

Ball valve, type GBC

Introduction



GBC ball valves are manually operated shut-off valves suitable for bi-directional flow. GBC valves are used in liquid, suction and hot gas lines in refrigeration, freezing and air conditioning systems. GBC valves offer maximum tightness, both externally as well as internally across the seat.

GBC valves give maximum flow in the fully open position. They are designed for operation in all temperature conditions without problems occurring as a result of liquid being trapped internally.

Features

- Flow without pressure drop
- ¼ turn from fully open to fully closed valve
- Rotation stop for fully open and fully closed valve
- Arrow on spindle top to indicate valve closed or open
- Can be panel mounted
- Bi-directional flow, i.e. valve orientation is unimportant
- "Hermetically" sealed welded construction
- Patented spindle seal
- Valve seat of special teflon
- Burst-proof spindle design
- The valve design prevents liquids of being trapped internally

Technical data

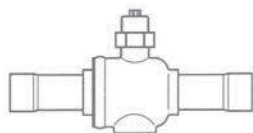
Refrigerants	CFC, HCFC, HFC
Temperature of medium	-40 → +150°C
Ambient temperature	-50 → +80°C
Max. working pressure PB	35 bar
Max. test pressure	46 bar
Max. permissible leakage to atmosphere	< 2.8 gram R22/year
Approvals	UL, CSA

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Ordering

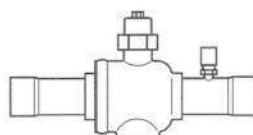
The product range consists of two valve types: a standard valve and a valve with an access port.

Both versions can be supplied in inch or millimetre sizes from 1/4 in. to 3 1/8 in. (6 mm to 54 mm). All valves have threaded fixing holes for panel mounting.



Standard valve

Type	Solder ODF connection in.		Solder ODF connection mm		k _v value m ³ /h
	in.	Code no.	mm	Code no.	
GBC 6s	1/4	009G5020	6	009G5030	1.9
GBC 10s	3/8	009G5021	10	009G5031	3.9
GBC 12s	1/2	009G5022	12	009G5032	5.3
GBC 16s	5/8	009G5023	16	009G5023	9.4
GBC 18s	3/4	009G5024	18	009G5035	17.0
GBC 22s	7/8	009G5025	22	009G5025	27.5
GBC 28s	1 1/8	009G5026	28	009G5033	52.5
GBC 35s	1 3/8	009G5027	35	009G5027	73.3
GBC 42s	1 5/8	009G5028	42	009G5034	191.8
GBC 54s	2 1/8	009G5029	54	009G5029	256.6
GBC 67	2 5/8	009G5036			162.8
GBC 79	3 1/8	009G5037			114.0

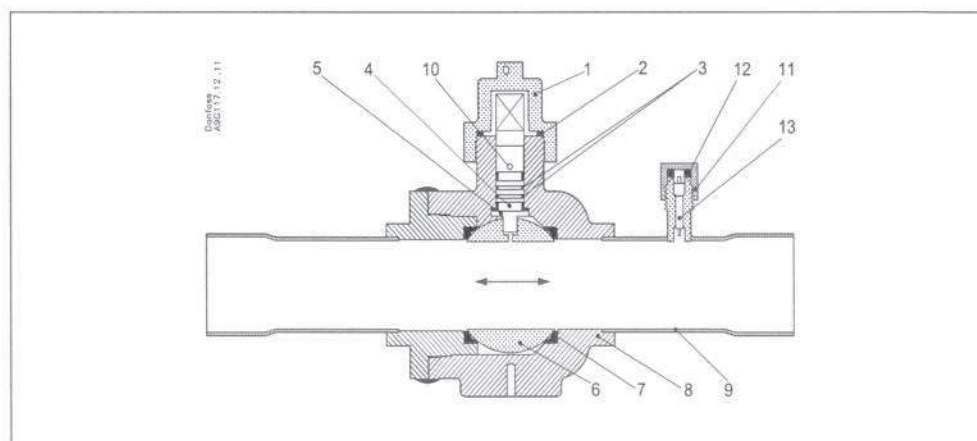


Valve with access port

Type	Solder ODF connection in.		Solder ODF connection mm		k _v value m ³ /h
	in.	Best.nr.	mm	Best.nr.	
GBC 6s	1/4	009G5050	6	009G5060	1.9
GBC 10s	3/8	009G5051	10	009G5061	3.9
GBC 12s	1/2	009G5052	12	009G5062	5.3
GBC 16s	5/8	009G5053	16	009G5053	9.4
GBC 18s	3/4	009G5054	18	009G5065	17.0
GBC 22s	7/8	009G5055	22	009G5055	27.5
GBC 28s	1 1/8	009G5056	28	009G5063	52.5
GBC 35s	1 3/8	009G5057	35	009G5057	73.3
GBC 42s	1 5/8	009G5058	42	009G5064	191.8
GBC 54s	2 1/8	009G5059	54	009G5059	256.6
GBC 67	2 5/8	009G5066			162.8
GBC 79	3 1/8	009G5067			114.0

