Compression Connectors - General Information

1. Use a tube or pipe cutter to assure a square end. Make sure pipe is round. On copper tubing, use a rounding tool, if necessary. Surface should be clean.

2. Service tubing should always be snaked in the ditch.

3. INSERT STIFFENERS MUST BE USED ON FLEXIBLE PLASTIC SERVICE TUBE OR PIPE.

4. Stab tube or pipe through the nut and into the socket of the valve or fitting until it bottoms out (some fittings may not have a stop).

5. If the nut or socket appears too large or small, a check should be made to be sure you are using the correct fitting and pipe/tube.

6. PRESSURE TEST FOR LEAKS BEFORE BACKFILLING.

7. USE ONLY ON COLD WATER SERVICES.

Mac-Pak Compression Connectors (-22, -33, -44)

Tighten the Mac-Pak nut onto the valve or fitting to the following minimum torques. Overtorquing nut by 10-20 ft.-lbs. will not affect connections.

- 1/2" size............. 20 ft.-lbs.
- 3/4" size......... 25 ft.-lbs.
- 1" size ............. 35 ft.-lbs.
- 1 1/2" size ......... 40 ft.-lbs.
- 2" size ............ 45 ft.-lbs.

A.Y. McDonald Mac-Pak Coding System

All A.Y. McDonald Mac-Pak fittings are coded to identify which type of service material they are designed to fit. Lettering is on the hex of the Mac-Pak nut.

*INSERT STIFFENERS MUST BE USED ON FLEXIBLE PLASTIC SERVICE TUBE OR PIPE.

CTS - Copper tube (Type K or L)
- PE tube per ASTM D2737 SDR 9 ONLY
- PB tube per ASTM D2666 SDR 9 Class 250 ONLY

PVC - PVC pipe per ASTM D1785
- Steel pipe
- Brass pipe

*PEP - PE pipe per ASTM D2239 SDR 7 ONLY
- PB pipe per ASTM D2662 SDR 7 Class 250 ONLY
* was marked IPS until 2/02

CTS McQuik ("Q") Series and PEP McQuik ("-3Q") Series Compression Connectors

Tighten the CTS McQuik "Q" Series nut or the PEP McQuik "-3Q" nut to the stop. The end face of the nut is to contact the stop face of the body.

Steel Pipe Size "-55" Compression Connectors

Tighten the "55" Compression nut onto the valve or fitting to the following minimum torques. This compresses the gasket for watertight connections. Overtorquing nut by 10-20 ft-lbs. will not affect connections.

- 3/4" size.......... 30 ft-lbs.
- 1" size .......... 35 ft-lbs.
- 1 1/2" size ...... 40 ft-lbs.
- 2" size ........... 45 ft-lbs.

Steel Pipe Size "-55" Compression Connectors

<table>
<thead>
<tr>
<th>Nominal Size</th>
<th>Type K or L Copper Tube</th>
<th>Polyethylene ASTM D2737 SDR 9 Tube Size</th>
<th>Polyethylene ASTM D3066 SDR 9 Pipe Size</th>
<th>Polyethylene ASTM D2239 SDR 7 Pipe Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4&quot;</td>
<td>.876</td>
<td>.875</td>
<td>1.110 (1.089)</td>
<td>1.110 (1.089)</td>
</tr>
<tr>
<td>1&quot;</td>
<td>1.121</td>
<td>1.120</td>
<td>1.125</td>
<td>1.329</td>
</tr>
<tr>
<td></td>
<td>1.129</td>
<td>1.130</td>
<td>1.135</td>
<td>1.329</td>
</tr>
<tr>
<td>1 1/4&quot;</td>
<td>1.371</td>
<td>1.370</td>
<td>1.385</td>
<td>1.754</td>
</tr>
<tr>
<td></td>
<td>1.379</td>
<td>1.380</td>
<td>1.385</td>
<td>1.754</td>
</tr>
<tr>
<td>1 1/2&quot;</td>
<td>1.621</td>
<td>1.619</td>
<td>1.625</td>
<td>2.050</td>
</tr>
<tr>
<td></td>
<td>1.630</td>
<td>1.631</td>
<td>1.637</td>
<td>2.050</td>
</tr>
<tr>
<td>2&quot;</td>
<td>2.120</td>
<td>2.119</td>
<td>2.125</td>
<td>2.637</td>
</tr>
<tr>
<td></td>
<td>2.130</td>
<td>2.131</td>
<td>2.137</td>
<td>2.637</td>
</tr>
</tbody>
</table>

* INSERT STIFFENERS MUST BE USED ON FLEXIBLE PLASTIC SERVICE TUBE OR PIPE.

