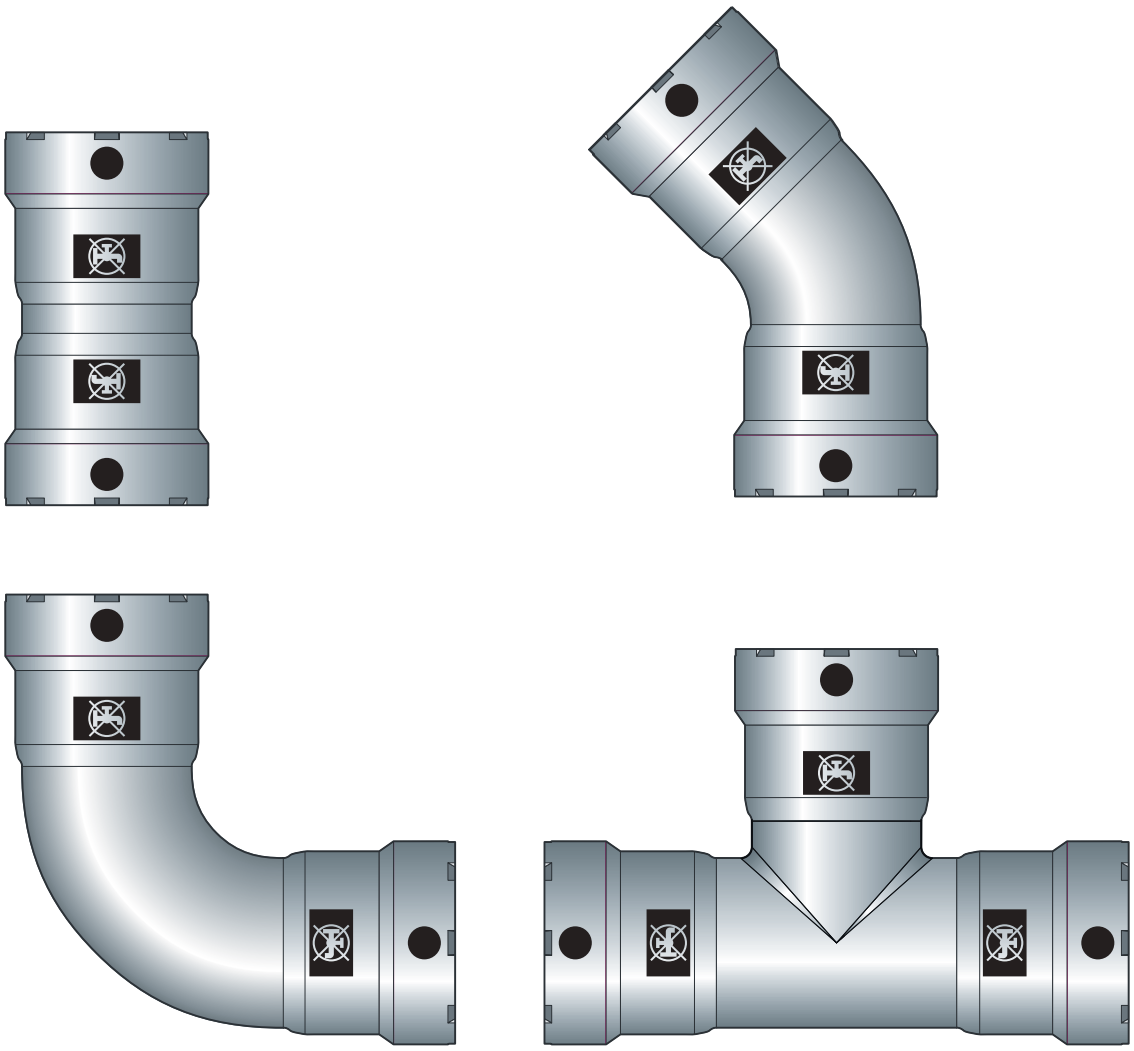
INT

Instructions for Use

Megapress



Press connector system made of non-alloy steel for thick-walled steel pipes

System
Megapress

Year built (from)
10/2014

viega

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1 About these instructions for use

Trade mark rights exist for this document; for further information, go to *viega.com/legal*.

1.1 Target groups

The information in this manual is directed at heating and sanitary professionals and trained personnel.

Individuals without the abovementioned training or qualification are not permitted to mount, install and, if required, maintain this product. This restriction does not extend to possible operating instructions.

The installation of Viega products must take place in accordance with the general rules of engineering and the Viega instructions for use.

1.2 Labelling of notes

Warning and advisory texts are set aside from the remainder of the text and are labelled with the relevant pictographs.

DANGER!
This symbol warns of possible life-threatening injury.

WARNING!
This symbol warns of possible serious injury.

CAUTION!
This symbol warns of possible injury.

NOTICE!
This symbol warns of possible damage to property.

This symbol gives additional information and hints.

1.3 About this translated version

This instruction for use contains important information about the choice of product or system, assembly and commissioning as well as intended use and, if required, maintenance measures. The information about the products, their properties and application technology are based on the current standards in Europe (e.g. EN) and/or in Germany (e.g. DIN/DVGW).

Some passages in the text may refer to technical codes in Europe/ Germany. These should serve as recommendations in the absence of corresponding national regulations. The relevant national laws, standards, regulations, directives and other technical provisions take priority over the German/European directives specified in this manual: The information herein is not binding for other countries and regions; as said above, they should be understood as a recommendation.

2 Product information

2.1 Standards and regulations

The following standards and regulations apply to Germany / Europe and are provided as a support feature.

Regulations from section: Fields of application

Scope / Notice	Regulations applicable in Germany
No application for fuel gases	DVGW G 260
Application in fire extinguishing systems	DIN 14462

Regulations from section: Media

Scope / Notice	Regulations applicable in Germany
Suitability for heating water for pump hot water heating systems	VDI-Richtlinie 2035, Sheet 1 and Sheet 2

Regulations from section: Pipes

Scope / Notice	Regulations applicable in Germany
Differentiation of pipe types and pipe series	DIN EN 10255
Requirements in steel pipes - Boiler pipe quality	DIN EN 10220
Requirements in steel pipes - Boiler pipe quality	DIN EN 10216–1
Requirements in steel pipes - Boiler pipe quality	DIN EN 10217–1
Fixing interval between the pipe clamps	VdS CEA 4001

Regulations from section: Sealing elements

Scope / Notice	Regulations applicable in Germany
Area of use of the EPDM sealing element ■ Heating	DIN EN 12828

Regulations from section: Storage

Scope / Notice	Regulations applicable in Germany
Requirements for material storage	DIN EN 806-4, Chapter 4.2

Regulations from section: Notes on mounting

Scope / Notice	Regulations applicable in Germany
Requirements and notes for fire extinguisher and sprinkler systems	VdS-Anerkennung G 414021
Permissible pressures, nominal widths and application conditions	VdS 2100-26-2: 2012-04, Table A. 1
Distances and layout (bracket distances) for steel pipes Fire risk classes	VdS CEA 4001, Section 15.2
Minimum pipe wall thickness for nominal widths up to and including DN 50	VdS CEA 4001, Table 15.02

Regulations from section: Leakage test

Scope / Notice	Regulations applicable in Germany
Test on a system that is finished but not yet covered	DIN EN 806–4
Leakage test for water installations	ZVSHK-Merkblatt: "Dichtheitsprüfungen von Trinkwasserinstallationen mit Druckluft, Inertgas oder Wasser"
Pressure test in sprinkler systems	VdS CEA 4001, Chapter 17
Requirements in filling and top-up water	VDI 2035

2.2 Intended use

Coordinate the use of the system for areas of use and media other than those described with the Viega Service Center.

