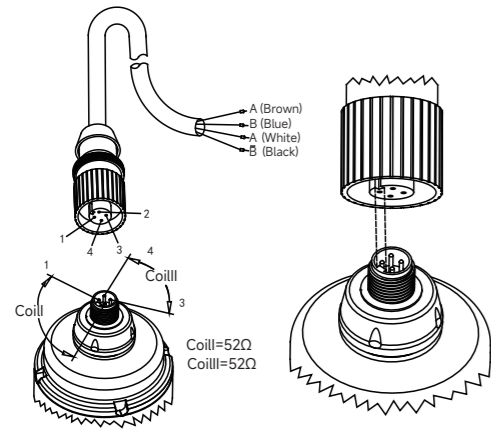
| Model | H1 | H2 | H3 | H4 | L1 | L2 | A | B | C |
|-------------|-------|-----|------|------|------|------|------|------|----|
| SPF12.5-5-5 | 152.5 | 64 | 27 | 13 | 60.5 | 60.5 | 16.1 | 16.1 | 60 |
| SPF12.5-7-7 | 152.5 | 64 | 27 | 13 | 60.5 | 60.5 | 22.3 | 22.3 | 60 |
| SPF25-5-5 | 152.5 | 64 | 27 | 13 | 60.5 | 60.5 | 16.1 | 16.1 | 60 |
| SPF25-7-7 | 152.5 | 64 | 27 | 13 | 60.5 | 60.5 | 22.3 | 22.3 | 60 |
| SPF50-7-7 | 206.3 | 118 | 38.5 | 12.5 | 56 | 56 | 22.3 | 22.3 | 60 |
| SPF50-9-9 | 206.3 | 118 | 38.5 | 12.5 | 63 | 63 | 28.7 | 28.7 | 60 |
| SPF50-7-9 | 206.3 | 118 | 38.5 | 12.5 | 56 | 63 | 22.3 | 28.7 | 60 |
| SPF50-9-11 | 206.3 | 118 | 38.5 | 12.5 | 63 | 73 | 28.7 | 35.2 | 60 |
| SPF100-9-9 | 206.3 | 118 | 38.5 | 12.5 | 63 | 63 | 28.7 | 28.7 | 60 |
| SPF100-9-11 | 206.3 | 118 | 38.5 | 12.5 | 63 | 73 | 28.7 | 35.2 | 60 |



| Model | H1 | L1 | L2 | L3 | L4 | L5 | A | B | C |
|--------------|-------|-------|-------|-------|-------|----|------|------|----|
| SPF250-9-9 | 206.3 | 168.5 | 184.3 | 84.3 | 84.3 | 24 | 28.7 | 28.7 | 60 |
| SPF250-11-11 | 206.3 | 203 | 189.3 | 89.3 | 89.3 | 24 | 35.2 | 35.2 | 60 |
| SPF400-13-13 | 206.3 | 203 | 201.5 | 101.5 | 101.5 | 24 | 41.5 | 41.5 | 60 |
| SPF400-17-17 | 206.3 | 242 | 221 | 121 | 121 | 24 | 54.2 | 54.2 | 60 |

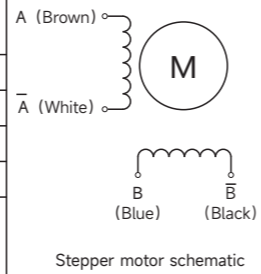
Note: dimension of connecting pipe can be customized according to requirements

DRIVING SCHEDULE



| Phase sequence | 1 | 2 | 3 | 4 |
|-------------------|-----|-----|-----|-----|
| A (Brown) | no | no | off | off |
| B (Blue) | no | off | off | no |
| \bar{A} (White) | off | off | no | no |
| \bar{B} (Black) | off | no | no | off |

Close the valve: 1 → 2 → 3 → 4
Open the valve: 1 ← 2 ← 3 ← 4



CONNECTING CABLE ASSEMBLY

| Model | Temperature range | Length | Connector specification | Connecting mode with control | Schematic pic. |
|-----------|-------------------|--------|-------------------------|---------------------------------|----------------|
| M124×Z1MD | -40°C~+80°C | 1M | M12×1 (water proof) | lead wire 4×0.18mm ² | |

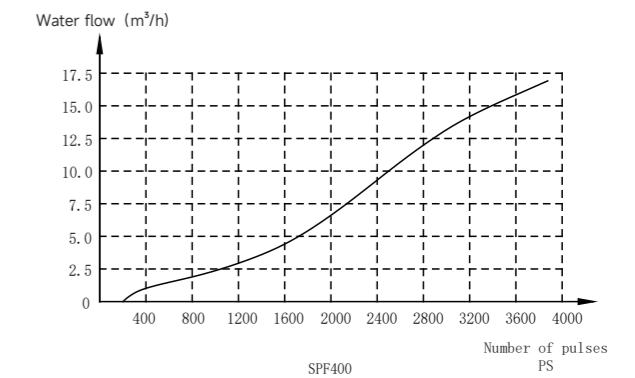
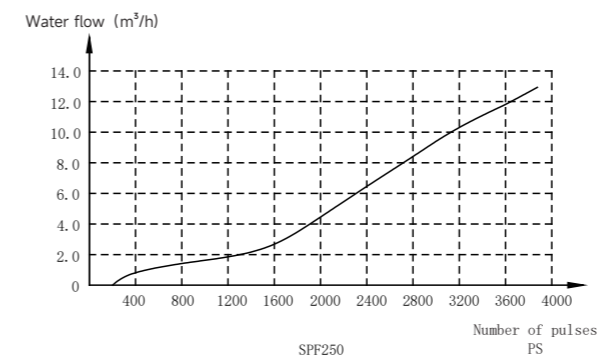
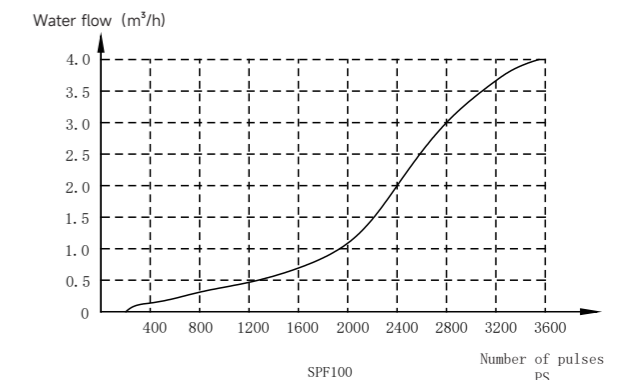
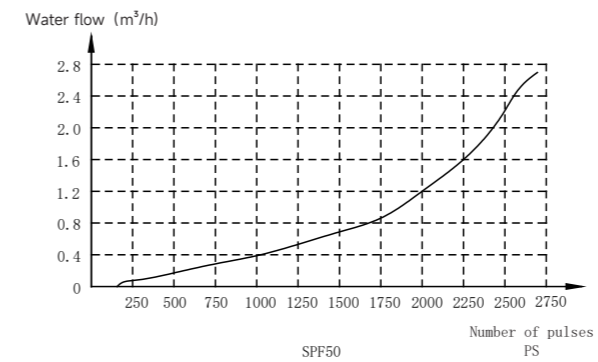
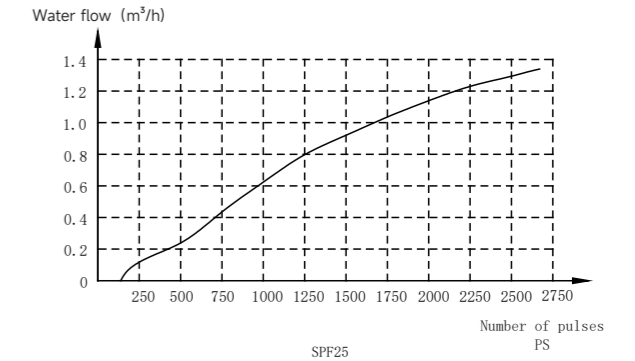
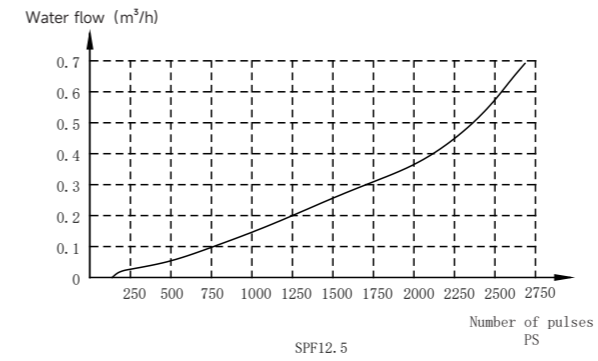
MODEL SELECTION

| Product series | Full open steps | Diameter [mm] | Kv ²¹ [m ³ /h] | Nominal capacity [KW] ¹ | | | | | Max. working pressure [MPa] | Max. working pressure difference [MPa] | Reverse valve opening pressure difference [MPa] |
|----------------|-----------------|------------------|---|------------------------------------|-------|---------------------|------------|---------------------|--------------------------------|---|--|
| | | | | R22 | R134a | R407C ⁻¹ | R404A/R507 | R410A ⁻¹ | | | |
| SPF12.5 | 2620 | 4.50 | 0.70 | 57 | 45 | 63 | 43 | 70 | 4.5 | 3.5 | ≥3.5 |
| SPF25 | 2620 | 8.00 | 1.30 | 112 | 89 | 124 | 84 | 139 | 4.5 | 3.5 | ≥3.5 |
| SPF50 | 2620 | 11.5 | 2.30 | 226 | 182 | 265 | 173.5 | 274 | 4.5 | 3.5 | ≥3.5 |
| SPF100 | 3500 | 16.0 | 3.90 | 408 | 325 | 455 | 308 | 496 | 4.5 | 3.5 | ≥3.5 |
| SPF250 | 3800 | 24.0 | 12.2 | 1092 | 862 | 1203 | 817 | / | 3.5 | 3.0 | ≥3.0 |
| SPF400 | 3800 | 30.0 | 17.0 | 1768 | 1397 | 1936 | 1324 | / | 3.5 | 3.0 | ≥3.0 |

Nominal condition:

- Rated capacity is based on: R407C condensing temperature T_c: +32°C; evaporating temperature T_e: +5°C; liquid temperature before valve T_i: +28°C ;
- Kv value: the pressure difference based on the two sides between water with density 1T/m³ and the valve is equal to the positive flow capacity at 100Kpa.

SCHEMATIC PIC. OF FLOW CURVE



| RATED CAPACITY (KW) | | | | | | | | | | | | | | | | | |
|---------------------|--------|-----------------------------------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| | te[°C] | Positive flow rated capacity [KW] | | | | | | | | | | | | | | | |
| | | SPF12.5 | | | | | | | | SPF25 | | | | | | | |
| | | Pressure drop ΔP[bar] | | | | | | | | | | | | | | | |
| | | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| R22 | -40 | 39.6 | 50.6 | 57.1 | 61.2 | 64.1 | 65.9 | 67.0 | 67.6 | 82.0 | 105.4 | 118.5 | 126.6 | 133.6 | 137.0 | 139.3 | 140.9 |
| | -30 | 39.2 | 50.6 | 57.3 | 61.7 | 64.7 | 66.7 | 68.1 | 68.8 | 81.8 | 104.5 | 119.3 | 128.7 | 134.0 | 139.2 | 141.5 | 143.4 |
| | -20 | 38.5 | 50.1 | 57.1 | 61.7 | 64.9 | 67.1 | 68.6 | 69.4 | 80.3 | 104.3 | 118.9 | 128.7 | 134.8 | 140.0 | 143.0 | 144.7 |
| | -10 | 37.5 | 49.2 | 56.3 | 61.2 | 64.5 | 66.9 | 68.5 | 69.5 | 78.1 | 102.5 | 117.0 | 127.5 | 134.6 | 138.5 | 142.8 | 144.6 |
| | -5 | 36.9 | 48.6 | 55.8 | 60.7 | 64.1 | 66.5 | 68.2 | 69.2 | 76.9 | 101.1 | 116.3 | 126.2 | 133.3 | 138.8 | 142.2 | 144.4 |
| | 10 | 34.7 | 40.3 | 53.3 | 58.3 | 62.0 | 64.4 | 66.2 | 67.4 | 72.3 | 96.2 | 111.3 | 121.7 | 129.2 | 134.4 | 138.2 | 140.6 |
| R134a | -40 | 35.1 | 42.6 | 46.1 | 47.8 | 48.3 | 47.9 | 47.0 | 45.6 | 73.1 | 88.8 | 95.8 | 99.7 | 100.6 | 99.9 | 98.0 | 94.9 |
| | -30 | 35.3 | 43.4 | 47.3 | 49.3 | 50.0 | 49.9 | 49.2 | 47.9 | 73.5 | 90.4 | 98.5 | 102.6 | 104.2 | 104.0 | 102.4 | 99.9 |
| | -20 | 35.1 | 43.7 | 48.1 | 50.4 | 51.3 | 51.4 | 50.9 | 49.9 | 73.3 | 91.1 | 100.2 | 104.8 | 107.0 | 107.2 | 106.2 | 104.0 |
| | -10 | 34.7 | 43.7 | 48.4 | 50.9 | 52.2 | 52.5 | 52.2 | 51.3 | 72.3 | 91.0 | 100.8 | 106.2 | 108.7 | 109.5 | 108.9 | 107.0 |
| | -5 | 34.3 | 43.5 | 48.3 | 51.0 | 52.4 | 52.9 | 52.6 | 51.8 | 71.6 | 90.6 | 100.7 | 106.4 | 109.3 | 110.3 | 109.8 | 108.2 |
| | 10 | 32.8 | 42.2 | 47.4 | 50.5 | 52.2 | 52.9 | 53.0 | 52.4 | 68.3 | 87.6 | 98.9 | 105.1 | 108.9 | 110.4 | 110.5 | 109.3 |
| R404A | -40 | 31.4 | 39.0 | 42.8 | 44.5 | 45.2 | 45.1 | 44.4 | 43.2 | 65.7 | 81.4 | 89.2 | 93.0 | 94.3 | 94.0 | 92.5 | 90.0 |
| | -30 | 31.1 | 38.9 | 43.0 | 45.1 | 46.0 | 46.0 | 45.5 | 44.4 | 64.7 | 81.2 | 89.7 | 94.0 | 95.9 | 96.1 | 94.9 | 92.8 |
| | -20 | 30.3 | 38.4 | 42.7 | 45.0 | 46.2 | 46.4 | 46.1 | 45.2 | 63.0 | 80.1 | 89.1 | 94.0 | 96.3 | 96.9 | 96.1 | 94.3 |
| | -10 | 29.1 | 37.4 | 41.9 | 44.4 | 45.7 | 46.2 | 46.0 | 45.2 | 60.7 | 78.0 | 87.4 | 92.7 | 95.4 | 96.3 | 95.9 | 94.4 |
| | -5 | 28.5 | 36.8 | 41.3 | 44.0 | 45.3 | 45.8 | 45.6 | 44.9 | 59.4 | 76.6 | 86.1 | 91.6 | 94.5 | 95.5 | 95.2 | 93.8 |
| | 10 | 26.1 | 34.1 | 38.6 | 41.3 | 42.9 | 43.5 | 43.5 | 43.9 | 54.3 | 71.0 | 80.3 | 86.0 | 89.2 | 90.5 | 90.4 | 89.3 |
| R407C | -40 | 41.5 | 52.0 | 57.7 | 61.1 | 63.0 | 64.0 | 64.1 | 63.7 | 86.0 | 108.0 | 120.2 | 127.0 | 131.4 | 132.8 | 133.2 | 132.5 |
| | -30 | 41.3 | 52.2 | 58.3 | 62.1 | 64.2 | 65.3 | 65.7 | 65.4 | 85.5 | 108.5 | 121.0 | 128.9 | 133.3 | 135.8 | 137.1 | 136.1 |
| | -20 | 40.6 | 52.0 | 58.4 | 62.5 | 64.8 | 66.2 | 66.8 | 66.8 | 84.2 | 108.0 | 121.4 | 129.7 | 134.8 | 137.7 | 138.9 | 138.8 |
| | -10 | 39.6 | 51.2 | 57.9 | 62.2 | 64.9 | 66.5 | 67.3 | 67.4 | 82.0 | 106.4 | 119.9 | 129.2 | 134.9 | 138.7 | 139.8 | 140.6 |
| | -5 | 39.0 | 50.7 | 57.5 | 61.9 | 64.6 | 66.3 | 67.2 | 67.4 | 81.3 | 105.2 | 120.0 | 128.4 | 134.9 | 138.4 | 139.7 | 140.6 |
| | 10 | 36.6 | 48.2 | 55.2 | 59.7 | 62.8 | 64.5 | 65.7 | 66.1 | 76.3 | 100.5 | 114.5 | 124.6 | 130.9 | 134.2 | 137.1 | 137.9 |
| R410A | -40 | 45.7 | 59.1 | 67.1 | 72.4 | 76.2 | 78.7 | 80.4 | 81.4 | 94.9 | 122.7 | 139.0 | 150.6 | 157.8 | 163.1 | 166.6 | 168.3 |
| | -30 | 44.5 | 58.1 | 66.3 | 71.9 | 75.8 | 78.5 | 80.4 | 81.5 | 91.9 | 120.7 | 137.9 | 149.0 | 157.1 | 162.8 | 165.2 | 169.3 |
| | -20 | 43.0 | 56.6 | 64.9 | 70.6 | 74.7 | 77.5 | 79.5 | 80.8 | 89.6 | 117.1 | 135.4 | 146.4 | 154.8 | 161.0 | 165.4 | 167.6 |
| | -10 | 41.0 | 54.4 | 62.8 | 68.6 | 72.7 | 75.7 | 77.7 | 79.1 | 85.5 | 113.5 | 131.0 | 143.1 | 151.7 | 157.9 | 162.2 | 165.0 |
| | -5 | 39.9 | 53.1 | 61.5 | 67.3 | 71.4 | 74.4 | 76.5 | 77.8 | 83.3 | 109.7 | 127.2 | 139.1 | 147.9 | 154.6 | 158.5 | 162.5 |
| | 10 | 36.2 | 48.5 | 56.5 | 62.1 | 66.1 | 69.1 | 71.1 | 72.4 | 74.9 | 101.2 | 116.8 | 128.5 | 136.9 | 143.0 | 147.3 | 151.2 |

| RATED CAPACITY (KW) | | | | | | | | | | | | | | | | | |
|---------------------|--------|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|
| | te[°C] | Positive flow rated capacity [KW] | | | | | | | | | | | | | | | |
| | | SPF50 | | | | | | | | SPF100 | | | | | | | |
| | | Pressure drop ΔP[bar] | | | | | | | | | | | | | | | |
| | | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| R22 | -40 | 151.8 | 194.3 | 218.1 | 234.1 | 245.6 | 252.1 | 256.8 | 258.9 | 282.1 | 360.6 | 406.6 | 436.7 | 456.6 | 469.7 | 478.0 | 482.4 |
| | -30 | 150.0 | 193.1 | 218.0 | 236.0 | 247.8 | 255.7 | 260.2 | 263.6 | 279.1 | 359.8 | 407.6 | 439.4 | 461.2 | 475.5 | 485.2 | 490.4 |
| | -20 | 147.1 | 191.7 | 218.0 | 236.0 | 248.6 | 256.8 | 262.6 | 266.3 | 274.0 | 356.5 | 406.4 | 439.5 | 462.5 | 478.4 | 488.7 | 494.7 |
| | -10 | 143.1 | 187.9 | 215.1 | 233.9 | 246.9 | 255.9 | 262.4 | 265.8 | 266.8 | 349.7 | 401.0 | 435.3 | 459.4 | 477.2 | 487.9 | 495.1 |
| | -5 | 140.9 | 185.8 | 213.6 | 232.0 | 245.1 | 254.2 | 260.9 | 264.8 | 262.9 | 345.9 | 397.2 | 432.2 | 456.4 | 473.7 | 485.8 | 493.4 |
| | 10 | 132.7 | 176.6 | 204.0 | 223.0 | 236.9 | 246.8 | 253.6 | 257.8 | 246.6 | 328.3 | 379.7 | 415.5 | 441.3 | 458.9 | 472.0 | 480.3 |
| R134a | -40 | 133.1 | 162.4 | 175.7 | 181.8 | 183.2 | 182.1 | 178.8 | 173.7 | 247.9 | 301.7 | 326.8 | 338.6 | 342.0 | 339.5 | 332.7 | 322.9 |
| | -30 | 135.0 | 164.9 | 179.9 | 187.6 | 190.0 | 189.8 | 187.9 | 183.6 | 249.5 | 306.7 | 334.7 | 348.7 | 353.7 | 352.9 | 347.9 | 339.4 |
| | -20 | 134.2 | 167.1 | 183.8 | 191.6 | 195.0 | 196.2 | 194.2 | 190.3 | 248.5 | 309.4 | 340.4 | 356.5 | 363.4 | 364.2 | 360.7 | 353.3 |
| | -10 | 131.9 | 166.0 | 184.9 | 194.8 | 198.7 | 199.8 | 198.7 | 195.6 | 245.5 | 309.2 | 342.7 | 360.9 | 369.2 | 371.6 | 369.3 | 363.3 |
| | -5 | 130.7 | 166.1 | 184.8 | 194.5 | 199.6 | 201.5 | 201.0 | 197.6 | 242.6 | 307.4 | 341.9 | 361.1 | 370.8 | 374.1 | 372.4 | 367.0 |
| | 10 | 124.8 | 160.7 | 181.1 | 192.5 | 198.7 | 201.6 | 202.2 | 199.7 | 231.8 | 298.5 | 335.5 | 357.2 | 369.3 | 374.6 | 374.8 | 371.1 |
| R404A | -40 | 119.9 | 149.3 | 163.4 | 169.9 | 173.2 | 172.5 | 169.6 | 164.9 | 223.4 | 276.7 | 303.3 | 316.2 | 320.9 | 320.4 | 315.4 | 306.8 |
| | -30 | 118.0 | 148.1 | 163.9 | 172.4 | 175.1 | 176.3 | 173.8 | 169.9 | 219.7 | 276.0 | 304.7 | 319.7 | 326.2 | 326.9 | 323.2 | 316.1 |
| | -20 | 115.5 | 146.1 | 162.8 | 171.9 | 176.0 | 177.1 | 175.9 | 173.3 | 214.3 | 272.4 | 302.8 | 319.7 | 327.6 | 329.7 | 328.0 | 322.0 |
| | -10 | 110.9 | 142.2 | 159.8 | 169.2 | 174.7 | 176.1 | 175.2 | 173.4 | 206.4 | 265.4 | 297.5 | 315.4 | 324.6 | 328.2 | 326.6 | 322.6 |
| | -5 | 108.7 | 139.9 | 157.1 | 167.7 | 173.3 | 174.8 | 174.1 | 172.4 | 201.8 | 260.3 | 292.7 | 311.4 | 321.4 | 325.1 | 324.2 | 319.7 |
| | 10 | 99.7 | 129.9 | 147.1 | 157.8 | 163.2 | 165.9 | 165.9 | 164.9 | 185.4 | 241.6 | 273.9 | 294.4 | 304.4 | 309.1 | 308.6 | 305.3 |
| R407C | -40 | 158.8 | 199.7 | 222.5 | 236.4 | 243.9 | 248.6 | 249.9 | 249.6 | 295.6 | 371.7 | 413.3 | 438.7 | 454.2 | 462.1 | 464.9 | 464.0 |
| | -30 | 157.8 | 200.7 | 224.2 | 239.2 | 249.3 | 253.9 | 257.1 | 256.6 | 293.5 | 373.4 | 417.8 | 445.9 | 462.7 | 472.5 | 477.1 | 477.5 |
| | -20 | 155.2 | 199.8 | 225.0 | 241.5 | 251.1 | 257.7 | 260.8 | 261.2 | 289.4 | 371.7 | 419.0 | 448.8 | 468.1 | 479.5 | 485.5 | 486.9 |
| | -10 | 151.9 | 196.9 | 223.2 | 240.2 | 251.8 | 258.8 | 263.3 | 264.0 | 282.6 | 366.6 | 416.4 | 447.8 | 468.4 | 481.8 | 488.8 | 491.8 |
| | -5 | 149.2 | 194.9 | 222.4 | 239.1 | 250.9 | 258.1 | 262.7 | 264.6 | 278.5 | 363.0 | 413.1 | 445.4 | 466.9 | 480.9 | 488.6 | 492.4 |
| | 10 | 140.4 | 186.4 | 214.1 | 231.8 | 244.5 | 253.2 | 257.7 | 255.5 | 261.9 | 345.8 | 397.3 | 431.3 | 454.6 | 469.8 | 479.2 | 484.5 |
| R410A | -40 | 174.4 | 224.8 | 254.6 | 275.8 | 288.8 | 299.6 | 306.4 | 310.3 | 324.1 | 418.7 | 475.4 | 513.3 | 539.1 | 557.2 | 569.5 | 576.8 |
| | -30 | 169.2 | 221.9 | 252.7 | 273.8 | 288.2 | 298.8 | 305.9 | 310.6 | 315.4 | 411.8 | 469.8 | 509.2 | 536.9 | 556.1 | 569.5 | 577.6 |
| | -20 | 163.2 | 215.0 | 247.9 | 268.8 | 284.1 | 295.5 | 302.8 | 308.2 | 304.4 | 400.8 | 459.4 | 500.8 | 529.3 | 549.2 | 565.8 | 572.8 |
| | -10 | 156.0 | 206.9 | 239.4 | 265.8 | 276.8 | 289.0 | 295.9 | 301.5 | 290.8 | 385.4 | 444.6 | 485.7 | 515.7 | 536.1 | 555.7 | 561.0 |
| | -5 | 151.9 | 202.0 | 234.4 | 259.0 | 271.8 | 283.5 | 291.5 | 296.7 | 282.9 | 373.4 | 435.6 | 461.8 | 505.8 | 527.0 | 542.2 | 552.2 |
| | 10 | 137.3 | 184.8 | 214.0 | 236.1 | 252.3 | 262.9 | 271.8 | 276.0 | 256.1 | 343.5 | 399.9 | 439.9 | 464.3 | 489.7 | 503.8 | 513.9 |

RATED CAPACITY (KW)

| | te[°C] | Positive flow rated capacity [KW] | | | | | | | | | | | | | | | |
|--------------|--------|-----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | SPF250 | | | | | | | | SPF400 | | | | | | | |
| | | Pressure drop ΔP[bar] | | | | | | | | | | | | | | | |
| | | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| R22 | -40 | 778.5 | 995.0 | 1121.0 | 1205.0 | 1259.5 | 1297.0 | 1318.5 | 1328.5 | 1249.2 | 1595.0 | 1799.0 | 1931.6 | 2021.1 | 2079.4 | 2115.6 | 2133.6 |
| | -30 | 771.0 | 992.5 | 1126.0 | 1213.5 | 1273.0 | 1262.5 | 1339.0 | 1351.5 | 1236.2 | 1593.0 | 1805.0 | 1945.7 | 2041.2 | 2105.5 | 2146.7 | 2169.8 |
| | -20 | 755.5 | 984.0 | 1120.5 | 1213.0 | 1276.0 | 1320.0 | 1348.5 | 1364.5 | 1213.1 | 1576.9 | 1798.0 | 1944.7 | 2046.2 | 2116.5 | 2161.8 | 2148.9 |
| | -10 | 737.0 | 966.0 | 1107.0 | 1201.5 | 1269.0 | 1315.0 | 1347.0 | 1366.0 | 1180.9 | 1548.7 | 1774.8 | 1927.6 | 2034.2 | 2108.5 | 2158.8 | 2189.9 |
| | -5 | 723.0 | 954.0 | 1095.0 | 1193.0 | 1260.5 | 1308.0 | 1341.0 | 1360.0 | 1161.8 | 1529.6 | 1756.8 | 1912.5 | 2021.1 | 2097.5 | 2149.7 | 2181.9 |
| | 10 | 680.5 | 905.0 | 1049.0 | 1146.0 | 1218.0 | 1267.0 | 1303.0 | 1323.0 | 1091.4 | 1453.2 | 1681.4 | 1839.2 | 1951.7 | 2032.1 | 2088.4 | 2124.6 |
| R134a | -40 | 683.5 | 832.0 | 901.5 | 934.0 | 942.5 | 936.0 | 918.5 | 890.5 | 1097.5 | 1334.7 | 1446.2 | 1497.5 | 1512.6 | 1501.5 | 1472.4 | 1429.1 |
| | -30 | 687.0 | 846.0 | 924.0 | 963.0 | 976.0 | 974.5 | 960.0 | 935.0 | 1103.5 | 1357.8 | 1481.4 | 1542.7 | 1565.8 | 1562.8 | 1539.7 | 1501.5 |
| | -20 | 683.5 | 853.5 | 938.0 | 983.0 | 1002.0 | 1004.0 | 994.5 | 973.5 | 1099.5 | 1368.8 | 1505.5 | 1576.9 | 1608.0 | 1611.0 | 1595.0 | 1562.8 |
| | -10 | 676.0 | 853.0 | 944.0 | 995.0 | 1020.0 | 1025.5 | 1020.0 | 1002.0 | 1135.4 | 1366.8 | 1514.6 | 1595.0 | 1635.2 | 1645.2 | 1635.2 | 1608.0 |
| | -5 | 669.5 | 849.0 | 942.5 | 997.0 | 1023.0 | 1033.0 | 1029.0 | 1012.5 | 1074.4 | 1360.8 | 1513.5 | 1599.0 | 1642.2 | 1656.3 | 1649.2 | 1625.1 |
| | 10 | 640.0 | 823.5 | 927.0 | 987.0 | 1020.0 | 1033.5 | 1033.0 | 1022.5 | 1026.1 | 1321.6 | 1485.4 | 1581.9 | 1635.2 | 1658.3 | 1659.3 | 1643.2 |
| R404A | -40 | 615.0 | 763.0 | 836.0 | 871.0 | 884.0 | 881.0 | 867.0 | 844.0 | 985.9 | 1223.1 | 1339.7 | 1397.0 | 1417.1 | 1413.0 | 1389.9 | 1352.7 |
| | -30 | 606.0 | 761.0 | 840.0 | 881.0 | 899.0 | 900.0 | 890.0 | 870.0 | 971.9 | 1220.1 | 1346.7 | 1413.0 | 1441.2 | 1443.2 | 1426.1 | 1394.0 |
| | -20 | 591.0 | 750.0 | 835.0 | 881.0 | 903.0 | 908.0 | 901.0 | 884.0 | 946.7 | 1203.0 | 1338.7 | 1412.1 | 1447.2 | 1455.3 | 1444.2 | 1417.1 |
| | -10 | 569.0 | 731.0 | 819.0 | 869.0 | 894.0 | 903.0 | 899.0 | 884.0 | 912.6 | 1171.8 | 1312.5 | 1392.9 | 1433.1 | 1447.2 | 1440.2 | 1418.1 |
| | -5 | 556.0 | 718.0 | 807.0 | 858.0 | 885.0 | 895.0 | 892.0 | 879.0 | 891.5 | 1150.8 | 1293.5 | 1375.9 | 1419.1 | 1435.2 | 1430.1 | 1409.0 |
| | 10 | 510.0 | 665.0 | 754.0 | 806.0 | 836.5 | 849.0 | 849.0 | 836.5 | 818.1 | 1067.3 | 1210.1 | 1294.5 | 1341.7 | 1361.8 | 1360.8 | 1342.7 |
| R407C | -40 | 810.5 | 1016.0 | 1128.0 | 1194.0 | 1232.0 | 1248.5 | 1251.0 | 1242.5 | 1300.5 | 1630.1 | 1810.0 | 1914.6 | 1973.4 | 2002.0 | 2007.0 | 1994.0 |
| | -30 | 805.5 | 1021.0 | 1140.0 | 1211.5 | 1255.0 | 1276.0 | 1284.0 | 1278.0 | 1292.4 | 1637.2 | 1829.1 | 1943.7 | 2012.0 | 2047.2 | 2059.3 | 2051.2 |
| | -20 | 792.5 | 1016.0 | 1142.5 | 1220.0 | 1268.0 | 1294.0 | 1306.0 | 1303.0 | 1272.3 | 1629.1 | 1832.1 | 1956.8 | 2033.1 | 2075.4 | 2093.4 | 2092.4 |
| | -10 | 772.5 | 1002.0 | 1133.0 | 1216.0 | 1268.0 | 1298.0 | 1315.0 | 1315.5 | 1241.2 | 1606.0 | 1817.1 | 1949.7 | 2034.2 | 2083.4 | 2107.5 | 2111.5 |
| | -5 | 761.5 | 990.0 | 1123.0 | 1207.5 | 1264.0 | 1296.0 | 1314.0 | 1317.0 | 1221.1 | 1587.9 | 1802.0 | 1938.7 | 2026.1 | 2078.4 | 2105.5 | 2112.5 |
| | 10 | 715.0 | 940.5 | 1076.5 | 1167.0 | 1226.0 | 1262.5 | 1284.5 | 1291.5 | 1146.7 | 1509.5 | 1727.6 | 1871.3 | 1965.8 | 2026.1 | 2059.3 | 2072.3 |

PRESSURE SENSOR

Used to check the pressure value of refrigerating system condition



Current type(P224A)



Voltage type(P321)

FEATURES

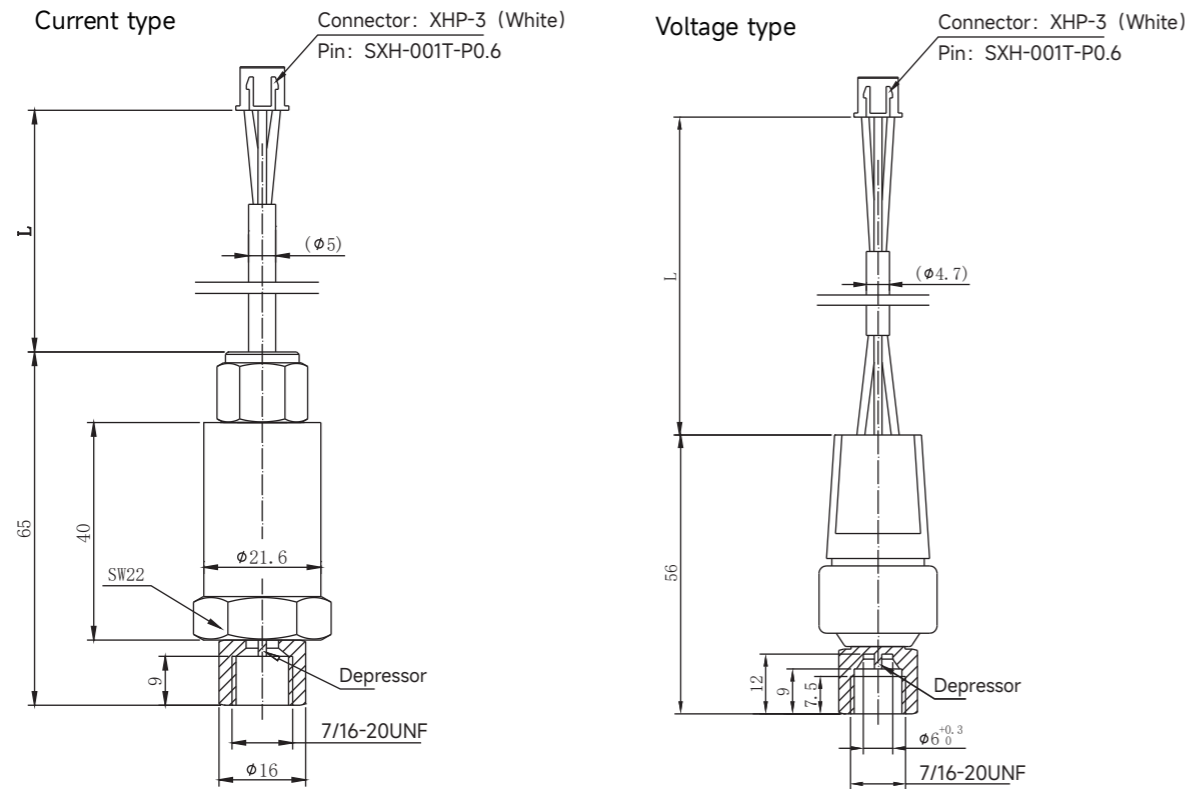
- EMC/EMI adapts frequency conversion environment application
- Instantaneous protective voltage: DC16V
- Compatible with multiple refrigerants, wide application range
- Power supply reverse connection protection
- Anti-condensation design for current type pressure sensor

| Model | P224A | P321 |
|---------------------|----------------------------|------------|
| Working Voltage | 24VDC (15~32VDC) | 5±0.25VDC |
| Output Signal | 4~20mA | 0.5~4.5VDC |
| Media Temperature | -40°C~125°C | |
| Service Life | more than 10,000,000 times | |
| Long-term stability | ±0.5%FS/Year | |
| Protection level | IP66 | |

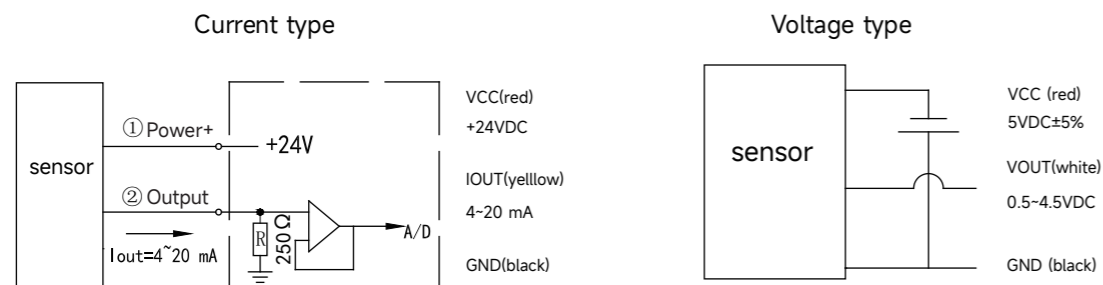
MODEL SELECTION

| Model | Pressure range | Safety overload | Breaking pressure | Working voltage | Output signal | Comprehensive Precision |
|-----------------------|----------------|-----------------|-------------------|-----------------|---------------|-------------------------|
| HS-P321-30-10barG | 0-10bar | 30bar | 160bar | 5VDC | 0.5-4.5VDC | ±2.5%F.S |
| HS-P321-30-20barG | 0-20bar | 60bar | 160bar | 5VDC | 0.5-4.5VDC | ±2.5%F.S |
| HS-P321-30-30barG | 0-30bar | 90bar | 250bar | 5VDC | 0.5-4.5VDC | ±2.5%F.S |
| HS-P321-30-45barG | 0-45bar | 90bar | 250bar | 5VDC | 0.5-4.5VDC | ±2.5%F.S |
| HS-P321-30(-1-12)barG | -1-12bar | 36bar | 160bar | 5VDC | 0.5-4.5VDC | ±2.5%F.S |
| HS-P224A-30-11barG | -1-11bar | 60bar | 160bar | 24VDC(12-23VDC) | 4-20mA | ±1%F.S |
| HS-P224A-30-18barG | 0-18bar | 60bar | 160bar | 24VDC(12-23VDC) | 4-20mA | ±1%F.S |
| HS-P224A-30-30barG | 0-30bar | 90bar | 250bar | 24VDC(12-23VDC) | 4-20mA | ±1%F.S |
| HS-P224A-30-50barG | 0-50bar | 90bar | 250bar | 24VDC(12-23VDC) | 4-20mA | ±1%F.S |

OVERALL DIMENSION



WIRING DRAWING



TEMPERATURE SENSOR

Used to check the temperature value of refrigerating system condition



5K3470

FEATURES

- Small size, light weight, good protective performance
- Small temperature deviation, high precision
- Test range:-50~+150°C

MODEL

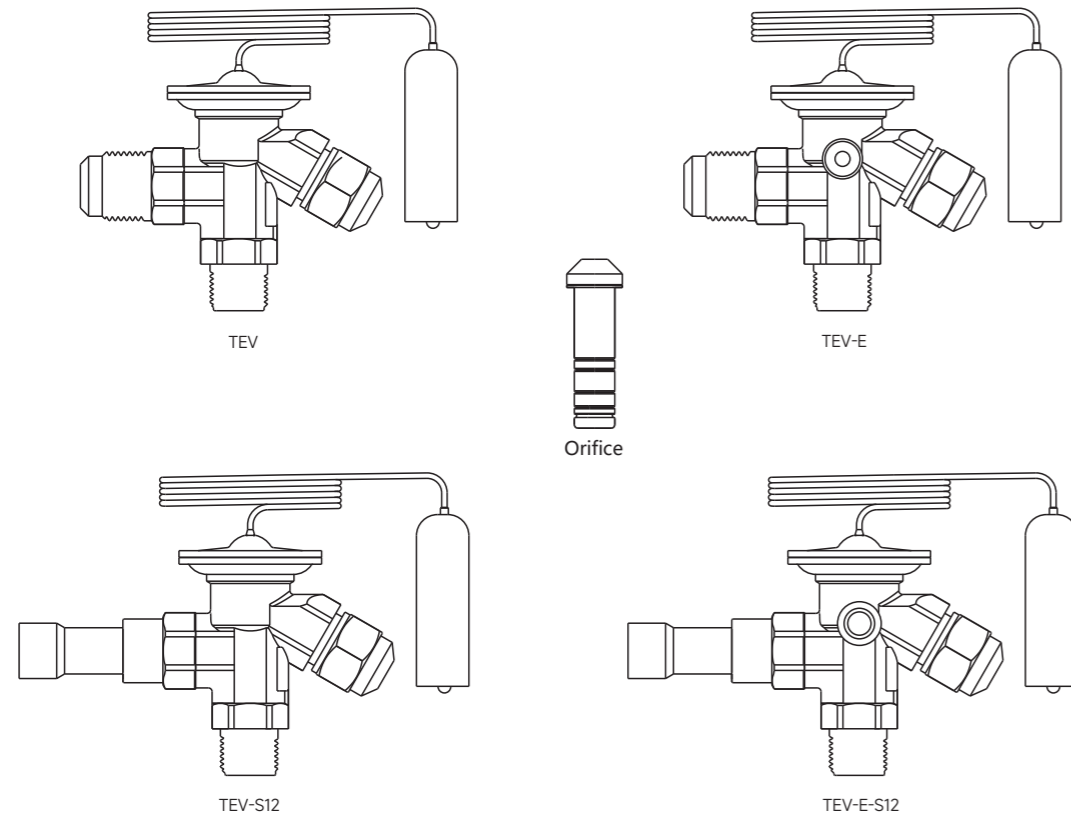
NTC, R25II = 5K, B25/50II = 3470K

THERMOSTATIC EXPANSION VALVE



TEV EXPANSION VALVE

TEV valves is an orifice type thermal expansion valve used to regulate the supply of liquid refrigerant in the evaporator. It is particularly suitable for the supply of refrigerant liquid in dry evaporators.



