



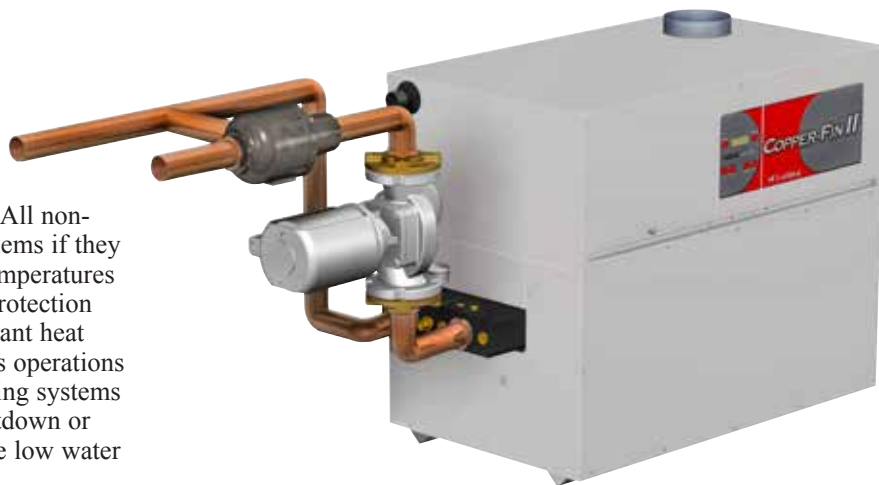
Non-Condensing Boiler Protection for Low Temperature Systems

Ideal for use with Copper-Fin, Copper-Fin II, Power-Fin and Solution Boilers

When designing a boiler system with return water temperatures below 140°F, it is necessary to protect the boiler from flue gas condensation. All non-condensing boilers will develop operational problems if they are continually exposed to system return water temperatures below 140°F. Typical systems that require this protection are water source heat pump systems, in-floor radiant heat systems, greenhouse heating, soil heating, process operations and manufacturing operations. Additionally, heating systems that utilize nighttime setback, night/weekend shutdown or outdoor reset control strategies should incorporate low water temperature protection.

To prevent low return water temperatures to the boiler and combat operational problems, the system should be piped in a primary secondary piping arrangement with a low temperature bypass. Manual bypass systems however are not the ideal solution due to varying flow rates and firing rate of the boiler. A better alternative is Lochinvar's Low Temperature Valve, which is a self-contained automatic thermostatic 3-way valve that ensures temperatures entering the boiler remain above 140°F.

LTV Low Temperature Valves



The Lochinvar LTV Low Temperature Valve is shipped separately and can be easily incorporated into the field-installed primary/secondary boiler piping. (2" LTV Valve shown installed on CHN752)

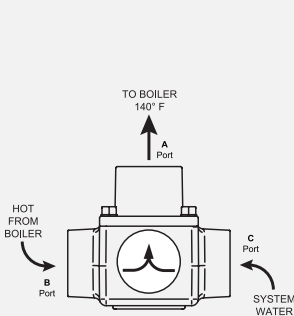
Standard Features

- Low Return Water Temperature Boiler Protection
- Non-Adjustable and Automatic
- Heavy Duty Construction
- Replaceable Thermostatic Element(s)

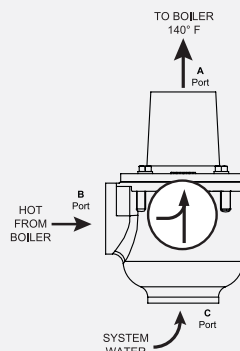
How it Works

The LTV Valve "modulates" to maintain 140°F as a minimum return temperature to the boiler.

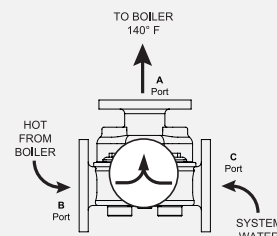
- Hot water from the boiler enters "B" port.
- Cooler water from the system enters "C" port.
- "B" and "C" water mix to meet the desired 140°F.
- Water exits "A" port back to the boiler return.



