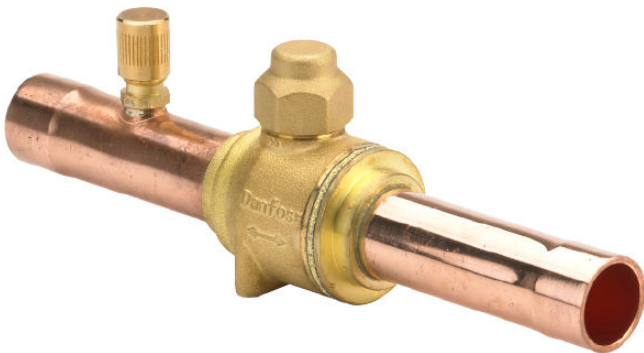


## Data Sheet

Shut-off ball valve  
Type **GBC**

Version 2



Danfoss shut-off ball valves, type GBC, are manually operated shut-off valves for refrigeration systems, in order to open and to shut off inner flow path by operating the valve spindle.

The GBC valves are used in liquid, suction and hot gas lines in refrigeration and air conditioning systems.

The GBC bi-directional ball valves can be delivered with or without external access port.

The valves have one-piece wire seal cap to prevent unintentional cap removal or tampering between services.

**Features:**

- ¼ turn from fully open to fully closed
- Rotation stops at fully open and fully closed positions
- Ball status indicator on spindle top indicating open or closed position
- Double O-ring stem seal design
- Customized brass material ensures consistent performance under aggressive environment
- Rupture proof, internally-loaded spindle design ensures safe operation under extreme pressures
- Bi-directional flow, valve orientation is unimportant
- Full port construction to match line size
- Drilled and tapped for panel mounting
- Versions with access port helps in reducing cost if service of the system is necessary
- One-piece seal cap for safety purpose complies with European Safety Directive EN 378 (Safety and environmental requirements)

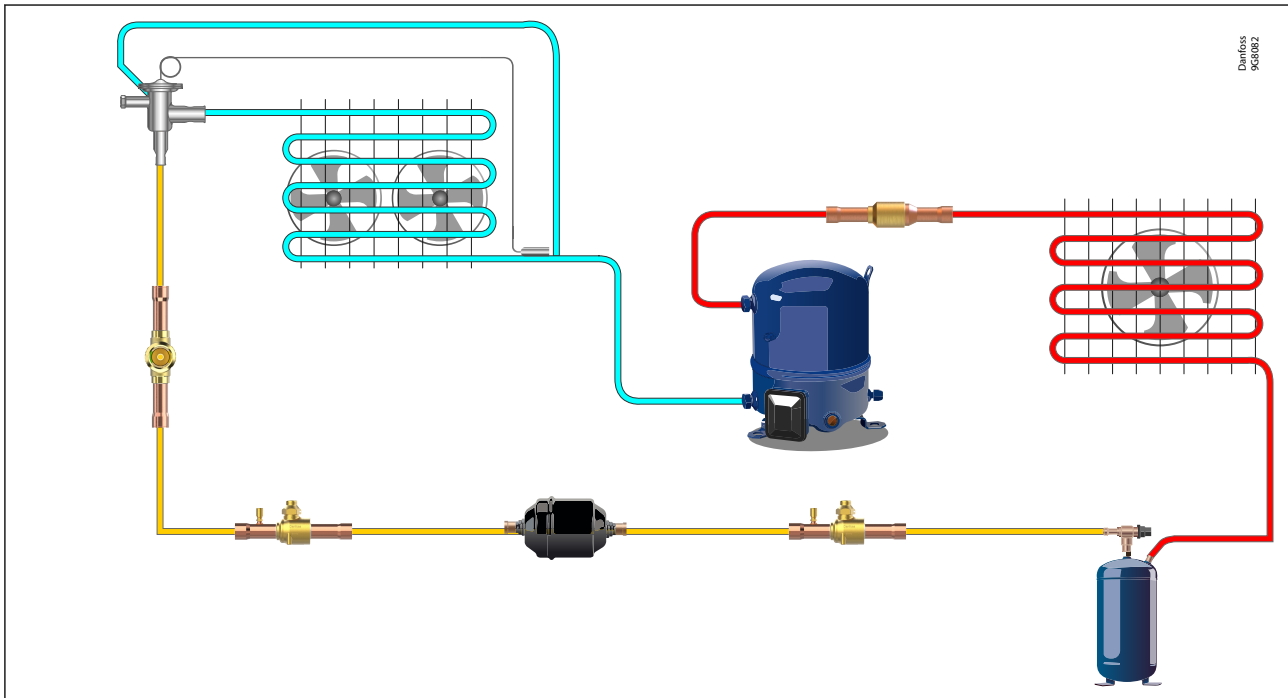
## Applications

### Application

Typical applications for GBC valves are:

- Cold room
- Chiller
- Heat pump
- Transport refrigeration

Figure 1: Application Diagram



**Media**

**Table 1: Refrigerants**

Valve type	Max. working pressure (PS/ MWP)	Refrigerants
GBC 6s-28s	45 bar / 650 psig	R134a, R22/R407C, R290, R404A/R507, R407A, R407F, R407H, R410A, R448A, R449A, R449B, R450A, R452A, R452B, R454A, R454B, R454C, R455A, R463A, R513A, R515B, R516A, R1234ze(E), R1234yf
GBC 35s-79s	45 bar / 650 psig	R134a, R22/R407C, R404A/R507, R407A, R407F, R407H, R410A, R448A, R449A, R449B, R450A, R452A, R452B <sup>(1)</sup> , R454A <sup>(1)</sup> , R454B <sup>(1)</sup> , R454C <sup>(1)</sup> , R455A <sup>(1)</sup> , R463A, R513A, R515B, R516A <sup>(1)</sup> , R1234ze(E), R1234yf <sup>(1)</sup>
GBC 6s E-28s E	49 bar / 710 psig	R290, R32, R452B, R454A, R454B, R454C, R455A, R516A, R1234ze(E), R1234yf
GBC 35s E-79s E	49 bar / 710 psig	R32, R452B, R454A, R454B, R454C, R455A, R516A, R1234ze(E), R1234yf

