

Imagine Life Without Brazing



Braze-Free HVAC/R Fittings

SMART Solutions.

Speed and Precision for the Modern Technician

Imagine Life Without Brazing



Less Time
Less Work
Less Equipment
Less Skill Needed



Resolve Productivity Needs



- **Significant Time Savings**
- **No Braze Permits**
- **No Nitrogen Purge**
- **No Special Training Required**
- **More Flexible Access To Jobsite**
- **More Repeatable Than Brazing**
- **Reduced Call Backs Due To Leaks**
- **No Fire Safety Equipment**
- **No False Smoke Alarms**
- **Improved System Cleanliness**

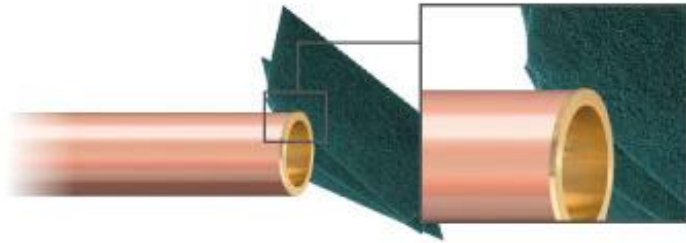


Competitive Assessment

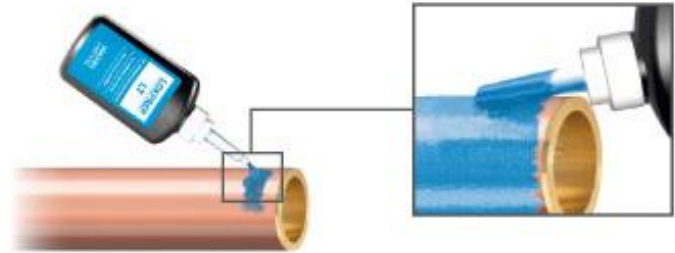


Rating Criteria	Reflok	Lokring	Parker ZoomLock
Target Industry	High Pressure HVAC	High Pressure HVAC	High Pressure HVAC
Part Count	6	4-6	1
Installation Complexity (Tools and Prep)	Medium	Medium	Low
Application Parameters-Temp	-50°F - 300°F	-50°F - 300°F	-40°F - 300°F
Application Parameters- Max Op. Pressure (psi)	750	750	700
Application Parameters- Max Burst Pressure (psi)	3000	3000	3000
Application Parameters-Size Availability	1/4" - 2 1/8"	1/4" - 1 3/8"	1/4" - 1 1/8"*
Cost/Price	\$\$	\$\$	\$
* Currently Available up to 1 1/8" but plans to expand up to 3"			

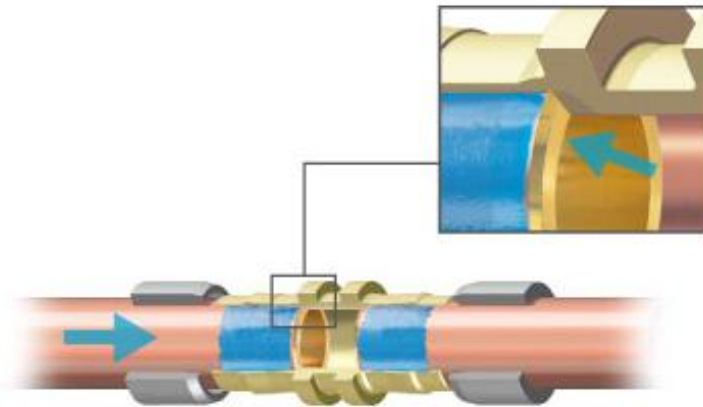
Installation Assessment Lokring *ZoomLock*



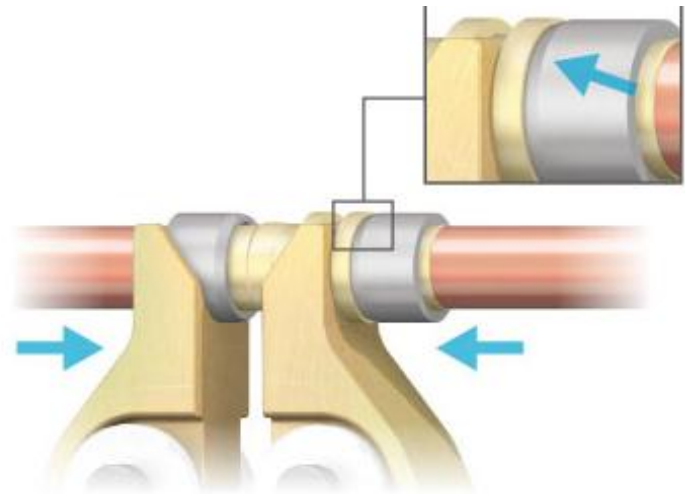
STEP 1 | TREAT THE TUBE ENDS AND USE INSERTS



