SANHUA
GREEN TECH LINE

Commercial refrigeration
Heat pump
Air conditioning
SANHUA
GREEN TECH LINE

Solutions for natural refrigerants

OUR COMMITMENT TO PROVIDE GREEN TECHNOLOGY FOR LOW CARBON FOOT PRINT

We provide components and solutions to HVAC-R industry in order to support the protection of the environment by reducing carbon foot print, energy consumption and increasing system efficiency.

CHILLING IDEAS WORLDWIDE
### COMPONENTS SUITABLE FOR R290-PROPANE AND OTHER HC & A2L REFRIGERANTS

<table>
<thead>
<tr>
<th>Component Type</th>
<th>Model</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controller for EL. EXP. Valve</td>
<td>SEC61x</td>
<td></td>
</tr>
<tr>
<td>Electronic Expansion Valve - Uni polar</td>
<td>LPF</td>
<td></td>
</tr>
<tr>
<td>Electronic Expansion Valve - Bi polar</td>
<td>VPF</td>
<td>limited to VPF100</td>
</tr>
<tr>
<td>Pressure Sensor</td>
<td>YCQ-A2L</td>
<td>on request</td>
</tr>
<tr>
<td>Thermostatic Expansion Valve</td>
<td>RFG806</td>
<td>Standard series - coming soon</td>
</tr>
<tr>
<td>Solenoid Valve</td>
<td>MDF</td>
<td>Limited to MDF-A03-22H</td>
</tr>
<tr>
<td>Solenoid Valve</td>
<td>LDF</td>
<td></td>
</tr>
<tr>
<td>Solenoid Valve</td>
<td>FDF</td>
<td></td>
</tr>
<tr>
<td>4 Way Reversing Valve</td>
<td>SHF</td>
<td></td>
</tr>
<tr>
<td>Ball Valve</td>
<td>SBV</td>
<td>For models with DN≤25mm</td>
</tr>
<tr>
<td>Ball Valve</td>
<td>SBV-R</td>
<td></td>
</tr>
<tr>
<td>Check Valve</td>
<td>YCVS</td>
<td>For models with DN≤25mm</td>
</tr>
<tr>
<td>Check Valve</td>
<td>YCVS-R</td>
<td></td>
</tr>
<tr>
<td>Sight Glass</td>
<td>SYJ</td>
<td></td>
</tr>
<tr>
<td>Uni-flow filter drier</td>
<td>DTG</td>
<td></td>
</tr>
<tr>
<td>Bi-flow filter drier</td>
<td>STG</td>
<td></td>
</tr>
</tbody>
</table>

### COMPONENTS SUITABLE FOR R32

<table>
<thead>
<tr>
<th>Component Type</th>
<th>Model</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controller for EL. EXP. Valve</td>
<td>SEC61x</td>
<td></td>
</tr>
<tr>
<td>Electronic Expansion Valve - Uni polar</td>
<td>DPF</td>
<td></td>
</tr>
<tr>
<td>Electronic Expansion Valve - Bi polar</td>
<td>VPF</td>
<td>limited to VPF100</td>
</tr>
<tr>
<td>Pressure Sensor</td>
<td>YCQ-R32</td>
<td>on request</td>
</tr>
<tr>
<td>Solenoid Valve</td>
<td>MDF-RH</td>
<td>Limited to MDF-A03RH-22H</td>
</tr>
<tr>
<td>Sight Glass</td>
<td>SYJ-R</td>
<td></td>
</tr>
<tr>
<td>4 Way Reversing Valve</td>
<td>SHF-R</td>
<td></td>
</tr>
<tr>
<td>Ball Valve</td>
<td>SBV-R</td>
<td></td>
</tr>
<tr>
<td>Ball Valve</td>
<td>RBV-R</td>
<td></td>
</tr>
<tr>
<td>Check Valve - Magnetic Type</td>
<td>CCE</td>
<td></td>
</tr>
<tr>
<td>Check Valve - Piston Type</td>
<td>YCVS-R</td>
<td></td>
</tr>
<tr>
<td>Uni-flow filter drier</td>
<td>DTG-932</td>
<td></td>
</tr>
<tr>
<td>Bi-flow filter drier</td>
<td>STG-932</td>
<td></td>
</tr>
</tbody>
</table>

