

Sporlan Refrigeration and Air Conditioning Products

Oil Level Controls

Oil filters

Suction Filters

See All

Head Pressure Control Valves

Three-Way Heat Reclaim Valves

Solenoids

Evaporator Pressure Regulating Valves

TEV

Catch-All

Discharge Bypass Valves

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 Size and Style		Outlet Connection Size and Style		External Equalizer Connection Size and Style		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									
	404A (S) 502 (R) 408A (S)			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									
	507 (P) 402A (L)			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.

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RECOMMENDED THERMOSTATIC CHARGES

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

• APPLICATION FACTORS

- 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.
- All A/C and Heat pump charges are intended for use with externally equalized valves.
- Type L liquid charges are also available for most commonly used refrigerants in most element sizes.
- If in doubt as to which charge to use, contact Sporlan Valve Company, Washington, Missouri with complete system data.
- The type X charges are not to be used with “EBS” and “O” valves.

• IMPORTANT NOTES

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

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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.

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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"

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

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



TYPE SBF

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-AAA-ZP 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-Z 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-Z 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-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.

SPORLAN

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-83-VZP, 5' ELEMENT
	KT-45-ZGA, 30" ELEMENT

IMPORTANT NOTES:

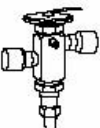
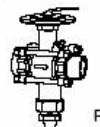
- A. R-134a air conditioning and commercial refrigeration applications are using R-12 or R-409A or R-401A elements.
- B. R-404A commercial refrigeration applications are using R-502 or R-408A elements.
- C. R-404A and R-507 low temperature refrigeration applications are using R-502 or R-402A or R-408A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

*() Please contact your local Carlyle Certified Refrigeration Partner or RCD Customer Service Center for PART NO & pricing.

SPORLAN

THERMOSTATIC EXPANSION VALVES

QUICK REFERENCE GUIDE — AIR CONDITIONING VALVES

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

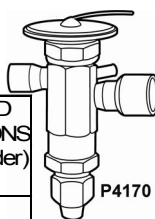
* R-22 M Valves with GA & CP 100 Thermostatic chargers are also available.

THERMOSTATIC EXPANSION VALVES

Type-S

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

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



Type-RC

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

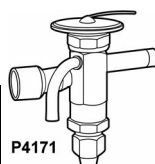


REFRIGERANT (Sporlan Code)	TYPE & CAPACITY	THERMOSTATIC CHARGES AVAILABLE	STANDARD CONNECTIONS Inches ODF Solder	
	External Equalizer Only		Inlet	Outlet
22 (V)	RCVE-2	GA Only	3/8	1/2
	RCVE-3		1/2	5/8
	RCVE-4			
	2 RCVE-5			
	RCVE-6			
	RCZE-2		3/8	1/2
410A (Z)	RCZE-3			
	RCZE-4			
	RCZE-5			
	RCZE-6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

Type-EBS

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

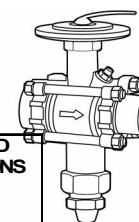
REFRIGERANT (Sporlan Code)	TYPE & CAPACITY	THERMOSTATIC CHARGES AVAILABLE	STANDARD CONNECTIONS (in. ODF Solder)	
	External Equalizer Only		Inlet	Outlet
22 (V)	EBSVE-8	GA or CP100	5/8	7/8
	EBSVE-11			



Type-W

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

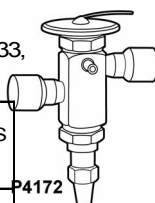
REFRIGERANT (Sporlan Code)	TYPE & CAPACITY	ELEMENT SIZE NUMBER	THERMOSTATIC CHARGES AVAILABLE	STANDARD CONNECTIONS Inches Extended ODF Solder	
	External Equalizer Only			Inlet	Outlet
22 (V)	WVE-135	63	GA or CP100	1-5/8	2-1/8
	WVE-180	7	G only		



Type-O

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

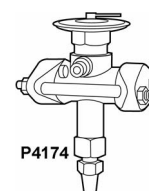
REFRIGERANT (Sporlan Code)	TYPE & CAPACITY	Element Size Number	THERMOSTATIC CHARGES AVAILABLE	STANDARD CONNECTIONS (in. ODF Solder)	
	External Equalizer Only			Inlet	Outlet
22 (V)	OVE-15	8	GA or CP100	7/8	1-1/8
	OVE-20	3			
	OVE-30	3			
	OVE-40	3		1-1/8	1-3/8
	OVE-55	3			
	OVE-70	3			



Type-V

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

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



TEV REPLACEMENT ELEMENTS

Item Descriptions

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

THERMOSTATIC EXPANSION VALVES

AIR CONDITIONING AND HEAT PUMP APPLICATIONS

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

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

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

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

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

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

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