Circuit Setter®
Calibrated Balance Valves
with Flanged Connections

DESCRIPTION
The Bell & Gossett Circuit Setter calibrated balance valve is a precision machined triple purpose balancing instrument. It is precisely calibrated for use as a presettable balance valve, variable orifice flow meter and positive shut-off service valve.

Valves are furnished with a calibrated nameplate and memory stop indicator which permits the value to be preset to a fixed open position and then closed for service without disturbing valve setting.

Valves are equipped with capped readout valves fitted with internal check valves. Sizes 2-1/2”-4” (brass ball) include a 1/4” NPT tapped and plugged drain port as standard.

MAXIMUM OPERATING TEMPERATURE
250°F (121°C)

MAXIMUM WORKING PRESSURE
175 PSIG (1207 kPa)

TYPICAL SPECIFICATION
Furnish and install as shown on plans and with manufacturer's recommendations Model CB calibrated balance valves.

PRE-SET BALANCE FEATURE
Valves to be designed to allow installing contractor to pre-set balance points for proportional system balance prior to system start-up in accordance with pre-set balance schedule.

VALVE DESIGN AND CONSTRUCTION
Valves shall be of heavy-duty cast iron (flanged) construction with 125 psi ANSI flange connections suitable up to 175 psi working pressure. Valves 2-1/2” - 4” pipe shall have a brass ball with glass and carbon filled TFE seat rings. valves 4” - 12” shall be fitted with a bronze seat, replaceable bronze disc with EPDM seal insert, and stainless steel stem.

DESIGN PRESSURE/TEMPERATURE
175 psig at 250°F

All balance valves to be Xylem Bell & Gossett Model No. CB-__________ (note sizes)

CONSTRUCTION
Sizes 2-1/2”-4”
- Body: Cast Iron
- Ball: Brass
- Seat Rings: Glass and carbon filled TFE
- Readout Valves: Brass with EPT check valve
- Stem “O” Ring: EPDM

Sizes 4”-12”
- Body & Bonnet - Flanged: Cast Iron
- Disc: 4” - 8” Brass with EPDM insert
- 10” - 12” Stainless Steel with EPDM Insert
- Stem: Stainless Steel
- Packing: Teflon-Graphite (Asbestos-Free)
- Gasket: Synthetic Fiber - Nitrile Binder (Asbestos-Free)
- Seal Ring: EPDM
- Bushing: Nickel Plated Steel

IMPORTANT
When monitoring system flow care must be exercised to avoid direct skin or eye contact with liquids that may escape. Liquids with temperatures in excess of 120°F (49°C) may cause burns.

Bell & Gossett Circuit Setter Balance Valves are not recommended for use with meter connections pointing downward.

To retain calibrated accuracy, a minimum length of unrestricted straight pipe adjacent to the valve should be maintained as follows:

<table>
<thead>
<tr>
<th>SIZE</th>
<th>UPSTREAM &quot;A&quot; (In Pipe Diameters)</th>
<th>DOWNSTREAM &quot;B&quot; (In Pipe Diameters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-1/2&quot;-4&quot;</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>4&quot;-12&quot;</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

Best use results maximize straight pipe length entering and leaving valve. Obstructions or changes in planar flow profiles entering valve may affect accuracy if too close to valve.

xylem
Let's Solve Water
### CIRCUIT SETTER CALIBRATED BALANCE VALVES

**A-545D**

All Dimensions +/- 0.125” (3.2 mm) tolerance. Dimensions are subjected to change. Not to be used in construction purposes unless certified.

#### SCHEDULE

<table>
<thead>
<tr>
<th>MODEL NO.</th>
<th>PART NO.</th>
<th>TAGGING INFORMATION</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>CB-2-1/2F</td>
<td>117116</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CB-3F</td>
<td>117305</td>
<td></td>
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</tr>
<tr>
<td>CB-4F</td>
<td>117470</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CB-5F</td>
<td>117471</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CB-6F</td>
<td>117472</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CB-8F</td>
<td>117473</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CB-10F</td>
<td>117639</td>
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<tr>
<td>CB-12F</td>
<td>117640</td>
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</tr>
</tbody>
</table>

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**DIMENSIONS AND WEIGHTS**

**DIMENSIONS IN INCHES (MM)**

<table>
<thead>
<tr>
<th>MODEL NO.</th>
<th>PIPE SIZE</th>
<th>CONNS.</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>MAX. WIDTH OF VALVE</th>
<th>WEIGHT IN LBS. (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CB-2-1/2F</td>
<td>2-1/2F (63.5)</td>
<td>FLGD.</td>
<td>-</td>
<td>-</td>
<td>6-9/16 (166.7)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7 (177.8)</td>
</tr>
<tr>
<td>CB-3F</td>
<td>3F (76.2)</td>
<td>FLGD.</td>
<td>-</td>
<td>-</td>
<td>6-13/16 (173.0)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7-1/2 (190.5)</td>
</tr>
<tr>
<td>CB-4F</td>
<td>4F (101.6)</td>
<td>FLGD.</td>
<td>-</td>
<td>-</td>
<td>8 (203.2)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>9 (228.6)</td>
</tr>
<tr>
<td>CB-5F</td>
<td>5F (127)</td>
<td>FLGD.</td>
<td>16-7/8 (428.6)</td>
<td>15-7/8 (403.2)</td>
<td>14-1/2 (368.3)</td>
<td>4-1/2 (114.3)</td>
<td>15-11/16 (398.5)</td>
<td>13-15/16 (354.0)</td>
<td>6-1/4 (158.8)</td>
<td>-</td>
</tr>
<tr>
<td>CB-6F</td>
<td>6F (152.4)</td>
<td>FLGD.</td>
<td>20-3/4 (527.1)</td>
<td>19-1/4 (489.0)</td>
<td>18 (457.2)</td>
<td>5 (127.0)</td>
<td>16-27/32 (427.6)</td>
<td>15-1/16 (382.6)</td>
<td>6-7/8 (174.6)</td>
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</tr>
<tr>
<td>CB-8F</td>
<td>8F (203.2)</td>
<td>FLGD.</td>
<td>24-3/4 (628.7)</td>
<td>23-1/4 (590.6)</td>
<td>21-1/2 (546.1)</td>
<td>6-3/4 (171.5)</td>
<td>22-3/8 (568.3)</td>
<td>20-5/16 (516.0)</td>
<td>10-3/8 (263.5)</td>
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<tr>
<td>CB-10F</td>
<td>10F (254)</td>
<td>FLGD.</td>
<td>28-7/8 (733.4)</td>
<td>26-1/2 (673.1)</td>
<td>25-1/2 (647.7)</td>
<td>8 (203.2)</td>
<td>26 (660.4)</td>
<td>23-3/16 (589.0)</td>
<td>12-1/4 (311.2)</td>
<td>-</td>
</tr>
<tr>
<td>CB-12F</td>
<td>12F (304.8)</td>
<td>FLGD.</td>
<td>33-1/2 (851.0)</td>
<td>31-1/8 (790.6)</td>
<td>30 (762.0)</td>
<td>9-1/2 (241.3)</td>
<td>29-11/16 (754.1)</td>
<td>26-9/16 (674.7)</td>
<td>14-1/2 (398.5)</td>
<td>-</td>
</tr>
</tbody>
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