SANHUA

PRODUCT CATALOG
WHOLESALE

SANHUAUSA.COM

SANHUA

STRONG GLOBAL PRESENCE WITH A PERSONAL APPROACH

Quality is at the foundation of every product Sanhua designs and manufactures. As the largest producer of Service Valves, Reversing Valves, Electronic Expansion Valves and Microchannel (HVACR) in the world, Sanhua is recognized by leaders in the HVACR and automotive industries for providing products at world-class quality levels.

Sanhua was established in China in 1984 and the USA subsidiary was founded in 2002. In 2007, Sanhua acquired all production and engineering rights for all Ranco reversing valves. Sanhua continues to produce the reversing valves under the Ranco brand name as well as the Sanhua brand and improved design. Micro-channel heat exchanger production was localized in North America in 2011 with the acquisition of a factory in Puckett, MS, along with a new Saltillo, MX start-up operation in 2015. In 2018, Sanhua completed construction of a full-scale R&D and engineering center in Houston, TX. Sanhua is dedicated to designing and producing innovative products aligned with the wants and needs of its customers. Sanhua proudly employs over 1,000 people in North America.

With 22 international sales offices and 14 manufacturing locations, Sanhua delivers environmentally friendly and energy efficient solutions to the HVACR industry.

Table of Contents

SANHUA

Filter-Drier Shells with Replaceable Core

- *System protector for optimum performance and efficiency*
- *Effective and Efficient: Filters solid particles, adsorbs moisture and removes acid*
- *Large filtering area removes solid particles contamination to an extremely low level of 20 microns*

Filter-drier shells with replaceable cores are designed for big system protection. The large capacity models are ideal for new system startups to remove moisture and solid particle contamination from field piping. The replaceable core design also simplifies continued system protection and preventive maintenance initiatives. Replacing cores routinely ensures lowest possible moisture levels and clean oil.

Replaceable Core FD Nomenclature

FDSH 48 5 S

- S = Sweat Connections
- Connection Size in eighths of an inch
- Internal Volume in cubic inches
- Type: Filter-Drier Shell

FILTER WITH REPLACEABLE CORE

Aftermarket Model	Solder Connection ODF (inch)	Number of cores (sold separately)	Capacity (tons) [1]				
			R-134a	R-404A	R-22	R-407C[2]	R-410A
FDSH-48-5-S	5/8	1	18.6	13.1	19.2	19.2	19.2
FDSH-48-7-S	7/8		29.8	20.9	30.8	30.8	30.8
FDSH-48-9-S	1-1/8		42.8	30.1	44.2	44.2	44.2
FDSH-48-11-S	1-3/8		57.6	40.5	59.5	59.5	59.5
FDSH-96-7-S	7/8	2	29.8	20.9	30.8	30.8	30.8
FDSH-96-9-S	1-1/8		42.8	30.1	44.2	44.2	44.2
FDSH-96-11-S	1-3/8		57.6	40.5	59.5	59.5	59.5
FDSH-96-13-S	1-5/8		70.8	49.7	73.0	73.0	73.0
FDSH-144-9-S	1-1/8	3	42.8	30.1	44.2	44.2	44.2
FDSH-144-11-S	1-3/8		57.6	40.5	59.5	59.5	59.5
FDSH-192-11-S	1-3/8	4	57.6	40.5	59.5	59.5	59.5
FDSH-192-13-S	1-5/8		70.8	49.7	73.0	73.0	73.0
FDSH-192-17-S	2-1/8		101	70.6	104	104	104

USE EITHER THE "FD CORE 48 ALL PURPOSE" OR THE "FD CORE 48 HI MOISTURE" WITH THE SANHAU REPLACEABLE CORE SHELLS.

Aftermarket Model	Description	Filter Media
FD Core AP	Standard Multi-purpose	80% Molecular Sieve 20% Activated Alumina
FD Core 48Hi	High Moisture	100% Molecular Sieve

Note:
1. Nominal working conditions: Condensing temperature 100°F; evaporating temperature +40°F; liquid temperature 99°F

REFRIGERANT
R-22, R-134a, R-404A, R-407C, R-410A, R-507

LARGE TEMP SERVICE RANGE
-40°F to +248°F

FILTRATION
20 pm

OPD MAX
580 psig

PS
650 psig

Sealed Model Filter-Drier

GO WITH THE FLOW

Sanhua Filter-Drier molded cores are engineered with a blend of desiccants to protect systems against moisture and acid. The core is secured in place with fiberglass pads on both ends and a 100 mesh metal support screen at the outlet. The pads and core together provide a large available filtering area to remove solid particle contamination to an extremely low level of 20 microns. Sanhua Filter-Driers are compatible with all common HCFC and HFC refrigerants and are UL Listed to a maximum operating pressure of 700 psig.

80% Molecular Sieve
20% Active Alumina

Sealed Model FD Nomenclature

FD 16 3 S

- S = Sweat Connections (Omit for SAE Flare Connections)
- Connection Size in eighths of an inch
- Desiccant volume in cubic inches
- Type: Filter-Drier

Sealed Model Filter-Drier | Molded Core

SOLDER CONNECTION

Aftermarket Model	Capacity (tons) [1]					Conn. Solder (inch)
	R-134a	R-404A/ R-507	R-22	R-407C	R-410A	
FD-032-S	2.19	1.91	2.3	2.3	2.3	1/4
FD-033-S	4.09	3.01	4.21	4.21	4.21	3/8
FD-052-S	2.39	1.71	2.39	2.39	2.39	1/4
FD-053-S	6.8	4.81	6.91	6.8	6.99	3/8
FD-082-S	2.39	1.71	2.39	2.39	2.39	1/4
FD-083-S	7.11	5	7.19	7.11	7.31	3/8
FD-084-S	8.70	6.11	8.9	8.79	9.01	1/2
FD-163-S	7.31	5.09	7.39	7.39	7.51	3/8
FD-164-S	9.21	6.51	9.41	9.3	9.61	1/2
FD-165-S	12.3	8.7	12.4	12.4	12.6	5/8
FD-166-S	13.2	9.3	13.4	13.3	13.6	3/4
FD-167-S	17.9	12.6	18.2	18.1	18.4	7/8
FD-303-S	7.31	5.09	7.39	7.39	7.51	3/8
FD-304-S	9.41	6.6	9.61	9.5	9.7	1/2
FD-305-S	13	9.1	13.2	13.1	13.3	5/8
FD-306-S	17.8	12.5	18.1	18	18.3	3/4
FD-307-S	17.9	12.6	18.2	18.1	18.4	7/8
FD-309-S	20.1	14.8	21.4	21.2	21.6	1-1/8
FD-414-S	10	6.99	10.2	10.1	10.3	1/2
FD-415-S	17.3	12.2	17.6	17.5	17.8	5/8
FD-417-S	25.7	18.1	26.1	26	26.4	7/8
FD-419-S	26.2	18.4	26.6	26.4	26.9	1-1/8
FD-757-S	26	18.2	26.4	26.1	26.7	7/8
FD-759-S	27.1	19.1	27.6	27.4	27.9	1-1/8

Note:
1. Nominal working conditions: Condensing temperature 100°F; evaporating temperature +40°F; liquid temperature 99°F

