



# HAYS

Mesurflo®  
2513 Series  
Automatic Flow Control Valves

## INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS

### GENERAL INFORMATION

---

1. Clean the lines of all foreign material, (welding slag, pipe scale, dirt, thread chips etc.). Upstream installation of a strainer may be necessary in dirty systems.
2. Air should be eliminated from the system prior to startup to assure quiet operation and freedom from water hammer.
3. Hays Automatic Flow Control Valves may be installed in the pipeline horizontally, vertically or at any angle in between. Straight sections of pipe upstream or downstream of the Hays valve are unnecessary for proper operation. Standard reducing bushings or flanges may be directly connected to the Hays valve if required.
4. All Hays Automatic Flow Control Valves are marked with direction of flow and rate of flow. **THE FLOW ARROW MUST POINT IN THE DIRECTION OF FLOW FOR PROPER OPERATION.**
5. Hays Flow Control Valves are factory assembled, individually calibrated and are tamperproof once installed in the pipe. The valves are warranted to be accurate within 10% of rated flow when properly installed.
6. Hays Automatic Flow Control Valves may be modified by using a Hays Service Kit. Contact Factory for part numbers, instructions and other details.

### INSTALLATION

---

1. Threaded valves are provided with  $\frac{1}{2}$  or  $\frac{3}{4}$  Inch Dryseal® NPT threads in accordance with ANSI STD B1.20.1 and are intended for use in Building Services Piping meeting the requirements of ASME B 31.9. Apply thread sealant to male pipe threads, starting with the second or third thread from the end, and torque the connection to 75 foot pounds per inch of pipe size minimum.  
Example: ( $\frac{1}{2}$  ",  $1/2 \times 75 = 38$  ft lb. Min.)
2. Hose Coupling Screw Thread valves are provided with 0.75-11.5 NH Garden Hose threads in accordance with ANSI STD B2.4 and are suitable for those uses consistent with the standard.
3. Sweat fitting valves have their end connections formed to ANSI STD B16.22 requirements and are intended for use in Building Services Piping meeting the requirements of ASME B 31.9. The Temperature/Pressure rating of the Solder Joint is

dependent upon the type of solder used. ANSI STD B16.22 Pressure Ratings should be reviewed prior to selecting a solder and sweating. Union end pieces on the valves should be removed for sweating (ball valve end is not removable). The union o-ring must be removed and stored during the operation. The outside of the tubing, and the inside of the fitting are to be mechanically cleaned and then lightly coated with solder flux. The tube is then inserted one diameter into the fitting, and the **CENTRAL PORTION OF THE VALVE BODY WRAPPED WITH A WET RAG.**

Heat may be applied, either to the tubing or to the end of the fitting to achieve solder flow. When the parts have achieved the necessary temperature, solder is to be added to the joint and the joint allowed to cool. The heat is to be applied for the shortest time possible. The internal parts of the Hays Mesurflo® 2513 are capable of continuous use at 300° F but will quickly incur damage at higher temperatures. When soldering vertical assemblies care must be taken not to permit excess solder to drip into the valve.

Heat discoloration from the sweating operation should not extend to the major diameter of the valve body. If disassembled, the valve must be reassembled in reverse order, with all parts returned to their original positions. The seal being the last item installed prior to tightening the Union Nut to 80 Ft Lbs. (The Union Nut is shipped loose on sweat fitting 2513 Series products.) If chlorinated flux has been used, all parts are to be flushed thoroughly to avoid premature corrosion failure.

## **OPERATION**

---

1. For optimum operation, air entrainment in the system must be eliminated. The flow control valve must remain filled with fluid. The system must be clean and free of foreign materials.
2. The Hays 2513 Mesurflo® valves must only be used with fluids that are compatible with Copper, Brass and EPDM materials. The temperature during operation must be limited to the range of 32°F to 225°F.
3. The use of fluids having a viscosity or specific gravity different from that of water will require compensation. Valves specified for fluids other than water will be marked and the factory calibration will take the specific fluid's properties into consideration. Operation with these special fluids at a temperature other than the rated temperature may require additional compensation.

## **MAINTENANCE**

---

1. General maintenance is not required for Hays Flow Control Valves, however if the system experiences large amounts of pipe scale due to poor water conditions, as sometimes is found in older or retrofit systems, some may be required. Provisions should be made to keep the system clean. Proper water treatment is also recommended, and reverse flushing may be required.
2. Spare Cartridge Assemblies, factory calibrated may be ordered.
3. Always use new O-rings after changing flow cartridges.
4. Tighten the Union Nut to 80 Ft Lbs.

## **LIMITED WARRANTY**

---

See Hays Fluid Controls Terms & Conditions for warranty information.