<sup>(1)</sup> Without certificate of PED Fluid Group 1, category II

**Table 2: Refrigerant oil**

Features	Type
Refrigerant oil	POE, PAG (PVE, PAO)

**NOTE:**

1. For a complete list of approved refrigerants, visit <http://store.danfoss.com/> and search for individual code numbers, where refrigerants are listed as part of product details.
2. This product is approved for R290, R32, R452B, R454A, R454B, R454C, R455A, R516A, R1234ze(E), R1234yf by ignition source assessment in accordance to standard EN ISO 80079-36.
3. GBC is only can be used in liquid line and suction line where the temperature is below 80 °C/176 °F for oil free application. For higher temperature in discharge line for oil free application, please contact Danfoss.
4. GBC E can be only used in liquid line and suction line.
5. R32 can only be used for 49bar GBC E.

**Product specification**

**Technical data**

Table 3: Technical data

Technical data	GBC	GBC E
Max. working pressure	45 bar / 650 psig	49 bar / 710 psig
Media temperature range	-40 – 100 °C / -40 – 212 °F for long term use >100 – 150 °C / >212 – 300 °F for short term use	-40 – 100 °C / -40 – 212 °F For use in high temperature application, please consult Danfoss.
Environmental transport/storage temperature and humidity	-40 – 65 °C / -40 – 150 °F Air humidity: RH≤95%	
Flow direction	Bi flow	

**Identification**

Relevant product data is available on the product and box label. An example of a box label and product label are shown, including an explanation of the content.

Figure 2: Box label

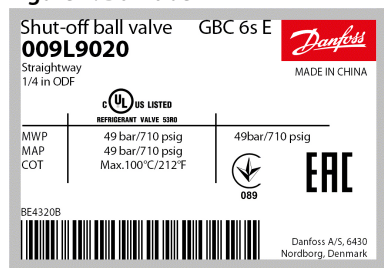


Figure 3: Product label



Table 4: Product and label text

Position	Inscription	Explanation
Box label; Product label	Shut-off ball valve	Product name
Box label	GBC 6s E	Product type
Box label	009L9020	Code number for ordering
Box label	Straightway	Direction
Box label	1/4 in ODF	Connection size and type
Box label; Product label	MWP/MAP: 49 bar/710 psig	Max. working pressure in bar and psig
Box label	BE4320B	Code for production place and time (BE = Wuqing, week 43, year 2020, weekday B = Tuesday)
Box label; Product label	COT Max. 100 °C/212 °F	Max. temperature
Box label; Product label	MADE IN CHINA	Manufacturing site acc. to EN standards
Box label	EAN code	Barcode for individual code no. identification according to EAN standard
Box label; Product label	Additional information: Relevant approval authority logos	

**Design and materials**

The shut off valves with ball are bi flow manual valves capable of ensuring a minimum internal loss when closed and a low pressure drop when open. The GBC valves can be installed in liquid, suction and hot gas lines in refrigeration and air conditioning systems. The design of the ball valves guarantees the pressure balance with the valve closed, it allows two directions fluid flow and prevents the danger of explosion and rejection of the operating spindle.

Direct flow gives maximum through-flow with minimum pressure drop across valve. The combination of laser-welded valve body (2) and valve tail (4), ball seat/seal (3), double O-ring seal in spindle (6), and cap seal (7) provides the best tightness.

## Shut-off ball valve, Type GBC

Figure 4: Design and materials

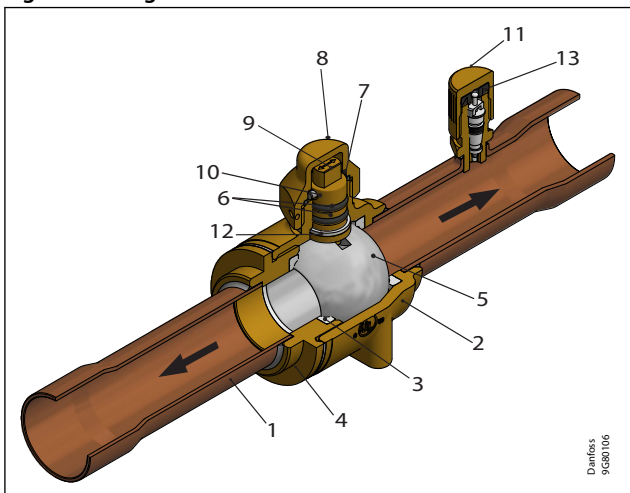


Table 5: Design and materials

Position	Description	Material
1	Connection tube	Copper
2	Valve body	Brass
3	Ball seat	PTFE
4	Valve tail	Brass
5	Ball	Stainless steel
6	Double O-ring seal in spindle	CR rubber
7	Cap seal	PTFE
8	Seal cap	Brass
9	Spindle	Brass
10	Pin	Stainless steel
11	Access port cap	Brass
12	Guide ring	PTFE
13	Schrader valve	Stainless steel

