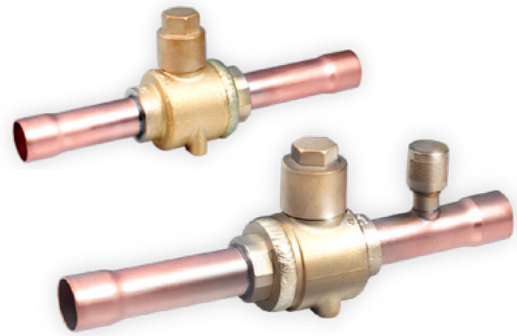


**SBV SERIES****BALL  
VALVE**

The ball valve of series SBV is applicable for commercial air conditioner, freezing or deep-freezing equipment or other refrigeration circuits in order to open and to shut off inner flow path by operating the valve stem. It can also be used as service valve for vacuum pumping and refrigerant injection etc.

**FEATURES**

- STRAIGHTWAY TYPE, FULL PORT, LOW PRESSURE DROP , COST-EFFECTIVE
- VALVE BODY AND VALVE SEAT WITH WELDED STRUCTURE, WITH HIGH PRODUCT RELIABILITY
- ROTATE 1/4 CIRCLES FROM FULL-OPEN TO FULL-CLOSE, EASY TO OPERATE
- BIDIRECTIONAL FLOW
- ROTATION STOP ON REQUEST FOR FULL-OPEN AND FULL-CLOSE OF THE VALVE FOR SIZES  $\geq$  SBV-11
- SPECIAL SEALING MATERIALS TO PREVENT INTERNAL LEAKAGE

**GENERAL  
SPECIFICATIONS**

- Applicable for all common HCFC, HFC and HFO refrigerants such as: R22, R134a, R404A, R407A/C/F, R410A, R507A, R448A, R449A, R450A, R452A, R513A<sup>1)</sup>
- Medium temperature TS min./max.:  $-40^{\circ}\text{C}$  /  $+120^{\circ}\text{C}$ <sup>2)</sup>
- Max. operating pressure PS: 4,5 MPa (45 bar)
- Installation position: liquid, suction and discharge line in all directions
- Certifications: UL/CSA and PED declaration

**Note:** 1) Flammable refrigerants like R32, R290, R1234ze(E), R1234yf on request  
2) Peak temperature of  $+150^{\circ}\text{C}$  for short term use



