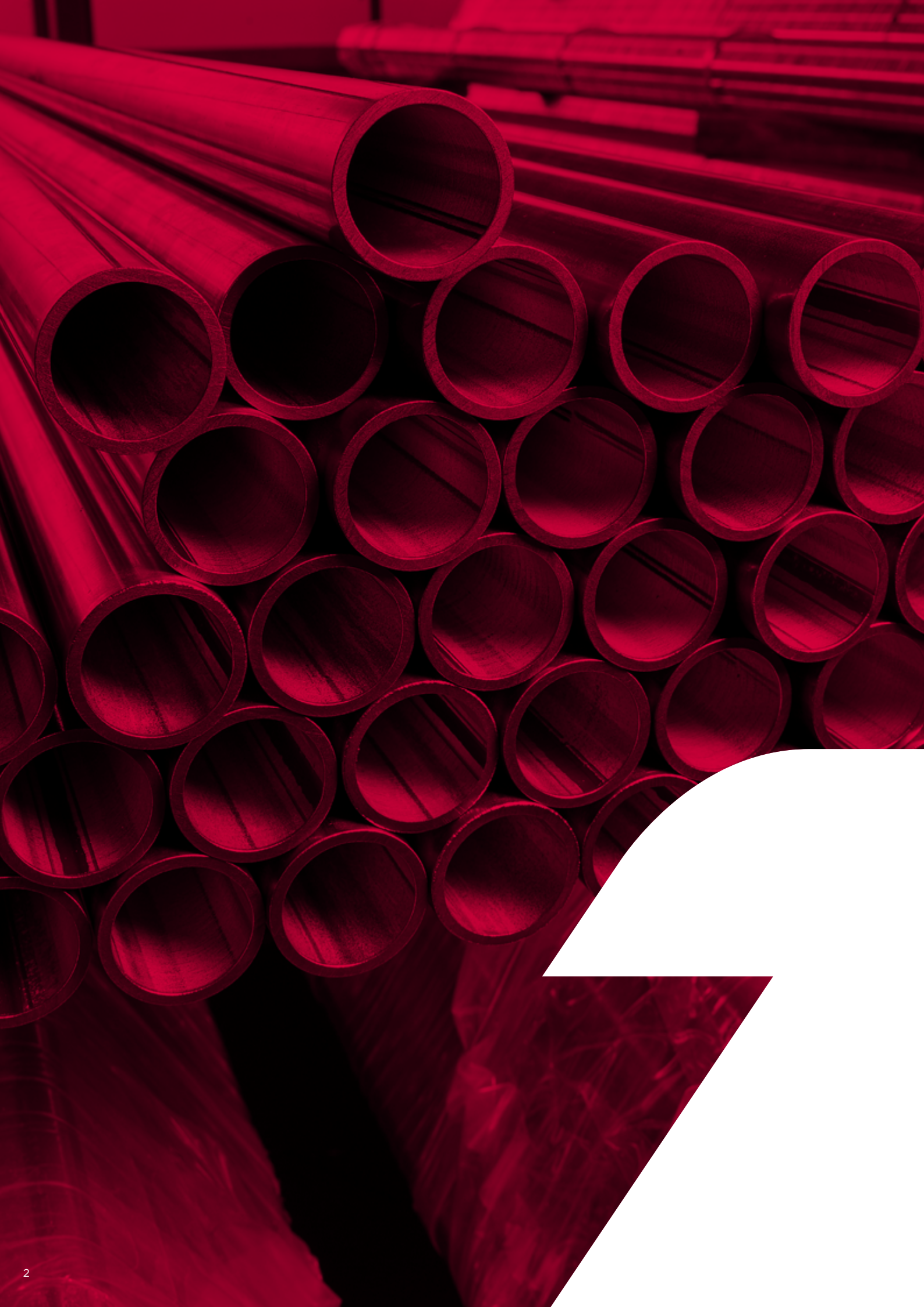
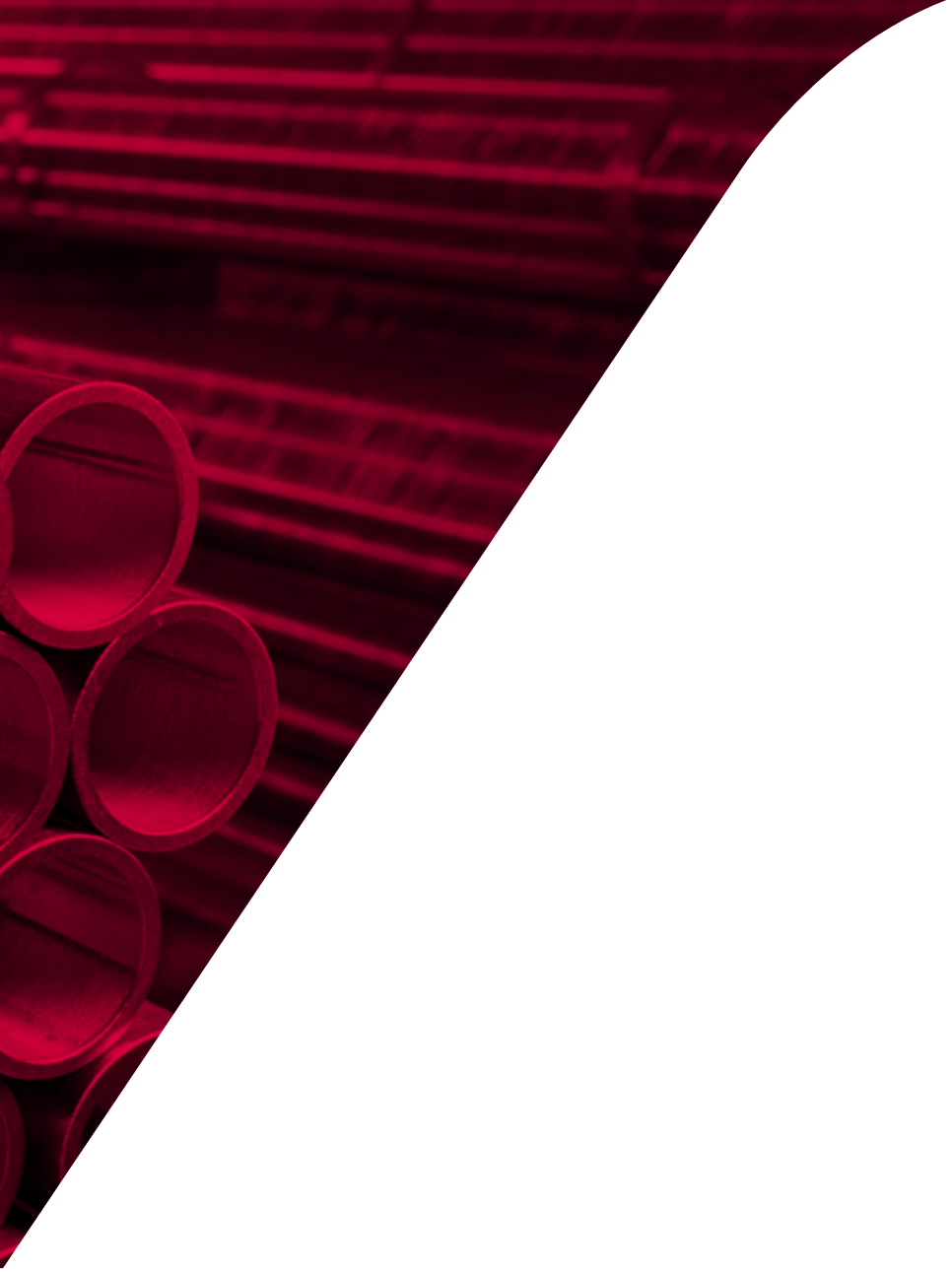
aalberts integrated piping systems