## Dimensions

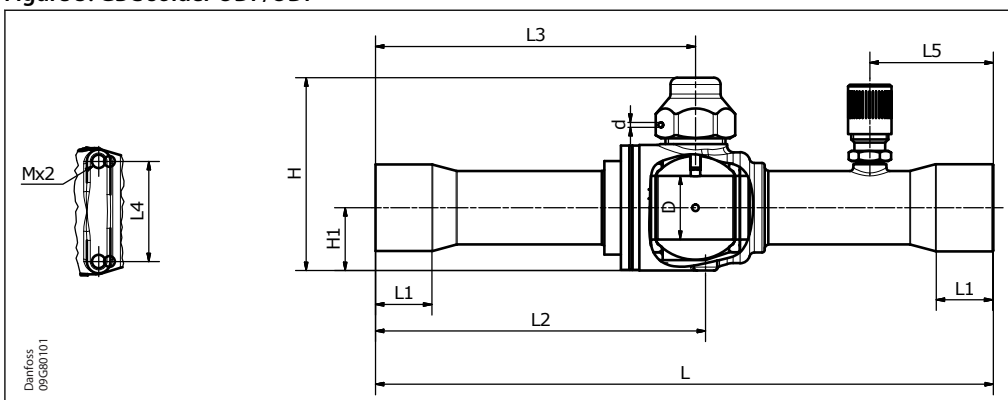
We have chosen to show dimensions of the major versions.

You will find downloadable dimension drawings for individual code numbers on Danfoss store as part of the Visuals tab for individual code numbers.

Weights also differ depending on the design of the individual code numbers. Weights are available as part of the technical data for individual code numbers on Danfoss store.

## GBC solder ODF/ODF, copper connections

Figure 5: GBC solder ODF/ODF



## Shut-off ball valve, Type GBC

**Table 6: GBC solder ODF/ODF, copper connections**

Type	Size	Con- nec- tion	Connection tolerance	H	H1	L	L1	L2	L3	L4	L5	M	D	d	Weight [kg]	Code no.	
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		without access port	with access port
GBC 6s	1/4 in.	6.35	+0.065/+0.155	43	12	139	7	73	73	17	31	M3 × 0.5	11.1	1.5	0.1	009L7020	009L7050
	6 mm	6.00														009L9020	009L9050
GBC 10s	3/8 in.	9.52		43	12	139	9	73	73	17	31	M3 × 0.5	11.1	1.5	0.1	009L7030	009L7060
	10 mm	10.00														009L9030	009L9060
GBC 12s	1/2 in.	12.70		43	12	161	10	84	84	17	31	M3 × 0.5	11.1	1.5	0.1	009L7021	009L7051
	12 mm	12.00														009L9021	009L9051
GBC 16s	5/8 in.	16.00		50	15	161	12	86	84	22	31	M4 × 0.7	14.0	1.5	0.2	009L7031	009L7061
	16 mm															16.00	009L9031
GBC 18s	3/4 in.	19.05		58	19	185	14	99	96	30	37	M4 × 0.7	19.0	1.5	0.4	009L7022	009L7052
	18 mm	18.00														009L9022	009L9052
GBC 22s	7/8 in.	22.22		58	19	185	17	99	96	30	37	M4 × 0.7	19.0	1.5	0.4	009L7032	009L7062
	22 mm															22.22	009L9032
GBC 28s	1 1/8 in.	28.58	80	25	208	20	112	108	38	44	M4 × 0.7	25.5	1.5	0.9	009L7023	009L7053	
	28 mm	28.00													009L9023	009L9053	
GBC 35s	1 3/8 in.	35.00	89	30	251	25	136	130	48	44	M6 × 1.0	32.0	1.5	1.4	009L7024	009L7054	
	35 mm														35.00	009L9024	009L9054
GBC 42s	1 5/8 in.	41.28	110	35	281	29	151	145	55	56	M6 × 1.0	38.0	1.5	2.2	009L7035	009L7065	
	42 mm	42.00													009L9035	009L9065	
GBC 54s	2 1/8 in.	54.00	131	46	305	34	167	157	74	56	M6 × 1.0	50.0	1.5	4.2	009L7025	009L7055	
	54 mm	54.00													009L9025	009L9055	
GBC 67s	2 5/8 in.	66.70	149	55	343	38	188	172	84	72	M6 × 1.0	60.5	1.5	5.8	009L7026	009L7056	
	GBC 79s	3 1/8 in.													79.38	169	65
GBC 67s RP		2 5/8 in.	66.68	131	46	305	37	167	157	74	56	M6 × 1.0	50.0	1.5	4.4		
	GBC 79s RP	3 1/8 in.	79.38													131	46
GBC 67s RP		2 5/8 in.	66.68	149	55	343	38	188	172	84	72	M6 × 1.0	60.5	1.5	5.8		
	GBC 79s RP	3 1/8 in.	79.38													169	65
GBC 67s RP		2 5/8 in.	66.68	131	46	305	37	167	157	74	56	M6 × 1.0	50.0	1.5	4.4		
	GBC 79s RP	3 1/8 in.	79.38													131	46
GBC 67s RP		2 5/8 in.	66.68	149	55	343	38	188	172	84	72	M6 × 1.0	60.5	1.5	5.8		
	GBC 79s RP	3 1/8 in.	79.38													169	65
GBC 67s RP		2 5/8 in.	66.68	131	46	305	37	167	157	74	56	M6 × 1.0	50.0	1.5	4.4		
	GBC 79s RP	3 1/8 in.	79.38													169	65
GBC 67s RP		2 5/8 in.	66.68	149	55	343	38	188	172	84	72	M6 × 1.0	60.5	1.5	5.8		
	GBC 79s RP	3 1/8 in.	79.38													169	65
GBC 67s RP		2 5/8 in.	66.68	131	46	305	37	167	157	74	56	M6 × 1.0	50.0	1.5	4.4		
	GBC 79s RP	3 1/8 in.	79.38													169	65
GBC 67s RP		2 5/8 in.	66.68	131	46	305	37	167	157	74	56	M6 × 1.0	50.0	1.5	4.4		
	GBC 79s RP	3 1/8 in.	79.38													169	65

