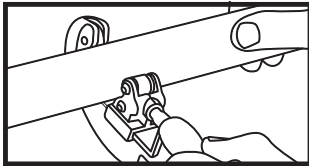


# "Apollo"® Press VSH technology

## small diameter fitting & valves (1/2" - 2")

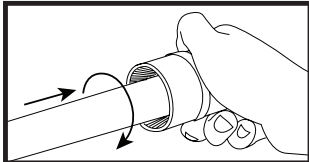
It is the responsibility of the end-user to follow all instructions for installing Apollo® Press fittings and valves. Failure to follow these instructions and safe plumbing practices may result in extensive property damage, serious injury or death.



### 1. cutting the tube to length

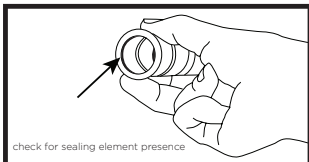
After measuring, cut the tube square using a rotary tube cutter, a fine-toothed saw, or displacement-type cutter suitable for copper tubing. The tube must always be cut completely through at a 90° angle. Do not partially cut the tube and break it off as this could potentially cause leakage.

**note:** do not use grease, oil-cooled saws, or flame cutters when cutting the tube



### 2. deburring and cleaning the tube end

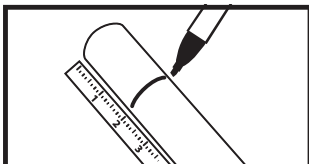
Cut tube ends must be thoroughly deburred on the inside and the outside using a fine-toothed file or commercially available deburring tool. Use a Scotch-brite™ pad, wire brush, sandpaper or cloth to ensure tube ends are free of dirt and debris prior to inserting the tube. Proper tube prep is necessary to avoid any damage to the sealing element when inserting the pipe into the fitting.



### 3. check the fitting

Inspect the press fitting or valve for any damage or defect. Always ensure the sealing element is present, undamaged, free of dirt and debris, and properly positioned within the fitting bead socket.

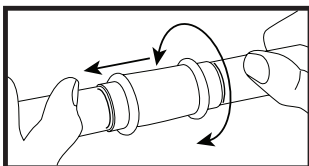
**note:** do not attempt to press the connection if the sealing element is damaged or not present



### 4. marking insertion depth

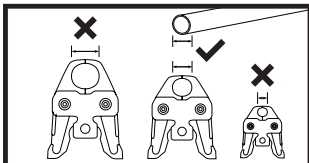
Using a permanent tube marker, mark the appropriate insertion depth on the copper tube with respect to the Apollo® Press insertion depth chart.

nominal pipe size (in.)	insertion depth (in.)
1/2	3/4 (0.75)
3/4	1 1/16 (0.94)
1	1 5/16 (0.94)
1 1/4	1 7/8 (1.06)
1 1/2	1 7/8 (1.44)
2	1 3/4 (1.56)



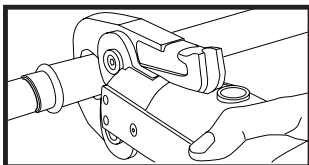
### 5. fitting the tube end into the connection

Insert the copper tube into the fitting or valve with twisting motion until it meets the insertion depth mark or tube stop. Failure to properly follow the required insertion depth requirements can produce an inadequate seal.



### 6. preparing the press tool and jaw

Using an approved press tool and jaw of correct size, open the jaw and place over the fitting or valve bead at a 90° angle to the tube centerline, ensuring that the bead is properly aligned with the groove on the inside of the jaws. Misalignment of jaws to the bead will result in an incomplete press. Before making the press connection, double-check that the tube is fully inserted to the required insertion depth.



### 7. pressing the connection

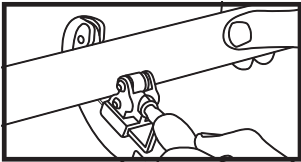
Engage press tool trigger and begin pressing the connection. Confirm that the tool has fully cycled per the approved tool manufacturer's instructions. Disengage the trigger and open the press jaws. Be sure to visually inspect that a proper press connection has been made.