### COMPONENTS SUITABLE FOR R744 – CO₂

<table>
<thead>
<tr>
<th>Component Type</th>
<th>Model</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controller for EL. EXP. Valve</td>
<td>SEC61x</td>
<td></td>
</tr>
<tr>
<td>Electronic Expansion Valve</td>
<td>LPF-D</td>
<td></td>
</tr>
<tr>
<td>Pressure Sensor</td>
<td>YCQ-R744</td>
<td>on request</td>
</tr>
<tr>
<td>Ball Valve - P5=60bar</td>
<td>CBV</td>
<td></td>
</tr>
<tr>
<td>Ball Valve - P5=140bar</td>
<td>CBVT</td>
<td></td>
</tr>
<tr>
<td>Check Valve - P5=140bar</td>
<td>BCV</td>
<td></td>
</tr>
</tbody>
</table>
**DPF SERIE**

**FEATURES**
- Applicable for reversible systems: bidirectional flow
- Smaller installation space: low height, small volume, light weight
- Optimized flow path design for noise reduction

**GENERAL SPECIFICATION**
- Applicable for all common HCFC, HFC, HFO, HC
- Cooling capacity: from 0.5 to 110 kW (R290)
- 500 steps (full stroke); 32 ± 20 opening steps
- Medium temperature TS min./max.: -40°C / +85°C (duty cycle rate below 50%)
- Certifications: UL/CSA and declaration according to LVD or PED
- Suitable with the EN 60335-2-24 / 2-40 / 2-89

---

**VPF SERIE**

**FEATURES**
- Energy saving thanks to very precise capacity control: Up to 3800 steps
- Internal Tightness like a solenoid valve
- Optimized flow path design for noise reduction
- Applicable for reversible systems like heat pumps: bidirectional flow
- Corrosion resistant design, long lifetime, high reliability
- Models with integrated sight glass are available

**GENERAL SPECIFICATION**
- Applicable for all common HCFC, HFC, HFO, HC
- Cooling capacity: from 20 to 500 kW
- Medium temperature TS min./max.: -40°C / +90°C
certifications: EAC, PED Declaration for fluids group 2 full range, and fluid group 1 for VPF12.5 to 100 (PS=50bar).

---

**LPF SERIE**

**FEATURES**
- Extremely high internal tightness, which is as good as with solenoid valves (<1ml/min)
- Equal percentage flow design for better flow regulation
- Snap-on coil for easier installation
- Coil with IP67 works safely in extremely environment
- Applicable for oil-free system; Built-in strainer at inlet
- Flow direction: Bi-flow

**GENERAL SPECIFICATION**
- Applicable for all common HFCF, HFC, HFO, HC and R744
- 500 steps (full stroke): 32 ± 20 opening steps
- Medium temperature TS min./max.: -40°C / +70°C (duty cycle rate below 40%)
- Design Pressure: 42 bar, MOPD: 35 bar

---

**SEC61X SERIE**

**FEATURES**
- Advanced PID algorithm to ensure accurate automatic adjustment of superheat
- Quick-Safe prevention of low and high superheat to ensure the system operating well at any conditions
- Small size, rail mounting design, easy to install
- Energy efficient, achieving the most efficient use of the evaporator

**GENERAL SPECIFICATION**
- Applicable for various refrigerants
- Certification: UL, CE Declaration according to EMC
- Installation method: DIN railsnap-in or wall mounting with screws
- Compatible with Sanhua DPF and LPF valves
FEATURES
• Suitable for cooling capacities from 3.5 to 409 kW (R290, Condition 2, ΔP = 0.1 bar)
• Certified according PED cat. II by TUV Rheinland

GENERAL SPECIFICATION
• Applicable for all common HCFC, HFC, HFO, HC
• Medium temperature TS min./max.: -30°C / +135°C
• Ambient temperature min./max.: -30°C / +50°C
• Relative humidity: 0 to 95% RH
• Max. operating pressure PS ≥ 4.5 MPa (45 bar)
• Certifications: UL/CSA3) and declaration according to LVD and PED

FEATURES
• Straightway type, full port, low pressure drops, cost-effective
• Valve body and valve seat with welded structure, with high product reliability
• Connection size from 1/4" to 2" 5/8 (6mm to 67mm)
• Bidirectional flow
• Special sealing materials to prevent internal leakage
• Certified according PED cat. II by TUV Rheinland

GENERAL SPECIFICATION
• Applicable for all common HCFC, HFC, HFO, HC
• Medium temperature TS min./max.: -40°C / +120°C
• Max. operating pressure PS: 4,5 (45bar) or 4,9 MPa (49 bar) depending by the model