FEATURES

- Stainless steel power element by laser welding
- Extra strong diaphragm ensures the long valve life
- Stainless steel capillary for high corrosion resistance, high strength and vibration resistance
- Interchangeable orifice with filter net
- Both internal and external pressure equalization available, external equalization port can be flare or solder
- 1/2 Outlet port can be flare or solder

TECHNICAL PARAMETERS

| | |
|---|--|
| Applicable refrigerants medium | R22/R407C, R134a, R404A/R507, R410A, R454B, R290, R23, R236fa, R448A/R449A |
| Applicable temperature | R22/R407C/R404A/R507/R134a/R454B/R410A/R236fa/R448A/R449A: -40°C ~ +10°C |
| Norminal Capacity | 0.09-6.5 TR/ 0.32KW - 22.9KW |
| Adjustable Range of Superheat | 0°C ~ 8°C |
| Factory setting point of static superheat | 4°C |
| Maximum Working Pressure | 3.4MPa/4.6MPa(R410A) |
| Capillary Length | 1.5m(Customization available) |

APPLICATION

- Commercial cold room
- Industrial chiller
- Air conditioning units
- Cold chain
- Heat pump systems



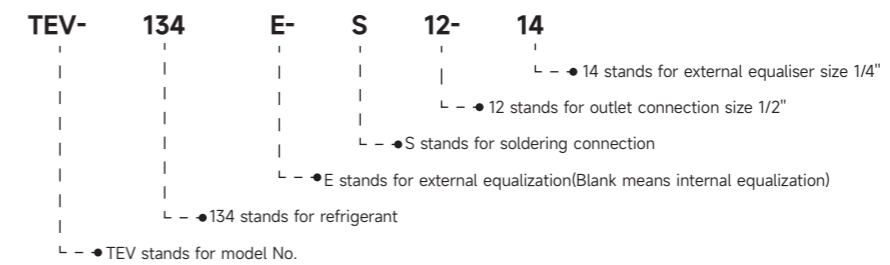
MODEL SELECTION

| Flare connection | | | | | |
|------------------|-------------|-----------------------|--------|---------|--------------------|
| Model | Refrigerant | Pressure Equalization | Inlet | Outlet | External Equaliser |
| TEV-22 | R22/R407C | Internal | 3/8SAE | 1/2 SAE | — |
| TEV-134 | R134a | | | | |
| TEV-404 | R404A/R507 | | | | |
| TEV-410 | R410A | | | | |
| TEV-454 | R454B | | | | |
| TEV-448 | R448A/R449A | External | 3/8SAE | 1/2 SAE | 1/4SAE |
| TEV-22E | R22/R407C | | | | |
| TEV-134E | R134a | | | | |
| TEV-404E | R404A/R507 | | | | |
| TEV-410E | R410A | | | | |
| TEV-454E | R454B | | | | |
| TEV-448E | R448A/R449A | | | | |

| Solder Outlet | | | | | |
|---------------|-------------|-----------------------|--------|---------|--------------------|
| Model | Refrigerant | Pressure Equalization | Inlet | Outlet | External Equaliser |
| TEV-22-S12 | R22/R407C | Internal | 3/8SAE | 1/2 ODE | — |
| TEV-134-S12 | R134a | | | | |
| TEV-404-S12 | R404A/R507 | | | | |
| TEV-410-S12 | R410A | | | | |
| TEV-454-S12 | R454B | | | | |
| TEV-448-S12 | R448A/R449A | External | 3/8SAE | 1/2 ODE | 1/4SAE |
| TEV-22E-S12 | R22/R407C | | | | |
| TEV-134E-S12 | R134a | | | | |
| TEV-404E-S12 | R404A/R507 | | | | |
| TEV-410E-S12 | R410A | | | | |
| TEV-454E-S12 | R454B | | | | |
| TEV-448E-S12 | R448A/R449A | | | | |

| Solder Outlet & External Equaliser | | | | | |
|------------------------------------|-------------|-----------------------|--------|--------|--------------------|
| Model | Refrigerant | Pressure Equalization | Inlet | Outlet | External Equaliser |
| TEV-22E-S12-14 | R22/R407C | External | 3/8SAE | 1/2ODF | 1/4ODF |
| TEV-134E-S12-14 | R134a | | | | |
| TEV-404E-S12-14 | R404A/R507 | | | | |
| TEV-410E-S12-14 | R410A | | | | |
| TEV-454E-S12-14 | R454B | | | | |
| TEV-448E-S12-14 | R448A/R449A | | | | |

MODEL NUMBERING CONVENTION



With this model designation, flare connection will not be specified separately

ORIFICE MODEL

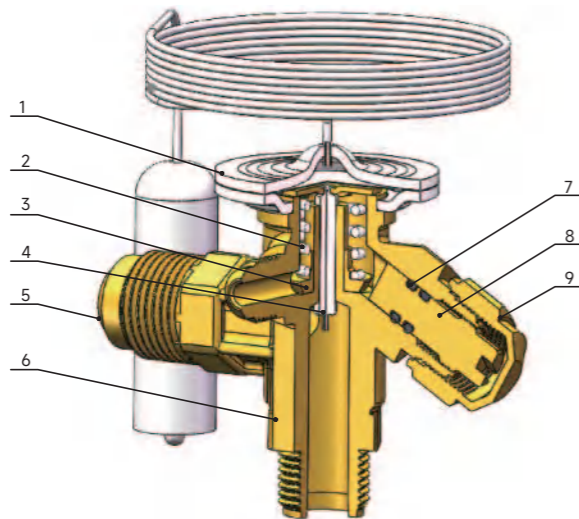
| Orifice No. | Nominal refrigerating capacity(TR) | | | | | | | |
|-------------|------------------------------------|-------|-------|------|--------|-------|-------|-------|
| | R134a | R404A | R407C | R22 | R236fa | R407F | R407A | R410A |
| TEV-X# | 0.19 | 0.18 | 0.26 | 0.25 | 0.09 | 0.28 | 0.25 | 0.35 |
| TEV-0# | 0.34 | 0.37 | 0.51 | 0.51 | 0.11 | 0.56 | 0.49 | 0.63 |
| TEV-1# | 0.59 | 0.75 | 1.00 | 1.00 | 0.16 | 1.10 | 1.00 | 1.1 |
| TEV-2# | 0.73 | 1.00 | 1.40 | 1.30 | 0.18 | 1.50 | 1.30 | 1.36 |
| TEV-3# | 1.20 | 1.80 | 2.30 | 2.30 | 0.30 | 2.60 | 2.30 | 2.23 |
| TEV-4# | 1.80 | 2.80 | 3.50 | 3.40 | 0.43 | 4.10 | 3.50 | 3.35 |
| TEV-5# | 2.40 | 3.70 | 4.70 | 4.80 | 0.57 | 5.40 | 4.60 | 4.46 |
| TEV-6# | 2.90 | 4.40 | 5.60 | 5.60 | 0.69 | 6.50 | 5.60 | 5.39 |

| Orifice No. | Nominal refrigerating capacity(kW) | | | | | | | |
|-------------|------------------------------------|-------|-------|-------|--------|-------|-------|-------|
| | R134a | R404A | R407C | R22 | R236fa | R407F | R407A | R410A |
| TEV-X# | 0.68 | 0.64 | 0.92 | 0.90 | 0.32 | 1.00 | 0.88 | 1.26 |
| TEV-0# | 1.20 | 1.30 | 1.80 | 1.80 | 0.39 | 2.00 | 1.70 | 2.23 |
| TEV-1# | 2.10 | 2.60 | 3.50 | 3.50 | 0.55 | 3.90 | 3.40 | 3.91 |
| TEV-2# | 2.60 | 3.70 | 4.80 | 4.70 | 0.62 | 5.40 | 4.70 | 4.84 |
| TEV-3# | 4.30 | 6.30 | 8.10 | 8.00 | 1.00 | 9.20 | 8.00 | 8.00 |
| TEV-4# | 6.40 | 9.90 | 12.40 | 12.10 | 1.50 | 14.30 | 12.40 | 11.90 |
| TEV-5# | 8.40 | 13.00 | 16.50 | 16.70 | 2.00 | 19.00 | 16.30 | 15.62 |
| TEV-6# | 10.10 | 15.50 | 19.70 | 19.70 | 2.40 | 22.90 | 19.60 | 18.79 |

Test condition: evaporating temp: 4.4°C/ condensing temp: 38°C/ sub cooling: 4°C.
 ☆ Other refrigerants customizable according to customer requirements

STRUCTURE

- 1.power element
- 2.adjust spring
- 3.adjust seat
- 4.transmission rod
- 5.outlet
- 6.valve body
- 7. O-ring
- 8.adjust rod to set superheating
- 9. sealing nut



REFRIGERATING CAPACITY(KW)/(TR)

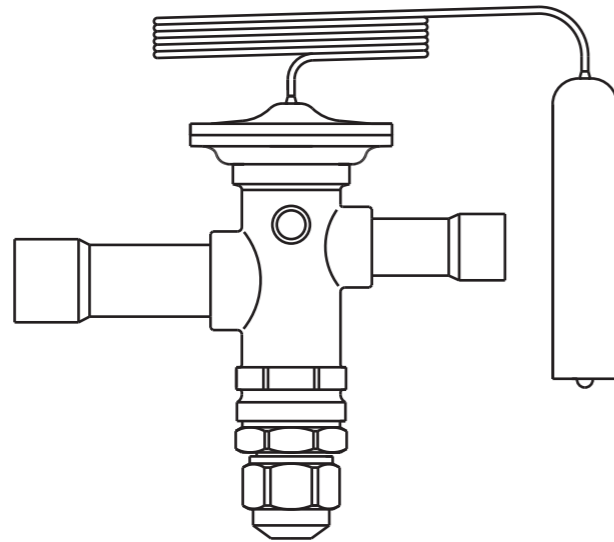
| Refrigerant | Orifice | Condensing Temp °C | Evaporation temperature(°C) | | | | | | | | | | |
|-------------|---------|--------------------|-----------------------------|------------|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|
| | | | -40 | -35 | -30 | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 |
| R22/R407C | TEV-X# | 25 | 0.74/0.21 | 0.774/0.22 | 0.80/0.23 | 0.83/0.23 | 0.84/0.24 | 0.85/0.24 | 0.84/0.24 | 0.83/0.23 | 0.79/0.23 | 0.74/0.21 | 0.66/0.19 |
| | | | 0.93/0.26 | 1.04/0.30 | 1.16/0.33 | 1.26/0.36 | 1.36/0.39 | 1.44/0.41 | 1.50/0.43 | 1.53/0.44 | 1.52/0.43 | 1.46/0.42 | 1.34/0.38 |
| | | | 1.30/0.37 | 1.48/0.42 | 1.69/0.48 | 1.91/0.55 | 2.14/0.61 | 2.36/0.67 | 2.58/0.74 | 2.75/0.79 | 2.86/0.82 | 2.86/0.82 | 2.72/0.78 |
| | | | 1.46/0.42 | 1.69/0.48 | 1.94/0.55 | 2.22/0.63 | 2.52/0.72 | 2.85/0.81 | 3.18/0.91 | 3.49/1.0 | 3.75/1.07 | 3.88/1.11 | 3.81/1.09 |
| | | | 2.44/0.70 | 2.83/0.81 | 3.26/0.93 | 3.73/1.07 | 4.24/1.21 | 4.78/1.37 | 5.33/1.52 | 5.85/1.67 | 6.29/1.80 | 6.53/1.87 | 6.46/1.85 |
| | | | 3.52/1.01 | 4.07/1.16 | 4.70/1.34 | 5.42/1.55 | 6.24/1.78 | 7.11/2.03 | 8.02/2.29 | 8.87/2.53 | 9.55/2.73 | 9.88/2.82 | 9.71/2.77 |
| | TEV-0# | 35 | 4.6/1.31 | 5.31/1.52 | 6.14/1.75 | 7.08/2.02 | 8.15/2.33 | 9.34/2.67 | 10.62/3.03 | 11.86/3.39 | 12.91/3.69 | 13.48/3.85 | 13.29/3.80 |
| | | | 5.43/1.55 | 6.26/1.79 | 7.22/2.06 | 8.32/2.38 | 9.56/2.73 | 10.95/3.13 | 12.43/3.55 | 13.91/3.97 | 15.18/4.34 | 15.91/4.55 | 15.71/4.49 |
| | | | 0.77/0.22 | 0.80/0.23 | 0.84/0.24 | 0.87/0.25 | 0.89/0.25 | 0.9/0.26 | 0.91/0.26 | 0.91/0.26 | 0.9/0.26 | 0.87/0.25 | 0.83/0.24 |
| | | | 0.96/0.27 | 1.08/0.31 | 1.20/0.34 | 1.32/0.38 | 1.44/0.41 | 1.54/0.44 | 1.63/0.46 | 1.70/0.48 | 1.74/0.49 | 1.73/0.49 | 1.69/0.48 |
| | | | 1.34/0.38 | 1.54/0.44 | 1.76/0.50 | 2.0/0.57 | 2.26/0.65 | 2.53/0.72 | 2.8/0.80 | 3.06/0.87 | 3.27/0.93 | 3.4/0.97 | 3.43/0.98 |
| | | | 1.52/0.43 | 1.76/0.50 | 2.03/0.58 | 2.34/0.67 | 2.68/0.77 | 3.06/0.87 | 3.46/0.99 | 3.88/1.11 | 4.29/1.23 | 4.63/1.32 | 4.83/1.38 |
| | TEV-1# | 45 | 2.56/0.73 | 2.97/0.85 | 3.44/0.98 | 3.95/1.13 | 4.52/1.29 | 5.16/1.47 | 5.84/1.67 | 6.55/1.87 | 7.24/2.07 | 7.83/2.24 | 8.2/2.34 |
| | | | 3.77/1.08 | 4.34/1.24 | 5.02/1.43 | 5.8/1.66 | 6.69/1.91 | 7.70/2.20 | 8.80/2.51 | 9.94/2.84 | 11.03/3.15 | 11.92/3.41 | 12.45/3.56 |
| | | | 4.92/1.41 | 5.67/1.62 | 6.54/1.87 | 7.57/2.16 | 8.76/2.50 | 10.13/2.89 | 11.68/3.34 | 13.35/3.81 | 15.0/4.29 | 16.40/4.69 | 17.19/4.91 |
| | | | 5.77/1.65 | 6.65/1.90 | 7.66/2.19 | 8.85/2.53 | 10.23/2.92 | 11.82/3.38 | 13.62/3.89 | 15.59/4.45 | 17.57/5.02 | 19.3/5.51 | 20.32/5.81 |
| | | | 0.78/0.22 | 0.82/0.23 | 0.86/0.24 | 0.89/0.25 | 0.92/0.26 | 0.94/0.23 | 0.95/0.27 | 0.96/0.27 | 0.96/0.27 | 0.95/0.27 | 0.93/0.26 |
| | | | 0.98/0.28 | 1.10/0.31 | 1.23/0.35 | 1.36/0.39 | 1.48/0.42 | 1.60/0.45 | 1.70/0.48 | 1.79/0.51 | 1.86/0.53 | 1.89/0.54 | 1.89/0.54 |
| | TEV-2# | 55 | 1.37/0.39 | 1.58/0.45 | 1.81/0.52 | 2.06/0.59 | 2.33/0.67 | 2.63/0.75 | 2.93/0.84 | 3.24/0.93 | 3.51/1.0 | 3.74/1.07 | 3.87/1.11 |
| | | | 1.56/0.45 | 1.81/0.52 | 2.09/0.60 | 2.41/0.69 | 2.77/0.79 | 3.18/0.91 | 3.64/1.04 | 4.13/1.18 | 4.63/1.32 | 5.11/1.46 | 5.48/1.57 |
| | | | 2.64/0.75 | 3.07/0.88 | 3.55/1.01 | 4.09/1.17 | 4.71/1.35 | 5.41/1.55 | 6.18/1.77 | 7.03/2.01 | 7.91/2.26 | 8.75/2.50 | 9.42/2.69 |
| | | | 3.96/1.13 | 4.55/1.3 | 5.24/1.50 | 6.05/1.73 | 6.98/1.99 | 8.05/2.30 | 9.26/2.65 | 10.56/3.02 | 11.9/3.40 | 13.15/3.76 | 14.17/4.05 |
| | | | 5.17/1.48 | 5.94/1.7 | 6.84/1.95 | 7.91/2.26 | 9.16/2.62 | 10.64/3.04 | 12.53/3.58 | 14.28/4.08 | 16.35/4.67 | 18.32/5.23 | 19.87/5.68 |
| | | | 6.04/1.73 | 6.94/1.98 | 7.99/2.28 | 9.22/2.63 | 10.68/3.05 | 12.39/3.54 | 14.38/4.11 | 16.65/4.76 | 19.13/5.47 | 21.57/6.16 | 23.55/6.73 |
| | TEV-3# | 25 | 0.77/0.22 | 0.82/0.23 | 0.87/0.25 | 0.89/0.25 | 0.92/0.26 | 0.94/0.27 | 0.96/0.27 | 0.97/0.28 | 0.98/0.28 | 0.98/0.28 | 0.97/0.28 |
| | | | 0.98/0.28 | 1.10/0.31 | 1.23/0.35 | 1.35/0.38 | 1.48/0.42 | 1.60/0.45 | 1.72/0.49 | 1.82/0.52 | 1.90/0.54 | 1.96/0.56 | 1.98/0.56 |
| | | | 1.38/0.39 | 1.59/0.45 | 1.82/0.52 | 2.07/0.59 | 2.35/0.67 | 2.66/0.76 | 2.98/0.85 | 3.30/0.94 | 3.61/1.03 | 3.88/1.11 | 4.08/1.17 |
| | | | 1.58/0.45 | 1.83/0.52 | 2.12/0.61 | 2.44/0.70 | 2.81/0.80 | 3.24/0.93 | 3.71/1.06 | 4.24/1.21 | 4.79/1.37 | 5.34/1.53 | 5.81/1.66 |
| | | | 2.68/0.77 | 3.11/0.89 | 3.60/1.03 | 4.16/1.19 | 4.80/1.37 | 5.52/1.58 | 6.34/1.81 | 7.26/2.07 | 8.25/2.36 | 9.24/2.64 | 10.09/2.88 |
| | | | 4.11/1.17 | 4.66/1.33 | 5.38/1.54 | 6.19/1.77 | 7.13/2.04 | 8.21/2.35 | 9.43/2.69 | 10.79/3.08 | 12.23/3.49 | 13.65/3.90 | 14.93/4.27 |
| | TEV-4# | 35 | 5.36/1.53 | 6.14/1.75 | 7.05/2.01 | 8.12/2.32 | 9.38/2.68 | 10.89/3.11 | 12.65/3.61 | 14.67/4.19 | 16.94/4.83 | 19.17/5.48 | 21.13/6.04 |
| | | | 6.24/1.78 | 7.14/2.04 | 8.20/2.34 | 9.44/2.7 | 10.92/3.12 | 12.66/3.62 | 14.73/4.21 | 17.13/4.89 | 19.83/5.67 | 22.64/6.47 | 25.16/7.19 |
| | | | 0.47/0.13 | 0.50/0.14 | 0.53/0.15 | 0.56/0.16 | 0.58/0.17 | 0.6/0.17 | 0.61/0.17 | 0.61/0.17 | 0.60/0.17 | 0.57/0.16 | 0.53/0.15 |
| | | | 0.50/0.14 | 0.57/0.16 | 0.65/0.18 | 0.72/0.20 | 0.80/0.23 | 0.87/0.25 | 0.93/0.26 | 0.98/0.28 | 1.01/0.29 | 1.00/0.28 | 0.96/0.27 |
| | | | 0.71/0.20 | 0.81/0.23 | 0.93/0.27 | 1.09/0.31 | 1.21/0.35 | 1.29/0.37 | 1.52/0.43 | 1.59/0.45 | 1.68/0.48 | 1.83/0.52 | 1.82/0.52 |
| | | | 0.79/0.23 | 0.89/0.25 | 1.02/0.29 | 1.19/0.34 | 1.43/0.41 | 1.52/0.43 | 1.72/0.49 | 1.92/0.55 | 2.12/0.61 | 2.21/0.63 | 2.19/0.63 |
| TEV-5# | 45 | 1.31/0.37 | 1.53/0.44 | 1.69/0.48 | 2.02/0.58 | 2.31/0.66 | 2.63/0.75 | 2.91/0.83 | 3.18/0.91 | 3.49/1.00 | 3.70/1.06 | 3.84/1.10 | |
| | | 1.88/0.54 | 2.21/0.63 | 2.52/0.72 | 2.91/0.83 | 3.31/0.95 | 3.69/1.05 | 4.19/1.20 | 4.69/1.34 | 5.58/1.59 | 5.56/1.59 | 5.73/1.64 | |
| | | 2.52/0.72 | 2.93/0.84 | 3.29/0.94 | 3.79/1.08 | 4.35/1.24 | 4.91/1.40 | 5.63/1.61 | 6.15/1.76 | 6.83/1.95 | 7.33/2.09 | 7.51/2.15 | |
| | | 2.99/0.85 | 3.38/0.97 | 3.91/1.12 | 4.51/1.29 | 5.23/1.49 | 5.88/1.68 | 6.72/1.92 | 7.56/2.16 | 8.25/2.36 | 8.76/2.50 | 8.99/2.57 | |
| | | 0.48/0.14 | 0.52/0.15 | 0.55/0.16 | 0.58/0.17 | 0.61/0.17 | 0.64/0.18 | 0.65/0.19 | 0.67/0.19 | 0.67/0.19 | 0.67/0.19 | 0.65/0.18 | |
| | | 0.52/0.15 | 0.59/0.17 | 0.67/0.19 | 0.75/0.21 | 0.84/0.24 | 0.92/0.26 | 1.00/0.28 | 1.08/0.31 | 1.14/0.32 | 1.18/0.34 | 1.19/0.34 | |
| TEV-6# | 55 | 0.71/0.20 | 0.82/0.23 | 0.98/0.28 | 1.12/0.32 | 1.16/0.33 | 1.39/0.40 | 1.30/0.37 | 1.80/0.51 | 2.02/0.58 | 2.02/0.58 | 2.13/0.61 | |
| | | 0.82/0.23 | 0.93/0.27 | 1.12/0.32 | 1.19/0.34 | 1.42/0.41 | 1.58/0.45 | 1.89/0.54 | 2.12/0.61 | 2.39/0.68 | 2.53/0.72 | 2.81/0.80 | |
| | | 1.39/0.40 | 1.62/0.46 | 1.82/0.52 | 2.13/0.61 | 2.37/0.68 | 2.83/0.81 | 3.09/0.88 | 3.45/0.99 | 4.01/1.15 | 4.51/1.29 | 4.75/1.36 | |
| | | 2.02/0.58 | 2.33/0.67 | 2.63/0.75 | 3.01/0.86 | 3.53/1.01 | 3.99/1.14 | 4.59/1.31 | 5.18/1.48 | 5.95/1.70 | 6.58/1.88 | 7.22/2.06 | |
| | | 2.73/0.78 | 3.01/0.86 | 3.52/1.01 | 4.02/1.15 | 4.62/1.32 | 5.33/1.52 | 6.08/1.74 | 6.91/1.97 | 7.76/2.22 | 8.69/2.48 | 9.41/2.69 | |
| | | 3.18/0.91 | 3.62/1.03 | 4.11/1.17 | 4.85/1.39 | 5.53/1.58 | 6.28/1.79 | 7.22/2.06 | 8.24/2.35 | 9.26/2.65 | 10.31/2.95 | 11.25/3.21 | |

| REFRIGERATING CAPACITY(KW)/(TR) | | | | | | | | | | | | | | |
|---------------------------------|------------|--------------------|-----------------------------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|-----------|
| Refrigerant | Orifice | Condensing Temp °C | Evaporation temperature(°C) | | | | | | | | | | | |
| | | | -40 | -35 | -30 | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 | |
| R134a | TEV-X# | 45 | 0.47/0.13 | 0.52/0.15 | 0.55/0.16 | 0.59/0.17 | 0.62/0.18 | 0.65/0.18 | 0.67/0.19 | 0.69/0.20 | 0.71/0.20 | 0.72/0.20 | 0.72/0.20 | |
| | TEV-0# | | 0.52/0.15 | 0.59/0.17 | 0.67/0.19 | 0.76/0.22 | 0.85/0.24 | 0.94/0.27 | 1.04/0.30 | 1.13/0.32 | 1.21/0.34 | 1.28/0.36 | 1.35/0.38 | |
| | TEV-1# | | 0.77/0.22 | 0.83/0.24 | 0.96/0.27 | 1.08/0.31 | 1.34/0.38 | 1.46/0.42 | 1.73/0.49 | 1.92/0.55 | 2.11/0.60 | 2.25/0.64 | 2.53/0.72 | |
| | TEV-2# | | 0.81/0.23 | 0.92/0.26 | 1.12/0.32 | 1.33/0.38 | 1.52/0.43 | 1.69/0.48 | 1.92/0.55 | 2.23/0.64 | 2.53/0.72 | 2.85/0.81 | 3.16/0.90 | |
| | TEV-3# | | 1.42/0.41 | 1.66/0.47 | 1.83/0.52 | 2.16/0.62 | 2.49/0.71 | 2.75/0.79 | 3.34/0.95 | 3.71/1.06 | 4.23/1.21 | 4.69/1.34 | 5.32/1.52 | |
| | TEV-4# | | 2.11/0.60 | 2.42/0.69 | 2.68/0.77 | 3.21/0.92 | 3.58/1.02 | 4.26/1.22 | 4.76/1.36 | 5.61/1.60 | 6.31/1.80 | 7.12/2.03 | 7.85/2.24 | |
| | TEV-5# | 2.83/0.81 | 3.15/0.90 | 3.66/1.05 | 4.15/1.19 | 4.86/1.39 | 5.55/1.59 | 6.25/1.79 | 7.28/2.08 | 8.15/2.33 | 9.25/2.64 | 10.29/2.94 | | |
| | TEV-6# | 3.36/0.96 | 3.72/1.06 | 4.31/1.23 | 4.94/1.41 | 5.62/1.61 | 6.52/1.86 | 7.46/2.13 | 8.63/2.47 | 9.91/2.83 | 11.2/3.20 | 12.44/3.55 | | |
| | TEV-X# | 55 | 0.46/0.13 | 0.50/0.14 | 0.54/0.15 | 0.58/0.16 | 0.61/0.17 | 0.64/0.18 | 0.67/0.19 | 0.70/0.20 | 0.72/0.20 | 0.73/0.21 | 0.74/0.21 | |
| | TEV-0# | | 0.51/0.15 | 0.58/0.16 | 0.66/0.19 | 0.74/0.21 | 0.84/0.24 | 0.95/0.27 | 1.03/0.29 | 1.13/0.32 | 1.22/0.35 | 1.31/0.37 | 1.38/0.39 | |
| | TEV-1# | | 0.75/0.21 | 0.82/0.23 | 0.96/0.27 | 1.13/0.32 | 1.32/0.38 | 1.56/0.45 | 1.75/0.50 | 1.93/0.55 | 2.14/0.61 | 2.33/0.67 | 2.54/0.73 | |
| | TEV-2# | | 0.83/0.24 | 0.95/0.27 | 1.12/0.32 | 1.28/0.37 | 1.49/0.43 | 1.78/0.51 | 1.89/0.54 | 2.15/0.61 | 2.53/0.72 | 2.75/0.79 | 3.18/0.91 | |
| | TEV-3# | | 1.44/0.41 | 1.62/0.46 | 1.82/0.52 | 2.06/0.59 | 2.38/0.68 | 2.69/0.77 | 3.41/0.97 | 3.74/1.07 | 4.26/1.22 | 4.63/1.32 | 5.26/1.50 | |
| | TEV-4# | | 2.11/0.60 | 2.42/0.69 | 2.83/0.81 | 3.25/0.93 | 3.65/1.04 | 4.26/1.22 | 4.76/1.36 | 5.53/1.58 | 6.21/1.77 | 7.08/2.02 | 7.93/2.27 | |
| | TEV-5# | 2.86/0.82 | 3.21/0.92 | 3.56/1.02 | 4.23/1.21 | 4.91/1.40 | 5.52/1.58 | 6.33/1.81 | 7.23/2.07 | 8.21/2.35 | 9.4/2.69 | 10.3/2.94 | | |
| | TEV-6# | 3.29/0.94 | 3.74/1.07 | 4.29/1.23 | 4.92/1.41 | 5.82/1.66 | 6.43/1.84 | 7.52/2.15 | 8.66/2.47 | 9.85/2.81 | 11.2/3.20 | 12.35/3.53 | | |
| | R404A/R507 | TEV-X# | 25 | 0.53/0.15 | 0.56/0.16 | 0.59/0.17 | 0.61/0.17 | 0.62/0.18 | 0.63/0.18 | 0.64/0.18 | 0.63/0.18 | 0.61/0.17 | 0.57/0.16 | 0.52/0.15 |
| | | TEV-0# | | 0.69/0.20 | 0.79/0.22 | 0.89/0.25 | 0.98/0.28 | 1.06/0.30 | 1.13/0.32 | 1.17/0.33 | 1.19/0.34 | 1.18/0.34 | 1.13/0.32 | 1.05/0.30 |
| TEV-1# | | 0.99/0.28 | | 1.18/0.34 | 1.39/0.40 | 1.65/0.47 | 1.83/0.52 | 1.93/0.55 | 2.13/0.61 | 2.23/0.64 | 2.41/0.69 | 2.43/0.69 | 2.36/0.67 | |
| TEV-2# | | 1.12/0.32 | | 1.34/0.38 | 1.56/0.45 | 1.93/0.55 | 2.21/0.63 | 2.52/0.72 | 2.85/0.81 | 3.02/0.86 | 3.32/0.95 | 3.19/0.91 | 3.15/0.90 | |
| TEV-3# | | 1.13/0.32 | | 2.22/0.63 | 2.67/0.76 | 3.12/0.89 | 3.71/1.06 | 4.15/1.19 | 4.65/1.33 | 5.31/1.52 | 5.53/1.58 | 5.5/1.57 | 5.36/1.53 | |
| TEV-4# | | 2.73/0.78 | | 3.21/0.92 | 3.83/1.09 | 4.62/1.32 | 5.44/1.55 | 6.13/1.75 | 7.21/2.06 | 7.82/2.23 | 8.52/2.43 | 8.72/2.49 | 8.59/2.45 | |
| TEV-5# | | 3.52/1.01 | 4.23/1.21 | 5.03/1.44 | 6.03/1.72 | 7.21/2.06 | 8.26/2.36 | 9.35/2.67 | 10.34/2.95 | 11.23/3.21 | 11.43/3.27 | 11.17/3.19 | | |
| TEV-6# | | 4.23/1.21 | 5.02/1.43 | 6.11/1.75 | 7.12/2.03 | 8.36/2.39 | 9.85/2.81 | 11.13/3.18 | 12.56/3.59 | 13.41/3.83 | 13.8/3.94 | 13.25/3.79 | | |
| TEV-X# | | 35 | 0.50/0.14 | 0.54/0.15 | 0.57/0.16 | 0.60/0.17 | 0.62/0.18 | 0.64/0.18 | 0.65/0.19 | 0.66/0.19 | 0.66/0.19 | 0.64/0.18 | 0.62/0.18 | |
| TEV-0# | | | 0.64/0.18 | 0.74/0.21 | 0.85/0.24 | 0.95/0.27 | 1.04/0.30 | 1.13/0.32 | 1.20/0.34 | 1.26/0.36 | 1.29/0.37 | 1.29/0.37 | 1.25/0.36 | |
| TEV-1# | | | 0.93/0.27 | 1.16/0.33 | 1.25/0.36 | 1.63/0.47 | 1.82/0.52 | 1.98/0.57 | 2.35/0.67 | 2.39/0.68 | 2.65/0.76 | 2.77/0.79 | 2.68/0.77 | |
| TEV-2# | | | 1.21/0.35 | 1.25/0.36 | 1.53/0.44 | 1.82/0.52 | 2.13/0.61 | 2.61/0.75 | 2.91/0.83 | 3.41/0.97 | 3.49/1.0 | 3.65/1.04 | 3.95/1.13 | |
| TEV-3# | | | 1.69/0.48 | 2.11/0.60 | 2.67/0.76 | 3.15/0.90 | 3.65/1.04 | 4.29/1.23 | 4.92/1.41 | 5.63/1.61 | 6.03/1.72 | 6.62/1.89 | 6.63/1.89 | |
| TEV-4# | | | 2.54/0.73 | 3.06/0.87 | 3.85/1.1 | 4.61/1.32 | 5.51/1.57 | 6.51/1.86 | 7.46/2.13 | 8.62/2.46 | 9.38/2.68 | 10.31/2.95 | 10.62/3.03 | |
| TEV-5# | | 3.46/0.99 | 3.99/1.14 | 4.91/1.4 | 5.81/1.66 | 7.12/2.03 | 8.2/2.34 | 9.75/2.79 | 11.21/3.2 | 12.53/3.58 | 13.52/3.86 | 13.59/3.88 | | |
| TEV-6# | | 4.12/1.18 | 4.76/1.36 | 5.86/1.67 | 7.12/2.03 | 8.33/2.38 | 10.12/2.89 | 11.8/3.37 | 13.52/3.86 | 14.92/4.26 | 16.03/4.58 | 16.25/4.64 | | |
| TEV-X# | | 45 | 0.44/0.13 | 0.48/0.14 | 0.52/0.15 | 0.55/0.16 | 0.58/0.16 | 0.6/0.17 | 0.625/0.18 | 0.64/0.18 | 0.65/0.19 | 0.66/0.19 | 0.65/0.18 | |
| TEV-0# | | | 0.57/0.16 | 0.67/0.19 | 0.77/0.22 | 0.87/0.25 | 0.96/0.27 | 1.06/0.30 | 1.15/0.33 | 1.21/0.34 | 1.29/0.37 | 1.32/0.38 | 1.32/0.38 | |
| TEV-1# | | | 0.88/0.25 | 0.98/0.28 | 1.16/0.33 | 1.46/0.42 | 1.72/0.49 | 1.79/0.51 | 2.25/0.64 | 2.51/0.72 | 2.61/0.75 | 2.72/0.78 | 2.93/0.84 | |
| TEV-2# | | | 0.96/0.27 | 1.22/0.35 | 1.42/0.41 | 1.75/0.5 | 2.03/0.58 | 2.45/0.70 | 2.71/0.77 | 3.22/0.92 | 3.53/1.01 | 3.95/1.13 | 4.22/1.21 | |
| TEV-3# | | | 1.55/0.44 | 2.05/0.59 | 2.51/0.72 | 2.93/0.84 | 3.51/1.0 | 4.23/1.21 | 4.92/1.41 | 5.61/1.60 | 6.13/1.75 | 6.68/1.91 | 7.15/2.04 | |
| TEV-4# | | | 2.36/0.67 | 2.92/0.83 | 3.66/1.05 | 4.21/1.20 | 5.23/1.49 | 6.21/1.77 | 7.35/2.1 | 8.38/2.39 | 9.65/2.76 | 10.92/3.12 | 11.29/3.23 | |
| TEV-5# | | 3.25/0.93 | 3.82/1.09 | 4.53/1.29 | 5.49/1.57 | 6.6/1.89 | 8.1/2.31 | 9.49/2.71 | 11.10/3.17 | 13.1/3.74 | 14.25/4.07 | 15.02/4.29 | | |
| TEV-6# | | 3.78/1.08 | 4.56/1.30 | 5.51/1.57 | 6.63/1.89 | 7.85/2.24 | 9.7/2.77 | 11.52/3.29 | 13.6/3.89 | 15.33/4.38 | 16.8/4.80 | 17.85/5.10 | | |
| TEV-X# | | 55 | 0.37/0.10 | 0.40/0.11 | 0.44/0.13 | 0.48/0.14 | 0.51/0.14 | 0.53/0.15 | 0.56/0.16 | 0.58/0.16 | 0.59/0.17 | 0.60/0.17 | 0.60/0.17 | |
| TEV-0# | | | 0.48/0.14 | 0.57/0.16 | 0.65/0.18 | 0.74/0.21 | 0.83/0.24 | 0.92/0.26 | 1.01/0.29 | 1.09/0.31 | 1.16/0.33 | 1.21/0.34 | 1.23/0.35 | |
| TEV-1# | | | 0.73/0.21 | 0.86/0.25 | 1.15/0.33 | 1.32/0.38 | 1.51/0.43 | 1.75/0.50 | 2.06/0.59 | 2.16/0.62 | 2.50/0.71 | 2.53/0.72 | 2.76/0.79 | |
| TEV-2# | | | 0.86/0.25 | 0.98/0.28 | 1.23/0.35 | 1.49/0.43 | 1.82/0.52 | 2.1/0.60 | 2.43/0.69 | 2.99/0.85 | 3.23/0.92 | 3.75/1.07 | 4.03/1.15 | |
| TEV-3# | | | 1.35/0.39 | 1.69/0.48 | 2.21/0.63 | 2.53/0.72 | 3.01/0.86 | 3.63/1.04 | 4.36/1.25 | 5.03/1.44 | 5.76/1.65 | 6.31/1.80 | 6.85/1.96 | |
| TEV-4# | | | 2.23/0.64 | 2.65/0.76 | 3.12/0.89 | 3.69/1.05 | 4.52/1.29 | 5.51/1.57 | 6.55/1.87 | 7.61/2.17 | 9.10/2.60 | 10.01/2.86 | 10.92/3.12 | |
| TEV-5# | 2.91/0.83 | 3.43/0.98 | 4.06/1.16 | 4.85/1.39 | 5.93/1.69 | 7.25/2.07 | 8.69/2.48 | 10.41/2.97 | 11.75/3.36 | 13.60/3.89 | 14.3/4.09 | | | |
| TEV-6# | 3.29/0.94 | 4.01/1.15 | 4.75/1.36 | 5.82/1.66 | 7.11/2.03 | 8.39/2.40 | 10.38/2.97 | 12.26/3.5 | 14.40/4.11 | 16.20/4.63 | 17.35/4.96 | | | |

| REFRIGERATING CAPACITY(KW)/(TR) | | | | | | | | | | | | | |
|---------------------------------|---------|--------------------|-----------------------------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Refrigerant | Orifice | Condensing Temp °C | Evaporation temperature(°C) | | | | | | | | | | |
| | | | -40 | -35 | -30 | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 |
| R410A | TEV-X# | 25 | 0.39/0.11 | 0.48/0.14 | 0.58/0.16 | 0.67/0.19 | 0.75/0.21 | 0.82/0.23 | 0.90/0.26 | 0.93/0.26 | 0.95/0.27 | 0.94/0.27 | 0.90/0.26 |
| | TEV-0# | | 0.75/0.21 | 0.93/0.26 | 1.12/0.32 | 1.29/0.37 | 1.46/0.42 | 1.61/0.46 | 1.76/0.50 | 1.87/0.53 | 1.98/0.56 | 1.83/0.52 | 1.68/0.48 |
| | TEV-1# | | 1.03/0.29 | 1.33/0.38 | 1.68/0.48 | 1.96/0.56 | 2.35/0.67 | 2.69/0.77 | 3.10/0.89 | 3.29/0.94 | 3.81/1.09 | 3.65/1.04 | 3.29/0.94 |
| | TEV-2# | | 1.32/0.38 | 1.68/0.48 | 2.05/0.59 | 2.45/0.7 | 2.86/0.82 | 3.25/0.93 | 3.65/1.04 | 4.24/1.21 | 4.62/1.32 | 4.29/1.23 | 4.28/1.22 |
| | TEV-3# | | 2.35/0.67 | 3.03/0.87 | 3.62/1.03 | 4.39/1.25 | 5.19/1.48 | 5.93/1.69 | 6.62/2.75 | 7.53/2.15 | 8.35/2.39 | 7.86/2.25 | 7.63/2.18 |
| | TEV-4# | | 3.49/1.0 | 4.50/1.29 | 5.51/1.57 | 6.51/1.86 | 7.95/2.27 | 8.79/2.51 | 9.99/2.85 | 11.35/3.24 | 12.54/3.58 | 12.03/3.44 | 11.53/3.29 |
| | TEV-5# | 4.36/1.25 | 5.56/1.59 | 6.79/1.94 | 8.31/2.37 | 9.68/2.77 | 11.25/3.21 | 12.58/3.59 | 14.23/4.07 | 16.73/4.78 | 14.98/4.28 | 14.4/4.11 | |
| | TEV-6# | 5.39/1.54 | 6.93/1.98 | 8.55/2.44 | 10.32/2.95 | 12.10/3.46 | 19.88/5.68 | 15.92/4.55 | 17.68/5.05 | 19.58/5.59 | 18.78/5.37 | 17.9/5.11 | |
| | TEV-X# | 35 | 0.39/0.11 | 0.49/0.14 | 0.60/0.17 | 0.69/0.20 | 1.35/0.38 | 0.89/0.25 | 0.94/0.27 | 0.99/0.28 | 1.03/0.29 | 1.05/0.30 | 1.05/0.30 |
| | TEV-0# | | 0.76/0.22 | 0.95/0.27 | 1.15/0.33 | 1.33/0.38 | 1.52/0.43 | 1.70/0.48 | 1.88/0.53 | 2.04/0.58 | 2.20/0.63 | 2.12/0.60 | 2.04/0.58 |
| | TEV-1# | | 1.10/0.31 | 1.43/0.41 | 1.68/0.48 | 2.01/0.57 | 2.39/0.68 | 2.91/0.83 | 3.21/0.92 | 3.72/1.06 | 4.21/1.20 | 4.15/1.19 | 4.08/1.17 |
| | TEV-2# | | 1.32/0.38 | 1.69/0.48 | 2.12/0.61 | 2.50/0.71 | 2.96/0.85 | 3.52/1.01 | 3.96/1.13 | 4.56/1.30 | 5.15/1.47 | 5.10/1.46 | 5.06/1.45 |
| | TEV-3# | | 2.25/0.64 | 3.12/0.89 | 3.68/1.05 | 4.51/1.29 | 5.36/1.53 | 6.31/1.8 | 7.2/2.06 | 8.15/2.33 | 9.22/2.63 | 9.08/2.59 | 9.08/2.59 |
| | TEV-4# | | 3.39/0.97 | 4.39/1.25 | 5.62/1.61 | 6.67/1.91 | 8.01/2.29 | 9.42/2.69 | 10.81/3.09 | 13.38/3.82 | 14.01/4.0 | 13.91/3.97 | 13.88/3.97 |
| | TEV-5# | 4.39/1.25 | 5.68/1.62 | 7.03/2.01 | 8.46/2.42 | 10.10/2.89 | 11.68/3.34 | 13.4/3.83 | 15.51/4.43 | 17.2/4.91 | 17.25/4.93 | 17.42/4.98 | |
| | TEV-6# | 5.61/1.60 | 7.05/2.01 | 8.82/2.52 | 10.59/3.03 | 15.61/4.46 | 14.69/4.2 | 16.65/4.76 | 19.43/5.55 | 21.75/6.21 | 21.77/6.22 | 21.69/6.20 | |
| | TEV-X# | 45 | 0.38/0.11 | 0.48/0.14 | 0.58/0.16 | 0.68/0.19 | 0.79/0.22 | 0.88/0.25 | 0.93/0.26 | 0.98/0.28 | 1.04/0.30 | 1.08/0.31 | 1.13/0.32 |
| | TEV-0# | | 0.74/0.21 | 0.94/0.27 | 1.13/0.32 | 1.33/0.38 | 1.52/0.43 | 1.72/0.49 | 1.91/0.54 | 2.10/0.60 | 2.29/0.65 | 2.25/0.64 | 2.22/0.63 |
| | TEV-1# | | 1.06/0.30 | 1.38/0.39 | 1.59/0.45 | 2.01/0.57 | 2.39/0.68 | 2.86/0.82 | 3.19/0.91 | 3.82/1.09 | 4.28/1.22 | 4.3/1.23 | 4.41/1.26 |
| | TEV-2# | | 1.33/0.38 | 1.66/0.47 | 2.06/0.59 | 2.39/0.68 | 3.01/0.86 | 3.51/1.0 | 4.06/1.16 | | | | |

TEVS EXPANSION VALVE

TEVS valves is an integrated thermal expansion valve with a cooling capacity range of 3.5-52TR (R410A), suitable for air conditioning system, heat pump, chiller



FEATURES

- Stainless steel power element by laser welding
- Extra strong diaphragm ensures the long valve life
- Stainless steel capillary for high corrosion resistance, high strength and vibration resistance.
- Superheat can be adjusted quickly and accurately
- Bi-directional flow design
- MOP function is available according to your choice

TECHNICAL PARAMETERS

| | |
|--|---|
| Applicable refrigerants | R22/R407C, R134a, R404A/R507, R410A, R454B, R448A/R449A, R290 |
| Applicable temperature | -40°C/+10°C |
| Max operating temperature of sensing element | 100°C/210°F (R410A) |
| Max operating temperature of valve body | 110°C/230°F (R410A) |
| Max working pressure | 46bar/667psig |
| Max testing pressure: | 51bar/740psig |
| Max opening superheat(OSH) | 4K |

APPLICATION

- Traditional refrigeration
- Heat pump systems
- Air conditioning units
- Liquid coolers
- Transport refrigeration

