

We ensure that systems work better.

**VULKAN**

Solutions for refrigeration and air conditioning technology

# Refrigeration and Air Conditioning

Braze-free tube connections  
for installation and servicing





# CONTENTS

04	VULKAN
08	LOKRING®
12	ASSEMBLY TOOLS
20	LOKRING® BRASS-CONNECTORS
22	STARTER KIT
24	STABILISATION INSERTS
26	LOKPREP®
28	STRAIGHT CONNECTORS
30	STRAIGHT REDUCING CONNECTORS
32	FLARE-FITTINGS
34	ELBOWS
36	BRANCHES
40	T-CONNECTORS
40	REDUCING ADAPTORS
42	SPECIAL CONNECTORS
44	LOKRING® ALUMINIUM-CONNECTORS
46	STABILISATION INSERTS
48	LOKPREP®
50	STRAIGHT CONNECTORS
52	STRAIGHT REDUCING CONNECTORS
54	ACCESSORIES
58	LOKRING® ASSEMBLY
62	ONLINE-SERVICE
63	IMPRINT





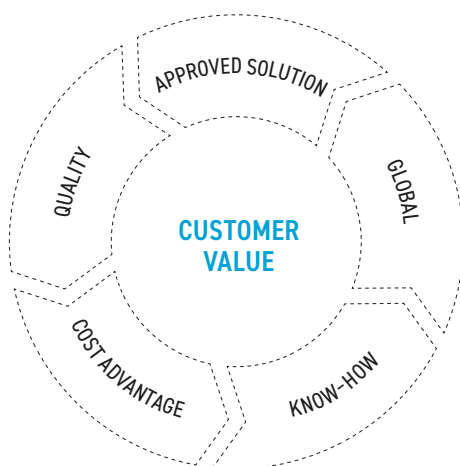


# THE VULKAN GROUP

## SINCE 1979 VULKAN HAS DEVELOPED, MANUFACTURED AND MARKETING MECHANICAL TUBE JOINING SYSTEMS FOR REFRIGERANT LINES.

With five production sites, over 50 sales companies and around 1,400 employees at 18 locations worldwide, the VULKAN Group is one of the technology and market leaders in the field of marine, industrial and energy technology as well as refrigeration and air conditioning technology.

Under the slogan "We ensure that systems work better." we provide our customers with customized solutions that help to improve their systems both technically and economically.



### MARKETS AND PRODUCTS

Due to its diversified business portfolio, the VULKAN Group - in line with the markets it serves - is made up of three divisions: Marine, Industry and Energy and Refrigeration and Air Conditioning.

### EXPERTS FOR REFRIGERATION AND AIR CONDITIONING TECHNOLOGY

Originally developed for the most extreme conditions of aerospace applications, VULKAN's LOKRING tube joining technology has been continuously developed for domestic and commercial refrigeration as well as air conditioning applications.

### APPROVED SOLUTION

**2,500,000,000** LOKRING® CONNECTIONS

have been successfully used in the industrial volume production of refrigerators, freezers and air conditioning systems.

### GLOBAL

**1,000,000** LOKRINGS PER DAY

are produced in the five international production facilities of VULKAN on modern multi-spindle automatic lathe machines and shipped to 83 destination countries.

### COST ADVANTAGE

**7,000** CUSTOMERS

optimise their international competitive edge by using LOKRING tube connections as cost and quality benefit compared to brazed ones.

### KNOW-HOW

**650** UNIQUE TYPES OF LOKRING

are used at present by customers in order to optimally join tubes made of different materials and combinations of diameters.

### QUALITY

**100%** QUALITY INSPECTION

of LOKRING based on automated industrial image processing as part of the certified VULKAN quality management system.

# THE VULKAN GROUP

## CUSTOMIZED SOLUTIONS FOR BRAZE-FREE TUBE CONNECTIONS

Since 1979, we have continuously applied the expert knowledge gained as an original equipment manufacturer for the industry to our braze-free tube connections, providing customized solutions for tube connections used in the manufacture, installation and maintenance of refrigeration and air conditioning equipment. As the market leader in braze-free, permanent tube connections, we can supply a matched system of tube connections in original equipment quality and with all necessary certifications for almost any installation or service application. This also includes the corresponding assembly tools and accessories.

## EVERYTHING FROM A SINGLE SOURCE

Our customers receive everything from a single source - from special development for specific customer requirements and in-house production to sales and service through local subsidiaries or authorized distributors. VULKAN's Refrigeration and Air Conditioning division is divided into the following business segments:

### ⊕ OEM | PRODUCTION

The LOKRING Single Ring technology is a method for connecting metallic refrigerant lines without brazing so that they are permanent and hermetically sealed. For this purpose, VULKAN constructs customised LOKRING tube connectors for any application based on the tube materials, dimensions and tolerances and the associated assembly tools. Whether it is a matter of optimising costs, improving quality, or solving a problem – LOKRING Single Ring is the answer!

### ⊕ INSTALLATION OF HVAC SYSTEMS

The patented LOKRING tube connection system provides an innovative system of braze-free tube connectors for every installation situation in refrigeration and air conditioning technology.

### ⊕ REPAIR OF REFRIGERATION APPLIANCES

VULKAN provides an innovative system of braze-free tube connectors for every repair situation in refrigeration appliances.

### ⊕ REPAIR OF VEHICLE A/C SYSTEMS

Our technology includes an innovative system of braze-free tube connectors as well as hose connectors for every repair situation in vehicle air conditioning systems & E-Vehicle battery cooling circuits.

## RESEARCH AND DEVELOPMENT

For the last decades, experienced engineers have built new solutions for customers' applications in the development centre in Germany.

## PRODUCT AND MANAGEMENT CERTIFICATION

The products of VULKAN Refrigeration and Air Conditioning have of course TÜV and UL product approval. Furthermore, the quality management system is certified according to ISO 9001 and the environmental management system according to ISO 14001. In addition, AEO certifications, leak tests and expert reports are available.

## CLIMATE PROTECTION

Since our tube connections are hermetically sealed, we can ensure that no climate damaging refrigerants leak into the environment. Furthermore, LOKRING makes the use of environmental friendly but flammable refrigerants (HC) safer and allows the use of CO<sub>2</sub> (R744). Thus, by using LOKRING tube connections you make a contribution to the active protection of the environment.

## SERVICE

Whether you are seeking planning and consultancy for optimising the refrigeration cycle system by using braze-free tube connections, support with the introduction of the LOKRING technology in production or after-sales service – everything is available locally with competent VULKAN technicians.

### THE BEST CONNECTION - WORLDWIDE

Operating with five international production facilities, with 18 VULKAN subsidiaries and an additional 13 agencies worldwide, we ensure that LOKRING expertise is available on site throughout the world. This means that our customers have rapid access to our specialists and that the necessary solutions are quickly available exactly where they are needed.



### CUSTOMER REFERENCES

A small selection from more than 7,000 satisfied customers:





# LOKRING®

**THE PATENTED LOKRING® TUBE CONNECTION SYSTEM PROVIDES AN INNOVATIVE SYSTEM OF BRAZE-FREE TUBE CONNECTIONS FOR EVERY INSTALLATION SITUATION IN REFRIGERATION AND AIR-CONDITIONING TECHNOLOGY.**

LOKRING tube connections can be made without a great deal of force being necessary, using simple hand assembly tools. LOKRING ensures an absolutely clean, permanent and purely mechanical tube connection with long-term hermetic air-tightness. This is confirmed by the

special TÜV test and approval. All this makes LOKRING tube connections one of the most economical and reliable methods of connecting refrigerant tubes.

## THE BENEFITS

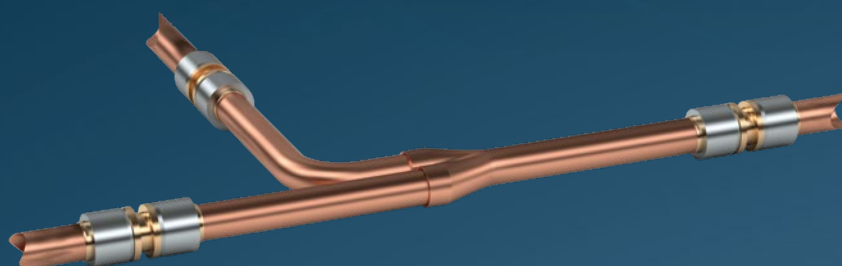
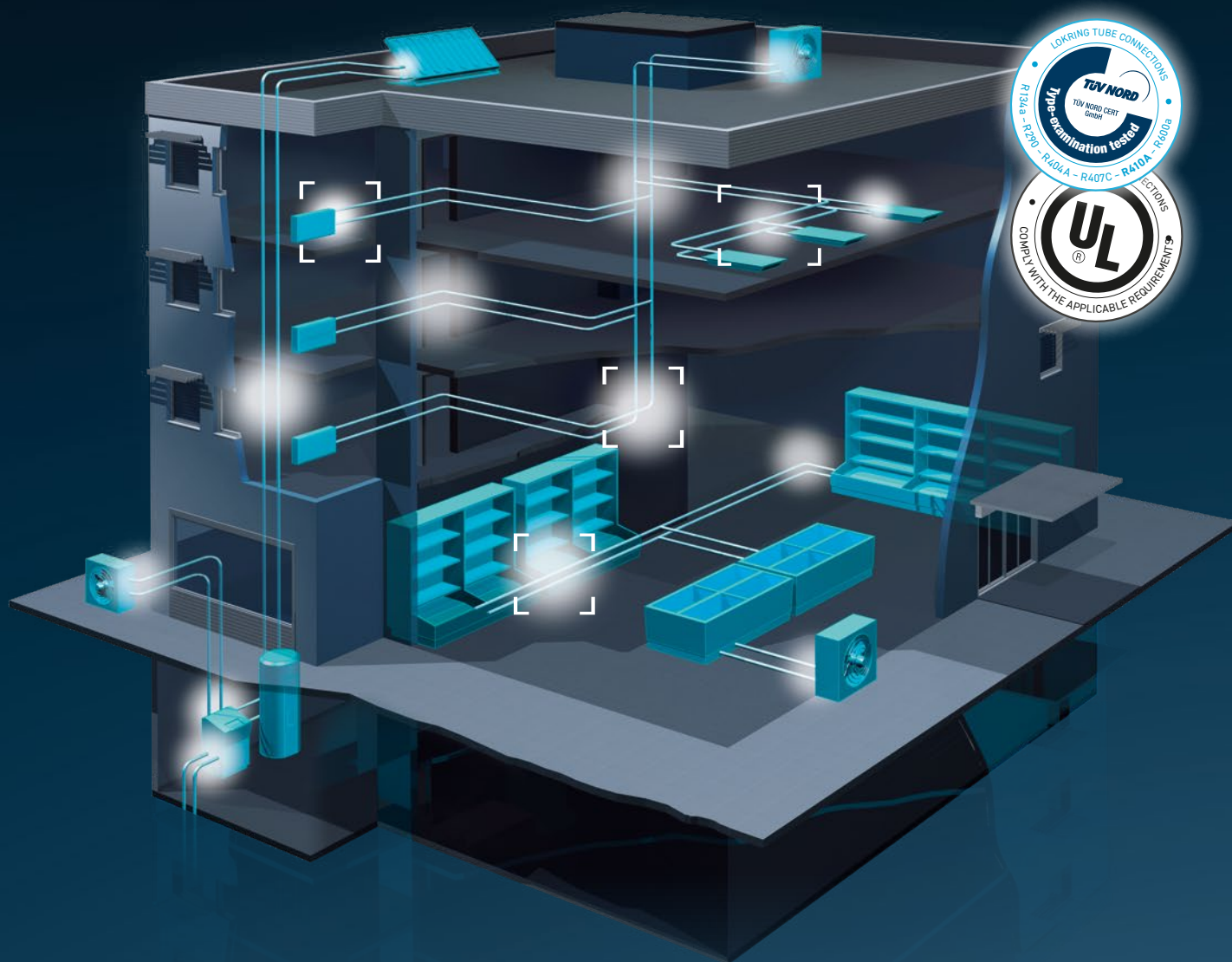
- ⊕ Approx. 40 % time saving
- ⊕ Absolutely clean, efficient and reliable
- ⊕ Installation work during business hours and public access
- ⊕ Installation work in situations where there is a fire hazard
- ⊕ Light hand assembly tool without energy exertion
- ⊕ No nitrogen as purge gas
- ⊕ No braze-related quality problems

## AREAS OF APPLICATION

- ⊕ Air-conditioning systems (split, multi-split, VRV, HVAC)
- ⊕ Commercial product refrigeration
- ⊕ Heat pumps
- ⊕ Solar thermal energy
- ⊕ Geothermal energy