GENERAL CHARACTERISTICS

1. Standard SBV models with FULL PORT passage

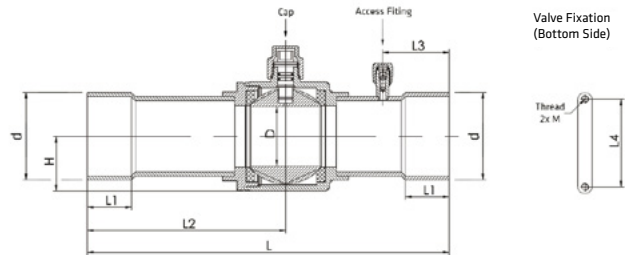
Without Access Fitting		Connections Ø d ODF		Kv	Wrench Size Cap	PED category		With Access Fitting	
Model	Part Number*	[inch]	[mm]	[m <sup>3</sup> /h]	[mm]	Fluids Group 1**	Fluids Group 2	Model	Part Number*
SBV02-020	10150092002	-	6	1,9	19	4.3	4.3	SBV02-320	10150094702
SBV02-019	10150091902	1/4	-	1,9	19	4.3	4.3	SBV02-319	10150094602
SBV03-019	10150091802	3/8	-	5,5	19	4.3	4.3	SBV03-319	10150094802
SBV03-020	10150092102	-	10	5,5	19	4.3	4.3	SBV03-320	10150094902
SBV04-020	10150092202	-	12	7,3	19	4.3	4.3	SBV04-320	10150095102
SBV04-019	10150090502	1/2	-	7,3	19	4.3	4.3	SBV04-319	10150095002
SBV(M)-A5YHSY-2-SA	10150057602	-	15	13,8	14	4.3	4.3	SBV(M)-JA5YHSY-2-SA	10150057702
SBV(M)-A5YHSY-1-SA	10150053302	5/8	16	13,8	14	4.3	4.3	SBV(M)-JA5YHSY-1-SA	10150053402
SBV(M)-A6YHSY-2-SA	10150054602	-	18	20,6	17	4.3	4.3	SBV(M)-JA6YHSY-2-SA	10150054502
SBV(M)-A6YHSY-1-SA	10150054302	3/4	-	20,6	17	4.3	4.3	SBV(M)-JA6YHSY-1-SA	10150054202
SBV(M)-A7YHSY-1-SA	10150053502	7/8	22	29	17	4.3	4.3	SBV(M)-JA7YHSY-1-SA	10150053602
SBV(M)-A9YHSY-2-SA	10150055102	-	28	54,3	17	II	4.3	SBV(M)-JA9YHSY-2-SA	10150055202
SBV(M)-A9YHSY-1-SA	10150054702	1 1/8	-	54,3	17	II	4.3	SBV(M)-JA9YHSY-1-SA	10150054802
SBV(M)-A11YHSY-1-SA	10150055002	1 3/8	35	85,5	17	II	4.3	SBV(M)-JA11YHSY-1-SA	10150054902
SBV(M)-A13YHSY-2-SA	10150055502	1 5/8	-	133,7	17	II	I	SBV(M)-JA13YHSY-2-SA	10150055402
SBV(M)-A13YHSY-1-SA	10150055302	-	42	133,7	17	II	I	SBV(M)-JA13YHSY-1-SA	10150057802
SBV(M)-A17YHSY-1-SA	10150055702	2 1/8	54	225	19	II	I	SBV(M)-JA17YHSY-1-SA	10150055802
SBV(M)-A19YHSY-1-SA	10150055902	-	64	225	19	II	I	SBV(M)-JA19YHSY-1-SA	10150056002
SBV(M)-A21YHSY-2-SA	10150056302	2 5/8	-	380	19	II	I	SBV(M)-JA21YHSY-2-SA	10150056402
SBV(M)-A25YHSY-2-SA	10150056502	3 1/8	80	530	24	II	I	SBV(M)-JA25YHSY-2-SA	10150056602
SBV(M)-A29YHSY-1-SA	10150057002	3 5/8	92	700	24	II	I	SBV(M)-JA29YHSY-1-SA	10150056902
SBV(M)-A33YHSY-2-SA	10150056102	4 1/8	105	950	29	II	I	SBV(M)-JA33YHSY-2-SA	10150056202
SBV(M)-A34YHSY-1-SA	10150057102	4 1/4	108	950	29	II	I	SBV(M)-JA34YHSY-1-SA	10150057202

- Note:**
- SBV model with different connection sizes available on request
  - \* Available also as industrial package. Contact Sanhua for more details
  - \*\* SBV models with DN>25mm are not certified according to PED category II and cannot be used in combination with flammable refrigerants (Fluid Group 1).

