

Sporlan Refrigeration and Air Conditioning Products

Oil Level Controls

Suction Filters

Oil Filters

See•All

Head Pressure Control Valves

Solenoids

Three-Way Heat Reclaim Valves

TEV

Crankcase Pressure Regulating Valves

Catch-All

Discharge Bypass Valves

Evaporator Pressure Regulating Valves

THERMOSTATIC EXPANSION VALVES

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	V - R-407A - Green												
	E - R-13 - Blue	N - R-407 Lt. Brown												
	V - R-22 -Green	S - R-408A -Purple												
	G - R-23 - Blue	F - R-409A -Yellow												
	M - R124 - Blue	R - R-502 - Purple												
	J- R134a -Blue	W - R-503 - Blue												
	X - R-401A Pink	P - R-507 - Teal												
	L - R-402ASand	W - R-508B - Blue												
	S- R-404A Orange	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”
Body Type: BF,SBF, EBF	22 (V) 407C (N) 407A (V)	“E” specifies external equalizer. Omission of letter “E” indicates valve with internal equalizer.		Port Size	Nominal Capacity in Tons	Thermostatic Charge		Inlet Connection		Outlet Connection		External Equalizer Connection		Capillary Tubing Length (Inches)
				AAA	1/8 thru 1/3									
				AA	1/2 thru 2/3									
				A	3/4 thru 1-1/2									
				B	1-3/4 thru 3									
	C			3-1/4 thru 5-1/2										
	AAA			1/8 thru 1/5										
	AA			1/4 thru 1/3										
	A			1/2 thru 1										
	B			1-1/4 thru 1-3/4										
	C			2 thru 3										
	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										
	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.

THERMOSTATIC EXPANSION VALVES

SPORLAN SELECTIVE CHARGES ENGINEERED FOR PEAK PERFORMANCE FOR EACH SPECIFIC APPLICATION

RECOMMENDED THERMOSTATIC CHARGES*

APPLICATION	REFRIGERANT										ACTUAL THERMOSTATIC CHARGES
	12 409A	22 407A	134a	401A	402A	404A 408A	407C	502	507	717	
AIR CONDITIONING	FCP60	—	JCP60	XCP60	—	—	—	—	—	—	FCP60
	—	VCP100	—	—	—	—	NCP100	—	—	—	VCP100
	—	VGA	—	—	—	—	NGA	—	—	—	VGA
	—	—	—	—	—	SCP115	—	RCP115	—	—	SCP115
COMMERCIAL REFRIGERATION 50°F TO -10°F	FC	—	JC	XC	—	—	—	—	—	—	FC
	—	VC	—	—	—	—	NC	—	—	—	VC
	—	—	—	—	—	SC	—	RC	—	—	SC
	—	—	—	—	LC	—	—	—	PC	—	PC
	—	—	—	—	—	—	—	—	—	AC, AL	AC, AL
LOW TEMPERATURE REFRIGERATION 0°F TO -40°F	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	—	—	—	—	—	—	—	—	—	AZ, AL	AZ, AL
	—	VX	—	—	—	—	—	—	—	—	VX
	—	—	—	—	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 air conditioning 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 air conditioning and commercial refrigeration applications are using R-12 or R-409A 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.

THERMOSTATIC EXPANSION VALVES

QUICK REFERENCE GUIDE — REFRIGERATION VALVES

VALUE TYPE	NOMINAL CAPACITY RANGE (Tons)			CONNECTION TYPES	VALVE DESCRIPTION AND APPLICATION
	R-22	R-134a	R-404A & R-507		
F 	1/5 thru 3	1/8 thru 2	1/8 thru 2	SAE Flare	Small brass bar body, externally adjustable valve for small capacity refrigeration systems. SAE flare inlet connection has a removable 100 mesh strainer. Typical applications: Refrigerated cases, coolers, freezers.
EF 	1/5 thru 3	1/8 thru 2	1/8 thru 2	ODF Solder	Same as the Type F valve except it features ODF solder connections. The inlet connection has a 50 mesh strainer. Typical applications: Refrigerated cases, coolers, freezers.
G 	1/5 thru 3	1/8 thru 2	1/8 thru 2	SAE Flare	Forged brass bar body, externally adjustable valve for small capacity refrigeration systems. Inlet connection has a removable 100 mesh strainer. Typical applications: Refrigerated cases, coolers, freezers and small capacity air conditioners.
EG 	1/5 thru 3	1/8 thru 2	1/8 thru 2	ODF Solder	Same as the Type G valve except it features ODF solder connections and a forged brass inlet fitting with a removable 100 mesh strainer which can be cleaned and/or replaced without moving the valve from the line.
FB 	1/4 thru 8	1/4 thru 5	1/4 thru 6	SAE Flare or ODF Solder	Small brass body valve available only with straight through connections and external adjustment. Typical applications: Small capacity air conditioning and refrigeration applications where an external adjustment is desired
BF 	1/3 thru 5	1/4 thru 3	1/4 thru 3	SAE Flare	Same physical size as the Type F valve with SAE flare connection except it features a balanced port construction. Inlet connection has removable 100 mesh strainer. Typical applications: Small capacity refrigeration that operates over widely varying operating conditions.
SBF 	1/3 thru 5	1/4 thru 3	1/4 thru 3	Extended ODF Solder	Same as the Type BF valve except it features ODF solder connection and a forged brass inlet fitting with a removable 100 mesh strainer which can be cleaned and/or replaced without removing the valve from the line.
EBF 	1/3 thru 5	1/4 thru 3	1/4 thru 3	Extended ODF Solder	Same as the Type BF valve except it features ODF solder connections.
S 	2 thru 10	2 thru 6	2 thru 7	ODF Solder	Brass bar body, externally adjustable valve. General purpose valve for air conditioning and refrigeration applications.
EMC 	0.64 thru 2.34	0.46 thru 1.69	0.42 thru 1.51	ODF Solder	Multi-capacity two part valve designed to perform effectively over the range of load conditions inherent with most refrigeration systems. Large port is for pull down load and smaller port to control holding loads.

THERMOSTATIC EXPANSION VALVES

THERMOSTATIC EXPANSION VALVES

PART NO*	SPORLAN MODEL**
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TYPE F

	FF-1-1/2-C 3X4 SAE 30"
	FF-1-C 3X4 SAE 30"
	FFE-1-C 3X4 SAE 30"
	FFE-2-C 3X4 SAE 30"
	FJ-1/2-C 2X4 SAE 30"
	FJ-1/4-C 2X4 SAE 30"
	FJ-1/4-Z 2X4 SAE 30"
	FR-1/4-Z 2X4 SAE 30"
	FRE-1/2-C 3X4 SAE 30"
	FRE-1/2-Z 3X4 SAE 30"
	FRE-1/2-ZP 3X4 SAE 30"
	FRE-1/4-Z 2X4 SAE 30"
	FRE-1-1/2-C 3X4 SAE 30"
	FRE-1-1/2-Z 3X4 SAE 30"
	FRE-1-1/2-ZP35 2X4 SAE 30"
	FRE-1-ZP 3X4 SAE 30"
	FRE-2-Z 3X4 SAE 30"
	FRE-2-ZP 3X4 SAE 30"
	FS-1/2-C 2X4 SAE 30"
	FS-1/4-C 2X4 SAE 30"
	FS-1/4-ZP 2X4 SAE 30"
	FSE-1/2-Z 2X4 SAE 30"
	FSE-1/2-ZP35 2X4 SAE 30"
	FSE-1/4-ZP 2X4 SAE 30"
	FSE-1/4-ZP30 2X4 SAE 30"
	FSE-1-C 3X4 SAE 30"
	FV-1/4-C 2X4 SAE 30"
	FVE-1/2-C 3X4 SAE 30"
	FVE-1/4-C 2X4 SAE 30"
	FVE-1-1/2-C 3X4 SAE 30"
	FVE-1-C 3X4 SAE 30"
	FVE-2-C 3X4 SAE 30"
	FVE-3-C 3X4 SAE 30"



