

## System Verification Checklist

**[Project Name]**

System: **Hydronic Accessories**    Tag: **[Unit Label]**    Service: **[Area Served]**

<i>Installation Check/Reference</i>	<i>Provided</i>	<i>Initials</i>	<i>Date</i>	<i>IC</i>
<b>Expansion Tank</b>				
Manufacturer/Model #:				<b>MC</b>
ASME Label compliant with Boiler & Pressure Vessel Code				<b>MC</b>
Installed expansion tank on floor				<b>MC</b>
Vent & purge air from hydronic system, & ensure tank is properly charged with air to suit system Project requirements				<b>MC</b>
Field charge expansion tanks to required air pressure				<b>MC</b>
Pre-charge connection				<b>MC</b>
Maintenance clearance				<b>MC</b>
Unions installed				<b>MC</b>
Ball valves installed				<b>MC</b>
Backflow preventer with check valve installed				<b>MC</b>
Strainer installed				<b>MC</b>
Water meter installed				<b>MC</b>
Water pressure gauge installed				<b>MC</b>
Pressure snubber installed				<b>MC</b>
1/4" plugged tee for temperature control installed				<b>MC</b>
1/4" needle valve installed				<b>MC</b>
Isolate expansion tank and determine hydronic system is full of water				<b>MC</b>
Pressure reducing valve installed & calibrated				<b>MC</b>
Install pressure-reducing valves in accessible location for maintenance & inspection				<b>MC</b>
Install bypass piping around PRV's, with globe valve equal in size to area of PRV seat ring				<b>MC</b>
Install unions or flanges on both sides of PRV's having threaded or flanged end connections				<b>MC</b>
Install shutoff valves on both sides of PRV				<b>MC</b>
Install pressure gages on low-pressure side of PRV after bypass connection according to Div. "Meters & Gages for HVAC"				<b>MC</b>
Install strainers upstream for PRV				<b>MC</b>
Install safety valve downstream from PRV station				<b>MC</b>

**Installing Contractors:** **MC**-Mechanical Contractor; **EC**-Electrical Contractor; **CC**-Controls Contractor

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<b>In-line Air Separator</b>				
Manufacturer/Model #:				<b>MC</b>
ASME Label compliant with Boiler & Pressure Vessel Code				<b>MC</b>
Install automatic air vent at high point				<b>MC</b>
1/4" Needle valves installed				<b>MC</b>
Reducer installed				<b>MC</b>
Installed piping from air separator to expansion tank with a 2% upward slope				<b>MC</b>
Installed tangential air separator connection in pump section				<b>MC</b>
Install blow down piping w/ gate or full-port valve; extend to nearest floor drain				<b>MC</b>
System relief valve				<b>MC</b>
<b>Bypass Chemical Feeder</b>				
Installed in upright position				<b>MC</b>
Top of funnel not more than 48" above floor				<b>MC</b>
Installed using minimum NPS 3/4 bypass line				<b>MC</b>
Installed NPS 3/4 pipe from feeder drain to nearest equipment drain				<b>MC</b>
Unions installed				<b>MC</b>
3/4" drain line				<b>MC</b>
Installed full-size full-port ball valves				<b>MC</b>
<b>CW BTU Meter</b>				
BTU meter installed				<b>MC</b>
Thermowells installed				<b>MC</b>
Pressure & temperature sensors installed				<b>MC</b>
No pipe obstructions 10 diameters up and 5 diameters down from BTU meter				<b>MC</b>
1/2" Block & Bleed valve, plus 1/2" nipple and tee on valve outlet plug				<b>MC</b>
<b>Steam BTU Meter</b>				
BTU meter installed				<b>MC</b>
Pressure compensating sensors installed				<b>MC</b>
No pipe obstructions 10 diameters up and 5 diameters down from BTU meter				<b>MC</b>

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<b>Buffer Tank</b>				
Temperature and pressure gage				<b>MC</b>
Installed automatic air vent				<b>MC</b>
Installed on concrete base and level				<b>MC</b>
Connected HW piping to buffer tank with unions or flanges & with shutoff valves. Connected drains with shutoff valves & discharge over floor drains				<b>MC</b>
Two 2" Isolation ball valves installed				<b>MC</b>
Thermometers installed				<b>MC</b>
Air bleed line to floor drain				<b>MC</b>
Installed piping adjacent to buffer tank to allow service and maintenance				<b>MC</b>
No leakage apparent				<b>MC</b>
Unions installed				<b>MC</b>
Two Flanged 3" HP isolation butterfly valves installed				<b>MC</b>
<b>Automatic Air Vent</b>				
1/4" Needle Valve				<b>MC</b>
Reducer				<b>MC</b>
Piping goes to floor drain				<b>MC</b>
<b>Operational Checks</b>				
Perform before operating system				<b>MC</b>
Open manual valves fully				<b>MC</b>
Inspect pumps for proper rotation				<b>MC</b>
Set makeup PRV for required pressure				<b>MC</b>
Inspect air vents at high points and determine if are operating freely				<b>MC</b>
Set temperature controls so coils are calling for full flow				<b>MC</b>
Inspect & set operating temperature of hydronic equipment				<b>MC</b>
Verify lubrication of motors & bearings				<b>MC</b>
<b>Hydrostatic Pressure Testing</b>				
Test CW and HW systems to 200psig hydrostatic pressure each				<b>MC</b>
Subject piping system to hydrostatic test pressure not less than 1.5 times the system's working pressure				<b>MC</b>
After testing has continued for 10 minutes, examine system for leakage, repair any leaks and retest till no leaks				<b>MC</b>
Prepare written report of testing				<b>MC</b>

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