2.2.1 Areas of use

Fig. 1: "Non-potable water"

The system is intended for use in industrial, heating and cooling systems and is a replacement for welded, threaded, and rolled-groove connections in new installations and repairs. The system is not suitable for use in potable water installations. For this reason, the press connectors are labelled with a black symbol "Not potable water".

Do not use the piping system for fuel gas, see *„Regulations from section: Fields of application“ on page 5*.

Use is possible in the following areas among others:

- Closed heating and cooling circuits
- Industrial units
- Sprinkler systems
- Fire extinguishing systems, see *„Regulations from section: Fields of application“ on page 5*
- Compressed air systems
- Systems for technical gases (on request)

2.2.2 Media

The system is suitable for the following media, amongst others:

For the applicable directives, see *„Regulations from section: Media“ on page 5*.

- Heating water for closed pump hot water heating systems
- Compressed air (dry) in compliance with the specification of the sealing elements being used
  - EPDM at oil concentration < 25 mg/m^3
- Anti-freeze, cooling brines up to a concentration of 50 %
- technical gases (on request)

2.3 Product description

2.3.1 Overview

The piping system consists of press connectors for thick-walled steel pipes and the corresponding press tools.

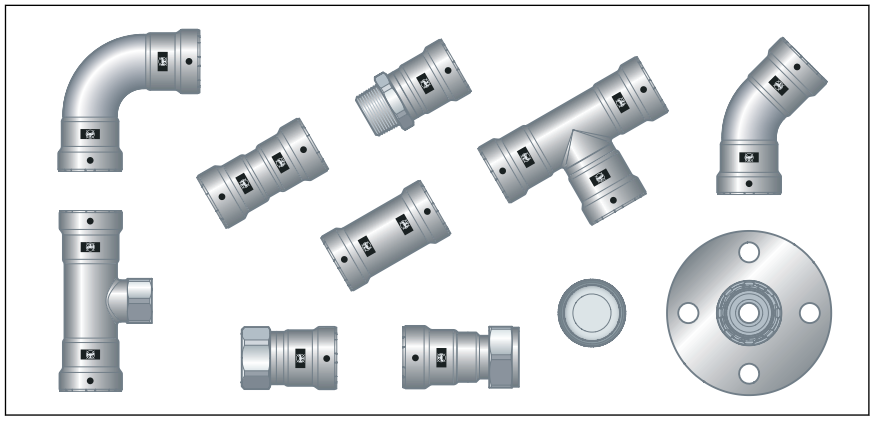


Fig. 2: Megapress press connectors

The system components are available in the following dimensions: D⅜ (DN10), D½ (DN15), D¾ (DN20), D1 (DN25), D1¼ (DN32), D1½ (DN40), D2 (DN50), 38.0 mm, 44.5 mm, 57.0 mm.

2.3.2 Pipes

Megapress press connectors may be used with the following seamless (S) or longitudinal welded (W) steel pipes:

- black
- galvanised
- industrially painted
- powder coated

The steel pipes must correspond to the applicable regulations, see *„Regulations from section: Pipes“ on page 5*

If the pipe has been coated, the maximum external diameter mentioned in the table must not be exceeded.

Pipe overview – threaded pipe quality

The standard differentiates between heavy pipe series H and medium pipe series M or between pipe type L, L 1 and L 2. Seamless pipes and pipes welded along the longitudinal seam belong to the different pipe series and pipe types, see *„Regulations from section: Pipes“ on page 5*.

Threaded pipe quality – heavy series H and Medium series M

Thread size [inch]	Nominal width [DN]	Nominal external diam-eter [mm]	Min. external diameter incl. coating [mm]	Max. external diameter incl. coating [mm]	Wall thickness heavy series H [mm]	Wall thickness medium series M [mm]
⅜	10	17.2	16.7	17.5	2.9	2.3
½	15	21.3	21.0	21.8	3.2	2.6
¾	20	26.9	26.5	27.3	3.2	2.6
1	25	33.7	33.3	34.2	4.0	3.2
1¼	32	42.4	42.0	42.9	4.0	3.2
1½	40	48.3	47.9	48.8	4.0	3.2
2	50	60.3	59.7	60.8	4.5	3.6

Threaded pipe quality – pipe type L and pipe type L 1

Thread size [inch]	Nominal width [DN]	Nominal external diameter [mm]	Min. external diameter incl. coating [mm]	Max. external diameter incl. coating [mm]	Wall thickness [mm]
⅜	10	17.2	16.7	17.4	2.0
½	15	21.3	21.0	21.7	2.3
¾	20	26.9	26.4	27.1	2.3
1	25	33.7	33.2	34.0	2.9
1¼	32	42.4	41.9	42.7	2.9
1½	40	48.3	47.8	48.6	2.9
2	50	60.3	59.6	60.7	3.2

Threaded pipe quality – pipe type L 2

Thread size [inch]	Nominal width [DN]	Nominal external diameter [mm]	Min. external diameter incl. coating [mm]	Max. external diameter incl. coating [mm]	Wall thickness [mm]
⅜	10	17.2	16.7	17.1	1.8
½	15	21.3	21.0	21.4	2.0
¾	20	26.9	26.4	26.9	2.3
1	25	33.7	33.2	33.8	2.6
1¼	32	42.4	41.9	42.5	2.6
1½	40	48.3	47.8	48.4	2.9
2	50	60.3	59.6	60.2	2.9

Pipe overview – boiler pipe quality

The standards differentiate between pipe series 1, 2 and 3. They recommend using installation pipe series 1 as pipe series 2 and 3 are either not or not always available in practice. Pipe series 1 includes seamless pipes and pipes welded along the longitudinal seam, see *„Regulations from section: Pipes“ on page 5*.

Boiler pipe quality – pipe series 1, 2 and 3

Thread size [Inch]	Nominal width [DN]	Nominal external diameter [mm]	Min. external diameter incl. coating [mm]	Max. external diameter incl. coating [mm]	Possible pipe wall thickness for seamless pipes[1)] [mm]	Possible pipe wall thickness for pipes welded along the longitudinal seam[1)] [mm]
⅜	10	17.2	16.7	17.7	1.8–4.5	1.4–4.0
½	15	21.3	20.8	21.8	2.0–5.0	1.4–4.5
¾	20	26.9	26.4	27.4	2.0–8.0	1.4–5.0
1	25	33.7	33.2	34.2	2.3–8.8	1.4–8.0
-	32	38.0	37.5	38.5	2.6–10.0	1.4–8.8
1¼	32	42.4	41.9	42.9	2.6–10.0	1.4–8.8
-	40	44.5	44.0	45.0	2.6–12.5	1.4–8.8
1½	40	48.3	47.8	48.8	2.6–12.5	1.4–8.8
-	50	57.0	56.4	57.6	2.9–14.2	1.4–10.0
2	50	60.3	59.7	60.9	2.9–16.0	1.4–10.0

[1)] see *„Regulations from section: Pipes“ on page 5*

Laying and fixing pipes

Only pipe clamps with chloride-free sound insulating inlays should be used to secure the pipes.

Observe the general rules of fixing technology:

- Do not use fixed pipelines as a support for other pipelines and components.
- Do not use pipe hooks.
- Observe the expansion direction: Plan fixed and gliding points.

Interval between the pipe clamps

D [mm]	Nominal width [inch]	Fixing interval between the pipe clamps [m]	Fixing distance between the pipe clamps [m][1)]
17.2	⅜	2.25	—
21.3	½	2.75	—
26.9	¾	3.00	4.00
33.7	1	3.50	4.00
42.4	1 ¼	3.75	4.00
48.3	1 ½	4.25	4.00
60.3	2	4.75	4.00

[1)] see „*Regulations from section: Pipes*“ *on page 5*

Length expansion

Pipelines expand with heat. Heat expansion is dependent on the material. Changes in length lead to tension within the installation. These tensions must be equalised with suitable measures.

