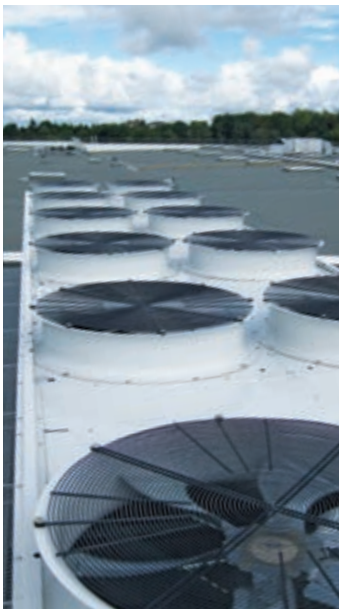


REFRIGERATION & AIR CONDITIONING

Parker Sporlan Refrigeration & Air Conditioning Catalogue.



Parker Hannifin is the world's leading diversified manufacturer of motion & control technologies and systems providing precision-engineered solutions for a wide variety of mobile, industrial and aerospace applications.

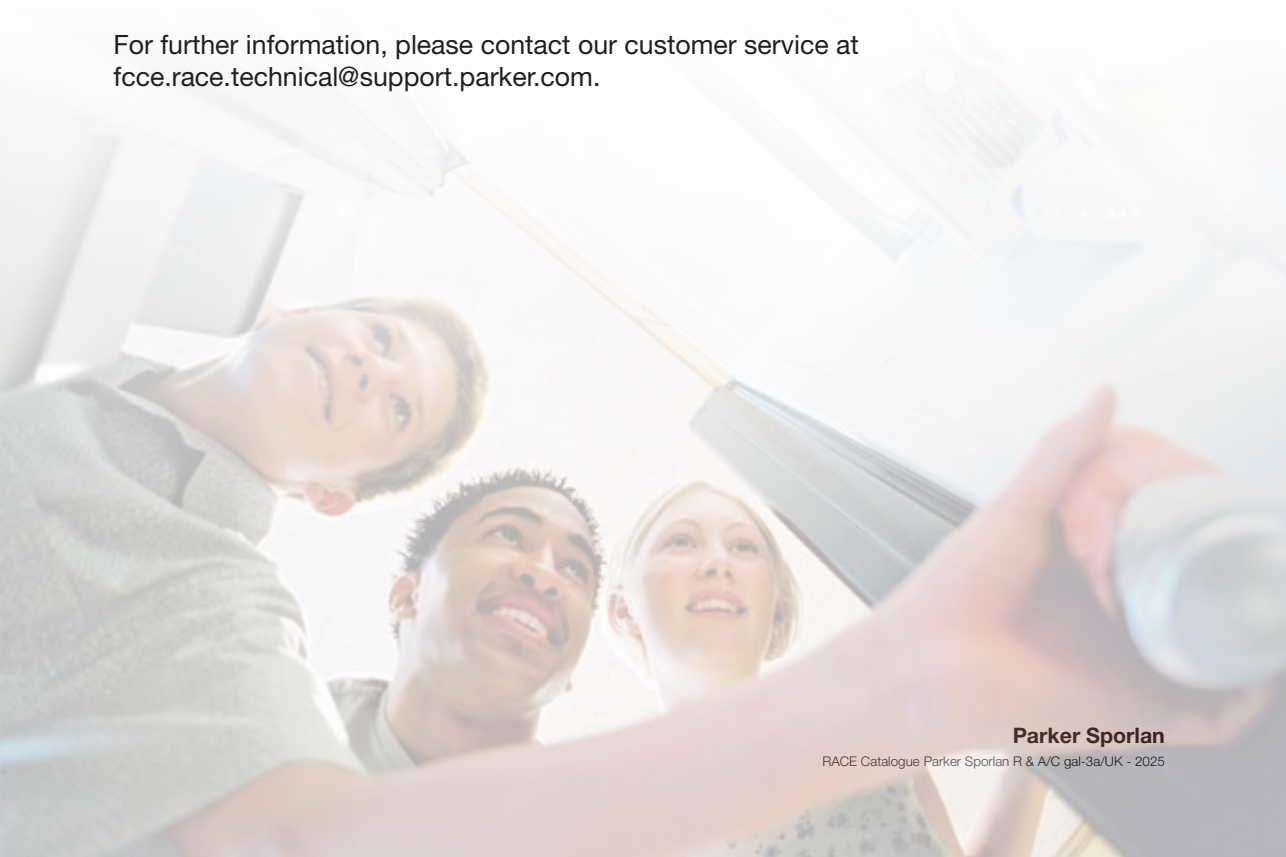
We employ approximately 58.500 people in 50 countries around the world.

At Parker, we're motivated by a relentless drive to help our customers make anything possible.
It means looking at customer applications from many angles to find new ways to create value.

Whatever the motion and control need, Parker has the experience, breadth of product and global reach to deliver consistently. No company knows more about motion than Parker.

The group is actively present on several technology markets and is a pioneer in innovation in many areas such as: Aerospace, Hydraulics, Filtration and Process Control.

For further information, please contact our customer service at fcce.race.technical@support.parker.com.



Refrigeration & Air Conditioning Europe
Parker Sporlan

Parker Sporlan Refrigeration & Air Conditioning Europe belongs to the Instrumentation platform which has the mission to provide comfort, convenience and control for a better quality of life.

Our European Headquarters are in Gessate, Italy where our R&D, marketing, application support and product management are located.

With our main brands Parker, Sporlan and Herl and Refrigerating Specialties (RS), we are active on many markets: residential and commercial air conditioning, transport refrigeration, food preservation, ice machines and heating.
With over 80 years of knowledge in Refrigeration and Air Conditioning industries, Parker Sporlan is the assurance of a quality process perfected over many years.

Sporlan's success is built on a history of innovation, from pioneering selective charges for expansion valves, to our current precision step motor technology and electronic "smart" valves. Parker Sporlan has both products and system solutions for you.

We work closely with OEMs to develop products tailored to specific applications. By staying actively involved in the industry, we gain insight into the future needs of our customers.

For many years, Parker Sporlan has been partnering with the best distributors, cooperating with well known professional installers and maintenance companies to provide our customers local expertise and support.

Parker Sporlan has the expertise and the technical competences to provide you with the best solutions with a wide range of products, offering performance, enhancing solutions, top quality material and outstanding product reliability.

Parker Sporlan Applications and Markets



Air Conditioning



Refrigeration



Residential



Commercial



Industrial



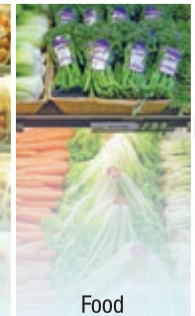
Transportation



Food Retail



Food Preservation



Food Service



Transportation

Heat Pumps

Air Handling Units

Chillers

Roof Tops

Bus & Rail AC

Compressor Racks

Vending Machines

Display Cases

Ice Machines

Catering Equipment

Electronic Expansion Valves, Filter Dryers, Receivers, Accumulators, Pressure Regulating Valves, Solenoid Valves, Lubricants, Maintenance Products, Suction Line Components.

Supply Chain

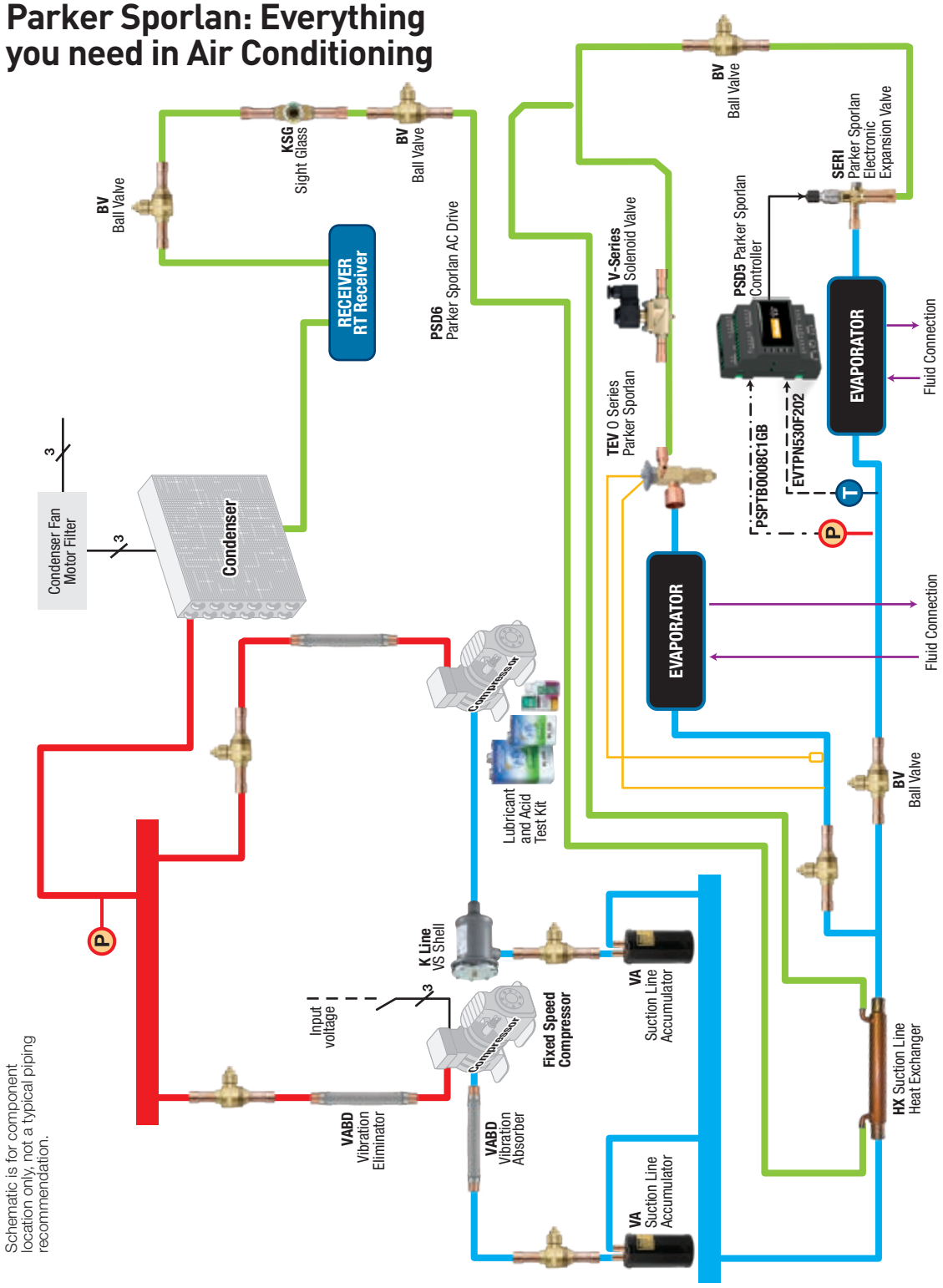
In 2002 Parker Hannifin Corporation developed the Win Strategy program to ensure that Parker offered "Premier Customer Service" to all its customers. This strategy is followed up on a daily basis to ensure we meet a target of 98 % on time delivery.

In order for Parker to meet this criteria we have in place a dedicated multi-lingual supply chain team whose goal is to work with our customers to ensure that we anticipate and meet their needs by collecting market information and forecasts. This gives an insight into the economic and production needs of our customers. This in turn allows us to plan, manufacture and procure goods in a timely manner and reduces the risk of late deliveries to our customers.

We have a 12.000 m^2 state of the art European distribution centre based in Bielefeld, Germany, which employs 200 people with a 12.000 pallet storage capacity. We are able to combine strengths of many Parker businesses to enhance our customer service and reduce costs by offering daily deliveries to most countries within Europe.
Our commitment to our customers is to have the right product at the right time to ensure we achieve our goal of providing Premier Customer Service.



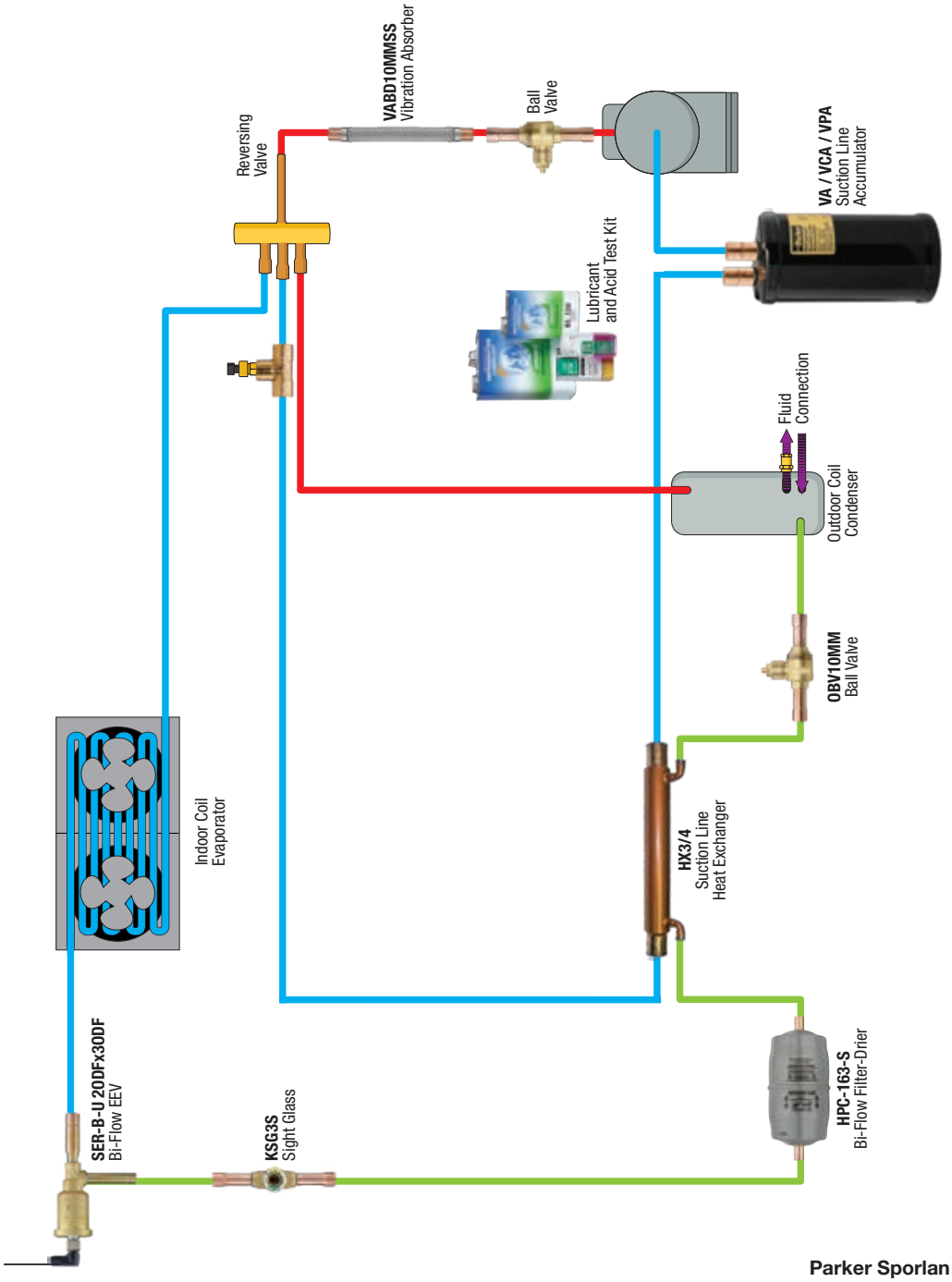
Parker Sporlan: Everything you need in Air Conditioning



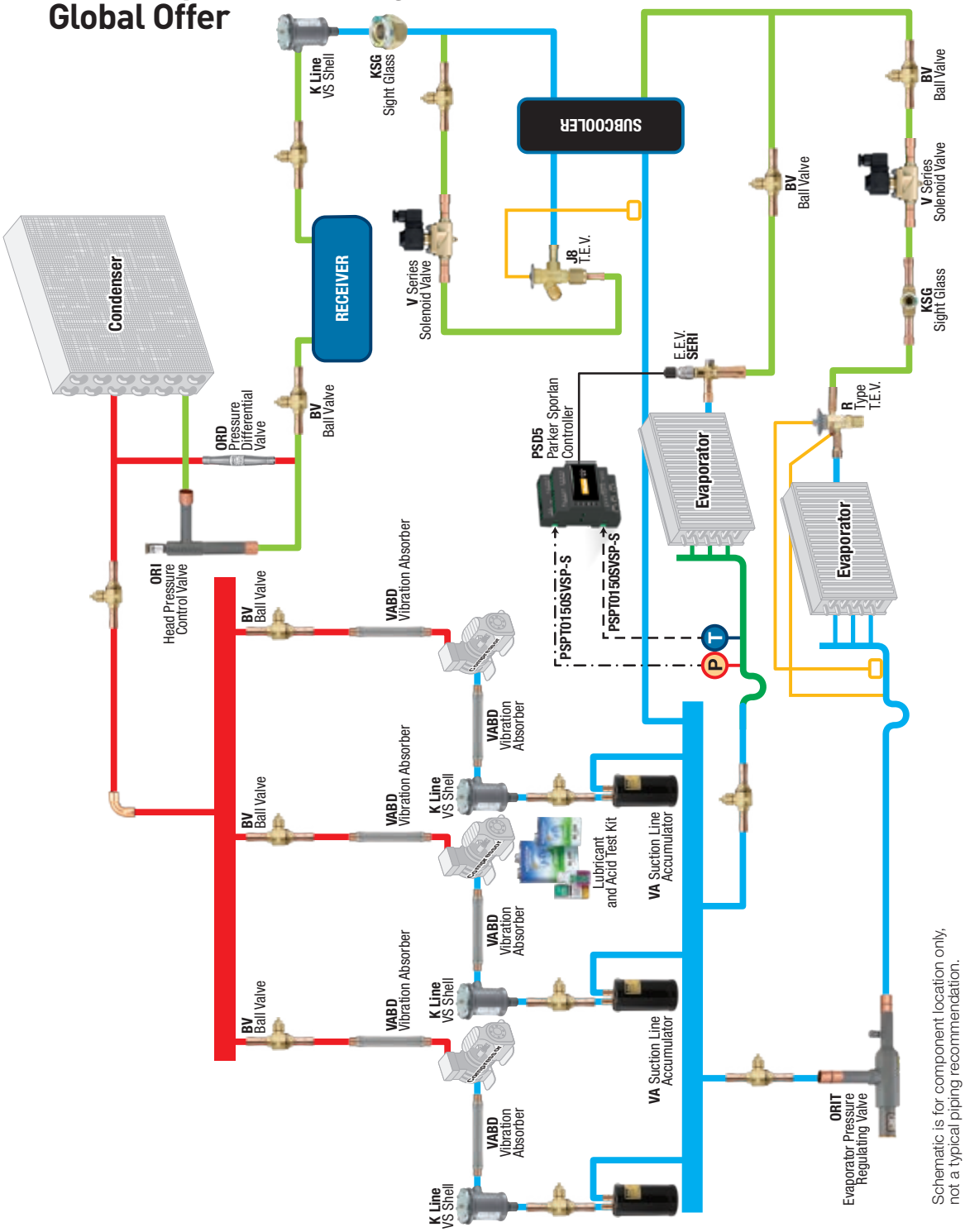
Schematic is for component location only, not a typical piping recommendation.

Heat Pumps Market: Parker Sporlan Perfect Match

Schematic is for component location only, not a typical piping recommendation.



Parker Sporlan's Refrigeration Global Offer



Schematic is for component location only, not a typical piping recommendation.

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Electric Expansion Valves

Electrically operated stepper motor valves
for precise flow control of liquid refrigerants

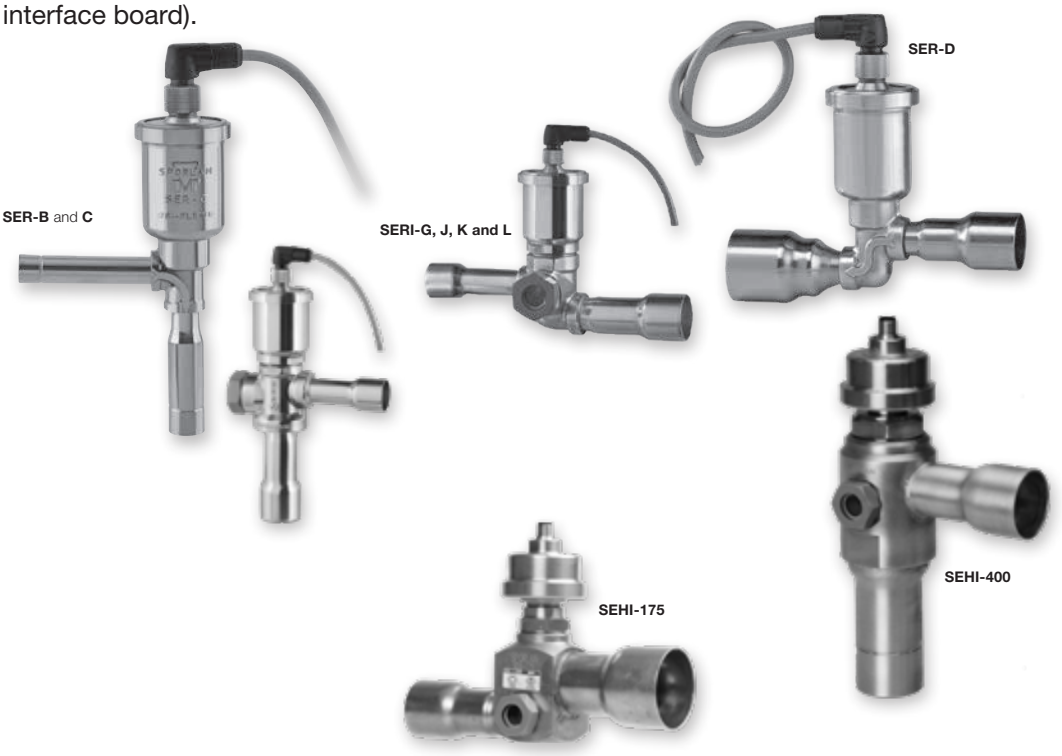
Parker SPORLAN

ENGINEERING YOUR SUCCESS.

Description

Built on a foundation of more than 75 years of refrigerant flow control designs, and over 20 years of experience in electronic superheat control, these valves are a perfect fit for today's demanding applications.
From the unique uni-body construction and quad-position cable found on the **SER-B** through **SER-D**, to the multiple body configurations and built-in sight glass on the **SERI-G** through **SERI-L**, these valves are designed for flexibility, reliability, and ease of use.
Equipped with advanced pin designs and Digital Linear Actuators, Parker Sporlan Electric Expansion Valves have minimal energy requirements, without sacrificing performance. **Parker Sporlan Electric Expansion Valves (EEVs)** are currently available in nominal R-407C capacities from 2 to 400 tons (7 to 1400 kW), and can control refrigerant flow from **10% to 100%** of nominal capacity. Valve selection and SKU (Stock Keeping Units) reduction are simplified.

The **SER**, **SERI** and **SEHI Valves** are Electronically Operated Stepper Motor flow control valves, intended for the precise control of liquid refrigerant flow. Synchronised signals to the motor provide discrete angular movement, which translates into precise linear positioning of the valve piston.
Valve pistons and ports are uniquely characterised, providing improved flow resolution and performance.
The **SER**, **SERI** and **SEHI Valves** are easily interfaced with microprocessor based controllers, including Parker Sporlan supplied controllers (**PSC** Superheat Controller and **IB** interface board).



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CEV-S Series

EEV Instructions



The EEV step motor expansion valve provides precise flow control for virtually every refrigeration, air- conditioning, and heat pump application, from basic to complex, and in a wide range of environments. This step motor expansion valve is the ideal choice due to its compatibility with a large availability of refrigerants, including HC, and most step motor controllers. Installation and operation of the highly reliable EEV is simple and straightforward; enabling any type system to be more efficient, more versatile and more reliable. The EEV step motor expansion valve provides maximum system value through precise, energy efficient flow control.

Valve Nomenclature

Nomenclature

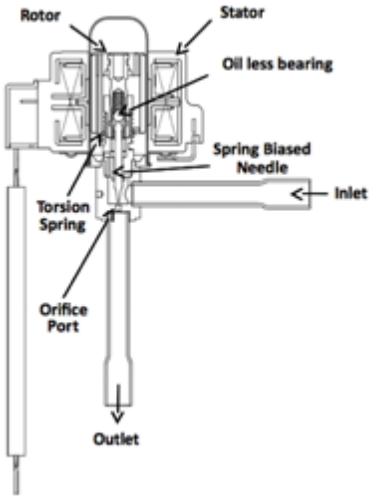
Valve

CEV	26	-	S
CEV series	Orifice port size Ø2.6mm		Straight inlet tube

Stator

CEC	100	-	X5	-	3
CEV stator	Lead wire length 1000mm		Connector type		Type suffix

Internal design



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CEV-S Series

Technical Specifications

Specifications & Materials / Details of Construction

	CEV body + 12 V coil	CEV body + 24 V coil
Drive type	Permanent Magnet Step Motor Direct Drive	
Pulsing type	Unipolar	
Flow path	Bi-flow	
Resolution	500 Pulses	
Operating range	480 Pulses	
Open step	32 ± 20 Pulses	
Line travel / pulse	0.00625 mm	
Operating stroke	3.125 mm	
Step rate	30 ~ 80 PPS	
Full motion transit time	6.25 Sec (@80PPS) / 16.67 Sec (@30 PPS)	
Max. working pressure (PS)	45 bar	
Media temp.	-40°C/+85°C	
Ambient temp.	-40°C/+85°C	
Relative humidity	≤ 95%	
Inter. leakage (Max)	≤ 250 cc/min @ 10 bar	
Rated voltage	12 V DC ± 10%	24 V DC ± 10%
Rated current	260 mA / Phase	187 mA / Phase
Phase resistance	46 ± 3 Ohm	114 ± 12 Ohm
Dielectric strength	1800 V AC, 1 Sec, (in air)	
Insulation resistance	> 100 MΩ @ 500 V DC	
Insulation class	Class E	
Compatible refrigerant	R290, R32, R134a, R410A, R407C, R507, R452A, R452B, R454A, R454C, R513A	
Durability	> 140 Million Pulses (135,000 cycles x 1040 pulses/cycles) 500 hours salt spray tested	
Materials	Body: stainless steel - Connections: copper	
Approvals	PED Art. 4.3, RoHS, REACH, ISO 14903	

Valve bodies technical data

Model	Port size [mm]	Connections size	MOPD [bar]	RMOPD [bar]	PS [bar]
CEV10-S	1.0	5/16'' ODM	35	25	45
CEV14-S	1.4	5/16'' ODM	35	25	45
CEV16-S	1.6	5/16'' ODM	35	25	45
CEV18-S	1.8	5/16'' ODM	35	25	45
CEV24-S	2.4	5/16'' ODM	35	21	45
CEV26-S	2.6	5/16'' ODM	23	15	45
CEV30-S	3.0	5/16'' ODM	23	15	45
CEV32-S	3.2	5/16'' ODM	23	15	45

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CEV-S Series

Technical Information

Valve

Model*	Nominal Capacity [kW]																
	R32	R134a	R290	R407C	R410A	R448A	R449A	R450A	R452A	R452B	R454A	R454B	R454C	R455A	R513A	R1234yf	R1234ze
CEV10-S	8,2	3,7	4,9	4,4	5,6	3,5	2,9	2,4	2,6	4,9	3,6	4,9	2,9	3,6	2,4	2,0	2,2
CEV14-S	14,3	6,4	8,6	7,8	9,8	8,1	6,8	5,6	5,9	11,3	8,5	11,4	6,6	8,3	5,6	4,7	5,1
CEV16-S	18,8	8,5	11,3	10,2	12,9	10,6	9,0	7,3	7,8	14,9	11,1	14,9	8,7	11,0	7,3	6,1	6,6
CEV18-S	23,3	10,5	14,0	12,6	15,9	13,2	11,1	9,1	9,7	18,4	13,8	18,5	10,8	13,6	9,1	7,6	8,2
CEV24-S	39,2	17,6	23,6	21,2	26,8	22,2	18,7	15,3	16,2	30,9	23,1	31,1	18,1	22,8	15,3	12,8	13,8
CEV26-S	43,4	19,5	26,1	23,5	29,6	24,5	20,7	16,9	18,0	34,3	25,6	34,4	20,1	25,3	16,9	14,2	15,3
CEV30-S	55,1	24,8	33,2	29,9	37,7	31,2	26,3	21,5	22,9	43,6	32,6	43,8	25,5	32,2	21,5	18,0	19,5
CEV32-S	59,6	26,8	35,9	32,3	40,7	33,7	28,4	23,3	24,7	47,1	35,2	47,3	27,6	34,7	23,2	19,5	21,0

Nominal conditions:
5°C Evapourating temperature, 38°C Condensing temperature, 0 K Subcooling, 0 K Superheat.

Stator

Model	Rated voltage	ATEX	Connector type	Lead wire length
CEC100X5	12 V DC±10%	-	XHP-5	1000 mm
CEC100X5-1	24 V DC±10%	-	XHP-5	1000 mm
CEC100Y5-3	12 V DC±10%	✓	No connector	1000 mm

Capacity

To calculate the valve capacity, please use Sporlan Virtual Engineer:
discover.parker.com/sporlanvirtualengineer

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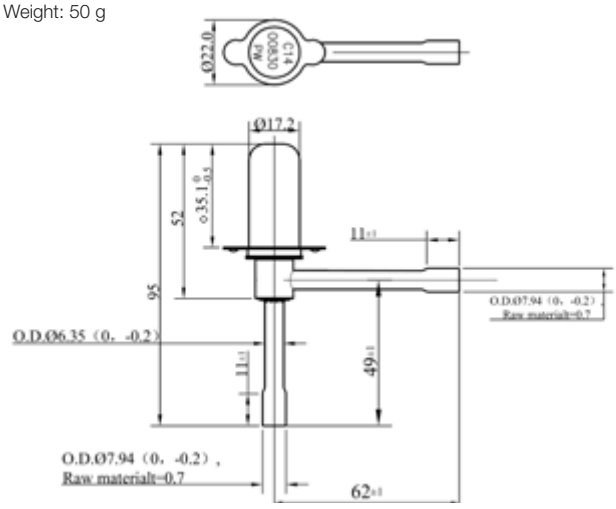
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CEV-S Series

Dimensions and Weights

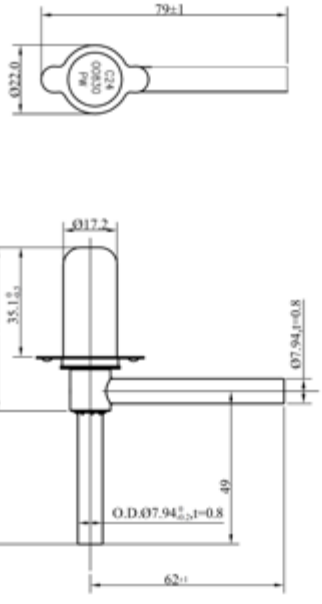
CEV S body [mm] - CEV10-S to CEV18-S

Weight: 50 g



CEV S body [mm] - CEV24-S to CEV32-S

Weight: 52 g



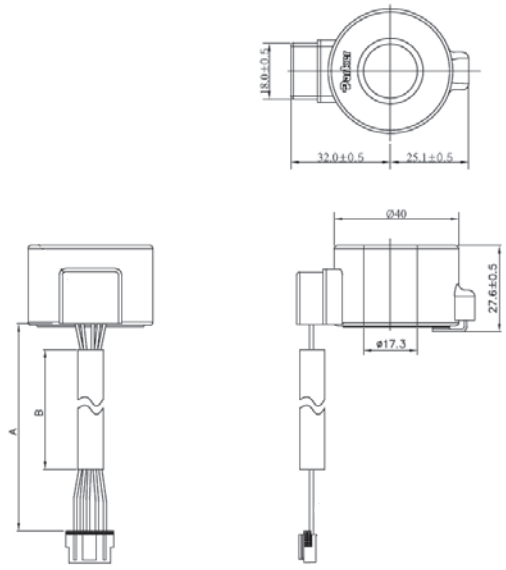
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CEV-S Series

Dimensions and Weights

STANDARD COIL [mm]



Weight: 117 g

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Electric Expansion Valve SER-A/SER-AA



The SER-AA and –A valves are suitable for use in subcritical and transcritical CO2 and other HFC refrigerant systems as electric expansion valves. The –AA and –A models are available with two distinct pressure ratings. The standard SER valves have a maximum rated pressure (MRP) of 1015 psig (70 bar). The high pressure SERHP version has a 1305 psig (90 bar) MRP. Both the SER and SER-HP models have a maximum operating pressure differential (MOPD) of 580 psid (40 bar). This higher MRP allows the SER-HP models to be applied on transcritical CO2 systems that maintain safety relief valves at pressures above 70 bar, up to 90 bar.
With advanced pin and port geometries and precision machined components, these bi-flow valves provide unmatched resolution under the lightest load conditions.
The SER-HP valves utilise the existing SER body design and improves its pressure rating with newly designed copper fittings.
The SER-HP has the same robust design, corrosion resistance and mounting flexibility for which the SER valve has become known. The SER and SER-HP valves have a removable M12 style cable that is IP67 rated.

Valve Nomenclature

Standard Pressure Rating - 70 bar	
Description	**Part Number**
SER-AA 3x4 ODF Less Cable	805221
SER-A 3x4 ODF Less Cable	805237
SER-AA 3x4 ODF 10'-S	805217
SER-A 3x4 ODF 10'-S	805223

Standard Pressure Rating - 90 bar	
Description	**Part Number**
SER-AA-HP 3x4 ODF Less Cable	805631
SER-A-HP 3x4 ODF Less Cable	805633
SER-AA-HP 3x4 ODF 10'-S	805639
SER-A-HP 3x4 ODF 10'-S	805641

SER-B, -C, -D

SER	-	AA A	-	HP	3/8"	X	3/8" 1/2"	ODF	-	10' 20' Less Cable	-	S
Valve Family		Valve Model		High MRP Designation	Outlet Fitting		Outlet Fitting	Fitting Type		Cable Length		Stripped and Tinned Cable Ends (Custom Connectors Available)

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SER-A/SER-AA

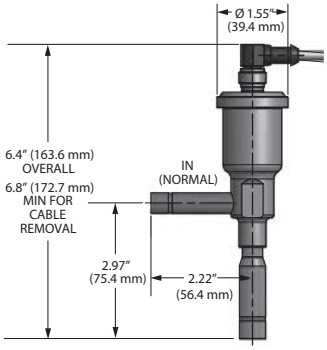
Dimensions and Accessories

Technical Specifications

Model	Standard	High Pressure
Motor Type	2 phase, bipolar wet motor	
Compatible Refrigerant	All common HCFC and HFC refirgerants, including R-410A and subcritical R-744 (CO2)	
Compatible Oil	All common mineral, polyester and alkybenzene oils	
Supply Voltage	12 volts DC, -5% + 10% (L/R)	
Cable Type	IP67 removable M12 connection	
Phase Resistance	100 Ohms ±10%	
Stepping Current	Evaluate to avoid step loss or or damage to the valve *	
Holding Current	Not recommended	
Step rate	200 steps/second	
Number of Steps	2500 full steps	
MOPD	580 psid (40 bar)	
MRP	1015 psig (70 bar)	1305 psig (90 bar)
Max Internal Leakage	100 cc/min @ 100 psid (6,9 bar), dry air	
Max External Leakage	0,10 oz/yr at 300 psig (2,8 gram/yr @ 20 bar)	
Operating Temp. Range	-50°F to 155°F (-45°C to 68°C)	

*Contact your Sales Representative for qualification testing details

Dimensions



Valve Capacity

To calculate the valve capacity, please use Sporlan Virtual Engineer:
discover.parker.com/sporlanvirtualengineer

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SER, SERI or SEHI

Valve Nomenclature/Ordering Instructions

Parker Sporlan valves are available in angle and/or straight through offset configurations (reference the Available Connections table for additional details). The SERI and SEHI valves are equipped with a built-in sight-glass (not available on the small SER family of valves). The sight-glass indicates the moisture level of the refrigerant, flash gas present upstream of the valve, and provides a visual confirmation of valve piston movement.
This unique feature is useful for system refrigerant charging, service and diagnostics.

SER-B, -C, -DS

SER	-	C	3/8"	X	1/2"	ODF	-	10	-	S
Valve Family		Valve Model	Inlet Connections Size		Outlet Connection Size	Fitting Type ODF only		Cable Length 10' (3 m) standard		Stripped and Tinned cable ends

SERI-F, -G, -J, -K, -L

SERI	-	J	S	7/8"	X	1-1/8"	ODF	-	10	-	S
Valve Family		Valve Model	Straight Through Offset Configuration (blank if angle)	Inlet Connections Size		Outlet Connection Size	Fitting Type ODF only		Cable Length 10' (3 m) standard		Stripped and Tinned cable ends

When installing theses valves with solder connections, the internal parts should be protected from overheating by using a Parker calorie discharger (TB2) - see page 269 - or by wrapping the valve with a wet cloth.
Sporlan Electric Expansion Valves (EEVs), now rated at full stroke (100% open) with no reserve capacity, are currently available in nominal R-22 capacities from 2.5 to 434 tons (8.2 to 1424 kW), and can control refrigerant flow down to 10% of rated capacity. Therefore, they are applicable on all the same types of systems found in the air conditioning and refrigeration industries as thermostatic expansion valves. Sporlan electric valves are designed for compatibility with all current halocarbon refrigerants (HCFCs and HFCs including R-410A), in addition to subcritical CO_2.

Specifications				
Valve	**SER-B, -C, -DS**	**SERI-G, -J, -K, -L**	**SEHI-175**	**SEHI-400**
Motor Type	2 phase, bipolar wet motor			
Compatible Refrigerant	All common, HCFC, HFC and HFO refrigerants. Also, subcritical R744		All common, HCFC, HFC and HFO refrigerants.	
Compatible Oils	All common Mineral, Polyolester and Alkybenzene oils			
Supply Voltage	12 VDC -5% +10% measured at the valve leads			
Cable Type	IP67 Removable Quad Position	IP66 Removable	Hermetic	Hermetic
Phase Resistance	100 Ohms ± 10%	100 Ohms ± 10%	75 Ohms ± 10%	75 Ohms ± 10%
Current Range	120 mA / winding	120 mA / winding	160 mA / winding	160 mA / winding
Power Input	2.8 watts	2.8 watts	3.8 watts	3.8 watts
Recommended Step Rate	200 / second (L/R), up to 400 / second (current limited)			
Number of Steps	2500	2500	6386	6386
Full Motor Transit Time	12.5 seconds	12.5 seconds	34 seconds	34 seconds
Resolution	.00009'' (.0023 mm) / step.	.00012'' (.003 mm) / step.	00008'' (.002 mm) / step .	00008'' (.002 mm) / step.
Stroke	0.23'' (5.8 mm)	.297'' (7.5 mm)	.500'' (12.7 mm)	.500'' (12.7 mm)
MOPD	580 psid (40 bar)	500 psid (34 bar)	500 psid (34 bar)	300 psid (21 bar)
MRP	700 psig (48 bar)	700 psig (48 bar)	620 psig (43 bar)	500 psig (34 bar)
Max Internal Leakage	100 cc/min @ 100 psig (6.9 bar), dry air			
Max External Leakage	.10 oz/yr @ 300 psig (2.8 g/yr @ 20 bar)			
Operating Temp. Range	-50°F to 155°F (-45°C to 68°C)			
Materials of Construction	Brass, copper, synthetic seals, stainless steel			

Certification:

The **SER**, **SERI** and **SEHI Electric Expansions Valves** comply with the Pressure Equipment Directive PED 97/23/EC.
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SER, SERI or SEHI

Benefits & Technical Information

Benefits

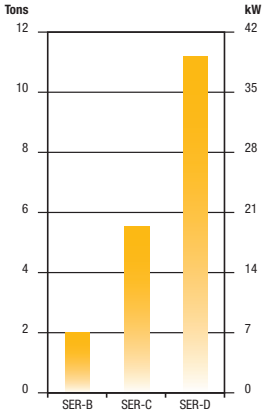
- MOPD up to 40 barg in both directions
- Wide flow control
- Step motor operated for precise control
- High resolution drive assembly
- Field proven reliability
- Low power consumption - less than 4 watts
- Unique built-in sight glass - indicates valve operation, moisture levels and refrigerant quality (SEHI & SERI only)
- Compatibility tested with most HCFC, and HFC refrigerants and oils
- Self lubricating materials used for long life
- High linear force output

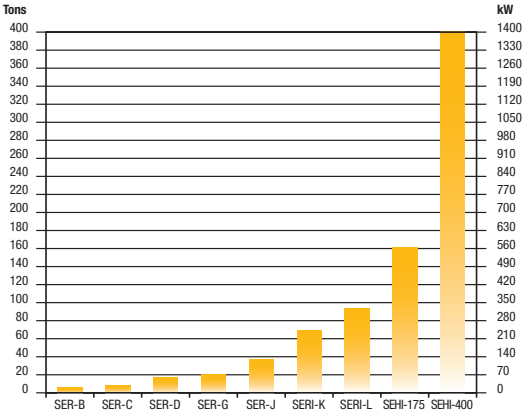
Available Connections

Valve Type	Inlet - Inches*** ODF	Outlet - Inches*** ODF	Configuration	Cable Length		Cable Ends
				Feet	Metres	
SER-B*	1/4, 3/8	3/8, 1/2, 5/8	Angle	10, 20	3, 6	S Stripped and Tinned
SER-C*	1/4, 3/8	3/8, 1/2, 5/8	Angle			
SER-DS*	3/8, 1/2, 5/8	1/2, 5/8, 7/8, 1-1/8	Straight Through Offset			
SERI-G*	5/8, 7/8	1/2, 5/8, 7/8, 1-1/8	Angle or Straight Through Offset	10, 20, 30, 40	3, 6, 9, 12	
SERI-J*	7/8, 1-1/8	7/8, 1-1/8, 1-3/8				
SERI-K **	1-1/8	7/8, 1-1/8, 1-3/8, 1-5/8				
SERI-L**	1-1/8, 1-3/8	1-1/8, 1-3/8, 1-5/8				
SEHI-175	1-1/8, 1-3/8, 1-5/8	2-1/8	Straight Through Offset	10, 20, 30, 40	3, 6, 9, 12	
SEHI-400	1-5/8, 2-1/8, 2-5/8	1-5/8, 2-1/8, 2-5/8, 3-1/8 (ODM)	Angle			

* Suitable for bi-directional applications.
** Bi-sealing, reduced flow in reverse direction.
*** Some fitting Combinations may not be available.

Capacity





R-407C at 100°F (38°C) liquid, 100 psi (7bar) pressure drop, and 40°F (5°C) evaporator temperature.

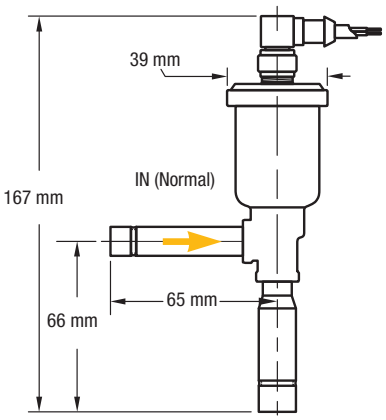
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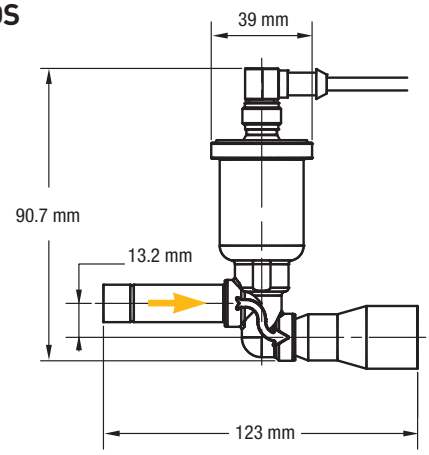
SER, SERI or SEHI

Valve Dimensions

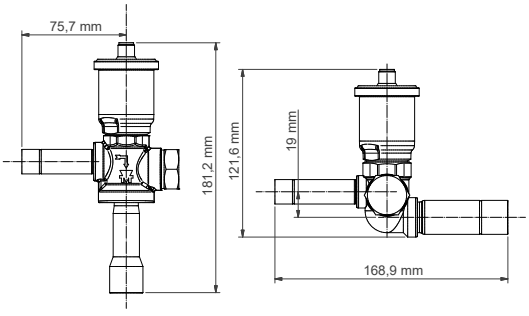
SER-B, -C



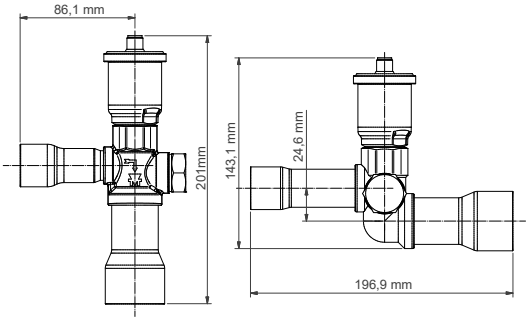
SER-DS



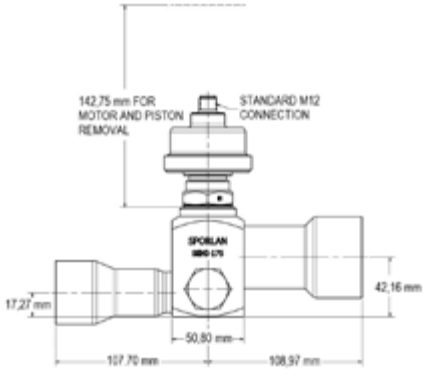
SERI-G & SERI-J



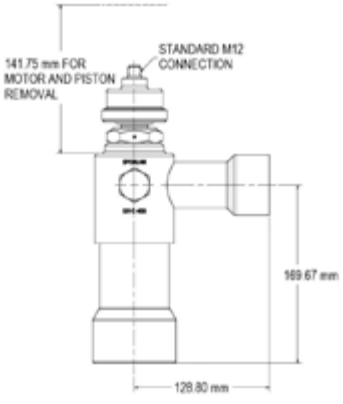
SERI-K & SERI-L



SEHI-175



SEHI-400



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SER, SERI or SEHI

Electric Expansion Valve Kits

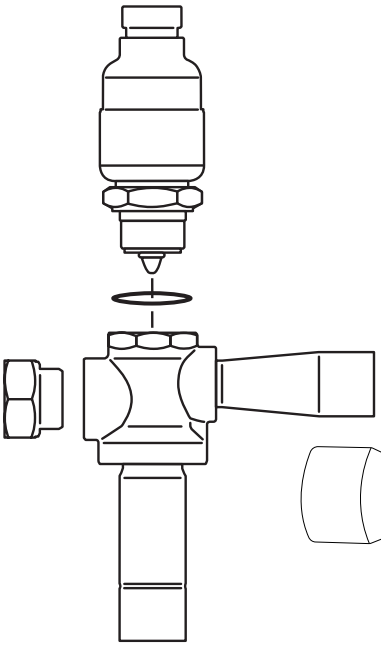
Motor Kit
for Electric Expansion Valves

Valve Type	KIT No.	Part Number
SEHI-175	KS-SEH-175	**958126**
SEHI-400	KS-SEH-400	**380821**

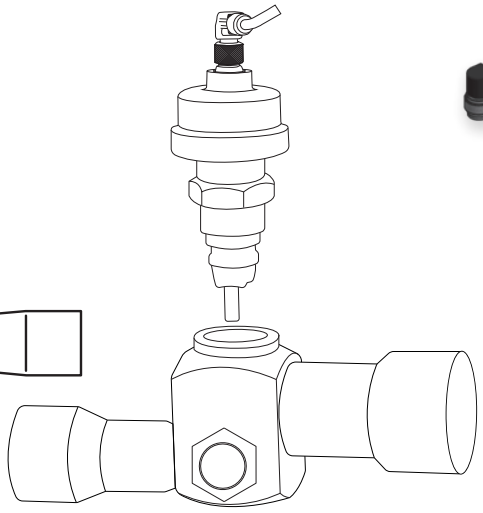
Cable Assembly Kit
for Electric Expansion Valves

Valve Type	Cable Length	Part Number
Kit Cable - M12 connection	3 m / 10'	**805194**
	6 m / 20'	**805195**
	9 m / 30'	**805343**
	12 m / 40'	**805344**

Motor Kit **SERI**



Motor Kit **SEHI**



Cable Kit **SER**

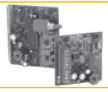


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SER, SERI or SEHI

Components and Accessories

Product	Parker Part Number	Description
	**PSD5V1**	Controller no display
	**EVTPN530F202**	Temperature probe, NTC 103 AT-2, -50°C to 110°C, 3 m long
	**EVPT5108**	Fast response Pressure Transducers, 2 wires 4/20mA, 0 to 8 bar, 8 to 28 VDC
	EVPT5130	Pressure Transducers, 2 wires 4/20mA, 0 to 30 bara, 8 to 28 VDC
	**PSPTB0008C1GB**	Pressure Transducer 4-20 mA -1 to 8 barg
	PSPTB0015C1GB	Pressure Transducer 4-20 mA -1 to 15 barg
	PSPTB0030G1GB	Pressure Transducer 4-20 mA 0 to 30 barg
	**953580**	IB-G Interface Board
	**953276**	SMA-12 Step Motor Actuator / Test instrument

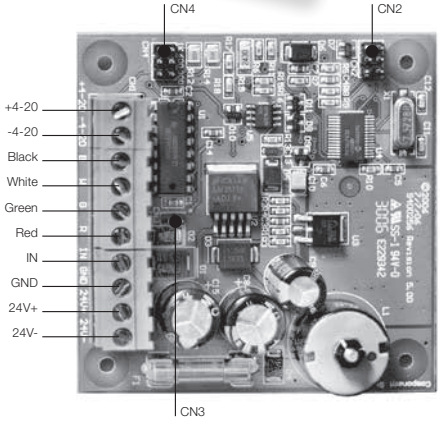
For further information on the electronic controller please refer to chapter 2 and 3.

SMA-12 Stepper Motor Actuator



The SMA-12 is designed to diagnose systems with stepper motor valves by proving operation of the stepper motor. The unit is powered by two 9 Volt alkaline batteries and will power any standard 12-Volt DC bipolar step motor. Step rate is selectable at 1, 50, 100 or 200 steps per second and will stroke the motor in both directions. Red lamps indicate continuity of the motor windings and battery power, and binding posts provide quick connection of the motor leads. In the event of a controller failure, the SMA-12 can manually open or close the valve or step it to any position. The SMA-12 is the basic troubleshooting tool for all step.

IB-G Interface Board



The IB-G interface board allows the Parker Sporlan electric expansion valves stepper motor to be modulated in response to an externally generated signal. The IB-G accepts a 4-20 mA, or 0-10 Volt DC inputs and strokes the valve proportionately to that signal. While the IB-G will control Parker Sporlan's line of SER, SERI and SEHI stepper motor electric expansion valve, an external signal must be generated in response to superheat.

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Electronic Expansion Valve drivers

Unipolar and bipolar stepper motor driver
for Parker Sporlan Electric Expansion Valves

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Super Heat Controller

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PSD5

Unipolar and Bipolar Stepper Electronic Expansion Valve Drivers



PSD5V1 is the compact solution of the Parker platform of drivers managing unipolar and bipolar stepper electronic expansion valves suited for a range of needs in the HVAC/R market and other similar applications. PSD5V1 is available in various models, which can be used as single actuators or in “stand-alone” mode (via Digital inputs or RS-485 serial port). The models are available for DIN Rail or Panel mounting.

An LED 32x74 (PSD5D1) terminal is used to configure the parametres and operations performed on the device, connected to the Keyb serial port inside the door.
PSD5V1 is provided with a serial port for the Modbus RTU serial communication standard interface and the option of downloading parametre maps and applications via the Programming stick MFK (MFK100T000000) / UNICARD (CCA0BHT00UU00).
All digital inputs and digital outputs are independent and configurable. The power supply rating is 24 Vac/dc.

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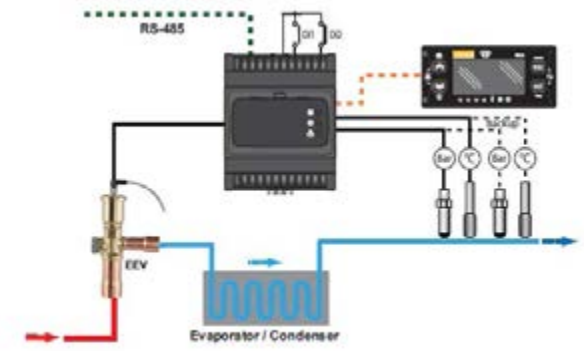
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PSD5

Refrigeration & Air Conditioning

PSD5 Unipolar and bipolar stepper electronic expansion valve drivers.





Main functions

- Slave driver for Gas Cooler and Flash Gas Bypass
- Refrigerant type selected via selectors (DIP-switches) under the door
- Valve state shown via LEDs
- Parametre settings via PSD5D1 (SKP1000000000), MFK (MFK100T000000) / UNICARD (CCA0BHT00UU00) or FREE Studio Plus (FSP1000001000)
- Firmware update via MFK (MFK100T000000) / UNICARD (CCA0BHT00UU00)
- PSD5D1 (SKP1000000000) terminal (up to 10 m - 32.8 ft) that can be connected directly
- Configurable inputs NTC, Pt1000, 4...20 mA, 0...10 V, 0...5 V ratiometric
- 2 Digital Outputs for control valve and/or alarms

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PSD5

Technical Specifications

Characteristics

Features	Description	
The product complies with the following harmonised regulations:	EN 60730-1 / EN 60730-2-9	
Construction of control:	Incorporated Control	
Method of mounting control:	DIN Rail or Panel mounting	
Action type:	1.C	
Pollution degrée:	2	
Overvoltage category:	2	
Rated impulse voltage:	2500 V	
Software class:	A	
Degree of protection provided by enclosure:	IP20 (Open type)	
Environmental front panel rating	Open Type	
Power supply:	24 Vac/dc (±10 %), Class 2 Source	
Power supply frequency:	50/60 Hz	
Power draw (maximum):	35 VA / 25 W maximum	
Ambient operating conditions:	Temperature:	-10...65 °C (14...149 °F)
	Humidity:	10…90% RH (non-condensing)
Transportation and storage conditions:	Temperature:	-20...85 °C (-4...185 °F)
	Humidity:	10…90% RH (non-condensing)
Maximum terminal temperature for internal conductors:	105 °C (221 °F)	
Classification of control according to protection against electric shock:	Class II control intended for use in Class I equipment	
Power supply fuse	Fuse type T 3,15 A	

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PSD5

Technical specifications

Interface Specifications

Specifications			
Feature	**Description**		**PSD5 RS-485**
Display:	**3 digits + sign**		
Measurement range:	**NTC:**	-50,0...99,9 °C (-58,0...211,8 °F)	
	NTC extended:	-40,0...150 °C (-40,0...302 °F)	
	Pt1000:	-50,0...99,9 °C (-58,0...211,8 °F)	
Full scale precision	1%		
Resolution	Temperature:	0,1 °C (0,1°F)	
	Current-Voltage:	0,1 bar (1,45 psi)	
Analog Inputs	**AI1:**	1 configurable analog input	YES
	AI2:	1 configurable analog input	YES
	AI3:	1 configurable analog input	YES
	AI4:	1 configurable analog input	YES
Digital Inputs	**DI1:**	1 voltage-free digital input; closure current for ground: 0.5 mA	YES
	DI2:	1 voltage-free digital input; closure current for ground: 0.5 mA	YES
Digital outputs	**DO1:**	1 high voltage digital output (SPST relay): NO 3 A resistive 120/250 Vac (1.4 FLA – 7.5 LRA) 240 Vac	YES
OC (Open Collector) Output:	**DO2:**	1 multifunctional output: Maximum current = 100 mA Maximum voltage = 12 Vdc	YES
Electronic Expansion Valve output	**W1+W1- / W2+W2- :**	24 Vdc; 0,8 A	YES

Analog Inputs Characteristics

	NTC*	NTC Extended*	Pt1000*	4…20 mA	0…10 V	0…5 V
AI1	**YES**	YES	YES	YES	YES	YES
AI2	**YES**	YES	YES	YES	YES	YES
AI3	**YES**	YES	YES	NO	NO	NO
AI4	YES	YES	YES	NO	NO	NO
Impedance	-	-	-	100 Ω	21 KΩ	110 kΩ

NTC: NTC 103AT-2 (10 kΩ at 25 °C / 77 °F), BETA value 3435

NTC extended: NTC 103AP-2 (10 kΩ at 25 °C / 77 °F), BETA value 3977

(*) probes not included - contact your local Parker representative.

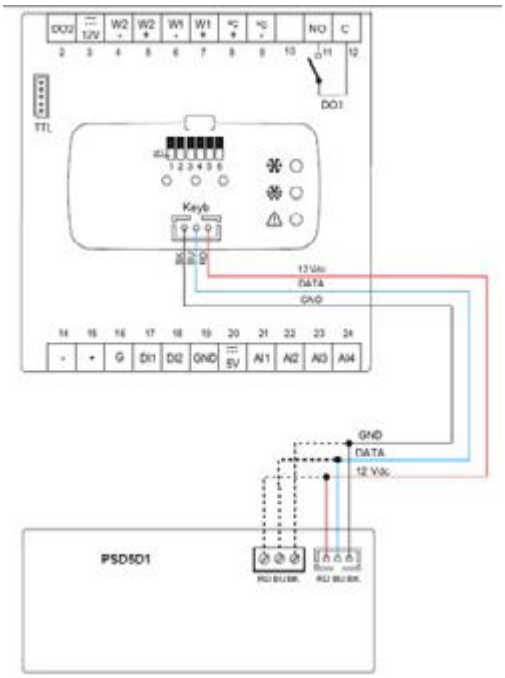
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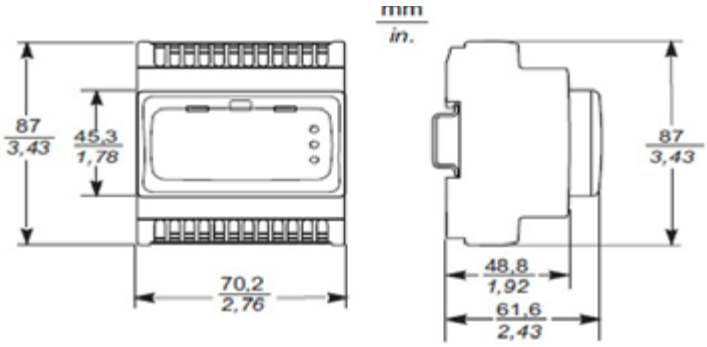
PSD5

Connections and Dimensions

PSD5V1 – PSD5D1 Connection



PSD5V1-PSB5B1 Connection



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PSD5

Technical specifications

Models

Reference	Model	AI	DI	DO	OC	RS-485	LAN	Power Supply
PSD5V1	**PSD5 420H RS-485 STEP 24V-V3**	4	2	1	1	YES	NO	24 Vac/dc

Legend:

- AI = Analog Inputs
- DI = Digital inputs
- DO = Digital Outputs
- OC = Open Collector Digital Outputs
- RS-485 = Integrated RS-485 serial port
- LAN = Integrated LAN serial port

Terminal

Reference	Installation	Dimensions	Display	Power Supply
PSD5D1	Panel	74x32x30 mm	LED / 4 digit	From PSD5V1 driver

NOTE: **SKP10000000000** terminal must be ordered separately

Backup Battery

Reference	Installation	Dimensions	Power Supply
PSB5B1	DIN Rail	87x70,2x61,6 mm	24 Vac/dc

Valve List

Model	Rated Voltage	Notes
Parker/Sporlan SER AA, A, B, C, DS	12Vdc	Bipolar – Windings are driving in pairs
Parker/Sporlan SERI F, G(S), J(S), K(S), L(S)	12Vdc	Bipolar – Windings are driving in pairs
Parker/Sporlan SHE(I)-175, SHE-P, SEHI-400, SEHI-T	12Vdc	Bipolar – Windings are driving in pairs
Parker/Sporlan GC-FGB	24Vdc	Bipolar – Windings are driving in pairs

Accessories references

	References	Description
	**PSD5D1**	PSD5D1 LED. 32x74 terminal
	**MFK100T000000**	Programming stick (MFK)
	**CCA0BHT00UU00**	Programming stick (UNICARD)
	**SN8DAC102AV** **SN8DEB21502C0**	NTC 1.5m FAST IP67 4x40 -50…110 °C Grey NTC 1.5m IP68 6x20 TPE with grey tab
	**DMI1003002000**	Device Manager Interface (DMI)

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Electronic Product Range

Parker Sporlan's range of electronic products are ideal for heat pumps, chillers, cold rooms and industrial/commercial HVAC-R applications.

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Electronic Product Range

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PSK - Thermostatic Refrigeration Controllers

Static controllers de-frost achieved by turning the compressor off, Ventilated controllers de-frost achieved by using electric heater or hot gas, Voltage Range, 230 Volt AC, 115 Volt AC, 24 Volt DC, 12 Volt DC.



The **PSK family** of thermostatic refrigeration controllers designed to accurately control the temperature of supermarket display case and cabinets, by controlling the time that the refrigeration compressors is running, to provide optimum product temperature, to ensure the products are always chilled to the correct temperature, for product safety, and to avoid product wastage.

The **PSK** controls the compressor's on - off time and can also control the de-frost cycle. Alarm functions built into the controller inform the user if there are problems. Some controllers are designed to store alarm messages to fulfil HACCP requirements.