TYPE EF

	EFF-1/4-Z 2SX3 ODF 30"
	EFJ-1/2-C 2SX3 ODF 30"
	EFJ-1/4-C 2SX4 ODF 30"
	EFS-1/4-C 2SX3 ODF 30"
	EFS-1/4-Z 2SX3 ODF 30"
	EFS-1-Z 3X4 ODF 30"
	EFSE-1/2-Z 3X4 ODF 30"
	EFSE-1/4-Z 3X4 ODF 30"
	EFSE-1/6-Z 2X4 ODF 30"
	EFVE-1/2-C 3X4 ODF 30"
	EFVE-1/2-L1 3X4 ODF 30"
	EFVE-1/3-C 2X4 ODF 30"
	EFVE-1/3-C 3X4 ODF 30"
	EFVE-1/3-L1 3X4 ODF 30"
	EFVE-1/5-C 2X4 ODF 30"
	EFVE-1-C 3X4 ODF 30"

PART NO*	SPORLAN MODEL**
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TYPE BF

	BFF-A-C 3X4 SAE 30"
	BFJE-A-C 3X4 SAE 30"
	BFJE-B-C 3X4 SAE 30"
	BFR-A-C 3X4 SAE 30"
	BFRE-A-Z 3X4 SAE 30"
	BFRE-A-ZP 3X4 SAE 30"
	BFRE-B-C 3X4 SAE 30"
	BFRE-B-Z 3X4 SAE 60"
	BFRE-B-ZP 3X4 SAE 30"
	BFSE-AA-ZP 3X4 SAE 30"
	BFSE-A-C 3X4 SAE 30"
	BFSE-C-ZP 3X4 SAE 30"
	BFV-AA-C 3X4 SAE 30"
	BFV-A-C 3X4 SAE 30"
	BFVE-AAA-C 3X4 SAE 30"
	BFVE-AA-C 3X4 SAE 30"
	BFVE-A-C 3X4 SAE 30"
	BFVE-B-C 3X4 SAE 30"



TYPE G

	GRE-1-1/2-ZP 3X4 SAE 5'
	GRE-1-ZP 3X4 SAE 5'
	GVE-1-C 3X4 SAE 5'
	GVE-3/4-C 3X4 SAE 5'
	GVE-3/4-ZP 3X4 SAE 5'
	GVE-3-C 3X4 SAE 5'



TYPE FB

	FBFE-1-C 3SX4X2 ODF 30"
	FBJE-1/2-CP60 3X4X2 ODF 30"
	FBJE-1/2-Z 3X4X2 ODF 30"
	FBR-1/2-Z 2X4 SAE 30"
	FBR-1/4-Z 2X4 SAE 30"
	FBS-1/2-C 3SX4 ODF 30"
	FBS-1/2-Z 2SX4 ODF 30"
	FBS-1/2-ZP 3SX4 ODF 30"

IMPORTANT NOTE:

*S - with Insert Strainer

Connection Sizes are in eighths of inch – (3x4 means 3/8" inlet x 1/2" outlet).

PART NO*	SPORLAN MODEL**
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TYPE FB

	FBS-1/4-C 3SX4 ODF 30"
	FBS-1/4-Z 2SX4 ODF 30"
	FBS-1/4-ZP 3SX4 ODF 30"
	FBSE-1/2-C 3SX4X2 ODF 30"
	FBSE-1/4-C 3SX4X2 ODF 30"
	FBSE-1/4-ZP 3SX4X2 ODF 30"
	FBSE-1/2-ZP 3SX4 ODF 30"
	FBSE-1-1/2-C 3SX4 ODF 30"
	FBSE-1-1/2-ZP 3SX4 ODF 30"
	FBSE-1-C 3SX4 ODF 30"
	FBSE-1-Z 3X4X2 ODF 30"
	FBSE-1-ZP 3SX4 ODF 30"
	FBSE-2-C 3SX4X2 ODF 30"
	FBSE-2-Z 3X4X2 ODF 30"
	FBSE-2-ZP 3SX4X2 ODF 30"
	FBSE-3.5-C 4X7X2 ODF 60"
	FBSE-3.5-ZP 4X7X2 ODF 30"
	FBSE-3-C 4X7X2 ODF 60"
	FBSE-3-ZP 4X7X2 ODF 30"
	FBSE-4.5-C 4X7X2 ODF 60"
	FBSE-4.5-ZP 4X7X2 ODF 30"
	FBSE-6-C 5X7X2 ODF 60"
	FBSE-6-ZP 5X7X2 ODF 30"
	FBV-1/4-C 2" SX4 ODF 30"
	FBV-1/4-C 3" SX4 ODF 30"
	FBV-1/4-ZP40 3SX4 ODF 30"
	FBVE-1/2-ZP40 3" SX4X2 ODF 30"
	FBVE-1/4-C 3" SX4X2 ODF 30"
	FBVE-1/4-ZP40 3" SX4X2 ODF 30"
	FBVE-1/2-C 3" SX4 ODF 30"
	FBVE-1-1/2-ZP40 3" SX4X2 ODF 30"
	FBVE-1-1/2-C 3" SX4 ODF 30"
	FBVE-1-C 3" SX4 ODF 30"
	FBVE-1-ZP40 3" SX4X2 ODF 30"
	FBVE-2.5-C 4X5X2 ODF 60"
	FBVE-2.5-ZP40 4X5X2 ODF 30"
	FBVE-2-C 4X5X2 ODF 30"
	FBVE-2-ZP40 4X5X2 ODF 30"
	FBVE-3-C 4X5X2 ODF 60"
	FBVE-3-ZP40 4X5X2 ODF 60"
	FBVE-4-C 4X7X2 ODF 60"
	FBVE-4-ZP40 4X7X2 ODF 60"
	FBVE-5-C 4X7X2 ODF 60"
	FBVE-5-ZP40 4X7X2 ODF 60"
	FBVE-6-C 4X7X2 ODF 60"
	FBVE-6-GA 4X5X2 ODF 30"
	FBVE-6-ZP40 4X7X2 ODF 60"
	FBVE-8-C 5X7X2 ODF 60"
	FBVE-8-ZP40 5X7X2 ODF 60"

*() Please contact your local Carlyle Certified Refrigeration Partner or RCD Customer Service Center for part number and pricing.

THERMOSTATIC EXPANSION VALVES

PART NO*	SPORLAN MODEL**
	TYPE EG
	EGFE-1/2-C 3X4 ODF 5'
	EGFE-1/4-C 3X4 ODF 5'
	EGFE-1-C 3X4 ODF 5'
	EGFE-2-C 3X4 ODF 5'
	EGJ-1/4-C 3X4 ODF 5'
	EGJ-1/6-C 3X4 ODF 5'
	EGJ-1/8-C 3X4 ODF 5'
	EGJE-1/6-C 3X4 ODF 5'
	EGJE-1/8-C 3X4 ODF 5'
	EGJE-1-1/2-C 3X4 ODF 5'
	EGP-1/2-C 3X4 ODF 5'
	EGP-1/4-C 3X4 ODF 5'
	EGP-1/6-C 3X4 ODF 5'
	EGP-1/8-C 3X4 ODF 5'
	EGPE-1/2-C 3X4 ODF 5'
	EGPE-1/4-C 3X4 ODF 5'
	EGPE-1/8-C 3X4 ODF 5'
	EGPE-1-1/2-C 3X4 ODF 5'
	EGPE-1-C 3X4 ODF 5'
	EGPE-2-C 3X4 ODF 5'
	EGR-1/2-C 3X4 ODF 5'
	EGR-1/2-Z 3X4 ODF 5'
	EGR-1/2-ZP 3X4 ODF 5'
	EGR-1/4-C 3X4 ODF 5'
	EGR-1/4-Z 3X4 ODF 5'
	EGR-1/6-C 3X4 ODF 5'
	EGR-1/8-C 3X4 ODF 5'
	EGR-1/8-Z 3X4 ODF 5'
	EGRE-1-C 3X4 ODF 5'
	EGRE-1/4-Z 3X4 ODF 5'
	EGRE-1/6-C 3X4 ODF 5'
	EGRE-1/8-C 3X4 ODF 5'
	EGRE-1-ZP40 3X4 ODF 5'
	EGRE-2-C 3X4 ODF 5'
	EGRE-2-Z 3X4 ODF 5'
	EGSE-1/2-C 3X4 ODF 5'
	EGSE-1/2-Z 3X4 ODF 5'
	EGSE-1/2-ZP 3X4 ODF 5'
	EGSE-1/4-C 3X4 ODF 5'
	EGSE-1/4-ZP 3X4 ODF 5'
	EGSE-1-1/2-C 3X4 ODF 5'
	EGSE-1-1/2-Z 3X4 ODF 5'
	EGSE-1-1/2-ZP 3X4 ODF 5'
	EGSE-1-C 3X4 ODF 5'
	EGSE-1-X 3X4 ODF 5'
	EGSE-1-Z 3X4 ODF 5'
	EGSE-1-ZP 3X4 ODF 5'
	EGSE-2-C 3X4 ODF 5'
	EGSE-2-ZP 3X4 ODF 5'
	EGV-1/2-C 3X4 ODF 5'
	EGV-1/2-Z 3X4 ODF 5'


