

BALL VALVES

Application

- Used for controlling air supply in the opened and closed positions.

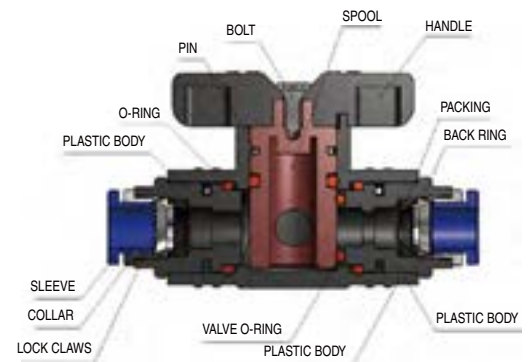
Feature

- Available for water as well as air with PPS resin body.
- The sectional dimension of the compact body optimizes as much flow as the tube capacity in proportion.

Specification

Fluid	Air & Water	
Working Pressure Range	0~284PSI	
Negative Pressure	-29.5 in Hg	-750mmHg(10Torr)
Temperature Range	32~176°F	0~80°C
Applicable Tube Material	Polyurethane and Nylon	

Structural Diagram



Product Code System

GBC 20 - 08 02

① ② ③ ④

① Type

② Effective Sectional Area

	Metric size	
Code	20	60
Size	20mm ²	60mm ²

③ Tube Dia(∅D)

Code	06	08	10	12
Dia	∅6	∅8	∅10	∅12

④ Therad Size(T)

	Taper Pipe Thread			
Code	01	02	03	04
Size	R1/8	R1/4	R3/8	R1/2

⚠ CAUTION

- Be sure to read the "Common Precautions" and "Using Precautions of Fitting Series" (P14) before using.
- Be sure to turn at a right angle(90°) when operating handle, otherwise it may cause the shortage of fluid.

⚠ WARNING

- When using with water, the pressure must not exceed 0~3kgf/cm².
Be sure not to use in a place of vibration, bending, or shocking.
- Be sure to confirm that the Lock Pin is applied correctly. Without Lock Pin, the body can be disassembled.

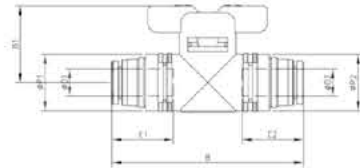
GBUC

Union



MODEL [ØD-T] Tube(Metric)-Thread(R)

MODEL	ØD1	ØD2	C1	C2	ØP1	ØP2	B	B1	W.G(g)	Q'ty/ Inbox
GBUC 20-0606	6	6	17	17	17	17	55.3	23	20.3	25
GBUC 20-0808	8	8	18.5	18.5	17	17	57.6	23	21.1	25
GBUC 60-1010	10	10	21	21	24	24	74.4	28	47.5	12
GBUC 60-1212	12	12	22	22	24	24	80.2	28	52.4	12



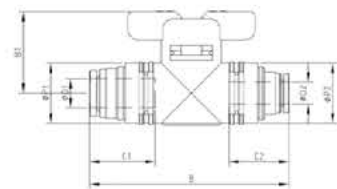
GBUG

Reducing Union



MODEL [ØD-T] Tube(Metric)-Thread(R)

MODEL	ØD1	ØD2	C1	C2	ØP1	ØP2	B	B1	Orifice (Ømm)	W.G(g)
GBUG 20-0806	8	6	18.5	17	17	17	56.5	23	20.8	25
GBUG 60-1210	12	10	22	21	24	24	77.3	28	50.2	12



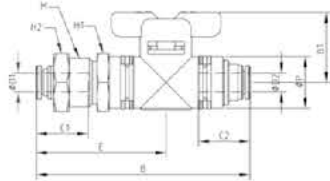
GBM

Bulkhead Union



MODEL [ØD-T] Tube(Metric)-Thread(R) (mm)

MODEL	ØD1	ØD2	M	C1	C2	ØP	H1	H2	E	B	B1	W.G(g)	Q'ty/ Inbox
GBM 20-0606	6	6	M16	17	17	17	19	19	42.7	70.3	23	53.1	25
GBM 20-0806	8	6	M16	18.5	17	17	19	19	43.6	71.3	23	50.7	25
GBM 20-0808	8	8	M16	18.5	18.5	17	19	19	43.6	72.4	23	51.2	25
GBM 60-1010	10	10	M22	21	21	24	24	26	54.4	91.6	28	121.8	12
GBM 60-1210	12	10	M22	22	21	24	24	26	55.4	92.6	28	116.7	12
GBM 60-1212	12	12	M22	22	22	24	24	26	55.4	95.5	28	119.2	12