SAE FLARE CONNECTION

Aftermarket Model	Capacity (tons) [1]					Conn. SAE Flare (inch)
	R-134a	R-404A/ R-507	R-22	R-407C	R-410A	
FD-032	2.19	1.91	2.3	2.3	2.3	1/4
FD-052	2.39	1.71	2.39	2.39	2.39	1/4
FD-053	6.8	4.81	6.91	6.8	6.99	3/8
FD-082	2.39	1.71	2.39	2.39	2.39	1/4
FD-083	7.11	5	7.19	7.11	7.31	3/8
FD-162	3.1	2.19	3.21	3.10	3.21	1/4
FD-163	7.31	5.09	7.39	7.39	7.51	3/8
FD-164	9.21	6.51	9.41	9.3	9.61	1/2
FD-165	12.3	8.7	12.4	12.4	12.6	5/8
FD-303	7.31	5.09	7.39	7.39	7.51	3/8
FD-304	9.41	6.6	9.61	9.5	9.7	1/2
FD-305	13	9.1	13.2	13.1	13.3	5/8
FD-414	10	6.99	10.2	10.1	10.3	1/2
FD-415	17.3	12.2	17.6	17.5	17.8	5/8

Note:
1. Nominal working conditions: Condensing temperature 100°F; evaporating temperature +40°F; liquid temperature 99°F

REFRIGERANT	LARGE TEMP SERVICE RANGE	OPD MAX	PS
R-22, R-134a, R-290, R-404A, R-407C, R-410A, R-507	-22°F to +275°F	580 psig	650 psig

Note:
1. Nominal working conditions: Condensing temperature 100°F; evaporating temperature +40°F; liquid temperature 99°F

Stops Contaminants, Moisture & Acid

- System protector for optimum performance & efficiency
- Effective & Efficient: Filters solid particles, adsorbs moisture and removes acid
- Corrosion resistant
- UL Listed

- 500 Hour Salt Spray Corrosion Resistance

Bi-Flow Filter-Drier | Solid Filter Core

SOLDER CONNECTION

Aftermarket Model	Capacity (tons)[1]					Connection SAE Flare (inch)
	R-134a	R-404A/R-507	R-22	R-407C[2]	R-410A	
FDBI-083-S	4.89	3.41	5.0	4.89	5.0	3/8
FDBI-084-S	7.31	5.09	7.51	7.39	7.51	1/2
FDBI-163-S	5.6	3.9	5.69	5.6	5.69	3/8
FDBI-164-S	8.59	6.11	8.79	8.7	8.79	1/2
FDBI-165-S	9.7	6.8	9.9	9.81	10.0	5/8
FDBI-303-S	7.11	5.0	7.19	7.11	7.31	3/8
FDBI-304-S	8.79	6.2	9.01	9.01	9.1	1/2
FDBI-305-S	10.1	7.11	10.3	10.2	10.4	5/8

Note:
1. Nominal working conditions: Condensing temperature 100°F; evaporating temperature +40°F; liquid temperature 99°F

SAE FLARE CONNECTION

Aftermarket Model	Capacity (tons)[1]					Connection SAE Flare (inch)
	R-134a	R-404A/R-507	R-22	R-407C[2]	R-410A	
FDBI-083	4.89	3.41	5	4.89	5	3/8
FDBI-084	7.31	5.09	7.51	7.39	7.51	1/2
FDBI-163	5.6	3.9	5.69	5.6	5.69	3/8
FDBI-164	8.59	6.11	8.79	8.7	8.79	1/2
FDBI-165	9.7	6.8	9.9	9.81	10	5/8
FDBI-304	8.79	6.2	9.01	9.01	9.1	1/2

Note:
1. Nominal working conditions: Condensing temperature 100°F; evaporating temperature +40°F; liquid temperature 99°F

Bi-Flow FD Nomenclature

FDBI 16 3 S

- S = Sweat Connections (Omit for SAE Flare Conn.)
- Connection Size in eighths of an inch
- Desiccant volume in cubic inches
- Type: Filter-Drier Bi-Flow

REFRIGERANT	LARGE TEMP SERVICE RANGE	FILTRATION	PS
R-22, R-134a, R-404A, R-407C, R-410A, R-507	-22°F to +248°F	20 pm OPD MAX 580 psig	700 psig

Suction Line Filter-Drier

First Line of Protection

- Ideal for New Equipment Installation and System Clean-up
- Molded Core with High Moisture and Acid Capacity
- System Protector for Optimum Efficiency and Performance

TECHNICAL DATA

Model	Nomial Volume	Connection Size, "ØD"
	in³	ODF (in)
FDSL-083-S	8	3/8
FDSL-084-S		1/2
FDSL-085-S		5/8
FDSL-086-S		3/4
FDSL-087-S		7/8

Model	Nomial Volume	Connection Size, "ØD"
	in³	ODF (in)
FDSL-163-S	16	3/8
FDSL-164-S		1/2
FDSL-165-S		5/8
FDSL-166-S		3/4
FDSL-167-S		7/8

Model	Nomial Volume	Connection Size, "ØD"
	in³	ODF (in)
FDSL-305-S	30	5/8
FDSL-306-S		3/4
FDSL-307-S		7/8
FDSL-309-S		1-1/8

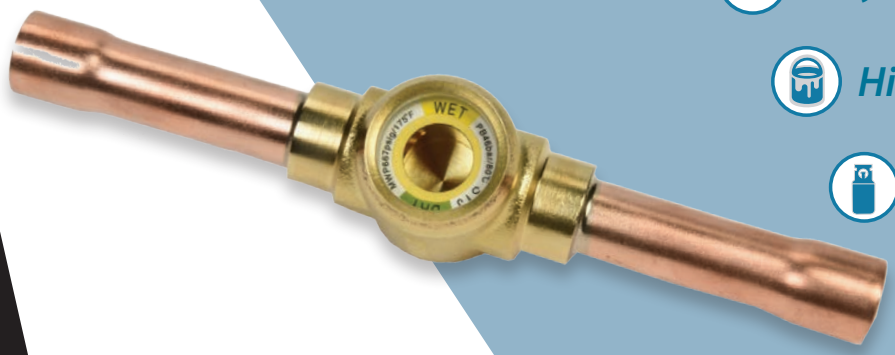
REFRIGERANT CAPACITY TABLES

Suction Capacity (tons)												
Refrigerant	R-404A R-507		R-448A R-449A		R-407A		R-134a	R-450A	R-22			R-410A
Evaporator Temp.	20°F	-20°F	20°F	-20°F	20°F	-20°F	20°F	20°F	40°F	20°F	-20°F	40°F
Pressure Drop (psi)	2.0	1.0	2.0	1.0	2.0	1.0	1.5	1.5	3.0	2.0	1.0	3.0
FDSL-083-S	0.82	0.35	0.90	0.38	0.88	0.37	0.63	0.56	1.44	0.96	0.43	1.76
FDSL-084-S	1.20	0.51	1.31	0.56	1.28	0.54	0.92	0.82	2.10	1.40	0.62	2.58
FDSL-085-S	1.60	0.68	1.76	0.75	1.72	0.72	1.23	1.10	2.81	1.87	0.84	3.45
FDSL-086-S	1.72	0.73	1.89	0.80	1.85	0.78	1.32	1.19	3.02	2.02	0.90	3.71
FDSL-087-S	1.77	0.74	1.94	0.82	1.89	0.80	1.35	1.21	3.10	2.07	0.92	3.80
FDSL-163-S	0.84	0.35	0.92	0.39	0.90	0.38	0.64	0.58	1.48	0.98	0.44	1.81
FDSL-164-S	1.24	0.52	1.36	0.57	1.32	0.56	0.95	0.85	2.17	1.44	0.64	2.66
FDSL-165-S	1.71	0.72	1.87	0.79	1.83	0.77	1.31	1.18	3.00	2.00	0.89	3.67
FDSL-166-S	1.81	0.76	1.99	0.84	1.94	0.82	1.39	1.25	3.18	2.12	0.95	3.90
FDSL-167-S	1.87	0.79	2.05	0.87	2.00	0.84	1.43	1.28	3.27	2.18	0.97	4.01
FDSL-305-S	1.79	0.75	1.96	0.83	1.92	0.81	1.37	1.23	3.14	2.09	0.93	3.84
FDSL-306-S	2.47	1.04	2.70	1.15	2.64	1.11	1.89	1.70	4.32	2.88	1.29	5.30
FDSL-307-S	2.48	1.04	2.72	1.15	2.65	1.12	1.90	1.70	4.34	2.89	1.29	5.33
FDSL-309-S	2.91	1.23	3.20	1.36	3.12	1.31	2.23	2.00	5.11	3.41	1.52	6.26