# THE BEST CONNECTION



## ONE SYSTEM - ENDLESS POSSIBILITIES

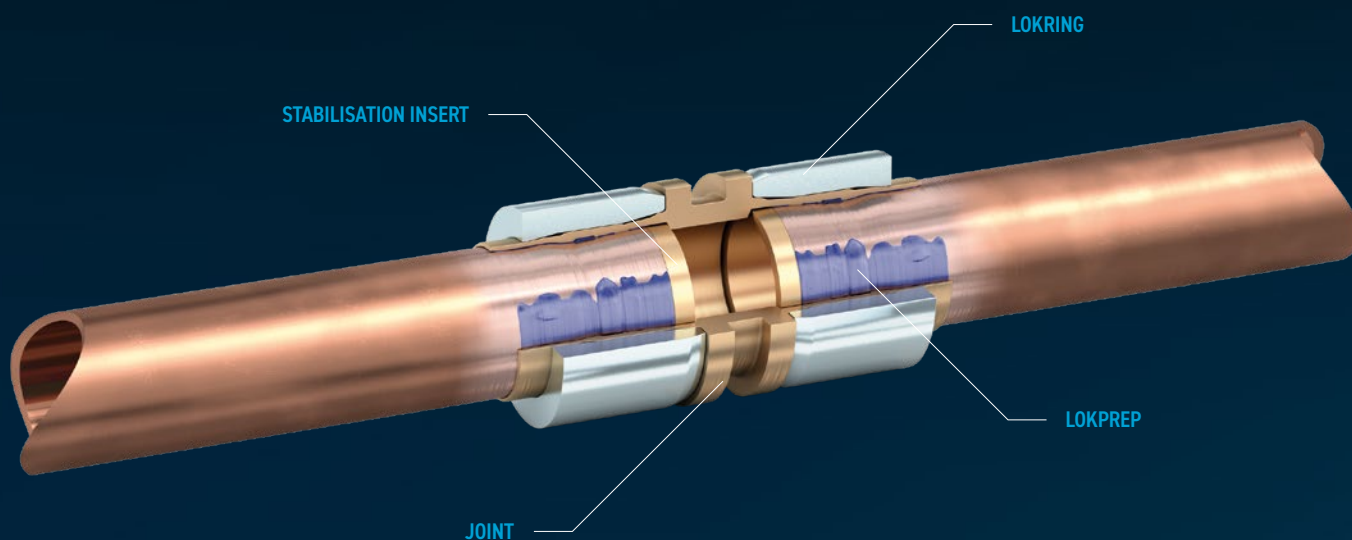
- ⊕ Straight connections
- ⊕ Straight reducing connections
- ⊕ Flare-fittings
- ⊕ Elbows
- ⊕ Branches
- ⊕ T-connections
- ⊕ Special connections

# LOKRING<sup>®</sup>

## BRASS-CONNECTORS

**THE TYPICAL LOKRING** union joint consists of two LOKRINGS and one tubular joint for the acceptance of the two tube ends. Thanks to the conical inner contour of the LOKRING and the

special outer contour of the joint, the diameter of the connection is reduced during assembly to such an extent that the joint and the tube create a hermetically sealed metal-to-metal



### TECHNICAL SPECIFICATIONS

**Reference standards:**  
EN 378-2 and ISO 14903

**Max. operating pressure:**  
75 bar (1088 psi)

**Admissible refrigerants:**  
Suitable for all HFCs and mixtures, all HCs, R32, HFO and CO<sub>2</sub>\*. Not suitable for NH<sub>3</sub>.

**Temperature range:**  
-50 °C up to 150 °C  
(-58 °F up to 302 °F)

**Tube diameter range:**  
6 to 41.3 mm (1/4" to 1 5/8")

**Minimum tube wall thickness:**  
0.7 mm

**Approvals:**  
TÜV, UL (File SA12004)

### MATERIAL COMBINATIONS\*\*



Copper Brass Steel

\* Up to the max. operating pressure specified for each connector.

\*\* Other material combinations on request.

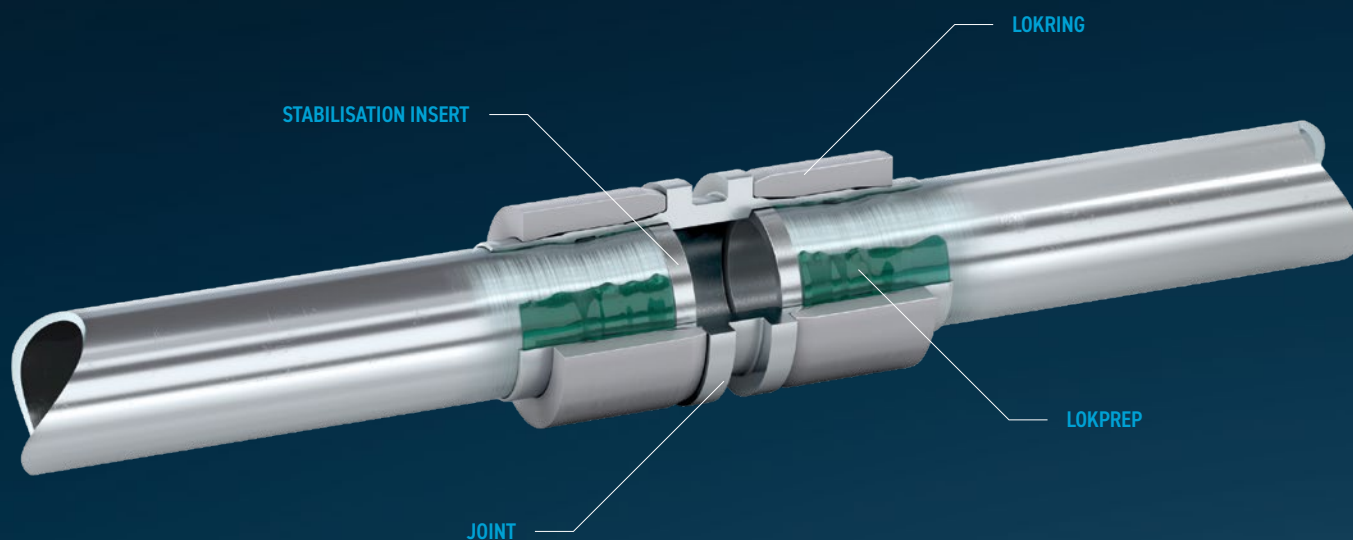


# LOKRING<sup>®</sup>

## ALUMINIUM-CONNECTORS

al connection. The lifetime gas-tightness of the fitted connection is ensured by the state of permanent elastic pretension, which is produced by the radial forces of the LOKRINGS

acting in the opposite direction to the tube-joint connection.



### TECHNICAL SPECIFICATIONS

**Reference standards:**

EN 378-2 and ISO 14903

**Max. operating pressure:**

50 bar (720 psi) for Al-Al  
35 bar (507 psi) for Al-Cu

**Admissible refrigerants:**

Suitable for all HCs, HFCs, HFO and mixtures. Not suitable for NH<sub>3</sub>.

**Temperature range:**

-50 °C up to 150 °C  
(-58 °F up to 302 °F)

**Tube diameter range:**

6.35 to 35 mm (1/4" to 1 3/8")

**Minimum tube wall thickness:**

0.8 mm

**Approvals:**

TÜV

### MATERIAL COMBINATIONS\*\*\*



Aluminium Brass Copper

\*\*\* When connecting aluminium tubes to copper tubes, use a heat shrink sleeve to protect the connection against corrosion.







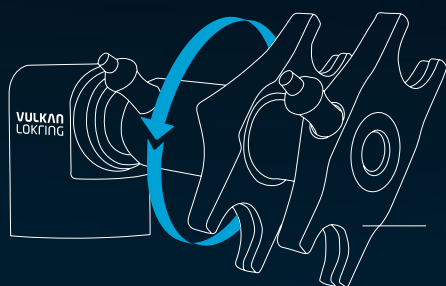


**ASSEMBLY TOOLS**



# LOKPRESS

## LOKPRESS



ROTATING HEAD CAN BE SWIVELLED THROUGH 360°  
IDEAL FOR AREAS THAT ARE DIFFICULT TO ACCESS.

The compact assembly tool ensures the safe and fast installation of LOKRING tube connections. The steplessly rotatable assembly head and low weight guarantees one-handed operation and assembly in awkward installation positions. Modern high-performance rechargeable batteries ensure lots of connections can be made without interruption. When the diameter of the tubes to be connected changes, the assembly jaws are simply turned round or replaced in seconds.

# CORDLESS ASSEMBLY TOOL



## CORDLESS ASSEMBLY TOOL



- ➔ Special hydraulic valve for quick and safe assembling of LOKRING connections type 50.
- ➔ Diameters: 6 to 41.3 mm (1/4" to 1 5/8").
- ➔ Lightweight for single-hand operation.
- ➔ Rotatable mounting head makes working in any situation easy.
- ➔ Delivered in a robust plastic case.
- ➔ Made in Germany.

Article no.	Article name
L14003952	LOKTOOL LOKPRESS

### Technical data

Dimensions without rechargeable battery (H x W x L):	330 x 69 x 219 mm
Operating temperature:	-10 °C to 50 °C (14 °F to 122 °F)
Power consumption:	240 W
Pressing force:	Up to 23 kN
Rechargeable battery:	12 V / 2.0 Ah Li-Ion
Recharge time:	30 to 60 min
Weight (incl. rechargeable battery):	2,34 kg (5,16 lb)
Protection class:	IP20

### Scope of supply

Article no.	Article name	Description
L13005424	LOKPRESS MB 06-10 mm	1 pair of assembly jaws
L13005714	LOKPRESS MB 12-16 mm	1 pair of assembly jaws
L13005715	LOKPRESS MB 18-22 mm	1 pair of assembly jaws
L13005716	LOKPRESS MB 28-35 mm	1 pair of assembly jaws
L14004026	LOKPRESS RB	Rechargeable battery
L14004183	LOKPRESS BC	Battery charger

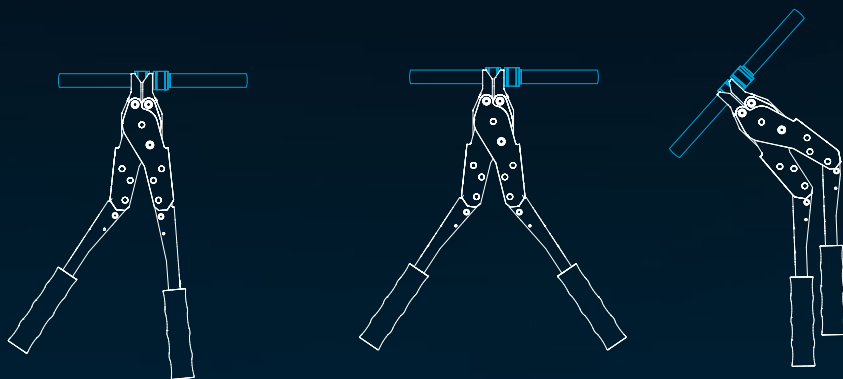
### Also available separately

Article no.	Article name	Description
L13006052	LOKPRESS MB 25,4/42 mm	1 pair of assembly jaws

# ASSEMBLY TOOLS

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## LOKTOOL MZ-V



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Our patented hand assembly tools were developed especially for LOKRING assembly. You only need one tool, because the assembly jaws can be exchanged quickly and easily. Since the handles are offset on both sides, the MZ-V is also suitable for flexible use during work in hard-to-reach areas.



# HAND ASSEMBLY TOOLS

## HAND ASSEMBLY TOOL



- ⊕ Specially developed for the LOKRING assembly.
- ⊕ Patented lever mechanism for assembly with minimum effort.
- ⊕ Assembly jaws are easy to change for different tube diameters.
- ⊕ German technology.

IMPORTANT: Assembly jaws not included.

Article no.    Article name

L13002095    LOKTOOL MZ

## HAND ASSEMBLY TOOL WITH TWO BENDABLE HANDLES



- ⊕ Specially developed for the LOKRING assembly.
- ⊕ Patented lever mechanism for assembly with minimum effort.
- ⊕ Assembly jaws are easy to change for different tube diameters.
- ⊕ Both handles bend for use in hard-to-reach areas.
- ⊕ German technology.

IMPORTANT: Assembly jaws not included.

Article no.    Article name

L13002811    LOKTOOL MZ-V

## ASSEMBLY JAWS



Suitable for the LOKTOOL MZ and MZ-V hand assembly tools.

Article no.	Article name	For tube outer- [ mm ]   "   ]
L20000304	LOKTOOL MB 8 EVP	6 – 8   1/4 - 5/16
L20000305	LOKTOOL MB 10 EVP	9 – 11   3/8
L20000306	LOKTOOL MB 12 EVP	12 – 13   1/2
L20000307	LOKTOOL MB 16 EVP	14 – 17   5/8
L20000308	LOKTOOL MB 19 EVP	18 – 20   3/4
L20000309	LOKTOOL MB 22 EVP	22   7/8
L20000589	LOKTOOL MB 25 EVP	25.4   1
L20000607	LOKTOOL MB 28 EVP	28 – 28.6   1 1/8
L20000623	LOKTOOL MB 35 EVP	35   1 3/8
L20001289	LOKTOOL MB 42 EVP	41.3   1 5/8

# ASSEMBLY TOOL SETS



## LOKRING ASSEMBLY SET UP TO 35 MM (1 3/8")



- ⊕ LOKRING assembly tool for tube outer diameters from 6 to 35 mm (1/4" to 1 3/8").
- ⊕ Neatly organised in a handy case with rigid foam insert.