### RP: Reduced Port

GBC solder ODF/ODM, copper connections

Figure 6: GBC solder ODF/ODM

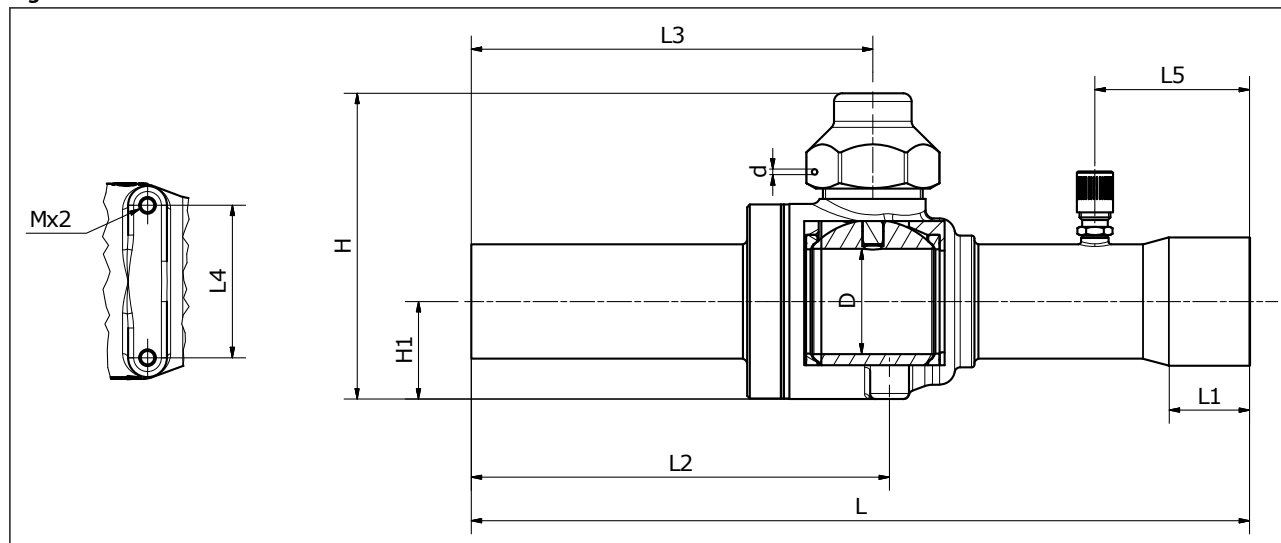


Table 7: GBC solder ODF/ODM, copper connections

Type	Size	Con- nec- tion [mm]	Connection tolerance [mm]	H [mm]	H1 [mm]	L [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	M [mm]	D [mm]	d [mm]	Weight [kg]	Code no.	
																without access port	with access port
GBC 16s	5/8 in.	ODF: 16	ODF: +0.065/+0.155	50	15	161	12	86	84	22	31	M4 × 0.7	14.0	1.5	0	009L7043	009L7084
	16 mm	ODM: 15.88	ODM: -0.04/+0.04														
GBC 22s	7/8 in.	ODF: 22.22	ODF: +0.075/+0.185	58	19	201	17	86	83	30	-	M4 × 0.7	19	2	0	009L7000	-
	22 mm	ODM: 22	ODM: -0.08/+0.08														
GBC 28s	1 1/8 in.	28.58	ODF: +0.075/+0.185	79	25	228	20	112	108	38	-	M4 × 0.7	25.5	1.5	0.9	009L7001	-
	1 1/8 in.		ODM: -0.12/+0.12														
GBC 35s	1 3/8 in.	35.00	ODF: +0.09/+0.23 ODM: -0.15/+0.15	89	30	280	25	136	130	48	-	M6 × 1.0	32.0	1.5	1	009L7002	-
	35 mm																
GBC 42s	1 3/8 in.	35.00	ODF: +0.09/+0.23 ODM: -0.15/+0.15	89	30	251	25	136	130	48	44	M6 × 1.0	32.0	1.5	1	-	009L7098
	35 mm																
GBC 54s	1 5/8 in.	41.28	ODF: +0.09/+0.23 ODM: -0.15/+0.15	110	35	295	29	151	145	55	-	M6 × 1.0	38.0	1.5	2.2	009L7003	-
	1 5/8 in.																
GBC 67s	2 1/8 in.	54.00	ODF: +0.09/+0.23 ODM: -0.1/+0.1	131	46	305	34	167	157	74	56	M6 × 1.0	50.0	1.5	4	-	009L7069
	54 mm																
GBC 79s	2 5/8 in.	66.70	ODF: +0.1/+0.33 ODM: -0.16/+0.07	149	55	346	38	191	175	84	72	M6 × 1.0	60.5	1.5	5.8	-	009L7958
GBC 79s	3 1/8 in.	79.38	ODF: +0.1/+0.33 ODM: -0.16/+0.07	168	65	406	38	220	204	86	80	M6 × 1.0	73.5	1.5	9.1	009L7969	009L7970