Rated in accordance with ANSI/AHRI Standard 730 (I-P)

SANHUA

Detects Liquid and Moisture Level



- Easy to read Wide Angle Sight Glass
- High Precision Color Indicator
- Compatible with all common HCFC and HFC refrigerants
- 100% Factory Leak Tested

REFRIGERANT	LARGE TEMPERATURE SERVICE RANGE	PS
R-22, R-134a, R-290, R-404A, R-407C, R-410A, R-507, R-744, R-407A/F, R-1234ze	-58°F to +176°F	667 psig

SAE FLARE: MALE x FEMALE

Aftermarket Model	Connection Type	SAE Flare (inch)
SG-2-FM	Flare F x M	1/4
SG-3-FM	Flare F x M	3/8
SG-4-FM	Flare F x M	1/2

ODF SOLDER: FEMALE x FEMALE

Aftermarket Model	Connection Type Solder	Connection ODF (inch)
SG-2-S	ODF x ODF	1/4
SG-3-S	ODF x ODF	3/8
SG-4-S	ODF x ODF	1/2
SG-5-S	ODF x ODF	5/8
SG-7-S	ODF x ODF	7/8
SG-9-S	ODF x ODF	1-1/8

SAE FLARE: MALE x MALE

Aftermarket Model	Connection Type	SAE Flare (inch)
SG-2	Flare M x M	1/4
SG-3	Flare M x M	3/8
SG-4	Flare M x M	1/2

SEC Superheat Control Kit for EEVs

Less Truck Stock, Fewer Tools, Faster Installation

- *Wide refrigerant temperature range*
- *High maximum operating pressure differential (MOPD)*
- *Low energy consumption coil*
- *Coils are double sealed water tight and safe*

With a few components on the truck, contractors can replace thousands of TXV variations they encounter.

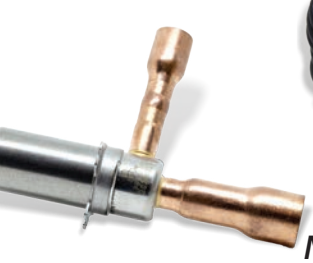
One control kit and five EEVs replace thousands of refrigeration TXVs!

The Sanhua Superheat Control Kit contains:

- ***One SEC13 EEV controller***
- ***One Temperature Sensor w/16-foot cable***
- ***One Pressure Transducer w/16-foot cable***
- ***One 5-wire Stator for LPF EEV w/20-foot cable***

Sanhua Superheat Control Kit - The Next Generation of Refrigeration!

Sanhua offers 5 models of LPF EEVs to pair with the SEC Superheat Control Kit



- *Real-time display of system metrics including temperature & pressure*
- *Configure for different system refrigerants with the touch of a button*
- *No more turning TXV adjusting stems, set the superheat with a button press*

NOMINAL FLOW CAPACITY, TONS

Sanhhua EEV	TXV Cross - Reference: Tons						Sporlan TXV Balanced Port
	R-134a	R-448A	R-404A	R-407A	R-407F	R-22	All Refrigerants
LPF08	1/8 to 1/6	1/5 to 1/3	1/8 to 1/6	1/5 to 1/3	1/5 to 1/3	1/5 to 1/3	AAA
LPF10	1/4	1/2	1/4	1/2 to 3/4	1/2 to 3/4	1/2 to 3/4	AA
LPF14	1/2 to 1	3/4 to 1-1/2	1/2 to 1	1 to 1-1/2	1 to 1-1/2	1 to 1-1/2	A
LPF18	1-1/2 to 1-3/4	2	1-1/4 to 1-1/2	2 to 2-1/2	2 to 2-1/2	2 to 2-1/2	B
LPF24	2 to 3	1-1/2 to 4	2 to 3	3 to 5	3 to 5	3 to 5	C

Why are EEVs better than TXVs?

Control

- *TXV: Superheat control varies at different evaporator temperatures and at different system loads*
- *EEVs: Superheat control is consistent across all system operating conditions*

Convenience

- *You get the convenience of a digital readout for suction pressure, suction temperature, and direct superheat.*

Efficiency

- *A consistent superheat helps maintain system efficiency*

Speed

- *You save time setting superheat. Like a thermostat, you precisely set superheat to the desired digital setting*

Thermostatic Expansion Valve TXVH

The EASY Cartridge Style TXV

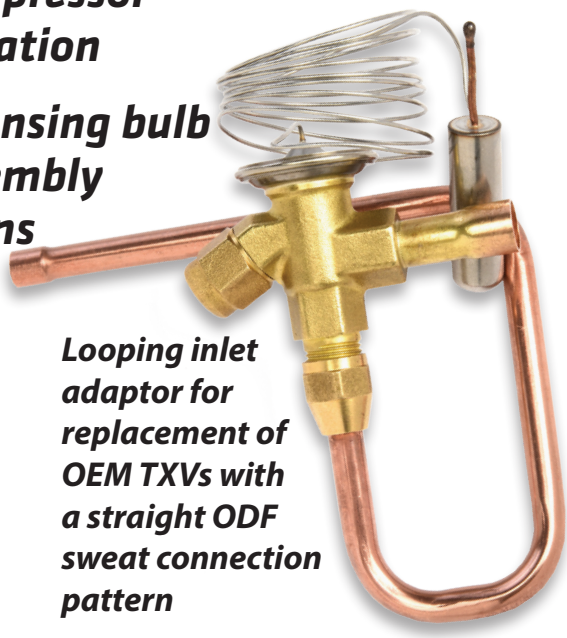
- Easy component selection
- Easy to stock with fewer parts
- Easy on-the-spot assembly

Universal Replacement for over 95% of installed refrigeration TXVs!

Control superheat with confidence. The Sanhua model TXVH is designed with world-class engineering and manufacturing technology combined with premium materials for superior performance.