BALL VALVE



DIMENSIONS & WEIGHT



Part Number		L	L1	L2	L3 <sup>1)</sup>	L4	D	H	M	Weight
Without access fitting	With Access Fitting	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
SBV02-020	SBV02-320	132	10	68	31	16	10	14	M4 x 0,7	0,20
SBV02-019	SBV02-319	132	10	68	31	16	10	14	M4 x 0,7	0,20
SBV03-019	SBV03-319	132	10	68	31	16	10	14	M4 x 0,7	0,20
SBV03-020	SBV03-320	132	10	68	31	16	10	14	M4 x 0,7	0,20
SBV04-020	SBV04-320	160	10	85	42,5	16	10	14	M4 x 0,7	0,21
SBV04-019	SBV04-319	160	10	85	42,5	16	10	14	M4 x 0,7	0,21
SBV(M)-A5YHSY-2-SA	SBV(M)-JA5YHSY-2-SA	160	13	85	31	22	14	16	M4 x 0,7	0,30
SBV(M)-A5YHSY-1-SA	SBV(M)-JA5YHSY-1-SA	160	13	85	31	22	14	16	M4 x 0,7	0,30
SBV(M)-A6YHSY-2-SA	SBV(M)-JA6YHSY-2-SA	185	16	99	37	30	19	20	M4 x 0,7	0,51
SBV(M)-A6YHSY-1-SA	SBV(M)-JA6YHSY-1-SA	185	16	99	37	30	19	20	M4 x 0,7	0,51
SBV(M)-A7YHSY-1-SA	SBV(M)-JA7YHSY-1-SA	185	17	99	37	30	19	20	M4 x 0,7	0,52
SBV(M)-A9YHSY-2-SA	SBV(M)-JA9YHSY-2-SA	208	21	112	44	38	25	25	M4 x 0,7	0,73
SBV(M)-A9YHSY-1-SA	SBV(M)-JA9YHSY-1-SA	208	21	112	44	38	25	25	M4 x 0,7	0,73
SBV(M)-A11YHSY-1-SA	SBV(M)-JA11YHSY-1-SA	251	25	136	44	48	32	31	M6 x 1,0	1,42
SBV(M)-A13YHSY-2-SA	SBV(M)-JA13YHSY-2-SA	281	28	151	56	55	38	35	M6 x 1,0	1,90
SBV(M)-A13YHSY-1-SA	SBV(M)-JA13YHSY-1-SA	281	28	151	56	55	38	35	M6 x 1,0	1,90
SBV(M)-A17YHSY-1-SA	SBV(M)-JA17YHSY-1-SA	305	34	167	56	74	50	46	M6 x 1,0	3,74
SBV(M)-A19YHSY-1-SA	SBV(M)-JA19YHSY-1-SA	305	34	167	70	74	50	46	M6 x 1,0	3,79
SBV(M)-A21YHSY-2-SA	SBV(M)-JA21YHSY-2-SA	305	37	167	56	74	60	56	M6 x 1,0	6,08
SBV(M)-A25YHSY-2-SA	SBV(M)-JA25YHSY-2-SA	378	42	186	80	90	70	63	M6 x 1,0	8,81
SBV(M)-A29YHSY-1-SA	SBV(M)-JA29YHSY-1-SA	423	42	208	75	108	80	75	M6 x 1,0	11,47
SBV(M)-A33YHSY-2-SA	SBV(M)-JA33YHSY-2-SA	423	42	210,0	75	148	95	91	M6 x 1,0	20,17
SBV(M)-A34YHSY-1-SA	SBV(M)-JA34YHSY-1-SA	423	42	210,0	75	148	95	91	M6 x 1,0	20,17