**note:** if desired, a fitting may be pressed a second time by repositioning the press jaw 90° from the previous pressed position, then re-press.



## large diameter fittings & valves (2 ½" - 4")

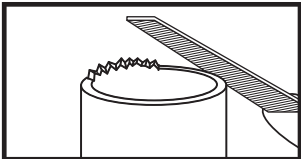
It is the responsibility of the end-user to follow all instructions for installing Apollo® Press fittings and valves. Failure to follow these instructions and safe plumbing practices may result in extensive property damage, serious injury or death.



### 1. cutting the tube to length

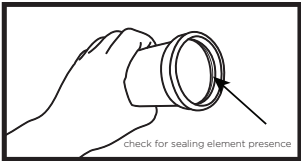
After measuring, cut the tube square using a rotary tube cutter, a fine-toothed saw, or displacement-type cutter suitable for copper tubing. The tube must always be cut completely through at a 90° angle. Do not partially cut the tube and break it off as this could potentially cause leakage.

**note:** do not use grease, oil-cooled saws, or flame cutters when cutting the tube



### 2. deburring and cleaning the tube end

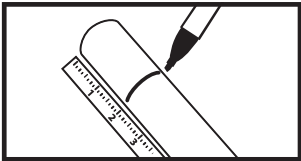
Cut tube ends must be thoroughly deburred on the inside and the outside using a fine-toothed file or commercially available deburring tool. Use a Scotch-brite™ pad, wire brush, sandpaper or cloth to ensure tube ends are free of dirt and debris prior to inserting the tube. Proper tube prep is necessary to avoid any damage to the sealing element when inserting the pipe into the fitting.



### 3. check the fitting

Inspect the press fitting or valve for any damage or defect. Always ensure the sealing element, spacer ring, and grip ring are present, undamaged, free of dirt and debris, and properly positioned within the fitting cup.

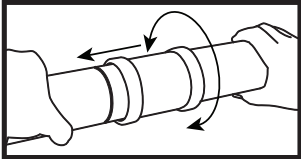
**note:** do not attempt to press the connection if the aforementioned internal components are damaged or not present



### 4. marking insertion depth

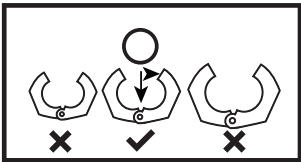
Using a permanent tube marker, mark the appropriate insertion depth on the copper tube with respect to the Apollo® Press insertion depth chart.

nominal pipe size (in.)	insertion depth (in.)
2 ½	1 ¾ (1.9)
3	2 ¼ (2.1)
4	2 ½ (2.5)



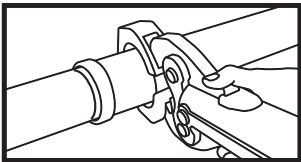
### 5. fitting the tube end into the connection

Insert the copper tube into the fitting or valve with twisting motion until it meets the insertion depth mark or tube stop. Failure to properly follow the required insertion depth requirements can produce an inadequate seal.



### 6. preparing the press tool and jaw

Using an approved press tool, actuator jaw and ring of correct size, open the ring and place over the fitting or valve bead at a 90° angle to the tube centerline, ensuring that the bead is properly aligned with the groove on the inside of the ring. Misalignment of ring to the bead will result in an incomplete press. Before making the press connection, double-check that the tube is fully inserted to the required insertion depth.



### 7. pressing the connection

Align the actuator jaw with the ring, engage the press tool trigger, and begin pressing the fitting or valve. Confirm that the tool has fully cycled per the approved tool manufacturer's instructions. Disengage the trigger and open the actuator jaw and press ring. Be sure to visually inspect that a proper press connection has been made.

**note:** if desired, a fitting may be pressed a second time by repositioning the press jaw 90° from the previous pressed position, then re-press.