PART NO*	SPORLAN MODEL**
	EGV-1/2-ZP40 3X4 ODF 5'
	EGV-1/3-C 3X4 ODF 5'
	EGV-1/3-Z 3X4 ODF 5'
	EGV-1/5-C 3X4 ODF 5'
	EGV-1/5-Z 3X4 ODF 5'
	EGV-1-C 3X4 ODF 5'
	EGV-3/4-C 3X4 ODF 5'
	EGV-3/4-Z 3X4 ODF 5'
	EGV-3/4-ZP 3X4 ODF 5'
	EGVE-1/2-C 3X4 ODF 5'
	EGVE-1/2-L1 3X4 ODF 5'
	EGVE-1/2-Z 3X4 ODF 5'
	EGVE-1/2-ZP40 3X4 ODF 5'
	EGVE-1/3-C 3X4 ODF 5'
	EGVE-1/5-C 3X4 ODF 5'
	EGVE-1-1/2-C 3X4 ODF 5'
	EGVE-1-1/2-Z 3X4 ODF 5'
	EGVE-1-1/2-ZP40 3X4 ODF 5'
	EGVE-1-C 3X4 ODF 5'
	EGVE-1-Z 3X4 ODF 5'
	EGVE-1-ZP40 3X4 ODF 5'
	EGVE-2-C 3X4 ODF 5'
	EGVE-2-Z 3X4 ODF 5'
	EGVE-2-ZP40 3X4 ODF 5'
	EGVE-3/4-C 3X4 ODF 5'
	EGVE-3/4-L1 3X4 ODF 5'
	EGVE-3/4-X 3X4 ODF 5'
	EGVE-3/4-Z 3X4 ODF 5'
	EGVE-3/4-ZP 3X4 ODF 5'
	EGVE-3/4-ZP40 3X4 ODF 5'
	EGVE-3-C 3X4 ODF 5'
	EGVE-3-Z 3X4 ODF 5'
	EGVE-3-ZP40 3X4 ODF 5'
	EGX-1/2-C 3X4 ODF 5'



TYPE SBF

	SBFF-AA-ZP 3X4 ODF 30"
	SBFF-A-ZP 3X4 ODF 30"
	SBFFE-AA-ZP 3X4 ODF 30"
	SBFFE-A-ZP 3X4 ODF 30"
	SBFFE-B-ZP 3X4 ODF 30"
	SBFJ-AAA-C 3X4 ODF 30"
	SBFJ-AA-C 3X4 ODF 30"
	SBFJ-A-C 3X4 ODF 30"
	SBFJ-B-C 3X4 ODF 30"
	SBFJE-AAA-C 3X4 ODF 30"
	SBFJE-AA-C 3X4 ODF 30"
	SBFJE-A-C 3X4 ODF 30"
	SBFJE-B-C 3X4 ODF 30"
	SBFJE-C-C 3X4 ODF 30"
	SBFP-AAA-C 3X4 ODF 30"


PART NO*	SPORLAN MODEL**
	SBFP-AAA-Z 3X4 ODF 30"
	SBFP-AA-C 3X4 ODF 30"
	SBFP-AA-Z 3X4 ODF 30"
	SBFP-A-C 3X4 ODF 30"
	SBFP-B-C 3X4 ODF 30"
	SBFPE-AAA-C 3X4 ODF 30"
	SBFPE-AA-C 3X4 ODF 30"
	SBFPE-AA-Z 3X4 ODF 30"
	SBFPE-B-C 3X4 ODF 30"
	SBFPE-C-C 3X4 ODF 30"
	SBFR-AAA-Z 3X4 ODF 30"
	SBFR-AA-C 3X4 ODF 30"
	SBFR-AA-Z 3X4 ODF 30"
	SBFR-AA-ZP 3X4 ODF 30"
	SBFR-A-C 3X4 ODF 30"
	SBFR-A-ZP 3X4 ODF 30"
	SBFR-B-C 3X4 ODF 30"
	SBFRE-AAA-C 3X4 ODF 30"
	SBFRE-AAA-Z 3X4 ODF 30"
	SBFRE-AA-Z 3X4 ODF 30"
	SBFRE-A-Z 3X4 ODF 30"
	SBFRE-B-Z 3X4 ODF 30"
	SBFS-AAA-C 3X4 ODF 30"
	SBFSE-AAA-ZP 3X4 ODF 30"
	SBFSE-AA-C 3X4 ODF 30"
	SBFSE-AA-ZP 3X4 ODF 30"
	SBFSE-A-C 3X4 ODF 30"
	SBFSE-A-ZP 3X4 ODF 30"
	SBFSE-B-C 3X4 ODF 30"
	SBFSE-B-Z 3X4 ODF 30"
	SBFSE-B-ZP 3X4 ODF 30"
	SBFSE-C-C 3X4 ODF 30"
	SBFSE-C-Z 3X4 ODF 30"
	SBFSE-C-ZP 3X4 ODF 30"
	SBFV-AAA-C 3X4 ODF 30"
	SBFV-AAA-Z 3X4 ODF 30"
	SBFV-AA-C 3X4 ODF 30"
	SBFV-AA-Z 3X4 ODF 30"
	SBFV-AA-ZP40 3X4 ODF 30"
	SBFV-A-C 3X4 ODF 30"
	SBFV-B-C 3X4 ODF 30"
	SBFVE-AAA-C 3X4 ODF 30"
	SBFVE-AAA-ZP40 3X4 ODF 30"
	SBFVE-AA-C 3X4 ODF 30"
	SBFVE-AA-Z 3X4 ODF 30"
	SBFVE-AA-ZP40 3X4 ODF 30"
	SBFVE-A-C 3X4 ODF 30"
	SBFVE-A-Z 3X4 ODF 30"
	SBFVE-A-ZP 3X4 ODF 30"
	SBFVE-A-ZP40 3X4 ODF 30"
	SBFVE-B-C 3X4 ODF 30"
	SBFVE-B-Z 3X4 ODF 30"
	SBFVE-B-ZP40 3X4 ODF 30"
	SBFVE-C-C 3X4 ODF 30"
	SBFVE-C-Z 3X4 ODF 60"
	SBFVE-C-ZP40 3X4 ODF 30"

PART NO*	SPORLAN MODEL**
	TYPE EBF
	EBFF-AAA-C 3X4 ODF 30"
	EBFF-A-C 3X4 ODF 30"
	EBFFE-A-C 3VX4 ODF 30"
	EBFFE-B-C 3X4 ODF 30"
	EBFLE-A-C 3X4 ODF 30"
	EBFLE-A-Z 3X4 ODF 30"
	EBFPE-C-C 3X4 ODF 30"
	EBFPE-C-Z 3X4 ODF 30"
	EBFR-A-C 3EX4 ODF 30"
	EBFRE-AA-Z 3VX4 ODF 30"
	EBFRE-AA-ZP 3VX4 ODF 30"
	EBFRE-A-Z 3EX4 ODF 30"
	EBFRE-A-Z 3X4 ODF 30"
	EBFRE-A-ZP 3EX4 ODF 30"
	EBFS-AAA-ZP 2X4 ODF 30"
	EBFSE-AAA-Z 2SX4 ODF 30"
	EBFSE-AAA-ZP 3VX4 ODF 30"
	EBFSE-AA-C 3X4 ODF 30"
	EBFSE-A-C 3VX4 ODF 30"
	EBFSE-A-Z 3VX4 ODF 30"
	EBFSE-B-C 3VX4 ODF 30"
	EBFSE-B-Z 3VX4 ODF 30"
	EBFSE-B-ZP 3X4 ODF 30"
	EBFSE-C-C 3X4 ODF 30"
	EBFSE-C-Z 3X4 ODF 30"
	EBFSE-C-ZP 3VX4 ODF 30"
	EBFV-AAA-C 3EX4 ODF 30"
	EBFV-AA-C 3EX4 ODF 30"
	EBFV-AA-ZP40 3EX4 ODF 30"
	EBFV-A-C 3EX4 ODF 30"
	EBFV-B-C 3X4 ODF 30"
	EBFVE-AAA-C 3X4 ODF 30"
	EBFVE-AA-C 3EX4 ODF 30"
	EBFVE-AA-CP100 3VX4 ODF 30"
	EBFVE-AA-Z 3EX4 ODF 30"
	EBFVE-AA-ZP40 3EX4 ODF 30"
	EBFVE-A-C 3EX4 ODF 30"
	EBFVE-A-Z 3X4 ODF 30"
	EBFVE-A-ZP40 3VX4 ODF 30"
	EBFVE-B-C 3X4 ODF 30"
	EBFVE-B-CP100 3X4 ODF 30"
	EBFVE-B-Z 3X4 ODF 30"
	EBFVE-B-ZP40 3X4 ODF 30"
	EBFVE-C-C 3X4 ODF 30"
	EBFVE-C-CP100 3X4 ODF 30"
	EBFVE-C-ZP40 3VX4 ODF 30"

