

# Ball valve with integral pressure relief

EBV(T)-PR series

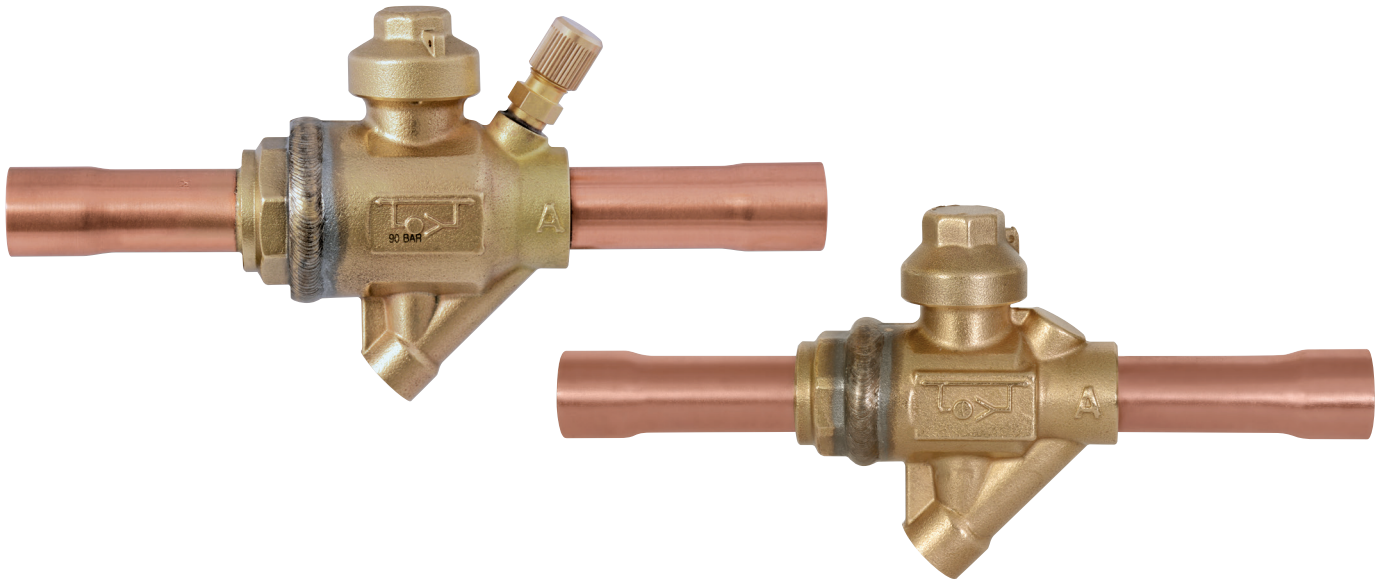


ENGINEERING YOUR SUCCESS



# BALL VALVE WITH INTEGRAL PRESSURE RELIEF

EBV(T)-PR Series



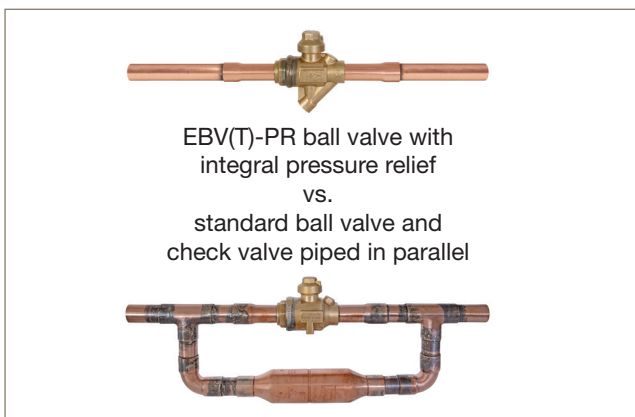
## Advantages

For greater system design flexibility and increased productivity, specify the **EBV(T)-PR ball valve with integral 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 K65<sup>®</sup> fittings and optional access fittings
- Full size ports for unrestricted flow on most sizes 10 mm (3/8") through 28 mm (1-1/8")
- Dual Teflon seals surround the polished, brass ball to prevent leakage. Stem seal and stem washer provide the primary stem seal. Bottom load stem for safety
- Stainless steel stop plate ensures fully open to fully closed with a 1/4 turn
- All EBV(T)-PR ball valves use C19400 (K65<sup>®</sup>) copper fitting material.



