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SPORLAN

Ball Valve with Integral Pressure Relief

Type EBV(T)-PR



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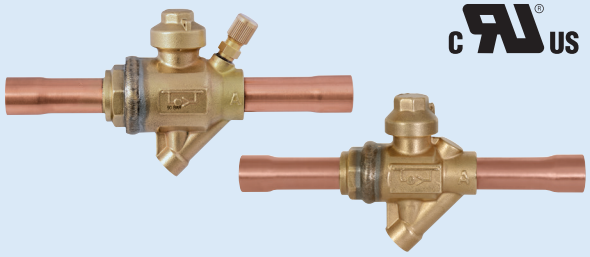
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BALL VALVE WITH INTEGRAL PRESSURE RELIEF

EBV(T)-PR Series

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

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

FEATURES

- Allows for positive shut-off in one direction and flow in the other direction whenever pressure differential is present. (The integrated pressure relief feature is one direction only)
- Protects system from pressure spikes when servicing equipment
- Welded body joint. Factory tested to ensure positive, leak-free performance. Forged brass body construction with extended copper fittings. Optional access fitting versions available
- Full size ports for unrestricted flow on most sizes, 3/8" (10 mm) through 2-1/8" (51 mm)
- Dual Teflon seals surround the polished, stainless steel ball to prevent leakage. Stem seal and stem washer provide the primary stem seal. Bottom load stem for safety
- Stainless steel stop plate ensures fully open to fully closed with a 1/4 turn
- All EBV(T)-PR ball valves may be installed in any position
- All EBV(T)-PR ball valves use C19400 (K65) copper fitting material

SPECIFICATIONS

- Continuous temperature range: -40°F (-40°C) to 248°F (120°C)
- Installation temperature (15 minutes max.) limit: 300°F (149°C)
- Design working pressure: 1,305 psig (90 barg)
- Integral Pressure Relief
  - Crack open pressure: <5 psid
  - Full open pressure: 50 psid
  - Wide open flow: 1.93 gpm H_2O @ 50 psid
- For refrigeration or air conditioning systems
- Suitable for use with Class A1, A2L and A3 refrigerants: HFC, HCFC, HFO, and CO_2
- U.S. Patent 10, 107, 406; EP3295067; International Patents pending
- U.L. Recognized, File No SA5460 (SFJQ2)
- CE and RoHS Compliant
- Date code is YYMMDD

The EBV(T)-PR valve will close in one direction and relieve pressure in the other direction. This single valve would replace a current ball valve plus a check valve plumbed around the ball valve. Allows evaporator coil to be isolated without over pressurizing due to warm up. Can also be used in loop piping and at the rack.

The 'A' symbol indicates the pressure relief side of the valve. Any pressure build up on the 'A' side with the ball valve in the closed position can relieve to the other side of the ball valve. When used on an evaporator coil, the 'A' side of the valve should always be on the coil side of the valve. (See Figure 1)

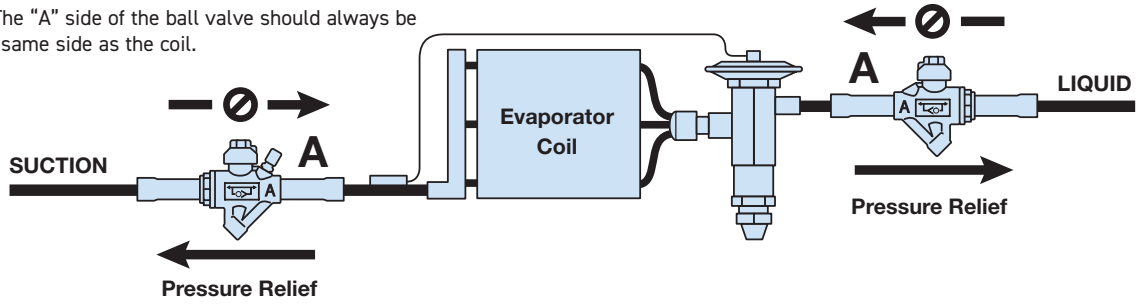


This symbol indicates the direction of pressure relief and direction of check valve feature. The check direction will flow from left to right. The pressure relief direction will flow from right to left

IMPORTANT: This valve has a pressure relief feature in one direction only. If installed incorrectly, pressures may drastically increase causing rupture of valve, piping and/or other components exposed to such pressure. This could cause damage to equipment and cause injury or possible death to anyone in the area.