**Note:** 1) Applicable to versions with access fitting

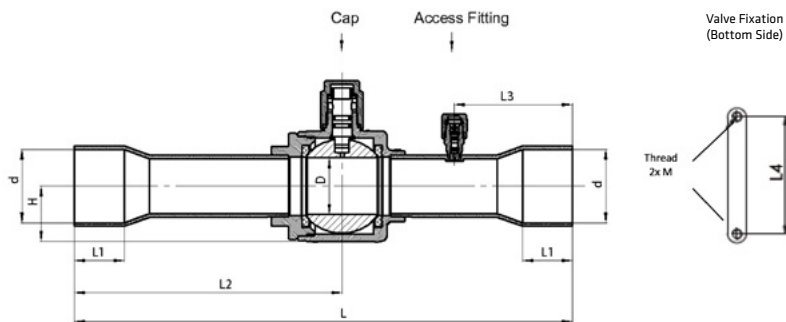


**GENERAL CHARACTERISTICS**

*2. Standard SBV models with REDUCED PORT passage*

Without Access Fitting		Connections Ø d ODF		Kv	Wrench Size Cap	PED category		With Access Fitting	
Model	Part Number*	[inch]	[mm]	[m <sup>3</sup> /h]	[mm]	Fluids Group 1**	Fluids Group 2	Model	Part Number*
SBV06-602	10150116502	-	18	13,8	14	4.3	4.3	SBV06-802	10150116402
SBV06-601	10150115002	3/4	-	13,8	14	4.3	4.3	SBV06-801	10150115102
SBV07-601	10150115302	7/8	22	13,8	14	4.3	4.3	SBV07-801	10150087602
SBV09-602	10150116302	-	28	29	17	4.3	4.3	SBV09-802	10150116202
SBV09-601	10150084902	1 1/8	-	29	17	4.3	4.3	SBV09-801	10150115402
SBV11-601	10150102702	1 3/8	35	54,3	17	II	4.3	SBV11-801	10150093102
SBV13-601	10150102502	1 5/8	-	85,5	17	II	4.3	SBV13-801	10150093202
SBV13-602	10150116102	-	42	85,5	17	II	4.3	SBV13-802	10150116002
SBV17-601	10150115502	2 1/8	54	133,7	17	II	I	SBV17-801	10150087502
SBV21-601	10150102602	2 5/8	-	225	19	II	I	-	-
SBV25-601	10150115602	3 1/8	80	380	19	II	I	-	-
SBV29-601	10150115702	3 5/8	92	530	24	II	I	-	-
SBV33-601	10150115802	4 1/8	105	700	24	II	I	-	-
SBV34-601	10150115902	4 1/4	108	700	24	II	I	-	-

- Note:**
- SBV model with different connection sizes available on request
  - \* Available also as industrial package. Contact Sanhua for more details
  - \*\* SBV models with DN>25mm are not certified according to PED category II and cannot be used in combination with flammable refrigerants (Fluid Group 1).





**DIMENSIONS & WEIGHT**

Part Number		L	L1	L2	L3 <sup>1)</sup>	L4	D	H	M	Weight
Without access fitting	With Access Fitting	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
SBV06-602	SBV06-802	185	16	99	46	22	14	16	M4 x 0,7	0,33
SBV06-601	SBV06-801	185	16	99	46	22	14	16	M4 x 0,7	0,33
SBV07-601	SBV07-801	185	17	99	46	22	14	16	M4 x 0,7	0,34
SBV09-602	SBV09-802	208	21	112	53	30	19	20	M4 x 0,7	0,56
SBV09-601	SBV09-801	208	21	112	53	30	19	20	M4 x 0,7	0,56
SBV11-601	SBV11-801	251	25	136	63	38	25	25	M4 x 0,7	0,81
SBV13-301	SBV13-801	281	28	151	66.5	48	32	31	M6 x 1,0	1,51
SBV13-602	SBV13-802	281	28	151	66.5	48	32	31	M6 x 1,0	1,51
SBV17-601	SBV17-801	305	34	167	63	55	38	35	M6 x 1,0	2,31
SBV21-601	-	305	37	135	-	74	50	46	M6 x 1,0	3,80
SBV25-601	-	378	42	186	-	74	60	56	M6 x 1,0	6,58
SBV29-601	-	423	42	208	-	90	70	63	M6 x 1,0	9,35
SBV33-601	-	423	42	210	-	108	80	75	M6 x 1,0	11,71
SBV34-601	-	423	42	210	-	108	80	75	M6 x 1,0	11,76

**Note:** 1) Applicable to versions with access fitting

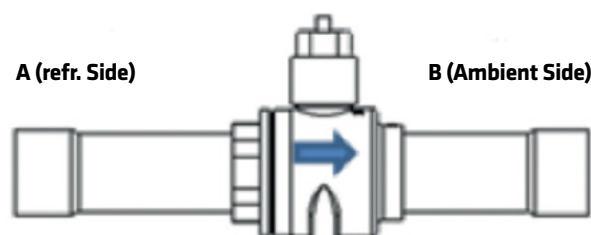
**CBV SERIES****BALL  
VALVE**

CBV valves are typically used in commercial CO<sub>2</sub> refrigeration applications in order to open and to shut off inner flow path by operating the valve stem. The ball valve of series CBV is applicable for subcritical CO<sub>2</sub> refrigeration systems and is a perfect choice for all similar CO<sub>2</sub> systems.

