

# SANHA RefHP

## Series 29000

In air conditioning and refrigeration technology, particularly in commercial and industrial refrigeration systems, environmentally friendly solutions are becoming more and more important. Optimum results are being obtained by an increase in efficiency and the use of ecologically safe refrigerants such as CO<sub>2</sub> (R744), which are mainly used in the transcritical part with higher operating pressures. However, the use of CO<sub>2</sub> leads to higher operating pressures potentially up to 130 bar.

SANHA Ref HP fittings are specifically designed for such operating pressures. They are ideally suited for pipes in refrigeration systems with a maximum operating pressure of up to 130 bar (other pressures on request), a minimum temperature of -196 °C and a maximum temperature of 150 °C for fluids in Group 2 according to European Pressure Equipment Directive (PED 97 / 23 / EC). Dimensions and tolerances for capillary joints in accordance with the EN 14276-1, Annex B with pipes according to EN 378-2 and EN 14276-2. Fittings and pipes must be connected with silver solder with min. 5 % Ag according to EN ISO 17672 (SANHA article number 84938). We also recommend the use of a flux FH 10 in accordance with DIN EN 1045 for brazing of copper alloys. The installation of the fittings must be in compliance with all relevant technical rules and regulations, in particular DIN EN 378-2 "Refrigeration systems and heat pumps", must be followed in detail. SANHA Ref HP fittings are marked with the engraving "SA CuFe" and the respective dimension.

### Operating conditions for SANHA Ref HP high pressure fittings from CuFeP2

Outside pipe diameter	d ≤ 2 5/8"
Operating pressure	130 bar
Operating temperature	-196 °C – +150 °C

Please pay particular attention to our technical documentation and installation instructions! Technical customer support: If you have technical questions regarding our systems or the fields of application you can contact us at [uk@sanha.com](mailto:uk@sanha.com) or 01628 819245.

## FEATURES

### General advantages of our high pressure solder fittings

- 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
- RefHP fittings are compatible with all three CuFe pipe types available on the market, offering a high degree of flexibility: KME – CL12 | HALCOR – TALOS XS | Wieland – K65
- 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 <0.5mg C/dm<sup>2</sup>. This is decisive for the quality of the soldered connection as carbon residues can lead to pitting corrosion at higher soldering temperatures.
- 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.

## Product catalogue I (Series 29000)

### 29001A

AUG 057

Bend 90°, female/male solder end



Article No.	Dimension	Bag	Box	
129001A38	3/8	10	600	
129001A12	1/2	10	400	
129001A58	5/8	10	250	
129001A34	3/4	10	130	
129001A78	7/8	10	100	
129001A118	1 1/8	5	50	
129001A138	1 3/8	2	20	
129001A158	1 5/8	2	14	
129001A218	2 1/8	2	8	
129001A258	2 5/8	2	4	

### 29040

AUG 057

Bend 45°, female/male solder end



Article No.	Dimension	Bag	Box	
12904038	3/8	10	800	
12904012	1/2	10	500	
12904058	5/8	10	300	
12904034	3/4	10	200	
12904078	7/8	10	120	
129040118	1 1/8	5	60	
129040138	1 3/8	2	30	
129040158	1 5/8	2	20	
129040218	2 1/8	2	8	

### 29002A

AUG 057

Bend 90°, female/female solder end



Article No.	Dimension	Bag	Box	
129002A38	3/8	10	600	
129002A12	1/2	10	400	
129002A58	5/8	10	200	
129002A34	3/4	10	130	
129002A78	7/8	10	80	
129002A118	1 1/8	5	40	
129002A138	1 3/8	2	20	
129002A158	1 5/8	2	14	
129002A218	2 1/8	2	8	
129002A258	2 5/8	2	4	

### 29041

AUG 057

Bend 45°, female/female solder end



Article No.	Dimension	Bag	Box	
12904138	3/8	10	800	
12904112	1/2	10	500	
12904158	5/8	10	300	
12904134	3/4	10	200	
12904178	7/8	10	120	
129041118	1 1/8	5	60	
129041138	1 3/8	2	30	
129041158	1 5/8	2	20	
129041218	2 1/8	2	8	

