

SPORLAN - THERMOSTATIC EXPANSION VALVES

- **Selective Thermostat Charges** — Designed to provide optimum performance for all applications — air conditioning and heat pump, medium and low temperature refrigeration.
- **Thermostatic Element Design** — Long lasting and field proven stainless steel diaphragm and welded element construction.
- **Diaphragm Design** — Large flat diaphragm permits precise valve control.
- **Replaceable Thermostatic Elements** — Field replaceable elements on all standard valves.
- **Balanced Port Design** — Provides perfect pin and port alignment, and prevents changes in pressure drop across the valve from influencing Valve operation. Provides excellent control on applications with widely varying operating conditions.
- **Pin Carrier Design (Conventional Valves)** — Provides precise pin and port alignment, and tighter seating.
- **Accessible Internal Parts** — Durable, leak proof body joint construction allows the valve to be disassembled, and the internal parts cleaned and inspected.
- **Materials of Construction** — Pin and port material offer maximum protection against corrosion and erosion.
- **Silver Soldered Connections** — For leak proof, high strength connection-to-body joints.
- **Adjustable Superheat Design** — All standard valves are externally adjustable.

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.

CONVENTIONAL VALVES:

S	V		E	-	8	-	GA	5/8" ODF Solder	X	7/8" ODF Solder	X	1/4" ODF Solder	X	5'
Body Type: FB,F, EF,G, EG, RI,RC, S, EBS*, O*, V**, W**	Sporlan Code - REFRIGERANT - Element Label Color Code		E" specifies external equalizer. Omission of letter "E" indicates valve with internal equalizer. e.g. EGV-1-C				Thermostatic Charge	Inlet Connection Size and Style		Outlet Connection Size and Style		External Equalizer Connection Size and Style		Capillary Tubing Length (Inches or Feet)
	F - R-12 Yellow E - R-13 - Blue V - R-22 -Green G - R-23 - Blue M - R124 - Blue J- R134a -Blue X - R-401A Pink L - R-402ASand S- R-404A Orange Z = R-410A Rose	V - R-407A – Green N - R-407 Lt. Brown S - R-408A -Purple F - R-409A -Yellow R - R-502 - Purple W - R-503 - Blue P - R-507 - Teal W - R-508B - Blue A - R-717 – White												

BALANCE PORTED VALVES:

EBF	V	E	AA		-	C	3/8" Extended ODF Solder	X	1/2" Extended ODF Solder	X	1/4" Extended ODF Solder	X	30"
			Port Size	Nominal Capacity in Tons									
Body Type: BF,SB F, EBF	22 (V) 407C (N) 407A (V)	"E" specifies external equalizer. Omission of letter "E" indicates valve with internal equalizer.	AAA	1/8 thru 1/3	Thermostatic Charge		Inlet Connection Size and Style		Outlet Connection Size and Style		External Equalizer Connection Size and Style		Capillary Tubing Length (Inches)
			AA	1/2 thru 2/3									
			A	3/4 thru 1-1/2									
			B	1-3/4 thru 3									
			C	1/4 thru 5-1/2									
	134a (J) 12 (F) 401A (X) 409A (F)		AAA	1/8 thru 1/5									
			AA	1/4 thru 1/3									
			A	1/2 thru 1									
			B	1/4 thru 1-3/4									
			C	2 thru 3									
	404A (S) 502 (R) 408A (S)		AAA	1/8 thru 1/5									
			AA	1/4 thru 1/3									
			A	1/2 thru 1									
			B	1-1/4 thru 2									
			C	2-1/4 thru 3									
	507 (P) 402A (L)		AAA	1/8 thru 1/5									
			AA	1/4 thru 1/3									
			A	1/2 thru 1									
			B	1-1/4 thru 2									
			C	2-1/4 thru 3									

*EBS and O valves are balance ported valves, but follow conventional valve nomenclature.

**V and W valves have dual port semi-balance design.

SPORLAN - THERMOSTATIC EXPANSION VALVES RECOMMENDED THERMOSTATIC CHARGES

APPLICATION	REFRIGERANT										ACTUAL THERMOSTATIC CHARGES
	12 409A	22 407A	134a	401A	402A	404A 408A	40 7C	502	507	717	
AIR CONDITIONING	FCP60	—	JCP60	XCP60	—	—	—	—	—	—	FCP60
	—	VCP 100	—	—	—	—	NCP 100	—	—	—	VCP100
	—	VGA	—	—	—	—	—	—	—	—	VGA
	—	—	—	—	—	SCP115	—	RCP115	—	—	SCP115
COMMERCIAL REFRIGERATION 0°F TO -40°F	FC	—	JC	XC	—	—	—	—	—	—	FC
	—	VC	—	—	—	—	NC	—	—	—	VC
	—	—	—	—	—	SC	—	RC	—	—	SC
	—	—	—	—	LC	—	—	—	PC	—	PC
LOW TEMPERATURE REFRIGERATION 0°F TO -40°F	—	—	—	—	—	—	—	—	—	AC,AL	AC,AL
	FZ	—	—	—	—	—	—	—	—	—	FZ
	FZP	—	—	—	—	—	—	—	—	—	FZP
	—	VZ	—	—	—	—	—	—	—	—	VZ
	—	VZP40	—	—	—	—	—	—	—	—	VZP40
	—	—	—	—	LZ	SZ	—	RZ	PZ	—	SZ
	—	—	—	—	LZP	SZP	—	RZP	PZP	—	SZP
EXTREME LOW TEMP. REFRIGERATION - 40°F TO -100°F	—	VX	—	—	—	—	—	—	—	—	AZ,AL
	—	—	—	—	LX	SX	—	RX	PX	—	SX




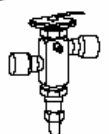

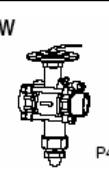
• APPLICATION FACTORS

1. The type ZP charges have essentially the same characteristics as the Type Z charge with one exception: they produce a pressure limit Maximum Operating Pressure (MOP). ZP charges are not intended as replacements for Z charges. Each should be selected for its own unique purpose.
2. All A/C and Heat pump charges are intended for use with externally equalized valves.
3. Type L liquid charges are also available for most commonly used refrigerants in most element sizes.
4. If in doubt as to which charge to use, contact Sporlan Valve Company, Washington, Missouri with complete system data.
5. The type X charges are not to be used with "EBS" and "O" valves.

• IMPORTANT NOTES

- A. R-134a A/C and commercial refrigeration applications are using R-12 or R409A or R-401A valves.
- B. R-404A commercial refrigeration applications are using R-502 or R-408A valves.
- C. R-404A and R-507 low temperature refrigeration applications are using R-502 or R-402A or R-408A valves.

SPORLAN - THERMOSTATIC EXPANSION VALVES QUICK REFERENCE GUIDE — AIR CONDITIONING VALVES

VALVE TYPE	NOMINAL CAPACITY RANGE (Tons)			CONNECTION TYPES	VALVE DESCRIPTION AND APPLICATION
	R-22	R-134a	R-404A & R-507		
 RC P4521	2 thru 6	—	—	ODF Solder	Compact and adjustable thermostatic expansion valve with an internal check valve to allow reverse flow on heat pump applications. Valve also can be used for refrigerant 410A applications.(2 Ton through 6 Ton) RC valve replaces RI valve.
 S P4170	2 thru 10	2 thru 6	2 thru 7	ODF Solder	Brass bar body, externally adjustable valve. Inlet has a permanent 12 mesh strainer. General purpose valve for air conditioning and refrigeration applications.
 EBS P4171	8 & 11	5 & 7	6 & 7-1/2	Extended ODF Solder	Same physical size as the Type S valve except it features extended ODF connections and a balanced port construction.
 O P4172	15 thru 70	9 thru 40	9 thru 45	ODF Solder	Brass bar body, externally adjustable valve. Inlet has a permanent 12 mesh strainer. General purpose valve for air conditioning and refrigeration applications.
 V P4174	52 thru 10	35 thru 55	38 thru 70	ODF Solder or FPT Flange	Cast bronze body, externally adjustable valve with flange connections. Inlet has a 12 mesh strainer. This valve type features a dual port semi-balanced design. This valve type provides valve capacities greater than the Type M, and is suitable for air conditioning and refrigeration applications. Flanges for the Type V are interchangeable with the Type M.
 W P4175	135 & 180	80 & 110	—	ODF Solder Flange	Cast bronze body, externally adjustable valve with flange connections. Inlet has a 12 mesh strainer. This valve type features a dual port semi-balanced design and it is primarily for large capacity chillers. This valve type provides the largest valve capacities available for flange connection TEVs.

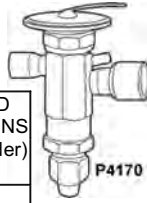
* R-22 M Valves with GA & CP 100 Thermostatic chargers are also available.

SPORLAN - THERMOSTATIC EXPANSION VALVES

Type-S

ELEMENT SIZE No. 83, Knife Edge Joint.
Standard Tubing Length - 5 Feet.

REFRIGERANT (Sporlan Code)	TYPE & CAPACITY	THERMOSTATIC CHARGES AVAILABLE	STANDARD CONNECTIONS (in. ODF Solder)	
	External Equalizer Only		Inlet	Outlet
22 (V)	SVE-2	GA or CP100	1/2	5/8
	SVE-3			
	SVE-4			
	SVE-5			
	SVE-8		7/8	
	SVE-10			



Type-RC

With internal check valve.
R-22 ELEMENT SIZE No. 43, Knife Edge Joint,
Standard Tubing Length - 30"
R-410A ELEMENT SIZE No. 45, Knife Edge Joint,
Standard Tubing Length - 30"

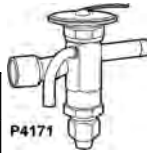


REFRIGERANT (Sporlan Code)	TYPE & CAPACITY	THERMOSTATIC CHARGES AVAILABLE	STANDARD CONNECTIONS Inches ODF Solder	
	External Equalizer Only		Inlet	Outlet
22 (V)	RCVE-2	GA Only	3/8	1/2
	RCVE-3		1/2	5/8
	RCVE-4			
	2 RCVE-5			
	RCVE-6			
410A (Z)	RCZE-2	GA Only	3/8	1/2
	RCZE-3		1/2	5/8
	RCZE-4			
	RCZE-5			
	RCZE-6			

Type-EBS

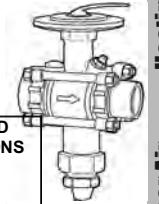
Balanced Port Construction ELEMENT SIZE No. 83,
Knife Edge Joint, Standard Tubing Length - 5 Feet

REFRIGERANT (Sporlan Code)	TYPE & CAPACITY	THERMOSTATIC CHARGES AVAILABLE	STANDARD CONNECTIONS (in. ODF Solder)	
	External Equalizer Only		Inlet	Outlet
22 (V)	EBSVE-8	GA or CP100	5/8	7/8
	EBSVE-11			



Type-W

ELEMENT SIZE No. 63, Gasket Joint,
Standard Tubing Length - 5 Feet
Flange Ring Size — 1-3/4" OD x 1-1/2" ID.