STEP 2 | APPLY LOKPREP

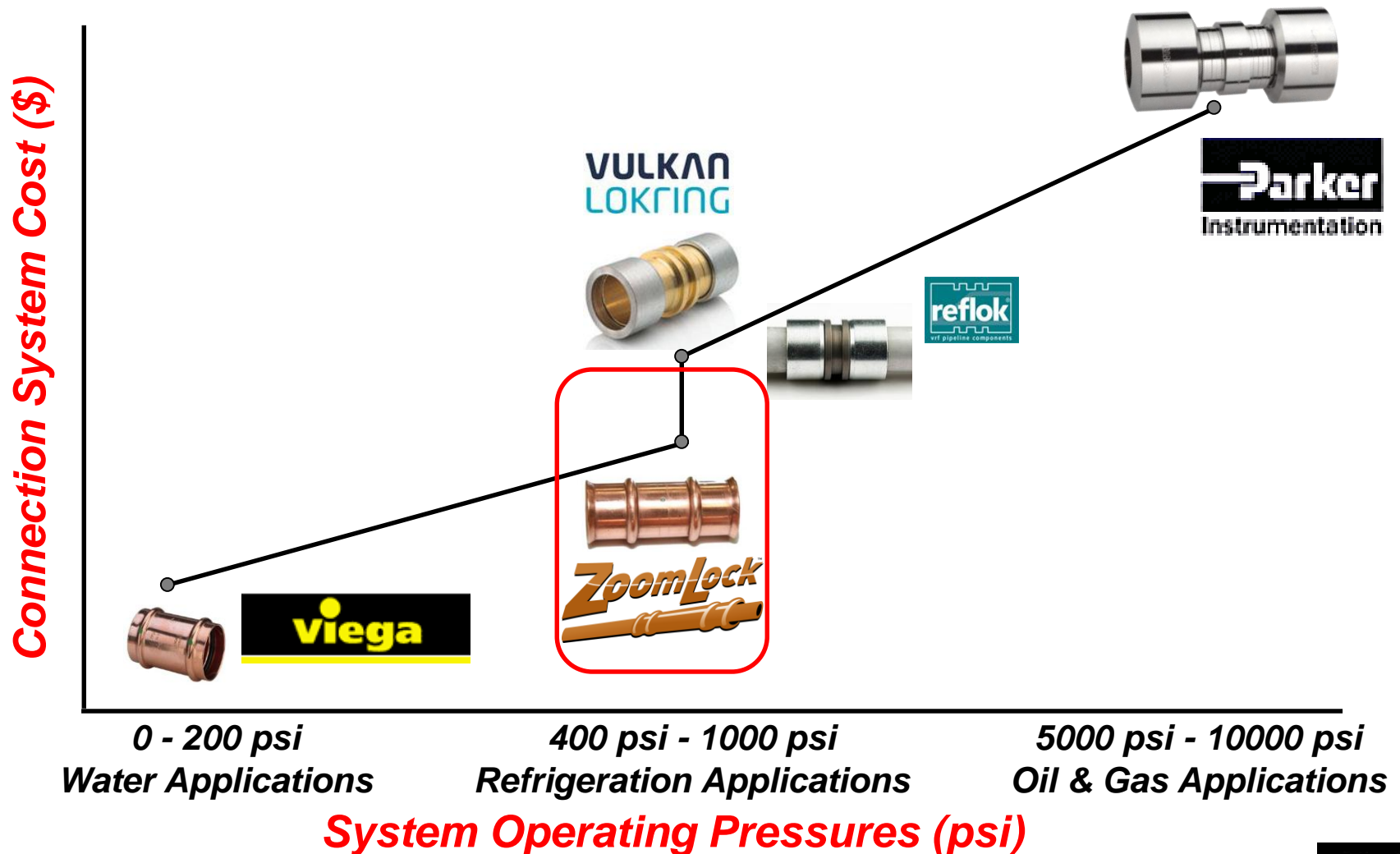


STEP 3 | INSERT TUBES



STEP 4 | PRESS

Connection System Technology Cost Comparison



Equipment Comparison



Brazing

- **Torch Kit with Gas Regulators**
- **Gas Tanks (3)**
 - Nitrogen, Acetylene, Oxygen
- **Tube Cutter**
- **De-burring Tool**
- **Degreaser**
- **Scotch-Bright™**
- **Cooling Rag**
- **Access To Water**
- **Solder and Flux**
- **Fire Extinguisher**
- **Fire Safety Equipment**
- **Burn Permit**
- **Fire Spotter**
- **Respirator**
- **Goggles**
- **Gloves**
- **Pliers**



VS

Braze-free

- **RLS Crimping Set**
- **Tube Cutter**
- **De-burring Tool**
- **Scotch-Bright™**
- **Rag**



Current Applications



- **VRF and Mini-Split**
- **Residential Split System**
- **Commercial Rooftops**
- **Display Cases**
- **Walk-In Coolers**
- **Reach-In Merchandisers**



Fitting Development



3rd Party Testing

- **Accelerated Durability Testing – Creative Thermal Solutions**
 - Accelerated Frost/Defrost Simulation
 - Accelerated Thermal Cycling
 - Vibration Durability Testing
- **Corrosion Testing – Touchstone Research Laboratory**
- **Helium Leak Testing – Edison Welding Institute**
- **Time Study of Installation – JB Engineering and Code Consulting**
- **Pressure Fatigue and Burst – UL**
- **Refrigerant Compatibility Testing on HNBR O-Ring Material**
- **Simulated Compressor Burnout- Acid Test**

Fitting Development



In-House Testing

- **Axial Load Testing**
- **Vertical Freeze/Thaw**
- **Vacuum Pressure Testing**
- **Pressure Drop Testing**
- **Temperature Cycling (-25°F to 300°F)**
- **Temperature Cycling (-40°F to 250°F)**
- **Tube Imperfections and How it Affects Sealing Capability**
- **Dissimilar Metals-Corrosion Testing**
 - **Copper to Aluminum**
 - **Copper To SS**

Field Test Sites



Residential and Commercial Installs

RLS Inc:

- **AC Units (Office):** Installed 2 years ago on units above main office building
- **AC Units (R&D):** Installed 3 years ago on lines outside R&D area

Parker Test Facilities: Installed 2 years ago

- **Refrigeration Test Lab- Compressor Rack Room**
- **Refrigeration Test Lab- Reach-In Cooler**
- **AC Test Lab- Residential HP**

Private Residential AC units (2 separate trials): Installed 3 years ago. Running with no reported issues. Units were monitored twice each year

National Sales Co: Samsung VRF Install. Installed 6 Months ago. No Issues.