### 29002AR

AUG 057

Bend 90°, reduced F/F



Article No.	Dimension	Bag	Box	
129002AR7834	7/8 x 3/4	10	100	
129002AR11878	1 1/8 x 7/8	5	40	
129002AR138118	1 3/8 x 1 1/8	2	20	
129002AR158138	1 5/8 x 1 3/8	2	18	

### 29130

AUG 057

Tee, female solder ends



Article No.	Dimension	Bag	Box	
12913038	3/8	10	500	
12913012	1/2	10	350	
12913058	5/8	10	200	
12913034	3/4	10	100	
12913078	7/8	10	70	
129130118	1 1/8	5	35	



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### 29130

AUG 057

Tee, female solder ends



Article No.	Dimension	Bag	Box	
129130138	1 3/8	2	20	
129130158	1 5/8	2	12	
129130218	2 1/8	2	8	
129130258	2 5/8	2		
129130381438	3/8 x 1/4 x 3/8	10		
129130381238	3/8 x 1/2 x 3/8	10		
129130123838	1/2 x 3/8 x 3/8	10	400	
129130123812	1/2 x 3/8 x 1/2	10	350	
129130121238	1/2 x 1/2 x 3/8	10	350	
129130583858	5/8 x 3/8 x 5/8	10	250	
129130581212	5/8 x 1/2 x 1/2	10	200	
129130581258	5/8 x 1/2 x 5/8	10	200	
129130585838	5/8 x 5/8 x 3/8	10	200	
129130585812	5/8 x 5/8 x 1/2	10	200	
129130341434	3/4 x 1/4 x 3/4	10		
129130341234	3/4 x 1/2 x 3/4	10	130	
129130345834	3/4 x 5/8 x 3/4	10	140	
129130343412	3/4 x 3/4 x 1/2	10	140	
129130343458	3/4 x 3/4 x 5/8	10	120	
129130781478	7/8 x 1/4 x 7/8	10		
129130781278	7/8 x 1/2 x 7/8	10	120	
129130785878	7/8 x 5/8 x 7/8	10	100	
129130783478	7/8 x 3/4 x 7/8	10	80	
129130787812	7/8 x 7/8 x 1/2	10	80	
129130787858	7/8 x 7/8 x 5/8	10	80	
129130787834	7/8 x 7/8 x 3/4	10	80	
12913011814118	1 1/8 x 1/4 x 1 1/8	5	50	
1291301181278	1 1/8 x 1/2 x 7/8	5		
12913011834118	1 1/8 x 3/4 x 1 1/8	5	50	
1291301187812	1 1/8 x 7/8 x 1/2	5	45	
12913011878118	1 1/8 x 7/8 x 1 1/8	5	50	
12913011811834	1 1/8 x 1 1/8 x 3/4	5	40	
12913011811878	1 1/8 x 1 1/8 x 7/8	5	35	
12913013814138	1 3/8 x 1/4 x 1 3/8	2	30	
12913013834138	1 3/8 x 3/4 x 1 3/8	2	30	
12913013878138	1 3/8 x 7/8 x 1 3/8	2	30	
129130138118138	1 3/8 x 1 1/8 x 1 3/8	2	24	
12913013813834	1 3/8 x 1 3/8 x 3/4	2	20	
12913013813878	1 3/8 x 1 3/8 x 7/8	2		
129130138138118	1 3/8 x 1 3/8 x 1 1/8	2	20	

### 29130

AUG 057

Tee, female solder ends



Article No.	Dimension	Bag	Box	
12913015814158	1 5/8 x 1/4 x 1 5/8	2	20	
12913015834158	1 5/8 x 3/4 x 1 5/8	2		
12913015878158	1 5/8 x 7/8 x 1 5/8	2		
129130158118158	1 5/8 x 1 1/8 x 1 5/8	2	20	
129130158138158	1 5/8 x 1 3/8 x 1 5/8	2	16	
12913015815878	1 5/8 x 1 5/8 x 7/8	2	14	
129130158158118	1 5/8 x 1 5/8 x 1 1/8	2	14	
129130158158138	1 5/8 x 1 5/8 x 1 3/8	2	14	
12913021814218	2 1/8 x 1/4 x 2 1/8	2	10	
129130218138218	2 1/8 x 1 3/8 x 2 1/8	2	8	
129130218158218	2 1/8 x 1 5/8 x 2 1/8	2	8	

