Copper Tube and Press Connection Valves
Potential Leakage Issues

Press connections have become very popular in the United States. More and more contactors are finding it a faster and therefore more cost effective connection method than solder and threaded connections. As with most new products, contractors may not be fully aware of some of the issues associated with press connections. Some issues are related to the actual crimping of the connection, and these are addressed in the Installation, Operation & Maintenance Guide I893900 for the Apollo 77W Apollo-Press series.

Other problems have been found to be due to the condition of the copper tube, as detailed below:

1. Stamped copper tube

Some copper tube has information stamped into the surface of the OD of the tube. The size of the stamping varies. Some is down the length of the tube, some is around the circumference. If the O-ring seal in the press connection aligns with the stamping, leakage can occur.

2. Lines in the tube

Copper tube can have lines down the length of the tube. Lines are like a long scratch in the tube. This can cause leakage on a properly crimped connection.

3. Laps in the tube

Tube can have laps. A lap is a small, slightly raised section on the tube outside diameter. The raised area can cause leakage by the O-ring seal on a properly crimped connection.

4. Recesses/bumps in the tube

Tube can have a small recess or raised surface. This occurs when small pieces of copper adhere to the rollers in the forming operation. If the O-ring seal aligns with the recess or raised surface, leakage can occur in a properly crimped connection.

5. Damaged tube

Copper tube is easily damaged by scratching and denting due to the softness of the material. Obviously, this can cause leakage by the O-ring seal on a properly crimped connection.

NOTE! It is important that the installer properly prepare and inspect the tube end prior to insertion into the valve. The tube must be clean and free of burrs, stampings, lines, laps and any other defects that could interfere with achieving a pressure tight seal.

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