OEM's:

Price Castle: Total testing time approx. 2.5 years. Upwards on 8k-10k fittings in field.

IMI Cornelius: Testing time 12 months. Applied on some of their chiller units

ZoomLock Installs



BANK OF WASHINGTON
Washington, MO

Application: (2) R-407C VRF Units
Contractor: C.E. Jarrell, Earth City, MO
Objective: Data Center Cooling



METRO SELF STORAGE
Blaine, MN

Application: (18) Trane 5 Ton R-410A Split Residential Type Units
Contractor: Mechanical Air
Objective: Storage Climate Control



LINCOLN ELEMENTARY
Farmington, MO

Application: (70) R-410A Samsung VRF Units (114 Tons)
Contractor: Lee Mechanical, Park Hills, MO
Objective: Comfort Control



CIRCLE K
Hannover, NH

Application: Standalone Ice Machine
Contractor: Lacomia Refrigeration, Lacomia, NH
Objective:



NATIONAL SALES COMPANY
St. Louis, MO

Application: (2) R-410A VRF Units
Contractor: C&R Mechanical Co., St. Louis, MO
Objective: Comfort Control



ST. ANNS MONASTERY
Pittsburg, PA

Application: R-410A Carrier VRF, \$5,000 worth of fittings
Contractor: Scalise Industries (Emcor), Lawrence, PA
Objective: Comfort Control



AXA TOWERS
Syracuse, NY

Application: Daikin R-410A Liquid Line Leak - No flame allowed
Contractor: Davis Mechanical, Syracuse, NY
Objective:



SKOPPS SUPERMARKET
Fallsburg, NY

Application: Supermarket Display Cases and Refrigeration Equipment
Contractor: Steve Eshenbarg, Calicoon, NY
Objective: Cutting room refrigeration

ZoomLock Installs



\$45 Million Dollar Artemis Hotel- Seattle, WA

35 Mitsubishi City Multi Units

5 Mitsubishi Mini-splits

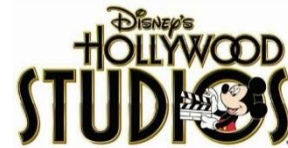
3 Roof-top Package unit

***Contractor: Apollo Heating and Cooling -
Kennewick, WA***

Companies Buying-In To ZoomLock



Museum of
Fine Arts Boston



Publix®

***-Approved for Alternative Connections
on Small Refrigeration Lines***

Helium Leak Test Results



Test Report by:



Industry leak specification:
.106 oz./yr.

ZoomLock fittings have
been 3rd party certified to
have a maximum leak rate
of 1×10^{-8} Std.cc/sec
which is equivalent to 5.556×10^{-5} oz./yr.



Figure 1. Test Set-up

Results: The maximum leak rate of all connections is summarized in Table 2. The maximum leak rate detected was 5.40×10^{-9} std.cc/sec.

Table 2. Maximum Leak Rate per Connection

Tube I.D. (in)	Maximum Helium Leak std.cc/sec
0.250	4.00×10^{-10}
0.313	6.10×10^{-10}
0.375	1.30×10^{-9}
0.750	5.20×10^{-9}
0.875	5.40×10^{-9}
1.125	3.00×10^{-10}

Approximately 1900
times tighter than the
industry accepted
specification!

Time Study



Time Required To Install ACR Copper Elbow vs. RLS 42% - 64% Reduction in Labor Cost

Elbow Size (In)	Means Time (Hr)			PHCC National Labor Calculator		
	Brazed Fitting	RLS™ High Pressure Flame-free Fittings	Percent Labor of Brazed Fitting	Brazed Fitting	RLS™ High Pressure Flame-free Fittings	Percent Labor of Brazed Fitting
5/8	0.484	0.281	58%	0.65	0.267	41%
7/8	0.575	0.333	58%	0.78	0.280	36%
1-1/8	0.613	0.355	58%	0.91	0.333	37%



JB ENGINEERING AND CODE CONSULTING, P.C.

1661 Cardinal Drive • Munster, IN 46321
Phone: 219-922-6171 Fax: 219-922-6172
E-Mail: JBEngineer@aol.com

Part Nomenclature



PZK - R1814 - HNBR

**Parker
ZoomLockK**

Fitting Type

C-Coupling

E-Elbow

-E90 (90°)

-E45 (45°)

R-Reducer

T- Tee

RC- Repair

Coupling

F- SAE Flare

Fitting Size

Numbers in 1/16"

***1#- Inlet and Outlet
the same***

***ie.. C18 = Coupling 1
1/8" inlet and Outlet***

***2#s'- Inlet and Outlet
Different***

ie.. R1814 =

Reducer 1 1/8" to 7/8"

***O-Ring
Material***

-HNBR

-CR

Available Tool Kits



Zero Jaw Tool Kit

PZK-TK0 (Item # 770000)



3-Jaw Tool Kit

PZK-TK3 (Item # 770001)



5-Jaw Tool Kit

PZK-TK5 (Item # 770002)



All Kits Include:

- Crimping Tool
- Battery Charger
- 2 Lithium-Ion Rechargeable Batteries
- Deburring Tool
- Tubing Cutter
- RLS Crimp Gauge

Also Includes:

- 3/8" Jaw
- 1/2" Jaw
- 7/8" Jaw

Also Includes:

- 3/8" Jaw
- 1/2" Jaw
- 5/8" Jaw
- 7/8" Jaw
- 1 1/8" Jaw

Product Availability



PRESSING JAW PZK-(J4-J18)

Sold Separately



Available Sizes:

- 1/4" Item # 770200
- 5/16" Item # 770201
- 3/8" Item # 770202
- 1/2" Item # 770203
- 5/8" Item # 770204
- 3/4" Item # 770205
- 7/8" Item # 770206
- 1 1/8" Item # 770207

PRESSING JAW KIT (Item# 770208)



Availability:

- 8-Piece Jaw Kit
 - Includes 1/4" thru 1 1/8" Jaws
 - Carry case

JAW CARRYING CASE (Item# 770209)



Availability:

- Jaw Carrying Case
 - Holds up to 8 Jaws

Product Availability



Couplings - Available NOW:



- 1/4" Item # 770500
- 5/16" Item # 770501
- 3/8" Item # 770502
- 1/2" Item # 770503
- 5/8" Item # 770504
- 3/4" Item # 770505
- 7/8" Item # 770506
- 1 1/8" Item # 770507

Slip Couplings - Available in DECEMBER:



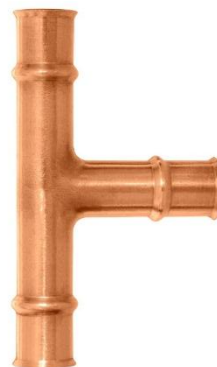
- 1/4" Item # 770550
- 5/16" Item # 770551
- 3/8" Item # 770552
- 1/2" Item # 770553
- 5/8" Item # 770554
- 3/4" Item # 770555
- 7/8" Item # 770556
- 1 1/8" Item # 770557

Long Radius Elbows - Available NOW:



- 1/4" Item # 770600
- 5/16" Item # 770601
- 3/8" Item # 770602
- 1/2" Item # 770603
- 5/8" Item # 770604
- 3/4" Item # 770605
- 7/8" Item # 770606
- 1 1/8" Item # 770607

Tees- Available in DECEMBER:



- 3/8" Item # 770702
- 1/2" Item # 770703
- 5/8" Item # 770704
- 3/4" Item # 770705
- 7/8" Item # 770706
- 1 1/8" Item # 770707

Product Availability



Reducing Couplings - Available in DECEMBER/JANUARY:



- 3/8" to 1/4" Item #770800
- 1/2" to 1/4" Item #770808
- 1/2" to 3/8" Item #770801
- 5/8" to 1/4" Item #770809
- 5/8" to 3/8" Item #770810
- 5/8" to 1/2" Item #770802
- 3/4" to 1/2" Item #770811
- 3/4" to 5/8" Item #770803
- 7/8" to 1/2" Item #770812
- 7/8" to 5/8" Item #770804
- 7/8" to 3/4" Item #770805
- 1 1/8" to 1/2" Item #770813
- 1 1/8" to 5/8" Item #770814
- 1 1/8" to 3/4" Item #770806
- 1 1/8" to 7/8" Item #770807



End Caps - Available DECEMBER

- 1/4" Item # 770900
- 5/16" Item # 770901
- 3/8" Item # 770902
- 1/2" Item # 770903
- 5/8" Item # 770904
- 3/4" Item # 770905
- 7/8" Item # 770906
- 1 1/8" Item # 770907



Fittings

- SAE Flare adapter
- 45° Elbows
- Street Elbows



Q2 2016

- 1 3/8" and Larger → **Q3 2016**

Components with ZoomLock

- Catch-All Filter Dryers
- See-All Sight Glasses **Q2 2016**
- Ball Valves



Tools **Q1-2016**

- Ridgid Compatible Jaw Set

Accessories **Q2 2016**

- Depth Gauge



- Tool Bag
- Tool Belt

Product Specifications



Tube Compatibility

- Hard Copper (Drawn)
 - 1/4"- 1 1/8" –Type ACR, M, L
 - Type K only up to 7/8"
- Soft Copper (Annealed)
 - 1/4"- 1 1/8" –Type ACR, L
 - Type K only up to 7/8"

HVAC/R Qualified Refrigerants

- R1234yf, R1234ze, R125, R 32, R134a, R143a, R404A, R407A/C/F, R410A, R438A, R447A, R448A, R449A, R450A, R452A, R507, R513A

Operation Temperature Range

- (-40°F) to 300°F

Continuous Operating Temperature (COT)

- 250°F

Maximum Rated Pressure(MRP)

- 700 psi

Vibration Resistance (Conforms to UL109)

Now Approved for:

- *Non-Potable Water*
- *Glycol*

Ultimate Burst Pressure (psi)

- | | |
|----------------|------------------|
| • 1/4" – 6330 | • 5/8" – 3823 |
| • 5/16" – 5611 | • 3/4" – 3931 |
| • 3/8" – 4735 | • 7/8" – 3250+ |
| • 1/2" – 3666 | • 1 1/8" – 3000+ |

Certifications & Code Compliance



Underwriters Laboratories (UL) Listed

UL 207 Listed

For use in high-pressure refrigeration piping systems to 700 psi

All size fittings and connections in ancillary refrigeration products are approved