Article no.	Article name
L13004600	LOKBOX MZ-V MB 0835

Scope of supply			
Article no.	Article name	Description	Quantity
L13002811	LOKTOOL MZ-V	Hand assembly tool	1
L20000304	LOKTOOL MB 8 EVP	Assembly jaws	2
L20000305	LOKTOOL MB 10 EVP	Assembly jaws	2
L20000306	LOKTOOL MB 12 EVP	Assembly jaws	2
L20000307	LOKTOOL MB 16 EVP	Assembly jaws	2
L20000308	LOKTOOL MB 19 EVP	Assembly jaws	2
L20000309	LOKTOOL MB 22 EVP	Assembly jaws	2
L20000607	LOKTOOL MB 28 EVP	Assembly jaws	2
L20000623	LOKTOOL MB 35 EVP	Assembly jaws	2

## LOKRING ASSEMBLY SET UP TO 12.7 MM (1/2") WITH LOKTOOL MZ



- ⊕ Set of tools for assembling LOKRING connections up to 12.7 mm (1/2").
- ⊕ With LOKTOOL MZ hand assembly tool.

Article no.	Article name
L13005504	LOKRING Split/Multi-split kit MZ

### Scope of supply

Article no.	Article name	Description	Quantity
L13002095	LOKTOOL MZ	Hand assembly tool	1
L20000304	LOKTOOL MB 8 EVP	Assembly jaws	2
L20000305	LOKTOOL MB 10 EVP	Assembly jaws	2
L20000306	LOKTOOL MB 12 EVP	Assembly jaws	2

## LOKRING ASSEMBLY SET UP TO 12.7 MM (1/2") WITH LOKTOOL MZ-V



- ⊕ Set of tools for assembling LOKRING connections up to 12.7 mm (1/2").
- ⊕ With LOKTOOL MZ-V hand assembly tool.

Article no.	Article name
L13005505	LOKRING Split/Multi-split kit MZ-V

### Scope of supply

Article no.	Article name	Description	Quantity
L13002811	LOKTOOL MZ-V	Hand assembly tool	1
L20000304	LOKTOOL MB 8 EVP	Assembly jaws	2
L20000305	LOKTOOL MB 10 EVP	Assembly jaws	2
L20000306	LOKTOOL MB 12 EVP	Assembly jaws	2









**LOKRING® BRASS-CONNECTORS**

# STARTER KIT



HAND ASSEMBLY TOOL  
ASSEMBLY JAWS  
LOKPREP

STABILISATION INSERTS  
STRAIGHT CONNECTORS  
STRAIGHT REDUCING CONNECTORS  
EURO FLARE-FITTINGS

## LOKRING® STARTER KIT

For a perfect start in the world of quick, easy and, above all, low-cost repairs to air-conditioning systems.

### Article no. Article name

L13005829 LOKBOX SK-RAC-01

### Scope of supply

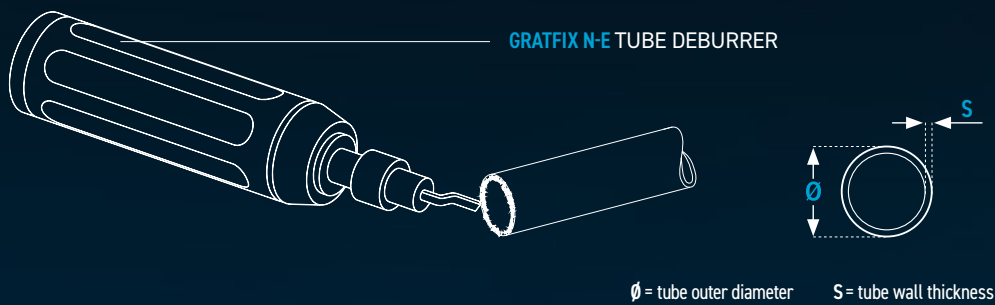
Article no.	Article name	Description	Quantity
L13002811	LOKTOOL MZ-V	Hand assembly tool	1
L20000304	LOKTOOL MB 8 EVP	Assembly jaws	2
L20000305	LOKTOOL MB 10 EVP	Assembly jaws	2
L20000306	LOKTOOL MB 12 EVP	Assembly jaws	2
L20000307	LOKTOOL MB 16 EVP	Assembly jaws	2
L20000308	LOKTOOL MB 19 EVP	Assembly jaws	2
L20000309	LOKTOOL MB 22 EVP	Assembly jaws	2
L14003406	LOKPREP LT 50 ML	Anaerobic sealant	1
L14003581	LOKPREP HT 50 ML	Anaerobic sealant	1
L12003214	LOKRING 6,35 VH MS 08	Stabilisation inserts	14
L12003085	LOKRING 9,53 VH MS 08	Stabilisation inserts	16
L12003087	LOKRING 12,7 VH MS 08	Stabilisation inserts	18
L12001990	LOKRING 16 VH MS 10	Stabilisation inserts	12
L12001991	LOKRING 19 VH MS 10	Stabilisation inserts	10
L12001997	LOKRING 22 VH MS 10	Stabilisation inserts	4
L13004772	LOKRING 6,35 NK MS 50	Straight connectors	5
L13001390	LOKRING 9,53 NK MS 50	Straight connectors	5
L13001571	LOKRING 12,7 NK MS 50	Straight connectors	5
L13001261	LOKRING 16 NK MS 50	Straight connectors	3
L13000605	LOKRING 19 NK MS 50	Straight connectors	3
L13000607	LOKRING 22 NK MS 50	Straight connectors	2
L13004773	LOKRING 9,53/6,35 NR MS 50	Straight reducing connectors	2
L13004785	LOKRING 12,7/6,35 NR MS 50	Straight reducing connectors	2
L13001702	LOKRING 12,7/9,53 NR MS 50	Straight reducing connectors	2
L13001407	LOKRING 16/9,53 NR MS 50	Straight reducing connectors	2
L13001703	LOKRING 16/12,7 NR MS 50	Straight reducing connectors	2
L13001826	LOKRING 19/12,7 NR MS 50	Straight reducing connectors	2
L13001446	LOKRING 19/16 NR MS 50	Straight reducing connectors	2
L13004846	LOKRING LR-EURO-06,35-EB	EURO flare-fittings	4
L13004344	LOKRING LR-EURO-09,53-EB	EURO flare-fittings	4
L13004847	LOKRING LR-EURO-12,7-EB	EURO flare-fittings	2
L13004347	LOKRING LR-EURO-16-EB	EURO flare-fittings	2
L13004388	LOKRING LR-EURO-19-EB	EURO flare-fittings	1



# CORRECT CHOICE OF INSERTS



## CHOOSING THE STABILISATION INSERT



Determine the tube wall thickness "S" and the outer tube diameter " $\varnothing$ " on the basis of tube coding or using a slide gauge on a thoroughly deburred tube.

For further information please refer to our submittals:

[www.vulkan.com/en-us/lokring/downloads/technical-documentation-and-submittal](http://www.vulkan.com/en-us/lokring/downloads/technical-documentation-and-submittal)

# STABILISATION INSERTS



## BRASS STABILISATION INSERTS



- ⊕ For additional stabilisation of the LOKRING connection under mechanical loads.
- ⊕ Supports calibration of coiled tube.

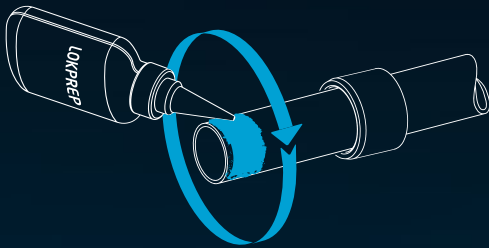
**IMPORTANT:** Stabilisation inserts must not be used within an NRA adaptor or within the stainless steel tube of a EURO flare-fitting.

Article no.	Article name	For tube outer-ø [ mm   " ]		For wall thickness [mm]
L12003155	LOKRING 6 VH Ms 08	6	–	0.8
L12003156	LOKRING 6 VH Ms 10	6	–	1.0
L12003526	LOKRING 6,35 VH Ms 07	6.35	1/4	0.7
L12003214	LOKRING 6,35 VH Ms 08	6.35	1/4	0.8
L12003287	LOKRING 6,35 VH Ms 09	6.35	1/4	0.9
L12003215	LOKRING 6,35 VH Ms 10	6.35	1/4	1.0
L12002894	LOKRING 8 VH Ms 08	8	5/16	0.8
L12002175	LOKRING 8 VH Ms 10	8	5/16	1.0
L12001978	LOKRING 9,53 VH Ms 07	9.53	3/8	0.7
L12003085	LOKRING 9,53 VH Ms 08	9.53	3/8	0.8
L12003086	LOKRING 9,53 VH Ms 09	9.53	3/8	0.9
L12001988	LOKRING 9,53 VH Ms 10	9.53	3/8	1.0
L12002457	LOKRING 10 VH Ms 08	10	–	0.8
L12002018	LOKRING 10 VH Ms 10	10	–	1.0
L12003646	LOKRING 12 VH Ms 08	12	–	0.8
L12002017	LOKRING 12 VH Ms 10	12	–	1.0
L12001979	LOKRING 12,7 VH Ms 07	12.7	1/2	0.7
L12003087	LOKRING 12,7 VH Ms 08	12.7	1/2	0.8
L12003088	LOKRING 12,7 VH Ms 09	12.7	1/2	0.9
L12001989	LOKRING 12,7 VH Ms 10	12.7	1/2	1.0
L12002290	LOKRING 15 VH Ms 10	15	–	1.0
L12003443	LOKRING 16 VH Ms 08	16	5/8	0.8
L12003089	LOKRING 16 VH Ms 09	16	5/8	0.9

Article no.	Article name	For tube outer-ø [ mm   " ]		For wall thickness [mm]
L12001990	LOKRING 16 VH Ms 10	16	5/8	1.0
L12003090	LOKRING 16 VH Ms 11	16	5/8	1.1
L12002033	LOKRING 18 VH Ms 10	18	–	1.0
L12003091	LOKRING 19 VH Ms 09	19	3/4	0.9
L12001991	LOKRING 19 VH Ms 10	19	3/4	1.0
L12003092	LOKRING 19 VH Ms 11	19	3/4	1.1
L12002766	LOKRING 19 VH Ms 12	19	3/4	1.2
L12003649	LOKRING 22 VH Ms 08	–	7/8	0.8
L12003288	LOKRING 22 VH Ms 09	–	7/8	0.9
L12001997	LOKRING 22 VH Ms 10	22	7/8	1.0
L12003093	LOKRING 22 VH Ms 11	–	7/8	1.1
L12002895	LOKRING 22 VH Ms 12	–	7/8	1.2
L12003442	LOKRING 22 VH Ms 14	–	7/8	1.4
L12002547	LOKRING 25,4 VH Ms 10	25.4	1	1.0
L12002153	LOKRING 28 VH Ms 10	28	–	1.0
L12003068	LOKRING 28 VH Ms 15	28	–	1.5
L12003290	LOKRING 28,6 VH Ms 09	28.6	1 1/8	0.9
L12002550	LOKRING 28,6 VH Ms 10	28.6	1 1/8	1.0
L12003067	LOKRING 28,6 VH Ms 12	28.6	1 1/8	1.2
L12003070	LOKRING 35 VH Ms 12	35	1 3/8	1.2
L12003094	LOKRING 35 VH Ms 14	35	1 3/8	1.4
L12002530	LOKRING 35 VH Ms 15	35	1 3/8	1.5
L12004015	LOKRING 41,3 VH Ms 15	41.3	1 5/8	1.5

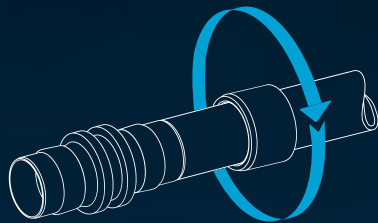
# LOKPREP® APPLICATION

## LOKPREP LT & HT



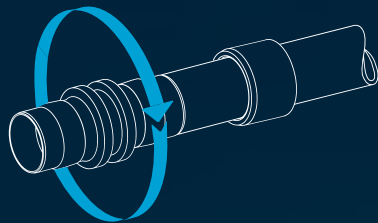
### POSSIBILITY A

Move the nozzle 360° around the tube to distribute the LOKPREP evenly.