IMPORTANT NOTES:

E – Elbow Inlet

V – 877 Series (100 Mesh) Strainer

*() Please contact your local Carlyle Certified Refrigeration Partner or RCD Customer Service Center for part number and pricing.

THERMOSTATIC EXPANSION VALVES

THERMOSTATIC EXPANSION VALVES

PART NO*	SPORLAN MODEL**
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TYPE S

	SRE-1/2-C 4X5 ODF 5'
	SRE-1/2-ZP 4X5 ODF 5'
	SRE-1-1/2-C 4X5 ODF 5'
	SRE-1-1/2-Z 4X5 ODF 5'
	SRE-1-1/2-ZP 4X5 ODF 5'
	SRE-1-C 4X5 ODF 5'
	SRE-1-ZP 4X5 ODF 5'
	SRE-2-L1 4X5 ODF 5'
	SRE-4-Z 4X7 ODF 5'
	SSE-1/4-C 3X4 ODF 5'
	SSE-10-ZP 5X7 ODF 5'
	SSE-10-ZP 7X9 ODF 5'
	SSE-2-C 4X5 ODF 5'
	SSE-2-ZP 4X5 ODF 5'
	SSE-3-C 4X7 ODF 5'
	SSE-3-L1 4X7 ODF 5'
	SSE-3-ZP 4X7 ODF 5'
	SSE-3-ZP40 4X7 ODF 5'
	SSE-4-C 4X7 ODF 5'
	SSE-4-ZP 4X7 ODF 5'
	SSE-6-C 4X7 ODF 5'
	SSE-6-C 5X7 ODF 5'
	SSE-6-X 5X7 ODF 5'
	SSE-6-Z 5X7 ODF 5'
	SSE-6-ZP 5X7 ODF 5'
	SSE-7-C 5X7 ODF 5'
	SSE-7-ZP 5X7 ODF 5'
	SVE-1/2-C 4X5 ODF 5'
	SVE-10-C 5X7 ODF 5'
	SVE-1-1/2-C 4X5 ODF 5'
	SVE-1-1/2-L1 3X4 ODF 5'
	SVE-1-1/2-Z 3X4 ODF 5'
	SVE-1-1/2-ZP40 4X5 ODF 5'
	SVE-15-C 7X11 ODF 5'
	SVE-15-CP100 7X9 ODF 5'
	SVE-1-C 4X5 ODF 5'
	SVE-1-ZP40 4X5 ODF 5'
	SVE-2-C 4X5 ODF 5'
	SVE-2-L1 4X5 ODF 5'
	SVE-2-ZP40 4X5 ODF 5'
	SVE-3-C 4X5 ODF 5'
	SVE-3-L1 4X5 ODF 5'
	SVE-3-L2 4X5 ODF 5'
	SVE-3-ZP40 4X5 ODF 5'
	SVE-4-C 4X7 ODF 5'
	SVE-4-L1 4X7 ODF 5'
	SVE-4-X 4X7 ODF 5'
	SVE-4-ZP40 4X7 ODF 5'
	SVE-5-C 4X7 ODF 5'
	SVE-8-C 5X7 ODF 5'
	SVE-8-L1 5X7 ODF 5'
	SVE-8-Z 5X7 ODF 5'

PART NO*	SPORLAN MODEL**
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TYPE EMC

	EMC-10-PC 3X4 ODF 5'
	EMC-10-SC 3X4 ODF 5'
	EMC-10-SZ 3X4 ODF 5'
	EMC-10-VC 3X4 ODF 5'
	EMC-10-VZ 3X4 ODF 5'
	EMC-11-SZ 3X4 ODF 5'
	EMC-20-PC 3X4 ODF 5'
	EMC-20-SC 3X4 ODF 5'
	EMC-20-VC 3X4 ODF 5'
	EMC-21-PC 3X4 ODF 5'
	EMC-21-SC 3X4 ODF 5'
	EMC-21-VC 3X4 ODF 5'
	EMCE-10-JC 3X4 ODF 5'
	EMCE-10-PC 3X4 ODF 5'
	EMCE-10-SC 3X4 ODF 5'
	EMCE-10-SZ 3X4 ODF 5'
	EMCE-10-VC 3X4 ODF 5'
	EMCE-10-VZ 3X4 ODF 5'
	EMCE-11-SZ 3X4 ODF 5'
	EMCE-11-VZ 3X4 ODF 5'
	EMCE-12-SC 3X4 ODF 5'
	EMCE-12-SZ 3X4 ODF 5'
	EMCE-12-VC 3X4 ODF 5'
	EMCE-12-VZ 3X4 ODF 5'
	EMCE-13-SZ 3X4 ODF 5'
	EMCE-13-VZ 3X4 ODF 5'
	EMCE-20-JC 3X4 ODF 5'
	EMCE-20-PC 3X4 ODF 5'
	EMCE-20-SC 3X4 ODF 5'
	EMCE-20-VC 3X4 ODF 5'
	EMCE-21-JC 3X4 ODF 5'
	EMCE-21-PC 3X4 ODF 5'
	EMCE-21-SC 3X4 ODF 5'
	EMCE-21-VC 3X4 ODF 5'
	EMCE-22-JC 3X4 ODF 5'
	EMCE-22-PC 3X4 ODF 5'
	EMCE-22-SC 3X4 ODF 5'
	EMCE-22-VC 3X4 ODF 5'
	EMCE-23-PC 3X4 ODF 5'
	EMCE-23-SC 3X4 ODF 5'
	EMCE-23-VC 3X4 ODF 5'

PART NO*	SPORLAN MODEL**
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TYPE KT

	KT-43-FC 5'(1.5M) ELEMENT
	KT-43-FZ 5'(1.5M) ELEMENT
	KT-43-FZP 5'(1.5M) ELEMENT
	KT-43-PC 5' ELEMENT
	KT-43-RC 5'(1.5M) ELEMENT
	KT-43-RZ 30"(.75M) ELEMENT
	KT-43-RZP 5'(1.5M) ELEMENT
	KT-43-VC 5'(1.5M) ELEMENT
	KT-43-VZ 5'(1.5M) ELEMENT
	KT-43-VZP 5'(1.5M) ELEMENT
	KT-53-FC 5' ELEMENT
	KT-53-FZ 5'(1.5M) ELEMENT
	KT-53-FZP 5'(1.5M) ELEMENT
	KT-53-RC 5' ELEMENT
	KT-53-SZ 5' ELEMENT
	KT-53-SZP 5' ELEMENT
	KT-53-VC 5' ELEMENT
	KT-53-VZ 5'(1.5M) ELEMENT
	KT-53-VZP 5'(1.5M) ELEMENT
	KT-83-FC 5' ELEMENT
	KT-83-SC 5' ELEMENT
	KT-83-SZ 5' ELEMENT
	KT-83-SZP ELEMENT
	KT-83-VC 5' ELEMENT
	KT-45-ZGA, 30" ELEMENT

IMPORTANT NOTES:




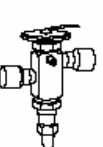

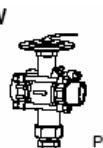
- A. R-134a air conditioning and commercial refrigeration applications are using R-12 or R-409A or R-401A elements.
- B. R-404A commercial refrigeration applications are using R-502 or R-408A elements.
- C. R-404A and R-507 low temperature refrigeration applications are using R-502 or R-402A or R-408A elements.