The following are effective:

- Fixed and gliding points
- Expansion equalisation joints (expansion bends)
- Compensators

Heat expansion co-efficients of various pipe materials

Material	Heat expansion co-efficient α [mm/mK]	Example: Length expansion with pipe lengths L = 20 m and ΔT = 50 K [mm]
Steel	0.0120	12.0

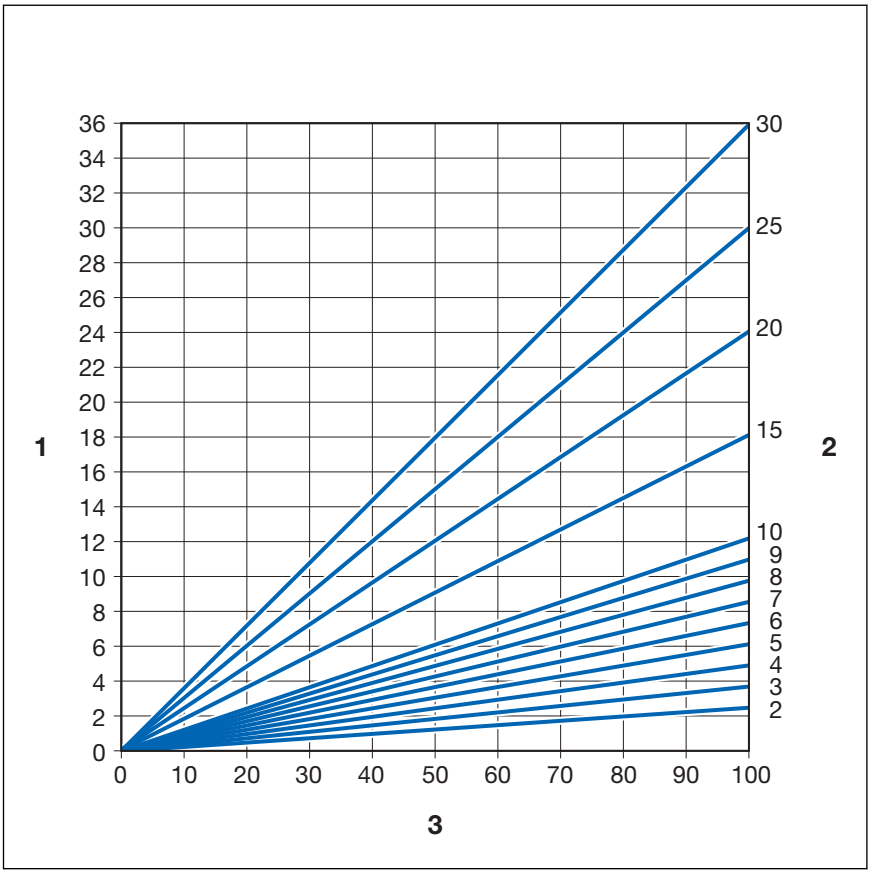


Fig. 3: Length expansion steel pipes

1 - Length expansion →ΔI [mm]
2 - Pipe length → l_0 [m]
3 - Temperature difference →Δϑ [K]

The length expansion ΔI can be taken from the diagram or can be calculated using the following formula:

ΔI = α [mm/mK] × L [m] x Δϑ [K]

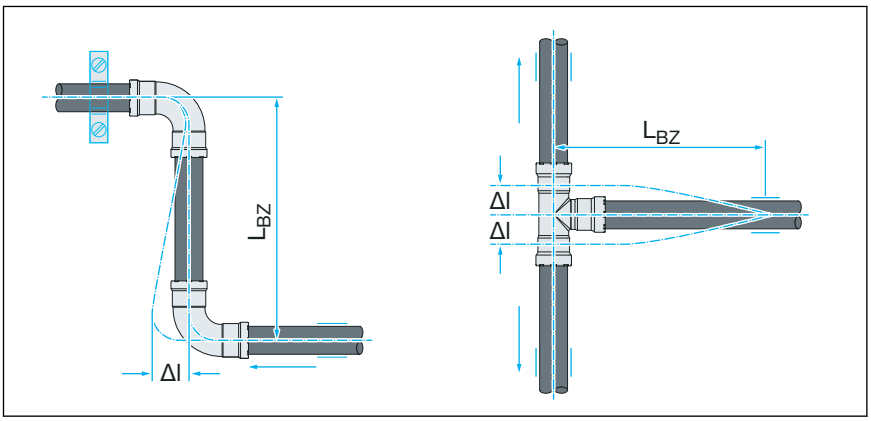


Fig. 4: Z-shaped and T-shaped expansion bends

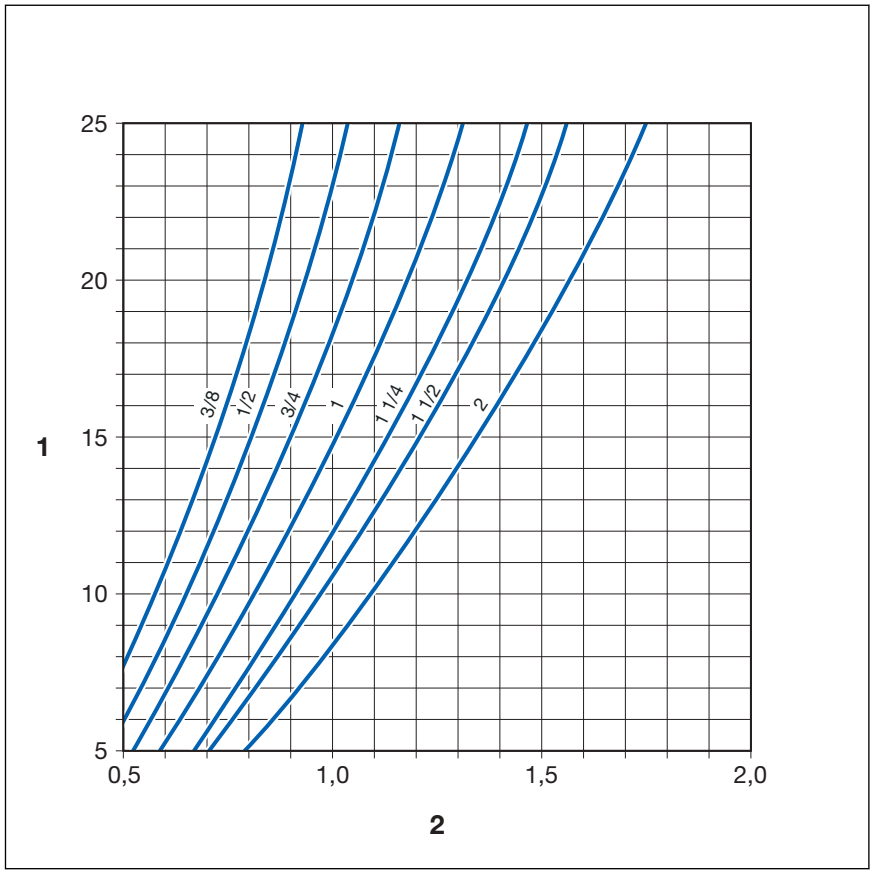


Fig. 5: Z- and T-shaped expansion bends for Megapress ⅜ to 2 inches

1 - Expansion compensation → ΔI [mm]
2 - Pipe leg length → L_{BZ} [m]