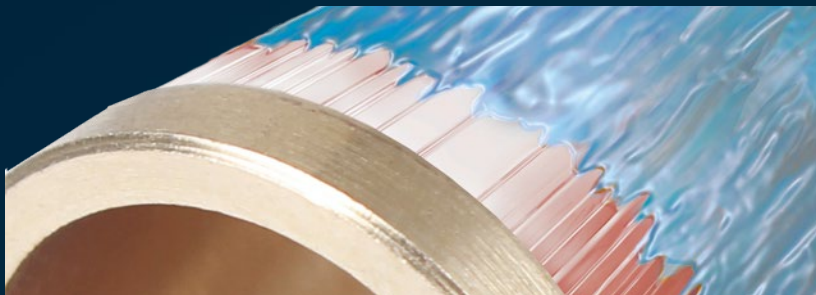
### POSSIBILITY B

Rotate the moistened tube through 360° inside the joint.



### POSSIBILITY C

Rotate the joint through 360° around the end of the tube.



Metal tubes can have longitudinal grooves on the surface from production. These production-related faults can be compensated quite easily by moistening the tube ends to be connected with LOKPREP fluid before assembly. Thanks to its capillary characteristic, it can even flow into microscopic cavities and fill these out completely. LOKPREP is not an adhesive, rather an anaerobic sealant which hardens under oxygen exclusion and in contact with free metal ions.



# LOKPREP®

## ANAEROBIC SEALANT FOR BRASS LOKRING CONNECTORS (UP TO 30 °C)

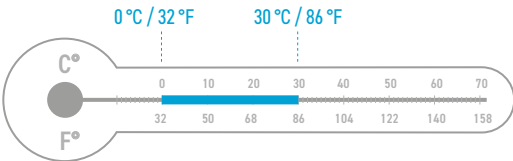


- ⊕ Specially developed for use with LOKRING brass-connectors.
- ⊕ Can be used in ambient temperatures up to 30 °C (86 °F).
- ⊕ Must be used for all LOKRING assemblies.
- ⊕ Compensates for any unevenness in the tube surface.
- ⊕ Ensures that every LOKRING connection is hermetically sealed.

IMPORTANT:

- ⊕ LOKPREP 65G must be used for LOKRING aluminium-connectors.
- ⊕ LOKPREP HT must be used for LOKRING brass-connectors in ambient temperatures above 30 °C (86 °F).

Article no.	Article name	Content [ ml ]
L14003407	LOKPREP LT	15
L14003406	LOKPREP LT	50



## ANAEROBIC SEALANT FOR BRASS LOKRING CONNECTORS (FROM 25 °C)

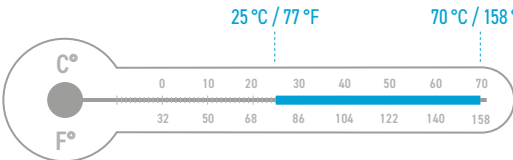


- ⊕ Specially developed for use with LOKRING brass-connectors in high ambient temperatures.
- ⊕ Can be used in ambient temperatures from 25 °C (77 °F).
- ⊕ Must be used for all LOKRING assemblies.
- ⊕ Compensates for any unevenness in the tube surface.
- ⊕ Ensures that every LOKRING connection is hermetically sealed.

IMPORTANT:

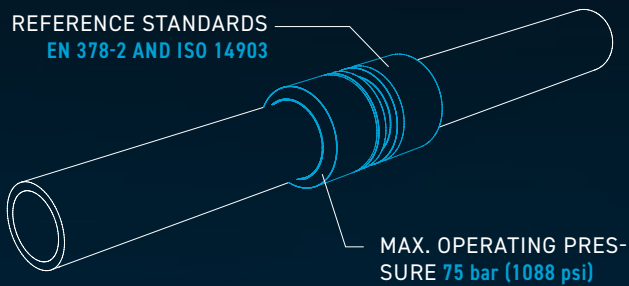
- ⊕ LOKPREP 65G must be used for LOKRING aluminium-connectors.
- ⊕ LOKPREP LT must be used for LOKRING brass-connectors in ambient temperatures below 25 °C (77 °F).

Article no.	Article name	Content [ ml ]
L14003404	LOKPREP HT	15
L14003581	LOKPREP HT	50

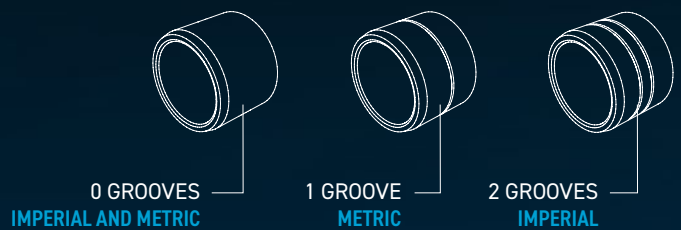


# LOKRING®

## LOKRING BRASS-CONNECTORS



- ⊕ CORROSION TEST ACCORDING TO ISO 9227 NSS
- ⊕ TEMPERATURE CHANGE CYCLE TEST
- ⊕ TENSILE TEST ACCORDING TO DIN EN 10 002
- ⊕ ALTERNATING PRESSURE TEST WITH 250,000 CYCLES
- ⊕ BURST PRESSURE TEST UP TO 300 bar (4350 psi)
- ⊕ JOINS\*: COPPER TO COPPER / COPPER TO STEEL / STEEL TO STEEL



In order to easily identify if a brass LOKRING connector is suitable for imperial tubes, metric tubes or both, the steel rings are marked as follows:

- ⊕ 0 GROOVES IMPERIAL AND METRIC
- ⊕ 1 GROOVE METRIC
- ⊕ 2 GROOVES IMPERIAL

# STRAIGHT CONNECTORS



## STRAIGHT BRASS-CONNECTORS

For connecting copper and/or steel tubes with identical tube outer diameters.

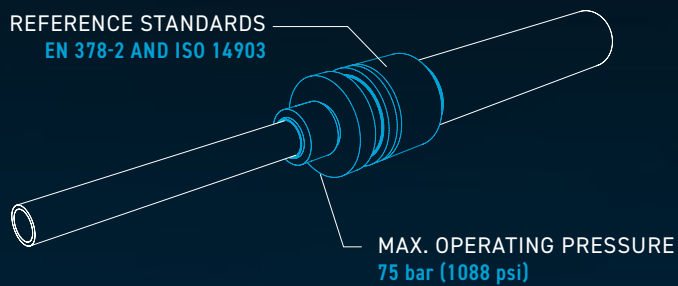


Article no.	Article name	For tube outer-ø	
		[ mm ]	[ " ]
L13004601	LOKRING 6 NK Ms 50	6	-
L13004772	LOKRING 6,35 NK Ms 50	6.35	1/4
L13001392	LOKRING 8 NK Ms 50	8	5/16
L13001390	LOKRING 9,53 NK Ms 50	9.53	3/8
L13001391	LOKRING 10 NK Ms 50	10	-
L13001220	LOKRING 12 NK Ms 50	12	-
L13001571	LOKRING 12,7 NK Ms 50	12.7	1/2
L13001226	LOKRING 15 NK Ms 50	15	-
L13001261	LOKRING 16 NK Ms 50	16	5/8
L13001262	LOKRING 18 NK Ms 50	18	-
L13000605	LOKRING 19 NK Ms 50	19	3/4
L13000607	LOKRING 22 NK Ms 50	22	7/8
L13000608	LOKRING 25,4 NK Ms 50	25.4	1
L13001944	LOKRING 28 NK Ms 50	28	-
L13001945	LOKRING 28,6 NK Ms 50	28.6	1 1/8
L13003346	LOKRING 35 NK Ms 50	35	1 3/8
L13006037	LOKRING 41,3 NK Ms 50	41.3	1 5/8

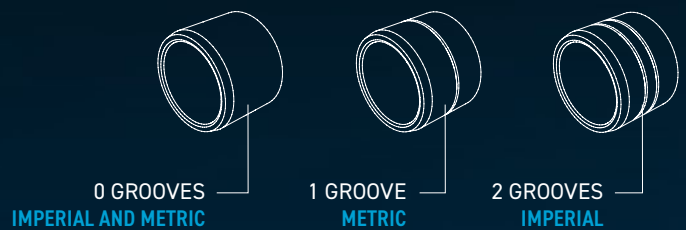


# LOKRING®

## LOKRING BRASS-CONNECTORS



- ⊕ CORROSION TEST ACCORDING TO ISO 9227 NSS
- ⊕ TEMPERATURE CHANGE CYCLE TEST
- ⊕ TENSILE TEST ACCORDING TO DIN EN 10 002
- ⊕ ALTERNATING PRESSURE TEST WITH 250,000 CYCLES
- ⊕ BURST PRESSURE TEST UP TO 300 bar (4350 psi)
- ⊕ JOINS\*: COPPER TO COPPER / COPPER TO STEEL / STEEL TO STEEL



In order to easily identify if a brass LOKRING connector is suitable for imperial tubes, metric tubes or both, the steel rings are marked as follows:

- ⊕ 0 GROOVES IMPERIAL AND METRIC
- ⊕ 1 GROOVE METRIC
- ⊕ 2 GROOVES IMPERIAL

# STRAIGHT REDUCING CONNECTORS



## STRAIGHT BRASS REDUCING CONNECTORS



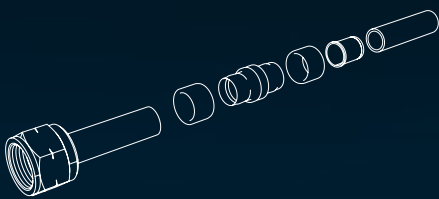
For connecting copper and/or steel tubes with different tube outer diameters.

Article no.	Article name	Outer-ø tube 1 [ mm   " ]		Outer-ø tube 2 [ mm   " ]	
L13004603	LOKRING 6,35/6 NR Ms 50	6.35	1/4	6	-
L13004604	LOKRING 8/6 NR Ms 50	8	5/16	6	-
L13004774	LOKRING 8/6,35 NR Ms 50	8	5/16	6.35	1/4
L13004606	LOKRING 9,53/6 NR Ms 50	9.53	3/8	6	-
L13004773	LOKRING 9,53/6,35 NR Ms 50	9.53	3/8	6.35	1/4
L13001629	LOKRING 9,53/8 NR Ms 50	9.53	3/8	8	5/16
L13004607	LOKRING 10/6 NR Ms 50	10	-	6	-
L13001651	LOKRING 10/8 NR Ms 50	10	-	8	5/16
L13001396	LOKRING 10/9,53 NR Ms 50	10	-	9.53	3/8
L13004608	LOKRING 12/6 NR Ms 50	12	-	6	-
L13001233	LOKRING 12/9,53 NR Ms 50	12	-	9.53	3/8
L13001234	LOKRING 12/10 NR Ms 50	12	-	10	-
L13004609	LOKRING 12,7/6 NR Ms 50	12.7	1/2	6	-
L13004785	LOKRING 12,7/6,35 NR Ms 50	12.7	1/2	6.35	1/4
L13001702	LOKRING 12,7/9,53 NR Ms 50	12.7	1/2	9.53	3/8
L13001789	LOKRING 12,7/10 NR Ms 50	12.7	1/2	10	-
L13001822	LOKRING 12,7/12 NR Ms 50	12.7	1/2	12	-
L13004786	LOKRING 16/6,35 NR Ms 50	16	5/8	6.35	1/4
L13001407	LOKRING 16/9,53 NR Ms 50	16	5/8	9.53	3/8
L13001408	LOKRING 16/10 NR Ms 50	16	5/8	10	-
L13001314	LOKRING 16/12 NR Ms 50	16	5/8	12	-

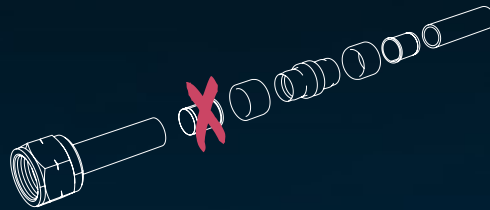
Article no.	Article name	Outer-ø tube 1 [ mm   " ]		Outer-ø tube 2 [ mm   " ]	
L13001703	LOKRING 16/12,7 NR Ms 50	16	5/8	12.7	1/2
L13001315	LOKRING 18/16 NR Ms 50	18	-	16	5/8
L13003552	LOKRING 19/9,53 NR Ms 50	19	3/4	9.53	3/8
L13001826	LOKRING 19/12,7 NR Ms 50	19	3/4	12.7	1/2
L13001446	LOKRING 19/16 NR Ms 50	19	3/4	16	5/8
L13001823	LOKRING 19/18 NR Ms 50	19	3/4	18	-
L13003897	LOKRING 22/12,7 NR Ms 50	22	7/8	12.7	1/2
L13001400	LOKRING 22/16 NR Ms 50	22	7/8	16	5/8
L13001447	LOKRING 22/19 NR Ms 50	22	7/8	19	3/4
L13003333	LOKRING 25,4/19 NR Ms 50	25.4	1	19	3/4
L13003534	LOKRING 28/16 NR Ms 50	28	-	16	5/8
L13003334	LOKRING 28,6/12,7 NR Ms 50	28.6	1 1/8	12.7	1/2
L13003335	LOKRING 28,6/16 NR Ms 50	28.6	1 1/8	16	5/8
L13003543	LOKRING 28,6/19 NR Ms 50	28.6	1 1/8	19	3/4
L13003106	LOKRING 28,6/22 NR Ms 50	28.6	1 1/8	22	7/8
L13003336	LOKRING 28,6/25,4 NR Ms 50	28.6	1 1/8	25.4	1
L13003696	LOKRING 28,6/28 NR Ms 50	28.6	1 1/8	28	-
L13004088	LOKRING 35/22 NR Ms 50	35	1 3/8	22	7/8
L13004611	LOKRING 35/28,6 NR Ms 50	35	1 3/8	28.6	1 1/8
L13006038	LOKRING 41,3/35 NR Ms 50	41.3	1 5/8	35	1 3/8

# EURO FLARE-FITTINGS

## EURO FLARE-FITTINGS



EXAMPLE OF USE



INCORRECT\*

The fast and simple solution for the installation and repair of air-conditioning systems. The pre-pressed copper seal on the cone ensures safe assembly without the seal slipping even in spots that are difficult to reach.