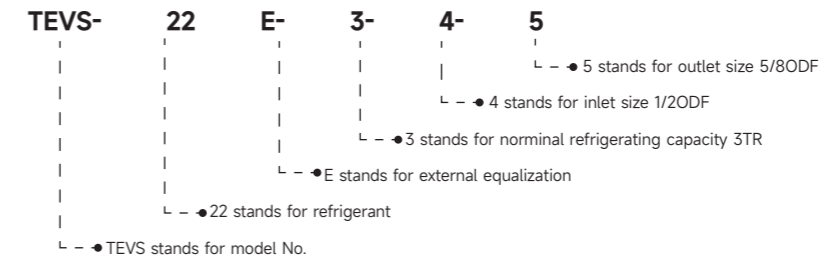


MODEL SELECTION

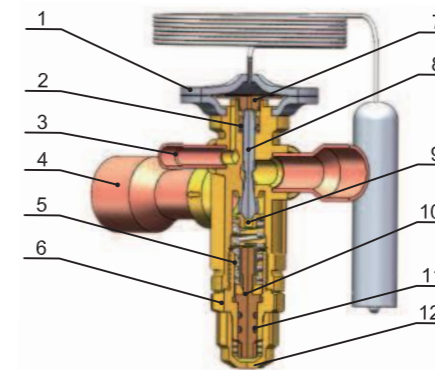
| Model | Refrigerant | Nominal refrigerating capacity | | Connection size (ODF) | | |
|-------------------|----------------|--------------------------------|-------|-----------------------|--------|----------------|
| | | TR | kW | Inlet | Outlet | Equalizer tube |
| | | | | | | |
| TEVS-22E-3-3-5 | R22/ R407C | 3 | 10 | 3/8 | 5/8 | 1/4 |
| TEVS-22E-3-4-5 | | 3 | 10 | 1/2 | 5/8 | 1/4 |
| TEVS-22E-4-4-7 | | 4 | 14 | 1/2 | 7/8 | 1/4 |
| TEVS-22E-6-4-5 | | 6 | 20 | 1/2 | 5/8 | 1/4 |
| TEVS-22E-6-4-7 | | 6 | 20 | 1/2 | 7/8 | 1/4 |
| TEVS-22E-6-5-5 | | 6 | 20 | 5/8 | 5/8 | 1/4 |
| TEVS-22E-6-5-7 | | 6 | 20 | 5/8 | 7/8 | 1/4 |
| TEVS-22E-7.5-5-7 | | 7.5 | 27 | 5/8 | 7/8 | 1/4 |
| TEVS-22E-9-5-7 | | 9 | 32 | 5/8 | 7/8 | 1/4 |
| TEVS-22E-9-5-9 | | 9 | 32 | 5/8 | 1-1/8 | 1/4 |
| TEVS-22E-11-5-7 | | 11 | 38 | 5/8 | 7/8 | 1/4 |
| TEVS-22E-11-5-9 | | 11 | 38 | 5/8 | 1-1/8 | 1/4 |
| TEVS-22E-12-5-7 | | 12 | 43 | 5/8 | 7/8 | 1/4 |
| TEVS-22E-12-5-9 | | 12 | 43 | 5/8 | 1-1/8 | 1/4 |
| TEVS-22E-15-5-7 | | 15 | 54 | 5/8 | 7/8 | 1/4 |
| TEVS-22E-15-5-9 | | 15 | 54 | 5/8 | 1-1/8 | 1/4 |
| TEVS-22E-15-7-9 | | 15 | 54 | 7/8 | 1-1/8 | 1/4 |
| TEVS-22E-18-7-9 | | 18 | 63 | 7/8 | 1-1/8 | 1/4 |
| TEVS-22E-18-7-11 | | 18 | 63 | 7/8 | 1-3/8 | 1/4 |
| TEVS-22E-26-7-9 | | 26 | 92 | 7/8 | 1-1/8 | 1/4 |
| TEVS-22E-26-7-11 | 26 | 92 | 7/8 | 1-3/8 | 1/4 | |
| TEVS-22E-30-7-11 | 30 | 104 | 7/8 | 1-3/8 | 1/4 | |
| TEVS-22E-30-9-11 | 30 | 104 | 1-1/8 | 1-3/8 | 1/4 | |
| TEVS-22E-38-9-11 | 38 | 134 | 1-1/8 | 1-3/8 | 1/4 | |
| TEVS-22E-42-9-11 | 42 | 148 | 1-1/8 | 1-3/8 | 1/4 | |
| TEVS-404E-2-3-5 | R404A/ R507 | 2 | 7 | 3/8 | 5/8 | 1/4 |
| TEVS-404E-2.5-4-7 | | 2.5 | 9 | 1/2 | 7/8 | 1/4 |
| TEVS-404E-4-4-5 | | 4 | 14 | 1/2 | 5/8 | 1/4 |
| TEVS-404E-4-4-7 | | 4 | 14 | 1/2 | 7/8 | 1/4 |
| TEVS-404E-5-4-5 | | 5 | 18 | 1/2 | 5/8 | 1/4 |
| TEVS-404E-5-5-7 | | 5 | 18 | 5/8 | 7/8 | 1/4 |
| TEVS-404E-6-5-7 | | 6 | 21 | 5/8 | 7/8 | 1/4 |
| TEVS-404E-7.5-5-7 | | 7.5 | 26 | 5/8 | 7/8 | 1/4 |
| TEVS-404E-9-5-7 | | 9 | 31 | 5/8 | 7/8 | 1/4 |
| TEVS-404E-11-5-9 | | 11 | 39 | 5/8 | 1-1/8 | 1/4 |
| TEVS-404E-11-7-9 | | 11 | 39 | 7/8 | 1-1/8 | 1/4 |
| TEVS-404E-11-9-11 | | 11 | 39 | 1-1/8 | 1-3/8 | 1/4 |
| TEVS-404E-13-7-9 | | 13 | 45 | 7/8 | 1-1/8 | 1/4 |
| TEVS-404E-18-7-11 | | 18 | 64 | 7/8 | 1-3/8 | 1/4 |
| TEVS-404E-21-9-11 | | 21 | 72 | 1-1/8 | 1-3/8 | 1/4 |
| TEVS-404E-26-9-11 | | 26 | 92 | 1-1/8 | 1-3/8 | 1/4 |

| MODEL SELECTION | | | | | | |
|-------------------|-------------|--------------------------------|-----|-----------------------|--------|----------------|
| Model | Refrigerant | Nominal refrigerating capacity | | Connection size (ODF) | | |
| | | TR | kW | Inlet | Outlet | Equalizer tube |
| TEVS-134E-1.5-3-5 | R134a | 1.5 | 6 | 3/8 | 5/8 | 1/4 |
| TEVS-134E-2.5-4-7 | | 2.5 | 8 | 1/2 | 7/8 | 1/4 |
| TEVS-134E-3.5-4-5 | | 3.5 | 12 | 1/2 | 5/8 | 1/4 |
| TEVS-134E-3.5-4-7 | | 3.5 | 12 | 1/2 | 7/8 | 1/4 |
| TEVS-134E-4.5-5-7 | | 4.5 | 17 | 5/8 | 7/8 | 1/4 |
| TEVS-134E-5.5-5-7 | | 5.5 | 20 | 5/8 | 7/8 | 1/4 |
| TEVS-134E-7-5-7 | | 7 | 24 | 5/8 | 7/8 | 1/4 |
| TEVS-134E-8-5-7 | | 8 | 29 | 5/8 | 7/8 | 1/4 |
| TEVS-134E-10-5-7 | | 10 | 37 | 5/8 | 7/8 | 1/4 |
| TEVS-134E-10-5-9 | | 10 | 37 | 5/8 | 1-1/8 | 1/4 |
| TEVS-134E-10-7-9 | | 10 | 37 | 7/8 | 1-1/8 | 1/4 |
| TEVS-134E-12-7-9 | | 12 | 44 | 7/8 | 1-1/8 | 1/4 |
| TEVS-134E-17-7-11 | | 17 | 61 | 7/8 | 1-3/8 | 1/4 |
| TEVS-134E-17-9-11 | | 17 | 61 | 1-1/8 | 1-3/8 | 1/4 |
| TEVS-134E-20-7-11 | | 20 | 70 | 7/8 | 1-3/8 | 1/4 |
| TEVS-134E-20-9-11 | | 20 | 70 | 1-1/8 | 1-3/8 | 1/4 |
| TEVS-134E-25-9-11 | | 25 | 87 | 1-1/8 | 1-3/8 | 1/4 |
| TEVS-410E-3.5-3-5 | | R410A/ R32 | 3.5 | 12 | 3/8 | 5/8 |
| TEVS-410E-3.5-4-5 | 3.5 | | 12 | 1/2 | 5/8 | 1/4 |
| TEVS-410E-4.5-4-7 | 4.5 | | 16 | 1/2 | 7/8 | 1/4 |
| TEVS-410E-6.5-4-5 | 6.5 | | 24 | 1/2 | 5/8 | 1/4 |
| TEVS-410E-6.5-4-7 | 6.5 | | 24 | 1/2 | 7/8 | 1/4 |
| TEVS-410E-6.5-5-7 | 6.5 | | 24 | 5/8 | 7/8 | 1/4 |
| TEVS-410E-9-4-5 | 9 | | 32 | 1/2 | 5/8 | 1/4 |
| TEVS-410E-9-5-7 | 9 | | 32 | 5/8 | 7/8 | 1/4 |
| TEVS-410E-11-5-7 | 11 | | 37 | 5/8 | 7/8 | 1/4 |
| TEVS-410E-13-5-7 | 13 | | 45 | 5/8 | 7/8 | 1/4 |
| TEVS-410E-15-5-7 | 15 | | 54 | 5/8 | 7/8 | 1/4 |
| TEVS-410E-15-5-9 | 15 | | 54 | 5/8 | 1-1/8 | 1/4 |
| TEVS-410E-15-7-7 | 15 | | 54 | 7/8 | 7/8 | 1/4 |
| TEVS-410E-15-7-9 | 15 | | 54 | 7/8 | 1-1/8 | 1/4 |
| TEVS-410E-19-5-9 | 19 | | 68 | 5/8 | 1-1/8 | 1/4 |
| TEVS-410E-19-7-9 | 19 | | 68 | 7/8 | 1-1/8 | 1/4 |
| TEVS-410E-23-7-9 | 23 | | 79 | 7/8 | 1-1/8 | 1/4 |
| TEVS-410E-23-7-11 | 23 | | 79 | 7/8 | 1-3/8 | 1/4 |
| TEVS-410E-26-7-9 | 26 | | 91 | 7/8 | 1-1/8 | 1/4 |
| TEVS-410E-31-7-11 | 31 | | 110 | 7/8 | 1-3/8 | 1/4 |
| TEVS-410E-31-9-9 | 31 | | 110 | 1-1/8 | 1-1/8 | 1/4 |
| TEVS-410E-31-9-11 | 31 | | 110 | 1-1/8 | 1-3/8 | 1/4 |
| TEVS-410E-35-9-11 | 35 | | 125 | 1-1/8 | 1-3/8 | 1/4 |
| TEVS-410E-46-9-11 | 46 | | 161 | 1-1/8 | 1-3/8 | 1/4 |
| TEVS-410E-52-9-11 | 52 | | 182 | 1-1/8 | 1-3/8 | 1/4 |

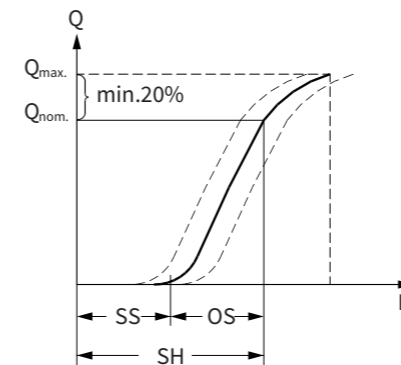
MODEL NUMBERING CONVENTION



STRUCTURE



- 1.power element
- 2.sealing ring
- 3.equalization
- 4.outlet
- 5.spring
- 6.adjustment parts
- 7.transmission plate
- 8.valve core
- 9.spring seat
- 10.adjustment rod
- 11.sealing ring
- 12 valve bonnet



The valve stem applies a high-performance sealing, ensuring reliable and leak-tight operation throughout the service life. Static Superheat (SS) is set via the adjustment rod. The standard superheat setting is 4K (7.2°F), adjustable within the range of 0-8K/0-14.4°F.

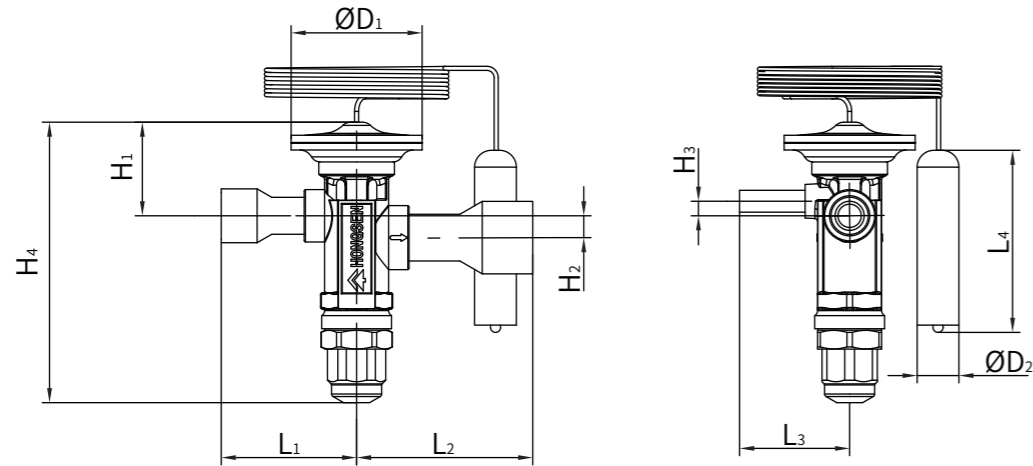
SS= Static Superheat
OS = Opening Superheat
SH = SS + OS = Total Superheat

Example:
Static Superheat (SS) = 4K /7.2°F (factory setting)
Opening Superheat (OS) = 4K /7.2°F
An opening superheat of 4K indicates the valve opening degree when reaching nominal cooling capacity.
Total Superheat (SH) = SS + OS SH = 4 + 4 = 8K /14.4°F
The Total Superheat (SH) can be adjusted by changing the Static Superheat (SS) via the adjustment rod.

BALANCED PORT DESIGN AND ITS ADVANTAGES

- The TEVS series integrated expansion valves adopt a balanced port (BP) design.
- The balanced port design effectively prevents flow fluctuations caused by pressure drops across the valve, delivering precise control in HVAC systems of wide operating variations.
- The balanced port design is recommended for the following refrigeration and air conditioning applications:
 - ①Significant fluctuations of head pressure
 - ②Significant fluctuations of evaporator load
 - ③Substantial pressure drop fluctuations across the expansion valve
 - ④Liquid line temperature fluctuations or subcooling issues
 - ⑤Intermittent flash gas in the liquid line

OVERALL DIMENSIONS



| Model | Inlet | Outlet | H ₁ mm | H ₂ mm | H ₃ mm | H ₄ mm | L ₁ mm | L ₂ mm | L ₃ mm | L ₄ mm | ØD ₁ mm | ØD ₂ mm |
|-------|-------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|--------------------|
| TEVS | 3/8 | 1/2 | 28.5 | 7.5 | 5 | 93 | 41.5 | 45.5 | 37.5 | 70 | 45 | 14.5 |
| | 3/8 | 5/8 | | | | | | | | | | |
| | 1/2 | 5/8 | | | | | | | | | | |
| | 1/2 | 7/8 | | | | | | | | | | |
| | 5/8 | 5/8 | 32 | 9 | 8 | 117 | 48 | 62 | 40 | 78 | 53 | 19.2 |
| | 5/8 | 7/8 | | | | | | | | | | |
| | 5/8 | 1-1/8 | | | | | | | | | | |
| | 5/8 | 7/8 | | | | | | | | | | |
| | 7/8 | 7/8 | 39 | 15 | 11 | 144 | 69.5 | 74.5 | 43.5 | 78 | 60 | 19.2 |
| | 5/8 | 1-1/8 | | | | | | | | | | |
| | 7/8 | 1-3/8 | | | | | | | | | | |
| | 7/8 | 1-3/8 | | | | | | | | | | |

NORMAL REFRIGERATING CAPACITY(R22/KW)

| Model | N.R.C. R22/kW | Pressure drops between inlet and outlet Δp bar | | | | | | | | Pressure drops between inlet and outlet Δp bar | | | | | | | |
|-------------------------------|---------------|--|-------|-------|-------|-------|-------|-------|-------|--|-------|-------|-------|-------|-------|-------|-------|
| | | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| Evaporation temperature +15°C | | | | | | | | | | Evaporation temperature +10°C | | | | | | | |
| TEVS3 | 10 | 7.1 | 9.4 | 10.8 | 11.7 | 12.2 | 12.5 | 12.7 | 12.8 | 6.8 | 9.0 | 10.4 | 11.1 | 11.6 | 11.9 | 12.0 | 12.1 |
| TEVS4 | 14 | 9.7 | 12.8 | 14.7 | 15.8 | 16.5 | 16.9 | 17.1 | 17.1 | 9.3 | 12.3 | 14.1 | 15.1 | 15.7 | 16.0 | 16.2 | 16.2 |
| TEVS6 | 20 | 14.2 | 18.7 | 21.4 | 23.9 | 23.9 | 24.3 | 24.5 | 24.5 | 13.8 | 18.1 | 20.6 | 22.0 | 22.7 | 23.2 | 23.3 | 23.2 |
| TEVS7.5 | 27 | 18.7 | 24.5 | 27.9 | 30.0 | 31.1 | 31.6 | 31.8 | 31.7 | 18.2 | 23.8 | 27.1 | 28.8 | 29.8 | 30.3 | 30.4 | 30.2 |
| TEVS11 | 38 | 24.2 | 32.2 | 37.3 | 40.6 | 42.6 | 43.9 | 44.7 | 45.1 | 23.9 | 31.7 | 36.6 | 39.5 | 41.3 | 42.6 | 43.3 | 43.6 |
| TEVS12 | 43 | 32.5 | 42.1 | 47.3 | 50.2 | 51.4 | 51.7 | 51.4 | 50.7 | 31.2 | 40.2 | 45.1 | 47.4 | 48.4 | 48.6 | 48.3 | 47.5 |
| TEVS15 | 54 | 41.8 | 53.9 | 60.3 | 63.7 | 64.9 | 65.0 | 64.4 | 63.3 | 40.1 | 51.5 | 57.4 | 60.1 | 61.1 | 61.1 | 60.4 | 59.3 |
| TEVS18 | 63 | 47.1 | 61.4 | 69.6 | 74.1 | 76.0 | 76.4 | 75.9 | 74.5 | 45.7 | 59.3 | 66.7 | 70.2 | 71.6 | 71.6 | 70.7 | 69.3 |
| TEVS26 | 92 | 80.6 | 102.3 | 113.1 | 118.0 | 118.7 | 117.6 | 115.3 | 112.2 | 77.6 | 98.0 | 107.9 | 111.4 | 111.8 | 110.5 | 108.1 | 105.0 |
| TEVS30 | 104 | 92.0 | 116.7 | 128.9 | 134.2 | 134.9 | 133.5 | 130.7 | 127.1 | 88.7 | 111.9 | 123.0 | 126.8 | 127.1 | 125.4 | 122.3 | 118.9 |
| TEVS38 | 134 | 111.5 | 145.7 | 165.2 | 176.3 | 181.2 | 182.8 | 182.0 | 179.4 | 107.8 | 140.0 | 157.9 | 166.7 | 170.4 | 171.2 | 169.6 | 166.5 |
| Evaporation temperature +5°C | | | | | | | | | | Evaporation temperature +0°C | | | | | | | |
| TEVS3 | 10 | 6.6 | 8.6 | 9.8 | 10.5 | 10.9 | 11.2 | 11.3 | 11.4 | 6.2 | 8.2 | 9.2 | 9.8 | 10.2 | 10.5 | 10.6 | 10.6 |
| TEVS4 | 14 | 9.0 | 11.8 | 13.4 | 14.2 | 14.8 | 15.1 | 15.2 | 15.2 | 8.5 | 11.2 | 12.6 | 13.4 | 13.8 | 14.1 | 14.2 | 14.2 |
| TEVS6 | 20 | 13.3 | 17.3 | 19.6 | 20.8 | 21.5 | 21.9 | 21.9 | 22.0 | 12.7 | 16.5 | 18.5 | 19.6 | 20.2 | 20.5 | 20.5 | 20.4 |
| TEVS7.5 | 27 | 17.7 | 23.0 | 25.9 | 27.5 | 28.3 | 28.7 | 28.6 | 28.8 | 17.0 | 22.0 | 24.6 | 26.0 | 26.7 | 27.0 | 27.0 | 26.8 |
| TEVS11 | 38 | 23.5 | 31.0 | 35.5 | 38.1 | 39.8 | 40.9 | 41.9 | 41.9 | 22.9 | 30.1 | 34.1 | 36.5 | 38.1 | 39.0 | 39.6 | 39.8 |
| TEVS12 | 43 | 29.7 | 38.1 | 42.5 | 44.4 | 45.2 | 45.3 | 44.9 | 44.2 | 28.1 | 35.8 | 39.5 | 41.2 | 41.9 | 41.9 | 41.5 | 40.8 |
| TEVS15 | 54 | 38.2 | 48.8 | 54.1 | 56.2 | 57.0 | 56.9 | 56.2 | 55.1 | 36.1 | 45.8 | 50.3 | 52.1 | 52.7 | 52.5 | 51.8 | 50.7 |
| TEVS18 | 63 | 44.0 | 56.6 | 63.1 | 65.8 | 66.6 | 66.7 | 66.0 | 64.9 | 42.0 | 53.5 | 58.8 | 61.2 | 62.1 | 62.1 | 61.4 | 60.3 |
| TEVS26 | 92 | 74.2 | 93.2 | 101.7 | 104.3 | 104.4 | 102.9 | 100.5 | 97.4 | 70.4 | 87.8 | 94.8 | 96.9 | 96.6 | 95.0 | 92.6 | 89.6 |
| TEVS30 | 104 | 84.9 | 106.5 | 116.1 | 118.8 | 118.7 | 116.9 | 113.9 | 110.3 | 80.6 | 100.4 | 108.2 | 110.4 | 109.9 | 107.9 | 105.0 | 101.5 |
| TEVS38 | 134 | 103.3 | 133.3 | 149.0 | 155.9 | 158.6 | 158.4 | 156.1 | 152.2 | 98.3 | 125.8 | 138.7 | 144.2 | 145.7 | 144.6 | 141.5 | 137.0 |
| Evaporation temperature -5°C | | | | | | | | | | Evaporation temperature -10°C | | | | | | | |
| TEVS3 | 10 | 5.9 | 7.7 | 8.6 | 9.2 | 9.5 | 9.7 | 9.8 | 9.8 | 5.5 | 7.1 | 7.9 | 8.4 | 8.7 | 8.9 | 9.0 | 9.0 |
| TEVS4 | 14 | 8.1 | 10.5 | 11.7 | 12.4 | 12.8 | 13.1 | 13.2 | 13.1 | 7.6 | 9.8 | 10.8 | 11.5 | 11.8 | 12.0 | 12.1 | 12 |
| TEVS6 | 20 | 12.1 | 15.6 | 17.3 | 18.3 | 18.8 | 19.0 | 19.0 | 18.9 | 11.4 | 14.5 | 16.0 | 16.9 | 17.3 | 17.5 | 17.5 | 17.4 |
| TEVS7.5 | 27 | 16.2 | 20.9 | 23.1 | 24.3 | 24.9 | 25.2 | 25.1 | 24.9 | 15.4 | 19.6 | 21.5 | 22.6 | 23.1 | 23.2 | 23.2 | 22.9 |
| TEVS11 | 38 | 22.1 | 28.9 | 32.4 | 34.6 | 36.0 | 36.9 | 37.3 | 37.4 | 21.2 | 27.4 | 30.6 | 32.5 | 33.7 | 34.4 | 34.7 | 34.8 |
| TEVS12 | 43 | 26.3 | 33.4 | 36.4 | 37.9 | 38.4 | 38.4 | 38.0 | 37.3 | 24.4 | 30.6 | 33.3 | 34.5 | 34.9 | 34.9 | 34.5 | 33.8 |
| TEVS15 | 54 | 33.8 | 42.7 | 46.3 | 47.9 | 48.3 | 48.1 | 47.4 | 46.3 | 31.3 | 39.1 | 42.3 | 43.6 | 43.9 | 43.6 | 42.9 | 41.9 |
| TEVS18 | 63 | 39.6 | 50.2 | 54.7 | 56.8 | 57.5 | 57.3 | 56.6 | 55.4 | 37.1 | 46.5 | 50.4 | 52.1 | 52.6 | 52.4 | 51.6 | 50.5 |
| TEVS26 | 92 | 66.2 | 82.1 | 87.6 | 89.2 | 88.7 | 87.0 | 84.6 | 81.7 | 61.7 | 75.6 | 80.2 | 81.3 | 80.7 | 79.0 | 76.6 | 73.9 |
| TEVS30 | 104 | 75.9 | 94.0 | 100.0 | 101.6 | 100.9 | 98.8 | 95.9 | 92.6 | 70.9 | 86.6 | 91.6 | 92.7 | 91.8 | 89.7 | 86.9 | 83.7 |
| TEVS38 | 134 | 92.6 | 117.5 | 127.7 | 131.7 | 132.1 | 130.0 | 126.2 | 121.0 | 86.4 | 107.9 | 116.1 | 118.7 | 117.9 | 114.9 | 110.2 | 104.4 |

| NORMINAL REFRIGERATING CAPACITY(R22/KW) | | | | | | | | | | | | | | | | | |
|---|------------------|--|------|-------|-------|-------|------|------|-------------------------------|--|------|------|------|------|------|------|------|
| Model | N.R.C. R22/kW | Pressure drops between inlet and outlet Δp bar | | | | | | | | Pressure drops between inlet and outlet Δp bar | | | | | | | |
| | | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| Evaporation temperature -15°C | | | | | | | | | Evaporation temperature -20°C | | | | | | | | |
| TEVS3 | 10 | 5.1 | 6.6 | 7.3 | 7.7 | 8.0 | 8.1 | 8.2 | 8.2 | 4.7 | 6.0 | 6.6 | 7.0 | 7.2 | 7.3 | 7.4 | 7.4 |
| TEVS4 | 14 | 7.1 | 9.0 | 9.9 | 10.5 | 10.8 | 11.0 | 11.0 | 10.9 | 6.5 | 8.2 | 9.0 | 9.5 | 9.8 | 9.9 | 9.9 | 9.9 |
| TEVS6 | 20 | 10.6 | 13.4 | 14.7 | 15.5 | 15.8 | 16.0 | 15.9 | 15.8 | 9.8 | 1.2 | 13.4 | 14.0 | 14.3 | 14.4 | 14.4 | 14.2 |
| TEVS7.5 | 27 | 14.4 | 18.1 | 19.8 | 20.7 | 21.2 | 21.3 | 21.1 | 20.9 | 13.4 | 16.6 | 18.1 | 18.9 | 19.2 | 19.3 | 19.1 | 18.8 |
| TEVS11 | 38 | 20.1 | 25.6 | 28.5 | 30.2 | 31.2 | 31.8 | 32.0 | 31.9 | 18.9 | 23.7 | 26.2 | 27.7 | 28.5 | 28.9 | 29.0 | 28.8 |
| TEVS12 | 43 | 22.4 | 27.8 | 30.1 | 31.2 | 31.5 | 31.4 | 31.0 | 30.4 | 20.4 | 25.0 | 27.0 | 27.9 | 28.1 | 28.0 | 27.7 | 27.1 |
| TEVS15 | 54 | 28.8 | 35.5 | 38.2 | 39.3 | 39.6 | 39.2 | 38.6 | 37.6 | 26.2 | 31.9 | 34.2 | 35.2 | 35.3 | 35.0 | 34.4 | 33.5 |
| TEVS18 | 63 | 34.5 | 42.6 | 45.9 | 47.4 | 47.7 | 47.4 | 46.6 | 45.5 | 31.6 | 38.6 | 41.4 | 42.6 | 42.9 | 42.5 | 41.7 | 40.7 |
| TEVS26 | 92 | 57.0 | 68.8 | 72.7 | 73.5 | 72.7 | 71.0 | 68.8 | 66.3 | 52.2 | 62.1 | 65.3 | 65.8 | 64.9 | 63.3 | 61.3 | 58.9 |
| TEVS30 | 104 | 65.5 | 78.9 | 83.1 | 83.8 | 82.7 | 80.7 | 78.0 | 75.0 | 60.0 | 71.2 | 74.6 | 75.0 | 73.9 | 71.9 | 69.4 | 66.6 |
| TEVS38 | 134 | 79.8 | 97.8 | 104.1 | 105.3 | 103.4 | 99.5 | 94.8 | 91.3 | 72.9 | 87.4 | 91.9 | 91.8 | 89.5 | 87.3 | 84.4 | 81.1 |
| Evaporation temperature -25°C | | | | | | | | | Evaporation temperature -30°C | | | | | | | | |
| TEVS3 | 10 | 4.3 | 5.4 | 5.9 | 6.3 | 6.5 | 6.6 | 6.6 | 6.6 | 3.9 | 4.8 | 5.3 | 5.6 | 5.7 | 5.8 | 5.9 | 5.8 |
| TEVS4 | 14 | 6.0 | 7.4 | 8.1 | 8.5 | 8.7 | 8.8 | 8.9 | 8.8 | 5.3 | 6.6 | 7.2 | 7.6 | 7.8 | 7.8 | 7.8 | 7.8 |
| TEVS6 | 20 | 9.0 | 11.0 | 12.1 | 12.6 | 12.9 | 12.9 | 12.8 | 12.7 | 8.1 | 9.9 | 10.8 | 11.2 | 11.4 | 11.4 | 11.4 | 11.2 |
| TEVS7.5 | 27 | 12.3 | 15.1 | 16.4 | 17.0 | 17.3 | 17.3 | 17.1 | 16.8 | 11.1 | 13.5 | 14.6 | 15.2 | 15.3 | 15.3 | 15.1 | 14.8 |
| TEVS11 | 38 | 17.5 | 21.7 | 23.9 | 25.1 | 25.7 | 26.0 | 25.9 | 25.6 | 16.0 | 19.6 | 21.4 | 22.4 | 22.9 | 22.9 | 22.7 | 22.3 |
| TEVS12 | 43 | 18.4 | 22.2 | 23.9 | 24.7 | 24.9 | 24.8 | 24.5 | 24.0 | 16.2 | 19.5 | 21.0 | 21.7 | 21.9 | 21.8 | 21.5 | 21 |
| TEVS15 | 54 | 23.6 | 28.3 | 30.3 | 31.1 | 31.3 | 30.9 | 30.4 | 29.6 | 20.9 | 24.9 | 26.7 | 27.3 | 27.4 | 27.1 | 26.6 | 26 |
| TEVS18 | 63 | 28.7 | 34.5 | 37.0 | 38.0 | 38.1 | 37.7 | 37.0 | 36.1 | 25.6 | 30.6 | 32.7 | 33.5 | 33.6 | 33.2 | 32.6 | 31.7 |
| TEVS26 | 92 | 47.3 | 55.4 | 58.0 | 58.3 | 57.5 | 56.0 | 54.1 | 51.9 | 42.0 | 48.9 | 51.1 | 51.3 | 50.4 | 49.0 | 47.3 | 45.4 |
| TEVS30 | 104 | 54.4 | 63.5 | 66.4 | 66.5 | 65.4 | 63.5 | 61.2 | 58.7 | 48.4 | 56.1 | 58.4 | 58.5 | 57.3 | 55.6 | 53.5 | 51.3 |
| TEVS38 | 134 | 65.8 | 77.1 | 80.1 | 80.5 | 79.3 | 77.1 | 74.4 | 71.4 | 58.2 | 67.7 | 70.6 | 70.8 | 69.6 | 67.5 | 65.1 | 62.3 |
| Evaporation temperature -35°C | | | | | | | | | Evaporation temperature -40°C | | | | | | | | |
| TEVS3 | 10 | 3.4 | 4.2 | 4.7 | 4.9 | 5.1 | 5.1 | 5.1 | 5.1 | 3.0 | 3.7 | 4.1 | 4.3 | 4.4 | 4.4 | 4.5 | 4.4 |
| TEVS4 | 14 | 4.7 | 5.8 | 6.4 | 6.7 | 6.8 | 6.9 | 6.9 | 6.8 | 4.2 | 5.1 | 5.5 | 5.8 | 5.9 | 6.0 | 5.9 | 5.9 |
| TEVS6 | 20 | 7.2 | 8.7 | 9.5 | 9.9 | 10.0 | 10.0 | 9.9 | 9.8 | 6.3 | 7.6 | 8.3 | 8.6 | 8.7 | 8.7 | 8.6 | 8.4 |
| TEVS7.5 | 27 | 9.9 | 12.0 | 12.9 | 13.4 | 13.5 | 13.4 | 13.2 | 12.9 | 8.8 | 10.5 | 11.3 | 11.7 | 11.7 | 11.7 | 11.5 | 11.2 |
| TEVS11 | 38 | 14.3 | 17.4 | 19.0 | 19.7 | 19.9 | 19.9 | 19.5 | 19.0 | 12.7 | 15.3 | 16.5 | 17.0 | 17.1 | 16.8 | 16.5 | 16.1 |
| TEVS12 | 43 | 14.2 | 17.0 | 18.3 | 18.9 | 19.1 | 19.0 | 18.7 | 18.7 | 12.3 | 14.7 | 15.8 | 16.4 | 16.5 | 16.5 | 16.2 | 15.9 |
| TEVS15 | 54 | 18.3 | 21.7 | 23.2 | 23.8 | 23.9 | 23.6 | 23.2 | 22.6 | 15.8 | 18.8 | 20.1 | 20.6 | 20.7 | 20.5 | 20.1 | 19.6 |
| TEVS18 | 63 | 22.5 | 26.8 | 28.6 | 29.3 | 29.3 | 29.0 | 28.4 | 27.7 | 19.6 | 23.3 | 24.8 | 25.4 | 25.4 | 25.1 | 24.6 | 24 |
| TEVS26 | 92 | 36.9 | 42.8 | 44.5 | 44.6 | 43.8 | 42.6 | 41.1 | 39.4 | 32.1 | 37.0 | 38.5 | 38.5 | 37.8 | 36.7 | 35.4 | 34 |
| TEVS30 | 104 | 42.6 | 49.1 | 51.0 | 50.9 | 49.8 | 48.3 | 46.4 | 44.4 | 37.0 | 42.5 | 44.1 | 43.9 | 43.0 | 41.6 | 40.0 | 38.2 |
| TEVS38 | 134 | 51.3 | 59.3 | 61.7 | 61.7 | 60.5 | 58.6 | 56.4 | 54.0 | 44.7 | 51.5 | 53.4 | 53.3 | 52.2 | 50.5 | 48.5 | 46.4 |

| SUBCOOLING CORRECTION FACTOR ΔT_{SUB} | | | | | | | | | | |
|---|------|------|------|------|------|------|------|------|------|------|
| ΔT_{sub} | 4K | 10K | 15K | 20K | 25K | 30K | 35K | 40K | 45K | 50K |
| TEVS10 | 1.00 | 1.06 | 1.11 | 1.15 | 1.20 | 1.24 | 1.29 | 1.33 | 1.37 | 1.42 |
| TEVS20 | | | | | | | | | | |
| TEVS40 | | | | | | | | | | |
| <p>Subcooling Correction Factor ΔT_{sub}</p> <p>When subcooling deviates from 4K, the evaporator refrigerating capacity must be adjusted. The corrected refrigerating capacity is the required refrigerating capacity divided by the correction factor in the following table, and then select the valve model from the table according to the corrected refrigerating capacity.</p> <p>NOTE: If the subcooling is too low, flash gases will form.</p> | | | | | | | | | | |

| NORMINAL REFRIGERATING CAPACITY(R134a/KW) | | | | | | | | | | | | | | | | | |
|---|--------------------|--|-------|-------|-------|-------|-------|-------|-------|--|-------|-------|-------|-------|-------|-------|------|
| Model | N.R.C. R134a/kW | Pressure drops between inlet and outlet Δp bar | | | | | | | | Pressure drops between inlet and outlet Δp bar | | | | | | | |
| | | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| | | Evaporation temperature +15°C | | | | | | | | Evaporation temperature +10°C | | | | | | | |
| TEVS1.5 | 6 | 5.2 | 6.6 | 7.3 | 7.6 | 7.8 | 7.8 | 7.7 | 7.5 | 4.9 | 6.2 | 6.8 | 7.1 | 7.2 | 7.2 | 7.1 | 7 |
| TEVS2.5 | 8 | 7.1 | 9 | 10 | 10.4 | 10.5 | 10.5 | 10.3 | 10.1 | 6.7 | 8.5 | 9.3 | 9.7 | 9.8 | 9.7 | 9.6 | 9.3 |
| TEVS3.5 | 12 | 10.6 | 13.4 | 14.7 | 15.3 | 15.4 | 15.3 | 15 | 14.6 | 10.1 | 12.7 | 13.8 | 14.3 | 14.4 | 14.2 | 13.9 | 13.5 |
| TEVS4.5 | 17 | 14.2 | 18 | 19.7 | 20.4 | 20.5 | 20.3 | 19.8 | 19.2 | 13.6 | 17.1 | 18.5 | 19.1 | 19.1 | 18.9 | 18.4 | 17.8 |
| TEVS7 | 24 | 19.3 | 24.8 | 27.5 | 28.8 | 29.4 | 29.5 | 29.2 | 28.6 | 18.7 | 23.9 | 26.2 | 27.3 | 27.8 | 27.8 | 27.4 | 26.8 |
| TEVS8 | 29 | 26.8 | 33.4 | 36 | 36.6 | 36.4 | 35.5 | 34.3 | 32.9 | 25.3 | 31.4 | 33.4 | 33.9 | 33.6 | 32.7 | 31.6 | 30.2 |
| TEVS10 | 37 | 34.5 | 42.7 | 45.7 | 46.3 | 45.8 | 44.5 | 42.8 | 40.8 | 32.6 | 40.1 | 42.4 | 42.8 | 42.2 | 41 | 39.3 | 37.4 |
| TEVS12 | 44 | 39.7 | 49.7 | 53.5 | 54.2 | 53.5 | 52.2 | 50.4 | 48.2 | 37.9 | 46.9 | 49.7 | 50.4 | 49.8 | 48.5 | 46.6 | 44.5 |
| TEVS17 | 61 | 64.1 | 78.2 | 82.5 | 82.5 | 80.4 | 77.3 | 73.5 | 69.4 | 60.8 | 73.6 | 76.7 | 76.3 | 74.2 | 71.1 | 67.4 | 63.5 |
| TEVS20 | 70 | 73.5 | 89.5 | 94.2 | 94 | 91.5 | 87.8 | 83.4 | 78.6 | 69.7 | 84.2 | 87.6 | 87 | 84.4 | 80.7 | 76.4 | 71.9 |
| TEVS25 | 87 | 89.7 | 112.5 | 121.4 | 123.6 | 122.4 | 118.8 | 113.7 | 107.5 | 85.2 | 105.8 | 112.5 | 113.7 | 111.7 | 107.6 | 102.1 | 95.6 |
| | | Evaporation temperature +5°C | | | | | | | | Evaporation temperature 0°C | | | | | | | |
| TEVS3 | 6 | 4.6 | 5.8 | 6.3 | 6.6 | 6.7 | 6.6 | 6.5 | 6.4 | 4.3 | 5.4 | 5.8 | 6 | 6.1 | 6.1 | 6 | 5.8 |
| TEVS4 | 8 | 6.3 | 7.9 | 8.6 | 8.9 | 9 | 9 | 8.8 | 8.6 | 5.9 | 7.3 | 7.9 | 8.2 | 8.3 | 8.2 | 8 | 7.8 |
| TEVS6 | 12 | 9.5 | 11.9 | 12.8 | 13.2 | 13.3 | 13.1 | 12.8 | 12.4 | 8.9 | 11 | 11.8 | 12.1 | 12.2 | 12 | 11.7 | 11.3 |
| TEVS7.5 | 17 | 12.9 | 16.1 | 17.3 | 17.7 | 17.7 | 17.5 | 17 | 16.4 | 12.2 | 14.9 | 16 | 16.3 | 16.3 | 16 | 15.6 | 15 |
| TEVS11 | 24 | 17.9 | 22.6 | 24.6 | 25.6 | 26 | 25.9 | 25.5 | 24.9 | 17.1 | 21.2 | 23 | 23.8 | 24.1 | 23.9 | 23.4 | 22.8 |
| TEVS12 | 29 | 23.7 | 29 | 30.8 | 31.1 | 30.7 | 29.9 | 28.8 | 27.5 | 22.1 | 26.6 | 28.1 | 28.3 | 27.9 | 27.1 | 26 | 24.8 |
| TEVS15 | 37 | 30.5 | 37.1 | 39 | 39.3 | 38.6 | 37.3 | 35.8 | 34 | 28.4 | 34 | 35.6 | 35.7 | 35 | 33.8 | 32.3 | 30.6 |
| TEVS18 | 44 | 35.8 | 43.7 | 46.1 | 46.6 | 45.9 | 44.5 | 42.8 | 40.7 | 33.6 | 40.4 | 42.5 | 42.7 | 41.9 | 40.6 | 38.8 | 36.9 |
| TEVS26 | 61 | 57.2 | 68.2 | 70.7 | 70 | 67.8 | 64.8 | 61.3 | 57.6 | 53.4 | 62.7 | 64.6 | 63.7 | 61.5 | 58.6 | 55.3 | 51.9 |
| TEVS30 | 70 | 65.6 | 78.1 | 80.7 | 79.8 | 77.2 | 73.6 | 69.5 | 65.2 | 61.3 | 71.8 | 73.8 | 72.7 | 70 | 66.5 | 62.7 | 58.7 |
| TEVS38 | 87 | 80.2 | 97.9 | 103.1 | 103.3 | 100.5 | 95.9 | 90 | 83.3 | 74.9 | 89.6 | 93.4 | 92.6 | 89.1 | 84 | 77.7 | 71.4 |
| | | Evaporation temperature -5°C | | | | | | | | Evaporation temperature -10°C | | | | | | | |
| TEVS1.5 | 6 | 4 | 4.9 | 5.3 | 5.5 | 5.5 | 5.5 | 5.4 | 5.3 | 3.7 | 4.5 | 4.8 | 5 | 5 | 5 | 4.9 | 4.7 |
| TEVS2.5 | 8 | 5.5 | 6.7 | 7.3 | 7.5 | 7.5 | 7.4 | 7.3 | 7 | 5.1 | 6.1 | 6.6 | 6.8 | 6.8 | 6.7 | 6.5 | 6.3 |
| TEVS3.5 | 12 | 8.3 | 10.1 | 10.8 | 11.1 | 11.1 | 10.9 | 10.6 | 10.2 | 7.7 | 9.2 | 9.8 | 10 | 10 | 9.8 | 9.5 | 9.1 |
| TEVS4.5 | 17 | 11.4 | 13.8 | 14.7 | 14.9 | 14.9 | 14.6 | 14.1 | 13.5 | 10.6 | 12.6 | 13.4 | 13.6 | 13.5 | 13.1 | 12.7 | 12.1 |
| TEVS7 | 24 | 16.1 | 19.7 | 21.3 | 21.9 | 22 | 21.8 | 21.3 | 20.6 | 15.1 | 18.1 | 19.5 | 20 | 20 | 19.7 | 19.1 | 18.4 |
| TEVS8 | 29 | 20.3 | 24.2 | 25.4 | 25.6 | 25.1 | 24.3 | 23.3 | 22.2 | 18.6 | 21.8 | 22.8 | 22.9 | 22.5 | 21.7 | 20.8 | 19.8 |
| TEVS10 | 37 | 26.1 | 30.8 | 32.2 | 32.2 | 31.5 | 30.3 | 28.9 | 27.4 | 23.9 | 27.8 | 28.9 | 28.8 | 28.1 | 27 | 25.7 | 24.3 |
| TEVS12 | 44 | 31.2 | 37 | 38.7 | 38.8 | 37.9 | 36.6 | 35 | 33.1 | 28.8 | 33.5 | 34.9 | 34.9 | 34.1 | 32.8 | 31.2 | 29.5 |
| TEVS17 | 61 | 49.4 | 57.1 | 58.5 | 57.6 | 55.4 | 52.6 | 49.6 | 46.4 | 45.4 | 51.6 | 52.7 | 51.6 | 49.5 | 46.9 | 44.1 | 41.1 |
| TEVS20 | 70 | 56.8 | 65.5 | 66.9 | 65.6 | 63 | 59.7 | 56.1 | 52.4 | 52.2 | 59.2 | 60.2 | 58.8 | 56.3 | 53.2 | 49.9 | 46.5 |
| TEVS25 | 87 | 69.3 | 81.2 | 83.6 | 81.8 | 77.7 | 72.5 | 68.3 | 63.8 | 63.5 | 72.7 | 73.8 | 71.2 | 68.2 | 64.6 | 60.7 | 56.6 |