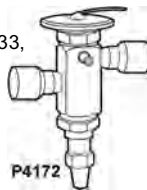


REFRIGERANT (Sporlan Code)	TYPE & CAPACITY	ELEMENT SIZE NUMBER	THERMOSTATIC CHARGES AVAILABLE	STANDARD CONNECTIONS Inches Extended ODF Solder	
	External Equalizer Only			Inlet	Outlet
22 (V)	WVE-135	63	GA or CP100	1-5/8	2-1/8
	WVE-180	7	G only		

Type-O

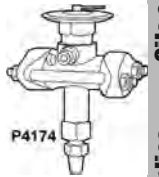
Balanced Port Construction ELEMENT SIZE No. 83 and 33,
Knife Edge Joint, Standard Tubing Length - 5 Feet

REFRIGERANT (Sporlan Code)	TYPE & CAPACITY	Element Size Number	THERMOSTATIC CHARGES AVAILABLE	STANDARD CONNECTIONS (in. ODF Solder)	
	External Equalizer Only			Inlet	Outlet
22 (V)	OVE-15	8	GA or CP100	7/8	1-1/8
	OVE-20	3			
	OVE-30	3			
	OVE-40	3		1-1/8	1-3/8
	OVE-55	3			
	OVE-70	3			



Type-V

ELEMENT SIZE No. 63, Gasket Joint,
Standard Tubing Length - 5 Feet
Flange Ring Size — 1-3/4" OD x 1-1/2" ID.



REFRIGERANT (Sporlan Code)	TYPE & CAPACITY	THERMOSTATIC CHARGES AVAILABLE	STANDARD CONNECTIONS Inches Extended ODF Solder	
	External Equalizer Only		Inlet	Outlet
22 (V)	VVE-52	GA or CP100	1-3/8	1-3/8
	VVE-70			
	VVE-100			

TEV REPLACEMENT ELEMENTS

Item Descriptions	
KT-43-VGA 30"	KT-43-VCP100 30"
KT-33-VGA 60"	KT-33-VCP100 60"
KT-53-VGA 60"	KT-53-VCP100 60"
KT-83-VGA 60"	KT-83-VCP100 60"
KT-63-VGA 10"	KT-63-VCP100 10"

Compressors,
Chillers, Condensers

Motors

Electrical

Heating
Components

Indoor Air
Quality

Thermostats

Oils &
Chemicals

Accessories, Supplies
& Commodities

Tools &
Instruments

Refrigeration

SPORLAN - THERMOSTATIC EXPANSION VALVES

THERMOSTATIC EXPANSION VALVE CAPACITIES FOR REFRIGERANTS (Tons of Refrigeration)

AIR CONDITIONING AND HEAT PUMP APPLICATIONS

VALVE TYPES	NOMINAL CAPACITY	REFRIGERANT	
		22	410A
		RECOMMENDED THERMOSTATIC CHARGES	
		VCP100, VGA	N, ZGA
		EVAPORATOR TEMPERATURE (°F)	
		40°	40°
RC	2	2.30	2.76
RC	3	3.20	3.83
RC	4	4.20	5.03
RC	5	5.00	5.99
RC	6	6.01	7.20
EBS	8	8.51	—
EBS	11	11.50	—
O	15	15.00	—
O	20	22.20	—
O	30	30.50	—
O	40	40.30	—
O	55	55.00	—
O	70	73.00	—
S	2	2.00	—
S	3	3.20	—
S	4	4.50	—
S	5	5.20	—
S	8	8.00	—
S	10	10.00	—
S	15	15.00	—
V	52	52.00	—
V	70	73.00	—
V	100	100.00	—
W	135	143.00	—
W	180	180.00	—

REFRIGERANT	LIQUID TEMPERATURE ENTERING TEV (°F)								
	60°	70°	80°	90°	100°	110°	120°	130°	140°
	CORRECTION FACTOR, CF LIQUID TEMPERATURE								
22	1.23	1.17	1.12	1.06	1.00	0.94	0.88	0.82	0.76
410A	1.32	1.24	1.16	1.08	1.00	0.92	0.83	0.73	0.62

These factors include corrections for liquid refrigerant density and net refrigerating effect and are based on an evaporator temperature of 40° F.

REFRIGERANT	PRESSURE DROP ACROSS TEV (PSI)										
	75	100	125	150	160	175	200	225	250	275	
	CORRECTION FACTOR, CF PRESSURE DROP 40°F EVAPORATOR TEMPERATURE										
22	0.87	1.00	1.12	1.22	—	1.32	1.41	1.50	1.58	1.66	
410A	0.68	0.79	0.88	0.97	1.00	1.05	1.12	1.19	1.25	1.31	

TEV CAPACITY = TEV RATING X CF LIQUID TEMPERATURE X CF PRESSURE DROP —

Example: Calculate the actual capacity of a nominal 2 ton, R-22, Type RC valve at 40° F evaporator, 80° F liquid temperature entering the TEV, and 75 psi pressure drop across the TEV:

TEV capacity = 2.30 (from rating chart) x 1.12 (CF liquid temperature) x 0.87 (CF pressure drop)
 = 2.24 tons

SPORLAN -THERMOSTATIC EXPANSION VALVE Type EBS Series Valves

PART NUMBERS

TYPE R410A Expansion Valves

PART NO	DESCRIPTION
RCZE-2-GA3/8X1/2ODF	2 ton TXV VALVE,R-410A
RCZE-3-GA3/8X1/2ODF	3 ton TXV VALVE,R-410A
RCZE-3-N3/8X1/2ODF	3 ton TXV VALVE,R-410A
168788-A	3 ton TXV ERZE-3-GA 3x4 ODF
RCZE-4-GA1/2X1/2ODF	4 ton TXV VALVE,R-410A
168718-A	4 ton TXV ERZE-4-GA 3x4 ODF
RCZE-5-GA4X5ODF	5 ton TXV VALVE,R-410A
168792-A	5 ton TXV ERZE-5-GA 3x4 ODF
151370-A	6 ton TXV RCZE-6-GA 1/2 X 5/8 ODF
168794-A	6 ton TXV ERZE-6-GA 3x4 ODF
151550-A	8 ton TXV RZE-8-GA 5X7ODF
151555-A	12.5 ton TXV RZE-12.5-GA 7X9ODF
151560-A	15 ton TXV RZE-15-GA 7X9ODF
OZE-20-GA	20 ton TXV OZE-20-GA 7X9 ODF
125385-A	25 ton TXV OZE-25-GA 7X9ODF
OZE-35-GA	35 ton TXV OZE-35-GA 9X11 ODF
125426-A	50 ton TXV OZE-50-GA 9X11 ODF
125467-A	60 ton TXV OZE-60-GA 9X11 ODF
KT-45-ZGA	KT-45-ZGA POWER ELEMENT for R valve 12.5-15 ton
KT-45-5-ZGA	KT-45-5-ZGA POWER ELEMENT for R valve 2-8 ton
KT-85-ZGA	KT-85-ZGA POWER ELEMENT for O valve 20 - 35 ton
KT-85-3-ZGA	KT-85-3-ZGA POWER ELEMENT for O valve 50-60 ton

Type S Series Valves

PART NO	DESCRIPTION
SVE-10-GA5/8X7/8ODF	SVE-10-GA 5/8X7/8 ODF
SVE-15-GA7/8X1-1/8ODF	SVE-15-CP100 7/8X1-1/8 ODF
SVE-2-GA1/2/5/8ODF	SVE-2-GA 1/2X5/8 ODF
SVE-3-GA1/2X5/8ODF	SVE-3-GA 1/2X5/8 ODF
SVE-4-GA1/2X7/8ODF	SVE-4-GA 1/2X7/8 ODF
SVE-5-GA1/2X7/8ODF	SVE-5-GA 1/2X7/8 ODF
SVE-8-GA5/8X7/8ODF	SVE-8-GA 5/8X7/8 ODF
SVE10CP1005/8X7/8ODF	SVE-10-CP100 5/8X7/8 ODF
SVE15CP1007/8X11/8OD	SVE-15-CP100 7/8X1-1/8 ODF
SVE2-CP1001/2X5/8OD	SVE-2-CP100 1/2X5/8 ODF
SVE3-CP1001/2X5/8OD	SVE-3-CP100 1/2X5/8 ODF
SVE4-CP1001/2X7/8OD	SVE-4-CP100 1/2X5/8 ODF
SVE5-CP1001/2X7/8OD	SVE-5-CP100 1/2X5/8 ODF
SVE8CP1005/8X7/8ODF	SVE-8-CP100 5/8X7/8 ODF

Type RC Series Valves

PART NO	DESCRIPTION
RCVE-2-GA3/8X1/2ODF	RCVE-2-GA 3/8X1/2 ODF
RCVE-3-GA3/8X1/2ODF	RCVE-3-GA 3/8X1/2 ODF
RCVE-4-GA1/2X1/2ODF	RCVE-4-GA 1/2X1/2 ODF
RCVE-4-GA1/2X5/8ODF	RCVE-4-GA 1/2X5/8 ODF
RCVE-5-GA1/2X1/2ODF	RCVE-5-GA 1/2X1/2 ODF
RCVE-5-GA1/2X5/8ODF	RCVE-5-GA 1/2X5/8 ODF
RCVE-6-GA1/2X1/2ODF	RCVE-6-GA 1/2X1/2 ODF
RCVE-6-GA1/2X5/8ODF	RCVE-6-GA 1/2X5/8 ODF
RCZE-2-GA3/8X1/2ODF	RCZE-2-GA 3/8X1/2 ODF
RCZE-3-GA3/8X1/2ODF	RCZE-3-GA 3/8X1/2 ODF
RCZE-4-GA1/2X1/2ODF	RCZE-4-GA 1/2X1/2 ODF
RCZE-5-GA1/2X5/8ODF	RCZE-5-GA 1/2X5/8 ODF
RCZE-6-GA1/2X5/8ODF	RCZE-6-GA 1/2X5/8 ODF