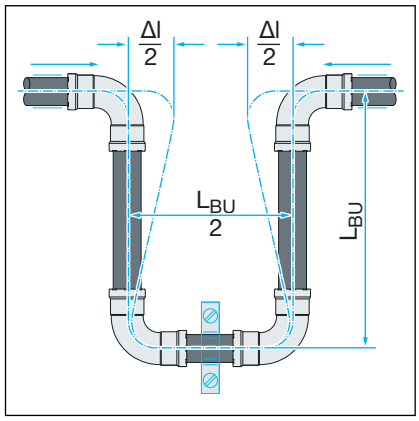


Fig. 6: U-shaped expansion bend

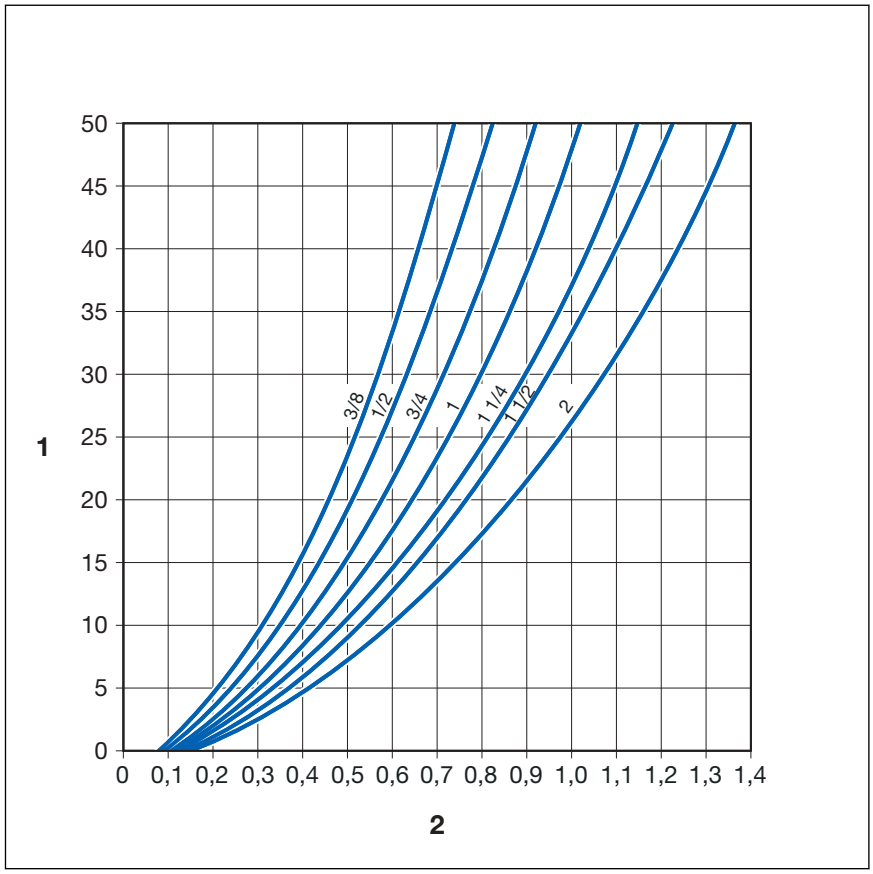


Fig. 7: U-shaped expansion bend for Megapress ⅜ to 2 inches

1 - Expansion compensation → ΔI [mm]
2 - Pipe leg length → L_{BZ} [m]

2.3.3 Press connectors

Press connectors are available in a number of shapes. An overview of the press connectors suitable for the system can be found in the catalogue.

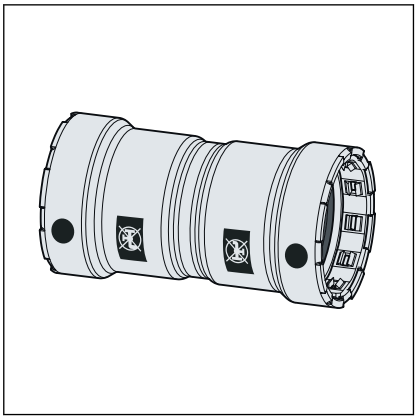
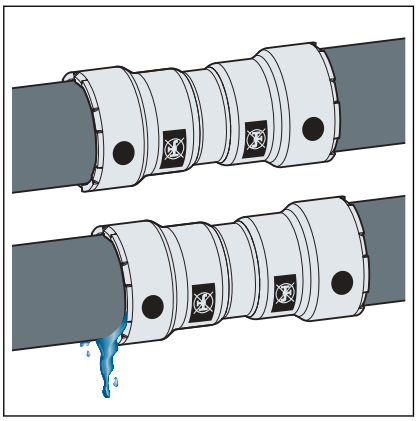


Fig. 8: Megapress press connectors

The Megapress press connectors consist of non-alloy steel (material 1.0308) and have an external 3–5 µm zinc-nickel coating. There is a cutting ring, a separator ring and a profile sealing element in the bead of the press connector. The cutting ring cuts into the pipe during pressing and ensures a force-fit connection.

During installation, and later during the pressing, the separator ring protects the sealing element from damage from the cutting ring.

SC-Contur



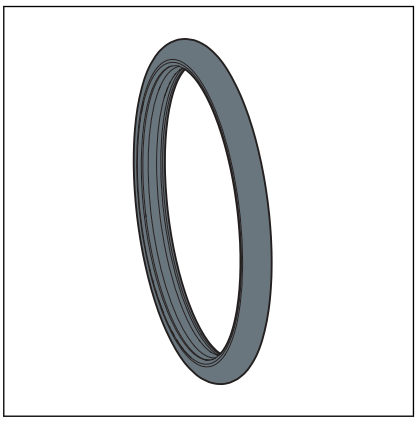
Viega press connectors are equipped with the SC-Contur. The SC-Contur is a safety technology that is certified by the DVGW and ensures that the press connector is guaranteed to be leaky in an unpressed state. In this way, inadvertently unpressed connections are noticed immediately when filling the system.

Viega guarantees that accidentally unpressed connections become visible during a leakage test:

- with the wet leakage test in the pressure range from 0.1–0.65 MPa (1.0–6.5 bar)
- with dry leakage test in the pressure range from 22 hPa–0.3 MPa (22 mbar–3.0 bar)

Fig. 9: SC-Contur

2.3.4 Sealing elements



The Megapress press connectors are factory-fitted with EPDM profile sealing elements. The integrally moulded sealing lips also seal pipe surfaces with slightly uneven surfaces.

Fig. 10: EPDM profile sealing element

Area of use of the EPDM sealing element

Area of use	Heating	Solar installations	Compressed air	Technical gases
Use	Pump hot water heating system	Solar circuit	all pipeline sections	all pipeline sections
Operating temperature [$T_{max.}$]	110 °C	[1)]	60 °C	—
Operating pressure [P_{max}]	1.6 MPa (16 bar)	0.6 MPa (6 bar)	1.6 MPa (16 bar)	—
Comments	T_{max} 105 °C[2)] with radiator connections T_{max}: 95 °C	for flat collectors	dry, oil content < 25 mg / m^3	[1)]

[1)] Consultation with the Viega Service Center required

[2)] see „*Regulations from section: Sealing elements*“ *on page 6*

2.3.5 Technical data

Observe the following operating conditions for the installation of the system:

Operating temperature [$T_{max.}$]	110 °C
Operating pressure [P_{max}]	1.6 MPa (16 bar)

2.3.6 Markings on components

The press connectors are marked with a coloured dot. The dot identifies the SC-Contur where the test medium would escape in the case of an inadvertently unpressed connection.

The black dot indicates that the press connection is equipped with the EPDM profile sealing element and the SC-Contur.

The black rectangle serves as a warning *"Not suitable for potable water!"*.