Remote control of the **PSK** and data collection, for remote monitoring, for service and maintenance purposes, is possible by using Modbus RS485 connection.

A wide range of supply voltages is available, 230 VAC, 115 VAC, 24-12 VAC/DC.

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PSK

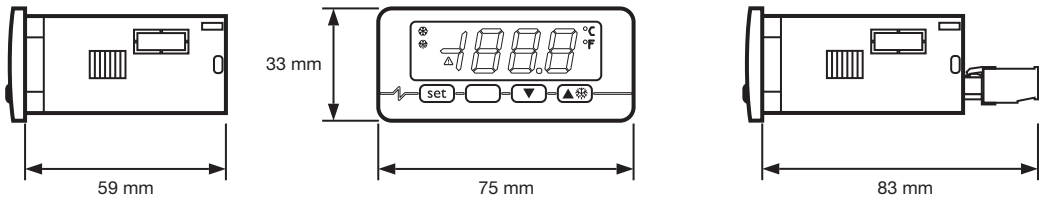
Food Retail

PSK Thermostatic Refrigeration Controllers regulate the temperature in food, beverage, and cold room storage applications. Static units, manage defrost by turning off the compressor.
Ventilated units, manage defrost by electronic heater, hot gas and evaporator fan control.

Benefits:

- **Better product quality by improving case temperature management**
- **Reduced product wastage by maintaining a stable temperature/humidity ratio**
- **Lower energy consumption by improving defrost management**
- **HACCP alarm gives customers food safety traceability* (* model dependent)**

Dimensions Data



- Storage -30 to +85°C
- Operating temperature range (ambient) 0 to +55°C
- Humidity range (ambient) 10 to 90%r.H non condensing
- Dimension 83 mm is the total length with optional female connectors fitted

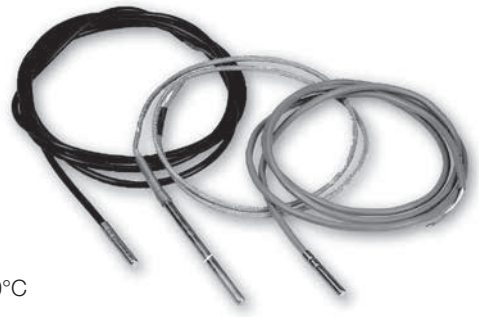
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PSK

PSK Options

EVTPN615F200
Temperature Probe NTC 103AT-2 sensor
(10 kOhm @25°C) 1.5 m Long,
6 x 15 mm bulb overmoulded,
temperature range -40 /+110°C



EVTPN630F200
Temperature Probe NTC 103AT-2 sensor
(10 kOhm @25°C) 3.0 m Long
6 x 15 mm bulb overmoulded temperature range -40/+110°C

PSIF20 TSX
TTL / RS485 isolated driver



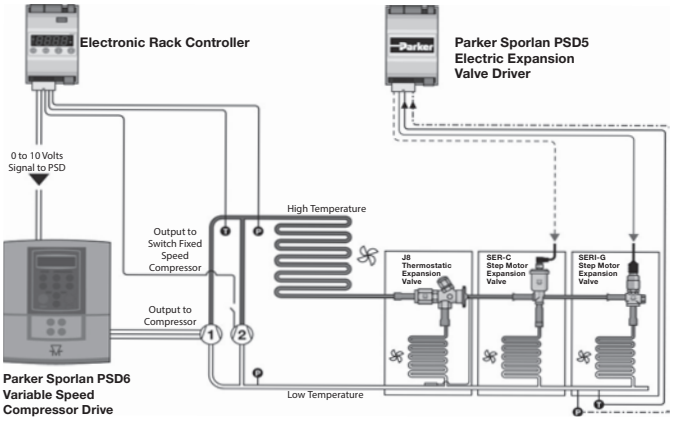
PSKEY
Programming key, for fast & easy down load
of parametre values



PSPS
Power supply for PSKEY Programming key
230-115 VAC - 9 VDC



Drive Systems for Refrigeration Compressors and Condenser Fans



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PSK

PSK Order Selection Guide

Type Static Controllers	Va.c.	Hz	A/I	D/I	D/O	CR	DF	EV	CO	AB	TM	RT	HA
PSK201N5	115	50/60	1	-	1	16 A	-	-	-	-	-	-	-

Type Ventilated Controllers	Va.c.	Hz	A/I	D/I	D/O	CR	DF	EV	CO	AB	TM	RT	HA
PSK203N5	115	50/60	2	-	3	16 A	8 A	8 A	-	-	-	-	-

Key

A/I = Analogue inputs
D/I = Digital inputs
D/O = Digital outputs
CR = Compressor Relay A
DF = Defrost Relay A
EV = Evaporator Fan Relay A
CO = Configurable I/O
AB = Alarm Buzzer
TM = TTL Modbus port
RT = Real Time Clock
HA = HACCP functions

* Configurable

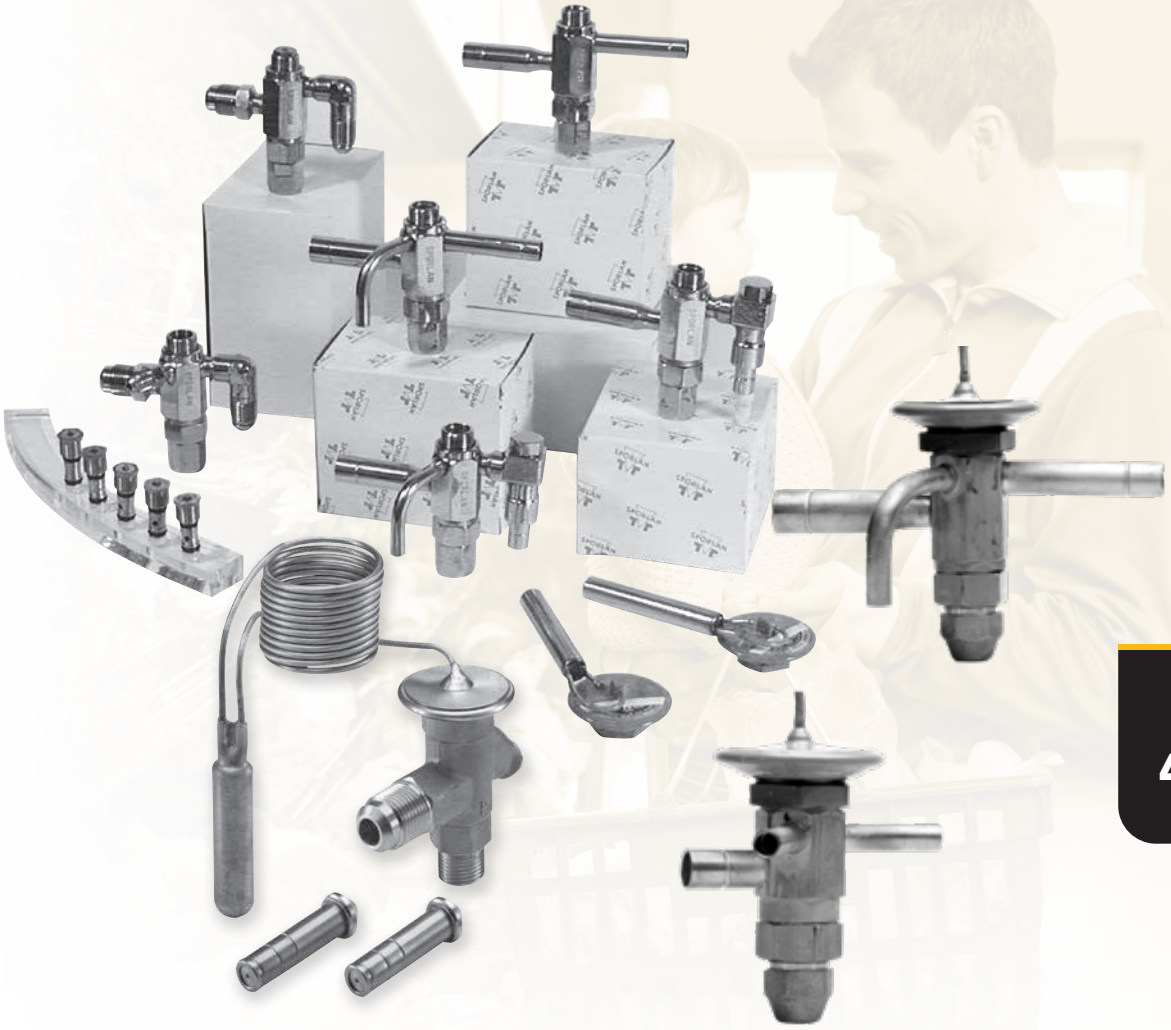
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Thermostatic Expansion Valves

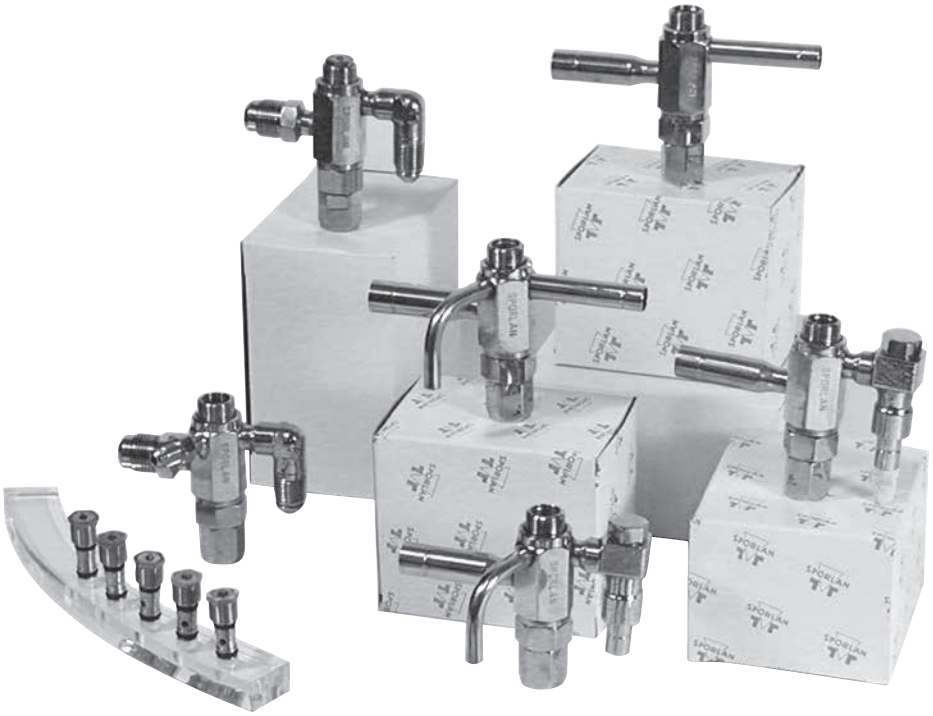
The Thermostatic Expansion Valves control the flow of liquid refrigerant. The ideal expansion device for most A/C & refrigeration applications.

Description

The **Thermostatic Expansion Valve** (TEV) controls the flow of liquid refrigerant entering the direct expansion (DX) evaporator by maintaining a constant superheat of the refrigerant vapour at the outlet of the evaporator.

The **TEV** controls the difference between the actual temperature and the saturation temperature of the refrigerant corresponding to the suction pressure at the sensing bulb location; this is superheat. By controlling superheat, the **TEV** keeps most of the evaporator surface active, while preventing liquid refrigerant from returning to the compressor.

The ability of the **TEV** to match refrigerant flow to the rate at which refrigerant can be vapourised in the evaporator makes the **TEV** the ideal expansion device for most air conditioning and refrigeration applications.



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Thermostatic Expansion Valves

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NX valves
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4

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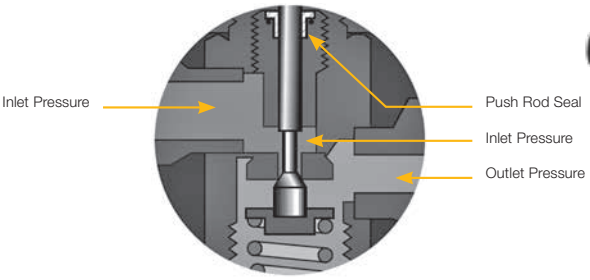
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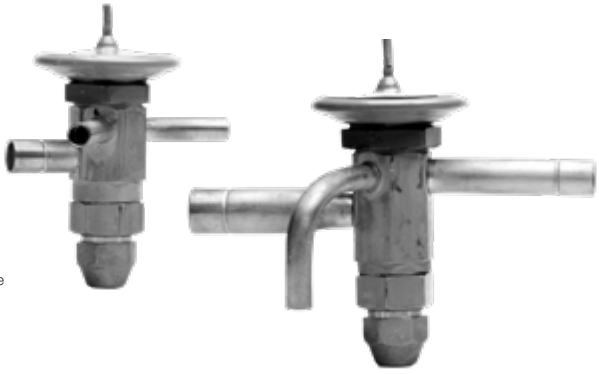
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Type R, EBS & O

Parker Sporlan Thermostatic Expansion Valves

Balanced Port Design





Valve Nomenclature/Ordering Instructions

Combine the letters and numbers in the following manner to obtain the complete valve designation. Also include all connection sizes and the capillary tube length.

O	Z	E	-	35	-	GA	7/8" ODF Solder	x	1-1/8" ODF Solder	x	1/4" ODF Solder	x	5'
Body Type	Parker Sporlan Code Refrigerant Element Label Colour Code V = R-22 Green J = R-134a Blue S = R-404A Orange N = R-407C Lt. Brown F = R-409A Yellow Z = R-410A Rose P = R-507 Teal J = R-454B Grey	"E" specifies external equaliser. Omission of letter "E" indicates valve with internal equaliser.		Nominal Capacity in Tons		Thermostatic Charge	Inlet Connection Size and Style		Outlet Connection Size and Style		External Equaliser Connection Size and Style		Capillary Tubing Length Inches or Feet

When installing theses valves with solder connections, the internal parts should be protected from overheating by using a Parker calorie discharger (TB2) - see page 269 - or by wrapping the valve with a wet cloth.

Parker Sporlan Selective Charges engineered for peak performance for each specific application

Recommended Thermostatic Charges*

Code	System Refrigerant
J	R-134a, R-1234yf, R-513A, R-401A, R-409A
V	R-22, R-407A, R-407C, R-407F, R-454C, R-455A
D	R-448A, R-449A
S	R-404A, R-502, R-507A, R-402A
T	R-454A
Z	R-410A, R-32
Y	R-454B
O	R-290

* **APPLICATION FACTORS:**

All air conditioning and heat pump charges are intended for use with externally equalised valves.

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Type R

The Parker Sporlan **Type R** valve features balanced port design, an external adjustment assembly and the replaceable element assembly. The **Type R** includes three conventional body styles, the ER, SR and R, with fractional capacity versions. The ER with extended copper connections provides exceptional control in both flow directions making the ER an excellent choice for Bi-flow heat pump applications.

The ER also features the 60 x 50 mesh stainless steel wire cloth inlet strainer as a standard feature; the 100 mesh inlet strainer is an optional feature available for 5/8" ODF and larger fitting combinations.
The Parker Sporlan **Type R**, with SAE flare connections, and the Type SR with the removable strainer assembly share the same balanced port construction as the ER. The R is complete with the 100 mesh inlet strainer as an integral part of the fitting while the SR has a 100 mesh removable strainer that can be cleaned or replaced while the valve remains soldered to the system tubing.

These valves are ideally suited for small to large capacity refrigeration applications that could operate over widely varying operating conditions and are now available in fractional capacities for refrigerants including R-407C, R-134a, R-404A, R-507 and R-410A.

Flare Connections



RE (SAE)
Externally Equalised



R (SAE)
Internally Equalised

Extended Solder Connections



ERE (ODF)
Externally Equalised



ER (ODF)
Internally Equalised

Extended Solder Connections with Forged Inlet and replaceable Strainer



SRE (ODF)
Externally Equalised



SR (ODF)
Internally Equalised

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Type R

Technical specifications

Benefits

- **Selective thermostatic charges provide optimum performance for all common applications - air conditioning and heat pump, medium and low temp. refrigeration**
- **Stainless steel diaphragm and welded element construction**
- **Large flat diaphragm permits precise valve control**
- **Balanced Port Design provides excellent control on applications with widely varying operation conditions**
- **Externally adjustable**
- **Excellent Bi-Flow Control for Heat Pump Applications (only for valves with external equaliser)**
- **The copper bulb design provides an excellent heat transfer**
- **Replaceable Thermostatic Elements**

Specifications & Materials/Details of Construction

Body	Machined Brass bar	
Seat	Brass Port Machined in Body	
Pin	Stainless Steel	
Pushrod	Stainless Steel	
Element to Body Joint Type	Knife Edge to Metal	
Connections	SAE Flare, ODF Copper Fittings Silver Soldered to Body	
Inlet Strainer	Insert Strainer, Removable Strainer Screen	
Operating Temp. Range	-40°C to +10°C (-40°F to 50°F)	
MRP	48.3 bar (700 psig) for R-410A only / 31.0 bar (450 psig)	
Maximum Temperature	121°C (250°F) Limited Exposure Time	
Max Ambient Temp.	60°C (140°F)	
Max Bulb Temp.	ZGA, ZCP180 (R410A) Element Charge	71.1°C (160°F)
	GA, CP, ZP all Refrigerants excl R410A	121°C (250°F)
	JC (R134a) Element Charge	87.8°C (190°F)
	VC (R407C) Element Charge	71.1°C (160°F)
	SC (R404A) Element Charge	65.6°C (150°F)
	SZ (R404A) Element Charge	76.7°C (170°F)
	YX (R454B) Element Charge	76.7°C (170°F)
Max External Leakage	.10 oz/yr @ 300 psig (2.8 g/yr @ 20 barg)	
UL	SA5460	
Compatibility	All HFC, HCFC. Including low GWP refrigerants R290, R1234yf	

Certification:

The Type R Thermostatic Expansion Valves comply with the Directive(s) 97-23-EC.

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Type R

Options

- ZCP180,ZGA charge available for R410A systems
- SAE (with 100 mesh strainer) or ODF (with 60 x 50 mesh stainless steel wire cloth strainer) connections
- ODF version also available with 100 mesh removable strainer
- External or internal equaliser
- Pressure limiting charge (CP) and anti hunting charge (GA) available
- Available with internal check valve

Element Size	Nominal Valve capacity - Tons of Refrigeration Refrigerant								Connections - Inches*		Connections - mm*	
	J	V	D	S	T	Z	Y	O	Inlet	Outlet	Inlet	Outlet
47	1/6	1/3	1/3	1/6	1/3	1/3	1/2	1/3	1/4, 3/8	3/8, 1/2	6.4, 9.5	9.5, 12.7
	1/4	1/2	1/2	1/4	1/2	1/2	3/4	1/2	1/4, 3/8	3/8, 1/2	6.4, 9.5	9.5, 12.7
	1/3	3/4	3/4	1/3	3/4	3/4	1	3/4	1/4, 3/8	3/8, 1/2	6.4, 9.5	9.5, 12.7
	1/2	1	1	1/2	1	1	1-1/2	1	1/4, 3/8	3/8, 1/2	6.4, 9.5	9.5, 12.7
	1	1-1/2	1-1/2	1	1-1/2	1-1/2	2-1/2	1-1/2	3/8	1/2	9.5	12.7
	1-1/2	2	2	1-1/2	2	2	3	2	3/8	1/2	9.5	12.7
	2	3	2-1/2	2	3	3	4-1/2	3	3/8, 1/2	1/2, 5/8	9.5, 12.7	12.7, 15.9
	2-1/2	4	3-1/2	3	4	4	6	4	3/8, 1/2	1/2, 5/8, 7/8	9.5, 12.7	12.7, 15.9, 22.2
	3	5	4	3-1/2	5	5	7	5	3/8, 1/2	1/2, 5/8, 7/8	9.5, 12.7	12.7, 15.9, 22.2
	4	6	5	4-1/2	6	6	8-1/2	6	3/8, 1/2, 5/8	1/2, 5/8, 7/8	9.5, 12.7, 15.9	12.7, 15.9, 22.2
	5	8	6	6	8	8	11-1/2	8	1/2, 5/8	7/8, 1-1/8	12.7, 15.9	22.2, 28.6
47-5**	7	10	-	7	10	12-1/2	15-1/2	10	5/8	7/8, 1-1/8	15.9	22.2, 28.6
	9	12	-	9	12	15	18	12	5/8	7/8, 1-1/8	15.9	22.2, 28.6

* Some fitting combinations may not be available.
47 and 47-5 are the replacements for 43 and 45

TEV capacity ratings for R-134a, R-401A, R-404A, R-407C, R-408A, 409A, R-410A, and R-422D are based on vapour free 38°C liquid refrigerant entering the expansion valve, a maximum opening superheat of 4K, and a standard factory air test superheat setting. A discussion of the relationship between valve capacities and superheat settings can be found in Bulletin 10-9. The ratings for evaporator temperatures 10°C, 5°C, -5°C, -15°C, -20°C, -30°C, -40°C in the capacity tables are in accordance with ANSI/ARI Standard Number 750. TEVs are tested in accordance with ANSI/ASHRAE 17. For TEV capacity ratings at operating conditions not shown in the following tables, consult your nearest Parker Sporlan Wholesaler

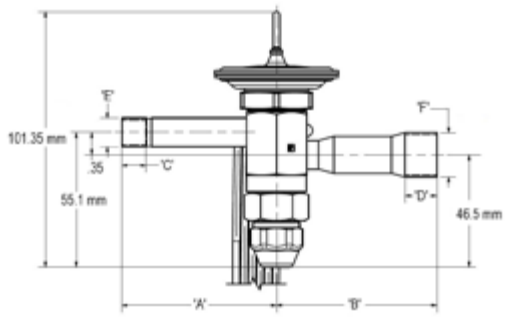
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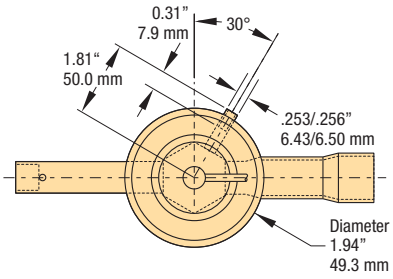
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Type R

Valve Dimensions

Type ERE - Small body

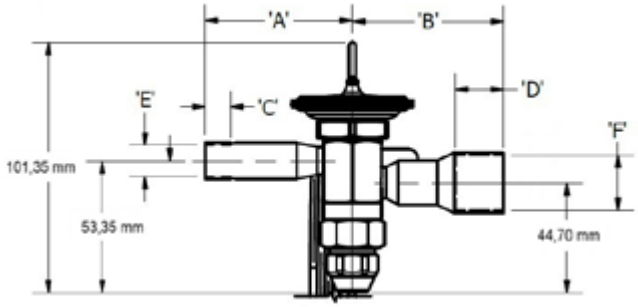


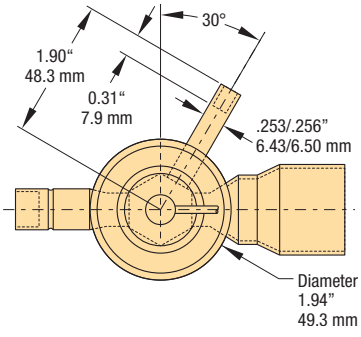


Dimensions - Connections

Fitting Size Inches		Inches						mm					
Inlet	Outlet	A	B	C	D	E	F	A	B	C	D	E	F
1/4	3/8	1.69	2.42	0.31	0.31	.253/256	.377/.381	42.9	61.5	7.87	7.87	6.43/6.50	9.58/9.68
3/8	1/2	2.42	2.51	0.31	0.40	.377/.381	.502/.506	61.5	63.8	7.90	10.2	9.58/9.68	12.8/12.9
1/2	5/8	2.35	2.51	0.40	0.50	.502/.506	.627/.632	59.7	63.8	10.2	12.7	12.8/12.9	15.9/16.1
	7/8		2.41		0.78		.877/.882		61.2		19.8		22.3/22.4
5/8	1-1/8	2.35	2.41	0.50	0.91	.627/.632	1.128/1.135	59.7	61.2	12.7	23.1	15.9/16.1	28.7

Type ERE - Large body





Dimensions - Connections

Fitting Size Inches		Inches						mm					
Inlet	Outlet	A	B	C	D	E	F	A	B	C	D	E	F
5/8	7/8	2.48	2.51	0.50	0.78	.627/.632	.877/.882	63.0	63.8	12.7	19.8	15.9/16.1	22.3/22.4
	1-1/8				0.91		.1.128/1.135				23.1		28.7/28.8

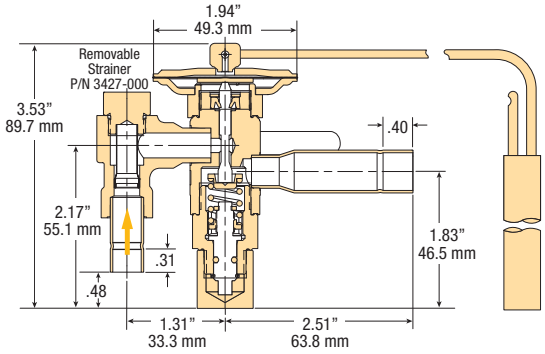
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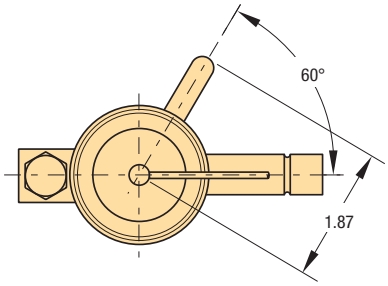
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Type R

Valve Dimensions

Type SRE





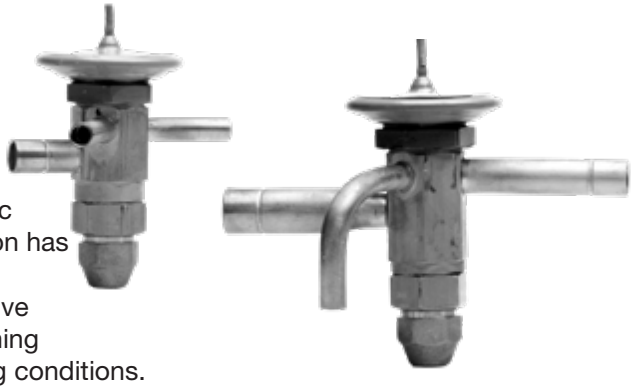
SRE dimension based on 3/8 x 1/2 connections

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Type EBS/O



Parker Sporlan Type **EBS** and **O** valves are a brass bar body, externally adjustable valves with ODF solder connections. The thermostatic element is replaceable, and the inlet connection has a permanent 12 mesh strainer.
The balanced port construction makes this valve ideally suited for refrigeration and air conditioning applications which operate over widely varying conditions.

A synthetic seating surface provides tight shut-off during system off periods. These two valve types has three body styles, which providing capacities from 26 kW up to 160 kW R-404A.

These valves can also be ordered as a bidirectional valve, allowing control of flow in both directions for use on heat pump applications.

Specifications & Materials/Details of Construction

Body	Machined Brass bar	
Seat	Brass Port Machined in Body	
Pin	Stainless Steel	
Pushrod	Stainless Steel	
Element to Body Joint Type	Knife Edge to Metal	
Connections	ODF Copper Fittings Silver Soldered to Body	
Inlet Strainer	Permanent 12 mesh strainer	
Operating Temp. Range	-40°C to 10°C (-40°F to 50°F)	
MRP	48.3 bar (700 psig) for R-410A only / 31.0 bar (450 psig)	
Maximum Temperature	121°C (250°F) Limited Exposure Time	
Max Ambient Temp.	60°C (140°F)	
Max Bulb Temp.	ZGA, ZCP180 (R410A) Element Charge	71.1°C (160°F)
	GA, CP, ZP all Refrigerants excl R410A	121°C (250°F)
	JC (R134a) Element Charge	87.8°C (190°F)
	VC (R407C) Element Charge	71.1°C (160°F)
	SC (R404A) Element Charge	65.6°C (150°F)
	SZ (R404A) Element Charge	76.7°C (170°F)
	YX (R454B) Element Charge	76.7°C (170°F)
Max External Leakage	.10 oz/yr @ 300 psig (2.8 g/yr @ 20 barg)	
UL	SA5460	
Compatibility	All HFC, HCFC, Refrigerants and blends. Including low GWP refrigerants R290, R1234yf and R1234ze	

Certification:

The Type EBS and O Thermostatic Expansion Valves comply with the Directive(s) 97-23-EC.

For all requests, consult your nearest Parker Sporlan Wholesaler or contact us on:
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Type EBS/O

EBS and O Thermostatic Expansion Valves

Benefits

- **Selective thermostatic charges provide optimum performance for all common applications air conditioning and heat pump, medium and low temp. refrigeration**
- **Stainless steel diaphragm and welded element construction**
- **Large flat diaphragm permits precise valve control**
- **Balanced Port Design provides excellent control on applications with widely varying operation conditions**
- **Externally adjustable**
- **The copper bulb design provides an excellent heat transfer**
- **Replaceable Thermostatic Elements**

Options

- CP180, ZGA charge available for R410A systems
- Pressure limiting charge (CP) and anti hunting charge (GA) available
- Bi- flow feature

Valve type	Element Size	Nominal Valve capacity - Tons of Refrigeration Refrigerant							
		J	V	D	S	T	Z	Y	O
EBS	83	5	8	7	6	-	Not Approved	Not Approved	Not Approved
		7	11	10	7-1/2	-			
		9	15	12	10	-			
		12	20	17	13	-			
O (Small)	83	6	10	7	6	10	-	-	10
		9	15	12	9	15	-	-	15
		12	20	17	12	20	-	-	20
		16	30	28	21	30	-	-	30
	85*	-	-	-	-	-	19	20	-
		-	-	-	-	-	24	25	-
		-	-	-	-	-	34	35	-
O (Large)	33	23	40	40	30	40	-	-	40
		32	55	45	35	55	-	-	55
		40	70	60	45	70	-	-	70
	83-3*	-	-	-	-	-	50	55	-
		-	-	-	-	-	60	70	-

* *R-410A, R-32, R-454B or similar refrigerant use only

TEV capacity ratings for R-134a, R-401A, R-404A, R-407C, R-408A, 409A, R-410A, and R-422D are based on vapour free 38°C liquid refrigerant entering the expansion valve, a maximum opening superheat of 4K, and a standard factory air test superheat setting. A discussion of the relationship between valve capacities and superheat settings can be found in Bulletin 10-9. The ratings for evaporator temperatures 10°C, 5°C, -5°C, -15°C, -20°C, -30°C, -40°C in the capacity tables are in accordance with ANSI/ARI Standard Number 750. TEVs are tested in accordance with ANSI/ASHRAE 17. For TEV capacity ratings at operating conditions not shown in the following tables, contact RACE Division of Parker.

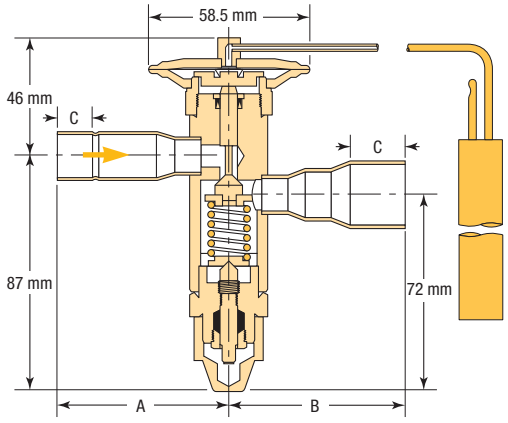
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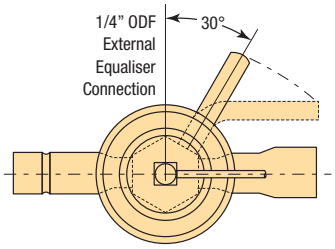
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Type EBS/O

Valve Dimensions

Type EBS





Dimensions - Connections

Valve Type	Fitting Size Inches	mm		
		A	B	C
EBS	3/8 ODF	62	-	9
	1/2 ODF	62	-	13
	5/8 ODF	62	64	19
	7/8 ODF	-	64	20.5
	1-1/8 ODF	-	77	24.5

Bulb Sizes

Standard Charges	Refrigerant			
	22	134a	404A	507
C	13 OD x 89			
Z & ZP Series	13 OD x 89	-	13 OD x 89	
CP Series	13 OD x 89			-
VGA	19 OD x 51	-	-	-

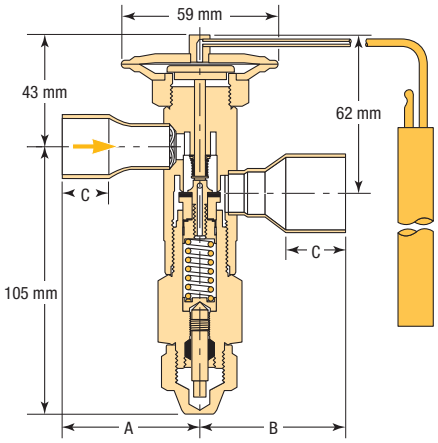
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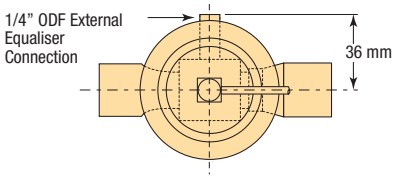
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Type EBS/0

Valve Dimensions

Type 0 Small





4

Dimensions - Connections

Valve Type	Fitting Size Inches	mm		
		A	B	C
0	1-1/8 ODF	68	-	23
	1-3/8 ODF	-	76	25
	1-5/8 ODF	-	79	28

Bulb Sizes

Standard Charges	Refrigerant				
	22	134a	404A	410A	507
C	19 OD x 102	13 OD x 127	19 OD x 102	-	19 OD x 102
Z & ZP Series	19 OD x 102	-	19 OD x 102	-	19 OD x 102
CP Series		19 OD x 102		-	
VGA	19 OD x 102	-	-	-	-
ZGA	-	-	-	19 OD x 51	-

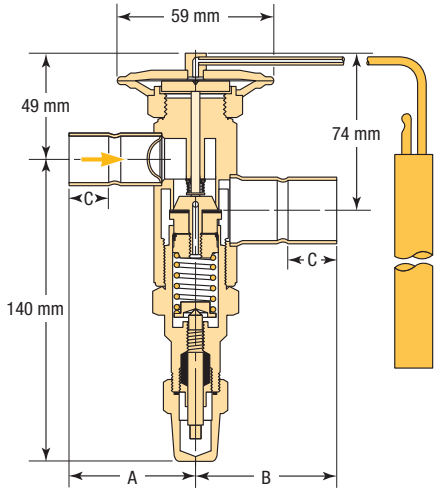
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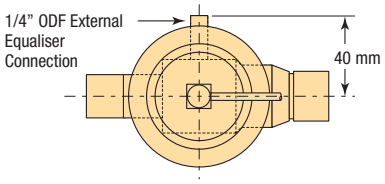
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Type EBS/O

Valve Dimensions

Type O Large





Dimensions - Connections

Valve Type	Fitting Size Inches	mm		
		A	B	C
O	7/8 ODF	53	-	19
	1-1/8 ODF	56	57	25
	1-3/8 ODF	-	61	25

Bulb Sizes

Standard Charges	Refrigerant				
	22	134a	404A	410A	507
C		13 OD x 89		-	13 OD x 89
Z & ZP Series	13 OD x 89	-	13 OD x 89	-	13 OD x 89
CP Series		13 OD x 89		-	
VGA	19 OD x 51	-	-	-	-
ZGA	-	-	-	19 OD x 51	-

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Type EBS/0

Order Selection Guide

EBS & 0 Type

Valve Size	Refrigerant	Part Number	Valve Size / Charge	Valve Description
Small **EBS / 0**	**22, 407C, 422D (V)**	**124366**	OVE-15-C	7/8 x 1-1/8 ODF - 5'
		124296	OVE-15-CP100	7/8 x 1-1/8 ODF - 5'
		125472	OVEB-15-CP100 (Bi-flow)	7/8 x 1-1/8 ODF - 5'
		125473	OVEB-15-CP100 (Bi-flow) ODF - 5'	5/8 x 7/8 ODF - 5'
		124226	OVE-15-GA	7/8 x 1-1/8 ODF - 5'
		124373	OVE-20-C	7/8 x 1-3/8 ODF - 5'
		124303	OVE-20-CP100	7/8 x 1-3/8 ODF - 5'
		125470	OVEB-20-CP100 (Bi-fl ow)	1-1/8 x 1-3/8 ODF - 5'
		124233	OVE-20-GA	7/8 x 1-3/8 ODF - 5'
		124310	OVE-30-CP100	1-1/8 x 1-3/8 ODF - 5'
		125471	OVEB-30-CP100 (Bi-flow)	1-1/8 x 1-3/8 ODF - 5'
		124240	OVE-30-GA	1-1/8 x 1-3/8 ODF - 5'
	404A, 507, 408A, (S)	**163507**	EBSSE-7-1/2-C	5/8 x 7/8 ODF - 5'
		163509	EBSSE-7-1/2-ZP	5/8 x 7/8 ODF - 5'
		163547	EBSSE-7-1/2-CP115	5/8 x 7/8 ODF - 5'
		163877	EBSSE-10-C	7/8 x 1-1/8 ODF - 5'
		163752	EBSSE-10-ZP	7/8 x 1-1/8 ODF - 5'
		163724	EBSSE-10-CP115	7/8 x 1-1/8 ODF - 5'
		124214	OSE-12-C	7/8 x 1-3/8 ODF - 5'
		124225	OSE-12-ZP	7/8 x 1-3/8 ODF - 5'
		124333	OSE-12-CP115	7/8 x 1-3/8 ODF - 5'
		124215	OSE-21-C	1-1/8 x 1-3/8 ODF - 5'
		124231	OSE-21-ZP	1-1/8 x 1-3/8 ODF - 5'
		124163	OSE-21-CP115	1-1/8 x 1-3/8 ODF - 5'
	134a, 409A, 401A (J)	**163506**	EBSJE-7-CP60	5/8 x 7/8 ODF - 5'
		163505	EBSJE-7-C	5/8 x 7/8 ODF - 5'
		163897	EBSJE-9-CP60	7/8 x 1-1/8 ODF - 5'
		164995	EBSJE-9-C	7/8 x 1-1/8 ODF - 5'
		124212	OJE-12-CP60	7/8 x 1-3/8 ODF - 5'
		125519	OJE-12-C	7/8 x 1-3/8 ODF - 5'
		125527	OJE-16-CP60	1-1/8 x 1-3/8 ODF - 5'
		124209	OJE-16-C	1-1/8 x 1-3/8 ODF - 5'
	R410A (Z)	**125428**	OZE-20-GA	7/8 x 1-3/8 ODF - 5'
		125436	OZEB-20-GA (Bi-flow)	7/8 x 1-1/8 ODF - 5'
		125697	OZEB-20-GA (Bi-flow)	1-1/8 x 1-1/8 ODF - 5'
		Special order valve	OZE-20-CP180	7/8 x 1-3/8 ODF - 5'
		125372	OZE-25-GA	1-1/8 x 1-3/8 ODF - 5'
		125482	OZEB-25-GA (Bi-flow)	7/8 x 1-1/8 ODF - 5'
		125699	OZEB-25-GA (Bi-flow)	1-1/8 x 1-1/8 ODF - 5'
		Special order valve	OZE-25-CP180	1-1/8 x 1-3/8 ODF - 5'
		125399	OZE-35-GA	1-1/8 x 1-3/8 ODF - 5'
		125695	OZEB-35-GA (Bi-flow)	1-1/8 x 1-1/8 ODF - 5'
		Special order valve	OZE-35-CP180	1-1/8 x 1-3/8 ODF - 5'
	407C, 22, 422D (V), 134a, 409A, 401A (J) 404A, 507, 408A (S) 410A (Z)	Special order valves	OVE-15, 20, 30 - 5'	
			OJE-12, 16 - 5'	
			OSE-12, 21 - 5'	
			OZE-20, 25, 35 - 5'	

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Type EBS/O

Order Selection Guide

O Type

Valve Size	Refrigerant	Part Number	Valve Size / Charge	Valve Description
Large **O**	**22, 407C, 422D (V)**	**124387**	OVE-40-C	1-1/8 x 1-3/8 ODF - 5'
		124317	OVE-40-CP100	1-1/8 x 1-3/8 ODF - 5'
		124247	OVE-40-GA	1-1/8 x 1-3/8 ODF - 5'
		124331	OVE-55-CP100	1-1/8 x 1-3/8 ODF - 5'
		124261	OVE-55-GA	1-1/8 x 1-3/8 ODF - 5'
		124345	OVE-70-CP100	1-1/8 x 1-3/8 ODF - 5'
		124275	OVE-70-GA	1-1/8 x 1-3/8 ODF - 5'
	134a, 409A, 401A (J)	**124647**	OJE-23-CP60	1-1/8 x 1-3/8 ODF - 5'
		124859	OJE-23-C	1-1/8 x 1-3/8 ODF - 5'
		124652	OJE-32-CP60	1-1/8 x 1-3/8 ODF - 5'
		124701	OJE-32-C	1-1/8 x 1-3/8 ODF - 5'
		124631	OJE-40-CP60	1-1/8 x 1-3/8 ODF - 5'
		125528	OJE-40-C	1-1/8 x 1-3/8 ODF - 5'
	404A, 507, 408A, (S)	**124819**	OSE-30-C	1-1/8 x 1-3/8 ODF - 5'
		124750	OSE-30-ZP	1-1/8 x 1-3/8 ODF - 5'
		124156	OSE-35-C	1-1/8 x 1-3/8 ODF - 5'
		124145	OSE-35-ZP	1-1/8 x 1-3/8 ODF - 5'
		124127	OSE-45-C	1-1/8 x 1-3/8 ODF - 5'
	410A (Z)	**125426**	OZE-50-GA	1-1/8 x 1-3/8 ODF - 5'
		Special order valve	OZE-50-CP180	1-1/8 x 1-3/8 ODF - 5'
		125467	OZE-60-GA	1-1/8 x 1-3/8 ODF - 5'
		Special order valve	OZE-60-CP180	1-1/8 x 1-3/8 ODF - 5'
	407C, 22, 422D (V), 134a, 409A, 401A (J) 404A, 507, 408A (S) 410A (Z)	Special order valves	OJE-23, 32, 40 - 5'	
			OVE-40, 55, 70 - 5'	
			OSE-30, 35, 45 - 5'	
			OZE-50, 60 - 5'	

Special order valves or other valve configurations might be available upon request.

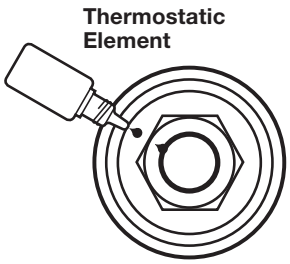
All "EBS" and "O" Type valves are supplied with a 1.5 metre length of capillary tube and with a 1/4" ODF equaliser connection.

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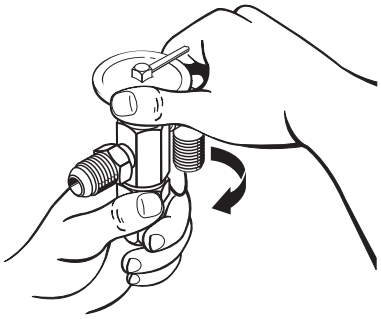
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Type EBS/0

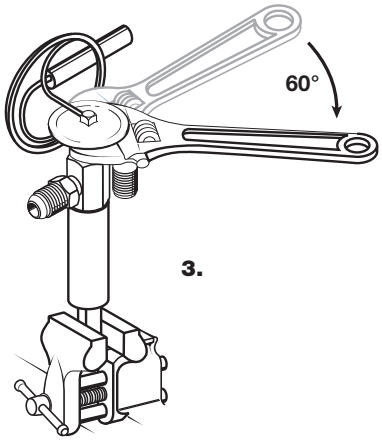
Thermostatic Element Installation

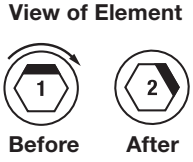


1. (Oil) Lubricate lockring surface.



2. Hand tighten element.





4. After hand tight, turn element clockwise 60° (or movement equal to one hex flat).

Miscellaneous Parts		Part Number
Oil Bottle (With Oil)	OB-1	**184001**

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Type R, EBS & 0

Valve Thermostatic Element Kits

Valve Size	Refrigerant (Code)	Element Kit No.	Tubing Length	Part Number	Tubing Length	Part Number
The following Kits contain: 1 Thermostatic Element, 2 Bulb Clamps, 2 Bolts and Nuts.						
(E)R, SR (1-8)	410A(Z)	KT-47-ZCP180	30 in/760 mm	**-**	5 ft/1500 mm	181660
		KT-47-ZGA		**181517**		181518
(E)R, SR (10-12)	407C, 22(V)	KT-47-5-VCP100		-		-
		KT-47-5-VGA		-		-
(E)R, SR (12.5-15)	410A(Z)	KT-47-5-ZCP180		-		181751
		KT-47-5-ZGA		-		181547
E)R, SR, (E)BQ, SBQ	134a(J)	KT-47-JC	30 in/760 mm	**181514**	5 ft/1500 mm	181531
		KT-47-JCP60		**181521**		181523
		KT-47-JZ		**181526**		181527
		KT-47-JZP		-		-
	407C, 22(V)	KT-47-NGA		**181551**		-
		KT-47-VCP100		**181549**		181537
		KT-47-VC		**181510**		181511
		KT-47-VZ		**181534**		181529
		KT-47-VZP40		**-**		181536
	404A(S)	KT-47-SCP115		**-**		181682
		KT-47-SZ		**181512**		181513
		KT-47-SZP		**181533**		181532
EBS Small 0	134a(J)	KT-83-JCP60	5 ft/1500 mm	**180053**	-	-
		KT-83-JC		**181126**		
	407C, 22(V)	KT-83-VCP100		**180891**		
		KT-83-VC		**180887**		
		KT-83-VZ		**180921**		
		KT-83-VZP40		**180926**		
	404A(S)	KT-83-SCP115		**179934**		
		KT-83-SZ		**180062**		
		KT-83-SZP		**180064**		
Small 0	410A(Z)	KT-85-ZGA	5 ft/1500 mm	**180918**		
		KT-85-ZCP180		**181353**		
Large 0	410A(Z)	KT-85-3-ZGA		**183366**		
Large 0	134a(J)	KT-33-JCP60	5 ft/1500 mm	**180051**	-	-
		KT-33-JC		**180028**		
	22(V)	KT-33-VCP100		**180029**		
		KT-33-VC		**180025**		
		KT-33-VZP40		**180250**		
	404A(S)	KT-33-SCP115		**180110**		

*** Applications Factors:**

1. The Type ZP,CP charges have essentially the same characteristics as the Type Z,C charge with one exception: they produce a pressure limit. Maximum Operating Pressure (MOP). ZP,CP charges are not intended as replacements for Z,C charges. Each should be selected for its own unique purpose.
2. All air conditioning and heat pump charges are intended for use with externally equalised valves.

For all requests, consult your nearest Parker Sporlan Wholesaler or contact us on:
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Balanced Ported Exchangeable Cartridge Thermostatic Expansion Valves



Type BQ

The BQ Valves Series are replaceable cartridge style balanced port Thermostatic Expansion Valve.
These valves will be supplied with three component parts: body, cartridge, and thermostatic element.
It is designed for small refrigeration systems, including refrigerated cases, coolers and freezers, and are also well suited for air conditioning and heat pump duties.
Sporlan valves are designed with the refrigerant flowing against the valve pin.
This design feature improves valve control when light loads occur and the pin modulates close to the valve port.

Valve Nomenclature/Ordering Instructions

Combine the letters and numbers in the following manner to obtain the complete valve designation. Also include all connection sizes and the capillary tube length.

BQE	-	3/8 x 1/2 x 1/4 SAE	-	BQC	-	AAA	-	KT-43	-	V	-	C	-	5'
BQ, EBQ, SBQ = Internally Equalised BQE, EBQE, SBQE = Externally Equalised		Connection Size and Style: Inlet x Outlet x External Equaliser		Cartridge Type		Cartridge Size		Element Kit KT-43 or KT-45 R410A only		Parker Sporlan Code - Refrigerant Element Label Colour Code V/N = R-22, R-407C, R-422D Green or Lt. Brown J = R-134A, R-409A, R-401A Blue, Yellow or Pink S = R-404A, R-408A / Orange P = R507 / Teal Z = R-410A / Rose		Thermostatic Charge		Capillary Tubing Length Inches or Feet

When installing theses valves with solder connections, the internal parts should be protected from overheating by using a Parker calorie discharger (TB2) - see page 269 - or by wrapping the valve with a wet cloth.

Parker Sporlan Selective Charges engineered for peak performance for each specific application
Recommended Thermostatic Charges*

Application	Refrigerant													THERMOSTATIC ELEMENT	SYSTEM MOB psig
	12	22, 422D	134a	401A	402A	404A	407A	407C	408A	409A	410A	502	507		
Air Conditioning	X	-	X	X	-	-	-	-	-	X	-	-	-	KT-47-JCP60	50
	-	X	-	-	-	-	X	X	-	-	-	-	-	KT-47-VCP100	90
	-	X	-	-	-	-	X	X	-	-	-	-	-	KT-47-VGA	-
	-	-	-	-	-	X	-	-	X	-	-	X	-	KT-47-SCP115	105
	-	-	-	-	-	-	-	-	-	-	X	-	-	KT-47-ZGA	-
	-	-	-	-	-	-	-	-	-	-	X	-	-	KT-47-ZCP180	170
Commercial Refrigeration 10°C to -25°C	X	-	X	X	-	-	-	-	-	X	-	-	-	KT-47-JC	-
	-	X	-	-	-	-	X	X	-	-	-	-	-	KT-47-VC	-
	-	-	-	-	-	X	-	-	X	-	-	X	-	KT-47-SC	-
	-	-	-	-	X	-	-	-	-	-	-	-	X	KT-47-PC	-
Low Temperature Refrigeration -20°C to -40°C	-	X	-	-	-	-	-	-	-	-	-	-	-	KT-47-VZ	-
	-	X	-	-	-	-	-	-	-	-	-	-	-	KT-47-VZP40	30
	-	-	-	-	X	X	-	-	X	-	-	X	X	KT-47-SZ	-
	-	-	-	-	X	X	-	-	X	-	-	X	X	KT-47-SZP	35

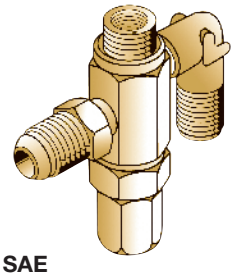
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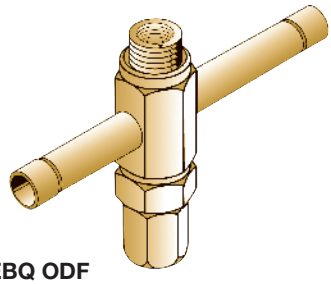
Type BQ

BQ Valve Components

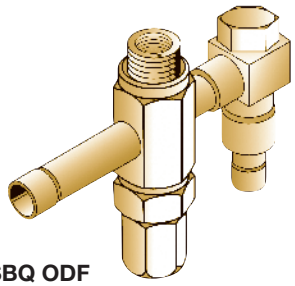
Body Type



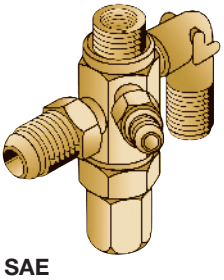
BQ SAE
Internally Equalised



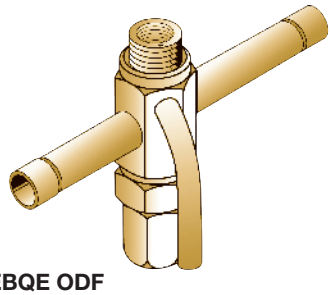
EBQ ODF
Internally Equalised



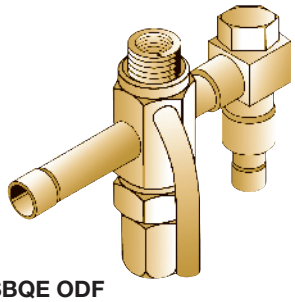
SBQ ODF
Internally Equalised



BQE SAE
Externally Equalised

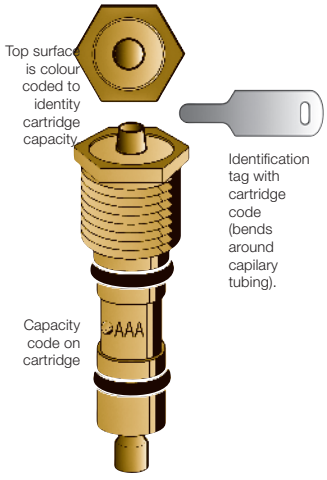


EBQE ODF
Externally Equalised

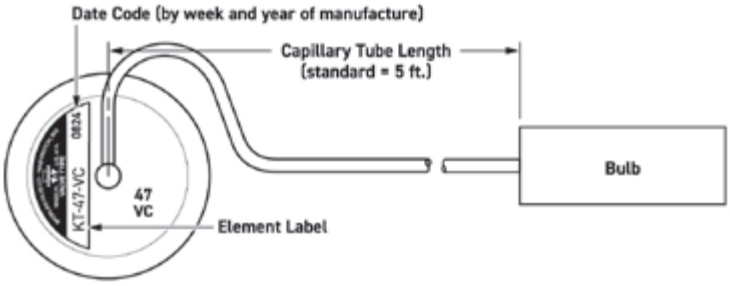


SBQE ODF
Externally Equalised

Cartridge



Thermostatic Element



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Type BQ

Specifications & Materials/Details of Construction

Body	Machined Brass bar	
Seat	Brass Port Machined in Body	
Pin	Stainless Steel	
Pushrod	Stainless Steel	
Element to Body Joint Type	Knife Edge to Metal	
Connections	SAE Flare, ODF Copper Fittings Silver Soldered to Body	
Inlet Strainer	Insert Strainer, Removable Strainer	
Operating Temp. Range	-40°C to 10°C (-40°F to 50°F)	
MRP	48.3 bar (700 psig) for R-410A only / 31.0 bar (450 psig)	
Maximum Temperature	121°C (250°F) Limited Exposure Time	
Max Ambient Temp.	60°C (140°F)	
Max Bulb Temp.	ZGA, ZCP180 (R410A) Element Charge	71.1°C (160°F)
	GA, CP, ZP all Refrigerants excl R410A	121°C (250°F)
	JC (R134a) Element Charge	87.8°C (190°F)
	VC (R407C) Element Charge	71.1°C (160°F)
	SC (R404A) Element Charge	65.6°C (150°F)
	SZ (R404A) Element Charge	76.7°C (170°F)
Max External Leakage	.10 oz/yr @ 300 psig (2.8 g/yr @ 20 barg)	
UL	SA5460	
Compatibility	All HFC, HCFC, Refrigerants and blends. Including low GWP refrigerants R290 and R1234yf	

4

Certification:

The Type BQ Thermostatic Expansion Valves comply with the Directive(s) 97-23-EC.

Benefits

- Selective thermostatic charges provide optimum performance for all common applications - air conditioning and heat pump, medium and low temp. refrigeration
- Stainless steel diaphragm and welded element construction
- Large flat diaphragm permits precise valve control
- Balanced Port Design provides excellent control on applications with widely varying operation conditions
- Externally adjustable
- Excellent Bi-Flow Control for Heat Pump Applications (only for valves with external equaliser)
- The copper bulb design provides an excellent heat transfer
- Replaceable Thermostatic Elements
- Wide capacity range with only 5 Exchangeable Orifices

Options

- ZCP180, ZGA charge available for R410A systems
- SAE (with 100 mesh strainer) or ODF (with 60x 50 mesh stainless steel wire cloth strainer) connections
- External or internal equaliser
- Pressure limiting charge (CP) and anti hunting charge (GA) available
- Cartridge available with 15% bleed port

Nominal Capacity in kW						Cartridge		
R-410A	**R-22, R-407C**	**R-134a**	**R-404A, R-507**	**R290**	**R1234yf**	**Size**	**Cartridge Code**	**Colour Code**
1.17	1.16	0.7	0.7	1.38	0.65	AAA	BQC-AAA	**Red**
2.64	2.35	1.16	1.16	2.97	1.40	AA	BQC-AA	**Yellow**
6.15	5.25	3.5	3.5	6.33	3.12	A	BQC-A	**Blue**
11.57	10.5	6.13	6.13	11.07	5.30	B	BQC-B	**Pink**
21.1	19.25	10.5	10.5	20.56	9.35	C	BQC-C	**White**

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Type BQ

3 Step Order Selection Guide

TEV capacity ratings for R-134a, R-401A, R-404A, R-407C, R-408A, 409A, R-410A, and R-422D are based on vapour free 38°C liquid refrigerant entering the expansion valve, a maximum opening superheat of 4K, and a standard factory air test superheat setting. A discussion of the relationship between valve capacities and superheat settings can be found in Bulletin 10-9.
The ratings for evaporator temperatures 10°C, 5°C, -5°C, -15°C, -20°C, -30°C, -40°C in the capacity tables are in accordance with ANSI/ARI Standard Number 750.
TEVs are tested in accordance with ANSI/ASHRAE 17. For TEV capacity ratings at operating conditions not shown in the following tables, contact us.

1 - Available **BQ Valves** Bodies

Valve Type	Part Number	Valve Description
BQ	168191	BQ BODY 1/4 x 1/2 SAE
	168190	BQ BODY 3/8 x 1/2 SAE
BQE	168184	BQE BODY 1/4 x 1/2 SAE
	168183	BQE BODY 3/8 x 1/2 SAE
SBQ	168193	SBQ BODY 3/8 x 1/2 ODF
SBQE	168198	SBQE BODY 3/8 x 1/2 ODF
EBQ*	168033	EBQ BODY 1/4 x 3/8 ODF
	168051	EBQ BODY 1/4 x 1/2 ODF
	168194	EBQ BODY 3/8 x 1/2 ODF
EBQE*	168035	EBQE BODY 1/4 x 3/8 ODF
	168044	EBQE BODY 1/4 x 1/2 ODF
	168186	EBQE BODY 3/8 x 1/2 ODF
	168187	EBQE BODY 1/2 x 5/8 ODF
	168188	EBQE BODY 1/2 x 7/8 ODF

* All EBQ(E) bodies are supplied with an 877 Series inlet strainer.

2 - BQ Valves Cartridge

Size	Colour Code	Cartridge Size	Part Number
AAA	Red	BQC-AAA	168303
AA	Yellow	BQC-AA	168304
A	Blue	BQC-A	168306
B	Pink	BQC-B	168307
C	White	BQC-C	168308
AA (bleed port)	Yellow/Black	BQC-AA-BP15	168701
A (bleed port)	Blue/Black	BQC-A-BP15	168702
B (bleed port)	Pink/Black	BQC-B-BP15	168703

3 - BQ Valves Thermostatic Element Kit*

Refrigerant (Code)	Element Kit No.	Capillary Tube Length	Part Number
410A(Z)	KT-47-ZCP180	1500 mm	181660
	KT-47-ZGA		181518
134a, 409A, 401A (J)	KT-47-JC		181531
	KT-47-JCP60		181523
	KT-47-VCP100		181537
	KT-47-VC		181511
	KT-47-VZ		181529
	KT-47-VZP40		181536
404A, 408 (S)	KT-47-SCP115		181682
	KT-47-SZ		181513
	KT-47-SZP		181532

** The Kit contain: 1 Thermostatic Element, 2 Bulb Clamps, 2 Bolts and Nuts.

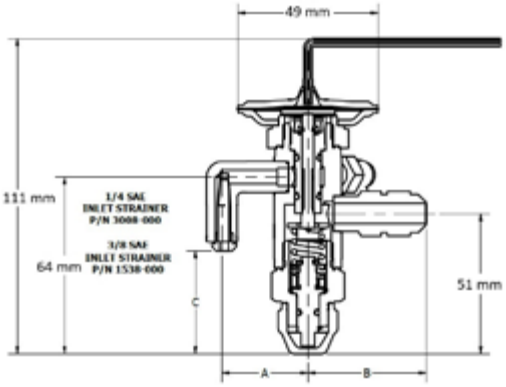
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Type BQ

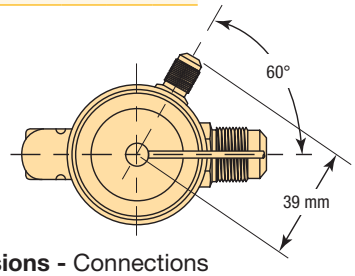
Valve Dimensions

Type BQ & BQE

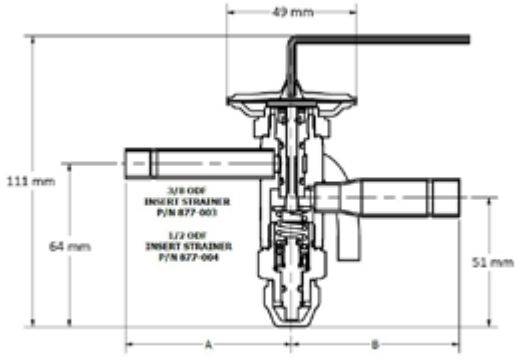


Dimensions - Connections

Fitting Size Inches	mm		
	A	B	C
1/4 SAE, 90° Angle	30	-	37
3/8 SAE, 90° Angle	34	-	27
3/8 SAE	-	41	-
1/2 SAE	-	46	-

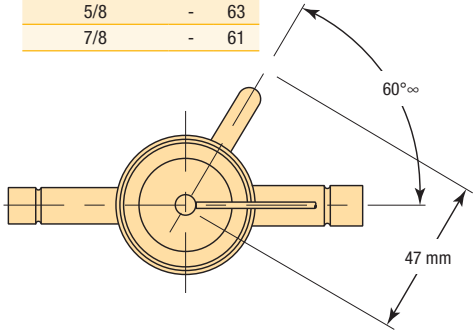


Type EBQ & EBQE

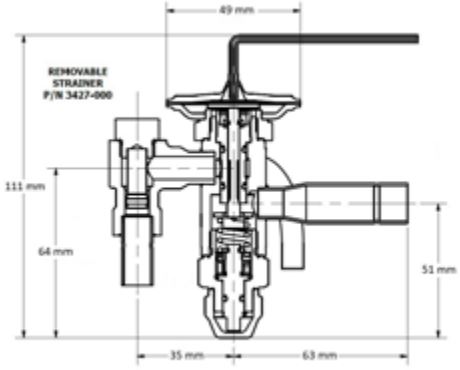


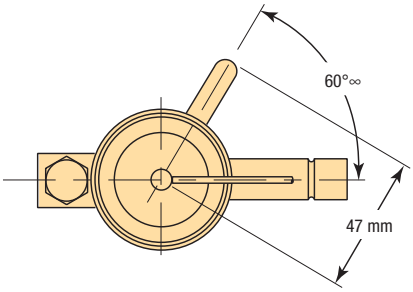
Dimensions - Connections

Fitting Size Inches	mm	
	A	B
3/8	64	-
1/2	61	63
5/8	-	63
7/8	-	61



Type SBQ & SBQE





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Type BQ

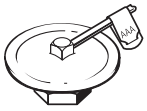
Parts and Component Assembly

BQ Miscellaneous

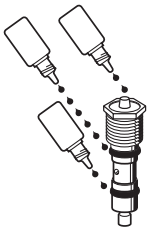
Miscellaneous Parts		Part Number
(2) AAA, (4) AA, (4) A, (3) B, and (2) C Cartridges and Tags, Oil Bottle (with oil), BQ Cartridge Tool	BQ Cartridge Service Kit	**184007**
BQ Cartridge O-Ring	4508-010*	**958147**
Oil Bottle	OB-1	**184001**
4 mm Allen Wrench	AW-1	**184002**
BQ Cartridge Tool	4444-000	**184008**
KT-47 Element Wrench	180390	**180390**
BQ Valve Assembly Tool - Deep Well Socket	QVT-1	**184005**
Bench Flange	QVT-F	**184006**

* Cartridge requires 2 O-rings

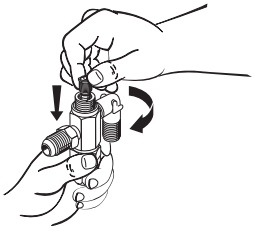
Component Assembly



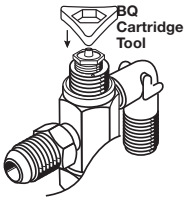
1 Attach cartridge identification tag to element capillary tube.