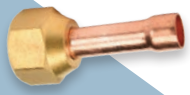
- ***Wide evaporator temperature range thermostatic charge***
- ***Utilizes cross-charge technology***
- ***Available with MOP function to protect compressor from excessive suction pressure during operation***
- ***Stainless steel power head, capillary, and sensing bulb Fixed and welded power head improves assembly integrity and simplifies component selections***

Eight inlet cartridges available for precise capacity selection



Looping inlet adaptor for replacement of OEM TXVs with a straight ODF sweat connection pattern

Adaptor for ODF sweat inlet connection



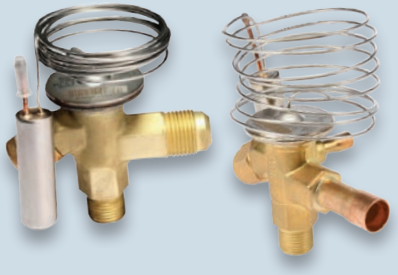
REFRIGERANT	LARGE TEMP SERVICE RANGE	FLUID TEMP RANGE	MAX OP
R-22, R-134a, R-404A, R-407C, R-407F, R-410A, R-507	-30°F to +130°F	-40°F to +158°F	667 psig

Step 1:

Select orifice size based on nominal capacity

Step 2:

Select body to match refrigerant and connection style desired

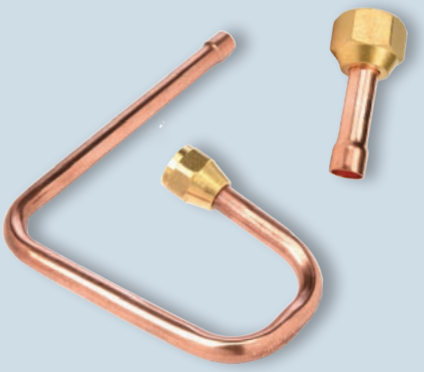


Step 3:

SOLDER ADAPTERS

Aftermarket Model	Solder Connection
TXVH-3S-IN	3/8"
TXVH-2S-IN	1/4"
TXVH-3 Loop-IN	3/8"

Note: 1. Copper tube and flare nut are included



STEP 1: ORIFICE SELECTION CRITERIA | Nominal Capacity

Orifice Model	Nominal Capacity					
	R-22 R-407A R-407C R-407F		R-404A R-507		R-134a	
	Tons	Balanced Port	Tons	Balanced Port	Tons	Balanced Port
TXVH-0X	1/5	-	1/8	-	1/8	-
TXVH-00	1/3	AAA	1/4	AAA	1/5	AAA
TXVH-01	3/4	AA	1/2	AA	1/3	-
TXVH-02	1	-	3/4	-	1/2	AA
TXVH-03	1-1/2	A	1-1/4	A	3/4	-
TXVH-04	2-1/2	B	2	B	1	A
TXVH-05	3 -1/2	-	2-1/2	-	1-3/4	B
TXVH-06	5	C	3	C	2-1/2	C

STEP 2: SELECT BODY TO MATCH REFRIGERANT AND CONNECTION

STEP 3

Valve Body Configuration Inlet x Outlet x Equalizer		R-22 R-407A R-407C R-407F	R-404A R-507	R-407A R-507 Low Temp (with MOP)	R-134a	Inlet Adaptor
	3/8 x 1/2 SAE Flare (Internally Equalized)	TXVH-22	TXVH-404A-507	TXVH-404A-507-14F	TXVH-134a	Not Required
	3/8 x 1/2 x 1/4 SAE Flare	TXVHE-22	TXVHE-404A-507	TXVHE-404A-507-14F	TXVHE-134a	Not Required
	1/4 x 3/8 ODF Sweat (Internally Equalized)	TXVH-22-3S	TXVH-404A-507-3S	TXVH-404A-507-3S-14F	TXVH-134a-3S	TXVH-2S-IN
	1/4 x 3/8 x 1/4 ODF Sweat	TXVHE-22-3S	TXVHE-404A-507-3S	TXVHE-404A-507-3S-14F	TXVHE-134a-3S	TXVH-2S-IN
	3/8 x 1/2 ODF Sweat (Internally Equalized)	TXVH-22-4S	TXVH-404A-507-4S	TXVH-404A-507-4S-14F	TXVH-134a-4S	TXVH-3S-IN
	3/8 x 1/2 x 1/4 ODF Sweat	TXVHE-22-4S	TXVHE-404A-507-4S	TXVHE-404A-507-4S-14F	TXVHE-134a-4S	TXVH-3S-IN

TXVH BODY NOMENCLATURE

TXVH E 404A-507 3S 14F

- TXV MODEL SERIES: TXVH = Type "H" TXV (RFKH)
- EQUALIZATION OPTION: E = External Equalizer; Omit if Interally Equalized
- REFRIGERANTS: 404A-507 = R-404A or R-507; 22 = R-22, R-407A, R-407C or R-407F; 134a = R-134a
- OUTLET CONNECTION: 3S = 3/8" ODF Sweat; 4S = 1/2" ODF Sweat; Omit if SAE
- MOP: 14F = 14°F MOP; Omit if no MOP

Versatility Defined: Universal AC/HP TXV Kit

for R-410A and R-22 Air Conditioning and Heat Pump

- Three outlet connection options:
  - ✓ 1/2" ODF Sweat
  - ✓ Aeroquip adaptor
  - ✓ Chatleff adaptor
- Built-in check valve, use either on heat pump or straight cooling applications
- Balanced port design ideal to handle a capacity range
- External superheat adjustment
- Fewer SKUs for more applications

UNIVERSAL AC/HP TXV KIT

Part Number	Capacity Range	Refrigerant
TXVFE-2-22-Kit	1 to 2 Tons	R-22
TXVFE-3-22-Kit	2.25 to 3 Tons	R-22
TXVFE-4-22-Kit	3.25 to 4 Tons	R-22
TXVFE-6-22-Kit	4.25 to 6 Tons	R-22

Part Number	Capacity Range	Refrigerant
TXVFE-2-410A-Kit	1 to 2 Tons	R-410A
TXVFE-3-410A-Kit	2.25 to 3 Tons	R-410A
TXVFE-4-410A-Kit	3.25 to 4 Tons	R-410A
TXVFE-5-410A-Kit	4.25 to 5 Tons	R-410A

Note: Connections: 3/8" ODF inch, 1/2" ODF Out Aeroquip and Chetleff adaptors, Equalizer 1/8" OD x 24" with 1/4"SAE flare nut

The Sanhua Universal AC/HP TXV Kit is designed with world-class engineering and manufacturing technology combined with premium materials for superior performance.

Additional Larger AC TXV Models for R-410A

Aftermarket PN	Capcacity Range	Refrigerant
TXVKE-8-410A	5.5 to 8 Tons	R-410A
TXVDE-11.5-410A	8.5 to 11.5 Tons	R-410A
TXVDE-15-410A	12 to 15 Tons	R-410A

REFRIGERANT
R-22, R-410A

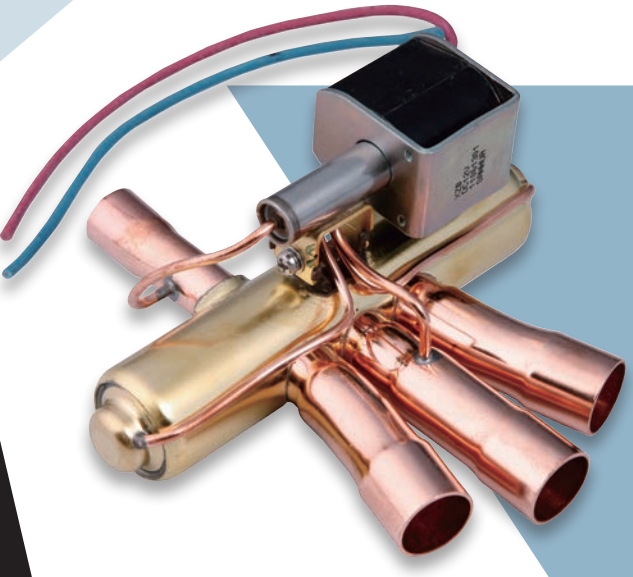
LARGE TEMPERATURE SERVICE RANGE
-22°F to +275°F

OPD MAX
580 psig

PS
650 psig

SANHUA

Notice: Ranco brand reversing valves soon to become obsolete



Sanhua acquired the engineering design, manufacturing, and brand rights for Ranco reversing valves in 2007. Since that time Sanhua has continued to offer and produce all Ranco brand reversing valves.

