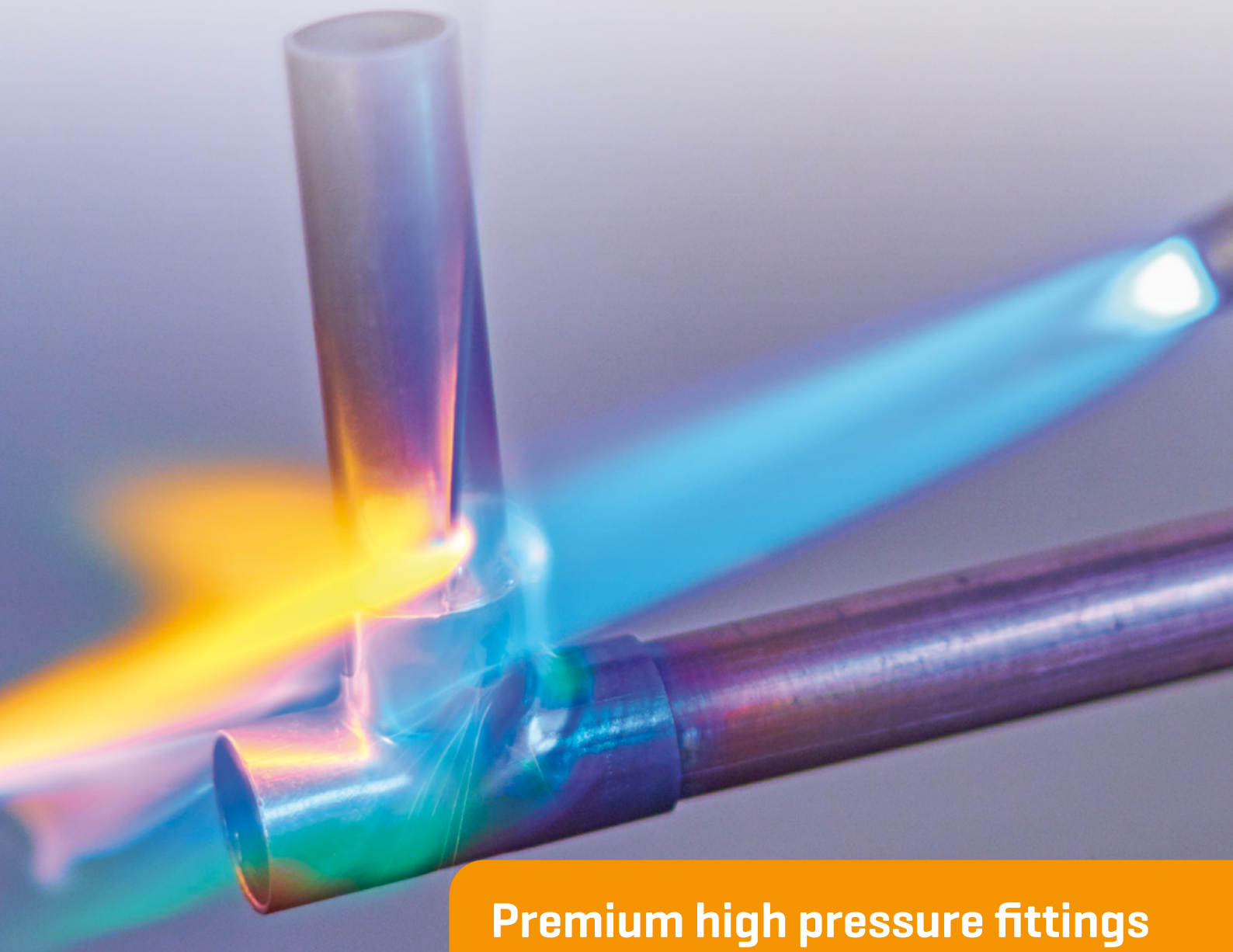


**SANHA RefHP® –  
Premium Piping System**

**SANHA®**  
a perfect fit



**Premium high pressure fittings  
for the refrigerant industry**

Withstand the highest pressure - High precision - Safe installation

# Quality pays for itself - with the premium SANHA RefHP® piping system

Many modern-day applications, from air conditioning to commercial and industrial refrigeration, employ more and more non-fluorinated refrigerants such as R744. However, the use of this medium, while highly efficient and environmentally friendly, leads to higher operating pressures of up to 130 bar at 150 °C.