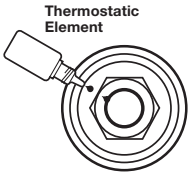
2 (Oil) Lubricate pushrods and O-rings.



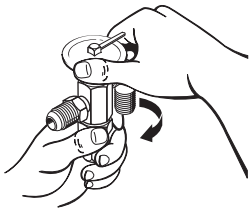
3 Turn clock wise while applying downward force.



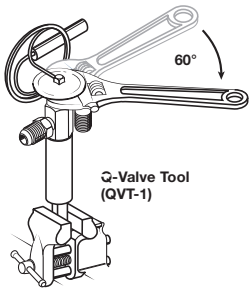
4 Turn clock wise until seated (do not over tighten).

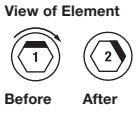


5 (Oil) Lubricate lockring surface.

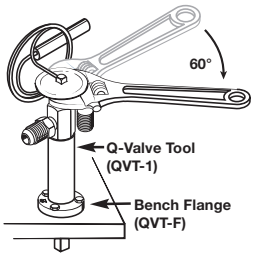


6 Hand tighten element.





7 After hand tight, turn element clock wise 60° (or movement equal to one hex flat).



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NX Valves

Type NX and NXE



The small and compact design of Sporlan's Type NX Thermostatic Expansion Valves makes this product ideal for food service and food retail applications such as display cases, ice machines, frozen drink dispensers and commercial kitchen refrigerators and freezers. The Type NX valves feature a laser-welded stainless-steel element, capillary tube, and sensing bulb assembly optimised for reliability and long life. The single pushrod balanced port design ensures precise pin and port alignment, enabling the valve to maintain superior superheat control at all load conditions.

Features & Benefits

- **Long-lasting and durable stainless-steel diaphragm and weld design**
- **Single pushrod balanced port construction**
- **Suitable for all common refrigerants including R-290**
- **Internal or external equaliser**
- **Easily adjustable superheat setting**
- **High strength silver soldered joints with solid copper connections**

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NX Valves

Technical Specifications and Valve Capacity

Technical Specifications

Compatible Refrigerants	All common HCFC, HFC, HFO refrigerants and their blends along with R-290	
Compatible Lubricants	Polyolester Oil (POE), Mineral Oil (MO)	
Refrigerant Group Codes	J R-134a, R-1234yf, R-513A, R-513B	
	V R-407A, R-407F, R-448A, R-449A, R-290, R-22	
	S R-404A, R-402A, R-507A, R-452A	
	Q R-450A	
Maximum Installation Temperature	120°C (250°F)	
Ambient Temperature Range	-40°C to 88°C (-40°F to 190°F)	
Maximum Rated Pressure	48 bar (700 psig)	
Certification for Safety	UL Recognized File No. SA5460 EU PED Fluid Groups 1 and 2, Article 4, paragraph 3, DN<25	
Maximum Test Pressure	54 bar (800 psig)	
Maximum Ambient Temperature	65°C (150°F)	
Thermostatic Charges and Evaporator Temperature Range	JW, JW40	-25°C to 5°C (-10°F to 40°F)
	Evaporator Temperature Range	-35°C to 5°C (-30°F to 40°F)
	VW30	-35°C to -20°C (-30°F to -5°F)
	SW	-40°C to 5°C (-40°F to 40°F)
	SW45	-40°C to -18°C (-40°F to 0°F)
	QW	-20°C to 5°C (0°F to 40°F)
	QW50	-20°C to 0°C (0°F to 30°F)
Maximum Dehydration	W (without MOP) 65°C (150°F)	
	W (with MOP) 120°C (250°F)	

Standard static superheat settings vary based on the system refrigerant selected, but the valves are set to approximately 4K static superheat based on the newer refrigerants such as R448A, etc. Special settings are available upon special request. The seal cap utilises a mechanical knife-edge seal. The torque required for proper sealing is 10.8 to 14.9 Nm. Sporlan offers 2 optional inlet strainers for use with NX valves; an insert strainer and an integral strainer. The insert type strainer is placed into the inlet fitting prior to brazing and can only be serviced by disconnecting the liquid line.

Capacity

To calculate the valve capacity, please use Sporlan Virtual Engineer:
discover.parker.com/sporlanvirtualengineer

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NX Valves

Nomenclature and Item Numbering System

Like other Sporlan Thermostatic Expansion Valves, the Type NX valves follow the nomenclature example and ordering instructions below.

Item Number

Description

NXE	A10	JW	B15	3 S x 4 x 2 ODF	60”
Valve Model	Capacity Code	Thermostatic Charge	Bleed Port (Blank for no bleed port)	Connections Inlet x Outlet (Eighths of an Inch) S = Insert Strainer	Cap Tube Length (Blank for 30” standard length)

Unlike other Sporlan Thermostatic Expansion Valves, its item number completely defines the type NX valve. The standard NX item number has 7 positions; however, item numbers can be up to 14 positions in length. Positions 8 - 14 are reserved for special OEM configurations.

Refer to the following example of a standard NX item number and the position descriptions when ordering.

Item Number and Positions

N	X	D	J	B	4	2
1	2	3	4	5	6	7

Position Descriptions

1	Valve Family	N		
2		X		
3	Capacity Code (Refer to Capacity Selection tables)	C = A07 D = A10 E = A15 F = A30	G = A45 H = B38 J = C38 K = C70	L = C80 M = C90 P = E70
4	Thermostatic Charge	J = JW V = VW S = SW Q = QW C = CW	1 = JW40 2 = JW60 3 = SW45 4 = VW30 5 = QW50 6 = CW45	
5	Inlet Configuration	2 = 1/4” ODF 3 = 3/8” ODF	A = 1/4” ODF with insert strainer B = 3/8” ODF with insert strainer C = 3/8” ODF with integral (SNX) strainer	
6	Outlet Configuration	3 = 3/8” ODF 4 = 1/2” ODF 5 = 5/8” ODF		
7	Equaliser Configuration	X = internally equalised 2 = 1/4” ODF externally equalised		

- 30 inches (76 cm) length sensing bulb capillary tube is standard.
  Extended 60” (152 cm) length capillary tube available upon special request.
- Bleed ports, special air test settings, and production packing are available upon special request.

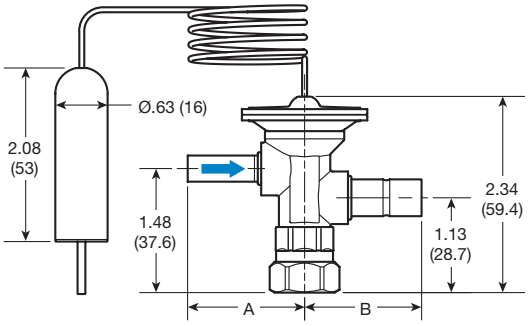
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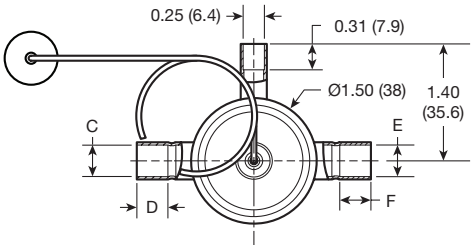
NX Valves

Dimensions and Accessories

Front View

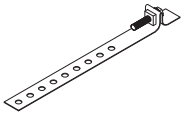


Top View
External 1/4" ODF Equaliser Fitting



Model	Connections Inlet x Outlet	Dimensions - Inches (mm)					
		A	B	C	D	E	F
Nx Internally Equalised	1/4 x 3/8 ODF	1.4 (35.6)	1.4 (35.6)	0.25 (6.4)	0.31 (7.9)	0.38 (9.7)	0.38 (9.7)
	1/4 x 1/2 ODF					0.44 (11.2)	0.21 (5.3)
	3/8 x 3/8 ODF			0.38 (9.7)	0.38 (9.7)	0.38 (9.7)	0.38 (9.7)
	3/8 x 1/2 ODF					0.44 (11.2)	0.21 (5.3)
	3/8 x 5/8 ODF		1.6 (40.6)				0.28 (7.1)
NxE Externally Equalised	1/4 x 3/8 x 1/4 ODF		1.4 (35.6)	0.25 (6.4)	0.31 (7.9)	0.38 (9.7)	0.38 (9.7)
	1/4 x 1/2 x 1/4 ODF					0.44 (11.2)	0.21 (5.3)
	3/8 x 3/8 x 1/4 ODF			0.38 (9.7)	0.38 (9.7)	0.38 (9.7)	0.38 (9.7)
	3/8 x 1/2 x 1/4 ODF					0.44 (11.2)	0.21 (5.3)
	3/8 x 5/8 x 1/4 ODF		1.6 (40.6)				0.28 (7.1)

Accessories

Item Number	Description and Part Number	
Strainers		
183020	Insert Strainer - 1/4" ODF P/N 1543-002	
183026	Insert Strainer - 3/8" ODF P/N 1524-000	
183002	Serviceable Integral Strainer 3/8" ODF P/N 3427-000	
Bulb Straps		
183352	2 pieces of P/N 4374-000	

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5

2-Way Solenoid Valves

Parker Sporlan offers a complete line of Solenoid Valves to the HVAC-R market available in many different capacities & connection sizes.

ENGINEERING YOUR SUCCESS.

2-Way Refrigeration Solenoid Valves

The primary purpose of a **Solenoid Valve** is to control the flow of fluids, liquid or gas. Parker Sporlan **Solenoid Valves** may be applied on a wide variety of air conditioning and refrigeration applications: liquid line, suction line, hot gas, etc.

The **Solenoid Valve** operation is based on the theory of the electromagnet.
The solenoid coil sets up a magnetic field when electrical current is flowing through it. If magnetic metal is introduced into the magnetic field, the pull of the field will raise the metal and centre it in the hollow core of the coil. This principle is used to open the port of the valve by attaching a stem to the magnetic metal or plunger.

In a directly operated **Solenoid Valve** the stem and plunger assembly opens the port of the valve directly.

In a pilot operated valve, the stem and plunger assembly opens a pilot port.
This releases the pressure on the top of the disc which then moves upward and opens the main valve port. When the electrical circuit to the coil is broken, the magnetic field will collapse and the stem and plunger will either fall by gravity or be pushed down by the kick off spring.

System cleanliness is essential for good operation of a solenoid valve.
Therefore we recommend the installation of Parker Sporlan Catch-All® or World Series Filter Driers to protect the **Solenoid Valve** from dirt.

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Solenoid Valves

2 way Refrigeration Solenoid Valves

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117, 127 Series ..... 5 - 88

SSOV Series ..... 5 - 91

5

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6 strengths of Parker Sporlan Brand

- **EXPERIENCE**

  For more than 80 years Parker Sporlan has provided sound engineering principles and craftsmanship to produce top quality solenoid valves for the air conditioning and refrigeration industry.

- **CONTINUING RESEARCH**

  Through continuing research we have produced constant product improvements and innovating design, including synthetic coated metal gasket, synthetic seat, ruby seat, floating disc construction and many more...

- **PEAK PERFORMANCE**

  To assure peak performance we use thoroughly proven materials resulting in lasting valve seat tightness.

- **TOP QUALITY**

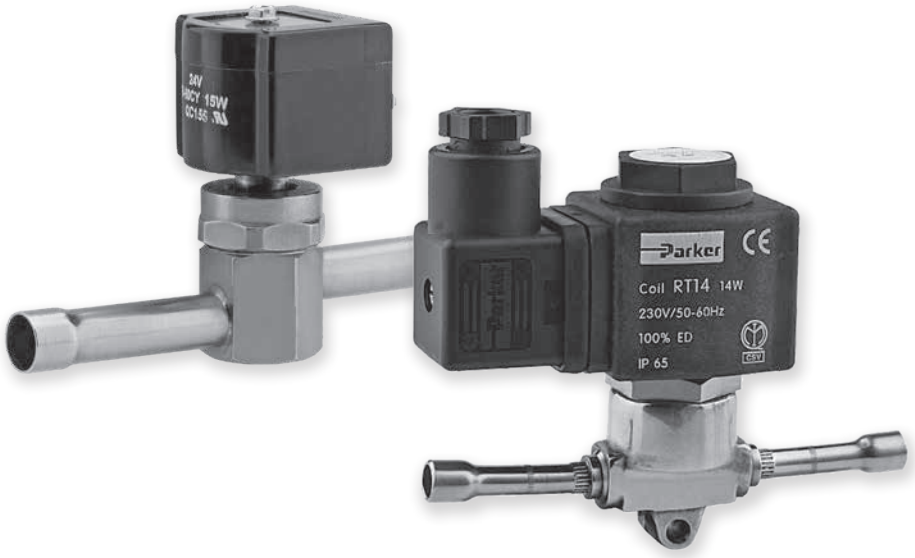
  Testing is performed during all phases of production followed by 100% testing for body and seat tightness, electrical characteristics and valve operation.

- **UNSURPASSED RELIABILITY**

  A combination of top quality materials used in both the internal and external construction ensures unsurpassed product reliability. This is verified by periodic accelerated life testing.

- **COMPLETE LINE**

  Parker Sporlan offers a complete line of solenoid valves to the industry.
  They are available in many different capacities and connection sizes.



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V Series

Diaphragm Operated Refrigeration Solenoid Valves

V Series Solenoid Valves are light design, diaphragm operated solenoid valves mainly used in liquid line or suction line applications.

They are available both metric and inch connections.

The best and innovative materials, like industrial ruby and stainless steel, used in the construction of these valves allow achieving excellent seat tightness, cycle life and reliability.

Technical Specification

Compatibility: CFC, HCFC and HFC refrigerants and blends. Including low GWP refrigerants R290 and R1234yf & most refrigeration oils

MWP: 35 barg

Temperature range: -40°C to +105°C

Direct Acting - Inches

Valve Type / Part Number	Connections SAE or ODF	Port Size Ø	Flow Cœfficient Kv	Minimum Pressure Differential	Maximum Pressure Differential M.O.P.D.		Coil Type	
					A.C. (~)	D.C. (=)		
	Inches	mm	m^3/h	bar	bar	bar	A.C.	D.C.
V3S2	1/4"ODF	2.5	0.185	0	30	21	RT14-YB14	CD21
V4S2	1/4"ODF	3	0.27	0	30	21	RT14-YB14	CD21
V4S3	3/8"ODF	3	0.27	0	30	21	RT14-YB14	CD21

Direct Acting - mm

Valve Type / Part Number	Connections SAE or ODF	Port Size Ø	Flow Cœfficient Kv	Minimum Pressure Differential	Maximum Pressure Differential M.O.P.D.		Coil Type	
					A.C. (~)	D.C. (=)		
		mm	m^3/h	bar	bar	bar	A.C.	D.C.
V3SM6	6mm ODF	2.5	0.185	0	30	21	RT14-YB14	CD21
V4SM6	6mm ODF	3	0.270	0	30	21	RT14-YB14	CD21

When installing theses valves with solder connections, the internal parts should be protected from overheating by using a Parker calorie discharger (TB2) - see page 269 - or by wrapping the valve with a wet cloth.

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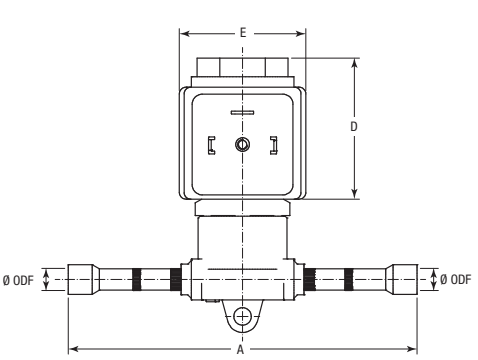
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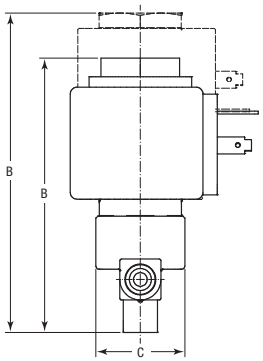
V Series

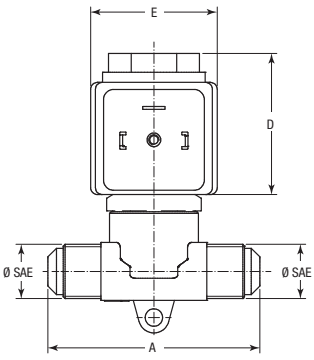
Dimensions in mm

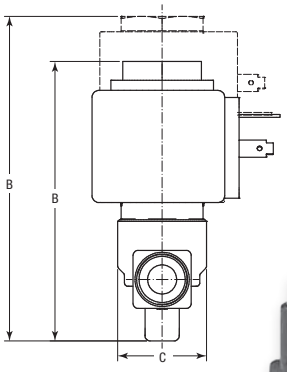
V3 & V4

Connections	A mm	B mm		C mm	D mm		E mm
		AC Coil	DC Coil		AC Coil	DC Coil	
1/4" SAE	61	79.8	93.5	26	41.3	55	37
1/4" SAE	61	79.8	93.5	26	41.3	55	37
3/8" SAE	62	79.8	93.5	26	41.3	55	37
6 mm - 1/4" ODF	102	79.8	93.5	26	41.3	55	37
6 mm - 1/4" ODF	102	79.8	93.5	26	41.3	55	37
3/8" ODF	101	79.8	93.5	26	41.3	26	26











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V Series

Technical Specification

Compatibility: CFC, HCFC and HFC refrigerants and blends & most refrigeration oils
MWP: 35 barg
Temperature range: -40°C to +105°C

Pilot Operated - Inches

Valve Type / Part Number	Connections SAE or ODF	Port Size Ø	Flow Cœfficient Kv	Minimum Pressure Differential	Maximum Pressure Differential M.O.P.D.		Coil Type	
					A.C. (~)	D.C. (=)		
	Inches	mm	m^3 /h	bar	bar	bar	A.C.	D.C.
V10F3	3/8" SAE	8	1.4	0.1	30	21	RT14-YB14	CD21
V13F4	1/2" SAE	10	1.88	0.1	30	21	RT14-YB14	CD21
V8S3	3/8"ODF	6.5	0.800	0.1	30	21	RT14-YB14	CD21
V8S4	1/2"ODF	6.5	0.800	0.1	30	21	RT14-YB14	CD21
V10S3	3/8"ODF	8	1.4	0.1	30	21	RT14-YB14	CD21
V13S4	1/2"ODF	10	1.88	0.1	30	21	RT14-YB14	CD21
V19S5	5/8"ODF	15	3.3	0.1	30	10	RT14-YB14	CD21
V23S6	3/4"ODF	18	3.85	0.1	30	10	RT14-YB14	CD21
V23S7	7/8"ODF	18	4.32	0.1	30	10	RT14-YB14	CD21
V23S9	1-1/8"ODF	18	4.32	0.1	30	10	RT14-YB14	CD21

Pilot Operated - mm

Valve Type / Part Number	Connections ODF	Port Size Ø	Flow Cœfficient Kv	Minimum Pressure Differential	Maximum Pressure Differential M.O.P.D.		Coil Type	
					A.C. (~)	D.C. (=)		
		mm	m^3 /h	bar	bar	bar	A.C.	D.C.
V8SM10	10 mm ODF	6.5	0.800	0.1	30	21	RT14-YB14	CD21
V8SM12	12 mm ODF	6.5	0.800	0.1	30	21	RT14-YB14	CD21
V10SM10	10 mm ODF	8	1.4	0.1	30	21	RT14-YB14	CD21
V13SM12	12 mm ODF	10	1.88	0.1	30	21	RT14-YB14	CD21
V19SM16	16 mm ODF	15	3.3	0.1	30	10	RT14-YB14	CD21
V23SM18	18 mm ODF	18	3.85	0.1	30	10	RT14-YB14	CD21
V23SM22	22 mm ODF	18	4.32	0.1	30	10	RT14-YB14	CD21
V23SM28	28 mm ODF	18	4.32	0.1	30	10	RT14-YB14	CD21

Accurate at the time of going to print.

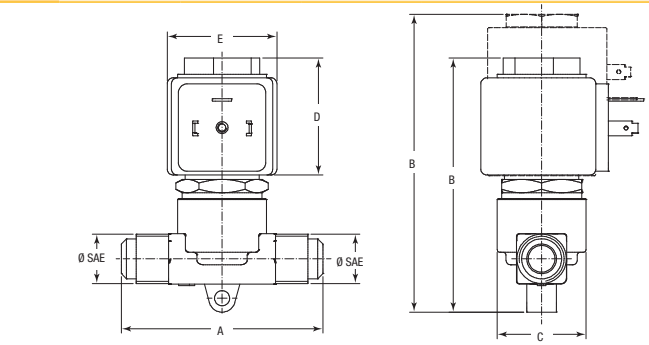
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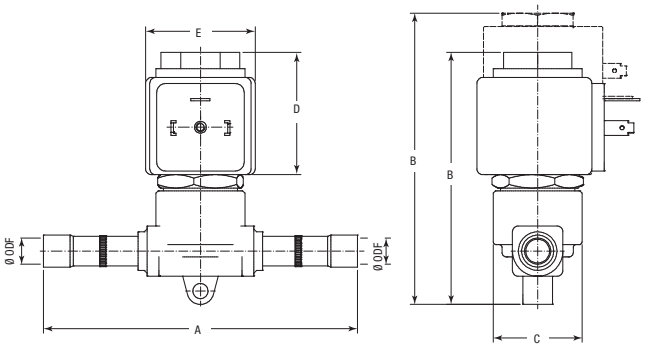
V Series

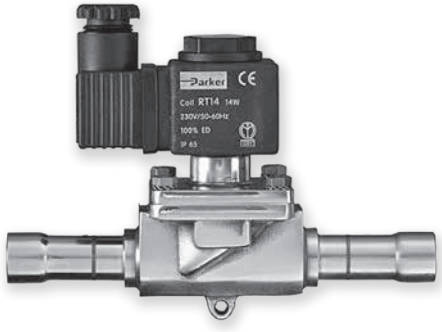
Dimensions in mm

V8

Connections	A mm	B mm		C mm	D mm		E mm
		AC Coil	DC Coil		AC Coil	DC Coil	
3/8" SAE	68	85.8	99.5	30	41.3	55	37
10 mm ODF	106	85.8	99.5	30	41.3	55	37
3/8"ODF	106	85.8	99.5	30	41.3	55	37
1/2" ODF	123	85.8	99.5	30	41.3	55	37
12 mm ODF	123	85.8	99.5	30	41.3	55	37







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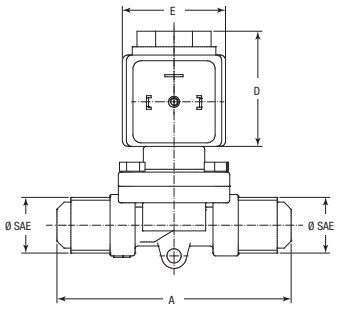
Accurate at the time of going to print.

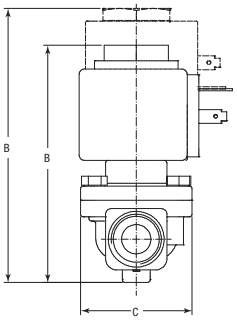
V Series

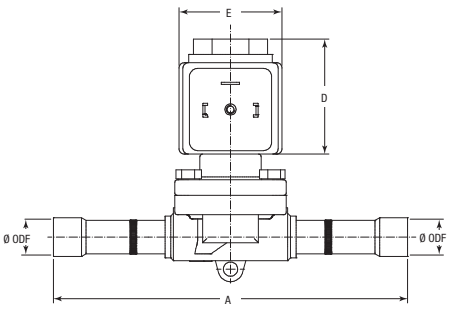
Dimensions in mm

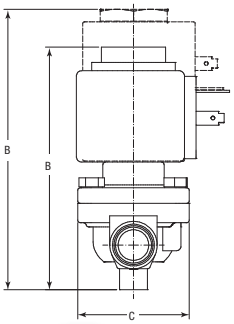
V10 - V13 - V19 - V23

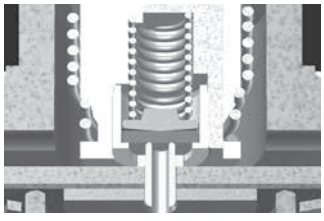
Connections	A mm	B mm		C mm	D mm		E mm
		AC Coil	DC Coil		AC Coil	DC Coil	
3/8" SAE	80	85.3	99	40	41.3	55	37
1/2" SAE	84	85.3	99	40	41.3	55	37
10 mm - 3/8" ODF	111	79.3	193	40	41.3	55	37
12 mm - 1/2" ODF	127	79.3	93	40	41.3	55	37
16 mm - 5/8" ODF	153	93.3	107	51	41.3	55	37
18 mm - 3/4" ODF	160	93.3	107	51	41.3	55	37
22 mm - 7/8" ODF	170	93.3	107	51	41.3	55	37
28 mm - 1-1/8" ODF	180	96.3	110	51	41.3	55	37













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Accurate at the time of going to print.

RT14, YB14 & CD21
Type Coils for V Series Solenoid Valves

We offer three different types of coils for **V Solenoid Valves**.

The preferred coil should be selected depending on the application and based on the required: current, voltage and IP rating. If the required coil has different specifications from those in the table, please contact your Parker Sporlan distributor.

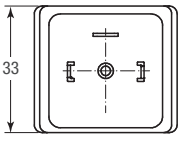
All the coils are manufactured with class H copper wire, moulded in thermoplastic (polyester) with 30% glass fibre.

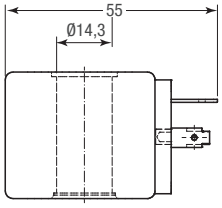
Technical Specification

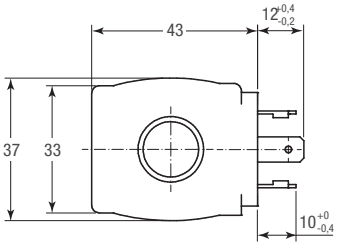
Part Number	Coil Type	Voltage - Frequency	Power	Electrical Connection
304987	RT14	230V AC +/-10% 50/60Hz	14 W	DIN connector (not included)
304983	RT14	24V AC +/-10% 50/60Hz	14 W	DIN connector (not included)
304985	RT14	115V AC +/-10% 50/60Hz	14 W	DIN connector (not included)
304505	YB14	230V AC +/-10% 50/60Hz	14 W	Flying leads
304431	YB14	24V AC +/-10% 50/60Hz	14 W	Flying leads
304433	YB14	115V AC +/-10% 50/60Hz	14 W	Flying leads
304584	CD21	12V DC +/-5%	21 W	DIN connector (not included)
304586	CD21	24V DC +/-5%	21 W	DIN connector (not included)
600000R	PG 9/11 DIN connector for RT14 and CD21 coils			

Dimensions in mm

RT14









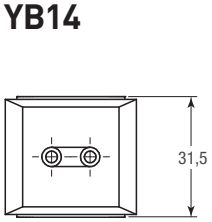
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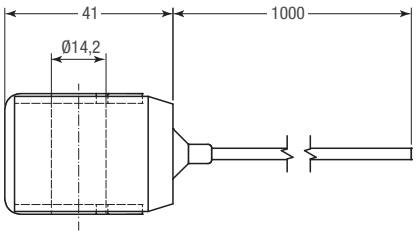
Accurate at the time of going to print.

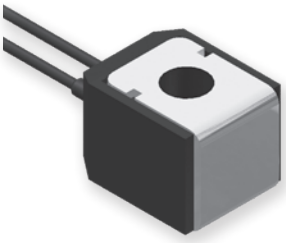
RT14, YB14 & CD21

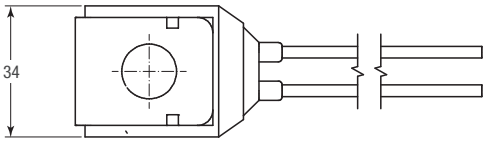
Dimensions in mm

YB14

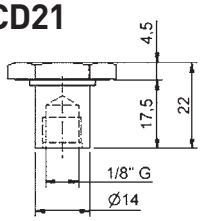


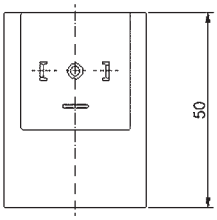


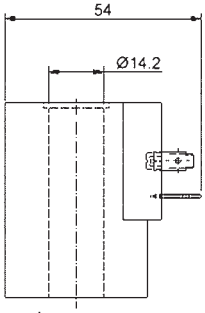


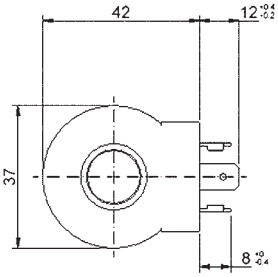


CD21



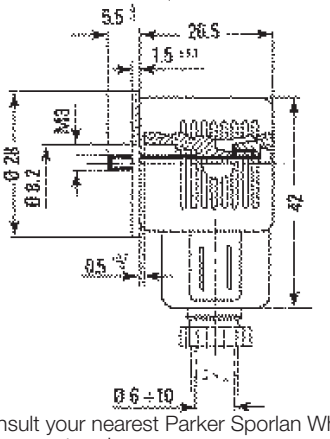


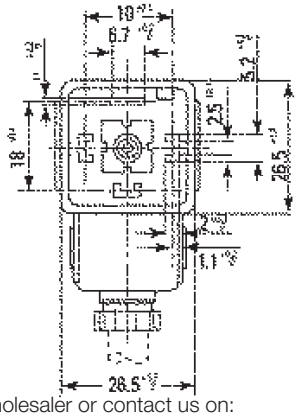






PG 9/11 DIN Connector





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5

Accurate at the time of going to print.

E-HP Series
Disc Operated Refrigeration Solenoid Valves

Parker Sporlan **E-HP Series Solenoid Valves** have been especially developed for high pressure applications. Robust floating disc type construction makes **HP Series** an excellent choice for high pressure refrigerants, like R410A or subcritical CO2, and heavy duty application, like hot gas service.

Technical Specification

Compatibility: CFC, HCFC and HFC refrigerants and blends including R1233zd, R1234yf, R1234ze and R744 and most refrigeration oils

MRP: 48.3 barg

Temperature range: -40°C to +49°C ambient and -40°C to 115°C fluid

When installing theses valves with solder connections, the internal parts should be protected from overheating by using a Parker calorie discharger (TB2) - see page 269 - or by wrapping the valve with a wet cloth.

Direct Acting

Valve Type	Part Number	Connections ODF Inches	Port Size mm	Flow Cœfficient Kv m^3/h	Minimum Pressure Differential bar	Maximum Pressure Differential M.O.P.D. A.C. (~) bar	D.C. (=) bar	Coil Type A.C./D.C.
E2S120-HP	4101-00	1/4	1.9	0.13	0	31	27.6	MKC-1E
E2S130-HP	4106-00	3/8	1.9	0.13	0	31	27.6	MKC-1E

Pilot Operated

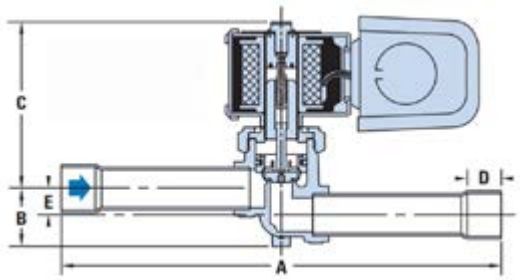
Valve Type	Part Number	Connections Inches	Port Size mm	Flow Cœfficient Kv m^3/h	Minimum Pressure Differential bar	Maximum Pressure Differential M.O.P.D. A.C. (~) bar	D.C. (=) bar	Coil Type A.C./D.C.
E5S130-HP	4079-00	3/8	3,8	0,5	0,07	31	27,6	MKC-1E
E6S130-HP	3233-00	3/8	4,8	0,8	0,07	31	27,6	MKC-1E
E6S140-HP	4122-00	1/2	4,8	0,8	0,07	31	27,6	MKC-1E
E8S140-HP	4330-00	1/2	6,35	1	0,07	31	31	MKC-1E
E9S240-HP	4033-00	1/2	7,1	1,3	0,07	31	27,6	MKC-2E
E9S250-HP	3402-00	5/8	7,1	1,3	0,07	31	27,6	MKC-2E
E10S140-HP	4339-00	1/2	7,9	1,8	0,07	31	31	MKC-1E
E10S150-HP	4340-00	5/8	7,9	1,8	0,07	31	31	MKC-1E
E10S240-HP	3525-00	1/2	7,9	1,8	0,07	31	27,6	MKC-2E
E10S250-HP	3448-00	5/8	7,9	1,8	0,07	31	27,6	MKC-2E
E14S250-HP	4100-00	5/8	11	2,5	0,07	31	27,6	MKC-2E
E14S270-HP	4215-00	7/8	11	2,5	0,07	31	27,6	MKC-2E
E19S250-HP	4072-00	5/8	15	3,9	0,07	31	27,6	MKC-2E
E19S270-HP	4077-00	7/8	15	3,9	0,07	31	27,6	MKC-2E
E25S270-HP	4089-00	7/8	20	6,7	0,07	31	27,6	MKC-2E
E25S290-HP	4078-00	1-1/8	20	6,7	0,07	31	27,6	MKC-2E
E35S190-HP	3316-00	1-1/8	26	9,3	0,07	31	27,6	MKC-1E
E35S1110-HP	4099-00	1-3/8	26	9,3	0,07	31	27,6	MKC-1E

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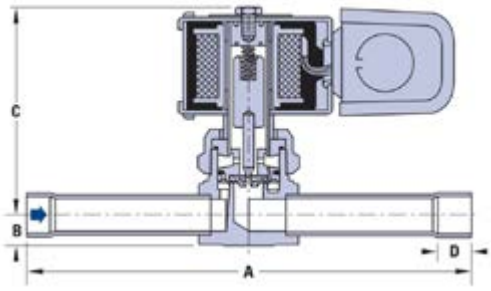
Accurate at the time of going to print.

E-HP Series

Valve Dimensions



Valve Type	Part Number	A	B	C	D	E
E5S130-HP	4079-00	116	13,5	65	7,87	6
E6S130-HP	3233-00	118	18,5	65,8	7,87	8
E6S140-HP	4122-00	128	18,5	65,8	9,65	8
E8S140-HP	4330-00	128	19	66	10	8
E9S240-HP	4033-00	127	17,8	72,1	9,65	8
E9S250-HP	3402-00	165	17,8	72,1	14,2	8
E10S140-HP	4339-00	127	22	64	10	10
E10S150-HP	4340-00	167	22	64	13	10
E10S240-HP	3525-00	127	22	77,1	9,65	10
E10S250-HP	3448-00	165	22	77,1	12,7	10



Valve Type	Part Number	A	B	C	D
E14S250-HP	4100-00	175	12,2	80,8	12,7
E14S270-HP	4215-00	181	12,2	80,8	19,1
E19S250-HP	4072-00	175	20,6	84,4	12,7
E19S270-HP	4077-00	181	20,6	84,4	19,1
E25S270-HP	4089-00	191	18,3	94,7	19,1
E25S290-HP	4078-00	216	18,3	94,7	23,1
E35S190-HP	3316-00	256	22,1	126,9	23,1
E35S1110-HP	4099-00	281	22,1	126,9	24,6

For all requests, consult your nearest Parker Sporlan Wholesaler or contact us on:
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Accurate at the time of going to print.

MKC
Coils for High Pressure E-HP Series Solenoid Valves

Parker Sporlan **MKC Solenoid Coils** are constructed with the finest materials available. The number 1 or 2 coils are classificated as NEMA insulation class F and are available in many voltage and cycle ratings.

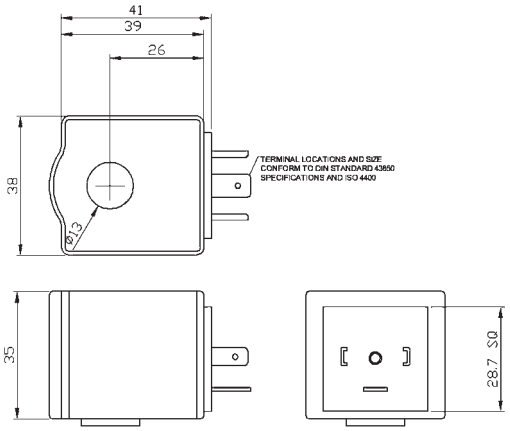
The preferred coil should be selected depending on the application and based on the required: current, voltage and IP rating. If the required coil has different expectations from those in the table, please contact your Parker Sporlan representative.

Technical Specification

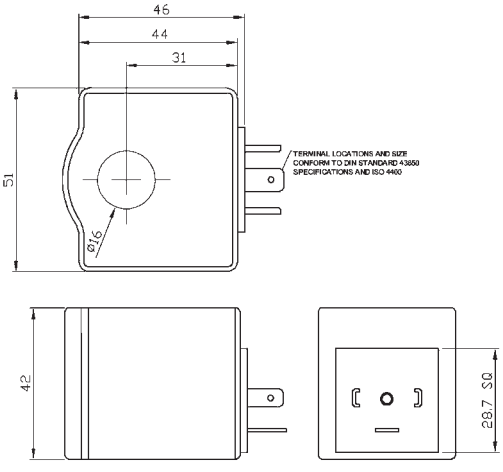
Part Number	Coil Type	Power	Electrical Connection
310683	MKC-1E 24 V / 50-60 Hz	10 W	DIN connector (not included)
310678	MKC-1E 120 V / 50-60 Hz	10 W	DIN connector (not included)
310682	MKC-1E 208-240 V / 50-60 Hz	10 W	DIN connector (not included)
310675	MKC-2E 24 V / 50-60 Hz	15 W	DIN connector (not included)
310677	MKC-2E 120 V / 50-60 Hz	15 W	DIN connector (not included)
310674	MKC-2E 208-240 V / 50-60 Hz	15 W	DIN connector (not included)
310040	MKC-1E 12 V DC	15 W	DIN connector (not included)
310041	MKC-1E 24 V DC	15 W	DIN connector (not included)
310691	MKC-2E 24 V DC	18 W	DIN connector (not included)
600000R	PG 9/11 DIN connector for MKC-1E and MKC-2E coils		

Dimensions in mm

MKC-1E



MKC-2E



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Compliance to Regulations and Standards

V Series and **E-HP Series Solenoid Valves** are fully compliant with European regulation including:

- European Directives 97/23/CE (PED)
- 2006/95/CE (Low Voltage)
- RoHS

E-HP solenoid valves are UL listed under file:	**MH 4576**
MKC coils are UL listed under file:	**MH 29763**
RT14 coils are UL listed under file:	**MH 19410**

Declarations of conformity are available upon request.

Top Quality for Parker Sporlan Solenoid Valves

Testing is performed during all phases of production followed by 100% testing for body and seat tightness, electrical characteristics and valve operation.

Our packaging protects this quality for the ultimate user.

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117 & 127

Features & Benefits

- They may be used with all types of CFC, HCFC and HFC refrigerants and blends.
  They cannot be used with ammonia. Applicable to liquid suction and hot gas lines.

- 2/2 way N.C. (normally closed), direct operated or pilot operated (diaphragm), 1/4" to 5/8" SAE threaded ports or 1/4" to 2 1/8" extended copper solder fittings (in millimetres and inches).

- **MAP = 35 bar**

Nomenclature

Model	Orifice Size Ø	Seal Material	Connection Type
117	A: 1,9 mm C: 2,5 mm	Thermostatic Charge	Bleed Port (Blank for no bleed port)

Model	Fitting Type	Orifice Size Ø	Seal Material	Connection Type
127	No code: ODM .2: ODF	I: 1,6 mm A: 1,9 mm C: 2,5 mm	L: Rulon	S: solder

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117 & 127

Technical Specifications

	117	117
Maximum allowable pressure (PS)	35 bar	35 bar
Maximum working temperature (TS)	-40°C to 115°C	-40°C to 115°C
Ambient temperature	Class F Coils	-40°C to + 50°C
	Class H Coils	-40°C to + 80°C
	Class YB Coils	-15°C to + 50°C
Compatible refrigerants	HFC, HFO, blends	HFC, HFO, blends
Approvals	PED, REACH, RoHS, leak rate as per ISO14903	PED, REACH, RoHS, leak rate as per ISO14903

Item Number	Item Description	ODS Connection mm	Kv m3/h	PS bar	PED Category	Port Size Ø mm	Minimum Pressure Differential bar	Maximum Pressure Differential M.O.P.D.		Coil type	
								A.C. bar	D.C. bar	A.C. bar	D.C. bar
360084CZ	117 ALS	6 ODM	0,12	35	Art. 4.3	2	0	30(1)	-	RT-YB-ZB-ZH	-
360086CZ	117 CLS	6 ODM	0,15	35	Art. 4.3	2,5	0	28(2)	-	RT-YB-ZB-ZH	-
360142CZ	127 ILS	6 ODM	0,10	35	Art. 4.3	1,6	0	30	-	RT-YB-ZB-ZH	-
360144CZ	127 ALS	6 ODM	0,13	35	Art. 4.3	1,9	0	30(1)	-	RT-YB-ZB-ZH	-
360146CZ	127 CLS	6 ODM	0,19	35	Art. 4.3	2,5	0	28(2)	-	RT-YB-ZB-ZH	-
360138CZ	127.2 ILS	6 ODF	0,10	35	Art. 4.3	1,6	0	30	-	RT-YB-ZB-ZH	-
396300CZ	127.2 ALS	6 ODF	0,13	35	Art. 4.3	1,9	0	30(1)	-	RT-YB-ZB-ZH	-
360147CZ	127.2 CLS	6 ODF	0,19	35	Art. 4.3	2,5	0	28(2)	-	RT-YB-ZB-ZH	-

(1) MOPD figures relate to 50Hz; with 60Hz MOPD reduce by 10%
(2) MOPD figures relate to 50Hz; with 60Hz MOPD reduce by 30%

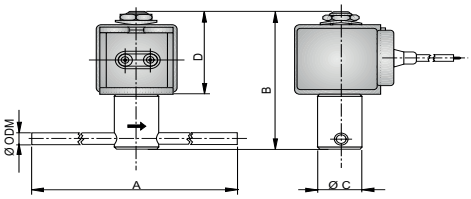
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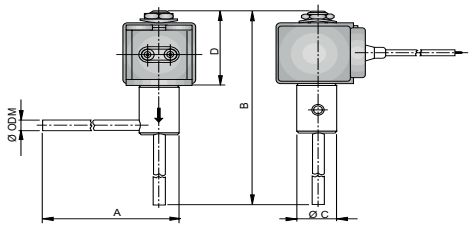
117 & 127

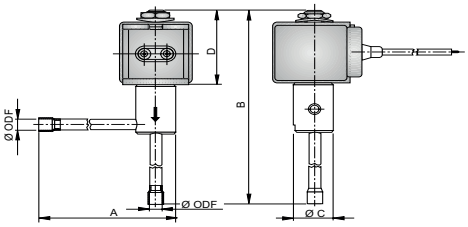
Dimensions and Accessories

117



127





Valve	Fittings Ø mm	A mm	B mm	C mm	D mm
117	6	175,0	64,0	18,0	37,5
127	6 ODM	96,5	142,0	18,0	38,0
	6 ODF	93,0	137,0	18,0	38,0

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SSOV

Solenoid Shut Off Valve



Type SSOV valves were specifically designed to satisfy the safety shut-off requirements for systems using A2L refrigerants. These valves were designed to close tightly with little to no pressure drop across the port. Each SSOV is production tested to ensure that it will meet the seating requirements of UL 60335-2-89. Because of this requirement, these valves are not field serviceable.

The SSOV3 is a hermetically sealed direct acting solenoid valve. The SSOV6, SSOV10, SSOV19 and SSOV25 are pilot operated valves. These valves may be mounted horizontally on their side, or in a vertical line. The SSOV series valves feature extended solder type connections.

The SSOV3, SSOV6 and SSOV10 utilize the proven Sporlan MKC-1 coil. The MKC-1 coil is Class “F” temperature rated and is provided as standard, therefore a high temperature rated coil is not required. The Sporlan MKC-1 coil comes in many types and is available for all standard voltage ratings.

The SSOV19 and SSOV25 utilize the proven Sporlan MKC-2 coil. The MKC-2 coil is Class “F” temperature rated and is provided as standard, therefore a high temperature rated coil is not required. The Sporlan MKC-2 coil comes in many types and is available for all standard voltage ratings.

These valves can be used on fluids or gases whose temperature does not exceed 115°C while the valve ambient is 48°C.

5

Technical Specifications

Valve Model	Liquid Capacity Table (kW)														
	R454A					R454C					R455A				
	Pressure drop [bar]					Pressure drop [bar]					Pressure drop [bar]				
	2,8	3,9	4,9	5,6	6,3	2,5	3,5	4,6	5,3	6,0	2,5	3,5	4,6	5,3	6,0
SSOV3	2,8	3,9	4,9	5,6	6,3	2,5	3,5	4,6	5,3	6,0	2,5	3,5	4,6	5,3	6,0
SSOV6	4,2	8,1	11,3	13,7	16,2	3,9	7,4	10,2	12,7	14,4	3,9	7,4	10,2	12,7	14,8
SSOV10	8,8	19,0	27,1	33,1	37,6	8,1	17,6	24,6	29,9	34,1	8,4	17,6	25,0	30,2	34,5
SSOV19	12,0	52,1	72,5	83,0	92,1	11,6	48,2	65,8	75,3	83,7	11,6	48,5	66,8	76,3	84,8
SSOV25	48,9	81,2	103,0	119,9	134,3	44,7	73,9	93,6	109,0	122,0	45,0	74,9	95,0	110,4	123,8

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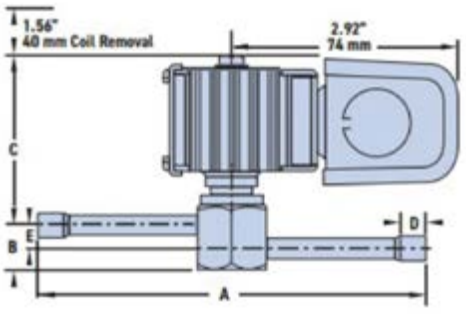
SSOV

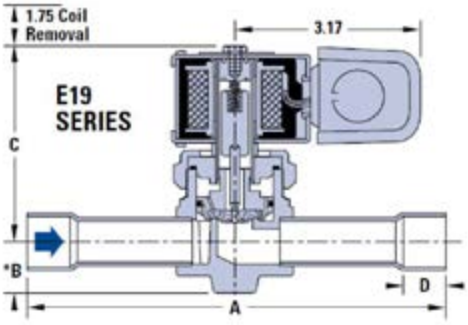
Technical Specifications and Drawings

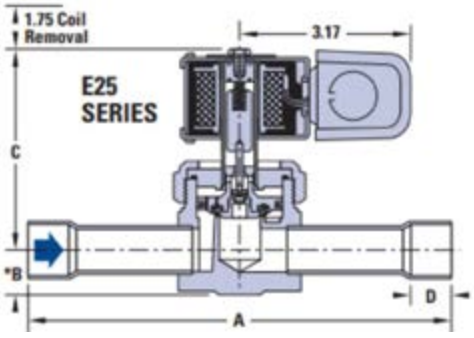
Valve Model	Liquid Capacity Table (kW)																	
	R454A						R454C						R455A					
	Pressure drop [bar]						Pressure drop [bar]						Pressure drop [bar]					
	0,14	0,21	0,34	0,69	1,72	3,45	0,14	0,21	0,3	0,69	1,72	3,45	0,14	0,21	0,34	0,69	1,72	3,45
SSOV3	**0,7**	1,1	1,4	1,8	2,8	3,2	0,7	1,1	1,1	1,8	2,5	2,5	0,7	1,1	1,1	1,8	2,5	2,8
SSOV6	**1,8**	2,5	2,8	4,2	8,1	10,6	1,8	2,1	2,5	3,5	7,0	8,1	1,8	2,1	2,5	3,9	7,0	8,8
SSOV10	**2,8**	4,2	6,3	11,3	18,3	25,0	2,5	3,5	5,3	9,5	15,8	21,5	2,5	3,5	5,6	9,9	16,5	21,8
SSOV19	**12,3**	15,1	19,7	28,5	40,8	53,8	10,9	13,4	17,2	25,0	35,2	44,0	10,9	13,7	17,6	25,3	36,2	46,4
SSOV25	**19,0**	22,5	28,5	39,7	68,6	91,8	16,5	19,7	25,0	34,8	59,4	78,4	16,9	20,1	25,7	35,5	60,8	80,9

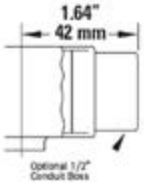
Discharge capacity based on 38°C condensing temperature, isentropic compression plus 28 K, 5°C evaporator and 36°C suction gas

Dimensions









Available with conduit boss, junction box, or DIN

For additional coil information, reference Bulletin 30-10.

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Specifications – SSOV Solenoid Valve Series								
Dimensions - mm								
Valve Series	MRP (barg)	MOPD (bar)	Type	A	B*	C	D	E
SSOV3S120	34	20	1/4" ODF	117,6	14,0	51,8	7,9	7,1
SSOV3S130	34	20	3/8" ODF	110,6	12,4	53,3	7,9	4,8
SSOV6S130	34	30	3/8" ODF	117,6	19,1	62,0	7,9	7,9
SSOV6S140	34	30	1/2" ODF	127,0	19,1	62,0	9,7	7,9
SSOV10S140	34	30	1/2" ODF	127,0	21,8	77,0	9,7	9,9
SSOV10S150	34	30	5/8" ODF	164,8	21,8	64,0	12,7	9,9
SSOV10S250	34	30	5/8" ODF	175,3	20,6	86,6	12,7	-
SSOV10S270	34	30	7/8" ODF	180,3	20,6	86,6	19,1	-
SSOV10S290	34	30	1-1/8" ODF	215,9	20,6	86,6	23,1	-
SSOV19S250	34	30	5/8" ODF	175,3	20,6	86,6	12,7	-
SSOV19S270	34	30	7/8" ODF	180,3	20,6	86,6	19,1	-
SSOV19S290	34	30	1-1/8" ODF	215,9	20,6	86,6	23,1	-
SSOV25S270	34	30	7/8" ODF	190,5	18,3	96,0	19,1	-
SSOV25S290	34	30	1-1/8" ODF	215,9	18,3	96,0	23,1	-

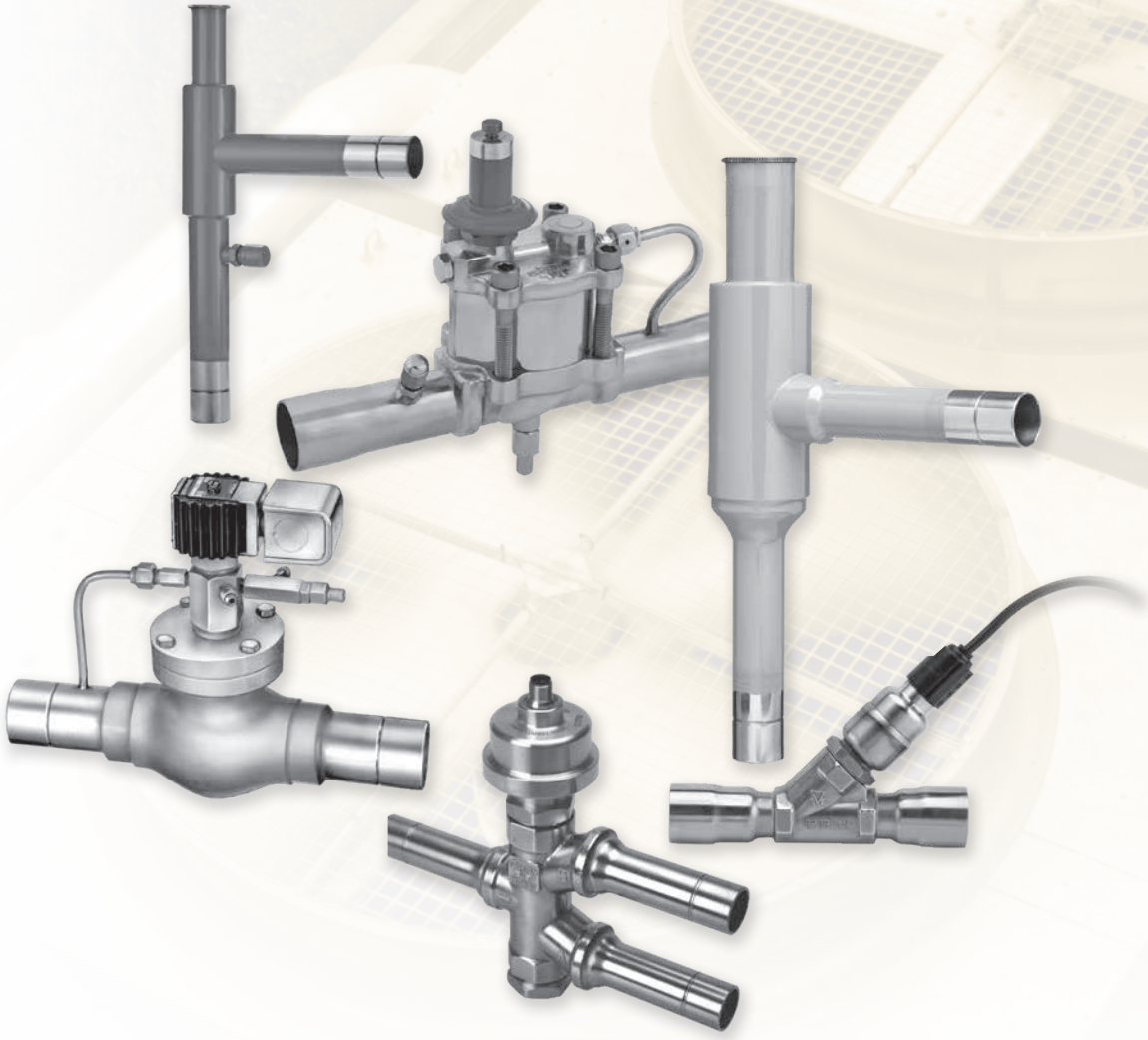
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Notes

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Pressure Regulating Valves

Precise control of temperatures in evaporators
Economical method of compressor capacity control
Prevent overloading to the compressor
High and low ambient stability
Defrost differential control

Parker SPORLAN

ENGINEERING YOUR SUCCESS.

Electric Stepper Motor Control Valves for the Suction Line

The **CDS Valves** are designed for more precise and energy efficient control of temperatures in evaporators. Proper temperature is obtained by regulating refrigerant flow in the evaporator in response to signals generated by an electronic controller and sensor combination.
The valves are built around balanced ports, which allows input power of only 4 watts, less than one quarter of the power used by older heat motor and analog designs.

When not actively stepping, power to the motor is removed for further energy savings. The step motors used are standard 12-Volt DC bipolar designs, which in concert with the integral gear reduction give the valves unsurpassed accuracy and repeatability over the entire operating range. Since the valves are powered from an external controller, no pilot lines or high to low side bleeds are required. The properly applied **CDS Valve** and controller can replace standard mechanical Evaporator Pressure Regulators (EPR), suction stop solenoid valves, and conventional thermostats.

With different seating materials, **CDS-16 Valves** may be applied as heat reclaim, head pressure control, or liquid line differential valves. **CDS-9 and -17** are suitable for these applications as supplied.

Contact Race Division for more information.

Due to the stepper motor design, the **CDS Series** are the first evaporator control valves that may be sized to contribute NO additional pressure drop to the suction line.

Simplified cartridge design allows all moving parts to be replaced as a unit.
Only the valve body is left in the line. This will allow maintenance or repair without unsweating the entire valve.

CDS - Valve Nomenclature/Ordering Instructions

The CDS-16 is the only angled valve. The CDS-4, CDS-7, CDS-9 and CDS-17 are straight through valves.

CDS	-	T	-	17	-	1-3/8 x 1-3/8 ODF	-	20	-	S
Controls Discharge Stepmotor		Optional Inlet Pressure Tap		Model Number		Fitting Size		Cable Length 20' = 6m 10' = 3m		S = Stripped and tinned cable ends.

When installing theses valves with solder connections, the internal parts should be protected from overheating by using a Parker calorie discharger (TB2) - see page 269 - or by wrapping the valve with a wet cloth.