PART NO	DESCRIPTION
EBSVE-11-GA5/8X7/8OD	EBSVE-11-GA 5/8X7/8 ODF
EBSVE-8-CP1005/8X7/8	EBSVE-8-C100 5/8X7/8 ODF
EBSVE-8-GA5/8X7/8ODF	EBSVE-8-GA 5/8X7/8 ODF
EBSVE11CP1005/8X7/8O	EBSVE-11-CP100 5/8X7/8 ODF

Type O Series Valves

PART NO	DESCRIPTION
OVE-20-GA7/8X7/8ODF	TXV, VALVE 7/8X7/8 ODF
OVE15CP1007/8X11/8O	OVE-15-CP100 7/8X1-1/8 ODF
OVE15GA7/8X1-1/8ODF	OVE-15-GA 7/8X1-1/8 ODF
OVE20CP1007/8X1-3/8OD	OVE-20-CP100 7/8X1-3/8 ODF
OVE20GA7/8X1-1/8ODF	OVE-20-GA 7/8X1-1/8 ODF
OVE30CP1001-1/8X1-3/8O	OVE-30-CP100 1-1/8X1-3/8 ODF
OVE30GA1-1/8X1-3/8OD	OVE-30-GA 1-1/8X1-3/8 ODF
OVE40CP10011/8X13/8O	OVE-40-CP100 1-1/8X1-3/8 ODF
OVE40CP10011/8X15/8O	OVE-40-CP100 1-1/8X1-5/8 ODF
OVE40GA1-1/8X1-3/8OD	OVE-40-GA 1-1/8X1-3/8 ODF
OVE40GA1-1/8X1-5/8OD	OVE-40-GA 1-1/8X1-5/8 ODF
OVE55CP10011/8X13/8O	OVE-55-CP100 1-1/8X1-3/8 ODF
OVE55CP10011/8X15/8O	OVE-55-CP100 1-1/8X1-5/8 O
OVE55GA1-1/8X1-3/8OD	OVE-55-GA 1-1/8X1-3/8 ODF
OVE55GA1-1/8X1-5/8OD	OVE-55-GA 1-1/8X1-5/8 ODF
OVE70CP10011/8X13/8O	OVE-70-CP100 1-1/8X1-3/8 ODF
OVE70CP10011/8X15/8O	OVE-70-CP100 1-1/8X1-5/8 ODF
OVE70GA1-1/8X1-3/8OD	OVE-70-GA 1-1/8X1-3/8 ODF
OVE70GA1-1/8X1-5/8OD	OVE-70-GA 1-1/8X1-5/8 ODF

Type V Series Valves

PART NO	DESCRIPTION
VVE-100-GA13/8X13/8	VVE-100-GA 1-3/8X1-3/8 ODF
VVE-52-GA13/8X138OD	VVE-52-GA 1-3/8X1-3/8 ODF
VVE-70-GA13/8X13/8OD	VVE-70-GA 1-3/8X1-3/8 ODF
VVE100CP10013/8X13/8	VVE-100-CP100 1-3/8X1-3/8 ODF
VVE52CP10013/8X13/8	VVE-52-CP100 1-3/8X1-3/8 ODF
VVE70CP10013/8X13/8O	VVE-70-CP100 1-3/8X1-3/8 ODF

Type W Series Valves

PART NO	DESCRIPTION
WVE-135-GA15/8X21/8	WVE-135GA 1-5/8X2-1/8 ODF
WVE135CP10015/8X21/8	WVE-135-CP100 1-5/8X2-1/8 ODF

Compressors,
Chillers, Condensers

Motors

Electrical

Heating
Components

Indoor Air
Quality

Thermostats

Oils &
Chemicals

Accessories, Supplies
& Commodities

Tools &
Instruments

Refrigeration

SPORLAN - SOLENOID VALVES



REFRIGERANTS 22, 134a, 402A, 404A, 407C, 502, 507

SPECIFICATIONS

6 Proven Benefits of Sporlan Solenoid Valves:

- Molded coil for most sizes.
- Class "F" temperature rating – Coil types MKC-1, OMKC-1, MKC-2, and OMKC-2.
- Extremely rugged, simple design – few parts.
- "E" Series may be brazed without disassembly.
- Tight closing through use of synthetic seating material.
- Can be used on Refrigerants 22, 134a, 401A, 402A, 404A, 407C, 502 & 507 because of high MOPD ratings.

Sporlan Solenoid Valves are made in two general types, normally closed and normally open. The normally closed types may be further sub-divided into direct acting and pilot operated types.

The Sporlan "E" series solenoid valves feature extended solder type connections as standard. One important benefit to the user is that all valves in the "E" series can be installed without disassembly using either low or no silver content brazing alloy. The "E" series is interchangeable with the "B" series; solder type valves, providing the overall length can be accommodated.

All valves in the "E" series have the same capacities as the "B" series with the exception of the E42. Its capacity is approximately 15% greater than the MA42.

All Sporlan solenoid valves are designed for liquid, suction and discharge gas applications.

Most Sporlan Solenoid Valves are listed by Underwriters' Laboratories, Inc. –Guide No. Y10Z – File No.MH4576 and Canadian Standards Association –Guide 440-A-O, Class 3221, File 19953 and CE provisions of the LVD 73/23/EEC.

LIQUID CAPACITY SELECTION TABLE

PART NO	TONS OF REFRIGERATION**																			
	R-22					R-134a					R-401A					R-402A				
	PRESSURE DROP – psi*																			
"E" SERIES VALVE	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
E3	0.9	1.3	1.6	1.9	2.1	0.8	1.2	1.5	1.8	2.0	0.9	1.3	1.6	1.9	2.1	0.6	0.9	1.1	1.2	1.4
E5	1.6	2.3	2.8	3.3	3.6	1.5	2.1	2.6	3.0	3.4	1.6	2.3	2.8	3.3	3.7	1.1	1.5	1.9	2.1	2.4
E6	2.9	4.0	4.9	5.7	6.4	2.7	3.8	4.6	5.3	5.9	2.9	4.1	4.9	5.7	6.4	1.9	2.7	3.3	3.8	4.2
E9	4.7	6.6	8.1	9.3	10.4	4.4	6.2	7.5	8.7	9.7	4.7	6.6	8.1	9.3	10.4	3.1	4.4	5.3	6.2	6.9
E10	6.4	9.1	11.1	12.8	14.3	6.0	8.5	10.4	12.0	13.4	6.4	9.1	11.1	12.8	14.4	4.2	6.0	7.3	8.5	9.4
E14	9.1	12.9	15.8	18.2	20.3	8.5	12.0	14.7	17.0	18.9	9.1	12.9	15.8	18.2	20.4	6.0	8.5	10.4	12.0	13.4
E19	13.9	19.8	24.2	28.0	31.4	13.0	18.4	22.6	26.1	29.2	14.0	19.8	24.3	28.1	31.4	9.2	13.0	16.0	18.5	20.7
E25	23.8	33.8	41.4	47.8	53.5	22.2	31.5	38.6	44.6	49.9	23.9	33.8	41.4	47.9	53.6	15.7	22.2	27.3	31.5	35.3
E34	33.2	47.0	57.6	66.5	74.4	31.0	43.8	53.7	62.0	69.4	33.3	47.1	57.7	66.6	74.5	21.9	31.0	38.0	43.9	49.0
—	60.9	82.3	98.2	111	123	56.7	76.7	91.5	104	114	61.0	82.5	98.0	112	123	40.4	54.6	65.1	73.8	81.4
E42	73.5	104	127	147	164	68.6	96.9	119	137	153	73.6	104	127	147	165	48.5	68.5	83.9	96.9	108
—	109	147	175	199	219	101	137	163	185	204	109	147	176	199	220	72.1	97.5	116	132	145

PART NO	TONS OF REFRIGERATION**																			
	404A					407C					502					507				
	PRESSURE DROP – psi*																			
"E" SERIES VALVES	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
E3	0.6	0.9	1.1	1.2	1.4	0.8	1.2	1.5	1.7	1.9	0.6	0.8	1.0	1.2	1.4	0.6	0.8	1.0	1.2	1.4
E5	1.1	1.5	1.9	2.1	2.4	1.5	2.1	2.6	3.0	3.4	1.0	1.5	1.8	2.1	2.4	1.0	1.5	1.8	2.1	2.4
E6	1.9	2.7	3.3	3.8	4.2	2.6	3.7	4.5	5.2	5.8	1.9	2.6	3.2	3.7	4.1	1.9	2.6	3.2	3.7	4.1
E9	3.1	4.4	5.4	6.2	6.9	4.3	6.1	7.4	8.6	9.6	3.0	4.3	5.2	6.0	6.8	3.0	4.3	5.2	6.0	6.7
E10	4.2	6.0	7.3	8.5	9.5	5.9	8.3	10.2	11.8	13.2	4.2	5.9	7.2	8.3	9.3	4.2	5.9	7.2	8.3	9.3
E14	6.0	8.5	10.4	12.0	13.4	8.4	11.8	14.5	16.7	18.7	5.9	8.4	10.2	11.8	13.2	5.9	8.3	10.2	11.8	13.2
E19	9.2	13.1	16.0	18.5	20.7	12.8	18.2	22.3	25.8	28.8	9.0	12.8	15.7	18.2	20.3	9.0	12.8	15.7	18.1	20.3
E25	15.7	22.3	27.4	31.6	35.4	21.9	31.0	38.0	44.0	49.2	15.5	21.9	26.8	31.0	34.7	15.4	21.8	26.8	30.9	34.6
E34	22.0	31.1	38.1	44.0	49.2	30.5	43.2	53.0	61.2	68.4	21.5	30.5	37.4	43.2	48.3	21.5	30.4	37.3	43.1	48.2
—	40.8	55.2	65.8	74.6	82.2	56.4	76.3	91.1	103	114	39.5	53.4	63.7	72.2	79.5	39.8	53.8	64.2	72.8	80.2
E42	48.6	68.8	84.2	97.2	109	67.6	95.6	117	135	151	47.7	67.4	82.5	95.3	107	47.6	67.3	82.4	95.1	106
—	72.8	98.5	118	133	147	101	136	163	184	203	70.4	95.3	114	129	142	71.0	96.1	115	130	143

*Do not use below 1 psi pressure drop, except Types E3 and A3 valves.

**Capacities are based on 40° F evaporator and 100° F liquid. Valve types whether Normally Closed or Normally Open have the same capacities, i.e., B10 or OB10, E10 or OE10.