*() Please contact your local Carlyle Certified Refrigeration Partner or RCD Customer Service Center for part number and pricing.

THERMOSTATIC EXPANSION 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 100	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

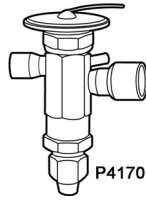
THERMOSTATIC EXPANSION VALVES

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)	
			Inlet	Outlet
22 (V)	SVE-2	GA or CP100	1/2	5/8
	SVE-3			
	SVE-4			
	SVE-5			
	SVE-8		5/8	7/8
	SVE-10			

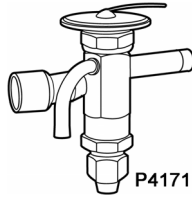


P4170

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. Extended ODF Solder)	
	External Equalizer Only		Inlet	Outlet
22 (V)	EBSVE-8	GA or CP100	5/8	7/8
	EBSVE-11			

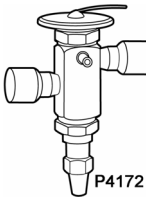


P4171

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	STANDARD CONNECTIONS (in. ODF Solder)	
				Inlet	Outlet
22 (V)	OVE-15	83	GA or CP100	7/8	1-1/8
	OVE-20				
	OVE-30				
	OVE-40	33		1-1/8	1-3/8
	OVE-55				
	OVE-70				



P4172

Type-RC

With internal check valve.

R-22 ELEMENT SIZE No. 43, Knife Edge Joint, Standard Tubing Length 30 Inches

R-410A ELEMENT SIZE No. 45, Knife Edge Joint, Standard Tubing Length 30 Inches

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

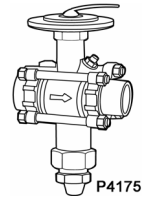


P4521

Type-W

ELEMENT SIZE No. 63, Small Capacity No. 7 Large Capacity—Gasket Joint, Standard Tubing Length 10 Feet, Flange Ring Size —2-3/4" OD x 3-3/16" ID.

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

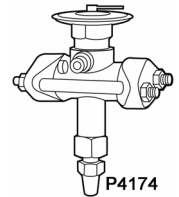


P4175

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 (in. Extended ODF Solder)	
	External Equalizer Only		Inlet	Outlet
22 (V)	VVE-52	GA or CP10 0	1-3/8	1-3/8
	VVE-70			
	VVE-100			



P4174

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"

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	—

THERMOSTATIC EXPANSION VALVES

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

THERMOSTATIC EXPANSION VALVES

SPORLAN THERMOSTATIC EXPANSION VALVE PART NUMBERS

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

Type EBS Series Valves

Part No	DESCRIPTION
EBSVE-11-GA5/8X7/8OD	EBSVE-11-GA 5/8X7/8 ODF
EBSVE-8-CP1005/8X7/8	EBSVE-8-CP100 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

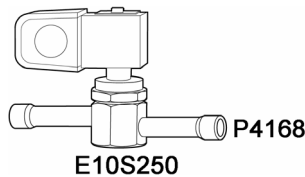
Part No	DESCRIPTION
VVE-100-GA13/8X13/8	VVE-100-GA 1-3/8X1-3/8 ODF
VVE-52-GA13/8X138OD	VVE-52-GA 1-3/8X1-3/8 ODF
VVE-70-GA13/8X13/8OD	VVE-70-GA 1-3/8X1-3/8 ODF
VVE100CP10013/8X13/8	VVE-100-CP100 1-3/8X1-3/8 ODF
VVE52CP10013/8X13/8	VVE-52-CP100 1-3/8X1-3/8 ODF
VVE70CP10013/8X13/8O	VVE-70-CP100 1-3/8X1-3/8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

SOLENOID VALVES

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 and 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**																			
“E”	R-22					R-134a					R-401A					R-402A				
SERIES VALVE	PRESSURE DROP – psi*																			
	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**																			
“E” SERIES VALVES	404A					407C					502					507				
	PRESSURE DROP – psi*																			
	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.

SOLENOID VALVES

SPORLAN SOLENOID VALVES

SPECIFICATIONS

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

SOLENOID VALVES

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.

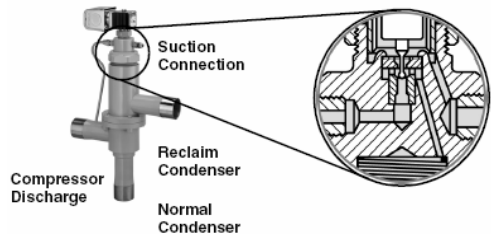
KS-B6/E6	KS-B19/E19
KS-B9/E9	KS-B25/E25
KS-B10/E10	KS-B34/E34
KS-B14/E14	KS-B42/E42

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

THREE-WAY HEAT RECLAIM VALVES

THREE WAY HEAT RECLAIM VALVES



Sporlan Heat Reclaim Valves are tight synthetic seating three way valves designed specifically to divert hot gas from the normal to auxiliary condenser.

OPERATION

“B” TYPE

Normal (Outdoor) Condenser – De-energized – With the pilot valve de-energized, high side pressure is prevented from entering the cavity above the piston-seat assembly. At the same time the upper pilot port is opened to suction pressure. The resulting pressure differential across the piston moves the piston-seat assembly to close the reclaim (upper) main port. When the upper pilot port is open, the cavity above the piston is open to suction. Pump out of the reclaim condenser is controlled by the bleed rate through the piston. After the reclaim condenser has been pumped out, and the valve continues to operate in the normal condenser mode, all flow ceases, thus eliminating high to low side bleed and the resulting capacity loss.

“C” TYPE

Normal (Outdoor) Condenser – De-energized – With the pilot valve de-energized, high side pressure is prevented from entering cavity above the piston-seat assembly. At the same time the upper pilot port is opened to suction pressure. The resulting pressure differential across the piston moves the piston-seat assembly to close the reclaim (upper) main port. The non bleed piston prevents high to low side bleed with the system operating in the normal condenser mode.


















“B” AND “C” TYPE

Reclaim (Reheat) Condenser – Energized – When the pilot valve is energized, high side pressure is permitted to flow thru the lower pilot port. At the same time the upper pilot port is closed to suction. High side pressure on top of the piston moves the piston-seat assembly to close the normal condenser port and open the reclaim (upper) main port. With the upper pilot port closed there is no high to low side bleed loss with the system operating in the reclaim mode.

HEAT RECLAIM SYSTEMS

- With Head Pressure Control
- With Split Condenser Control
- With Integral Check Valve

When employing heat reclaim on a refrigeration system, the addition of head pressure controls is important not only to maintain liquid pressure at the expansion valve inlet, but also to assure availability of quality hot gas at the reclaim heat exchanger. Split condenser controls are important to minimize the required refrigerant charge for wintertime operation. And, integral check valves are important to minimize installation costs.

PART NO*	Sporlan Model
	10G711B 120/50-60 JAM
	10G79B 120/50-60 JAM
	12D11B LESS COIL
	12D11C LESS COIL
	12D13B LESS COIL
	12D13B-SC LESS COIL
	12D13C LESS COIL
	16D17B LESS COIL
	16D17B-SC LESS COIL
	16D17C LESS COIL
	8D7B 208-240/50-60 JAN
	8D7B DUAL JAU
	8D7C LESS COIL
	8D9B DUAL JAU
	8D9B LESS COIL
	8D9B-CV 24/50-60 LAQ
	8D9C LESS COIL

Note: SC - split condenser; CV - check valve.

*() Please contact your local Carlyle Certified Refrigeration Partner or RCD Customer Service for P/N and Pricing.

FILTER DRIERS

SPORLAN 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.

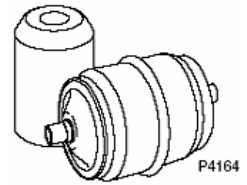
MOISTURE — The **Catch-All Filter Drier** removes moisture from the refrigerant by adsorbing and retaining it deep within the desiccant granules.