VSH CoolPress

EN technical manual





contents

Aalberts integrated piping systems

don’t just buy products, buy solutions.

piping technology

we are Aalberts integrated piping systems

Aalberts integrated piping systems engineers the most advanced integrated piping systems for the distribution and control of liquids and gases for key verticals, like industrial, utilities, commercial and residential. We offer fully integrated piping systems in valve, connection, fastening and piping technology. We work hand-in-hand with our customers to create the perfect integrated piping system, that meets their requirements. Our piping systems are easy to specify, install, control and maintain, saving important preparation and installation time. We meet the highest quality and industry standards needed in the selected verticals. We are the only business that truly offers its customers a single sourced and complete integrated piping solution, each and every time.
Don't just buy products, buy solutions.

our mission

With our integrated piping systems, supported by our unique Digital Design Service, we ensure that you will always get the best and easiest solution for the installation of an integrated piping system. From the moment that your plan is designed, you can get advice on complete and tailored solutions.
With our Revit Plug-in you have digital access to the complete product offering within Aalberts integrated piping systems. This information is always accessible and up to date, allowing the design of an optimal and economically attractive installation that will meet all your demands. So whether the task is project conception, installation, or ongoing maintenance, we are the company that truly delivers a complete system and service offering. Our know-how, our can-do attitude, and our relentless innovation come as standard. We will sweat the small stuff in our quest to find the perfect solutions, even if we have to invent them.
This is how we deliver excellence.

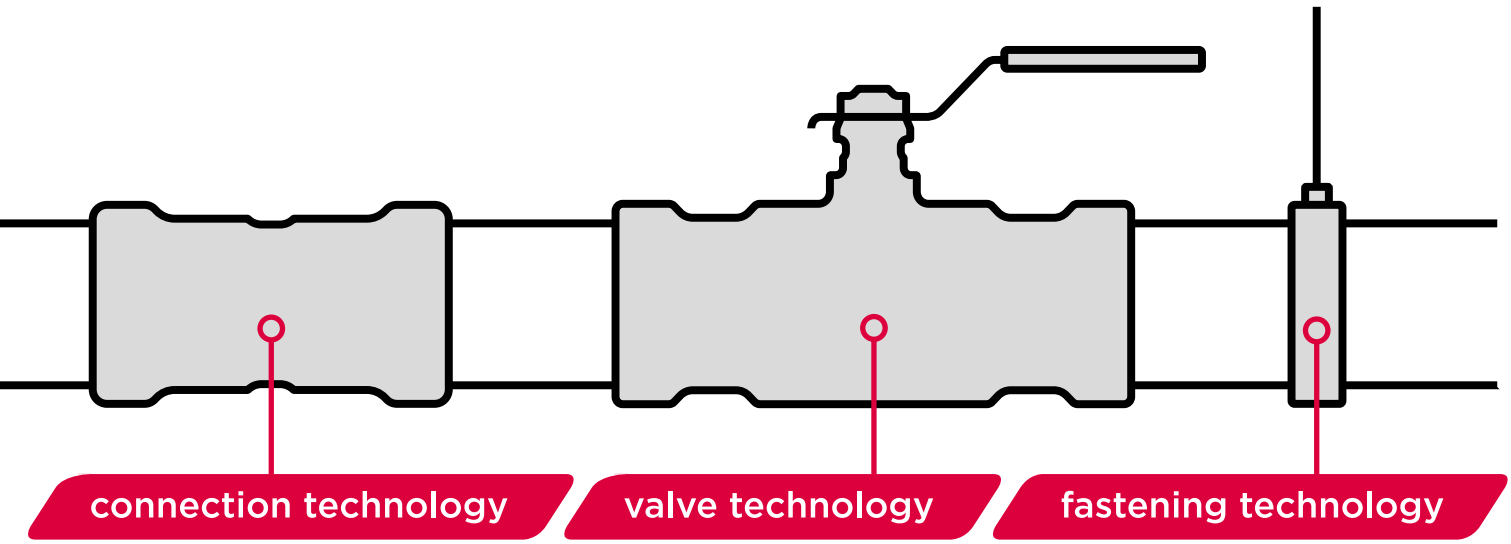
our way of working

We operate from various regions around the globe: America, EMEA and APAC. As we have multiple locations in many countries, we are always close to our customers. More than 3500 mission critical employees are persistent to offer the best integrated piping system. We work on our products, solutions and services every day. No matter how big the opportunity is, when we say we've got this, we won't let go until there is nothing left to learn. We improve ourselves by exchanging knowledge and experience to stay ahead of our competitors.
Good is never good enough.

With our sustainable spirit we contribute to circularity every single day. This belief is strongly linked to the way we do business. Rethink, reduce and recycle. We are entrepreneurial and take ownership in everything we do. We are convinced that self-development and diversity is essential.
The Aalberts way, winning with people.

the strength of Aalberts integrated piping systems

- the perfect solution for every project
- smart, fast and efficient installation
- valuable advice from the drawing board to delivery
- a very wide product range



For more information about Aalberts integrated piping systems, go to www.aalberts-ips.com

our easy to connect product lines

Aalberts integrated piping systems is the combination of different companies with individual, well-known brands. Together they offer the best integrated piping system for now and in the future.

our product lines

We offer product ranges that:

- connect seamlessly
- are available in dimensions from 6 mm up to 104" (DN2600)
- can be used for thick-walled pipe and thin-walled metal or plastic tube
- have press, compression, groove and push connections
- can be expanded with valves and accessories
- are BIM ready

connection technology

VSH delivers piping systems throughout the world for over 90 years. In the 1970's VSH brought the well-known VSH Super compression fitting on the market. Nowadays the range consists of various press, compression and push systems for thin and thick walled metal as well as plastic.

Shurjoint history dates back to 1974 when they produced their first grooved couplings, produced from malleable iron. Shurjoint is recognized as a world leader in the design and manufacture of mechanical piping components.

valve technology

Pegler is a globally respected brand known for high-quality plumbing, heating, and engineering products. Since the 1890s, its reputation has been built on innovation, quality and strong customer service. Today, Pegler is still a key player in the valve industry, continuously designing new valve solutions.

fastening technology

The **FastFix** fastening range consists of brackets, rails and accessories for secure and efficient mounting. Designed for practical use across various applications, our products combine reliability with ease of installation. Whether for industrial setups or everyday solutions, we help you build with confidence.