Sanhua produces over 50M annually and is the largest global supplier of reversing valves. The Ranco design was frozen in 2007 and has become obsolete. All Ranco valves will soon be phased out and replaced by the Sanhua brand.

RANCO CAPACITY SELECTION TABLE

Aftermarket Model	Nominal Cooling Capacity (tons - condition 2)							
	R-407C		R-410A		R-134a		R-404A/R-507	
	Pressure Drop (PSI)							
	1.5	3.0	1.5	3.0	1.5	3.0	1.5	3.0
V1-408060-100	1.30	1.84	1.56	2.20	1.02	1.45	1.06	1.50
V2-408060-1XX	1.66	2.34	1.98	2.80	1.30	1.84	1.35	1.90
V2-408060-2XX	1.66	2.34	1.98	2.80	1.30	1.84	1.35	1.90
V3-412080-8XX	2.37	3.35	2.83	4.00	1.86	2.63	1.92	2.72
V6-412080-1XX	5.09	7.20	6.08	8.60	4.00	5.66	4.14	5.85
V6-414080-1XX	5.09	7.20	6.08	8.60	4.00	5.66	4.14	5.85
V10-414080-1XX	9.47	13.4	11.3	16.0	7.45	10.5	7.69	10.9

Reversing Valve (RANCO)

V 10 4 14 08 0 1 XX

V	Valve
10	Valve size: 0 = 1/2 ton, 1 = 1 ton, 2 = 2 ton etc.
4	Design generation
14	3 Main tube sizes in 1/16th of an inch (01=1/16)
08	High press. tube size in 1/16th (01=1/16)
0	Coil info: 0 = No Coil
1	Valve style
XX	Reserved for customer identification

Note:

*Suitable for capacities from 1-16 tons

*Compatible with all common HCFC and HFC refrigerants

REVERSING VALVE COIL CHARACTERISTICS

Aftermarket Model	Electrical Function/ Connection Type 1.5	Cable Length	Power Supply	Rated Voltage	Power Consumption R-404A/R-507		
					AC 50Hz	AC 60Hz	DC
		(inch)	(-)	(V)	(W)	(W)	(W)
COILH-SHF-FA4-024	Spade[1]	-	AC	24	6	5	-
COILH-SHF-FA2-120	Spade[1]	-	AC	120	6	5	-
COILH-SHF-FA5-220-240	Spade[1]	-	AC	220-240	6	5	-

Note:

1. Wire harness for coil with Faston connector SQ-000000-090028
2. These coils are compactible with Ranco brand valves.

REFRIGERANT
R-22, R-134a, R-290, R-404A, R-407C, R-410A, R-507

LARGE TEMPERATURE SERVICE RANGE
-22°F to +275°F

OPD MAX
580 psig

PS
650 psig

4-Way Reversing Valve

OVER 50 MILLION UNITS PER YEAR

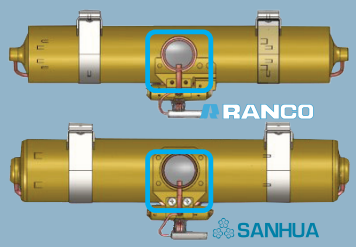
SANHUA is the Leader in Manufacturing the World's Most Reliable Reversing Valve

Solder connection pilot tube and valve for increased reliability

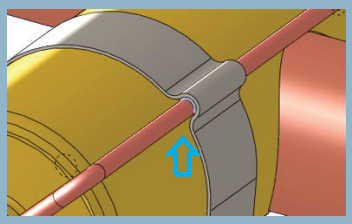
Suitable for capacities from 1-120 tons

Compatible with all common HCFC and HFC refrigerants

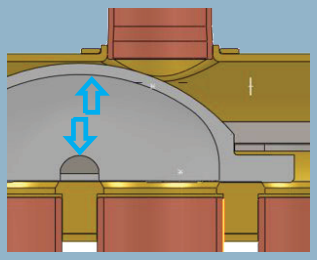
Sanhua Model Design Enhancements Versus Ranco Style



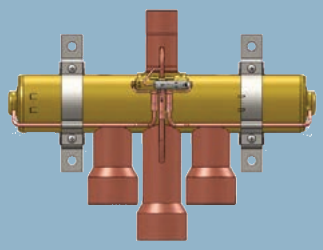
ROBUST PILOT VALVE CONNECTION
The Sanhua pilot valve is fixed using a full bracket with new structural design for **INCREASED EXTERNAL ROBUSTNESS**.



WELDED PILOT CONNECTING PIPES
Sanhua valves use a affix the connecting pipes to the metallic bracket by TIG welding (Ranco used a screw connection). This provides **REDUCED VIBRATIONS** and increased reliability.

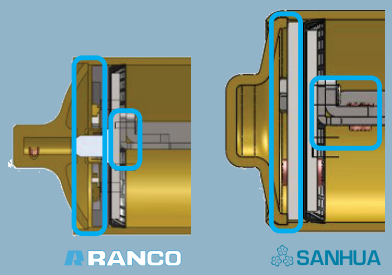


IMPROVED SLIDER DESIGN
The new design of the discharge tube connection to the valve body allows for a larger slider. It increases the refrigerant flow path for **LOWER PRESSURE DROPS AND LARGER NOMINAL CAPACITY**.

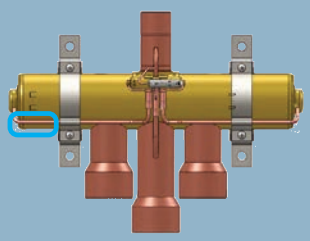


ENHANCED WORKING LIMITS
Increased valve robustness and a new slide composite material achieve **HIGHER WORKING LIMITS**:

- Max Working Pressure: 650 psig
- Max Opening Pressure Difference: 580 psig



IMPROVED LATERAL CAP DESIGN
Improved design of the internal piston and rod leads to **HIGHER PRESSURE RESISTANCE**, increased reliability and increased fatigue durability.



LARGER DIAMETER PILOT CONNECTING TUBES
Sanhua increased the size of the connecting tubes between the pilot valve and main valve body to allow **FASTER REVERSING ACTION** and increased reliability of the process.