Figure 1 - Valve Closed for Evaporator Service

Note: The "A" side of the ball valve should always be on the same side as the coil.



NOMENCLATURE

Inches - Example: EBVT-PR1030

EBV	T	-	PR	1	03	0
Valve Type	Access Fitting		Pressure Relief	**Series:** 1 = Full Port 2 = Reduced Port	**Fitting Size:** 03 = 3/8"	**Fitting Configuration:** 0 = ODF x ODF

Millimeters - Example: EBVT-PR 12MM

EBV	T	-	PR	12mm
Valve Type	Access Fitting		Pressure Relief	Metric Fitting Size

DIMENSIONS

EBV(T)-PR Series - Inches

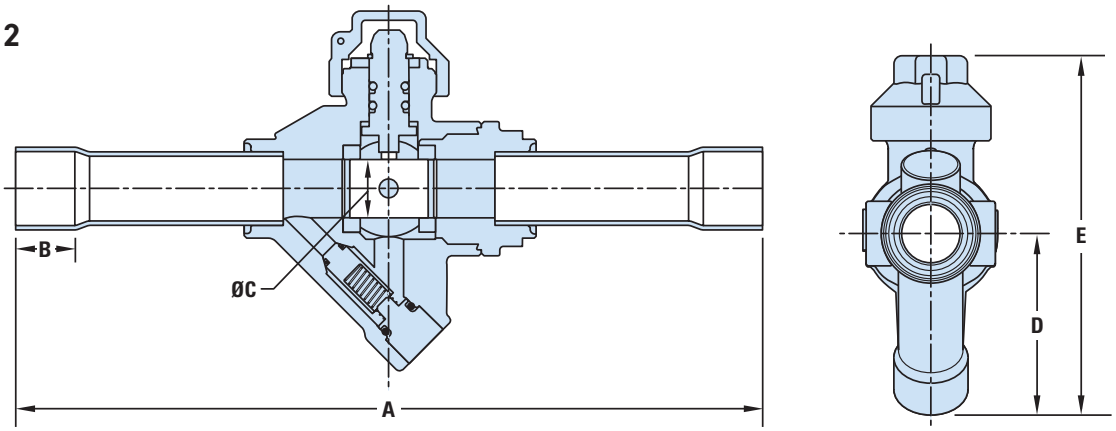
PART NUMBER	MODEL NUMBER	ACCESS FITTING	CONNECTION (ODF)	OVERALL LENGTH A	SOCKET DEPTH B	PORT SIZE C	D	OVERALL HEIGHT E	CV
502199	EBV-PR1030	No	3/8	6.50	0.31	0.50	1.56	3.08	4.3
502200	EBV-PR1040	No	1/2	6.50	0.38	0.50	1.56	3.08	7.0
502201	EBV-PR1050	No	5/8	6.50	0.50	0.50	1.56	3.08	13.9
502202	EBV-PR1060	No	3/4	7.25	0.61	0.75	1.79	3.59	21.0
502203	EBV-PR1070	No	7/8	7.25	0.75	0.75	1.79	3.59	30.3
502204	EBV-PR1090	No	1-1/8	8.50	0.91	1.00	2.13	4.11	61.3
502205	EBVT-PR1030	Yes	3/8	6.50	0.31	0.50	1.56	3.08	4.3
502206	EBVT-PR1040	Yes	1/2	6.50	0.38	0.50	1.56	3.08	7.0
502207	EBVT-PR1050	Yes	5/8	6.50	0.50	0.50	1.56	3.08	13.9
502208	EBVT-PR1060	Yes	3/4	7.25	0.61	0.75	1.79	3.59	21.0
502209	EBVT-PR1070	Yes	7/8	7.25	0.75	0.75	1.79	3.59	30.3
502210	EBVT-PR1090	Yes	1-1/8	8.50	0.91	1.00	2.13	4.11	61.3
502214	EBVT-PR1110	Yes	1-3/8	9.29	0.97	1.25	2.45	4.93	85.2
502215	EBVT-PR1130	Yes	1-5/8	10.5	1.09	1.5	2.78	5.44	212
502216	EBVT-PR1170	Yes	2-1/8	11.45	1.34	2	3.37	6.68	285