FEATURES
• Coils: low energy consumption, reliable
• Great valve opening performance, high MOPD
• Direct or Piston Type actuation: connection size from 6 to 28mm
• Coils are double sealed, watertight and safe
• Certified according PED cat. II by TUV Rheinland

GENERAL SPECIFICATION
• Applicable for all common HCFC, HFC, HFO, HC
• Maximum Operating Pressure: 4,5 MPa (45 bar)
• Medium temperature TS min./max.: -30°C / 105°C

FEATURES
• Coils: Low energy consumption, reliable
• Low internal leakage
• Direct or Piston Type actuation: Kv size from 0,12 to 1,1 m³/h
• Compact design, easy to install.
• Certified according PED cat. II by TUV Rheinland

GENERAL SPECIFICATION
• Applicable for all common HCFC, HFC, HFO, HC
• Maximum Operating Pressure: 4,5 MPa
• Medium temperature TS min./max.: -30°C / +120°C

FEATURES
• Equipped with damping spring to freely install the valve at positions with pressure pulse
• Available in two types of model: straightway valve – connection size from 6mm to 22mm
• Special version of check valve equipped with reinforced spring, applicable to compressor discharge pipes in single or multi compressor systems (YCVS & YCVS-R series)
• Low pressure drops during operation
• Certified according PED cat. II by TUV Rheinland

GENERAL SPECIFICATION
• Applicable for all common HCFC, HFC, HFO, HC
• Maximum Operating Pressure: 4,5 MPa
• Medium temperature TS min./max.: -50°C / +150°C
• Max. operating pressure PS: 4,6 (46bar) or 4,9 MPa (49 bar) depending by the model
DTG SERIE

FEATURES
- Uni Directional - Highly efficient in moisture absorption, filtering impurity, acid, paint remains and mud removal
- Hybrid desiccant; Durable and solid filter cores
- Filtering fineness: 20μm
- Connection type: solder

GENERAL SPECIFICATION
- Applicable for all common HCFC, HFC, HFO, HC
- Medium temperature TS min./max.: -30°C / +120°C
- Max. operating pressure PS max.: 4,83 MPa (48,3 bar) - 700 PSI
- Certifications: UL/CSA and PED declaration (all products have been covered by Art.4.3 PED Directive 2014/68/EU)

DTG-M02 SERIE

FEATURES
- Stainless steel housing with high-strength – 1.5 inch² core volume
- Housing surface adopts adsorption principle to form a nano-solid film to anti-rust, survives more than 1500 hours of neutral salt spray test.
- Solid filer cores, highly efficient in moisture absorption, filtering impurity.
- Compact design, meeting the strict 150g system limits for flammable refrigerants such as R290.

GENERAL SPECIFICATION
- Applicable refrigerants: HCFC, HFC, HC, HFO
- Medium temperature: -30°C~+120°C
- Max. Operation pressure PS max: 4,83MPa (48,3bar) - 700PSI
- Certification: UL/CSA and PED declaration

STG SERIE

FEATURES
- Bi-Flow - Highly efficient in moisture absorption, filtering impurity, acid, paint remains and mud removal
- Hybrid desiccant; Durable and solid filter cores
- Filtering fineness: 20μm
- Connection type: solder

GENERAL SPECIFICATION
- Applicable for all common HCFC, HFC, HFO, HC
- Medium temperature TS min./max.: -30°C / +120°C
- Max. operating pressure PS max.: 4,83 MPa (48,3 bar) - 700 PSI
- Certifications: UL/CSA and PED declaration (all products have been covered by Art.4.3 PED Directive 2014/68/EU)

SYJ SERIE

FEATURES
- High precision color indicator
- Indicator pasted closely to the glass to prevent surface contamination
- Solid and corrosion resistant brass material
- New Annular humidity color indicator. Full port passage with low pressure drop

GENERAL SPECIFICATION
- Applicable for HCFC, HFC, HFO, HC
- Medium temperature TS min./max.: -50°C / +80°C
- Max. operating pressure PS: 4,6 MPa (46 bar)
Our target is to provide products and solutions to different industries in order to help the protection of the environment by reducing their energy consumption and increasing their system efficiency.
**FEATURES**
- Applicable for reversible systems: bidirectional flow
- Smaller installation space: low height, small volume, light weight
- Optimized flow path design for noise reduction

**GENERAL SPECIFICATION**
- Applicable for all common HCFC, HFC, HFO, HC
- Cooling capacity: 1 to 164 kW (for R32) - PS=49bar
- 500 steps (full stroke); 32 ± 20 opening steps
- Medium temperature TS min./max.: -40°C / +85°C (duty cycle rate below 50%)
- Certifications: UL/CSA and declaration according to LVD or PED
- Suitable with the EN 60335-2-24 / 2-40 / 2-89