REVERSING VALVE COIL CHARACTERISTICS

Aftermarket Model	Electrical Connection	Rated Voltage	Power Consumption AC 60Hz (W)
Coil-SHF-FA4	Spade[1]	24 VAC	5
Coil SHF-FA2	Spade[1]	120 VAC	5
Coil SHF-FA5	Spade[1]	220-240 VAC	5

Note: 1. Wire harness for coil with Faston connector SQ-000000-090028

REVERSING VALVE CAPACITY SELECTION TABLE

Aftermarket Model	Nominal Cooling Capacity (tons*)							
	R-407C		R-410A		R-134a		R-404A/R-507	
	Pressure Drop (PSI)							
	1.5	3.0	1.5	3.0	1.5	3.0	1.5	3.0
SHF(L)-4H-23U	0.91	1.31	1.08	1.54	0.74	1.05	0.74	1.05
SHF(L)-7H-34	1.68	2.36	1.96	2.76	1.34	1.88	1.34	1.88
SHF(L)-7H-34U	1.68	2.36	1.96	2.76	1.34	1.88	1.34	1.88
SHF(L)-7H-35	1.68	2.36	1.96	2.76	1.34	1.88	1.34	1.88
SHF-7H-45	1.68	2.36	1.96	2.76	1.34	1.88	1.34	1.88
SHF-9H-45D1-L1	2.10	2.90	2.40	3.40	1.60	2.30	1.60	2.30
SHF(L)-11H-46D1	2.59	3.67	3.04	4.29	2.08	2.93	2.08	2.93
SHF-14-46	3.81	5.37	4.46	6.31	3.04	4.29	3.04	4.29
SHF-14-47	3.81	5.37	4.46	6.31	3.04	4.29	3.04	4.29
SHF-14-56D1	3.81	5.37	4.46	6.31	3.04	4.29	3.04	4.29
SHF-20A-45	5.49	7.76	6.4	9.07	4.38	6.17	4.38	6.17
SHF-20A-56D1	5.49	7.76	6.4	9.07	4.38	6.17	4.38	6.17
SHF-20A-57D1	5.49	7.76	6.4	9.07	4.38	6.17	4.38	6.17
SHF-20D-46-02	5.49	7.76	6.4	9.07	4.38	6.17	4.38	6.17
SHF-35B-47-02	5.49	7.76	6.4	9.07	4.38	6.17	4.38	6.17
SHF-35B-47-04	8.47	12.0	9.92	14.0	8.47	9.58	6.77	9.55

*Condensing temperature 130°F; evaporating temperature +45°F; Superheat and Subcooling temperature 9°F

REFRIGERANT
R-22, R-134a, R-290, R-404A, R-407C, R-410A, R-507

OPD MAX
580 psig

LARGE TEMPERATURE SERVICE RANGE
-22°F to +275°F

PS
650 psig

Reversing Valve Nomenclature

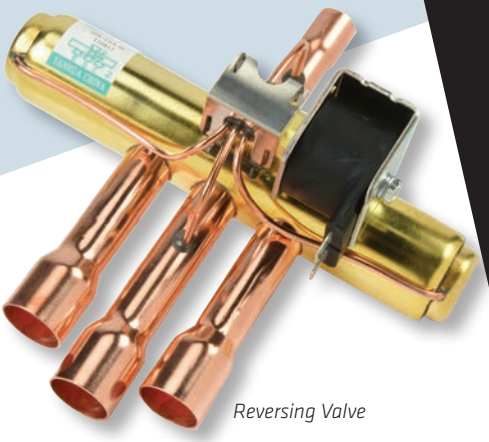
SHF (L) 11 H 4 6 D1 02

- SHF — Valve Series
- (L) — Valve Body and Pilot Materials
  - (L) = Brass Valve Body and SS Pilot Body
  - (G) = SS Valve and Pilot Bodies
  - Omit = Brass Valve and Pilot Bodies
- 11 — Nominal Capacity in kW
- H — Refrigerant Code
- 4 — "D" Connection size
- 6 — "E", "S", and "C" connection size
- D1 — Valve Style
  - "D1" = "D" Connection on left above "E"
  - "D2" = "D" Connection on right above "C"
  - "4" = "D" Connection bent
  - Omit = "D" Connection in center
- 02 — Slide Material and Uses
  - 01 = PPS/Fixed speed
  - 02 = PPS/Variable speed
  - 04 = PPS/Variable speed

Heat Pump Reversing Valve Replacement Kit

DON'T BE A SCROLL KILLER

- ***A compressor failure leaves debris and other contaminants behind.***
- ***A reversing valve slide mechanism can jam with solid debris from a compressor burnout.***
- ***A reversing valve slide mechanism can become distorted from severe overheating, a typical symptom associated with compressor failures.***
- ***Protect the newly installed compressor, replace the filter-drier and the reversing valve.***



Reversing Valve

Replacing a heat pump compressor?

Rule: Avoid costly call-backs, replace the reversing valve and filter-drier.

Kit Contains:
2 Reversing Valve Coils (24VAC, 208-230VAC)
1 Wire Harness – 48”
1 Reversing Valve
1 Bi-Flow Filter Drier

Filter-Drier

MODELS AVAILABLE

Kit Part Number	Valve Connections	Capacity	Filter-Drier	F-D Connection	Coils	Wire Harness
SHF(L)-4H-23U-Kit	1/4" x 3/8" ODF	1 ton	FDBI-083-S	ODF 3/8" SOLDER		
SHF(L)-7H-34U-Kit	3/8 x 1/2" ODF	2.5 ton	FDBI-083-S	ODF 3/8" SOLDER		
SHF(L)-7H-35-Kit	3/8 x 5/8" ODF	2.5 ton	FDBI-083-S	ODF 3/8" SOLDER		
SHF(L)-7H-45-Kit	1/2" x 5/8" ODF	2.5 ton	FDBI-084-S	ODF 1/2" SOLDER		
SHF(L)-9H-45D1-L1-Kit	1/2" x 5/8" ODF	3 ton	FDBI-084-S	ODF 1/2" SOLDER		
SHF(L)-11H-46D1-Kit	1/2" x 3/4" ODF	4 ton	FDBI-164-S	ODF 1/2" SOLDER	P/N Coil-SHF-FA4-24VAC	P/N SHF-HARN-48
SHF-14-46-Kit	1/2" x 3/4" ODF	6 ton	FDBI-164-S	ODF 1/2" SOLDER		
SHF-14-47-Kit	1/2" x 7/8" ODF	6 ton	FDBI-164-S	ODF 1/2" SOLDER	Two reversing valve coils for the most common heat pump voltages with each kit	One 48” wire harness to connect to spade temrinals and easily wire in the reversing valve coil.
SHF-14-56D1-Kit	5/8" x 3/4" ODF	6 ton	FDBI-165-S	ODF 5/8" SOLDER		
SHF-20A-45-J-Kit	1/2" ODF x 3/4" ODM	8 ton	FDBI-304-S	ODF 1/2" SOLDER		
SHF-20A-56D1-Kit	5/8" x 3/4" ODF	8 ton	FDBI-305-S	ODF 5/8" SOLDER		
SHF-20A-57D1-Kit	5/8" x 7/8" ODF	8 ton	FDBI-305-S	ODF 5/8" SOLDER		
SHF-20D-46-02-Kit	1/2" x 3/4" ODF	8 ton	FDBI-304-S	ODF 1/2" SOLDER		
SHF-20D-47-02-Kit	1/2" x 7/8" ODF	8 ton	FDBI-304-S	ODF 1/2" SOLDER		

SANHUA

Systems Requiring a Pressure Control Function

- Single Pole, Double Throw (SDPT) Switch
- Auto or Manual Reset Models
- Durable Bronze Bellows and 1/4" flare connections
- Installation Bracket Supplied with all Models

- *MULTIPLE PRESSURE REGULATING RANGES AVAILABLE*
- *CONVENIENT CAP TUBE/FLARE NUT CONNECTION AVAILABLE*

PS01/50/15 series pressure controls are used in refrigeration and air conditioning systems to protect the systems from extremely low suction pressure or extremely high discharge pressure.