Solenoid valves for brine applications – consult Sporlan Valve Company, Washington, MO.

SPORLAN - SOLENOID VALVES SPECIFICATIONS

REFRIGERANTS 22, 134a, 402A, 404A, 407C, 502, 507

PART NOE Series Extended Connections					
Without Manual Lift Stem	With Manual Lift Stem Normally Closed	CONNECTIONS (in)	PORT SIZE (in)	MOPD psi AC	WATTS
E3S120	—	—	.101	300	10
E3S130	—	3/8 ODF Solder	.101	300	10
E5S120	—	1/4 ODF Solder	.150	300	10
E5S130	—	3/8 ODF Solder	.150	300	10
E6S130	ME6S130	3/8 ODF Solder	3/16	300	10
E6S140	ME6S140	1/2 ODF Solder	3/16	300	10
E9S240	ME9S240	1/2 ODF Solder	9/32	300	15
E10S240	ME10S240	1/2 ODF Solder	5/16	300	15
E10S250	ME10S250	5/8 ODF Solder	5/16	300	15
E14S250	ME14S250	5/8 ODF Solder	7/16	300	15
E19S250	ME19S250	5/8 ODF Solder	19/32	300	15
E19S270	ME19S270	7/8 ODF Solder	19/32	300	15
E25S270	ME25S270	7/8 ODF Solder	25/32	300	15
E25S290	ME25S290	1-1/8 ODF Solder	25/32	300	15
E34S290	ME34S290	1-1/8 ODF Solder	1	300	15
E34S2110	ME34S2110	1-3/8 ODF Solder	1	300	15
E42S2130	ME42S2130	1-5/8 ODF Solder	1-5/16	300	15
E42S2170	ME42S2170	2-1/8 ODF Solder	1-5/16	300	15

SOLENOID PARTS KITS Part No.

KS-B6/E6	KS-B19/E19
KS-B9/E9	KS-B25/E25
KS-B10/E10	KS-B34/E34
KS-B14/E14	KS-B42/E42

SOLENOID COILS Coil Type and Voltage

MKC-1 and MKC-2 – 24 JAQ and CAQ
MKC-1 and MKC-2 – 120 JAM and CAM
MKC-1 and MKC-2 – 208-240 JAN and CAN
MKC-1 and MKC-2 – Dual JAU and CAU

SOLENOID VALVES R410A



R-410A Valves with 4 different port sizes and ODF solder Connections are available from Sporlan. The smallest port Valve uses a MKC-1 coil while the rest use MKC-2 coil. Sporlan solenoid valves are available in many different Voltage and cycle ratings. Standard coils are listed In the specification table below.

SPECIFICATIONS

VALVE SERIES	CONNECTIONS Inches	PORT SIZE Inches	KIT	VOLTS/CYCLES	WATTS
ME6S130-HP	3/8 ODF	3/16	MKC-1	24/50-60	10
ME9S240-HP	1/2 ODF	9/32	MKC-2	120/50-60	15
ME14S250-HP	5/8 ODF	7/16		208-240/50-60	
ME19S270-HP	7/8 ODF	19/32		220-240/50	
ME25S290-HP	1-1/8 ODF	25/32		120-208-240/50/60	
ME35S190-HP	1-1/8 ODF	1			
ME35S1110-HP	1-3/8 ODF	1			

CATCH-ALL SEALED TYPE

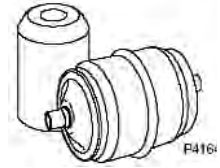
The universal acceptance of the **Catch-All Filter Drier** is due to its unique molded porous core, consisting of a blend of highly effective desiccants. The quality features built into it assure years of service on any refrigeration system.

MOISTURE — The **Catch-All Filter Drier** removes moisture from the refrigerant by adsorbing and retaining it deep within the desiccant granules.

FOREIGN MATTER — The **Catch-All Filter Drier** will filter out scale, solder particles, carbon, sludge, dirt, or any other foreign matter with negligible pressure drop. Fine particles that would go through an ordinary strainer are removed down to a minimum size in one pass filtration. The large filtering area of the **Catch-All Filter Drier** core permits it to collect a large amount of dirt without plugging up.

OIL SLUDGE AND VARNISH — Even the best refrigeration oils break down to produce varnish, sludge, and organic acids. Only the **Catch-All Filter Drier** is capable of removing these products of oil decomposition.

ACID — The **Catch-All Filter Drier** is unexcelled in acid removal ability. The hydrochloric, hydrofluoric, and various organic acids are adsorbed and held by the desiccant in a manner similar to the adsorption of moisture. Tests have demonstrated that the **Catch-All Filter Drier** will remove over 10 times as much acid as the desiccant used in most driers. This ability, along with its excellent ability to clean up the oil, is responsible for the excellent field performance in cleaning up severely contaminated systems. **SPECIAL APPLICATIONS** — A special "HH" core **Catch-All Filter Drier** is available to remove wax which frequently causes difficulty on low temperature Refrigerant 22 and 502 systems. For cap tube systems, use the C-032-CAP or CW-032-CAP Catch-All which has fittings suitable for attaching to any size capillary tube. **Remember...It's not how much moisture you remove from a refrigeration system that counts, it's how little moisture is left**



SEALED TYPE – Liquid Line and Suction Line SPECIFICATIONS

LIQUID LINE TYPE		SUCTION LINE TYPE	CONNECTION SIZE (in.)	VOLUME OF DESICCANT (cu in.)	OVERALL LENGTH (in.)		SOLDER SOCKET DEPTH (in.)	DIAMETER of BODY (in.)
SAE Flare	ODF Solder	ODF Solder			SAE Flare	ODF Solder		
C-032	C-032-S	—	1/4	3	4.19	3.81	0.38	1.75
C-033	C-033-S	—	3/8		4.69	3.88		
C-052	C-052-S	—	1/4	5	4.75	4.19	0.38	2.44
—	C-0525-S	—	5/16		—	4.38		
C-053	C-053-S	—	3/8	—	5.19	4.31	0.44	—
C-082	C-082-S	—	1/4	9	5.62	5.12	0.38	2.62
—	C-0825-S	—	5/16		—	5.31		
C-083	C-083-S	—	3/8	—	6.06	5.25	0.44	—
C-084	C-084-S	C-084-S-T-HH	1/2	—	6.31	5.44	0.50	—
C-162	C-162-S	—	1/4	16	6.25	5.75	0.38	3.00
—	C-1625-S	—	5/16		—	5.94		
C-163	C-163-S	—	3/8	—	6.75	5.88	0.44	—
C-164	C-164-S	C-164-S-T-HH	1/2	—	6.94	6.00	0.50	—
C-165	C-165-S	C-165-S-T-HH	5/8	—	7.25	6.31	0.62	—
—	—	C-166-S-T-HH	3/4	—	—	6.75	0.62	—
—	C-167-S	C-167-S-T-HH	7/8	—	—	6.93	0.75	—
C-303	C-303-S	—	3/8	30	9.69	8.88	0.44	3.00
C-304	C-304-S	—	1/2		9.88	9.00		
C-305	C-305-S	C-305-S-T-HH	5/8	—	10.19	9.25	0.62	—
—	C-306-S	C-306-S-T-HH	3/4	—	—	9.65	0.62	—
—	C-307-S	C-307-S-T-HH	7/8	—	—	9.80	0.75	—
—	C-309-S	C-309-S-T-HH	1-1/8	—	—	9.75	0.96	—
C-413	—	—	3/8	41	9.56	—	0.50	3.50
C-414	C-414-S	—	1/2		9.94	9.05		
C-415	C-415-S	—	5/8	—	10.25	9.35	0.62	—
—	C-417-S	C-417-S-T-HH	7/8	—	—	9.81	0.75	—
—	C-419-S	C-419-S-T-HH	1-1/8	—	—	9.75	0.90	—
—	—	C-437-S-T-HH	7/8	48	—	10.34	0.75	4.75
—	—	C-439-S-T-HH	1-1/8		—	10.62		
—	—	C-4311-S-T-HH	1-3/8	—	—	10.94	1.00	—
—	—	C-4313-S-T-HH	1-5/8	—	—	10.94	1.06	—
—	C-607-S	C-607-S-T-HH	7/8	60	—	16.00	0.75	3.00
—	C-609-S	C-609-S-T-HH	1-1/8		—	16.00		
COMPACT STYLE		C-144-S-TT-HH	1/2	14	—	4.14	0.50	4.44
		C-145-S-TT-HH	5/8		—	4.38		
		C-146-S-TT-HH	3/4	—	—	4.83	0.66	—
		C-147-S-TT-HH	7/8	—	—	4.97	0.75	—
		C-149-S-TT-HH	1-1/8	—	—	4.93	0.96	—

Listed by Underwriters Laboratories Inc. – Guide SMGT-File No. SA-1756A& B. Maximum Rated Pressure of 650 psi, except for the C-140 Series which has a maximum pressure of 450 psi.

CATCH-ALL REPLACEABLE CORE TYPE



Catch-All THE PERFECT FILTER-DRIER

The rugged construction of the Replaceable Core Catch-All has proven itself in the field for many years. The design features include:

1. The famous **molded porous core** for maximum contaminant removal. The core cannot swell, powder, or pack—assuring ease of installation and removal;
2. The **bolt and nut attachment** of the end plate provides simple and trouble free installation;
3. The **internal** construction gives a one piece assembly and assures proper core alignment;
4. A **complete line** of fitting sizes — all with copper fittings;
5. **No plastic parts** are used — all internal parts are plated steel;
6. A **corrosion resistant powder paint** protects the exterior of the shell.