International Code Council ES PMG Listed

Code and Industry Standard Compliant

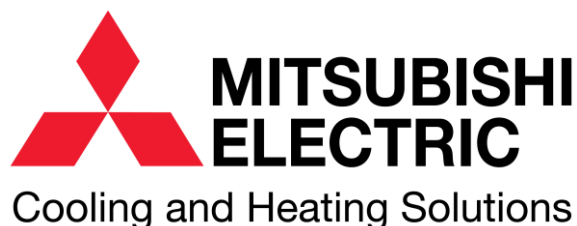
The International Code Council Evaluation Service has found fittings to be in compliant with the following mechanical codes, residential building codes and industry standards:

2015 International Mechanical Code (IMC)

2015 International Residential Building Code (IRC)

2012 Uniform Mechanical Code (UMC)

OEM Approvals



Application Note 2026: Guidelines for Alternative Piping Materials & Piping Components

2. Copper Piping

Mitsubishi Electric recommends the use traditional annealed / ACR copper refrigerant piping whenever possible. This position is in line with the proven reliability that copper piping has been applied to over a very wide spectrum of refrigeration and air conditioning applications.

Mitsubishi Electric does, however, recognize that some circumstances require the use of alternative piping or connection approaches such as aluminum piping or other industry approved piping connections/techniques such as compression type fittings (ex: Reflok, LokRing, ZoomLock, or other similar compression type fittings).

6. Warranty

The use of alternative piping materials and piping compression type fittings will not void the warranty for CITY MULTI, provided all the guidelines in this Application Note are followed.



DUCTLESS PRODUCT SUPPORT

General VRF Application Bulletin

Alternative VRF Refrigerant Pipe and/or Assembly Methods

March 18, 2015

From: Trane Ductless Product Support

As of the date of this Application Bulletin, ACR brazed copper is the most commonly used material for refrigerant pipe. For this reason, the Trane VRF installation manuals, and VRF Installers Training Course, discuss the proper installation of ACR brazed copper in great detail. The use of ACR brazed copper does not create any warranty advantage. Nor, does it change or reduce the liability of the installing contractor.

It is often asked, "Can the installer use alternative pipe products or assembly methods other than ACR brazed copper, and is this acceptable for Trane VRF installations?" In reviewing national standards such as "*ASHRAE 15 Safety Standard for Refrigeration Systems*," it is apparent there are multiple options for refrigerant pipe material. ASHRAE 15 also discusses multiple methods for refrigerant pipe assembly. For this reason, Trane does not express a preference for any refrigerant pipe manufacturer or assembly method.

The use of alternative refrigerant pipe materials or assembly methods will not void a Trane VRF warranty provided that each of the following criteria is met:

Klauke Tool



Tool Service Interval

- Every 10,000 to 12,000 Crimps

How Do You Know that Your Tool Needs Servicing?

- Red LED on the Tool
 - Blinks - for 20 seconds – Needs Service
 - Stays On- for 20 seconds– Battery Needs Recharge

Jaw Service Life

- 10,000 to 12,000 Crimps

Battery Life

- 100- 150 crimps per charge

Service Turnaround

- ~2 Weeks

Warranty



















- 24 Months from Time of Delivery

Continuous Operation

- Let cool for 15 minutes after 50 continuous completed compressions

Trouble Shooting Guide

Tab. 1

			When	Why
 20 sec			after working cycle	
 2 x			after inserting the battery	Self check
 20 sec/2Hz			after working cycle	 Klauke ASC Authorized Service Center
 20 sec/5Hz			while exceeding the temp. limit	Unit too hot
 20 sec 20 sec/2Hz			after working cycle	 Klauke ASC Authorized Service Center 
 1 x	 1 x		after working cycle	Error: the required pressure has not been reached. The operator has interrupted the pressing cycle manually while the motor was not running.
 3 x	 3 x		after working cycle	Serious Error: The pressure has not been reached while the motor was running.

Klauke Tool



Compatible Tools on the Market

- **Nibco Mini-Press Tool**
 - Model PC-20M
- **Rothenberger**
 - Model 16001 ROPress
- **HeatLink**
 - Model 11500
- **Uponor**
 - Model D6261632

8 Piece Jaw Set now available



MAP2L

Klauke-US Authorized Service Centers (ACS)



Klauke Tool



1. Pressing Head
2. Manual Release Of Jaw
3. Red LED
4. Battery Lock
5. Battery
6. White LED
7. Trigger
8. Jaws
9. Locking Pin



Bild/pic./fig. 1

optional:

NG2



















BL1830 (RAL2)



HE.1533

Klauke Tool



			Wann/When	Warum/Why
 20 sec			nach Arbeitsvorgang after working cycle	
 2 x			nach Einsetzen des Akkus after inserting the battery	Selbsttest Self check
 20 sec/2Hz			nach Arbeitsvorgang after working cycle	 Klauke ASC Authorized Service Center
 20 sec/5Hz			während der Übertemperatur while exceeding the temp. limit	Werkzeug zu heiß Unit too hot
 20 sec  20 sec/2Hz			nach Arbeitsvorgang after working cycle	 Klauke ASC Authorized Service Center + 
 1 x		 1 x	nach Arbeitsvorgang after working cycle	Fehler: der notwendige Pressdruck wurde nicht erreicht. Es handelt sich um eine manuelle Unterbrechung der Pressung bei stehendem Motor. Error: the required pressure has not been reached. The operator has interrupted the pressing cycle manually while the motor was not running.
 3 x	 3 x	 3 x	nach Arbeitsvorgang after working cycle	Schwerwiegender Fehler: Pressdruck wurde bei laufendem Motor nicht erreicht. Serious Error: The pressure has not been reached while the motor was running.

