

ZoomLock MAX

Press-to-Connect Refrigerant Fittings

INSTALLATION INSTRUCTIONS

General

ZoomLock MAX fittings must be installed by an installer who is appropriately trained and qualified to work on air conditioning and refrigeration installations and certified via the ZoomLock MAX training course. All installations must be completed in line with local regulations and by-laws governing the installation, and all applicable health and safety practices must be adhered to. When using the press tools, care must be taken to ensure hands are kept away from the jaw during the pressing process. Always wear ear and eye protection.

Important: Select the correct size of tube, fitting and jaw for the job. Ensure the fitting and tube are kept free of any dust or dirt and that the O-ring is undamaged. Check the inner pressing contour of the jaw is free of dirt and debris. Do not force tube ends together prior to making joints. Joints should only be made on an unstressed pipework assembly.

Remarks

- A joint is finished after one complete compression cycle of the tool.
- Do not press any ZoomLock MAX fitting more than once.
- Pipework alignment must be completed prior to pressing.
- Do not rotate joints after they have been pressed.

Technical Data

Copper Tube Compatibility: Please refer to tube compatibility table, page 10.

Maximum Operating Pressure: 700psi, 48 bar, 4,800 kPa.

Operating Temperature Range: -40°F to 250°F, -40°C to 121°C.

Compatible refrigerants: R-1234yf**, R-1234ze**, R-125, R-134a, R-290**, R-32**, R-404A, R-407A, R-407C, R-407F, R-407H, R-410A, R-417A, R-421A, R-422B, R-422D, R-427A, R-438A, R-444A**, R-447A**, R-447B**, R-448A, R-449A, R-450A, R-452A, R-452B**, R-452C, R-454A**, R-454B**, R-454C**, R-457A**, R-459A**, R-507A, R-513A, R-513B, R-600A**, R-718 and HYCOOL 20.

** When using refrigerants classified A2L (lower flammability), A2 (flammable) and A3 (higher flammability) additional/specific standards, local rules and regulations, codes of practice and by-laws may be applicable.

Note: ZoomLock MAX fittings are NOT suitable for R-717, R-723, R-764, R-744 refrigerants.

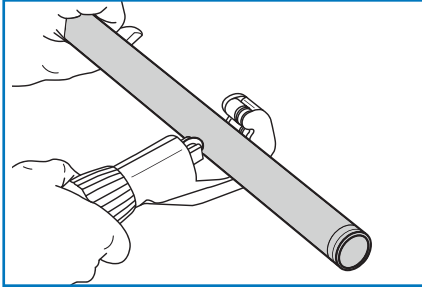
Compatible Oils: POE, PAO, PVE, AB and MO.



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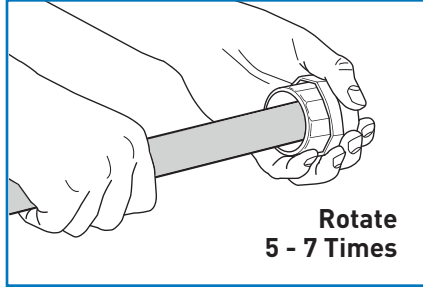
INSTALLATION INSTRUCTIONS (Continued)



STEP 1

Cut the tube to length

- Use a rotary tube cutter.
- Ensure that the tube is cut square.
- Check the tube has retained its shape and is damage free.

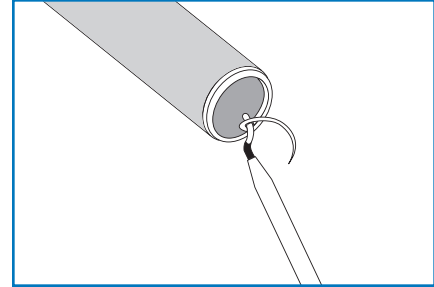


Rotate
5 - 7 Times

STEP 2

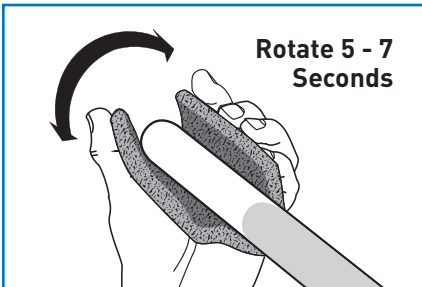
Deburr and remove all external sharp edges

- Deburr the tube both internally and externally.
- Where possible angle the tube downwards to prevent filings entering the tube.
- Use a pencil type deburrer on internal tube edges.
- Make sure the internal and external surfaces of the tube ends are smooth and free from burrs or sharp edges.