REPLACEABLE CORE TYPE

TYPE	CONNECTIONS (in) ODF Solder	NUMBER OF CORES	CORE PART NO	VOLUME OF DESICCANT (cu in)	MOUNTING BRACKETS	OVERALL LENGTH (in)
C-485,C-485-G	5/8	1	RCW-48, RC-4864, or RC-4864-HH	48	A-685	9.15
C-485-T	5/8	1	RCW-48, RC-4864, or RC-4864-HH	48	A-685	9.15
C-487,C-487-G	7/8	1	RCW-48, RC-4864, or RC-4864-HH	48	A-685	9.30
C-487-T	7/8	1	RCW-48, RC-4864, or RC-4864-HH	48	A-685	9.30
C-489-T,C-489-G	1-1/8	1	RCW-48, RC-4864, or RC-4864-HH	48	A-685	9.50
C-4811-T,C-4811-G	1-3/8	1	RCW-48, RC-4864, or RC-4864-HH	48	A-685	9.60
C-4813-T,C-4813-G	1-5/8	1	RCW-48, RC-4864, or RC-4864-HH	48	A-685	9.60
C-967,C-967-G	7/8	2	RCW-48, RC-4864, or RC-4864-HH	96	A-685	14.84
C-967-T	7/8	2	RCW-48, RC-4864, or RC-4864-HH	96	A-685	14.84
C-969,C-969-G	1-1/8	2	RCW-48, RC-4864, or RC-4864-HH	96	A-685	15.04
C-969-T	1-1/8	2	RCW-48, RC-4864, or RC-4864-HH	96	A-685	15.04
C-9611-T,C-9611-G	1-3/8	2	RCW-48, RC-4864, or RC-4864-HH	96	A-685	15.14
C-9613-T,C-9613-G	1-5/8	2	RCW-48, RC-4864, or RC-4864-HH	96	A-685	15.14
C-1449,C-1449-G	1-1/8	3	RCW-48, RC-4864, or RC-4864-HH	144	A-685	20.58
C-1449-T	1-1/8	3	RCW-48, RC-4864, or RC-4864-HH	144	A-685	20.58
C-14411,C-14411-G	1-3/8	3	RCW-48, RC-4864, or RC-4864-HH	144	A-685	20.68
C-14411-T	1-3/8	3	RCW-48, RC-4864, or RC-4864-HH	144	A-685	20.68
C-14413-T,C-14413-G	1-5/8	3	RCW-48, RC-4864, or RC-4864-HH	144	A-685	20.68
C-19211,C-19211-G	1-3/8	4	RCW-48, RC-4864, or RC-4864-HH	192	A-685	26.22
C-19211-T	1-3/8	4	RCW-48, RC-4864, or RC-4864-HH	192	A-685	26.22
C-19213,C-19213-G	1-5/8	4	RCW-48, RC-4864, or RC-4864-HH	192	A-685	26.22
C-19213-T	1-5/8	4	RCW-48, RC-4864, or RC-4864-HH	192	A-685	26.22
C-30013,C-30013-G	1-5/8	3	RCW-100, RC-10098, or RC-10098-HH	300	A-175-2	26.22
C-30013-T	1-5/8	3	RCW-100, RC-10098, or RC-10098-HH	300	A-175-2	27.94
C-30017-T,C-30017-G	2-1/8	3	RCW-100, RC-10098, or RC-10098-HH	300	A-175-2	28.06
C-40017,C-40017-G	2-1/8	4	RCW-100, RC-10098, or RC-10098-HH	400	A-175-2	28.06
C-40017-T	2-1/8	4	RCW-100, RC-10098, or RC-10098-HH	400	A-175-2	34.56
C-40021-T,C-40021-G	2-5/8	4	RCW-100, RC-10098, or RC-10098-HH	400	A-175-2	34.57
C-40025-T,C-40025-G	3-1/8	4	RCW-100, RC-10098, or RC-10098-HH	400	A-175-2	34.44
C-40029-T,C-40029-G	3-5/8	4	RCW-100, RC-10098, or RC-10098-HH	400	A-175-2	34.81
C-40033-T,C-40033-G	4-1/8	4	RCW-100, RC-10098, or RC-10098-HH	400	A-175-2	35.12

OPTIONAL SECONDARY FILTER – ORDER SEPARATELY

Filter Part No.	Description	Quantity Required
FS-480 FS-960 FS-1440 FS-19200	Filter for C-480 Series Shell	1

CATCH-ALL FILTER DRIERS

LIQUID LINE RATINGS AND SELECTION RECOMMENDATIONS

TYPE	SURFACE FILTERING AREA	RATINGS AT ARI STANDARD CONDITIONS										SELECTION RECOMMENDATIONS (Tons)									
		Water Capacity-Drops										Refrigerant Flow Capacity**									
		Refrigerant 22		Refrigerant 134a		Refrigerant 404A/507		Refrigerant 407C		Refrigerant 410A		Refrigerant Flow Capacity** (Tons at 1 psi ΔP)									
		60 PPM	60 PPM	50 PPM	50 PPM	50 PPM	50 PPM	50 PPM	50 PPM	50 PPM	50 PPM	22	134a	404A/507	407C	410A	Commercial & Low Temperature Equipment		Air Conditioning Field Replacement or Field Built Up Systems		
75° F	125° F	75° F	125° F	75° F	125° F	75° F	125° F	75° F	125° F	75° F	125° F	75° F	125° F	75° F	125° F	12 & 134a	22	404A, 502 & 507	12 & 134a	22, 407C & 410A	
C-032	9	61	50	67	48	71	58	52	17	27	20	1.5	1.3	1.0	1.3	1.4	1/4	1/4	1/4	1/2	1/2
C-032-CAP																					
C-032-S																					
C-032-F																					
C-032-FM																					
C-033												3.5	3.2	2.3	3.2	3.4					
C-033-S	3.8	3.5	2.6	3.5	3.7																
C-052	15	146	119	158	114	169	138	123	40	63	48	2.1	1.9	1.4	1.9	2.0	1/3	1/3	1/3	3/4 thru 1	3/4 thru 2
C-052-S																					
C-052-F																					
C-052-FM																					
C-0525-S												3.4	3.1	2.3	3.1	3.3					
C-053												4.1	3.8	2.7	3.8	4.0					
C-053-S	4.7	4.3	3.1	4.3	4.5																
C-082	21	240	196	261	188	279	227	202	65	104	78	2.1	1.9	1.4	1.9	2.0	1/2 thru 1-1/2	1/2 thru 1-1/2	1/2 thru 1	3/4 thru 2	1 thru 2
C-082-S																					
C-0825-S																					
C-083												3.7	3.3	2.4	3.3	3.5					
C-083-S												4.5	4.2	3.0	4.2	4.4					
C-084												5.2	4.7	3.4	4.7	5.0					
C-084-S	8.7	7.9	5.9	8.0	8.5																
C-162	33	346	297	396	285	424	345	307	100	158	119	2.1	1.9	1.4	1.9	2.0	1 thru 2	1-1/2 thru 3	3/4 thru 2	1 thru 5	1-1/2 thru 5
C-162-S																					
C-1625-S																					
C-163												3.7	3.3	2.4	3.3	3.5					
C-163-S												4.5	4.2	3.0	4.2	4.4					
C-164												5.2	4.7	3.4	4.7	5.0					
C-164-S	10.1	9.3	6.8	9.3	9.8																
C-165	11.0	10.1	7.3	10.1	10.7																
C-165-S	13.8	12.6	9.2	12.7	13.4																
C-303	53	696	567	756	545	809	658	586	189	302	227	4.6	4.2	3.0	4.2	4.4	3 thru 5	3 thru 5	2 thru 5	3 thru 7-1/2	4 thru 10
C-303-S												5.3	4.7	3.4	4.7	5.0					
C-304												10.1	9.3	6.8	9.3	9.8					
C-304-S												11.0	10.1	7.3	10.1	10.7					
C-305												14.9	13.6	9.9	13.7	14.5					
C-305-S												16.9	15.5	11.3	15.5	16.4					
C-307-S	21.6	19.8	14.4	19.9	21.0																
C-414	67	936	713	1017	733	1088	885	788	254	407	305	11.5	10.5	7.6	10.5	11.1	5 thru 10	5 thru 12	5 thru 10	5 thru 12	7-1/2 thru 15
C-414-S												12.4	11.4	8.3	11.4	12.1					
C-415												15.8	14.5	10.6	14.6	15.4					
C-415-S												17.5	16.1	11.8	16.2	17.1					
C-417-S												22.1	20.3	14.8	20.4	21.5					
C-419-S												24.3	22.3	16.3	22.4	23.7					
C-607-S	29.1	26.6	19.5	26.8	28.4																
C-609-S	33.2	30.4	22.3	30.7	32.4																

*The filtration area is equal to the core surface area plus the large internal surface available for depth filtration.

†20 drops = 1 gram = 1cc.

**Based on 86 F liquid line temperature and a refrigerant flow of 3.1 pounds per minute per ton of Refrigerant 134a; 2.9 pounds per minute per ton of Refrigerant 22; 3.9 pounds per minute per ton for Refrigerant 404A; 2.9 pounds per minute per ton for Refrigerant 407C; 2.8 pounds per minute per ton for Refrigerant 410A and 4.1 pounds per minute per ton for Refrigerant 507. Ratings in accordance to ARI Standard 710.

NOTES:

1. R-12 water capacity values are approximately 15 percent greater than R-134a. R-502 water capacities are similar to R-404A and R-507.
2. The variation in flow ratings of filter-driers having the same size core and shell is caused by the difference in connecting sizes used.

CATCH-ALL SUCTION LINE FILTER DRIER RECOMMENDATIONS FOR CLEAN-UP AFTER BURNOUT AND NEW SYSTEMS

SEALED TYPE

TYPE NUMBER	CONNECTIONS (in.) ODF Solder	Number of Cores	CORE PART NO	LENGTH (in.)	SOLDER SOCKET DEPTH (in.)	WIDTH (in.)	SYSTEM CAPACITY IN HORSEPOWER				
							Refrigerant 22 & 407C		Refrigerant 12, 134a, 404A, 502 & 507		
							Permanent Installation with Cores	Temporary Installation Cores for Cleanup; Filter Elements after Cleanup	Permanent Installation with Cores	Temporary Installation Cores for Cleanup; Filter Elements after Cleanup	
SEALED TYPE	C-084-S-T-HH	1/2	Sealed Type Filter Driers	Sealed Type Filter Driers	5.44	0.50	2.62	1	Select these types on basis of permanent installation	1/2	Select these types on basis of permanent installation
	C-164-S-T-HH	1/2			6.00	0.50	3.00	2		1	
	C-165-S-T-HH	5/8			6.31	0.62					
	C-166-S-T-HH	3/4			6.75	0.62					
	C-167-S-T-HH	7/8			6.93	0.75					
	C-305-S-T-HH	5/8			9.25	0.62	3.00	3		2	
	C-306-S-T-HH	3/4			9.65	0.62					
	C-307-S-T-HH	7/8			9.80	0.75					
	C-309-S-T-HH	1-1/8			9.75	0.96					
	C-417-S-T-HH	7/8			9.81	0.75	3.50	5		3	
	C-419-S-T-HH	1-1/8			9.75	0.96					
	C-437-S-T-HH	7/8			10.34	0.75	4.75	7-1/2		4	
	C-439-S-T-HH	1-1/8			10.74	0.96					
	C-4311-S-T-HH	1-3/8			10.94	1.00					
	C-4313-S-T-HH	1-5/8			10.94	1.06					
	C-607-S-T-HH	7/8			16.00	0.75	3.00	10		5	
	C-609-S-T-HH	1-1/8			16.00	0.96					
	SEALED TYPE COMPACT STYLE	C-144-S-TT-HH			1/2			4.14		0.50	
C-145-S-TT-HH		5/8	4.38	0.62	3			2			
C-146-S-TT-HH		3/4	4.83	0.69	5			3			
C-147-S-TT-HH		7/8	4.97	0.75							
C-149-S-TT-HH		1-1/8	4.93	0.96							
REPLACEABLE CORE TYPE*	C-30013-G	1-5/8	3	RC-10098-HH or RC-10098			25	50	15	25	
	C-30017-G	2-1/8									
	C-40017-G	2-1/8	4								
	C-40021-G	2-5/8									
	C-40025-G	3-1/8									
	C-40029-G	3-5/8									
C-40033-G	4-1/8										

*See page for RSF shells.

