

## Guide Specifications - Automatic Balancing Valves

### MANUFACTURER

---

NuTech LLC., Models ABe, AB, AL, AF, AJ, AW & AG.

### DESIGN

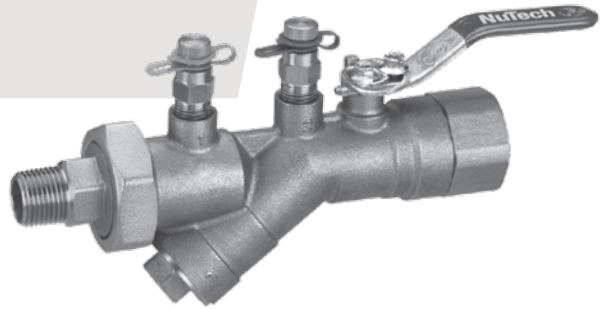
---

1. The GPM for the automatic balancing valves shall be factory set and shall automatically limit the rate of flow to within  $\pm 5\%$  of the specified GPM over at least 95% of the control range.
2. For 0.50" through 2.00" the flow cartridge shall be removable from the Y-Type Body housing without the use of special tools to provide access for cartridge change-out, inspection and cleaning without breaking the main piping.
3. PUMP HEAD REQUIREMENT:  
The permanent pressure loss added to the pump head shall not exceed seven feet.
4. Each valve shall have 2 "P/T" Pressure /Temperature Ports.
5. The valve handle shall be fitted with a fine tuning memory stop handle to allow for adjusting the control range.

### CONSTRUCTION

---

1. The internal wear surfaces of the valve cartridge shall be Ultrason® Composite or stainless steel.
2. The flow cartridge shall be permanently marked with the GPM and differential range.
3. For 0.50" through 2.00" sizes: Assembly shall have a brass alloy Y-Type Body with sweat or threaded (NPT) connections, fixed end connection shall have a three piece internal seal. Integral Ball Valve shall have a plated brass ball, blowout-proof brass stem, union end which will accept various type tailpieces, Teflon seat, EPDM O-ring seals, and a steel handle.  
NuTech Models ABe & AB.  
NuTech Model AL (w/o shut off valves).
4. All valves 0.50" - 2.00" shall be factory leak tested at 100 PSI air under water.
5. For 2.50" and larger flanged connections:  
Cast Steel body, suitable for mounting wafer style flow cartridges between standard 150# or 300# flanges. Long flange bolts, nuts and washers shall be provided.  
NuTech Models AF, AJ, AW & AG.



### MINIMUM RATINGS

---

1. For 0.50" through 2.00" pipe sizes  
600 PSI @ 250°F.
2. For 2.50" through 12.00" pipe sizes  
600 PSIG @ 250°F.

### FLOW VERIFICATION (Choose One)

---

1. The differential pressure across the Automatic Balancing Valve shall be measured for flow verification and to determine the amount of system over heading or under pumping.
2. The flow shall be verified by measuring the differential pressure across the coil served or the wide open temperature control valve and calculating the flow using the coil or valve Cv.

### TEST KIT

---

1. A pressure and temperature test kit shall be provided with the ability to read differential pressure from 0 to 75 PSI, and temperature from -10 to 230° F.

### INSTALLATION

---

1. Install automatic balancing valves on the return lines of coils as indicated on the plans. A balancing valve on the supply side is not acceptable.
2. The standard ports and handle shall clear 1.0" thick insulation. Do not insulate flow control valves used on heating coils.
3. Install, on the supply side of coils, a Y-strainer with brass blow down valve with .75" hose-end connection with cap. Inline basket strainer is not acceptable.