

# ZoomLock MAX

## Press-to-Connect Refrigerant Fittings

### FREQUENTLY ASKED QUESTIONS

- Why is it significant that ZoomLock MAX is “UL Listed”?**  
UL Listing ensures that ZoomLock MAX meets the industry requirements for field and factory installation.
- How do I ensure I make a secure and leak-free joint?**  
Follow all of the steps for prep and installation.
- What is a “deep” scratch, and how do you clean this?**  
Your fingernail can feel a deep scratch. Try using a new piece of Scotch-Brite abrasive pad. Alternatively, use a 340 grit sandpaper/cloth.
- Can you show an example of a “good” copper tube surface after sanding?**



Figure 1 - Copper tube with “good” surface.



Figure 2 - Copper tube with “bad” surface scratch.

- How do I know the correct insertion depth when pushing the ZoomLock MAX fitting onto the copper tube?**  
Use the depth gauge provided or the minimum insertion depth chart to determine the correct insertion depth. Mark the tubing with a permanent marker to indicate proper insertion depth on every tube.

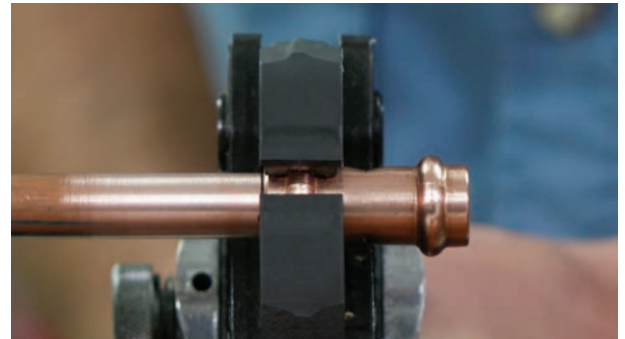
Table 1

MINIMUM INSERTION DEPTH		
Fitting Size	Inches	Millimeters
1/4	0.71	18.0
3/8	0.71	18.0
1/2	0.75	19.0
5/8	0.87	22.0
3/4	0.91	23.0
7/8	0.98	25.0
1-1/8	1.04	26.5
1-3/8	1.34	34.0

- Do you have a solution for crimping onto swaged or belled tubing like that coming out of the condenser and evaporator on residential units?**

No, we do not have a specific product designed to crimp over the swaged tubing. However, if there are at least 2 inches of straight copper tubing after the flared end and is accessible with the jaws, you may cut the flared end off and crimp directly to the tube.

- Where do I crimp ZoomLock MAX fittings?**  
Crimp with the jaw straddling directly over the o-ring section of the fitting.



- My jaws sometimes get stuck on the fitting after crimping. What can I do to make it easier to remove the jaws?**  
Applying a thin coating of WD-40 or similar lubricant to the jaw before starting a job should help.
- What is the minimum braze distance from the ZoomLock MAX fitting?**

Table 2

MINIMUM DISTANCE FROM ZOOMLOCK MAX FITTING TO BRAZE		
Fitting Size	Inches	Millimeters
1/4	10	250
3/8	12	300
1/2	13.75	350
5/8	17.75	450
3/4	19.75	500
7/8	23.75	600
1-1/8	27.50	700
1-3/8	35.50	900

- What is the minimum distance between ZoomLock MAX fittings?**

Table 3

MINIMUM DISTANCE BETWEEN ZOOMLOCK MAX FITTINGS		
Fitting Size	Inches	Millimeters
1/4	0.50	10
3/8	0.50	10
1/2	0.63	15
5/8	0.63	15
3/4	0.88	20
7/8	0.88	20
1-1/8	1.00	25
1-3/8	1.38	35

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### FREQUENTLY ASKED QUESTIONS (Continued)