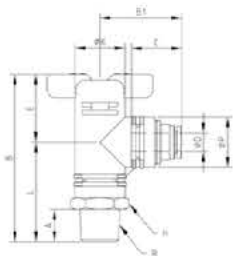


MODEL [ØD-T] Tube(Metric)-Thread(R) (mm)

MODEL	ØD	R	C	ØP	E	L	A	ØK	H	B	B1	W.G(g)	Q'ty/ Inbox
GBL 20-06-01	6	R1/8	17	17	23	30.8	8	17	17	53.8	27.7	30.9	25
GBL 20-06-02	6	R1/4	17	17	23	33.8	11	17	17	56.8	27.7	36	25
GBL 20-06-03	6	R3/8	17	17	23	34.8	12	17	17	57.8	27.7	42	25
GBL 20-08-01	8	R1/8	18.5	17	23	30.8	8	17	17	53.8	28.9	31.4	25
GBL 20-08-02	8	R1/4	18.5	17	23	33.8	11	17	17	56.8	28.9	36.3	25
GBL 20-08-03	8	R3/8	18.5	17	23	34.8	12	17	17	57.8	28.9	42.3	25
GBL 60-10-02	10	R1/4	21	24	28	44.1	11	24	24	72.1	38.1	93	12
GBL 60-10-03	10	R3/8	21	24	28	45.1	12	24	24	73.1	38.1	98	12
GBL 60-10-04	10	R1/2	21	24	28	49.1	15	24	24	77.1	38.1	105.7	12
GBL 60-12-02	12	R1/4	22	24	28	44.4	11	24	24	72.1	41	95.4	12
GBL 60-12-03	12	R3/8	22	24	28	45.1	12	24	24	73.1	41	100.4	12
GBL 60-12-04	12	R1/2	22	24	28	49.1	15	24	24	77.1	41	108	12

GBL

Elbow



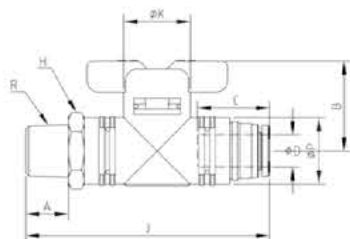
GBC
Straight



MODEL [ØD-T] Tube(Metric)-Thread(R)

(mm)

MODEL	ØD	R	C	ØP	A	H	J	ØK	B	W.G(g)	Qty/ Inbox
GBC 20-06-01	6	R1/8	17	17	8	17	58.4	17	23	32.1	25
GBC 20-06-02	6	R1/4	17	17	11	17	61.4	17	23	37.1	25
GBC 20-06-03	6	R3/8	17	17	12	17	62.4	17	23	43	25
GBC 20-08-01	8	R1/8	18.5	17	8	17	59.5	17	23	32.5	25
GBC 20-08-02	8	R1/4	18.5	17	11	17	62.5	17	23	37.5	25
GBC 20-08-03	8	R3/8	18.5	17	12	17	63.5	17	23	43.4	25
GBC 60-10-02	10	R1/4	21	24	11	24	80.4	24	28	94.4	12
GBC 60-10-03	10	R3/8	21	24	12	24	81.4	24	28	99	12
GBC 60-10-04	10	R1/2	21	24	15	24	85.4	24	28	107.2	12
GBC 60-12-02	12	R1/4	22	24	11	24	83.3	24	28	96.9	12
GBC 60-12-03	12	R3/8	22	24	12	24	84.3	24	28	101.3	12
GBC 60-12-04	12	R1/2	22	24	15	24	88.3	24	28	109.6	12



GBUL
Union Elbow



MODEL [ØD-T] Tube(Metric)-Thread(R)

(mm)

MODEL	ØD1	ØD2	C1	C2	ØP1	ØP2	ØK	B	L	B1	W.G(g)	Qty/ Inbox
GBUL 20-0606	6	6	17	17	17	17	17	50.7	27.7	27.7	19.2	25
GBUL 20-0808	8	8	18.5	18.5	17	17	17	51.9	28.9	28.9	20	25
GBUL 60-1010	10	10	21	21	24	24	24	66.1	38.1	38.1	46	12
GBUL 60-1212	12	12	22	22	24	24	24	69.0	41.0	41.0	51	12