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Pressure Temperature Regulating Valves

Electric Pressure Temperature Regulating Valves

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SDR 3, 3X, SDR4

Pressure Regulating Valves

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Stepper Motor Valves for the Suction Line

Specifications

Valve	CDS(T)-4 and -7	CDS(T)-9 and -17
Motor Type	2 phase, bipolar wet motor	
Compatible Refrigerant	All common CFC, HCFC and HFC refrigerants, including R-410A and subcritical R-744	
Compatible Oils	All common Mineral, Polyolester and Alkybenzene oils	
Supply Voltage	12 VDC -5% +10% measured at the valve leads	
Cable Type	IP66 Removable	Hermetic
Phase Resistance	100 Ohms ± 10%	75 Ohms ± 10%
Current Range	104 to 147 mA / winding	131 to 215 mA / winding
Power Input	3 W	4 W
Recommended Step Rate	200 / s	200 / s
Number of Steps	2500	6386
Full Motor Transit Time	12.5 seconds	34 seconds
Resolution	.000119" (.003 mm) / step.	.0000783" (.002 mm) / step.
Total Stroke	0.297" (7.54 mm)	.50" (12.7 mm)
MRP	700 psig (48 bar)	680 psig (47 bar)
Max Internal Leakage	Less than 400 cc/min @ 100 psig (6.9 barg)	
Max External Leakage	.10 oz/yr @ 300 psig (2.8 g/yr @ 20 barg)	
Operating Temp. Range	-45°C to 60°C (-50°F to 140°F)	
Materials of Construction	Brass, copper, synthetic seals, stainless steel	

Available Connections

Valve Type	Inlet Inches ODF	Outlet Inches ODF	Configuration	Cable Length		Cable Ends
				Feet	Metres	
CDS(T)-4	1/2, 5/8, 7/8	1/2, 5/8, 7/8	Straight Through Offset	10, 20	3, 6	S Stripped and Tinned
CDS(T)-7	5/8, 7/8, 1-1/8, 1-3/8	5/8, 7/8, 1-1/8, 1-3/8				
CDS(T)-9	5/8, 7/8, 1-1/8, 1-3/8	5/8, 7/8, 1-1/8, 1-3/8				
CDS(T)-17	1-3/8, 1-5/8, 2-1/8	1-3/8, 1-5/8, 2-1/8				

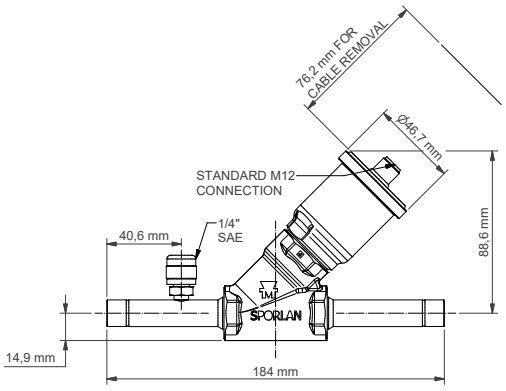
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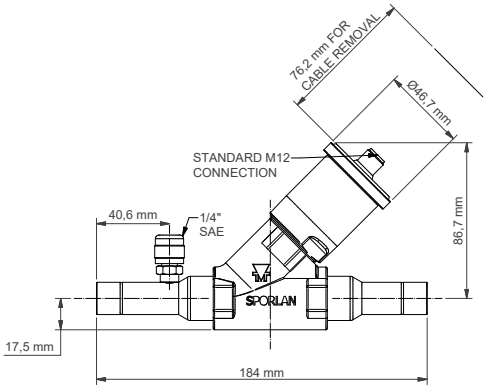
Stepper Motor Valves for the Suction Line

Dimensions

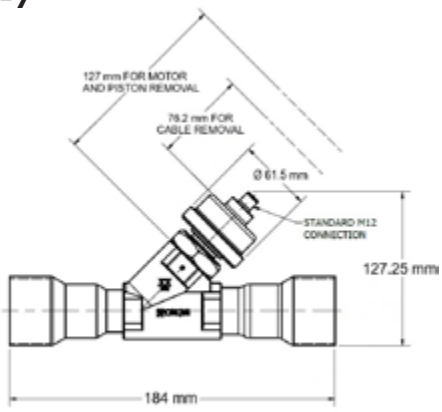
CDS-4



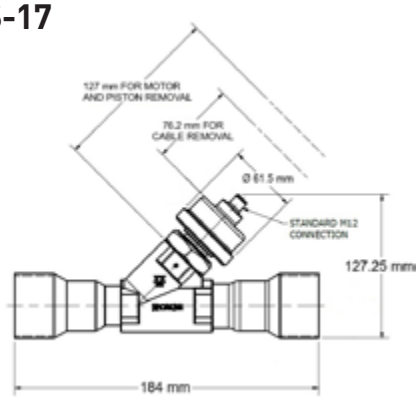
CDS-7



CDS-9



CDS-17



6

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Stepper Motor Valves for the Suction Line

Order Selection Guide

Type	Connections	Body Configuration	Cable length in metre	Kv m^3/h	Part Number
CDST-4	1/2" x 1/2'' ODF	Straight Through Offset With Pressure Tap	6	2.53	Special order valve
	7/8" x 7/8" ODF				950029
CDS-7	7/8" x 7/8" ODF /	Straight Through Offset	3	6.91	Special order valve
	1-3/8" x 1-3/8" ODF				Special order valve
CDS-9	5/8" x 5/8" ODF	Straight Through Offset	3	9.81	940032
	78" x 7/8" ODF /				940033
	1-1/8" x 1-1/8" ODF				940034
	1-3/8" x 1-3/8" ODF				940057
CDST-9	5/8" x 5/8" ODF	Straight Through Offset With Pressure Tap	6	9.81	940089
	78" x 7/8" ODF /				940080
	1-1/8" x 1-1/8" ODF				940081
	1-3/8" x 1-3/8" ODF				940082
CDS-17	1-3/8" x 1-3/8 ODF	Straight Through Offset	3	17.8	940039
	1-5/8" x 1-5/8 ODF				940040
	2-1/8" x 2-1/8" ODF				940074
CDS-16	1-3/8" x 1-3/8" ODF	Angle	3	17.3	940012
CDST-16	1-3/8" x 1-3/8" ODF	Angle With Pressure Tap	6	17.3	Special order valve

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CDS Valve Kits

CDS Valve Kits

Motor Kits for CDS(T) Valves

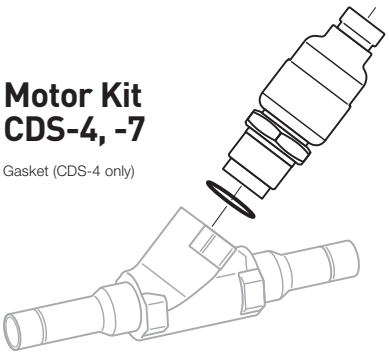
Valve Type	KIT No.	Part Number
CDS(T)-4	KS-CDS(T)-4	805578
CDS(T)-7	KS-CDS(T)-7	805579
CDS(T)-9	KS-CDS(T)-9	958122
CDS(T)-17	KS-CDS(T)-17	958123
CDS(T)-16	KS-CDS(T)-16	958111

Cable Assembly Kits for CDS(T) Valves

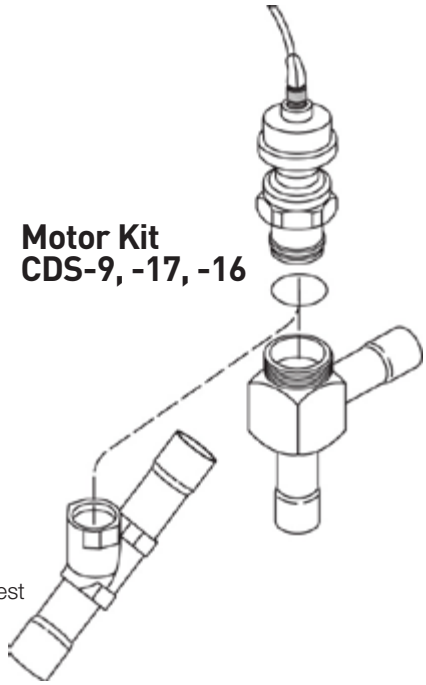
Valve Type	Cable Length	Part Number
CDS(T)-4, -7	3 m	805081
	6 m	805082
	9 m	805083
	12 m	805084

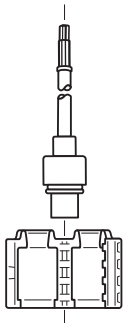
Motor Kit CDS-4, -7

Gasket (CDS-4 only)



Motor Kit CDS-9, -17, -16





Cable Kit CDS(T)-4, -7

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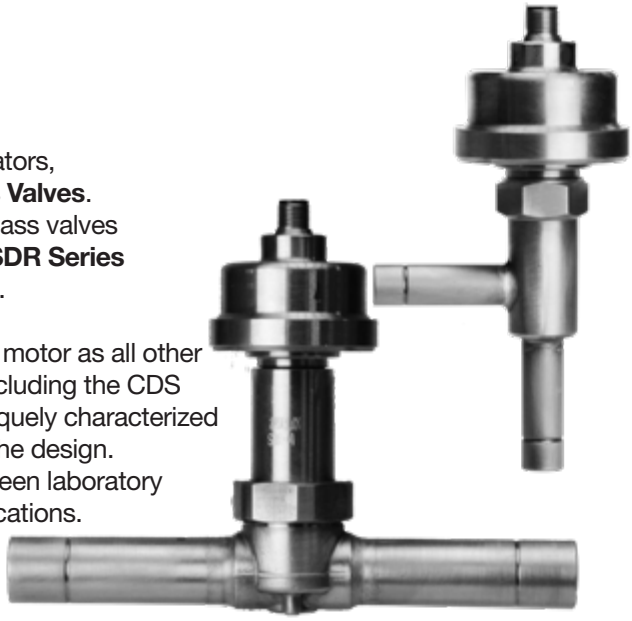
Components & Accessories

Product	Part Number	Description
 	953276	SMA-12 Stepper Motor Actuator Test Instrument
	953580	IB-G Interface Board

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Stepper Motor Discharge Gas Bypass Valves



SDR Series Valves are Step Discharge Regulators, or electrically operated discharge **Gas Bypass Valves**. Unlike previous mechanical discharge gas bypass valves that only control a downstream pressure, the **SDR Series** offers direct temperature control of air or liquid.

The valves use the same 12 V DC bipolar step motor as all other Parker Sporlan step motor operated valves, including the CDS valves above. Balanced pistons and ports, uniquely characterized for hot gas flow, have been incorporated into the design. Seating materials, motors and gears have all been laboratory and field proven in high temperature gas applications.

With capacities up to 25 nominal R-22 tons, the **SDR Series** is suitable for use in small process chillers and environmental chambers, as well as large direct expansion air conditioning applications.

The valves may be controlled by third party controllers or by the Parker Sporlan IB Interface Board.
SDR Valves are normally installed in the same manner as mechanical discharge gas bypass valves; in a bypass branch of the discharge gas line.
The valves may be piped to feed into the evaporator at the distributor, downstream of the evaporator, or at the compressor suction.
When applied with a third party controller or DDC building management system, the **SDR** can be used with the IB as an interface to the existing system.

SDR - Valve Nomenclature/Ordering Instructions

S		DR	-	4	-	7/8 x 7/8	-	10	-	S
Step Motor Operated		Discharge Regulator		Nominal Size 3 or 4 available		Connections ODF SDR-3 3x - 3/8, 1/2, 5/8 SDR-4 - 7/8 1-1/8		Cable Length 10' standard, 20' = 6m 10' = 3m		S = Stripped and tinned cable ends.

When installing theses valves with solder connections, the internal parts should be protected from overheating by using a Parker calorie discharger (TB2) - see page 269 - or by wrapping the valve with a wet cloth.

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SDR

SDR Specifications

Valve	SDR-3 and 3x	SDR-4
Motor Type	2 phase, bipolar wet motor	
Compatible Refrigerant	All common CFC, HCFC and HFC refrigerants, including R-410A and subcritical R-744	
Compatible Oils	All common Mineral, Polyolester and Alkybenzene oils	
Supply Voltage	12 VDC -5% +10% measured at the valve leads	
Cable Type	Hermetic	Hermetic
Phase Resistance	75 Ohms ± 10%	75 Ohms ± 10%
Current Range	131 to 215 mA / winding	131 to 215 mA / winding
Power Input	4 W	4 W
Recommended Step Rate	200 / s	200 / s
Number of Steps	3193	6386
Full Motor Transit Time	16 seconds	34 seconds
Resolution	0000783" (.002 mm) / step.	.0000783" (.002 mm) / step.
Total Stroke	0.250" (6.4 mm)	.50" (12.7 mm)
MRP	700 psig (48 barg)	700 psig (48 barg)
Max Internal Leakage	Less than 400 cc/min @ 100 psig (6.9 barg)	
Max External Leakage	.10 oz/yr @ 300 psig (2.8 g/yr @ 20 barg)	
Operating Temp. Range Fluid	-40°C to 116°C (-40°F to 240°F)	
Operating Temp. Range Ambient	-40°C to 60°C (-40°F to 140°F)	
Materials of Construction	Brass, copper, synthetic seals, stainless steel	

Available Connections

Valve Type	Inlet Inches ODF	Outlet Inches ODF	Configuration	Cable Length Feet	Cable Length Metres	Cable Ends
SDR-3	3/8, 1/2, 5/8	3/8, 1/2, 5/8	Angle	10, 20	3, 6	(S- Stripped and Tinned)
SDR-3x	3/8, 1/2, 5/8	3/8, 1/2, 5/8				
SDR-4	7/8, 1-1/8	7/8, 1-1/8	Straight Through Offset			

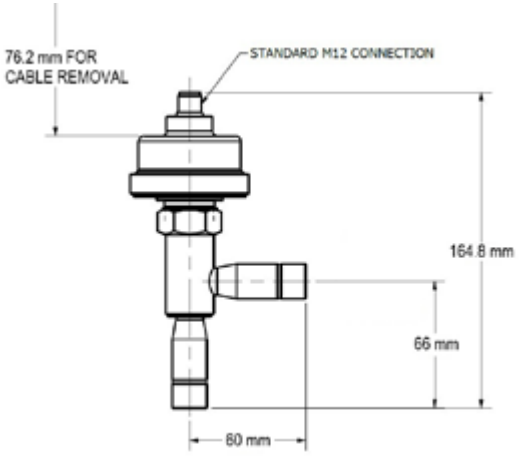
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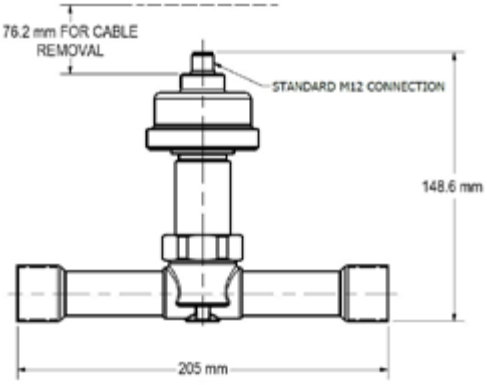
SDR

Valve Dimensions

SDR-3, 3X



SDR-4



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SDR

Order Selection Guide

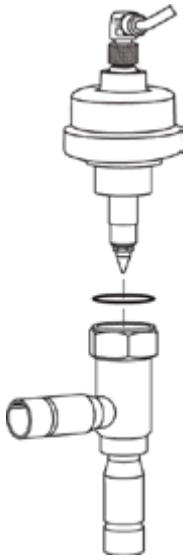
Type	Connections	Body Configuration	Cable length in metre	Kv m³/h	Part Number
SDR-3	3/8" x 3/8'' ODF	Angle	3	0.96	930002
	1/2" x 1/2'' ODF				930003
	5/8" x 5/8 ODF				930004
SDR-3x	3/8" x 3/8'' ODF	Angle	3	1.5	930027
	1/2" x 1/2'' ODF				930022
	5/8" x 5/8 ODF				930023
SDR-4	78" x 7/8" ODF	Straight Through Offset	3	2.7	930000
	1-1/8" x 1-1/8" ODF				930001

SDR Valve Kits

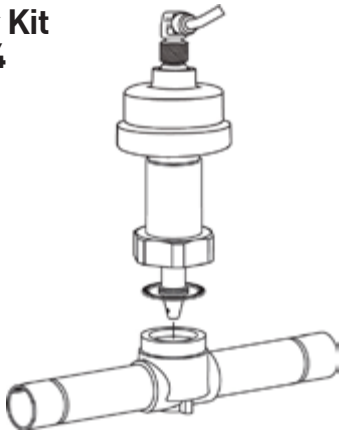
Motor kits for SDR Valves

Valve Type	Kit Number	Part Number
SDR-3	KS-SDR-3	958131
SDR-3x	KS-SDR-3x	958159
SDR-4	KS-SDR-4	958132

Motor Kit SDR-3, 3X



Motor Kit SDR-4

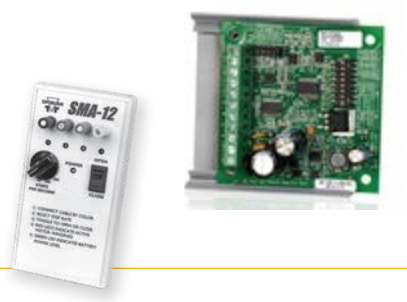


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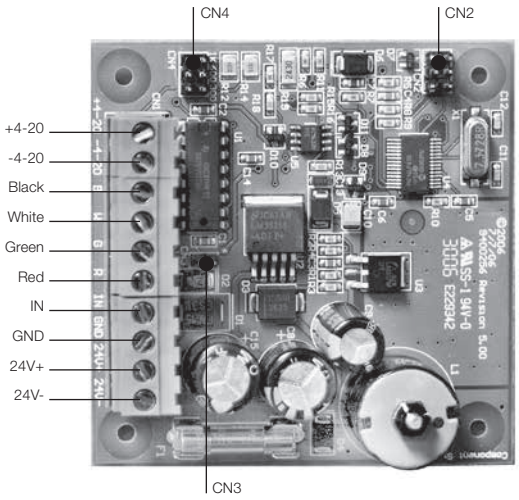
SDR

Components & Accessories

Product	Part Number	Description
	**953276**	SMA-12 Stepper Motor Actuator Test Instrument
	953580	IB-G Interface Board

The **IB Interface Board** allows all Parker Sporlan stepper motors to be modulated in response to an externally generated signal. The **IB** accept a 4-20 mA, or 0-10 Volt DC inputs and stroke the valve proportionately to that signal. The **IB** allow use of the CDS or SDR valves with an existing DDC system or other generic temperature controller for hot gas bypass, evaporator temperature, or reclaim applications.

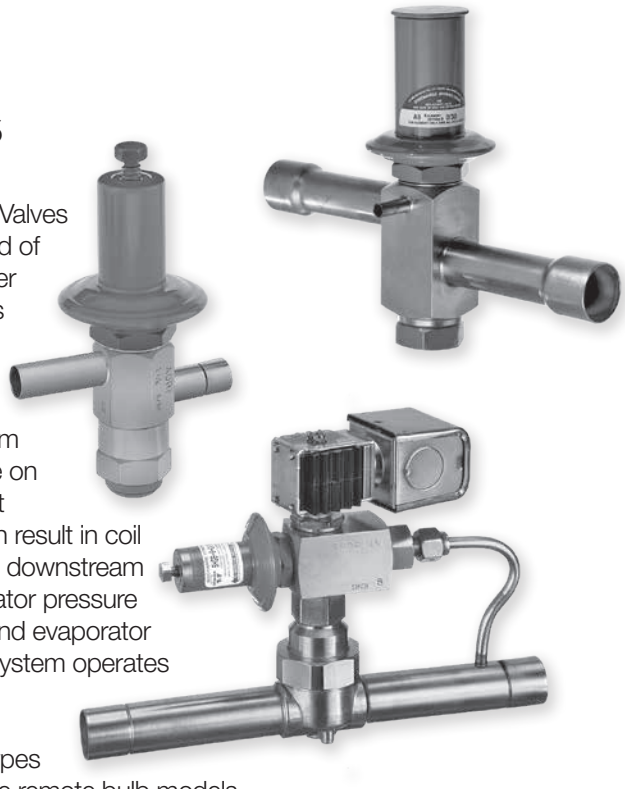
The **IB Interface Board** has screw terminals for easy connection, and should be mounted in a control panel or other enclosure.



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Discharge Bypass Valves



The Parker Sporlan Line of Discharge Bypass Valves are designed to provide an economical method of compressor capacity control in place of cylinder unloaders or to handle unloading requirements below the last step of cylinder unloading.
These modulating control valves automatically bypass the required amount of discharge gas to the low side to maintain the desired minimum evaporator pressure. The valves are applicable on any refrigeration or air conditioning system that operates during periods of low load, which can result in coil icing or short cycling. These valves respond to downstream pressure changes and open when the evaporator pressure falls below the valve setting. At normal loads and evaporator conditions, the valve remains closed and the system operates in a conventional manner.

The DR line of valves consists of three basic types of valves: the adjustable models, the adjustable remote bulb models, and the non-adjustable models.
The SHGB valves are adjustable and pilot operated with a solenoid stop feature that eliminates the need for a hot gas solenoid valve.

They were developed for use on larger capacity systems.

Application

The discharge bypass valve is normally applied in a branch line from the discharge line. To allow system pump down control, a solenoid valve or hand valve must be installed upstream of the discharge DR type bypass valves. The bypassed hot gas can enter the low side at several locations; however, two of the possible locations are preferred because of superior operating performance: into the side connection of a Parker Sporlan side connection distributor or directly into the suction line. By using the side connection distributor method, the system TEV will act as a desuperheating valve to keep the compressor suction temperature below the recommended maximum temperature published by the compressor manufacturer. When the hot gas is bypassed directly into the suction line, an auxiliary desuperheating TEV may be required. See Bulletin 90-40 and 90-40-1 for complete application details.

Selection and Capacity Ratings

The capacities given in the table below are **valve** hot gas capacities and not the capacities of the system on which the valve is to be applied. To select a valve, first determine the compressor capacity at the minimum allowable evapourating temperature. Then the discharge bypass valve must supply the difference between this compressor capacity and the minimum evaporator load at which the system is to be operated.
The valve pressure setting will be that pressure at which the bypass valve must start to open.

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Discharge Bypass Valves

Valve Nomenclature/Ordering Instructions

Direct Acting Valves

A	DR	H	E	6	0/80	AR	7/8" ODF
Fully Adjustable 0/30 or 0/80 psig or 0/55 psig (ADRI)	**Valve Type** Discharge Regulating	**Body Style** I, S, P, or H	**External Equaliser** Omit if Internally Equalised	**Port Size** in Eighths of an Inch	**Adjustable Range** 0/30, 0/80, 55/70, etc	**Adjustable** Remote Bulb	**Connections** Solder or SAE Flare

When installing theses valves with solder connections, the internal parts should be protected from overheating by using a Parker calorie discharger (TB2) - see page 269 - or by wrapping the valve with a wet cloth.

Specifications & Materials/Details of Construction

Valve Type	ADRI, ADRS, ADRP,	DRHE, ADRHE
Body Material	Brass	
Seat	Metal to Metal	Synthetic to Metal
Element to Body Joint Type	Knife Edge Metal to Metal	
Connections	ODF Copper, SAE Brass	
Element Type	Stainless Steel Diaphragm	
MRP	34.5 barg (500 psig)	
Max External Leakage	.10 oz/yr @ 300 psig (2.8 g/yr @ 20 barg)	
UL	SA5460	
Compatibility	All HFC, HCFC, Refrigerants and blends including R1234yf and R1234ze	

Pilot Operated Valves

S	HGB	E	- 8	- 0/100	- 7/8"
Solenoid Stop Feature	**Valve Type Hot Gas Bypass**	**External Equalize 1/4" SAE** Omit if Internally Equalised	**Valve Size**	**Adjustment Range** psi	**Connections ODF Solder** 7/8" ODF 1-1/8" ODF

Specifications & Materials/Details of Construction

Valve Type	SHGB-8, SHGBE-8	SHGB-15, SHGB-15
Body Material	Brass	Cast Steel
Seat	Synthetic to Metal	
Connections	ODF Copper	
Coil	MKC-1	MKC-2
MRP	33 barg (450 psig)	
MOPD	20.7 bar (300 psi)	
Max. Fluid Temp.	116°C (240°F)	
Max. Ambient Temp.	48.9°C (120°F)	
Max External Leakage	.10 oz/yr @ 300 psig (2.8 g/yr @ 20 barg)	
UL	MH4576	
Compatibility	All HFC, HCFC, Refrigerants and blends including R1234yf and R1234ze	

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Discharge Bypass Valves

Specifications & Materials

R410A

Direct Acting

Specifications & Materials / Details of Construction

Valve Type	HGBE
Body Material	Brass
Seat	Synthetic to Metal
Connections	ODF Copper
MRP	48.3 barg (700 psig)
Max. Fluid Temp.	116°C (240°F)
Max. Ambient Temp.	48.9°C (120°F)
Max External Leakage	.10 oz/yr @ 300 psig (2.8 g/yr @ 20 barg)
UL	SA-5460-SFJQ2
Compatibility	All HFC Refrigerants and blends

Pilot Operated Valves

Specifications & Materials/Details of Construction

Valve Type	HGB(E)
Body Material	Brass
Seat	Synthetic to Metal
Connections	ODF Copper
MRP	48.3 barg (700 psig)
Max. Fluid Temp.	116°C (240°F)
Max. Ambient Temp.	48.9°C (120°F)
Max External Leakage	.10 oz/yr @ 300 psig (2.8 g/yr @ 20 barg)
UL	SA-5460-SFJQ2
Compatibility	All HFC Refrigerants and blends

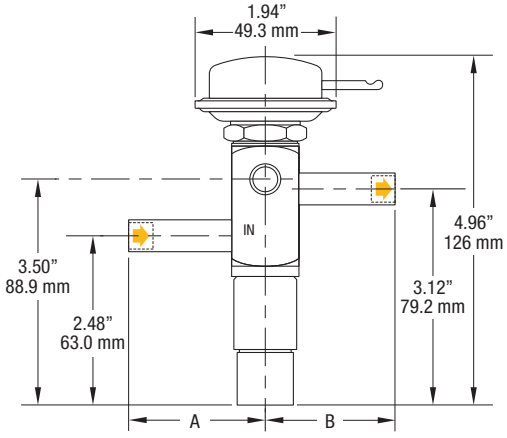
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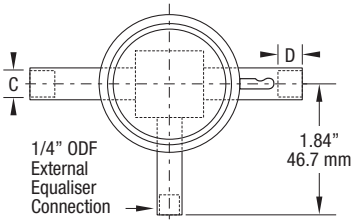
Discharge Bypass Valves

Valve Dimensions

HGBE-5



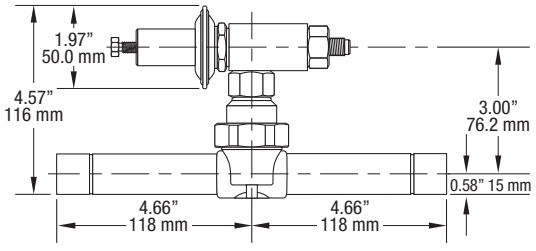
Top View



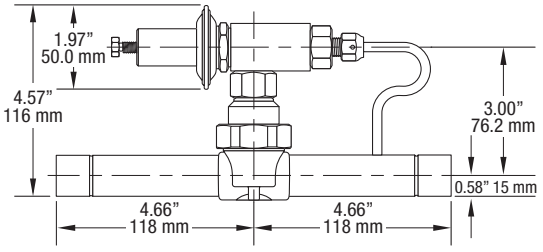
Connections

ODF Solder Inches	Inches				mm			
	A	B	C	D	A	B	C	D
3/8	1.87	1.78	0.38	0.31	47.5	45.2	9.65	7.9
1/2	2.12	2.03	0.50	0.37	53.8	51.6	12.7	9.4
5/8	2.43	2.34	0.63	0.50	61.7	59.4	16.0	12.7

HGBE-8 Externally Equalised



HGBE-8 Internally Equalised



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Discharge Bypass Valves

Order Selection Guide

Direct Acting Valves - Adjustable Models

Type	Connections Inches	Adjustment Range psig	Adjustment Range barg	Part Number
ADRI-1-1/4 (straight through)	3/8 ODF	0/55	0/3.79	904927
	3/8 ODF	0/75	0/5.17	905767
	3/8 ODF	0/100	0/6.9	906607
ADRIE-1-1/4(straight through)	3/8 ODF	0/75	0/5.17	905851
	3/8 ODF	0/100	0/6.9	906691
ADRS-2	3/8 ODF, 1/2 ODF, 5/8 ODF	0/30, 0/80	0/2.07, 0/5.52	Special order valve
ADRSE-2	3/8 ODF, 1/2 ODF, 5/8 ODF	0/30	0/2.07	Special order valve
	3/8 ODF	0/80	0/5.52	903399
	1/2 ODF			903406
	5/8 ODF			903413
ADRP-3	1/2 ODF,	0/30, 0/80	0/2.07, 0/5.52	Special order valve
	5/8 ODF			
ADRPE-3	1/2 ODF, 5/8 ODF	0/30	0/2.07	
	1/2 ODF	0/80	0/5.52	903525
	5/8 ODF			903532
ADRHE-6	5/8 ODF	0/30	0/2.07	903553
	7/8 ODF			903560
	1-1/8 ODF			903567
	5/8 ODF	0/80	0/5.52	903574
	7/8 ODF			903581
	1-1/8 ODF			903588

Direct Acting Valves - With Adjustable Remote Bulb

DRP-3-AR	5/8 ODF	55/70	3.79/4.83	903684
DRPE-3-AR				903686
DRHE-6-AR	7/8 ODF	25/35	1.72/2.41	903742
	1-1/8 ODF			903749
	7/8 ODF	55/70	3.79/4.83	903805
	1-1/8 ODF			903812
	7/8 ODF	65/80	4.48/5.52	903826
	1-1/8 ODF			903833

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Discharge Bypass Valves

Order Selection Guide

Pilot Operated *

Type	Connections Inches	Adjustment Range psig	Adjustment Range barg	Coil Type Required	Part Number
HGBE-8	7/8 ODF	75/150		-	904062
SHGB-8	7/8 ODF	0/100	0/6.9	MKC-1	904015
	1-1/8 ODF				904016
SHGBE-8	7/8 ODF				904010
	1-1/8 ODF				904009
SHGB-15	1-1/8 ODF	0/75	0/5.17	MKC-2	904075
	1-3/8 ODF				904076
SHGBE-15	1-1/8 ODF				904077
	1-3/8 ODF				904078

Adjustable Spring R-410A Models

HGBE-5	3/8 ODF	95/115	6.6/7.93	-	904065
	1/2 ODF				904068
	5/8 ODF				904067
HGB-5	3/8 ODF, 1/2 ODF, 5/8 ODF	95/115	6.6/7.93	-	Special order valve

Pilot Operated R-410A Models

HGBE-8	7/8 ODF	75/150	5.2/10.3	-	Special order valve
	1-1/8 ODF				904080
HGB-8	7/8 ODF	75/150	5.2/10.3	-	Special order valve
	1-1/8 ODF				

*All PRV's are supplied less coil.

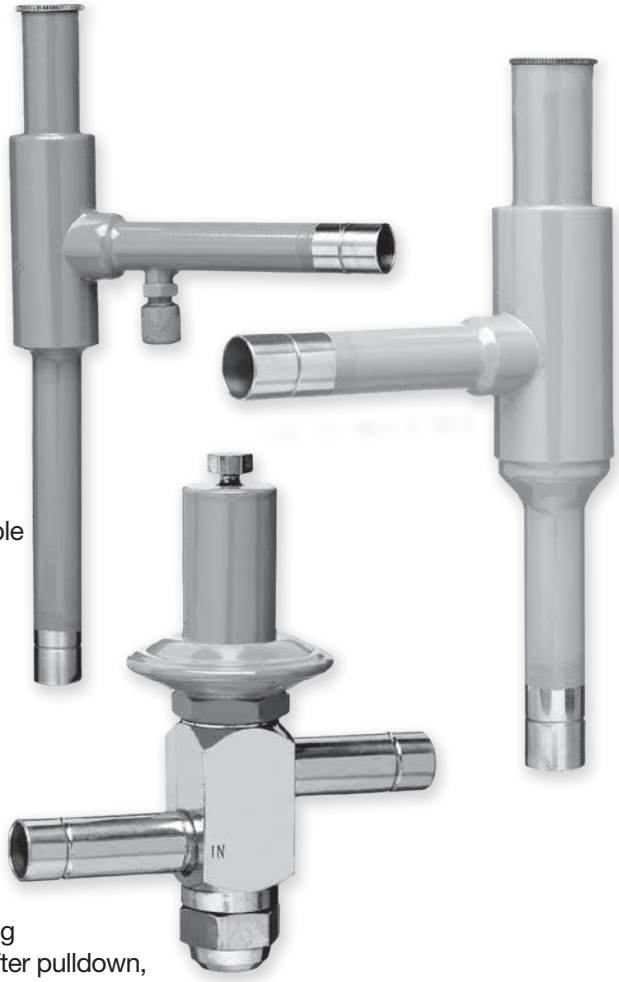
Din Coils

Part Number	Type	Power	Electrical Connections
310683	MKC-1E 24/50-60	10 W	DIN connector (not included)
310678	MKC-1E 120/50-60	10 W	DIN connector (not included)
310682	MKC-1E 208-240/50-60	10 W	DIN connector (not included)
310675	MKC-2E 24V 50-60HZ	15W	DIN connector (not included)
310677	MKC-2E 120/50-60	15W	DIN connector (not included)
310674	MKC-2E 208-240/50-60	15W	DIN connector (not included)
310040	MKC-1E 12 DC	15W	DIN connector (not included)
310041	MKC-1E 24 DC	15W	DIN connector (not included)
310691	MKC-2E 24 DC	18W	DIN connector (not included)
600000R	PG 9/11 DIN connector for MKC-1E and MKC-2E coils		

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Crankcase Pressure Regulating Valves



Crankcase Pressure Regulating Valves are designed to prevent overloading of the compressor motor by limiting the crankcase pressure to a predetermined maximum value during and after a defrost cycle or a normal shutdown period.
These valves automatically throttle the vapour flow from the evaporator until the compressor can handle the load.
Parker Sporlan manufactures five adjustable direct acting models...CRO-4, CRO-6, CROT-6, CRO-10 and CROT-10... all models respond only to their outlet pressure and modulate to prevent the suction pressure at the compressor from rising above the valve setting.
Since these valves are adjustable, the setting may be altered to suit the specific system requirements.

Selection and Capacity Ratings

The ratings for these valves vary depending on these items: design suction pressure after pulldown, maximum allowable suction pressure recommended by the compressor or unit manufacturer (this is the valve setting), and pressure drop across the valve. The difference between the design suction pressure and the valve setting determines how much of the valve stroke is used. Therefore, the valve setting should be kept as high as possible without exceeding the recommendation of the compressor or unit manufacturer. Once this information is available, the correct CRO can be selected from the data below.

Installation

Crankcase Pressure Regulating Valves are installed in the suction line between the evaporator and compressor, and downstream of any other controls or accessories. When installing CRO's with solder type connections, the internal parts should be protected by wrapping the valve with a wet cloth.

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Crankcase Pressure Regulating Valves

Valve Nomenclature/Ordering Instructions

CRO	T	10	0/60	1-1/8 ODF
Valve Type Close on rise of outlet pressure	**Access Valve** on Inlet Connection CROT-6 or CROT-10	**Port Size** in Eighths of an Inch	**Adjustment Range - psig** See specifications for available adjustment ranges	**Connection** ODF Solder or SAE Flare

When installing theses valves with solder connections, the internal parts should be protected from overheating by using a Parker calorie discharger (TB2) - see page 269 - or by wrapping the valve with a wet cloth.

Materials and Construction Details

Valve Type	CRO-4	CRO(T)-6	CRO(T)-10
Body Material	Brass	Brass	
Seat	Teflon to Metal	Teflon to Metal	
Element Type and Material	Diaphragm - Stainless Steel	Bellows - Brass	
Type of Joints	Knife Edge, Metal to Metal	Hermetic Construction	
Connections	ODF Copper	ODF Copper, SAE Brass	ODF Copper
MRP	34.5 barg (500 psig)	27.6 barg (400 psig)	
Max External Leakage	.10 oz/yr @ 300 psig (2.8 g/yr @ 20 barg)		
UL	SA-5460		
Compatibility	All HFC, HCFC, Refrigerants and blends		

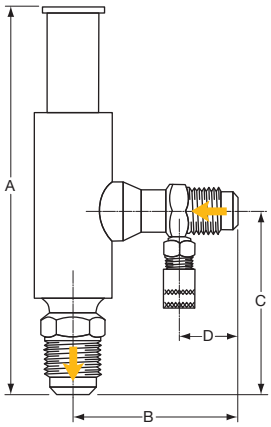
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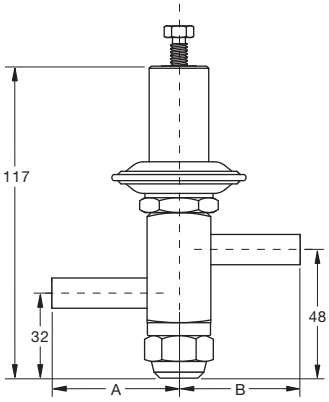
Crankcase Pressure Regulating Valves

Valve Dimensions

CRO (T)-6
CRO (T)-10



CRO 4



Specifications & Dimensions

Valve type	Nominal Adjustment Range - psig	Connection - Inches	Dimensions - Inches					Weight - Pounds	
			A	B	C	D	Socket Depth	Net	Shipping
CRO-4	0/20, 0/50 or 0/75	3/8 ODF Solder	48	45	10	-	8	0.45	0.52
		1/2 ODF Solder	54	52	13	-	9		
		3/8 SAE Flare	42	40	-	-	-		
		1/2 SAE Flare	47	45	-	-	-		
CRO(T)-6	0/60 or 30/110	5/8 ODF Solder	249	134	162	93	13	0.45	0.57
		7/8 ODF Solder	249	134	162	95	19	0.45	0.57
		1-1/8 ODF Solder	249	134	162	95	23	0.57	0.68
		1/2 SAE Flare	157	67	71	24	-	0.45	0.57
		5/8 SAE Flare	162	71	76	27	-	0.45	0.57
CRO(T)-10	0/60 or 30/110	7/8 ODF Solder	280	145	165	83	19	1.1	1.25
		1-1/8 ODF Solder	280	145	165	83	23	1.1	1.25
		1-3/8 ODF Solder	280	145	165	83	25	1.1	1.25

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Crankcase Pressure Regulating Valves

Order Selection Guide

Crankcase Pressure Regulating Valves

Type	Connections Inches	Adjustment Range psig	Adjustment Range barg	Part Number
CRO-4	1/2 ODF	0/20	0/1.38	900002
	1/2 ODF	0/50	0/3.45	900004
	1/2 ODF	0/75	0/5.17	900006
	3/8 ODF, 3/8 SAE, 1/2 SAE	0/20, 0/50, 0/75	0/1.38, 0/3.45, 0/5.17	Special order valve
CRO-6	5/8 ODF	30/110	2.07/7.58	900310
	1-1/8 ODF	0/60	0/4.14	900479
	5/8 SAE			900500
	1/2 SAE, 5/8 SAE, 1/2 ODF, 5/8 ODF, 7/8 ODF, 1-1/8 ODF	0/60, 30/110	0/4.14, 2.07/7.58	Special order valve
CRO-10	7/8 ODF	30/110	2.07/7.58	900330
	1-1/8 ODF			900335
	1-3/8 ODF			900340
	7/8 ODF	0/60	0/4.14	900507
	1-1/8 ODF			900528
	1-3/8 ODF			900542
CROT-6	1/2 SAE	0/60	0/4.14	900584
	5/8 SAE			900591
	1/2 ODF			900553
	5/8 ODF			900556
	7/8 ODF			900570
	1-1/8 ODF			900577
	1/2 SAE	30/110	2.07/7.58	900350
	5/8 SAE			900355
	5/8 ODF			900360
	7/8 ODF			900365
	1-1/8 ODF			900370
CROT-10	7/8 ODF	0/60	0/4.14	900598
	1-1/8 ODF			900605
	1-3/8 ODF			900612
	7/8 ODF	30/110	2.07/7.58	900380
	1-1/8 ODF			900385
	1-3/8 ODF			900390

Note: All CRO & CROT valves with ODF connections are supplied with an inlet strainer

Special order valves or other valves configurations might be available upon request.

For all requests, consult your nearest Parker Sporlan Wholesaler or contact us on:
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Head Pressure Control Valves



High and Low Ambient Stability

The design of air conditioning systems utilizing air cooled condensing units involves two main problems that must be solved if the system is to operate reliably and economically **high ambient** and **low ambient** operation. If the condensing unit is properly sized, it will operate satisfactorily during extremely high ambient temperatures. However, while some units will be required to operate at ambient temperatures below their design dry bulb temperature during most of the year, the solution to low ambient operation is more complex.

Without good head pressure control during low ambient operation, the system can experience both running cycle and off-cycle problems. Since the pressure differential across the thermostatic expansion valve port affects the rate of refrigerant flow, low head pressure generally causes insufficient refrigerant to be fed to the evaporator. Failure to have sufficient head pressure will result in low suction pressure and/or iced evaporator coils. The primary off-cycle problem is refrigerant migration to the condenser.
Insufficient flow through the TEV will cause a low suction pressure. The typical method of maintaining normal head pressure in a refrigeration system during periods of low ambient temperature is to restrict liquid flow from the condenser to the receiver, and at the same time divert hot gas to the inlet of the receiver. This backs liquid refrigerant up into the condenser reducing its capacity which in turn increases the condensing pressure. At the same time the hot gas raises liquid pressure in the receiver, allowing the system to operate normally.
Parker Sporlan Head Pressure Control for systems with air cooled condensers can be accomplished using one of several valve options; the non-adjustable OROA-5, the adjustable ORI/ORD combination, or the economical LAC Series.

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Valve Nomenclature/Ordering Instructions

LAC

LAC	-	4	-	DS	-	100/80	-	3/8 "	X	3/8 "	X	3/8 "
Valve Type Low Ambient Control		**Valve Size**		**Dual Setting** Omit for standard dome element		**Valve Setting (s)** (psig) - Specify one setting for		**Discharge Connection** (inches)		**Condensed Connection** (inches)		**Receiver Connection** (inches)

LAC	-	5	-	180	-	5/8"	X	5/8"	X	3/8 "		ODF
Valve Type Low Ambient Control		**Valve Size**		**Valve Setting(s)** (psig)		**Discharge Connection** (inches)		**Condensed Connection** (inches)		**Receiver Connection** (inches)		**Solder Connections**

ORI

ORI	-	6	-	65/225	-	7/8" ODF	-	With Strainer	-	H
Valve Type Open on rise of Inlet Pressure		**Port Size** Eighths of an Inch		**Nominal Adjustment Range** (psig)		**Connection Solder**		**Inlet Strainer** (Optional)		**Designates High Pressure Bellows**

OROA

OROA	-	5	-	180	-	5/8" ODF	-	With Strainer
Valve Type Open on rise of Outlet		**Port Size** Eighths of an Inch		**Pressure Setting** (psig)		**Connection Solder**		**Inlet Strainer** (Optional)

ORD-4

ORD	-	4	-	20
Valve Type Open on rise of Differential Pressure		**Port Size** Eighths of an Inch		**Opening Pressure Differential** (psi)

Materials and Construction Details

Valve Type	LAC-4,-5,-10		ORI-6,-10	ORD-4	OROA
Body Material	Brass		Brass	Copper	Brass
Seat	Metal to Metal		Metal to Metal	Metal to Metal	Metal to Metal
Element Type and Material	Domed Steel	Remote Bulb only for R410A LAC-5-HP, -10-HP valves	Bellows - Brass	Bellows - Brass	Diaphragm Stainless Stee
Type of Joints	Knife Edge, Metal to Metal		Hermetic Construction	Hermetic Construction	Hermetic Construction
Connections	ODF Copper		ODF Copper	ODF Copper	ODF Copper
MRP	46.9 barg (680 psig) R410A only		31 barg (450 psig)	31 barg (450 psig)	31 barg (450 psig)
	LAC-4 =34.5 barg (500 psig)	LAC-5, -10 = 31 barg (450 psig)			
Max External Leakage	.10 oz/yr @ 300 psig (2.8 g/yr @ 20 barg)				
UL	SA-5460				
Compatibility	All HFC, HCFC, Refrigerants and blends				

When installing theses valves with solder connections, the internal parts should be protected from overheating by using a Parker calorie discharger (TB2) - see page 269 - or by wrapping the valve with a wet cloth.

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Head Pressure Control Valves

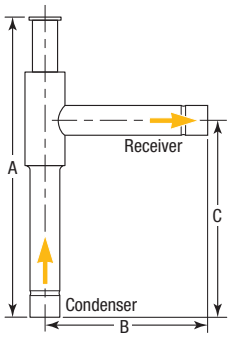
Valve Dimensions

Specifications and Dimensions

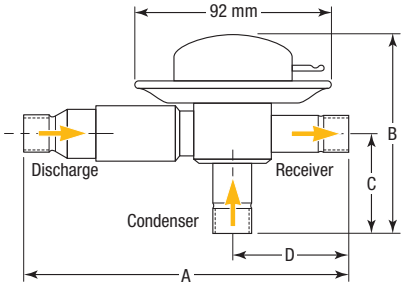
Valve Type	Standard Factory Setting bar	Connections ODF Solder Inches		Dimensions mm								Weight kg		Replacement Parts	
		Inlet(s)	Outlet	A	B	C	D	E	F	G	I	Net	Ship		
ORI-6-65/225-H	8.3	5/8	5/8	250	128	162	-	-	-	-	-	0.45	0.57	Inlet Strainer	825-5
		7/8	7/8												825-7
		1-1/8	1-1/8									0.57	0.68		825-9
ORI-10-65/225-H	8.3	1-1/8	1-1/8	280	139	167	-					1.13	1.25		825-9
		1-3/8	1-3/8												825-11
ORD-4-20	1.4	5/8	5/8	167	25	-	-					0.15	0.23		825-5
OROA-5	6.9, 12.4 or 14.5	(1) 5/8 (2) 5/8	5/8	151	95	48	55					0.91	1.02		825-5
		(1) 5/8 (2) 7/8	7/8	157	102	54	61								825-7

(1) Discharge Connection
(2) Condenser Connection

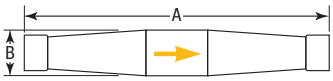
ORI



OROA



ORD-4



6

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Head Pressure Control Valves

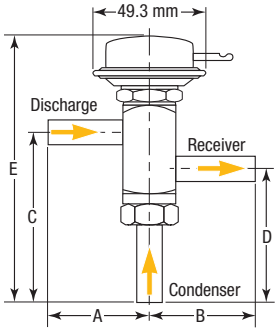
Valve Dimensions

Specifications and Dimensions

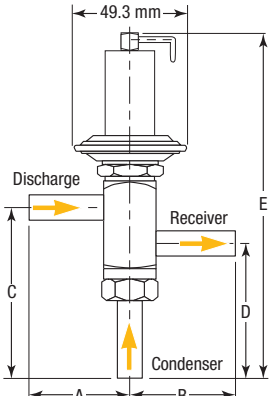
Valve Type	Standard Factory Setting bar	Connections ODF Solder Inches		Dimensions - mm										Weight kg	
		Inlet(s)	Outlet	A	B	C	D	E			F	G	I	Net	Ship
LAC-4	6.9, 12.4 or 14.5	1/4	1/4	45	48	77	61	120			-	-	-	0.34	0.39
		3/8	3/8											0.36	0.40
		1/2	1/2											0.37	0.41
LAC-4-DS		3/8	3/8	45	48	77	61	155						0.40	0.46
		1/2	1/2											0.43	.49
LAC-5		1/2	1/2	42	41	96	76	Dome Element	155	Bulb Element	142			1.13	1.20
		5/8	5/8	44	43	98	78		157		144			1.16	1.22
		7/8	7/8	57	55	110	91		170		157			1.18	1.25
		1-1/8	1-1/8	61	60	114	95		173		161			1.25	1.32
LAC-10		(1) 1-3/8 (2) 7/8	7/8	72	68	112	88		176		163			1.45	1.55
		(1) 1-3/8 (2) 1-1/8	1-1/8		65	123	98		187		174			1.49	1.59

(1) Discharge Connection
(2) Condenser Connection

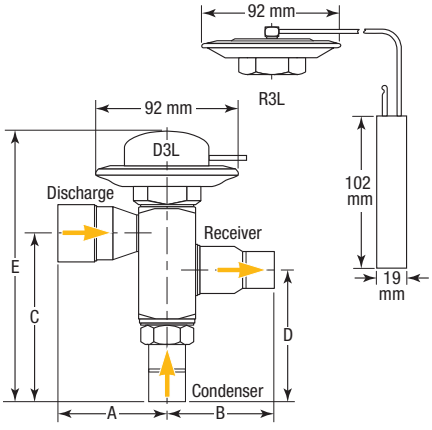
LAC-4



LAC-4-DS



LAC-5 & 10



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Head Pressure Control Valves

Order Selection Guide

Head Pressure Control Valves

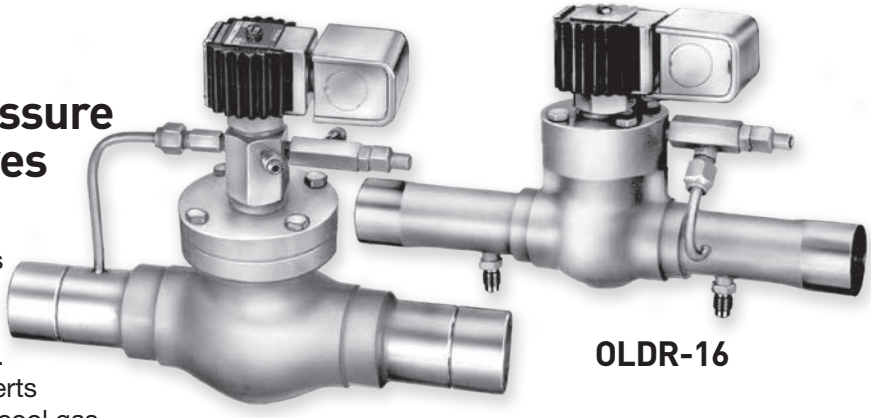
Valve Type	Connections - Inches Discharge	Condenser/Receiver	Standard Factory Setting psig	Standard Factory Setting barg	Part Number
LAC-4	1/2 ODF	1/2 ODF	100	6.9	903031
	3/8 ODF	3/8 ODF	180	12.4	903024
	1/2 ODF	1/2 ODF			903038
LAC-4-DS	1/2 ODF	1/2 ODF	100/180	6.9/12.4	903085
LAC-4-HP	1/2 ODF	1/2 ODF	295	20.3	903111
LAC-5	5/8 ODF	5/8 ODF	180	12.4	903029
	7/8 ODF	7/8 ODF	180	12.4	903033
	1/2 x 1/2 ODF,		100, 180	6.9/12.4	Special order valve
	5/8 x 5/8 ODF,				
	7/8 x 7/8 ODF,				
	1-1/8 x 1-1/8 ODF				
LAC-5-HP	5/8 ODF	5/8 ODF	295	20.3	903107
LAC-10	7/8 x 7/8 ODF,		100, 180	6.9/12.4	Special order valve
	1-3/8 x 1-3/8 ODF				
LAC-10-HP	1-3/8 ODF	7/8 ODF	295	20.3	903106
	1-3/8 ODF	1-1/8 ODF			903109
ORI-6-65/225H	5/8 ODF	5/8 ODF	120	8.3	900826
	7/8 ODF	7/8 ODF			900833
	1-1/8 ODF	1-1/8 ODF			900847
ORI-10-65/225H	1-1/8 ODF	1-1/8 ODF			900861
	1-3/8 ODF	1-3/8 ODF			900882
ORD-4	5/8 ODF	5/8 ODF	20	1.4	902877
			25	1.7	902884
			30	2.07	902891
			35	2.4	902898
OROA-5	5/8 ODF	5/8 ODF	100	6.9	902905
	5/8 ODF	7/8 ODF			902912
	5/8 ODF	5/8 ODF	180	12.4	902919
	5/8 ODF	7/8 ODF			902926
OROAB-5	5/8 ODF	5/8 ODF	100	6.9	902933
	5/8 ODF	7/8 ODF			902940
	5/8 ODF	5/8 ODF	180	12.4	902947
	5/8 ODF	7/8 ODF			902954
OROAC-5 OROAD-5	5/8 x 5/8 ODF, 5/8 x 7/8 ODF		100	6.9	Special order valve
			180	12.4	

Maximum Pressure Drop Between Compressor and Receiver - bar	Head Pressure Component Selection
Below 0.97	OROA-5-100 or -180
	ORD-4-20 & ORI
1 - 1.3	OROAB-5-100 or -180
	ORD-4-25 & ORI
1.4 - 1.65	OROAC-5-100 or -180
	ORD-4-30 & ORI
1.7- 2	OROAD-5-100 or -180
	ORD-4-35 & ORI

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Defrost Differential Pressure Regulating Valves



OLDR-16

DDR-20

In many supermarket applications refrigerant gas from the discharge line or from the top of the receiver is used for defrost. This method of defrost diverts a portion of the hot gas or cool gas (from the top of the receiver) to the suction line and back through the evaporator being defrosted.

The gas condenses in the evaporator and flows in reverse, through check valves, around the TEV and liquid line solenoid valve. Liquid refrigerant then flows to the liquid header where it is distributed to evaporators not in the defrost cycle. In order for this reverse flow to occur, the pressure of the defrost header must be greater than the pressure of the liquid header. The difference in pressure is known as the defrost differential.

Several methods are used to obtain the defrost differential. The (O)LDR is designed to maintain a differential pressure between the receiver and the liquid header.
Parker Sporlan liquid line differential valves have a solenoid bypass feature that allows the valve to remain full open or modulate to maintain a differential.

We supply two versions of liquid line differential valves:

The **OLDR** is in the **full open position** when the coil is de-energized, and it's in differential operation mode when the coil is energized.

The **LDR** is in **differential operation mode** when the coil is de-energized, and it is in the full open position when the coil is energized.

The **DDR-20** is designed to create a differential pressure between its inlet (discharge) pressure and the receiver pressure.

A solenoid bypass feature is incorporated in the valve so that the valve can be made to go full open when there is no need for a differential to be created. Energizing the solenoid coil opens the valve fully.

Location and Piping

The (O)LDR valves is located between the receiver and the liquid header. The DDR-20 is located in the discharge line before the condenser. The two types of defrost differential valves (liquid line and discharge line) are not to be applied on the same system.

Adjustment Range and Pressure Settings

All defrost differential valves are set by turning the adjusting stem located under the cap on the pilot differential valve. The adjustment range is 0.3 to 3.5 bar. The (O)LDR has a factory setting of 1.2 bar and the DDR-20 has a factory setting of 2 bar. Turning the stem clock wise increases the setting, counter clock wise decreases the setting.

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Defrost Differential Pressure Regulating Valves

Valve Nomenclature/Ordering Instructions

OLDR

0	-	LDR	-	16	-	5-50	-	1-3/8" ODF	-	120/50-60
Normally Open		Liquid Differential Regulator		Valve Size		Adjustment Range psl		Connection (Inches)		Electrical Specifications

DDR

DDR	-	20	-	5/50	-	1-5/8" ODF	-	120/50-60
Discharge Differential Regulator		Valve Size		Adjustment Range psl		Connection (Inches)		Electrical Specifications

When installing theses valves with solder connections, the internal parts should be protected from overheating by using a Parker calorie discharger (TB2) - see page 269 - or by wrapping the valve with a wet cloth.

Specifications

Valve Type	Port Size mm	Differential Setpoint Range	Connections - Inches Inlet x Outlet	Coil	MRP	MOPD
OLDR-16	25.4	0.34/3.4 bar	1-1/8 ODF x 1-1/8 ODF or 1-3/8 ODF x 1-3/8 ODF	MKC-1	27.5 bar	20.5 bar
LDR-16				OMKC-1		
OLDR-20	33.3		1-5/8 ODF x 1-5/8 ODF or 2-1/8 ODF x 2-1/8 ODF	MKC-2		
LDR-20				OMKC-2		
DDR-20	33.3		1-5/8 ODF x 1-5/8 ODF	MKC-2		

Selection Tables

Capacities in kW

Capacities based on 5°C evaporator temperature, 38°C condensing temperature, 14°K superheat return gas, discharge gas temperature 28°C above isentropic compression.

Valve Type	Refrigerant 134a			404A & 507			407C		
	Pressure Drop Across Valve - bar								
	0.14	0.21	0.35	0.14	0.21	0.35	0.14	0.21	0.35
LDR-16, OLDR-16	155	190	246	110	135	174	153	187	242
LDR-20, OLDR-20	343	420	543	243	298	384	338	414	534
DDR-20	27	33	42	29	35	45	34	41	53

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Defrost Differential Pressure Regulating Valves

Order Selection Guide

Valve Type*	Connection - Inches Inlet x Outlet	Coil Type Required	Part Number
OLDR-16-5/50	1-1/8 ODF x 1-1/8 ODF	MKC-1	4093-00
	1-3/8 ODF x 1-3/8 ODF		4092-00
DDR-20-5/50	1-5/8 ODF x 1-5/8 ODF	MKC-2	307105
LDR-16-5/50	1-3/8 ODF x 1-3/8 ODF	OMKC-1	4095-00

* All PRV's are supplied less coil.

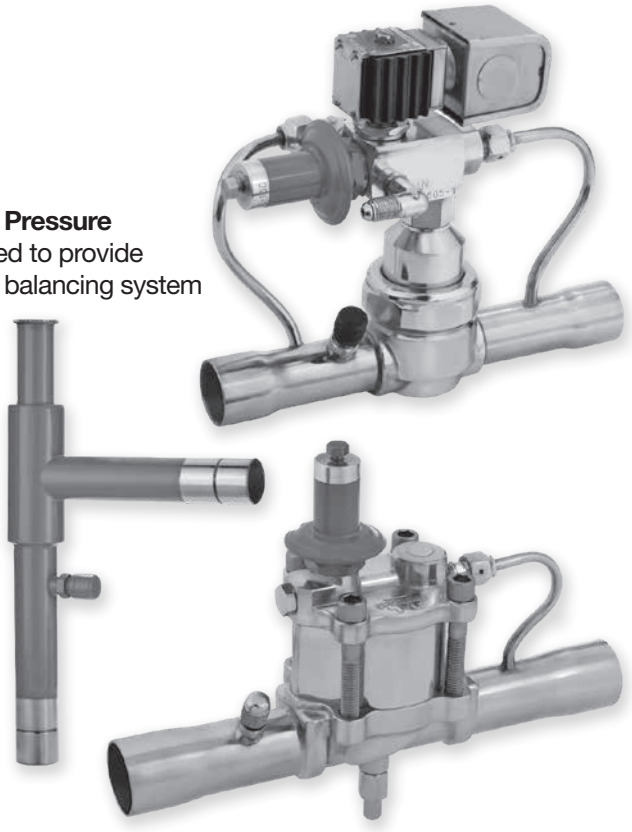
DIN Coils

Part Number	Type	Power	Electrical Connections
310683	MKC-1E 24 V / 50-60 Hz	10 W	DIN connector (not included)
310678	MKC-1E 120 V / 50-60 Hz	10 W	DIN connector (not included)
310682	MKC-1E 208-240 V / 50-60 Hz	10 W	DIN connector (not included)
310040	MKC-1E 12 V DC	15 W	DIN connector (not included)
310041	MKC-1E 24 V DC	15 W	DIN connector (not included)
310675	MKC-2E 24 V / 50-60 Hz	15 W	DIN connector (not included)
310677	MKC-2E 120 V / 50-60 Hz	15 W	DIN connector (not included)
310674	MKC-2E 208-240 V / 50-60 Hz	15 W	DIN connector (not included)
313009	OMKC-2E 120 V / 50-60 Hz	15 W	DIN connector (not included)
313012	OMKC-2E 208-240 V / 50-60 Hz	15 W	DIN connector (not included)
600000R	PG 9/11 DIN connector for MKC-1E and MKC-2E coils		

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Evaporator Pressure Regulating Valves



The Parker Sporlan line of **Evaporator Pressure Regulating Valves (EPRV)** are designed to provide an accurate and economical means of balancing system capacity and load requirements during "low" loads and/or while maintaining different evaporator conditions on multi-temperature evaporator systems. These valves control evaporator temperature by maintaining evaporator pressure.

As the evaporator load increases the **ORI** valves will **O**pen on **R**ise of **I**nlet pressure above the valve's setting to provide more flow capacity to meet the evaporator load.

When the evaporator load decreases the valves will modulate closed to maintain the pressure setting of the valve. Parker Sporlan offers a number of **Evaporator Pressure Regulating Valves** types in various sizes, and with optional features to accommodate almost any application requirements.

For more complete information on any of the **Evaporator Pressure Regulating Valves** types, see your nearest Parker Sporlan Wholesaler.

Application

- Maintain minimum evaporator temperature to avoid frost on air coils and provide improved humidity control
- Evaporator temperature control for food merchandisers (single and multiple evaporator systems)
- Evaporator temperature control on water chilling units

Required Sizing Information

- Refrigerant type
- Evaporator design capacity
- Design evaporator temperature or minimum evaporator pressure
- Available pressure drop
- Allowable evaporator pressure change (only applies to direct acting models)

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ORIT-6 & -10 Type

These direct acting valves are offered in two sizes.
The direct acting design although economical requires an evaporator pressure change above the minimum evaporator pressure setting to provide the rated flow capacity.



Benefits

- **Direct acting (most economical)**
- **Adjustable**
- **Hermetic construction (no gaskets or seals)**
- **Corrosion resistant construction**
- **Inlet pressure tap (standard)**
- **Inlet strainer (standard on ODF models)**

Valve Nomenclature/Ordering Instructions

ORIT

ORI	-	T	-	6	-	0/50	-	7*8" ODF
Valve Type Open on Rise of Inlet Pressure		**Pressure Tap on Inlet Connection**		**Port Size** in Eights of an Inch		**Adjustment Range** psig*		**Connection ODF** Solder or SAE Flare

* Other pressure ranges are available

Installation

When installing theses valves with solder connections, the internal parts should be protected from overheating by using a Parker calorie discharger (TB2) - see page 269 - or by wrapping the valve with a wet cloth.

Specifications & Materials/Details of Construction

Valve Type	ORIT-6, -10
Body Material	Bellows - Brass
Seat	Metal to Metal
Connections	ODF Copper or SAE Brass
PS(MWP)	ORIT6: 21 barg (304.5 psig) - ORIT10: 14 barg (103 psig)
Test Pressure	27.6 barg (400 psig)
Max. Fluid Temp.	116°C (240°F)
Max. Ambient Temp.	68.3°C (155°F)
Max External Leakage	.10 oz/yr @ 300 psig (2.8 g/yr @ 20 barg)
UL	SA-5460-SFJQ
Compatibility	All HFC, HCFC, Refrigerants and blends. Including low GWP refrigerants R290, R1234yf and R1234ze

Valve Type	Port Size mm	Adjustment Range	Standard Connections In Bold
ORIT-6	19	0/3.45 2.07/6.90 bar	1/2 & 5/8 SAE Flare* 1/2, 5/8, 7/8 & 1-1/8 ODF Solder
ORIT-10	31		7/8, 1-1/8 & 1-3/8 ODF Solder

*Not available with inlet strainer.

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Selection Tables

Valves should be selected for the desired maximum variation in evaporator pressure using the capacity multipliers below.

Allowable Evaporator Pressure Change - bar		0.14	0.28	0.41	0.55	0.69	0.83	0.97
Capacity Multiplier	ORIT-6, 10-0/50	0.3	0.6	0.8	1	1.2	1.3	1.4
	ORIT-6, 10-30/100	-	0.2	0.6	0.7	0.9	1	1.1

Capacities in kW

Capacities based on 38°C condensing temperature, 0°C subcooling, 6°K superheat,
0.55 bar evaporator pressure change for 0/3.45 barg adjustment range, and a 0.83 bar evaporator pressure change for 2.07/6.90 barg adjustment range.