| NORMINAL REFRIGERATING CAPACITY(R134a/KW) | | | | | | | | | | | | | | | | | |
|---|--------------------|--|------|------|------|------|------|------|------|--|------|------|------|------|------|------|------|
| Model | N.R.C. R134a/kW | Pressure drops between inlet and outlet Δp bar | | | | | | | | Pressure drops between inlet and outlet Δp bar | | | | | | | |
| | | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| | | Evaporation temperature -15°C | | | | | | | | Evaporation temperature -20°C | | | | | | | |
| TEVS1.5 | 6 | 3.4 | 4 | 4.3 | 4.5 | 4.5 | 4.4 | 4.3 | 4.2 | 3 | 3.6 | 3.9 | 4 | 4 | 4 | 3.9 | 3.7 |
| TEVS2.5 | 8 | 4.6 | 5.5 | 5.9 | 6.1 | 6.1 | 6 | 5.8 | 5.6 | 4.2 | 5 | 5.3 | 5.4 | 5.4 | 5.3 | 5.2 | 5 |
| TEVS3.5 | 12 | 7 | 8.3 | 8.9 | 9 | 9 | 8.8 | 8.5 | 8.1 | 6.4 | 7.5 | 7.9 | 8.1 | 8 | 7.8 | 7.5 | 7.2 |
| TEVS4.5 | 17 | 9.7 | 11.4 | 12.1 | 12.2 | 12.1 | 11.8 | 11.3 | 10.8 | 8.8 | 10.3 | 10.9 | 11 | 10.8 | 10.5 | 10.1 | 9.6 |
| TEVS7 | 24 | 13.9 | 16.5 | 17.7 | 18 | 17.9 | 17.6 | 17 | 16.2 | 12.7 | 15 | 15.9 | 16.1 | 15.9 | 15.5 | 14.9 | 14.1 |
| TEVS8 | 29 | 16.7 | 19.4 | 20.3 | 20.3 | 19.9 | 19.3 | 18.4 | 17.5 | 14.9 | 17.3 | 18 | 18 | 17.6 | 17 | 16.2 | 15.4 |
| TEVS10 | 37 | 21.5 | 24.8 | 25.7 | 25.6 | 24.9 | 23.9 | 22.8 | 21.5 | 19.1 | 22 | 22.7 | 22.6 | 22 | 21.1 | 20 | 18.9 |
| TEVS12 | 44 | 26.1 | 30.2 | 31.3 | 31.1 | 30.3 | 29.1 | 27.7 | 26.1 | 23.4 | 26.9 | 27.8 | 27.6 | 26.8 | 25.7 | 24.4 | 23 |
| TEVS17 | 61 | 41 | 46.3 | 47 | 45.9 | 43.9 | 41.5 | 38.9 | 36.3 | 36.8 | 41.3 | 41.8 | 40.6 | 38.8 | 36.6 | 34.2 | 31.8 |
| TEVS20 | 70 | 47.3 | 53.1 | 53.8 | 52.3 | 49.9 | 47.1 | 44 | 40.9 | 42.4 | 47.4 | 47.7 | 46.3 | 44.1 | 41.5 | 38.7 | 35.9 |
| TEVS25 | 87 | 57.2 | 64.3 | 65 | 63.4 | 60.6 | 57.2 | 53.6 | 49.8 | 50.9 | 57.1 | 57.7 | 56.1 | 53.5 | 50.3 | 47 | 43.6 |
| | | Evaporation temperature -25°C | | | | | | | | Evaporation temperature -30°C | | | | | | | |
| TEVS1.5 | 6 | 2.7 | 3.2 | 3.5 | 3.6 | 3.6 | 3.5 | 3.4 | 3.3 | 2.4 | 2.9 | 3.1 | 3.2 | 3.1 | 3.1 | 3 | 2.9 |
| TEVS2.5 | 8 | 3.8 | 4.5 | 4.7 | 4.8 | 4.8 | 4.7 | 4.6 | 4.4 | 3.4 | 4 | 4.2 | 4.3 | 4.3 | 4.2 | 4 | 3.9 |
| TEVS3.5 | 12 | 5.7 | 6.7 | 7.1 | 7.2 | 7.1 | 6.9 | 6.6 | 6.3 | 5.1 | 6 | 6.3 | 6.4 | 6.3 | 6.1 | 5.8 | 5.6 |
| TEVS4.5 | 17 | 7.9 | 9.2 | 9.7 | 9.8 | 9.6 | 9.3 | 8.9 | 8.4 | 7.1 | 8.3 | 8.6 | 8.7 | 8.5 | 8.2 | 7.8 | 7.4 |
| TEVS7 | 24 | 11.5 | 13.4 | 14.2 | 14.3 | 14 | 13.5 | 12.8 | 12.1 | 13.3 | 12 | 12.5 | 12.5 | 12.2 | 11.8 | 11.3 | 10.6 |
| TEVS8 | 29 | 13.2 | 15.2 | 15.8 | 15.8 | 15.5 | 14.9 | 14.2 | 13.5 | 11.6 | 13.4 | 13.9 | 13.9 | 13.5 | 13 | 12.4 | 11.8 |
| TEVS10 | 37 | 16.9 | 19.4 | 20 | 19.8 | 19.3 | 18.5 | 17.5 | 16.5 | 14.9 | 17 | 17.5 | 17.4 | 16.9 | 16.1 | 15.3 | 14.4 |
| TEVS12 | 44 | 20.8 | 23.8 | 24.6 | 24.3 | 23.6 | 22.6 | 21.4 | 20.1 | 18.4 | 21 | 21.6 | 21.4 | 20.7 | 19.8 | 18.7 | 17.5 |
| TEVS17 | 61 | 32.8 | 36.6 | 36.9 | 35.8 | 34.1 | 32.1 | 30 | 27.8 | 29.1 | 32.3 | 32.5 | 31.4 | 29.9 | 28.1 | 26.2 | 24.3 |
| TEVS20 | 70 | 37.8 | 42 | 42.2 | 40.8 | 38.7 | 36.3 | 33.8 | 31.3 | 33.6 | 37.1 | 35.8 | 35.8 | 33.9 | 31.8 | 29.5 | 27.3 |
| TEVS25 | 87 | 45.5 | 50.7 | 51 | 49.4 | 47 | 44.1 | 41.1 | 38 | 40.4 | 44.8 | 44.9 | 43.4 | 41.1 | 38.5 | 35.8 | 33 |
| | | Evaporation temperature -35°C | | | | | | | | Evaporation temperature -40°C | | | | | | | |
| TEVS1.5 | 6 | 2.2 | 2.6 | 2.7 | 2.8 | 2.8 | 2.7 | 2.6 | 2.5 | 2 | 2.3 | 2.4 | 2.5 | 2.5 | 2.4 | 2.3 | 2.2 |
| TEVS2.5 | 8 | 3 | 3.5 | 3.7 | 3.8 | 3.8 | 3.7 | 3.5 | 3.4 | 2.7 | 3.2 | 3.3 | 3.4 | 3.3 | 3.2 | 3.1 | 3 |
| TEVS3.5 | 12 | 4.6 | 5.3 | 5.6 | 5.6 | 5.5 | 5.4 | 5.1 | 4.9 | 4.1 | 4.8 | 5 | 5 | 4.9 | 4.7 | 4.5 | 4.3 |
| TEVS4.5 | 17 | 6.4 | 7.4 | 7.7 | 7.7 | 7.5 | 7.2 | 6.9 | 6.5 | 5.7 | 6.6 | 6.8 | 6.8 | 6.6 | 6.4 | 6 | 5.7 |
| TEVS7 | 24 | 9.3 | 10.7 | 11.1 | 11.1 | 10.8 | 10.4 | 9.9 | 9.3 | 8.3 | 9.6 | 9.9 | 9.9 | 9.6 | 9.2 | 8.7 | 8.2 |
| TEVS8 | 29 | 10.2 | 11.7 | 12.2 | 12 | 11.9 | 11.4 | 10.9 | 10.3 | 8.9 | 10.3 | 10.7 | 10.6 | 10.4 | 10 | 9.5 | 9 |
| TEVS10 | 37 | 13.1 | 14.9 | 15.4 | 15 | 14.7 | 14.1 | 13.4 | 12.6 | 11.5 | 13.1 | 13.5 | 13.3 | 12.9 | 12.3 | 11.7 | 11 |
| TEVS12 | 44 | 16.3 | 18.5 | 19 | 18 | 18.1 | 17.3 | 16.3 | 15.3 | 14.3 | 16.2 | 16.7 | 16.4 | 15.9 | 15.1 | 14.3 | 13.4 |
| TEVS17 | 61 | 25.7 | 28.4 | 28.5 | 27.6 | 26.2 | 24.6 | 22.9 | 21.1 | 22.7 | 25.1 | 25.1 | 24.2 | 22.9 | 21.5 | 20 | 18.5 |
| TEVS20 | 70 | 29.7 | 32.7 | 32.6 | 31.4 | 29.7 | 27.7 | 25.7 | 23.7 | 26.2 | 28.8 | 28.7 | 27.5 | 26 | 24.3 | 22.5 | 20.7 |
| TEVS25 | 87 | 35.8 | 39.5 | 39.5 | 38 | 35.9 | 33.6 | 31.1 | 28.7 | 31.7 | 34.8 | 34.7 | 33.4 | 31.5 | 29.3 | 27.1 | 24.9 |

| SUBCOOLING CORRECTION FACTOR Δt_{sub} | | | | | | | | | | |
|---|------|------|------|------|------|------|------|------|------|------|
| Δt_{sub} | 4K | 10K | 15K | 20K | 25K | 30K | 35K | 40K | 45K | 50K |
| TEVS10 | 1.00 | 1.08 | 1.13 | 1.18 | 1.23 | 1.29 | 1.34 | 1.39 | 1.44 | 1.49 |
| TEVS20 | | | | | | | | | | |
| TEVS40 | | | | | | | | | | |

Subcooling Correction Factor Δt_{sub}
When subcooling deviates from 4K, the evaporator refrigerating capacity must be adjusted. The corrected refrigerating capacity is the required refrigerating capacity divided by the correction factor in the following table, and then select the valve model from the table according to the corrected refrigerating capacity.

NOTE: If the subcooling is too low, flash gases will form.

| NORMINAL REFRIGERATING CAPACITY (R404A/R507/KW) | | | | | | | | | | | | | | | | | | |
|---|---------------------------------|--|-------|-------|-------|-------|-------|-------|-------|--|-------|-------|-------|------|-------|-------|-------|--|
| Model | N.R.C. R404A/ R507/ kW | Pressure drops between inlet and outlet Δp bar | | | | | | | | Pressure drops between inlet and outlet Δp bar | | | | | | | | |
| | | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | |
| Evaporation temperature +15°C | | | | | | | | | | Evaporation temperature +10°C | | | | | | | | |
| TEVS2 | 7 | 5.1 | 6.6 | 7.4 | 7.9 | 8.1 | 8.1 | 8 | 7.8 | 4.9 | 6.4 | 7.2 | 7.6 | 7.8 | 7.8 | 7.7 | 7.5 | |
| TEVS2.5 | 9 | 5.9 | 9 | 10.1 | 10.7 | 11 | 10.9 | 10.8 | 10.5 | 6.8 | 8.7 | 9.8 | 10.4 | 10.5 | 10.5 | 10.3 | 10 | |
| TEVS4 | 14 | 10.2 | 13.2 | 14.8 | 15.6 | 15.9 | 15.9 | 15.6 | 15.1 | 10 | 12.9 | 14.4 | 15.2 | 15.4 | 15.3 | 15 | 14.5 | |
| TEVS5 | 18 | 13.4 | 17.3 | 19.4 | 20.5 | 20.9 | 20.7 | 20.3 | 19.6 | 13.3 | 17 | 19 | 20 | 20.2 | 20.1 | 19.6 | 19 | |
| TEVS7.5 | 26 | 17.5 | 22.9 | 25.9 | 27.7 | 28.5 | 28.6 | 28.3 | 27.6 | 17.5 | 22.8 | 25.7 | 27.4 | 28 | 28.1 | 27.7 | 27.1 | |
| TEVS9 | 31 | 24.8 | 31.6 | 35 | 36.5 | 36.8 | 36.1 | 35 | 33.5 | 24.2 | 30.7 | 33.8 | 35.2 | 35.2 | 34.6 | 33.5 | 32 | |
| TEVS11 | 39 | 31.9 | 40.5 | 44.7 | 46.5 | 46.6 | 45.6 | 44.1 | 42.1 | 31.1 | 39.3 | 43.2 | 44.7 | 44.6 | 43.6 | 42.1 | 40.2 | |
| TEVS13 | 45 | 35.7 | 45.8 | 51.1 | 53.6 | 54.2 | 53.4 | 51.8 | 49.6 | 35.2 | 45 | 49.8 | 52 | 52.1 | 51.1 | 49.4 | 47.1 | |
| TEVS18 | 64 | 58.4 | 73.3 | 80 | 82.4 | 81.8 | 79.5 | 76.1 | 82.1 | 57 | 71.2 | 77.3 | 79.3 | 78.2 | 75.8 | 72.5 | 68.7 | |
| TEVS21 | 72 | 66.8 | 83.8 | 91.2 | 93.9 | 93.2 | 90.4 | 86.5 | 81.8 | 65.2 | 81.3 | 88.3 | 90.4 | 89.1 | 86.2 | 82.4 | 77.9 | |
| TEVS26 | 92 | 80.6 | 103.5 | 115.3 | 121.2 | 122.5 | 120.9 | 117.4 | 112.7 | 78.8 | 100.7 | 111.7 | 116.7 | 117 | 115.1 | 111.5 | 106.6 | |
| Evaporation temperature +5°C | | | | | | | | | | Evaporation temperature 0°C | | | | | | | | |
| TEVS2 | 7 | 4.8 | 6.2 | 6.9 | 7.2 | 7.4 | 7.4 | 7.3 | 7.1 | 4.6 | 5.9 | 6.6 | 6.9 | 7 | 7 | 6.9 | 6.7 | |
| TEVS2.5 | 9 | 6.6 | 8.4 | 9.4 | 9.9 | 10.1 | 10 | 9.8 | 9.6.0 | 6.3 | 8.1 | 9 | 9.4 | 9.5 | 9.4 | 9.3 | 9 | |
| TEVS4 | 14 | 9.7 | 12.5 | 13.9 | 14.6 | 14.7 | 14.6 | 14.3 | 13.8 | 9.4 | 12 | 13.3 | 13.8 | 13.9 | 13.8 | 13.5 | 13.1 | |
| TEVS5 | 18 | 13 | 16.6 | 18.5 | 19.3 | 19.4 | 19.3 | 18.8 | 17.2 | 12.6 | 16.1 | 17.8 | 18.4 | 18.5 | 18.3 | 17.8 | 17.2 | |
| TEVS7.5 | 26 | 17.3 | 11.4 | 25.3 | 26.7 | 27.2 | 27.2 | 26.9 | 26.3 | 17 | 21.9 | 24.6 | 26.7 | 26.2 | 26.2 | 25.8 | 25.2 | |
| TEVS9 | 31 | 23.4 | 29.5 | 32.4 | 33.4 | 33.4 | 32.7 | 31.6 | 30.3 | 22.4 | 28.1 | 30.8 | 31.5 | 31.3 | 30.6 | 29.6 | 28.3 | |
| TEVS11 | 39 | 30 | 37.8 | 41.4 | 42.5 | 42.2 | 41.2 | 39.7 | 37.9 | 28.8 | 36 | 39.2 | 39.9 | 39.6 | 38.6 | 37.1 | 35.4 | |
| TEVS13 | 45 | 34.4 | 43.6 | 48.1 | 49.6 | 49.4 | 48.2 | 46.4 | 44.3 | 33.3 | 41.9 | 45.8 | 46.7 | 46.3 | 45.3 | 43.7 | 41.7 | |
| TEVS18 | 64 | 55.1 | 68.4 | 74.1 | 75.2 | 74 | 71.6 | 68.4 | 64.6 | 52.8 | 65.3 | 70.2 | 70.7 | 69.3 | 66.9 | 63.8 | 60.2 | |
| TEVS21 | 72 | 63.1 | 78.3 | 84.6 | 85.8 | 84.3 | 81.4 | 77.7 | 73.4 | 60.6 | 74.7 | 80.2 | 80.7 | 79 | 76.1 | 72.5 | 68.4 | |
| TEVS26 | 92 | 76.4 | 97.1 | 107.1 | 110.6 | 110.5 | 108.2 | 104.3 | 99.5 | 73.4 | 92.6 | 101.4 | 103.7 | 103 | 100.3 | 96.3 | 91.3 | |
| Evaporation temperature -5°C | | | | | | | | | | Evaporation temperature -10°C | | | | | | | | |
| TEVS2 | 7 | 4.4 | 5.6 | 6.2 | 6.5 | 6.5 | 6.5 | 6.4 | 6.2 | 4.2 | 5.3 | 5.8 | 6 | 6.1 | 6 | 5.9 | 5.8 | |
| TEVS2.5 | 9 | 6 | 7.7 | 8.5 | 8.8 | 8.9 | 8.8 | 8.6 | 8.4 | 5.7 | 7.2 | 7.9 | 8.2 | 8.2 | 8.2 | 8 | 7.7 | |
| TEVS4 | 14 | 9 | 11.5 | 12.6 | 13 | 13.1 | 12.9 | 12.6 | 12.2 | 8.6 | 10.8 | 11.7 | 12.1 | 12.2 | 12 | 11.7 | 11.3 | |
| TEVS5 | 18 | 12.2 | 15.4 | 16.8 | 17.4 | 17.4 | 17.2 | 16.7 | 16.1 | 11.6 | 14.6 | 15.8 | 16.3 | 16.3 | 16 | 15.6 | 15 | |
| TEVS7.5 | 26 | 16.6 | 21.3 | 23.6 | 24.6 | 25 | 24.9 | 24.5 | 23.9 | 16 | 20.4 | 22.4 | 23.2 | 23.5 | 23.4 | 23 | 22.3 | |
| TEVS9 | 31 | 21.2 | 26.6 | 28.7 | 29.3 | 29.1 | 28.4 | 27.4 | 26.2 | 20 | 24.9 | 26.6 | 27 | 26.8 | 26.1 | 25.2 | 24 | |
| TEVS11 | 39 | 27.3 | 34 | 36.6 | 37.2 | 36.8 | 35.8 | 34.4 | 32.7 | 25.7 | 31.8 | 33.9 | 34.3 | 33.8 | 32.8 | 31.5 | 29.9 | |
| TEVS13 | 45 | 31.9 | 39.8 | 43 | 43.8 | 43.4 | 42.3 | 40.8 | 38.9 | 30.3 | 37.6 | 40.1 | 40.7 | 40.3 | 39.2 | 37.6 | 35.8 | |
| TEVS18 | 64 | 50.2 | 61.7 | 65.6 | 65.8 | 64.3 | 61.9 | 58.9 | 55.6 | 47.4 | 57.8 | 60.7 | 60.7 | 59.2 | 56.8 | 54 | 50.8 | |
| TEVS21 | 72 | 57.7 | 70.7 | 75 | 75.1 | 73.4 | 70.5 | 67 | 63.1 | 54.4 | 66.3 | 69.5 | 69.3 | 67.5 | 64.7 | 61.4 | 57.7 | |
| TEVS26 | 92 | 69.9 | 87.5 | 94.5 | 96 | 94.8 | 91.8 | 87.5 | 82.5 | 66 | 81.9 | 87.1 | 87.8 | 86.1 | 82.7 | 78.3 | 73.1 | |

| NORMINAL REFRIGERATING CAPACITY(R404A/R507/KW) | | | | | | | | | | | | | | | | | |
|--|---------------------------------|--|------|------|------|------|------|------|-------------------------------|--|------|------|------|------|------|------|------|
| Model | N.R.C. R404A/ R507/ kW | Pressure drops between inlet and outlet Δp bar | | | | | | | | Pressure drops between inlet and outlet Δp bar | | | | | | | |
| | | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| Evaporation temperature -15°C | | | | | | | | | Evaporation temperature -20°C | | | | | | | | |
| TEVS2 | 7 | 3.9 | 4.9 | 5.3 | 5.5 | 5.6 | 5.5 | 5.4 | 5.3 | 3.6 | 4.5 | 4.9 | 5.1 | 5.1 | 5.1 | 4.9 | 4.8 |
| TEVS2.5 | 9 | 5.4 | 6.7 | 7.3 | 7.5 | 7.6 | 7.5 | 7.3 | 7.1 | 5 | 6.2 | 6.7 | 6.9 | 6.9 | 6.8 | 6.7 | 6.4 |
| TEVS4 | 14 | 8.1 | 10.1 | 10.9 | 11.2 | 11.2 | 11 | 10.7 | 10.3 | 7.6 | 9.3 | 10 | 10.3 | 10.2 | 10.1 | 9.8 | 9.4 |
| TEVS5 | 18 | 11 | 13.7 | 14.7 | 15.1 | 15.1 | 14.8 | 14.3 | 13.8 | 10.3 | 12.7 | 13.6 | 13.9 | 13.8 | 13.5 | 13.1 | 12.5 |
| TEVS7.5 | 26 | 15.3 | 19.3 | 21 | 21.8 | 22 | 21.8 | 21.3 | 20.7 | 14.5 | 18.1 | 19.5 | 20.2 | 20.3 | 20 | 19.5 | 18.9 |
| TEVS9 | 31 | 18.6 | 22.9 | 24.4 | 24.7 | 24.4 | 23.8 | 22.9 | 21.8 | 17.2 | 20.9 | 22.1 | 22.4 | 22.1 | 21.4 | 20.6 | 19.6 |
| TEVS11 | 39 | 24 | 29.4 | 31 | 31.3 | 30.8 | 29.8 | 28.6 | 27.1 | 22.2 | 26.8 | 28.2 | 28.3 | 27.8 | 26.9 | 25.7 | 24.4 |
| TEVS13 | 45 | 28.5 | 35 | 37.1 | 37.5 | 37 | 35.9 | 34.4 | 32.7 | 26.6 | 32.2 | 33.9 | 34.2 | 33.6 | 32.5 | 31.1 | 29.5 |
| TEVS18 | 64 | 44.3 | 53.4 | 55.7 | 55.4 | 53.9 | 51.6 | 49 | 46 | 41.1 | 48.8 | 50.6 | 50.2 | 48.7 | 46.5 | 44 | 41.3 |
| TEVS21 | 72 | 50.9 | 61.3 | 63.7 | 63.4 | 61.5 | 58.8 | 55.6 | 52.2 | 47.3 | 56 | 58 | 57.4 | 55.6 | 53 | 50 | 46.8 |
| TEVS26 | 92 | 61.8 | 75.4 | 79.3 | 79.3 | 77 | 73.4 | 68.8 | 63.6 | 57.2 | 68.5 | 71.3 | 70.6 | 67.9 | 64.2 | 60.7 | 56.9 |
| Evaporation temperature -25°C | | | | | | | | | Evaporation temperature -30°C | | | | | | | | |
| TEVS2 | 7 | 3.4 | 4.1 | 4.5 | 4.6 | 4.6 | 4.6 | 4.5 | 4.3 | 3.1 | 3.7 | 4 | 4.1 | 4.1 | 4.1 | 4 | 3.9 |
| TEVS2.5 | 9 | 4.6 | 5.7 | 6.1 | 6.3 | 6.3 | 6.2 | 6 | 5.8 | 4.3 | 5.1 | 5.5 | 5.6 | 5.6 | 5.5 | 5.4 | 5.2 |
| TEVS4 | 14 | 7 | 8.5 | 9.1 | 9.3 | 9.3 | 9.1 | 8.8 | 8.4 | 6.5 | 7.7 | 8.2 | 8.4 | 8.3 | 8.2 | 7.9 | 7.5 |
| TEVS5 | 18 | 9.6 | 11.7 | 12.4 | 12.6 | 12.5 | 12.2 | 11.8 | 11.3 | 8.9 | 10.6 | 11.3 | 11.4 | 11.4 | 11 | 10.6 | 10.1 |
| TEVS7.5 | 26 | 13.7 | 16.7 | 18 | 18.5 | 18.5 | 18.2 | 17.7 | 17 | 12.7 | 15.3 | 16.4 | 16.7 | 16.7 | 16.3 | 15.8 | 15.1 |
| TEVS9 | 31 | 15.8 | 18.9 | 19.9 | 20.1 | 19.8 | 19.2 | 18.4 | 17.5 | 14.3 | 16.9 | 17.8 | 17.9 | 17.6 | 17 | 16.3 | 15.5 |
| TEVS11 | 39 | 20.3 | 24.2 | 25.3 | 25.4 | 24.9 | 24 | 23 | 21.7 | 18.4 | 21.6 | 22.6 | 22.6 | 22.1 | 21.3 | 20.3 | 19.2 |
| TEVS13 | 45 | 24.6 | 29.3 | 30.7 | 30.9 | 30.3 | 29.2 | 27.9 | 26.4 | 22.5 | 26.4 | 27.6 | 27.6 | 27 | 26 | 24.8 | 23.4 |
| TEVS18 | 64 | 37.7 | 44.1 | 45.6 | 45.1 | 43.6 | 41.6 | 39.2 | 36.7 | 34.4 | 39.6 | 40.7 | 40.2 | 38.8 | 36.9 | 34.7 | 32.4 |
| TEVS21 | 72 | 43.5 | 50.7 | 52.2 | 51.6 | 49.8 | 47.3 | 44.6 | 41.7 | 39.6 | 45.5 | 46.7 | 45.9 | 44.2 | 42 | 39.5 | 36.8 |
| TEVS26 | 92 | 52.5 | 61.5 | 63.3 | 62.2 | 60.2 | 57.4 | 54.1 | 50.6 | 47.7 | 54.7 | 56.3 | 55.5 | 53.5 | 50.9 | 47.9 | 44.7 |
| Evaporation temperature -35°C | | | | | | | | | Evaporation temperature -40°C | | | | | | | | |
| TEVS2 | 7 | 2.8 | 3.4 | 3.6 | 3.7 | 3.7 | 3.6 | 3.5 | 3.4 | 2.5 | 3 | 3.2 | 3.3 | 3.3 | 3.2 | 3.1 | 3 |
| TEVS2.5 | 9 | 3.9 | 4.6 | 4.9 | 5 | 5 | 4.9 | 4.8 | 4.6 | 3.5 | 4.1 | 4.4 | 4.5 | 4.5 | 4.4 | 4.2 | 4 |
| TEVS4 | 14 | 5.9 | 7 | 7.4 | 7.5 | 7.4 | 7.3 | 7 | 6.7 | 5.3 | 6.2 | 6.6 | 6.7 | 6.6 | 6.4 | 6.2 | 5.9 |
| TEVS5 | 18 | 8.1 | 9.6 | 10.1 | 10.2 | 10.1 | 9.8 | 9.4 | 8.9 | 7.3 | 8.6 | 9 | 9.1 | 9 | 8.7 | 8.3 | 7.9 |
| TEVS7.5 | 26 | 11.7 | 13.9 | 14.8 | 15 | 14.9 | 14.5 | 13.9 | 13.3 | 10.6 | 12.5 | 13.2 | 13.3 | 13.1 | 12.7 | 12.1 | 11.5 |
| TEVS9 | 31 | 12.8 | 15 | 15.7 | 15.8 | 15.5 | 15 | 14.4 | 13.6 | 11.3 | 13.2 | 13.8 | 13.9 | 13.6 | 13.2 | 12.6 | 11.9 |
| TEVS11 | 39 | 16.5 | 19.2 | 20 | 20 | 19.5 | 18.8 | 17.9 | 16.9 | 14.6 | 16.9 | 17.6 | 17.5 | 17.1 | 16.4 | 15.6 | 14.7 |
| TEVS13 | 45 | 20.2 | 23.5 | 24.5 | 24.5 | 23.9 | 23 | 21.9 | 20.6 | 18 | 20.8 | 21.7 | 21.6 | 21 | 20.2 | 19.2 | 18.1 |
| TEVS18 | 64 | 30.9 | 35.2 | 36.1 | 35.5 | 36.1 | 35.5 | 30.5 | 28.5 | 27.4 | 31.1 | 31.8 | 31.2 | 30 | 28.4 | 26.7 | 24.8 |
| TEVS21 | 72 | 35.6 | 40.5 | 41.4 | 40.6 | 39 | 37 | 34.7 | 32.3 | 31.7 | 35.8 | 36.5 | 35.7 | 34.2 | 32.3 | 30.3 | 28.1 |
| TEVS26 | 92 | 42.8 | 48.8 | 50 | 49.2 | 47.3 | 44.8 | 42.1 | 39.2 | 38.1 | 43.2 | 44.1 | 43.2 | 41.5 | 39.2 | 36.7 | 34.1 |

| SUBCOOLING CORRECTION FACTOR Δt_{sub} | | | | | | | | | | |
|---|------|------|------|------|------|------|------|------|------|------|
| Δt_{sub} | 4K | 10K | 15K | 20K | 25K | 30K | 35K | 40K | 45K | 50K |
| TEVS10 | 1.00 | 1.09 | 1.16 | 1.23 | 1.30 | 1.37 | 1.44 | 1.51 | 1.58 | 1.65 |
| TEVS20 | | | | | | | | | | |
| TEVS40 | | | | | | | | | | |
| <p>Subcooling Correction Factor Δt_{sub}</p> <p>When subcooling deviates from 4K, the evaporator refrigerating capacity must be adjusted. The corrected refrigerating capacity is the required refrigerating capacity divided by the correction factor in the following table, and then select the valve model from the table according to the corrected refrigerating capacity.</p> <p>NOTE: If the subcooling is too low, flash gases will form.</p> | | | | | | | | | | |

| NORMINAL REFRIGERATING CAPACITY(R407C/KW) | | | | | | | | | | | | | | | | | |
|---|--------------------|--|-------|-------|-------|-------|-------|-------|-------|--|-------|-------|-------|-------|-------|-------|-------|
| Model | N.R.C. R407C/kW | Pressure drops between inlet and outlet Δp bar | | | | | | | | Pressure drops between inlet and outlet Δp bar | | | | | | | |
| | | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| Evaporation temperature +15°C | | | | | | | | | | Evaporation temperature +10°C | | | | | | | |
| TEVS2.5 | 9 | 5.7 | 7.5 | 8.6 | 9.2 | 9.5 | 9.7 | 9.7 | 9.7 | 5.5 | 7.2 | 8.2 | 8.7 | 9 | 9.1 | 9.2 | 9.1 |
| TEVS3.5 | 13 | 7.9 | 10.3 | 11.7 | 12.5 | 12.9 | 13.1 | 13.1 | 13 | 7.6 | 9.9 | 11.2 | 11.9 | 12.2 | 12.4 | 12.4 | 12.3 |
| TEVS5 | 19 | 11.8 | 15.3 | 17.4 | 18.5 | 19.1 | 19.3 | 19.2 | 19 | 11.4 | 14.8 | 16.7 | 17.6 | 18.1 | 18.2 | 18.2 | 18 |
| TEVS7 | 25 | 15.8 | 20.6 | 23.3 | 24.8 | 25.4 | 25.6 | 25.6 | 25.2 | 15.4 | 19.9 | 22.4 | 23.6 | 24.2 | 24.4 | 24.3 | 23.9 |
| TEVS10 | 36 | 21.4 | 28.2 | 32.2 | 34.6 | 35.8 | 36.5 | 36.7 | 36.6 | 21 | 27.5 | 31.3 | 33.3 | 34.4 | 35 | 35.2 | 35 |
| TEVS12 | 42 | 33.5 | 42.9 | 47.8 | 50.1 | 50.7 | 50.5 | 49.6 | 48.4 | 32.2 | 41 | 45.5 | 47.2 | 47.7 | 47.3 | 46.5 | 45.3 |
| TEVS15 | 53 | 43.1 | 54.9 | 60.9 | 63.5 | 64.1 | 63.5 | 62.3 | 60.5 | 41.4 | 52.5 | 57.9 | 59.8 | 60.2 | 59.5 | 58.2 | 56.5 |
| TEVS18 | 62 | 48.7 | 62.8 | 70.3 | 73.9 | 75 | 74.6 | 73.2 | 71.1 | 47.2 | 60.5 | 67.4 | 69.9 | 70.5 | 69.7 | 68 | 66.2 |
| TEVS24 | 84 | 76.4 | 96.3 | 105.7 | 109.1 | 109 | 107.1 | 104.1 | 100.4 | 73.4 | 91.9 | 100.4 | 102.6 | 102.2 | 100.2 | 97.2 | 93.6 |
| TEVS27 | 95 | 87.5 | 110.1 | 120.7 | 124.4 | 124.1 | 121.8 | 118.3 | 113.9 | 84.1 | 105.2 | 114.7 | 117.1 | 116.4 | 114 | 110.4 | 106.2 |
| TEVS34 | 121 | 106 | 136.9 | 153.4 | 161.5 | 164 | 163.5 | 160.8 | 156.5 | 102 | 130.8 | 145.8 | 151.6 | 153.2 | 152 | 148.7 | 144 |
| Evaporation temperature +5°C | | | | | | | | | | Evaporation temperature 0°C | | | | | | | |
| TEVS2.5 | 9 | 5.3 | 6.9 | 7.7 | 8.2 | 8.4 | 8.6 | 8.6 | 8.5 | 5 | 6.5 | 7.3 | 7.7 | 7.9 | 8 | 8 | 7.9 |
| TEVS3.5 | 13 | 7.3 | 9.4 | 10.6 | 11.2 | 11.5 | 11.6 | 11.6 | 11.5 | 6.9 | 8.9 | 9.9 | 10.5 | 10.7 | 10.9 | 10.8 | 10.7 |
| TEVS5 | 19 | 10.9 | 14.1 | 15.8 | 16.6 | 17 | 17.2 | 17.1 | 16.9 | 10.4 | 13.4 | 14.8 | 15.6 | 15.9 | 16 | 16 | 15.7 |
| TEVS7 | 25 | 14.8 | 19.1 | 21.3 | 22.4 | 22.9 | 23 | 22.8 | 22.5 | 14.2 | 18.2 | 20.1 | 21.1 | 21.5 | 21.6 | 21.4 | 21 |
| TEVS10 | 36 | 20.4 | 26.6 | 30 | 31.8 | 32.8 | 33.3 | 33.4 | 33.2 | 19.7 | 25.6 | 28.5 | 30.2 | 31.1 | 31.4 | 31.5 | 31.2 |
| TEVS12 | 42 | 30.6 | 38.8 | 42.6 | 44.1 | 44.4 | 44 | 43.2 | 42 | 28.9 | 36.5 | 39.6 | 40.8 | 41 | 40.6 | 39.8 | 38.6 |
| TEVS15 | 53 | 39.4 | 49.7 | 54.3 | 55.8 | 56 | 55.3 | 54 | 52.3 | 37.2 | 46.6 | 50.4 | 51.7 | 51.7 | 50.9 | 49.7 | 48.1 |
| TEVS18 | 62 | 45.5 | 57.8 | 63.4 | 65.3 | 65.5 | 64.9 | 63.6 | 61.8 | 43.3 | 54.6 | 59.1 | 60.8 | 61 | 60.3 | 59 | 57.2 |
| TEVS24 | 84 | 69.9 | 87.1 | 94 | 95.7 | 95 | 93 | 90 | 86.5 | 66.1 | 81.8 | 87.3 | 88.5 | 87.7 | 85.5 | 82.7 | 79.3 |
| TEVS27 | 95 | 80.2 | 99.7 | 107.5 | 109.2 | 108.3 | 105.8 | 102.2 | 98.1 | 75.9 | 93.7 | 99.9 | 101.1 | 99.9 | 97.3 | 93.9 | 90 |
| TEVS34 | 121 | 97.4 | 124 | 136.4 | 140.9 | 141.5 | 139.5 | 135.7 | 130.6 | 92.2 | 116.4 | 126.2 | 129.4 | 129.1 | 126.5 | 122.1 | 116.6 |
| Evaporation temperature -5°C | | | | | | | | | | Evaporation temperature -10°C | | | | | | | |
| TEVS2.5 | 9 | 4.8 | 6.1 | 6.8 | 7.1 | 7.3 | 7.4 | 7.4 | 7.4 | 4.5 | 5.7 | 6.3 | 6.6 | 6.8 | 6.9 | 6.8 | 6.8 |
| TEVS3.5 | 13 | 6.6 | 8.4 | 9.3 | 9.7 | 10 | 10.1 | 10.1 | 9.9 | 6.2 | 7.8 | 8.6 | 9 | 9.2 | 9.3 | 9.3 | 9.2 |
| TEVS5 | 19 | 9.9 | 12.6 | 13.9 | 14.5 | 14.8 | 14.9 | 14.8 | 14.6 | 9.4 | 11.8 | 12.9 | 13.5 | 13.7 | 13.8 | 13.7 | 13.4 |
| TEVS7 | 25 | 13.5 | 17.2 | 18.9 | 19.7 | 20 | 20.1 | 19.9 | 19.5 | 12.8 | 16.1 | 17.6 | 18.3 | 18.6 | 18.6 | 18.4 | 18.1 |
| TEVS10 | 36 | 19 | 24.4 | 27 | 28.4 | 29.2 | 29.5 | 29.4 | 29.1 | 18.1 | 23 | 25.3 | 26.6 | 27.2 | 27.4 | 27.3 | 27 |
| TEVS12 | 42 | 27.1 | 33.9 | 36.5 | 37.5 | 37.6 | 37.2 | 36.3 | 35.2 | 25.2 | 31.1 | 33.3 | 34.2 | 34.2 | 33.7 | 32.9 | 31.9 |
| TEVS15 | 53 | 34.8 | 43.3 | 46.4 | 47.4 | 47.3 | 46.6 | 45.3 | 43.8 | 32.4 | 39.7 | 42.3 | 43.2 | 43 | 42.2 | 41 | 39.6 |
| TEVS18 | 62 | 40.9 | 51.1 | 54.9 | 56.3 | 56.4 | 55.6 | 54.2 | 52.4 | 38.4 | 47.3 | 50.6 | 51.7 | 51.6 | 50.7 | 49.4 | 47.7 |
| TEVS24 | 84 | 62 | 76 | 80.4 | 81.3 | 80.2 | 78.1 | 75.3 | 72.1 | 57.7 | 69.8 | 73.5 | 74 | 72.9 | 70.8 | 68.2 | 65.2 |
| TEVS27 | 95 | 71.3 | 87.2 | 92 | 92.8 | 91.5 | 88.9 | 85.6 | 81.8 | 66.4 | 80.1 | 84.1 | 84.6 | 83.1 | 80.6 | 77.4 | 73.9 |
| TEVS34 | 121 | 86.6 | 107.9 | 115.5 | 117.6 | 116.4 | 113 | 108.2 | 102.3 | 80.6 | 98.7 | 104.6 | 105.5 | 103.5 | 99.5 | 94.2 | 89.8 |

| NORMINAL REFRIGERATING CAPACITY(R407C/KW) | | | | | | | | | | | | | | | | | |
|---|--------------------|--|------|------|------|------|------|------|------|--|------|------|------|------|------|------|------|
| Model | N.R.C. R407C/kW | Pressure drops between inlet and outlet Δp bar | | | | | | | | Pressure drops between inlet and outlet Δp bar | | | | | | | |
| | | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| Evaporation temperature -15°C | | | | | | | | | | Evaporation temperature -20°C | | | | | | | |
| TEVS2.5 | 9 | 4.2 | 4.9 | 5.4 | 5.6 | 5.7 | 5.8 | 5.8 | 5.7 | 4 | 4.9 | 5.4 | 5.6 | 5.7 | 5.8 | 5.8 | 5.7 |
| TEVS3.5 | 13 | 5.8 | 7.3 | 8 | 8.3 | 8.5 | 8.6 | 8.5 | 8.4 | 5.5 | 6.7 | 7.3 | 7.7 | 7.8 | 7.9 | 7.8 | 7.7 |
| TEVS5 | 19 | 8.8 | 11 | 12 | 12.5 | 12.7 | 12.7 | 12.6 | 12.4 | 8.3 | 10.2 | 11 | 11.5 | 11.7 | 11.7 | 11.5 | 11.3 |
| TEVS7 | 25 | 12.1 | 15 | 16.3 | 17 | 17.2 | 17.2 | 17 | 16.6 | 11.4 | 14 | 15.1 | 15.7 | 15.9 | 15.8 | 15.6 | 15.2 |
| TEVS10 | 36 | 17.2 | 21.5 | 23.6 | 24.7 | 25.2 | 25.4 | 25.2 | 24.8 | 16.3 | 20.1 | 21.9 | 22.9 | 23.3 | 23.3 | 23.1 | 22.7 |
| TEVS12 | 42 | 23.2 | 28.2 | 30.2 | 30.9 | 30.8 | 30.4 | 29.6 | 28.7 | 21.1 | 25.4 | 27.1 | 27.7 | 27.6 | 27.2 | 27.6 | 25.6 |
| TEVS15 | 53 | 29.8 | 36 | 38.3 | 39 | 38.7 | 38 | 36.9 | 35 | 27.2 | 32.5 | 34.4 | 34.9 | 34.7 | 33.9 | 32.9 | 31.7 |
| TEVS18 | 62 | 35.7 | 43.3 | 46.1 | 47 | 46.8 | 45.9 | 44.6 | 43 | 32.9 | 39.3 | 41.7 | 42.4 | 42.1 | 41.2 | 40 | 38.5 |
| TEVS24 | 84 | 49 | 63.6 | 66.7 | 66.9 | 65.8 | 63.8 | 61.3 | 58.5 | 49 | 57.5 | 60 | 60.1 | 59 | 57 | 54.7 | 52.2 |
| TEVS27 | 95 | 61.5 | 73 | 76.3 | 76.5 | 75 | 72.5 | 69.6 | 66.3 | 56.5 | 66 | 68.8 | 68.7 | 67.2 | 64.9 | 62.1 | 59.1 |
| TEVS34 | 121 | 74.4 | 89.3 | 93.7 | 93.5 | 90.7 | 87.9 | 84.5 | 80.6 | 68.1 | 80 | 83 | 83 | 81.4 | 78.7 | 75.4 | 71.9 |
| Evaporation temperature -25°C | | | | | | | | | | Evaporation temperature -30°C | | | | | | | |
| TEVS2.5 | 9 | 3.7 | 4.5 | 4.9 | 5.2 | 5.2 | 5.3 | 5.3 | 5.2 | 3.4 | 4.2 | 4.5 | 4.7 | 4.8 | 4.9 | 4.8 | 4.8 |
| TEVS3.5 | 13 | 5.1 | 6.2 | 6.8 | 7.1 | 7.2 | 7.2 | 7.1 | 7 | 4.7 | 5.7 | 6.2 | 6.5 | 6.6 | 6.6 | 6.5 | 6.4 |
| TEVS5 | 19 | 7.7 | 9.4 | 10.2 | 10.6 | 10.7 | 10.7 | 10.5 | 10.3 | 7.2 | 8.7 | 9.4 | 9.7 | 9.8 | 9.8 | 9.7 | 9.4 |
| TEVS7 | 25 | 10.7 | 12.9 | 14 | 14.4 | 14.6 | 14.5 | 14.3 | 13.9 | 9.9 | 11.9 | 12.9 | 13.3 | 13.4 | 13.3 | 13.1 | 12.7 |
| TEVS10 | 36 | 15.3 | 18.7 | 20.3 | 21.1 | 21.4 | 21.4 | 21.1 | 20.6 | 14.3 | 17.3 | 18.7 | 19.4 | 19.6 | 19.5 | 19.2 | 18.7 |
| TEVS12 | 42 | 19.1 | 22.7 | 24.2 | 24.7 | 24.6 | 24.2 | 23.5 | 22.7 | 17 | 20.2 | 21.4 | 21.8 | 21.8 | 21.4 | 20.8 | 20.1 |
| TEVS15 | 53 | 24.6 | 29 | 30.7 | 31.1 | 30.8 | 30.1 | 29.2 | 28.1 | 21.9 | 25.8 | 27.2 | 27.5 | 27.3 | 26.6 | 25.8 | 24.8 |
| TEVS18 | 62 | 29.9 | 35.4 | 37.4 | 37.9 | 37.6 | 36.8 | 35.6 | 34.2 | 26.9 | 31.6 | 33.3 | 33.7 | 33.4 | 32.6 | 31.5 | 30.3 |
| TEVS24 | 84 | 44.5 | 51.6 | 53.8 | 53.7 | 52.6 | 50.8 | 48.6 | 46.3 | 39.9 | 46.1 | 47.9 | 47.8 | 46.7 | 45 | 43.1 | 40.9 |
| TEVS27 | 95 | 51.3 | 59.3 | 61.6 | 61.4 | 59.9 | 57.7 | 55.2 | 52.4 | 46.1 | 53 | 54.9 | 54.6 | 53.2 | 51.2 | 48.8 | 46.3 |
| TEVS34 | 121 | 61.6 | 71.4 | 74.3 | 74.2 | 72.6 | 70 | 67 | 63.7 | 55.3 | 63.9 | 66.3 | 66.1 | 64.4 | 62.1 | 59.3 | 56.3 |
| Evaporation temperature -35°C | | | | | | | | | | Evaporation temperature -40°C | | | | | | | |
| TEVS2.5 | 9 | 3.1 | 3.8 | 4.2 | 4.4 | 4.4 | 4.5 | 4.4 | 4.4 | 2.9 | 3.5 | 3.9 | 4 | 4.1 | 4.1 | 4.1 | 4 |
| TEVS3.5 | 13 | 4.3 | 5.3 | 5.7 | 6 | 6 | 6 | 6 | 5.9 | 4 | 4.9 | 5.3 | 5.5 | 5.6 | 5.6 | 5.5 | 5.4 |
| TEVS5 | 19 | 6.6 | 8 | 8.6 | 8.9 | 9 | 9 | 8.8 | 8.6 | 6.1 | 7.4 | 8 | 8.2 | 8.3 | 8.3 | 8.1 | 7.9 |
| TEVS7 | 25 | 9.2 | 11 | 11.9 | 12.2 | 12.3 | 12.2 | 12 | 11.7 | 8.6 | 10.2 | 11 | 11.3 | 11.4 | 11.2 | 11 | 10.7 |
| TEVS10 | 36 | 13.3 | 16 | 17.3 | 17.8 | 18 | 17.8 | 17.4 | 17.9 | 12.4 | 14.8 | 16 | 16.4 | 16.5 | 16.3 | 15.9 | 15.4 |
| TEVS12 | 42 | 15.1 | 17.8 | 18.9 | 19.3 | 19.2 | 18.8 | 18.3 | 17.7 | 13.3 | 15.7 | 16.7 | 17 | 16.9 | 16.6 | 16.1 | 15.6 |
| TEVS15 | 53 | 19.4 | 22.8 | 24 | 24.3 | 24 | 23.5 | 22.7 | 21.8 | 17.2 | 20.1 | 21.1 | 21.4 | 21.1 | 20.6 | 20 | 19.2 |
| TEVS18 | 62 | 23.9 | 28.1 | 29.6 | 29.9 | 29.5 | 28.8 | 27.8 | 26.7 | 21.2 | 24.8 | 26.1 | 26.3 | 26 | 25.3 | 24.5 | 23.5 |
| TEVS24 | 84 | 35.7 | 41.1 | 42.5 | 42.4 | 41.3 | 39.8 | 38 | 36.1 | 31.8 | 36.5 | 37.7 | 37.5 | 36.5 | 35.2 | 33.6 | 31.9 |
| TEVS27 | 95 | 41.2 | 47.2 | 48.8 | 48.4 | 47.1 | 45.2 | 43.1 | 40.8 | 36.7 | 42 | 43.3 | 42.9 | 41.6 | 40 | 38 | 36 |
| TEVS34 | 121 | 49.6 | 57 | 59 | 58.6 | 57.1 | 54.9 | 52.3 | 49.6 | 44.3 | 50.7 | 52.4 | 51.9 | 50.5 | 48.5 | 46.1 | 43.7 |

SUBCOOLING CORRECTION FACTOR Δt_{sub}

| Δt_{sub} | 4K | 10K | 15K | 20K | 25K | 30K | 35K | 40K | 45K | 50K |
|------------------|------|------|------|------|------|------|------|------|------|------|
| TEVS10 | 1.00 | 1.08 | 1.13 | 1.18 | 1.24 | 1.29 | 1.34 | 1.39 | 1.45 | 1.50 |
| TEVS20 | | | | | | | | | | |
| TEVS40 | | | | | | | | | | |

Subcooling Correction Factor Δt_{sub}

When subcooling deviates from 4K, the evaporator refrigerating capacity must be adjusted. The corrected refrigerating capacity is the required refrigerating capacity divided by the correction factor in the following table, and then select the valve model from the table according to the corrected refrigerating capacity.