FastFix

material	carbon steel / stainless steel
finishes	zinc plated / hot dip galvanised
suitable for	all types of piping systems
connection	¼" - 16" (DN8 – DN400)
options	with or without sound-absorbing insert & thermal insulation

VSH CoolPress

material	copper
suitable for	copper
connection	press / specific profile
Abmessungen	¼" - 1⅜"

VSH PowerPress®

material	carbon steel
suitable for	thick-walled steel
connection	press / DW-profile
dimensions	½" - 2" (DN15 – DN50)

VSH SudoPress

material	carbon steel / stainless steel / copper
suitable for	carbon steel / stainless steel / copper
connection	press / V-profile
dimensions	12 – 108 mm (DN10 – DN100)

VSH Shurjoint

material	ductile iron / stainless steel
suitable for	thick-walled steel / stainless steel / HDPE
connection	groove
dimensions	½" - 104" (DN15 – DN2600)

VSH Super

material	brass
suitable for	carbon steel / stainless steel / copper / plastic
connection	compression
dimensions	6 – 54 mm (DN4 – DN50)

VSH SmartPress

material	stainless steel
suitable for	stainless steel (schedule 5S/10S)
connection	press / V-profile (ASP)
dimensions	½" - 2" (DN15 – DN50)

Pegler Valves

material	brass / bronze / carbon steel / stainless steel
suitable for	steel / carbon steel / stainless steel / copper
connection	threaded / press / push / flange
dimensions	½" – 12" (DN15 – DN300)

Pegler ProFlow

material	brass / ductile iron
suitable for	carbon steel / stainless steel / copper / plastic
connection	threaded / press / flange
dimensions	½" – 12" (DN15 – DN300)

Seppelfricke

material	brass
suitable for	steel / carbon steel / stainless steel / copper
connection	press (V & M profile) / threaded
dimensions	10 – 54 mm (DN8 – DN50)

VSH XPress

material	carbon steel / stainless steel / copper / cunifer
suitable for	carbon steel / stainless steel / copper / cunifer
connection	press / M-profile
dimensions	12 – 108 mm (DN10 – DN100)

VSH UltraPress

material	PPSU / brass
suitable for	plastic
connection	press / U & TH profile
dimensions	14 – 63 mm (DN10 – DN50)

VSH Tectite

material	copper / brass / stainless steel
suitable for	copper / carbon steel / stainless steel
connection	push
dimensions	10 – 54 mm (DN8 – DN50)

VSH CoolPress

VSH CoolPress press fittings are suitable for air conditioning, cooling and refrigeration (HVAC, VRV and VRF) up to 48 bar. The VSH CoolPress product range consists of press fittings and tools. The fittings are made of copper and have a specific V-shaped profile. A VSH CoolPress piping system offers installers a safe, fast and easy solution for cooling applications, especially when comparing it to brazing.

the advantages of VSH CoolPress

- secure, fast and easy connection technology
- fittings ranging from ¼" to 1⅜"
- clearly visible turquoise HNBR o-rings
- laser marking for identification
- professional and appropriate press tools
- installation without open flames or other heat sources

guaranteed performance

We guarantee a consistent quality and supply, with all fittings being manufactured in Europe. In order to ensure high-value manufacturing, all fittings undergo leak testing. All reducers are made from a single piece so there is no risk of leakage. The fittings have a compact design which has benefits for recessed piping systems. The smooth surface of the fittings and tubes ensure excellent flow characteristics.

reliable

With VSH CoolPress systems, the quality of the connections is mainly determined by the used tools and not the installer, thereby considerably reducing the risk of errors during installation.

easy and clean

Compared to other 'cold' connection methods, VSH CoolPress is an extremely user-friendly solution:

- it dispenses the need for complicated fastening techniques, time-consuming preparations and drying times. Installation is fast, clean and needs no lubrication.
- easy insertion of the tube into the fitting due to the special design of the fittings.
- short radius bends ensure compact and space saving installation.
- above features do not require any special installation skills and can be carried out in a pleasant and safe environment.

safe

The installation of the VSH CoolPress system does not require any heat source (like soldering or brazing) or other heavy or potentially dangerous tools. This makes VSH CoolPress an ideal solution for repairs and renovation projects, as it reduces on site disturbance to a minimum.

fast

This simple and fast press connection technology and the short tube preparation time result in further considerable savings on installation costs, as connections are achieved only by using press tools.

insertion depth marking

Safe and secure connections depend on correct insertion depths. For that reason our VSH CoolPress insertion depth marking tool should be used.

VSH CoolPress

technical data

applications

cooling installations

VSH CoolPress fittings with copper tubes that fulfil EN 12735-1, 12735-2, ASTM B88, ASTM B280

o-rings:	HNBR* (turquoise)
operating temperature:	-40°C to +121°C (-40°F to +250°F)
operating pressure and abnormal pressure (PSI or ASME Class):	48 bar (700 psi)
minimum burst press (PSI or ASME Class):	144 bar (2100 psi)
helium leak tightness at 20°C at 10 bars:	< 7.5 x 10^{-7} Pa.m^3/s
vacuum pressure capability:	< 200 microns

Pressure Equipment Directive (PED)

Since 19 July 2016, most pressure equipment and installations placed on the market must comply with the Pressure Equipment Directive (PED 2014/68/EU). This directive applies to items such as vessels, pressurized storage containers, heat exchangers, steam generators, boilers, industrial piping, safety equipment, and pressure accessories.

PED must be considered when piping components are assembled together to form an integrated pressure system. The party responsible for the integration is also responsible for complying with the PED requirements.

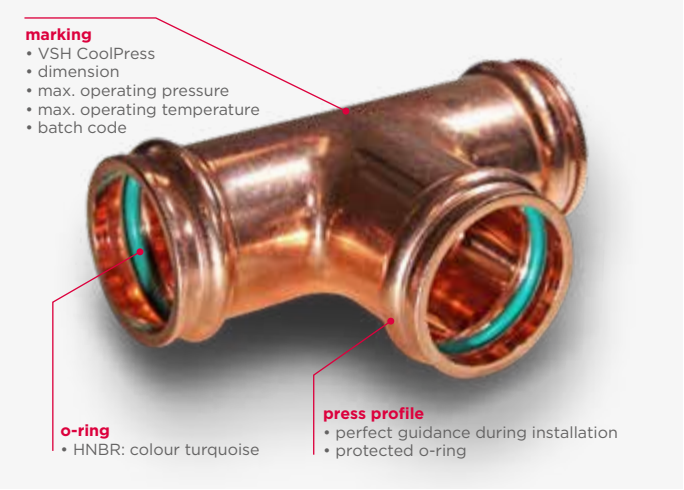
Please note that Article 4(3) of PED 2014 applies when DN < 25 or DN × PS < 1000, meaning only sound engineering practice and safe instructions for use and maintenance are required.

If these limit values are exceeded, the component falls into a PED category (I–IV). The exact classification depends on the fluid group, the nominal diameter, and the maximum allowable pressure according to the PED diagrams, and the corresponding conformity assessment procedures must be applied.