Valve Type	Evaporator Temperature °C	Saturated Pressure - bar (Reference)					Refrigerant														
							22			134a			404A			407C			507		
		Refrigerant					Pressure Drop Across Valve - bar														
		22	134a	404A	407C	507	0.1	0.4	0.7	0.1	0.4	0.7	0.1	0.4	0.7	0.1	0.4	0.7	0.1	0.4	0.7
ORIT-6	5	4.83	2.48	6.03	4.35	6.32	3.85	7.16	8.75	2.89	5.01	5.60	3.36	6.30	7.78	3.57	6.54	7.87	3.31	6.22	7.70
	-5	3.21	1.42	4.12	2.77	4.34	3.19	5.73	6.73	2.29	3.67	3.77	2.71	4.94	5.90	2.87	5.04	5.75	2.68	4.90	5.90
	-15	1.95	0.63	2.62	1.57	2.79	2.58	4.39	4.79	1.76	2.45	2.45	2.14	3.72	4.19	2.24	3.67	3.82	2.12	3.74	4.28
	-25	1.00	0.05	1.49	0.70	1.61	2.04	3.16	3.19	1.29	1.53	1.53	1.65	2.66	2.74	1.71	2.44	2.44	1.64	2.68	2.80
ORIT-10	5	4.83	2.48	6.03	4.35	6.32	9.45	18.7	24.4	7.25	14.2	18.3	8.23	16.3	21.3	8.79	17.3	22.6	8.08	16.0	21.0
	-5	3.21	1.42	4.12	2.77	4.34	7.88	15.5	20.2	5.83	11.3	14.4	6.69	13.2	17.2	7.13	14.0	18.1	6.59	13.0	16.9
	-15	1.95	0.63	2.62	1.57	2.79	6.48	12.6	16.3	4.60	8.77	11.0	5.35	10.5	13.6	5.70	11.1	14.2	5.28	10.4	13.4
	-25	1.00	0.05	1.49	0.70	1.61	5.23	10.1	12.8	3.55	6.58	8.01	4.19	8.12	10.4	4.46	8.52	10.7	4.15	8.07	10.4

Order Selection Guide

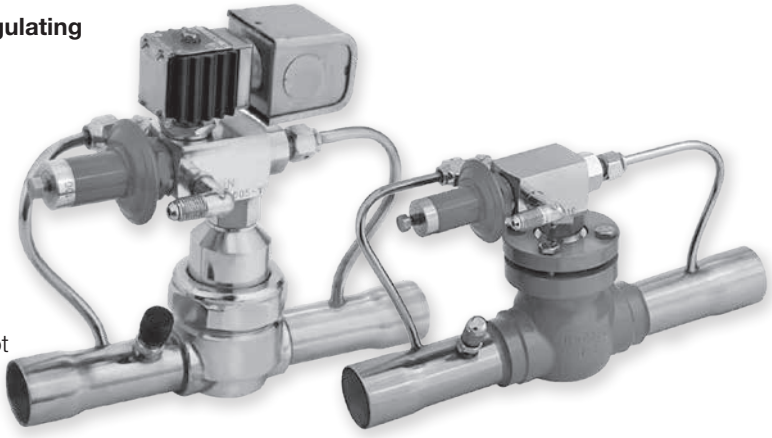
Direct Acting Type - **With** inlet strainer (40 MESH) where applicapable

Type	Connections Inches	Adjustment Range psig	Adjustment Range barg	Part Number
ORIT-6	1/2 ODF	0/50	0/3.45	901093
	5/8 ODF			901096
	7/8 ODF			901103
	1/2 ODF	30/100	2.07/6.9	901101
	5/8 ODF			901173
	7/8 ODF			901180
	1/2 SAE	0/50	0/3.45	901117
	5/8 SAE			901124
	1/2 SAE	30/100	2.07/6.9	901194
	5/8 SAE			901201
	1-1/8 ODF	0/50, 30/100	0/3.45, 2.07/6.9	Special order valve
ORIT-10	7/8 ODF	0/50	0/3.45	901131
	1-1/8 ODF			901138
	1-3/8 ODF			901166
	7/8 ODF	30/100	2.07/6.89	901208
	1-1/8 ODF			901229
	1-3/8 ODF			901250

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(S)ORIT-12, -15 & -20 Type



These **Evaporator Pressure Regulating Valves** are pilot operated using "high side" pressure and require a pilot supply connection from the compressor discharge to operate.

They are designed to be "normally open" providing an unparalleled ability to operate with virtually no suction line pressure drop.

The pilot operated design does not require the "allowable evaporator pressure change" necessary with the direct acting models, and can be simply sized based on design evaporator temperature and available pressure drop across the valve at full load conditions.

Benefits

- **High side pilot for improved temperature control and low Δ P operation**
- **Adjustable settings up to 150 psig (10.3 barg)**
- **Optional solenoid "stop" feature to close valve during defrost**
- **Normally open design allows system evacuation without manual operator**

Valve Nomenclature/Ordering Instructions

(S)ORIT

S		ORI		T	-	15	-	0/100	-	1-3/8 " ODF	-	120/50-60
Solenoid Stop Feature (optional)		**Valve Type** Open on Rise of Inlet Pressure		**Pressure Tap** on Inlet Connection		**Valve Size**		**Adjustment Range** psig*		**Connection ODF Solder**		**Electrical Specifications for Solenoid Stop Feature** (optional)

* Other pressure ranges are available.

Installation

When installing theses valves with solder connections, the internal parts should be protected from overheating by using a Parker calorie discharger (TB2) - see page 269 - or by wrapping the valve with a wet cloth.

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Specifications & Materials / Details of Construction

Valve Type	ORIT-12,-15,-20	SORIT-12,-15,-20
Connections	ODF Copper	
MRP	31 barg (450 psig)	
MOPD	20.7 barg (300 psig) SORIT only	
Max. Fluid Temp.	116°C (240°F)	
Min. Ambient/Fluid Temp.	-40°C (-40°F)	
Max. Ambient Temp.	48.9°C (120°F)	
Max External Leakage	.10 oz/yr @ 300 psig (2.8 g/yr @ 20 barg)	
UL	SA-5460	MH-4576
Compatibility	All HFC, HCFC, Refrigerants and blends. Including low GWP refrigerants R290	

Valve Type	Port Size mm	Adjustment Range barg	Standard Coil Ratings MKC-1		Connections ODF Solder Inches
			Volt/Hz	Watts	
(S)ORIT-12	19.8	0/6.90	24 V / 50-60 Hz 120 V / 50-60 Hz 208-240 V / 50-60 Hz 120-208-240 V / 50-60 Hz	10	1-1/8
(S)ORIT-15	25.4				1-3/8
(S)ORIT-20	33.3				1-5/8

Selection Tables

Capacities based on 15°C condensing temperature, 0°K superheat at the evaporator, and 14°K superheat at the valve.

Valve Type	Evaporator Temperature °C	Refrigerant															
		22				134a				404A				290			
		Pressure Drop Across Valve - bar															
		0.03	0.1	0.4	0.7	0.03	0.1	0.4	0.7	0.03	0.1	0.4	0.7	0.03	0.1	0.4	0.7
(S)ORIT-12	5	7.64	13.9	27.3	35.5	6.09	11.00	21.4	27.4	7.41	13.5	26.6	34.6	9.78	17.8	34.9	45.29
	-5	6.40	11.6	22.7	29.3	4.95	8.94	17.1	21.5	6.11	11.1	21.7	28.1	8.17	14.82	28.89	37.21
	-15	5.29	9.59	18.5	23.6	3.95	7.11	13.3	16.3	4.96	8.99	17.4	22.4	6.73	12.19	23.5	29.93
	-25	4.30	7.76	14.7	18.5	-	-	-	-	3.96	7.16	13.7	17.3	5.47	9.86	18.69	23.37
(S)ORIT-15	5	12.6	22.9	44.8	57.9	10.1	18.2	34.9	44.0	12.3	22.3	43.7	56.5	1.33	2.42	4.75	6.16
	-5	10.6	19.2	37.1	47.4	8.18	14.7	27.6	34.1	10.1	18.3	35.6	45.7	1.11	2.02	3.93	5.06
	-15	8.75	15.8	30.1	37.8	6.53	11.7	21.1	25.00	8.20	14.8	28.4	36.0	0.92	1.66	3.20	4.06
	-25	7.11	12.8	23.7	29.0	-	-	-	-	6.55	11.8	22.1	27.4	0.75	1.34	2.54	3.16
(S)ORIT-20	5	27.7	50.3	98.5	127	22.1	40.0	76.8	97.4	26.9	48.9	95.9	124	2.88	5.23	10.21	13.17
	-5	23.2	42.1	81.6	105	17.9	32.3	60.9	75.7	22.1	40.2	78.2	101	2.40	4.36	8.43	10.77
	-15	19.2	34.7	66.3	83.7	14.3	25.6	46.8	56.1	18.00	32.5	62.6	79.5	1.98	3.58	6.83	8.59
	-25	15.6	28.0	52.4	64.5	-	-	-	-	14.4	25.9	48.8	60.8	1.61	2.89	5.39	6.62

Example: The capacity of a (S)ORIT-12 using R-404A, evaporator temperature of -5°C, 0.1 bar pressure drop across the valve and a liquid temperature of 10°C, is equal to 11.1 x 1.06 = 11.8 kW.

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Refrigerant Liquid Temperature Correction Factors.

Refrigerant	Liquid Temperature °C										
	-15°	-10°	-5°	0°	5°	10°	15°	20°	30°	35°	40°
	Correction Factor, CF										
R-22	1.21	1.17	1.14	1.11	1.07	1.04	1	0.96	0.91	0.87	0.84
R-134a	1.25	1.21	1.17	1.14	1.09	1.05	1	0.95	0.89	0.84	0.81
R-404A	1.31	1.27	1.22	1.16	1.12	1.06	1	0.94	0.86	0.79	0.74
R-507	1.32	1.28	1.22	1.16	1.12	1.06	1	0.94	0.86	0.8	0.75
R-290	1.26	1.22	1.17	1.13	1.12	1.1	1.04	1.0	0.95	0.9	0.85

* ARI standard capacities are based on 15°C saturated liquid temperature.
Use the correction factor for 40°C liquid temperature and the capacities at 5°C evaporator temperature to determine approximate ARI standard capacity ratings.

Order Selection Guide

Valve Type*	Connection Inches	Adjustment Range psig Externally Pilot Operated Type	Adjustment Range barg Externally Pilot Operated Type	Coil Type Required	Part Number
ORIT-15	1-3/8 ODF	0/100	0/6.9	-	901597
ORIT-20	1-5/8 ODF				901604

Externally Pilot Operated Type - WITH Solenoid Stop

SORIT-20	1-5/8 ODF	0/100	0/6.9	MKC-1	901625

* All PRV's are supplied less coil.

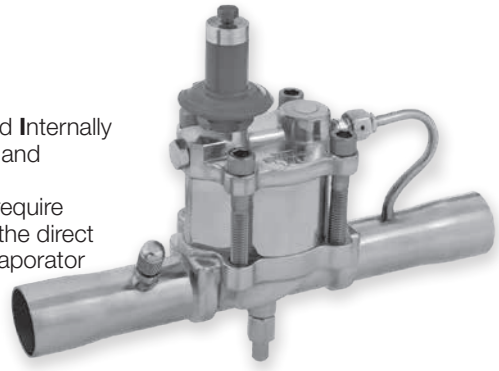
DIN Coils

Part Number	Type	Power	Electrical Connections
310683	MKC-1E 24 V / 50-60 Hz	10 W	DIN connector (not included)
310678	MKC-1E 120 V / 50-60 Hz	10 W	DIN connector (not included)
310682	MKC-1E 208-240 V / 50-60 Hz	10 W	DIN connector (not included)
310040	MKC-1E 12 V DC	15 W	DIN connector (not included)
310041	MKC-1E 24 V DC	15 W	DIN connector (not included)
600000R	PG 9/11 DIN connector for MKC-1E and MKC-2E coils		

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(S)ORIT-PI-2, -3, -4 &-5 Type



These **Evaporator Pressure Regulating Valves** are **P**iloted **I**nternally using the natural pressure drop across the valve to operate and do not require a "high side" pilot connection.
Like the (S)ORIT valves, the pilot operated design does not require the "allowable evaporator pressure change" necessary with the direct acting models, and can be simply sized based on design evaporator temperature and available pressure drop across the valve at full load conditions.

Benefits

- **Piloted internally (no high side connection required)**
- **Adjustable settings 0-6.9 barg (0-150 psig)**
- **Optional solenoid stop feature to close valve during system defrost**
- **Optional electric open feature for "two temperature operation"**
- **Corrosion resistant construction**
- **Manual lift stem to allow system evacuation**

Valve /Ordering Instructions

(S)ORIT

S	ORI	T	-	PI	-	2	7	-	S	E	0/100
Solenoid Stop Feature (optional)	**Valve Type** Open on Rise of Inlet Pressure	**Pressure Tap** on Inlet Connection		**Piloted Internally**		**Port Size** in 1/4 of an Inch	**Fitting Size** in 1/8 of an Inch		**Solenoid Stop Feature** (optional)	**Electric Open Feature** (optional)	**Adjustment Range** psig*

* Other pressure ranges are available.

Installation

When installing these valves with solder connections, the internal parts should be protected from overheating by using a Parker calorie discharger (TB2) - see page 269 - or by wrapping the valve with a wet cloth.

Specifications & Materials / Details of Construction

Valve Type	ORIT-PI	SORIT-PI
Connections	ODF Copper	
MRP	27.6 barg (400 psig)	
MOPD	13.1 barg (190 psig) SORIT-PI model only	
Max. Fluid Temp.	116°C (240°F)	
Min. Ambient/Fluid Temp.	-40°C (-40°F)	
Max. Ambient Temp.	48.9°C (120°F)	
Max External Leakage	.10 oz/yr @ 300 psig (2.8 g/yr @ 20 barg)	
UL	SA-5460	MH-4576
Compatibility	All HFC, HCFC, Refrigerants and blends.	

Valve Type	Port Size mm	Adjustment Range barg	Standard Coil Ratings MKC-1 Volt/Cycles	Watts	Connections ODF Solder Inches
(S)ORIT-PI-2	12.7	0/6.90 or 5.17/10.3	24 V / 50-60 Hz 120 V / 50-60 Hz 208-240 V / 50-60 Hz 120-208-240 V / 50-60 Hz	10	5/8, 7/8, 1-1/8, 1-3/8
(S)ORIT-PI-3	19.1				7/8, 1-1/8, 1-3/8, 1-5/8
(S)ORIT-PI-4	25.4				1-1/8, 1-3/8, 1-5/8, 2-1/8
(S)ORIT-PI-5	31.8				1-3/8, 1-5/8, 2-1/8

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(S)ORIT-PI-2, -3, -4 &-5 Type

Selection Tables

Capacities in kW

Capacities based on 15°C liquid temperature, 0°K superheat at the evaporator and 14°K superheat at the valve.

Valve Type	Evaporator Temperature °C	Refrigerant 22				134a				404A				507			
		Pressure Drop Accross Valve - bar															
		0.03	0.1	0.4	0.7	0.03	0.1	0.4	0.7	0.03	0.1	0.4	0.7	0.03	0.1	0.4	0.7
(S)ORIT-PI-2	5	2.78	8.66	20.3	27.6	2.22	6.92	16.6	20.9	2.7	8.4	19.6	27	2.61	8.13	18.9	26.2
	-5	2.33	7.26	17.7	22.6	1.81	5.63	13.1	16.1	2.22	6.93	16.3	21.8	2.15	6.71	15.7	21.2
	-15	1.93	6.01	14.4	17.9	1.45	4.51	9.99	11.7	1.81	5.63	13.6	17.1	1.76	5.47	13.2	16.7
	-25	1.57	4.9	11.3	13.6	-	-	-	-	1.44	4.5	10.5	12.9	1.41	4.38	10.3	12.7
(S)ORIT-PI-3	5	3.55	20.3	40.1	53.6	2.84	16.3	32.3	40.9	3.45	19.7	38.7	52.3	3.33	19	37.4	50.7
	-5	2.98	17.1	34.3	44	2.31	13.3	25.6	31.8	2.84	16.3	32	42.3	2.75	15.8	31	41.2
	-15	2.47	14.2	27.9	35.2	1.85	10.7	19.7	23.5	2.31	13.3	26.3	33.4	2.24	12.9	25.6	32.6
	-25	2.01	11.6	22	27.1	-	-	-	-	1.85	10.7	20.5	25.5	1.8	10.4	20.1	25
(S)ORIT-PI-4	5	7.72	27.3	54.6	72.1	6.17	21.8	43.5	55.5	7.49	26.5	53	70.3	7.24	25.6	51.2	68.1
	-5	6.48	22.9	46.1	59.4	5.02	17.7	34.6	43.4	6.18	21.8	43.7	57.1	5.99	21.1	42.3	55.5
	-15	5.36	18.9	37.6	47.8	4.02	14.2	26.8	32.6	5.02	17.7	35.4	45.3	4.88	17.2	34.5	44.2
	-25	4.36	15.4	29.8	37.2	-	-	-	-	4.01	14.2	27.7	34.9	3.91	13.8	27.1	34.2
(S)ORIT-PI-5	5	22	42.2	83.1	108	17.6	33.6	65.2	83.6	21.3	41	80.9	105	20.6	39.6	78.3	102
	-5	18.4	35.4	69.1	89.3	14.3	27.2	52.1	65.8	17.6	33.7	66.1	85.7	17	32.7	64.2	83.3
	-15	15.3	29.2	56.4	72.1	11.4	21.6	40.5	49.8	14.3	27.3	53.1	68.2	13.9	26.6	51.7	66.6
	-25	12.4	23.6	44.9	56.4	-	-	-	-	11.4	21.8	41.7	52.8	11.1	21.2	40.8	51.7

Refrigerant Liquid Temperature - Correction Factors

Refrigerant	Liquid Temperature °C										
	-15°	-10°	-5°	0°	5°	10°	15°	20°	30°	35°	40°
	Correction Factor, CF										
R-22	1.21	1.17	1.14	1.11	1.07	1.04	1	0.96	0.91	0.87	0.84
R-134a	1.25	1.21	1.17	1.14	1.09	1.05	1	0.95	0.89	0.84	0.81
R-404A	1.31	1.27	1.22	1.16	1.12	1.06	1	0.94	0.86	0.79	0.74
R-507	1.32	1.28	1.22	1.16	1.12	1.06	1	0.94	0.86	0.8	0.75

* ARI standard capacities are based on 38°C saturated liquid temperature. Use the correction factor for 40°C liquid temperature and the capacities at 5°C evaporator temperature to determine approximate ARI standard capacity ratings.

Example: The capacity of a (S)ORIT-PI-3 using R-22, evaporator temperature of -15°C, 0.1 bar pressure drop across the valve and a liquid temperature of 10°C, is equal to 14.2 x 1.04 = 14.8 kW.

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(S)ORIT-PI-2, -3, -4 &-5 Type

Order Selection Guide

Internally Pilot Operated Type

Valve Type *	Connection Inches	Adjustment Range psig	Adjustment Range barg	Coil Type Required	Part Number
ORIT-PI-2-S	5/8 ODF	0/100	0/6.9	-	149072
	1-3/8 ODF				149075
ORIT-PI-3-S	7/8 ODF				149104
	1-3/8 ODF				149077
	1-5/8 ODF				149078
ORIT-PI-4-S	1-1/8 ODF				149079
	1-3/8 ODF				149080
	2-1/8 ODF				149082
ORIT-PI-5-S	1-3/8 ODF				149083
	1-5/8 ODF				149084
	2-1/8 ODF				149085

Internally Pilot Operated Type - With Electric Open Feature

ORIT-PI-2-SE	1-1/8 ODF	**0/100**	**0/6.9**	**MKC-1**	**149089**
	1-3/8 ODF				special order valve
ORIT-PI-3-SE	7/8 ODF				special order valve
	1-3/8 ODF				special order valve
	1-5/8 ODF				**149088**
ORIT-PI-4-SE	1-1/8 ODF				special order valve
	1-5/8 ODF				special order valve
	2-1/8 ODF				special order valve
ORIT-PI-5-SE	1-3/8 ODF				special order valve
	1-5/8 ODF				**149086**
	2-1/8 ODF				special order valve

* all valves are supplied less coil

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(S)ORIT-PI-2, -3, -4 &-5 Type

Order Selection Guide

Valve Type **	Connection Inches	Adjustment Range psig	Adjustment Range barg	Coil Type Required	Part Number
Internally Pilot Operated Type - With Solenoid Stop					
SORIT-PI-2-S	5/8 ODF	0/100	0/6.9	MKC-1	**149019**
	7/8 ODF				**149020**
	1-1/8 ODF				**149018**
	1-3/8 ODF				**149024**
SORIT-PI-3-S	7/8 ODF				**149035**
	1-3/8 ODF				**149039**
	1-5/8 ODF				**149041**
SORIT-PI-4-S	1-1/8 ODF				**149049**
	1-5/8 ODF				**149053**
	2-1/8 ODF				**149057**
SORIT-PI-5-S	1-3/8 ODF				**149060**
	2-1/8 ODF				**149067**
Internally Pilot Operated Type - With Solenoid Stop and Electric Open Feature					
SORIT-PI-2-SE	5/8 ODF	0/100	0/6.9	(2 coils required) MKC-1	**149023**
	7/8 ODF				**149021**
	1-1/8 ODF				**149022**
	1-3/8 ODF				**149033**
SORIT-PI-3-SE	7/8 ODF				**149095**
	1-1/8 ODF				**149048**
	1-3/8 ODF				**149047**
	1-5/8 ODF				**149096**
SORIT-PI-4-SE	1-3/8 ODF				**149058**
	1-5/8 ODF				**149059**
SORIT-PI-5-SE	1-5/8 ODF				**149065**

** All valves are supplied less coil.

DIN Coils

Part Number	Type	Power	Electrical Connections
310683	MKC-1E 24 V / 50-60 Hz	10 W	DIN connector (not included)
310678	MKC-1E 120 V / 50-60 Hz	10 W	DIN connector (not included)
310682	MKC-1E 208-240 V / 50-60 Hz	10 W	DIN connector (not included)
310040	MKC-1E 12 V DC Hz	15 W	DIN connector (not included)
310041	MKC-1E 24 VDC	15 W	DIN connector (not included)
600000R	PG 9/11 DIN connector for MKC-1E and MKC-2E coils		

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(S)ORIT-PI-2, -3, -4 &-5 Type

Replacement Parts Kits for Pressure Regulating Valves

Valve Type	Kit No.	Description	Part Number
Evaporator Pressure Regulating Valve Internal Parts Kits			
(S)ORIT-15 CDA-15	KS-ORI/CDA-15	Pilot-Body \"T\" Seal, Piston Assembly, Sleeve, Sleeve \"O\" Ring, Bottom Spring	**958007**
(S)ORIT-20 CDA-20	KS-ORI/CDA-20	Pilot-Body Gasket, Piston Assembly, Sleeve, Sleeve \"O\" Ring, Bottom Spring	**958009**
Evaporator Pressure Regulating Valve Conversion Kits			
(S)ORIT-PI-4 or 3	SK-PI-4 TO 2	Body O-Ring (2), Guide Pin O-Ring (2), Seat O-Ring, Piston Spring, Guide Pin (2),Strainer and Pin Assembly,Capacity Reducer (except SK-PI 4),Piston Sleeve and Assembly	**958161**
(S)ORIT-PI-4 or 2	SK-PI-4 TO 3		**958162**
(S)ORIT-PI-3 or 2	SK-PI-4		**958165**
(S)ORIT-PI-5	SK-PI-5 TO 3		**958163**
(S)ORIT-PI-5	SK-PI-5 TO 4		**958164**
Head Pressure Control Valve Parts Kits			
ORI-6-65/225-H	KO-6-100/290	100/290 Replacement Spring Kit	**908017**
Head Pressure Control Valve Pilot Valve Kits			
ORIT-15-65/225	KS-ORI-15-65/225	Piston Assembly, Body Sleeve, Spring, Tetraseal, O-Ring	**958036**

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(S)ORIT-PI-2, -3, -4 &-5 Type

Replacement Parts Kits for Pressure Regulating Valves

Valve Type	Kit No.	Description	Part Number
Discharge Bypass Valve Parts Kits			
ADRS(E)-2	K-1800E-1	0/30 Replacement Spring Kit	**908023**
ADRP(E)-3	K-1800E-2	0/80 Replacement Spring Kit	**908025**
ADRHE-6			
ADRS(E)-2	A-8-0/30	Adjustable Spring Type Element	**908027**
	A-8-0/80		**908029**
ADRP(E)-3 ADRHE-6	A-3-0/80		**908030**
DRP(E)-3	B-3P-25/35-AR	Adjustable Remote Bulb Type Element	**908031**
	B-3P-32/44-AR		**908033**
	B-3P-55/70-AR		**908035**
DRHE-6	B-3H-25/35-AR		**908032**
	B-3H-32/44-AR		**908034**
	B-3H-65/80-AR		**908038**
DRS(E)-2	D-8-*	Non-Adjustable Dome Type Element	**-**
DRP(E)-3	D-3P-*		**-**
DRH(E)-6	D-3H-*		**-**
LAC-5,LAC-10	D-3L-*		**-**
DRS(E)-2	R-8-*	Non-Adjustable Remote Bulb Type Element	**-**
DRP(E)-3	R-3P-*		**-**
DRHE-6	R-3H-*		**-**
Discharge Bypass Valve Internal Parts Kits			
SHGB(E)-8	KS-SHGB-8	Piston Assy, Body Sleeve, Spring Tetraseal, Sleeve \"O\" Ring	**958120**
SHGB(E)-15	KS-SHGB-15		**958021**

* Specify pressure setting.

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(S)ORIT-PI-2, -3, -4 &-5 Type

Replacement Parts Kits for Pressure Regulating Valves

Valve Type	Kit No.	Description	Part Number
Discharge Bypass Valve Pilot Valve Kits			
HGB(E)-8	K-HGB(E)-8	Pilot Assy, Tetraseal, Inlet Strainer, Cap Screws (4)	**958156**
SHGB(E)-8	K-SHGB(E)-8-0/100		**958110**
	K-SHGB(E)-8-0/75		**958157**
SHGB(E)-15	K-Y917		**958022**
Defrost Differential Valve Pilot Differential Assembly Kits			
DDR-20	K-XUL	Piston Valve, Restrictor Assembly Strainer, Gasket	**381125**
LDR-15, LDR-20, OLDR-15, OLDR-20	KS-XTT-1	Pilot Valve	**382640**
Defrost Differential Valve Internal Parts Kits			
DDR-20	KS-DDR-20	Piston Assembly, Body Sleeve, Spring, Gasket O-Ring	**381122**
LDR-15	KS-XTM	Valve Operator Assembly, Piston Assembly, Tube Gasket, Tetraseal Gasket, Closing Spring, Piston Ring, Backing Spring, O-Ring Suction Tube	**381632**
OLDR-16	KS-OLDR-16	Piston Assembly, Plunger Assembly, Kick-Off Spring, Piston Ring, Ring Spring O-Ring, (2) Tetraseals, Closing Spring	**381653**
LDR-20	KS-XTO	Valve Operator Assembly, Piston Assembly, Tube Gasket, Tetraseal Gasket, Closing Spring, Piston Ring, Backing Spring	**381634**
OLDR-20	KS-OLDR-20	Piston Assembly, Plunger Assembly, Kick-Off Spring, Piston Ring, Ring Spring Closing Spring, Tetraseal Gasket	**381650**

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Type MTW-7S, -9S, -17S, - 21S



The **Modulating 3-Way (MTW)** valve allows control of refrigerant flow through two outlet ports. Two valve pistons are attached to a connecting rod and also to the stepper motor. As the MTW valve modulates one port opens and the other port closes. The movement of the valve pistons relative to the two ports is inversely proportional.

Features and benefits

- **Improved performance from modulated control**
- **Reduction in number of modulation valves required per system**
  - **Simplified system piping enables piping material cost reduction**
  - **Reduced install time enables labor cost reduction**
  - **Single actuator reduces control and wiring complexity**
- **Bi-sealing piston assembly**

Application

The MTW valve is typically located in the discharge line for dehumidification, reheat and heat reclaim applications. Sporlan recommends piping Outlet A to the normal condenser and Outlet B to the reclaim/reheat condenser. Outlet connections A and B are designated on the valve body. See Figure 1.
See capacity tables beginning on page 4. For additional refrigerant capacities and other applications, please contact Sporlan Division technical support.

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MTW Valves

Technical Specifications and Valve Capacity

Technical Specifications

Specification	MTW-7S, MTW-9S and MTW-17S	MTW-21S
Motor Type	Permanent Magnet Bipolar Internal (Wet) Motor	
Compatible Refrigerant	All Common HCFC, HFC & HFO Refrigerants	
Compatible Oil	All Common Mineral, Polyolester & Aklylbenzene Oils	
Supply Voltage	12 Volts DC ± 10%	12 Volts DC +5% / -10%
Cable	Hermetic (20' Standard)	Removable M12 Connection, 20' Standard
Phase Resistance	75 Ohms ±10%	40 Ohms ± 10%
Holding Current	Not Recommended	
Number of Full Steps	6,386 Full Steps	
Step Rate	200 Steps per Second (PPS)	
Initialisation	6,386 Steps Closing	
Overdriving	Recommended on 10% Overdrive Closed per Day Maximum	
MRP/MAP/MWP	700 PSIG (48.3 Barg)	
MOPD	700 PSIG (48.3 Barg)	
Maximum Internal Leakage	400 CC/Min at 100 PSID (6.9 Bar) Dry Air	
Maximum External Leakage	0.10 Oz/yr. at 300 PSIG (2.8 g/year at 20 Bar)	
Maximum Fluid Temperature Range	-40°F to 240°F (-40°C to 116°C)	
Ambient Temperature Range	-40°F to 140°F (-40°C to 60°C)	
Installation Maximum Temperature	240°F (116°C) for 15 Minutes (Wet Rag Required for Brazing)	
Relative Humidity	0-100% (Condensing)	
Mounting Orientation	Motor Assembly Above Horizontal	
Flow Direction	Forward Flow Only	
Certification	UL File: SA5460, CCN: SFJQ2/SFJQ8 (MTW-9S and -17S)	
Clearance to Remove Motor	MTW-7S - 3-7/8" MTW-9S - 5-1/4" MTW-17S - 6-3/4"	8-5/8"
Clearance to Remove Bottom Plug	MTW-7S - N/A MTW-9S - 2-1/4" MTW-17S - 2-3/4"	2-5/8"

Capacity

To calculate the valve capacity, please use Sporlan Virtual Engineer:
discover.parker.com/sporlanvirtualengineer

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MTW Valves

Nomenclature and Models

Nomenclature

MTW	-	9(S)	-	9 ODS	-	20'	-	S
Modulating 3-Way Valve		Valve Model (Serviceable)		Fitting Size and Type		Cable length		Stripped and Tinned Cable Ends

Product Offering

Description	Part Number
MTW-7S - 7 ODF 20'-S	183935
MTW-7S - 5 ODF 20'-S	183934
MTW-7S - 4 ODF 20'-S	183933
MTW-9S - 9 ODF 20'-S	183918
MTW-9S - 7 ODF 20'-S	183919
MTW-9S - 5 ODF 20'-S	183920
MTW-17S - 17 ODF 20'-S	183921
MTW-17S - 13 ODF 20'-S	183922
MTW-17S - 11 ODF 20'-S	183923
MTW-21S - 21 ODF - M12 20'-S	183932
MTW-21S - 17 ODF - M12 20'-S	183831
MTW-21S - 13 ODF - M12 20'-S	183930
KIT MTW-7S 20'-S	183936
KIT MTW-9S 20'-S	183924
KIT MTW-17S 20'-S	183925
KIT MTW-21S 20'-S	183926

Wiring

In normal valve operation direction, 100% open = “A” port closed.

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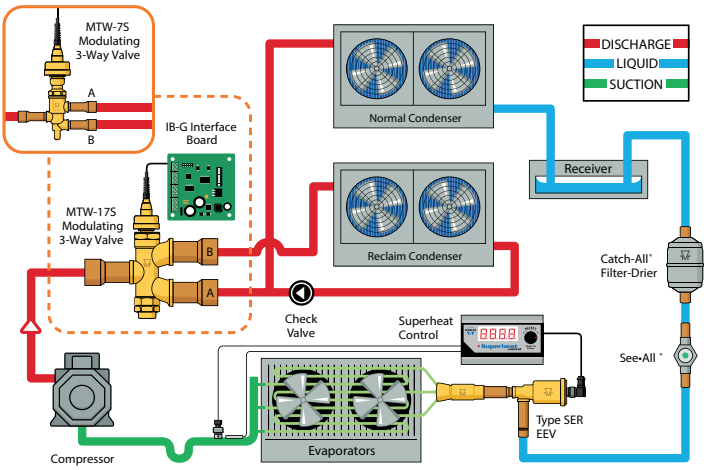
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MTW Valves

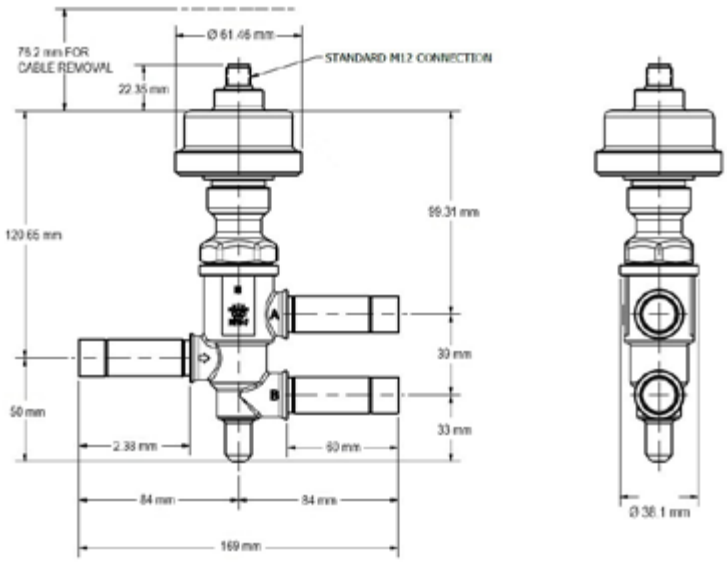
Piping Diagram and Dimensions

Piping Diagram
Modulating 3-Way Valve

Piping Diagram
Modulating 3-Way Valve



MTW-7S



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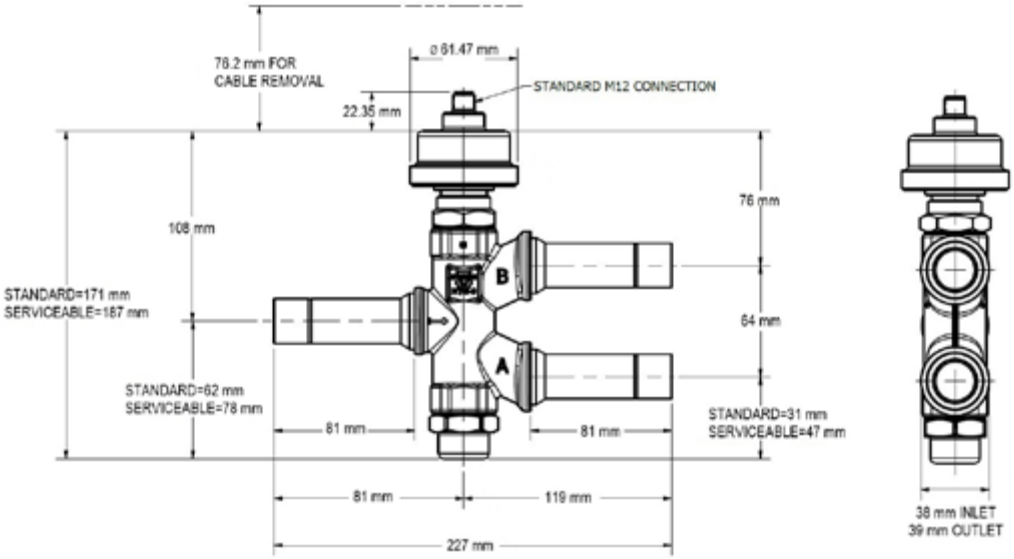
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MTW Valves

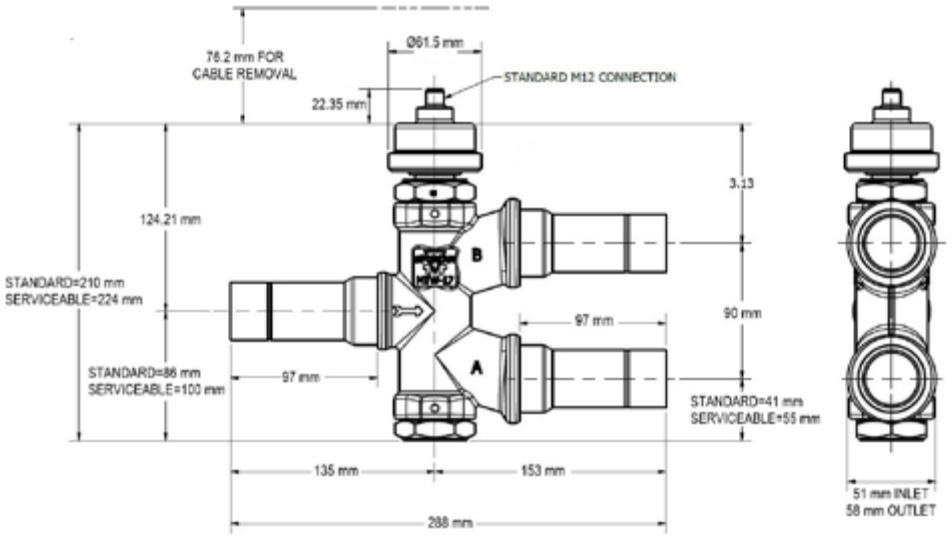
Piping Diagram and Dimensions

Dimensions – mm

MTW-9S



MTW-17S



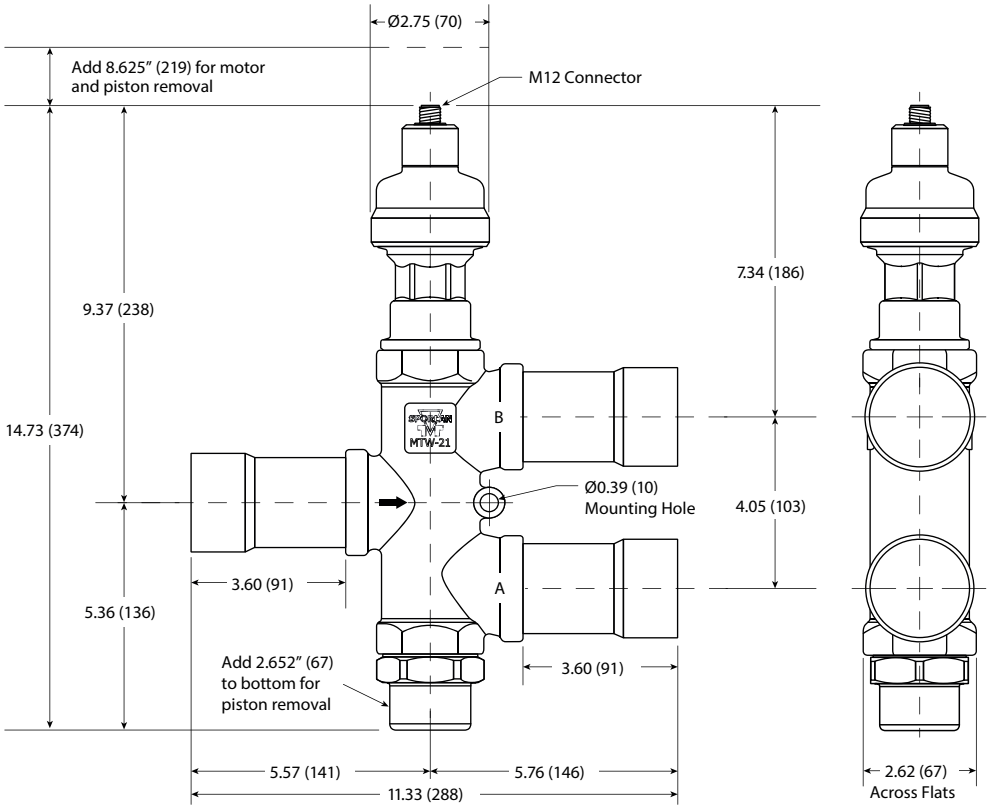
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MTW Valves

Piping Diagram and Dimensions

Dimensions – Inches
MTW-21S



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Notes

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CO^2 Valves

Valves designed to be equiped in both CO2 subcritical and transcritical systems

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Gas cooler

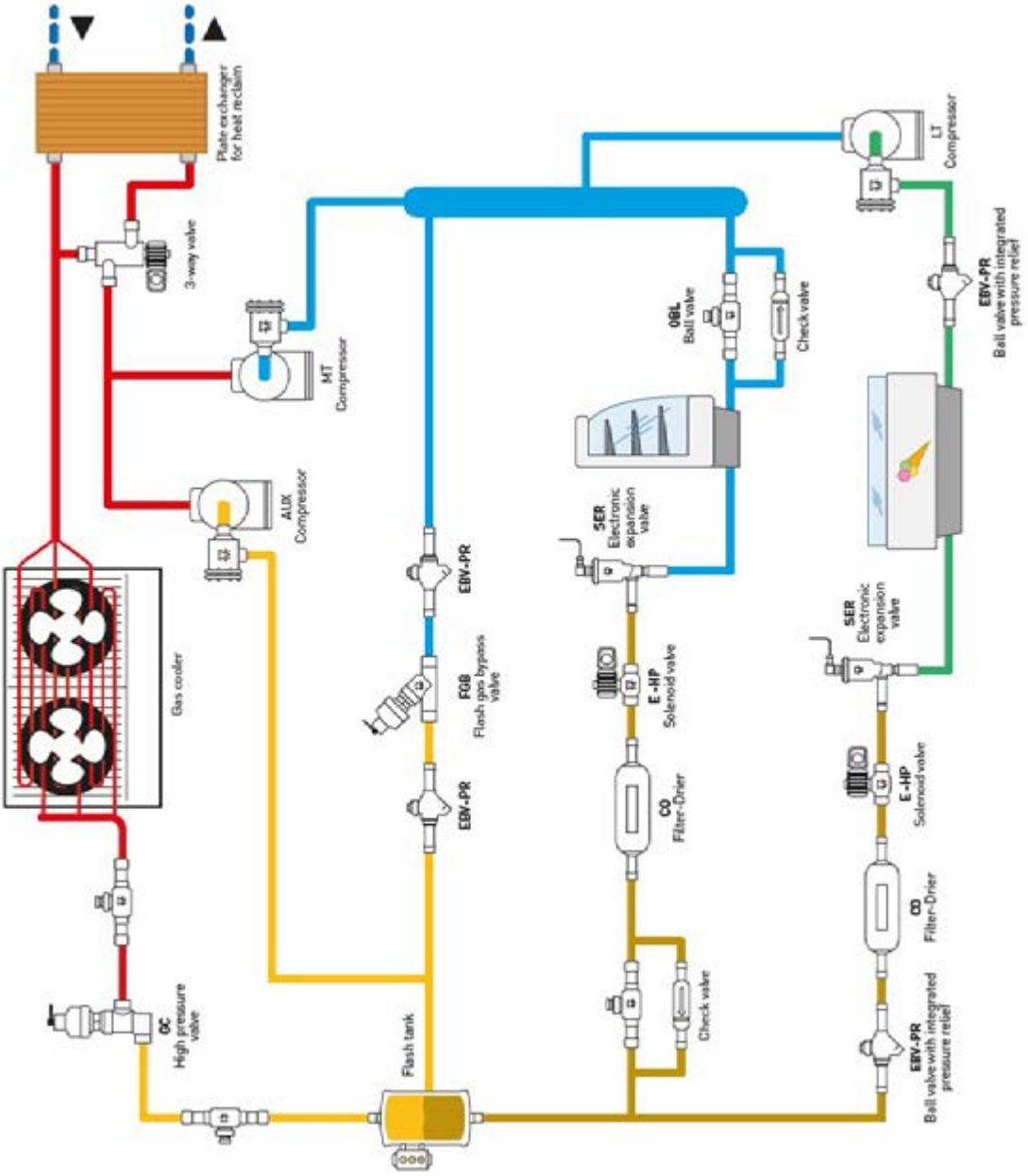
GC – FGB Valves 7- 150

GCM Valves ..... 7 - 155

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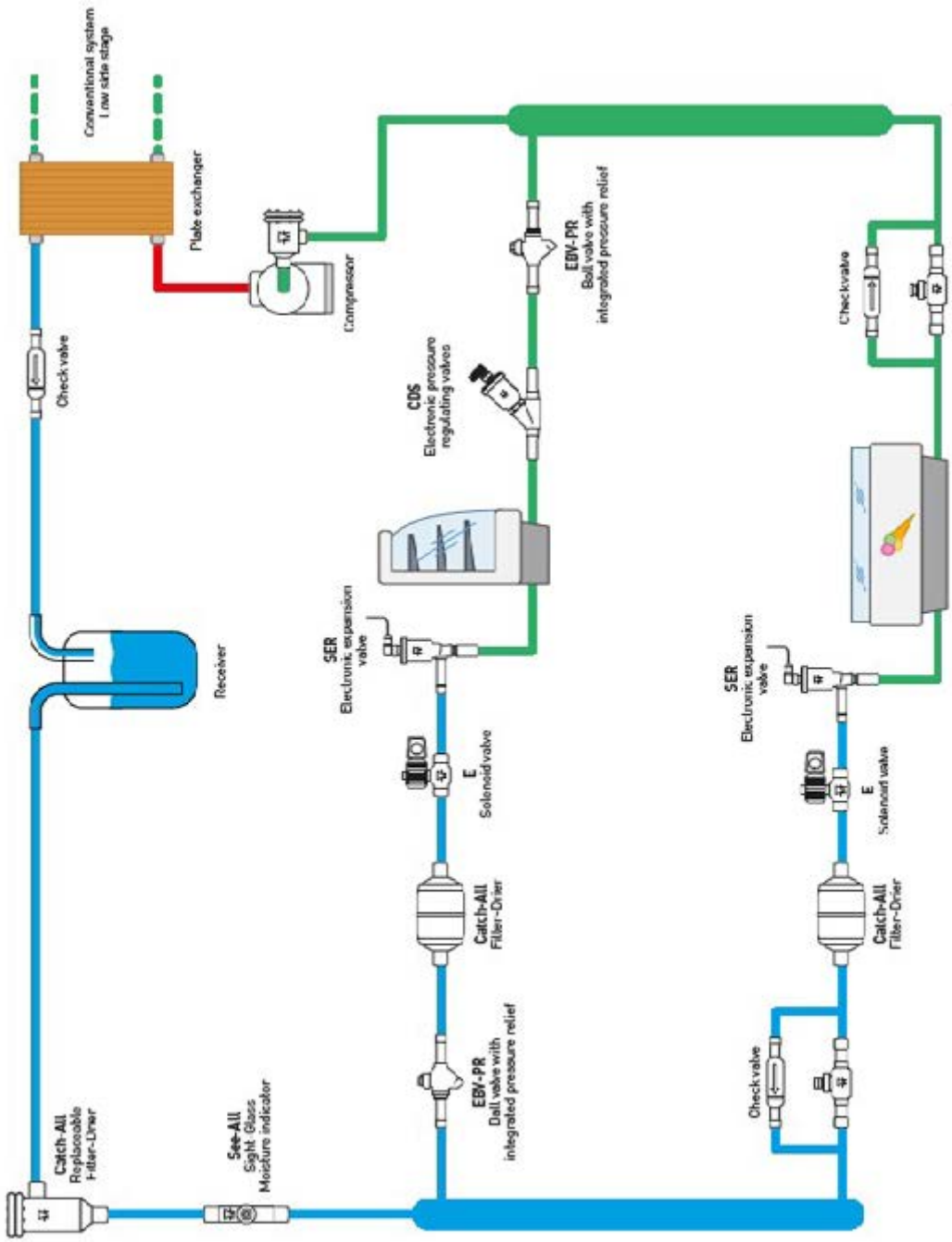
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GC – FGB Valves

Gas Cooler – Flash Gas Bypass



The Sporlan GC and FGB valve families are stepper motor driven pressure regulating valves, designed specifically for transcritical R-744 refrigeration systems. The GC -10, -20, -30, -40, & -50 are applicable as gas cooler / condenser holdback valves and can also be applied as flash tank pressure regulating valves (flash gas bypass). The flash gas bypass valve capacity range is expanded with the use of the FGB-60 & -70 valves in this application. All GC and FGB valves have 2500 steps of movement and synthetic seats to provide great resolution and ensure tight shutoff.

The Sporlan GC and FGB valves can be controlled and driven using the Parker Sporlan PSK3LX CO2 Controller and PSD4 Interface Board/Positioner. The PSK3LX CO2 Controller optimises transcritical and subcritical CO2 system COP through control of the GC & FGB valves. This control system can drive two valves for Gas Cooler and Flash Tank control. The PSD4 Interface Board accepts a 0-10VDC or 4-20 mA signal from the PSK3LX or other gas cooler/system controller. The PSD4 translates this signal into a suitable stepper motor sequence to position the valve proportionally. The PSS4B Backup Power Module provides reserve power for one full valve closure in the event of a power loss. This serves to isolate the refrigerant charge and minimise CO2 refrigerant loss if system pressure exceeds the system's pressure relief valve setting.

The GC family features a cartridge construction, where the valve port is integrated into the stepper motor actuator assembly. Therefore, the valve family can be broken into two distinct pieces: the bodies and the cartridge assemblies. The valve bodies are available with three connection sizes for butt or tube / socket welding: ½ inch (12.7 mm), ¾ inch (19.05 mm) and 1 inch (25.4 mm). The five cartridge assemblies contain the valve pin and port, and determine the ultimate valve capacity. The three bodies are compatible with all five cartridge assemblies, and can be paired in any combination to best fit the system piping and capacity requirements. There is a screen located around the port inlet that is a part of the cartridge assembly, but can be removed for service if necessary. The FGB family has a slightly different construction that minimises pressure drop through the valve at full stroke. To achieve this result, the port is not integrated into the stepper motor actuator assembly, but is mounted directly into the valve body. There is a single valve body available with a 1 inch (25.4 mm) connection for butt welding. Because this valve is installed in the low pressure side of the system, the option is also available to utilise an 1-1/8 inch (28.58 mm) ODF or 1-3/8 inch (34.93 mm) ODM braze joint. There are two stepper motor actuator assemblies that contain the valve pin, and must be matched with the corresponding port. The port is threaded into the valve body, and is removable to service the port or to perform a capacity conversion.

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GC – FGB Valves

Technical Specification

Valve Specifications

Compatible Refrigerant	R-744
Motor Type	Permanent magnet bipolar internal (wet) motor
Phase Resistance	12.8 Ω ± 10%
Phase Inductance	18.5 mH (Reference)
Phase Current	275 mA (using current limited / chopper drive)
Holding Current	0 mA
Step Mode	2 Phase, Full Step
Step Rate	400 PPS
Number of Steps	2500
Initialisation Number of Steps	3125
Reference Position	Overdrive against fully closed position*
Full Stroke Transit Time	7.25 seconds
Internal Screen	259 micron (GC only)
Electrical Connection	M12 A-coded
MRP	140 barg (2030 psig)
MOPD	90 bar (1305 psid)
Fluid Temperature Range	-40°C to 115°C (-40°F to 239°F)
Ambient Temperature Range	-40°C to 60°C (-40°F to 140°F)
Duty Cycle	50% at Maximum Fluid Temperature 100% at 100°C (212°F) or Lower Fluid Temperature
Max External Leakage	2.8 gm/yr @ 20 barg (.10 oz/yr at 300 psig)
Mounting Orientation	Motor Housing Vertical ± 45°
Materials of Construction	Stainless steel, brass, synthetic seals
Agency Certification	(SA5460), CE, RoHS, REACH



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GC – FGB Valves

Nomenclature and Dimensions

Valve Capacity

GAS COOLER	44 bar(g) 10°C	50 bar(g) 15°C	100 bar(g) 38°C	638 psi(g) 51°F	725 psi(g) 59°F	1450 psi(g) 100°F
FLASH TANK	30 bar(g) -4°C	38,7 bar(g) 5°C	38,7 bar(g) 5°C	435 psi(g) 24°F	561 psi(g) 40°F	561 psi(g) 40°F

	kW			Tons		
GC-10	27,4	21,9	23,3	7,8	6,2	6,6
GC-20	62,1	49,6	58,4	17,7	14,1	16,6
GC-30	231	185	218	65,7	52,5	61,9
GC-40	444	355	390	126	101	111
GC-50	651	520	572	185	148	163

Full Stroke Flow Coefficients

	Kv	Cv_{us}
GC-10	0,16	0,19
GC-20	0,48	0,55
GC-30	1,46	1,69
GC-40	2,8	3,24
GC-50	4,15	4,8
FGB-60	7,29	8,43
FGB-70	11,12	12,86

Standard Fitting Configuration

	1/2"(12,7mm)	3/4"(19,05mm)	1"(25,4mm)
GC-10	X		
GC-20	X		
GC-30		X	
GC-40			X
GC-50			X
FGB-60			X
FGB-70			X

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GC – FGB Valves

Nomenclature and Dimensions

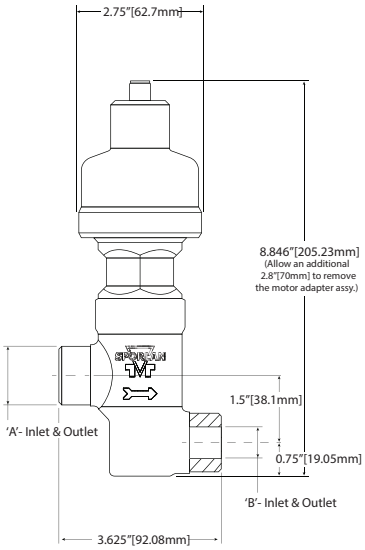
Valve Nomenclature

Valve Family - Capacity		Connections size	Cable
GC	10	1/2"	LESS CABLE 10' (3m) 20' (6m) 30' (9m) 40' (12m)
	20	1/2"	
	30	3/4"-1"	
	40	1"	
	50	1"	
FGB	60	1"	
	70	1"	

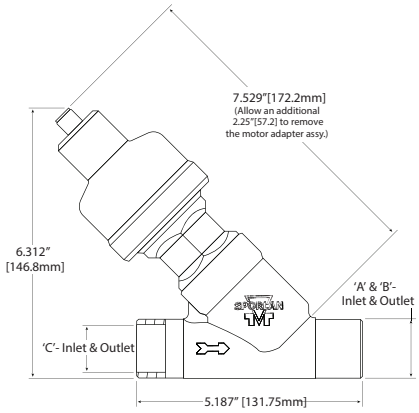
Valve Item Number (less cable)

	1/2"	3/4"	1"
GC-10	953370	Upon Request	
GC-20	953371		
GC-30	Upon Request	953372	953373
GC-40			953374
GC-50			953375
FGB-60			953376
FGB-70			953377

Valve Dimensions (less cable)



Valve Dimensions (less cable)



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GC – FGB Valves

Accessories

Valve Cables
(M12 Connection with Stripped Ends)

Item Number	Length
805194	10' (3m)
805195	20' (6m)
805343	30' (9m)
805344	40' (12m)



Replacement Motor Kits

Item Number	Description
953400	GC-10 Motor Kit
953401	GC-20 Motor Kit
953402	GC-30 Motor Kit
953403	GC-40 Motor Kit
953404	GC-50 Motor Kit
953397	FGB-60 Motor Kit

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GCM Valves



The **Sporlan GCM valve** families are stepper motor driven pressure regulating valves, designed specifically for transcritical R-744 refrigeration systems. The GCM -5, -10, -15, -20, are applicable as gas cooler/ condenser hold back valve, flash tank pressure regulating valves, direct expansion valves, and hot gas bypass valves. All GCM valves have 2500 steps of movement and synthetic seats to provide great resolution and ensure tight shutoff.

The Sporlan GCM valves can be controlled by a Sporlan IB-G interface board. The IB-G accepts a 0-10Vdc or 4-20mA signal to position the valve proportionally. For optimal performance, it is recommended to have a step rate of 400 PPS when using the IB-G controller.

Benefits

- **Pressure rated for Transcritical CO2 applications**
- **High resolution actuator with 2500 steps**
- **Unique pin and port combinations to provide excellent full range flow control**
- **Cartridge valve design**
- **Tight sealing capability**
- **Open design can be driven through a 0-10V or 4-20 mA interface**
- **Interchangeable bodies with multiple connection options**
- **Replaceable / Serviceable screen**

Valve Features and Nomenclature

Valve Family		ODF Connection Size A" & B"	Cable
GCM	5	3/8"	LESS CABLE
	10	1/2"	10' (3m)
	15	5/8"	20' (6m)
	20	3/4" 7/8"	30' (9m)

Part Number	Description
953556	GCM5 3X4 ODF LESS CABLE
953557	GCM10 3X4 ODF LESS CABLE
953558	GCM15 3X4 ODF LESS CABLE
953559	GCM20 3X4 ODF LESS CABLE

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GCM Valves

Technical Specifications

Technical Specifications

Compatible Refrigerant	R-744
Motor Type	Permanent magnet bipolar internal (wet) motor
Phase Resistance	100 Ω ± 10%
Phase Inductance	43.7 mH (Reference)
Supply Voltage (L/R)	19.6 V
Maximum Power Input (L/R)	3.8 Watts
Holding Current	0 mA
Step Mode	2 Phase, Full Step
Step Rate	400 PPS
Number of Steps	2500
Initialisation Number of Steps	3125
Reference Position	Overdrive against fully closed position
Full Stroke Transit Time	6.25 seconds
Internal Screen	259 micron
Electrical Connection	M12 A-coded
MRP	140 barg (2030 psig)
Maximum Operating Pressure Differential (MOPD)*	90 bar (1305 psid)
Fluid Temperature Range	-40°C to 115°C (-40°F to 239°F)
Ambient Temperature Range	-40°C to 60°C (-40°F to 140°F)
Duty Cycle	Continuous
Max External Leakage	2.8 gm/yr @ 20 barg (.10 oz/yr at 300 psig)
Motor Assembly Above Horizontal	Motor Housing Vertical ± 45°
Materials of Construction	Stainless steel, brass, synthetic seals
Agency Certification	CUR (SA5460), RoHS, REACH

Flow Coefficients

Valve	Cv	Kv
GCM-5	0,08	0,07
GCM-10	0,19	0,16
GCM-15	0,33	0,29
GCM-20	0,5	0,43

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GCM Valves

Valve Capacity

Gas Cooler Valve Capacities

Gas Cooler	638 psig 50°F	723 psig 59°F	1450 psig 100°F
Flash Tank	435 psig 25°F	561 psig 41°F	561 psig 41°F

Valve	Tons		
GCM-5	3	2,4	3,4
GCM-10	7,6	6	8,6
GCM-15	13,2	10,5	15
GCM-20	20,7	16,5	23,4

Expansion Capacity Tables

		5°C						-10°C					
	Valve Type	Pressure Drop Across Valve (bar)						Pressure Drop Across Valve (bar)					
		8	12	16	20	24	28	8	12	16	20	24	28
R744	GCM-5	9,97	12,2	14,1	15,8	17,3	18,7	10,3	12,6	14,5	16,3	17,8	19,2
	GCM-10	25,2	30,9	35,7	39,9	43,7	47,2	26,0	31,9	36,8	41,2	45,1	48,7
	GCM-15	44,3	54,2	62,6	70	76,7	82,8	45,6	55,9	64,6	72,2	79,1	85,4
	GCM-20	69,4	85,0	98,2	110	120	130	71,6	87,7	101	113	124	134

		-20°C						-30°C						-40°C					
	Valve Type	Pressure Drop Across Valve (bar)						Pressure Drop Across Valve (bar)						Pressure Drop Across Valve (bar)					
		8	12	16	20	24	28	8	12	16	20	24	28	8	12	16	20	24	28
R744	GCM-5	10,4	12,7	14,6	16,4	17,9	19,4	10,4	12,7	14,6	16,4	17,9	19,4	10,3	12,6	14,6	16,3	17,8	19,3
	GCM-10	26,2	32,1	37,1	41,5	45,4	49,0	26,2	32,1	37,1	41,5	45,4	49,0	26,1	31,9	36,8	41,2	45,1	48,7
	GCM-15	46,0	56,3	65,0	72,7	79,6	86,0	46,0	56,3	65,0	72,7	79,6	86,0	45,7	55,9	64,6	72,2	79,1	85,5
	GCM-20	72,1	88,3	102	114	125	135	72,1	88,3	102	114	125	135	71,7	87,8	101	113	124	134

Expansion Flow Capacity (°C - kW - bar)

Liquid Temperature Correction Factor									
(°C)	-18	-12	-7	-1	4	10,0	16	21	27
R744	1,13	1,07	1,00	0,93	0,86	0,79	0,71	0,62	0,51

Refrigerant	**R744**
Condenser Temperature (°C)	-6,70
Subcooling (°C)	0

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Check Valves

Stainless Steel Ball Valves or Soft Seat Valve
ensuring very low leakage & high corrosion resistance

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Check Valves



Copper **Check Valves** are designed to allow flow in one direction only. They are used in refrigeration, air conditioning and heat pump systems.

Internal components seat or "check" preventing flow back through the valve: Check valves can be used in liquid, discharge or suction lines.

