

The BVE/BVS Ball valve is a fully hermetic ball valve for the Refrigeration and A/C industry.

Features

- BVS models with Schrader Valve
- Hermetic design
- Compatible for high pressure Refrigerants as R 410A and CO₂ (sub-critical)
- Light weight design
- Feature mounting capability
- Virgin PTFE seat gaskets
- Bi-directional flow characteristics
- Valve cap retained by strap attached to main body
- Pressure relief port design
- Full flow design (minimal pressure drop)
- UL approval and produced acc. CE requirements
- Applied Standards EN 12284, EN 378, EN12420, PED 97/23/EC, RoHS 2002/95/EC



BVE



BVS

Introduction

Alco offer a complete range of ball valves available for general use in isolating suction, discharge, and liquid line pipe work during maintenance shutdown periods. A typical application would be to isolate a replaceable core drier such as the Alco ADKS range and to provide a by-pass whilst changing drier cores.

The internal and external leak rates are certified by use of a Helium Spectrometer.

Construction

Main body

The main body of the valve is manufactured from brass forgings which are then hermetically sealed by a knife edge construction and additionally soldered together. **Asercom** as well as **EN 378** are defining a hermetic joint either if it is welded, brazed or manufactured in a way that the parts cannot be removed or disassembled with a standard tooling (wrench or similar). The BVE ball valve has a special design that does not allow it to be opened/disassembled with a standard tooling.

Two threads at the bottom allow the valve to be fixed to a frame.

Internal ball

Internally, the fully ported brass ball assures a minimal pressure drop and is chrome plated to increase durability whilst providing a smooth closing action and reduces torque values.

The main internal seats are virgin PTFE which provide excellent wear characteristics and allows a perfect seat sealing. All valves are tested during production using a Helium mass spectrometer for internal and external leakage.

Valve stem

The BVE valve is operated by a quarter turn of the stem and has a blow-out design. It is equipped with a built-in stop for the stem. The valve stem sealing is provided by two O-rings.

Valve stem cap

The plastic cap is attached to the body by a flexible strap which prevents the BVE/BVS valve from being accidentally closed whilst providing a secondary seal to the valve stem by using an O-Ring. **The Cap can be removed without using any tooling.** Should there be a stem seal failure; pressure relief is provided by a slot built into the valves cap thread. That allows the pressure inside the cap to escape before the cap can be removed completely.

To protect the valve from un-authorized use a special cap is available as accessory.

BVS version with integrated access port

This optional feature a Schrader valve which provides convenient access for pressure testing and / or recovery of refrigerants from within the isolated section of the system.

Selection

Under normal circumstances, given the selection of the pipe work into which the BVE and BVS valve shall be installed is correctly sized, a Ball valve having the same pipe diameter may be selected:

Selection Chart

Type BVE	Part No.	Type BVS	Part No.	Connection nominal size inch	metric
BVE-014	806 730	BVS-014	806 750	1/4"	
BVE-M06	806 731	BVS-M06	806 751		6mm
BVE-038	806 732	BVS-038	806 752	3/8"	
BVE-M10	806 733	BVS-M10	806 753		10mm
BVE-012	806 734	BVS-012	806 754	1/2"	
BVE-M12	806 735	BVS-M12	806 755		12mm
BVE-058	806 736	BVS-058	806 756	5/8"	16mm
BVE-034	806 737	BVS-034	806 757	3/4"	
BVE-078	806 738	BVS-078	806 758	7/8"	22mm
BVE-118	806 739	BVS-118	806 759	1 1/8"	
BVE-M28	806 740	BVS-M28	806 760		28mm
BVE-138	806 741	BVS-138	806 761	1 3/8"	35mm
BVE-158	806 742	BVS-158	806 762	1 5/8"	
BVE-M42	806 743	BVS-M42	806 763		42mm
BVE-218	806 744	BVS-218	806 764	2 1/8"	54mm
BVE-258	806 745	BVS-258	806 765	2 5/8"	
BVE-318	806 746	BVS-318	806 766	3 1/8"	