NOTE: If the subcooling is too low, flash gases will form.

NORMINAL REFRIGERATING CAPACITY (R410A/KW)

| Model | N.R.C. R410A | Pressure drops between inlet and outlet Δp bar | | | | | | | | Pressure drops between inlet and outlet Δp bar | | | | | | | |
|---------|-----------------|--|-------|-------|-------|-------|-------|-------|-------|--|-------|-------|-------|-------|-------|-------|-------|
| | | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| | | Evaporation temperature +15°C | | | | | | | | Evaporation temperature +10°C | | | | | | | |
| TEVS3.5 | 12 | 8.7 | 11.3 | 12.7 | 13.5 | 13.8 | 13.9 | 13.7 | 13.3 | 8.5 | 11 | 12.4 | 13.1 | 13.3 | 13.4 | 13.2 | 12.9 |
| TEVS4.5 | 16 | 11.8 | 15.3 | 17.2 | 18.3 | 18.6 | 18.6 | 18.3 | 17.8 | 11.6 | 14.9 | 16.8 | 17.7 | 18 | 18 | 17.7 | 17.2 |
| TEVS6.5 | 24 | 17.4 | 22.4 | 25.1 | 26.5 | 26.9 | 26.8 | 26.3 | 25.4 | 17 | 21.9 | 24.5 | 25.7 | 26.1 | 26 | 25.4 | 24.6 |
| TEVS9 | 32 | 22.7 | 29.3 | 32.8 | 34.6 | 35.1 | 34.8 | 34.1 | 32.9 | 22.5 | 28.9 | 32.2 | 33.7 | 34.1 | 33.9 | 33.1 | 32 |
| TEVS13 | 45 | 29.6 | 38.7 | 43.9 | 47 | 48.2 | 48.6 | 48.2 | 47.1 | 29.6 | 38.6 | 43.7 | 46.4 | 47.6 | 47.9 | 47.6 | 46.6 |
| TEVS15 | 54 | 42.7 | 54.2 | 59.7 | 62.1 | 62 | 60.7 | 58.7 | 56 | 41.7 | 52.7 | 57.9 | 59.7 | 59.6 | 58.4 | 56.4 | 53.9 |
| TEVS19 | 68 | 54.9 | 69.3 | 75.9 | 78.6 | 78.1 | 76.3 | 73.4 | 69.7 | 53.6 | 67.4 | 73.6 | 75.6 | 75 | 73.2 | 70.4 | 67 |
| TEVS23 | 79 | 60.9 | 78.2 | 87 | 91.1 | 91.4 | 89.9 | 86.8 | 82.7 | 60.3 | 76.9 | 85.1 | 88.1 | 88.1 | 86.2 | 82.9 | 78.7 |
| TEVS31 | 110 | 99.1 | 123.5 | 133.8 | 136.9 | 134.7 | 130.2 | 124.2 | 117 | 96.7 | 119.9 | 129.5 | 131.3 | 129 | 124.6 | 118.8 | 112 |
| TEVS35 | 125 | 113.2 | 140.8 | 152.3 | 155.7 | 153 | 147.7 | 140.7 | 132.5 | 110.6 | 136.9 | 147.5 | 149.4 | 146.6 | 141.4 | 134.6 | 126.9 |
| TEVS46 | 161 | 137.3 | 176.1 | 196 | 205.4 | 206.5 | 203.3 | 196.9 | 188 | 134.4 | 171.6 | 190 | 197.2 | 197.5 | 193.8 | 187.2 | 178.3 |
| | | Evaporation temperature +5°C | | | | | | | | Evaporation temperature 0°C | | | | | | | |
| TEVS3.5 | 12 | 8.2 | 10.6 | 11.9 | 12.5 | 12.8 | 12.8 | 12.6 | 12.3 | 7.9 | 10.1 | 11.3 | 11.8 | 12.1 | 12.1 | 11.9 | 11.7 |
| TEVS4.5 | 16 | 11.2 | 14.4 | 16.2 | 16.9 | 17.2 | 17.2 | 16.9 | 16.5 | 10.8 | 13.9 | 15.4 | 16 | 16.3 | 16.3 | 16 | 15.6 |
| TEVS6.5 | 24 | 16.6 | 21.3 | 23.7 | 24.7 | 25 | 24.9 | 24.4 | 23.6 | 16 | 20.5 | 22.6 | 23.5 | 23.7 | 23.6 | 23.1 | 22.4 |
| TEVS9 | 32 | 22 | 28.2 | 31.3 | 32.6 | 32.9 | 32.6 | 31.9 | 30.8 | 21.4 | 27.3 | 30 | 31.1 | 31.4 | 31.1 | 30.4 | 29.3 |
| TEVS13 | 45 | 29.4 | 38.1 | 43 | 45.4 | 46.5 | 46.8 | 46.4 | 45.5 | 28.9 | 37.4 | 41.8 | 43.9 | 44.9 | 45.2 | 44.8 | 43.9 |
| TEVS15 | 54 | 40.4 | 50.8 | 55.6 | 56.9 | 56.6 | 55.4 | 53.6 | 51.2 | 38.7 | 48.5 | 52.5 | 53.6 | 53.3 | 52.1 | 50.3 | 48.1 |
| TEVS19 | 68 | 51.9 | 64.9 | 70.6 | 71.9 | 71.3 | 69.4 | 66.8 | 63.6 | 49.7 | 61.9 | 66.7 | 67.7 | 67 | 65.2 | 62.7 | 59.7 |
| TEVS23 | 79 | 59 | 74.8 | 82.1 | 84.1 | 83.6 | 81.3 | 77.9 | 74.4 | 57.2 | 71.9 | 77.9 | 79.2 | 78.2 | 76.4 | 73.8 | 70.4 |
| TEVS31 | 110 | 93.6 | 115.4 | 124 | 124.7 | 122.2 | 117.9 | 112.3 | 106 | 89.7 | 110 | 116.9 | 117.3 | 114.7 | 110.4 | 105.2 | 99.2 |
| TEVS35 | 125 | 107.1 | 131.8 | 141.4 | 142 | 139 | 133.8 | 127.4 | 120 | 102.8 | 125.8 | 133.4 | 133.6 | 130.4 | 125.4 | 119.2 | 112.3 |
| TEVS46 | 161 | 130.4 | 165.4 | 182.1 | 186.9 | 186.3 | 182 | 175.1 | 166.2 | 125.4 | 157.8 | 171.5 | 175 | 173.4 | 168.4 | 161.1 | 152 |
| | | Evaporation temperature -5°C | | | | | | | | Evaporation temperature -10°C | | | | | | | |
| TEVS3.5 | 12 | 7.5 | 9.6 | 10.6 | 11.1 | 11.3 | 11.3 | 11.2 | 10.9 | 7.1 | 9 | 9.9 | 10.3 | 10.5 | 10.5 | 10.4 | 10.2 |
| TEVS4.5 | 16 | 10.3 | 13.2 | 14.5 | 15.1 | 15.3 | 15.2 | 15 | 14.6 | 9.7 | 12.4 | 13.5 | 14 | 14.2 | 14.2 | 13.9 | 13.6 |
| TEVS6.5 | 24 | 15.4 | 19.5 | 21.3 | 22.1 | 22.3 | 22.1 | 21.7 | 21 | 14.6 | 18.4 | 20 | 20.6 | 20.8 | 20.6 | 20.2 | 19.5 |
| TEVS9 | 32 | 20.6 | 26.2 | 28.5 | 29.4 | 29.6 | 29.3 | 28.6 | 27.6 | 27.2 | 24.8 | 26.8 | 27.6 | 27.7 | 27.3 | 26.6 | 25.7 |
| TEVS13 | 45 | 28.2 | 36.2 | 40.1 | 42.1 | 43 | 43.1 | 42.7 | 41.8 | 27.2 | 34.7 | 38.1 | 39.8 | 40.6 | 40.6 | 40.1 | 39.2 |
| TEVS15 | 54 | 36.8 | 45.8 | 49.1 | 50 | 49.6 | 48.5 | 46.8 | 44.7 | 34.6 | 42.7 | 45.4 | 46.2 | 45.7 | 44.6 | 43 | 41.1 |
| TEVS19 | 68 | 47.2 | 58.4 | 62.3 | 63.1 | 62.3 | 60.5 | 58.2 | 55.4 | 44.4 | 54.4 | 57.6 | 58.2 | 57.3 | 55.7 | 53.4 | 50.9 |
| TEVS23 | 79 | 54.8 | 68.2 | 72.9 | 74.1 | 73.5 | 71.6 | 69 | 65.9 | 52 | 64.1 | 68.1 | 69 | 68.2 | 66.4 | 63.9 | 60.9 |
| TEVS31 | 110 | 85.3 | 103.9 | 109.2 | 109.2 | 106.5 | 102.4 | 97.4 | 91.9 | 80.3 | 96.9 | 101 | 100.7 | 98 | 94.1 | 89.4 | 84.3 |
| TEVS35 | 125 | 97.8 | 118.9 | 124.7 | 124.4 | 121.2 | 116.3 | 110.5 | 104 | 92.1 | 110.9 | 115.4 | 114.7 | 111.5 | 106.8 | 101.3 | 95.4 |
| TEVS46 | 161 | 119.3 | 148.9 | 159.5 | 161.6 | 159 | 153.4 | 145.6 | 136.2 | 112.4 | 138.5 | 146.5 | 147.2 | 143.6 | 137.2 | 128.9 | 119.3 |

| NORMINAL REFRIGERATING CAPACITY(R410A/KW) | | | | | | | | | | | | | | | | | |
|---|-----------------|--|-------|-------|-------|-------|-------|-------|-------------------------------|--|-------|-------|-------|-------|-------|-------|------|
| Model | N.R.C. R410A | Pressure drops between inlet and outlet Δp bar | | | | | | | | Pressure drops between inlet and outlet Δp bar | | | | | | | |
| | | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| Evaporation temperature -15°C | | | | | | | | | Evaporation temperature -20°C | | | | | | | | |
| TEVS3.5 | 12 | 6.7 | 8.4 | 9.1 | 9.5 | 9.7 | 9.7 | 9.6 | 9.3 | 6.2 | 7.7 | 8.4 | 8.7 | 8.8 | 8.8 | 8.7 | 8.5 |
| TEVS4.5 | 16 | 9.1 | 11.5 | 12.5 | 12.9 | 13.1 | 13 | 12.8 | 12.5 | 8.5 | 10.5 | 11.4 | 11.8 | 11.9 | 11.9 | 11.7 | 11.3 |
| TEVS6.5 | 24 | 13.7 | 17.1 | 18.5 | 19.1 | 19.2 | 19 | 18.5 | 17.9 | 12.8 | 15.7 | 16.9 | 17.4 | 17.5 | 17.3 | 16.9 | 16.3 |
| TEVS9 | 32 | 18.6 | 23.1 | 24.9 | 25.6 | 25.6 | 25.2 | 24.6 | 23.7 | 17.5 | 21.4 | 22.9 | 23.5 | 23.5 | 23.1 | 22.4 | 21.6 |
| TEVS13 | 45 | 26 | 32.7 | 35.8 | 37.3 | 37.9 | 37.8 | 37.3 | 36.4 | 24.6 | 30.5 | 33.2 | 34.5 | 34.9 | 34.7 | 34.1 | 33.2 |
| TEVS15 | 54 | 32.2 | 39.2 | 41.6 | 42.2 | 41.7 | 40.7 | 39.2 | 37.4 | 29.6 | 35.6 | 37.7 | 38.1 | 37.7 | 36.7 | 35.3 | 33.8 |
| TEVS19 | 68 | 41.3 | 50 | 52.7 | 53.1 | 52.2 | 50.7 | 48.6 | 46.2 | 38 | 45.4 | 47.7 | 47.9 | 47.1 | 45.7 | 43.8 | 41.6 |
| TEVS23 | 79 | 48.9 | 59.4 | 62.8 | 63.5 | 62.6 | 60.9 | 58.5 | 55.7 | 45.4 | 54.5 | 57.4 | 57.8 | 56.9 | 55.2 | 53 | 50.4 |
| TEVS31 | 110 | 74.9 | 89.1 | 92.5 | 91.9 | 89.3 | 85.6 | 81.2 | 76.5 | 69.1 | 81.1 | 83.9 | 83.1 | 80.6 | 77.2 | 73.2 | 68.9 |
| TEVS35 | 125 | 86 | 102.1 | 105.7 | 104.8 | 101.6 | 97.2 | 92.1 | 86.6 | 79.5 | 93 | 95.9 | 94.8 | 91.7 | 87.6 | 92.9 | 77.9 |
| TEVS46 | 161 | 104.8 | 126.7 | 132.7 | 131.9 | 127.3 | 120.2 | 111.9 | 105.4 | 96.6 | 114.4 | 118.4 | 116.3 | 111.1 | 106.3 | 100.8 | 94.8 |
| Evaporation temperature -25°C | | | | | | | | | Evaporation temperature -30°C | | | | | | | | |
| TEVS3.5 | 12 | 5.7 | 7 | 7.6 | 7.9 | 8 | 8 | 7.9 | 7.7 | 5.2 | 6.3 | 6.8 | 7.1 | 7.2 | 7.1 | 7 | 6.9 |
| TEVS4.5 | 16 | 7.8 | 9.6 | 10.3 | 10.7 | 10.8 | 10.7 | 10.5 | 10.2 | 7.1 | 8.6 | 9.3 | 9.6 | 9.7 | 9.6 | 9.4 | 9.1 |
| TEVS6.5 | 24 | 11.8 | 14.3 | 15.4 | 15.8 | 15.9 | 15.6 | 15.2 | 14.7 | 10.8 | 12.9 | 13.9 | 14.2 | 14.2 | 14 | 13.6 | 13.1 |
| TEVS9 | 32 | 16.2 | 19.5 | 20.9 | 21.3 | 21.3 | 20.9 | 20.3 | 19.5 | 14.8 | 17.7 | 18.9 | 19.2 | 19.1 | 18.7 | 18.2 | 17.4 |
| TEVS13 | 45 | 23 | 28.2 | 30.5 | 31.5 | 31.8 | 31.5 | 30.8 | 29.8 | 21.2 | 25.6 | 27.6 | 28.4 | 28.5 | 28.1 | 27.3 | 26.3 |
| TEVS15 | 54 | 26.9 | 32 | 33.7 | 34.1 | 33.7 | 32.8 | 31.6 | 30.1 | 24.1 | 28.4 | 29.9 | 30.2 | 29.8 | 29 | 27.9 | 26.7 |
| TEVS19 | 68 | 34.6 | 40.7 | 42.7 | 42.9 | 42.1 | 40.7 | 39 | 37.1 | 31 | 36.2 | 37.8 | 37.9 | 37.2 | 36 | 34.5 | 32.8 |
| TEVS23 | 79 | 41.7 | 49.3 | 51.7 | 52 | 51.1 | 49.5 | 47.4 | 45.1 | 37.7 | 44.1 | 46.1 | 46.3 | 45.4 | 43.9 | 42.1 | 40 |
| TEVS31 | 110 | 63.2 | 73.1 | 75.3 | 74.5 | 72.1 | 68.9 | 65.3 | 61.4 | 57 | 65.2 | 67 | 66.1 | 63.9 | 61 | 57.8 | 54.3 |
| TEVS35 | 125 | 72.7 | 83.9 | 86.1 | 84.9 | 82 | 78.2 | 73.9 | 69.4 | 65.6 | 74.8 | 76.6 | 75.4 | 72.7 | 69.2 | 65.4 | 61.3 |
| TEVS46 | 161 | 88 | 101.9 | 103.9 | 102.8 | 99.5 | 95 | 89.9 | 84.5 | 78.9 | 90.1 | 92.6 | 91.3 | 88.2 | 84.1 | 79.1 | 74.6 |
| Evaporation temperature -35°C | | | | | | | | | Evaporation temperature -40°C | | | | | | | | |
| TEVS3.5 | 12 | 4.6 | 5.6 | 6.1 | 6.3 | 6.4 | 6.3 | 6.2 | 6.1 | 4.1 | 5 | 5.4 | 5.6 | 5.6 | 5.6 | 5.5 | 5.3 |
| TEVS4.5 | 16 | 6.4 | 7.7 | 8.3 | 8.5 | 8.6 | 8.5 | 8.3 | 8.1 | 5.7 | 6.8 | 7.3 | 7.5 | 7.6 | 7.5 | 7.3 | 7.1 |
| TEVS6.5 | 24 | 9.7 | 11.6 | 12.4 | 12.6 | 12.6 | 12.4 | 12.1 | 11.6 | 8.6 | 10.3 | 10.9 | 11.2 | 11.1 | 10.9 | 10.6 | 10.2 |
| TEVS9 | 32 | 13.4 | 15.9 | 16.9 | 17.1 | 17 | 16.7 | 16.1 | 15.4 | 12 | 14.1 | 14.9 | 15.2 | 15 | 14.7 | 14.2 | 13.5 |
| TEVS13 | 45 | 19.3 | 23.1 | 24.7 | 25.3 | 25.2 | 24.6 | 23.8 | 22.7 | 17.3 | 20.5 | 21.8 | 22.1 | 21.9 | 21.3 | 20.4 | 19.5 |
| TEVS15 | 54 | 21.2 | 24.9 | 26.2 | 26.5 | 26.1 | 25.4 | 24.5 | 23.4 | 18.5 | 21.6 | 22.8 | 23 | 22.7 | 22.1 | 21.3 | 20.4 |
| TEVS19 | 68 | 27.3 | 31.7 | 33.2 | 33.2 | 32.6 | 31.5 | 30.2 | 28.7 | 23.8 | 27.6 | 28.8 | 28.8 | 28.3 | 27.4 | 26.2 | 25 |
| TEVS23 | 79 | 33.5 | 38.9 | 40.7 | 40.7 | 39.9 | 38.6 | 36.9 | 35.1 | 29.3 | 34 | 35.5 | 35.5 | 34.8 | 33.6 | 32.2 | 30.5 |
| TEVS31 | 110 | 50.6 | 57.6 | 59 | 58.2 | 56.2 | 53.6 | 50.7 | 47.6 | 44.4 | 50.4 | 51.6 | 50.8 | 49 | 46.7 | 44.2 | 41.5 |
| TEVS35 | 125 | 58.3 | 66.2 | 67.6 | 66.3 | 63.9 | 60.8 | 57.3 | 53.8 | 51.3 | 57.9 | 59 | 57.9 | 55.7 | 53 | 49.9 | 46.8 |
| TEVS46 | 161 | 70.1 | 79.8 | 81.7 | 80.4 | 77.5 | 73.8 | 69.7 | 65.4 | 61.8 | 70 | 71.5 | 70.2 | 67.6 | 64.3 | 60.7 | 56.8 |

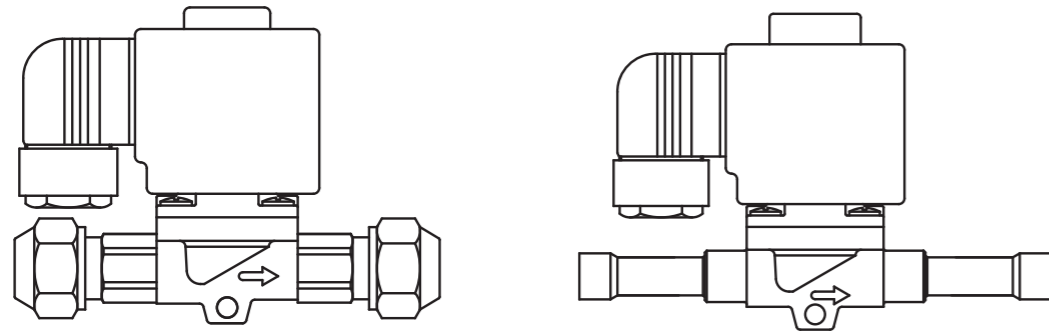
| SUBCOOLING CORRECTION FACTOR ΔT_{SUB} | | | | | | | | | | |
|---|------|------|------|-----|------|------|------|------|------|------|
| ΔT_{sub} | 4K | 10K | 15K | 20K | 25K | 30K | 35K | 40K | 45K | 50K |
| TEVS10 | 1.00 | 1.08 | 1.14 | 1.2 | 1.26 | 1.31 | 1.37 | 1.43 | 1.48 | 1.54 |
| TEVS20 | | | | | | | | | | |
| TEVS40 | | | | | | | | | | |
| <p>Subcooling Correction Factor ΔT_{sub}</p> <p>When subcooling deviates from 4K, the evaporator refrigerating capacity must be adjusted. The corrected refrigerating capacity is the required refrigerating capacity divided by the correction factor in the following table, and then select the valve model from the table according to the corrected refrigerating capacity.</p> <p>NOTE: If the subcooling is too low, flash gases will form.</p> | | | | | | | | | | |

SOLENOID VALVE



HSV SOLENOID VALVE

HSV valve is a direct or servo-operated solenoid valves, suitable for liquid, suction and hot gas lines in refrigeration, cooling and air conditioning equipment.



FEATURES

- Normal close. (NC)
- Modified PTFE gasket available for universal refrigerants, with better high temperature resistance.
- Stainless steel solenoid coil sleeve with special design to ensure extra long life
- Wide range of coils for AC and DC with perfect waterproof performance
- Wide connection port range provides bigger KV value for bigger system

TECHNICAL PARAMETERS

| | |
|--|--|
| Applicable Refrigerants | HCFC, HFC and related medium viscosity ≤2° E lubricant oil |
| Applicable Medium Temperature | -30°C~+105°C |
| Applicable Ambient Temperature of Solenoid | -40°C~+65°C |
| Standard Voltage of Solenoid | AC380V, 220V, 110V, 24V/50, 60Hz, DC12V |
| Allowable Voltage Fluctuation for Solenoid | +10%~-15% |
| Connection of Solenoid | Standard 3-wire insert connector |

APPLICATION

- Traditional refrigeration
- Heat pump systems
- Air conditioning units
- Liquid coolers
- Transport refrigeration

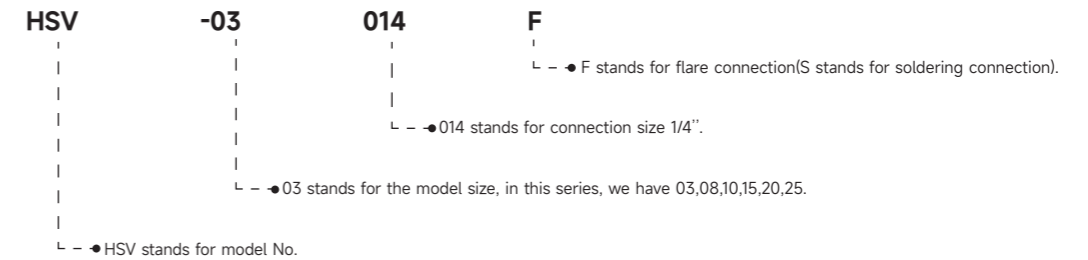


MODEL SELECTION

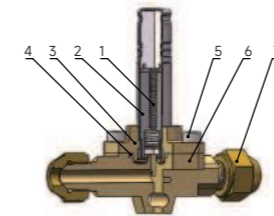
| Structure | Model | Connection | | OPD ΔP(bar) | | Max Working Pressure(bar) | Kv(m³/h) | Coil Model | | | |
|-----------------|------------|------------|------|-------------|-------------------------|---------------------------|----------|--|--|-----|--|
| | | Size | Type | Min. | MOPD(Liquid) | | | | | | |
| Direct Operated | HSV-03014F | 1/4 | SAE | 0.0 | 31 (Normally Closed) | 45 | 0.2 | HSV-220AC 13VA HSV-110AC 16VA HSV-380AC 16VA HSV-24DC 18W HSV-12DC 18W | | | |
| | HSV-08038F | 3/8 | SAE | 0.05 | | | 0.8 | | | | |
| Servo-Operated | HSV-08012F | 1/2 | SAE | 0.05 | | | 0.8 | | | | |
| | HSV-10012F | 1/2 | SAE | 0.05 | | | 2.2 | | | | |
| | HSV-15058F | 5/8 | SAE | 0.2 | | | 2.6 | | | | |
| | HSV-15034F | 3/4 | SAE | 0.2 | | | 2.6 | | | | |
| Direct Operated | HSV-03014S | 1/4 | ODF | 0.0 | | | | | | 0.2 | |
| Servo-Operated | HSV-08038S | 3/8 | ODF | 0.05 | | | | | | 0.8 | |
| | HSV-08012S | 1/2 | ODF | 0.05 | | | | | | 0.8 | |
| | HSV-10012S | 1/2 | ODF | 0.05 | | | | | | 2.2 | |
| | HSV-15058S | 5/8 | ODF | 0.2 | | | 2.6 | | | | |
| | HSV-15034S | 3/4 | ODF | 0.2 | | | 2.6 | | | | |
| | HSV-20078S | 7/8 | ODF | 0.2 | | | 5.7 | | | | |
| | HSV-25118S | 1 1/8 | ODF | 0.2 | | | 10 | | | | |

- OPD: Opening pressure difference
- MOPD: Max working pressure difference
- Kv value: The flow rate (m³/h) of water of density 1t/m³ passing through the solenoid valve with the pressure differential of 100 KPa.
- The MOPD of gaseous medium is about 1 bar higher than that of liquid.

MODEL NUMBERING CONVENTION

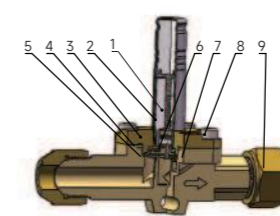


STRUCTURE



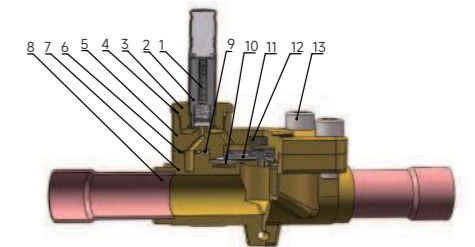
HSV3

- 1.reset spring
- 2.core iron
- 3.valve seat
- 4.sealing gasket
- 5.screw
- 6.valve body
- 7.nut



HSV8, HSV10

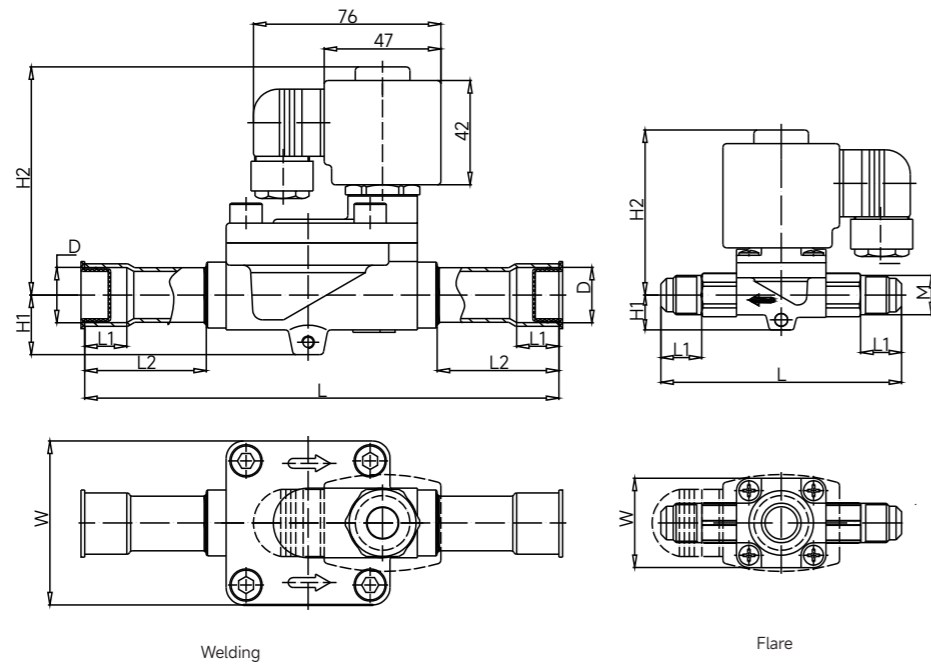
- 1.reset spring
- 2.core iron
- 3.valve seat
- 4.sealing gasket
- 5.gas separator
- 6.diaphragm
7. valve body
8. screw
- 9.nut



HSV15, HSV20, HSV25

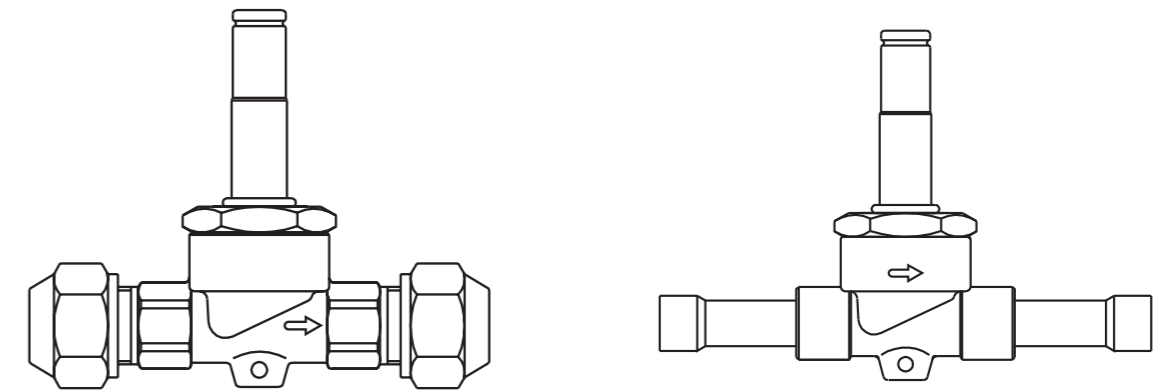
- 1.reset spring
- 2.core iron
- 3.valve seat
- 4.O-ring
- 5.cover
- 6.O-ring
- 7.valve body
- 8.connector
- 9.sealing gasket
- 10.gas separator
- 11.diaphragm
- 12.spring
- 13.screw

OVERALL DIMENSION



MODEL 10 SOLENOID VALVE

10 valve is a direct or servo-operated solenoid valves, suitable for liquid, suction and hot gas lines in refrigeration, cooling and air conditioning equipment.



| Model | Overall Dimension | | | | | | | |
|------------|-------------------|----|----|-----|------|----|------|--------------|
| | H1 | H2 | W | L | L1 | L2 | ØD | Thread |
| HSV-03014F | 14 | 66 | 30 | 78 | 14.5 | — | — | 7/16-20UNF |
| HSV-08038F | 14 | 67 | 36 | 96 | 16 | — | — | 5/8-18UNF |
| HSV-08012F | 14 | 67 | 36 | 98 | 17 | — | — | 3/4-16UNF |
| HSV-10012F | 15 | 77 | 45 | 103 | 18 | — | — | 3/4-16UNF |
| HSV-15058F | 18 | 88 | 52 | 133 | 19.5 | — | — | 7/8-14UNF |
| HSV-15034F | 18 | 88 | 52 | 133 | 21 | — | — | 1-1/16-14UNF |
| HSV-03014S | 14 | 66 | 30 | 102 | 7 | 27 | 6.5 | — |
| HSV-08038S | 14 | 67 | 36 | 124 | 8 | 33 | 10.1 | — |
| HSV-08012S | 14 | 67 | 36 | 130 | 10 | 36 | 12.8 | — |
| HSV-10012S | 15 | 77 | 45 | 138 | 10 | 36 | 12.8 | — |
| HSV-15058S | 18 | 88 | 52 | 165 | 14 | 43 | 16.1 | — |
| HSV-15034S | 18 | 88 | 52 | 172 | 16 | 46 | 19.2 | — |
| HSV-20078S | 24 | 92 | 66 | 191 | 17 | 49 | 22.3 | — |
| HSV-25118S | 26.5 | 96 | 73 | 246 | 22 | 73 | 28.7 | — |

FEATURES

- Normal close. (NC)
- Available for universal refrigerants
- Various kinds of connection is available
- Sealed coil with long service life, can be used in harsh environment

TECHNICAL PARAMETERS

| | |
|--|---|
| Applicable Refrigerants | HCFC、HFC and related medium viscosity ≤2° E lubricant oil |
| Applicable Medium Temperature | -30°C~+105°C |
| Applicable Ambient Temperature of Solenoid | -40°C~+65°C |
| Standard Voltage of Solenoid | AC220V、110V、380V(50、60Hz) |
| Allowable Voltage Fluctuation for Solenoid Connection of | +10%~-15% |
| Coil connection | Standard 3-wire insert connector |

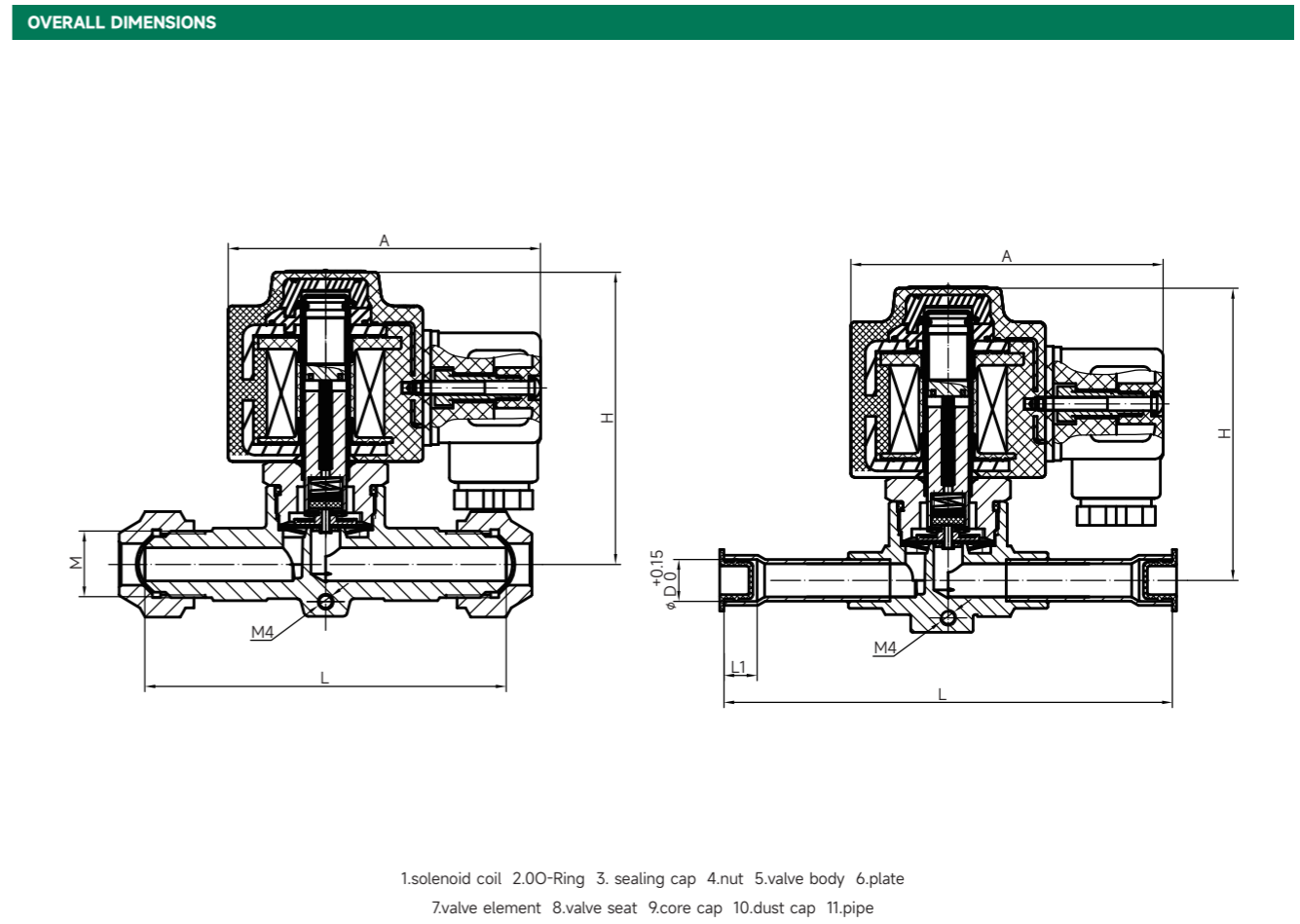
APPLICATION

- Traditional refrigeration
- Heat pump systems
- Air conditioning units
- Liquid coolers
- Transport refrigeration

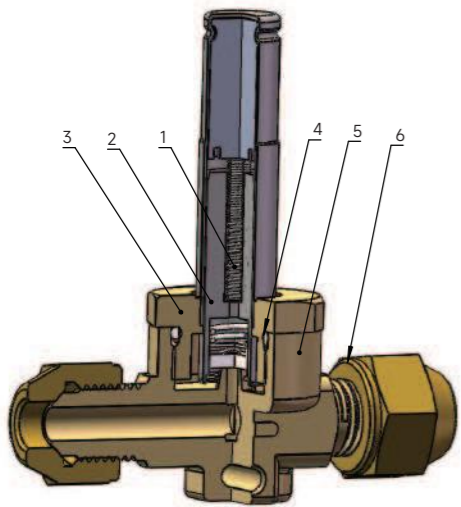


| MODEL SELECTION | | | | | | | |
|-----------------|--------|------------|------|-------------|--------------|---------------------------|-----------------------|
| Structure | Model | Connection | | OPD ΔP(bar) | | Max Working Pressure(bar) | Kv(m ³ /h) |
| | | Size | Type | Min. | MOPD(Liquid) | | |
| Direct Operated | 1020-2 | 1/4 | SAE | 0.0 | 25 | 45 | 0.2 |
| | 1028-2 | | ODF | | | | |
| | 1020-3 | SAE | 0.27 | | | | |
| | 1028-3 | ODF | | | | | |
| Servo-Operated | 1064-3 | 3/8 | SAE | 0.05 | 25 | 45 | 0.8 |
| | 1068-3 | | ODF | | | | |
| | 1064-4 | 1/2 | SAE | | | | |
| | 1068-4 | | ODF | | | | |
| | 1070-5 | 5/8 | SAE | | | | 2.6 |
| | 1078-5 | | ODF | | | | |
| | 1070-6 | 3/4 | SAE | | | | |
| | 1078-6 | | ODF | | | | |

• Kv value: When the pressure differential is 100 KPa, the flowrate at m³/h of water in density 1 t/m flows the solenoid valve.
 • The MOPD of gaseous medium is about 1 bar higher than that of liquid.

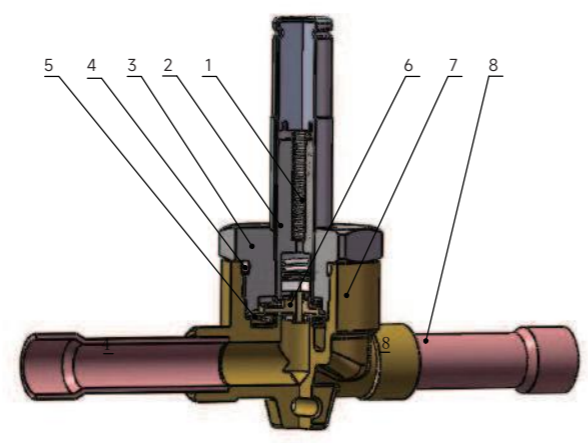


STRUCTURE



direct operated type

- 1.reset spring 2.core iron 3.valve seat
- 4.O-ring 5.valve body 6.connector



Servo-operated type

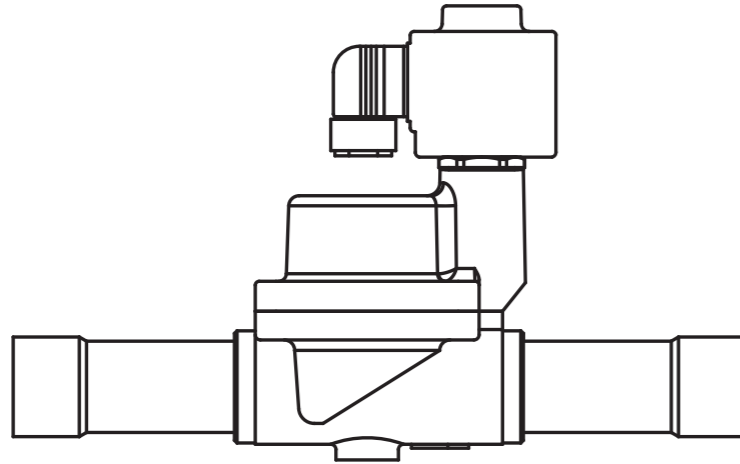
- 1.reset spring 2.core iron 3.valve seat 4.O-ring
- 5.gas separator 6.diaphragm 7.valve body 8.connector

OVERALL DIMENSIONS

| Model | Overall Dimension(mm) | | | | | |
|--------|-----------------------|----|-----|----|------|--------------|
| | A | H | L | L1 | ΦD | M |
| 1020-2 | 75 | 64 | 58 | — | — | 7/16-20UNF |
| 1020-3 | 75 | 64 | 64 | — | — | 5/8-18UNF |
| 1064-3 | 75 | 71 | 81 | — | — | 5/8-18UNF |
| 1064-4 | 75 | 71 | 85 | — | — | 3/4-16UNF |
| 1070-5 | 75 | 74 | 104 | — | — | 7/8-14UNF |
| 1070-6 | 75 | 74 | 104 | — | — | 1-1/16-14UNF |
| 1028-2 | 75 | 64 | 90 | 7 | 6.5 | — |
| 1028-3 | 75 | 64 | 104 | 8 | 10.1 | — |
| 1068-3 | 75 | 71 | 108 | 8 | 10.1 | — |
| 1068-4 | 75 | 71 | 114 | 10 | 12.8 | — |
| 1078-5 | 75 | 74 | 152 | 14 | 16.1 | — |

DDSV PISTON SOLENOID VALVE

DDSV valve is a servo-operated solenoid valves, suitable for liquid, suction and hot gas lines in refrigeration, cooling and air conditioning equipment.



FEATURES

- Normal close. (NC)
- Modified PTFE gasket available for universal refrigerants, with better high temperature resistance
- Stainless steel solenoid coil sleeve with special design to ensure extra long life
- 24W coils with perfect waterproof performance ensure the high open power
- Wide connection port range provides bigger KV value for bigger system

TECHNICAL PARAMETERS

| | |
|--|----------------------------------|
| Applicable Refrigerants | HCFC or HFC |
| Applicable Medium Temperature | -30°C~+105°C |
| Applicable Ambient Temperature of Solenoid | -40°C~+65°C |
| Allowable Voltage Fluctuation for Solenoid | +10%~-15% |
| Coil connection | Standard 3-wire insert connector |

APPLICATION

used on the liquid, air suction and hot vapor pipes of the refrigeration, cold storage and air conditioning facilities.