Benefits

- **Stainless steel ball valve or soft seat valve with neoprene O-ring ensure very low leakage and high corrosion resistance.**
- **Product with springs can be installed vertically and with an angle of 30° from horizontal positions.**
- **FS Series are without spring**
- **SF Series are with spring**

Installation

Vertical installation only for check valves without spring (PCV, CV), flow arrow must be pointing upwards. Check valves with spring can be installed vertically, the flow arrow must be pointing upwards or pointing downward to a maximum of 30° below horizontal position.

When installing these valves with solder connections, the internal parts should be protected from overheating by using a Parker calorie discharger (TB2) - see page 269 - or by wrapping the valve with a wet cloth.

Specifications

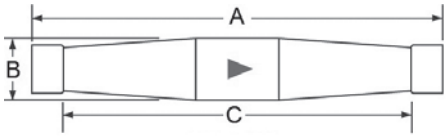
Max Working Pressure	52 bar (CV)
Temperature Range	-40°C up to +150°C

Approvals: PED 97/23/EC
UL file no. SA- 3604 (CV range)
UL file no. SA- 8571 (274-- range)
CSA certified File No.-LR87950 (274-- range)

Technical Data

Part Number	Model UL	Connection ODF Inch	Dimensions mm A	C	B	Liquid Flow capacity (1) R22	R134a	R407C	R410A	R404A R507
274001-00	3/8F	3/8	95.3	76.2	12.7	12.3	11.3	12.0	12.0	8.1
274003-00	1/2F	1/2	95.3	73.2	15.9	22.5	20.4	21.8	22.2	14.8
274004-00	5/8F	5/8	114.3	88.9	22.2	42.2	38.3	40.8	41.5	27.4
274005-00	7/8F	7/8	114.3	88.9	28.7	87.2	79.1	84.1	85.5	56.6
274006-00	1-1/8F	1-1/8	127.0	101.6	35.1	228.6	207.9	221.2	225.1	148.4

(1) Liquid capacities are published in accordance with ARI 710-86 standard.
Te = -15°C, Tc = 30°C, Δp = 0.07 bar



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CSOV

Check Shut Off Valve



Type **CSOV valves** were specifically designed to satisfy the safety shut-off requirements of UL 60335-2-89. The hermetic valve design eliminates the potential for external leaks. The specifically designed piston ensures a tight sealing valve. Their primary application will be the suction line. In standard operation, these check valves will allow normal flow from the evaporator to the compressor. Conversely, in shut-off mode, the CSOV will not permit refrigerant flow back to the indoor evaporator. These valves may be mounted in any orientation; however, the minimum flow requirements vary based on orientation.

The **CSOV** are rated for fluid temperatures of -40°F to 240°F. Extra precaution must be taken when installing the CSOV series valves. The CSOV uses gaskets for tight sealing capabilities to meet the seat leakage requirement of UL60335-2-89. The valve should be wrapped with a wet rag, brazing flame pointed away from the center of the valve, and the valve should be purged with Nitrogen to prevent overheating.

Features and Dimensional Drawings

Model Valve	Type	Cv	MRP (bar)	Overall Length "A" (mm)	Inlet/Outlet Connections "B" (mm)	Socket Depth "C" (mm)	Lay-In Length "D" (mm)	Body Diameter "E" (mm)
CSOV-4S	I	3,4	45	114,3	1/2"	12,7	88,9	22,23
CSOV-5S	I	4,1	45	119,38	5/8"	12,7	88,9	22,23
CSOV-6S	I	6,5	45	119,38	3/4"	12,7	88,14	28,58
CSOV-7S	I	6,9	45	139,7	7/8"	12,7	93,98	28,58
CSOV-9S	I	14,1	45	127	1-1/8"	12,7	114,3	34,93
CSOV-11S	I	20,4	45	170,18	1-3/8"	12,7	144,78	41,28

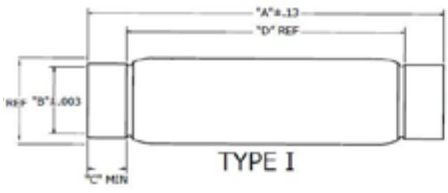


Fig. 1. Type I Dimensions

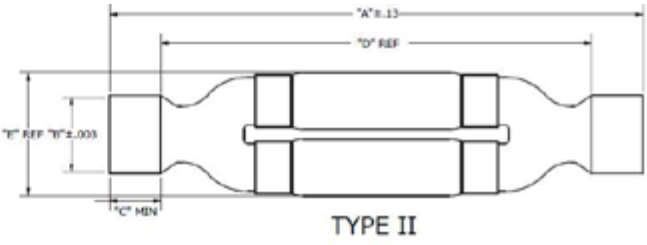


Fig. 2. Type II Dimensions

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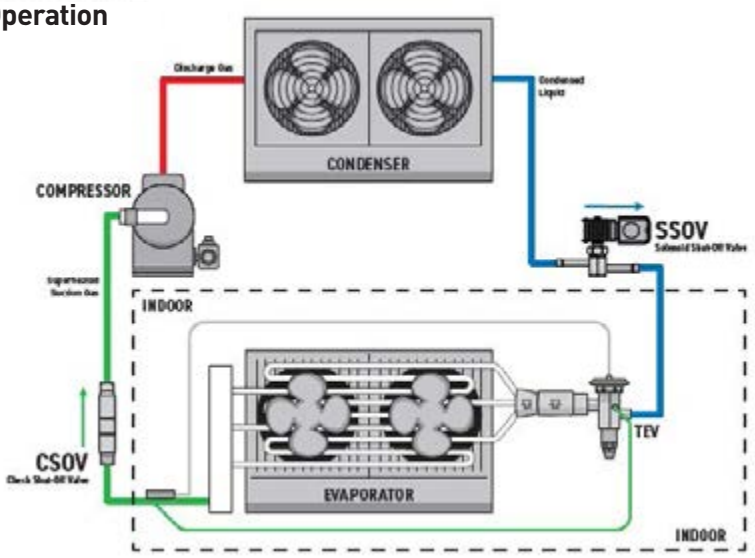
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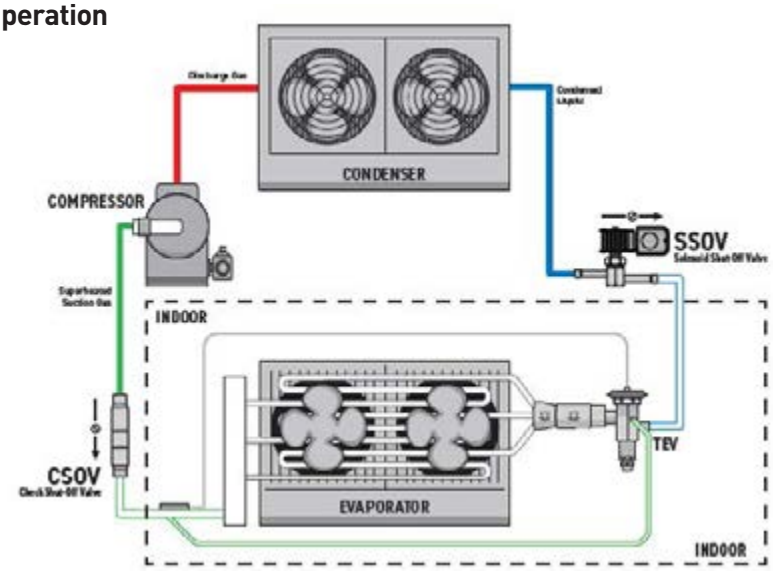
CSOV

Dimensions and Accessories

Standard Operation

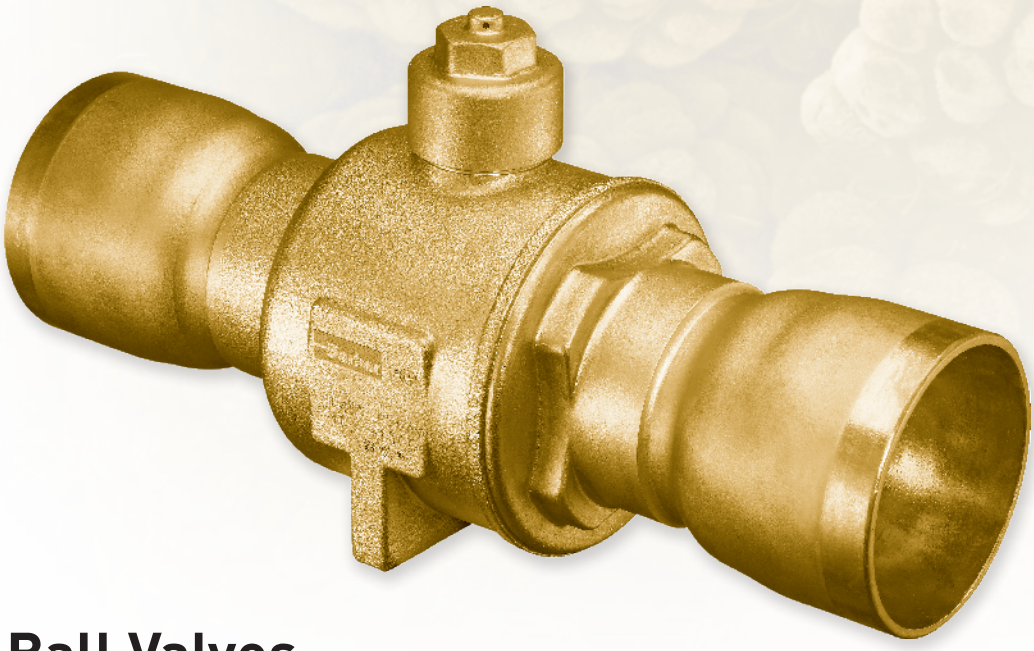


Shut Off Operation



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Ball Valves

Used in supermarket and refrigeration applications
Complete range, reliable, vented cap long life valves

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Ball Valves

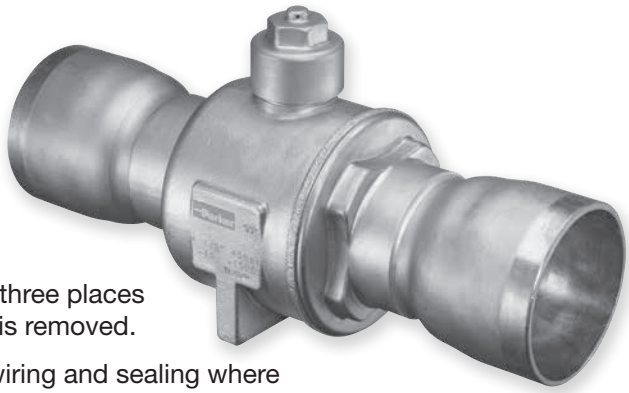
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Ball Valves - Bi-Flow Ball Valves



Parker Bi-Flow Ball Valves are available in a range of Inch Sizes from 1/4" to 4.1/8", metric from 6-108 mm and also in Schrader valve version.

Cap: The brass cap thread is broached in three places to ensure adequate venting when the cap is removed.

The cap is also tagged to accommodate wiring and sealing where legislation demands.

Ball features:

A small hole in one sealing face of the ball prevents refrigerant being locked within the ball when closed.

It also allows the ball to exert a greater force against the Teflon Ball seal when closed, giving greater close-off security.

Applications:

- **Supermarkets**
- **Refrigeration**

Benefits:

- **Compact**
- **Reliable**
- **Vented cap**
- **Long life**
- **Complete range from 1/4" to 4.1/8"**
- **Metric from 6 mm to 108 mm**

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Nomenclature

O. D. = Outside Diametre.
BV6MM = Ball valve for O.D. tube 6 mm.
BV21SV = Ball valve for O.D. tube 21/8 inches, so 2" 5/8 OD with Schraeder Valve (SV).

Specifications and Dimensions

Metric Size

Metric Reference	For Tube O.D. mm	Bore Diametre mm	L mm	C mm	H mm	kv Value m^3/h	Weight g
BV17 (ex BV54MM)	54	50	273	45	131	208	3800
BV54MMSV	54	50	273	45	131	208	3800
BV64MM	64	47	280	45	131	185	3800
BV64MMSV	64	47	280	45	131	185	3800
BV76MM	76	64	378	60	177	340	6700
BV76MMSV	76	64	378	60	177	340	6700
BV89MM	89	83	423	76	209.6	480	12250
BV89MMSV	89	83	423	76	209.6	480	12250
BV108MM	108	83	423	76	209.6	470	13100
BV108MMSV	108	83	423	76	209.6	470	13100

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Ball Valves - Bi-Flow Ball Valves

Valve Dimensions

Specifications and Dimensions

Inches

Inches Reference	For Tube O.D. Inch	Bore Diametre mm	L mm	C mm	H mm	kv Value m^3/h	Weight g
BV17	2 1/8"	50	273	45	131	208	3800
BV17SV	2 1/8"	50	273	45	131	208	3800
BV21	2 5/8"	62	280	45	131	185	3800
BV21SV	2 5/8"	62	280	45	131	185	3800
BV25	3 1/8"	64	378	60	177	340	6700
BV29	3 5/8"	83	423	76	209.6	480	12250
BV33	4 1/8"	83	423	76	209.6	470	13100

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Ball Valves - Bi-Flow Ball Valves

Valve Dimensions

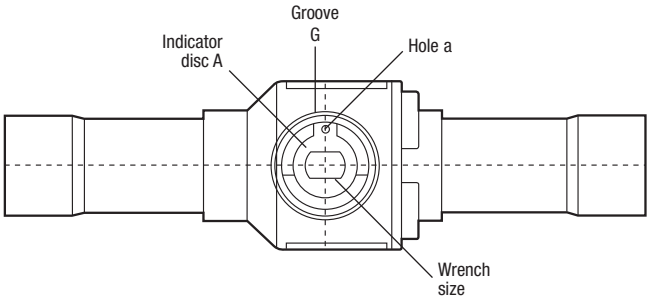
Specifications and Dimensions

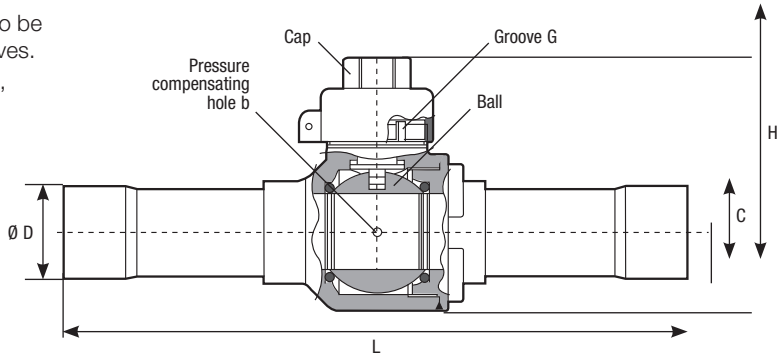
Working Range

- Safe working pressure: 45 barg
- Operating Temperature:
- -40°C to +150°C

Refrigerant Compatibility

- Compatible for use with all HFC and HCFC refrigerants.
- Valves are available could also be equipped with Schraeder valves.
- For more information on CO_2, please contact us.





Replacement Caps

Cap references are also suitable for reference equipped with Schraeder Valve

Cap for BV PN	From	To
BV00501	BV6MM-BV2	BV12MM-BV4
BV00502	BV15MM-BV5	BV18MM-BV6
BV00503	BV22MM-BV7	BV35MM-BV11
BV00504	BV42MM-BV13	BV54MM-BV17
BV00505	BV64MM-BV21	BV108MM-BV33

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EBV(T)-PR
Ball Valve with Integral Pressure Relief



For greater system design flexibility and increased productivity, specify the **EBV(T)-PR Ball Valve** with Integrated Pressure Relief. This compact solution eliminates the check valve and associated brazing involved when piping a ball valve and check valve in parallel to protect a system from over pressurisation.

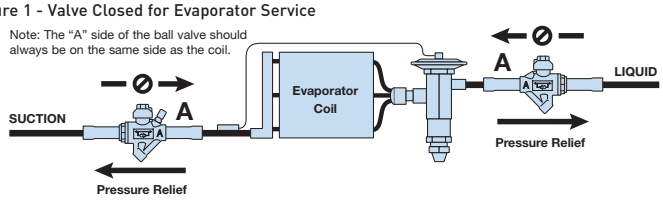
- Compact design simplifies installation
- Eliminates the check valve and associated piping, resulting in significant material cost savings
- Decreases braze joints resulting in labor savings and increased productivity
- Minimises the potential for leaks and decreases nuisance call-backs

Features & Benefits

- Allows for positive shut-off in one direction and flow in the other direction whenever pressure differential is present. (The integrated pressure relief feature is one direction only.)
- Protects system from pressure spikes when servicing equipment.
- Welded body joint. Factory tested to ensure positive, leak-free performance. Forged brass body construction with extended copper fittings. Optional access fitting versions available.
- Full size ports for unrestricted flow on most sizes, 3/8” (10 mm) through 1-1/8” (28 mm).
- Dual Teflon seals surround the polished, brass ball to prevent leakage. Stem seal and stem washer provide the primary stem seal. Bottom load stem for safety.
- Stainless steel stop plate ensures fully open to fully closed with a 1/4 turn.
- All EBV(T)-PR ball valves may be installed in any position.
- All EBV(T)-PR ball valves use C19400 (K65) copper fitting material.

The EBV(T)-PR valve will close in one direction and relieve pressure in the other direction. This single valve would replace a current ball valve plus a check valve plumbed around the ball valve. Allows evaporator coil to be isolated without over pressurising due to warm up. May also have needs in loop piping and at the rack. The symbol ‘A’ indicates the pressure relief side of the valve. Any pressure build up on the ‘A’ side with the ball valve in the closed position can relieve to the other side of the ball valve. When used on an evaporator coil, the ‘A’ side of the valve should always be on the coil side of the valve. (See Figure 1.) This symbol indicates the direction of pressure relief and direction of check valve feature. Flow from left to right is check direction. Flow from right to left is pressure relief direction.

Figure 1 - Valve Closed for Evaporator Service



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Technical Specifications

Continuous Temperature Range		-40 deg C to 120 deg C
Installation Temperature (15 minutes max.) limit		149 deg C
Design working pressure:		90 barg
Integral Pressure Relief	Crack open pressure:	<5 psid
	Full open pressure:	50 psid
	Wide open flow:	1.93 gpm H20 @ 50 psid
Suitable for use with Class A1 refrigerants:		HFC, HCFC, HFO (nontoxic and nonflammable), and CO2
Standards:		U.S. Patent 10,107,406; EP3295067; and other International Patents Pending
		U.L. Recognized, File No SA5460 (SFJQ2)
		CE and RoHS Compliant

Nomenclature

Inches – Example: EBVT-PR1030

Valve Type	Access Fitting	Pressure Relief	Series	Fitting Size (Inch)	Fitting Configuration
EBV	T	PR	1 = Full Port 2 = Reduced Port	03 = 3/8” 04=1/2"" 05=5/8"" 06=3/4"" 07=7/8"" 09=1-1/8"	0= ODF x ODF

Millimetres – Example: EBVT-PR 12MM

Valve Type	Access Fitting	Pressure Relief	Series	Metric Fitting Size
EBV	T	PR	1 = Full Port 2 = Reduced Port	10mm 12mm 16mm 18mm 22mm 28mm

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EBV(T)-PR
Ball Valve with Integral Pressure Relief

Dimensions & Accessories

Dimensions

EBV(T)-PR Series – inches

Part Number	Model Number	Connection (ODF)	Overall Length In A	Socket Depth In B	Port Size In C	In D	Overall Height In E	Cv
502199	EBV-PR1030	3/8	6.50	0.31	0.5	1.56	3.08	4.3
502200	EBV-PR1040	1/2	6.50	0.38	0.5	1.56	3.08	7.0
502201	EBV-PR1050	5/8	6.50	0.50	0.5	1.56	3.08	13.9
502202	EBV-PR1060	3/4	7.25	0.61	0.75	1.79	3.59	21.0
502203	EBV-PR1070	7/8	7.25	0.75	0.75	1.79	3.59	30.3
502204	EBV-PR1090	1-1/8	8.50	0.91	1.00	2.13	4.11	61.3
502205	EBVT-PR1030*	3/8	6.50	0.31	0.5	1.56	3.08	4.3
502206	EBVT-PR1040*	1/2	6.50	0.38	0.5	1.56	3.08	7.0
502207	EBVT-PR1050*	5/8	6.50	0.50	0.5	1.56	3.08	13.9
502208	EBVT-PR1060*	3/4	7.25	0.61	0.75	1.79	3.59	21.0
502209	EBVT-PR1070*	7/8	7.25	0.75	0.75	1.79	3.59	30.3
502210	EBVT-PR1090*	1-1/8	8.50	0.91	1.00	2.13	4.11	61.3

EBV(T)-PR Series – Millimetres

Part Number	Model Number	Connection (ODF)	Overall Length mm A	Socket Depth mm B	Port Size mm C	mm D	Overall Height mm E	Cv
502399	EBV-PR 10MM	10 mm	165.1	8	12.7	39.6	78.2	3.7
502400	EBV-PR 12MM	12 mm	165.1	10	12.7	39.6	78.2	6.0
502401	EBV-PR 16MM	16 mm	165.1	13	12.7	39.6	78.2	12.0
502402	EBV-PR 18MM	18 mm	184.1	17	19.1	45.5	91.3	18.1
502403	EBV-PR 22MM	22 mm	184.1	20	19.1	45.5	91.3	26.2
502405	EBV-PR 28MM	28 mm	216.0	24	25.4	54.2	104.3	53.0
502406	EBV-PR 10MM*	10 mm	165.1	8	12.7	39.6	78.2	3.7
502407	EBV-PR 12MM*	12 mm	165.1	10	12.7	39.6	78.2	6.0
502408	EBV-PR 16MM*	16 mm	165.1	13	12.7	39.6	78.2	12.0
502409	EBV-PR 18MM*	18 mm	184.1	17	19.1	45.5	91.3	18.1
502410	EBV-PR 22MM*	22 mm	184.1	20	19.1	45.5	91.3	26.2
502411	EBV-PR 28MM*	28 mm	216.0	24	25.4	54.2	104.3	53.0

* With access fitting

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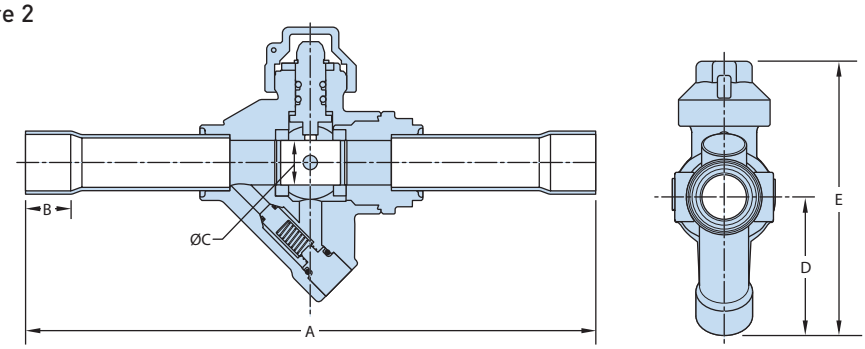
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EBV(T)-PR
Ball Valve with Integral Pressure Relief

Dimensions & Accessories

Specifications and Dimensions

Figure 2



Replacement Caps

Connection	Part Number
3/8 - 5/8	183390
3/4 - 1-1/8	183391

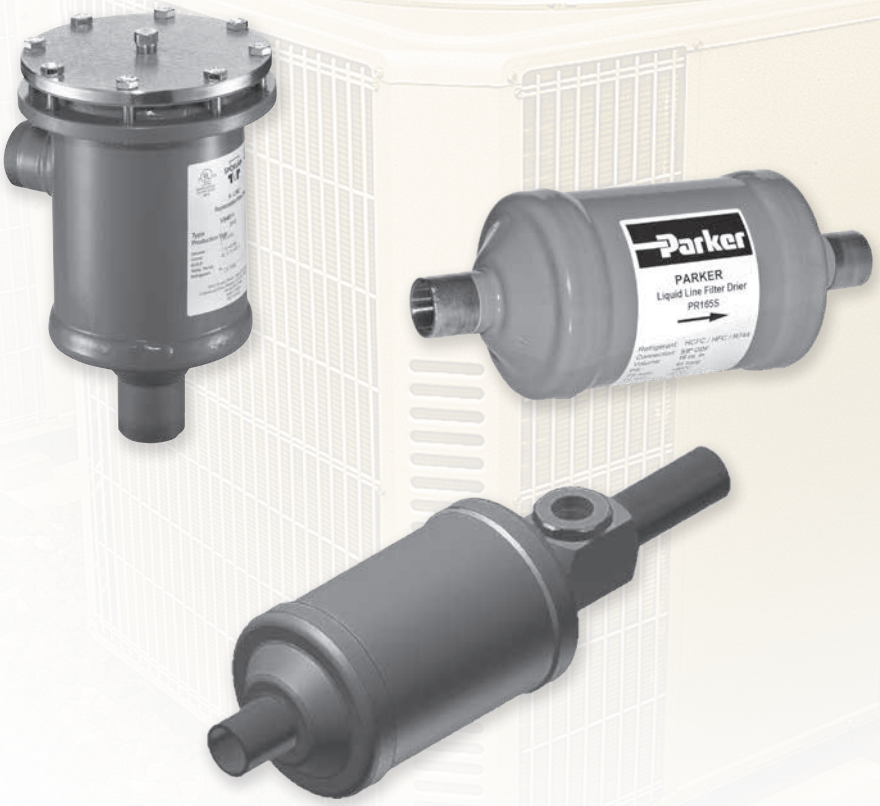
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Filter Driers

Filter driers contributing to maintain
the cleanliness of circuits

Parker SPORLAN

ENGINEERING YOUR SUCCESS.

Filter Driers



HFC refrigerants and their associated oils are very hygroscopic more than CFC or HCFC and their mineral or alkyl benzene oils. The Polyol Ester Oil (POE) is made with of combination of ester acid and alcohol.
If the moisture content is greater than 75ppm, the mixture of oil and water will generate acid and alcohol, and it is a reversible process.
At the same time, there could be the presence of moisture in the system which could create acid.

To prevent risk of acids creation, chemical products are used:

- Molecular sieve is used to trap moisture in pores of 3Å size. Pores can trap only the water molecules (the water molecules are smaller than refrigerant molecules).

  The molecular sieve efficiency is roughly three times higher than activated alumina.
- Activated alumina is used to trap acid from the refrigerant and/or oil and moisture when the refrigerant has a high moisture content. Activated alumina does not meet the high moisture adsorption required by HFC refrigerants.

The **Filter Driers** can be sealed, for small systems, or flanged for larger units.

The **Filter Drier** works in one direction only and is installed in the liquid line. In a reversible system, such as a heat pump a refrigeration units with reversible cycle defrosting, the refrigerant must be allowed to flow in both directions. For these applications the HPC Bi-flow filter drier may be used. It is constructed with a valve plate at both ends, which trap moisture, acid and solid contaminants in both directions.

The effectiveness of the filter drier can also be verified by using a sight glass with moisture indicator. When the filter drier is clogged, a few bubbles will appear in the sight glass, and the temperature at the outlet is normally lower than at the inlet.



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Parker Liquid Line Filter Driers, PR



PR Liquid Line Filter Driers ensure protection of refrigeration and air-conditioning systems from moisture, acids, and solid particles.

PR Liquid Line Filter Driers are constructed with 100% 3Å molecular sieve to ensure maximum drying capacity and to minimise pressure drop in all thermodynamic systems .

PR Liquid Line Filter Driers are suitable for all CFC, HCFC, HFC and CO2 refrigerants and their associated oils, while respecting the maximum allowable pressure. **PR Liquid Line Filter Driers** contribute to maintain the cleanliness of the circuits, the efficiency of the systems and prolong system life. This reduces running costs and maintenance costs by improving protection of critical components, such as the compressor and the expansion valve.

PR Liquid Line Filter Driers benefits:

- Copper connections allow brazing without silver or with low silver content
- Solder fittings are swaged to ensure better flow and to reduce pressure drop
- Solid cores are made with highly efficient 3Å molecular sieve
- PS (MWP): 45 bar (652 psig)

Benefits

PS (MWP)	45 barg (652 psig)
TS	-40°C to +80°C

- **Leak Testing: 100% water leak tested with 42 bar (600 psi)**
- **Coating: Polyester Winter Gray 10-7069 high gloss epoxy powder coating. 500 h salt spray test (ASTM B117, ISO 9227)**
- **Filtration: 20 microns**
- **Approvals: PED 97/23/EC - article 3.3**
- **Suitable with CFC, HCFC, HFC, HFO and CO_2 Subcritical**

The physical size of the **PR Liquid Line Filter Driers** range allows the product to be manufactured under the PED category (art. 3.3) which does not require "CE" marking.

Technical Data

Drying Capacity - kg drying capacity

PR Series (1)	R134a		R404A / R507		R407C		R410A		R 22	
	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C
PR 03	5	4	6	5	5	4	4	3	5	4
PR 05	8	7	10	9	8	7	8	7	8	7
PR 08	19	15	22	18	17	15	15	12	17	14
PR 16	25	22	29	24	22	18	19	15	22	17
PR 30	53	44	57	48	17	40	40	34	46	39
PR 41	75	62	84	71	68	55	57	49	67	58
PR 75	132	113	151	129	121	105	103	86	121	103

(1) Drying capacity is the result of standard tests before and after drying from 1050 ppm to 50 ppm.

For all requests, consult your nearest Parker Sporlan Wholesaler or contact us on:
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Accurate at the time of going to print.

PR Flare (SAE) Connections

Dimensions, Weight and Packaging

Part Number	Fitting Type SAE	Overall Length (L) mm	Shell Diam. (D) mm	Weight kg	Master Box Quantity
PR032FM	1/4"	102.9	50.8	0.3	10
PR032	1/4"	110.8	50.8	0.3	10
PR052FM	1/4"	112.5	50.8	0.3	10
PR052	1/4"	120.4	50.8	0.3	10
PR053	3/8"	131.6	50.8	0.3	10
PR082	1/4"	142.5	63.5	0.6	10
PR083	3/8"	153.7	63.5	0.6	10
PR084	1/2"	160.3	63.5	0.6	10
PR162	1/4"	161.5	63.5	0.7	10
PR163	3/8"	172.7	63.5	0.7	10
PR164	1/2"	179.3	63.5	0.7	10
PR165	5/8"	186.9	63.5	0.8	10
PR303	3/8"	251.2	76.2	1.5	10
PR304	1/2"	257.8	76.2	1.6	10
PR305	5/8"	265.4	76.2	1.6	10
PR414	1/2"	259.9	88.9	2.2	10
PR415	5/8"	267.5	88.9	2.2	10

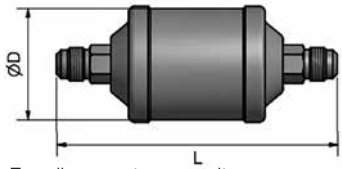
FM: Connections Inlet Female, Outlet Male

Cooling Capacity

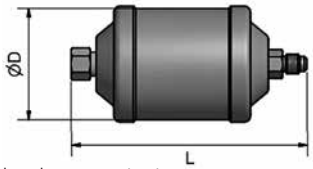
Part Number	Fitting Type SAE	Liquid Line Cooling Capacity kW (1)									
		R744 (2)	R404A R507	R134a	R407C	R410A R22	R407A R427A	R407F	R417A	R422A	R422D
PR032FM	1/4"	8.7	4.4	6.0	6.2	6.5	5.7	6.3	4.7	3.8	4.3
PR032	1/4"	8.7	4.4	6.0	6.2	6.5	5.7	6.3	4.7	3.8	4.3
PR052FM	1/4"	9.5	4.7	6.5	6.7	7.0	6.1	6.8	5.1	4.0	4.6
PR052	1/4"	9.5	4.7	6.5	6.7	7.0	6.1	6.8	5.1	4.0	4.6
PR053	3/8"	25.3	12.2	16.9	17.3	18.2	15.9	17.6	13.1	10.5	11.9
PR082	1/4"	10.7	5.1	7.1	7.2	7.6	6.7	7.4	5.5	4.4	5.0
PR083	3/8"	26.1	12.5	17.4	17.8	18.7	16.4	18.1	13.5	10.8	12.2
PR084	1/2"	39.3	19.0	26.3	26.9	28.3	24.8	27.5	20.5	16.3	18.5
PR162	1/4"	10.7	5.1	7.1	7.2	7.6	6.7	7.4	5.5	4.4	5.0
PR163	3/8"	29.0	13.9	19.2	19.7	20.7	18.2	20.1	15.0	12.0	13.5
PR164	1/2"	52.0	25.1	34.6	35.6	37.4	32.8	36.2	27.0	21.6	24.4
PR165	5/8"	69.9	33.7	46.6	47.8	50.3	44.1	48.7	36.4	29.0	32.9
PR303	3/8"	29.0	14.2	19.7	20.2	21.2	18.6	20.6	15.3	12.2	13.9
PR304	1/2"	57.0	27.4	38.0	38.9	40.9	35.9	39.7	29.6	23.6	26.8
PR305	5/8"	72.1	35.0	48.4	49.5	52.1	45.7	50.5	37.7	30.1	34.1
PR414	1/2"	59.1	28.8	39.8	40.8	43.0	37.7	41.6	31.1	24.8	28.1
PR415	5/8"	77.4	37.2	51.5	52.8	55.6	48.7	53.8	40.2	32.1	36.3

(1) Cooling capacity in accordance with ARI 710-86 standard
Te = -15°C, Tc = 30°C, Δp = 0.07 bar (1 psig)

(2) Cooling capacity based on
Te = -30°C, Tc = -5°C, Δp = 0.07 bar (1 psig)



PR Flare



PR Female / Male Flare

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PR Liquid Line Filter Driers

PR ODF Solder Connections

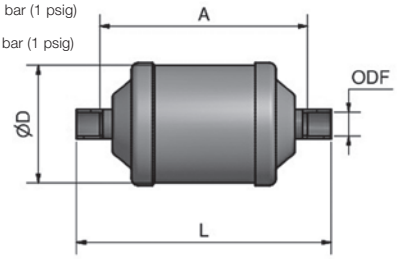
Dimensions, Weight and Packaging

Part Number	Fitting Type ODF	Overall Length (L) mm	Lay in Length (A) mm	Shell Diam. (D) mm	Weight kg	Master Box Quantity
PR032S	1/4"	99.1	80.3	50.8	0.3	10
PR033S	3/8"	102.7	80.3	50.8	0.3	10
PR052S	1/4"	108.7	89.9	50.8	0.3	10
PR053S	3/8"	112.3	89.9	50.8	0.3	10
PR082S	1/4"	130.8	112.0	63.5	0.6	10
PR083S	3/8"	134.4	112.0	63.5	0.6	10
PR084S	1/2"	137.4	112.0	63.5	0.6	10
PR162S	1/4"	149.8	131.0	63.5	0.7	10
PR163S	3/8"	153.4	131.0	63.5	0.7	10
PR164S	1/2"	156.4	131.0	63.5	0.7	10
PR165S	5/8"	162.5	131.0	63.5	0.7	10
PR303S	3/8"	231.9	209.5	76.2	1.5	10
PR304S	1/2"	234.9	209.5	76.2	1.5	10
PR305S	5/8"	241.0	209.5	76.2	1.5	10
PR307SC	7/8"	258.8	220.6	76.2	1.5	10
PR414S	1/2"	237.0	211.6	88.9	2.1	10
PR417S	7/8"	260.9	222.7	88.9	2.1	10
PR757S	7/8"	346.7	308.5	88.9	3.0	10

Cooling Capacity

Part Number	Fitting Type ODF	Liquid Line Cooling Capacity kW (1)									
		R744 (2)	R404A R507	R134a	R407C	R410A R22	R407A R427A	R407F	R417A	R422A	R422D
PR032S	1/4"	8.8	4.4	6.1	6.3	6.6	5.8	6.4	4.8	3.8	4.3
PR033S	3/8"	23.7	11.6	15.8	16.2	17.1	15.0	16.6	12.4	9.9	11.2
PR052S	1/4"	9.6	4.7	6.6	6.8	7.1	6.2	6.9	5.1	4.1	4.6
PR053S	3/8"	25.4	12.4	17.1	17.5	18.4	16.2	17.9	13.3	10.6	12.1
PR082S	1/4"	10.5	5.2	7.2	7.3	7.7	6.8	7.5	5.6	4.5	5.0
PR083S	3/8"	26.0	12.7	17.6	18.0	19.0	16.6	18.4	13.7	10.9	12.4
PR084S	1/2"	39.9	19.3	26.7	27.3	28.7	25.2	27.8	20.8	16.6	18.8
PR162S	1/4"	10.5	5.2	7.2	7.3	7.7	6.8	7.5	5.6	4.5	5.0
PR163S	3/8"	28.8	14.1	19.5	20.0	21.0	18.4	20.4	15.2	12.1	13.7
PR164S	1/2"	52.5	25.4	35.1	36.1	37.9	33.2	36.7	27.4	21.9	24.8
PR165S	5/8"	70.4	34.0	47.0	48.2	50.7	44.5	49.2	36.7	29.3	33.2
PR303S	3/8"	25.6	14.4	20.0	20.5	21.5	18.9	20.9	15.6	12.4	14.1
PR304S	1/2"	57.5	27.8	38.5	39.4	41.5	36.4	40.2	30.0	23.9	27.1
PR305S	5/8"	73.0	35.3	48.8	49.9	52.6	46.1	50.9	38.0	30.3	34.4
PR307SC	7/8"	88.3	42.8	59.3	60.7	63.9	56.0	61.9	46.2	36.8	41.8
PR414S	1/2"	54.2	29.1	40.4	41.4	43.6	38.2	42.2	31.5	25.1	28.5
PR417S	7/8"	110.1	53.1	73.4	75.2	79.2	69.4	76.7	57.2	45.7	51.8
PR757S	7/8"	118.2	56.5	78.2	80.1	84.3	73.9	81.7	60.9	48.6	55.1

(1) Cooling capacity in accordance with ARI 710-86 standard
Te = -15°C, Tc = 30°C, Δp = 0.07 bar (1 psig)
(2) Cooling capacity based on
Te = -30°C, Tc = -5°C, Δp = 0.07 bar (1 psig)





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PR Liquid Line Filter Driers

PR Metric Sizes Solder Connections

Dimensions, Weight and Packaging

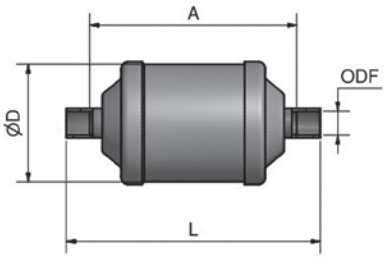
Part Number	Fitting Type ODF	Overall Length (L) mm	Lay in Length (A) mm	Shell Diam. (D) mm	Weight kg	Master Box Quantity
PR0306MMS	6 mm	99.1	85.1	50.8	0.3	10
PR0506MMS	6 mm	108.7	94.7	50.8	0.3	10
PR0510MMS	10 mm	112.3	89.9	50.8	0.3	10
PR0806MMS	6 mm	130.8	116.8	63.5	0.6	10
PR0810MMS	10 mm	134.4	112.0	63.5	0.6	10
PR0812MMS	12 mm	137.4	113.0	63.5	0.6	10
PR1610MMS	10 mm	153.4	131.0	63.5	0.7	10
PR1612MMS	12 mm	156.4	132.0	63.5	0.7	10
PR1616MMS	16 mm	162.5	131.0	63.5	0.7	10
PR3016MMS	16 mm	241.0	209.5	76.2	1.5	10

Cooling Capacity

Part Number	Fitting Type ODF	Liquid Line Cooling Capacity kW (1)									
		R744 (2)	R404A R507	R134a	R407C	R410A R22	R407A R427A	R407F	R417A	R422A	R422D
PR0306MMS	6 mm	8.3	4.2	5.8	6.0	6.3	5.5	6.1	4.5	3.6	4.1
PR0506MMS	6 mm	9.1	4.5	6.3	6.5	6.8	5.9	6.5	4.9	3.9	4.4
PR0510MMS	10 mm	25.9	12.6	17.4	17.9	18.8	16.5	18.2	13.6	10.8	12.3
PR0806MMS	6 mm	9.9	4.9	6.8	6.9	7.3	6.4	7.1	5.3	4.2	4.8
PR0810MMS	10 mm	26.5	12.9	18.0	18.4	19.3	16.9	18.7	14.0	11.1	12.6
PR0812MMS	12 mm	42.4	18.5	25.6	26.2	27.6	24.2	26.7	19.9	15.9	18.0
PR1610MMS	10 mm	26.2	12.7	17.7	18.1	19.1	16.7	18.5	13.8	11.0	12.5
PR1612MMS	12 mm	50.5	24.4	33.7	34.6	36.4	31.9	35.3	26.3	21.0	23.8
PR1616MMS	16 mm	86.2	36.1	49.9	51.1	53.8	47.1	52.1	38.9	31.0	35.2
PR3016MMS	16 mm	77.5	37.4	51.7	52.9	55.7	48.9	54.0	40.3	32.1	36.4

(1) Cooling capacity in accordance with ARI 710-86 standard
Te = -15°C, Tc = 30°C, Δp = 0.07 bar (1 psig)

(2) Cooling capacity based on
Te = -30°C, Tc = -5°C, Δp = 0.07 bar (1 psig)





PR ODF

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Filter Driers Solid Core C Series
Parker Sporlan Catch-All®



Parker Sporlan Catch-All® C Series Liquid Line Filter Driers ensure the protection of the refrigeration and air-conditioning systems from moisture, acids, and solid particles.

Catch-All® Liquid Filter Driers contain an unique moulded porous core, consisting of a blend of highly effective desiccants. These provide optimal moisture removal and acid retention.

The famous moulded porous core of the Catch-All®® Filter-Drier performs its vital functions and extends the life of the system.

Benefits

PS (MWP)	44.8 barg (650 psig)
TS	-40°C up to +66°C

(ASTM B117, ISO 9227)

- **Leak Testing: 45 bar under water**
- **Coating: Polyester Winter Gray 10-7069 is a U.L recognized high gloss epoxy powder coating**
- **Filtration: 20 microns**
  500 h salt spray test
- **Approvals: UL file no. SA-1756A & B.**
  PED 97/23/EC - article 3.3
- **Suitable with CFC, HCFC, HFC, CO2 subcritical**

The physical size of the C Series Catch-All® filter driers range allows the product to be manufactured under the PED category (art.3.3) which does not require "CE" marking.

Technical Data

Catch-All®

Drying capacity (1) - kg drying capacity

C-Series	R134a		R404A R507		R407C		R410A		R 22		Acid Capacity g (2)
	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C	
C 03	3.4	2.4	3.6	2.9	2.6	0.9	1.4	1.0	3.1	2.5	1.2
C 05	7.9	5.7	8.5	6.9	6.2	2.0	3.2	2.4	7.3	6.0	2.4
C 08	13.1	9.4	14.0	11.4	10.1	3.3	5.2	3.9	12.0	9.8	4.0
C 16	19.8	14.3	21.2	17.3	15.4	5.0	7.9	6.0	18.2	14.9	6.0
C 30	37.8	27.3	40.5	32.9	29.3	9.5	15.1	11.4	34.8	28.4	13.2
C 41	50.9	36.7	54.4	44.3	39.4	12.7	20.4	15.3	46.8	38.2	16.9
C 60	75.6	54.5	80.9	65.8	58.6	18.9	30.2	17.7	69.6	56.7	24.6

(1) Drying capacity is the result of standard tests before and after drying from 1050 ppm to 50 ppm.
(2) Adsorption capacity of acid at 0.05 TAN (Total Acid Number).

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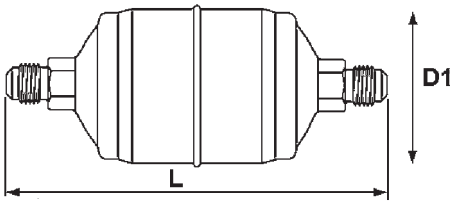
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Catch-All Flare (SAE) Connections

Dimensions, Weight and Packaging

Part Number	Type	Connections SAE	Liquid Line Cooling Capacity kW (1)						Dimensions mm		Weight kg	Master Box Quantity
			R744 (2)	R404A R507	R134a	R410A	R407C	R22	Overall Length L	Shell Diam D1		
400000C	C-032	1/4"	7.0	3.5	4.6	4.9	4.6	5.3	106	44	0.2	25
400088C	C-033	3/8"	17.0	8.1	11.3	12.0	11.3	12.3	119	44	0.2	25
400200C	C-052	1/4"	10.0	4.9	6.7	7.0	6.7	7.4	121	62	0.3	25
400288C	C-053	3/8"	20.0	10.9	15.1	15.8	15.1	14.4	132	62	0.3	25
400416C	C-082	1/4"	10.0	4.9	6.7	7.0	6.7	7.4	143	67	0.6	25
400472C	C-083	3/8"	22.1	10.6	14.8	15.5	14.8	15.8	154	67	0.6	25
400536C	C-084	1/2"	42.4	20.7	17.8	29.9	17.8	30.6	160	67	0.6	25
401000C	C-162	1/4"	10.0	4.9	6.7	7.0	6.7	7.4	159	76	0.8	25
401048C	C-163	3/8"	22.1	10.6	14.8	15.5	14.8	15.8	171	76	0.8	25
401128C	C-164	1/2"	49.4	23.9	32.7	34.2	32.7	35.5	176	76	0.8	25
401216C	C-165	5/8"	67.4	32.4	44.3	47.1	44.3	48.5	184	76	0.8	25
401328	C-303	3/8"	22.1	10.6	14.8	15.5	14.8	16.2	246	76	1.6	8
401360	C-304	1/2"	49.4	23.9	32.7	34.5	32.7	35.5	251	76	1.6	8
401408	C-305	5/8"	72.5	34.8	47.8	51.0	47.8	52.4	259	76	1.6	8
401624	C-414	1/2"	55.7	26.7	36.9	39.0	36.9	40.5	252	89	2.0	10
401656	C-415	5/8"	77.4	37.3	51.0	54.2	51.0	55.6	260	89	2.0	10

(1) Cooling capacity in accordance with ARI 710-86 standard
Te = -15°C, Tc = 30°C, Δp = 0.07 bar (1 psig)
(2) Cooling capacity based on
Te = -30°C, Tc = -5°C, Δp = 0.07 bar (1 psig)





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PR Liquid Line Filter Driers

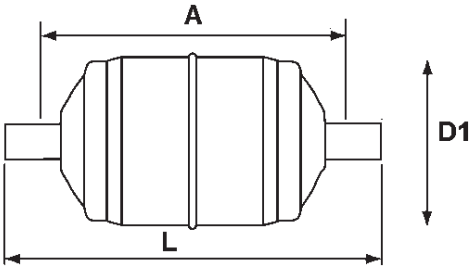
Technical Data

Catch-All ODF Solder Connections

Cooling Capacity, Dimensions, Weight and Packaging

Part Number	Type	Connections ODF	Liquid Line Cooling Capacity kW (1)						Dimensions mm			Weight kg	Quantity Master Box
			R744 (2)	R404A R507	R134a	R410A	R407C	R22	L	A	D1		
400052C	C-032-S	1/4"	7.0	3.5	4.6	4.9	4.6	5.3	97	77	44	0.2	25
400001C	C-033-S	3/8"	18.6	9.1	12.3	13.0	12.3	13.4	99	77	44	0.2	25
400249C	C-052-S	1/4"	10.0	4.9	6.7	7.0	6.7	7.4	106	86	62	0.3	25
400329C	C-053-S	3/8"	22.7	10.9	15.1	15.8	15.1	16.5	109	87	62	0.3	25
400429C	C-082-S	1/4"	10.0	4.9	6.7	7.0	6.7	7.4	130	110	67	0.6	25
400503C	C-083-S	3/8"	25.1	12.0	16.5	17.6	16.5	18.3	133	111	67	0.6	25
400437C	C-084-S	1/2"	46.9	22.5	30.9	33.1	30.9	33.8	138	112	67	0.6	25
401018C	C-162-S	1/4"	10.0	4.9	6.7	7.0	6.7	7.4	146	126	76	0.8	25
401021C	C-163-S	3/8"	25.1	12.0	16.5	17.6	16.5	18.3	149	127	76	0.8	25
401023C	C-164-S	1/2"	53.6	25.7	35.5	37.6	35.5	38.7	152	126	76	0.8	25
401035C	C-165-S	5/8"	77.6	37.3	51.0	54.5	51.0	55.9	160	128	76	0.8	25
401305	C-303-S	3/8"	22.1	12.0	16.5	17.6	16.5	18.6	226	204	76	1.6	8
401307	C-304-S	1/2"	53.6	25.7	35.5	37.6	35.5	38.7	229	203	76	1.6	8
401449	C-305-S	5/8"	82.5	39.7	54.5	57.7	54.5	59.4	235	203	76	1.6	8
401505	C-307-S	7/8"	105.0	50.6	69.6	73.9	69.6	76.0	249	211	76	1.6	8
401609	C-414-S	1/2"	60.5	29.2	40.1	42.6	40.1	48.6	230	204	89	2.0	10
401610	C-415-S	5/8"	86.0	41.5	56.6	60.1	56.6	61.5	237	205	89	2.0	10
401614	C-417-S	7/8"	108.0	52.0	71.4	75.6	71.4	77.7	249	211	89	2.0	10
401618	C-419-S	1-1/8"	119.0	57.3	78.4	83.4	78.4	85.5	248	200	89	2.0	10
401837	C-607-S	7/8"	143.0	68.6	93.6	100.0	93.6	102.0	406	368	76	2.7	8
401865	C-609-S	1-1/8"	163.0	78.4	107.0	114.0	107.0	117.0	406	356	76	2.7	8

(1) Cooling capacity in accordance with ARI 710-86 standard
Te = -15°C, Tc = 30°C, Δp = 0.07 bar (1 psig)
(2) Cooling capacity based on
Te = -30°C, Tc = -5°C, Δp = 0.07 bar (1 psig)





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PR Liquid Line Filter Driers

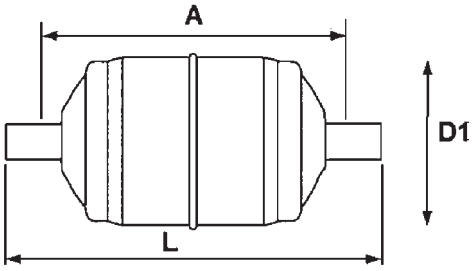
Technical Data

Catch-All ODF Metric Size Connections

Feature

Part Number	Description	PS bar	Liquid Line Cooling Capacity kW (1)						Dimensions mm			Weight kg	Quantity Master Box
			R744 (2)	R404A R507	R134a	R410A	R407C	R22	L	A	D1		
400353	C-053-S-M10	44.8	22.7	10.9	15.1	15.8	15.1	16.5	112	90	62	0.3	25
401201	C-165-S-M16	44.8	77.6	32.3	44.2	47.0	44.6	48.4	161	129	76.2	0.8	25

(1) Cooling capacity in accordance with ARI 710-86 standard
Te = -15°C, Tc = 30°C, Δp = 0.07 bar (1 psig)
(2) Cooling capacity based on
Te = -30°C, Tc = -5°C, Δp = 0.07 bar (1 psig)





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Filter Driers for Mobile Applications

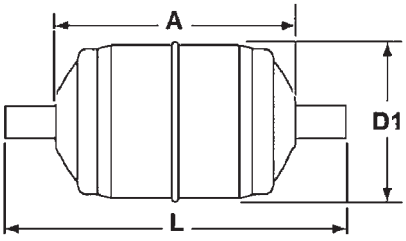
Mobile applications require special fittings with better resistance to stress, vibrations, etc. These fittings are standardised and are called O-ring fittings because the sealing is made by an O-Ring, instead of a copper trumpet with Flare connections.
Copper products are used mainly in vending machines and residential heat pumps. Two main kinds of fitting are used:

- O-Ring face seal where the O-Ring is fitted at the end of the connector. This requires a nut and adapter with a flat surface (See Fitting Type 1)
- O-ring seal where the tube and the O-ring are inside the connector. This requires a special design of the tube to ensure a proper sealing (See Fitting Type 2)

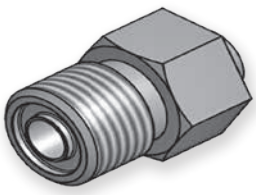
Parker provide 2 ranges of O-ring driers one with solid cores based on the Catch-All design and one based on Worldseries design with 100% molecular XH9 molecular sieve.

Both ranges are suitable with CFC, HCFC, HFC and HFO refrigerants.

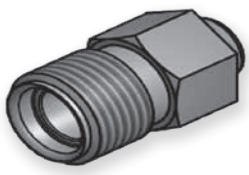
Part Number	Description	Fittings		Thread	Fitting Type	Overall Length L mm	Shell Length A mm	Shell Diam D1 mm
		Inlet	Outlet					
Solid Core Filter Driers								
401335-002	C-16E31	3/8 Male ORFS	3/8 Male ORFS	11/16-16 UN 2A	1	169.3	115.3	76
401343-001	C-16E48	1/2 ORS	1/2 ORS	13/16-16 UN 2A	-	167.8	115.3	76
401349-003	C-16E51	3/8 Male ORS	3/8 Male ORS	5/8-18 UNF 2A	2	166.6	115.3	76
401502-001	C-30E70	3/8 ORFS	3/8 ORFS	11/16-16 UN 2A	1	243.0	189.0	76
401380-001	C-30E71	1/2 ORFS	1/2 ORFS	13/16-16 UN 2A	1	241.5	189.0	76
401501	C-30E72	5/8 Male ORFS	5/8 Male ORFS	1-14 UNS 2A	1	233.9	188.9	76
401805-004	C-41E25	5/8 Male ORFS	1/2 Male ORFS	Inlet:1-14 UNS-2A Outlet:13/16-16 UN-2A	1	235.8	188.9	89



Type 1: O-Ring Face Seal



Type 2: O-Ring Seal



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Replaceable Core Filter Drier Shells Sporlan Catch-All®



Catch-All Replaceable Core Filter Drier Shells ensure the protection of refrigerant and air conditioning systems from moisture, acid, dirt and solid particles in both liquid and suction lines.

Catch-All Replaceable Core Filter Drier Shells can help to solve contamination issues to prevent compressor failures and avoid other system issues.

Catch-All Replaceable Filter Shells benefits:

- Copper connections allow brazing without silver or with low silver content alloys.
- Flange with 1/4" female thread and plug to fit a shut off valve or a Schraeder valve.
- Bolts are easy to replace (screw and nut) and eliminate the risk of thread damage.
- Additional filter in the core holders to increase the filtration efficiency.
- Steel core holders.
- PS (MWP): 44.8bar (650psig).

Benefits

PS (MWP)	C Series: 44.8 bar (650 psig) - RSF Series 24.8 bar (500psi)
TS	-40°C to +80°C

- **Leak Testing:** **45 bar under water**
- **Coating:** **Polyester coating giving protection to 500 hours salt spray**
- **Filtration:** **20 microns**
- **Approvals:** **PED 97/23/EC Art 3.3 (C-R42 Series) Cat 1 (C-48 Series)**

Catch-All: C Series are for liquid line use, **RSF Series** are for suction line use.

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Repaceable Filter Shells Sporlan Catch-All®

Technical Data

Liquid Line Filter Shells

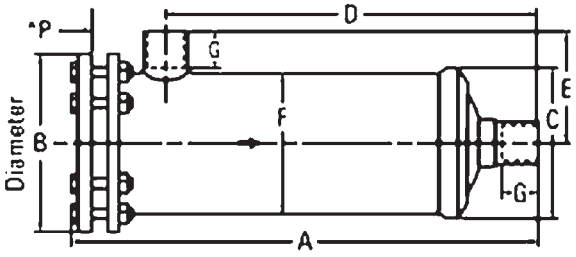
Dimensions, Weight and Packaging

Part Number	Description	Connection ODF	Dimensions mm								Internal Volume L	Weight	CE Category
			A	B	C	D	E	F	G	P			
402010	C-R424-G	1/2"	229	121	-	172	71	89	13	165	1.0	1.4	3.3
402050	C-R427-G	7/8"	240	121	-	184	77	89	19	165	1.0	1.4	3.3
402082	C-485-G	5/8"	232	152	127	150	89	121	13	191	1.8	2.5	1
402109	C-487-G	7/8"	236	152	127	154	94	121	19	191	1.8	2.5	1
402152	C-489-G	1-1/8"	241	152	127	162	96	121	23	191	1.8	2.5	1
402159	C-4811-G	1-3/8"	244	152	127	162	100	121	25	191	1.8	2.5	1
402172	C-4813-G	1-5/8"	244	152	127	162	101	121	28	191	1.8	2.5	1
402251	C-967-G	7/8"	377	152	127	295	94	121	19	330	3.2	3.3	1
402289	C-969-G	1-1/8"	382	152	127	300	96	121	23	330	3.2	3.3	1
402335	C-9611-G	1-3/8"	385	152	127	303	100	121	25	330	3.2	3.3	1
402343	C-9613-G	1-5/8"	385	152	127	303	101	121	28	330	3.2	3.3	1

Cooling Capacity

Part Number	Description	Connections ODF	Liquid Line Cooling Capacity kW (1)					Suction line Cooling capacity kW (2)				
			R134a	R404A R507	R407C	R410A	R22	R134a	R404A R507	R407C	R410A	R22
402010	C-R424-G	1/2"	37	27	37	39	40	3.9	4.6	5.1	6.6	5.2
402050	C-R427-G	7/8"	59	44	60	64	65	6.3	7.5	8.3	10.7	8.4
402082	C-485-G	5/8"	47	34	47	50	51	5.0	5.9	6.5	8.4	6.6
402109	C-487-G	7/8"	77	56	77	82	84	8.2	9.7	10.7	13.8	10.9
402152	C-489-G	1-1/8"	139	101	140	148	152	14.8	17.3	19.2	25.0	19.6
402159	C-4811-G	1-3/8"	-	-	-	-	-	-	-	-	-	-
402172	C-4813-G	1-5/8"	-	-	-	-	-	-	-	-	-	-
402251	C-967-G	7/8"	139	92	127	134	138	13.3	15.7	17.4	22.5	17.8
402289	C-969-G	1-1/8"	126	114	157	167	171	16.6	19.6	21.6	28.0	22.1
402335	C-9611-G	1-3/8"	-	-	-	-	-	-	-	-	-	-
402343	C-9613-G	1-5/8"	-	-	-	-	-	-	-	-	-	-

(1) Cooling capacity in accordance with ARI 710-86 standard
Te = -15°C, Tc = 30°C, Δp = 0.07 bar (1 psig)
(2) Cooling capacities are published in accordance with ARI 730-2001 standard
Te = –4.4°C, Tc = 32°C, Δp = 0.07 bar (1 psig)



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Repaceable Filter Shells Sporlan Catch-All®

Technical Data

Suction Line Filter Shells

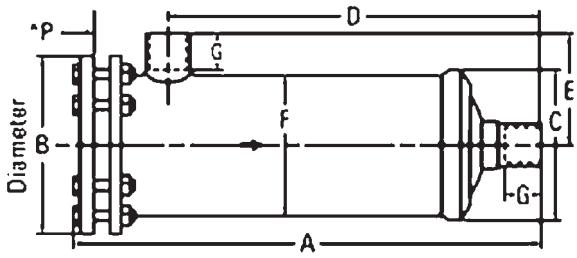
Dimensions, Weight and Packaging

Part Number	Description	Connection ODF	Dimensions mm								Internal Volume L	Weight	CE Category
			A	B	C	D	E	F	G	P			
800500	RSF-487-T	7/8"	236	152	127	154	94	121	19	178	1.8	5.5	1
800506	RSF-4817-T	2-1/8"	238	152	127	142	117	121	35	178	1.8	5.5	1
800512	RSF-9617-T	2-1/8"	380	152	127	284	117	121	35	178	3.2	7.7	1
800514	RSF-9621-T	2-5/8"	392	152	127	289	130	121	37	178	3.2	7.7	1
800516	RSF-9625-T	3-1/8"	384	152	127	274	124	121	43	178	3.2	7.7	1

Cooling Capacity

Part Number	Description	Connections ODF	Suction line Cooling capacity kW (1)				
			R134a	R404A R507	R407C	R410A	R22
800500	RSF-487-T	7/8"	7,2	5,4	5,4	7,7	5,5
800506	RSF-4817-T	2-1/8"	12,4	9,1	9,3	13,3	9,5
800512	RSF-9617-T	2-1/8"	22,3	15,7	16,4	23,9	17,4
800514	RSF-9621-T	2-5/8"	22,3	15,7	16,4	23,9	17,4
800516	RSF-9625-T	3-1/8"	22,3	15,7	16,4	23,9	17,6

(1) Cooling capacities are published in accordance with ARI 730-2001 standard
Te = –4.4°C, Tc = 32°C, Δp = 0.07 bar (1 psig)



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PARKER VS Cores
SPORLAN Catch-All Cores



Parker Sporlan offers a wide range of cores corresponding to different operating conditions and helping to maintain the cleanliness and efficiency of the system.

This supports a reduction in maintenance and repair costs.

The Filter Core Range

VS32H: Installed in the suction line with an innovative conical filter to reduce pressure drop. The blend of molecular sieve and activated alumina provides excellent moisture adsorption and high capacity acid retention.

VS48H: The standard liquid line core with a blend of molecular sieve and activated alumina, offering excellent moisture adsorption and high capacity acid retention.

RC-4864: A standard core with a high activated alumina content, best suited to systems with known to contain moisture and acid during start up. The blend of molecular sieve and activated alumina is a perfect choice for all refrigerants which use mineral or alkyl benzene oils.

VS48XH: The highest moisture capacity achievable in a 48 cubic inch core, and can be used in both the liquid and suction line. It consists of 100% 3Å molecular sieve and a binding agent to provide an exceptionally high moisture adsorption capacity. It is ideal for chillers with shell-and-tube or brazed plate evaporators.