GBLG

Reducing Union Elbow



MODEL [ØD-T] Tube(Metric)-Thread(R)

(mm)

MODEL	ØD1	ØD2	C1	C2	ØP1	ØP2	E	ØK	B	B1	W.G(g)	Q'ty/ Inbox
GBLG 20-0608	6	8	17	17	17	17	27.7	17	50.7	28.9	19.6	25
GBLG 20-0808	8	6	18.5	18.5	17	17	28.9	17	51.9	27.7	19.6	25
GBLG 60-1012	10	12	21	22	24	24	38.1	24	66.1	41	48.5	12
GBLG 60-1210	12	10	22	21	24	24	41	24	69	38.1	48.4	12



GBLM

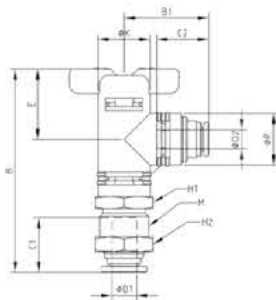
Bulkhead Union Elbow



MODEL [ØD-T] Tube(Metric)-Thread(R)

(mm)

MODEL	ØD1	ØD2	M	C1	C2	ØP	E	ØK	B	H1	H2	B1	W.G(g)	Q'ty/ Inbox
GBLM 20-0606	6	6	M16	17	17	17	23	17	65.7	19	19	27.7	52	25
GBLM 20-0806	8	6	M16	18.5	17	17	23	17	66.7	19	19	27.7	49.6	25
GBLM 20-0808	8	8	M16	18.5	18.5	17	23	17	66.7	19	19	28.9	50	25
GBLM 60-1010	10	10	M22	21	21	24	28	24	83.3	24	26	38.1	120.4	12
GBLM 60-1210	12	10	M22	22	21	24	28	24	84.3	24	26	38.1	115	12
GBLM 60-1212	12	12	M22	22	22	24	28	24	84.3	24	26	41	117.7	12



BALL VALVES

Application

- Used for controlling air supply in the opened and closed positions.

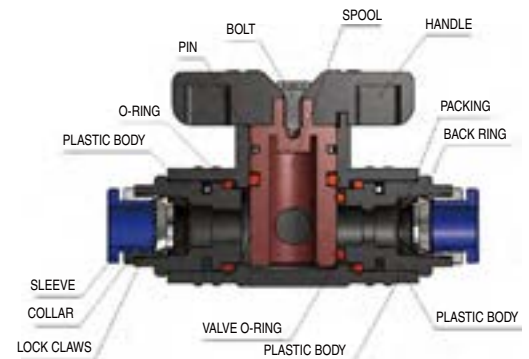
Feature

- Available for water as well as air with PPS resin body.
- The sectional dimension of the compact body optimizes as much flow as the tube capacity in proportion.

Specification

Fluid	Air & Water	
Working Pressure Range	0~284PSI	
Negative Pressure	-29.5 in Hg	-750mmHg(10Torr)
Temperature Range	32~176°F	0~80°C
Applicable Tube Material	Polyurethane and Nylon	

Structural Diagram



Product Code System

GBC 20 - 08 - G02

① ② ③ ④

① Type

② Effective Sectional Area

	Metric size	
Code	20	60
Size	20mm ²	60mm ²

③ Tube Dia(∅D)

Code	06	08	10	12
Dia	∅6	∅8	∅10	∅12

④ Therad Size(T)

	Taper Pipe Thread			
Code	G01	G02	G03	G04
Size	G1/8	G1/4	G3/8	G1/2

⚠ CAUTION

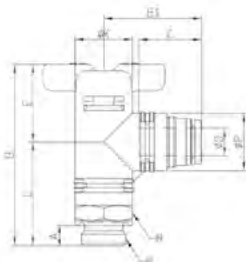
- Be sure to read the "Common Precautions" and "Using Precautions of Fitting Series" (P14) before using.
- Be sure to turn at a right angle(90°) when operating handle, otherwise it may cause the shortage of fluid.

⚠ WARNING

- When using with water, the pressure must not exceed 0~3 kg f/cm².
Be sure not to use in a place of vibration, bending, or shocking.
- Be sure to confirm that the Lock Pin is applied correctly. Without the Lock Pin, the body can be disassembled.

