

# ZoomLock MAX

## Press-to-Connect Refrigerant Fittings

### FREQUENTLY ASKED QUESTIONS

- 1. 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.

- 2. Why is it significant that ZoomLock MAX is “UL Listed”?**

UL Listed provides approval by UL for field and factory installation. UL Recognized products limit products to being factory installed only.

- 3. What is the #1 suggestion to ensure safety?**

Follow all of our steps on prep and installation.

- 4. What is the #1 cause of leaky fittings?**

Possibly, skipping the prep and installation steps causes the tube to leak.

- 5. 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.

- 6. 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.

- 7. 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.

- 8. Do you have a solution for crimping onto swaged 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.

Table 1

MINIMUM INSERTION DEPTH		
Fitting Size	Inches	Millimeters
1/4	0.71	18
3/8	0.71	18
1/2	0.75	19
5/8	0.90	23
3/4	0.91	23
7/8	1.00	25
1	0.95	24
1-1/8	1.10	28

- 9. 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	254
3/8	12	305
1/2	14	356
5/8	18	457
3/4	20	508
7/8	24	610
1	26	660
1-1/8	28	711

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

Table 3

MINIMUM DISTANCE BETWEEN ZOOMLOCK MAX FITTINGS		
Fitting Size	Inches	Millimeters
1/4	0.40	10
3/8	0.40	10
1/2	0.60	15
5/8	0.60	15
3/4	0.80	20
7/8	0.80	20
1	1.00	25
1-1/8	1.00	25

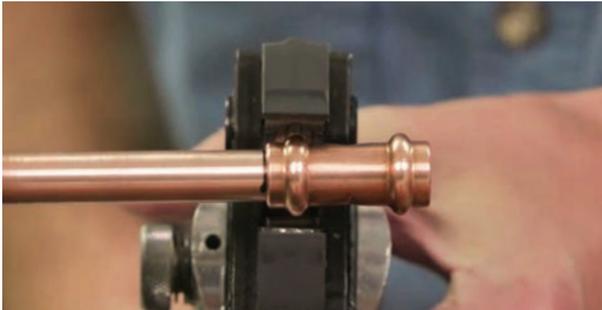
# ZoomLock MAX

## Press-to-Connect Refrigerant Fittings

### FREQUENTLY ASKED QUESTIONS (Continued)

**11. Where do I crimp ZoomLock MAX fittings?**

Crimp with the jaw straddling directly over the O-ring section of the fitting.



**12. How many crimps can you complete on a complete battery charge?**

Tool dependent; consult the tool manufacturer's owner's manual.

**13. How do you know when to service the tool?**

Tool dependent; consult the tool manufacturer's owner's manual.

**14. What is the expected life of the jaws?**

ZoomLock MAX jaws are laser hardened and have a finite life expectancy. We encourage each customer to have the jaws and tools serviced and checked annually or every 10,000 crimps depending on which comes first.

**15. What tool manufacturers and models are ZoomLock MAX jaws compatible?**

Please refer to page 18 for the press tool compatibility table.

**16. What is the expected lifetime of the jaws - how do you know when you need to replace the jaws?**

Check jaws at the latest 1 year after the purchase or after 10,000 pressings (according to which occurs first) by an authorized Rothenberger testing center and repeat these checks at the latest 1 year or another 10,000 pressings after the previous inspection. During jaw inspection, check the jaws for operating and functional safety and wear parts (e.g., springs). Functionally and operationally safe jaws are returned.

**17. Where can replacement batteries and chargers be purchased?**

Tool dependent; check the tool manufacturer's owner's manual.

**18. Can you use ZoomLock MAX to crimp to aluminum, steel, or stainless steel?**

No, ZoomLock MAX is designed explicitly for copper to copper connections.

**19. What standards and codes is ZoomLock MAX compliant with, and what approvals does it hold?**

- UL Listed: Refrigerant fitting SA7511.
- UL Listed: Approved use for Field and Factory installations
- UL 109 - 7 Pull test compliant
- UL 109 - 8 Vibration test compliant
- UL 1963 - 79 Tests of Gaskets and Seals Used in Refrigerant Systems compliant
- ISO 5149-2:2014, Refrigerating systems and heat pumps - Safety and environmental requirements - Part 2: Design, construction, testing, marking and documentation, compliant
- ISO 5149-2 - 5.3.2.2.3 Strength pressure test compliant
- ISO 14903 - 7.4 Tightness test compliant
- ISO 14903 - 7.6 Pressure temperature vibration tests (PTV) compliant
- ISO 14903 - 7.8 Freezing test compliant
- ASTM G85 -11 Standard Practice for Modified Salt Spray (Fog) Testing compliant
- ASHRAE 15 - 2016 Safety Standard for Refrigeration Systems compliant
- ASME B31.5 - 2016 Refrigeration Piping and Heat Transfer Components compliant
- 2018, 2015 - 2012, 2009 and 2006 International Mechanical Code (IMC), certified ICC-ES, PMG-1440
- 2018, 2015, 2012, 2009 and 2006 International Residential Code (IRC), certified ICC-ES, PMG-1440
- 2018, 2015, 2012, 2009 and 2006 Uniform Mechanical Code (UMC), certified, ICC-ES, PMG-1440

**20. 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.

**21. What is the guarantee on ZoomLock MAX fittings?**

The product has a 10-year guarantee from the first date of purchase. Please refer to full terms and conditions.

**22. What is the material used to make the O-ring?**

Hydrogenated Nitrile Butadiene Rubber (HNBR).

**23. 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 10-year guarantee from the first date of purchase.

**24. 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.

# ZoomLock MAX

## Press-to-Connect Refrigerant Fittings

### FREQUENTLY ASKED QUESTIONS (Continued)

**25. What approved refrigerants are for use with ZoomLock MAX?**

ZoomLock MAX is approved for use with R-32, R-134a, R-404A, R-407C, R-407F, R-410A, R-507, R1234ze, R1234yf, R-718, R-450A, R-513A, R-448A, R-449A, R-407A, R-427A, R-438A, R-417A and R-422D. Please check our website [www.ZoomLock-MAX.com](http://www.ZoomLock-MAX.com) for updates on the ZoomLock MAX range.

**26. What approved oils are for use with ZoomLock MAX?**

Use ZoomLock MAX for approved POE, PAO, PVE, AB, and mineral oils. The O-ring has been tested successfully with PAG oil; however, do not use PAG oil with copper systems due to the potential for corrosion of the copper material.

**27. 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.

**28. 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.

**29. 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.

**30. 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.

**31. Product specifications state that the application temperature limits are -40 F to 300 F, what happens if we go beyond that limit?**

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.

**32. 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.

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

**34. 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.

**35. 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.

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

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

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

No, only press ZoomLock MAX fittings once.

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

No, do not use ZoomLock MAX for drinking water systems.

**39. Can ZoomLock MAX be used on heating and hot water systems?**

No, use ZoomLock MAX for air conditioning and refrigeration applications only.

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

Pull 200 microns for a deep vacuum.