VS48F: The felt element is designed for use in the suction line and will give effective filtration and compressor protection during start up and commissioning. **Temporary use only.**

RPE-48-BD: The reinforced felt element is designed for use in the suction line during and following commissioning. It has an external stainless steel screen to prevent disintegration in the event of excessive pressure drop due to clogging.

Maintenance and Repair

VS48SC: Designed for cleaning and decontamination, or after compressor burn out. It uses an optimal blend of molecular sieve, activated alumina and activated charcoal, which allows it to trap acid, sludge and wax, in addition to adsorbing moisture. It should be installed at the same time in both the suction and liquid line in order to decrease the presence of acid quickly, and to minimise pressure drop across the suction filter. **Temporary use only.**

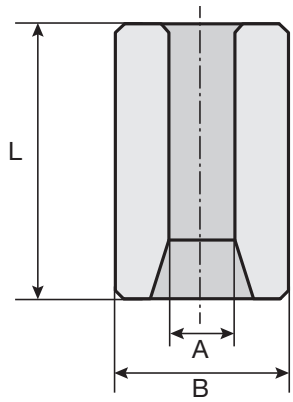
RCW48 "GOLD": This core has a very high capacity for moisture retention. Designed especially for refrigeration and air conditioning systems which work with HFC and POE lubricants. These cores are an ideal choice where there is damage to a flooded evaporator or when moisture content is very high. They can be used in both the liquid and suction line.

Operating temperature range: -45°C to 65°C

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Technical Data





Part Number	Description	Dimensions mm			Filtration Surface	Product Weight	Quantity	Master Box Weight
		Height L	Ø External B	Ø Internal A	cm^2	kg	Master Box	kg
404404	RCW-42	152	81	-	-	0.7	10	8.6
VS32H	Suction Drying Core	140	95	75	420	-	12	-
VS48H	High Drying Capacity Core	140	95	45	420	-	12	-
VS48XH	Very High Drying Capacity Core	140	95	45	420	-	12	-
VS48SC	Burnout Core	140	95	45	420	-	12	-
404401	RCW-48-Gold	140	94	45	420	0.9	12	12.7
	Felt (Suction Line only)							
404555	RPE-48-BD	140	95	62	420	0.4	12	-

Drying Capacity - kg of refrigerant*

Part Number	Description	Drying Capacities (kg of refrigerant) (1)										Acid Capacity (2)
		R134a		R404A / R507		R407C		R410A		R22		
		24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C	g
404404	RCW-42	49	35	38	12	52	43	20	15	45	37	15.9
VS32H	Suction drying core	16	12	12	9	11	10	11	8	12	9	8.3
VS48H	High drying capacity core	37	28	28	21	42	24	25	19	28	21	12.5
VS48XH	Very high drying capacity core	70	52	53	40	79	45	47	36	52	40	5.8
VS48SC	Burnout core	17	12	13	11	20	17	11	10	13	11	23.7
404401	RCW-48-GOLD	60	43	47	15	65	52	24	18	55	45	19.5

(1) Drying capacity is the result of standard tests before and after drying from 1050 ppm to 50 ppm.
(2) Adsorption capacity of acid at 0.05 TAN (Total Acid Number).





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Bi-Flow Filter Driers HPC Series
Parker Sporlan Catch-All®



Parker Sporlan Catch-All® Bi-Flow Liquid Line Filter Driers ensure the protection of reversible systems as refrigeration, air-conditioning and heat pumps from moisture, acids, and solid particles.

The design of the valve plates allow liquid flow in both directions without the possibility that dirt trapped in the filter will be discharged into the circuit.

The design and the composition of the cores ensure optimal performance with minimal pressure drop.

Efficiency and life of all reversible air conditioning two- or three-tube systems as well as heat pumps can be improved with HPC Catch-All® filter driers.

Benefits

PS (MWP)	44.8 bar (650 psig)
TS	-40°C up to +66°C

- **Leak Testing:** **45 bar**
- **Catch-Call® Paint:** **Winter Gray 10-7069 is an U.L recognised high gloss epoxy powder coating.**
- **Filtration:** **20 microns**
- **Approvals:** **PED 97/23/EC - article 3.3**
  UL file no. SA - 1756A & B

The physical size of the **Catch-All® Bi-flow filter drier** range allows the product to be manufactured under the PED category (art.3.3) which does not require "CE" marking.

HPC Series	Drying Capacities (kg of refrigerant) (1)										Acid Capacity (2)
	R134a		R404A		R407C		R410A		R 22		
	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C	g
HPC-08	10.7	8.9	9.7	7.9	8.2	2.7	4.3	3.2	9.7	7.9	2.9
HPC-10	11.8	10.3	10.3	8.8	9.1	4.0	4.7	3.5	10.8	8.8	3.9
HPC-16	19.2	16.9	17.2	14.9	15.4	5.0	7.9	6.0	18.2	14.9	4.1
HPC-30	35.8	30.9	33.3	28.4	29.3	9.5	15.1	11.4	34.8	28.4	9.3

(1) Drying capacity is the result of standard tests before and after drying from 1050 ppm to 50 ppm.
(2) Adsorption capacity of acid at 0.05 TAN (Total Acid Number).

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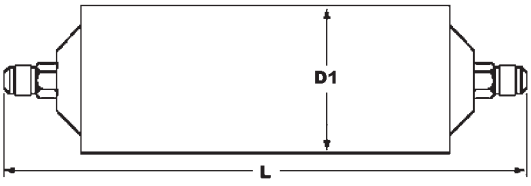
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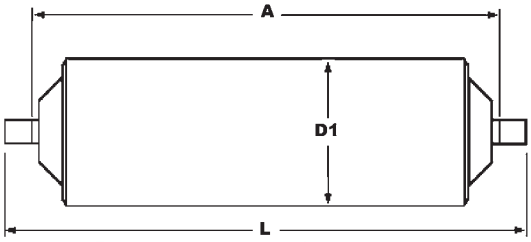
HPC Bi Flow Filter Driers

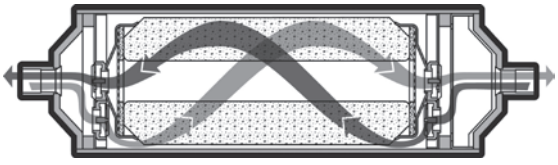
Feature

Part Number	Type	Connections		Dimensions mm			Cooling Capacity kW (1)					Weight	Quantity Master
		SAE	ODF	Overall length L	Lay in length A	Shell diametre D1	R134a	R407C	R404A R507	R410A	R22	kg	Box
404064	HPC-083-S	-	3/8	139	117	76	11.9	11.9	8.6	12.6	13.0	0.6	25
404066	HPC-084-S	-	1/2	142	116	76	13.3	13.3	9.8	14.0	14.4	0.6	25
404101	HPC-103-S	-	3/8	149	127	76	17.9	17.9	12.9	19.0	19.3	0.8	25
404161	HPC-104-S	-	1/2	152	126	76	28.8	28.8	20.9	30.5	31.2	0.8	25
404163	HPC-105-S	-	5/8	160	128	76	34.7	34.7	25.5	37.2	37.9	0.8	25
404303	HPC-163-S	-	3/8	176	154	76	17.9	17.9	12.9	19.0	19.3	1.0	25
404305	HPC-164-S	-	1/2	180	154	76	28.8	28.8	20.9	30.5	31.2	1.0	25
404308	HPC-165-S	-	5/8	187	155	76	34.7	34.7	25.5	37.2	37.9	1.0	25
404311	HPC-305-S	-	5/8	265	233	76	34.0	34.0	24.9	36.2	36.9	1.9	8
404314	HPC-306-S	-	3/4	276	244	76	35.5	35.5	26.2	37.9	38.6	1.9	8
404313	HPC-307-S	-	7/8	280	242	76	36.9	36.9	27.1	39.3	40.0	1.9	8
SAE (Flare) Connections													
404061	HPC-082	1/4	-	147	-	76	7.0	7.0	5.2	7.4	7.7	0.6	25
404063	HPC-083	3/8	-	158	-	76	11.9	11.9	8.6	12.6	13.0	0.6	25
404065	HPC-084	1/2	-	165	-	76	13.3	13.3	9.8	14.0	14.4	0.6	25
404080	HPC-103	3/8	-	171	-	76	16.1	16.1	11.8	17.2	17.6	0.8	25
404140	HPC-104	1/2	-	176	-	76	26.7	26.7	19.9	28.4	29.1	0.8	25
404102	HPC-105	5/8	-	184	-	76	33.0	33.0	24.2	35.1	35.8	0.8	25
404304	HPC-163	3/8	-	198	-	76	16.1	16.1	11.8	17.2	17.6	1.0	25
404306	HPC-164	1/2	-	202	-	76	26.7	26.7	19.9	28.4	29.1	1.0	25
404307	HPC-165	5/8	-	210	-	76	33.0	33.0	24.2	35.1	35.8	1.0	25
404312	HPC-305	5/8	-	289	-	76	31.9	31.9	23.3	34.0	34.7	1.9	8

(1) Liquid capacity in accordance with ARI 710-86 standard.
Te = -15°C, Tc = 30°C, Δp = 0.07 bar (1 psig)









The filter drier operate in both flow directions with the refrigerant passing through the external surface to the inner diameter. HPC Catch-All® Bi-flow filter driers do not release the dirt collected in one direction when the flow direction reverses.

For all requests, consult your nearest Parker Sporlan Wholesaler or contact us on:
fcce.race.support@support.parker.com

Accurate at the time of going to print.

Parker Liquid Line Filter Driers with Sight Glasses PRSG



PRSG Liquid Line Filter Driers with Sight Glasses ensure:

- Protection of refrigeration and air-conditioning systems from moisture, acids, and solid particles.
- Visual control of flow, dryness and colour of liquid refrigerant.

PRSG Liquid Line Filter Driers with Sight Glasses include solid cores made with 100% molecular sieve 3 Å.The ODF models have copper connections to facilitate brazing without the need for brazing alloys with silver content.
This 2 in 1 product reduces installation time and minimise the risk of leakage.
We recommend to protect the glass by calorie discharger **TB2 Thermal BlockTM** or to wrap with a damp cloth when **PRSG** with solder connections are used.

2 in 1 PRSG product minimises installation time, risk of leakage and optimises system design and size.

Benefits

PS (MWP)	45 barg (652 psig)
TS	-40°C to +80°C

- **Leak Testing:** **100% leak tested under water with 42 bar (600 psi).**
- **Coating:** **Polyester Winter Gray 10-7069 high gloss epoxy powder coating. 500 h salt spray test (ASTM B117, ISO 9227).**
- **Filtration:** **20 microns**
- **Approvals:** **UL file no. SA 12220**
  PED 97/23/EC - article 3.3

The physical size of the **PRSG filter driers and sight glasses** range allows the product to be manufactured under the PED category (art.3.3) which does not require "CE" marking.

PRSG Drying Capacities

PRSG Series	R134a		R404A		R407C		R410A		R 22	
	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C
PRSG 05	0	0	0	0	0	0	0	0	0	0
PRSG 08	19	15	22	18	17	15	15	12	17	14
PRSG 16	25	22	29	24	22	18	19	15	22	17
PRSG 30	43	36	46	39	38	33	33	28	38	32

(1) Drying capacity is the result of standard tests before and after drying from 1050 ppm to 50 ppm.

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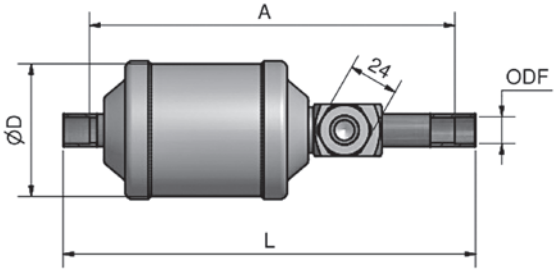
PRSG Filter Driers with Sight Glasses

Feature

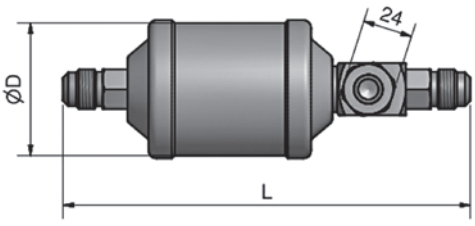
Part Number	Connection Size	Cooling Capacity kW (1) R134a	R404A R507	R407C	R410A R22	Dimensions mm Overall Length L	Lay in Length A	Shell Diam D1	Weight kg	Quantity Master Box
ODF Connections										
PRSG052S	1/4"	6.6	4.7	6.8	7.1	163	144	63.5	-	25
PRSG053S	3/8"	17.1	12.4	17.5	18.4	176	156	63.5	-	25
PRSG082S	1/4"	7.2	5.2	7.3	7.7	183	164	63.5	-	25
PRSG083S	3/8"	17.6	12.7	18.0	19.0	197	176	63.5	-	25
PRSG084S	1/2"	26.7	19.3	27.3	28.7	198	176	63.5	-	25
PRSG163S	3/8"	19.5	14.1	20.0	21.0	216	195	63.5	-	25
PRSG164S	1/2"	35.1	25.4	36.1	37.9	217	194	63.5	-	25
PRSG165S	5/8"	47.0	34.0	48.2	50.7	220	192	63.5	-	25
PRSG305S	5/8"	48.8	35.3	49.9	52.6	299	270	76	-	10
PRSG307S	7/8"	59.3	42.8	60.7	63.9	308	269	76	-	10
PRSG307S5S	7/8"-5/8"	54.0	39.0	55.3	58.2	308	276	76	-	10
Metric Size Connections										
PRSG0810MM	10 mm	18.1	13.0	18.6	19.5	197	176	63.5	-	25
PRSG0812MM	12 mm	26.1	18.9	26.7	28.2	198	176	63.5	-	
PRSG1612MM	12 mm	34.1	24.7	35.0	36.8	217	195	63.5	-	25
SAE (Flare) Connections										
PRSG052	1/4"	6.5	4.7	6.7	7.0	158	-	63.5	-	25
PRSG053	3/8"	16.9	12.2	17.3	18.2	169	-	63.5	-	25
PRSG082	1/4"	7.1	5.1	7.2	7.6	178	-	63.5	-	25
PRSG083	3/8"	17.4	12.5	17.8	18.7	189	-	63.5	-	25
PRSG084	1/2"	26.3	19.0	26.9	28.3	196	-	63.5	-	25
PRSG163	3/8"	19.2	13.9	19.7	20.7	208	-	63.5	-	25
PRSG164	1/2"	34.6	25.1	35.6	37.4	215	-	63.5	-	25
PRSG165	5/8"	46.6	33.7	47.8	50.3	222	-	63.5	-	25
PRSG305	5/8"	48.4	35.0	49.5	52.1	301	-	76	-	10

(1) Cooling capacity in accordance with ARI 710-86 standard
Te = -15°C, Tc = 30°C, Δp = 0.07 bar (1 psig)

PRSG Solder



PRSG Flare



For all requests, consult your nearest Parker Sporlan Wholesaler or contact us on:
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Accurate at the time of going to print.

Cleaning after start up





During installation moisture can enter the system.

When copper pipes are brazed without using nitrogen backing gas, copper oxide will be produced.

The copper oxide deposit becomes detached from the piping by POE oil, which acts as a scavenger.
During commissioning, the expansion valve or suction line accumulator can be clogged by the carbon deposit, and can contaminate the oil.

To prevent damage caused by oil contamination, it is recommended that a suction filter be installed at the inlet of the compressor or at the inlet of the suction accumulator.

Suction filters are equipped with one or two Schrader valves to which can be fitted a pressure gauge or an internal bypass relief valve.

For all requests, consult your nearest Parker Sporlan Wholesaler or contact us on:
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Accurate at the time of going to print.

Suction Filters SF
Parker Sporlan Catch-All®



Parker Sporlan Catch-All® SF suction Line Filters protect compressors by removing all particles from refrigeration and air-conditioning circuits. Particles can be carbon deposit, metallic shaving, resulting from compressor wear or from piping installation.
Parker Sporlan Catch-All® SF Suction Line Filters must be installed between the evaporator and suction accumulator or compressor.
For reversible systems **Catch-All® Suction Filters** must be installed between the 4-way valve and the suction valve of the compressor.
Catch-All® SF suction Line Filters can be equipped with one Schrader valve which allows the use of a gauge to measure pressue drop.
SF-28 and **SF-48 Series** are equipped with a bypass relief valve to prevent excessive pressure drop. The compressor is better protected against overheating and risk of failures caused by too high pressure drop (too high superheat).

Catch-All® Suction Line Filters are easy to install and with the innovative bypass feature meet all requirements of a suction-line filter.

Benefits

PS (MWP)	27.6 bar (400 psig) 11, 28 and 48 Series 34.4 bar (500 psig) 64 Series
TS	-40°C up to +66°C

- **Leak Testing:** 45 bar under water
- **Catch-All® Paint:** Winter Gray 10-7069 is a U.L. recognized high gloss epoxy powder coating
- **Filtration:** 20 microns
- **Approvals:** PED 97/23/EC - article 3.3
UL file no. SA-1756A & B

The physical size of the **Catch-All® suction filter drier** range allows the product to be manufactured under the PED category (art.3.3) which does not require "CE" marking.

Accurate at the time of going to print.

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SF Suction Filters

Dimensions, Weight and Packaging

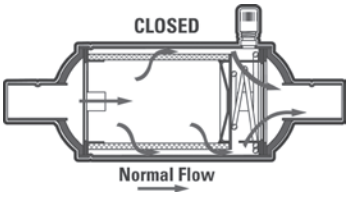
Part Number	Type	Filtration Surface cm²	Dimensions mm			Weight kg	Quantity Master Box
			Overall Length L	Lay in Length A	Shell Diam D1		
800028	SF-283-F	180	223	-	76	1.02	12
800037	SF-285-T	180	212	211	51	1.02	12
800001	SF-286-T	180	223	222	51	1.02	12
800002	SF-287-T	180	227	225	51	1.02	12
800006	SF-289-T	180	242	240	51	1.02	12
800120	SF-489-T	310	315	314	51	1.36	12
800008	SF-4811-T	310	333	331	51	1.36	12
800011	SF-4813-T	310	341	339	51	1.36	12
800182	SF-6417-T	2500	278	215	121	3.40	6
800189	SF-6421-T	2500	278	211	121	3.40	6

Cooling Capacity

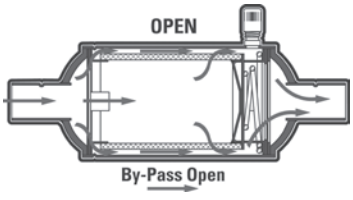
Part Number	Type	Connection Size		Bypass	Access Valve	Cooling Capacity kW (1)				
		SAE	ODF			R134a	R407C	R404A - R507	R410A	R22
800028	SF-283-F	3/8"	-	√	-	3.1	4.0	3.6	5.1	4.0
800037	SF-285-T	-	5/8"	√	√	9.5	12.3	11.0	15.7	12.4
800001	SF-286-T	-	3/4"	√	√	11.8	15.3	13.7	19.6	15.5
800002	SF-287-T	-	7/8"	√	√	16.3	21.1	18.9	27.1	21.3
800006	SF-289-T	-	1-1/8"	√	√	21.6	28.0	25.0	36.0	28.2
800120	SF-489-T	-	1-1/8"	√	√	23.0	29.7	26.5	38.2	30.0
800008	SF-4811-T	-	1-3/8"	√	√	26.3	33.8	30.5	43.5	34.3
800011	SF-4813-T	-	1-5/8"	√	√	31.0	40.3	36.0	51.8	40.8
800182	SF-6417-T	-	2-1/8"	-	√	118.6	168.2	142.4	216.2	172.1
800189	SF-6421-T	-	2-5/8"	-	√	146.6	206.2	174.9	265.1	224.8

(1) Cooling capacities are published in accordance with ARI 730-2001 standard
Te = –4.4°C, Tc = 32°C, Δp = 0.07 bar (1 psig)

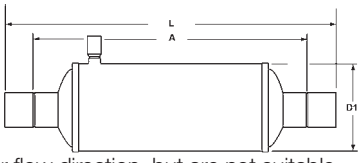
The drawing illustrates the refrigerant flow pattern with the filter in the normally closed position.



The drawing illustrates the refrigerant flow with the bypass in the open position.







Parker Sporlan SF-280/SF-480 Series Suction Filters can be installed in either flow direction, but are not suitable for installation in reversible systems.

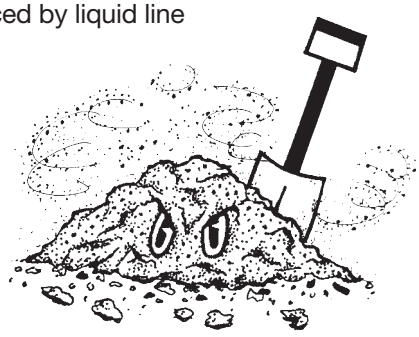
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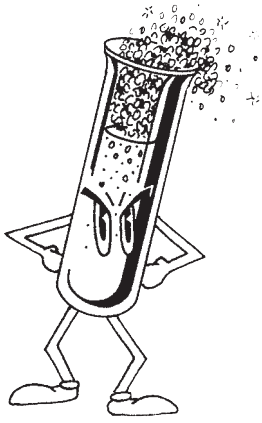
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Cleaning After Contamination or Burnout

The main contaminants of refrigeration and air conditioning systems are air and moisture which produce acid and dirt.
Oxygen oxidises the refrigerant and produces water, causing the refrigerant and oil to hydrolyse.
In the presence of contaminants, the refrigerant and oil produce acids.
Acids can destroy the windings of compressors or corrode copper tubes and components.
To check for the presence of moisture it is recommended that a moisture indicator be installed in the liquid line; and to check the acidity of oil and refrigerant an Acid Test Kit can be used.
When refrigerant and oil are acid it is necessary to use special filters called "burnout filters" which are made with chemical components designed to clean and decontaminate.
Activated alumina is used for the retention of acids; Activated charcoal is used to trap both sludge and wax and molecular sieve is used to trap moisture.
When acid is detected before a compressor failure, burnout filters don't need to have activated charcoal but must have a high content of activated alumina.
In case of electrical failure of the compressor, the destruction of the windings produces sludge and wax. Then burnout filters need to have activated charcoal to trap sludge and wax.
Burnout filters must be installed both in the liquid line and in the suction line.
Burnout filters in the liquid line can trap many solid particles, acids, etc and prevent clogging of expansion valve without increasing the pressure drop quickly, because the velocity in the liquid line is low (generally <1 m/s).
Burnout filters in the suction line prevent damage to the new compressor from acid, dirt, sludge and wax.
Pressure drop of burnout filters in suction line increases slowly if there is another burnout filter in the liquid line.
Indeed all the dirt and acid trapped in the liquid line burnout filters will avoid the clogging of the suction burnout filter.
By using two burnout filters, the efficiency of the decontamination is higher and the problems with the expansion valve and compressor are minimised.
Be aware that pressure drop across suction filters have a damaging impact on compressors.
If the pressure drop increases, the superheat would increase in the suction line and could produce overheating of the compressor and a system failure through the destruction of the insulation of the motor windings.
The effects of decontamination can be controlled by using an acid test kit and, the burnout filter must be replaced by liquid line filter driers and suction filters.



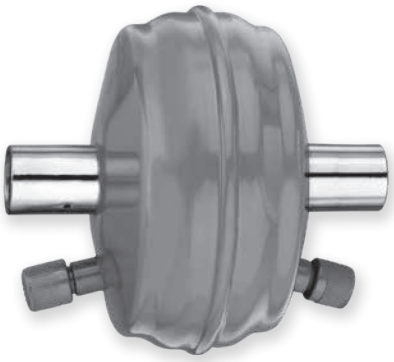




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Accurate at the time of going to print.

Suction Filter Driers C Series
Parker Sporlan Catch-All®



Parker Sporlan Catch-All® compact Suction Line Filter Driers protect the compressor by removing all particles in refrigeration and air-conditioning circuits. Particles can be carbon deposit, metallic shaving, resulting from compressor wear or from piping installation.
Catch-All® Suction Line Filter Driers are suitable for moisture adsorption, retention of acids and to trap sludge and wax by using moulded cores with three components.
The large surface of the filter allows dirt to be trapped without increasing significantly the pressure drop.
Catch-All® Suction Line Filter Driers must be installed between the evaporator and suction accumulator or compressor. **Catch-All® compact Suction Filter Driers** are particularly adapted for reversible systems and can be installed between the 4-way valve and the suction valve of the compressor.
Two Schrader valves allow the pressure drop in the compact filter drier to be checked.

The compactness and efficiency of Parker Catch-All® Suction Filter Driers help to protect systems from the harmful effects of contaminants.

Benefits

Max Working Pressure	45 bar (650 psig)
Temperature Range	-40°C up to +66°C

- **Leak Testing:** **45 bar under water**
- **Catch-All® Paint:** **Winter Gray 10-7069 is a U.L. recognised high gloss epoxy powder coating.**
- **Filtration:** **20 microns**
- **Approvals:** **PED 97/23/EC - article 3.3**

The physical size of the **Catch-All® suction filter drier** range allows the product to be manufactured under the PED category (art.3.3) which does not require "CE" marking.

For all requests, consult your nearest Parker Sporlan Wholesaler or contact us on:
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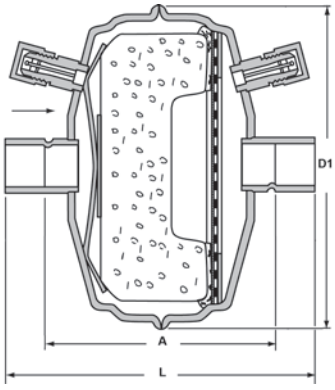
Technical Data

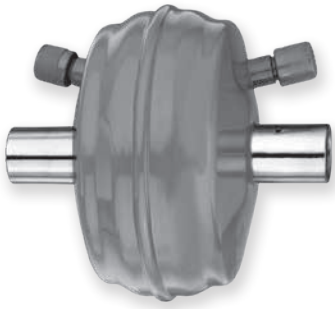
C 140 Series	Drying Capacities (kg of refrigerant) (1)										Acid Capacity (2) (g)
	R134A		R404A		R407C		R410A		R22		
	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C	
C-14 Series	5.4	3.9	5.7	4.7	4.2	1.4	2.1	1.6	4.9	4.0	6.8

(1) Drying capacity is the result of standard tests before and after drying from 1050 ppm to 50 ppm.
(2) Adsorption capacity of acid at 0.05 TAN (Total Acid Number).

Part Number	Part Number	Connection Size ODF	Flow Capacity kW (3)					Dimensions mm			Weight Kg
			R22	R134a	R404A R507	R407C	R410A	L	A	D1	
400806	C-146-S-TT-HH	3/4"	8.9	6.8	7.9	8.8	11.3	122.7	87.6	112.8	0.907
400811	C-147-S-TT-HH	7/8"	9.8	7.5	8.7	9.7	12.5	126.2	88.1	112.8	0.907
400816	C-149-S-TT-HH	1-1/8"	13	9.9	11.6	12.9	16.6	125.2	76.5	112.8	0.907

(3) Suction capacities are published in accordance with ARI 730-2001 standard.
Te = -4.4°C, **Tc** = 32°C, Δp = 0.07 bar.





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For all requests, consult your nearest Parker Sporlan Wholesaler or contact us on:
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Burnout Filters C Series
Parker Sporlan Catch-All®



Parker Sporlan Catch-All® Burnout suction and Liquid Line Filters ensure decontamination, cleaning of circuit polluted by moisture, dirt and acids where wax or sludge can be present.
Catch-All® Burnout Filters have a high capacity for retaining acid, adsorbing moisture and trapping sludge and wax. **Catch-All® Burnout Filters** can be used in both liquid and suction line to improve the efficiency and speed of cleaning processes.
This reduces pressure drop in the suction line and protects the compressor from the risk of overheating. **Catch-All® Burnout Filters** use a special blend of molecular sieve, activated alumina
and activated charcoal in a moulded core in combination with a very efficient filter.
Catch-All® Burnout Filters are for temporary use only.

Catch-All® Burnout Filters help to extend life expectancy after compressor damage and to minimise the cost of operation by saving refrigerant and oil.

Benefits

PS (MWP)	44.8 bar (650 psig)
TS	-40°C up to +66°C

- **Leak Testing: 45 bar under water**
- **WSL Paint: Winter Gray 10-7069 is a U.L recognized high gloss epoxy powder coating.**
- **Filtration: 20 microns**
- **Approvals: PED 97/23/EC - article 3.3**
  UL Listed - File No. SA-1756A & B

The physical size of the **Catch-All® Burn out filters** range allows the product to be manufactured under the PED category (art.3.3) which does not require "CE" marking.

Catch-All C-HH Series Drying and Acid Capacities

C-HH Series	Drying capacities kg of refrigerant (1)										Acid Capacity (2) g
	R134a		R404A		R407C		R410A		R22		
	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C	
C-05 -HH	2.0	1.5	2.2	1.8	1.6	0.5	0.8	0.6	1.9	1.5	2.6
C-08 -HH	3.1	2.3	3.3	2.7	2.4	0.8	1.2	0.9	2.9	2.3	4.0
C-14 -HH	5.4	3.9	5.7	4.7	4.2	1.4	2.1	1.6	4.9	4.0	6.8
C-16 -HH	5.4	3.9	5.7	4.7	4.2	1.4	2.1	1.6	4.9	4.0	6.8
C-30 -HH	10.8	7.8	11.5	9.4	8.3	2.7	4.3	3.2	9.9	8.1	15.7
C-41-HH	14.0	10.1	15.0	12.2	10.9	3.5	5.6	4.2	12.9	10.5	19.4
C-43-HH	16.3	12.4	17.3	15.5	13.2	5.1	7.9	6.5	15.2	12.8	21.3
C-60-HH	10.8	7.8	11.5	9.4	8.3	2.7	4.3	3.2	9.9	8.1	15.7

(1) Drying capacity is the result of standard tests before and after drying from 1050 ppm to 50 ppm.
(2) Adsorption capacity of acid at 0.05 TAN (Total Acid Number).

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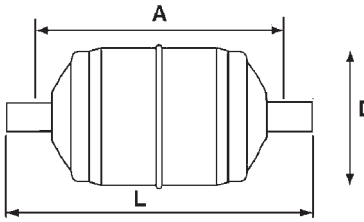
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Burnout Filters Catch-All HH Series

Feature

Part Number	Type	Connections		Liquid Line Cooling Capacity kW (1)					Suction Line Cooling Capacity kW (2)					Dimensions mm			Weight Kg	Quantity Master Box
		SAE	ODF	R134a	R407C	R404A R507	R410A	R22	R134a	R407C	R404A R507	R410A	R22	L	A	D1		
400232	C-052-HH	1/4"	-	6.7	7.4	4.9	7.0	7.4	0.7	1.0	0.8	1.2	1.0	121	-	62	0.3	25
400424	C-082-HH	1/4"	-	6.7	7.4	4.9	7.0	7.4	0.7	1.0	0.8	1.2	1.0	143	-	67	0.6	25
400488	C-083-HH	3/8"	-	14.8	15.8	10.6	15.5	15.8	1.5	2.1	1.8	2.6	2.1	154	-	67	0.6	25
400435	C-083-S-HH	-	3/8"	14.8	15.8	10.6	15.5	15.8	1.5	2.1	1.8	2.6	2.1	133	111	67	0.6	25
400436	C-083-S-T-HH	-	3/8"	14.8	15.8	10.6	15.5	15.8	1.5	2.1	1.8	2.6	2.1	133	111	67	0.6	25
400441	C-084-S-T-HH	-	1/2"	30.9	30.9	22.5	33.1	33.8	1.8	2.5	2.2	2.9	2.5	138	112	67	0.6	25
400806	C-146-S-TT-HH	-	3/4"	53.0	60.8	41.3	60.2	59.4	6.8	8.8	7.9	11.3	8.9	123	87	113	0.9	25
400811	C-147-S-TT-HH	-	7/8"	58.5	67.0	45.5	66.5	65.5	7.5	9.7	8.7	12.5	9.8	126	88	113	0.9	25
400816	C-149-S-TT-HH	-	1-1/8"	77.0	89.0	60.5	88.0	86.0	9.9	12.9	11.6	16.6	13.0	125	77	113	0.9	25
401080	C-163-HH	3/8"	-	14.8	15.8	10.6	15.5	15.8	1.5	2.1	1.8	2.6	2.1	171	-	76	0.8	25
401022	C-163-S-HH	-	3/8"	16.5	18.3	12.0	17.6	18.3	1.8	2.4	2.1	3.0	2.4	149	127	76	0.8	25
401152	C-164-HH	1/2"	-	32.7	35.5	23.9	34.2	35.5	3.4	4.6	4.0	5.8	4.6	176	-	76	0.8	25
401025	C-164-S-HH	-	1/2"	35.5	38.7	25.7	37.6	38.7	3.8	5.0	4.4	6.3	5.0	152	126	76	0.8	25
401026	C-164-S-T-HH	-	1/2"	35.5	38.7	25.7	37.6	38.7	3.8	5.0	4.4	6.3	5.0	152	126	76	0.8	25
401232	C-165-HH	5/8"	-	44.3	48.5	32.4	47.1	48.5	4.7	6.3	5.5	8.0	6.3	184	-	76	0.8	25
401028	C-165-S-HH	-	5/8"	51.0	55.9	37.3	54.5	55.9	5.4	7.2	6.4	9.1	7.2	160	129	76	0.8	25
401029	C-165-S-T-HH	-	5/8"	51.0	55.9	37.3	54.5	55.9	5.4	7.2	6.4	9.1	7.2	160	129	76	0.8	25
401030	C-166-S-T-HH	-	3/4"	50.0	56.0	39.3	56.5	54.0	6.4	8.1	7.5	10.6	8.1	171	139	76	0.8	25
401033	C-167-S-T-HH	-	7/8"	54.0	62.5	41.6	64.0	60.3	6.9	9.1	8.0	12.0	9.1	176	138	76	0.8	25
401336	C-303-HH	3/8"	-	14.8	16.2	10.6	15.5	16.2	1.6	2.1	1.9	2.7	2.1	246	-	76	1.6	8
401310	C-305-S-HH	-	5/8"	54.5	59.4	39.7	57.7	59.4	5.8	7.7	6.8	9.8	7.7	235	203	76	1.6	8
401311	C-305-S-T-HH	-	5/8"	54.5	59.4	39.7	57.7	59.4	5.8	7.7	6.8	9.8	7.7	235	203	76	1.6	8
401314	C-306-S-T-HH	-	3/4"	54.0	61.5	42	63.0	59.3	6.9	8.9	8.0	11.8	8.9	245	213	76	1.6	8
401316	C-307-S-T-HH	-	7/8"	66.0	73.5	49.6	76.0	71.0	8.4	10.7	9.5	14.2	10.7	249	211	76	1.6	8
401318	C-309-S-T-HH	-	1-1/8"	73.0	82.5	54.5	82.5	80.0	9.4	12.0	10.5	15.6	12.0	248	200	76	1.6	8
401612	C-415-S-T-HH	-	5/8"	51.0	55.6	37.3	54.2	55.6	5.4	7.2	6.3	9.1	7.2	237	205	89	2.1	10
401615	C-417-S-HH	-	7/8"	71.4	77.7	52.0	75.6	77.7	7.6	10.1	8.9	12.8	10.1	249	211	89	2.1	10
401617	C-417-S-T-HH	-	7/8"	71.4	77.7	52.0	75.6	77.7	7.6	10.1	8.9	12.8	10.1	249	211	89	2.1	10
401619	C-419-S-T-HH	-	1-1/8"	77.0	67.5	58.5	86.0	84.0	9.9	12.6	11.2	16.2	12.6	248	200	89	2.1	10
401804	C-437-S-T-HH	-	7/8"	100.5	112.0	74.0	113.0	108.0	12.7	16.2	14.0	21.1	16.2	263	225	89	3.6	6
401808	C-439-S-T-HH	-	1-1/8"	125.0	140.0	88.0	142.0	136.0	15.9	20.3	16.8	26.6	20.3	273	225	89	3.6	6
401816	C-4311-S-T-HH	-	1-3/8"	138.0	155.0	96.0	155.0	150.0	17.6	22.5	18.5	29.2	22.5	278	228	121	3.6	6
401824	C-4313-S-T-HH	-	1-5/8"	152.0	170.0	106.0	171.0	163.0	19.4	24.7	20.3	32.2	24.7	278	224	121	3.6	6

(1) Cooling capacity in accordance with ARI 710-86 standard
Te = -15°C, Tc = 30°C, Δp = 0.07 bar (1 psig)
(2) Cooling capacities are published in accordance with ARI 730-2001 standard
Te = –4.4°C, Tc = 32°C, Δp = 0.07 bar (1 psig)





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Burnout Bi-flow Filters HPC-HH Series
Parker Sporlan Catch-All®



Parker Sporlan Catch-All® Burnout Bi-flow Liquid Line Filter Driers ensure cleaning and decontamination of reversible systems such as refrigeration, air-conditioning and heat pumps from acids, wax, sludge, solid particles and moisture.

The design of cores and choice of the chemical components ensure a perfect result with minimal pressure drop.

The damaging effects of compressor burnout in reversible air conditioning and heat pump systems can be avoided by using Burnout HPC Bi-flow Filter Driers.

HPCSG-163-S is a combination of the HPC Bi-flow Burnout Filter and See-All Sight Glass to ensure both function, cleaning and monitoring of the refrigerant and to optimise the decontamination procedure.

Benefits

PS (MWP)	44.8 bar (650 psig)
TS	-40°C up to +66°C

- **Leak Testing:** 45 bar under water
- **HPC paint:** Winter Gray 10-7069 is a U.L recognized high gloss epoxy powder coating.
- **Filtration:** 20 microns
- **Approvals:** PED 97/23/EC - article 3.3
  UL file no. SA- 1756A&B

The physical size of the **Catch-All® HPC Bi-flow Burnout filters** range allows the product to be manufactured under the PED category (art.3.3) which does not require "CE" marking.

HPC-HH Series Drying and Acid Capacities

HPC-HH Series	Drying Capacities kg of refrigerant (1)										Acid Capacity (2) g
	R134a		R404A		R407C		R410A		R22		
	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C	
HPC-16-HH	7.3	6.4	6.5	5.6	5.8	1.9	3.0	2.3	6.9	5.6	5.4
HPC-30-HH	13.6	11.7	12.7	10.8	11.1	3.6	5.7	4.3	13.2	10.8	12.1

(1) Drying capacity is the result of standard tests before and after drying from 1050 ppm to 50 ppm.
(2) Adsorption capacity of acid at 0.05 TAN (Total Acid Number).

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Burnout Bi Flow HPC Filters

Dimensions, Weight and Packaging

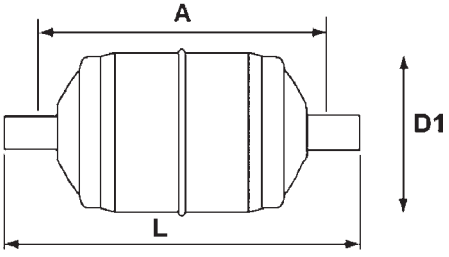
Part Number	Type	Connections Size		Dimensions mm			Weight kg	Quantity Master Box
		SAE	ODF	Overall Length L	Lay in Length A	Shell Diametre D1		
Burnout Series								
404180	HPC-163-HH	3/8"	-	198	-	76	1.0	25
404201	HPC-163-S-HH	-	3/8"	176	154	76	1.0	25
404220	HPC-164-HH	1/2"	-	202	-	76	1.0	25
404241	HPC-164-S-HH	-	1/2"	180	154	76	1.0	25
404260	HPC-165-HH	5/8"	-	210	-	76	1.0	25
404281	HPC-165-S-HH	-	5/8"	187	155	76	1.0	25
401370	HPC-304-S-HH	-	1/2"	259	233	76	1.9	8
401372	HPC-305-S-HH	-	5/8"	265	233	76	1.9	8
401373	HPC-307-S-HH	-	7/8"	280	242	76	1.9	8

Cooling Capacity

Part Number	Type	Liquid Line Cooling Capacity kW (1)					Suction Line Cooling Capacity kW (2)				
		R134a	R407C	R404A R507	R410A	R22	R134a	R407C	R404A R507	R410A	R22
Burnout Series											
404180	HPC-163-HH	16.1	16.1	11.8	17.2	17.6	1.7	2.2	2.0	2.9	2.3
404201	HPC-163-S-HH	17.9	17.9	12.9	19.0	19.3	1.9	2.4	2.2	3.2	2.5
404220	HPC-164-HH	26.7	26.7	19.9	28.4	29.1	2.8	3.7	3.3	4.8	3.8
404241	HPC-164-S-HH	28.8	28.8	20.9	30.5	31.2	3.0	4.0	3.6	5.1	4.0
404260	HPC-165-HH	33.0	33.0	24.2	35.1	35.8	3.5	4.6	4.1	5.9	4.7
404281	HPC-165-S-HH	34.7	34.7	25.5	37.2	37.9	3.7	4.8	4.4	6.3	4.9
401370	HPC-304-S-HH	30.2	30.2	21.9	31.9	32.6	3.2	4.2	3.8	5.4	4.2
401372	HPC-305-S-HH	34.0	34.0	24.9	36.2	36.9	3.6	4.7	4.3	6.1	4.8
401373	HPC-307-S-HH	36.9	36.9	27.1	39.3	40.0	3.9	5.0	4.7	6.7	5.2

(1) Cooling capacity in accordance with ARI 710-86 standard
Te = -15°C, Tc = 30°C, Δp = 0.07 bar (1 psig

(2) Cooling capacities are published in accordance with ARI 730-2001 standard
Te = –4.4°C, Tc = 32°C, Δp = 0.07 bar (1 psig)





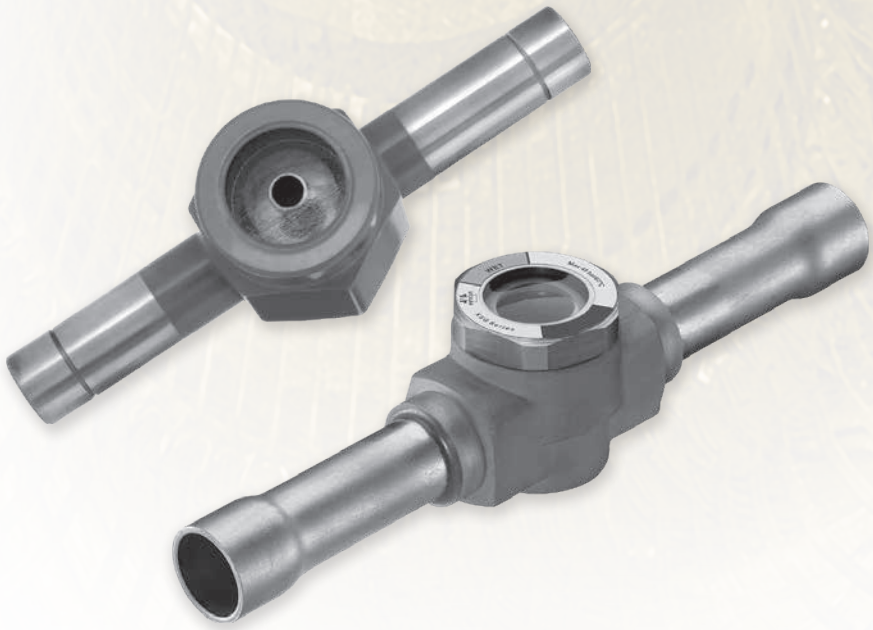
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Sight Glasses

Visual indication of colour, flow and refrigerant quality in a refrigeration or A/C system

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Sight Glasses

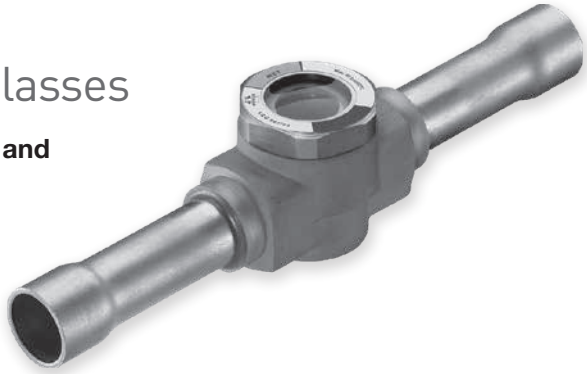
Moisture Liquid Line Sight Glasses KSG / SEE-ALL ..... 11 - 212

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KSG Series Parker Sporlan
Moisture Liquid Line Sight Glasses



Parker Sporlan WorldSeries™ KSG moisture and Liquid Line Sight Glasses allow a visual indication of colour, flow and refrigerant quality in refrigeration or air-conditioning systems.

KSG moisture and Liquid Line Sight Glasses are a combination of brass body and top-mounted large diameter fused bezel containing the moisture indicator. **KSG moisture and Liquid Line Sight Glasses** with solder connections use extended copper connections to facilitate brazing without disassembling the moisture indicator. Nevertheless, it is recommended that the glass be protected using calorie discharger **TB2 Thermal Block™** or to wrap with a damp cloth. The sight glass can be easily removed and replaced if necessary.

The extended copper connections and removable bezel ensure ease of installation, optimal performance and visual confirmation of refrigerant quality

Benefits

PS (MWP)	45 bar (652 psig)
TS	-40°C to 60°C

- **Leak Testing: 100% helium leak tested**
- **Approvals: PED 97/23/EC - article 3.3**

Features

Suitable for all CFC / HCFC / HFC refrigerant and their associated oils.

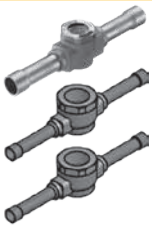
KSG Colour Indication	Moisture Content - ppm									
	R410A		R134a		R404A - R507		R407C		R22	
	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C
Green- Dry	75	135	30	60	40	85	30	70	60	120
Yellow - Wet	150	250	125	200	140	400	115	230	110	220

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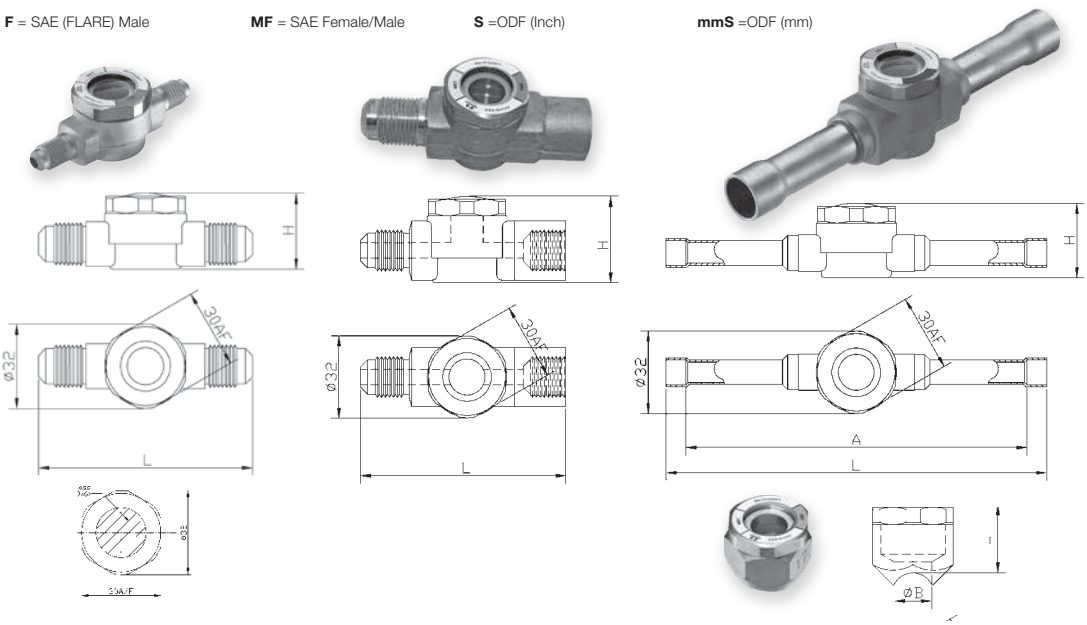
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KSG Sight Glasses

Dimensions, Weight and Packaging

Type	Connections		Dimensions mm			Weight	Quantity Master Box
	SAE	ODF	Overal length L	Lay in length A	Height H	Kg	
KSG 2F	1/4"		81	-	28	0.2	25
KSG 3F	3/8"		81	-	28	0.2	25
KSG 4F	1/2"		83	-	33	0.2	25
KSG 5F	5/8"		93	-	35	0.4	25
KSG 6F	3/4"		97	-	38	0.4	25
KSG 2MF	1/4"		77	-	28	0.3	25
KSG 3MF	3/8"		80	-	33	0.3	25
KSG 4MF	1/2"		87	-	35	0.3	25
KSG 5MF	5/8"		91	-	39	0.4	25
KSG 2S		1/4"	147	133	28	0.1	25
KSG 3S		3/8"	147	129	28	0.1	25
KSG 4S		1/2"	161	141	35	0.2	25
KSG 5S		5/8"	161	136	35	0.2	25
KSG 6S		3/4"	171	143	35	0.3	25
KSG 7S		7/8"	175	141	45	0.4	25
KSG 9S		1" 1/8"	175	135	45	0.4	25
KSG 6mmS		6 mm	147	133	28	0.1	25
KSG 10mmS		10 mm	147	129	28	0.1	25
KSG 12mmS		12 mm	161	141	35	0.2	25
KSG 5S		16 mm	161	136	35	0.2	25
KSGST5		5/8"	5/8"	16	26	0.1	75
KSGST7		3/4"	7/8"	22	26	0.1	75
KSGST9		7/8"	1" 1/8"	28	26	0.1	75
KSGST11		1" 1/8"	1" 3/8"	35	26	0.1	75
KSGST13		1-5/8"	1" 5/8"	42	26	0.1	75
KSGST17		2-1/8"	2" 1/8"	54	26	0.1	75

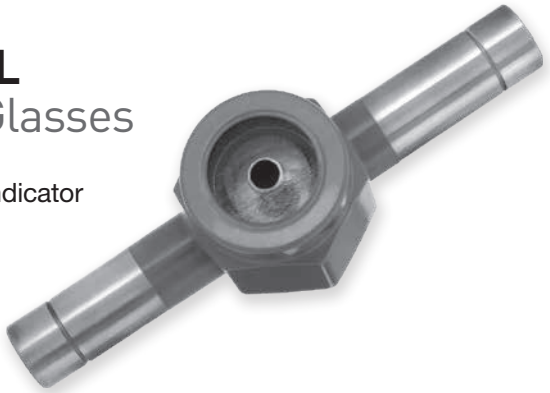
F = SAE (FLARE) Male **MF** = SAE Female/Male **S** =ODF (Inch) **mmS** =ODF (mm)



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SA Parker Sporlan SEE-ALL
Moisture Liquid Line Sight Glasses



Parker Sporlan SEE-ALL moisture and liquid indicator combines two functions of moisture and liquid indicator into a single economical product.

It takes the guess work out of servicing refrigeration and air conditioning equipment.

The indicator is a porous filter paper impregnated with a chemical salt that is sensitive to moisture.

The solid copper fittings are brazed to the plated body.
A glass disc is inserted in the body and heated just to the melting point under carefully controlled conditions.
The indicator paper is inserted from the back and held in place with a slotted cylinder.
See-All Sight Glasses with 1/4" through 1-1/8" ODF Solder connections are constructed with extended fittings made from either heavily copper plated steel or copper.
However it is recommended that the glass be protected by using calorie discharger **TB2 Thermal Block™** or to wrap it with a damp cloth. The indicator can be easily removed and replaced if necessary.

SEE-ALL moisture indicators have a large diameter viewing area and sensitive changepoints which make it easy to ensure that the system is clean and dry and prevent unnecessary compressor failure.

Benefits

PS (MWP)	44.8 bar (650 psig)
TS	-40°C up to 66°C

- **Coating:** **Polyester coating giving protection to 500 hours salt spray**
- **Approvals:** **UL file no. SA 3182**
  PED 97/23/EC - article 3.3

Features

Suitable for all CFC / HCFC / HFC refrigerants and their associated oils.

See-All Colour Indication	Moisture Content - ppm									
	R410A		R134a		R404A - R507		R407C		R22	
	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C	24°C	52°C
Green- Dry	75	135	50	80	15	30	120	240	30	45
Yellow - Wet	150	250	200	225	90	140	280	560	90	130

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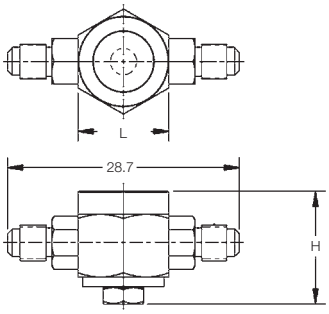
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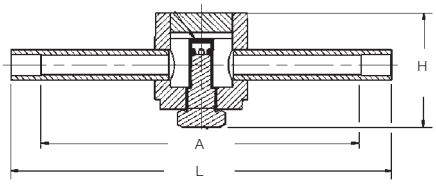
See-All Sight Glasses

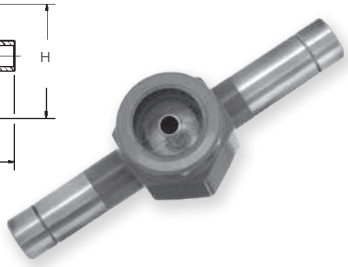
Dimensions, Weight and Packaging

Part Number	Type	Connections SAE	Connections ODF	Dimensions mm Overal length L	Dimensions mm Lay in length A	Dimensions mm Height H	Weight Kg	Quantity Master Box
Connection SAE Male x Male								
700000	SA-12	1/4"		73	-	35	0.2	25
700078	SA-13	3/8"		86	-	35	0.2	25
700247	SA-14	1/2"		97	-	41	0.3	25
700403	SA-15	5/8"		105	-	41	0.3	25
Connection SAE Female x Male								
700026	SA-12FM	1/4"		65	-	35	0.2	25
700091	SA-13FM	3/8"		75	-	35	0.2	25
700260	SA-14FM	1/2"		87	-	41	0.3	25
Connection SAE Female swivel nut x Male								
700195	SA-13U	3/8"		80	-	35	0.2	25
700468	SA-15U	5/8"		99	-	41	0.3	25
Connection SAE Female swivel nut x Female swivel nut								
700481	SA-15UU	5/8"		93	-	41	0.4	25
Connection SAE Female swivel nut x Female								
700117	SA-13FU	3/8"		71	-	35	0.2	25
700273	SA-14FU	1/2"		84	-	41	0.3	25
Connection SAE Female swivel nut x ODF								
700455	SA-15SU	5/8"		109	91	41	0.3	25
Connection ODFx ODF								
700052	SA-12S		1/4"	118	99	35	0.2	25
700130	SA-13S		3/8"	118	95	35	0.2	25
700299	SA-14S		1/2"	124	97	41	0.3	25
700416	SA-15S		5/8"	124	93	41	0.3	25
700507	SA-17S		7/8"	161	125	54	0.4	25
700546	SA-19S		1-1/8"	161	117	54	0.4	25
700585	SA-211		1-3/8"	203	154	68	0.6	12
700598	SA-213		1-5/8"	203	148	77	0.6	12
700611	SA-217		2-1/8"	203	140	90	0.8	12
Connection ODFx ODF (Metric size)								
700150	SA-13S-M10		10	118	95	35	0.2	25
700436-001	SA-15S-M16		16	124	93	41	0.3	25

FM = SAE Female/Male **U** = Male Flare X Swivel Nut **S** = ODF (Inch)







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12

Receivers

Vertical Liquid Receivers

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RT Parker Sporlan
Vertical Liquid Receivers



RT Liquid Receivers allow storage of refrigerant in liquid form for:
- Variable load demand
- Pump down requirement
- Maintenance of equipment without having to recover refrigerant

RT Liquid Receivers are made with steel tubes and end caps and are equipped with ODF or Rotalock connections.

Some models are delivered with a rotalock valve on the outlet connection.
A very large range of models from 0.3 liter to 4.9 liters and all products with a tube diametre 152 mm are equipped with a fusible plug (221°C).

The receiver volume must be at least 25% larger than the total volume of refrigerant in the circuit.

Benefits

PS (MWP)	34.5 bar (500 psig)
TS	-40°C up to +80°C

- **Leak Testing:** **100% bubble leak tested**
- **Paint:** **Powder paint giving protection to 500 hours salt spray**
- **Approvals:** **PED 97/23/EC**
  UL file no. SA- 7946 / SA-5915
  CSA LR41494

Features

Suitable for all CFC / HCFC / HFC refrigerants and their associated oils.

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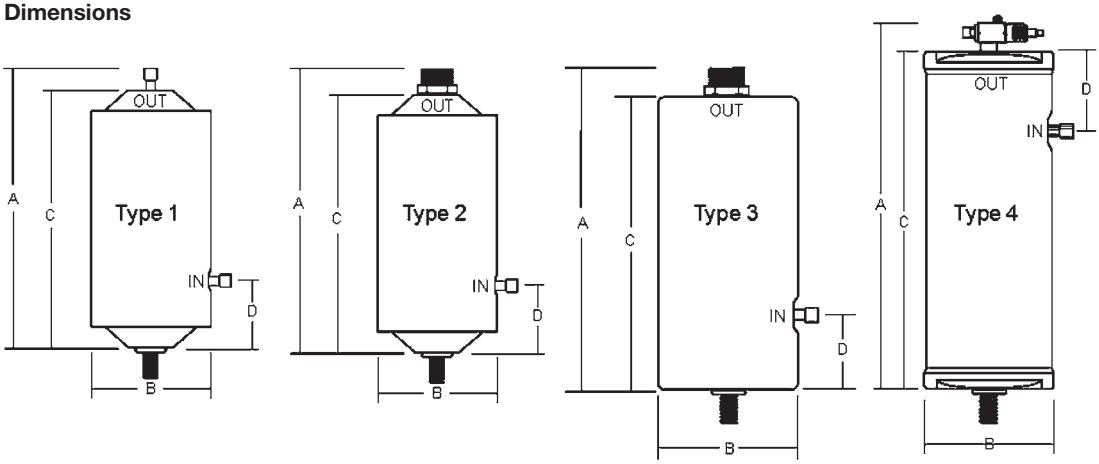
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Catch-All ODF Solder Connections

Feature

Part Number	Connections		Rotalock Valve	Volume Litres	Dimensions mm				PED Category	Weight kg	Type
	Inlet ODF	Outlet			A	B	C	D			
RT-306V-TS	1/4"	1/4 ODF	-	0.53	171	76	148	51	art 3.4	0.8	1
RT-306V-TR	1/4"	3/4-16 UNF	-	0.53	171	76	148	51	art 3.4	0.9	2
RT-308V-TR	1/4"	3/4-16 UNF	-	0.70	212	76	189	51	art 3.4	0.9	2
RT-312V-TS	3/8"	3/8 ODF	-	1.36	356	76	333	51	art 3.4	1.1	1
RT-3510V2S-KS	1/4"	1/4 ODF	√	1.39	283	89	254	51	art 3.4	2.4	4
RT-510V3S-KS	3/8"	3/8 ODF	√	2.92	283	127	254	63	I	3.7	4
RT-512V-TR	3/8"	3/4-16 UNF	-	3.50	327	127	305	63	I	3.6	3

Dimensions



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13

Accumulators

Suction Line Accumulators,
Ensuring Protection of Compressors

ENGINEERING YOUR SUCCESS.

VA, VPA, VCA Series Parker Sporlan
Suction Line Accumulators



Suction Line Accumulators ensure protection of compressors in case of return of liquid refrigerant or lubricant trapped in the system.
Suction Line Accumulators work like a vapour drop separator, which traps liquid refrigerant and oil in the bottom of the vessel. They must be installed between evaporator outlet and compressor inlet.

Vapours are sucked up by the compressors at the top, liquid refrigerant and oil are sucked at the bottom through a calibrated opening.

The selection of **Suction Line Accumulators** needs to take into account the volume of liquid refrigerant and minimum capacity of the system to ensure a perfect oil return, be sure to add a volume of oil equivalent to the volume trapped and loose in the bottom, see next pages "Retention volume".

Benefits

PS (MWP)	20.7 bar (300 psig)
TS	-40°C up to +80°C

- **Leak Testing:** **100% bubble leak tested**
- **Paint:** **Powder paint giving protection to 500 hours salt spray**
- **Approvals:** **PED 97/23/EC**
  UL file no. SA-4835 / SA-5764e
  CSA LR41494

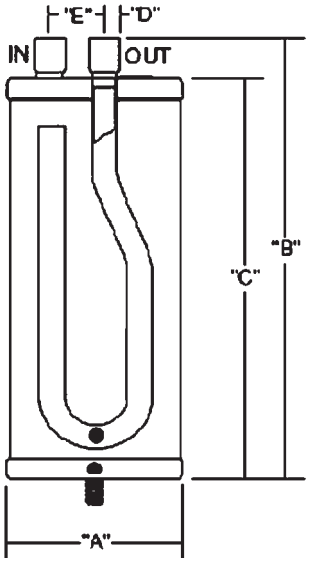
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VPA Series

are suction accumulators with U tube



Part Number	Connections ODF	Internal volume Liters	Retention volume ml	Dimensions mm A	B	C	E	Weight Kg	CE Category
VPA-589-6SRD	3/4"	2.41	166	127	244	211	44	2.3	I
VPA-5812-7SRD	7/8"	3.31	166	127	327	289	44	3.5	I
VPA-5815-7SRD	7/8"	4.05	166	127	391	249	44	3.8	I

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Chemicals, Lubricants, Acid Test Kit & Mastic

Wide range of lubricants, cleaners and acid test kits
REACH compliant

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Maintenance and repair of your installation is a task which requires only the best materials.