\*Stabilisation inserts must not be used within the stainless steel tube of a EURO flare-fitting.

# FLARE-FITTINGS

## EURO FLARE-FITTINGS



- ⊕ Pre-pressed copper seal for safe assembly without the seal slipping.
- ⊕ Connecting piece: stainless steel.
- ⊕ Flare nut: brass.
- ⊕ Can be used with all LOKRING type 50 brass-connectors.

IMPORTANT: Stabilisation inserts must not be used within the stainless steel tube of a EURO flare-fitting.

Article no.	Article name	For tube outer-ø		Thread		Tightening torque [Nm]
		[ mm ]	[ " ]	[ SAE ]	[ Wrench size ]	
L13004846	LOKRING LR-EURO-06,35-EB	6.35	1/4	1/4"	17	14 – 18
L13004344	LOKRING LR-EURO-09,53-EB	9.53	3/8	3/8"	22	33 – 42
L13004847	LOKRING LR-EURO-12,7-EB	12.7	1/2	1/2"	24	50 – 62
L13004347	LOKRING LR-EURO-16-EB	16	5/8	5/8"	27	63 – 77
L13004388	LOKRING LR-EURO-19-EB	19	3/4	3/4"	36	90 – 110

## EURO FLARE-FITTING SEALS



Specifically designed for LOKRING flare connections.

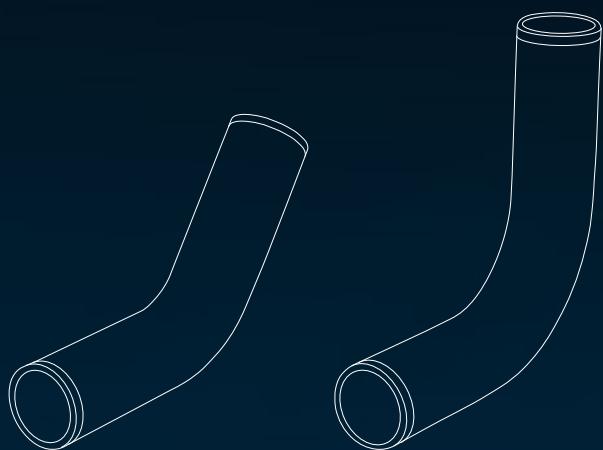
Article no.	Article name	Size
L12003036	LOKRING EBD-06,35	1/4" SAE
L12003037	LOKRING EBD-09,53	3/8" SAE
L12003038	LOKRING EBD-12,7	1/2" SAE
L12003039	LOKRING EBD-16	5/8" SAE
L12003143	LOKRING EBD-19	3/4" SAE



# ELBOWS

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## ELBOWS



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The LOKRING elbows are made from copper tube in accordance with EN 12735-1 and suitable for an operating pressure up to 50 bar (725 psi).

# ELBOWS

## 90° COPPER ELBOWS



- ⊕ Supplied with the necessary stabilisation inserts.
- ⊕ In accordance with EN 12735-1.
- ⊕ Max. operating pressure: 50 bar (725 psi).

Article no.	Article name	Outer-ø	
		[ mm   " ]	
L13005952	LOKRING Cu 90-EB 9,53	9.53	3/8
L13005953	LOKRING Cu 90-EB 12,7	12.7	1/2
L13005954	LOKRING Cu 90-EB 16	16	5/8
L13005955	LOKRING Cu 90-EB 19	19	3/4
L13005956	LOKRING Cu 90-EB 22	22	7/8
L13005957	LOKRING Cu 90-EB 28,6	28.6	1 1/8
L13005958	LOKRING Cu 90-EB 35	35	1 3/8
L13006041	LOKRING Cu 90-EB 41,3	41.3	1 5/8

## 45° COPPER ELBOWS



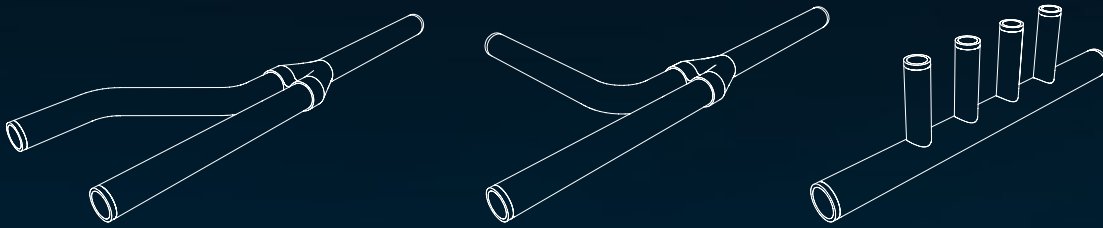
- ⊕ Supplied with the necessary stabilisation inserts.
- ⊕ In accordance with EN 12735-1.
- ⊕ Max. operating pressure: 50 bar (725 psi).

Article no.	Article name	Outer-ø	
		[ mm   " ]	
L13005959	LOKRING Cu 45-EB 9,53	9.53	3/8
L13005960	LOKRING Cu 45-EB 12,7	12.7	1/2
L13005961	LOKRING Cu 45-EB 16	16	5/8
L13005962	LOKRING Cu 45-EB 19	19	3/4
L13005963	LOKRING Cu 45-EB 22	22	7/8
L13005964	LOKRING Cu 45-EB 28,6	28.6	1 1/8
L13005965	LOKRING Cu 45-EB 35	35	1 3/8
L13006040	LOKRING Cu 45-EB 41,3	41.3	1 5/8

# BRANCHES

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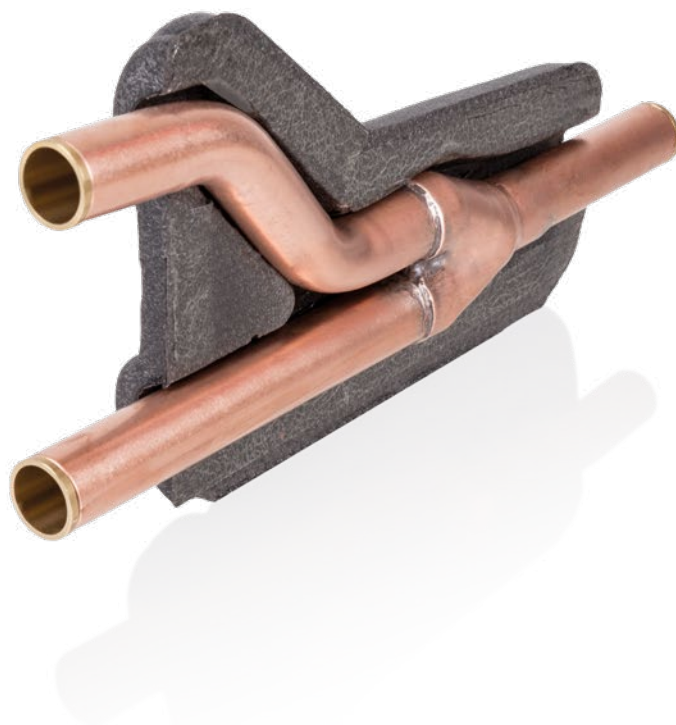
## BRANCHES



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The LOKRING branch system has been specially developed by our engineers for the simple planning and fast installation of VRF air-conditioning systems or for retrofitting air-conditioning systems.

# YP-BRANCHES



## PARALLEL BRANCHES (YP) MADE OF COPPER

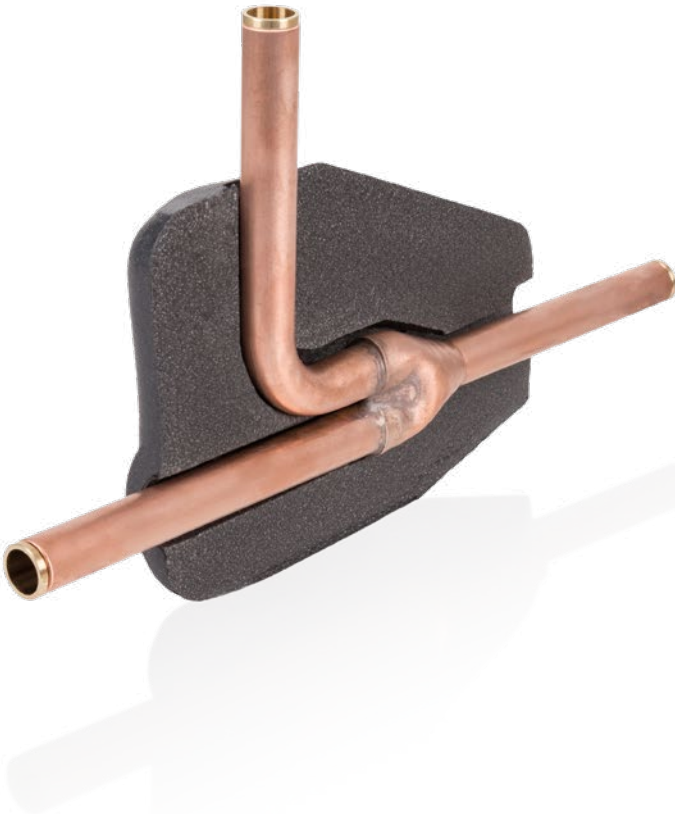
- ⊕ YP-branch with B1 fire protection class foam insulation.
- ⊕ Supplied with the necessary stabilisation inserts.
- ⊕ In accordance with EN 12735-1.
- ⊕ Max. operating pressure: 45 bar (650 psi).



Article no.	Article name	Outer-ø	
		[ mm ]	[ " ]
L12003242	LOKRING Cu YP 9,53	9.53	3/8
L12003243	LOKRING Cu YP 12,7	12.7	1/2
L12003244	LOKRING Cu YP 16	16	5/8
L12003245	LOKRING Cu YP 19	19	3/4
L12003246	LOKRING Cu YP 22	22	7/8
L12003247	LOKRING Cu YP 28,6	28.6	1 1/8
L12003799	LOKRING Cu YP 35	35	1 3/8
L12004042	LOKRING Cu YP 41,3	41.3	1 5/8



# T-BRANCHES



## T-BRANCHES (YT) MADE OF COPPER



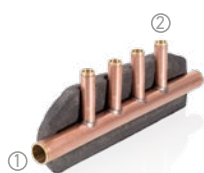
- ⊕ YT-branch with B1 fire protection class foam insulation.
- ⊕ Supplied with the necessary stabilisation inserts.
- ⊕ In accordance with EN 12735-1.
- ⊕ Max. operating pressure: 45 bar (650 psi).

Article no.	Article name	Outer-ø	
		[ mm ]	[ " ]
L12003010	LOKRING Cu YT 9,53	9.53	3/8
L12003013	LOKRING Cu YT 12,7	12.7	1/2
L12003014	LOKRING Cu YT 16	16	5/8
L12003294	LOKRING Cu YT 19	19	3/4
L12003295	LOKRING Cu YT 22	22	7/8
L12003297	LOKRING Cu YT 28,6	28.6	1 1/8
L12003298	LOKRING Cu YT 35	35	1 3/8
L12004043	LOKRING Cu YT 41,3	41.3	1 5/8

# HEADERS AND STOPPERS



## HEADERS MADE OF COPPER



- ④ Header with B1 fire protection class foam insulation.
- ④ Supplied with the necessary stabilisation inserts.
- ④ In accordance with EN 12735-1.
- ④ Max. operating pressure: 45 bar (650 psi).