CATCH-ALL SUCTION LINE FILTER DRIER SELECTION INSTRUCTIONS

Selection of the proper Catch-All Suction Line Filter Drier depend upon the intended usage. Either the "Permanent Installation with Cores" or "Temporary Installation Cores for Cleanup; Filter Elements after Cleanup" column may be used. When the **best possible system protection** is desired, the "Permanent with Cores" column should be used for selection. These recommendations are made on the basis of a low pressure drop, and as a result the cores can be left in the shell for maximum drying and acid removal when the system returns to normal operation delivering its full rated capacity.

An alternate selection that is satisfactory and less

expensive is to install cores temporarily for cleanup, and then remove these cores and install filter elements after cleanup. Because of the larger system capacity, the pressure drop through the temporarily installed cores will be somewhat larger than normal, but still within the limits. After cleanup, the use of filter elements will assure a minimum pressure drop when the system is in normal operation. The low pressure drop through the filter elements assures maximum energy savings during normal operation. Cleanup of the system can be accomplished with either the standard core (RC-10098) or the charcoal core (RC-10098-HH).

SIGNIFICANCE OF THE PART NUMBER

The letters and numerals in the Catch-All part number each have a significance. The "C" indicates Catch-All, and "CW" indicates the High Water Capacity Catch-All. The **FIRST TWO OR THREE DIGITS** indicate cubic inches of desiccant. The **LAST ONE OR TWO DIGITS** indicate fitting size in eighths. For sealed models, a "-S" following the last digit indicates solder fittings, and **NO LETTER** indicates a flare fitting. Replaceable core models (C-420 and larger) only have solder connections and the "-S" is omitted.

Examples: C-083 is 8 cu. in. and 3/8 in. flare, C-309-S is 30 cu. in. and 1-1/8 in. solder, C-19213 is 192 cu. in. and 1-5/8 in. solder.

Other suffix letters indicate special qualities. For example:

"-T" indicates a pressure tap consisting of a Schrader type access valve on the inlet end of the Catch-All.

"-HH" indicates a charcoal style core for wax removal and cleanup after a hermetic motor burnout.

SPORLAN - REPLACEABLE CORES AND PLEATED FILTER ELEMENTS



Cores for replaceable core type filter-driers are molded with the same desiccants that are used in the popular sealed filter-driers.

Cores are individually packed in metal cans, fully activated and hermetically sealed against moisture and dirt.

Filter elements are dried and packed in individual sealed metal cans. This method of packaging prevents the element from picking up moisture from the atmosphere

Each can contains a **“triple gasket”** consisting of a new end plate gasket, an end plate gasket for certain competitive filter-driers, and a core gasket where desired. See the specifications on Page * for the number of cores required for each type drier.

RC-4864 - Activated Core - Order as separate item - Fits types C-480 thru C-19200 Series Shells. This is the standard core suitable for most installations in the liquid or suction line.

RCW-48 - High Water Capacity Core - Order as separate item - Fits types C-480 thru C-19200 Series shell. **Designed specially for use with POE lubricants.** This core should be used on systems that have a ruptured water cooled condenser, or that have been exposed to the atmosphere, or for some reason have a high amount of moisture in the system.

RC-4864-HH - Activated Charcoal Core - Order as separate item - Fits types C-480 thru C-19200 Series Shells. This core should be used for wax removal, and for clean-up of systems that have had a hermetic motor burnout.

RPE-48-BD - Filter Element - Order as separate item - Fits types C-480 thru C-19200 Series Shells and **Replaceable Suction Filter (RSF) Shells.** This element should be used in RSF shells installed in the suction line to obtain the lowest possible pressure drop. In cleaning up a system after a hermetic motor burnout, cores should be used first. After clean-up, the filter element should be installed.

RC-10098 - Activated Core - Order as a separate item - Fits types C-30,000 and C-40,000 Series Shells. This is the standard core suitable for liquid and suction line applications.

RCW-100 - High Water Capacity Core - Order as separate item - Fits types C-30,000 and C-40,000 Series Shells. **Designed specially for use with POE lubricants.** This core should be used on systems that have a ruptured water cooled condenser, or that have been exposed to the atmosphere, or for some reason have a high amount of moisture in the system.

RC-10098-HH - Activated Charcoal Core - Order as separate item - Fits types C-30,000 and C-40,000 Series Shells. This core should be used for wax removal, and for clean-up of systems that have had a hermetic motor burnout.

RPE-100 - Filter Element - Order as separate item - Fits types C-30,000 and C-40,000 Series Shells. This filter element should be used in the suction line to obtain the lowest possible pressure drop after cores were used for system clean-up.

HH STYLE CATCH-ALL FOR WAX REMOVAL

HH STYLE CATCH-ALL FOR WAX REMOVAL

U.S. PATENT NUMBER 3,407,617

Small amounts of wax are often a problem on **low temperature systems.** Even well engineered systems frequently contain minute quantities of wax which are sufficient to clog expansion valve screens or cause sticking of the valve. Sporlan has developed a special blend of desiccants including activated charcoal which removes small amounts of wax in the liquid line before this wax can cause trouble at the expansion valve. These Catch-All Filter Driers have been very successful in correcting trouble jobs in the field.

By installing HH Style Catch-All Filter Driers in the liquid line of all low temperature systems these wax problems can be entirely prevented. In addition to their wax removal ability, these filter driers will remove all of the other harmful contaminants that the standard filter driers remove.

The following **Catch-All Filter Driers** are available with the HH core to meet the needs of low temperature systems. **For dimensions, refer to the specifications for standard filter driers or consult Bulletin 40-10.**

PART NO.	CONNECTIONS (in.)	PART NO.	CONNECTIONS (in.)
C-052-HH	1/4 SAE Flare	C-303-HH	3/8 SAE Flare
C-082-HH	1/4 SAE Flare	C-304-HH	1/2 SAE Flare
C-083-HH	3/8 SAE Flare	C-304-S-HH	1/2 ODF Solder
C-162-HH	1/4 SAE Flare	C-305-HH	5/8 SAE Flare
C-163-HH	3/8 SAE Flare	C-305-S-HH	5/8 ODF Solder
C-163-S-HH	3/8 ODF Solder	C-414-HH	1/2 SAE Flare
C-164-HH	1/2 SAE Flare	C-415-HH	5/8 SAE Flare
C-164-S-HH	1/2 ODF Solder	C-417-S-HH	7/8 ODF Solder
C-165-HH	5/8 SAE Flare	RC-4864-HH	Replaceable Core
C-165-S-HH	5/8 ODF Solder	RC-10098-HH	

SPORLAN - REVERSIBLE HEAT PUMP FILTER-DRIER



DESIGN BENEFITS

- A short overall length for easy installation.
- Drier operates in either flow direction with low pressure drop.
- Proven metal check valves used in construction — no synthetic materials.
- The Sporlan dependable molded core used for maximum filtration ability. When the flow direction reverses, dirt already collected remains in the filter-drier.
- A carefully engineered blend of desiccants for maximum water capacity and acid removal ability. The HPC-160-HH Series also has the HH style core with activated charcoal which offers maximum ability to remove oleoresin and other reactive chemical constituents in the oil.
- Same rugged construction as used in the Catch-All.

SPECIFICATIONS -FOR NEW INSTALLATIONS AND HFC SYSTEM USE

Part No	Connection Size Inches	Selection Recommendations Tons	Dimensions		Flow Capacity Tons at 1 psi ΔP		Water Capacity				Liquid Capacity Ounces (Wt.) @100°F	
			Overall Length Inches	Diameter Inches	R-22	R-410A	Refrigerant				R-22	R-410A
							R-22 Drops at 60 ppm		R-410A Drops at 80 ppm			
				75°F	125°F	75°F	125°F					
HPC-103	3/8 Flare	1 thru 5	6.75	3.00	3.4	3.3	215	176	171	105	12.2	10.6
HPC-103-S	3/8 Solder		5.88									
HPC-104	1/2 Flare		6.94		4.5	4.4						
HPC-104-S	1/2 Solder		6.00									

FOR CLEAN-UP AFTER BURNOUT

Part No	Connection Size Inches	Selection Recommendations Tons	Dimensions		Flow Capacity R-22 Tons at 1 psi ΔP	Water Capacity Refrigerant 22 Drops at 60 ppm		Liquid Capacity Ounces (Wt.) R-22 @ 100°F
			Overall Length Inches	Diameter Inches		75°F	125°F	
HPC-163-HH	3/8 Flare	1 thru 5	7.78	3.00	3.7	93	81	14.5
HPC-163-S-HH	3/8 Solder	1 thru 5	6.92	3.00	3.7	93	81	14.5
HPC-164-HH	1/2 Flare	1 thru 5	7.95	3.00	4.0	93	81	14.5
HPC-164-S-HH	1/2 Solder	1 thru 5	7.07	3.00	4.0	93	81	14.5
HPC-165-HH	5/8 Flare	1 thru 5	8.28	3.00	4.9	93	81	14.5
HPC-165-S-HH	5/8 Solder	1 thru 5	7.35	3.00	4.9	93	81	14.5

UL and ULc Listed - Guide-SMGT-File No. SA-1756A & B. Core volume is 10 cubic inches for HPC-100 Series and 14 cubic inches for the HPC-160-HH Series. Core surface filtering area is 18 sq. in. for the HPC-100 Series and 26 sq. in. for the HPC-160-HH Series.

HPC-100 Series are rated for 650 psig; HPC-160-HH have a 500 psig rating.