# Technical specifications

	EBV-PR	EBVT-PR
Maximum allowable pressure (PS)	90 bar (1.305 psi)	
Maximum working temperature (TS)	-40°C to +149°C (-40°F to +300°F)	
Compatible refrigerants	suitable for use with Class A1 refrigerants: HFC, HCFC, HFO and CO <sub>2</sub>	
Integral pressure relief:		
• Crack open pressure	<0,345 bar (5 psid)	
• Full open pressure	3,45 bar (50 psid)	
• Wide open flow	7,30 l/min H <sub>2</sub> O @ 3,45 bar (1.93 gpm H <sub>2</sub> O @ 50 psid)	
Patents	US Patent 10,107,406; International Patents Pending	
Approvals	PED, REACH, RoHS	
Access Fitting	No	Yes

## Nomenclature

Model	ODS connection size	Connection type
EBV-PR: without access fitting EBVT-PR: with access fitting	Size from selection table	"": imperial MM: metric

Example:


EBV-PR	12	MM
Ball Valve for CO <sub>2</sub> with check valve without access fitting	12 mm ODS connections	Metric size

## Specifications

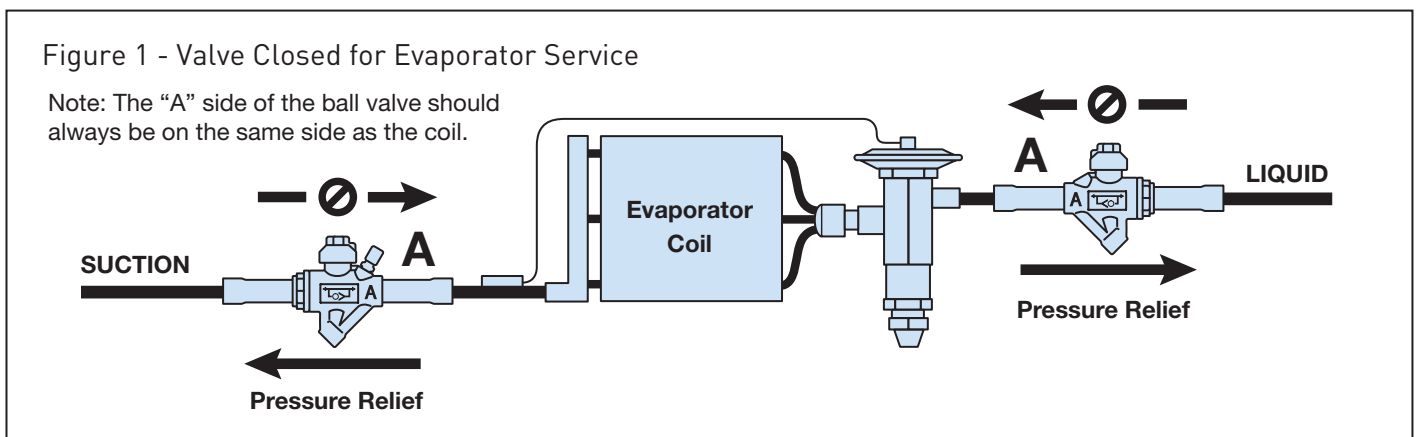
The EBV(T)-PR valve will close in one direction and relieve pressure in the other direction. This single valve would replace a current ball valve plus a check valve plumbed around the ball valve.

Allows evaporator coil to be isolated without over pressurizing due to warm up. May also have needs in loop piping and at the rack.

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

 This symbol indicates the direction of pressure relief and direction of check valve feature. Flow from left to right is check direction. Flow from right to left is pressure relief direction.