Article no.	Article name	Outer-ø tube 1		Outer-ø tube 2	
		[ mm   " ]		[ mm   " ]	
L13005130	LOKRING Cu Header 12,7-6,35	12.7	1/2	→ 6.35	1/4
L13005131	LOKRING Cu Header 16-9,53	16	5/8	→ 9.53	3/8
L13005132	LOKRING Cu Header 19-12,7	19	3/4	→ 12.7	1/2
L13005133	LOKRING Cu Header 28,6-16	28.6	1 1/8	→ 16	5/8

## BRASS STOPPERS

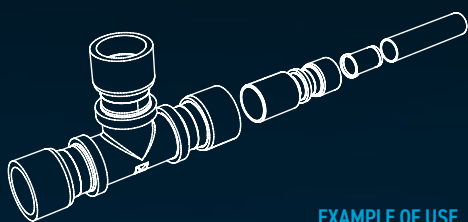


- ④ For hermetically sealing tube ends.
- ④ Can be used with LOKRING copper header for example.

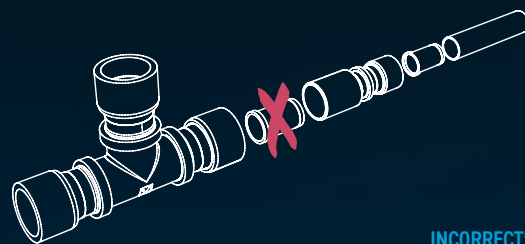
Article no.	Article name	For tube outer-ø	
		[ mm   " ]	
L13004940	LOKRING 6 VS Ms 50	6	-
L13004941	LOKRING 6,35 VS Ms 50	6.35	1/4
L13004943	LOKRING 9,53 VS Ms 50	9.53	3/8
L13004946	LOKRING 12,7 VS Ms 50	12.7	1/2
L13004947	LOKRING 16 VS Ms 50	16	5/8
L13004949	LOKRING 19 VS Ms 50	19	3/4
L13004953	LOKRING 28,6 VS Ms 50	28.6	1 1/8

# USE OF REDUCING ADAPTORS

## USE OF T-CONNECTORS AND REDUCING ADAPTORS WITH STABILISATION INSERTS



EXAMPLE OF USE



INCORRECT\*

The variety of reducing connectors, reducing T-connectors and also reducing elbow connectors needed for combining all the different tube diameters which are nowadays being used in air-conditioning systems is constantly growing. In order to stay flexible installers needed to build a huge stock of all the different connectors. With the new NRA reducing adaptors VULKAN has launched the solution for this problem. You just need the standard connectors, T-connectors and elbow connectors and make the reduction by connecting the correct NRA adaptor. Thus you will always have the correct connection available directly on-site.

\*Stabilisation inserts must not be used within an NRA adaptor.

# T-CONNECTORS AND REDUCING ADAPTORS

## BRASS T-CONNECTORS



- ⊕ T-piece for connecting copper and/or steel tubes with identical tube outer diameters.
- ⊕ In conjunction with LOKRING NRA brass reducing adaptors, T-reducing connectors can be created.

Article no.	Article name	For tube outer- $\phi$ [ mm   " ]	
L13004614	LOKRING 6 NTK Ms 50	6	-
L13004777	LOKRING 6,35 NTK Ms 50	6.35	1/4
L13001193	LOKRING 9,53 NTK Ms 50	9.53	3/8
L13001194	LOKRING 10 NTK Ms 50	10	-
L13001195	LOKRING 12 NTK Ms 50	12	-
L13001698	LOKRING 12,7 NTK Ms 50	12.7	1/2
L13001198	LOKRING 16 NTK Ms 50	16	5/8
L13001190	LOKRING 18 NTK Ms 50	18	-
L13001199	LOKRING 19 NTK Ms 50	19	3/4
L13000812	LOKRING 22 NTK Ms 50	22	7/8
L13003338	LOKRING 28,6 NTK Ms 50	28.6	1 1/8
L13005002	LOKRING 35 NTK Ms 50	35	1 3/8

## BRASS REDUCING ADAPTORS



Can be used with all LOKRING type 50 brass connectors (e.g. connectors with elbows and T-connectors) to form reducers.

**IMPORTANT:** Stabilisation inserts must not be used within an NRA adaptor.

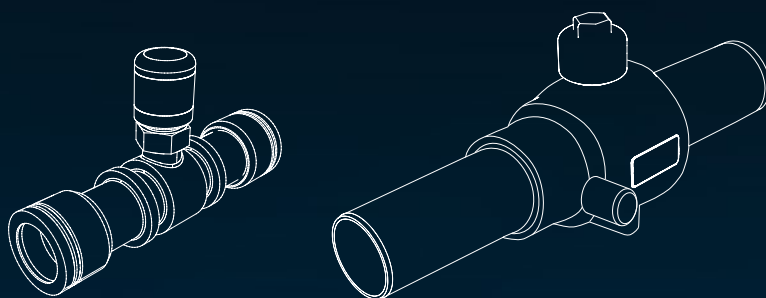
Article no.	Article name	Outer- $\phi$ tube 1 [ mm   " ]		Outer- $\phi$ tube 2 [ mm   " ]	
L13005053	LOKRING 9,53/6,35 NRA Ms 50	9.53	3/8	→ 6.35	1/4
L13005050	LOKRING 10/6 NRA Ms 50	10	-	→ 6	-
L13005061	LOKRING 12/10 NRA Ms 50	12	-	→ 10	-
L13005054	LOKRING 12,7/6,35 NRA Ms 50	12.7	1/2	→ 6.35	1/4
L13005058	LOKRING 12,7/9,53 NRA Ms 50	12.7	1/2	→ 9.53	3/8
L13005059	LOKRING 16/9,53 NRA Ms 50	16	5/8	→ 9.53	3/8
L13005062	LOKRING 16/10 NRA Ms 50	16	5/8	→ 10	-
L13005064	LOKRING 16/12 NRA Ms 50	16	5/8	→ 12	-
L13005067	LOKRING 16/12,7 NRA Ms 50	16	5/8	→ 12.7	1/2
L13005060	LOKRING 19/9,53 NRA Ms 50	19	3/4	→ 9.53	3/8
L13005068	LOKRING 19/12,7 NRA Ms 50	19	3/4	→ 12.7	1/2
L13005074	LOKRING 19/16 NRA Ms 50	19	3/4	→ 16	5/8
L13005912	LOKRING 19/18 NRA Ms 50	19	3/4	→ 18	-
L13005066	LOKRING 22/12 NRA Ms 50	22	7/8	→ 12	-
L13005069	LOKRING 22/12,7 NRA Ms 50	22	7/8	→ 12.7	1/2
L13005075	LOKRING 22/16 NRA Ms 50	22	7/8	→ 16	5/8
L13005078	LOKRING 22/18 NRA Ms 50	22	7/8	→ 18	-
L13005079	LOKRING 22/19 NRA Ms 50	22	7/8	→ 19	3/4
L13005090	LOKRING 28/22 NRA Ms 50	28	-	→ 22	7/8
L13005077	LOKRING 28,6/16 NRA Ms 50	28.6	1 1/8	→ 16	5/8
L13005081	LOKRING 28,6/19 NRA Ms 50	28.6	1 1/8	→ 19	3/4
L13005083	LOKRING 28,6/22 NRA Ms 50	28.6	1 1/8	→ 22	7/8
L13005926	LOKRING 28,6/28 NRA Ms 50	28.6	1 1/8	→ 28	-
L13005933	LOKRING 35/22 NRA Ms 50	35	1 3/8	→ 22	7/8
L13005934	LOKRING 35/28 NRA Ms 50	35	1 3/8	→ 28	-



# SPECIAL CONNECTORS

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## SPECIAL CONNECTORS



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Thanks to our LOKRING connection technology, fitting sensitive components is as easy as connecting normal tubes.

# SPECIAL CONNECTORS

## BRASS-CONNECTORS WITH SCHRADER VALVE



- ⊕ For connecting copper and/or steel tubes with identical tube outer diameters.
- ⊕ With 1/4" SAE schrader valve connection.
- ⊕ Max. operating pressure: 50 bar (725 psi).

Article no.	Article name	For tube outer-ø [ mm   " ]	
L13004779	LOKRING 6,35 NK Ms SV 50	6.35	1/4
L13001504	LOKRING 8 NK Ms SV 50	8	5/16
L13001398	LOKRING 9,53 NK Ms SV 50	9.53	3/8
L13001752	LOKRING 12,7 NK Ms SV 50	12.7	1/2
L13001324	LOKRING 16 NK Ms SV 50	16	5/8

## BALL VALVES WITH SCHRADER VALVE



- ⊕ Suitable for all common refrigerants.
- ⊕ Bi-flow system for any mounting direction.
- ⊕ Temperature range: -40 °C to 150 °C (-40 °F to 302 °F).
- ⊕ Max. operating pressure: 50 bar (725 psi).
- ⊕ Supplied with the necessary stabilisation inserts.

Article no.	Article name	For tube outer-ø [ mm   " ]	
L13005943	LOKRING BVS 16	16	5/8
L13005944	LOKRING BVS 19	19	3/4
L13005945	LOKRING BVS 22	22	7/8
L13005947	LOKRING BVS 35	35	1 3/8







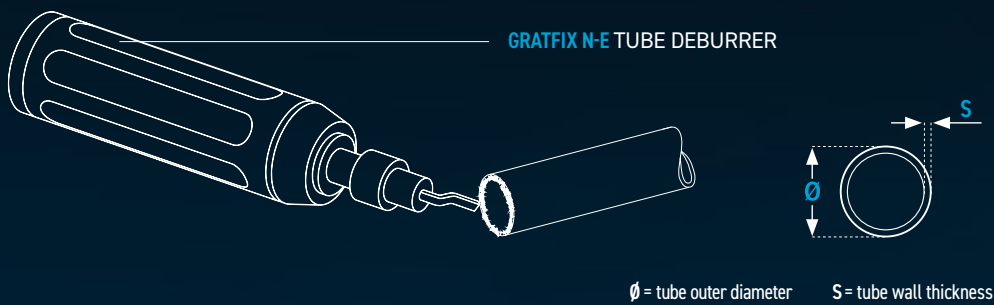
**LOKRING® ALUMINIUM-CONNECTORS**



# CORRECT CHOICE OF INSERTS



## CHOOSING THE STABILISATION INSERT



Determine the tube wall thickness "S" and the outer tube diameter " $\varnothing$ " on the basis of tube coding or using a slide gauge on a thoroughly deburred tube.

For further information please refer to our submittals:

[www.vulkan.com/en-us/lokring/downloads/technical-documentation-and-submittal](http://www.vulkan.com/en-us/lokring/downloads/technical-documentation-and-submittal)

# STABILISATION INSERTS



## ALUMINIUM STABILISATION INSERTS

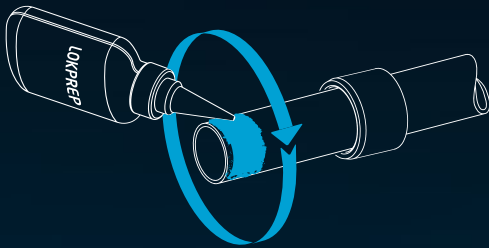
- ⊕ For additional stabilisation of the LOKRING connection under mechanical loads.
- ⊕ Supports calibration of coiled tube.



Article no.	Article name	For tube outer-ø [ mm   " ]		For wall thickness [ mm]
L13005456	LOKRING 6,35 VH Al 08	6.35	1/4	0.8
L13005482	LOKRING 6,35 VH Al 10	6.35	1/4	1.0
L13005457	LOKRING 8 VH Al 08	8	5/16	0.8
L13005483	LOKRING 8 VH Al 10	8	5/16	1.0
L13005458	LOKRING 9,53 VH Al 08	9.53	3/8	0.8
L13005484	LOKRING 9,53 VH Al 10	9.53	3/8	1.0
L13005574	LOKRING 10 VH Al 10	10	-	1.0
L13005459	LOKRING 12,7 VH Al 08	12.7	1/2	0.8
L13005485	LOKRING 12,7 VH Al 10	12.7	1/2	1.0
L13005577	LOKRING 12,7 VH Al 12	12.7	1/2	1.2
L13005460	LOKRING 16 VH Al 10	16	5/8	1.0
L13005578	LOKRING 16 VH Al 12	16	5/8	1.2
L13005580	LOKRING 16 VH Al 15	16	5/8	1.5
L13005576	LOKRING 18 VH Al 10	18	-	1.0
L13005461	LOKRING 19 VH Al 10	19	3/4	1.0
L13005700	LOKRING 19 VH Al 12	19	3/4	1.2
L13005579	LOKRING 19 VH Al 15	19	3/4	1.5
L13006131	LOKRING 28,6 VH Al 15	28.6	1 1/8	1.5
L13006247	LOKRING 35 VH Al 15	35	1 3/8	1.5

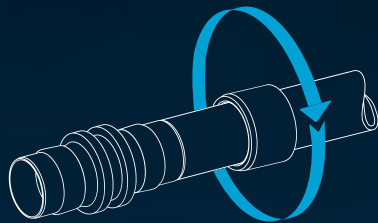
# LOKPREP® APPLICATION

## LOKPREP 65G



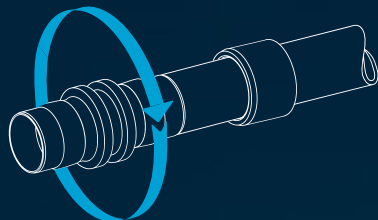
### POSSIBILITY A

Move the nozzle 360° around the tube to distribute the LOKPREP evenly.