Diagnostics



DETAILED WORK HISTORY

- Download, print, and store work information such as operating pressure, number of crimps/cuts, and battery information.

ACCOUNTABILITY

- Prove that the job was done correctly with operation and project specific documentation.

DIAGNOSTICS

- Set and view maintenance intervals and add user identifiable information to manage your inventory.



Diagnostics



iPress

File Settings About

Connected... Connected to: 717831HV002

Project:

Klauke®

Info

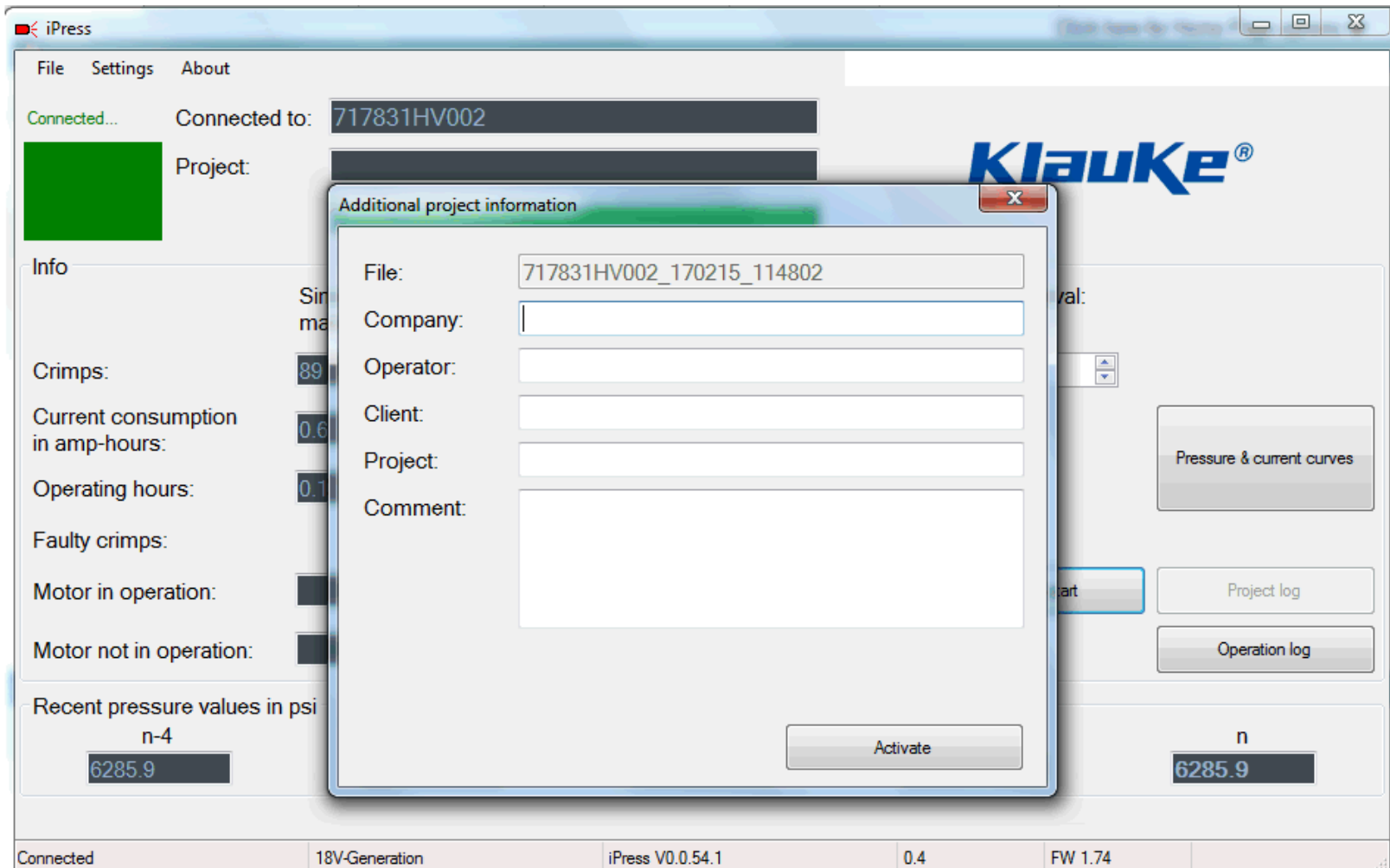
	Since manufacturing:	Since last maintenance:	Project:	Service interval:	
Crimps:	89	89	0	10000	
Current consumption in amp-hours:	0.606	0.606	0.000	Pressure & current curves	
Operating hours:	0.10	0.10	0.00		
Faulty crimps:					
Motor in operation:	1	1	0	Project start	Project log
Motor not in operation:	3	3	0		Operation log

Recent pressure values in psi

n-4	n-3	n-2	n-1	n
6285.9	6285.9	6341	6285.9	6285.9

Connected 18V-Generation iPress V0.0.54.1 0.4 FW 1.74

Diagnostics



Installation Instructions



ATTENTION!

**WARRANTY COULD BE VOID IF ZOOMLOCK
IS NOT APPLIED PER USER INSTRUCTIONS!**

Please read user instructions enclosed. It is
recommended that you also watch the videos.