**FEATURES**

- STRAIGHTWAY TYPE, FULL PORT, LOW PRESSURE DROP, COST-EFFECTIVE
- VALVE BODY AND VALVE SEAT WITH WELDED STRUCTURE, WITH HIGH PRODUCT RELIABILITY
- ROTATE ¼ CIRCLES FROM FULL-OPEN TO FULL-CLOSE, EASY TO OPERATE
- BIDIRECTIONAL FLOW<sup>1)</sup>
- ROTATION STOP FOR FULL-OPEN AND FULL-CLOSE OF THE VALVE AVAILABLE
- SPECIAL SEALING MATERIALS TO PREVENT INTERNAL LEAKAGE

**Note:** 1) CBV valves fulfill internal tightness requirements of the standard EN12284, paragraph 9.6.3 in both flow directions. Installations with shut off function to the atmosphere (just temporarily for service purpose): Please install the solder connection "B" at the airside. Please see solder connection "A" and "B" at the dimensional drawing page 3.  
Remark: Welding body junction is always at solder connection "A"

**GENERAL SPECIFICATION**

- Applicable for R744 (CO<sub>2</sub>)
- Medium temperature TS min./max.: -40°C/+150°C
- Max. operating pressure PS: 6,0 MPa (60bar)
- Installation position: liquid, suction and discharge line in all directions
- Certification: PED declaration.



**GENERAL CHARACTERISTICS**

Model	Part Number* <sup>1)</sup>	Connection Ø d ODF		Kv	Wrench Size Cap	PED Category
		[inch]	[mm]	[m <sup>3</sup> /h]	[mm]	
CBV02-002	10150074202	-	6	1,9	H14	4.3
CBV02-001	10150074102	1/4	-	1,9	H14	4.3
CBV03-001	10150074302	3/8	-	5,5	H14	4.3
CBV03-002	10150074402	-	10	5,5	H14	4.3
CBV04-002	10150074602	-	12	7,3	H14	4.3
CBV04-001	10150074502	1/2	-	7,3	H14	4.3
CBV05-001	10150074702	5/8	16	13,8	H14	4.3
CBV06-002	10150074902	-	18	20,6	H17	4.3
CBV06-001	10150074802	3/4	-	20,6	H17	4.3
CBV07-001	10150063002	7/8	22	29,0	H17	4.3
CBV09-002	10150075002	-	28	54,3	H17	4.3
CBV09-001	10150062902	1 1/8	-	54,3	H17	4.3
CBV11-001	10150075102	1 3/8	35	85,5	H17	I
CBV13-002	10150062802	1 5/8	-	133,7	H17	I
CBV13-003	10150075202	-	42	133,7	H17	I
CBV17-001	10150075302	2 1/8	54	225,0	H19	I

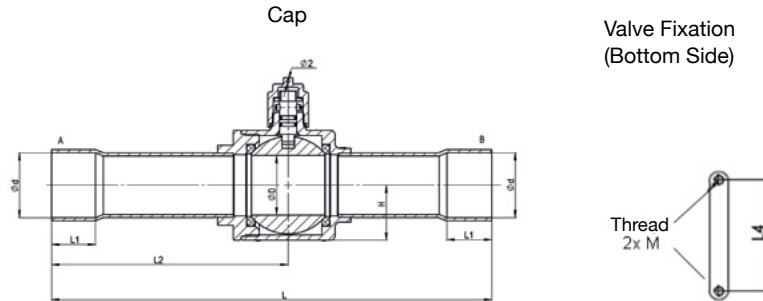
**Note:** \* Available also as industrial package. Contact Sanhua for more details.