MODEL DESIGNATION NOMENCLATURE

PC 15 AA L-S 01

MODEL:
PC = Pressure Control

PRESSURE REGULATING RANGE:
01=LP: 15 inHg 100 psig
50=HP: 85 465 psig
60=HP:85 610 psig
15=DUAL (LP/HP): LP: 15 inHg 100 psig
HP: 85 465 psig
16=DUAL (LP/HP): LP 15 inHg 100 psig
HP: 85 610 psig
55=DUAL (LP/HP):HP: 85 610 psig
HP: 85 610 psig

RESET TYPE:
A = Automatic **M** = Manual **C** = Convertible
AA = Auto LP/Auto HP **AC** = Auto LP/Convertible
Am/Ma/MM/MC/CA/CM/CC

CONNECTION UNIT:
01 = Certified by TüV, Rheinland acc. to PED 2014 68/EU, EN12263. The high pressure side is designed with double bellows, providing fail-safe function.
51 = Single bellows for low- and high-pressure side

DESIGN TYPE:
S = Standard
C = Custom

CONNECTION TYPE:
L = 1/4" SAE Flare (male)
H = 1/4" ODF Sweat
M = Capillary Tube with 1/4" SAE Flare Nut

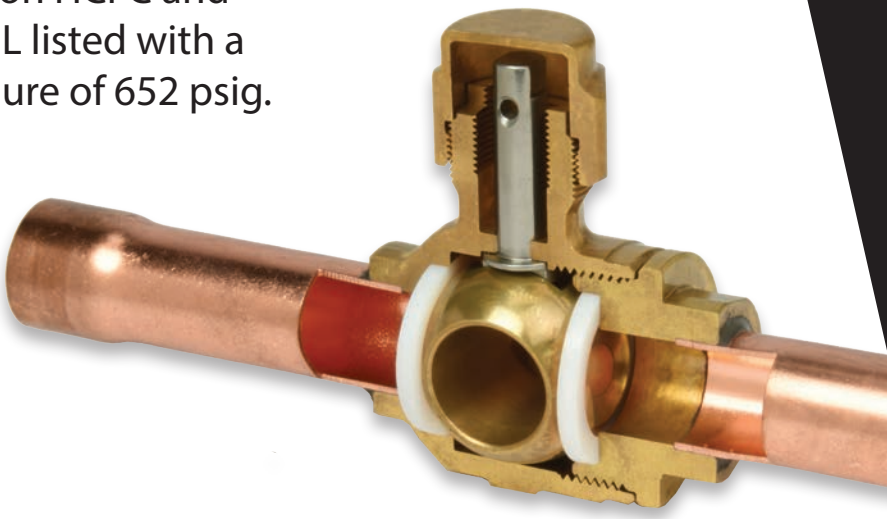
REFRIGERANT	LARGE TEMPERATURE SERVICE RANGE	PS
R-22, R-134a, R-404A, R-407C, R-507, R-744, R-407A	-40°F to +250°F	HP: 500 psig LP: 240 psig

Stop Refrigerant Flow

Access the system with minimal pressure drop

- **EASY TO OPERATE WITH 1/4 TURN TO OPEN & CLOSE**

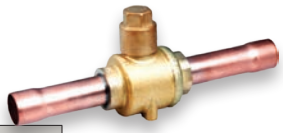
Sanhua Ball Valves easily and efficiently shut off refrigerant flow and allow for the refrigerant to be isolated when servicing. The Ball Valves are compatible with all common HCFC and HFC refrigerants and are UL listed with a maximum operating pressure of 652 psig.



MACHINED WITH HIGH QUALITY C360 ALLOY BRASS FOR HIGH TENSILE STRENGTH

WITH ACCESS FITTING

Aftermarket Model	Connection (inch)	Cv
With access fitting		
BV-3-S-T	3/8	4.35
BV-4-S-T	1/2	7.74
BV-5-S-T	5/8	9.02
BV-6-S-T	3/4	14.6
BV-7-S-T	7/8	18.9
BV-9-S-T	1-1/8	34.9
BV-11-S-T	1-3/8	54
BV-13-S-T	2-5/8	77.6
BV-17-S-T	2-1/8	174.8
BV-21-S-T	2-5/8	295.7
BV-25-S-T	3-1/8	362
BV-29-S-T	3-5/8	479
BV-33-S-T	4-1/8	750



WITHOUT ACCESS FITTING

Aftermarket Model	Connection (inch)	Cv
Without access fitting		
BV-3-S	3/8	4.35
BV-4-S	1/2	7.74
BV-5-S	5/8	9.02
BV-6-S	3/4	14.6
BV-7-S	7/8	18.9
BV-9-S	1-1/8	34.9
BV-11-S	1-3/8	54
BV-13-S	1-5/8	77.6
BV-17-S	2-1/8	174.8
BV-21-S	2-5/8	295.7

REFRIGERANT
R-22, R-134a, R-290, R-404A, R-407C, R-410A, R-507 Bi-directional, full port

LARGE TEMPERATURE SERVICE RANGE
-40°F to +248°F

PS
700 psig

SANHUA

Ball Valve

Do it right.

Isolate the evaporators with Sanhua Ball Valves.

- Saves time & easier on you and your customer when service is needed
- Faster to bring system back to peak performance when there is less guessing about the refrigerant charge
- Isolate on single and multi-evaporator systems
- Male flare x female flare swivel designed to match the connections on line sets and evaporators

Male Flare x Female Flare Swivel Design

Aftermarket Model	Connection Type	SAE Flare ød (inch)
BV-2-FM-TC	Flare M x Swivel Nut	1/4
BV-3-FM-TC	Flare M x Swivel Nut	3/8
BV-4-FM-TC	Flare M x Swivel Nut	1/2
BV-5-FM-TC	Flare M x Swivel Nut	5/8

Solenoid Valve Piston Type

Hermetic Body Designed to Eliminate Leak Sources

- Wide refrigerant temperature range
- High maximum opening pressure differential (MOPD)
- Low energy consumption coil
- Coils are double sealed water tight and safe

SELECTION CRITERIA

Aftermarket Model	Nominal Capacity (tons)[1]				
	R-22	R-134a	R-404A/ R-507	R-407C[2]	R-410A
SoV3-2-S	1.96	1.52	1.30	1.88	1.88
SoV3-3-S	1.96	1.52	1.30	1.88	1.88
SoV6-3-S	5.23	4.06	3.47	5.02	5.02
SoV6-4-S	5.23	4.06	3.47	5.02	5.02
SoV9-4-S	8.50	8.08	5.80	8.16	8.16
SoV10-4-S	12.4	9.63	8.24	11.9	11.9
SoV10-5-S	12.4	9.63	8.24	11.9	11.9
SoV15-5-S	17.0	13.2	11.3	16.3	16.3
SoV15-7-S	17.0	13.2	11.3	16.3	16.3
SoV20-7-S	26.1	20.3	17.3	25.1	25.1
SoV20-9-S	26.1	20.3	17.3	25.1	25.1
SoV22-7-S	39.8	30.9	26.5	38.3	38.3
SoV22-9-S	39.8	30.9	26.5	38.3	38.3
SoV22-11-S	39.8	30.9	26.5	38.3	38.3
Manual Lift Stem					
SoV6-3-S-M	5.23	4.06	3.47	5.02	5.02
SoV6-4-S-M	5.23	4.06	3.47	5.02	5.02
SoV10-4-S-M	12.4	9.63	8.24	11.9	11.9
SoV10-5-S-M	12.4	9.63	8.24	11.9	11.9
SoV15-5-S-M	17.0	13.2	11.3	16.3	16.3
SoV20-7-S-M	39.8	30.9	26.5	38.3	38.3
SoV22-9-S-M	39.8	30.9	26.5	38.3	38.3

Note:

1. Nominal working conditions: Liquid temperature 100°F; evaporating temperature 40°F; 3 psi pressure drop (2 psi for R-134a)
2. R-407C data based on dew point conditions

SoV 6 3 S M

- M = Manual Left Stem (Omit = Standard Configuration)
- Sweat Connections (ODF)
- Connection Sizes in eighths of an inch
- Size Code
- Solenoid Valve

Manual Lift Stem

Pilot Operated Performance

Direct acting and piston type solenoid valves designed to operate at low pressure differentials on air conditioning and refrigeration systems. In addition to liquid and suction line, they are suitable for discharge application and can tolerate temperatures to 285°F.