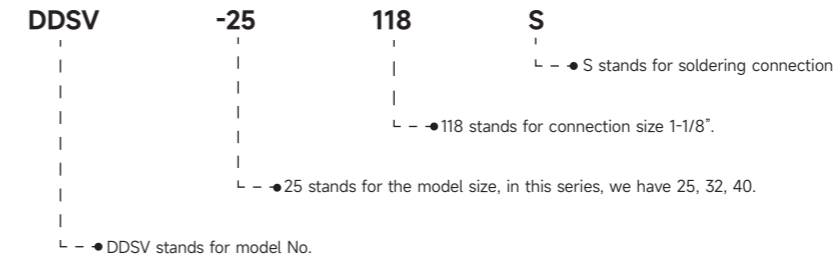


MODEL SELECTION

| Model | Connection size | OPD ΔP(bar) | | Max Working Pressure(bar) | Kv(m³/h) | Coil Model |
|-------------|-----------------|-------------|--------------|---------------------------|----------|---|
| | Welding | Min | MOPD(Liquid) | | | |
| DDSV-25100S | 1 | 0.2 | 31 | 45 | 10 | DSV-110AC 10W DSV-220AC 10W DSV-380AC 14W DSV-24DC 24W DSV-12DC 24W DSV-24AC 24W |
| DDSV-25118S | 1-1/8ODF | 0.2 | 31 | 45 | 10 | |
| DDSV-32138S | 1-3/8ODF | 0.2 | 31 | 45 | 16 | |
| DDSV-40158S | 1-5/8ODF | 0.2 | 31 | 45 | 25 | |

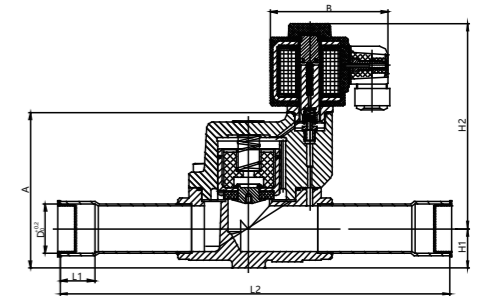
- Kv value: The flow rate (m³/h) of water of density 1t/m³ passing through the solenoid valve with the pressure differential of 100 KPa.
- The MOPD of gaseous medium is about 1 bar higher than that of liquid.

MODEL NUMBERING CONVENTION



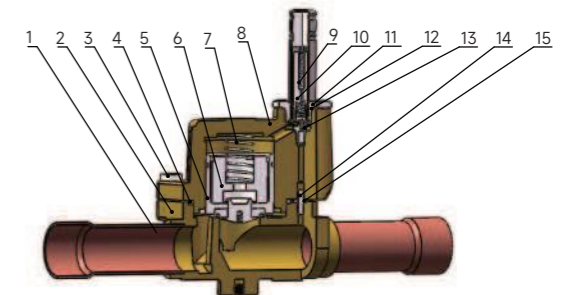
OVERALL DIMENSION

| Model | Overall Dimension(mm) | | | | | | |
|-------------|-----------------------|----|-------|----|-------|------|-----|
| | A | B | D | L1 | L2 | H1 | H2 |
| DDSV-25100S | 103 | 85 | Φ25.6 | 20 | 240.5 | 26.5 | 139 |
| DDSV-25118S | 103 | 85 | Φ28.7 | 20 | 246.5 | 26.5 | 139 |
| DDSV-32138S | 110 | 85 | Φ35.2 | 25 | 281.0 | 28 | 145 |
| DDSV-40158S | 119 | 85 | Φ41.5 | 29 | 316.0 | 32 | 150 |



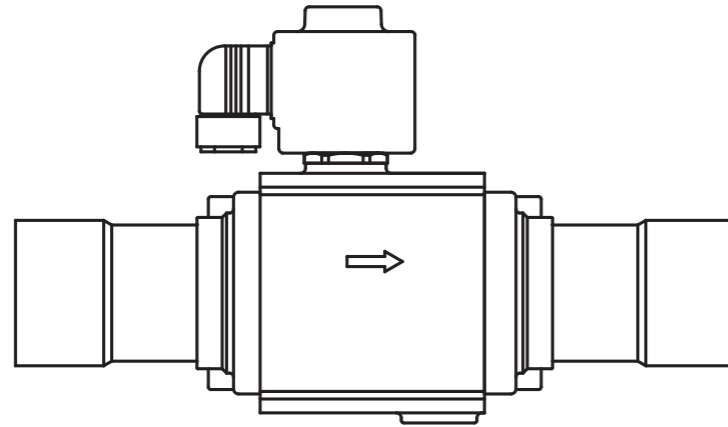
STRUCTURE

- connector
- valve body
- screw
- sealing ring
- piston parts
- piston core
- reset spring
- brass cover
- reset spring
- core iron
- valve seat
- sealing ring
- valve core
- hollow pin
- O-ring



DPSV PISTON SOLENOID VALVE

DPSV valve is a servo-operated solenoid valve, suitable for liquid, suction and hot gas lines in refrigeration, cooling and air conditioning equipment.



FEATURES

- Normal close. (NC)
- Modified PTFE gasket available for universal refrigerants, with better high temperature resistance
- Stainless steel solenoid coil sleeve with special design to ensure extra long life
- 24W coils with perfect waterproof performance ensure the high open power
- Wide connection port range provides bigger KV value for bigger system, biggest size goes to 2-1/8 inch

TECHNICAL PARAMETERS

| | |
|--|----------------------------------|
| Applicable Refrigerants | HCFC or HFC |
| Applicable Medium Temperature | -30°C~+105°C |
| Applicable Ambient Temperature of Solenoid | -40°C~+65°C |
| Allowable Voltage Fluctuation for Solenoid | +10%~-15% |
| Coil connection | Standard 3-wire insert connector |

APPLICATION

used on the liquid, air suction and hot vapor pipes of the refrigeration, cold storage and air conditioning

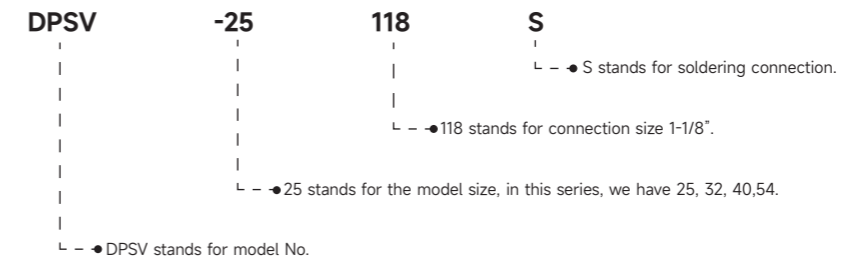


MODEL SELECTION

| Model | Connection size | OPD ΔP(bar) | | Max Working Pressure(bar) | Kv(m³/h) | Coil Model |
|-------------|-----------------|-------------|--------------|---------------------------|----------|---|
| | Welding | Min | MOPD(Liquid) | | | |
| DPSV-25118S | 1-1/8ODF | 0.2 | 31 | 45 | 10 | DSV-110AC 10W DSV-220AC 10W DSV-380AC 14W DSV-24DC 24W DSV-12DC 24W DSV-24AC 24W |
| DPSV-32138S | 1-3/8ODF | 0.2 | 31 | 45 | 16 | |
| DPSV-40158S | 1-5/8ODF | 0.2 | 31 | 45 | 25 | |
| DPSV-54218S | 2-1/8ODF | 0.2 | 31 | 45 | 28 | |

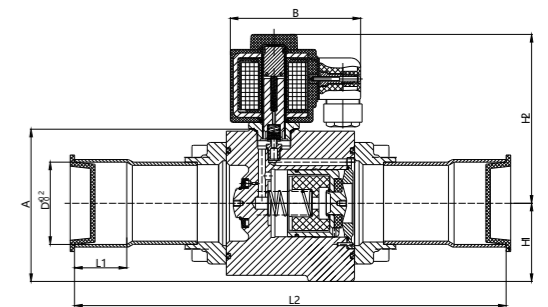
- Kv value: The flow rate (m³/h) of water of density 1t/m³ passing through the solenoid valve with the pressure differential of 100 KPa.
- The MOPD of gaseous medium is about 1 bar higher than that of liquid.

MODEL NUMBERING CONVENTION



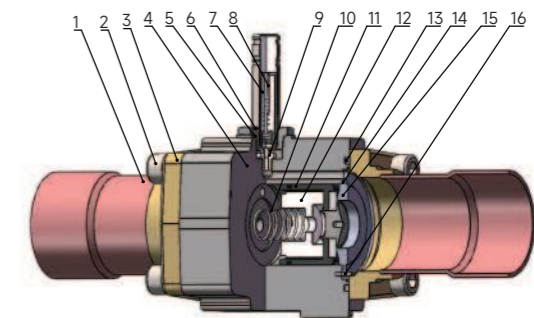
OVERALL DIMENSION

| Model | Overall Dimension(mm) | | | | | | |
|-------------|-----------------------|----|-------|----|-------|------|-----|
| | A | B | D | L1 | L2 | H1 | H2 |
| DPSV-25118S | 100 | 85 | Φ28.7 | 20 | 281.5 | 51.5 | 111 |
| DPSV-32138S | 100 | 85 | Φ35.2 | 25 | 281.5 | 51.5 | 111 |
| DPSV-40158S | 100 | 85 | Φ41.5 | 29 | 281.5 | 51.5 | 111 |
| DPSV-54218S | 100 | 85 | Φ54.2 | 34 | 281.5 | 51.5 | 111 |

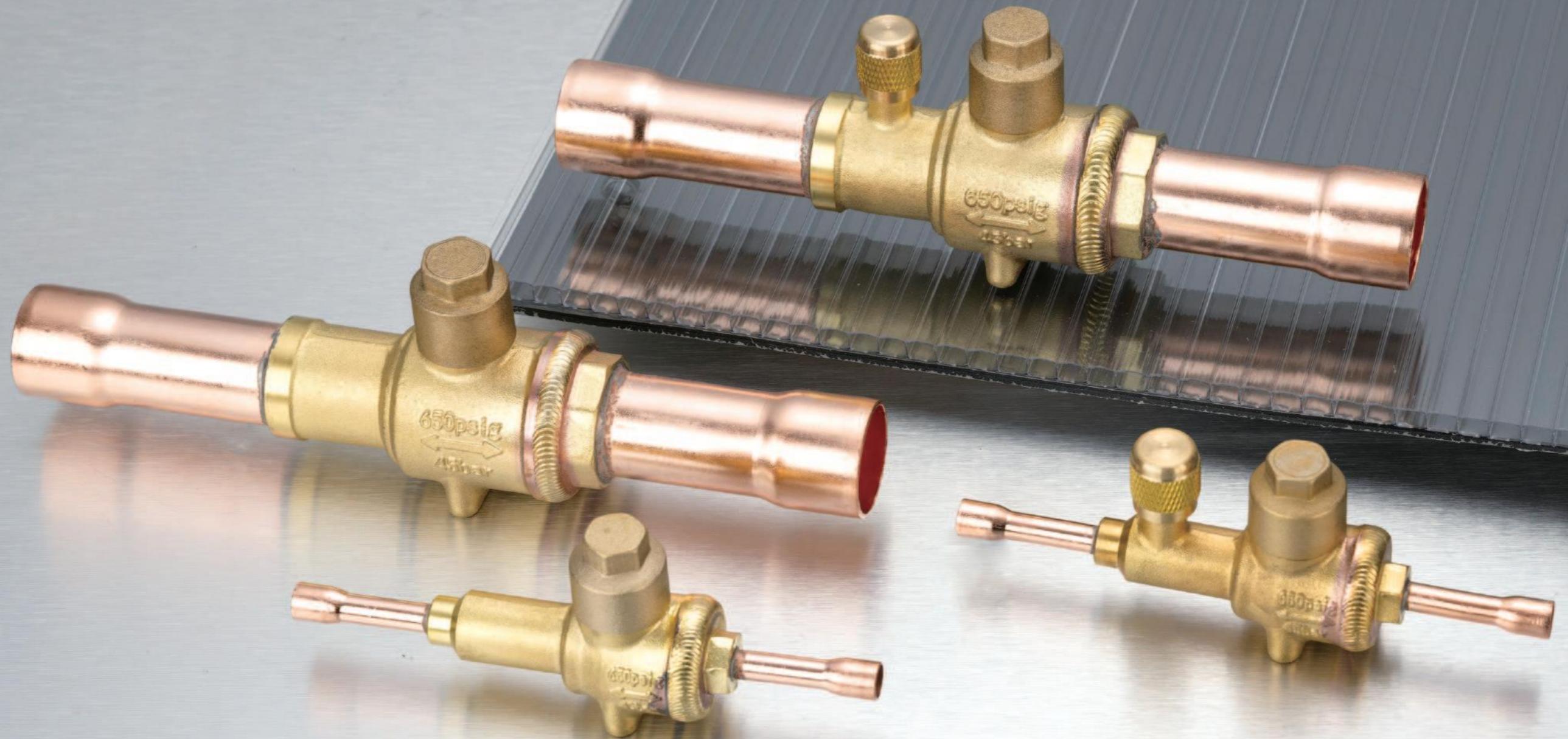


STRUCTURE

- | | |
|----------------|-----------------|
| 1.connector | 9.valve core |
| 2.screw | 10.reset spring |
| 3.flange | 11.piston |
| 4.valve body | 12.piston core |
| 5.sealing ring | 13.sealing ring |
| 6. valve seat | 14.O-ring |
| 7.core iron | 15.sealing seat |
| 8.reset spring | 16.dowel pin |

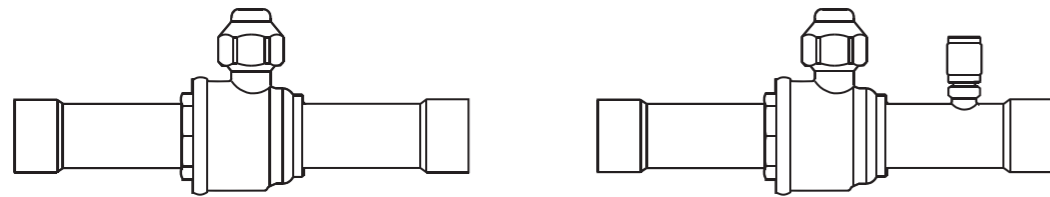


BALL VALVE



DBV BALL VALVE

DBV valve is a manual shut-off ball valve for bi-directional flow, suitable for liquid, suction, and hot gas lines in refrigeration, freezing, and air conditioning systems.



FEATURES

- Burst proof spindle design
- Modified PTFE sealing material available for wide refrigerant range
- Special stem cap provides a secondary sealing
- Rotation stop design, a ¼ turn to realize full open to full close
- Argon arc soldering

TECHNICAL PARAMETERS

| | |
|-------------------------------|------------------------------|
| Applicable Refrigerants | HCFC or HFC(Customer choice) |
| Applicable Medium Temperature | -40°C~+120°C |
| MAX.Working Pressure | 4.5MPa |
| MAX. Compression Pressure | 6.5MPa |
| Yearly Leakage of Refrigerant | ≤2g R22/a |

- Two types of model DBV ball valve are available: one is equipped with the charging and inspection port; the other is without the charging and inspection port.

APPLICATION

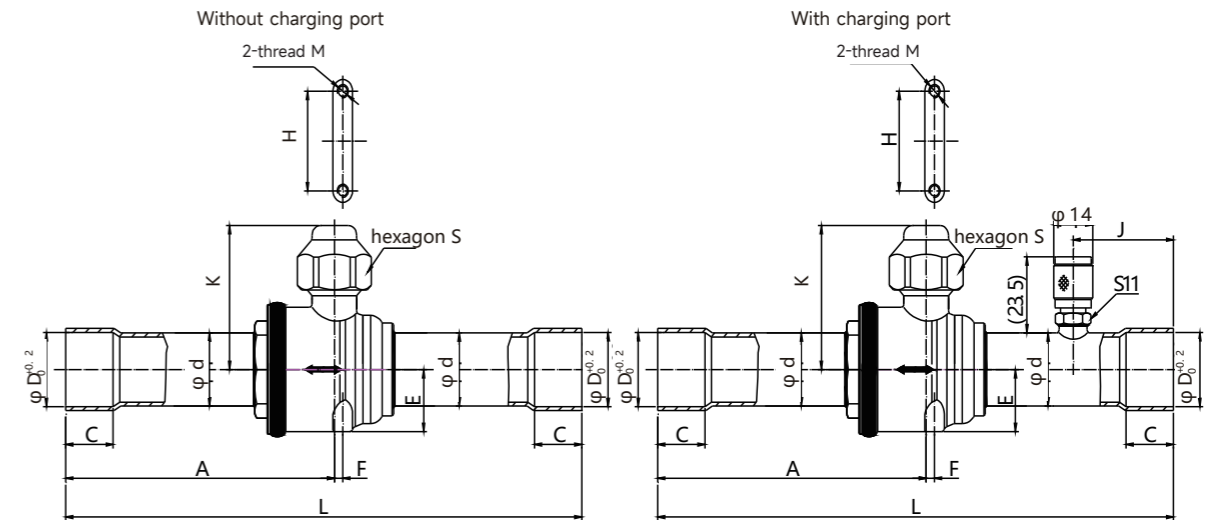
- Commercial cold room
- Industrial chiller
- Air conditioning units
- Cold chain
- Heat pump systems



MODEL SELECTION

| Model | | Size | OD(mm) | Kv(m³/h) | Model | | Size | OD(mm) | Kv(m³/h) |
|------------------|--------------------|-------------|--------|----------|------------------|--------------------|---------------|--------|----------|
| No charging port | With charging port | | | | No charging port | With charging port | | | |
| DBV-014 | DBV-014V | 1/4 (Φ6.5) | Φ10 | 2 | DBV-118 | DBV-118V | 1-1/8 (Φ28.7) | Φ25 | 52.0 |
| DBV-038S | DBV-038VS | 3/8 (Φ10.1) | Φ10 | 5.7 | DBV-138 | DBV-138V | 1-3/8 (Φ35.2) | Φ31 | 80 |
| DBV-012S | DBV-012VS | 1/2 (Φ12.8) | Φ10 | 5.7 | DBV-158 | DBV-158V | 1-5/8 (Φ41.5) | Φ37 | 121 |
| DBV-038 | DBV-038V | 3/8 (Φ10.1) | Φ14 | 5.7 | DBV-218 | DBV-218V | 2-1/8 (Φ54.2) | Φ50 | 200 |
| DBV-012 | DBV-012V | 1/2 (Φ12.8) | Φ14 | 10.6 | DBV-258 | DBV-258V | 2-5/8 (Φ67) | Φ50 | 200 |
| DBV-058 | DBV-058V | 5/8 (Φ16.1) | Φ14 | 14.1 | DBV-258B | DBV-258VB | 2-5/8 (Φ67) | Φ60.5 | 310 |
| DBV-034 | DBV-034V | 3/4 (Φ19.1) | Φ16 | 20.4 | DBV-318 | DBV-318V | 3-1/8 (Φ79.6) | Φ50 | 200 |
| DBV-078 | DBV-078V | 7/8 (Φ22.3) | Φ19 | 28.2 | DBV-318B | DBV-318VB | 3-1/8 (Φ79.6) | Φ73 | 700 |

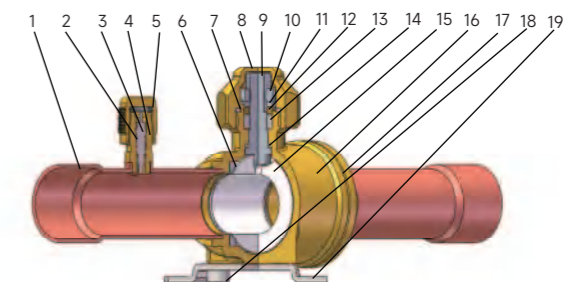
OVERALL DIMENSION



| Model | | Overall Dimension | | | | | | | | | | |
|------------------|--------------------|-------------------|----|------|------|------|----|------|----|----|-----|-----|
| NO charging port | With charging port | A | C | D | d | E | F | K | M | J | H | L |
| DBV-014 | DBV-014V | 57 | 6 | 6.5 | 10 | 14 | 0 | 32.5 | M4 | 20 | 44 | 110 |
| DBV-038S | DBV-038VS | 65 | 8 | 10.1 | 10 | 14 | 0 | 32.5 | M4 | 26 | 44 | 126 |
| DBV-012S | DBV-012VS | 67 | 10 | 12.8 | 12 | 14 | 0 | 32.5 | M4 | 26 | 44 | 130 |
| DBV-038 | DBV-038V | 73 | 9 | 10.1 | 16 | 14.5 | 2 | 38 | M4 | 30 | 50 | 138 |
| DBV-012 | DBV-012V | 83 | 10 | 12.8 | 16 | 14.5 | 2 | 38 | M4 | 30 | 50 | 159 |
| DBV-058 | DBV-058V | 83 | 12 | 16.1 | 16 | 14.5 | 2 | 38 | M4 | 30 | 50 | 159 |
| DBV-034 | DBV-034V | 97 | 14 | 19.1 | 19 | 16.5 | 3 | 42 | M4 | 36 | 58 | 185 |
| DBV-078 | DBV-078V | 96 | 17 | 22.3 | 22 | 19 | 3 | 43 | M4 | 36 | 58 | 185 |
| DBV-118 | DBV-118V | 108 | 20 | 28.7 | 28 | 24 | 4 | 52.5 | M4 | 44 | 66 | 208 |
| DBV-138 | DBV-138V | 130 | 25 | 35.2 | 35 | 30 | 5 | 64 | M6 | 44 | 80 | 251 |
| DBV-158 | DBV-158V | 145 | 29 | 41.5 | 41.3 | 35 | 6 | 74 | M6 | 56 | 87 | 281 |
| DBV-218 | DBV-218V | 157 | 35 | 54.2 | 54 | 45.5 | 9 | 83.5 | M6 | 56 | 106 | 305 |
| DBV-258 | DBV-258V | 157 | 37 | 67 | 54 | 45.5 | 9 | 83.5 | M6 | 63 | 106 | 305 |
| DBV-258B | DBV-258VB | 171 | 37 | 67 | 66.8 | 54 | 16 | 94 | M6 | 72 | 117 | 343 |
| DBV-318 | DBV-318V | 157 | 40 | 79.6 | 54 | 45.5 | 9 | 83.5 | M6 | 63 | 106 | 305 |
| DBV-318B | DBV-318VB | 207 | 37 | 79.6 | 79.4 | 64 | 16 | 104 | M6 | 80 | 117 | 413 |

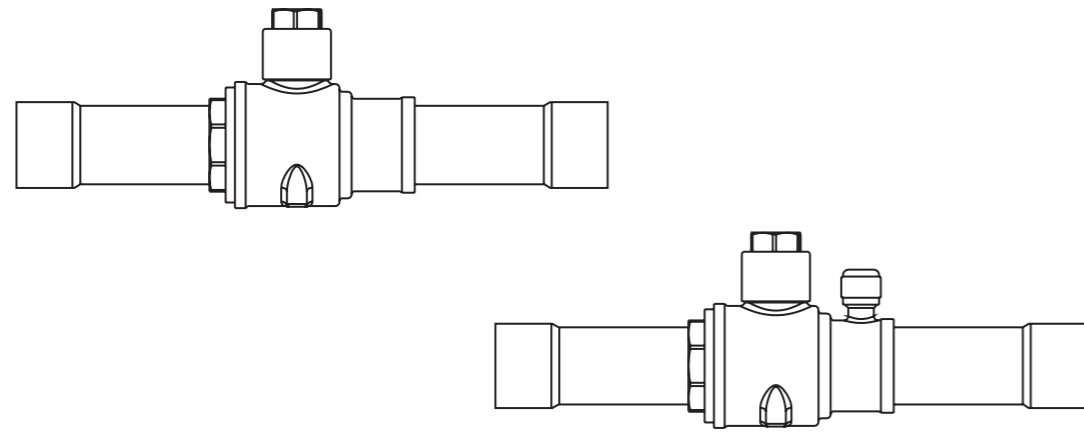
STRUCTURE

- connector
- charging valve cap
- charging valve
- valve core
- O-ring
- sealing gasket
- valve cap gasket
- valve cap
- valve stem
- nut
- lock plate
- press ring
- packing ring
- gasket
- ball
- valve body
- cover
- mounting plate
- screw



QBV BALL VALVE

QBV valve is a manual shut-off ball valve for bi-directional flow, suitable for liquid, suction, and hot gas lines in refrigeration, freezing, and air conditioning systems.



FEATURES

- Burst proof spindle design
- Modified PTFE sealing material available for wide refrigerant range
- Special stem cap provides a secondary sealing
- Rotation stop design, a ¼ turn to realize full open to full close
- Argon arc soldering
- Reduce the potential leaking point by forging the charging port on valve body.

TECHNICAL PARAMETERS

| | |
|---|----------------------------------|
| Applicable Refrigerants | R22,R134a,R404A,R407C,R410A,etc. |
| Applicable Medium Temperature | -40°C~ +120°C |
| MAX.Working Pressure | 4.5MPa |
| MAX.Compression Pressure | 6.5MPa |
| Yearly Leakage of Refrigerant | ≤2g R22/a |
| Two types of model QBV ball valve are available: one is equipped with the charging and inspection port;the other is without the charging and inspection port. | |

APPLICATION

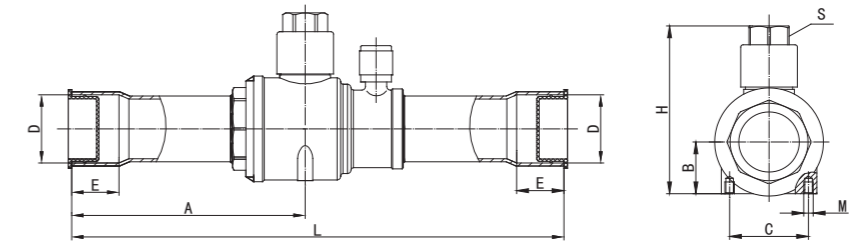
- Commercial cold room
- Industrial chiller
- Air conditioning units
- Cold chain
- Heat pump systems



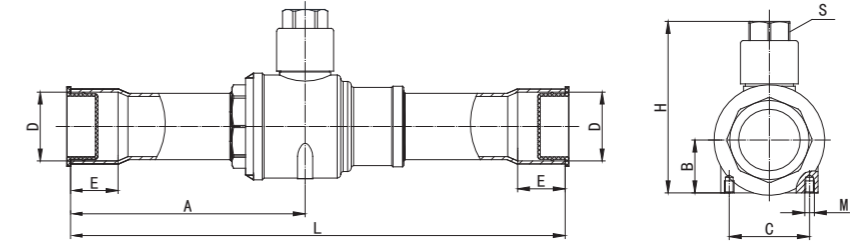
MODEL SELECTION

| Model | | size | Model | | size |
|------------------|--------------------|------------|------------------|--------------------|--------------|
| No charging port | With charging port | | No charging port | With charging port | |
| QBV-014 | QBV-014V | 1/4(Φ6.5) | QBV-078 | QBV-078V | 7/8(Φ22.3) |
| QBV-038 | QBV-038V | 3/8(Φ10.1) | QBV-118 | QBV-118V | 1-1/8(Φ28.7) |
| QBV-012 | QBV-012V | 1/2(Φ12.8) | QBV-138 | QBV-138V | 1-3/8(Φ35.2) |
| QBV-058 | QBV-058V | 5/8(Φ16.1) | QBV-158 | QBV-158V | 1-5/8(Φ41.5) |
| QBV-034 | QBV-034V | 3/4(Φ19.2) | QBV-218 | QBV-218V | 2-1/8(Φ54.2) |

OVERALL DIMENSION



with Charging port

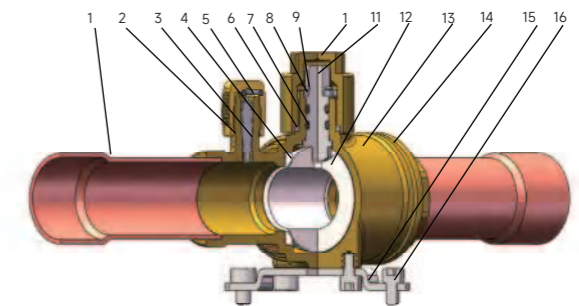


without Charging port

| Model | | Overall Dimension | | | | | | | | |
|------------------|--------------------|-------------------|-----|----|-------|-------|------|------|----|-----|
| No charging port | With charging port | D | L | E | H | A | B | C | M | S |
| QBV-014 | QBV-014V | Φ6.50 | 120 | 7 | 45.2 | 51.1 | 14 | 16 | M4 | S12 |
| QBV-038 | QBV-038V | Φ10.10 | 140 | 9 | 45.2 | 60.9 | 14 | 16 | M4 | S12 |
| QBV-012 | QBV-012V | Φ12.80 | 140 | 10 | 45.2 | 60.9 | 14 | 16 | M4 | S12 |
| QBV-058 | QBV-058V | Φ16.10 | 159 | 14 | 53.3 | 70.8 | 17 | 16 | M4 | S14 |
| QBV-034 | QBV-034V | Φ19.20 | 169 | 16 | 54.2 | 76.5 | 16.5 | 22 | M4 | S14 |
| QBV-078 | QBV-078V | Φ22.30 | 186 | 17 | 57.0 | 86.5 | 18 | 24.8 | M4 | S14 |
| QBV-118 | QBV-118V | Φ28.70 | 208 | 20 | 70.4 | 98.8 | 22 | 34 | M4 | S17 |
| QBV-138 | QBV-138V | Φ35.20 | 251 | 25 | 80.0 | 119.2 | 27 | 38 | M4 | S17 |
| QBV-158 | QBV-158V | Φ41.50 | 280 | 29 | 100.1 | 137.1 | 33 | 48 | M6 | S24 |
| QBV-218 | QBV-218V | Φ54.20 | 305 | 34 | 115.2 | 150.6 | 40.5 | 62 | M6 | S24 |

STRUCTURE

- connector
- charging valve cap
- valve core
- sealing gasket
- O-ring
- valve cap gasket
- O-ring
- lock plate
- retaining ring
- valve cap
- valve stem
- ball
- valve body
- cover
- mounting plate
- screw

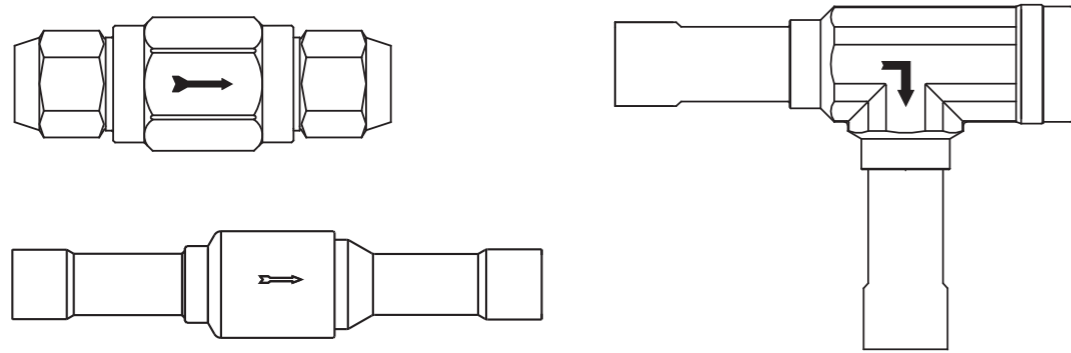


CHECK VALVE / SHUT OFF VALVE



HCV CHECK VALVE

HCV valve is a piston type check valve, it can help to ensure the right flow direction, and prevent refrigerant flowing back from the high temperature evaporator to the low temperature evaporator



FEATURES

- Min pressure drop: HCV (0.05bar) HCVR(0.3bar)
- Prevents back-condensation from warm to cold system part
- Flare and welded connections available
- 0 reverse leaking
- Resonance problems can be avoided during the partial load in the refrigeration system

TECHNICAL PARAMETERS

| | |
|-------------------------------|-------------------------------|
| Applicable Refrigerants | HCFC or HFC (Customer choice) |
| Applicable Medium Temperature | -50°C ~ +140°C |
| Max. Working Pressure | 46bar |
| Max. Test Pressure | 60bar |

APPLICATION

- Traditional refrigeration
- Heat pump systems
- Air conditioning units
- Liquid coolers
- Transport refrigeration

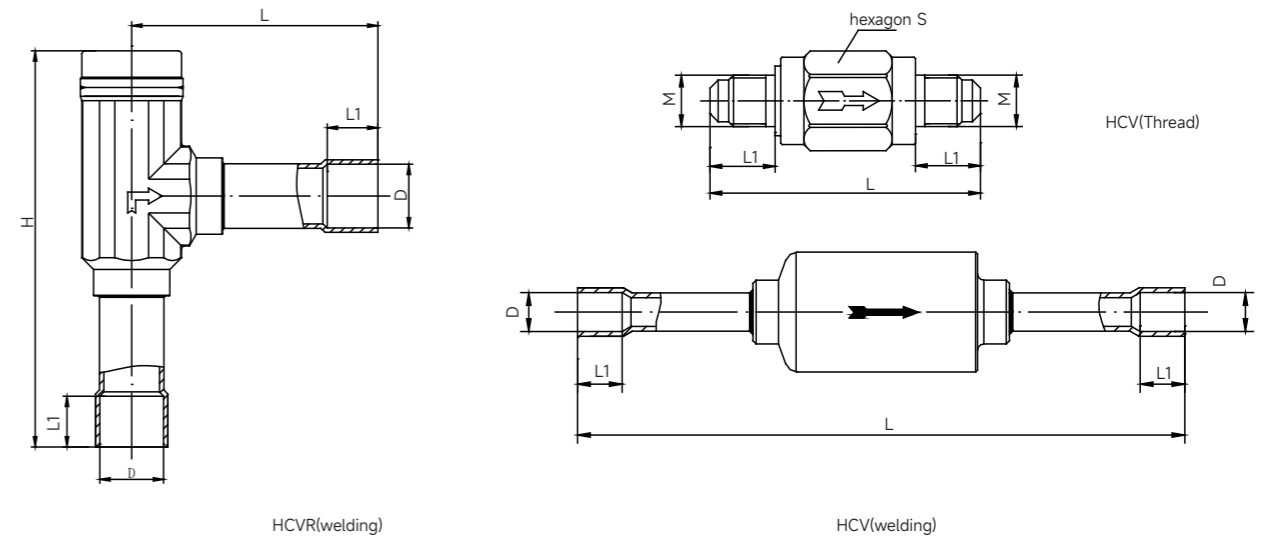


Model Selection

| Model | Type | Specs | | I.D.(mm) | Kv(m ³ /h) |
|-----------|---------------|---------|-----------|----------|-----------------------|
| | | Flare | Welded | | |
| HCV-014F | Straight type | 1/4 SAE | / | 4.8 | 0.56 |
| HCV-038F | Straight type | 3/8 SAE | / | 8 | 1.43 |
| HCV-012F | Straight type | 1/2 SAE | / | 10 | 2.05 |
| HCV-058F | Straight type | 5/8 SAE | / | 13 | 3.60 |
| HCV-034F | Straight type | 3/4 SAE | / | 16 | 5.50 |
| HCV-014S | Straight type | / | 1/4 ODF | 4.8 | 8.50 |
| HCV-038S | Straight type | / | φ10 ODF | 8 | 0.56 |
| HCV-012S | Straight type | / | 1/2 ODF | 10 | 1.43 |
| HCV-058S | Straight type | / | 5/8 ODF | 13 | 2.05 |
| HCV-034S | Straight type | / | 3/4 ODF | 16 | 3.60 |
| HCV-078S | Straight type | / | 7/8 ODF | 19 | 5.50 |
| HCVR-078S | Angle type | / | 7/8 ODF | 19 | 8.50 |
| HCVR-118S | Angle type | / | 1-1/8 ODF | 26 | 19.0 |
| HCVR-138S | Angle type | / | 1-3/8 ODF | 31 | 29.0 |
| HCVR-158S | Angle type | / | 1-5/8 ODF | 31 | 30.0 |

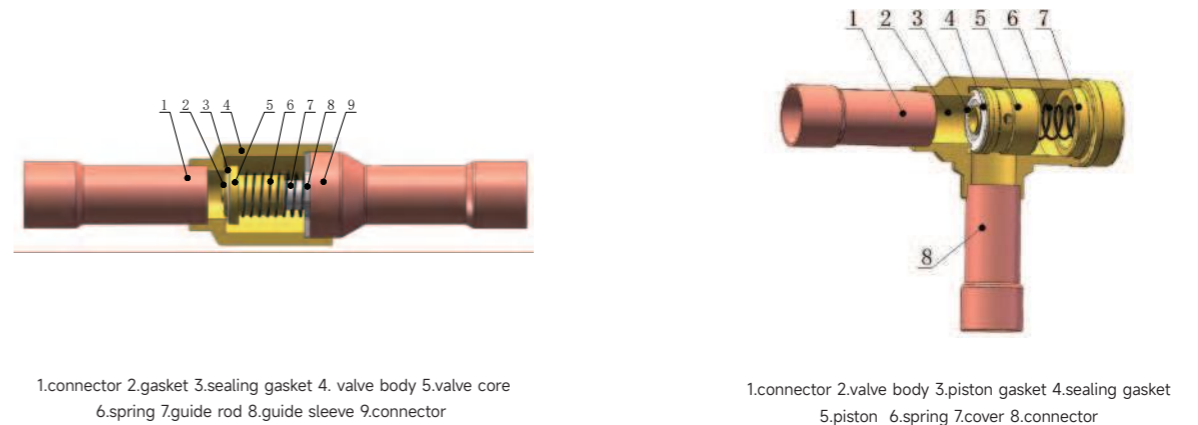
• Kv value: When the pressure differential is 100KPa, the flowrate at m³/h water in density 1 t/m³ flows through the check valve.

OVERALL DIMENSION



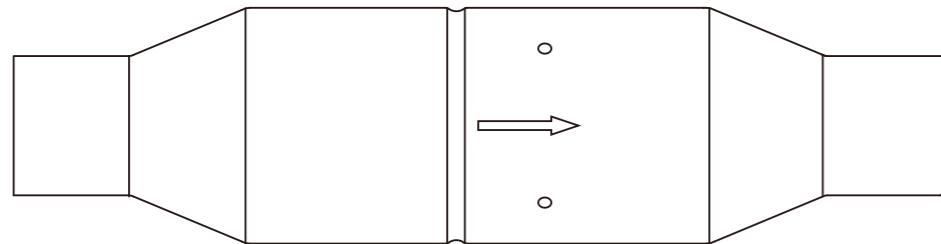
| Model | Overall Dimension | | | | |
|------------------------|-------------------|-------|--------------|----|-------|
| | Flare | L | M | L1 | S |
| HCV-014F | | 58 | 7/16-20UNF | 14 | 19 |
| HCV-038F | | 62 | 5/8-18UNF | 16 | 21 |
| HCV-012F | | 68 | 3/4-16UNF | 18 | 24 |
| HCV-058F | | 78 | 7/8-14UNF | 21 | 27 |
| HCV-034F | | 90 | 1-1/16-14UNF | 24 | 32 |
| welded (straight type) | | L | D | L1 | / |
| HCV-014S | | 95 | φ6.5 | 7 | / |
| HCV-038S | | 109 | φ10.1 | 8 | / |
| HCV-012S | | 119 | φ12.8 | 10 | / |
| HCV-058S | | 138 | φ16.1 | 14 | / |
| HCV-034S | | 150 | φ19.2 | 16 | / |
| HCV-078S | | 175.5 | φ22.3 | 17 | / |
| welded (Angle type) | | L | D | L1 | H |
| HCVR-078S | | 84 | φ22.3 | 17 | 136.5 |
| HCVR-118S | | 113 | φ28.7 | 20 | 184 |
| HCVR-138S | | 126 | φ35.2 | 25 | 197 |
| HCVR-158S | | 126 | φ41.5 | 29 | 197 |

STRUCTURE



CVS DIAPHRAGM TYPE CHECK VALVE

The CVS valve is a diaphragm type check valve, designed with a guide device and a self-priming mechanism inside, so that it is not restricted by the installation angle and the reverse pressure to affect the automatic closing of the valve.



FEATURES

- Prevents back-condensation from warm to cold system part
- 0 reverse leaking
- Resonance problems can be avoided during the partial load in the refrigeration system
- Full range connection available, biggest to 3-1/8 inch

TECHNICAL PARAMETERS

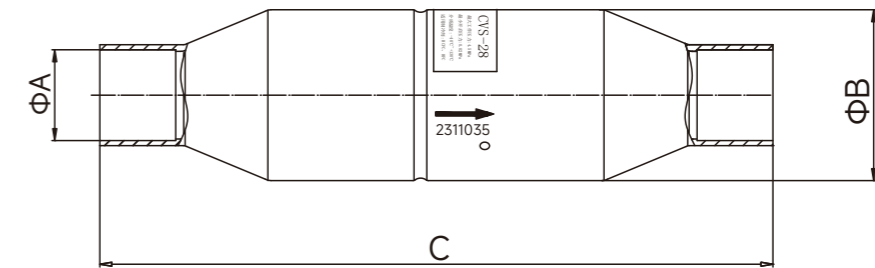
| | |
|-------------------------------|--------------|
| Applicable Refrigerants | HFC、HCFC |
| Working Temperature | -30°C~+120°C |
| Applicable Medium Temperature | -40°C~+130°C |
| Max. Working Pressure | 45bar |
| Min. Open Pressure | < 0.2bar |

APPLICATION

- Traditional refrigeration
- Liquid coolers
- Refrigeration compressor



OVERALL DIMENSION

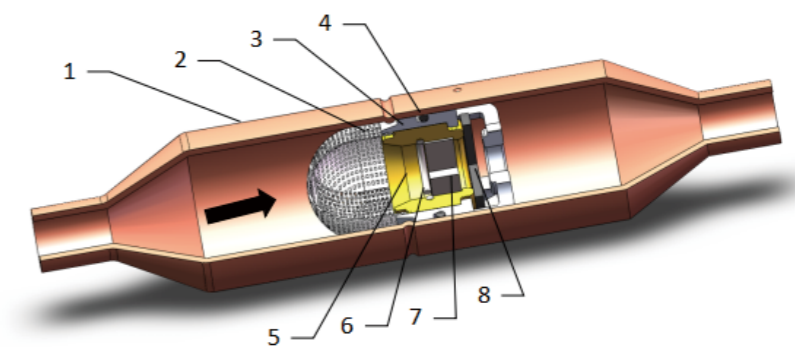


SELECTION

| Model | Connection size ΦA | Valve size ΦB | Length | Leaking rate (≤ml/min) | KV (m ³ /h) |
|--------|-----------------------|------------------|--------|---------------------------|---------------------------|
| CVS-6 | 1/4(Φ6.4) | 22 | 102 | 50 | 0.49 |
| CVS-10 | 3/8(Φ9.7) | | | | 1.19 |
| CVS-12 | 1/2(Φ12.8) | | | | 1.86 |
| CVS-16 | 5/8(Φ16) | 29 | 127 | 80 | 3.48 |
| CVS-19 | 3/4(Φ19.1) | | | | 5.61 |
| CVS-22 | 7/8(Φ22.3) | | | | 7.74 |
| CVS-28 | 1-1/8(Φ28.7) | 41.3 | 178 | 80 | 13.38 |
| CVS-35 | 1-3/8(Φ35) | | | | 23.28 |
| CVS-42 | 1-5/8(Φ41.4) | | | | 27.42 |
| CVS-54 | 2-1/8(Φ54.1) | 92 | 305 | 100 | 46.44 |
| CVS-67 | 2-5/8(Φ66.8) | | | | 67.80 |
| CVS-79 | 3-1/8(Φ79.5) | | | | 67.80 |

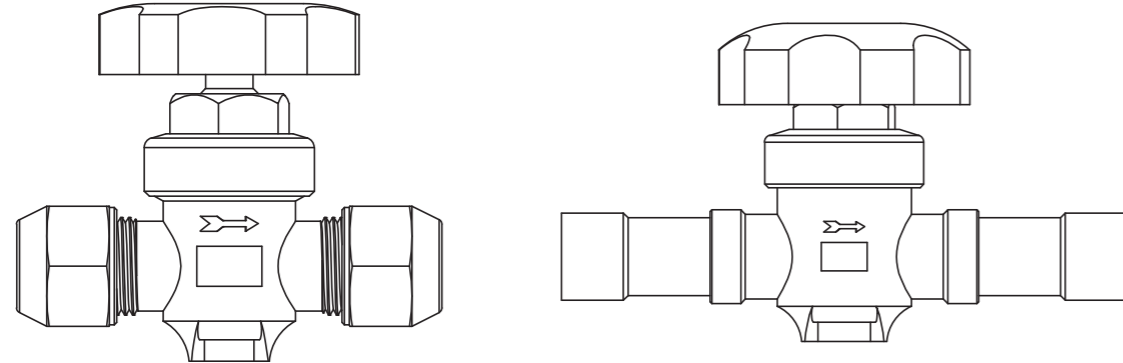
STRUCTURE

- 1.valve body
- 2.filter net
- 3.valve seat
- 4.O-ring
- 5.valve core seat
- 6.positioning ring
- 7.magnet
- 8.valve plate



KM DIAPHRAGM HAND VALVE

The KM valve is a diaphragm type manual shut-off valve with one way flow, suitable for liquid, suction and hot gas lines in refrigeration, freezing and air conditioning systems.