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 plug 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



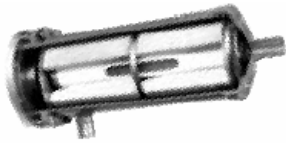
SEALED TYPE – Liquid Line and Suction Line SPECIFICATIONS

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	0.44	
C-052	C-052-S	—	1/4	5	4.75	4.19	0.38	2.44
—	C-0525-S	—	5/16		—	4.38	0.44	
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	0.44	
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	0.44	
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	0.50	
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	—	—	3.50
C-414	C-414-S	—	1/2		9.94	9.05	0.50	
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	0.94	
—	—	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	0.90	
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	0.66	
		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 SMT-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.

FILTER DRIERS

SPORLAN 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

FILTER DRIERS

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

FILTER DRIERS

SPORLAN 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** (Tons at 1 psi ΔP)					Refrigeration			Air Conditioning							
		Refrigerant 22 60 PPM		Refrigerant 134a 50PPM		Refrigerant 404A/507 50 PPM		Refrigerant 407C 50 PPM		Refrigerant 410A 50 PPM							Commercial & Low Temperature Equipment			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	22	134a	404A 507	407C	410A	12 & 134a	22	404A, 502 & 507	12 & 134a	22, 407C & 410A						
C-032	9															1/4	1/4	1/4	1/2	1/2							
C-032-CAP																											
C-032-S																											
C-032-F		61	50	67	48	71	58	52	17	27	20	1.5	1.3	1.0	1.3	1.4											
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															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		146	119	158	114	169	138	123	40	63	48	2.1	1.9	1.4	1.9	2.0											
C-053												3.4	3.1	2.3	3.1	3.3											
C-053-S	4.1											3.8	2.7	3.8	4.0												
C-082	21															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																											
C-083-S																											
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															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																											
C-163-S																											
C-164																											
C-164-S	346	297	396	285	424	345	307	100	158	119	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											15.9	14.5	10.6	14.6	15.5												
C-303-S	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-304											5.3	4.7	3.4	4.7	5.0												
C-304-S											10.1	9.3	6.8	9.3	9.8												
C-305											11.0	10.1	7.3	10.1	10.7												
C-305-S											14.9	13.6	9.9	13.7	14.5												
C-307-S											16.9	15.5	11.3	15.5	16.4												
C-414	936	713	1017	733	1088	885	788	254	407	305	21.6	19.8	14.4	19.9	21.0	5 thru 10	5 thru 12	5 thru 10	5 thru 12	7-1/2 thru 15							
C-414-S											11.5	10.5	7.6	10.5	11.1												
C-415											12.4	11.4	8.3	11.4	12.1												
C-415-S											15.8	14.5	10.6	14.6	15.4												
C-417-S											17.5	16.1	11.8	16.2	17.1												
C-419-S											22.1	20.3	14.8	20.4	21.5												
C-607-S	24.3	22.3	16.3	22.4	23.7																						
C-609-S	29.1	26.6	19.5	26.8	28.4																						
	106	1392	1134	1512	1090	1618	1316	1172	378	604	454	33.2	30.4	22.3	30.7	32.4	15	15	10	15	20						

*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 connection sizes used.

FILTER DRIERS

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

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	3.00	3		2	
	C-305-S-T-HH	5/8			9.25	0.62					
	C-306-S-T-HH	3/4			9.65	0.62					
	C-307-S-T-HH	7/8			9.80	0.75	3.50	5		3	
	C-309-S-T-HH	1-1/8			9.75	0.96					
	C-417-S-T-HH	7/8			9.81	0.75					
	C-419-S-T-HH	1-1/8			9.75	0.96	4.75	7-1/2		4	
	C-437-S-T-HH	7/8			10.34	0.75					
	C-439-S-T-HH	1-1/8			10.74	0.96					
	C-4311-S-T-HH	1-3/8			10.94	1.00	3.00	10		5	
	C-4313-S-T-HH	1-5/8			10.94	1.06					
	C-607-S-T-HH	7/8			16.00	0.75					
	C-609-S-T-HH	1-1/8			16.00	0.96	4.44	5		3	
	SEALED TYPE COMPACT STYLE	C-144-S-TT-HH			1/2	4.14					
C-145-S-TT-HH		5/8	4.38	0.62	3	2					
C-146-S-TT-HH		3/4	4.83	0.69							
C-147-S-TT-HH		7/8	4.97	0.75					5		3
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
	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 will 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.

FILTER DRIERS

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 individuals 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

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.

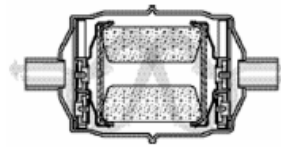
By installing HH Style Catch-All Filter Driers in the liquid line of all low temperature systems these wax problems can be entirely prevented. In addition to their wax removal ability, these filter driers will remove all of the other harmful contaminants that the standard filter driers remove.

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	

FILTER DRIERS

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	Refrigerant							
					R-22	R-410A	R-22 Drops at 60 ppm		R-410A Drops at 80 ppm		R-22	R-410A
							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.

FILTER DRIERS

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		Dimensions				
WITHOUT Access Valve	WITH Access Valve	CONNECTIONS (in)	FILTER AREA Sq In	Overall Length Inches	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		Dimensions				
WITHOUT Access Valve	WITH Access Valve	CONNECTIONS (in)	FILTER AREA Sq In	Overall Length Inches	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 RECOMMENDATIONS

Part No		NOMINAL SYSTEM HORSEPOWER* Refrigerant		
WITHOUT Access Valve	WITH Access Valve	CONNECTIONS (in)	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.

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

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

CONNEC- TION 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.

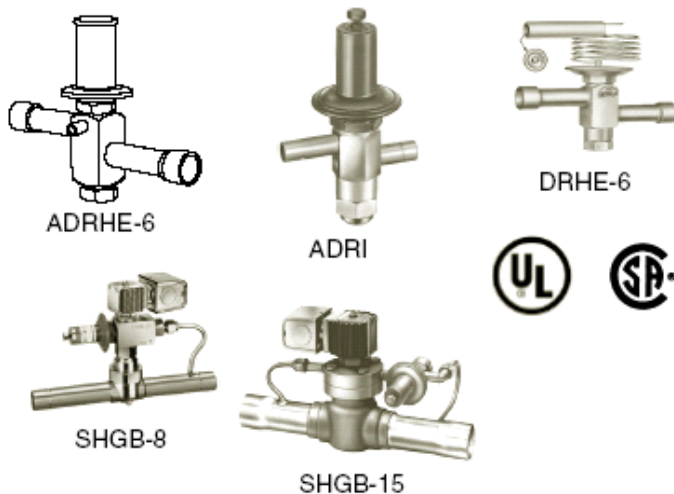
Moisture Content PPM

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.

DISCHARGE BYPASS VALVES

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 are 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 on 1/2 in., 5/8 in. SAE Flare

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

SHGB(E)-8 — 7/8 in. ODF, 1-1/8 in. ODF Solder

SHGB(E)-15 — 1-1/8 in., 1-3/8 in. ODF Solder

Valves with ODF solder connections are supplied standard with 1/4 in. ODF external equalizer, 1/4 in. SAE Flare external equalizer available on special order. Pilot operated models are supplied with 1/4 in. SAE external equalizer.

DISCHARGE BYPASS VALVES

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

PRESSURE REGULATING VALVES

CRANKCASE PRESSURE REGULATING VALVES



CROT

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 vapor flow from the evaporator until the compressor can handle the load.

Sporlan manufactures five adjustable 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 three items: design suction pressure after pull down, 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.

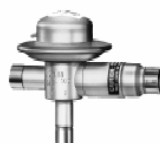
PART NO*	SPORLAN MODEL
	CRO-4-0/20 4X4 ODF LS
	CROT-10 30/110 9 ODF WS
	CROT-10 30/110 11 ODF WS
	CROT-10 0/60 11 ODF WS
	CROT-10 0/60 1-1/8" ODF
	CROT-10 0/60 7 ODF WS
	CROT-10 30/110 7 ODF WS
	CROT-12-65/225 9 ODF
	CROT-15-65/225 11 ODF
	CROT-6 0/60 5 ODF WS
	CROT-6 0/60 1/2" SAE
	CROT-6 0/60 5/8" SAE
	CROT-6 0/60 7 ODF WS
	CROT-6 30/110 5 ODF WS
	CROT-6 30/110 7 ODF WS

*() Please contact your local Carlyle Certified Refrigeration Partner or RCD Customer Service for P/N and Pricing.