The rectangle is to be found in the following places:

- on the press end of the press connector
- on the flange of the flange adapter

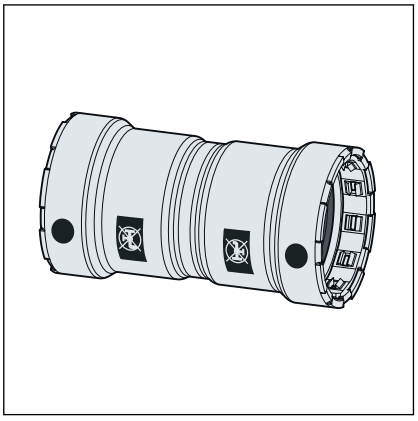


Fig. 11: Black dot and inscription *"Not suitable for potable water"*

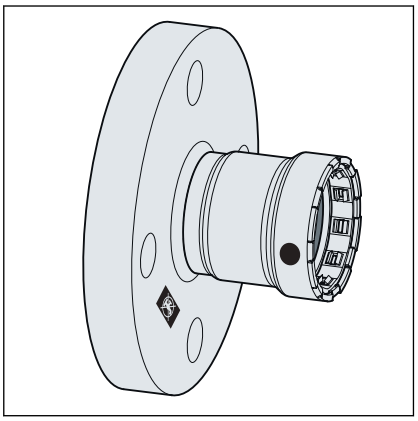


Fig. 12: Black dot and inscription *"Not suitable for potable water"*

2.4 Information for use

2.4.1 Corrosion

A zinc-nickel coating protects Megapress press connectors against external corrosion, e. g. in the case of arising condensation water in cooling systems.

Pipes must be equipped with suitable corrosion protection.

Pipes and press connectors must be insulated according to the general rules of engineering.

Observe the manufacturer's information.

3 Handling

3.1 Transport

Observe the following when transporting pipes:

- Do not pull the pipes over the sill. The surface could be damaged.
- Secure pipes during transportation. Pipes may become bent due to shifting.
- Do not damage the protective caps on the pipe ends and do not remove them until immediately before mounting. Damaged pipe ends may not be pressed.

In addition, observe the instructions provided by the pipe manufacturer.

3.2 Storage

For storage, comply with the requirements specified in the applicable regulations, see *„Regulations from section: Storage“ on page 6*:

- Store components in a clean and dry place.
- Do not store the components directly on the floor.
- Provide at least three points of support for the storage of pipes.
- Where possible, store different sizes separately.
  Store small sizes on top of larger sizes if separate storage is not possible.
- Store pipes of different materials separately to prevent contact corrosion.

In addition, observe the instructions provided by the pipe manufacturer.

3.3 Assembly information

3.3.1 Mounting instructions

System components may, in some cases, become damaged through transportation and storage.

- Only use original parts in perfect condition.
- Damaged parts must be replaced. Do not attempt to repair them.
- Store products in a clean and dry place.

- Check the installation pipes for suitable surface properties and the min./max. external diameter.
- Do not press on embossed pipe markings.
- Pipes and press connectors must be insulated pursuant to the general rules of engineering.

Fire extinguisher and sprinkler systems

The following requirements must be observed:

- For the applicable directives, see „*Regulations from section: Notes on mounting*“ *on page 6*
- Observation of the data from the following table

For sprinkler systems in compliance with VdS, only black, galvanised, or powder-coated steel pipes according to the specifications for VdS approval may be used.

For nominal widths up to and including DN 50, the minimum pipe wall thickness of 2.6 mm and the maximum wall thickness of 3.3 mm are applicable. For the distances and arrangement (fixing intervals) for steel pipes according to current regulations, see „*Regulations from section: Notes on mounting*“ *on page 6*.

Permissible pressures, nominal widths and application conditions

Permitted pressure	1.6 MPa (16 bar)
Nominal widths	D ¾–2
Pipe wall thickness	min. 2.6 mm; max 3.3 mm
Area of use (pipeline network)	Wet sprinkler units: ■ Piping network downstream of the alarm valve station Dry sprinkler units: ■ Piping network downstream of the alarm valve station
Fixing intervals	[1]
Firefighting water additive	Generally not permitted; exceptions only with the manufacturer's permission and prior agreement of the VdS

[1] see „*Regulations from section: Notes on mounting*“ *on page 6*

The following fire hazard classes are covered by Megapress:

- Fire hazard class LH (light hazard)
- Fire hazard class OH 1–4 (ordinary hazard)
- Fire hazard class HHP 1–4 (extra hazard, production risks)
- Fire hazard class HHS 1–4 (extra hazard, storage risks)

See „*Regulations from section: Notes on mounting*“ *on page 6*.

Preparation of the pipes

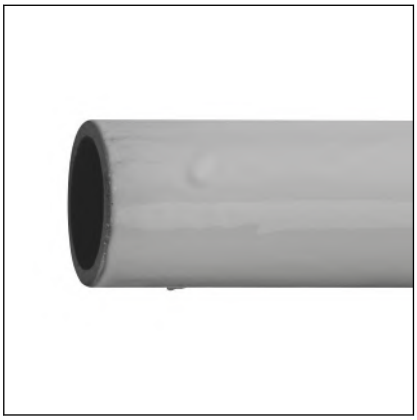
As long as they are free from dirt, smooth, firm, even and undamaged, the following pipe surfaces are suitable for the production of press connections without further treatment:

black uncoated pipes

galvanised pipes (maximum external diameter in acc. with *Chapter 2.3.2 „Pipes“ on page 8*)

industrially painted or powder-coated pipes (maximum external diameter in acc. with *Chapter 2.3.2 „Pipes“ on page 8*)

Pipe surfaces must be treated around the press connection if they exhibit the following characteristics:



uneven, manually applied layers of paint

Exceeding the maximum external diameter due to coating that has been applied *Chapter 2.3.2 „Pipes“ on page 8*

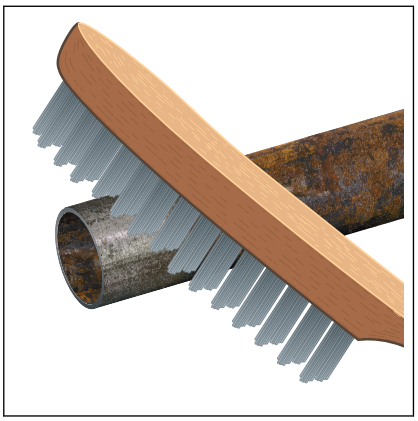
Bumps, damage, grooves, corrosion or loose adhesions

NOTICE!
Leaky press connection

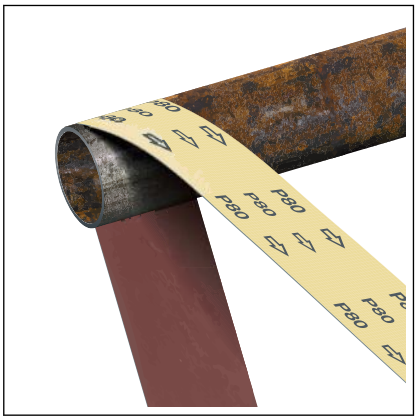
Pressings on the embossed pipe marking may cause leaking.

- Do not carry out pressings on the embossed pipe marking.

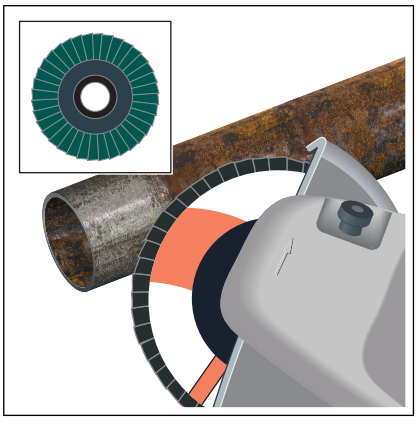
The following are examples of suitable tools for the work:



- Wire brush



- Cleaning fleece or sanding paper (grain > 80)



- Angle grinder with serrated washer

After the treatment, the quality of the pipe surface should be as shown in the following graphic:

The external diameter of the installation pipe must not fall below the minimum value, see *Chapter 2.3.2 „Pipes“ on page 8*.