* Hydrogenated Nitrile Butadiene Rubber

fittings

technical characteristics



VSH CoolPress fittings are produced from Cu-DHP (CW024A), copper fitted with a turquoise HNBR o-ring as standard.

approved refrigerants

ASHRAE 34 safety group	refrigerants
A1	R-134a, R-404A, R-407A, R-407B, R-407C, R-407F, R-407G, R-407H, R-410A, R-417A, R-427A, R-448A, R-449A, R-449B, R-449C, R-450A, R-452A, R-452C, R-513A, R-513B, R-718
A2L	R-452B*, R-32*, R-454A*, R-454B*, R-454C*, R-1234yf*, R-1234ze*
A3	R-290*, R-600*, R-600A*

* UL approved but not listed

Note: the installer is responsible for the correct use of refrigerants with different safety classifications (A2/A2L & A3). All applicable standards, local regulations and safety guidelines must be strictly observed. Don't use with refrigerants that are not mentioned in the list above.

compatible oils

POE, PAO, PVE, PAG, AB and MO.

approvals & standards

VSH CoolPress refrigerant fittings are approved and listed according to UL standard UL207, file SA46302.

UL207
- fatigue test

UL109
- pull test
- vibration test

UL1963
- gasket & seal tests

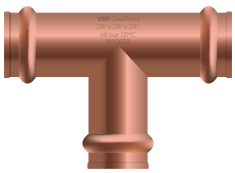
ASTM G85
- annex A3 (seawater acidified test)

ISO 14903
- 7.4 tightness test
- 7.6 pressure-temperature vibration test
- 7.8 freezing test
- 7.10 vacuum test

tubes

markings

VSH CoolPress Copper



marking	packaging label
VSH CoolPress 48 bar dimensions batch code max. operating temperature	type COP... dimensions description EAN no. art. no. approvals quantity

o-rings

The VSH CoolPress fittings are equipped with turquoise coloured HNBR o-rings, suitable and approved for cooling applications. The distinctive turquoise color ensures easy identification of fittings from the VSH CoolPress range.

HNBR - turquoise

temperature	applications
-40°C to +121°C	air conditioning cooling refrigeration heat pump (refrigerant side) VRF/VRV

storage

Since the o-rings in VSH CoolPress fittings are lubricated during production, it is important to prevent them from drying out. Keep the fittings in their original packaging and protect them against dirt and direct sunlight.

copper tubes

Copper tubes that may be used for VSH CoolPress piping systems are tubes according to the standards ASTM B88, ASTM B280, EN 12735-1 and EN 12735-2 that can be found in the table below.

compatible copper tubes according to ASTM B88 - ASTM B280 - EN 12735-1 - EN 12735-2

VSH CoolPress dimensions	nominal tube OD		nominal wall thickness dimensions												
	[inch]		0.030	0.031	0.032	0.035	0.039	0.040	0.042	0.045	0.049	0.049	0.050	0.055	0.065
		[mm]	0.76	0.80	0.81	0.89	1.00	1.02	1.07	1.14	1.24	1.25	1.27	1.40	1.65
¼″	¼″	6.35	●	●			●●								
⅜″	⅜″	9.53			●	●●	●●								
½″	½″	12.70			●	●●	●●				●●				
⅝″	⅝″	15.88				●	●●	●●			●●				
¾″	¾″	19.05				●	●●		●●		●●				
⅞″	⅞″	22.23								●●		●			●●
1″	1″	25.40					●								
1⅛″	1⅛″	28.58											●		●
1⅜″	1⅜″	34.93												●	●

● soft (R220) ● half hard (R250), hard (R290)

press tools

A press tool set consists of a press machine and corresponding press jaws or slings. The press machine can either be powered by battery or by mains. The correct sized jaws and slings must be used for each tube diameter used in the system in order to achieve a perfect connection.

All VSH CoolPress fittings with diameter from ¼" to 1⅜" can be pressed using the appropriate press tools listed in our product range. Please use the correct profile jaws or slings that correspond to the diameter to be installed. An adapter is required for the 1⅜" diameter in addition to the press slings.

Correct pressing is guaranteed when the press tools are used correctly. Regular maintenance and lubrication of the press jaws, slings and tools are necessary. Please take notice of the manufacturer's instructions for usage and maintenance.

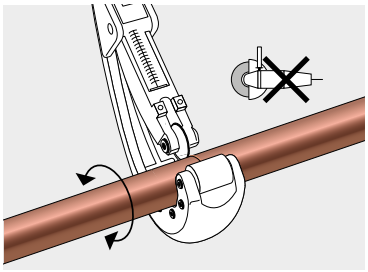
The following tools are approved and released by Aalberts integrated piping systems:

Press tool	Jaws/slings
Novopress ACO103	VSH CoolPress/Novopress jaws PB1, dimension ¼"-1⅛"
Novopress ACO203	VSH CoolPress/Novopress jaws Ecotec PB2, dimension ¼"-1⅛" VSH CoolPress/Novopress sling 1⅜" and adapter ZB203
Novopress ACO103	Rothenberger >B< MaxiPro jaws for 19 kN tools ¼"-1⅛"
Novopress ACO203	Rothenberger >B< MaxiPro jaws for 32 kN tools ¼"-1⅛" Rothenberger >B< MaxiPro sling 1⅜" and adapter ZBS1
Romax Compact TT	Rothenberger >B< MaxiPro jaws for 19 kN tools ¼"-1⅛"
Romax 3000/4000	Rothenberger >B< MaxiPro jaws for 32 kN tools ¼"-1⅛" Rothenberger >B< MaxiPro sling 1⅜" and adapter ZBS1

More information about these tools can be obtained through our online tool selector: www.aalberts-ips.eu/tool-selector.

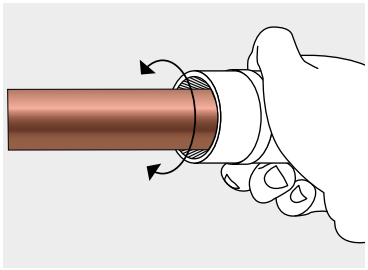
installation guidelines

1. cut the tube to length



After measuring, the tube can be cut to length using a rotary tube cutter for the tube material. The tube must always be cut completely through. Never partially cut the tube and break it off as this could cause corrosion.

2. prepare tube end

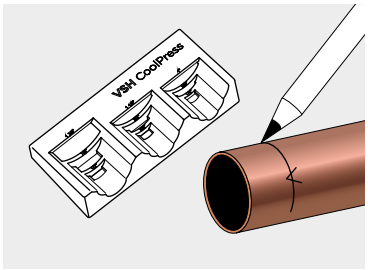


The tube ends must be carefully and thoroughly deburred inside and out in order to avoid any damage to the o-ring when inserting the tube into the fitting. Deburring the inside of tubes prevents pitting and corrosion. A suitable hand deburrer may be used for both inside and outside of the tube, a pencil type deburrer can be used for the internal tube edges. Remove any burrs and dirt sticking to the tube.

clean and check for defects

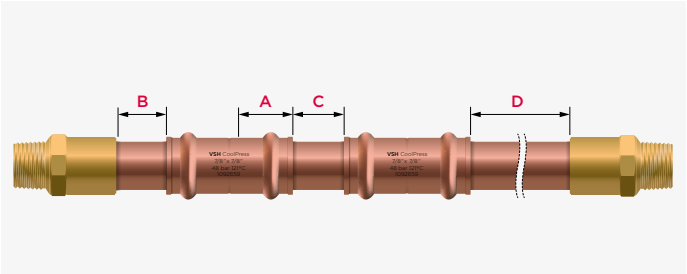
After cutting, clean and smoothen the tube end using a fine, abrasive hand pad to remove dirt, oxidation, debris and scratches. After cleaning, the tube end should have a bright and shiny appearance. Always ensure the tube end is cut off square, without scratches and supplier markings. Make sure the tube end keeps its perfect round shape. In case of any imperfection, the tube must be cut and prepared again (deburring, cleaning, smoothing).