STEP 3

Use a pencil type deburrer on internal edges

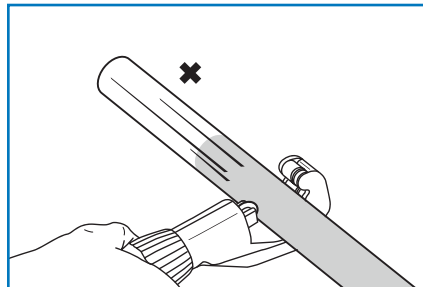


Rotate 5 - 7
Seconds

STEP 4

Clean the tube end

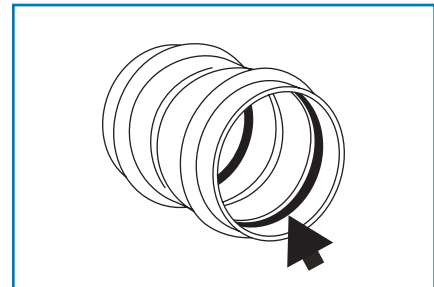
- Thoroughly clean the tube end using a general purpose hand pad or sand cloth in a rotating motion.
- Tube ends must be free from scratches, oxidation, dirt and debris.



STEP 5

Check for defects

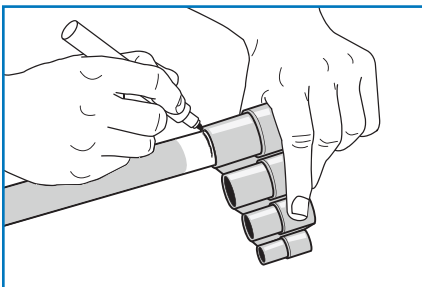
- If deep scratches are still visible, cut the tube back to a clean section and repeat steps 2 - 4.



STEP 6

Ensure the O-ring is seated

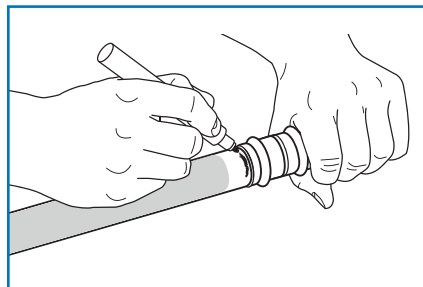
- Check the fitting is the correct size for the tube.
- Check the O-rings are present and correctly seated.
- A small additional amount of lubricant may be used to aid tube insertion.



STEP 7A

Mark insertion depth on tube using depth gauge

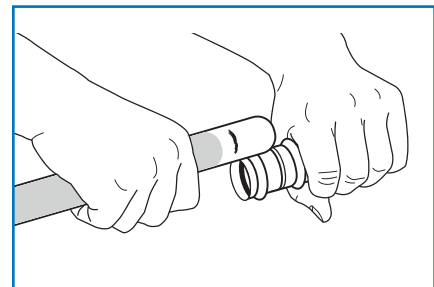
- Insert tube into correct socket in depth gauge.
- Check window to see the tube is fully inserted.
- Mark the insertion depth on the tube.



STEP 7B

Alternatively insert tube to tube stop and mark

- The tube must be fully inserted into the fitting until it reaches the tube stop.
- To reduce the risk of dislodging the O-ring rotate the tube (if possible) while slipping it into the fitting.
- Mark the insertion depth on the tube.



STEP 7B

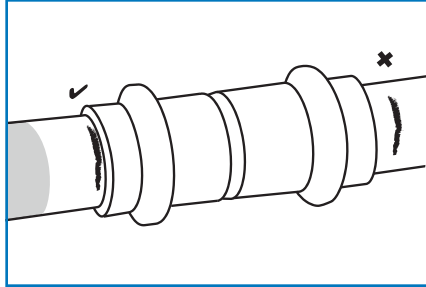
Check the depth mark

- Remove the tube and align with fitting socket, check that the depth mark is correctly positioned.
- The insertion depth mark is used as a reference prior to pressing the joint.