In systems where complete corrosion protection is required (e. g. cooling systems), those parts of the previously processed pipe surface that are uncovered after pressing must subsequently be equipped with suitable corrosion protection.

3.3.2 Potential equalisation

DANGER!
Danger due to electrical current

An electric shock can lead to burns and serious injury and even death.

Because all metallic piping systems conduct electricity, unintentional contact with a live part can lead to the whole piping system and components connected to it (e. g. radiators) becoming energised.

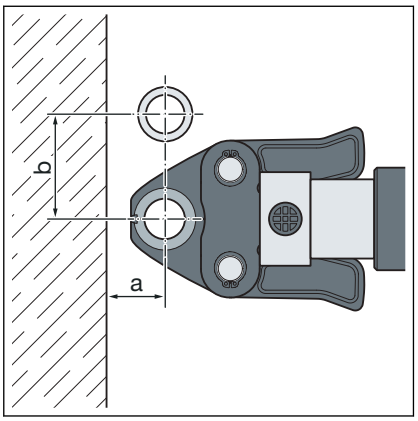
- Only allow electrical work to be carried out by qualified electricians.
- Always integrate the metal piping system into the potential equalisation.

It is the fitter of the electrical system who is responsible for ensuring that the potential equalisation is tested and secured.

3.3.3 Space requirements and intervals

The minimum distance to welding seams and bending points must be 3 x D – however at least 100 mm.

Pressing between pipelines

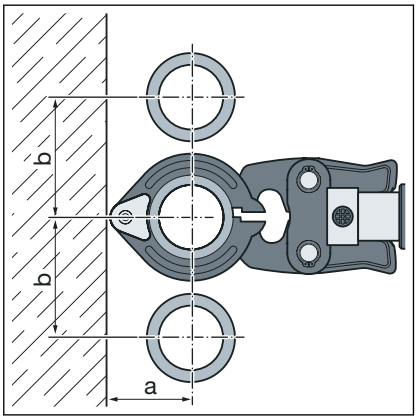


Space requirement type 2 (PT2), PT3-EH, PT3-AH, Pressgun 4B, 4E, 5

D	⅜	½	¾	1
a [mm]	30	30	35	45
b [mm]	70	70	80	95

Space requirement Picco, Pressgun Picco

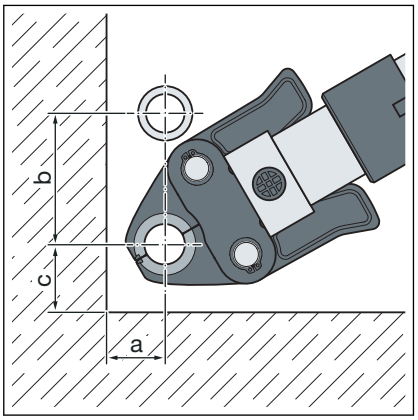
D	⅜	½	¾
a [mm]	30	30	35
b [mm]	70	70	80



Space requirement press rings D½–2

D	½	¾	1¼	1½	2
a [mm]	60	75	95	105	105
b [mm]	75	85	125	135	140

Pressing between pipe and wall

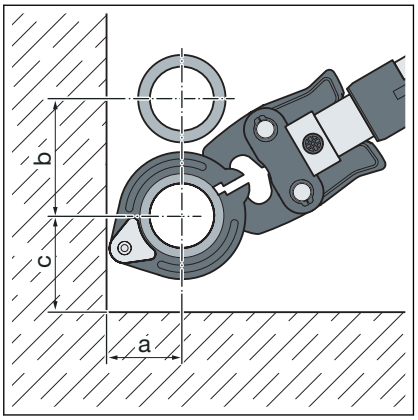


Space requirement PT1, type 2 (PT2), PT3-EH, PT3-AH, Pressgun 4B, 4E, 5

D	⅜	½	¾	1
a [mm]	35	35	40	50
b [mm]	80	80	90	105
c [mm]	50	50	55	65

Space requirement Picco, Pressgun Picco

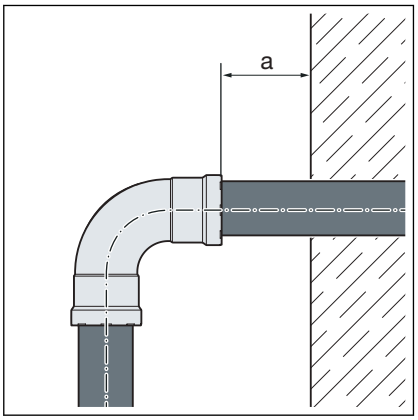
D	⅜	½	¾
a [mm]	60	60	65
b [mm]	75	75	85
c [mm]	80	80	80



Space requirement press rings D½–2

D	½	¾	1¼	1½	2
a [mm]	60	65	95	105	105
b [mm]	75	85	125	135	140
c [mm]	80	80	80	80	80

Wall distance



Minimum distance with press jaws D⅜–1

Press machine	a_{min} [mm]
Type 2 (PT2)	50
Type PT3-EH	
Type PT3-AH	
Pressgun 4E / 4B	
Pressgun 5	
Picco / Pressgun Picco	50

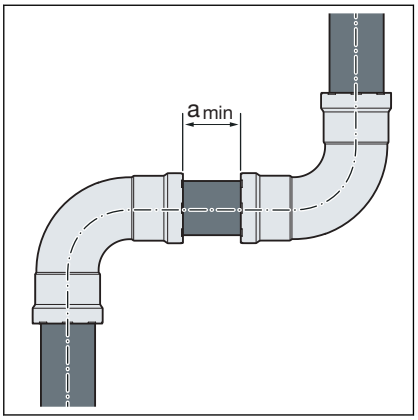
Minimum distance with press rings D½–2

Press machine	a_{min} [mm]
Type 2 (PT2)	20
Type PT3-EH	
Type PT3-AH	
Pressgun 4E / 4B	
Pressgun 5	
Picco / Pressgun Picco	20

Interval between the pressings

NOTICE!
Leaky press connections due to pipes being too short!

If two press connectors are to be mounted onto a pipe without an interval, the pipe must not be too short. If the pipe is not inserted up to the prescribed insertion depth in the press connector during pressing, the connection may become leaky.



Minimum distance with press jaws D⅜–1

D [inch]	a_{min} [mm]
⅜	5
½	
¾	
1	

Minimum distance with press rings D½–2

D [inch]	a_{min} [mm]
½	15
¾	
1¼	
1½	
2	

Z dimensions

For the Z dimensions, refer to the respective product page in the online catalogue.

3.3.4 Required tools

NOTICE!
Megapress press connectors may be pressed only with Megapress press rings and press jaws. Press rings and press jaws of the metal Viega press connector systems Profipress, Sanpress, Sanpress Inox and Prestabo cannot be used.