FEATURES

- Diaphragm structure, quick open and close
- Double stainless steel diaphragms, double protection to prevent leakage

TECHNICAL PARAMETERS

| | |
|--------------------------------|----------------|
| Applicable Refrigerant | HCFC、HFC |
| Applicable Medium Temperature | -25°C~+100°C |
| Max. Working Pressure | 3.0MPa |
| Scope of Operating Pressure | -0.1MPa~2.1MPa |
| Max. Hydrostatic Test Pressure | 4.5MPa |

APPLICATION

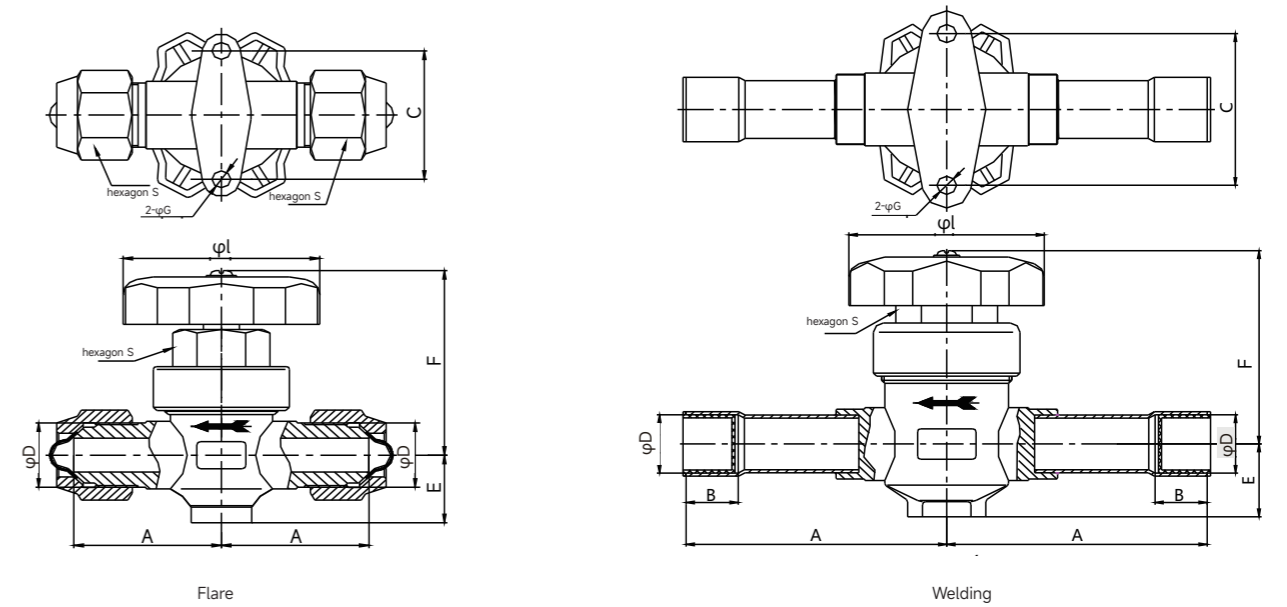
- Traditional refrigeration



MODEL SELECTION

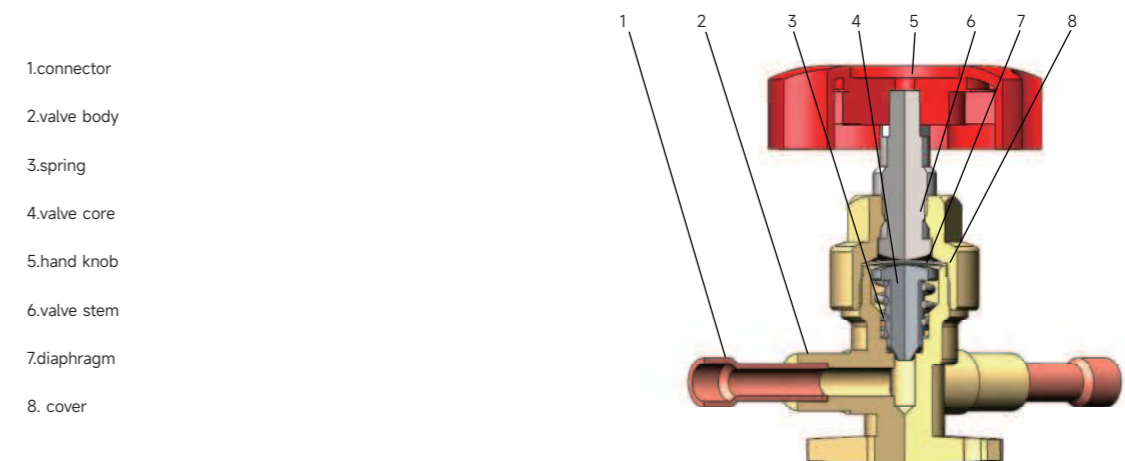
| Model | Flare | Welded(with copper tube) | Kv(m³/h) |
|--------|---------|--------------------------|----------|
| KM-1/4 | 1/4 SAE | 1/4 ODF | 0.28 |
| KM-3/8 | 3/8 SAE | 3/8 ODF | 0.30 |
| KM-1/2 | 1/2 SAE | 1/2 ODF | 1.30 |
| KM-5/8 | 5/8 SAE | 5/8 ODF | 1.80 |
| KM-3/4 | 3/4 SAE | 3/4 ODF | 3.65 |
| KM-7/8 | — | 7/8 ODF | 3.65 |

OVERALL DIMENSION

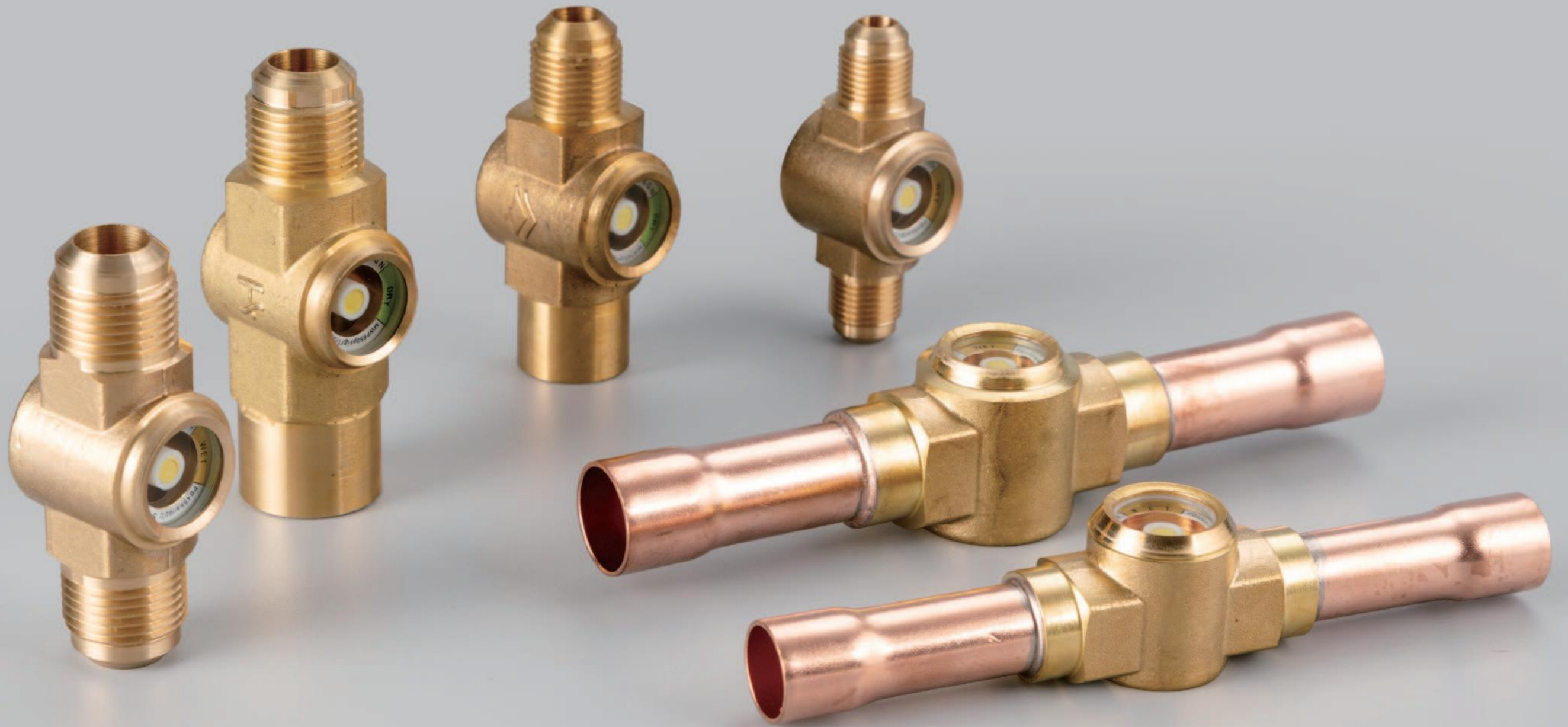


| Model | Overall Dimension | | | | | | | | | | |
|---------|-------------------|----|------|------|----|----|------|-----|-----|-----------|------------|
| | A | B | C | ΦD | E | F | ΦG | ΦI | S | N | Thread M |
| 1/4 SAE | 28.5 | — | 36 | — | 14 | 53 | Φ4.5 | Φ53 | S18 | S17 | 7/16-20UNF |
| 1/4 ODF | 51 | 7 | | 6.5 | | | | | | — | — |
| 3/8 SAE | 31 | — | | — | | | | | | — | — |
| 3/8 ODF | 59 | 8 | 9.7 | 19 | 57 | Φ5 | S22 | | S22 | 5/8-18UNF | |
| 1/2 SAE | 39 | — | — | | | | | | — | — | |
| 1/2 ODF | 66 | 10 | 12.8 | | | | | | — | — | |
| 5/8 SAE | 39 | — | 38 | — | 19 | 57 | Φ5 | S22 | S27 | 7/8-14UNF | |
| 5/8 ODF | 74 | 14 | | 16.1 | | | | | — | — | |
| 3/4 SAE | 50 | — | | — | | | | | 24 | 64 | Φ6 |
| 3/4 ODF | 80 | 16 | 50 | 19.1 | — | — | | | | | |
| 7/8 ODF | 80 | 17 | 22.3 | 22.3 | — | — | | | | | |

STRUCTURE

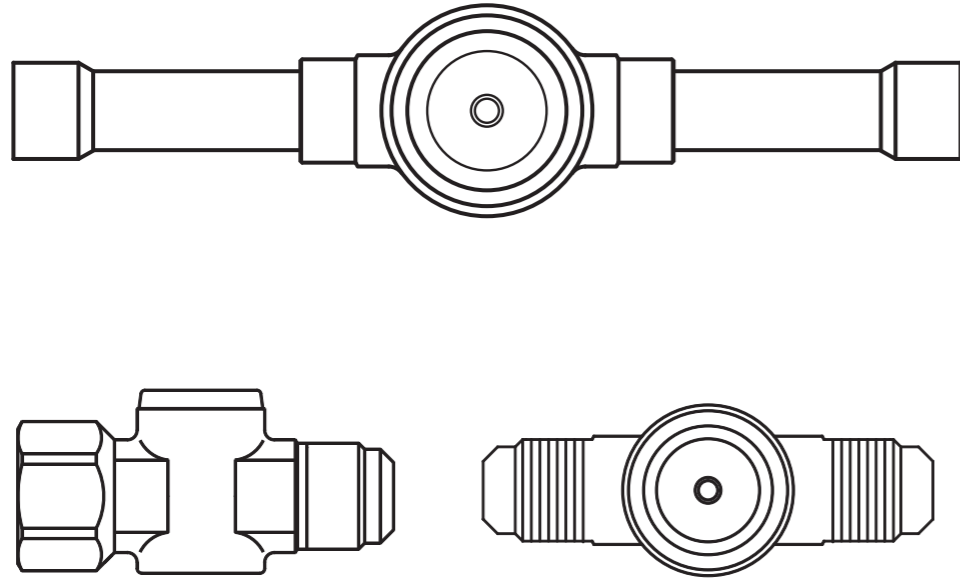


SIGHT GLASS



DSG SIGHT GLASS

DSG sight glass is used to indicate the flow condition of refrigerant, the water content in refrigerant and the flow condition of lubricating oil in the oil separator return line. It is used on the liquid pipeline of refrigeration and air conditioning equipment.



FEATURES

- High sensitive moisture indicator
- Burst proof glass structure make it safe and clear
- Modified PTFE sealing material available for the most popular refrigerants
- UL proved sight glass available

TECHNICAL PARAMETERS

| | |
|-------------------------------|--------------|
| Applicable Refrigerant | HCFC and HFC |
| Applicable Medium Temperature | -40°C~+80°C |
| Max.Working Pressure | 4.5MPa |
| Max. Compression Pressure | 6.8MPa |
| Yearly Leakage of Refrigerant | ≤2g R22/a |

APPLICATION

- Traditional refrigeration
- Heat pump systems
- Air conditioning units
- Liquid coolers



MODEL SELECTION

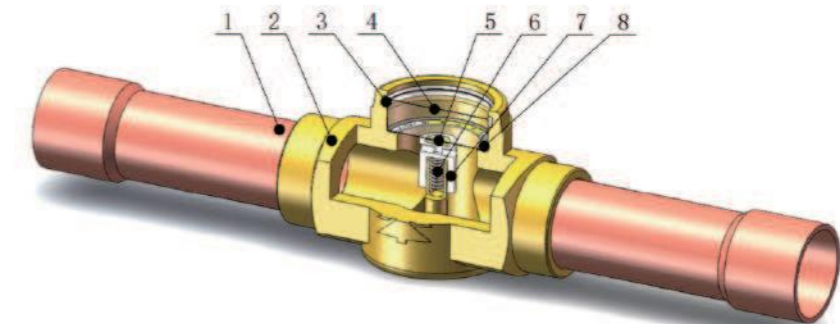
| Welding | Size | Flare(Male) | Flare(Male-Female) | Size |
|----------|------------|-------------|--------------------|---------|
| DSG-014S | 1/4(Φ6) | DSG-014F | DSG-014FM | 1/4 SAE |
| DSG-038S | 3/8(Φ10) | DSG-038F | DSG-038FM | 3/8 SAE |
| DSG-012S | 1/2(Φ12) | DSG-012F | DSG-012FM | 1/2 SAE |
| DSG-058S | 5/8(Φ16) | DSG-058F | DSG-058FM | 5/8 SAE |
| DSG-034S | 3/4(Φ19) | DSG-034F | — | 3/4 SAE |
| DSG-078S | 7/8(Φ22) | — | — | — |
| DSG-118S | 1-1/8(Φ28) | — | — | — |

CORRELATION BETWEEN WATER CUT AND COLOR

| | Water Cut(ppm) | | | | | |
|----------|----------------|--------------|------------|-----------|--------------|------------|
| | 25°C | | 25°C | | 43°C | |
| | Green/DRY | Medium Color | Yellow/WET | Green/DRY | Medium Color | Yellow/WET |
| R22/R502 | <30 | 30~120 | >120 | <50 | 50~200 | >200 |
| R134a | <30 | 30~100 | >100 | <45 | 45~170 | >170 |
| R404A | <20 | 20~70 | >70 | <25 | 25~100 | >100 |
| R407c | <30 | 30~140 | >140 | <60 | 60~225 | >225 |
| R507 | <15 | 15~60 | >60 | <30 | 30~110 | >110 |
| R410A | <66 | 66~266 | >266 | <135 | 135~540 | >540 |

Note: For the fully enclosed compressor, generally the allowable water cut is in a range 30-75ppm, but for other types of compressor, the water cut will be higher slightly.To protect the safe and effective operation of the system, it is necessary to monitor the indicator carefully and replace the drier immediately if the color is changed into yellow.

STRUCTURE



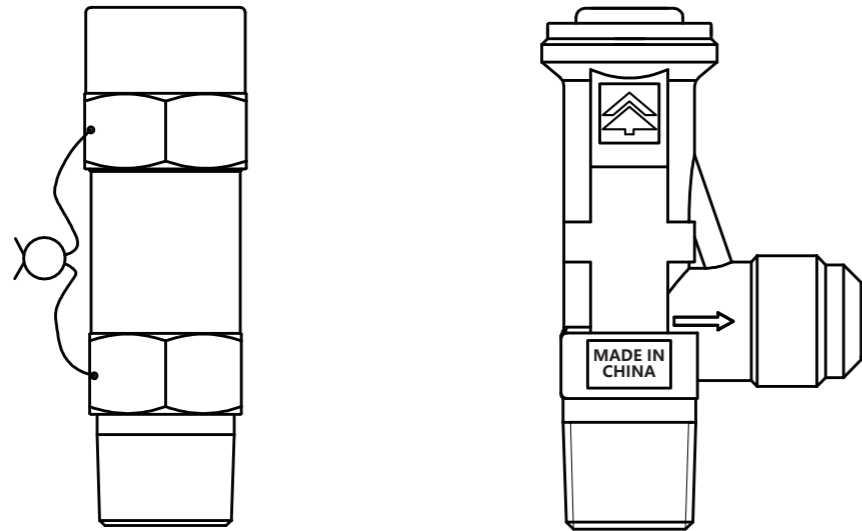
- 1.connector
- 2.valve body
3. sealing gasket
4. glass
- 5.paper seat
- 6.spring
- 7.color-changing paper
- 8.indicate label

SAFETY VALVE



FS/FL SAFETY VALVE

FS/FL valve is a spring-loaded type safety valve. Under the set condition, when the thrust exceeds the reaction force of the spring acting on the closing member, it will open and release pressure by the under-pressure fluid hitting the closing member.



CONNECTION STANDARD

- The volume < 50L, the safety valve connection is 3/8"-18NPT;
- The volume ≥50L & < 500L, the safety valve connection is 1/2"-14NPT;
- The volume ≥500L & < 1000L, the safety valve connection is 3/4"-14NPT;
- The volume ≥1000L, the safety valve connection is 1"-11.5NPT.

TECHNICAL PARAMETERS

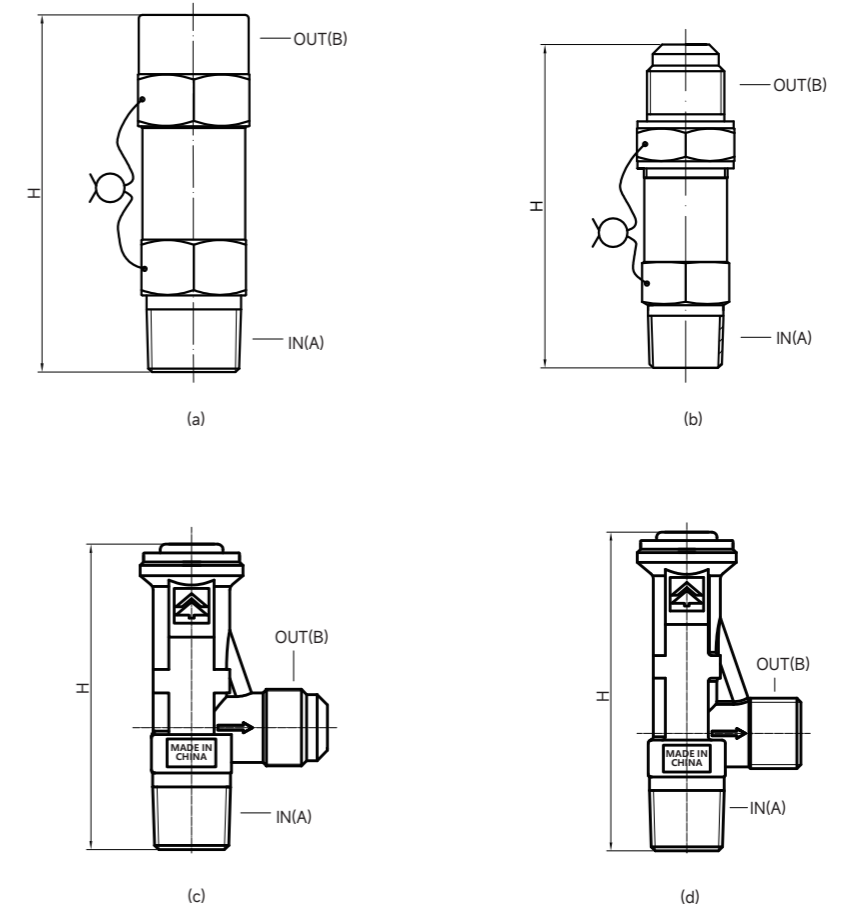
| | |
|--------------------------|---|
| Applicative refrigerants | CFC、HCFC、HFC |
| Running temperature | -50°C-150°C |
| Set-pressure | HONGSEN standard, customization available |

APPLICATION

- Traditional refrigeration *where to apply?*
- Heat pump systems



OVERALL DIMENSION



| Model | Throat diameter (Flow diameter) (mm) | H (mm) | Valve body six angle size | A Inlet form | B Outlet form | Fig. |
|--------------|--------------------------------------|--------|---------------------------|--------------|---------------|------|
| DN25 FS-A8N8 | Φ18 | 117 | S46 | 1"NPT | 1"NPT | a |
| DN20 FS-A6N6 | Φ11 | 102 | S31 | 3/4"NPT | 3/4"NPT | a |
| DN15 FS-A4B5 | Φ7.5 | 93 | S25 | 1/2"NPT | 5/8SAE | b |
| DN15 FS-A4B4 | Φ7.5 | 89 | S25 | 1/2"NPT | 1/2SAE | b |
| DN10 FS-A3B3 | Φ7 | 86 | S25 | 3/8"NPT | 3/8SAE | b |
| DN8 FS-A2B3 | Φ6 | 84 | S25 | 1/4"NPT | 3/8SAE | b |
| DN15 FL-A4B5 | Φ7.5 | 89 | S25 | 1/2"NPT | 5/8SAE | c |
| DN15 FL-A4B4 | Φ7.5 | 89 | S25 | 1/2"NPT | 1/2SAE | c |
| DN10 FL-A3B4 | Φ7 | 84 | S25 | 3/8"NPT | 1/2SAE | c |
| DN10 FL-A3B3 | Φ7 | 84 | S25 | 3/8"NPT | 3/8SAE | c |
| DN8 FL-A2B3 | Φ6 | 82 | S25 | 1/4"NPT | 3/8SAE | c |
| DN15 FL-A4G4 | Φ7.5 | 96 | S25 | 1/2"NPT | G1/2 | d |
| DN10 FL-A3G4 | Φ7.5 | 90 | S25 | 3/8"NPT | G1/2 | d |

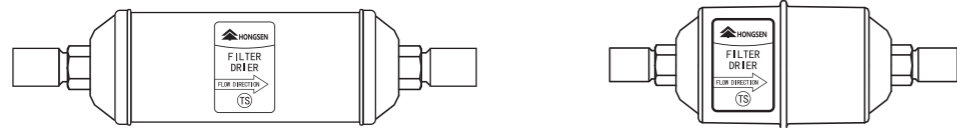
Hongsen standard set-pressure
1、2.0MPa 2、2.4MPa 3、2.8MPa 4、3.1MPa 5、3.4MPa

DRY FILTER



HDFM/HDFC DRY FILTER

HDFM/HDFC dry filter is used to filter out moisture, impurities and acidic substances in the system to protect the safe operation of refrigeration and air-conditioning systems. It is usually used in the liquid pipelines of refrigeration and air-conditioning units.



FEATURES

- 3A solid molecular sieve
- High dirt retention, down to 25 μm particles, with minimal pressure drop
- Powder painted surface with high temperature resistance to prevent corrosion

TECHNICAL PARAMETERS

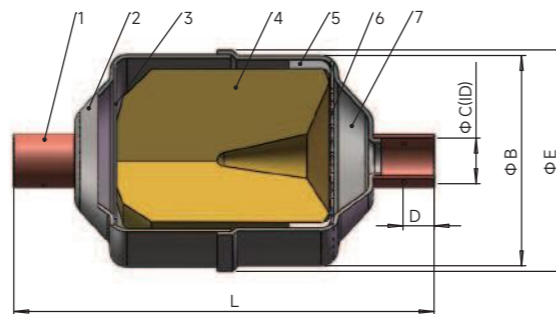
| | |
|-------------------------------|--------------|
| Applicable Refrigerant | HCFC, HFC |
| Applicable Medium Temperature | -40°C~+120°C |
| Max. Working Pressure | 4.5MPa |
| Max. Test Pressure | 6.75MPa |

APPLICATION

- Traditional refrigeration *where to apply?*
- Air conditioning units
- Transport refrigeration

STRUCTURE

- connector
- inlet cap
- barrier
- solid filter core
- filter cotton
- filter net
- outlet cap



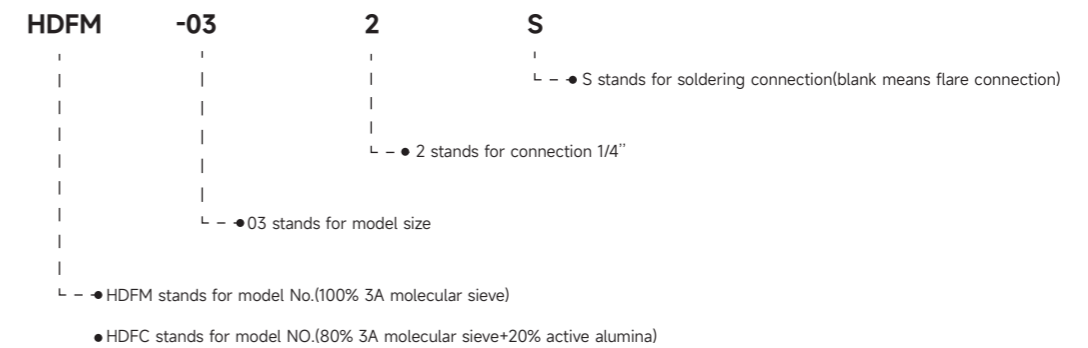
Flare connection

| Model | Connection | ΦB | ΦC | D | ΦE | L | S | Thread M | |
|----------|------------|---------|-----|------|------|-----|-----|----------|--------------|
| HDFM-032 | HDFC-032 | 1/4 SAE | Φ43 | Φ4.8 | 14 | Φ46 | 110 | 14 | 7/16-20UNF |
| HDFM-033 | HDFC-033 | 3/8 SAE | Φ43 | Φ8 | 17 | Φ46 | 119 | 16 | 5/8-18UNF |
| HDFM-052 | HDFC-052 | 1/4 SAE | Φ54 | Φ4.8 | 14 | Φ57 | 118 | 14 | 7/16-20UNF |
| HDFM-053 | HDFC-053 | 3/8 SAE | Φ54 | Φ8 | 17 | Φ57 | 127 | 16 | 5/8-18UNF |
| HDFM-083 | HDFC-083 | 3/8 SAE | Φ54 | Φ8 | 17 | Φ57 | 152 | 16 | 5/8-18UNF |
| HDFM-084 | HDFC-084 | 1/2 SAE | Φ54 | Φ10 | 19 | Φ57 | 159 | 19 | 3/4-16UNF |
| HDFM-163 | HDFC-163 | 3/8 SAE | Φ75 | Φ8 | 17 | Φ79 | 159 | 16 | 5/8-18UNF |
| HDFM-164 | HDFC-164 | 1/2 SAE | Φ75 | Φ10 | 19 | Φ79 | 166 | 19 | 3/4-16UNF |
| HDFM-165 | HDFC-165 | 5/8 SAE | Φ75 | Φ13 | 23.5 | Φ79 | 177 | 22 | 7/8-14UNF |
| HDFM-304 | HDFC-304 | 1/2 SAE | Φ79 | Φ10 | 19 | Φ79 | 256 | 19 | 3/4-16UNF |
| HDFM-305 | HDFC-305 | 5/8 SAE | Φ79 | Φ13 | 23.5 | Φ79 | 267 | 22 | 7/8-14UNF |
| HDFM-306 | HDFC-306 | 3/4 SAE | Φ79 | Φ16 | 25 | Φ79 | 268 | 27 | 1-1/16-14UNS |

Welding connection

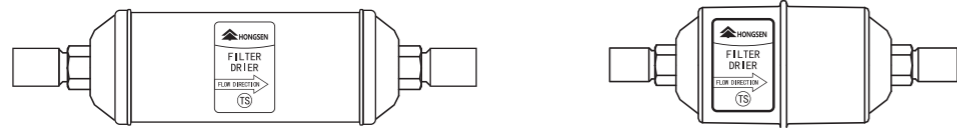
| Model | Connection | ΦB | ΦC | D | ΦE | L | |
|-----------|------------|-----------|-----|-------|----|-----|-----|
| HDFM-032S | HDFC-032S | 1/4 ODF | Φ43 | Φ6.5 | 8 | Φ46 | 99 |
| HDFM-033S | HDFC-033S | 3/8 ODF | Φ43 | Φ9.7 | 9 | Φ46 | 101 |
| HDFM-052S | HDFC-052S | 1/4 ODF | Φ54 | Φ6.5 | 8 | Φ57 | 107 |
| HDFM-053S | HDFC-053S | 3/8 ODF | Φ54 | Φ9.7 | 9 | Φ57 | 109 |
| HDFM-083S | HDFC-083S | 3/8 ODF | Φ54 | Φ9.7 | 9 | Φ57 | 134 |
| HDFM-084S | HDFC-084S | 1/2 ODF | Φ54 | Φ12.8 | 11 | Φ57 | 142 |
| HDFM-163S | HDFC-163S | 3/8 ODF | Φ75 | Φ9.7 | 9 | Φ79 | 142 |
| HDFM-164S | HDFC-164S | 1/2 ODF | Φ75 | Φ12.8 | 11 | Φ79 | 150 |
| HDFM-165S | HDFC-165S | 5/8 ODF | Φ75 | Φ16.1 | 11 | Φ79 | 150 |
| HDFM-304S | HDFC-304S | 1/2 ODF | Φ79 | Φ12.8 | 11 | Φ79 | 239 |
| HDFM-305S | HDFC-305S | 5/8 ODF | Φ79 | Φ16.1 | 11 | Φ79 | 239 |
| HDFM-306S | HDFC-306S | 3/4 ODF | Φ79 | Φ19.1 | 12 | Φ79 | 244 |
| HDFM-307S | HDFC-307S | 7/8 ODF | Φ79 | Φ22.3 | 15 | Φ79 | 250 |
| HDFM-309S | HDFC-309S | 1-1/8 ODF | Φ79 | Φ28.7 | 16 | Φ79 | 259 |

MODEL NUMBERING CONVENTION



DFL DRY FILTER

DFL dry filter is used to filter out moisture, impurities and acidic substances in the system to protect the safe operation of refrigeration and air-conditioning systems. It is usually used in the liquid pipelines of refrigeration and air-conditioning units.



FEATURES

- 3A solid molecular sieve
- High dirt retention, down to 25 μm particles, with minimal pressure drop
- Powder painted surface with high temperature resistance to prevent corrosion
- UL proved

TECHNICAL PARAMETERS

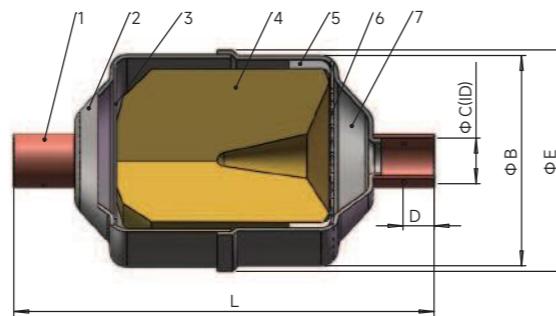
| | |
|-------------------------------|--------------|
| Applicable Refrigerant | HCFC, HFC |
| Applicable Medium Temperature | -40°C~+120°C |
| Max. Working Pressure | 4.5MPa |
| Max. Test Pressure | 6.75MPa |

APPLICATION

- Traditional refrigeration *where to apply?*
- Air conditioning units
- Transport refrigeration

STRUCTURE

- connector
- inlet cap
- barrier
- solid filter core
- filter cotton
- filter net
- outlet cap



Flare connection

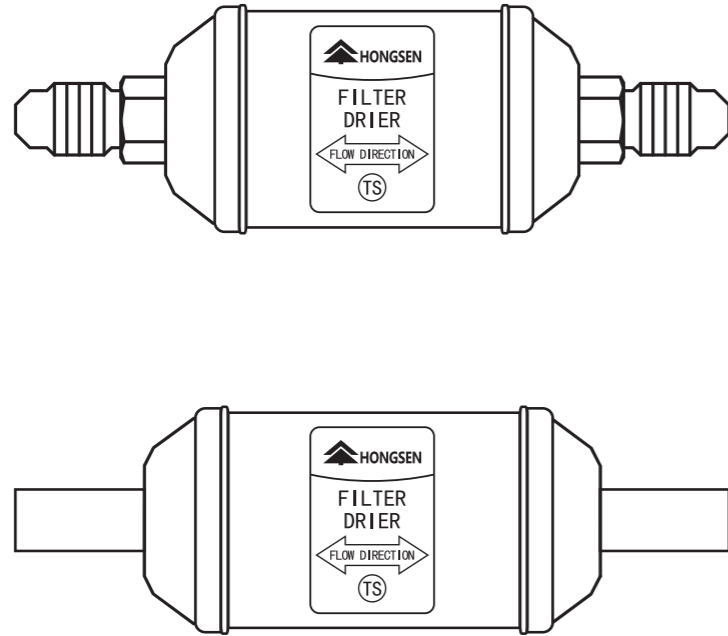
| Model | Connection | ΦB | ΦC | D | ΦE | L | S | Thread M |
|---------|------------|-----|------|------|-----|-----|----|--------------|
| DFL-032 | 1/4 SAE | Φ43 | Φ4.8 | 14 | Φ46 | 109 | 14 | 7/16-20UNF |
| DFL-033 | 3/8 SAE | Φ43 | Φ8 | 17 | Φ46 | 124 | 16 | 5/8-18UNF |
| DFL-052 | 1/4 SAE | Φ54 | Φ4.8 | 14 | Φ57 | 118 | 14 | 7/16-20UNF |
| DFL-053 | 3/8 SAE | Φ54 | Φ8 | 17 | Φ57 | 132 | 16 | 5/8-18UNF |
| DFL-083 | 3/8 SAE | Φ54 | Φ8 | 17 | Φ57 | 158 | 16 | 5/8-18UNF |
| DFL-084 | 1/2 SAE | Φ54 | Φ10 | 19 | Φ57 | 166 | 19 | 3/4-16UNF |
| DFL-085 | 5/8 SAE | Φ54 | Φ13 | 23.5 | Φ57 | 175 | 22 | 7/8-14UNF |
| DFL-162 | 1/4 SAE | Φ75 | Φ4.8 | 14 | Φ79 | 149 | 14 | 7/16-20UNF |
| DFL-163 | 3/8 SAE | Φ75 | Φ8 | 17 | Φ79 | 165 | 16 | 5/8-18UNF |
| DFL-164 | 1/2 SAE | Φ75 | Φ10 | 19 | Φ79 | 173 | 19 | 3/4-16UNF |
| DFL-165 | 5/8 SAE | Φ79 | Φ13 | 23.5 | Φ79 | 182 | 22 | 7/8-14UNF |
| DFL-302 | 1/4 SAE | Φ79 | Φ4.8 | 14 | Φ79 | 229 | 14 | 7/16-20UNF |
| DFL-303 | 3/8 SAE | Φ79 | Φ8 | 17 | Φ79 | 244 | 16 | 5/8-18UNF |
| DFL-304 | 1/2 SAE | Φ79 | Φ10 | 19 | Φ79 | 252 | 19 | 3/4-16UNF |
| DFL-305 | 5/8 SAE | Φ79 | Φ13 | 23.5 | Φ79 | 261 | 22 | 7/8-14UNF |
| DFL-306 | 3/4 SAE | Φ79 | Φ16 | 25 | Φ79 | 257 | 27 | 1-1/16-14UNS |
| DFL-413 | 3/8 SAE | Φ95 | Φ8 | 17 | Φ95 | 245 | 16 | 5/8-18UNF |
| DFL-414 | 1/2 SAE | Φ95 | Φ10 | 19 | Φ95 | 253 | 19 | 3/4-16UNF |
| DFL-415 | 5/8 SAE | Φ95 | Φ13 | 23.5 | Φ95 | 262 | 22 | 7/8-14UNF |
| DFL-416 | 3/4 SAE | Φ95 | Φ16 | 25 | Φ95 | 258 | 27 | 1-1/16-14UNS |

Welding connection

| Model | Connection | ΦB | ΦC | D | ΦE | L |
|----------|------------|-----|-------|----|-----|-----|
| DFL-032S | 1/4 ODF | Φ43 | Φ6.5 | 8 | Φ46 | 99 |
| DFL-033S | 3/8 ODF | Φ43 | Φ9.7 | 10 | Φ46 | 105 |
| DFL-052S | 1/4 ODF | Φ54 | Φ6.5 | 8 | Φ57 | 107 |
| DFL-053S | 3/8 ODF | Φ54 | Φ9.7 | 10 | Φ57 | 113 |
| DFL-083S | 3/8 ODF | Φ54 | Φ9.7 | 10 | Φ57 | 139 |
| DFL-084S | 1/2 ODF | Φ54 | Φ12.8 | 11 | Φ57 | 143 |
| DFL-085S | 5/8 ODF | Φ54 | Φ16.1 | 13 | Φ57 | 151 |
| DFL-163S | 3/8 ODF | Φ75 | Φ9.7 | 10 | Φ79 | 146 |
| DFL-164S | 1/2 ODF | Φ75 | Φ12.8 | 11 | Φ79 | 150 |
| DFL-165S | 5/8 ODF | Φ75 | Φ16.1 | 13 | Φ79 | 158 |
| DFL-303S | 3/8 ODF | Φ79 | Φ9.7 | 10 | Φ79 | 225 |
| DFL-304S | 1/2 ODF | Φ79 | Φ12.8 | 11 | Φ79 | 229 |
| DFL-305S | 5/8 ODF | Φ79 | Φ16.1 | 13 | Φ79 | 237 |
| DFL-306S | 3/4 ODF | Φ79 | Φ19.1 | 14 | Φ79 | 240 |
| DFL-307S | 7/8 ODF | Φ79 | Φ22.3 | 15 | Φ79 | 246 |
| DFL-309S | 1-1/8 ODF | Φ79 | Φ28.7 | 16 | Φ79 | 249 |
| DFL-414S | 1/2 ODF | Φ95 | Φ12.8 | 11 | Φ95 | 230 |
| DFL-415S | 5/8 ODF | Φ95 | Φ16.1 | 13 | Φ95 | 238 |
| DFL-416S | 3/4 ODF | Φ95 | Φ19.1 | 14 | Φ95 | 241 |
| DFL-417S | 7/8 ODF | Φ95 | Φ22.3 | 15 | Φ95 | 247 |
| DFL-419S | 1-1/8 ODF | Φ95 | Φ28.7 | 16 | Φ95 | 250 |

BFK BIDIRECTIONAL DRY FILTER

BFK bidirectional dry filter is used to filter out moisture, impurities and acidic substances in the system to protect the safe operation of refrigeration and air-conditioning systems. It is usually used in the liquid pipelines of refrigeration and air-conditioning units.



FEATURES

- 80% 3A+ 20% AL solid molecular sieve
- High dirt retention, down to 25 μm particles, with minimal pressure drop
- Powder painted surface with high temperature resistance to prevent corrosion
- Bi-flow design

TECHNICAL PARAMETERS

| | |
|-------------------------------|--------------|
| Applicable Refrigerant | HCFC、HFC |
| Applicable Medium Temperature | -40°C~+120°C |
| Max. Working Pressure | 4.5MPa |
| Max. Test Pressure | 6.75MPa |

APPLICATION

- Traditional refrigeration
- Heat pumps
- Air conditioning units



Flare connection

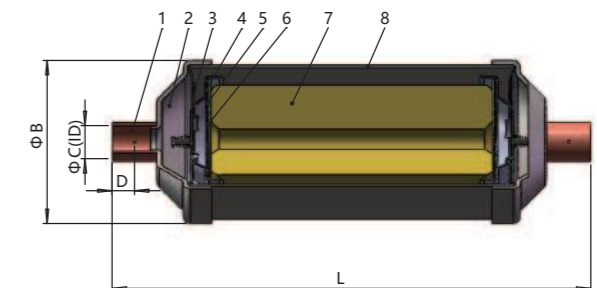
| Model | Connection | ΦB | ΦC | D | L | S | Thread M |
|---------|------------|-------|-----|------|-----|----|--------------|
| BFK-083 | 3/8 SAE | Φ66.5 | Φ8 | 17 | 158 | 16 | 5/8-18UNF |
| BFK-084 | 1/2 SAE | Φ66.5 | Φ10 | 19 | 165 | 19 | 3/4-16UNF |
| BFK-085 | 5/8 SAE | Φ66.5 | Φ13 | 23.5 | 176 | 22 | 7/8-14UNF |
| BFK-163 | 3/8 SAE | Φ79 | Φ8 | 17 | 170 | 16 | 5/8-18UNF |
| BFK-164 | 1/2 SAE | Φ79 | Φ10 | 19 | 179 | 19 | 3/4-16UNF |
| BFK-165 | 5/8 SAE | Φ79 | Φ13 | 23.5 | 186 | 22 | 7/8-14UNF |
| BFK-303 | 3/8 SAE | Φ79 | Φ8 | 17 | 245 | 16 | 5/8-18UNF |
| BFK-304 | 1/2 SAE | Φ79 | Φ10 | 19 | 254 | 19 | 3/4-16UNF |
| BFK-305 | 5/8 SAE | Φ79 | Φ13 | 23.5 | 261 | 22 | 7/8-14UNF |
| BFK-306 | 3/4 SAE | Φ79 | Φ16 | 25 | 265 | 27 | 1-1/16-14UNS |

Welding connection

| Model | Connection | ΦB | ΦC | D | L |
|----------|------------|-------|-------|----|-----|
| BFK-083S | 3/8 ODF | Φ66.5 | Φ9.7 | 9 | 141 |
| BFK-084S | 1/2 ODF | Φ66.5 | Φ12.8 | 11 | 149 |
| BFK-085S | 5/8 ODF | Φ66.5 | Φ16.1 | 11 | 149 |
| BFK-163S | 3/8 ODF | Φ79 | Φ9.7 | 9 | 153 |
| BFK-164S | 1/2 ODF | Φ79 | Φ12.8 | 11 | 161 |
| BFK-165S | 5/8 ODF | Φ79 | Φ16.1 | 11 | 161 |
| BFK-303S | 3/8 ODF | Φ79 | Φ9.7 | 9 | 228 |
| BFK-304S | 1/2 ODF | Φ79 | Φ12.8 | 11 | 236 |
| BFK-305S | 5/8 ODF | Φ79 | Φ16.1 | 11 | 236 |
| BFK-306S | 3/4 ODF | Φ79 | Φ19.1 | 12 | 241 |
| BFK-307S | 7/8 ODF | Φ79 | Φ22.3 | 15 | 247 |
| BFK-309S | 1-1/8 ODF | Φ79 | Φ28.7 | 16 | 256 |

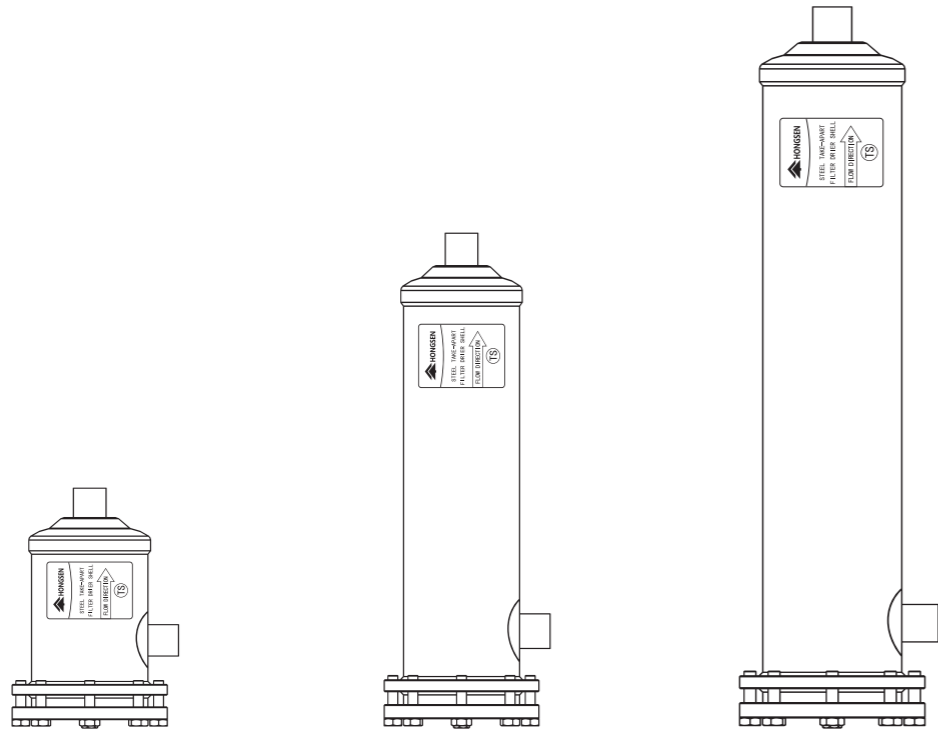
STRUCTURE

- 1.connector
- 2.cap
- 3.bidirectional flow parts
- 4.filter net
- 5.fine filter net
- 6.filter cotton
- 7.solid filter core
- 8.cylinder



HDFR DRY FILTER

HDFR dry filter cartridge is suitable for liquid and suction line, it can effectively remove residual pollutants, protect the compressor and extend its service life.