Construction

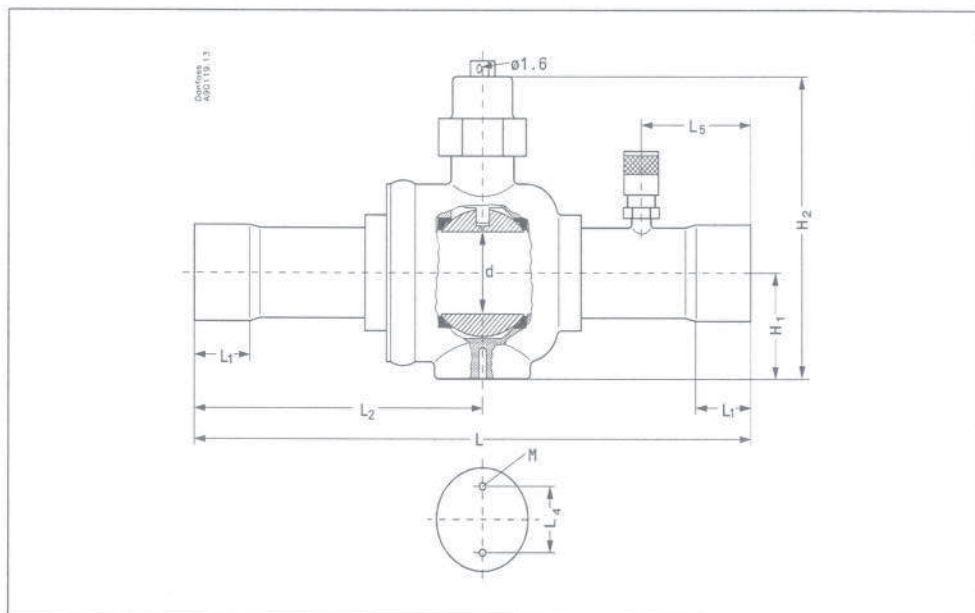
1. Seal cap with opening and closing function
2. Gasket for seal cap
3. Double O-ring seal
4. Spindle
5. Slide ring
6. Chromed ball
7. Valve seat
8. Valve body
9. Extended end
10. Access port
(can be ordered separately)



Direct flow gives maximum through-flow with minimum pressure drop across valve. The combination of hermetically welded valve body (8), valve seat (7), the double O-ring seal (3), the slide ring (5) and the gasket for seal cap gives absolutely minimum leakage.

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Dimensions and weights



Type	Connection		H ₁ mm	H ₂ mm	L mm	L ₁ mm	L ₂ mm	L ₄ mm	L ₅ mm	M	Ø d mm	Weight kg
	in.	mm										
GBC 6s	1/4		22	47	140	8	76	14	24	M4 × 0.7	12.7	0.27
GBC 6s		6	22	47	140	8	76	14	24	M4 × 0.7	12.7	0.27
GBC 10s	3/8		22	47	140	8	76	14	24	M4 × 0.7	12.7	0.27
GBC 10s		10	22	47	150	8	81	14	24	M4 × 0.7	12.7	0.27
GBC 12s	1/2		22	47	161	10	87	14	31	M4 × 0.7	12.7	0.27
GBC 12s		12	22	47	153	10	83	14	30	M4 × 0.7	12.7	0.27
GBC 16s	5/8		22	47	161	13	87	14	32	M4 × 0.7	12.7	0.27
GBC 18s	3/4		32	56	189	16	99	20	37	M4 × 0.7	19.0	0.59
GBC 18s		18	32	56	177	16	92	20	34	M4 × 0.7	19.0	0.59
GBC 22s	7/8		32	56	189	19	95	20	37	M4 × 0.7	19.0	0.59
GBC 28s	1 1/8		36	60	214	23	110	25	44	M4 × 0.7	25.5	1.30
GBC 28s		28	36	60	204	23	105	25	39	M4 × 0.7	25.5	1.30
GBC 35s	1 3/8		39	68	251	25	102	34	73	M6 × 1.0	32.0	1.45
GBC 42s	1 5/8		41	80	279	28	140	34	57	M6 × 1.0	38.0	2.15
GBC 42s		42	41	80	279	28	140	34	56	M6 × 1.0	38.0	2.15
GBC 54s	2 1/8		53	90	305	34	152	34	59	M6 × 1.0	51.0	3.58
GBC 67s	2 5/8		53	90	305	37	152	34	60	M6 × 1.0	51.0	3.76
GBC 79s	3 1/8		53	90	305	42	152	34	78	M6 × 1.0	51.0	4.30