1) Extent of delivery: valve body and standard cap

**BALL VALVE**



**DIMENSIONS & WEIGHT**



Model	Part Number*	L	L1	L2	L4	D	H	M	Weight
CBV02-002	10150074202	132	8	68	22	14	16	M4 x 0,7	0,28
CBV02-001	10150074102	132	8	68	22	14	16	M4 x 0,7	0,28
CBV03-001	10150074302	132	8	68	22	14	16	M4 x 0,7	0,29
CBV03-002	10150074402	132	8	68	22	14	16	M4 x 0,7	0,29
CBV04-002	10150074602	160	10	85	22	14	16	M4 x 0,7	0,30
CBV04-001	10150074502	160	10	85	22	14	16	M4 x 0,7	0,30
CBV05-001	10150074702	160	12	85	22	14	16	M4 x 0,7	0,30
CBV06-002	10150074902	185	14	99	30	19	20	M4 x 0,7	0,51
CBV06-001	10150074802	185	14	99	30	19	20	M4 x 0,7	0,51
CBV07-001	10150063002	185	17	99	30	19	20	M4 x 0,7	0,52
CBV09-002	10150075002	208	20	112	38	25	25	M4 x 0,7	0,73
CBV09-001	10150062902	208	20	112	38	25	25	M4 x 0,7	0,73
CBV11-001	10150075102	251	25	136	48	32	31	M6 x 1,0	1,42
CBV13-002	10150062802	281	29	151	55	38	35	M6 x 1,0	1,90
CBV13-003	10150075202	281	29	151	55	38	35	M6 x 1,0	1,90
CBV17-001	10150075302	305	34	167	74	50	46	M6 x 1,0	3,74

\* Available also as industrial package. Contact Sanhua for more details.



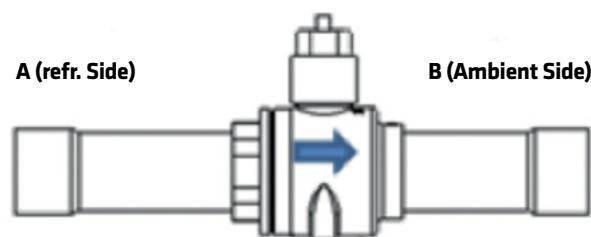
**CBVT SERIES****BALL  
VALVE**

The ball valve of series CBVT is applicable for commercial CO<sub>2</sub> refrigeration applications in order to open and to shut off inner flow path by operating the valve stem. The ball valve of CBVT is applicable for transcritical CO<sub>2</sub> refrigeration systems and is a perfect choice for all similar CO<sub>2</sub> systems.

**FEATURES**

- STRAIGHTWAY TYPE, FULL PORT, LOW PRESSURE DROP – HIGH EFFICIENCY
- VALVE BODY WITH WELDED STRUCTURE – PRODUCT STRENGTH AND RELIABILITY
- ROTATE 1/4 CIRCLES FROM FULL-OPEN TO FULL-CLOSE – EASY AND FAST TO OPERATE
- BIDIRECTIONAL FLOW<sup>1)</sup>
- VERSION WITH BI-METAL CONNECTIONS – EASY AND FAST BRAZING FOR SYSTEMS WITH K65 PIPING
- VERSION WITH STAINLESS-STEEL BUTT-WELDING CONNECTIONS – SUITABLE FOR SYSTEMS WITH STAINLESS STEEL PIPING

**Note:** 1) CBVT valves fulfill internal tightness requirements of the standard EN12284, paragraph 9.6.3 only in the direction indicated by the arrow [refrigerant on connection "A"; airside on connection "B"]. Installations with shut off function to the atmosphere (just temporarily for service purpose): Please install the solder connection "B" at the airside. Remark: Welding body junction is always at solder connection "A"