HEAD PRESSURE CONTROL VALVES



ORI-6



OROA-5



ORO-4



LAC-4



ORIT-20-65/225



CROT-15-65/225



LAC-10

Sporlan Head Pressure Control for systems with air cooled condensers can be accomplished with several valve types or combinations. The valve types are: LAC-4, OROA-5, LAC-5, LAC-10, ORI/ORD combination and the ORIT/CROT combination.

The LAC, OROA, ORI and ORIT are designed for application in the liquid line and should not be applied in the discharge line for any reason. Compressor pulsations can greatly shorten the life of the valves. If any of the valves are applied in any manner other than described here, the Sporlan warranty is void.

PART NO*	SPORLAN MODEL
	ORD-4-20 5/8 ODF
	ORD-4-20 7/8 ODF
	ORD-4-25 5/8 ODF
	ORD-4-30 5/8 ODF
	ORD-4-35 5/8 ODF
	ORI-10 65/225 1-1/8"
	ORI-10 65/225 1-3/8"
	ORI-10 65/225H 7 ODF WS
	ORI-10 65/225H 11 ODF WS
	ORI-6 65/225 5/8" WS
	ORI-6 0/50 5 ODF WS
	ORI-6 65/225 7/8" WS
	ORI-6 65/225H 9 ODF WS
	ORIT-15-65/225 11 ODF
	ORIT-20-65/225 13 ODF

PART NO*	SPORLAN MODEL
	OROA-5-100 5/8 ODF WS
	OROA-5-100 7/8 ODF WS
	OROA-5-150 7/8 ODF WS
	OROA-5-180 5/8 ODF WS
	OROA-5-180 7/8 ODF WS
	OROA-5-220 5/8 ODF WS

IMPORTANT NOTES: WS - With Strainer
LS - Less Strainer

PART NO*	SPORLAN MODEL
	LAC-10-100 11X7 ODF LS
	LAC-10-100 11X9 ODF LS
	LAC-4-100 1/2 ODF LS
	LAC-4-180 3/8 ODF LS
	LAC-4-190 1/2 ODF LS
	LAC-4-210 1/2 ODF LS
	LAC-4-240 1/2 ODF LS
	LAC-5-100 1-1/8 ODF LS
	LAC-5-210 5/8 ODF WS
	LAC-5-75 1/2 ODF LS

PART NO*	SPORLAN MODEL
	CROT-12-65/225 9 ODF
	CROT-15-65/225 11 ODF

*() Please contact your local Carlyle Certified Refrigeration Partner or RCD Customer Service for P/N and Pricing.

PRESSURE REGULATING VALVES

DEFROST DIFFERENTIAL PRESSURE REGULATING VALVES

DDR-20 VALVE OPERATION

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

The (O)LDR valve is located between the receiver and the liquid header. The DDR-20 is located in the discharge line before the condenser.

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 5 to 50 psig. The (O)LDR has a factory setting of 18 psid and the DDR-20 has a factory setting of 30 psid. Turning the stem clockwise increases the setting, counterclockwise decreases the setting.



PART NO*	SPORLAN MODEL
	OLDR-15 11ODF LESS COIL
	OLDR-15 9ODF LESS COIL
	OLDR-20 13ODF LESS COIL
	OLDR-20 17ODF LESS COIL
	DDR-20 13 ODF LESS COIL

*() Please contact your local Carlyle Certified Refrigeration Partner or RCD Customer Service for P/N and Pricing.

EVAPORATOR PRESSURE REGULATING VALVES

The Sporlan line of evaporator pressure regulating (EPR) valves 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 **Open** on **Rise** 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.

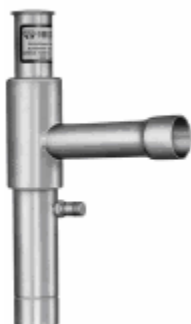
Sporlan offers a number of EPR valve types in various sizes, and with optional features to accommodate almost any industry requirement. For more complete information on any of the EPR valve types see your Sporlan Wholesaler or contact your Sporlan Sales Engineer.

APPLICATIONS

- 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

ORIT

SORIT



PART NO*	SPORLAN MODEL
	ORI-6 0/50 5 ODF WS
	ORIT-10 0/50 7 ODF WS
	ORIT-10 0/50 11 ODF WS
	ORIT-10 0/50 9 ODF WS
	ORIT-10 30/100 7 ODF WS
	ORIT-10 30/100 9 ODF WS
	ORIT-10 30/100 11 ODF WS
	ORIT-12 0/100 9 ODF
	ORIT-15 0/100 11 ODF
	ORIT-20 0/100 13 ODF
	ORIT-6 0/50 5/8" SAE
	ORIT-6 0/50 1/2" SAE
	ORIT-6 0/50 5 ODF WS
	ORIT-6 0/50 7 ODF WS
	ORIT-6 30/100 5 ODF WS
	ORIT-6 30/100 7 ODF WS
	ORIT-PI-25-0/100
	ORIT-PI-27-0/100
	ORIT-PI-29-0/100
	ORIT-PI-311-0/100
	ORIT-PI-39-0/100
	ORIT-PI-411-0/100
	ORIT-PI-413-0/100
	ORIT-PI-513-0/100

PART NO*	SPORLAN MODEL
	SORIT-12 0/100 208-240VAC 9ODF
	SORIT-12-0/100 LC 9ODF
	SORIT-15-0/100 LC 11ODF
	SORIT-20-0/100 LC 13ODF
	SORIT-PI-211S-0/100 LC
	SORIT-PI-25S-0/100 LESS COIL
	SORIT-PI-25SE-0/100 LESS COIL
	SORIT-PI-27S-0/100 LESS COIL
	SORIT-PI-27SE-0/100 LESS COIL
	SORIT-PI-29S-0/100 LESS COIL
	SORIT-PI-29SE-0/100 LESS COIL
	SORIT-PI-311S-0/100 LESS COIL
	SORIT-PI-313S-0/100 LESS COIL
	SORIT-PI-37S-0/100 LESS COIL
	SORIT-PI-39S-0/100 LESS COIL
	SORIT-PI-411S-0/100 LESS COIL
	SORIT-PI-413S-0/100 LESS COIL
	SORIT-PI-417S-0/100 LESS COIL
	SORIT-PI-49S-0/100 LESS COIL
	SORIT-PI-511S-0/100 LESS COIL
	SORIT-PI-513S-0/100 LESS COIL
	SORIT-PI-517S-0/100 LESS COIL

IMPORTANT NOTES: WS - With Strainer

*() Please contact your local Carlyle Certified Refrigeration Partner or RCD Customer Service for P/N and Pricing.

ELECTRONIC TEMPERATURE CONTROL SYSTEMS



CDS

Type CDS-9 and CDS-16

PART NO*	SPORLAN MODEL
	CDS-16 11ODF 10'-S ST
	CDS-16 11ODF 20'-S ST
	CDS-9 7ODF 20'-H
	CDS-9 9ODF 20'-S

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SERIES OIL FILTER

DESIGN BENEFITS

- Virtually eliminates the need for oil changes due to suspended particulate in circulation
- Unsurpassed filtering efficiency
99% removal of 3 micron sized particles
98% removal of 2 micron sized particles
- Element utilizes a pleated design for maximum surface area
- Unsurpassed filtration capacities

The Sporlan Catch-All or SF-283-F Suction Filter has been used for many years as an oil filter in refrigeration rack systems with mineral or alkylbenzene as the lubricant of choice.

With the use of the new polyolester (POE) oils, system chemistry has changed. Unlike mineral and alkylbenzene oils, POE oil has solvent like tendencies. POE oil has the ability to suspend and recirculate small, solid contaminants left from system installation or retrofit. Analysis of POE oil samples taken from actual systems have shown the oil to suspend and recirculate a high concentration of 2-20 micron sized particles, with the largest percentage between 2-10 microns. Although some particles are smaller than bearing tolerances, studies have shown bearing life can still be affected.

- High flow capacities with low pressure drop
- Filter element utilizes an O-ring seal
- Inert micro glass filter material insures lubricant compatibility
- Dimensions allow for easy replacement of current filter



Bearing wear depends upon the size, hardness, and concentration of particles in circulation. To effectively remove these small particles, Sporlan developed a new type of oil filter.