*As of this printing, ARI has not established an EPD for R-410A.

SPORLAN - SUCTION FILTER WITH THE EXCLUSIVE BI-DIRECTIONAL FEATURE



DESIGN BENEFITS

- Protects the compressor from dirt
- A relief device opens if the filter plugs
- Suitable for use with all brazing alloys
- Maximum corrosion resistance
- Full flow design for low pressure drop
- Complete line of sizes

Sporlan offers an exclusive concept in Suction Filter design — a filter which is Bi-directional. When flow is in **one direction**, the bypass relief feature is active. If the pressure drop across the element becomes excessive the bypass relief will open slightly to maintain sufficient gas flow and assure proper cooling of the hermetic motor.

When the Suction Filter is installed with flow in the **opposite direction**, the bypass relief feature is inactive and will never open, regardless of the increase in pressure drop.

The “-T” in the part number indicates that these models are equipped with an access valve to permit pressure drop readings. The access valve will be operational provided the Suction Filters are installed with the bypass feature inactive.

SPECIFICATIONS

Types with bypass relief feature (Bi-directional Flow)

PART NO		CONNECTIONS (in)	FILTER AREA Sq In	Overall Length Inches	Dimensions	
WITHOUT Access Valve	WITH Access Valve				SOCKET DEPTH Inches	SHELL DIAMETER Inches
SF-283-F	--	3/8 SAE Flare	28	8.78	--	3.00
--	SF-285-T	5/8 ODF Solder	28	8.34	0.62	3.00
--	SF-286-T	3/4 ODF Solder	28	8.79	0.69	3.00
--	SF-287-T	7/8 ODF Solder	28	8.93	0.75	3.00
--	SF-289-T	1-1/8 ODF Solder	28	9.51	0.91	3.00
--	SF-489-T	1-1/8 ODF Solder	48	12.42	0.91	3.00
--	SF-4811-T	1-3/8 ODF Solder	48	13.10	0.97	3.00
--	SF-4813-T	1-5/8 ODF Solder	48	13.44	1.09	3.00

Types without bypass relief feature (Single Flow Direction)

PART NO		CONNECTIONS (in)	FILTER AREA Sq In	Overall Length Inches	Dimensions	
WITHOUT Access Valve	WITH Access Valve				SOCKET DEPTH Inches	SHELL DIAMETER Inches
SF-114	--	1/2 ODF Solder	11	4.36	0.50	2.00
SF-114-F	--	1/2 ODF Flare	11	5.25	--	2.00
SF-115	--	5/8 ODF Solder	11	4.60	0.62	2.00
SF-115-F	--	5/8 ODF Flare	11	5.56	--	2.00
--	SF-6417-T	2-1/8 ODF Solder	388	1094	1.24	4.75
--	SF-6421-T	2-5/8 ODF Solder	388	1094	1.38	4.75

SELECTION RECOMMENDATION

PART NO		CONNECTIONS (in)	NOMINAL SYSTEM HORSEPOWER* Refrigerant	
WITHOUT Access Valve	WITH Access Valve		12, 134a, 404A, 502, 507	22, 407C
SF-114	--	1/2 ODF	1/2	1
SF-114-F	--	1/2 SAE	1/2	1
SF-115	--	5/8 ODF	1	2
SF-115-F	--	5/8 SAE	1	2
SF-283-F	--	3/8 SAE	1/2	1
--	SF-285-T	5/8 ODF	1-1/2	4
--	SF-286-T	3/4 ODF	1-1/2	5
--	SF-287-T	7/8 ODF	3	7-1/2
--	SF-289-T	1-1/8 ODF	5	7-1/2
--	SF-489-T	1-1/8 ODF	5	10
--	SF-4811-T	1-3/8 ODF	5	12
--	SF-4813-T	1-5/8 ODF	7	15
--	SF-6417-T	2-1/8 ODF	20	55
--	SF-6421-T	2-5/8 ODF	30	60

*Use R-502 horsepower recommendations for R-502A & B and R-508A.

Use R-12 horsepower recommendations for R-501A & B and R-509A.

Ratings are in accordance with ARI Standard 730.

SPORLAN - REPLACEMENT SUCTION FILTER



The Replaceable Suction Filter shell, used with RPE-48-BD pleated filter element, is designed to be installed in the suction line of new systems to remove resident contaminants.

DESIGN BENEFITS:

- Low pressure drop
- Can be used with desiccant cores for clean-up after burnout
- Various fitting sizes up to 3-1/8" line size
- Access valve supplied for pressure drop measurement or charging

HOW IT'S USED – Sporlan Replaceable Suction Filters are installed in the suction line of air conditioning systems to remove contaminants that may be in the system at start-up. The Replaceable Suction Filter has large fittings permitting the use of a small shell on a system with a large line size, resulting in considerable economy. The angle construction is suitable for flow in either direction, which results in easy installation even on compact racks. The Replaceable Suction Filters should be used with cores for cleaning up a system after a hermetic motor burnout. Select the RC-4864, RC-4864-HH or RCW-48 replaceable cores. After clean-up, install RPE-48-D elements in the shells.

SELECTION – The table below gives information for choosing the proper model for a given system. The filter elements are supplied in hermetically sealed metal cans.

SELECTION RECOMMENDATIONS WITH FILTER ELEMENTS

PART NO	CONNECTIONS Inches ODF Solder	NOMINAL SYSTEM HORSEPOWER			NO. OF FILTER ELEMENTS	NO. OF CORES	OVERALL LENGTH Inches
		Refrigerant					
		12 & 134a	22 & 407C	404A, 502 & 507			
RSF-487-T	7/8	7	10	10	One RPE-48-BD	One RC-4864 or RC-4864-HH	9.30
RSF-489-T	1-1/8	8	15	12			9.37
RSF-4811-T	1-3/8	10	20	15			9.60
RSF-4813-T	1-5/8	12	25	20			9.60
RSF-4817-T	2-1/8	20	35	25			9.37
RSF-4821-T	2-5/8	25	50	35			9.75
RSF-9617-T	2-1/8	20	40	30	Two RPE-48-BD	Two RC-4864 or RC-4864-HH	14.96
RSF-9621-T	2-5/8	30	50	40			15.43
RSF-9625-T	3-1/8	40	80	55			15.12

Ⓢ Safety screen Part No.: 6171-S is required when cores are used in the RSF shell.

Remove the screen when RPE-48-BD elements are used.

UL and ULc Listed — Guide-SMGT-File No. SA-1756A & B.

ACID TEST KIT



PART NO
TA-1 One Time Acid Test Kit

SPORLAN - MOISTURE AND LIQUID INDICATORS

See-All Moisture and Liquid Indicators offers these 8 outstanding benefits

1. The See-All Moisture and Liquid Indicator provides a true moisture indication for Refrigerants 12, 134a, 22, 404A, 407C, 410A, 502 and 507. The See All is also suitable for Refrigerants 401A & B, 402A & B, 408A and 409A. The dark green indicates dry and a bright yellow indicates wet. The one indicator avoids the confusion found in models with two elements. You **cannot** pick the wrong element when checking the moisture content of the system.

2. RELIABLE and ACCURATELY CALIBRATED COLOR CHANGE POINTS. The See-All Moisture and Liquid Indicator is accurately calibrated in parts per million of moisture for each refrigerant. All moisture indicators change color on the basis of relative saturation of the refrigerant. Therefore, liquid line temperature must be considered if an accurate calibration is to be obtained. A color chart is part of the label, for easy comparison.

3. COLOR CHANGES ARE EASILY DISTINGUISHED and REVERSIBLE. The indicator's color differs so widely between WET and DRY conditions that there is no possibility of confusion between the two. Colors will reverse as often as moisture concentration in the system changes.

4. LARGE FULL VIEW SIGHT GLASS. The See-All Moisture and Liquid Indicator has an extra large crystal clear sight glass for viewing the refrigerant. Bubbles indicate a shortage of refrigerant or a restriction in the liquid line.

5. INDICATOR PROTECTED from DISCOLORATION and DIRT. The indicator is protected by a filter pad and screen. This prevents washing of the indicator by the refrigerant and protects it from system contamination and turbulence.

6. REPLACEABLE INDICATOR ELEMENT. The color indicator paper can be changed on the new fused glass models without removing the See-All from the line. Replacement is thru the bottom (see SA-14SU below). Request the K-SA-4 kit.

7. DISASSEMBLY OF THE SMALLER SIZES NOT REQUIRED. The extended steel fittings on solder models in the smaller sizes make it unnecessary to disassemble for installation since steel conducts only one eighth as much heat as copper.

8. A DOUBLE DUTY PLASTIC CAP is supplied to keep the glass free from dust, dirt, and grease. It also permits the service engineer to use his own discretion concerning instructions to his customers on observing the See-All Moisture and Liquid Indicator.



Specifications

CONNECTION SIZES Inches	MALE FLARE		FEMALE & MALE FLARE		MALE FLARE X SWIVEL NUT		SWIVEL NUT X SWIVEL NUT		FEMALE FLARE X SWIVEL NUT		SWIVEL NUT X ODF SOLDER		ODF SOLDER	
	Part No	Overall Length Inches	Part No	Overall Length Inches	Part No	Overall Length Inches	Part No	Overall Length Inches	Part No	Overall Length Inches	Part No	Overall Length Inches	Part No	Overall Length Inches
1/4	SA-12	2.87	SA-12FM	2.56	—	—	—	—	—	—	—	—	SA-12S	4.62
3/8	SA-13	3.37	SA-13FM	2.97	SA-13U	3.64	SA-13UU	3.95	SA-13UU	3.19	SA-13SU	4.19	SA-13S	
1/2	SA-14	3.81	SA-14FM	3.44	SA-14U	4.13	SA-14UU	4.50	SA-14UU	3.75	SA-14SU	4.62	SA-14S	4.87
5/8	SA-15	4.13	—	—	SA-15U	4.44	SA-15UU	4.75	—	—	SA-15SU	4.89	SA-15S	
7/8	—	—	—	—	—	—	—	—	—	—	—	—	SA-17S	6.31
1-1/8	—	—	—	—	—	—	—	—	—	—	—	—	SA-19S	
1-3/8	—	—	—	—	—	—	—	—	—	—	—	—	SA-211	7.97
1-5/8	—	—	—	—	—	—	—	—	—	—	—	—	SA-213	
2-1/8	—	—	—	—	—	—	—	—	—	—	—	—	SA-217	