EBV(T)-PR Series - Millimeters

PART NUMBER	MODEL NUMBER	ACCESS FITTING	CONNECTION (ODF)	OVERALL LENGTH A	SOCKET DEPTH B	PORT SIZE C	D	OVERALL HEIGHT E	KV
502399	EBV-PR 10MM	No	10 mm	165.1	8	12.7	39.6	78.2	3.7
502400	EBV-PR 12MM	No	12 mm	165.1	10	12.7	39.6	78.2	6.0
502401	EBV-PR 16MM	No	16 mm	165.1	13	12.7	39.6	78.2	12.0
502402	EBV-PR 18MM	No	18 mm	184.1	17	19.1	45.5	91.3	18.1
502403	EBV-PR 22MM	No	22 mm	184.1	20	19.1	45.5	91.3	26.2
502405	EBV-PR 28MM	No	28 mm	216.0	24	25.4	54.2	104.3	53.0
502406	EBVT-PR 10MM	Yes	10 mm	165.1	8	12.7	39.6	78.2	3.7
502407	EBVT-PR 12MM	Yes	12 mm	165.1	10	12.7	39.6	78.2	6.0
502408	EBVT-PR 16MM	Yes	16 mm	165.1	13	12.7	39.6	78.2	12.0
502409	EBVT-PR 18MM	Yes	18 mm	184.1	17	19.1	45.5	91.3	18.1
502410	EBVT-PR 22MM	Yes	22 mm	184.1	20	19.1	45.5	91.3	26.2
502411	EBVT-PR 28MM	Yes	28 mm	216.0	24	25.4	54.2	104.3	53.0

Note: Metric fitting sizes are not carried by Sporlan in North America.
For ordering metric sizes in locations outside North America, please contact your local Parker Sales Company

Figure 2



INSTALLATION

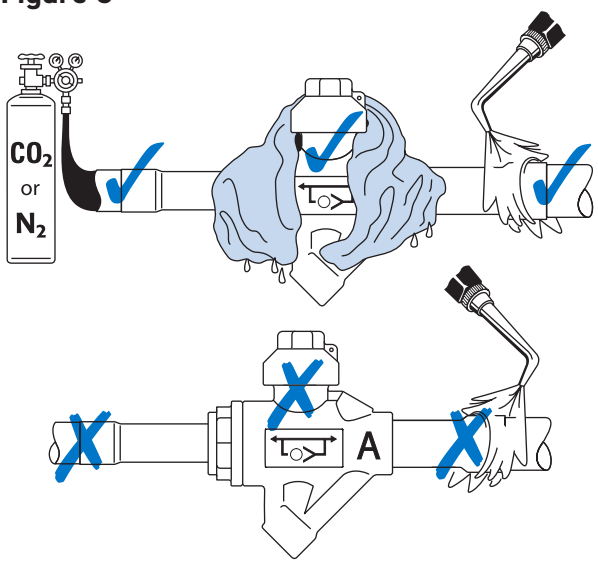
Brazing Instructions

1. **DO NOT DISASSEMBLE.**
2. **WRAP THE BODY OF THE VALVE WITH A WET RAG**
   (to dissipate heat - overheating will damage the valve).
3. Bleed dry nitrogen or CO_2 through the valve while brazing.
4. Use flux with silver brazing alloys.
5. Flux not required with phoscopper alloys, on copper to copper joints, but flux is recommended for deeper penetration and more uniform results with all alloys.
6. Use large enough torch to rapidly heat joint to brazing temperature. Direct flame away from existing copper to brass joints.
7. Quench to reduce heat spread after brazing.

OPERATION NOTES

1. Remove seal cap. **CAUTION:** Pressure may be under seal cap, remove slowly.
2. Rotate stem using adjustable wrench. Turn 90° against the mechanical stops. Align open arrow with refrigerant line for non-directional flow. Turn clock-wise to close; counter-clockwise to open.
3. This valve contains mechanical stops. **DO NOT USE EXCESSIVE FORCE AGAINST STOPS OR PERMANENT DAMAGE MAY OCCUR.**
4. Install seal cap.
5. Valves are designed for use with Class A1, A2L and A3 refrigerants: HFC, HCFC, HFO, and CO_2.

Figure 3



NOTICE:
DO NOT DISASSEMBLE VALVE FOR ANY REASON.

IF THE STOP PLATE IS DAMAGED OR MISSING, REMOVE THE VALVE FROM SERVICE.

NOTE:
WARRANTY IS VOID IF THESE INSTRUCTIONS ARE NOT FOLLOWED.