3. mark insertion depth



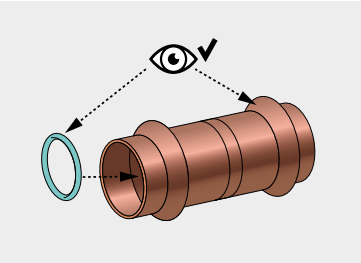
The required insertion depth must be marked on the tube using the VSH CoolPress insertion depth marker. The pressing operation is of crucial importance for the tensile strength, which can only be achieved by correctly installation. The marking on the tube must remain visible (but as close as possible to the fitting) to identify any movement before or after pressing.

minimum distance between pressings



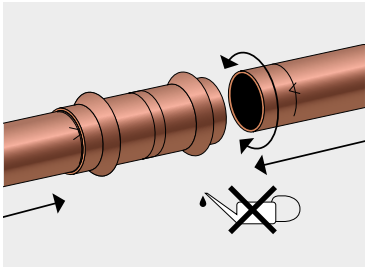
nominal size [inch]	insertion depth A [mm]	minimum distance from a brazed point B [mm]	minimum distances between pressings and insertion depth C [mm]	minimum distances when brazing D [mm]
¼″	18	10	10	250
⅜″	18	10	10	300
½″	17.5	15	15	350
⅝″	21	15	15	450
¾″	22	20	20	500
⅞″	23.5	20	20	600
1″	24	25	25	650
1⅛″	25.5	25	25	700
1⅜″	34	35	35	900

4. check fitting



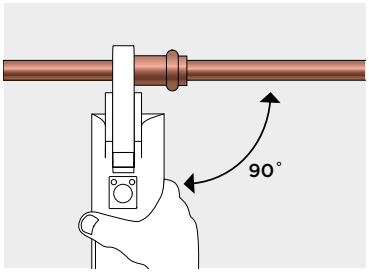
Before assembly, the fitting must be checked to ensure that the o-rings are present and correctly positioned. The tube, fitting and o-ring must be examined for any foreign materials (e.g. dirt, burrs), which must be removed, if present.

5. assemble tube to fitting



Insert the tube carefully into the fitting up to the marked insertion depth, simultaneously rotating and pushing it in the direction of the axis. The insertion depth marking must remain visible. Rough and careless insertion of the tube into the fitting may result in damage to the o-ring and is therefore not permitted. To optimize installation, time may be saved by assembling a number of connections first and then pressing the various connections one by one afterwards. Marking the insertion depth (A) provides a check that the tube has not been pushed out of the fitting during pressing. It is also important to check that the minimum required installation distances are met before starting the final pressing process of the various connections.

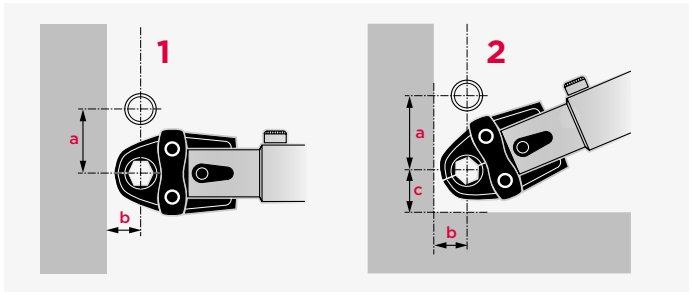
6. pressing



Before pressing, the press jaws and slings must be checked for dirt, which must be removed if present. Furthermore, the press machine must be in good condition and the manufacturer's instructions for operating the device, maintenance must be observed. Also make sure that the correct press jaws and slings for the application are used. In order to create a correctly pressed connection, the groove of the press tool must enclose the press fitting o-ring bead. Once pressing has started, always complete the press cycle and under no circumstances interrupt the process. It is not permitted to press a connection more than once.

required installation space

The table below gives the minimum required installation space so that pressing can be carried out correctly using the appropriate press tools. These distances relate to the general installation configurations that are schematically depicted in figures 1 and 2.

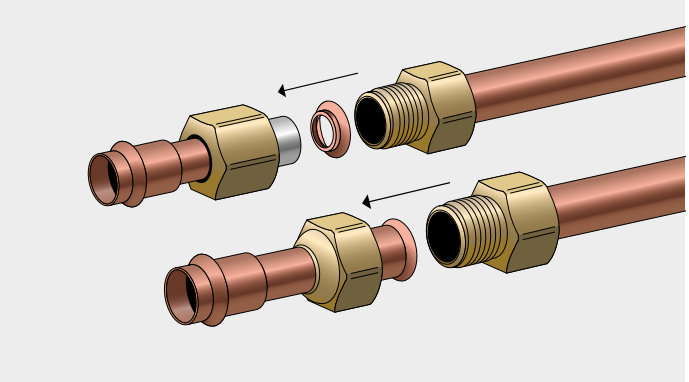


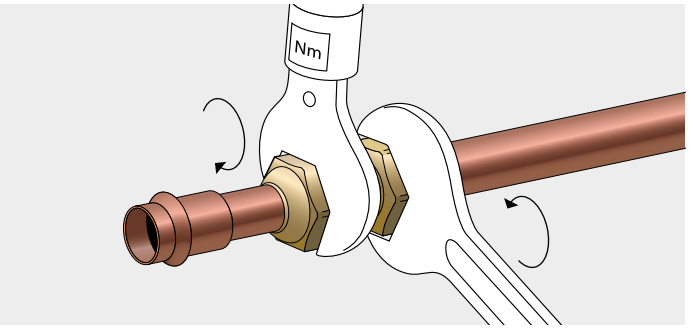
tube Ø outside [inch]	fig. 1		fig. 2		
	a	b	a	b	c
¼″	60	30	100	50	50
⅜″	60	30	105	50	50
½″	60	30	110	50	50
⅝″	60	30	110	50	50
¾″	60	30	110	50	50
⅞″	60	35	120	60	60
1″	60	35	120	60	60
1⅛″	60	35	120	60	60
1⅜″	60	35	120	60	60

minimal needed installation space

general technical information

7. flare couplings





Align the center of both flares and tighten by hand. Apply a refrigeration-grade gasket or thread sealant to the inner surface of the flare and copper washer (COP5359SAL/SAI). Do not apply lubricating oil or sealant to the outside threads and inside threads of the nut to avoid overtightening. A high viscosity refrigerant grade oil may be used if sealant is not available.