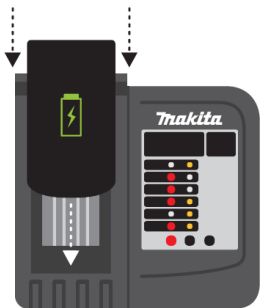


<http://mailserver.parker.com/zoomvid>

Installation Instructions



STEP 1



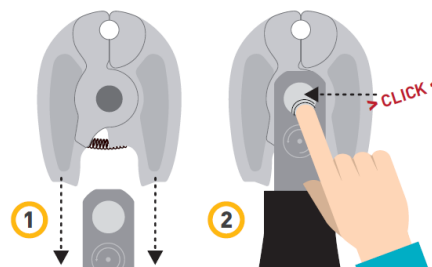
Slide battery into charger. Plug charger into a power source. Check to see that the charging light is on. When red light turns off and green light turns on, battery is fully charged ~ 20 minutes.

STEP 2



Press the locking pin, then rotate 45° to release.

STEP 3



Slide jaws over Crimping Tool head, then depress locking pin until it clicks.

STEP 4



Slide charged battery into base of Crimping Tool.

STEP 5



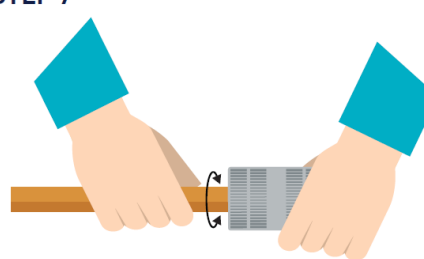
Press and hold the trigger on Crimping Tool to calibrate. **Calibration is recommended daily, prior to use.**

STEP 6



Cut the copper tube using the **supplied** tube cutter. Do **NOT** use a hacksaw or reciprocating saw as this creates a rough surface that may damage the o-ring.

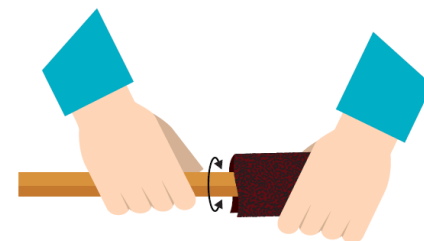
STEP 7



WARNING: COPPER TUBE ENDS SHOULD BE INSPECTED AND ANY SHARP EDGES SHOULD BE ADDRESSED. SHARP EDGES MAY CAUSE DAMAGE TO THE O-RING.

Use the **supplied** deburring tool to remove any residual burrs from the outside and inside of the copper tube.

STEP 8

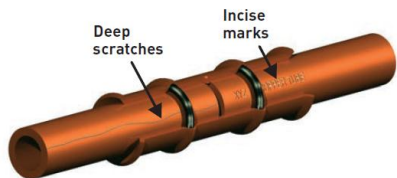


Use a heavy duty scouring pad to clean the ends of the copper tubes to be joined. Tube ends should be free and clear of oxidation, dirt or debris.

Installation Instructions

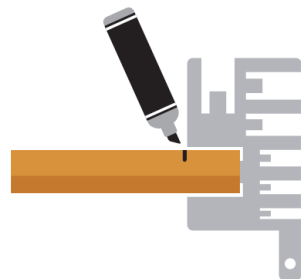


STEP 9



Inspect the copper tube for imperfections such as: deep surface scratches and incise marks (a required permanent mark of the tube manufacturer's name or logo), within the o-ring sealing area that may provide a leak path for refrigerant. If scratches are present, cut off the affected area or sand thoroughly to remove.

STEP 10



Use the depth gauge provided or the chart at right to determine the proper insertion depth. Mark the tubing with a permanent marker to indicate proper insertion depth on every tube.

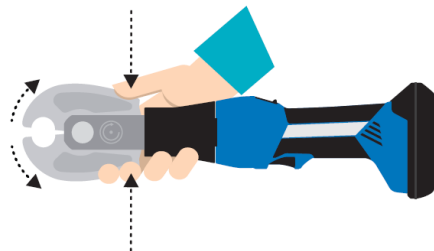
MINIMUM INSERTION DEPTH		
FITTING SIZE	INCHES	MILLIMETERS
1/4	15/16	23.8
5/16	15/16	23.8
3/8	15/16	23.8
1/2	1-1/4	31.8
5/8	1-1/4	31.8
3/4	1-1/4	31.8
7/8	1-1/4	31.8
1-1/8	1-1/4	31.8

STEP 11



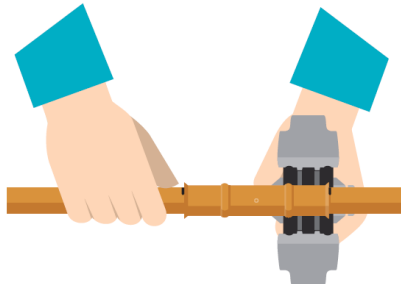
Push the fitting onto the tube. Use the mark to assure insertion depth and secure fit.

STEP 12

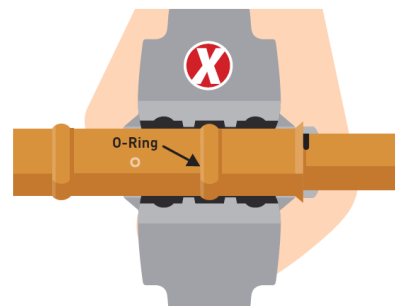


Open the jaws of the ZoomLock Crimping Tool.