The OF Series Oil Filters are designed to be 99% efficient in removing 3 micron sized particles and yet have sufficient flow capacity at a low pressure drop. The unsurpassed filtration ability of the oil filters will assure clean POE, mineral, or alkylbenzene oil is returned to the compressors. Clean oil insures proper operation of the oil level control and minimizes compressor wear. The Sporlan OF Series Oil Filters were designed to virtually eliminate the need for oil changes resulting from suspended solid contaminants in circulation.

PART NO*	SPORLAN MODEL
	OF-303 OIL FILTER
	OF-303-T OIL FILTER
	OF-303-BP OIL FILTER
	ROF-413-T REPLACEABLE FILTER
	OFE-1 OIL FILTER ELEMENT

*() Please contact your local Carlyle Certified Refrigeration Partner or RCD Customer Service for P/N and Pricing.

OIL LEVEL CONTROL SYSTEM

OIL LEVEL CONTROL SYSTEM

Sporran's Oil Level Control System Components were developed to offer the refrigeration industry an oil level control system of the highest quality. The heart of the system is the Oil Level Control which when matched with the Oil Reservoir and Oil Differential Check Valve maintains a minimum oil level in the compressor crankcase during all phases of system operation.

OIL RESERVOIR Type OR-1-1/2

The Sporlan Oil Reservoir (OR-1-1/2) is a holding vessel to contain the oil that is not within the crankcase, the oil separator, or in circulation. The OR-1-1/2 has an inlet and an outlet service valve so it may be isolated from the rest of the system, or the oil supply from the oil reservoir to the Oil Level Control can be eliminated for service. The OR-1-1/2 also contains two sight glasses so the maximum and minimum oil level can be observed. The sight glasses are placed on the shell symmetrically so 1/4 gallon of oil is contained between the lower sight glass and the bottom of the shell; 1 gallon is contained between the sight glasses; and 1/4 gallon is contained between the upper sight glass and the top of the shell. This allows the shell to be mounted vertically with either service valve on top. Depending on which end of the OR-1-1/2 Oil Reservoir is mounted to the top, the oil service valves will be pointing either right or left for piping convenience.

OIL DIFFERENTIAL CHECK VALVE

Types OCV-5, OCV-10, OCV-20

The Sporlan Oil Level Differential Check Valve (OCV) is installed on the 3/8 SAE fitting on top of the OR-1-1/2, and allows pressure to be relieved from the reservoir to the suction as required to maintain a pressure in the reservoir at a preset level above the suction pressure. The pressure differential created by the OCV assures oil flow from the reservoir to the Oil Level Control providing there is adequate oil in the reservoir.













NOTE: OL-60CH replaces OL-1CH and OL-2CH;
OL-60FH replaces OL-1FH and OL-2FH models.

The OCV will only relieve pressure from the reservoir in excess of its fixed set point. Systems with fluctuating suction pressure as a result of compressor unloads, staging or other suction line controls must be fitted with an OCV with a differential greater than the suction pressure fluctuation to assure oil flow from the OR-1-1/2 through the oil level control to the compressor crankcase.

Sporlan offers OCV's with a 5, 10, and 20 psi fixed differential setting. However, Sporlan recommends the use of an OCV-20 on all field built up applications.

OIL LEVEL CONTROLS

The purpose of the Sporlan Oil Level Control is to regulate the flow of oil to the compressor crankcase to maintain a minimum oil level as specified by the compressor manufacturer for any given application.

PART NO*	SPORLAN MODEL
	OL-60CH OIL LEVEL CONTROL
	OL-60FH OIL LEVEL CONTROL
	OL-60XH OIL LEVEL CONTROL
	OR-1-1/2 OIL RESERVOIR
	OCV-10 CHECK VALVE
	OCV-20 CHECK VALVE
	OCV-30 CHECK VALVE
	OCV-5 CHECK VALVE
	S-OL OIL LEVEL SIGHT GLASS KIT
	AOL-A COPELAND ADAPTOR
	AOL-K-1 ADAPTOR KIT -OM-1
	AOL-R-1 KIT












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


OR-1-1/2

OL-60XH

TEMPERATURE RESPONSIVE MISCELLANEOUS VALVES, REPLACEMENT PARTS, PARTS KITS, SOLENOID COILS, AND STRAINER











PART NO*	SPORLAN MODEL
	ADRHE-60/307 ODF
	ADRHE-60/309 ODF
	ADRIE-1-1/4-0/55 3X3 ODF ST
	ADRIE-1-1/4-0/75 3X3 ODF ST
	825-005 INLET STRAINER 5/8 ODF
	825-007 INLET STRAINER 7/8 ODF
	825-009 INLET STR 1-1/8 ODF
	825-011 INLET STR 1-3/8 ODF
	877-003 INLET STRAINER 3/8 ODF
	877-004 INLET STRAINER 1/2 ODF
	6034 Y-TYPE 1/2 FPT STRAINER












PART NO*	SPORLAN MODEL
	K-PI-E KIT
	RK-SORIT-PI-2 0/100
	RK-SORIT-PI-3 0/100
	RK-SORIT-PI-4 0/100
	KS-12DB
	KS-12DC
	KS-16DB
	KS-ORI/CDA-15 INT PARTS KIT
	KS-ORI/CDA-20 INT PARTS KIT
	K-SORIT-PI KIT
	K-Y1005-1 0/100 PILOT ASSY KIT
	OMKC-2 120/50-60 JAM
	OMKC-2 208-240/50-60 JAN












PART NO*	SPORLAN MODEL
	Y 1037-FV-1-1/2-190 3VX3 ODF 5'
	Y 1037-FV-1-190 3VX3 ODF 30'
	Y 1037-FV-2-190 3VX3 ODF 5'
	Y 1037-FV-3-190 3VX3 ODF 5'
	Y 1037-FV-5-190 3VX3 ODF 5'
	Y 1037-FV-1/2-190 3VX3 ODF 5'
	Y 1037-FV-1/2-220 3VX3 ODF 5'
	Y 1037-FV-1/2-230 3VX3 ODF 5'
	Y 1037-FV-1/2-250 3VX3 ODF 5'
	Y 1037-FV-1/3-190 3VX3 ODF 5'
	Y 1037-FV-1-1/2-220 3VX3 ODF 5'
	Y 1037-FV-1-1/2-230 3VX3 ODF 5'
	Y 1037-FV-1-1/2-250 3VX3 ODF 5'
	Y 1037-FV-1-220 3VX3 ODF 5'
	Y 1037-FV-1-230 3VX3 ODF 5'
	Y 1037-FV-1-250 3VX3 ODF 5'

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MISCELLANEOUS

PART NO*	SPORLAN MODEL
	ADRHE-60/307 ODF
	ADRHE-60/309 ODF
	ADRIE-1-1/4-0/55 3X3 ODF ST
	ADRIE-1-1/4-0/75 3X3 ODF ST
	825-005 INLET STRAINER 5/8 ODF
	825-007 INLET STRAINER 7/8 ODF
	825-009 INLET STR 1-1/8 ODF
	825-011 INLET STR 1-3/8 ODF
	877-003 INLET STRAINER 3/8 ODF
	877-004 INLET STRAINER 1/2 ODF

PART NO*	SPORLAN MODEL
	K-PI-E KIT
	RK-SORIT-PI-2 0/100
	RK-SORIT-PI-3 0/100
	RK-SORIT-PI-4 0/100
	KS-12DB
	KS-12DC
	KS-16DB
	KS-ORI/CDA-15 INT PARTS KIT
	KS-ORI/CDA-20 INT PARTS KIT
	K-SORIT-PI KIT
	K-Y1005-1 0/100 PILOT ASSY KIT

PART NO*	SPORLAN MODEL
	MKC-1 120/50-60 JAM
	MKC-1 208-240/50-60 JAN
	MKC-1 24/50-60 JAQ
	MKC-1-DUAL/50-60 JAU
	MKC-2 24/50-60 JAQ
	MKC-2 120/50-60 JAM
	MKC-2 208-240/50-60 JAN
	MKC-2-DUAL/50-60 JAU
	OMKC-2 120/50-60 JAM
	OMKC-2 208-240/50-60 JAN
	6034 Y-TYPE 1/2 FPT STRAINER

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