**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.



# Dimensions

## EBV(T)-PR Series - Imperial

Metric reference

	Part Number	Description	ODS connection mm	Kv m <sup>3</sup> /h	PS bar	PED category	B mm	L mm	C mm	H mm	D mm	F inch	Weight g
without access fitting	502399	EBV-PR 10MM	10	3,67	90	Art. 4.3	12,70	165,10	39,62	78,23	7,90	-	350
	502400	EBV-PR 12MM	12	5,97			12,70	165,10	39,62	78,23	9,65	-	350
	502401	EBV-PR 16MM	16	11,86			12,70	165,10	39,62	78,23	12,70	-	355
	502402	EBV-PR 18MM	18	17,93			19,05	184,15	45,47	91,19	15,75	-	655
	502403	EBV-PR 22MM	22	25,86			19,05	184,15	45,47	91,19	19,05	-	652
	502405	EBV-PR 28MM	28	52,29			25,40	215,90	54,10	104,39	23,10	-	1005
with access fitting	502406	EBVT-PR 10MM	10	3,67	90	Art. 4.3	12,70	165,10	39,62	78,23	7,90	1/4" SAE	363
	502407	EBVT-PR 12MM	12	5,97			12,70	165,10	39,62	78,23	9,65	1/4" SAE	368
	502408	EBVT-PR 16MM	16	11,86			12,70	165,10	39,62	78,23	12,70	1/4" SAE	668
	502409	EBVT-PR 18MM	18	17,93			19,05	184,15	45,47	91,19	15,75	1/4" SAE	665
	502410	EBVT-PR 22MM	22	25,86			19,05	184,15	45,47	91,19	19,05	1/4" SAE	1018
	502411	EBVT-PR 28MM	28	52,29			25,40	215,90	54,10	104,39	23,10	1/4" SAE	104,39