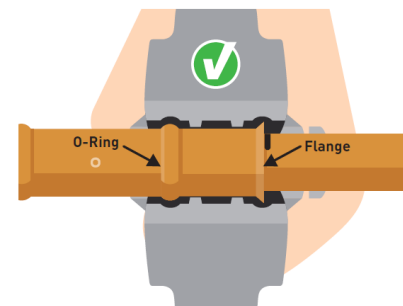
STEP 13



Properly place the crimping jaws onto the fitting. Grooves in the jaws make it easy to align. See illustration at right for proper crimping alignment.



WARNING: ZOOMLOCK IS DIFFERENT THAN OTHER INDUSTRY CRIMP TECHNOLOGY. DO NOT CRIMP WITH JAW CENTERED ON O-RING.



JAW MUST ALIGN BETWEEN O-RING AND OUTER FLANGE.

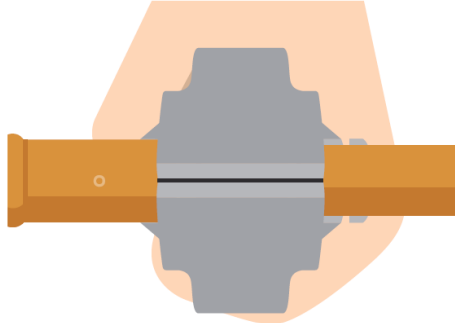
Installation Instructions



STEP 14

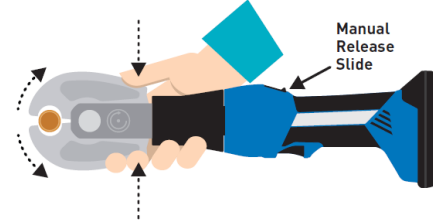


Press and hold the trigger on the ZoomLock Crimping Tool to begin the crimping process.



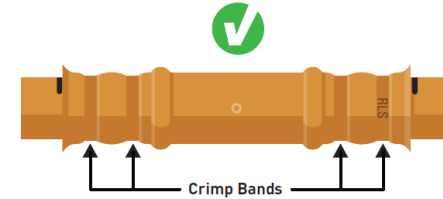
Continue to hold the trigger until the ZoomLock Crimping Tool completes its cycle.

STEP 15



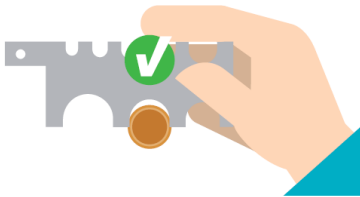
Open the jaws of the ZoomLock Crimping Tool and remove from the fitting. If the jaws do not open, the crimping cycle was not completed. For manual override, slide the manual release button down to open the jaw in case of emergency.

STEP 16



A special "RLS" mark will be displayed on the tube to let you know the connection is crimped properly.

STEP 17



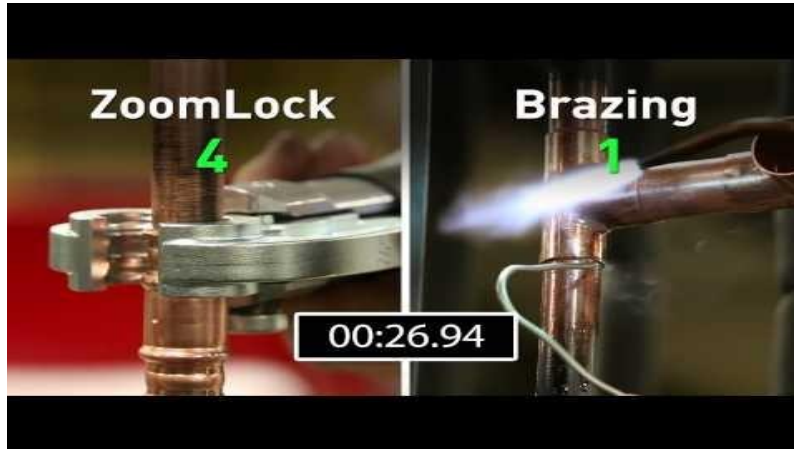
The supplied RLS Crimp Gauge will confirm the measurement of the finished crimp band diameter. See crimp band locations noted in Step 16. It may be necessary to rotate the gauge in order to not interfere with the copper tube flashing left from the crimping process.

WARNINGS:

- Use only with approved refrigerants. Review product specifications for more details.
- Periodically check to ensure the ZoomLock jaws are meeting and aligned.
- Wear proper eye protection during installation.
- Keep hands and fingers away from the jaws during use.
- Use supplied brush to ensure ZoomLock jaws are debris free.
- If brazing or soldering nearby, ensure proper sealing of the ZoomLock fitting by maintaining a minimum braze distance from connections. Refer to the table at right for minimum distance from a ZoomLock fitting to a braze joint per tube size. The installer should take the conventional precautions to keep the fitting cool by providing a heat sink (wet ragging, heat block, etc). This will ensure that the o-ring is not damaged during the brazing process.

MINIMUM DISTANCE FROM ZOOMLOCK FITTING TO BRAZE		
TUBE DIAMETER	INCHES	CENTIMETERS
1/4	5.00	127.0
5/16	5.00	127.0
3/8	5.00	127.0
1/2	5.00	127.0
5/8	6.25	158.8
3/4	7.50	190.5
7/8	8.75	222.3
1-1/8	13.75	349.3
1-3/8	16.25	412.8

ZoomLock Quick Tips Video



Imagine Life Without Brazing



Faster Installs
Limited Training
No Leaks
No Call Backs
Happy Customers
Happy Employees



Imagine Life Without Brazing



**Thanks for your time.
Questions?**