ABV Refrigeration Ball Valve

The ABV isolates suction, discharge, and liquid line pipework during maintenance shutdown periods.



Features

- Forged brass body
- Hermetic design
- Compatible with new refrigerants/lubricants
- Full internal ports through 2 1/8"
- Bi-directional flow characteristics
- Valve stem cap retained by strap attached to main body
- Integrated access port available on all sizes

Specifications

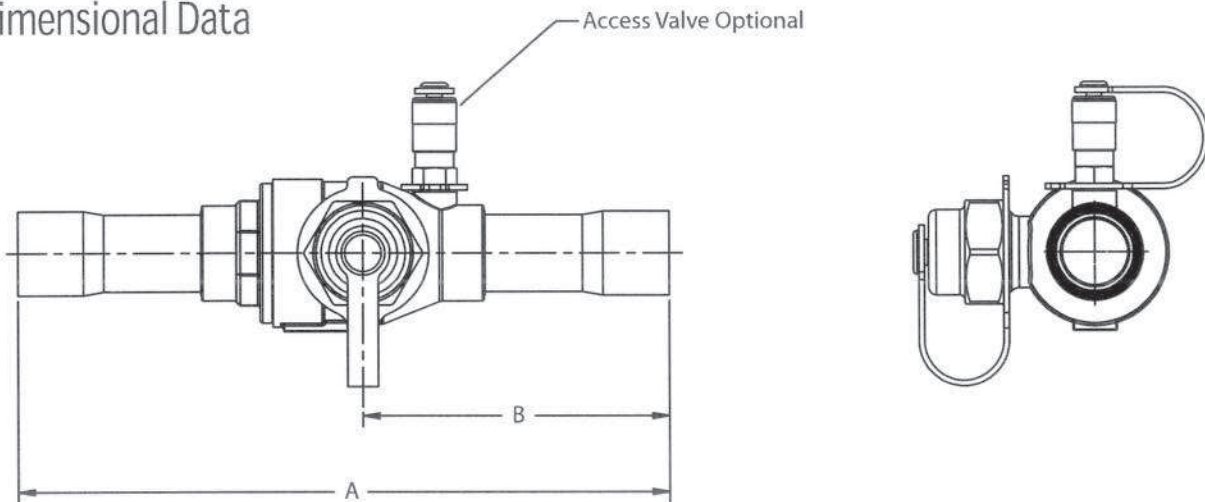
- Body: Forged Brass
- Extensive Stubs: 100% Copper Connections
- Maximum Working Pressure: 500 psig
- Not for use with R-123
- Fluid temperature range: +300°F to -40°F
- UL/CUL file number: SA 5312

Nomenclature

example: ABV 5A

A	BV	5	A
Series	Ball Valve	Connection Size (in 1/8")	Access Valve (optional)

Dimensional Data



Selection & Ordering Information

PCN without Access Valve	PCN with Access Valve	Valve	Port Size	Connection Size	Dimensions (in)	
					A	B
064383	064384	ABV2	1/2	1/4 ODF	5.47	2.55
062104	062114	ABV3	1/2	3/8 ODF	5.47	2.55
062105	062115	ABV4	1/2	1/2 ODF	6.35	2.97
062106	062116	ABV5	1/2	5/8 ODF	6.35	2.97
064385	064386	ABV6	3/4	3/4 ODF	7.42	3.49
062107	062117	ABV7	3/4	7/8 ODF	7.42	3.49
062108	062118	ABV9	1	1 1/8 ODF	9.11	4.47
062109	062119	ABV11	1 1/4	1 3/8 ODF	9.97	4.84
062110	061220	ABV13	1 1/2	1 5/8 ODF	10.98	5.38
062111	062121	ABV17	2	2 1/8 ODF	11.72	5.77
062112	062122	ABV21	2	2 5/8 ODF	11.72	5.77
062113	062123	ABV25	2	3 1/8 ODF	11.81	5.82