**GENERAL  
SPECIFICATIONS**

- Applicable for R744 (CO<sub>2</sub>)
- Medium temperature TS min./max.: -40°C / +150°C
- Max. operating pressure PS: 14 MPa (burst pressure: 42MPa)
- Installation position: liquid, suction and discharge line in all directions
- Certifications: PED declaration
- UL attestation


**GENERAL CHARACTERISTICS**
*1) Models with Bi-Metal Connections*

Model	Part Number	Connection Ø d ODF		Kv	Wrench Size Cap	PED Category
		[inch]	[mm]	[m <sup>3</sup> /h]	[mm]	
CBVT 02H002	10150108802	-	6	1,9	H19	4.3
CBVT 02H001	10150103102	1/4	-	1,9	H19	4.3
CBVT 03H001	10150099502	3/8	-	5,5	H19	4.3
CBVT 03H002	10150109102	-	10	5,5	H19	4.3
CBVT 04H002	10150108902	-	12	7,3	H19	4.3
CBVT 04H001	10150099202	1/2	-	7,3	H19	4.3
CBVT 05H002	10150109002	-	15	13,8	H14	4.3
CBVT 05H001	10150099302	5/8	16	13,8	H14	4.3
CBVT 06H002	10150109302	-	18	20,6	H17	4.3
CBVT 06H001	10150099102	3/4	-	20,6	H17	4.3
CBVT 07H001	10150099002	7/8	22	29,0	H17	4.3
CBVT 09H002	10150109202	-	28	54,2	H17	4.3
CBVT 09H001	10150098902	1-1/8	-	54,2	H17	4.3
CBVT 11H001	10150098502	1-3/8	35	85,5	H17	I
CBVT 13H001	10150098602	1-5/8	-	133,7	H17	I
CBVT 13H002	10150109402	-	42	133,7	H17	I
CBVT 17H001	10150098402	2-1/8	54	225,0	H19	I

*2) Models with Stainless-Steel Butt-Welding Connections*

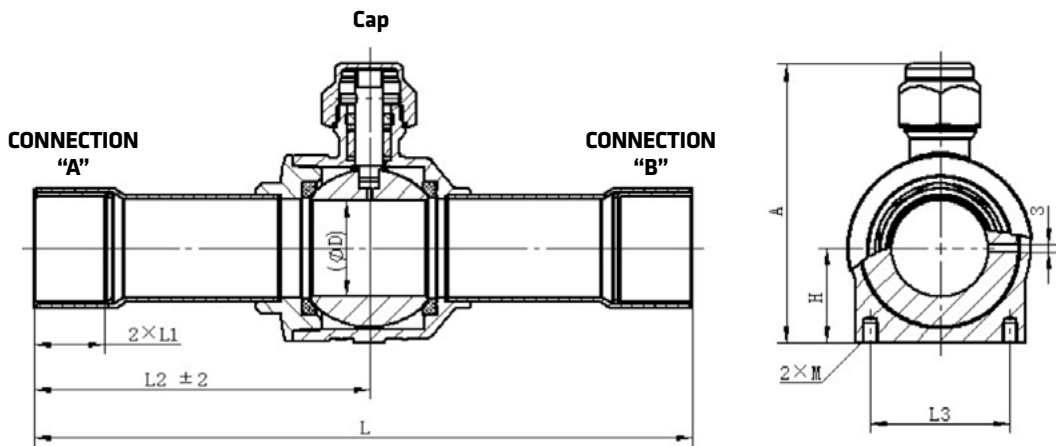
Model	Part Number	Connection Ø d ODF		Kv	Wrench Size Cap	PED Category
		[inch]	[mm]	[m <sup>3</sup> /h]	[mm]	
CBVT 03H302	10150111402	-	10	5,5	H19	4.3
CBVT 04H302	10150111602	-	12	7,3	H19	4.3
CBVT 05H301	10150111702	5/8	16	13,8	H14	4.3
CBVT 06H302	10150111902	-	18	20,6	H17	4.3
CBVT 07H301	10150110302	7/8	22	29,0	H17	4.3
CBVT 09H302	10150112102	-	28	54,2	H17	4.3
CBVT 11H301	10150112202	1-3/8	35	85,5	H17	I
CBVT 13H302	10150112402	-	42	133,7	H17	I