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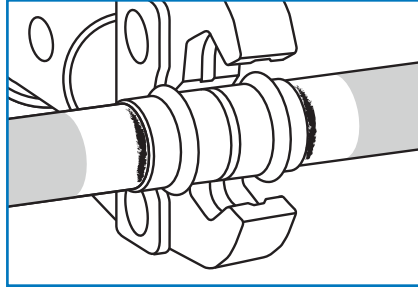
INSTALLATION INSTRUCTIONS (Continued)



STEP 8

Insert the tube fully into the fitting. Ensure tube is fully inserted prior to pressing

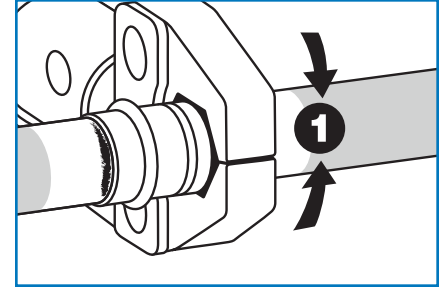
- Insert the tube fully into the fitting up to the tube stop.
- To reduce the risk of dislodging the O-ring rotate the tube (if possible) while slipping it into the fitting.
- Prior to pressing, ensure the tube has not moved out from the fitting socket.
- Use the insertion depth mark as a guide.



STEP 9

Align jaws squarely on the fitting

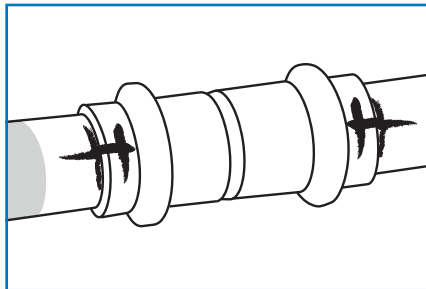
- Ensure pipework is correctly aligned prior to pressing.
- Ensure the correct size jaw is inserted into the tool.
- The jaws must be placed squarely on the fitting locating the groove on the bead.
- The bead on the fitting should fit centrally in the groove of the jaw.



STEP 10

Complete the joint with the approved tool. Press once only

- Depress and hold the button to complete the pressing cycle.
- Pressing is complete when the jaws are fully closed and the piston retracts.
- Complete the press cycle once only – do not repress.
- Release the jaws from the pressing.



STEP 11

Mark the completed joint

- Mark the completed joint after pressing.
- This enables joints to be inspected easily before testing and insulating the pipe-work.

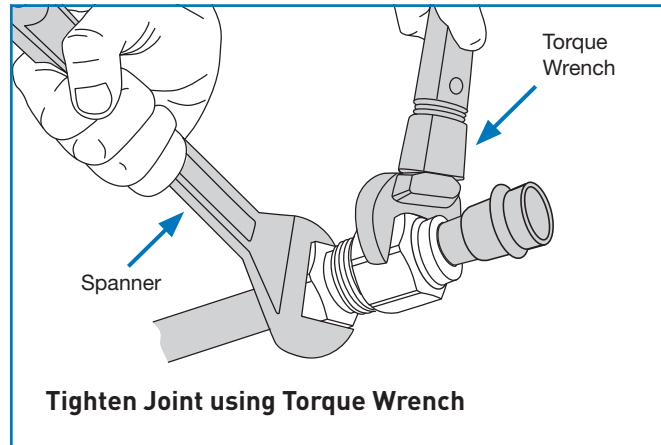
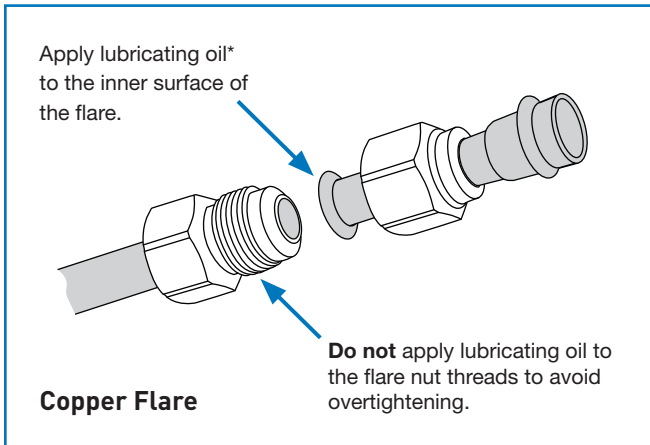
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INSTALLATION INSTRUCTIONS (Continued)

Installing a ZoomLock MAX Female Flare Connector to a Male Flare Connector

Make the flare connection prior to pressing the ZoomLock MAX joint. If this is not possible care must be taken to prevent rotational forces being applied to the pressed joint.



Align the centers of both flares and tighten the flares by hand.

***Note:** A compatible refrigerant lubricant should be used and care should be taken to avoid application onto flare threads.

Fully tighten using spanner and torque wrench to the torque values set out in the table. **Do not over tighten.**

Flares Tightening Torque**		
Size	N m	ft lbf
1/4"	14-18	11-13
3/8"	33-42	25-31
1/2"	50-62	37-45
5/8"	63-77	47-56
3/4"	90-110	67-81

****Do NOT over tighten.**