FEATURES

- Corrosion-resistant powder-paint finish
- 100 mesh filter net
- Modified PTFE gasket ensures perfect sealing

TECHNICAL PARAMETERS

| | |
|-----------------------------|----------------|
| Suitable Refrigerants | HCFC, HFC, CFC |
| Suitable Medium Temperature | -35°C~+70°C |
| Max. Working Pressure | 4.2MPa |
| Max. Test Pressure | 6.3MPa |

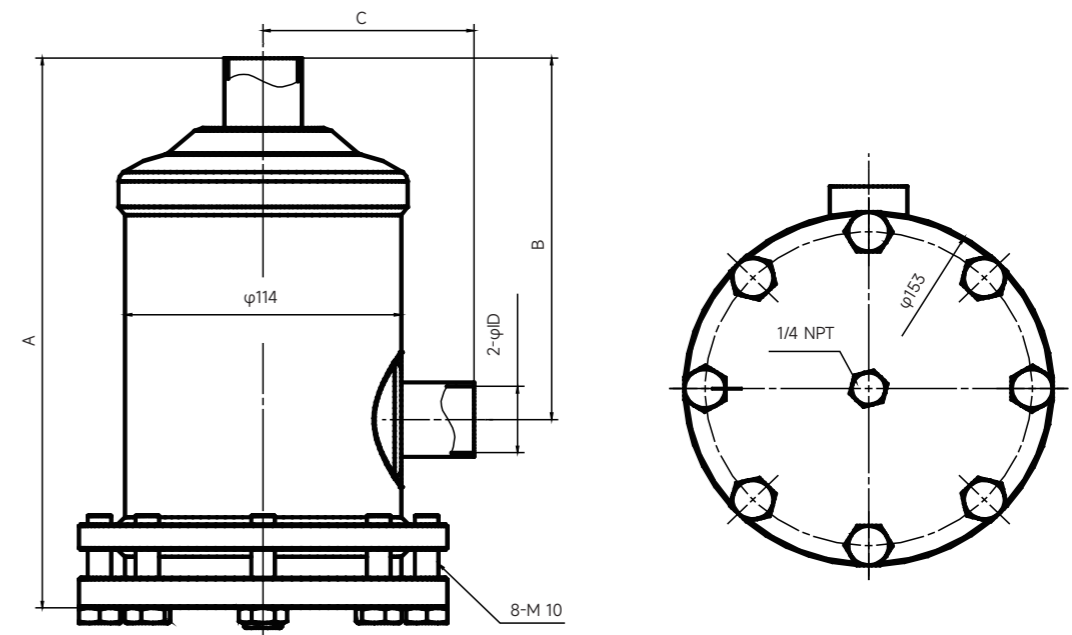
APPLICATION

For refrigeration plants with fluorinated refrigerants



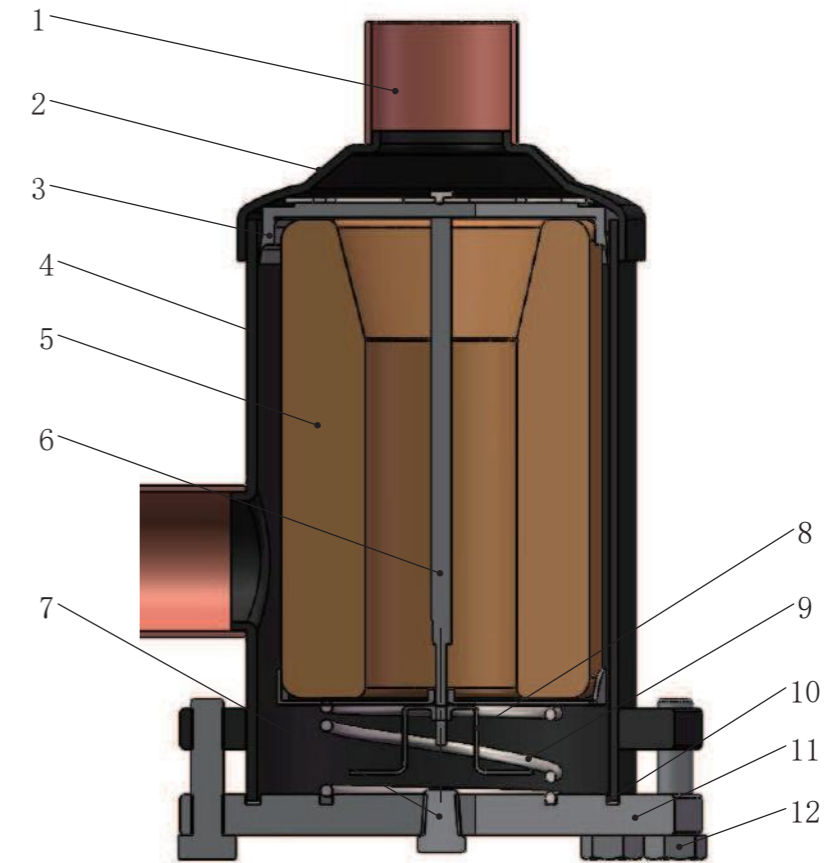
MODEL SELECTION

| Type | Connections To solder ID (inch) | Number of cores | Filtering surface(m ²) | Dimensions (mm) | | |
|-------------|---------------------------------|-----------------|------------------------------------|-----------------|-----|-----|
| | | | | A | B | C |
| HDFR-485S | 5/8ODF | 1 | 420 | 234 | 153 | 85 |
| HDFR-486S | 3/4ODF | | | 234 | 153 | 85 |
| HDFR-487S | 7/8ODF | | | 234 | 153 | 85 |
| HDFR-489S | 1-1/8ODF | | | 236 | 155 | 87 |
| HDFR-4811S | 1-3/8ODF | | | 240 | 159 | 91 |
| HDFR-4813S | 1-5/8ODF | | | 242 | 161 | 93 |
| HDFR-4817S | 2-1/8ODF | | | 246 | 160 | 99 |
| HDFR-4821S | 2-5/8ODF | | | 244 | 158 | 106 |
| HDFR-967S | 7/8ODF | 2 | 840 | 378 | 297 | 87 |
| HDFR-969S | 1-1/8ODF | | | 382 | 301 | 91 |
| HDFR-9611S | 1-3/8ODF | | | 384 | 303 | 93 |
| HDFR-9613S | 1-5/8ODF | | | 388 | 302 | 99 |
| HDFR-9617S | 2-1/8ODF | | | 386 | 300 | 106 |
| HDFR-1449S | 1-1/8ODF | 3 | 1260 | 524 | 443 | 91 |
| HDFR-14411S | 1-3/8ODF | | | 526 | 445 | 93 |
| HDFR-14413S | 1-5/8ODF | | | 530 | 444 | 99 |
| HDFR-14417S | 2-1/8ODF | | | 528 | 442 | 106 |



| TECHNICAL PARAMETERS | | | | | | | | | | | | | | | | | | | | |
|----------------------|-------------------------------------|------|-------------------------|------|-----------------------|------|-----------------------------|------|------------------------|------|---------------------------------|-------|------|-----------|------|---|------|--|-----------|------|
| Type | Rating under Ari Standard Condition | | | | | | | | | | | | | | | Recommended value (Kw) | | | | |
| | Water volume-number of drop | | | | | | | | | | Refrigerant flow through energy | | | | | Refrigeration | | Air conditioning | | |
| | Refrigerant R12 15PPM | | Refrigerant R134a 80PPM | | Refrigerant R22 60PPM | | Refrigerant R404a/507 50PPM | | Refrigerant R502 30PPM | | pressure differential=0.014mpa | | | | | Commercial frigeration and cryo genic equipment | | Replacemnton site. Site assembly system. | | |
| | 25°C | 50°C | 25°C | 50°C | 25°C | 50°C | 25°C | 50°C | 25°C | 50°C | R12 | R134a | R22 | R404a/507 | R502 | R12/R134a | R22 | R404a/502507 | R12/R134a | R22 |
| HDFR-485S | 25.6 | 27.2 | 22.0 | 18.4 | 17.4 | 14.4 | 20.4 | 15.5 | 18.2 | 14.1 | 53.5 | 64.7 | 70.3 | 52.8 | 45 | 26.4 | 35.2 | 26.4 | 26.4 | 35.2 |
| HDFR-487S | 25.6 | 27.2 | 22.0 | 18.4 | 17.4 | 14.4 | 20.4 | 15.5 | 18.2 | 14.1 | 89.7 | 209 | 116 | 87.9 | 75.3 | 42.2 | 52.8 | 35.2 | 42.2 | 52.8 |
| HDFR-489S | 25.6 | 27.2 | 22.0 | 18.4 | 17.4 | 14.4 | 20.4 | 15.5 | 18.2 | 14.1 | 162 | 195 | 211 | 158 | 136 | 42.2 | 52.8 | 35.2 | 52.8 | 70.3 |
| HDFR-4811S | 25.6 | 27.2 | 22.0 | 18.4 | 17.4 | 14.4 | 20.4 | 15.5 | 18.2 | 14.1 | 183 | 234 | 250 | 230 | 197 | 42.2 | 52.8 | 35.2 | 52.8 | 70.3 |
| HDFR-4813S | 25.6 | 27.2 | 22.0 | 18.4 | 17.4 | 14.4 | 20.4 | 15.5 | 18.2 | 14.1 | 192 | 274 | 299 | 197 | 180 | 47.8 | 48.2 | 42.2 | 56.3 | 74.6 |
| HDFR-4817S | 25.6 | 27.2 | 22.0 | 18.4 | 17.4 | 14.4 | 20.4 | 15.5 | 18.2 | 14.1 | 205 | 310 | 338 | 236 | 217 | 49.3 | 64.9 | 74.1 | 60.2 | 78.5 |
| HDFR-4821S | 25.6 | 27.2 | 22.0 | 18.4 | 17.4 | 14.4 | 20.4 | 15.5 | 18.2 | 14.1 | 237 | 336 | 347 | 269 | 239 | 52.7 | 67.3 | 49.7 | 63.3 | 80.2 |
| HDFR-967S | 51.2 | 44.3 | 44.0 | 36.8 | 34.7 | 28.8 | 40.8 | 30.9 | 36.3 | 28.2 | 147 | 177 | 190 | 144 | 123 | 70.3 | 87.9 | 52.8 | 70.3 | 87.9 |
| HDFR-969S | 51.2 | 44.3 | 44.0 | 36.8 | 34.7 | 28.8 | 40.8 | 30.9 | 36.3 | 28.2 | 183 | 220 | 236 | 176 | 153 | 87.9 | 128 | 87.9 | 87.9 | 123 |
| HDFR-9611S | 51.2 | 44.3 | 44.0 | 36.8 | 34.7 | 28.8 | 40.8 | 30.9 | 36.3 | 28.2 | 211 | 255 | 276 | 195 | 187 | 111.5 | 152 | 111.1 | 111.1 | 155 |
| HDFR-9613S | 51.2 | 44.3 | 44.0 | 36.8 | 34.7 | 28.8 | 40.8 | 30.9 | 36.3 | 28.2 | 263 | 297 | 311 | 232 | 213 | 123.1 | 194 | 134.5 | 134.5 | 190 |
| HDFR-9617S | 51.2 | 44.3 | 44.0 | 36.8 | 34.7 | 28.8 | 40.8 | 30.9 | 36.3 | 28.2 | 293 | 332 | 329 | 367 | 303 | 135.1 | 203 | 157 | 156 | 208 |
| HDFR-9621S | 51.2 | 44.3 | 44.0 | 36.8 | 34.7 | 28.8 | 40.8 | 30.9 | 36.3 | 28.2 | 326 | 352 | 347 | 393 | 314 | 157 | 220 | 191 | 173 | 232 |
| HDFR-1449S | 76.8 | 66.5 | 66.0 | 55.2 | 52.1 | 43.2 | 61.2 | 46.4 | 54.4 | 42.3 | 220 | 265 | 285 | 215 | 184 | 106 | 141 | 106 | 106 | 141 |
| HDFR-14411S | 76.8 | 66.5 | 66.0 | 55.2 | 52.1 | 43.2 | 61.2 | 46.4 | 54.4 | 42.3 | 254 | 305 | 327 | 246 | 212 | 141 | 176 | 123 | 141 | 176 |
| HDFR-14413S | 76.8 | 66.5 | 66.0 | 55.2 | 52.1 | 43.2 | 61.2 | 46.4 | 54.4 | 42.3 | 282 | 374 | 358 | 270 | 245 | 183 | 205 | 134 | 173 | 206 |
| HDFR-14417S | 76.8 | 66.5 | 66.0 | 55.2 | 52.1 | 43.2 | 61.2 | 46.4 | 54.4 | 42.3 | 310 | 431 | 392 | 301 | 279 | 224 | 236 | 156 | 205 | 247 |

STRUCTURE



1.connector 2.cap 3.nylon filter cup 4.cylinder 5.solid core 6.connecting rod 7.NPT 1/4 plug
8.locking plate 9.spring 10.sealing gasket 11.flange plate 12.M10 bolt

DRY FILTER CORE



FEATURES

- D48**
 D48 core for liquid line application (80% molecular sieve and 20% activated alumina for HCFC).
 Effectively adsorbs moisture and acid in the system.
- DA1(48)**
 DA1(48) core for suction line after a compressor burn-out (30% molecular sieve and 70% activated alumina for HCFC/HFC).
- DA2(48)**
 DA2(48) core for suction line after a compressor burn-out (20% molecular sieve and 80% activated alumina for HCFC/HFC).
- DM48**
 DM48 core for liquid line application (100% molecular sieve for HFC).
 Provides high moisture absorption at low and high condensing temperatures. Effective protection against impurities.
- F48**
 Compatible with all refrigerants:
 Retains dirt particles larger than 15 µm.
 Can be used directly in HDFR housings.
 Can be used in suction or liquid lines.
- BOF-48**
 BOF-48 core mainly used on oil pipe system, it offers a large filtration area and minimal pressure drop, filtering impurities larger than 50 µm
- BF-48**
 BF-48 core can effectively reduce suction-side pressure drop and filters impurities within the system, preventing contaminants from entering the compressor

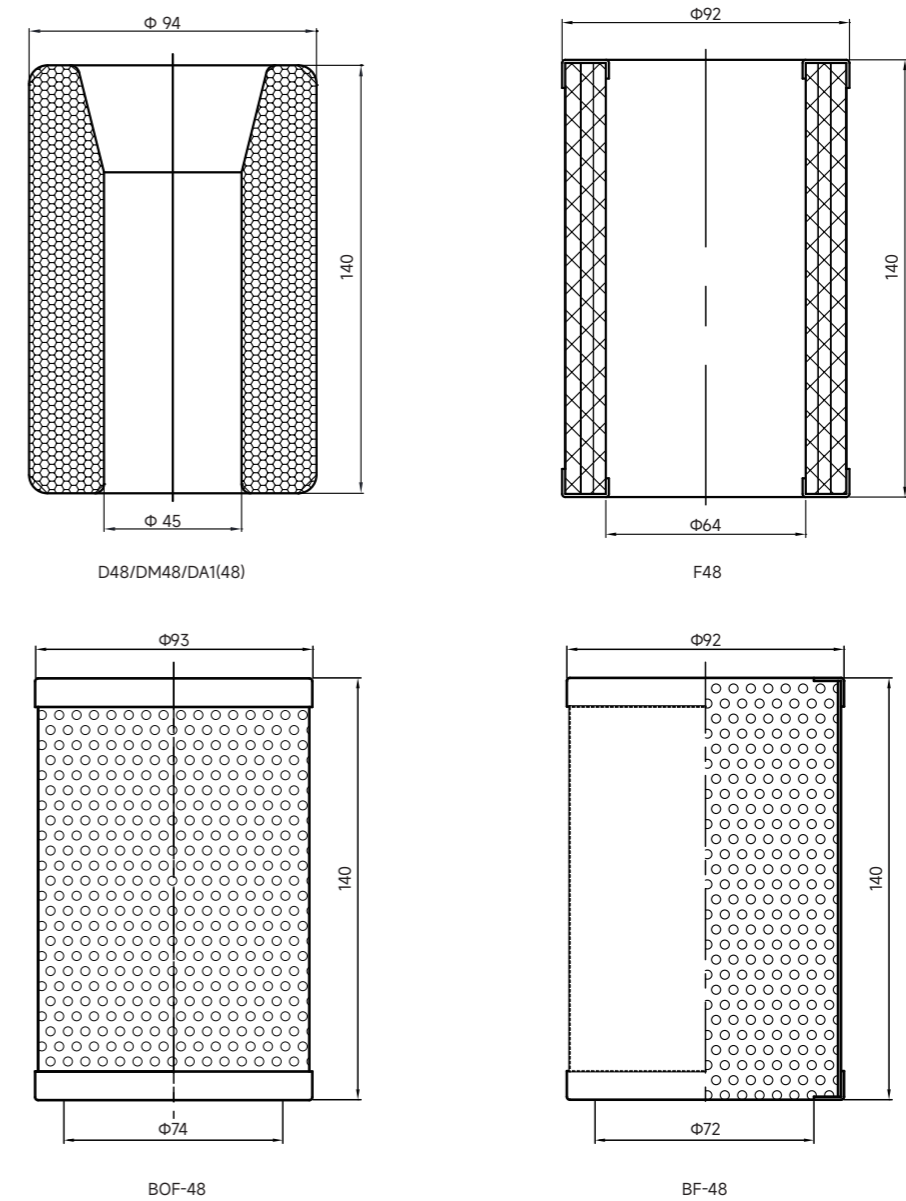
MODEL SELECTION

| MODEL | MATERIAL |
|---------|--|
| D48 | 80% 3A molecular sieve+20% active aluminum |
| DA1(48) | 30% 3A molecular sieve+70% active aluminum |
| DA2(48) | 20% 3A molecular sieve+80% active aluminum |
| DM48 | 100% 3A molecular sieve |
| F48 | steel shell+paper filter core |
| BOF-48 | steel shell+stainless steel filter core |
| BF-48 | steel shell+stainless steel filter net |

APPLICATION

| MODEL | REFRIGERANT | | | OIL | | |
|---------|-------------|-----------|-----------|----------------|--------------|------------------|
| | HFC | HCFC | CFC | MINERAL OIL/AB | PURE POE/PAG | NOT PURE POE/PAG |
| D48 | OK | RECOMMEND | RECOMMEND | RECOMMEND | OK | NO |
| DM48 | RECOMMEND | OK | NO | OK | RECOMMEND | RECOMMEND |
| DA1(48) | OK | RECOMMEND | RECOMMEND | RECOMMEND | OK | NO |
| DA2(48) | OK | RECOMMEND | RECOMMEND | RECOMMEND | OK | NO |
| F48 | OK | OK | OK | OK | OK | OK |
| BOF48 | OK | OK | OK | OK | OK | OK |
| BF48 | OK | OK | OK | OK | OK | OK |

OVERALL SIZE

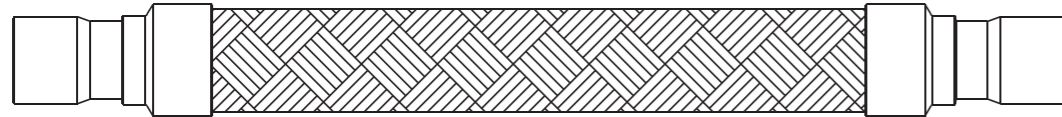


VIBRATION ABSORBER



VRH VIBRATION ABSORBER

VRH vibration absorber is installed in the suction and exhaust pipes of refrigeration systems and air conditioners to reduce the vibration generated by the compressor and transmitted through the system pipes.



FEATURES

- SUS316L corrugated pipe supports with high corrosion resistance
- Trinity Argon Arc welding of wire sleeve, pipe connector and clamping ring makes the vibration absorber stronger and more safety.
- Perfect vibration resistance and good compensation for the heat displacement.

TECHNICAL PARAMETERS

| | |
|-------------------------|--|
| Applicable Refrigerants | HCFC/HFC |
| Applicable Medium Temp | -40°C~+150°C |
| Maximum Proof Pressure | 1.5 times of the Max. Working Pressure |

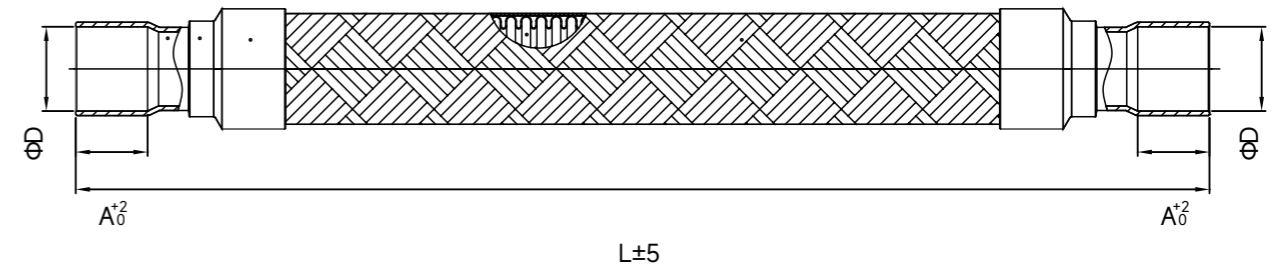
APPLICATION

- Traditional refrigeration *where to apply?*
- Transport refrigeration
- IT cooling

MODEL SELECTION

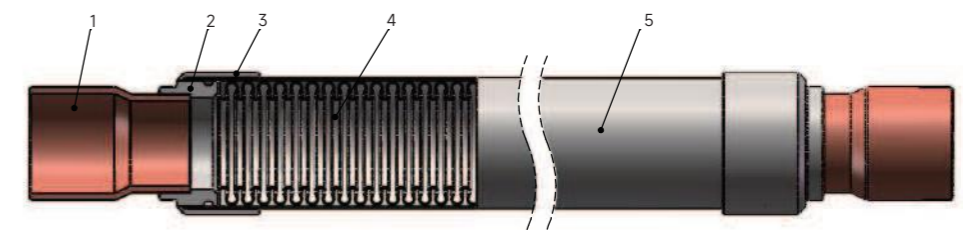
| Model | ODF | ID |
|---------|-------|-------|
| VRH-038 | 3/8 | 9.70 |
| VRH-012 | 1/2 | 12.80 |
| VRH-058 | 5/8 | 16.10 |
| VRH-034 | 3/4 | 19.10 |
| VRH-078 | 7/8 | 22.30 |
| VRH-100 | 1 | 25.60 |
| VRH-118 | 1-1/8 | 28.70 |
| VRH-114 | 1-1/4 | 32.10 |
| VRH-138 | 1-3/8 | 35.20 |
| VRH-158 | 1-5/8 | 41.50 |

OVERALL DIMENSIONS



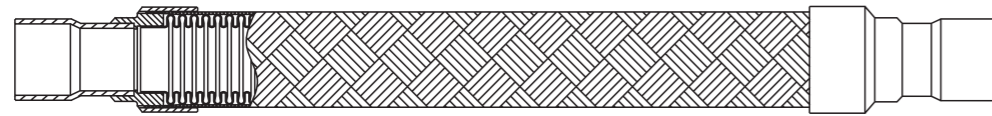
| Model | Outline Dimension (mm) | | | Max.Working Pressure (MPa) | Min.Bending Radius (mm) | |
|---------|------------------------|-----|-------|----------------------------|-------------------------|-------------|
| | A | L | D | | Static(Rj) | Dynamic(Rd) |
| VRH-038 | 10 | 210 | 9.70 | 4.5 | 80 | 180 |
| VRH-012 | 10 | 230 | 12.80 | | 95 | 215 |
| VRH-058 | 13 | 250 | 16.10 | | 120 | 270 |
| VRH-034 | 16 | 260 | 19.10 | | 145 | 325 |
| VRH-078 | 19 | 300 | 22.30 | | 160 | 360 |
| VRH-100 | 23 | 330 | 25.60 | | 175 | 400 |
| VRH-118 | 23 | 330 | 28.70 | 4.2 | 175 | 400 |
| VRH-114 | 25 | 400 | 32.10 | | 225 | 510 |
| VRH-138 | 25 | 400 | 35.20 | | 225 | 510 |
| VRH-158 | 28 | 400 | 41.50 | 3.0 | 280 | 640 |

STRUCTURE



1.copper tubes 2.connector 3.pressing ring 4.bellows 5.net

VAF VIBRATION ABSORBER



FEATURES

- SUS316L corrugated pipe supports with high corrosion resistance
- Trinity argon arc welding of wire sleeve, pipe connector and clamping ring makes the vibration absorber stronger and more safety.
- Furnace brazing between the connector and the corrugated pipe provides steady welding quality.
- Wide application range(can be also adopted in automotive A/C
- Perfect vibration resistance and good compensation for the heat displacement.
- UL proved .

TECHNICAL PARAMETERS

| | |
|-------------------------|--|
| Applicable Refrigerants | HCFC/HFC |
| Applicable Medium Temp | -40°C~+150°C |
| Maximum Proof Pressure | 1.5 times of the Max. Working Pressure |

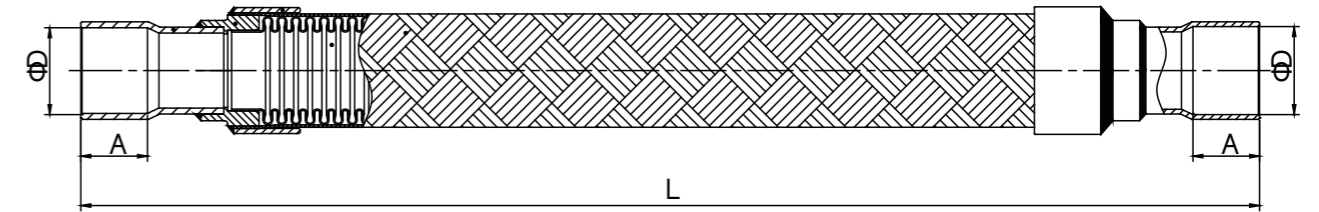
APPLICATION

- Traditional refrigeration
- Transport refrigeration
- IT cooling

MODEL SELECTION

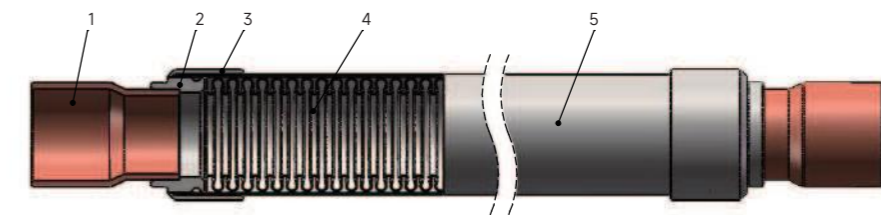
| Model | ODF | ID |
|-----------|-------|-------|
| VAF-038-U | 3/8 | 9.70 |
| VAF-012-U | 1/2 | 12.80 |
| VAF-058-U | 5/8 | 16.10 |
| VAF-034-U | 3/4 | 19.10 |
| VAF-078-U | 7/8 | 22.30 |
| VAF-118-U | 1-1/8 | 28.70 |
| VAF-114-U | 1-1/4 | 32.10 |
| VAF-138-U | 1-3/8 | 35.20 |
| VAF-158-U | 1-5/8 | 41.50 |
| VAF-218-U | 2-1/8 | 54.20 |
| VAF-258-U | 2-5/8 | 66.80 |
| VAF-318-U | 3-1/8 | 79.60 |

OVERALL DIMENSIONS



| Model | Outline Dimension (mm) | | | Max.Working Pressure (MPa) | Min.Bending Radius (mm) | |
|-----------|------------------------|-----|-------|----------------------------|-------------------------|-------------|
| | A | L | D | | Static(Rj) | Dynamic(Rd) |
| VAF-038-U | 16 | 230 | 9.70 | 6.0 | 80 | 180 |
| VAF-012-U | 10 | 250 | 12.80 | | 95 | 215 |
| VAF-058-U | 12 | 270 | 16.10 | | 120 | 270 |
| VAF-034-U | 14 | 290 | 19.10 | | 145 | 325 |
| VAF-078-U | 17 | 300 | 22.30 | | 160 | 360 |
| VAF-118-U | 24 | 330 | 28.70 | 5.0 | 175 | 400 |
| VAF-114-U | 38 | 380 | 32.10 | | 225 | 510 |
| VAF-138-U | 25 | 380 | 35.20 | | 225 | 510 |
| VAF-158-U | 30 | 430 | 41.50 | 4.5 | 280 | 640 |
| VAF-218-U | 65 | 520 | 54.20 | 2.3 | 350 | 800 |
| VAF-258-U | 75 | 610 | 66.80 | | 390 | 845 |
| VAF-318-U | 80 | 680 | 79.60 | | 480 | 1000 |

STRUCTURE



1.copper tubes 2.connector 3.pressing ring 4.bellows 5.net

OIL-FILLED PRESSURE GAUGE

Oil-filled pressure gauge is filled with silicone oil or glycerin inside, it's used on freezer, cold store and air conditioning units.



242#H



242#L



191#H



191#L

FEATURES

- Filled with oil in the gauge, resist high-frequency vibration of the unit effectively
- The damping oil cup prevents gauge pointer from quick jumping
- Flange edge, more convenient for mounting Over-pressure limit stop is equipped.
- Zero error is ensured with strengthening overpressure measures

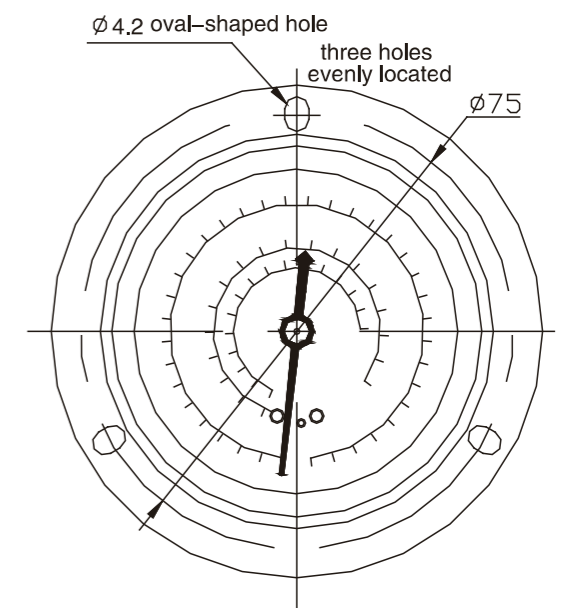
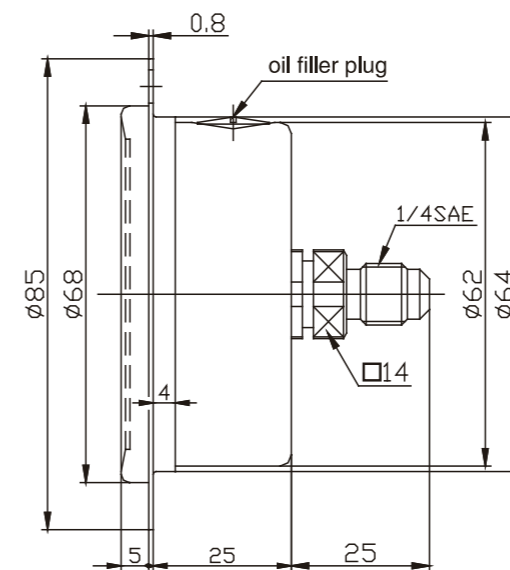
TECHNICAL PARAMETERS

| | |
|-------------------------------|-------------------------------|
| Applicable Refrigerant | HCFC and HFC |
| Applicable Medium Temperature | -5°C~+120°C (-40°C~+120°C) |
| Connection Size | 1/4SAE |
| Structure | Axial concentrically-embedded |
| Casing Nominal Diameter | 2.5 in(Φ63.5) |
| Accuracy Class | 1.6 |

MODEL SELECTION

| Model | | Refrigerant | Oil | Temperature Range °C | Unit | Connection Size | Gauge Size |
|-------|-------|-----------------------|--------------|----------------------|---------------|-----------------|------------|
| High | High | | | | | | |
| 242#H | 242#L | R22 R134a R404A R407C | glycerin | -5~+120°C | psi Mpa °C | 1/4SAE | Y63 |
| 191#H | 191#L | R22 R134a R404A R407C | silicone oil | -40~+120°C | psi bar °C | 1/4SAE | Y63 |
| 128#H | 128#L | R410A | silicone oil | -40~+120°C | psi kg/cm2 °C | 1/4SAE | Y63 |

OVERALL DIMENSIONS



CHARGING VALVE



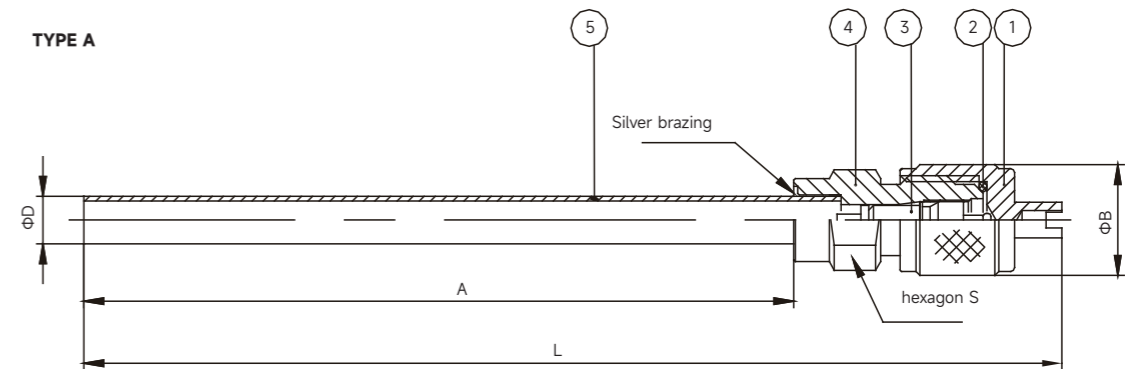
FEATURES

- High quality valve core, reliable performance
- Double sealing
- Knurled bonnet for easy disassembly

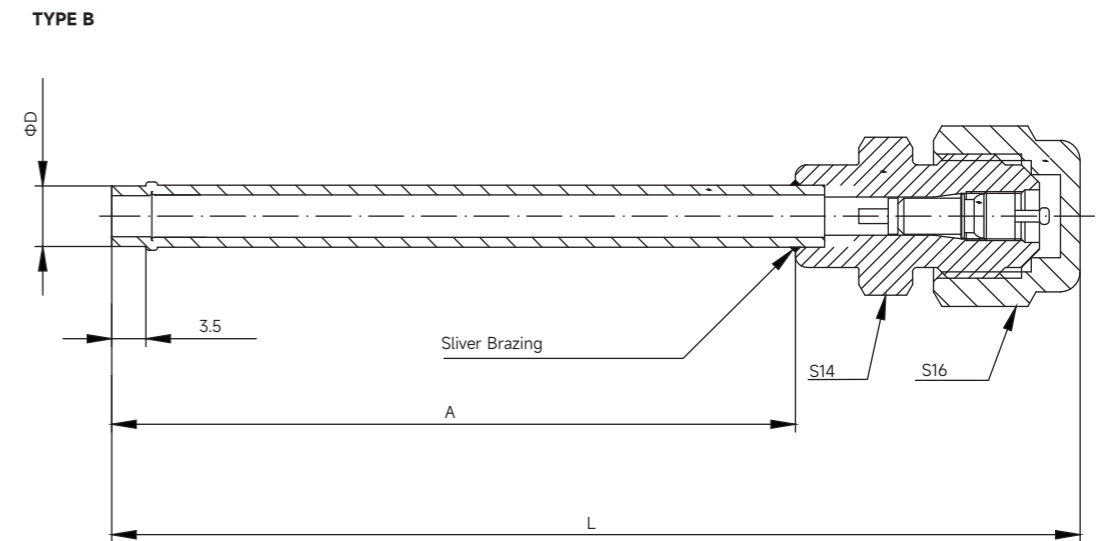
TECHNICAL PARAMETERS

| | |
|-------------------------------|--------------|
| Applicable Refrigerant | HCFC and HFC |
| Applicable Medium Temperature | -25°C~+120°C |
| Max. Operating Pressure | 3.0MPa |
| Max. Allowable Pressure | 4.5MPa |

| MODEL SELECTION | | | | | | | |
|-----------------|--------------|---------|-----------|-----------------------|----|------|-----|
| Type | Model Name | Thread | Tube Size | Overall Dimension(mm) | | | |
| | | | | A | φB | φD | L |
| Type A | HS-110 | 1/4SAE | 1/4" | 90 | 14 | 6.35 | 124 |
| Type B | HS-110-R410A | 5/16SAE | 1/4" | 70 | - | 6.2 | 99 |



1.valve bonnet 2.O-ring 3.valve core 4.valve body 5.copper tube

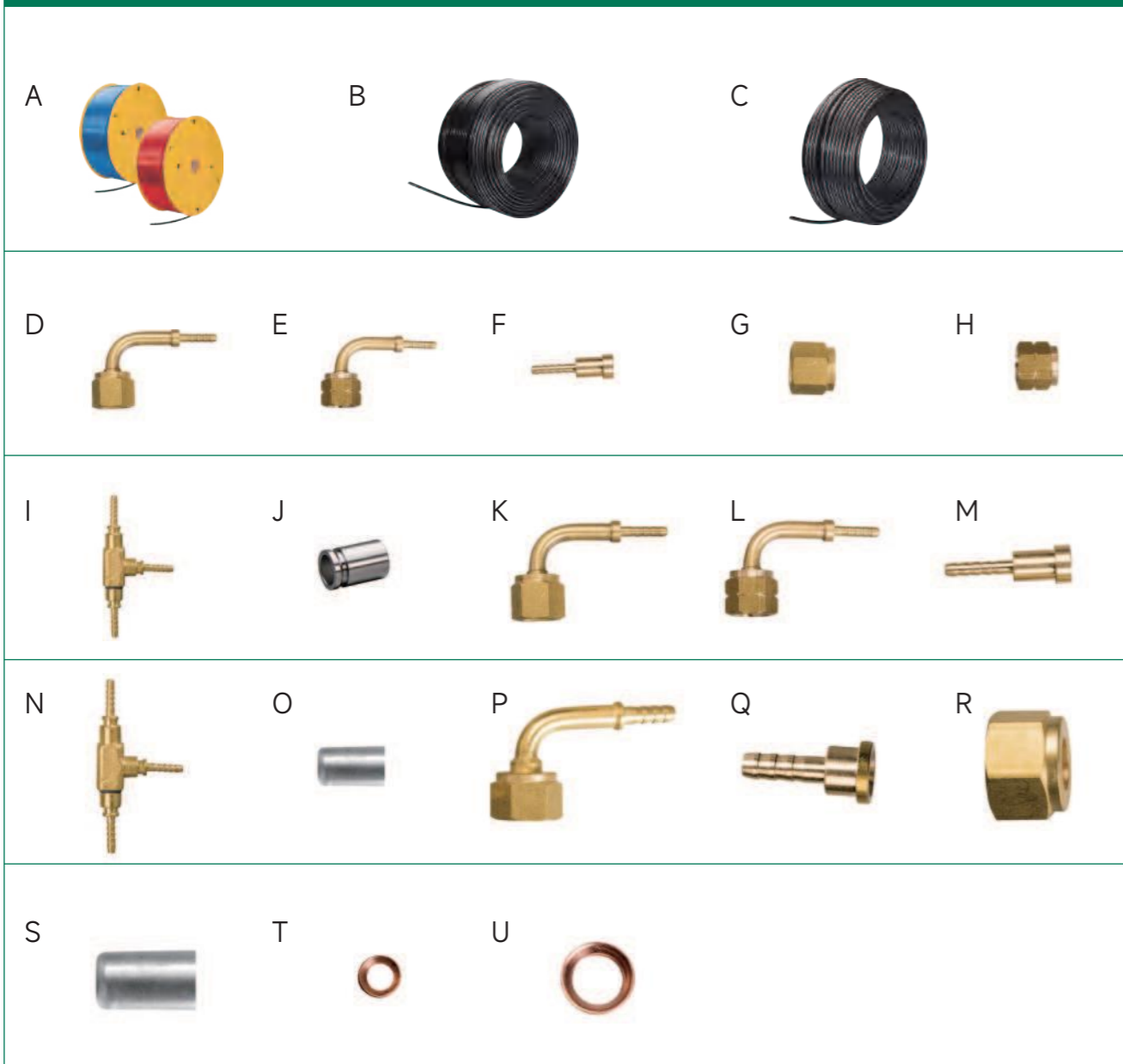


HMG HIGH PRESSURE HOSE AND FITTINGS

FEATURES

- Made of high quality nylon and polyester. High pressure resistance, high temperature resistance and high ageing resistance. Small flow resistance due to its smooth internal wall.
- Eliminate the shortcomings of copper tube such as soldering failure, leakage, noise and difficult service. Selectable length at ease and short the connection operation time, improve the technical reliability obviously.

MODEL SELECTION



TECHNICAL PARAMETERS

| | |
|-------------------------------|-------------------------------|
| Applicable Refrigerant | Applicable Medium Temperature |
| Applicable Medium Temperature | -40°C~+100°C |

MODEL SELECTION

| Code | Type | Description | ID | OD | Max.Working Pressure MPa | Blasting Test Pressure MPa |
|------|-----------------|----------------------------------|-------------|-------------|--------------------------|----------------------------|
| A | HS-HMG-2 | high pressure hose Φ 2 | ϕ 2.5 | ϕ 5.6 | 5.5 | 30 |
| B | HS-HMG-4 | high pressure hose Φ 4 | ϕ 3.4 | ϕ 7.8 | 5.5 | 30 |
| C | HS-HMG-8 | high pressure hose Φ 8 | ϕ 6.2 | ϕ 10.5 | 4.2 | 20 |
| D | ϕ 2.6x1/4" | 90° bend core with 1/4" nut/1/4" | ϕ 1.0 | ϕ 2.6 | | |
| E | ϕ 2.6xDg4 | 90° bend core with Dg4 nut | ϕ 1.0 | ϕ 2.6 | | |
| F | ϕ 2.6 | straight core | ϕ 1.0 | ϕ 2.6 | | |
| G | 1/4" | 1/4" nut | | | | |
| H | Dg4 | 4 nut | | | | |
| I | ϕ 2.6 | Tee | ϕ 1.0 | ϕ 2.6 | | |
| J | ϕ 5.9x12.3 | aluminum sleeve | ϕ 5.9 | ϕ 8 | | |
| K | ϕ 3.5x1/4" | 90° bend core with 1/4" nut | ϕ 1.7 | ϕ 3.5 | | |
| L | ϕ 3.5xDg4 | 90° bend core with Dg4 nut | ϕ 1.7 | ϕ 3.5 | | |
| M | ϕ 3.5 | straight core | ϕ 1.7 | ϕ 3.5 | | |
| N | ϕ 3.5 | Tee | ϕ 1.7 | ϕ 3.5 | | |
| O | ϕ 8x18 | Aluminium sleeve | ϕ 8 | ϕ 11 | | |
| P | ϕ 6.3x3/8" | 90° bend core with 3/8" nut | ϕ 3.2 | ϕ 6.3 | | |
| Q | ϕ 6.3 | straight core | ϕ 3.2 | ϕ 6.3 | | |
| R | 3/8" | 3/8" nut | | | | |
| S | ϕ 10.8x18 | Aluminium sleeve | ϕ 10.8 | ϕ 13.1 | | |
| T | 1/4" | copper seal ring | | | | |
| U | 3/8" | copper seal ring | | | | |