BALL VALVE



DIMENSIONS

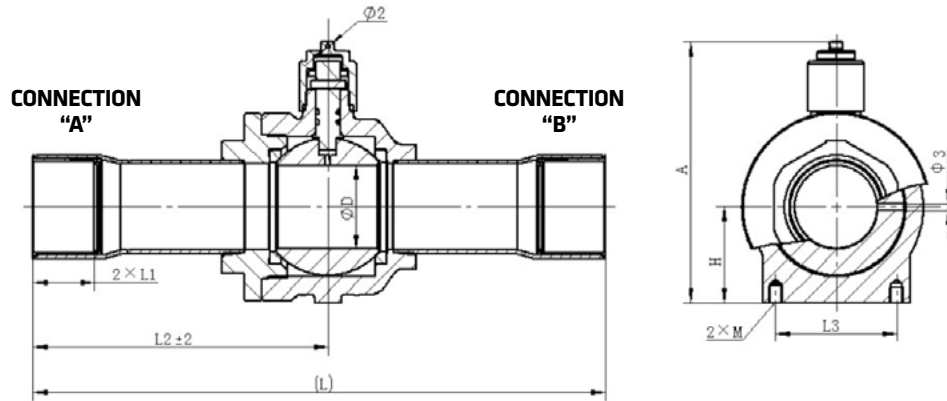
1) Models with Bi-Metal Connections



Model	L	L1	L2	L3	D	H	A	M	Weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[g]
CBVT 02H002	126	8	66.5	16	10	14	50,4	M4×0.7	190
CBVT 02H001	126	8	66,5	16	10	14	50,4	M4×0.7	176
CBVT 03H001	132	10	69,5	16	10	14	50,4	M4×0.7	180
CBVT 03H002	132	10	69.5	16	10	14	50,4	M4×0.7	183
CBVT 04H002	139	12	73	16	10	14	50,4	M4×0.7	190
CBVT 04H001	139	12	73	16	10	14	50,4	M4×0.7	188
CBVT 05H002	148	16	77	22	14	16	58,5	M4×0.7	279
CBVT 05H001	148	16	77	22	14	16	58,5	M4×0.7	289
CBVT 06H002	148	16	76	30	19	20	73	M4×0.7	470
CBVT 06H001	152	16	78	30	19	20	72	M4×0.7	491
CBVT 07H001	189	19	97	30	19	20	73	M4×0.7	526
CBVT 09H002	185,5	20	95	38	25	27	85.3	M4×0.7	748
CBVT 09H001	185,5	20	95	38	25	27	85,3	M4×0.7	749
CBVT 11H001	204	25	105	48	32	37	105	M6×1.0	1814
CBVT 13H001	260	28	134	55	38	43,5	118,5	M6×1.0	2734
CBVT 13H002	260	28	134	55	38	43,5	118,5	M6×1.0	2736
CBVT 17H001	284	33	145	74	50	58,5	145	M6×1.0	5787



2) Models with Stainless-Steel Butt-Welding Connections



Model	L	L1	L2	L3	D	H	A	M	Weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[g]
CBVT 03H302	132	8	69,5	16	10	14	47,7	M4×0.7	184
CBVT 04H302	139	8	73	16	10	14	47,7	M4×0.7	188
CBVT 05H301	148	/	77	22	14	16	58,7	M4×0.7	269
CBVT 06H302	148	8	76	30	19	20	73	M4×0.7	481
CBVT 07H301	185	/	94,5	30	19	20	73	M4×0.7	512
CBVT 09H302	205	/	105	38	25	27	85.3	M4×0.7	760
CBVT 11H301	205	/	106	48	32	37	105	M6×1.0	1836
CBVT 13H302	242	/	125	55	38	43,5	118,5	M6×1.0	2853