Manual Lift Stem

Piston Type with Junction Box Coils

Aftermarket Model [1)]	Solder Connection ODF (in)	Cv
SoV3-2-S	1/4	0.35
SoV3-3-S	3/8	0.35
SoV6-3-S	3/8	0.92
SoV6-4-S	1/2	0.92
SoV9-4-S	1/2	1.5
SoV10-4-S	1/2	2.2
SoV10-5-S	5/8	2.2
SoV15-5-S	5/8	3.0
SoV15-7-S	7/8	3.0
SoV20-7-S	7/8	4.6
SoV20-9-S	11/8	4.6
SoV22-7-S	7/8	6.6
SoV22-9-S	11/8	6.6
SoV22-11-S	13/8	6.6

Manual Lift Stem

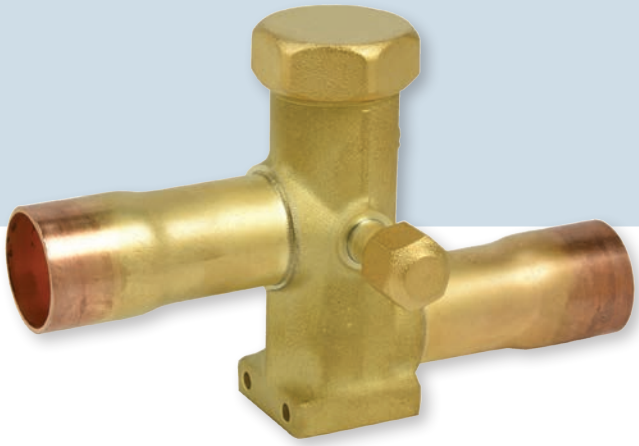
Aftermarket Model [1)]	Solder Connection ODF (in)	Cv
SoV6-3-S-M	3/8	0.92
SoV6-4-S-M	1/2	0.92
SoV10-4-S-M	1/2	2.2
SoV10-5-S-M	5/8	2.2
SoV15-5-S-M	5/8	3.0
SoV20-7-S-M	7/8	6.6
SoV22-9-S-M	11/8	6.6

Coils with Junction Box

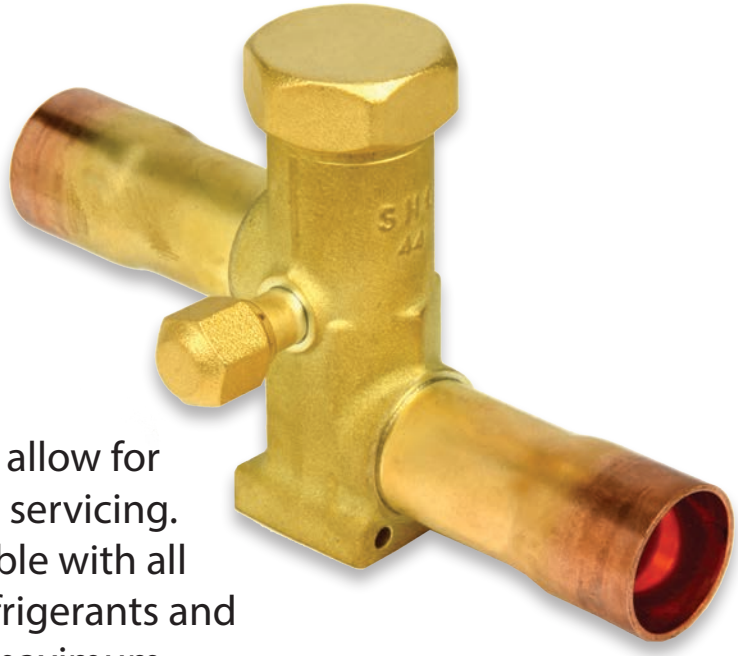
Aftermarket Model[1)]	Rated Voltage	Supply	Power (W)	Frequency (Hz)	Voltage Tolerance	Insulation Class	Protection Class (w/plug)	Wiring type
Coil-SoV-024	24	AC	9.0 (50Hz) 8.0 (60Hz)	50/60	-15% to +10%	F	IP67	Lead Wires
Coil-SoV-120	120							
Coil-SoV-208-240	208 to 240							
Coil-SoV-DUAL	120V/208 to 240							

Note: 1. Dimension "D": Junction Box Coil (MQ-A14/A10) = 1.81"

The Main Connection



- Ability to handle low pressure drops and environmental conditions
- Compatible with all common HCFC and HFC refrigerants
- 100% Factory Leak Tested



Your Trusted Access Point

Engineered to withstand the elements

Sanhua Bar Stock Service Valves easily and efficiently shut off refrigerant flow and allow for the refrigerant to be isolated when servicing. The Service Valves are compatible with all common HCFC and HFC refrigerants and are UL certified with a maximum operating pressure of 650 psig.

PRODUCT INFORMATION

Aftermarket Model	Charge Port SAE Flare (inch)
Service-Bar-3-S-T	3/8
Service-Bar-4-S-T	1/2
Service-Bar-5-S-T	5/8
Service-Bar-6-S-T	3/4
Service-Bar-7-S-T	7/8

MACHINED WITH HIGH QUALITY C360 ALLOY BRASS FOR HIGH TENSILE STRENGTH

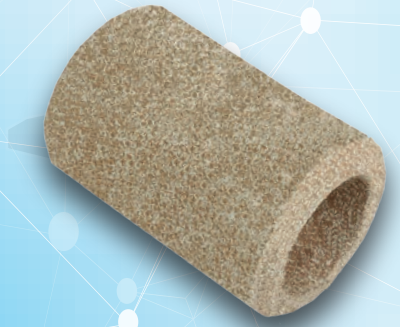
REFRIGERANT
R-134a, R-404A, R-407C, R-410A, R-507

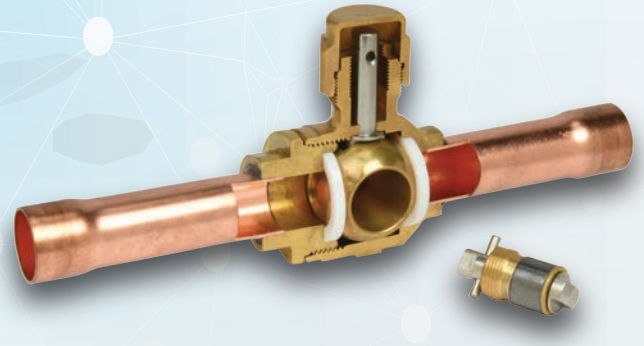
LARGE TEMPERATURE SERVICE RANGE
-22°F to +275°F

PS
650 psig

SANHUA

It's What's On the Inside that Counts.





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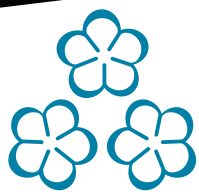

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WHOLESALE PRODUCT CATALOG