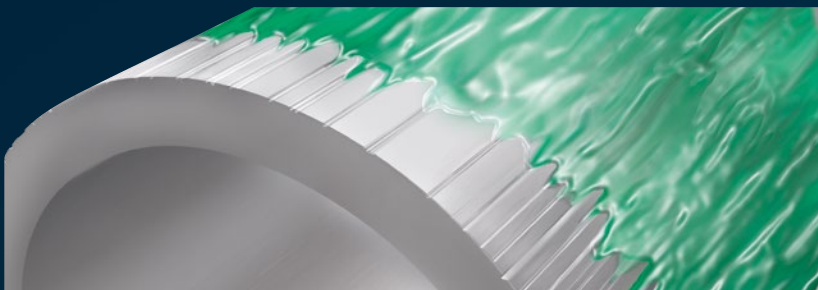
### POSSIBILITY B

Rotate the moistened tube through 360° inside the joint.



### POSSIBILITY C

Rotate the joint through 360° around the end of the tube.



Metal tubes can have longitudinal grooves on the surface from production. These production-related faults can be compensated quite easily by moistening the tube ends to be connected with LOKPREP fluid before assembly. Thanks to its capillary characteristic, it can even flow into microscopic cavities and fill these out completely. LOKPREP is not an adhesive, rather an anaerobic sealant which hardens under oxygen exclusion and in contact with free metal ions.

# LOKPREP®



## ANAEROBIC SEALANT FOR LOKRING ALUMINIUM-CONNECTORS



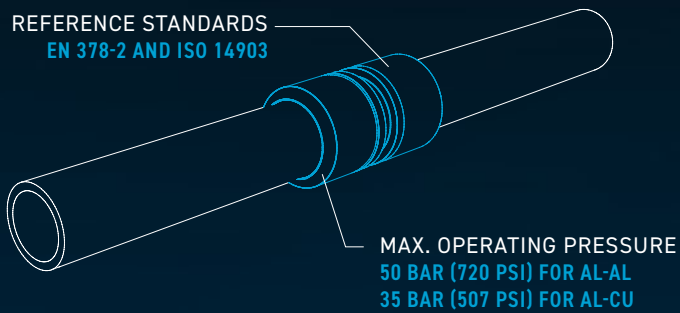
- ⊕ Specially developed for use with LOKRING aluminium-connectors.
- ⊕ Must be used for all LOKRING assemblies.
- ⊕ Compensates for any unevenness in the tube surface.
- ⊕ Ensures that every LOKRING connection is hermetically sealed.

**IMPORTANT:** For LOKRING brass-connectors, either LOKPREP LT or LOKPREP HT must be used depending on the ambient temperature.

Article no.	Article name	Content [ml]
L14000878	LOKPREP 65G	15

# LOKRING®

## LOKRING ALUMINIUM-CONNECTORS



- ⊕ CORROSION TEST ACCORDING TO ISO 9227 NSS
- ⊕ TEMPERATURE CHANGE CYCLE TEST
- ⊕ TENSILE TEST ACCORDING TO DIN EN 10 002
- ⊕ ALTERNATING PRESSURE TEST WITH 250,000 CYCLES
- ⊕ BURST PRESSURE TEST UP TO 200 bar (2900 psi)
- ⊕ JOINS\*: ALUMINIUM TO ALUMINIUM / ALUMINIUM TO COPPER\*\*

\*Other material combinations on request.

\*\*When connecting aluminium tubes to copper tubes, use a heat shrink sleeve to protect the connection against corrosion.



# STRAIGHT CONNECTORS



## STRAIGHT ALUMINIUM-CONNECTORS



For connecting aluminium tubes and for connecting aluminium tubes to copper or steel tubes with identical tube outer diameters.

**IMPORTANT:** When connecting aluminium tubes to copper tubes, use a heat shrink sleeve to protect the connection against corrosion.

Article no.	Article name	For tube outer-Ø	
		[ mm ]	[ " ]
L13005444	LOKRING 6,35 NK Al 50	6.35	1/4
L13005445	LOKRING 8 NK Al 50	8	5/16
L13005446	LOKRING 9,53 NK Al 50	9.53	3/8
L13005502	LOKRING 10 NK Al 50	10	–
L13005447	LOKRING 12,7 NK Al 50	12.7	1/2
L13005564	LOKRING 15 NK Al 50	15	–
L13005448	LOKRING 16 NK Al 50	16	5/8
L13005501	LOKRING 18 NK Al 50	18	–
L13005449	LOKRING 19 NK Al 50	19	3/4
L13005450	LOKRING 22 NK Al 50	22	7/8
L13006130	LOKRING 28,6 NK Al 50	28.6	1 1/8
L13006245	LOKRING 35 NK Al 50	35	1 3/8

# STRAIGHT REDUCING CONNECTORS



## STRAIGHT ALUMINIUM REDUCING CONNECTORS



For connecting aluminium tubes and for connecting aluminium tubes to copper or steel tubes with different tube outer diameters.

**IMPORTANT:** When connecting aluminium tubes to copper tubes, use a heat shrink sleeve to protect the connection against corrosion.

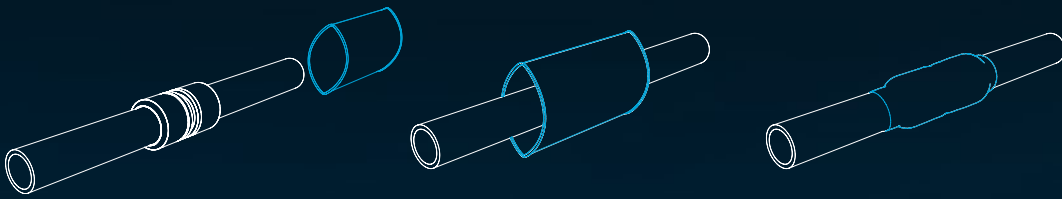
Article no.	Article name	Outer-ø tube 1			Outer-ø tube 2	
		[ mm ]	[ " ]		[ mm ]	[ " ]
L13005451	LOKRING 9,53/6,35 NR Al 50	9.53	3/8	→	6.35	1/4
L13005664	LOKRING 9,53/8 NR Al 50	9.53	3/8	→	8	5/16
L13005668	LOKRING 10/9,53 NR Al 50	10	–	→	9.53	3/8
L13005452	LOKRING 12,7/9,53 NR Al 50	12.7	1/2	→	9.53	3/8
L13005453	LOKRING 16/12,7 NR Al 50	16	5/8	→	12.7	1/2
L13005663	LOKRING 16/15 NR Al 50	16	5/8	→	15	–
L13005454	LOKRING 19/16 NR Al 50	19	3/4	→	16	5/8
L13005671	LOKRING 19/18 NR Al 50	19	3/4	→	18	–
L13005455	LOKRING 22/19 NR Al 50	22	7/8	→	19	3/4
L13006246	LOKRING 35/28,6 NR Al 50	35	1 3/8	→	28.6	1 1/8



# ACCESSORIES

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## HEAT SHRINK SLEEVES WITH HOTMELT ADHESIVE



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Heat shrink sleeves must be used with all aluminium to copper tube connections.

# ACCESSORIES



## HEAT SHRINK SLEEVES WITH HOTMELT ADHESIVE



- ⊕ Protects connections against contact corrosion.
- ⊕ Must be used with all aluminium to copper tube connections.
- ⊕ High shrink ratio.

Article no.	Article name	For LOKRING connector sizes
L14004177	HSS 6-8 NK	6 – 8
L14004179	HSS 9,53-12,7 NK	9.53 – 12.7
L14004181	HSS 15-22 NK	15 – 22



# ACCESSORIES

## ABRASIVE MAT



- ⊕ For cleaning tube ends without scratching.
- ⊕ Suitable for all surfaces.
- ⊕ Solvent-resistant.
- ⊕ Dimensions: 158 mm x 224 mm
- ⊕ Highest quality from 3M.

Article no.	Article name
L14002211	AM-SV

## SANDPAPER



- ⊕ For cleaning tube ends.
- ⊕ Grain: 120
- ⊕ Dimensions: 230 mm x 280 mm
- ⊕ Highest quality from 3M.

Article no.	Article name
L14000002	SP-SL

## TUBE DEBURRER



For quick and clean deburring of tubes, edges and steel plates.

Article no.	Article name	Description
L14001362	Gratfix N-E	Tube deburrer
L14001363	N-E100	Replacement blade

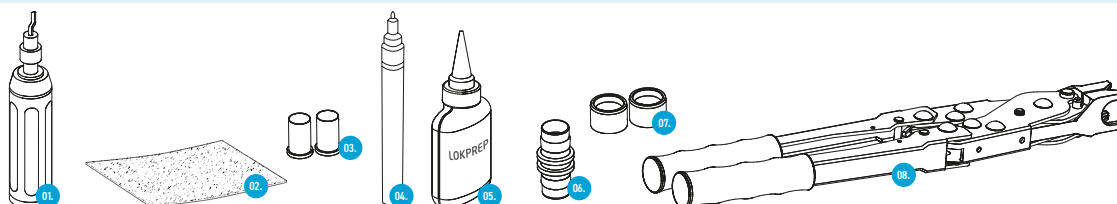
## COMPACT TUBE CUTTER



Diameter range: 3 to 16 mm (1/8" to 5/8").

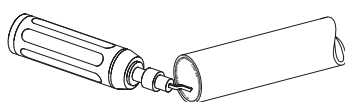
Article no.	Article name	Description
L14001102	TC-1050	Tube cutter
L14001103	TCS-1050	Cutting blade

# LOKRING® ASSEMBLY TYPE 50

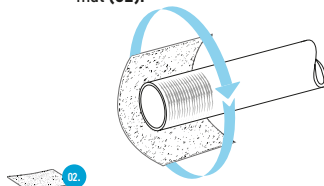


01. TUBE DEBURRER 02. ABRASIVE MAT 03. STABILISATION INSERTS 04. PERMANENT MARKER 05. LOKPREP 06. JOINT 07. LOKRINGS 08. HAND ASSEMBLY TOOL WITH ASSEMBLY JAWS MB EVP

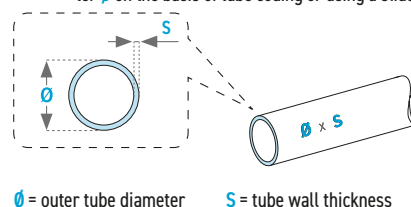
**!** Deburr the tube end all the way round using a tube deburrer (01). Use different deburring tools for different materials.



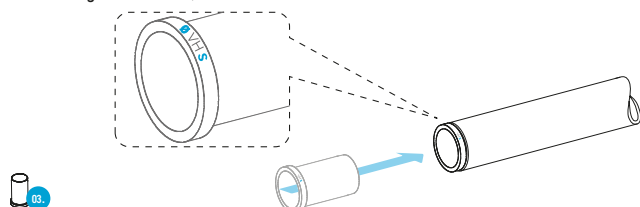
**!** Clean the tube end by rubbing it in rotary movements using the abrasive mat (02).



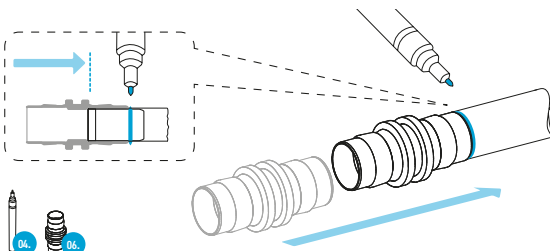
**!** Determine the tube wall thickness  $S$  and the outer tube diameter  $\varnothing$  on the basis of tube coding or using a slide gauge.



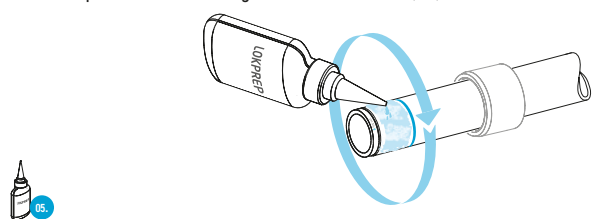
**1** Insert a stabilisation insert (03) suitable for the material, the outer tube diameter  $\varnothing$  and tube wall thickness  $S$ . Stabilisation inserts (03) may not be necessary in case of use with refrigerants with an operating pressure lower than 25 bar (e.g. R134a car A/C systems or refrigerator cabinets).