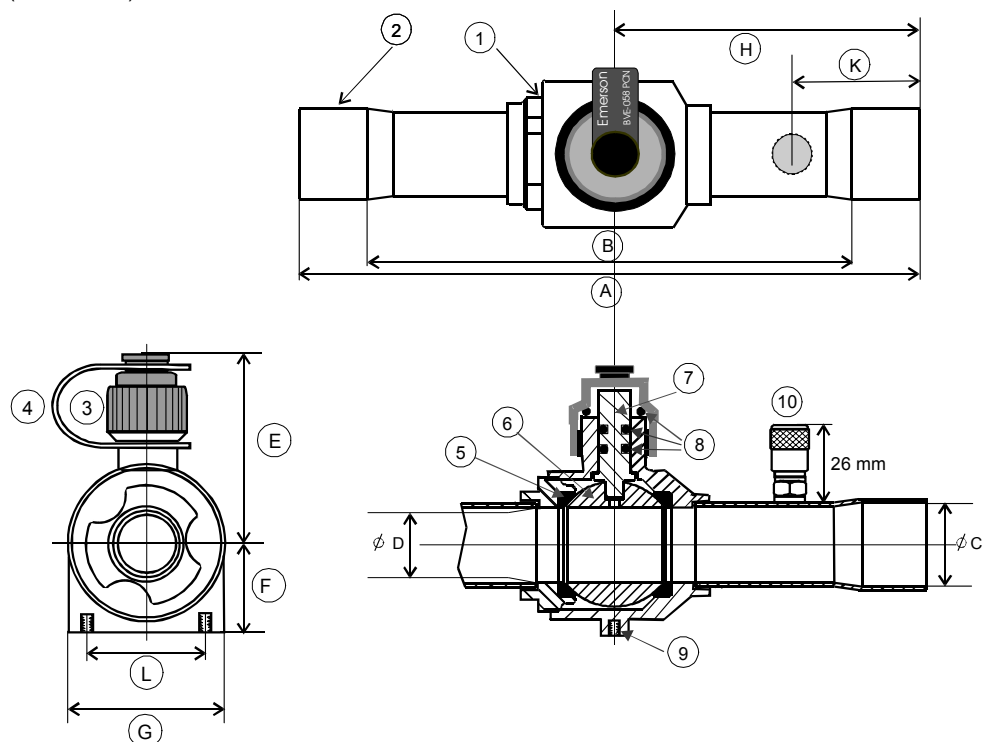
Technical data

Maximum working pressure PS	45 bar (see table)
Burst pressure	225 bar
Medium temperature TS	-40 to 120°C (150°C short term)
Medium compatibility *	HFC, HCFC, CO ₂ , Mineral, Synthetic and Polyol-Ester (POE) lubricants
Material	Body CW617N, Copper Tubes CW 024A acc. EN12420
Construction	Forged brass body, Copper extension tubes, Chrome plated Ball BVS with 7/16-20 UNF – 1/4" flare connection
Installation	Suitable for Hot gas, Liquid and suction applications within specification.
Approvals/Standard	 Underwriters Laboratories Inc., EN 12284, EN 378, EN 12420, PED 97/23/EC, RoHS 2002/95/EC

* The Alco BVE and BVS Ball valve is not released for use with caustic, poisonous or flammable substances.

Dimensions

(Not to scale)



- 1 Sealed brass body
- 2 Copper extension tubes
- 3 Plastic Stem cap
- 4 Label strap
- 5 PTFE seats
- 6 Chromate brass ball
- 7 Stem
- 8 O-Rings
- 9 Mounting Threads
- 10 Schrader Conn. (BVS)
7/16-20 UNF-1/4" flare

Model	Nominal size C	A	B	D	E	F	G	H	K	L	Thread (9)	Cap (3)	kg
BVE/S 014	1/4" ODF	120	104					56	26		M3		0.36
BVE/S M06	6mm ODF												0.36
BVE/S 038	3/8" ODF	118	102	8	41	14	23	55	25	15			0.36
BVE/S M10	10mm ODF												0.36
BVE/S 012	1/2" ODF	127	107	14	45	17	31	61	26	22	M4	M18	0.36
BVE/S M12	12mm ODF		101										0.38
BVE/S 058	5/8"/16mmODF												0.38
BVE/S 034	3/4" ODF	157	125	20	49	20	40	77	35	31			0.66
BVE/S 078	7/8"/22mmODF		118								M6	M27	0.66
BVE/S 118	1 1/8" ODF	169	123	25	67	26	51	85	39	38			1.04
BVE/S M28	28mm ODF												1.04
BVE/S 138	1 3/8" / 35mm ODF	231	182	32	72	31	61	116	52	48			1.64
BVE/S 158	1 5/8" ODF	277	220	39	88	37	74	138	60	55	M6	M36	2.43
BVE/S M42	42mm ODF												2.43
BVE/S 218	2 1/8" / 54mm ODF	297	228	50	95	47	93	148	70	74			4.76
BVE/S 258	2 5/8" ODF	297	222										5.54
BVE/S 318	3 1/8" ODF	297	213						80				5.72

Dimension "C": Suitable for the connection of the stated nominal tube size.

Accessories: Special seal caps

BVE / BVS Valve Size	Part No.	Thread (3)	Quantity per pack
1/4" - 7/8" (6 - 22mm)	806 770	M18x1	10 pcs
1-1/8" - 1 3/8" (28 - 35mm)	806 771	M27x1	10 pcs
1-5/8" - 3 1/8" (42 - 54mm)	806 772	M36x1	10 pcs





Type code

BV_ - 0 1 4

Product Name

_E: Standard Valve
_S: Valve with Schrader Connection

014	1/4"	M06	6mm
038	3/8"	M10	10mm
012	1/2"	M12	12mm
058	5/8"/16mm		
034	3/4"		
078	7/8"/22mm		
118	1 1/8"	M28	28mm
138	1 3/8"/35mm		
158	1 5/8"	M42	42mm
218	2 1/8"/54mm		
258	2 5/8"		
318	3 1/8"		

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This document replaces all earlier versions.

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