

For Commercial and Industrial Applications

Job Name _____

Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

LEAD FREE*

Series LFB6780, LFB6781

2-Piece, Full Port, Lead Free* Diverter Ball Valves

Sizes: 1/4" – 2" (8 – 50mm)**

Series LFB6780, LFB6781 2-Piece, Full Port, Lead Free* Copper Silicon Alloy Diverter Ball Valves are designed to divert liquids and gases in commercial and industrial applications. The LFB6780, LFB6781's full port orifice ensures minimal pressure drop, while PTFE seats and stainless steel ball provide lasting service. The LFB6780, LFB6781 features Lead Free* construction to comply with Lead Free* installation requirements.

Features

- Suitable for a full range of liquids and gases.
- Minimal pressure drop due to full size ports
- Blowout proof pressure retaining stem
- Pressure rated at 400psi (28 bars) WOG non-shock @ 100°F (38°C); 125psi (8.6 bars) WSP
- Virgin PTFE stem packing seal and thrust bearing
- Vinyl insulator on heavy duty, zinc-plated carbon steel handles
- Low operating torque
- Adjustable stem packing gland
- Each valve factory tested

Models

LFB6780 1/4" – 2" (8 – 50mm)** threaded NPT end connections

LFB6781 1/2" – 1" (15 – 25mm)** solder end connections

Specifications

A 2-Piece full port Lead Free* diverter ball valve to be installed as indicated on the plans. Lead Free* 2-Piece, Full Port, Copper Silicon Alloy Diverter Ball Valves, shall be constructed using Lead Free* materials. Lead Free valves shall comply with state codes and standards, where applicable, requiring reduced lead content. The valve must have a blowout proof pressure retaining stem, stainless steel ball, PTFE seats, virgin PTFE stem packing seal and adjustable packing. Pressure rating no less than 400psi (28 bars) WOG non-shock, 125psi (8.6 bars) WSP. Valve shall be a Watts Series LFB6780 (threaded) or LFB6781 (solder).

Pressure – Temperature

Temperature Range: 0°F - 350°F (-18°C – 177°C) @ 50psi (3.5 bars)

Maximum Working Pressure: 400psi (28 bars) WOG non-shock @ 100°F (38°C); 125psi (8.6 bars) WSP

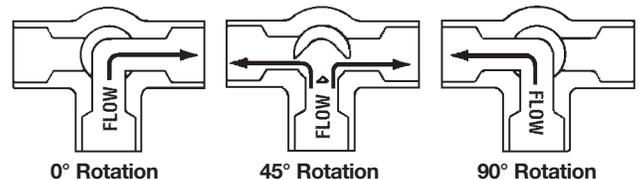
Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.



LFB6780



LFB6781



0° Rotation

45° Rotation

90° Rotation

Options

Suffix

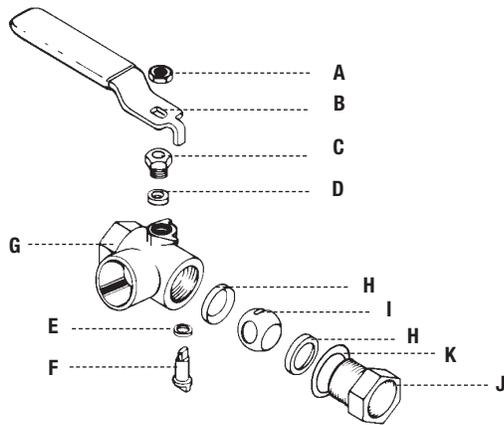
SH – Stainless steel handle & nut

*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

**Metric Dimensions are nominal pipe diameter. This product is produced with NPT threaded or solder end connections.

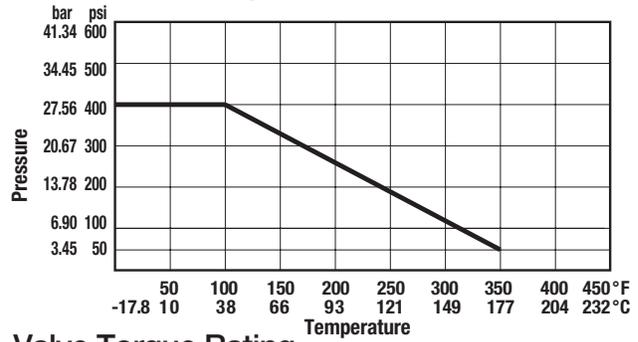
***This valve is designed to be soft soldered into lines without disassembly, using a low temperature solder 420°F (216°C). Other solders such as 95/5 tin antimony 460°F (238°C) or 96/4 tin silver 420°F (216°C) can be used, however extreme caution must be used to prevent seat damage. Higher temperature solders will damage the seat material. ANSI B.16.18 states that the maximum operating pressure of 50-50 solder connections is 200 psi (14 bars) at 100°F (38°C) and decreases with higher temperatures. Apply heat with the flame directed AWAY from the center of the valve body. Excessive heat can harm the seats. After soldering, the packing nut may have to be tightened.