For high-pressure applications like these, SANHA® has diligently developed its series 29000 SANHA RefHP® system. Easy to install in compliance with TÜV Material Data Sheet 567 and info sheet AD-2000 Merkblatt 6/2 and economically viable, the SANHA RefHP® system provides the optimal solution for your needs when it comes to cooling applications

**What is more: High operating pressures require the highest possible safety standards for humans and the environment alike. Our high pressure fittings ensure premium quality based on more than 50 years of experience in the field of solder fittings. In addition, production in our own factories sets standards and guarantees high precision when it comes to tolerances.**

## General advantages of our high pressure

- Ideal for use in high-pressure applications such as refrigeration and air-conditioning systems, especially for CO<sub>2</sub> systems
- For pressures up to 130 bar
- UL tested and certified up to 130 bar
- RefHP® fittings are compatible with all four CuFe pipe types available on the market, offering a high degree of flexibility: KME – CL12 · HALCOR – TALOS XS · Wieland – K65 · Mueller – XHP
- SANHA® has more than 50 years of experience in the production of solder fittings and maintains very close manufacturing tolerances.
- Cost competitive to K65
- Highest European quality through production at our own plant in Ternat, Belgium.
- Wide range of fittings up to 2 5/8".
- Optimum cleaning of the fittings results in a carbon value of <math><0.5\text{mg C/dm}^2</math>. This is decisive for the quality of the soldered connection as carbon residues can lead to pitting corrosion at higher soldering temperatures.

## Facts & figures

The SANHA RefHP® system is made from CuFe2P. This high-strength material is harder than traditional copper and as such can resist higher operating pressure even after hard soldering. At the same time, the material is insensitive to stress corrosion cracking and exhibits a high resistance to natural atmosphere.

Contrary to stainless steel, SANHA RefHP® fittings and pipes are connected by capillary brazing and not welded. This makes them easy to install even without expensive specialist welders, needs no yearly training sessions and subsequently reduces installation time and cost noticeably.

The SANHA RefHP® system is therefore particularly well suited for use in air conditioning, commercial or industrial refrigeration systems or any refrigeration system using CO<sub>2</sub> / R744 or similar media with operating pressures of up to 130 bar (for higher pressures or more information please contact our Technical Support at [technik@sanha.com](mailto:technik@sanha.com) or +49 2054 925170).

## Technical data

SANHA RefHP® fittings for capillary brazing made of CuFe2P for piping made of copper materials are specially developed for energy-efficient cooling systems and have inch dimensions (diameter) according to ASTM B 280. Their dimensions and tolerances comply with product standards EN 1254-1 and EN 1254-5 and are appropriate for 'lap joints' according to EN 14276-1, Annex B in piping according to EN 378-2 and EN 14276-2. Fittings and pipes must be connected with silver solder with min. 2 % Ag. For connections with materials according to prEN 1412 (except numbers 000 and 400) we advise flux FH 10 (SANHA art.no. 84948) according to EN 1045.

### Operating conditions for SANHA RefHP® Fittings from CuFe2P

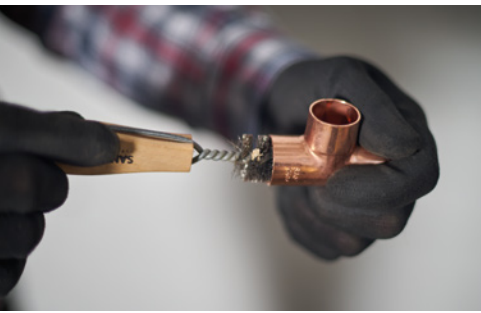
Outside pipe diameter	d ≤ 2 5/8"
Operating pressure	130 bar
Operating temperature SANHA RefHP®	-196 °C up to +150 °C

## solder fittings

- Easy recognition before and after installation: Pipes and fittings are clearly marked so that all components can be identified at a glance. In addition, the material is slightly magnetic and can be easily distinguished from copper using a neodymium magnet – a very practical advantage!
- Corrosion-proof material
- The highly stable CuFe2P ensures easy and cost-effective installation.
- Excellent machining properties, no toxic chemical elements.
- Makes a significant contribution to an energy-efficient and environmentally-friendly cooling system:
  - Compared to conventional systems, as much as 25 % energy can be saved in transcritical CO<sub>2</sub> systems!
  - This is particularly important for supermarkets, where cooling systems operate 24/7.
- Suitable for installation under the European Pressure Equipment Directive.
- Transition fittings available in metric sizes.