GBC solder ODM/ODM, copper connections

Figure 7: GBC solder ODM/ODM, copper connections

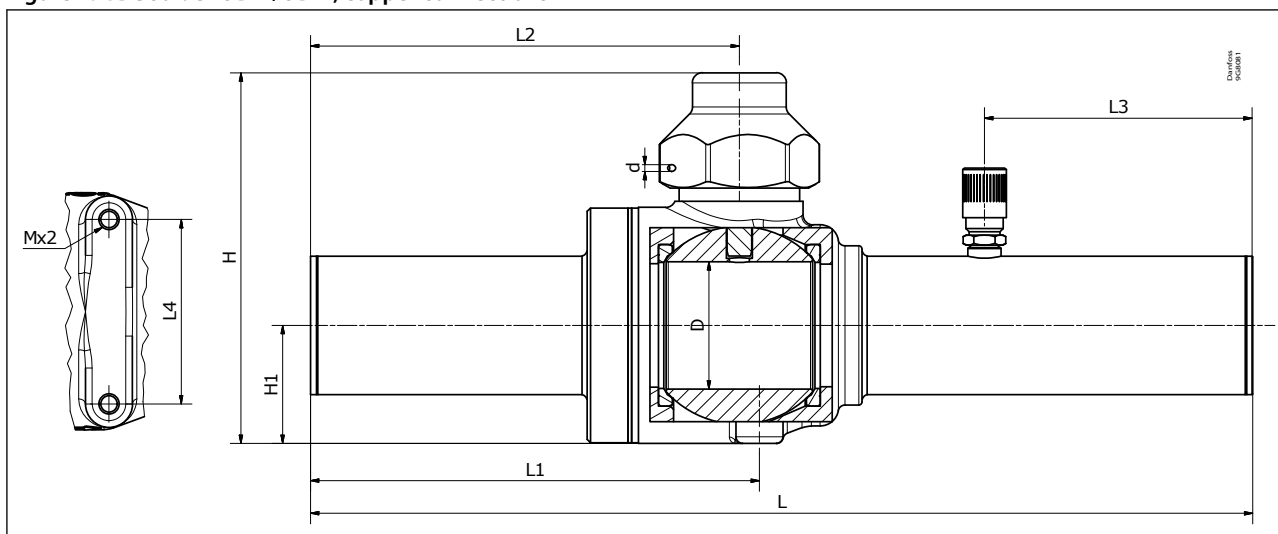


Table 8: GBC solder ODM/ODM, copper connections

Type	Size	Con- nec- tion [mm]	Con- nec- tion tolerance [mm]	H [mm]	H1 [mm]	L [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	M [mm]	D [mm]	d [mm]	Weight [kg]	Code no.	
															without access port	with access port
GBC 28s	1 1/8	28.58	-0.12/+0.05	79	25	208	104	100	56	38	M4x0.7	25.5	1.5	0.9	-	009L7100
GBC 42s	1 5/8	41.28	-0.15/+0.06	110	35	281	134	128	80	55	M6x1.0	38.0	1.5	2.4	-	009L7101
GBC 54s	2 1/8	54.00		131	46	305	151	141	81	74	M6x1.0	50.0	1.5	4.3	-	009L7102
GBC 67s	2 5/8	66.70	-0.16/+0.07	149	55	305	153	137	78	84	M6x1.0	60.5	1.5	5.6	-	009L7103
GBC 79s	3 1/8	79.38		168	65	410	220	204	106	86	M6x1.0	73.5	1.5	9.0	-	009L7104

**Connections**

Standard GBC, GBC E versions can be provided with straightway, connection types solder ODF/ODF or ODF/ODM or ODM/ODM in a wide variety of connection sizes. Solder versions are with extended ends copper connections.

For details on availability, see [Ordering](#).



## Connection diagrams

Type	Inlet	Outlet	connections	Inch connections
GBC	Solder ODF	Solder ODF	6 mm x 6 mm 10 mm x 10 mm 12 mm x 12 mm 16 mm x 16 mm 18 mm x 18 mm 22 mm x 22 mm 28 mm x 28 mm 35 mm x 35 mm 42 mm x 42 mm 54 mm x 54 mm	¼ x ¼ in ⅜ x ⅜ in ½ x ½ in ⅝ x ⅝ in ¾ x ¾ in ⅞ x ⅞ in 1 ⅛ x 1 ⅛ in 1 ⅜ x 1 ⅜ in 1 ⅝ x 1 ⅝ in 1 ⅞ x 1 ⅞ in 2 ⅛ x 2 ⅛ in 2 ⅝ x 2 ⅝ in 3 ⅛ x 3 ⅛ in
GBC	Solder ODF	Solder ODM	16 mm x 16 mm 22 mm x 22 mm 35 mm x 35 mm 54 mm x 54 mm	⅝ in x ⅝ in ⅞ x ⅞ in 1 ⅛ x 1 ⅛ in 1 ⅜ x 1 ⅜ in 1 ⅝ x 1 ⅝ in 1 ⅞ x 1 ⅞ in 2 ⅛ x 2 ⅛ in 2 ⅝ x 2 ⅝ in 3 ⅛ x 3 ⅛ in
GBC	Solder ODM	Solder ODM	54 mm x 54 mm	1 ⅛ x 1 ⅛ in 1 ⅝ x 1 ⅝ in 2 ⅛ x 2 ⅛ in 2 ⅝ x 2 ⅝ in 3 ⅛ x 3 ⅛ in
GBC E	Solder ODF	Solder ODF	6 x 6 mm 10 x 10 mm 12 x 12 mm 16 x 16 mm 18 x 18 mm 22 x 22 mm 28 x 28 mm 35 x 35 mm 42 x 42 mm 54 x 54 mm	¼ x ¼ in ⅜ x ⅜ in ½ x ½ in ⅝ x ⅝ in ¾ x ¾ in ⅞ x ⅞ in 1 ⅛ x 1 ⅛ in 1 ⅜ x 1 ⅜ in 1 ⅝ x 1 ⅝ in 1 ⅞ x 1 ⅞ in 2 ⅛ x 2 ⅛ in 2 ⅝ x 2 ⅝ in 3 ⅛ x 3 ⅛ in

**Ordering**

GBC/GBC E code numbers described in this data sheet are standard code numbers, i.e. made to stock. Besides code numbers made to stock GBC/GBC E is also made to order.