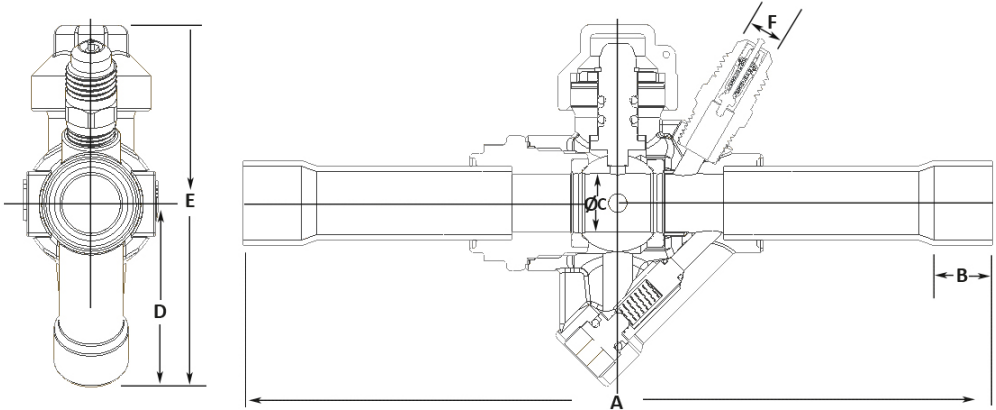
## EBV(T)-PR Series - Metric

Imperial reference

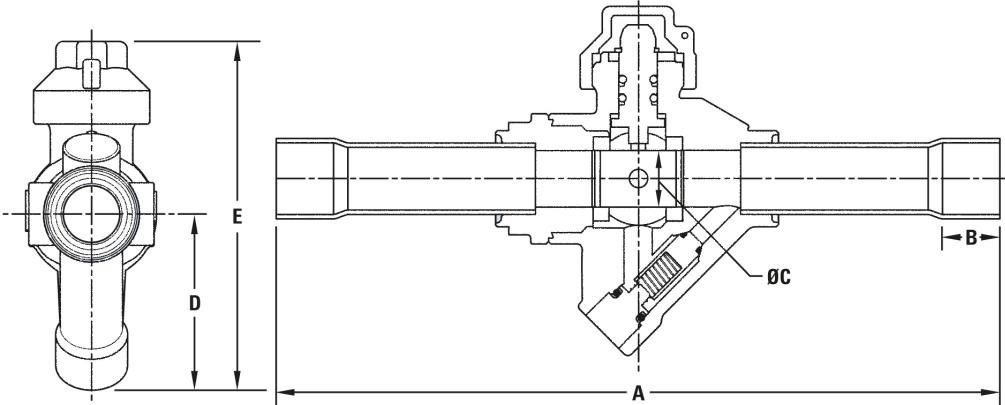
	Part Number	Description	ODS connection inches	Kv m <sup>3</sup> /h	PS bar	PED category	B mm	L mm	C mm	H mm	D mm	F inch	Weight g
without access fitting	502199	EBV-PR 3/8"	3/8"	3,67	90	Art. 4.3	12,70	165,10	39,62	78,23	7,90	-	350
	502200	EBV-PR 1/2"	1/2"	5,97			12,70	165,10	39,62	78,23	9,65	-	350
	502201	EBV-PR 5/8"	5/8"	11,86			12,70	165,10	39,62	78,23	12,70	-	355
	502202	EBV-PR 3/4"	3/4"	17,93			19,05	184,15	45,47	91,19	15,75	-	655
	502203	EBV-PR 7/8"	7/8"	25,86			19,05	184,15	45,47	91,19	19,05	-	652
	502204	EBV-PR 1-1/8"	1"1/8"	52,29			25,40	215,90	54,10	104,39	23,10	-	1005
with access fitting	502205	EBVT-PR 3/8"	3/8"	3,67	90	Art. 4.3	12,70	165,10	39,62	78,23	7,90	1/4" SAE	376
	502206	EBVT-PR 1/2"	1/2"	5,97			12,70	165,10	39,62	78,23	9,65	1/4" SAE	345
	502207	EBVT-PR 5/8"	5/8"	11,86			12,70	165,10	39,62	78,23	12,70	1/4" SAE	654
	502208	EBVT-PR 3/4"	3/4"	17,93			19,05	184,15	45,47	91,19	15,75	1/4" SAE	650
	502209	EBVT-PR 7/8"	7/8"	25,86			19,05	184,15	45,47	91,19	19,05	1/4" SAE	1013
	502210	EBVT-PR 1-1/8"	1"1/8"	52,29			25,40	215,90	54,10	104,39	23,10	1/4" SAE	52,29

# Drawings

## EBVT-PR



## EBV-PR



# Insulation shell

It works as a heat shield and will prevent from:

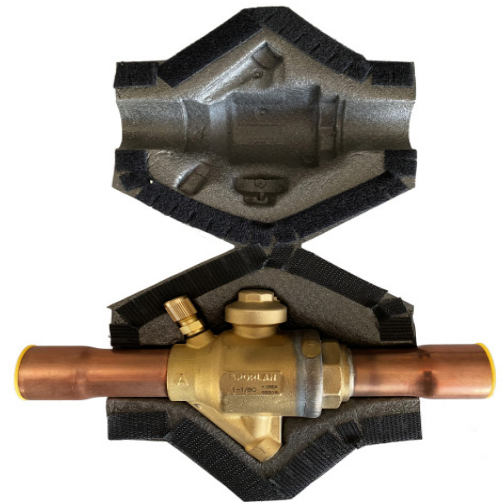
- 1. Condensation** generally occurring on very cold pipes, such as the suction pipes, where temperature may fall below the dew point of the environment and the humidity in the air forms little drops on the pipes surface.
- 2. Hot or cold burns:** safety of machines requires that very cold or very hot surfaces must be insulated or impossible to reach accidentally if temperatures can cause burns, deriving from extremely hot or cold surfaces.
- 3. Heat loss:** a non-isolated suction line will cause the system to lose performance, by thermal dispersions towards the environment or raising of the compressor suction temperatures.

## Imperial reference

Insulation shell PN	Valve fittings size	Without Schraeder	With Schraeder
		Valve Description	Valve Description
502INS1	3/8"	EBV-PR-1030	EBVT-PR-1030
	1/2"	EBV-PR-1040	EBVT-PR-1040
	5/8"	EBV-PR-1050	EBVT-PR-1050
502INS2	3/4"	EBV-PR-1060	EBVT-PR-1060
	7/8"	EBV-PR-1070	EBVT-PR-1070
502INS3	1-1/8"	EBV-PR-1090	EBVT-PR-1090

## Metric reference

Insulation shell PN	Valve fittings size	Without Schraeder	With Schraeder
		Valve Description	Valve Description
502INS1	10 mm	EBV-PR 10MM	EBVT-PR 10MM
	12 mm	EBV-PR 12MM	EBVT-PR 12MM
	16 mm	EBV-PR 16MM	EBVT-PR 16MM
502INS2	18 mm	EBV-PR 18MM	EBVT-PR 18MM
	22 mm	EBV-PR 22MM	EBVT-PR 22MM
502INS3	28 mm	EBV-PR 28MM	EBVT-PR 28MM



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