

DESCRIPTION

CPI check valves are designed to permit flow in one direction while preventing reverse flow. They are commonly used in lubrication, hydraulic, pump, compressor, and process fluid systems. CPI check valves are designed for high-pressure applications where reverse flow and leakage must be minimized. CPI check valves are considered to be pressure accessories as defined in the Pressure Directive 2014-68-EU of the European Union and are therefore not subject to the essential safety requirements of the directive and subsequently do not bear the CE mark.

SAFETY PRECAUTIONS FOR CHECK VALVES

			This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid, and eye injury, verify system depressurization prior to uninstalling the equipment.
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Prior to the installation of any check valve, please ensure that the precautions listed below are reviewed and followed.

1. Isolate and depressurize the system before installation.
2. Lock out and tag out all energy sources as required by site procedures.
3. Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
4. Verify that the check valve pressure and temperature ratings are suitable for the application.
5. Inspect the check valve for shipping damage before installation.

INSTALLATION PROCEDURE

Note: The following instructions are meant as a guideline only. They do not cover every situation and rely on the common sense of the person installing the check valve.

1. Verify Flow Direction

Locate the flow arrow stamped on the check valve body. Install the check valve so the arrow points in the direction of the intended flow. Incorrect orientation will prevent proper operation and may restrict system flow.

2. Inspect Connections

Remove any protective caps or plugs from the check valve ports. Ensure all tubing, pipe threads, and fitting surfaces are clean and free of debris.

3. Install the Check Valve Assembly

For NPT Thread Connections

- a) Apply an appropriate thread sealant or PTFE tape to the male threads only, per the manufacturer's instructions. CPI recommends Loctite® 567 or Loctite® 5452 in conjunction with Loctite® primer 7471 for most applications.
- b) Finger-tighten the check valve into the mating connection.
- c) Further tighten, using the appropriate-sized wrenches approximately 2-3 additional turns while supporting the valve body to prevent twisting.
- d) Allow thread sealant to cure per the manufacturer's instructions prior to startup, if applicable.

For Compression Tube Connections (Initial Assembly only)

Refer to the tube fitting manufacturer's Installation Instructions for complete tube preparation & assembly requirements.

- a) Insert the tubing fully into the fitting body until it bottoms out.
- b) Finger-tighten the compression nut.
- c) Tighten the nut an additional 1-1/4 turns.
- d) Support the check valve body with a backup wrench during tightening to avoid damaging the valve.
- e) If desired, use the tube fitting manufacturer's appropriately sized GO/NO-GO Gap Inspection Gauge to verify the nut has been sufficiently tightened.

4. Secure the Check Valve

Ensure the check valve is properly supported and not subjected to excessive piping loads, vibration, or misalignment. Do not use the valve as a structural support for tubing or piping.

STARTUP AND TESTING

1. Slowly introduce system pressure.
2. Check all connections for leaks.
3. Verify fluid flows freely in the intended direction.
4. Confirm the valve prevents reverse flow when system conditions change.
5. Tighten leaking connections as needed after depressurizing the system.

MAINTENANCE

- Periodically inspect for leakage, corrosion, or physical damage.
- To avoid personal injury due to discharge, depressurize and drain the surrounding system prior to removing the check valve from the system.
- All CPI check valves are non-serviceable. Users should not attempt to disassemble the check valves. Replace the check valve if reverse leakage becomes excessive or if internal components are suspected to be worn.

TROUBLESHOOTING

Problem	Possible Cause	Solution
No flow	Check valve installed backwards	Reinstall according to the orientation of the flow arrow
Leakage at the inlet and/or outlet connection	Improper installation of connection fittings	Uninstall the fitting and reassemble ensuring the fitting is tightened sufficiently
Reverse Flow	Damage to the internal seat or poppet/ball	Replace the check valve
Reduced Flow	Debris contamination	Clean system to remove the debris and replace check valve if necessary

CPI check valves are not field repairable. For replacement, visit www.CPIcompression.com or contact your local representative:

United States

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