Make to order options include:

- Mechanical connection type
- Mechanical connection size
- Access port size

Multipack contains several items, individually packed, so that customers can purchase 1 item and receive all relevant documentation.

**GBC solder ODF/ODF, copper connections**

Figure 8: GBC without access port, solder ODF/ODF

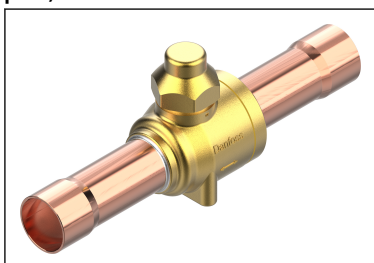


Figure 9: GBC with access port, solder ODF/ODF

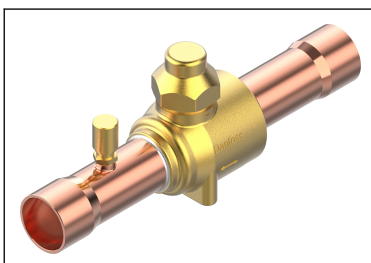


Table 9: GBC solder ODF/ODF, copper connections

Type	Connection Solder ODF x ODF		Kv <sup>(1)</sup> [m <sup>3</sup> /h]	Cv <sup>(1)</sup> [gal/min]	Max. working pressure: PS/MWP	Media temperature range <sup>(2)</sup>	PED category [Fluid Group 1]	PED category [Fluid Group 2]	Code no.		Multi pack Qty/pack
	[in.]	[mm]							without access port	with access port	
GBC 6s	¼	-	1.83	2.12	45 bar / 650 psig	-40 – 100 °C / -40 – 212 °F for long term use	Art. 4.3	Art. 4.3	009L7020	009L7050	30
	-	6	1.83	2.12					009L7030	009L7060	30
GBC 10s	¾	-	8.04	9.29					009L7021	009L7051	30
	-	10	8.04	9.29					009L7031	009L7061	30
GBC 12s	½	-	13.17	15.22					009L7022	009L7052	30
	-	12	13.17	15.22					009L7032	009L7062	30
GBC 16s	⅝	16	15.66	18.10					009L7023	009L7053	25
GBC 18s	¾	-	21.93	25.35					009L7024	009L7054	25
	-	18	21.93	25.35					009L7035	009L7065	25
GBC 22s	⅞	22	33.34	38.54					009L7025	009L7055	25
GBC 28s	1 ¼	-	62.25	71.96		009L7026	009L7056	5			
	-	28	62.25	71.96		009L7033	009L7063	5			
GBC 35s	1 ⅜	35	92.76	107.23		009L7027	009L7057	5			
GBC 42s	1 ⅝	-	134.76	155.78		009L7028	009L7058	4			
	-	42	134.76	155.78		009L7034	009L7064	4			
GBC 54s	2 ¼	54	240.11	277.57		009L7029	009L7059	2			
GBC 67s	2 ⅝	-	367.38	424.69		-40 – 100 °C / -40 – 212 °F for long term use	-	Cat. 1	009L7959	009L7960	1
GBC 67s RP	2 ⅝	-	203.12	234.81					009L7036	009L7066	2
GBC 79s	3 ½	-	528.87	611.37					009L7980	009L7981	1
GBC 79s RP	3 ½	-	171.89	198.7					009L7037	009L7067	2

<sup>(1)</sup> Calculated based on fluid dynamic equations. RP: Reduced Port.

<sup>(2)</sup> For short term use in high temperature application, please consult Danfoss.