### Advantages over TIG welding of stainless steel

- The lower weight compared to stainless steel reduces installation costs, material use and improves handling.
- Quick and easy installation thanks to proven and installer-friendly soldering technology compared to TIG welding.



### 29001a Bend 90° 1M

Article Nr.	Dimension
129001A38	3/8
129001A12	1/2
129001A58	5/8
129001A34	3/4
129001A78	7/8
129001A118	1 1/8
129001A138	1 3/8
129001A158	1 5/8
129001A218	2 1/8
129001A258	2 5/8

### 29002a Bend 90° 2M

Article Nr.	Dimension
129002A38	3/8
129002A12	1/2
129002A58	5/8
129002A34	3/4
129002A78	7/8
129002A118	1 1/8
129002A138	1 3/8
129002A158	1 5/8
129002A218	2 1/8
129002A258	2 5/8

### 29002AR Bend Reduction

Article Nr.	Dimension
129002AR7834	7/8 x 3/4
129002AR11878	1 1/8 x 7/8
129002AR138118	1 3/8 x 1 1/8
129002AR158138	1 5/8 x 1 3/8

### 29040 Bend 45° 1M

Article Nr.	Dimension
12904038	3/8
12904012	1/2
12904058	5/8
12904034	3/4
12904078	7/8
129040118	1 1/8
129040138	1 3/8
129040158	1 5/8
129040218	2 1/8

### 29041 Bend 45° 2M

Article Nr.	Dimension
12904138	3/8
12904112	1/2
12904158	5/8
12904134	3/4
12904178	7/8
129041118	1 1/8
129041138	1 3/8
129041158	1 5/8
129041218	2 1/8



### 29130 Tee

Article Nr.	Dimension	Article Nr.	Dimension	Article Nr.	Dimension
12913038	3/8	129130341434	3/4 x 1/4 x 3/4	12913013814138	1 3/8 x 1/4 x 1 3/8
12913012	1/2	129130341234	3/4 x 1/2 x 3/4	12913013834138	1 3/8 x 3/4 x 1 3/8
12913058	5/8	129130345834	3/4 x 5/8 x 3/4	12913013878138	1 3/8 x 7/8 x 1 3/8
12913034	3/4	129130343412	3/4 x 3/4 x 1/2	129130138118138	1 3/8 x 1 1/8 x 1 3/8
12913078	7/8	129130343458	3/4 x 3/4 x 5/8	12913013813834	1 3/8 x 1 3/8 x 3/4
129130118	1 1/8	129130781478	7/8 x 1/4 x 7/8	12913013813878	1 3/8 x 1 3/8 x 7/8
129130138	1 3/8	129130781278	7/8 x 1/2 x 7/8	129130138138118	1 3/8 x 1 3/8 x 1 1/8
129130158	1 5/8	129130785878	7/8 x 5/8 x 7/8	12913015814158	1 5/8 x 1/4 x 1 5/8
129130218	2 1/8	129130783478	7/8 x 3/4 x 7/8	12913015834158	1 5/8 x 3/4 x 1 5/8
129130258	2 5/8	129130787812	7/8 x 7/8 x 1/2	12913015878158	1 5/8 x 7/8 x 1 5/8
129130381238	3/8 x 1/2 x 3/8	129130787858	7/8 x 7/8 x 5/8	129130158118158	1 5/8 x 1 1/8 x 1 5/8
129130123838	1/2 x 3/8 x 3/8	129130787834	7/8 x 7/8 x 3/4	129130158138158	1 5/8 x 1 3/8 x 1 5/8
129130123812	1/2 x 3/8 x 1/2	12913011814118	1 1/8 x 1/4 x 1 1/8	12913015815878	1 5/8 x 1 5/8 x 7/8
129130121238	1/2 x 1/2 x 3/8	1291301181278	1 1/8 x 1/2 x 7/8	129130158158118	1 5/8 x 1 5/8 x 1 1/8
129130583858	5/8 x 3/8 x 5/8	12913011834118	1 1/8 x 3/4 x 1 1/8	129130158158138	1 5/8 x 1 5/8 x 1 3/8
129130581212	5/8 x 1/2 x 1/2	1291301187812	1 1/8 x 7/8 x 1/2	12913021814218	2 1/8 x 1/4 x 2 1/8
129130581258	5/8 x 1/2 x 5/8	12913011878118	1 1/8 x 7/8 x 1 1/8	129130218138218	2 1/8 x 1 3/8 x 2 1/8
129130585838	5/8 x 5/8 x 3/8	12913011811834	1 1/8 x 1 1/8 x 3/4	129130218158218	2 1/8 x 1 5/8 x 2 1/8
129130585812	5/8 x 5/8 x 1/2	12913011811878	1 1/8 x 1 1/8 x 7/8		