- 11. How many crimps can you complete on a complete battery charge?**  
Tool dependent; consult the tool manufacturer owner's manual.
- 12. How do you know when to service the tool?**  
Tool dependent; consult the tool manufacturer owner's manual.
- 13. What is the expected life of the jaws?**  
ZoomLock MAX jaws are laser hardened and have an indefinite life expectancy. We encourage each customer to keep the jaws clean, free of debris, and stored properly when not in use. If any of the wear parts become damaged or non-functional, consult your local ZoomLock MAX distributor.
- 14. What tool manufacturers and models are ZoomLock MAX jaws compatible?**  
Refer to page 7 for the press tool compatibility table.
- 15. Where can replacement batteries and chargers be purchased?**  
Tool dependent; check the tool manufacturer owner's manual.
- 16. Can you use ZoomLock MAX to crimp to aluminum, steel, or stainless steel?**  
No, ZoomLock MAX is designed explicitly for copper to copper connections.
- 17. What standards and codes is ZoomLock MAX compliant with, and what approvals does it hold? See page 6.**
- 18. Does ZoomLock MAX work on both hard and soft copper?**  
Yes, ZoomLock MAX is a press fitting system for use with hard, half-hard, or annealed copper tube conforming to EN12735-1 or ASTM-B280.
- 19. What is the warranty on ZoomLock MAX fittings?**  
The product has a 15-year warranty from the first date of purchase. Please refer to full terms and conditions.
- 20. What is the material used to make the O-ring?**  
Hydrogenated Nitrile Butadiene Rubber (HNBR).
- 21. What is the expected life of the O-ring in the system?**  
The expected life of the O-ring, if used within the product specifications for temperature and pressure, is at least 25 years. The product has a 15-year warranty.
- 22. Are there any storage issues, including where the fittings are stored in vehicles and exposed to extremes of high or low temperature?**  
No, the product is not subject to degradation under normal storage conditions, provided it's kept in original packaging and not exposed to direct sunlight for long periods.
- 23. What approved refrigerants are for use with ZoomLock MAX?**  
See page 6.
- 24. What approved lubricants are for use with ZoomLock MAX?**  
See technical data on page 6.
- 25. If ZoomLock MAX leaks on installation, can you braze the fitting rather than cutting out the joint and having to replace the missing tube?**  
No, if a pressed fitting is leaking, the fitting must be cut out and replaced. You should not attempt to braze the fitting as you may melt the O-ring material and thus introduce contaminants into the system that could cause other system issues.
- 26. Is there a concern about ice building up and then thawing under the fitting in a horizontal or vertical configuration?**  
No, ZoomLock MAX has been thoroughly freeze/thaw tested.
- 27. What is the difference between the press jaws for ZoomLock MAX and press jaws for other HVAC and plumbing press fittings?**  
ZoomLock MAX fittings can only be connected with jaws/tools designed for use with ZoomLock MAX products.
- 28. Are there any concerns with corrosion where installations are made in coastal areas or with cleaning agents?**  
No, ZoomLock MAX has been Acid Salt Spray tested to ASTM G85. As with all copper installations, avoid exposure to ammonia.
- 29. Does the O-ring compensate for imperfections in the tube to make a tight seal?**  
Yes, the O-ring does compensate for small/minor scratches on the surface of the tube. However, avoid imperfections adjacent to the crimp area such as scratches, incise marks, and tubing that is not round. Reference copper piping standard for roundness.
- 30. What happens if the application goes beyond the temperature specifications?**  
If you use ZoomLock MAX in an application that the fitting goes beyond the specified limits of the O-ring, then there is an increased likelihood that a leak can occur due to the compromised O-ring.
- 31. How clean are ZoomLock MAX fittings?**  
ZoomLock MAX fittings comply with the cleanliness standards as required in the following Copper Tube Standards EN 12735-1 and ASTM-B280. Keep the zip closure bag sealed to protect fittings from contamination.
- 32. How do the fittings cope with vibration from the system?**  
Vibration is a recognized cause of leaks, design the system, and install to comply with all local standards and codes of practice, which aim to minimize vibration. Extensively tested ZoomLock MAX fittings ensure the joint doesn't leak as a result of system vibration and complies

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### FREQUENTLY ASKED QUESTIONS (Continued)

with the following standards: ISO 14903, Temperature Pressure Cycling and Vibration Test; UL 109 - 8, Vibration Test; UL 207, Fatigue Shock Test.

**33. Will the O-ring be damaged if acid develops in the refrigeration system?**

Good installation practice, a nitrogen purge during any brazing (not required with ZoomLock MAX mechanical fittings), a deep evacuation, and the proper installation and use of filter-driers containing new and effective molecular sieve desiccants prevent many system failures including the buildup of acid within the system. When selecting which desiccant material is best for an application, consider water capacity, refrigerant and lubricant compatibility, acid capacity, and physical strength, which are essential characteristics of desiccants.

**34. When pressed, small size fittings, mainly elbows, may allow a small amount of rotational movement at the joint. Will this affect the security of the joint?**

No, some rotational movement is quite acceptable, the joint won't leak, nor will it come apart under the pressure loading and during system operation. Some joint movement is good and allows for expansion and contraction in the system pipework.

**35. Is ZoomLock MAX suitable for medical gas applications?**

No, ZoomLock MAX is not suitable for medical gas applications.

**36. Can you press a fitting more than once?**

No, only press ZoomLock MAX fittings once.

**37. Is ZoomLock MAX approved for drinking water systems?**

Zoomlock MAX is not approved for potable water systems.

**38. I need to pull a vacuum, how deep of a vacuum can I pull?**

Pull 200 microns for a deep vacuum.

### ABBREVIATIONS

<b>AB Oil</b>	Alkyl Benzene oil.
<b>ASHRAE 15 - 2016</b>	Safety Standard for Refrigeration Systems.
<b>ASTM-B280-13</b>	American Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service.
<b>ASTM-B88 Type K or L</b>	Seamless Copper Water Tube.
<b>ASME B31.5 - 2016 - 2016</b>	Refrigeration Piping and Heat Transfer Components.
<b>CFT</b>	Constant Force Technology.
<b>HNBR</b>	Hydrogenated Nitrile Butadiene Rubber.
<b>IMC 2021</b>	International Mechanical Code 2021.
<b>IRC 2021</b>	International Residential Code 2021.
<b>ISO 5149-2:2014</b>	International Standard for Refrigerating systems and heat pumps - Safety and environmental requirements -- Part 2: Design, construction, testing, marking and documentation.
<b>ISO 9001</b>	Certified quality management system.
<b>ISO 14903:2012</b>	International Standard for Refrigerating systems and heat pumps – Qualification of tightness of components and joints.
<b>LED</b>	Light Emitting Diode.
<b>PAO Oil</b>	Poly-alpha-olefin oil.
<b>POE Oil</b>	Polyolester oil.
<b>PVE Oil</b>	Polyvinylether oil.
<b>SMS</b>	Short Message Service.
<b>UL 207</b>	Standard for Refrigerant-Containing Components and Accessories, Nonelectrical.
<b>UL 1963 – 79</b>	Standard for Refrigerant Recovery / Recycling Equipment. Section 79 Tests of Gaskets and Seals Used in Refrigerant Systems.
<b>UL 109 - 8</b>	Standard for Tube Fittings for Flammable and Combustible Fluids, Refrigeration Service, and Marine Use. Section 8 Vibration test.
<b>UMC 2021</b>	Universal Mechanical Code 2021.
<b>UNS</b>	Unified Numbering System.