Install the flare couplings, using the torque as described in the table. Do not over tighten. Always install in accordance with local regulations, legislation and codes of practice.

dimension [inch]	Nm	ft. lbs
¼	11-14	9-10
⅜	20-34	15-25
½	34-47	25-34
⅝	54-75	40-55
¾	68-110	51-81

flare couplings required torques

thermal expansion

The level of thermal expansion within piping systems depends on the tube material, tube length and temperature deviations. This expansion needs to be taken into account during the installation. Small changes in length can be accommodated by calculating adequate space for expansion as well as through the elastic properties of the piping system itself. More substantial changes in length need to be offset by other methods like installation of special expansion compensation devices, fixed anchoring points and brackets. Expansion can also be compensated by the using tube segments or U-bends. The level of expansion to be compensated can be predetermined by calculating the changes in length using the following formula:

$$\Delta l = l \times \alpha \times \Delta T$$

Δl = total thermal expansion [mm]
l = length of the segment in question [m]
ΔT = temperature difference [K]
α = thermal expansion coefficient for copper tube = 0.0170 mm/mK

The following table shows the thermal expansion for copper tubes.

l[m]	ΔT[K]							
	30	40	50	60	70	80	90	100
0.1	0.05	0.07	0.08	0.10	0.12	0.13	0.15	0.17
0.2	0.10	0.13	0.17	0.20	0.24	0.27	0.30	0.34
0.3	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
0.4	0.20	0.27	0.34	0.40	0.47	0.54	0.60	0.67
0.5	0.25	0.34	0.42	0.50	0.59	0.67	0.76	0.84
0.6	0.30	0.40	0.50	0.60	0.71	0.81	0.91	1.01
0.7	0.35	0.47	0.59	0.71	0.82	0.94	1.06	1.18
0.8	0.40	0.54	0.67	0.81	0.94	1.08	1.21	1.34
0.9	0.45	0.60	0.76	0.91	1.06	1.21	1.36	1.51
1	0.50	0.67	0.84	1.01	1.18	1.34	1.51	1.68
2	1.01	1.34	1.68	2.02	2.35	2.69	3.02	3.36
3	1.51	2.02	2.52	3.02	3.53	4.03	4.54	5.04
4	2.02	2.69	3.36	4.03	4.70	5.38	6.05	6.72
5	2.52	3.36	4.20	5.04	5.88	6.72	7.56	8.40
6	3.02	4.03	5.04	6.05	7.06	8.06	9.07	10.08
10	5.04	6.72	8.40	10.08	11.76	13.44	15.12	16.80
15	7.56	10.08	12.60	15.12	17.64	20.16	22.68	25.20
20	10.08	13.44	16.80	20.16	23.52	26.88	30.24	33.60
25	12.60	16.80	21.00	25.20	29.40	33.60	37.80	42.00

total thermal expansion Δl [mm] for copper tube

If the expansion is greater than the piping system is able to absorb without the tension becoming too high, additional measures must be taken, such as the use of expansion compensators, expansion loops or u-bends.

In all piping systems carrying refrigerant, the number of connections must be reduced to a minimum. In general, when installing such systems, the following standards must be observed in addition to legal requirements:

- **EN 378-2:** Refrigerating systems and heat pumps – safety and environmental requirements – Part 2: Design, construction, testing, marking, and documentation
- **EN ISO 14903:2017-12:** Refrigerating systems and heat pumps – Qualification of tightness of components and joints
- **EN 14276-2:2020:** Pressure equipment for refrigerating systems and heat pumps – Part 2: In addition to general installation according to applicable standards, the following sections of EN 378-2 must be observed: Accessibility of the piping system after installation must be ensured according to Section 6.2.3.3.7 of EN 378-2.

fastening

All refrigerant-carrying piping systems must be properly fastened using supports suitable for the application. In addition to generally accepted engineering practices, the EN 378-2* requirements must be observed.

protection

All refrigerant-carrying piping systems must be professionally protected against external influences using suitable means for this application. Suitable protection must be provided against contact with corrosive building materials. In addition to generally accepted engineering practices, the EN 378-2* requirements must be observed.

identification and insulation

all refrigerant-carrying piping systems must be properly marked and provided with suitable insulation materials for the respective application area. In addition to the generally accepted rules of technology, the EN 378-2* requirements must be observed.

equipotential bonding

VSH CoolPress is electrically conductive, guaranteeing reliable potential equalization.

testing and commissioning

The testing and commissioning of air-conditioning and refrigeration systems must be carried out in accordance with the requirements of the following standards and regulations:

- EN 378-2:2016 – Refrigerating systems and heat pumps: Safety and environmental requirements – Part 2: Design, construction, testing, marking and documentation
- Regulation (EU) No. 517/2014 on fluorinated greenhouse gases In addition, all local regulations, ordinances, and specific installation guidelines must be observed.

system pressure testing

Testing devices must be regularly serviced and calibrated. A suitable thread sealant should be used at test connections to prevent leaks at joints. Small, low volume systems respond faster to pressure changes; however, they are not necessarily an indication of leakage.

For leak and strength tests, use dry, oxygen-free nitrogen (OFN), as it is inert. Oxygen must not be used for pressure testing, as it can react violently under pressure with hydrocarbons (oil and grease), which can lead to explosions and fire. The maximum test pressure must be determined by the installer and calculated based on the system pressure and test parameters.

To ensure the safety of VSH CoolPress fittings during strength and leak testing, the pressure should be gradually increased to the specified test pressure. Leak testing must be carried out according to Section 6.3.3.1 of the standard EN 378-2.

vacuuming the piping system

Remove air, moisture, and non-condensable gases before filling. When vacuum cannot be maintained, check the correct functioning of the vacuum pump. Possible causes can be leaking joints, moisture in the system or pump problems.

pressure test over a longer period (>24 h)

record the system pressure and ambient temperature at the start and at the end of the test. Note: temperature rise can mask leaks (5°C = 0.7 bar pressure change).
When vacuum cannot be maintained:

- check for leaks at connections or test ports; use sealing paste if necessary.
- inspect the piping system for leaks; ultrasonic devices can help.
- extend evacuation time if moisture or refrigerant residues remain in compressor oil.
- conduct a comprehensive fault diagnosis before taking further measures (e.g., cutting out fittings).

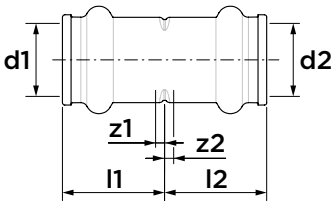
NOTE!
Do not install VSH CoolPress fittings too close to the filling valve, as the temperature may drop below -40°C during filling.