---

**FEATURES**
- Energy saving thanks to very precise capacity control: Up to 3800 steps
- Internal Tightness like a solenoid valve
- Optimized flow path design for noise reduction
- Applicable for reversible systems like heat pumps: bidirectional flow
- Corrosion resistant design, long lifetime, high reliability
- Models with integrated sight glass are available

**GENERAL SPECIFICATION**
- Applicable for all common HCFC, HFC, HFO, HC
- Cooling capacity: from 20 to 800 kW
- Medium temperature TS min./max.: -40°C / +90°C
- Certifications: EAC, PED Declaration for fluids group 2 full range, and fluid group 1 for VPF12.5 to 100 (PS=50bar).

---

**FEATURES**
- Suitable for R32 systems with high discharge temperatures
- Suitable for cooling capacities from 41.5 to 116.7 kW (R32, Condition 2, ΔP=0.1bar)
- 4 different sizes available
- Certified according PED cat.II by TUV Rheinland

**GENERAL SPECIFICATION**
- Applicable for R32; also compatible with all common HCFC, HFC, HFO, HC refrigerants
- Medium temperature TS min./max.: -30°C / +150°C
- Max. operating pressure PS = 4.9 MPa (49 bar)

---

**FEATURES**
- Coils: low energy consumption, reliable
- Great valve opening performance, high MOPD
- Direct or Piston Type actuation: connection size from 6 to 28mm
- Coils are double sealed, watertight and safe
- Certified according PED cat.II by TUV Rheinland

**GENERAL SPECIFICATION**
- Applicable for R32; also compatible with all common HCFC, HFC, HFO, HC refrigerants
- Maximum Operating Pressure: 4.9 MPa (49 bar)
- Medium temperature TS min./max.: -30°C/105°C
**FEATURES**
- Straightway type, full port, low pressure drops, cost-effective
- Valve body and valve seat with welded structure, with high product reliability
- Connection size from 1/4” to 2” 5/8 (6mm to 67mm)
- Bidirectional flow
- Special sealing materials to prevent internal leakage
- Certified according PED cat.II by TUV Rheinland

**GENERAL SPECIFICATION**
- Applicable for R32; also compatible with all common HCFC, HFC, HFO, HC refrigerants
- Medium temperature TS min./max.: -40°C / +120°C
- Max. operating pressure PS: 4,9 MPa (49 bar)

**SBV-R SERIE**

**FEATURES**
- Equipped with damping spring to freely install the valve at positions with pressure pulse
- Available in two types of model: straightway valve – connection size from 6mm to 22mm
- L-shape valve – connection size from 22mm to 42mm
- Special version of check valve equipped with reinforced spring, applicable to compressor discharge pipes in single or multi compressor systems (YCVS-R series)
- Low pressure drops during operation
- Certified according PED cat. II by TUV Rheinland

**GENERAL SPECIFICATION**
- Applicable for R32; also compatible with all common HCFC, HFC, HFO, HC refrigerants
- Medium temperature TS min./max.: -50°C / +150°C
- Max. operating pressure 4,9 MPa (49 bar)

**YCVS-R SERIE**

**FEATURES**
- Uni Directional - Highly efficient in moisture absorption, filtering impurity, acid, paint remains and mud removal
- 100% 3Å desiccant; Durable and solid filter cores
- Filtering fineness: 20μm
- Connection type: solder

**GENERAL SPECIFICATION**
- Applicable for all common HCFC, HFC, HFO, HC
- Cooling capacity from 0.5 to 20 kW
- Medium temperature TS min./max.: -30°C / +120°C
- Max. operating pressure PS max.: 4,9 MPa (49 bar) - 711 PSI
- Certifications: PED declaration (all products have been covered by Art.4.3 PED Directive 2014/68/EU)

**DTG-932 SERIE**

**FEATURES**
- Bi-Flow - Highly efficient in moisture absorption, filtering impurity, acid, paint remains and mud removal
- 100% 3Å desiccant; Durable and solid filter cores
- Filtering fineness: 20μm
- Connection type: solder

**GENERAL SPECIFICATION**
- Applicable for all common HCFC, HFC, HFO, HC
- Medium temperature TS min./max.: -30°C / +120°C
- Max. operating pressure PS max.: 4,9 MPa (49 bar) - 711 PSI
- Certifications: PED declaration (all products have been covered by Art.4.3 PED Directive 2014/68/EU)