## Shut-off ball valve, Type GBC

### GBC solder ODF/ODM, copper connections

Figure 10: GBC without access port, solder ODF/ODM

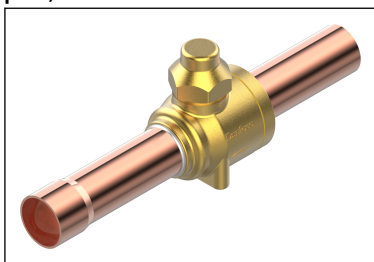


Figure 11: GBC with access port, solder ODF/ODM

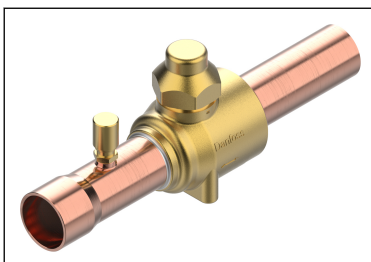


Table 10: GBC solder ODF/ODM, copper connections

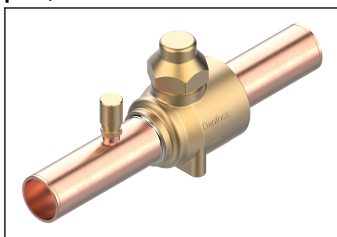
Type	Solder ODF/ODM connection		K <sub>v</sub> <sup>(1)</sup> [m <sup>3</sup> /h]	C <sub>v</sub> <sup>(1)</sup> [gal/min]	Max. working pressure: PS/MWP	Media temperature range <sup>(2)</sup>	PED category [Fluid Group 1]	PED category [Fluid Group 2]	Code no. Multi pack		Multi pack Qty/ pack
	[in.]	[mm]							without access port	with access port	
GBC 16s	5/8	16	15.66	18.10	45 bar / 650 psig	-40 °C – 100°C / -40 °F – 212°F for long term use >100°C -150°C / >212°F - 300°F for short term use	Art. 4.3	Art. 4.3	009L7043	009L7084	25
GBC 22s	7/8	22	33.34	38.54					009L7000	-	5
GBC 28s	1 1/8	-	62.25	71.96					009L7001	009L7097	5
GBC 35s	1 3/8	35	92.76	107.23					009L7002	009L7098	7002: 4 7098: 5
GBC 42s	1 5/8	-	134.76	155.78		-40 °C – 100°C / -40 °F – 212°F for long term use >100°C -121°C / >212°F - 250°F for short term use	-	Cat. 1	009L7003	009L7099	4
GBC 54s	2 1/8	54	240.11	277.57					-	009L7069	2
GBC 67s	2 5/8	-	367.38	424.69					-	009L7958	1
GBC 79s	3 1/8	-	528.87	611.37					-	009L7969	009L7970

<sup>(1)</sup> Calculated based on fluid dynamic equations.

<sup>(2)</sup> For short term use in high temperature application, please consult Danfoss.

### GBC solder ODM/ODM, copper connections

Figure 12: GBC with access port, solder ODM/ODM



## Shut-off ball valve, Type GBC

**Table 11: GBC solder ODM/ODM, copper connections**

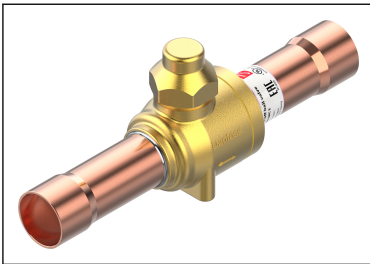
Type	Solder ODM/ODM connection		Kv <sup>(1)</sup> [m <sup>3</sup> /h]	Cv <sup>(1)</sup> [gal/min]	Max. working pressure: PS/MWP	Media temperature range <sup>(2)</sup>	PED category [Fluid Group 1]	PED category [Fluid Group 2]	Code no. Multi pack		Multi pack Qty/ pack
	[in.]	[mm]							without access port	with access port	
GBC 28s	1 1/8	-	62.25	71.96	45 bar / 650 psig	-40 °C – 100°C / -40 °F – 212°F for long term use >100°C -150°C / >212°F - 300°F for short term use	Art. 4.3	Art. 4.3	-	009L7100	5
GBC 42s	1 5/8	-	134.76	155.78					-	009L7101	4
GBC 54s	2 1/8	54	240.11	277.57		-40 °C – 100°C / -40 °F – 212°F for long term use >100°C -121°C / >212°F - 250°F for short term use	-	Cat. 1	-	009L7102	2
GBC 67s	2 5/8	-	367.38	424.69					-	009L7103	1
GBC 79s	3 1/8	-	528.87	611.37					-	009L7104	1

<sup>(1)</sup> Calculated based on fluid dynamic equations.

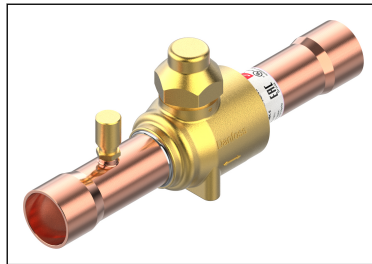
<sup>(2)</sup> For short term use in high temperature application, please consult Danfoss.

## GBC E solder ODF/ODF, copper connections

**Figure 13: GBC E without access port, solder ODF/ODF**



**Figure 14: GBC E with access port, solder ODF/ODF**



**Table 12: GBC E solder ODF/ODF, copper connections**

Type	Connection Solder ODF x ODF		Kv <sup>(1)</sup> [m <sup>3</sup> /h]	Cv <sup>(1)</sup> [gal/min]	Max. working pressure: PS/MWP	Media temperature range <sup>(2)</sup>	PED category [Fluid Group 1]	PED category [Fluid Group 2]	Code no.		Multi pack Qty/ pack	
	[in.]	[mm]							without access port	with access port		
GBC 6s E	1/4	-	1.83	2.12	49 bar / 710 psig	-40 °C - 100°C / -40 °F - 212°F For high temperature application, please consult Danfoss	Art. 4.3	-	009L9020	009L9050	25	
	-	6	1.83	2.12					009L9030	009L9060	25	
GBC 10s E	3/8	-	8.04	9.29					009L9021	009L9051	25	
	-	10	8.04	9.29					009L9031	009L9061	25	
GBC 12s E	1/2	-	13.17	15.22					009L9022	009L9052	25	
	-	12	13.17	15.22					009L9032	009L9062	25	
GBC 16s E	5/8	-	15.66	18.1					009L9023	009L9053	25	
	-	16	15.66	18.1					009L9033	009L9063	5	
GBC 18s E	3/4	-	21.93	25.35					009L9024	009L9054	25	
	-	18	21.93	25.35					009L9035	009L9065	25	
GBC 22s E	7/8	-	33.34	38.54					009L9025	009L9055	25	
	-	22	33.34	38.54					009L9026	009L9056	5	
GBC 28s E	1 1/8	-	62.25	71.96					009L9033	009L9063	5	
	-	28	62.25	71.96					009L9027	009L9057	5	
GBC 35s E	1 3/8	-	92.76	107.23					Cat. 2	009L9028	009L9058	4
	-	35	92.76	107.23						009L9034	009L9064	4
GBC 42s E	1 5/8	-	134.76	155.78						009L9029	009L9059	2
	-	42	134.76	155.78						009L9959	009L9960	1
GBC 54s E	2 1/8	-	240.11	277.57	009L9980	009L9981	1					
	-	54	240.11	277.57								
GBC 67s E	2 5/8	-	367.38	424.69								
	-	67	367.38	424.69								
GBC 79s E	3 1/8	-	528.87	611.37								
	-	79	528.87	611.37								

<sup>(1)</sup> Calculated based on fluid dynamic equations.