Possible combinations of press machines and press jaws

Press machines	Press jaws	Press rings	Set
Type 2 (PT2) PT3 EH / AH Pressgun 4 / 5	DN10–DN25 model 4299.9	DN15 model 4296.1, with hinged adapter jaw Z1 model 2296.2	Press jaws DN 15 to DN 25, press rings DN 32 to DN 50, hinged adapter jaw Z2 model 4299.61
		DN 32 to DN 50 model 4296.1, with hinged adapter jaw Z2 model 2296.2	

Press machines	Press jaws	Press rings	Set
Type 2 (PT2) PT3 EH Pressgun 4 / 5	—	D65 to DN100 model 4296.1XL, with Pressgun Press Booster model 4296.4XL	Press ring DN65 and Pressgun Press Booster model 4296.2XL
			Press rings DN 80 and DN 100 model 4296.5XL
Picco Pressgun Picco	DN10 and DN15 model 4284.9	DN15 model 4296.1, with hinged adapter jaw P1 model 2496.1	—

Press tools for intermediate sizes (38.0 mm, 44.5 mm and 57.0 mm)

External diameter [mm]	Press rings
38.0	D1¼, model 4296.1 with hinged adapter jaw Z2 model 2296.2
44.5	D1½, model 4296.1 with hinged adapter jaw Z2 model 2296.2
57.0	D2, model 4296.1, with hinged adapter jaw Z2 model 2296.2

The following tools are required for production of a press connection:

- pipe cutter or a fine-toothed hacksaw
  or angle-grinder
  or chopsaw with low cutting speed
- deburrer or half-round file and coloured pen for marking
- press machine with constant pressing force
- Press jaw (D⅜–1) or press ring (D½– 2) corresponding hinged adapter jaw, suitable for the pipe diameter and suitable profile

Fig. 13: Megapress press jaws

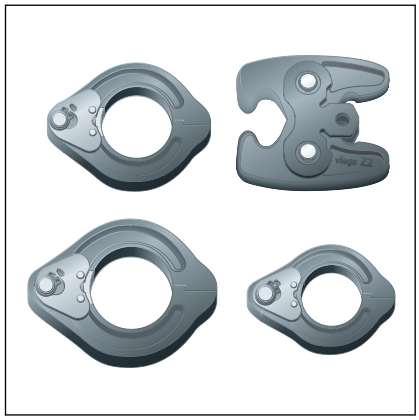


Fig. 14: Megapress press rings with hinged adapter jaw

Recommended Viega press machines:

- Pressgun 5
- Pressgun 4E / 4B
- Type PT3-AH
- Type PT3-H / EH
- Type 2 (PT2)
- Pressgun Picco
- Picco

3.4 Assembly

Permitted exchange of sealing elements

NOTICE!
With their material-specific qualities, sealing elements in press connectors are adapted for use with the corresponding media and/or the areas of use of the piping systems and are generally only certified for them.

The exchange of a sealing element is generally permitted. The sealing element must be exchanged for a designated spare part for the intended application *Chapter 2.3.4 „Sealing elements“ on page 15*. The use of other sealing elements is not permitted.

If the profile sealing element in the press connector is obviously damaged, it should be exchanged for a Viega spare profile sealing element made of the same material.

3.4.1 Replacing the sealing element

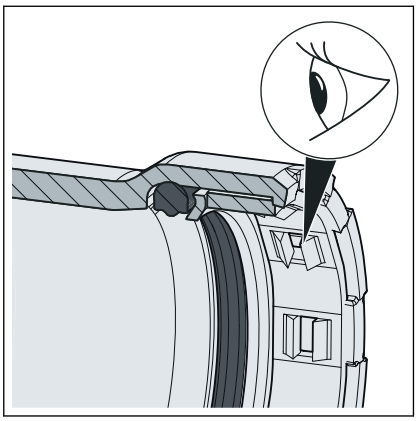


Fig. 15: Cutting ring

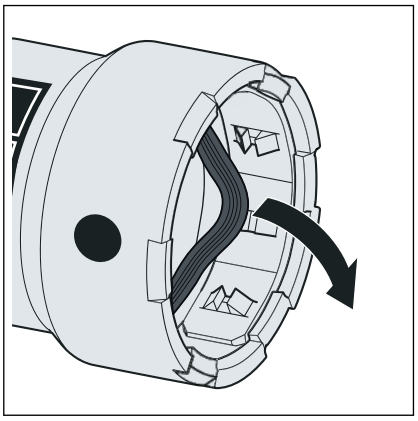
CAUTION!
Risk of injury due to sharp edges

There is a sharp-edged cutting ring above the sealing element (see arrow). There is a risk of injury (cutting) when replacing the sealing element.

- Do not reach into the press connector with your bare hands.

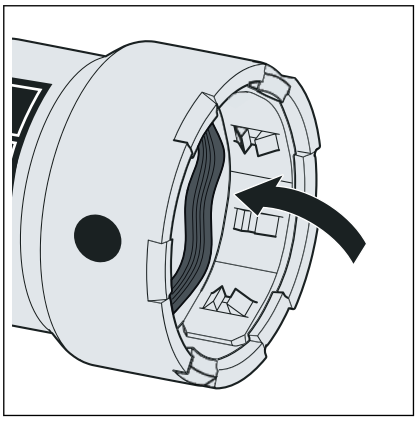
Removing the sealing element

Do not use pointed or sharp-edged objects to remove the sealing element. They may damage the sealing element or the bead.



- Remove the sealing element from the bead. Proceed carefully to avoid damaging the sealing element seat.

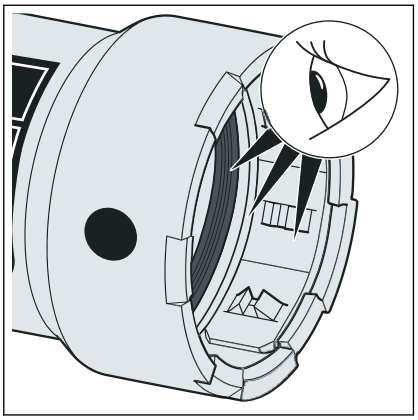
Inserting the sealing element



- Insert a new, undamaged sealing element into the bead.

  Make sure that the sealing element is not damaged by the cutting ring.

- Ensure that the complete sealing element is in the bead.



- The correct sealing element is in the press connector.
  EPDM = polished black
- Sealing element, separator ring and cutting ring are undamaged.
- The complete sealing element, separator ring and cutting ring are in the bead.

3.4.2 Shortening the pipes

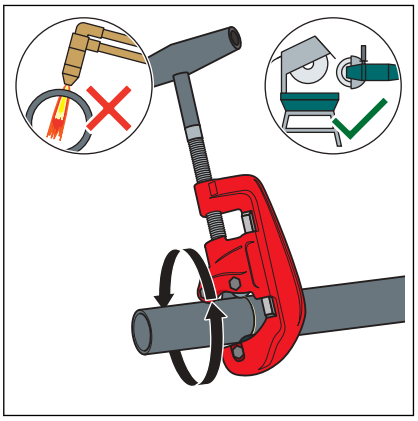
NOTICE!
Leaky press connections due to damaged material!

Press connections can become leaky due to damaged pipes or sealing elements.

Observe the following instructions to avoid damage to pipes and sealing elements:

- Do not use flame cutters when cutting to length.
- Do not use grease or oils (e. g. cutting oil).

For information about tools, also see *Chapter 3.3.4 „Required tools“ on page 26*.



- Cut the pipe using a pipe cutter, angle grinder or fine-toothed hacksaw. Do not use a flame cutter

  Avoid grooves on the pipe surface.

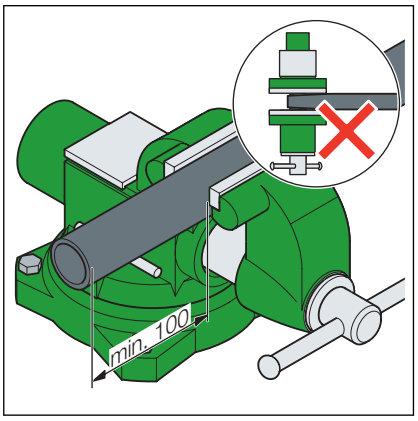
3.4.3 Deburring the pipes

The pipe ends must be thoroughly deburred internally and externally after shortening.

Deburring prevents the sealing element being damaged or the that the press connector cants when mounted. Viega recommends using a deburrer.

