



# Triple Duty<sup>®</sup> Valve With Soft Seat

## OPERATIONAL LIMITS

Max Temperature	<b>Flanged</b> 250°F	<b>Grooved</b> 250°F
Max Pressure	175 psig	300 psig



**INSTALLER:  
PLEASE LEAVE THIS MANUAL  
FOR THE OWNER'S USE.**

## DESCRIPTION

The Triple Duty Valve is a quiet operating heavy-duty valve which performs all of the functions normally required on the discharge side of Hydronic System Pumps.

The valve serves as a nonslam check valve as needed for zoned pumping, parallel and standby pumping, and condenser water applications. The spring loaded disc prevents valve chatter, and assures shutoff.

Bell & Gossett's Triple Duty Valve has a calibrated nameplate for rough system balance. The Triple Duty Valve is also equipped with Model RV-125A Readout Valves for more accurate system balance.

The calibrated nameplate with its memory button facilitates returning the valve to the balance set point after shutoff.



## SAFETY INSTRUCTION

This safety alert symbol will be used in this manual and on the Triple Duty Valve safety instruction decal to draw attention to safety related instructions. When used, the safety alert symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! FAILURE TO FOLLOW THE INSTRUCTIONS MAY RESULT IN A SAFETY HAZARD.

**\*WARNING LABEL PART NUMBER V56871 INSTALLED IN THIS LOCATION.  
IT MUST BE REPLACED IF MISSING.**

**Bell & Gossett**



**ITT Industries**  
*Engineered for life*

## INSTALLATION INSTRUCTIONS

Bell & Gossett Triple Duty Valves must be installed on the discharge side of the system pump with the stem pointing up to facilitate proper seating of the valve disc. See installation drawing on page 4.

**NOTE:** Before turning stem of 4" and larger valves, make sure the set screw in the packing nut is loose.

## OPERATING INSTRUCTIONS

1. Place a wrench on the wrench flats on top of 3D Valve stem and open 3D Valve to the 100% open position. Stem position (amount 3D Valve is open or closed) can be read by the position of the indicator ring through the nameplate slot.
2. Energize the Zone, Circuit and/or system pump(s) as applicable so that fluid is flowing through the 3D Valve. Make sure that all air has been vented from system.
3. Using Bell & Gossett Model RP-250B readout probes, attach a Bell & Gossett differential pressure readout kit to the readout valves on the 3D Valves.



**WARNING:** Hot water leakage can occur from readout valves during probe insertion and during hookup of readout kit. Follow the instructions in instruction manuals supplied with readout probes and readout kits for safe use. Keep eyes protected with safety glasses. Make sure that readout valves are not leaking before removing safety cap. Failure to follow this instruction can result in serious personal injury or death and property damage.

4. Read the differential pressure across the 3D Valve.
5. Refer to the appropriate 3D Valve performance curve or Cv rating table to determine flow based on the results from step "4" and the percent stem rise.
6. If the GPM does not agree with the specified (required) GPM, close the 3D Valve accordingly. Repeat steps "4", "5" and "6" until the required results have been achieved.

**IMPORTANT:** If system balancing at less than 50% stem rise and this is the primary balance valve, ASHRAE Standard 90.1 and Bell & Gossett recommend trimming the impeller to the necessary system design flow. This will reduce electrical energy consumption and comply with the National Energy Building Code Standard.

**IMPORTANT:** To avoid noise problems and possible damage to 3D valve, do not exceed 25 feet of pressure drop across 3D valve.

7. After establishing the required balance set point, position the white rubber memory button so that the arrow, when in the three or nine o'clock position, points to the stem rise mark on the calibrated nameplate.

## SERVICE INSTRUCTIONS

A. Valve leaking at the packing nut-turn packing nut clockwise until the leak stops.



**WARNING:** Hot fluid leaking from valve can cause burns. Avoid contact with leaking fluid while servicing valve. Failure to follow this instruction can result in serious personal injury or death and property damage.

B. If leaking persists –

1. Note the position of the valve opening (% Stem Rise), if the memory button is missing.
2. Turn the valve stem fully counterclockwise until the stem resists additional turning.
3. Remove the packing nut (located at the base of stem) by turning it counterclockwise.
4. Remove old packing.
5. Repack as required.
6. Replace the packing nut and tighten as required.
7. Reposition the valve stem per observation in Step #1.

C. Valve leaking at the Bonnet gasket area – tighten (as required) until the leakage stops.

D. If leaking persists, or when replacing valve internals –



**WARNING:** Hot system fluid can be hazardous. Isolate the Triple Duty Valve from the system with shutoff valves or drain the system. Allow isolated system and Triple Duty Valve to cool to approximately 100°F. Reduce isolated system pressure to zero. Leave drain open. Failure to follow this instruction can result in serious personal injury or death and property damage.

1. Loosen the bonnet nuts or threaded bonnet cap (depending on valve size) and remove the bonnet assembly with the valve stem attached.
2. Remove the old gasket and clean up the gasket surface on the body and bonnet.
3. Inspect the valve internals for signs of corrosion or erosion (wire draw across the seat). If damaged, they must be replaced to function properly.
4. If the valve appears to be in serviceable condition, install a new gasket and replace bonnet assembly.
5. Secure the bonnet.



**CAUTION:** Improper tightening of bonnet can cause damage to bonnet and gasket. If bonnet is bolted, tighten bolts in a crisscross pattern. Failure to follow this instruction can result in property damage and/or moderate personal injury.

6. Return the system to its normal operating mode.

**NOTE:** If leakage occurs at the bonnet gasket area, tighten (as required) until the leakage stops. Refer to 5 above.

E. Replacing a damaged nameplate –

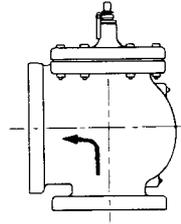
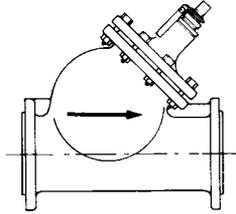
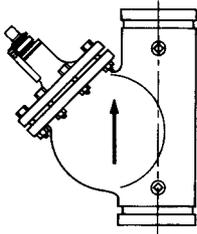
1. Note the position of the valve opening (% Stem Rise).
2. Loosen and remove (2) screws.
3. Replace the old nameplate with one that has the same 6 digit part number as the one removed.
4. Replace and tighten the screws making sure the position of the valve opening (% Stem Rise) lines up with the indicating ring near the top of the cone on the bonnet, identically as the old nameplate.



**WARNING:** Check for proper sealing when using an isolation valve. If seat is not sealing properly, liquid will continue to flow from drain valves. In this case valve must be isolated from system pressure and inspected for seat or disc damage. Replace as necessary. Failure to follow this instruction can result in serious personal injury or death and property damage.



**CAUTION:** Improper valve stem orientation can cause damage to 3D valve or improper system operation. For proper installation, valve stem must point up above horizontal plane. Failure to follow this instruction can result in property damage and/or moderate personal injury.



ARROW INDICATES DIRECTION OF FLOW



#### **RV-125A Readout Valve**

The RV-125 Readout Valve is equipped with an integral EPT Check Valve designed to minimize system fluid loss when setting up to monitor pumps, heat exchangers, valves, etc., handling hot or cold water.



#### **RP-250B Readout Probe**

These Readout Probes are designed for use with the B&G RV-125A Readout Valve.



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