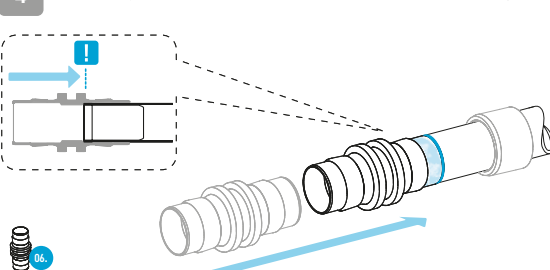
**2** Before applying the LOKPREP (05), push the joint (06) onto the tube until you can feel the inner stop. Mark (04) the correct insertion depth on the tube.



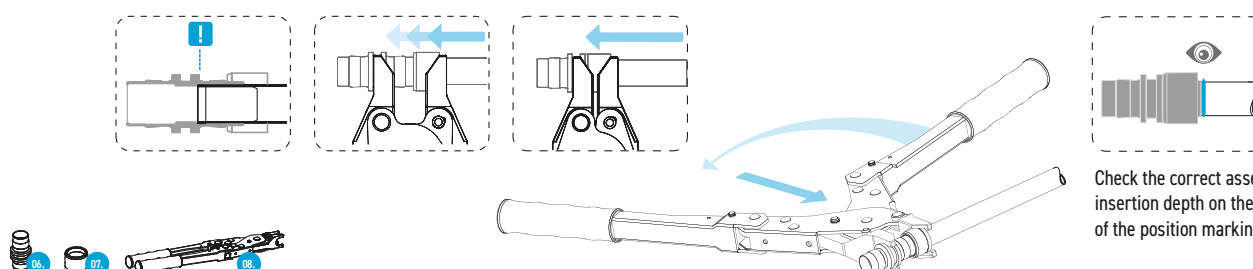
**3** Choose the correct LOKPREP (05) for the tube material and the ambient temperature. Apply LOKPREP (05) all the way round the sealing area of the tube end. Respect the correct curing time of the LOKPREP (05).



**4** Push the joint (06) onto the tube until it reaches the inner stop **!**



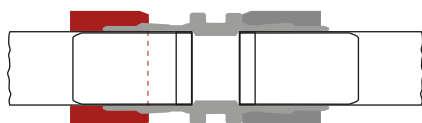
**5** Put the assembly jaws (08) in place behind the LOKRING (07) and the assembly stop of the joint (06). Press the tube connection together. **!** Do not change the insertion depth of the tube and joint (06). Press the tube connection until the LOKRING (07) is flush to the assembly stop of the joint (06). Respect the curing time of the LOKPREP (05) before applying forces to the connection.



## EXAMPLES AS ASSEMBLY AID



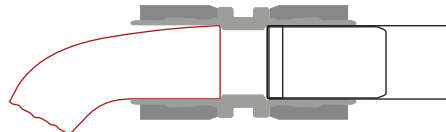
**Wrong:** LOKRING has not been pressed through to the assembly stop.



**Right:** LOKRING has been pressed flush to the assembly stop.



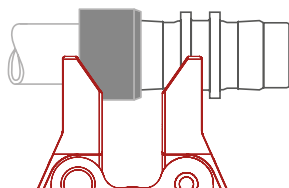
**Wrong:** Stabilisation insert is missing.



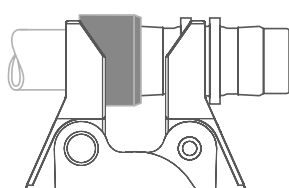
**Right:** Correct stabilisation insert is inserted.



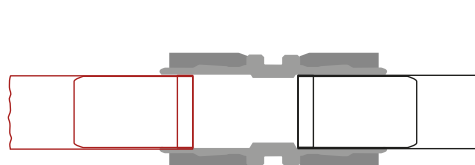
**Wrong:** Assembly jaws are not set in place correctly.



**Right:** Assembly jaws are set flush correctly.



**Wrong:** The tube is not pushed in as far as the inner stop.



**Right:** Push the tube in until you can feel the inner stop.

## CHOOSING THE STABILISATION INSERT

\* Use Ms stabilisation inserts for copper tube and Al stabilisation inserts for aluminium tube.

**Note:** Stabilisation inserts must not be used inside an NRA adaptor or inside the stainless steel tube of a EURO flare-fitting.

Article name      Stabilisation insert      Tube wall thickness in mm (S)

**LOKRING 6,35 VH Ms 08**

Outer tube diameter (Ø)      Tube material  
Ms for brass\* or Al for aluminium\*

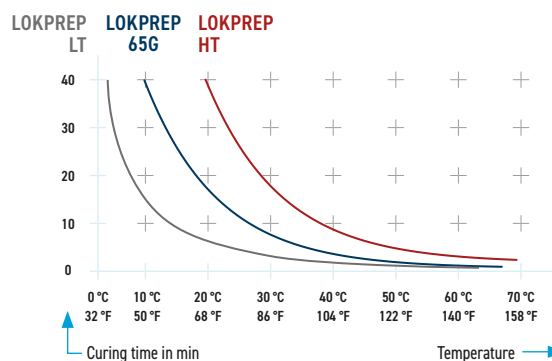
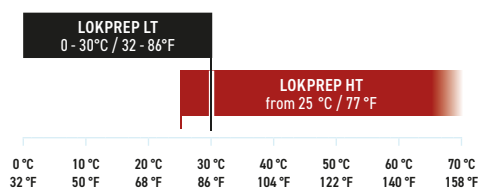
## CHOOSING THE LOKPREP



- Use an **aluminium LOKRING connector** and **LOKPREP 65G** for all connections from aluminium to aluminium or aluminium to copper. Always use a heat shrink sleeve for connections from aluminium to copper in order to protect the connection against corrosion.
- Use a **brass LOKRING connector** and **LOKPREP LT** or **LOKPREP HT** for all connections from copper to copper.



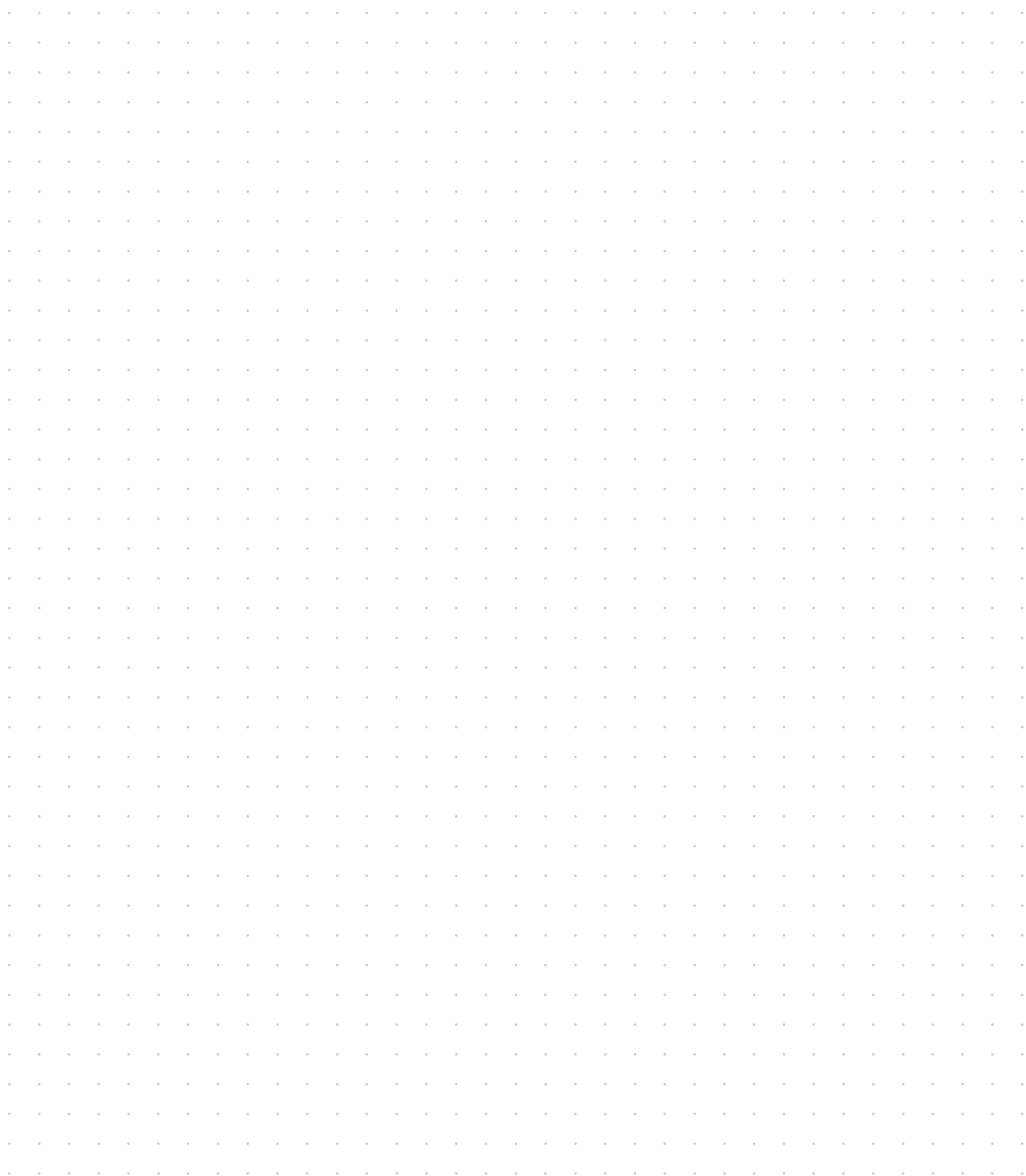
The following diagram shows the suitable temperature ranges for LOKPREP LT and LOKPREP HT.



LOKRING assemblies at an ambient temperature below 0°C (32°F) should be avoided, as the proper curing of LOKPREP cannot be guaranteed. If installation at temperatures below 0°C (32°F) cannot be avoided, it must be ensured that the joint is heated to above 0°C (32°F) after installation. However, the temperature due to heating must not exceed 100°C (212°F).







# ONLINE-SERVICE

FOR FURTHER INFORMATION, PLEASE REFER  
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# IMPRINT

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## **VALIDITY CLAUSE**

The LOKRING® tube connection technology represents a proven method of producing hermetically sealed metal-to-metal tube connections. The LOKRING® tube connections are mainly used in the refrigeration and air conditioning industries. The use of LOKRING® tube connection technology in other fields is to be discussed with VULKAN. VULKAN as the supplier is responsible for the qualitative delivery of the tube connections and tools which are ordered from this catalogue.

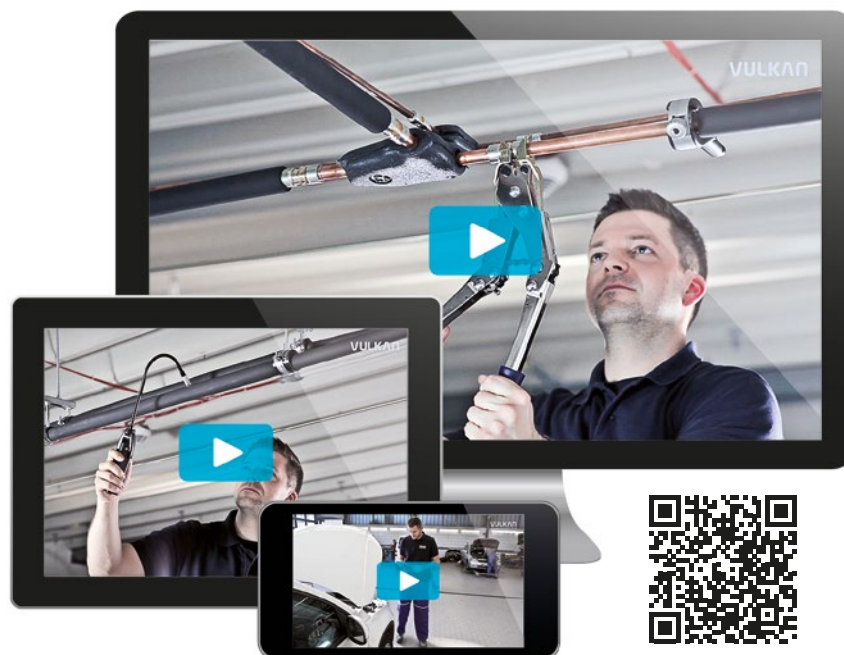
The purchaser is responsible for the use of the LOKRING® tube connections and tools as directed. The assembly has to be done accordingly to the instructions and exclusively with original LOKRING® parts. The present Refrigeration & Air Conditioning catalogue shall replace all previous editions, any previous printings shall no longer be valid. The data contained in this catalogue refers to the valid state of affairs in time of the copy deadline. Any changes due to technical progress are reserved.

**Status:** 12/2024

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Further remarks for the LOKRING® assembly are available on request.

**Article no.:** L19000188

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