* **EN 378-2:2016**: refrigerating systems and heat pumps – Safety and environmental requirements – Part 2: Design, construction, testing, marking, and documentation

VSH CoolPress

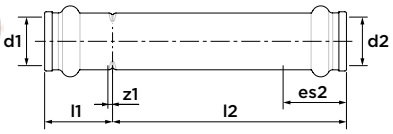
fittings

COP5270 straight coupling
(2 x press)



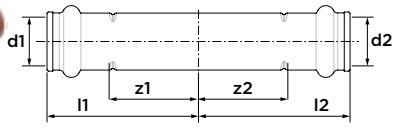
dimension	article no.	l1/l2	z1/z2
¼"	123461617	20	2
⅜"	123461618	20	2
½"	123461619	19	2
⅝"	123461620	22	1
¾"	123461621	23	1
⅞"	123461622	26	2
1"	123461623	25	2
1⅛"	123461624	27	2
1⅜"	123461625	36	2

COP5275 slip coupling
(2 x press)



dimension	article no.	l1	l2	z1	es2
¼"	123461626	19	71	2	18
⅜"	123461627	19	71	2	18
½"	123461628	19	71	2	18
⅝"	123461629	22	78	1	21
¾"	123461630	23	77	1	22
⅞"	123461631	25	79	2	24
1"	123461632	24	80	2	24
1⅛"	123461633	26	78	2	26
1⅜"	123461634	35	65	2	34

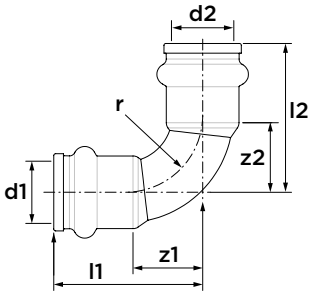
COP5270L straight coupling long
(2 x press)



dimension	article no.	l1/l2	z1/Z2
¼"	123461665	46	28
⅜"	123461666	45	27
½"	123461667	45	28
⅝"	123461668	50	29
¾"	123461669	50	28
⅞"	123461670	52	28
1"	123461671	52	29
1⅛"	123461672	53	28

*UL approval pending for all dimensions

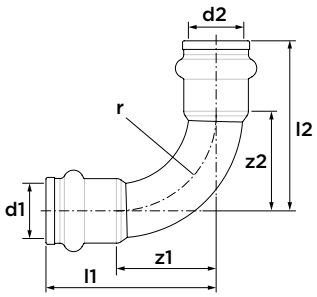
COP5002 bend 90°
(2 x press)



dimension	article no.	l1/l2	z1/z2	r
¼"	123461555	33	15	12
⅜"	123461556	34	16	12
½"	123461557	32	15	16
⅝"	123461558	39	18	20
¾"	123461559	42	20	24
⅞"	123461560	49	25	28
1"	123461561	53	30	32
1⅛"	123461562	58	33	34
1⅜"	123461563	69	35	42

COP5002L long bend 90°

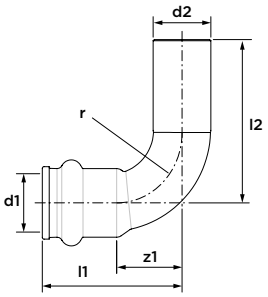
(2 x press)



dimension	article no.	l1/l2	z1/z2	r
½″	123461673	44	26	26
⅝″	123461674	51	30	29
¾″	123461675	56	34	34
⅞″	123461676	67	43	42
1⅛″	123461677	78	53	55
1⅜″	123461678	90	56	55

COP5001 bend 90°

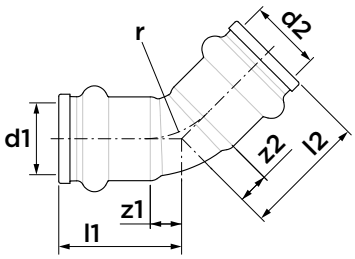
(press x male)



dimension	article no.	l1	l2	z1	r
⅜″	123461564	34	39	16	12
½″	123461565	32	35	15	16
⅝″	123461566	39	45	18	20
¾″	123461567	43	49	21	24
⅞″	123461568	50	57	26	28
1″	123461569	52	60	29	32
1⅛″	123461570	58	64	33	34
1⅜″	123461571	69	81	35	42

COP5041 bend 45°

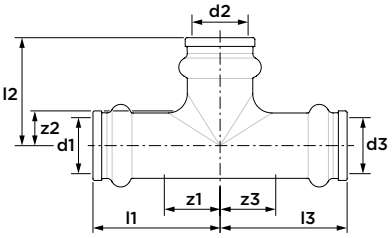
(2 x press)



dimension	article no.	l1/l2	z1/z2	r
¼″	123461572	25	7	12
⅜″	123461573	27	9	12
½″	123461574	25	7	16
⅝″	123461575	29	8	20
¾″	123461576	32	10	24
⅞″	123461577	34	10	28
1″	123461578	37	13	32
1⅛″	123461579	40	14	34
1⅜″	123461580	45	11	42

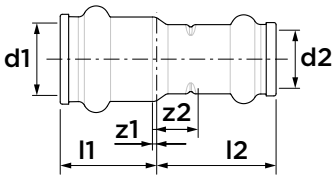
COP5130 tee

(3 x press)



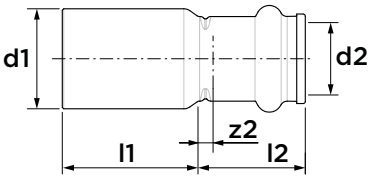
dimension	article no.	l1/l3	l2	z1/z3	z2
¼″	123461649	27	23	9	5
⅜″	123461650	31	31	13	13
½″	123461651	34	29	17	12
⅝″	123461652	38	32	17	11
¾″	123461653	42	35	20	13
⅞″	123461654	43	38	19	14
1″	123461655	46	41	23	18
1⅛″	123461656	48	43	23	18
1⅜″	123461657	55	54	21	20

COP5240 reducer
(2 x press)



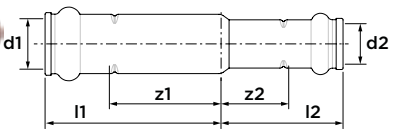
dimension	article no.	l1	l2	z1	z2
⅜″ x ¼″	123461581	19	23	1	5
½″ x ¼″	123461582	19	29	1	11
½″ x ⅜″	123461583	19	26	1	8
⅝″ x ¼″	123461584	22	30	1	12
⅝″ x ⅜″	123461585	22	28	1	10
⅝″ x ½″	123461586	22	26	1	9
¾″ x ⅜″	123461587	23	32	1	14
¾″ x ½″	123461588	23	29	1	12
¾″ x ⅝″	123461589	23	27	1	6
⅞″ x ½″	123461590	25	30	1	13
⅞″ x ⅝″	123461591	25	32	1	11
⅞″ x ¾″	123461592	25	27	1	5
1″ x ¾″	123461593	24	33	1	11
1⅛″ x ⅝″	123461594	27	32	1	11
1⅛″ x ¾″	123461595	27	33	1	11
1⅛″ x ⅞″	123461596	27	35	1	11
1⅛″ x 1″	123461597	27	34	1	11
1⅜″ x ⅞″	123461598	35	39	1	17
1⅜″ x 1″	123461599	35	36	1	13
1⅜″ x 1⅛″	123461600	35	35	1	10

COP5243 reducer
(press x male)



dimension	article no.	l1	l2	z2
⅜″ x ¼″	123461601	21	23	5
½″ x ⅜″	123461602	21	23	5
⅝″ x ⅜″	123461603	24	26	8
⅝″ x ½″	123461604	24	23	6
¾″ x ½″	123461605	25	25	8
¾″ x ⅝″	123461606	25	25	4
⅞″ x ½″	123461607	27	28	11
⅞″ x ⅝″	123461608	27	27	6
⅞″ x ¾″	123461609	27	28	6
1⅛″ x ½″	123461610	29	35	18
1⅛″ x ⅝″	123461611	29	33	12
1⅛″ x ¾″	123461612	29	31	9
1⅛″ x ⅞″	123461613	29	31	7
1⅜″ x ⅞″	123461614	38	35	11
1⅜″ x 1″	123461615	38	33	10
1⅜″ x 1⅛″	123461616	38	32	7