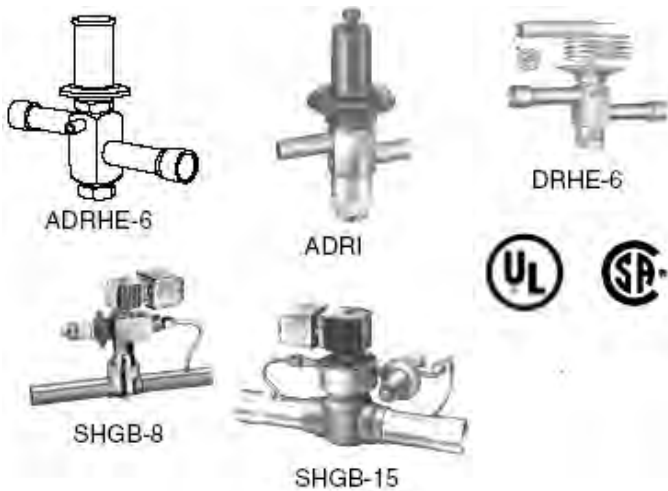
Listed by Underwriters' Laboratories, Inc. - Guide SEYW - File No. SA3182
 Maximum Rated Pressure - 650 psi. Overall width is: 1.31 in. for 1/4 in. and 3/8 in. sizes, 1.58 in. for 1/2 in. and 5/8 in. sizes, and 1.38 in. for 7/8 in. and 1-1/8 in. sizes. Most solder connections can be used as male fittings as well as female fittings. The 1/4 in. ODF is 3/8 in. ODM, the 3/8 in. ODF is 1/2 in. ODM, the 1/2 in. ODF is 5/8 in. ODM, and the 5/8 in. ODF is 3/4 in. ODM. Models with female flare and/or swivel nut connections are supplied with a copper gasket in the fitting.

Moisture Content PPM

SEE-ALL SHOWS	LIQUID LINE TEMP	REFRIGERANT											
		12		22		134a		502		404A & 507		407C	410A
		75° F	100° F	75° F	100° F	75° F	100° F	75° F	100° F	75° F	100° F	75° F	75° F
Green Dry	Below 5	Below 10	Below 30	Below 45	Below 50	Below 80	Below 10	Below 20	Below 15	Below 30	Below 120	Below 75	
Chartreuse CAUTION	5-15	10-30	30-90	45-130	50-200	80-225	10-45	20-65	15-90	30-140	120-280	75-150	
Yellow WET	Above 15	Above 30	Above 90	Above 130	Above 200	Above 225	Above 45	Above 65	Above 90	Above 140	Above 280	Above 150	

NOTE: Change or add Catch-All Filter-Drier when paper turns from green to chartreuse.

SPORLAN - DISCHARGE BYPASS VALVES



The Sporlan line of discharge bypass valves are designed to provide an economical method of compressor capacity control in place of cylinder Unloader 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 off 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 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.

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 evaporating 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.

Connections - (Standard Connections in **BOLD** type).

ADRS(E)-2 – 3/8 in., **1/2 in.**, 5/8 in. ODF Solder or
3/8 in., 1/2 in., 5/8 in. SAE Flare

ADRP(E)-3 – 1/2 in., **5/8 in.** ODF Solder or
1/2 in., 5/8 in. SAE Flare

ADRHE-6 & DRHE-6 – 5/8 in., **7/8 in.**, 1-1/8 in. ODF

SPORLAN - DISCHARGE BYPASS VALVES

DISCHARGE BYPASS VALVE CAPACITIES — Tons

Capacities based on 6°F evaporator temperature change from closed to rated opening (does not apply to pilot operated models), discharge temperature 30°F above isentropic compression, 100°F condensing temperature, 0°F subcooling, 25°F superheat at the compressor and includes both the hot gas bypassed and liquid refrigerant for desuperheating, regardless of whether the liquid is fed through the system thermostatic expansion valve or auxiliary desuperheating thermostatic expansion valve.

REFRIGERANT	MINIMUM ALLOWABLE EVAPORATOR TEMPERATURE	VALVE TYPE & ADJUSTMENT RANGE (psig)														
		ADRI-1-1/4 ADRIE-1-1/4			ADRS-2 ADRSE-2		ADRP-3 ADRPE-3		ADRHE-6		DRHE-6 (Adjustable "Remote Bulb" Model)*				SHGB-8 SHGBE-8	SHGB-15 SHGBE-15
		0/55	0/75	0/100	0/30	0/80	0/30	0/80	0/30	0/80	25/35	32/44	55/70	65/80	0/100	0/75
22	40	—	0.58	0.53	—	3.51	—	5.99	—	9.16	—	—	1 9.8	—	15.7	58
	26	0.44	0.64	0.54	—	3.57	—	6.26	—	9.90	—	—	1 6.9	—	15.9	62
	0	0.63	0.60	0.49	3.90	3.66	7.38	6.61	13.9	10.9	—	—	—	—	16.2	66
	-20	0.59	0.50	0.44	3.75	3.65	7.45	6.64	14.1	11.0	—	—	—	—	16.2	69
134a	40	0.40	0.43	0.34	—	2.67	—	4.94	—	9.34	9.64	—	—	—	10.9	41
	26	0.41	0.39	0.32	2.60	2.44	4.95	4.42	9.36	7.26	8.31	—	—	—	10.9	43
	0	0.38	0.31	0.28	2.46	—	4.89	—	9.41	—	—	—	—	—	11.0	46
401A	40	0.45	0.48	0.39	—	2.76	—	4.95	—	7.99	—	11.0	—	—	12.3	52
	26	0.47	0.45	0.37	2.97	2.79	5.66	5.04	10.7	8.26	—	9.49	—	—	1.4	52
	0	0.44	0.36	0.32	2.83	2.74	5.62	5.01	10.8	8.32	—	—	—	—	12.5	56
402A	40	—	—	0.54	—	—	—	—	—	—	—	—	—	—	17.3	—
	26	—	0.65	0.60	—	3.91	—	6.66	—	10.3	—	—	—	—	17.7	63
	0	0.66	0.72	0.57	—	4.00	—	7.16	—	11.7	—	—	—	—	17.9	63
	-20	0.69	0.63	0.52	4.22	4.04	8.11	7.33	15.3	12.2	—	—	—	—	18.0	64
404A	40	—	—	0.55	—	—	—	—	—	—	—	—	—	—	17.5	—
	26	—	0.67	0.60	—	3.91	—	6.70	—	10.4	—	—	—	21.4	17.7	64
	0	0.67	0.71	0.56	—	4.00	—	7.16	—	11.7	—	—	—	—	17.9	65
	-20	0.68	0.61	0.51	4.17	4.02	8.08	7.28	15.3	12.1	—	—	—	—	17.9	65
407C	40	—	0.78	0.65	—	4.25	—	7.50	—	12.1	—	—	22.9	—	18.6	74
	26	0.61	0.78	0.63	—	4.25	—	7.50	—	12.1	—	19.3	—	—	18.7	75
	0	0.74	0.68	0.56	4.51	4.31	8.63	7.81	16.3	13.0	—	—	—	—	18.9	76
	-20	0.68	0.56	0.50	4.33	4.23	8.64	7.71	16.5	12.9	—	—	—	—	19.1	77
502	40	—	—	0.46	—	3.14	—	5.28	—	7.85	—	—	—	19.2	14.3	—
	26	—	0.56	0.49	—	3.19	—	5.51	—	8.55	—	—	—	16.6	14.5	55
	0	0.55	0.57	0.46	3.58	3.28	6.64	5.90	12.5	9.62	—	—	—	—	14.7	59
	-20	0.55	0.59	0.41	3.43	3.30	6.68	6.00	12.6	9.91	—	—	—	—	14.8	61
507	40	—	—	0.53	—	—	—	—	—	—	—	—	—	—	17.4	—
	26	—	0.65	0.59	—	3.87	—	6.60	—	10.2	—	—	—	—	17.7	64
	0	—	0.71	0.57	—	3.96	—	7.09	—	11.5	—	—	—	—	17.8	64
	-20	0.69	0.62	0.52	4.17	4.00	8.02	7.25	15.2	12.0	—	—	—	—	17.9	65

PART NO	DESCRIPTION
ADRS-20/30ODF	ADRS-2 0/30 4 ODF
ADRS-20/305ODF	ADRS-2 0/30 5 ODF
ADRSE-20/304ODF	ADRSE-20/304ODF
ADRSE-20/305ODF	ADRSE-20/305ODF
ADRS-20/804ODF	ADRS-2 0/80 4 ODF
ADRS-20/805ODF	ADRS-2 0/80 5 ODF
ADRSE-20/803ODF	ADRSE-20/803ODF
ADRSE-20/804ODF	ADRSE-20/804ODF
ADRSE-20/805ODF	ADRSE-20/805ODF
ADRP-30/304ODF	ADRP-3 0/30 4 ODF
ADRP-30/305ODF	ADRP-3 0/30 5 ODF
ADRPE-30/304ODF	ADRPE-30/304ODF
ADRPE-30/305ODF	ADRPE-30/305ODF
ADRP-30/804ODF	ADRP-3 0/80 4 ODF
ADRP-30/805ODF	ADRP-3 0/80 5 ODF
ADRPE-30/804ODF	ADRPE-30/804ODF
ADRPE-30/805ODF	ADRPE-30/805ODF
ADRHE-60/305ODF	ADRHE-60/305ODF

PART NO	DESCRIPTION
ADRHE-60/805ODF	ADRHE-6 0/80 5 ODF
ADRHE-60/807ODF	ADRHE-6 0/80 7 ODF
ADRHE-60/809ODF	ADRHE-6 0/80 9 ODF
DRHE-6-55/70AR7X7	DRHE-6-55/70AR 7 ODF
DRHE-6-55/70AR9X9	DRHE-6-55/70AR 9 ODF
SHGBE-8-0/1009ODF	SHGBE-8-0/100 9 ODF LESS COIL
SHGBE-8-0/1007ODF	SHGBE-8-0/100 7 ODF LESS COIL
SHGB-8-0/107ODF	SHGB-8-0/100 7 ODF LESS COIL
SHGB-8-0/1009ODF	SHGB-8-0/100 9 ODF LESS COIL
SHGB-15-0/759ODF	SHGB-15-0/75 9 ODF LESS COIL
SHGB-15-0/7511ODF	SHGB-15-0/75 11 ODF LESS COIL
SHGBE-15-0/759ODF	SHGBE-15-0/75 9 ODF LESS COIL
SHGBE-15-0/7511 ODF	SHGBE-15-0/75 11 ODF LESS COIL