WARNING: It is unlawful in CALIFORNIA & VERMONT (effective 1/1/2010); MARYLAND (effective 1/1/2012); LOUISIANA (effective 1/1/2013) and the UNITED STATES OF AMERICA (effective 1/4/2014) to use any product in the installation or repair of any public water system or any plumbing in a facility or system that provides water for human consumption if the wetted surface area of the product has a weighted average lead content greater than 0.25%. This prohibition does not extend to service saddles used in California, Louisiana or under USA Public Law 111-380.
### Yokebox and Long Yokebox Installation Instructions

**IMPORTANT NOTICE - READ CAREFULLY**

### Operating Ball Valves with Turning Restraints (Checks)

1. Ball valves generally require low operating torques.
2. If valve turns hard, check turning direction before using excess force. Excess force can damage or destroy the turning restraints (checks) in the ball valve cap and body assembly.
3. If the valve cap or stop box handle is perpendicular to the water line, the valve is closed and should be turned counter-clockwise to open. If the cap has an indented line, use the line to determine if the valve is open or closed.
4. If the valve cap or stop box handle is in line with the water line, the valve is open and should be turned clockwise to close. If the cap has an indented line, use the line to determine if the valve is open or closed.

### Field Inspection & Test Procedure

**A. DIS-ASSEMBLY**

1. Loosen the union connection to access the check cartridges.
2. Remove the two check cartridges using care not to damage device components.
3. Visually inspect seals, sealing surfaces, etc. for debris or damage.
4. Service lines should be thoroughly flushed before installing the device. Excessive pipe sealant or Teflon tape may foul checks. A suitable strainer should be installed upstream of the device.
5. Any sweat fittings must be completed before installing device.
6. Do not over-tighten O-ring union nut seal or across body cylinder to avoid distortion.
7. Any sweat fittings must be completed before installing device.
8. A pressure relief valve or expansion tank is recommended downstream of device if thermal expansion conditions are possible.
9. Use only on cold water services. Protect from freezing.
10. Refer to pressure and temperature ratings on device tag.

**B. TESTING**

1. Clean and inspect device components.
2. Check cartridge O-rings should be lightly lubricated with a NSF approved silicone lubricant.
3. Insert check cartridge into body correctly corresponding to flow direction on device tag.
4. Service lines should be thoroughly flushed before installing the device. Excessive pipe sealant or Teflon tape may foul checks. A suitable strainer should be installed upstream of the device.
5. Any sweat fittings must be completed before installing device.
6. Do not over-tighten O-ring union nut seal or across body cylinder to avoid distortion.
7. Any sweat fittings must be completed before installing device.
8. A pressure relief valve or expansion tank is recommended downstream of device if thermal expansion conditions are possible.
9. Use only on cold water services. Protect from freezing.
10. Refer to pressure and temperature ratings on device tag.

**C. RE-ASSEMBLY**

1. Clean and inspect device components.
2. Check cartridge O-rings should be lightly lubricated with a NSF approved silicone lubricant.
3. Insert check cartridges into body correctly corresponding to flow direction on device tag.
4. Re-assemble device into line. Do not over-tighten.
Compression Connectors - General Information

The simple steps listed below will make your job easier and assure fast, safe, and watertight connections:

1. Service tubing should always be **snaked** in the ditch.
2. Use a tube cutter to assure a square end. Make sure tube is round. Surface should be clean and free of nicks.
3. Use chamfer tool to bevel lead edge of tubing, **do NOT** lubricate tubing **or use an insert stiffener** (chamfer tool available through A.Y. McDonald Mfg see chart below).
4. Verify grip ring is oriented as shown in diagram to ensure proper tube installation. The thick end of the grip ring should be facing the o-ring. The nut is factory assembled to the stop face, **do Not** disassemble or loosen nut.
5. Mark tube from lead edge to ensure proper insertion depth. (See chart below for required depth), stab tube through nut, grip ring, and o-ring until end of nut is even with mark. (Some fittings may not have a stop). Pull on tube to lock in place.

6. **PRESSURE TEST FOR LEAKS BEFORE BACKFILLING.**
7. **USE ONLY ON COLD WATER SERVICES.**
8. A.Y. McDonald is not responsible for damage resulting from improper installation of the Handy-Loc Nut Assembly.