<sup>(2)</sup> For use in high temperature application above 100 °C, please consult Danfoss.

## Spare parts

Figure 15: Seal cap kit



Table 13: Seal cap kit

Type	Valve connection size		Industrial pack (pcs)	Code no. for 009Gxxxx series	Code no. for 009Lxxxx 45 bar series	Code no. for 009Lxxxx 49 bar series
	[in]	[mm]				
GBC 6s - GBC 12s	¼ – ½	6 – 12	6	009G7210	009L7209	009L7210
GBC 16s - GBC 22s	5⁄8 – 7⁄8	16 – 22	6		009L7210	
GBC 28s - GBC 35s	1 1⁄8 – 1 3⁄8	28 – 35	4	009G7211	/	009L7211
			3	/		
GBC 42s - GBC 79s	1 5⁄8 – 3 1⁄8	42 – 79	4	009G7212	/	009L7212
			3	/		

Figure 16: Bracket kit



Table 14: Bracket kit

Type	Valve connection size		Industrial pack (pcs)	Code no. for 009Gxxxx series	Code no. for 009Lxxxx 45 bar series	Code no. for 009Lxxxx 49 bar series
	[in]	[mm]				
GBC 6s - GBC 12s	¼ – ½	6 – 12	12	009G7084	009G7089	009G7084
GBC 16s	5⁄8	16	12		009G7084	
GBC 18s - GBC 22s	¾ – 7⁄8	18 – 22	12		009G7085	
GBC 28s	1 1⁄8	28	10		009G7086	
GBC 35s	1 3⁄8	35	5		009G7087	
GBC 42s	1 5⁄8	42	4		009G7088	

**Certificates, declarations, and approvals**

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

Some approvals may change over time. You can check the most current status at danfoss.com or contact your local Danfoss representative if you have any questions.



**Table 15: Certificates, declarations, and approvals**

File name	Document type	Document topic	Approval authority
Д-DK.PA01.B.02567_19	EAC Declaration	Machinery & Equipment	EAC RU
Д-DK.Б/108.B.02139_19	EAC Declaration	PED	EAC RU
033F4001.AE	Manufacturers Declaration	PED	Danfoss
033F4002.AE	EU Declaration	PED	Danfoss
033F4006	Manufacturers Declaration	China RoHS	Danfoss
033F4010	Manufacturers Declaration	RoHS	Danfoss
033F4017.AA	Manufacturers Declaration	EN ISO 14903:2017 Level A1	Danfoss
UA.089. D. 00189-17	UA Declaration	PED	LLC CDC EURO TYSK
UA.TR-089.0995-17	Pressure - Safety Certificate	PED	LLC CDC EURO TYSK
UL SA7200	Mechanical - Safety Certificate	UL	UL

## Online support

Danfoss offers a wide range of support along with our products, including digital product information, software, mobile apps, and expert guidance. See the possibilities below.

### The Danfoss Product Store



The Danfoss Product Store is your one-stop shop for everything product related—no matter where you are in the world or what area of the cooling industry you work in. Get quick access to essential information like product specs, code numbers, technical documentation, certifications, accessories, and more.

Start browsing at [store.danfoss.com](https://store.danfoss.com).

### Find technical documentation



Find the technical documentation you need to get your project up and running. Get direct access to our official collection of data sheets, certificates and declarations, manuals and guides, 3D models and drawings, case stories, brochures, and much more.

Start searching now at [www.danfoss.com/en/service-and-support/documentation](https://www.danfoss.com/en/service-and-support/documentation).

### Danfoss Learning



Danfoss Learning is a free online learning platform. It features courses and materials specifically designed to help engineers, installers, service technicians, and wholesalers better understand the products, applications, industry topics, and trends that will help you do your job better.

Create your Danfoss Learning account for free at [www.danfoss.com/en/service-and-support/learning](https://www.danfoss.com/en/service-and-support/learning).

### Get local information and support



Local Danfoss websites are the main sources for help and information about our company and products. Find product availability, get the latest regional news, or connect with a nearby expert—all in your own language.

Find your local Danfoss website here: [www.danfoss.com/en/choose-region](https://www.danfoss.com/en/choose-region).

### Coolselector®2 - find the best components for you HVAC/R system



Coolselector®2 makes it easy for engineers, consultants, and designers to find and order the best components for refrigeration and air conditioning systems. Run calculations based on your operating conditions and then choose the best setup for your system design.

Download Coolselector®2 for free at [coolselector.danfoss.com](https://coolselector.danfoss.com).

Any information, including, but not limited to information on selection of product, its application or use, product design, weight, dimensions, capacity or any other technical data in product manuals, catalogues descriptions, advertisements, etc. and whether made available in writing, orally, electronically, online or via download, shall be considered informative, and is only binding if and to the extent, explicit reference is made in a quotation or order confirmation. Danfoss cannot accept any responsibility for possible errors in catalogues, brochures, videos and other material. Danfoss reserves the right to alter its products without notice. This also applies to products ordered but not delivered provided that such alterations can be made without changes to form, fit or function of the product. All trademarks in this material are property of Danfoss A/S or Danfoss group companies. Danfoss and the Danfoss logo are trademarks of Danfoss A/S. All rights reserved.