The Model 8104 is applicable anywhere it is necessary to automatically maintain an essentially constant level in storage tanks or reservoirs. Such applications occur in:
- Municipal water
- Rural water
- Water treatment facilities
- Fuel storage tanks
- Fire protection systems

**SERIES FEATURES**
- Maintains tank level within narrow limits
- Can also be used for high level shut-off
- Remote-mounted float pilot
- Single field-installed line between valve and float pilot
- Can be maintained without removal from the line
- Adjustable response speed
- Factory tested

**OPERATION**
The Model 8104 is designed for tank fill only. A rotary, float-activated pilot controls the position of a relay pilot, which in turn controls the position of the main valve. With the float in the full down position, the pilot is wide open, as are the relay and the main valve. As the float begins to rise, the pilot begins to restrict flow, causing the main valve to throttle further closed. When fluid level raises the float to the full up position, flow is blocked and the main valve is closed.

**COMPONENTS**
The Model 8104 consists of the following components, arranged as shown on the schematic diagram:
1.) Model 65 Basic Control Valve
2.) Model 812 Two-way Float Pilot
3.) Model 1356 Differential Control Pilot
4.) Model 126 Ejector
   Fixed orifice pilot system supply restrictor
5.) Model 141-2 Needle Valve
   Adjustable response speed
6.) Model 159 Y-Strainer
   Protects pilot system from dirt/debris
7.) Model 141-4 Isolation Ball Valves
8.) Model 155 Visual Indicator (Optional)

**SIZING**
While most Model 8100 Float Valves are line size, there are two factors to check. To keep from using a valve that is too small, flow rate should be limited to a maximum of 25 ft/sec velocity. Too large a valve can result in loss of inlet pressure, which is needed to close the valve on high level.

Definitive sizing information can be found in the OCV Catalog, Series 8100 section and Engineering section Performance Charts. Consult the factory for assistance and a copy of the OCV ValveMaster Sizing program.

<table>
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<th>SIZE</th>
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<th>10&quot;</th>
<th>12&quot;</th>
<th>14&quot;</th>
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<td>2100</td>
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<td>MAX. FLOW GPM</td>
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<td>8700</td>
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<td>13800</td>
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TOLL FREE 1.888.628.8258  ●  phone: (918)627.1942  ●  fax: (918)622.8916  ●  7400 East 42nd Place, Tulsa, Ok 74145
email: sales@controlvalves.com  ●  website: www.controlvalves.com
**Model 8104**

**SPECIFICATIONS** (Typical Water Application)

The modulating float valve shall be installed on the inlet line to the tank and shall modulate to hold a constant level in the tank, thus balancing inflow and outflow levels. The modulating float valve shall include a simple, two-way, non-adjustable float pilot to be installed in the tank at the desired tank level and be connected to the main valve by a single, customer-installed sense line.

**DESIGN**

The modulating float valve shall be a single-seated, line pressure operated, diaphragm actuated, pilot controlled globe valve. The valve shall seal by means of a corrosion-resistant seat and a resilient, rectangular seat disc. These, and other parts, shall be replaceable without removing the valve from the line. The stem of the main valve shall be guided top and bottom by integral bushings. Alignment of the body, bonnet and diaphragm assembly shall be by precision dowel pins. The diaphragm shall not be used as a seating surface, nor shall the pistons be used as an operating means. The pilot system shall include a speed control, Y-strainer and isolation ball valves. The float pilot shall be furnished separately for remote mounting in the tank. The modulating float valve shall be operationally and hydrostatically tested prior to shipment.

**MATERIALS OF CONSTRUCTION**

The main valve body and bonnet shall be ductile iron per ASTM A536, Grade 65-45-12. All ferrous surfaces shall be coated with 4 mils of epoxy. The main valve seat rings shall be low-lead Bronze. Elastomers (diaphragms, resilient seats and O-rings) shall be EPDM. The float pilot and relay pilot shall be low-lead Bronze with stainless steel internals. The 5" spherical float shall be stainless steel, as well as the float rod. The isolation ball valves shall be brass and control line tubing shall be copper.

**OPERATING CONDITIONS**

The modulating float valve shall be suitable for a maximum flow rate of \(<X>\) gpm at inlet pressures ranging from \(<X\>\) to \(X\) psi.

**ACCEPTABLE PRODUCTS**

The modulating float valve shall be a \(<size>\) Model 8104, \(<globe pattern>\), angle with \(<150# flanged, 300# flanged>\) end connections, as manufactured by OCV Control Valves, Tulsa, Oklahoma, USA.