### 29240

AUG 057

Reducing coupling, female/female solder end



Article No.	Dimension	Bag	Box	
1292401238	1/2 x 3/8	10	550	
1292405812	5/8 x 1/2	10	400	
1292403458	3/4 x 5/8	10	300	
1292407834	7/8 x 3/4	10	200	
12924011812	1 1/8 x 1/2	5	100	
12924011878	1 1/8 x 7/8	5	100	
12924013812	1 3/8 x 1/2	2	60	
12924013858	1 3/8 x 5/8	2	60	
12924013834	1 3/8 x 3/4	2	50	
12924013878	1 3/8 x 7/8	2	50	
129240138118	1 3/8 x 1 1/8	2	50	
12924015834	1 5/8 x 3/4	2	50	
12924015878	1 5/8 x 7/8	2	40	
129240158118	1 5/8 x 1 1/8	2	40	
129240158138	1 5/8 x 1 3/8	2	30	
129240218158	2 1/8 x 1 5/8	2	20	

## Product catalogue I (Series 29000)

### 29243

AUG 057

Fitting reducer, with female and male solder end



Article No.	Dimension	Bag	Box
1292431238	1/2a x 3/8	10	700
1292435838	5/8a x 3/8	10	500
1292435812	5/8a x 1/2	10	500
1292433438	3/4a x 3/8	10	350
1292433412	3/4a x 1/2	10	350
1292433458	3/4a x 5/8	10	300
1292437838	7/8a x 3/8	10	250
1292437812	7/8a x 1/2	10	250
1292437858	7/8a x 5/8	10	230
1292437834	7/8a x 3/4	10	200
12924311812	1 1/8a x 1/2	5	140
12924311858	1 1/8a x 5/8	5	100
12924311834	1 1/8a x 3/4	5	130
12924311878	1 1/8a x 7/8	5	100
129243138118	1 3/8a x 1 1/8	2	50
12924315878	1 5/8a x 7/8	2	40
129243158138	1 5/8a x 1 3/8	2	30
129243218118	2 1/8a x 1 1/8	2	20
129243218158	2 1/8a x 1 5/8	2	20
129243258218	2 5/8a x 2 1/8	2	16

### 29243IM

AUG 057

Fitting reducer, changeover inch/metric



Article No.	Dimension	Bag	Box
129243IM3810	3/8a x 10	10	
129243IM1212	1/2a x 12	10	600
129243IM5815	5/8a x 15	10	400
129243IM3418	3/4a x 18	10	250
129243IM7822	7/8a x 22	10	200
129243IM11828	1 1/8a x 28	5	90
129243IM13835	1 3/8a x 35	2	44
129243IM15842	1 5/8a x 42	2	26

### 29245

AUG 057

Coupling M/F



Article No.	Dimension	Bag	Box
12924534	3/4	10	200
12924578	7/8	10	150
129245118	1 1/8	5	80
129245138	1 3/8	2	40
129245158	1 5/8	2	30
129245218	2 1/8	2	20

### 29270

AUG 057

Coupling, female/female solder end



Article No.	Dimension	Bag	Box
12927038	3/8	10	750
12927012	1/2	10	500
12927058	5/8	10	300
12927034	3/4	10	200
12927078	7/8	10	150
129270118	1 1/8	5	70
129270138	1 3/8	2	40
129270158	1 5/8	2	24
129270218	2 1/8	2	14
129270258	2 5/8	2	

### 29301

AUG 057

Cap, female solder end



Article No.	Dimension	Bag	Box
12930138	3/8	10	1000
12930112	1/2	10	800
12930158	5/8	10	500
12930134	3/4	10	500
12930178	7/8	10	200
129301118	1 1/8	5	100
129301138	1 3/8	2	60
129301158	1 5/8	2	40
129301218	2 1/8	2	20