GBL-G

Elbow



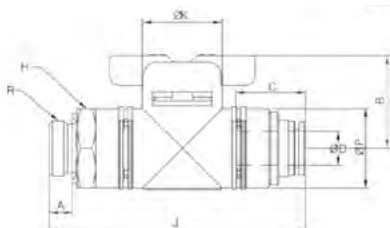
MODEL [ØD-T] Tube(Metric)–Thread(G)

(mm)

MODEL	R	C	ØP	E	L	A	ØK	H	B	B1	W.G(g)	Qty/ Inbox
GBL 20-06G01	G1/8	17	17	23	29.8	5	17	17	52.8	27.7	31	25
GBL 20-06G02	G1/4	17	17	23	30.8	6	17	17	53.8	27.7	36	25
GBL 20-06G03	G3/8	17	17	23	31.8	7	17	17	54.8	27.7	41.9	25
GBL 20-08G01	G1/8	18.5	17	23	29.8	5	17	17	52.8	28.9	31.4	25
GBL 20-08G02	G1/4	18.5	17	23	30.8	6	17	17	53.8	28.9	34.4	25
GBL 20-08G03	G3/8	18.5	17	23	31.8	7	17	17	54.8	28.9	42.3	25
GBL 60-10G02	G1/4	21	24	28	40.1	6	24	24	68.1	38.1	93	12
GBL 60-10G03	G3/8	21	24	28	41.1	7	24	24	69.1	38.1	98	12
GBL 60-10G04	G1/2	21	24	28	42.6	8.5	24	24	70.6	38.1	105.4	12
GBL 60-12G02	G1/4	22	24	28	40.1	6	24	24	68.1	41	95.4	12
GBL 60-12G03	G3/8	22	24	28	41.1	7	24	24	69.1	41	100.4	12
GBL 60-12G04	G1/2	22	24	28	42.6	8.5	24	24	70.6	41	108.1	12

GBC-G

Straight



MODEL [ØD-T] Tube(Metric)–Thread(G)

(mm)

MODEL	ØD	R	C	ØP	A	H	J	ØK	B	W.G(g)	Qty/ Inbox
GBC 20-06G01	6	G1/8	17	17	5	17	57.4	17	23	32.1	25
GBC 20-06G02	6	G1/4	17	17	6	17	58.4	17	23	37.1	25
GBC 20-06G03	6	G3/8	17	17	7	21	59.4	17	23	42.9	25
GBC 20-08G01	8	G1/8	18.5	17	5	17	58.5	17	23	32.5	25
GBC 20-08G02	8	G1/4	18.5	17	6	17	59.5	17	23	37.5	25
GBC 20-08G03	8	G3/8	18.5	17	7	21	60.5	17	23	43.4	25
GBC 60-10G02	10	G1/4	21	24	6	24	76.4	24	28	94.4	12
GBC 60-10G03	10	G3/8	21	24	7	24	77.4	24	28	99.4	12
GBC 60-10G04	10	G1/2	21	24	8.5	24	78.9	24	28	107.2	12
GBC 60-12G02	12	G1/4	22	24	6	24	79.3	24	28	96.9	12
GBC 60-12G03	12	G3/8	22	24	7	24	80.3	24	28	101.9	12
GBC 60-12G04	12	G1/2	22	24	8.5	24	81.8	24	28	109.6	12



Classification of Warning Indication



DANGER Risk of death or serious injury.
(The most dangerous condition.)



WARNING Potential risk of danger, death or serious injury.
(Potential danger)



CAUTION Potential risk of danger and of financial damage.

Common Precautions



DANGER ▶ Never use for the following:

- ① As equipment for the purpose of the maintenance and management of human life.
- ② As equipment for the purpose of movement of human transportation.
- ③ As equipment requiring essential safety.



WARNING ▶ Never use on the following environment:

- ① Using for applications other than originally intended.
- ② Place of excessive vibration, shock, rotation and curve.
- ③ Place consisting of corrosive gas, inflammable/flammable gas, chemicals, sea water, water and vapor.

- ▶ Never disassemble or remodel the equipment; this may cause malfunction or leakage.
- ▶ When repairing or checking equipment, remove air pressure first.
- ▶ Never tamper with the sleeve of fitting when pressure is on.