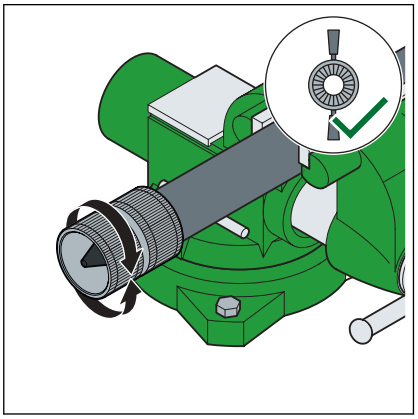
- ≤ D1½ (model 2292.2)
- D2 (model 2292.4XL)

NOTICE!
Damage due to the wrong tool!
Do not use sanding disks or similar tools when deburring. The pipes could be damaged by these.



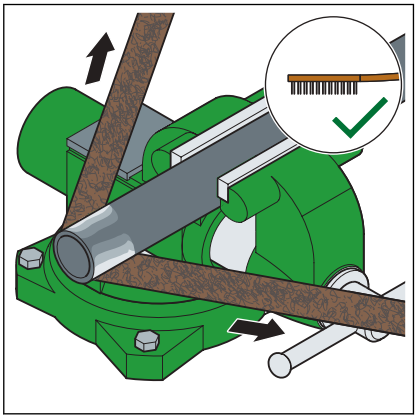
- Secure the pipe in the vice.
- When securing, leave an interval of at least 100 mm (a) to the pipe end.

  The pipe ends must not be bent or damaged.

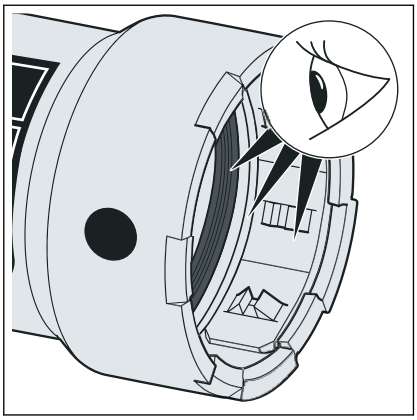


- Deburr the inside and outside of the pipe.

3.4.4 Pressing the connection

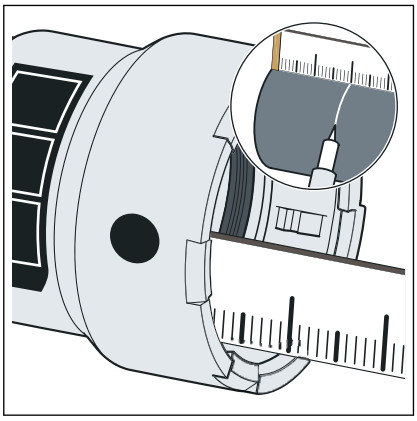


- With the help of a wire brush, cleaning fleece or sanding paper, remove loose dirt and rust particles from the pressing area.



Requirements:

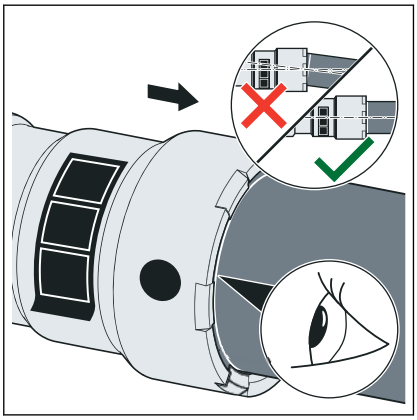
- The pipe end is not bent or damaged.
- The pipe is deburred.
- The correct sealing element is in the press connector.
  EPDM = polished black
- Sealing element, separator ring and cutting ring are undamaged.
- The complete sealing element, separator ring and cutting ring are in the bead.



➥ Measure and mark the insertion depth.

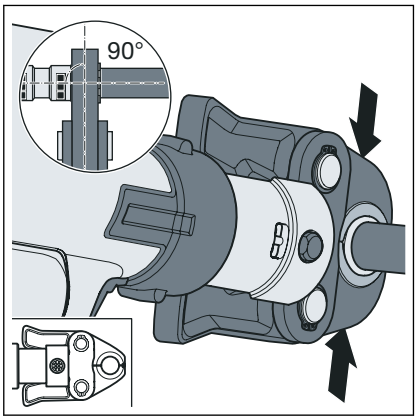
D [inch]	Insertion depth [mm]
⅜	24
½	27
¾	29
1	34
1¼	46
1½	48
2	50

External diameter [mm]	Insertion depth [mm]
38.0	42
44.5	48
57.0	48



➥ Push the press connector up to the marked insertion depth on the pipe. Do not twist the press connector.

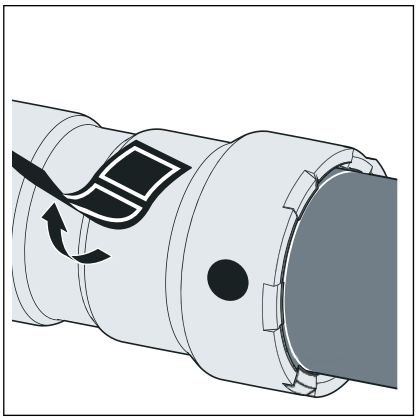
Pressing with press jaw at D ≤ 1



- Insert the press jaw (≤ D 1) into the press machine and push the retaining bolt in as far as it will go.

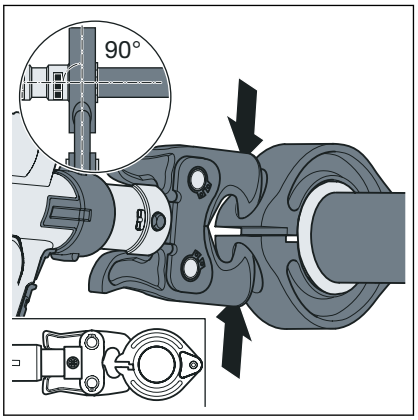
  INFO! Observe the press tool instruction manual!

- Open the press jaw and place it at a right-angle onto the press connector.
- Check the insertion depth using the marking.
- Ensure that the press jaw is placed centrally on the bead of the press connector.
- Carry out the pressing process.
- Open and remove the press jaw.



- Remove the check label.
  - The connection is marked as having been pressed.

Pressing with press rings with D ½–2

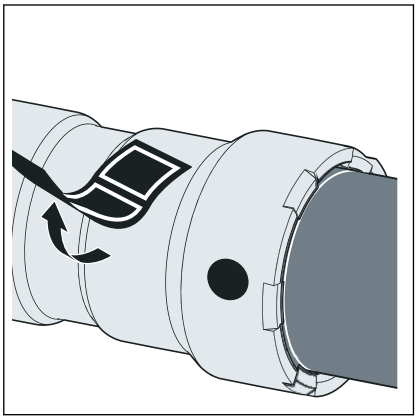


- Place the hinged adapter jaw onto the press machine and push the retaining bolt in until it clicks into place.

  INFO! Observe the press tool instruction manual!

- Place the press ring onto the press connector. The press ring must completely cover the outside ring of the press connector.
- Position the hinged adapter jaw into the seat of the press ring.
- Check the insertion depth using the marking.
- Ensure that the press ring is placed centrally on the bead of the press connector.
- Carry out the pressing process.
- Open the hinged adapter jaw and remove the press ring.
- Remove the check label.

  ▷ The connection is marked as having been pressed.



3.4.5 Leakage test

The installer must perform a leakage test before commissioning.

Carry out this test on a system that is finished but not covered yet.

Observe the applicable regulations, see *„Regulations from section: Leakage test“ on page 6*.

The leakage test pursuant to the applicable regulations must also be carried out for non-potable water installations, see *„Regulations from section: Leakage test“ on page 6*.

Document the result.

To prevent corrosion, the system must remain full of water after the leakage test has been performed.

For the filling and top-up water, comply with the requirements specified in the applicable regulations, see *„Regulations from section: Leakage test“ on page 6*.

3.5 Disposal

Separate the product and packaging materials (e. g. paper, metal, plastic or non-ferrous metals) and dispose of in accordance with valid national legal requirements.

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INT • 2020-07 • VPN200161