**RBV-R SERIE**

**FEATURES**
- Straightway type, full port, low pressure drops, cost-effective
- Valve body and valve seat with welded structure, with high product reliability
- Connection size from 1/4” to 2” 1/8 (6mm to 54mm)
- Bidirectional flow
- Special sealing materials to prevent internal leakage
- Certified according PED cat. II by TUV Rheinland

**GENERAL SPECIFICATION**
- Applicable for R32; also compatible with all common HCFC, HFC, HFO, HC refrigerants
- Huge refrigerant temperature TS min./max.: -60°C/+160°C
- Max. operating pressure PS: 4,9 MPa (49 bar)

**CCV SERIE**

**FEATURES**
- This valve can ensure the only correct flow direction
- Magnetic closure element for high reliability standards
- Compact and sealed design with no risk of external leakage: highly suggested for applications with flammable refrigerants
- Low pressure drops during operation
- Certified according PED cat. II by TUV Rheinland

**GENERAL SPECIFICATION**
- Applicable for R32; also compatible with all common HCFC, HFC, HFO, HC refrigerants
- Medium temperature TS min./max.: -40°C / +160°C
- Max. operating pressure PS: 4,9 MPa (49 bar)

**STG-932 SERIE**
Product Line Series

CBV SERIE

FEATURES
- Straightway type, full port, low pressure drops, cost-effective
- Valve body and valve seat with welded structure, with high product reliability
- Connection size from 1/4” to 2” 1/8 (6mm to 54mm)
- Bidirectional flow; suitable for Sub-Critical applications
- Special sealing materials to prevent internal leakage

GENERAL SPECIFICATION
- Applicable for R744 (CO₂)
- Medium temperature TS min./max.: -40°C / +150°C
- Max. operating pressure PS: 6,0 MPa (60 bar)

CBVT SERIE

FEATURES
- Straightway type, full port, low pressure drops, high efficiency
- Valve body and valve seat with welded structure, with high product reliability
- Connection size from 1/4” to 1” 5/8 (6mm to 42mm)
- Bidirectional flow; suitable for Trans-Critical applications
- Version with Bi-metal connections – easy and fast brazing for systems with K65 piping
- Version with Stainless-Steel Butt-Welding connections – suitable for systems with stainless steel piping [coming soon]

GENERAL SPECIFICATION
- Applicable for R744 (CO₂)
- Medium temperature TS min./max.: -40°C / +150°C
- Max. operating pressure PS: 14 MPa; (burst pressure: 42MPa)

LPF-D SERIE

FEATURES
- Extremely high internal tightness, which is as good as with solenoid valves (<1ml/min)
- Equal percentage flow design for better flow regulation
- Snap-on coil for easier installation
- Coil with IP67 works safely in extremely environment
- Applicable for oil-free system; Built-in strainer at inlet
- Flow direction: Bi-flow
- LPF...D: 60bar design for R744 application

GENERAL SPECIFICATION
- Applicable for all R744
- Cooling capacity from 0.5 to 20 kW
- 500 steps (full stroke): 32 ± 20 opening steps
- Medium temperature TS min./max.: -40°C / +70°C (duty cycle rate below 40%)
- Design Pressure : 60 bar
- MOPD: 35 bar
- Designed for R744 series

SEC61X SERIE

FEATURES
- Advanced PID algorithm to ensure accurate automatic adjustment of superheat
- Quick-Safe prevention of low and high superheat to ensure the system operating well at any conditions
- Small size, rail mounting design, easy to install
- Energy efficient, achieving the most efficient use of the evaporator

GENERAL SPECIFICATION
- Applicable for various refrigerants
- Certification: UL, CE Declaration according to EMC
- Installation method:DIN railsnap-in or wall mounting with screws
- Compatible with Sanhua DPF and LPF valves
BCV SERIE

FEATURES
- Suitable for Sub-critical and Trans-critical applications
- Stainless steel valve body and thick copper connection tube - high strength, can meet the 14MPa MOP requirement
- One size available: 3/8” connection size
- Furnace welding and laser welding process for high welding quality - ensure reliable air tightness in high pressure system

GENERAL SPECIFICATION
- Applicable for R744 (CO₂)
- Medium temperature TS min./max.: -50°C /140°C
- Max. operating pressure PS: 14MPa (140bar)

SELECT THE RIGHT PRODUCT

SANHUA sanhuaQF.eu