CAUTION ▶ Never assemble with parts from other manufacturers; this may cause leakage or damage to the equipment.

Sang-A Pneumatic Co., Ltd. is not responsible for damage or injury that may occur due to interchanging of parts outside of the Sang-A Pneumatic brand.

Using Precautions of Fitting Series

Never fail to check the following



- WARNING**
1. Never use for fluids other than air and water (Water: available in case of special order only)
 2. Never use at the place of spatter to avoid fire.
 3. Be sure to use with Rotary Joint to prevent damage or leakage at the place of rotation.
 4. Never use with water hotter than 60°C. This causes breakage of resin due to hydrolysis or heat.
 5. Be sure to use after checking static electricity prevention requirements.
 6. Avoid external impact such as bending, twisting and drawing on fittings.



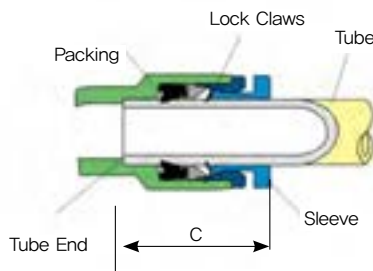
CAUTION

① **Be sure to meet the following conditions for the tube, otherwise it may cause leakage of air or inferiority of the application.**

SIZE	POLYURETHANE TUBE	NYLON TUBE	SIZE	POLYURETHANE TUBE	NYLON TUBE
Ø 3mm	± 0.10	± 0.08	Ø 1/8	± 0.10	± 0.08
Ø 4mm	± 0.10	± 0.08	Ø 5/32	± 0.10	± 0.08
Ø 6mm	± 0.12	± 0.10	Ø 3/16	± 0.12	± 0.10
Ø 8mm	± 0.12	± 0.10	Ø 1/4	± 0.12	± 0.10
Ø 10mm	± 0.15	± 0.12	Ø 5/16	± 0.15	± 0.12
Ø 12mm	± 0.15	± 0.12	Ø 3/8	± 0.15	± 0.12
Ø 16mm	± 0.15	± 0.15	Ø 1/2	± 0.15	± 0.15

② **Cautions in the application of tube:**

- Be sure to confirm that the section of tube is cut at a right angle. Make sure that there is no indication of damage to the outside of the tube.
- Be sure to refer to the following for application and removal of the tube.
Sang-A Pneumatic equipment is made to follow a 2-step insertion of tubing into the fitting.
The 1st step goes past the Lock Claws, and the 2nd step goes into the Packing.
Make sure that the second step has been acquired.
- The elliptical design of the sleeve makes for a simple and easy application.
(Please order the round sleeve if there are restrictions)



▶ **The size of Sleeve**

SLEEVE SIZE	Ø3	Ø4	Ø6	Ø8	Ø10	Ø12	Ø16
	General Specifications(mm)	Ø1/8	Ø5/32	Ø3/16	Ø1/4	Ø5/16	Ø3/8
Compact Specifications(mm)	7X6	10X8	11X13	12X14	14X16	17X19	21X23

- Minimum insertion part of tube is as follows and be sure to use leaving as much as the following size as margin.

SLEEVE SIZE	Ø3	Ø4	Ø6	Ø8	Ø10	Ø12	Ø16
	General Specifications(mm)	Ø1/8	Ø5/32, 3/16	Ø1/4	Ø5/16	Ø3/8	Ø1/2
Compact Specifications(mm)	9.5	11.5	12.5	18.5	21	22	25

③ **Cautions on disconnecting tube:**

- Before disconnecting tube, be sure to confirm that the pressure inside the tube is at zero.
- Before disconnecting tube, pull it out after pressing the sleeve equally on both sides.
Unequal pressing strength will make scratch on tube by insufficient open of lock claws, this will cause air leakage.
- Be sure not to shake or make 360 degree rotation when disconnecting the tube.
The scratch made by the misuses will cause air leakage.

④ **Cautions on treatment of the equipment body:**

- When fastening the body onto the six-angle part of the inside and outside of the fitting, choose the correct tool and size.
- When fastening the thread, please refer to the "Torque Recommended"(P13)
If torque is higher than the recommended, this may cause damage or air leakage.
If torque is lower than the recommended, this may cause air leakage.
- After fastening the thread, most of Sang-A equipment allows control of the direction of the pipe.