1-1/2" LTV Valve



2" LTV Valve

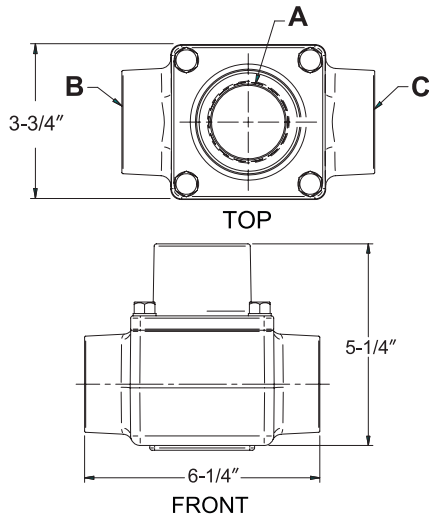


**2-1/2" LTV Valve
4" LTV Valve**

LTV Valve Dimensions & Piping

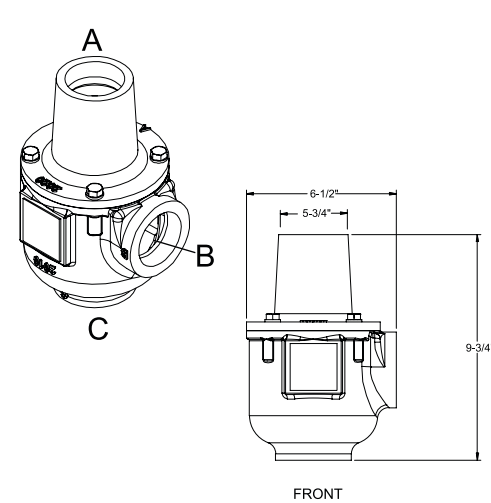
1-1/2" LTV Valve

Up to 55 GPM flow rate
Part Number - 100171919



2" LTV Valve

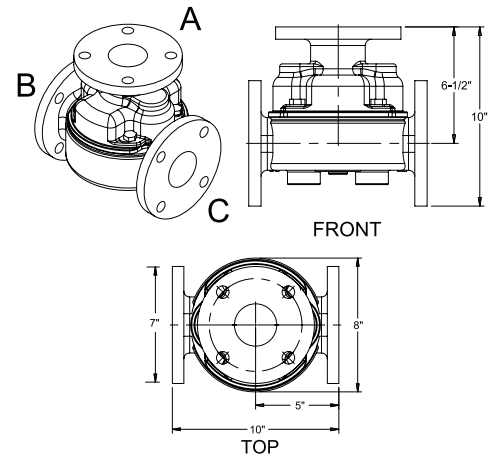
Up to 55 GPM flow rate
Part Number - 100172001



2-1/2" LTV Valve

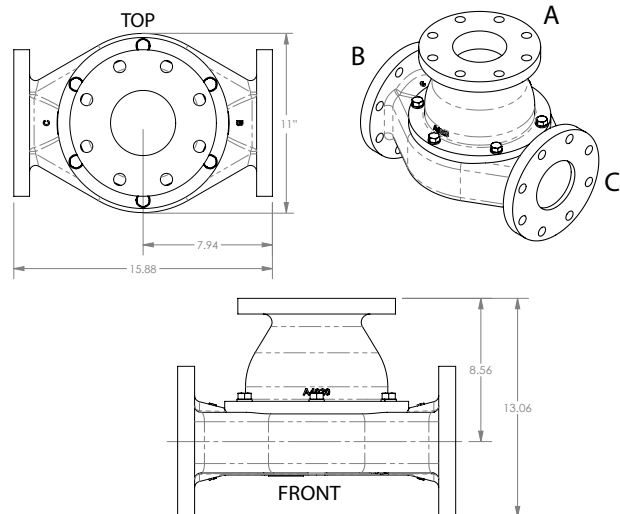
Over 55 GPM flow rate
Part Number - 100172000

Note: Mounting flange Included with valves.



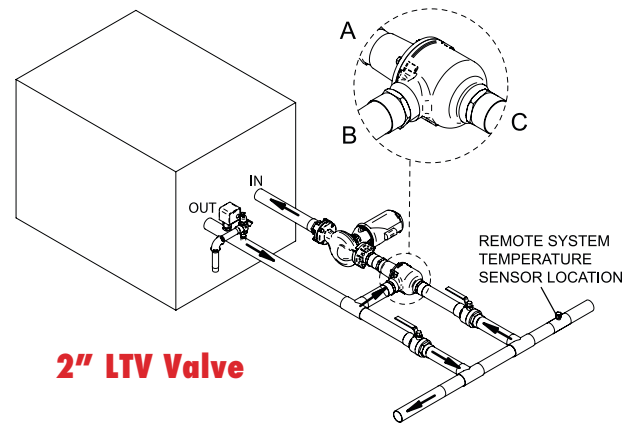
4" LTV Valve

Over 225 GPM flow rate
Part Number - 100275912

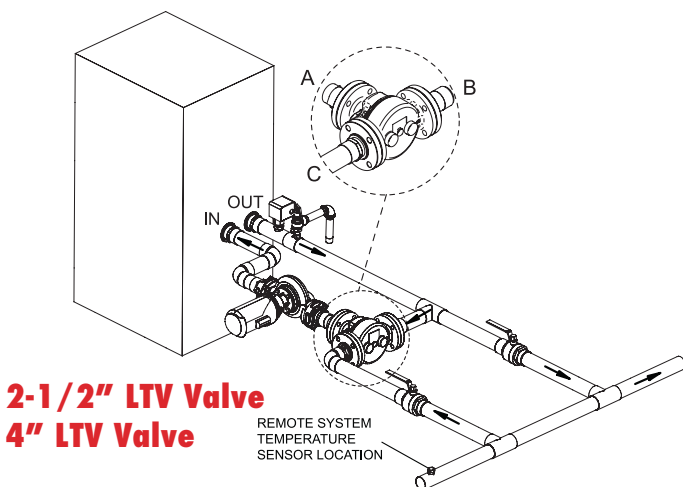


TYPICAL PIPING

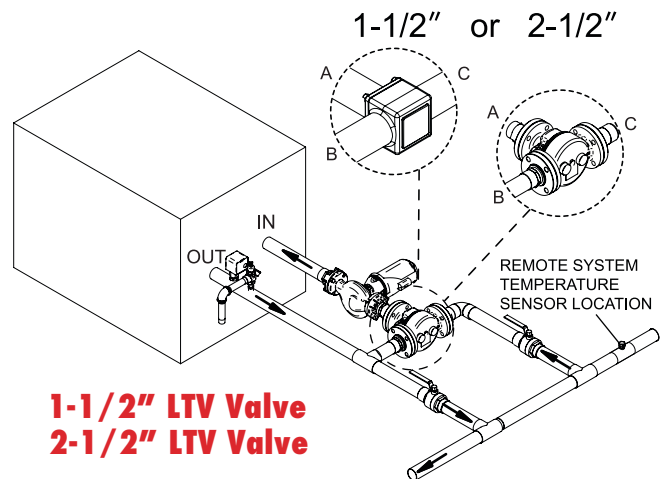
All boilers must use optional remote sensor.
Minimum high limit setting is 205°F.
Pump supplied by installer.



2" LTV Valve



2-1/2" LTV Valve
4" LTV Valve



1-1/2" LTV Valve
2-1/2" LTV Valve



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