CAUTION:

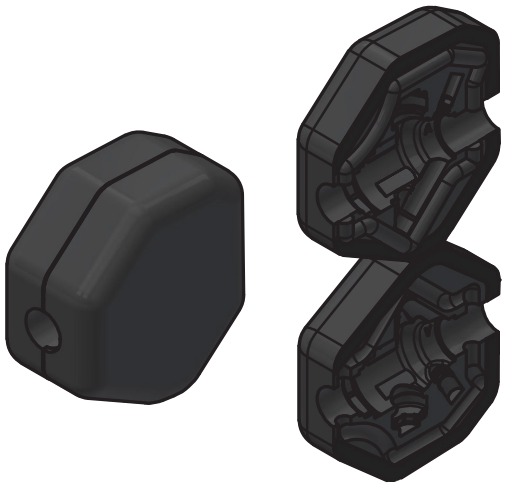
If you isolate a section with an EBVT PR valve and then pressurize that section (often nitrogen) to a pressure higher than the pressure on the opposite side, the valve's internal pressure relief will open to equalize/ protect against trapped overpressure. When it opens, the valve will allow the test gas to pass across the "closed" valve into the other side. This will push nitrogen into a refrigerant-filled section, contaminating it and potentially creating unsafe or noncompliant conditions.

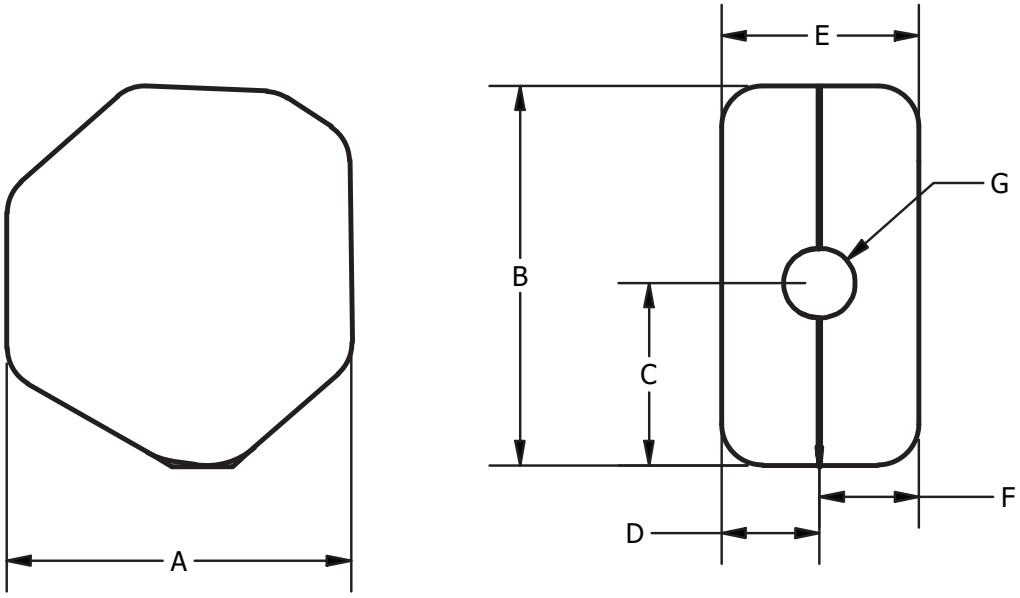
REPLACEMENT STEM CAPS

PART NUMBER	CONNECTION	TORQUE (FT-LB)
183390	3/8 - 5/8	7.3
183391	3/4 - 1-1/8	8.7
183392	1-3/8 - 1-5/8	14.5
183393	2-1/8	29

MOLDED INSULATION

Molded insulation is available for the EBV(T)-PR Series ball valves. Insulation clamshells feature a hook & loop fastener on the perimeter. Insulation is made of expanded crosslinked polyolefine (XLPO) that features a class B2 fire resistance and does not absorb moisture.





PART NUMBER	DESCRIPTION	CONNECTION	EXTERNAL DIMENSIONS						
			A	B	C	D	E	F	G
502INS1	EBV(T)-PR - S1	3/8" thru 5/8" 10mm thru 16mm	4.9	5.7	2.8	1.6	3.1	1.5	0.3
502INS2	EBV(T)-PR - S2	3/4" & 7/8" 18mm & 22mm	5.4	5.9	2.8	1.5	3.1	1.7	0.4
502INS3	EBV(T)-PR - S3	1-1/8" 28mm	5.6	6.2	3	1.6	3.2	1.6	0.6

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Parker Hannifin Corporation
Sporlan Division
206 Lange Drive • Washington, MO 63090 USA
phone 636 239 1111 • fax 636 239 9130
www.sporlan.com