Installation Instructions for **McGrip ("G" & "-3G") Series Compression Connectors**

The simple steps listed below will make your job easier and assure fast, safe, and watertight connections:

1. Service tubing should always be **snaked** in the ditch.
2. Use a tube or pipe cutter to assure a square end. Make sure pipe is round. On copper tubing, use a rounding tool, if necessary. Surface should be clean and free of nicks.
3. **Insert stiffeners must** be used with plastic tubing.
4. Stab tube through the nut and into the socket of the valve or fitting until it bottoms out (some fittings may not have a stop).
5. Tighten the McGrip "G" & "-3G" Series nut to the stop. The end face of the nut is to contact the stop face of the body.

6. **PRESSURE TEST FOR LEAKS BEFORE BACKFILLING.**
7. **USE ONLY ON COLD WATER SERVICES.**

**"-3G" Series Fittings Types of Pipe/Tubing for use with A.Y. McDonald Fittings**

<table>
<thead>
<tr>
<th>NOMINAL SIZE</th>
<th>POLYETHYLENE ASTM D2239 SDR7 PIPE SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4&quot;</td>
<td>.871 / .879</td>
</tr>
<tr>
<td></td>
<td>1.110 (1.089)</td>
</tr>
<tr>
<td>1&quot;</td>
<td>.879 / 1.130</td>
</tr>
<tr>
<td></td>
<td>1.399 (1.384)</td>
</tr>
</tbody>
</table>

(•) Maximum pipe O.D. that will work with A.Y. McDonald fittings.

**"G" Series Fittings Types of Pipe/Tubing for use with A.Y. McDonald Fittings**

<table>
<thead>
<tr>
<th>NOMINAL SIZE</th>
<th>3/4&quot;</th>
<th>1&quot;</th>
<th>1 1/4&quot;</th>
<th>1 1/2&quot;</th>
<th>2&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE K or L COPPER TUBE</td>
<td>.872</td>
<td>1.121</td>
<td>1.371</td>
<td>1.621</td>
<td>2.120</td>
</tr>
<tr>
<td></td>
<td>.878</td>
<td>1.129</td>
<td>1.379</td>
<td>1.630</td>
<td>2.130</td>
</tr>
<tr>
<td>POLYETHYLENE ASTM D2237 SDR 9 TUBE SIZE</td>
<td>.871</td>
<td>1.120</td>
<td>1.370</td>
<td>1.619</td>
<td>2.119</td>
</tr>
<tr>
<td></td>
<td>.879</td>
<td>1.130</td>
<td>1.380</td>
<td>1.631</td>
<td>2.131</td>
</tr>
<tr>
<td>POLYBUTYLENE ASTM D2666 SDR 9 TUBE SIZE CLASS 250</td>
<td>.875</td>
<td>1.125</td>
<td>1.375</td>
<td>1.625</td>
<td>2.125</td>
</tr>
<tr>
<td></td>
<td>.883</td>
<td>1.135</td>
<td>1.385</td>
<td>1.637</td>
<td>2.137</td>
</tr>
</tbody>
</table>

The A.Y. McDonald Series compression system is a simple convenient method of connection for tube size service materials.

(See table below for approved tubing specs.)

**For use on PE tube only. Do Not use on copper tube.**

---

**IMPORTANT NOTICE - READ CAREFULLY**

**Handy-Loc ("H" & -3H") Series**

**Installation Instructions**

**Compression Connectors - General Information**

The simple steps listed below will make your job easier and assure fast, safe, and watertight connections:

1. Service tubing should always be **snaked** in the ditch.
2. Use a tube cutter to assure a square end. Make sure tube is round. Surface should be clean and free of nicks.
3. Use chamfer tool to bevel lead edge of tubing, **do NOT** lubricate tubing **or use an insert stiffener** (chamfer tool available through A.Y. McDonald Mfg see chart below).
4. Verify grip ring is oriented as shown in diagram to ensure proper tube installation. The thick end of the grip ring should be facing the o-ring. The nut is factory assembled to the stop face, **do Not** disassemble or loosen nut.
5. Mark tube from lead edge to ensure proper insertion depth. (See chart below for required depth), stab tube through nut, grip ring, and o-ring until end of nut is even with mark. (Some fittings may not have a stop). Pull on tube to lock in place.

6. **PRESSURE TEST FOR LEAKS BEFORE BACKFILLING.**
7. **USE ONLY ON COLD WATER SERVICES.**
8. A.Y. McDonald is not responsible for damage resulting from improper installation of the Handy-Loc Nut Assembly.