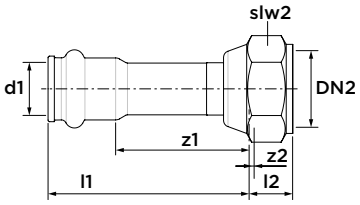
COP5240L reducer long
(2 x press)



dimension	article no.	l1	l2	z1	z2
⅜″ x ¼″	123461662	57	44	39	26
⅝″ x ⅜″	123461664	54	49	33	31
⅝″ x ½″	123461663	56	39	35	22
1″ x ⅝″	123461661	56	52	33	31

COP5359SAE flare coupling with bronze nut

(press x female threaded union nut)

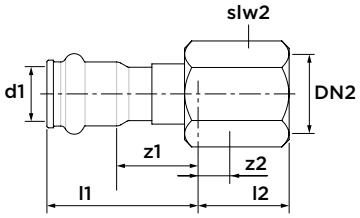


dimension	article no.	l1	l2	z1	z2	slw2
¼"	123461635	44	9	26	2	17
⅜"	123461636*	49	11	31	3	22
½"	123461637*	50	14	32	2	24
⅝"	123461638*	57	17	36	3	27
¾"	123461639*	65	20	44	2	32

*UL approval pending

COP5359SAL flare coupling with bronze nut & copper gasket

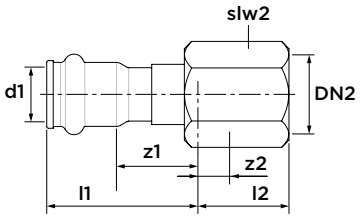
(press x female threaded union nut)



dimension	article no.	l1	l2	z1	z2	slw2
¼"	123461679	33	15	15	6	17
⅜"	123461680	36	20	18	8	22
½"	123461681	38	24	21	9	24
⅝"	123461682	45	27	24	9	27
¾"	123461683	49	32	28	11	32

COP5359SAI flare coupling with stainless nut & copper gasket

(press x female threaded union nut)



dimension	article no.	l1	l2	z1	z2	slw2
¼"	123461684	33	15	15	6	17
⅜"	123461685	36	20	18	8	22
½"	123461686	38	24	21	9	24
⅝"	123461687	45	27	24	9	27
¾"	123461688	49	32	28	11	32

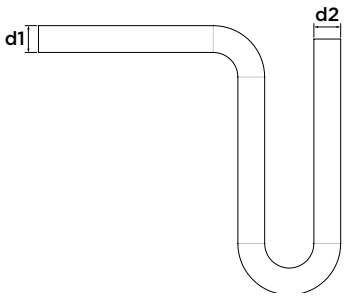
COP5287 copper flare gasket

(for COP5359SAL & COP5359SAI)

dimension	article no.
½"	123461857
⅝"	123461858
½"	123461859
⅝"	123461860
¾"	123461861

COP5698 P-trap

(2 x male)

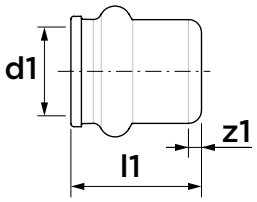


dimension	article no.
⅝″	123461658
¾″	123461659
⅞″	123461660
1⅛″	123461689*

*without UL approval

COP5301 stop end

(1 x press)



dimension	article no.	l1	z1
¼″	123461640	21	3
⅜″	123461641	21	3
½″	123461642	20	3
⅝″	123461643	24	3
¾″	123461644	26	4
⅞″	123461645	27	3
1″	123461646	26	3
1⅛″	123461647	29	4
1⅜″	123461648	39	5

P5991 press tools Novopress ACO103

	dimension	article no.
ACO103 + 2 batteries 2.0Ah + charger + case	¼″-1⅛″	6342481

P6013/6014 press tools Novopress ECO203/ACO203(XL)

	dimension	article no.
ECO203 + case	¼″-1⅜″	6342094
ACO203 BT + battery 2.0Ah + charger + case	¼″-1⅜″	6342490

P6301 Ecotec press jaws PB1

(for ACO103)

dimension	article no.
¼"	123461710
⅜"	123461711
½"	123461712
⅝"	123461713
¾"	123461714
⅞"	123461715
1"	123461716
1⅛"	123461717

P6302 Ecotec press jaws PB2 & sling

(for ACO203)

dimension	article no.
¼"	123461718
⅜"	123461719
½"	123461720
⅝"	123461721
¾"	123461722
⅞"	123461723
1"	123461724
1⅛"	123461725
1⅜"	123461726*
ZB203	6340829

*use sling 1⅜" in combination with ZB203 adapter

P6303 insertion depth marking tool

dimension	article no.
¼" - 1⅜"	123461727

aalberts integrated piping systems

more information?

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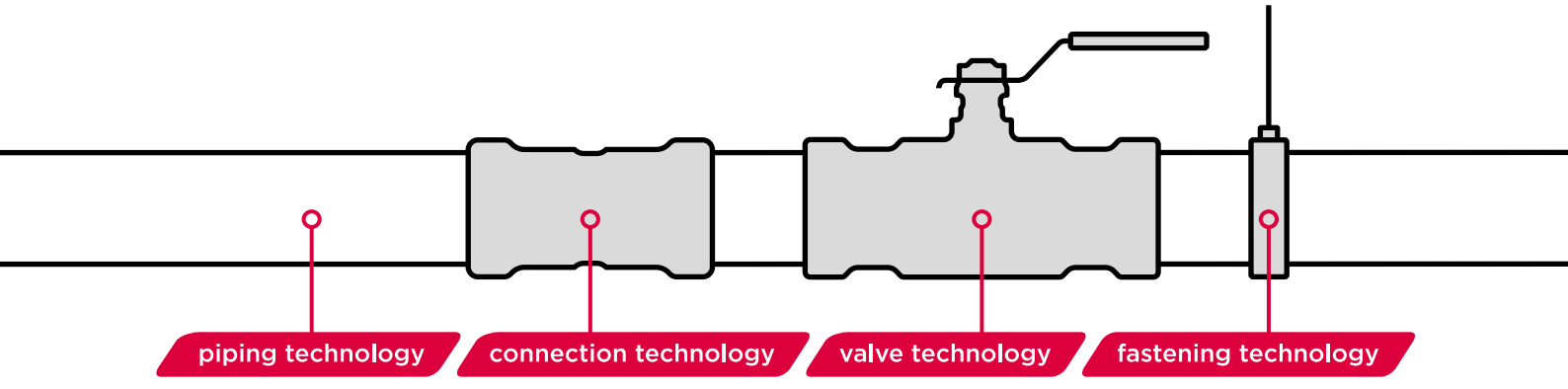
Would you like to make an appointment to meet an account manager in your region or receive advice and support from one of our experts? Please contact:

Aalberts integrated piping systems Customer Service
+31 (0)35 68 84 330
salessupport.emea@aalberts-ips.com



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