**29240  
Reduction**



Article Nr.	Dimension
1292401238	1/2 x 3/8
1292405812	5/8 x 1/2
1292403458	3/4 x 5/8
1292407834	7/8 x 3/4
12924011812	1 1/8 x 1/2
12924011878	1 1/8 x 7/8
12924013812	1 3/8 x 1/2
12924013858	1 3/8 x 5/8
12924013834	1 3/8 x 3/4
12924013878	1 3/8 x 7/8
129240138118	1 3/8 x 1 1/8
12924015834	1 5/8 x 3/4
12924015878	1 5/8 x 7/8
129240158118	1 5/8 x 1 1/8
129240158138	1 5/8 x 1 3/8
129240218158	2 1/8 x 1 5/8
129240258218	2 5/8 x 2 5/8

**29243  
Reduction**



Article Nr.	Dimension
1292431238	1/2a x 3/8
1292435838	5/8a x 3/8
1292435812	5/8a x 1/2
1292433438	3/4a x 3/8
1292433412	3/4a x 1/2
1292433458	3/4a x 5/8
1292437838	7/8a x 3/8
1292437812	7/8a x 1/2
1292437858	7/8a x 5/8
1292437834	7/8a x 3/4
12924311812	1 1/8a x 1/2
12924311858	1 1/8a x 5/8
12924311834	1 1/8a x 3/4
12924311878	1 1/8a x 7/8
129243138118	1 3/8a x 1 1/8
12924315878	1 5/8a x 7/8
129243158138	1 5/8a x 1 3/8
129243218118	2 1/8a x 1 1/8
129243218158	2 1/8a x 1 5/8
129243258218	2 5/8a x 2 1/8

**29301  
End cap**



Article Nr.	Dimension
12930138	3/8
12930112	1/2
12930158	5/8
12930134	3/4
12930178	7/8
129301118	1 1/8
129301138	1 3/8
129301158	1 5/8
129301218	2 1/8

**29245  
SANHA Ref HP Coupling M/F**

Article Nr.	Dimension
12924534	3/4
12924578	7/8
129245118	1 1/8
129245138	1 3/8
129245158	1 5/8
129245218	2 1/8

**29270  
Coupling**



Article Nr.	Dimension
12927038	3/8
12927012	1/2
12927058	5/8
12927034	3/4
12927078	7/8
129270118	1 1/8
129270138	1 3/8
129270158	1 5/8
129270218	2 1/8
129270258	2 5/8

**29243IM  
Reduction**



Article Nr.	Dimension
129243IM3810	3/8a x 10
129243IM1212	1/2a x 12
129243IM5815	5/8a x 15
129243IM3418	3/4a x 18
129243IM7822	7/8a x 22
129243IM11828	1 1/8a x 28
129243IM13835	1 3/8a x 35
129243IM15842	1 5/8a x 42



responsible  
sustainable  
fair.

## A partner you can trust

### SANHA<sup>®</sup> offers convincing advantages



As a family-owned company since 1964, we have been following a simple principle for many decades: every pipe and every fitting must offer the customer added value in terms of safety and practical benefits at fair prices - sustainably, of course. This is our aim, our claim and at the same time the best recommendation from our satisfied customers.

As a specialist for piping systems, we offer a unique range of products for all common connection technologies and applications as a one-shop solution. Proven techniques are just as much part of our programme as well as practical new developments.

**Therefore: SANHA. Always a perfect fit!**

#### Your advantages:

**Always a perfect fit** Our customers are central to all our activities. As a family enterprise, SANHA highly values an active close and long-term relationship with all our partners, from designers, installers, contractors and trading companies. With decades of experience in the market, we are committed to close support of our customers, with a highly experience local and international technical service.

**Large product range** SANHA offers a wide range of materials, products and dimensions, multiple connection methods as well as significant expertise and experience – all from a one stop shop.

**Nationwide technical service** SANHA is pleased to offer a wide range of services from installation training, online seminars, design advice, planning service, specifications and on-site support as and when required.

**For what is yet to come** With an active CSR and sustainability strategy, we help to protect our climate and environment, promote sports and culture and are always respectful with our employees and partners.