This requires a complete range of economical products which provide excellent performance and are easy to use.

Parker Virginia range is:

- Reach compliant
- Environmentally friendly
- Updated regularly to ensure compliance with a changing regulatory framework
- Formulated to meet the requirements of the most challenging applications



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Emkarate RL POE
Lubricants

Emkarate RL refrigeration lubricants are designed to meet the requirements of compressor manufacturers and service engineers.



What's in it for you?

- **Emkarate RL lubricants are approved by most compressor manufacturers.**
- **The product line features more than 30 products offered in varying viscosities between 5 cst to 220 cst and have been developed for use with a wide range of refrigerants.**
- **The Emkarate RL products ensure excellent refrigerant/lubricant solubility, optimum viscosity and lubrication performance across the extreme pressure-temperature ranges encountered in today's compressor systems.**

Available pack sizes:

1*, 5, 20 & 200 liters.

*1L not available in larger grades.

Emkarate compatibility:

All CFC, HCFCs, HFCs, carbon dioxide (R744) and hydrocarbons (e,g R290, R600a) refrigerants.
Specially formulated -HB grades are available for use with CO^2, and the hydro-treated mineral oil RL717 is available for use with NH^3.

Elastomers compatibility:

Generally acceptable: HNBR, NBR (Buna-N), NYLON-6.6, TEFLON
Marginal: EPDM (EPR), NEOPRENE
Generally unacceptable: Butyl rubber, Fluorocarbon Rubber (FPM) (Viton), Natural Rubber (NR)

NBR/HNBR should exceed >36% nitrile content. Elastomeric compounds from different suppliers can yield different results. Individual testing of specific products is highly recommended.

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Emkarate Polyol Ester
Approval List

Equipment Manufacturer	Compressor Type Model	Approved Emkarate RL Grade(s)
BITZER	Reciprocating	RL 32H & RL 68H
	Screw	RL 170H
BLISSFIELD	Reciprocating	RL 68H
BOCK	Reciprocating	RL 22H, 32H, 46H, 68H & 100H
CARRIER	Centrifugal Chillers (17DA & 17EA)	RL 32H
	Externally Geared Centrifugal Chillers (17EX, 17FA & 17MPS)	RL 68H
	Screw	RL 220H
CARRIER CARLYLE	Reciprocating	RL 68H
CARRIER TRANSICOLD	Reciprocating (Marine Containers)	RL 22H
COPELAND	Reciprocating & Scroll	RL 32-3MAF
DALIAN BINGSHAN	Reciprocating	RL 32H
	Screw	RL 170H
DANFOSS COMMERCIAL (MANEUROP)	Scroll (SZ, MFZ & LFZ)	RL 32H
	Reciprocating (LTZ & NTZ)	RL 32H
DORIN	Reciprocating	RL 22H, 32H, 46H & 68H
DUNHAM BUSH	Reciprocating	RL 32H & 68H
	Screw	RL 68H
FRASCOLD	Reciprocating	RL 32H & 68H
	Screw	RL 170H
FRIGOPOL	Reciprocating (60-DLB-13 to 80-DLB-30)	RL 32H
GRASSO (GEA)	Reciprocating	RL 68H & 100H
HARTFORD	Reciprocating	RL 32H & 68H
HANBELL	Screw (RA, RB & V series)	RL 170H & 220H
HISPACOLD	Reciprocating	RL 68H
JIANGSU XUEMEI	Reciprocating	RL 22H & 32H
LOCKHEED MARTIN	Oil can be used to service Lockheed owned compressors	RL 68H
MCQUAY (J & E HALL)	Centrifugal	RL 32H
	Screw	RL 68H, 68HB, 100H & 220H
PRESTCOLD	Reciprocating	RL 32-3MAF
REFCOMP	Reciprocating (SRC-F, SRC-M, SRC-L & SRC-P)	RL 32H & 68H
ROLTEC	Screw	RL 46H & 170H
ROYCE	Reciprocating	RL 32H
SABROE	Reciprocating	RL 32H, 46H & 68H
	Screw	RL 68H, 100H, 170H & 220H
TECUMSEH	Reciprocating	RL 22H
THERMOKING	Reciprocating	RL 32H
TRANE	Screw	RL 68H
	Scroll	RL 32HB
NATO MILITARY NSN	NSN 6850P4314-H	RL 32H
	NSN 9150-99-870-1432	RL 32HB
	NSN 9150-01-443-9390 & NSN 9150-01-443-9396	RL 46H
	NSN 9150-01-435-1899, NSN 9150-01-410-8972 & NSN 9150-01-387-4469	RL 68H
VATANU-COOL	Orbital Vane Rotary (OVR)	RL 220H
YANTAI MOON	Reciprocating	RL 32H

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Parker Virginia Acid Test Kit Range



Parker provides you with a complete range of Oil test kit and retrofit test kit, which is well known for its reliability and accuracy.
This range is designed for detecting the presence and formation of acid in Air Conditioning and Refrigeration Systems.

What's in it for you?

- **Inexpensive and easy to use**
- **Every lubricant testable**
- **Reliable and accurate**

Parker Virginia - ETK Acid Test Kit
To use with POE Oil



ETK Acid Test Kit is a simple and cost effective method of determining whether the acid level is within an acceptable range for POE Lubricants.
ETK Acid Test Kit is adjusted for the higher acid levels of POE lubricants.

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What's in it for you?

- **Inexpensive and easy to use**
- **Reliable and accurate**
- **One shot test, fast result**

Product Name	Part Number	Quantity
ETK	**475360**	12

Uses:
Simply fill the bottle with oil to the indicated level and shake. If test remains purple, the oil is safe: if it turns yellow, acid is too high. The ultra sensitive colour change guarantees an accurate test. Marginal conditions cause partial colour changes. A colour comparison chart is packed in every box.

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Parker Virginia - TKO Acid Test Kit
To use with Mineral and Alkyl Benzene Oil



TKO Acid Test Kit is similar to the ETK test kit, but formulated for Mineral or Alkyl benzene lubricants. TKO is a a test for acid contamination in the crankcase of the compressor which can be indicative of lubricant decomposition.

What's in it for you?

- **Inexpensive and easy to use**
- **Reliable and accurate**
- **One shot test, fast result**

Product Name	Part Number	Quantity
TKO	**475365**	12

Uses:
Simply fill the bottle with oil to the indicated level and shake. If TKO test remains purple, the oil is safe: if it turns yellow, acid is too high. The ultra sensitive colour change guarantees an accurate test. Marginal conditions cause partial colour changes. A colour comparison chart is packed in every box.

Parker Virginia - TA-1 Multi-Lubricant Acid Test Kit
To use with Mineral, Alkyl benzene and POE Oil



TA-1 acid compact test kit offers you a simple way to test different kind of lubricant.
TA-1 uses a simple scientific method capable to precisely measure the amount of acid in a lubricant sample taken from a contaminated system.
The **TA-1** has pre-measured solutions supplied in bottles with screw caps for easy handling.

What's in it for you?

- **Multi lubricant testable, Mineral, Alkyl benzene, POE**
- **Inexpensive and easy to use**
- **Acid content evaluation by range**
- **Reliable and accurate**
- **One shot test, fast result**

Product Name	Part Number	Quantity
TA-1	**780044**	1

Uses: Indication for use on the back of each Test pack.

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Parker Virginia
Foam Insulation Tape

Applying insulation tape to the correct thickness will prevent pipe sweating.

Foam Insulation Tape can also be used to reduce heat loss on hot pipes below 71°C. The tape easily cuts into pieces and moulds around fittings and valves, eliminating the costs of specially cast forms.
Foam Insulation Tape adheres to clean metal and to itself.

Virginia Cork Insulation Tape is similar to the Presstite brand and is a lower cost alternative to the premium brand.



What's in it for you?

- **Prevents condensation drip from forming on pipes and tubing**
- **Easy to cut in piece for molding around hard to wrap fitting**

Product Name	Part Number	Quantity	Size - Type
K502	**475290**	12	(0.3 cm x 7.5 cm x 9 m) Polyethylene

Uses:
Foam insulation tape is to be used where pipes or tubing need to be insulated to prevent heat transfer or condensate drip.

Applications Methods:
• Adhering surfaces should be clean and dry • Wrap the tape in a spiral around the tubing, butting the edges together so that no tubing is showing through. **Note:** Do not stretch. To cover valves and fittings, cut the tape into smaller pieces and apply. • Subsequent wrappings can be made as required. Reverse the direction of wrap with each subsequent wrapping.

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Presstite & Virginia
Cork Insulation Tape



Presstite is the premium product of its type. It may be used for either hot or cold temperature applications within its continuous duty service temperature range of -29°C to 93°C.

Presstite is designed to be use on pipes or tubes, in commercial or residential buildings, A/C units, refrigerated units and other similar types of applications.

Presstite will stop dripping caused by pipe condensation, will adhere to metal and will not crack or dry out.

Presstite is a self-adhesive tape.

What's in it for you?

- **High quality formulation to better stick to pipes and fitting**
- **Prevents condensation drip from forming on pipes and tubing**
- **Easy to cut in piece for molding around hard to wrap fitting**

Product Name	Part Number	Quantity	Size - Type
PT1	**475291**	1	(0.3 cm x 7.5cm x 9m)
VCT2	**475294**	12	Bulk (0.3 cm x 7.5cm x 9m)

Uses:
To use with any application in which piping or tubing need to be insulated to prevent heat transfer or condensate formation and drip.

Applications Methods:
• Adhering surfaces should be clean and dry • Wrap the tape in a spiral around the tubing, butting the edges together with your fingers as you go. **Note:** Do not stretch. Do not overlap edges. • Subsequent wrappings can be made as required. Reverse the direction of wrap with each subsequent wrapping.

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Parker Virginia-Presstite Permagum
Sealing Gum



These sealing gums are a non-hardening, water-resistant, formulated from the highest quality materials.

They are non-staining, non-bleeding, and have excellent adhesion, they are supplied in ready-to-use extruded beads or bulk slugs.

Parker Virginia-Presstite Permagum is specifically designed to exclude dirt, dust and moisture from joints.

Constant exposure to extreme conditions (like those encountered by trailers) is one of the most difficult industrial sealing problems that can be solved with these sealing gums.

Also excellent for use in sealing around window units and refrigerated cases.

What's in it for you?

- **Seals out moisture, dust and dirt.**
- **Resistant to water, water vapour, temperature, alcohol, and mild acids or caustics.**
- **Service temperature range from -34°C to70°C.**
- **Excellent adhesion to wood, metal, plastics, glass, as well as many other surfaces.**
- **On-staining, non-drying**

Product Name	Part Number	Quantity	Size - Type - Weight
PP33	**475298**	1	Cords (0.4 cm x 30 m)
PP22	**475296**	24	Slugs 1 kg

Applications Methods:
• Adhering surfaces should be clean and dry • Place Permagum over opening to be sealed and gently press into place with thumbs.

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Parker Virginia
Insulation Mastic



Parker Virginia Insulation Mastic is asphalt emulsion containing a highly efficient cellular material for reducing heat transfer and conductivity. It is designed specifically for coating large area surfaces to prevent moisture condensation and dripping.

Once dry, insulation mastic is waterproof and will form a coating that is resistant to strong acids and alkaline.

Parker Virginia Insulation Mastic is an excellent weather proofer. It is non-poisonous, non-corrosive and odourless.

Parker Virginia Insulation Mastic has a temperature range -29°C to 93°C, and will not flow below 121°C.

What's in it for you?

- **Reduces heat transfer and conductivity.**
- **Forms a coating that is resistant to strong acids and alkalines.**
- **Dries non-toxic, non-poisonous, odourless and waterproof.**

Product name	Part Number	Volume (Litre)	Quantity
PM11	**475311**	3.8	1

Applications Methods:
• Can be brushed on using a stiff bristle brush (such as a whiskbroom). • Can be trowelled on in the same manner as wall plaster.

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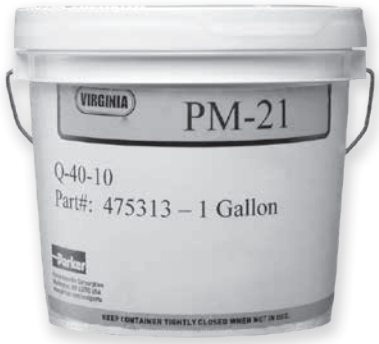
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Parker Virginia-Thermal Mastic
Heat Conductor

Parker Virginia-Thermal Mastic is heat conducting compound that increases heat transfer four times the amount of mechanical mounting alone.

The result is a faster response times for expansion valves and controls when connecting the sensor bulb to the suction line, better heat transmission between coils and liners.

Parker Virginia-Thermal Mastic has a working temperature range from -76°C to 100°C.



What's in it for you?

- **Stable between -76°C to 100°C.**
- **Increases heat transfer between surfaces 4 times over mechanical mounting alone.**
- **Replaces solder for heat transmission.**

Product Name	Part Number	Volume (Litre)	Quantity
PM21	**475313**	3.8	4
PM25	**475315**	19	1
PM50	**475319**	190	1

Applications Methods:
• Can be applied by squeezing tube or by trowelling in bulk quantities. Protective gloves should be worn.

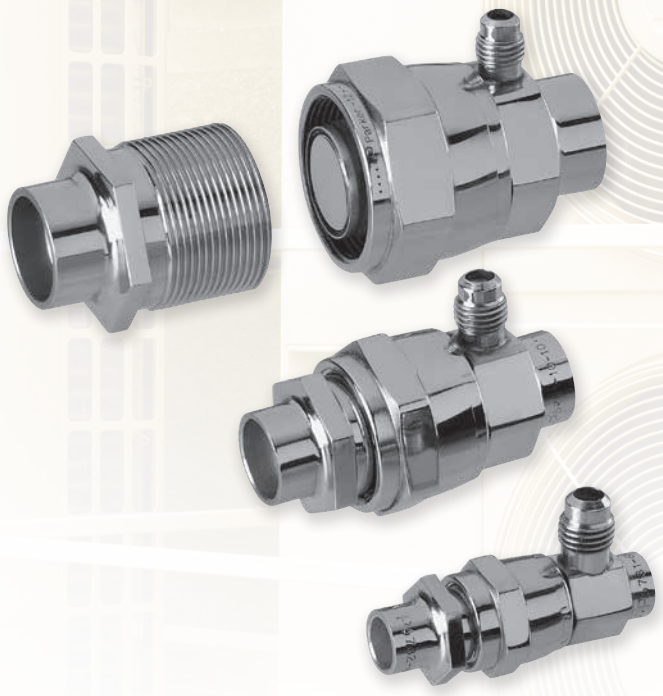
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Couplings

Self Sealing Couplings Zinc Plated Steel Body

15

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5400 Series Self-Sealing Steel Couplings

Features & Nomenclature

Parker's 5400 self-sealing steel couplings are used in fluid-transfer applications for easy maintenance on refrigeration and air conditioning systems. The couplings also allow for pre-charging of units for easy installation. Applications can include data centre cooling and battery cooling thermal management systems, along with cryogenic units



Features & Benefits

- **Self-sealing upon disconnection maintains minimum air inclusion and fluid loss**
- **Field repairable allowing an internal valve to be replaced, if needed.**
- **Steel coupling provides durability.**
- **A variety of mechanical end connections available, along with sweat connections, to provide options for installation.**
- **Multiple sizes available, along with bulkhead mounting options, to match a coupling to a unique application.**
- **RoHS Compliant**
- **U.L. Listed**

Valve Nomenclature/Ordering Instructions

Coupling nomenclature

Coupling Series	-	Half	-	Body Size
5400		S2 = Male S5 = Female		4 = 1/4" 8 = 1/2" 12 = 3/4" 16 = 1"

Adapter nomenclature

Adapter Type	-	Connection Size	-	Coupling Size
202208 = Brass Braze 202220 = Steel SAE 37° (JIC)		4 = 1/4" 6 = 3/8" 8 = 1/2" 10 = 5/8" 12 = 3/4" 14 = 7/8" 16 = 1" 18 = 1-1/8" 22 = 1-3/8"		4 = 1/4" 8 = 1/2" 12 = 3/4" 16 = 1"

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5400 Series Self-Sealing Steel Couplings

Technical Specifications

Technical Specifications

Standard Materials	**Final Seal**	Neoprene ™*
	Seal	Neoprene ™*
	Body	Zinc-plated steel
	Adapter	Zinc-plated steel or brass
Temperature Rating		-40°F to +121°C
Standards		U.L. Listed; File No: SA7511
Refrigerants		Most HCFC, HFC & HFO Refrigerants
Lubricants		POE, PVE, AB & MO Lubricants

*Contact Parker for alternative elastomer sealing options

Part	Operating Pressure bar	Minimum Burst Pressure bar	Air Inclusion Connect cm^3	Maximum Fluid Loss cm^3	Coupled g./year	Uncoupled without Cap/Plug g./year	Uncoupled with Cap/Plug g./year	Vacuum mm Hg	Rated Flow A.C. bar
5400-S2-4 Male Half	179,5	517,00	0,1	0,05	-	14,2	7,1	-	-
5400-S5-4 Female Half	34,5	103,40	0,1	0,05	-	14,2	7,1	-	-
Coupled Complete -4 Set	206,9	620,70	0,1	0,05	7,1	-	-	711	52,9
5400-S2-8 Male Half	120,7	358,60	0,1	0,1	-	14,2	7,1	-	-
5400-S5-8 Female Half	51,7	155,00	0,1	0,1	-	14,2	7,1	-	-
Coupled Complete -8 Set	120,7	358,60	0,1	0,1	7,1	-	-	711	52,9
5400-S2-12 Male Half	55	144,80	0,2	0,1	-	14,2	7,1	-	-
5400-S5-12 Female Half	51,7	155,00	0,2	0,1	-	14,2	7,1	-	-
Coupled Complete -12 Set	48	144,80	0,2	0,1	7,1	-	-	711	132,4
5400-S2-16 Male Half	48	144,80	0,5	0,2	-	14,2	7,1	-	-
5400-S5-16 Female Half	20,7	62,00	0,5	0,2	-	14,2	7,1	-	-
Coupled Complete -16 Set	48	144,80	0,5	0,2	7,1	-	-	711	283,8

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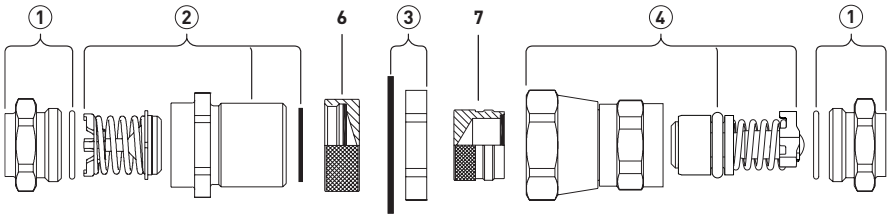
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5400 Series Self-Sealing Steel Couplings

Components & Dimensions

Components



Typical Male Coupling Half (S2)

Typical Female Coupling Half (S5)

Item ID	Description	Coupling Size			
		-4	-8	-12	-16
		Tube O.D. Size – Inches			
		1/4" - 3/8"	1/4" - 5/8"	5/8" - 7/8"	7/8" - 1-3/8"
1	Braze Adapter and O-Ring Kit	KIT-202208-*-4B	KIT-202208-*-8B	KIT-202208-*-12B	KIT-202208-*-16B
2	Male Coupling Half	5400-S2-4	5400-S2-8	5400-S2-12	5400-S2-16
3	Lock Washer and Jam Nut Kit	KIT-5400-4	KIT-5400-8	KIT-5400-12	KIT-5400-16
4	Female Coupling Half	5400-S5-4	5400-S5-8	5400-S5-12	5400-S5-16
6	Optional Steel Dust Cap (S2 MALE HALF ONLY)	5400-S6-4	5400-S6-8	5400-S6-12	5400-S6-16
7	Optional Steel Dust Plug (S5 FEMALE HALF ONLY)	5400-S8-4	5400-S8-8	5400-S8-12	5400-S8-16

*Specify O.D. Tubing size of adapter required in 16th of an inch. Example: -4 coupling with 3/8" O.D. tubing = 6/16 or -6.
Part number would then be KIT-202208-6-4B (540018).

Dimensions - Coupling, No Adapter

5400-S2 Male Coupling Half — No Adapter

Item Number	Description	Coupling Size	T1 Thread	A		H1 Hex		T2 Thread
				In.	mm	in.	mm	
540000	5400-S2-4 Male	-4	5/8-18 UNF	1,08	27,4	0,75	19,0	1/2-20 UNF
540001	5400-S2-8 Male	-8	1-20 UNEF	1,37	34,8	1,13	28,7	7/8-20 UNEF
540002	5400-S2-12 Male	-12	1-7/16-16 UN	1,74	44,2	1,63	41,4	1-1/4-18 UNEF
540003	5400-S2-16 Male	-16	1-3/4-16 UN	1,83	46,4	1,88	4,7	1-19/32-20 UNS

5400-S5 Female Coupling Half — No Adapter

Item Number	Description	Coupling Size	T1 Thread	A		H1 Hex		H2 Hex		T2 Thread
				In.	mm	in.	mm	in.	mm	
540004	5400-S5-4 Female	-4	5/8-18 UNF	1,16	29,5	0,63	16	0,75	19	1/2-20 UNF
540005	5400-S5-8 Female	-8	1-20 UNEF	1,63	41,4	1	25,4	1,19	30,2	7/8-20 UNEF
540006	5400-S5-12 Female	-12	1-7/16-16 UN	2,13	54,1	1,38	35	1,63	41,4	1-1/4-18 UNEF
540007	5400-S5-16 Female	-16	1-3/4-16 UN	2,37	60,2	1,75	44,4	2	50,8	1-19/32-20 UNS

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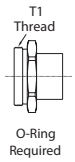
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5400 Series Self-Sealing Steel Couplings

Dimensions & Accessories

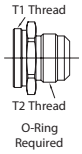
Adapter - Braze

Item Number	Tube O.D. Size Inches	Coupling Size	Braze Adapter and O-Ring Kit Description	Kit includes O-Rings	Kit includes Brass Adapter	Thread size T1
540016	1/4	-4	KIT-202208-4-4B Braze Adapter	22546-12	202208-4-4B	1/2-20 UNF
540017	5/16	-4	KIT-202208-5-4B Braze Adapter	22546-12	202208-5-4B	1/2-20 UNF
540018	3/8	-4	KIT-202208-6-4B Braze Adapter	22546-12	202208-6-4B	1/2-20 UNF
540019	3/8	-8	KIT-202208-6-8B Braze Adapter	RA0486-17	202208-6-8B	7/8-20 UNEF
540020	1/2	-8	KIT-202208-8-8B Braze Adapter	RA0486-17	202208-8-8B	7/8-20 UNEF
540021	5/8	-8	KIT-202208-10-8B Braze Adapter	RA0486-17	202208-10-8B	7/8-20 UNEF
540022	5/8	-12	KIT-202208-10-12B Braze Adapter	22546-23	202208-10-12B	1-1/4-18 UNEF
540024	3/4	-12	KIT-202208-12-12B Braze Adapter	22546-23	202208-12-12B	1-1/4-18 UNEF
540026	7/8	-12	KIT-202208-14-12B Braze Adapter	22546-23	202208-14-12B	1-1/4-18 UNEF
540028	7/8	-16	KIT-202208-14-16B Braze Adapter	22546-28	202208-14-16B	1-19/32-20 UNS
540029	1	-16	KIT-202208-16-16B Braze Adapter	22546-28	202208-16-16B	1-19/32-20 UNS
540030	1-3/8	-16	KIT-202208-18-16B Braze Adapter	22546-28	202208-18-16B	1-19/32-20 UNS
540031	1-3/8	-16	KIT-202208-22-16B Braze Adapter	22546-28	202208-22-16B	1-19/32-20 UNS



Adapter — SAE 37° (JIC)

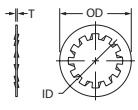
Item Number	Tube O.D. Size Inches	Coupling Size	Braze Adapter and O-Ring Kit Description	Kit includes O-Rings	Kit includes Brass Adapter	Thread Size T1	Thread Size T1
540032	3/8	-4	KIT-202220-6-4S SAE Adapter	22546-12	202220-6-4S	1/2-20 UNF	9/16-18 UNF
540033	3/8	-8	KIT-202220-6-8S SAE Adapter	RA0486-17	202220-6-8S	7/8-20 UNEF	9/16-18 UNF
540034	1/2	-8	KIT-202220-8-8S SAE Adapter	RA0486-17	202220-8-8S	7/8-20 UNEF	3/4-16 UNF
540035	5/8	-12	KIT-202220-10-12S SAE Adapter	22546-23	202220-10-12S	1-1/4-18 UNEF	7/8-14 UNF
540036	3/4	-12	KIT-202220-12-12S SAE Adapter	22546-23	202220-12-12S	1-1/4-18 UNEF	1-1/16-12 UN
540037	1	-16	KIT-202220-16-16S SAE Adapter	22546-28	202220-16-16S	1-19/32-20 UNS	1-5/16-12 UN



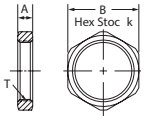
Lock Washer and Jam Nut

Item Number	Coupling Size	Description	Lock Washer and Jam Nut Kit includes — Lock Washer Part Number	T	ID	OD	Jam Nut Part Number	A	B	T Thread
540038	-4	KIT-5400-4S Jam Nut & Lock Washer	5400-54-4S	0.045	0.645	1052	5400-53-4S	0.25	3/4	5/8-18 UNF-2B
540039	-8	KIT-5400-8S Jam Nut & Lock Washer	5400-54-8S	0.063	1020	1625	5400-53-8S	0.25	1-3/16	1-20 UNEF-2B
540040	-12	KIT-5400-12S Jam Nut & Lock Washer	5400-54-12S	0.055	1520	2500	5400-53-12S	0.31	1-9/16	1-7/16-16 UN-2B
540041	-16	KIT-5400-16S Jam Nut & Lock Washer	5400-54-16S	0.055	1770	2625	5400-53-16S	0.31	2	1-3/4-16 UN-2B

Lock Washer



Jam Nut



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Brass Steel Body 5500 Series



Parker's 5500 self-sealing brass couplings allow for pre-charging of AC and heat pump systems.

The couplings provide for easy maintenance and installation on refrigeration and air conditioning systems.

Applications can also include marine refrigeration and air conditioning systems, split refrigeration, and portable cooling solutions.

Benefits

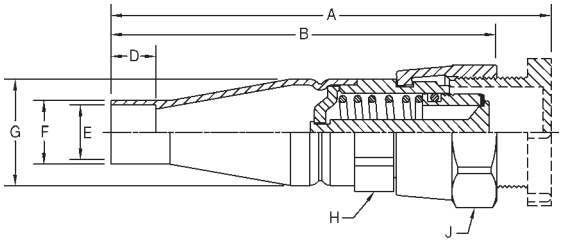
- **Standard Material:**
  Final seal and seal ⇒ Neoprene™
  Body ⇒ Brass Bar per ASTM-B16, Alloy C3600
  Connections ⇒ Refrigeration Grade Copper, per ASTM-B75, Alloy C12200
- **Temperature Rating: -40°C to 121°C (-40°F to +250°F)**
- **Approvals: U.L. listed; File No: SA7511**
  RoHS Compliant

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Copper Connection Inch	mm	Coupling Body Inch	mm	Part Number Less Plug	With Plug**	Dimensions - Inches mm Coupling Length With Plug A	B	Connection Depth D	I.D. E	O.D. F	Coupling Body O.D. G	Hex + H	Retaining Nut Hex + J	Weight Ounces g
Dash Size*		Dash Size*												
1/4 ODS	6.4 ODS	3/8	9.5	N/A	5505-04B-06	3.1	2.7	0.3	0.3	0.3	0.7	0.8	0.9	2.5
(-04)		*(-06)*				*79.8*	*69.1*	*8.1*	*6.4*	*8.6*	*18.0*	*19.1*	*23.9*	*71.7*
3/8 ODS	9.5 ODS	3/8	9.5	N/A	5505-06B-06	3.1	2.7	0.3	0.4	0.5	0.7	0.8	0.9	2.5
(-06)		*(-06)*				*79.8*	*69.1*	*8.1*	*9.7*	*11.7*	*18.0*	*19.1*	*23.9*	*71.7*
1/4 ODS	6.4 ODS	1/2	12.7	N/A	5505-04B-08	3.9	3.7	0.3	0.3	0.4	0.9	1.0	1.2	4.9
(-04)		*(-08)*				*98.6*	*93.7*	*7.9*	*6.4*	*9.7*	*23.4*	*25.4*	*30.2*	*137.5*
3/8 ODS	9.5 ODS	1/2	12.7	N/A	5505-06B-08	3.9	3.7	0.3	0.4	0.5	0.9	1.0	1.2	4.9
(-06)		*(-08)*				*97.8*	*93.0*	*7.9*	*9.7*	*12.0*	*23.4*	*25.4*	*30.2*	*137.5*
12 ODS	12.7 ODS	1/2	12.7	N/A	5505-08B-08	3.9	3.7	0.4	0.5	0.6	0.9	1.0	1.2	4.9
(-08)		*(-08)*				*97.8*	*93.0*	*9.7*	*12.7*	*14.9*	*23.4*	*25.4*	*30.2*	*137.5*
5/8 ODS	15.9 ODS	1/2	12.7	N/A	5505-10B-08	3.8	3.6	0.5	0.6	0.7	0.9	1.0	1.2	4.9
(-10)		*(-08)*				*96.3*	*91.4*	*12.7*	*16.0*	*17.9*	*23.4*	*25.4*	*30.2*	*137.5*
5/8 ODS	15.9 ODS	3/4	19.1	5505-10-12	5505-10S-12	4.6	4.1	0.5	0.6	0.8	1.3	1.4	1.6	10.6
(-10)		*(-12)*				*117.9*	*103.9*	*12.7*	*16.0*	*19.1*	*33.5*	*35.1*	*30.2*	*300.0*
3/4 ODS	19.1 ODS	3/4	19.1	5505-12-12	5505-12S-12	4.8	4.2	0.6	0.8	0.9	1.3	1.4	1.6	10.6
(-12)		*(-12)*				*121.2*	*106.4*	*15.7*	*19.1*	*21.7*	*33.5*	*35.1*	*41.4*	*300.0*
1-1/8 ODS	28.6 ODS	1	25.4	5505-18-16	5505-18S-16	5.5	5.0	0.9	1.1	1.2	1.7	1.7	2.0	18.3
(-18)		*(-16)*				*140.2*	*127.0*	*22.4*	*28.7*	*31.4*	*42.7*	*42.9*	*50.8*	*519.9*

* Dash Size = Copper connection size x 16
** **"B"** in the part number denotes a plastic plug. **"S"** in the part number denotes a steel plug.





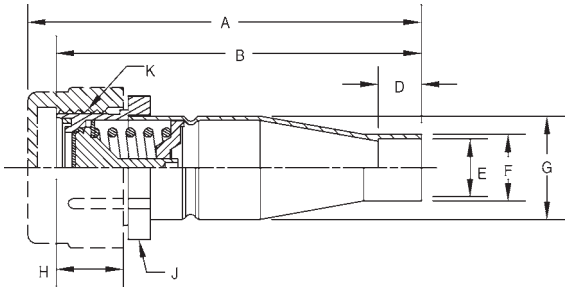
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Copper Connection		Coupling Body		Part Number		Dimensions - Inches mm								Thread Size	Weight
Inch	mm	Inch	mm	With Cap**	With Plug**	Coupling Length		Connection			Coupling Body				
						with Cap		Depth	I.D.	O.D.	O.D.	Thread Length	Hex Diametre +		Ounces
Dash Size*		Dash Size*				A	B	D	E	F	G	H	J	K	g
1/4 ODS	6.4 ODS	3/8	9.5	N/A	5502-04B-06	2.6	2.4	0.3	0.3	0.3	0.7	0.5	0.8	M20-1.5	1.7
(-04)		*(-06)*				*65.5*	*61.0*	*8.1*	*6.4*	*8.6*	*18.0*	*12.4*	*21.1*		*6.7*
3/8 ODS	9.5 ODS	3/8	9.5	N/A	5502-06B-06	2.6	2.4	0.3	0.4	0.5	0.7	0.5	0.8	M20-1.5	1.7
(-06)		*(-06)*				*65.5*	*61.0*	*8.1*	*9.7*	*11.7*	*18.0*	*12.4*	*21.1*		*6.7*
1/4 ODS	6.4 ODS	1/2	12.7	N/A	5502-04B-08	3.3	3.3	0.3	0.3	0.4	0.9	0.6	1.1	1"-20	3.1
(-04)		*(-08)*				*84.1*	*82.8*	*7.9*	*6.4*	*9.7*	*23.4*	*15.7*	*28.7*		*88.1*
3/8 ODS	9.5 ODS	1/2	12.7	N/A	5502-06B-08	3.3	3.2	0.3	0.4	0.5	0.9	0.6	1.1	1"-20	3.1
(-06)		*(-08)*				*83.6*	*82.3*	*7.9*	*9.7*	*12.0*	*23.4*	*15.7*	*28.7*		*88.1*
1/2 ODS	12.7 ODS	1/2	12.7	N/A	5502-08B-08	3.3	3.2	0.4	0.5	0.6	0.9	0.6	1.1	1"-20	3.1
(-08)		*(-08)*				*82.6*	*81.3*	*9.7*	*12.7*	*14.9*	*23.4*	*15.7*	*28.7*		*88.1*
1/2 ODS	12.7 ODS	1/2	12.7	N/A	5502-08S-08	3.4	3.2	0.4	0.5	0.6	0.9	0.6	1.1	1"-20	3.1
(-08)		*(-08)*				*86.6*	*81.3*	*9.7*	*12.7*	*14.9*	*23.4*	*15.7*	*28.7*		*88.1*
5/8 ODS	15.9 ODS	1/2	12.7	N/A	5502-10B-08	3.2	3.2	0.5	0.6	0.7	0.9	0.6	1.1	1"-20	3.1
(-10)		*(-08)*				*82.0*	*80.8*	*12.7*	*16.0*	*17.9*	*23.4*	*15.7*	*28.7*		*88.1*
5/8 ODS	15.9 ODS	3/4	19.1	5502-10-12	5502-10S-12	3.9	3.7	0.5	0.6	0.8	1.3	1.0	1.6	1-7/16"-16	7.3
(-10)		*(-12)*				*117.9*	*103.9*	*12.7*	*16.0*	*19.1*	*33.5*	*25.1*	*41.4*		*207.4*
3/4 ODS	19.1 ODS	3/4	19.1	5502-12-12	5502-12S-12	4.0	3.8	0.6	0.8	0.9	1.3	1.0	1.6	1-7/16"-16	7.3
(-12)		*(-12)*				*100.6*	*95.3*	*15.7*	*19.1*	*21.7*	*33.5*	*25.1*	*41.4*		*207.4*
7/8 ODS	22.2 ODS	3/4	19.1	5502-14-12	-	4.0	3.8	0.8	0.9	1.0	1.3	1.0	1.6	1-7/16"-16	7.3
(-14)		*(-12)*				*100.6*	*95.3*	*19.1*	*22.4*	*24.6*	*33.5*	*25.1*	*41.4*		*207.4*
1-1/8 ODS	28.6 ODS	1	25.4	5502-18-16	5502-18S-16	4.8	4.5	0.9	1.1	1.2	1.7	1.0	1.9	1-3/4"-16	10.8
(-18)		*(-16)*				*120.9*	*113.0*	*22.4*	*28.7*	*31.4*	*42.7*	*26.2*	*47.8*		*306.4*

* Dash Size = Copper connection size x 16
** **"B"** in the part number denotes a plastic cap. **"S"** in the part number denotes a steel cap.
\+ Dimension is aacross hex flats
Yellow = British Units - White = Metric Units

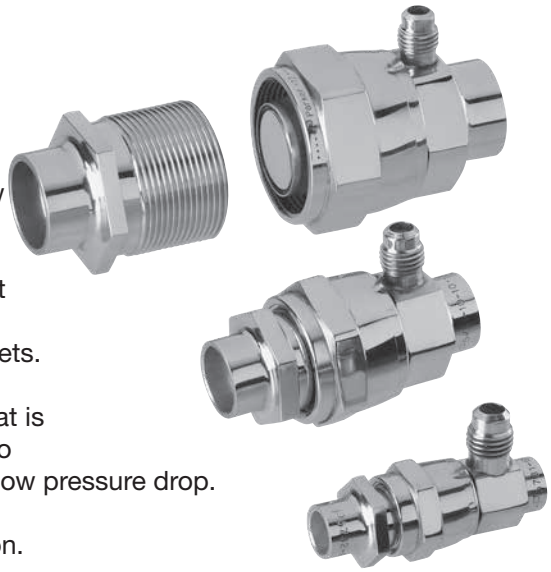




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5700 Series One-Shot TM



Parker's 5700 one-shot brass couplings allow for easy installation of pre-charged systems and provide nearly full flow when completely connected. Applications typically include split air conditioning systems, split heat pumps, manufactured homes, and pre-charged line sets.

Single-use coupling contains a diaphragm that is pierced upon connection and folded back into the coupling to provide a high flow path and low pressure drop.

Final metal-to-metal seal prevents air inclusion.

Benefits

- **Standard Material:**
  Body ⇒ Brass
  Connections ⇒ Brass coupling
- **Temperature Rating: -40°C to 121°C (-40°F to +250°F)**
- **Approvals: U.L. listed; File No: SA7511**
  RoHS Compliant

Basic Coupling Size	O.D. Tube Size Inches	Female Coupling Half without Charging Port (Includes Plug)	Female Coupling Half with Charging Valve Port less Cap and Core (Includes Plug)	Male Coupling Half with Protector Cap less Mounting Flange	Male Coupling Half with Charging Valve Port less Cap and Core (Includes Plug)	Mounting Flanges for 5782 Couplings Only		Charging Port Cap
						Bolt Hole Dia. 0.15 (#10 Screw)	Bolt Hole Port (#14 Screw)	
-6	1/4	5780-4-6	5781-4-6	5782-4-6	-	-	-	221014-4B
-6	5/16	5780-5-6	5781-5-6	5782-5-6	-	-	-	221014-4B
-6	3/8	5780-6-6	5781-6-6	5782-6-6	-	-	-	221014-4B
-10	1/2	5780-8-10	5781-8-10	5782-8-10	-	FD67-1008-12	-	221014-4B
-10	5/8	5780-10-10	5781-10-10	5782-10-10	-	FD67-1008-12	-	221014-4B
-10	3/4	5780-12-10	-	5782-12-10	-	FD67-1008-12	-	221014-4B
-11	1/2	-	5781-8-11	-	-	-	150-22-8	221014-4B
-11	5/8	5780-10-11	5781-10-11	5782-10-11	-	-	150-22-8	221014-4B
-11	3/4	5780-12-11	5781-12-11	5782-12-11	-	-	150-22-8	221014-4B
-11	7/8	5780-14-11	5781-14-11	5782-14-11	-	-	150-22-8	221014-4B
-12	3/4	-	-	-	-	FD57-1111-12	-	221014-4B
-12	7/8	5780-14-12	5781-14-12	5782-14-12	-	FD57-1111-12	-	221014-4B
-12	1-1/8	5780-18-12	5781-18-12	5782-18-12	-	FD57-1111-12	-	221014-4B

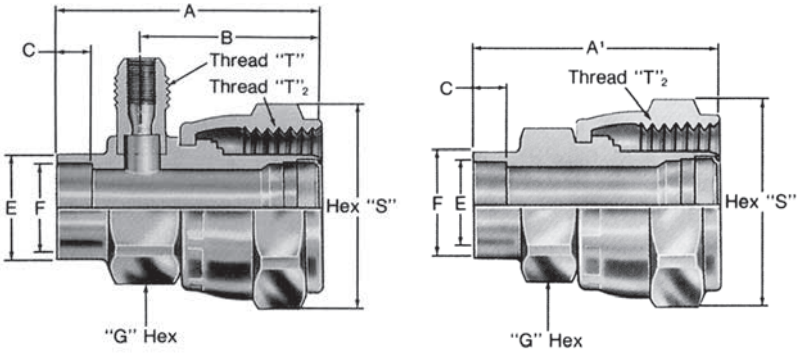
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5700 Series One-Shot TM Female part

Basic Coupling Size	O.D. Tubing Size Inches	Coupling Dash Size	Thread "T"	Thread "T2"	Dimensions - Inches (mm)							
					A	A1	B	C	E	F	G	S
-6	1/4	-4-6	7/16"-20	5/8"-18	1.55	1.30	1.06	0.19	0.25	0.38	0.62	0.81
					39.37	*33.02*	*26.92*	*4.83*	*6.35*	*9.65*	*15.75*	*20.57*
-6	5/16	-5-6	7/16"-20	5/8"-18	1.55	1.30	1.06	0.19	0.32	0.44	0.62	0.81
					39.37	*33.02*	*26.92*	*4.83*	*8.13*	*11.18*	*15.75*	*20.57*
-6	3/8	-6-6	7/16"-20	5/8"-18	1.55	1.30	1.06	0.19	0.38	0.50	0.62	0.81
					39.37	*33.02*	*26.92*	*4.83*	*9.65*	*12.70*	*15.75*	*20.57*
-10	1/2	-8-10	7/16"-20	1-1/16"-12	1.81	1.56	1.24	0.25	0.50	0.62	1.00	1.31
					45.97	*39.62*	*31.50*	*6.35*	*12.70*	*15.75*	*25.40*	*33.27*
-10	5/8	-10-10	7/16"-20	1-1/16"-12	1.86	1.61	1.24	0.25	0.62	0.75	1.00	1.31
					47.24	*40.89*	*31.50*	*6.35*	*15.75*	*19.05*	*25.40*	*33.27*
-10	3/4	-12-10	7/16"-20	1-1/16"-12	1.92	1.67	1.24	0.25	0.75	0.91	1.00	1.31
					48.77	*42.42*	*31.50*	*6.35*	*19.05*	*23.11*	*25.40*	*33.27*
-11	1/2	-8-11	7/16"-20	1-1/8"-12	1.85	1.60	1.28	0.25	0.50	0.62	1.00	1.31
					46.99	*40.64*	*32.51*	*6.35*	*12.70*	*15.75*	*25.40*	*33.27*
-11	5/8	-10-11	7/16"-20	1-1/8"-12	1.90	1.65	1.28	0.25	0.62	0.75	1.00	1.31
					48.26	*41.91*	*32.51*	*6.35*	*15.75*	*19.05*	*25.40*	*33.27*
-11	3/4	-12-11	7/16"-20	1-1/8"-12	1.96	1.71	1.28	0.25	0.75	0.91	1.00	1.31
					49.78	*43.43*	*32.51*	*6.35*	*19.05*	*23.11*	*25.40*	*33.27*
-11	7/8	-14-11	7/16"-20	1-1/8"-12	2.06	1.81	1.28	0.31	0.88	0.98	1.00	1.31
					52.32	*45.97*	*32.51*	*7.87*	*22.35*	*24.89*	*25.40*	*33.27*
-12	3/4	-12-12	7/16"-20	1-7/16"-16	2.26	2.01	1.60	0.25	0.75	0.91	1.38	1.69
					57.40	*51.05*	*40.64*	*6.35*	*19.05*	*23.11*	*35.05*	*42.93*
-12	7/8	-14-12	7/16"-20	1-7/16"-16	2.36	2.11	1.60	0.31	0.88	1.03	1.38	1.69
					59.94	*53.59*	*40.64*	*7.87*	*22.35*	*26.16*	*35.05*	*42.93*
-12	1-1/8	-18-12	7/16"-20	1-7/16"-16	2.43	2.18	1.60	0.31	1.12	1.28	1.38	1.69
					61.72	*55.37*	*40.64*	*7.87*	*28.45*	*32.51*	*35.05*	*42.93*

Yellow = British Units - White = Metric Units



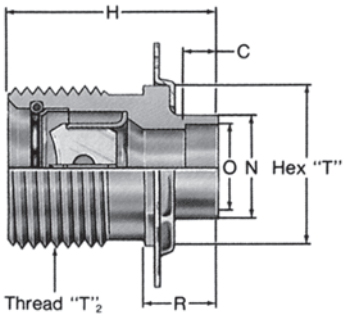
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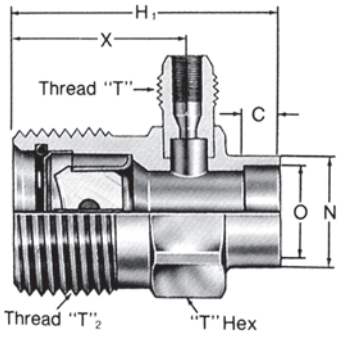
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5700 Series One-Shot TM Male part

Basic Coupling Size	O.D. Tubing Size Inches	Coupling Dash Size	Thread "T"	Thread "T2"	Dimensions - Inches mm							
					C	H	H1	N	O	R	T	X
-6	1/4	-4-6	7/16"-20	5/8"-18	0.19	1.21	1.46	0.38	0.25	0.5	0.75	0.98
					4.83	*30.73*	*37.08*	*9.65*	*6.35*	*12.7*	*19.05*	*24.89*
-6	5/16	-5-6	7/16"-20	5/8"-18	0.19	1.21	1.46	0.44	.32	0.5	0.75	0.98
					4.83	*30.73*	*37.08*	*11.2*	*8.128*	*12.7*	*19.05*	*24.89*
-6	3/8	-6-6	7/16"-20	5/8"-18	0.19	1.21	1.51	0.5	0.38	0.5	0.75	0.98
					4.83	*30.73*	*38.35*	*12.7*	*9.652*	*12.7*	*19.05*	*24.89*
-10	1/2	-8-10	7/16"-20	1-1/16"-12	0.25	1.37	1.66	0.62	0.5	0.52	1.06	1.1
					6.35	*34.8*	*42.16*	*15.7*	*12.7*	*13.21*	*26.92*	*27.94*
-10	5/8	-10-10	7/16"-20	1-1/16"-12	0.25	1.43	-	0.75	0.62	0.56	1.06	-
					6.35	*36.32*	-	*19.1*	*15.75*	*14.22*	*26.92*	-
-10	3/4	-12-10	7/16"-20	1-1/16"-12	0.25	1.52	1.66	0.91	0.75	0.65	1.06	1.1
					6.35	*38.61*	*42.16*	*23.1*	*19.05*	*16.51*	*26.92*	*27.94*
-11	1/2	-8-11	7/16"-20	1-1/8"-12	0.25	1.48	1.78	.62	0.5	0.5	1.12	1.21
					6.35	*37.59*	*45.21*	*15.7*	*12.7*	*12.7*	*28.45*	*30.73*
-11	5/8	-10-11	7/16"-20	1-1/8"-12	0.25	1.54	1.84	0.75	0.62	0.56	1.12	1.22
					6.35	*39.12*	*46.74*	*19.1*	*15.75*	*14.22*	*28.45*	*30.99*
-11	3/4	-12-11	7/16"-20	1-1/8"-12	0.25	1.63	1.84	0.91	0.75	0.65	1.12	1.22
					6.35	*41.4*	*46.74*	*23.1*	*19.05*	*16.51*	*28.45*	*30.99*
-11	7/8	-14-11	7/16"-20	1-1/8"-12	0.31	1.7	1.92	1.03	0.88	0.72	1.12	1.22
					7.87	*43.18*	*48.77*	*26.2*	*22.35*	*18.29*	*28.45*	*30.99*
-12	3/4	-12-12	7/16"-20	1-7/16"-16	0.25	1.78	-	0.91	0.75	0.63	1.44	-
					6.35	*45.21*	-	*23.1*	*19.05*	*16*	*36.58*	-
-12	7/8	-14-12	7/16"-20	1-7/16"-16	0.31	1.87	-	1.03	0.88	0.72	1.44	-
					7.87	*47.5*	-	*26.2*	*22.35*	*18.29*	*36.58*	-
-12	1-1/8	-18-12	7/16"-20	1-7/16"-16	0.31	1.98	-	1.28	1.12	0.84	1.44	-
					7.87	*50.29*	-	*32.5*	*28.45*	*21.34*	*36.58*	-

Yellow = British Units - White = Metric Units





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RC01C Series Automotive



Parker's RC01C automotive service coupling provides easy evacuating and charging of HFC-134a mobile air conditioning systems.

Application:
Evacuating and charging of HFC-134a automotive air conditioning systems.

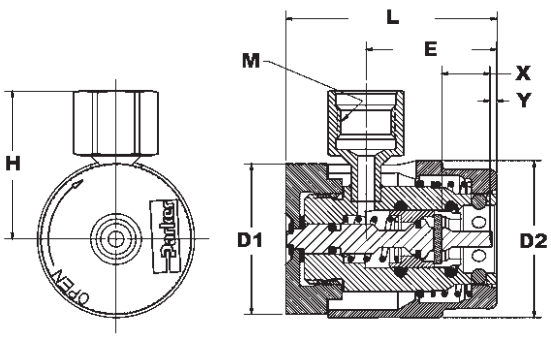
RC01YF Series are suitable for **R1234YF**

Benefits

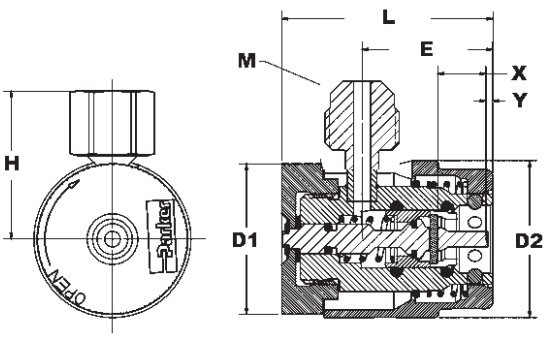
- **Standard Material:**
  Red anodised knob on the high side and blue anodised knob on the low side, along with distinct sizes, assist in preventing cross-contamination between sections of the system.
  Brass coupling, with or without plating, provides corrosion resistance.
- **Temperature Rating: -40°C to 121°C (-40°F to +250°F)**
- **Approvals: U.L. listed; File No: SA7511 (US Patent No:RE34.781)**

Part Number	Drawing	System Side	Finish	D1	D2	L	E	H	M	X
RC01C-002	1	Low Side	Plated	31.8	33.3	44.2	27.5	31.2	M14x1.5	8.3
RC01YF-012	1	Low Side	Brass	31.8	33.1	44.5	27.6	31.2	M12x1.5	10.2
RC01C-003	1	High Side	Plated	31.8	33.3	43.2	36.5	31.2	M14x1.5	8.3
RC01YF-013	1	High Side	Brass	31.7	33.1	48.5	31.9	31.2	M12x1.5	10.5
RC01C-021	1	Low Side	Brass	31.8	33.3	44.2	27.5	31.2	M14x1.5	8.3
RC01C-022	1	High Side	Brass	31.8	33.3	43.2	26.5	31.2	M14x1.5	8.3
RC01C-006	2	Low Side	Plated	31.8	33.3	44.2	27.5	32.1	5/8-18 UNF-2A	8.3
RC01C-007	2	High Side	Plated	31.8	33.1	43.2	26.5	32.1	5/8-18 UNF-2A	8.3
RC01C-011	2	Low Side	Plated	31.8	33.3	44.2	27.5	29.4	7/16-20 UNF-2A	8.3
RC01C-012	2	High Side	Plated	31.8	33.3	43.2	26.5	29.4	7/16-20 UNF-2A	8.3

Drawing 1
Service Coupling Assembly



Drawing 2
Service Coupling Assembly



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Miscellaneous

Heat Exchangers
Vibration Absorbers
Capillary Couplers

ENGINEERING YOUR SUCCESS.

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Heat Exchangers
For increased Performance and System Protection

Suction Line Heat Exchangers
improve refrigeration system performance and are proven refrigeration system components for increased efficiency.

Heat exchanger reduces the risk of having oil foam in the crankcase of the compressor by partwise evapouration of the little droplets in the suction gas flow before they enter the compressor.

Suction Line Heat Exchangers are recommended for all refrigeration systems ranging from 0.373 to 112 kW.



Benefits

- **Improved Heat Transfer**
- **Internal Wave Design controls pressure drop and gas velocity for quiet operation**
- **Rigid Design for Reliability - Less susceptible to fatigue and premature failure**
- **High-temperature brass brazing throughout**
- **Leak tested for trouble free operation**
- **Available in all-copper or steel construction**
- **Improves expansion valve operation**

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Copper Heat Exchangers

Model No.	Nominal Capacity kW	Suction Line ID Inches	Liquid Line ID Inches	Length cm	Design pressure bar	Shipping Weight kg
HX1/2	0.37	1/2	1/4	29.21	34.48	0.45
HX3/4	0.56	5/8	3/8	29.85	34.48	0.45
HX1	0.75	5/8	3/8	34.93	48.28	0.9
HX1.1/2	1.12	7/8	3/8	36.83	48.28	0.9
HX2	1.50	1-1/8	3/8	38.10	27.59	1.35
HX3	2.24	1-1/8	1/2	38.10	48.28	1.35
HX5	3.73	1-3/8	5/8	36.20	27.59	1.8
HX7.1/2	5.60	1-5/8	5/8	43.18	27.59	1.8
HX10	7.46	2-1/8	7/8	45.72	27.59	3.15
HX15	11.19	2-1/8	7/8	63.50	27.59	4.5
HX20	14.92	2-1/8	1-1/8	68.58	27.59	4.95

Steel Heat Exchangers

Model No.	Nominal Capacity kW	Suction Line ID Inches	Liquid Line ID Inches	Length cm	Design pressure bar	Shipping Weight kg
HX25	18.65	2-5/8	1-1/8	73.34	31.03	7.65
HX30	22.38	2-5/8	1-3/8	73.34	31.03	7.65
HX35	26.11	2-5/8	1-3/8	73.34	31.03	7.65
HX40	29.84	3-1/8	1-3/8	73.34	31.03	9
HX50	37.30	3-1/8	1-5/8	73.34	31.03	9
HX60	44.76	4-1/8	1-5/8	75.88	31.03	14.4
HX75	55.95	4-1/8	2-1/8	75.88	31.03	14.4
HX100	74.60	5-1/8	2-1/8	78.42	24.83	19.35
HX125	93.25	5-1/8	2-1/8	78.42	24.83	19.35
HX150	111.9	6-1/8	2-5/8	78.42	24.83	22.95

Compatibility:

- Suitable for use with all refrigerants,
- Materials are also suitable for use with CO_2.

Certification:

- PED 97/23/EC Annex I
- All models are U.L. Listed, File SA 5925

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VABD Vibration Absorber

For the reduction of vibration transmitted within the suction and discharge lines

The Parker Virginia VABD Series of Vibration Absorbers, are an update of the previous VABE design. The VABD is purposefully built to minimise the transmission of vibrations that can occur in both the discharge and suction lines of refrigeration and air conditioning systems.

The prolonged transmission of movement throughout the suction and discharge lines can lead to system leaks, and increased fatigue, this can be costly and present a danger to the system, the VABD Series ensure the minimisation of these risks.



Benefits

- **Stainless steel hose and braid on all sizes**
- **Available in a wide range of inches (1/4 inch - 4 1/8 inch) and metric (6 mm - 108 mm) fittings**
- **Solid copper connectors**
- **Leak free operation beyond the pressure limits of conventional bronze types**
- **UL listed (SA13233)**
- **CE-C-0509-04-28**
- **Working temperature range: -40°C to +120°C**
- **Suitable for use with all refrigerants**
- **Materials are also suitable for use with CO_2.**

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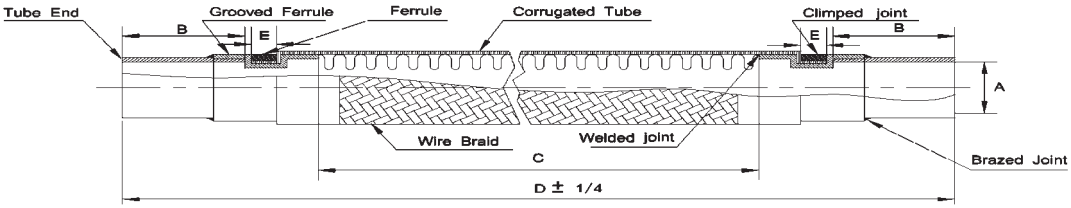
Materials

Corrugated Tube	Wire Braid	Grooved Ferrule	Ferrule	Tube End
Type 304	Type 304	Type 304	Type 304	Copper

Dimensions & Maximum Working Pressures

Model No.	Actual OD of Copper tubing (inch)	Dimension mm A (I.D)	B (±3)	C (±3)	D (±6)	E (±1.5)	Max Working Pressure bar	Burst Pressure bar
VABD02SS	1/4"	6.7	17	133	202	10	44.81	224.07
VABD03SS	3/8"	9.6	18	141	215	10	44.81	224.07
VABD04SS	1/2"	12.8	18	151	225	10	44.81	224.07
VABD05SS	5/8"	16.2	20	169	247	10	44.81	224.07
VABD06SS	3/4"	19.2	23	180	266	11	44.81	224.07
VABD07SS	7/8"	22.5	25	211	301	11	44.81	224.07
VABD09SS	1-1/8"	28.8	32	223	329	12	41.35	206.75
VABD11SS	1-3/8"	35.3	35	274	392	14	37.9	189.52
VABD13SS	1-5/8"	41.7	40	295	425	16	35.14	175.74
VABD17SS	2-1/8"	54.5	50	370	520	16	27.56	137.84
VABD21SS	2-5/8"	67.0	60	434	613	19	24.12	120.61
VABD25SS	3-1/8"	79.6	70	481	680	19	22.05	110.27

Model No.	Actual OD of Copper tubing mm	Dimension mm A (I.D)	B (±3)	C (±3)	D (±6)	E (±1.5)	Max Working Pressure bar	Burst Pressure bar
VABD15MMSS	16	16.2	20	169	247	1	44.81	224.07
VABD18MMSS	18	18.3	23	180	266	11	44.81	224.07
VABD22MMSS	22	22.5	25	211	301	11	44.81	224.07
VABD28MMSS	28	28.3	32	223	329	12	41.35	206.75
VABD42MMSS	42	42.5	40	295	425	16	35.14	175.74
VABD64MMSS	64	64.5	60	434	613	19	24.12	120.61
VABD76MMSS	76	76.5	70	481	680	19	22.05	110.27



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Copper Kap Kits

Copper Kap Kits are complete product assembly with filter drier, Flare 1/4" inlet connection and capillary tube.

Copper Kap kits can be delivered with or without accumulator.

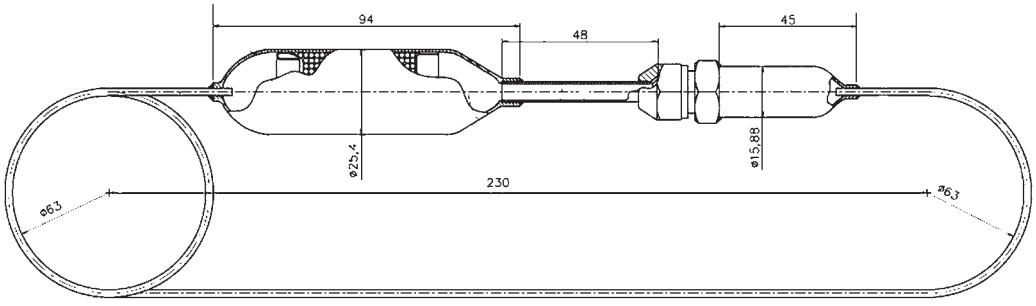
Technical Data

Part Number	Description	Molecular Sieve Weight (g)	Connection (Inch)				Capilary Tube Length	Packaging
			Inlet		Outlet			
			OD	ID	OD	ID		
AEXKK2H25VUK	XH9	15	6.35	4.9	2.45	2.45	3048	50
KK1H25	AEXKK1H25 XH9	15	1/4 SAE		2.1	0.91	1981	15
KK1L25	AEXKK1L25 XH9	15	1/4 SAE		2.06	0.79	1981	15
KK2H25	AEXKK2H25 XH9	15	1/4 SAE		2.4	1.24	3048	15
KK2L25	AEXKK2L25 XH9	15	1/4 SAE		2.36	1.06	3048	15

VUK

Without accumulator

Part Number	Description	Maximum Capacity kW			Max. Drying Capacity (Kg Ref.)
		R134a	R404A / R507	R22	
AEXKK2H25VUK	XH9	0.8	0.54	0.8	1.95
KK1H25	AEXKK1H25 XH9	0.12	0.08	0.1	1.95
KK1L25	AEXKK1L25 XH9	0.08	0.05	0.05	1.95
KK2H25	AEXKK2H25 XH9	0.23	0.15	0.22	1.95
KK2L25	AEXKK2L25 XH9	0.17	0.11	0.16	1.95



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Capillary Couplers

Capillary couplers allow connection
of control equipments like pressure switch,
pressure gauge etc.

Connections are 1/4" SAE (FLARE) with hexagonal
brass nut, available with or without depressors valves.

Models are available with depressor valves
in one connection.
Capillary couplers are suitable for the connection of pressure
gauge in discharge line and reduce pressure pulsation
for increasing the stability of the needle.

Technical Data

Part Number	Capillary Tube Diametre mm OD	Capillary Tube Diametre mm ID	Capillary Tube Length mm	Connection Inlet Flare (SAE)	Connection Outlet Flare (SAE)	Option
PCP0010	2.9	1.63	1000	1/4"	1/4"	-
PCP1000SV	2.9	1.63	1000	1/4"	1/4"	Depressor valve
PCP1500SV	2.9	1.63	1500	1/4"	1/4"	Depressor valve
PCP500SV	2.9	1.63	2000	1/4"	1/4"	Depressor valve

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Notes

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OFFER OF SALE

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