Materials



A	Handle Nut	Zinc Plated Carbon Steel
B	Handle	Zinc Plated Carbon Steel with Vinyl Insulator
C	Packing Nut	Brass
D	Stem Packing	PTFE
E	Thrust Bearing	PTFE
F	Stem	Stainless Steel
G	Body	Lead Free Copper Silicon Alloy
H	Seats	PTFE
I	Ball	Stainless Steel
J	Adapter	Lead Free Copper Silicon Alloy
K	Body Seal	PTFE (1¼" - 2")

Valve Seat Rating

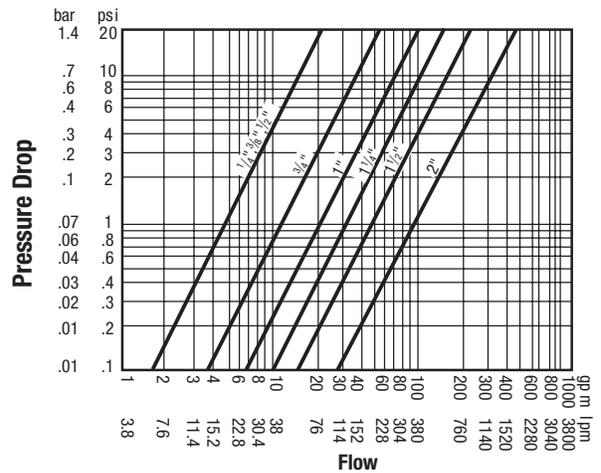


Valve Torque Rating

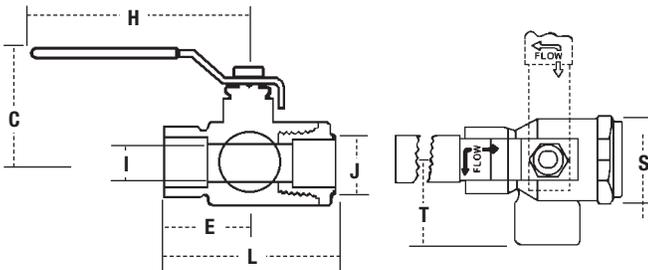
SIZE DN		RATING	OPERATING TORQUE	
in.	mm**	Cv	in./lbs.	N-m
†1/4, 3/8	8-10	4.8	60	6.8
1/2	15	4.8	60	6.8
3/4	20	11	150	16.9
1	25	21	200	22.6
1¼	32	33	250	28.2
1½	40	49	320	36.2
2	50	91	500	56.5

†Threaded only

Pressure Drop vs. Flow



Dimensions – Weights



LFB6780

SIZE (DN)		DIMENSIONS								WEIGHT									
in.	mm**	C Center to Handle		E Center to End		H Radius of Handle		I Ball Orifice		J Dia. Solder Connection		L End to End		S Diameter		T Center to Side		lbs.	kg.
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
1/4, 3/8, 1/2	8,10,15	1 5/8	41.3	1 1/4	31.7	3 3/4	95.3	1/2	12.7	-	-	2 9/32	57.9	1 1/4	31.7	1 1/4	31.7	.66	.30
3/4	20	1 3/4	44.5	1 9/16	39.7	3 3/4	95.3	3/4	19.1	-	-	2 13/16	71.4	1 19/32	40.5	1 9/16	39.7	1.00	.45
1	25	2 1/16	52.4	1 7/8	47.6	3 3/4	95.3	1	25.4	-	-	3 9/16	90.5	2 1/8	54.0	1 7/8	47.6	1.88	.85
1¼	32	2 13/16	71.4	2 1/16	52.4	5 1/2	139.7	1 1/4	31.8	-	-	4 1/8	104.7	2 3/4	69.8	2 1/16	52.4	4.00	1.81
1½	40	3	76.2	2 7/32	56.3	5 1/2	139.7	1 1/2	38.1	-	-	4 7/16	112.7	2 7/16	55.5	2 7/32	56.3	5.50	2.49
2	50	4	101.6	2 11/16	68.2	8	203.2	2	50.8	-	-	5 3/8	136.5	4 1/16	103.2	2 11/16	68.2	10.00	4.54

***LFB6781

1/2	15	1 5/8	41.3	1 1/8	28.6	3 3/4	95.3	1/2	12.7	5/8	15.8	2 5/16	58.7	1 1/4	31.7	1 1/8	28.6	.66	.30
3/4	20	1 3/4	44.5	1 9/16	39.7	3 3/4	95.3	3/4	19.1	7/8	22.2	3 9/16	80.9	1 19/32	40.5	1 9/16	39.7	1.00	.45
1	25	2 1/16	52.4	1 15/16	49.1	3 3/4	95.3	1	25.4	1 1/8	28.6	3 7/8	98.4	2 1/8	54.0	1 15/16	49.1	1.88	.85

***See Solder Instructions on front. **Metric Dimensions are nominal pipe diameter. This product is produced with NPT threaded or solder end connections.

NOTE: Seat rating based on pressure entering side port.



A Watts Water Technologies Company



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