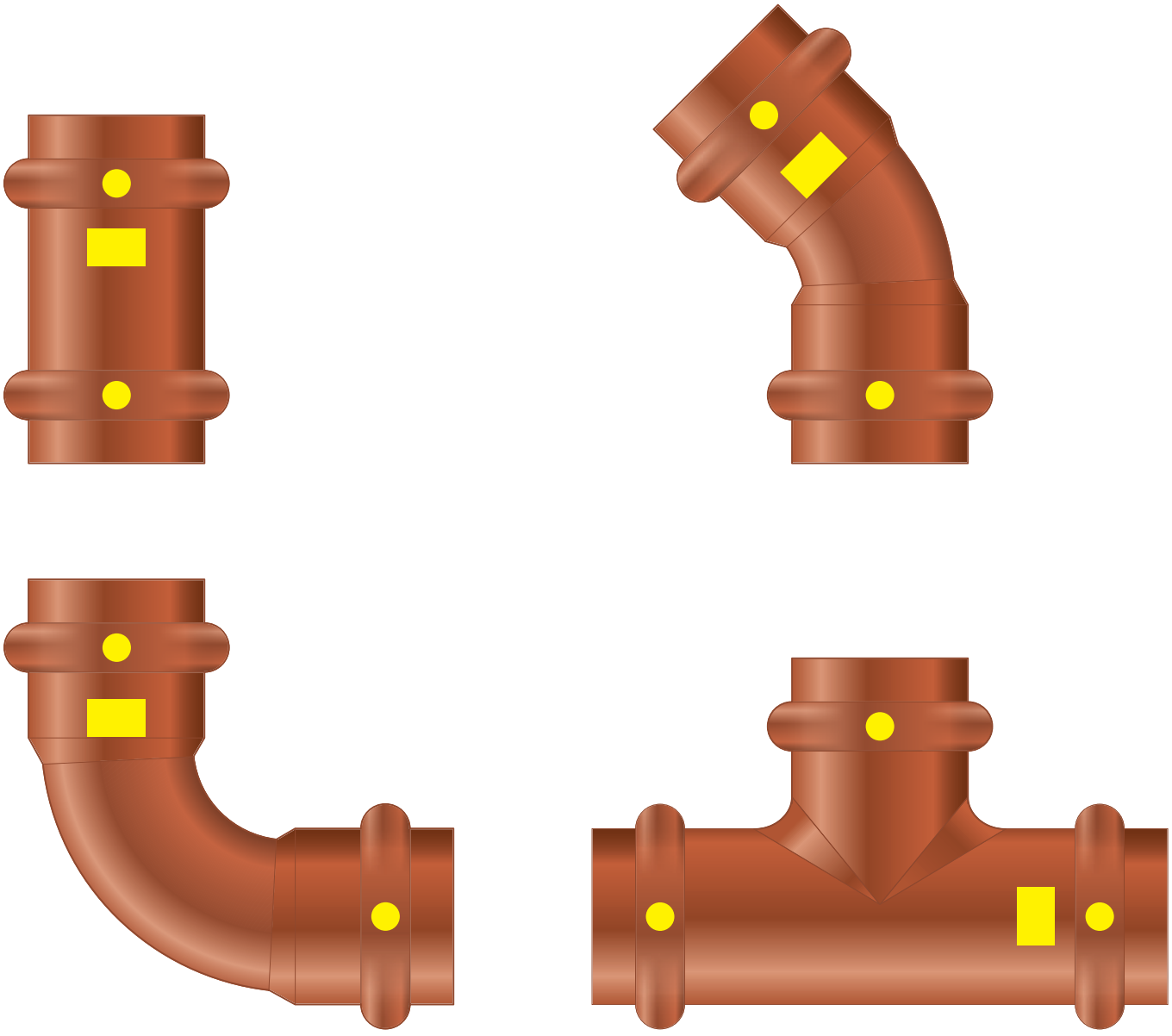
AU

Instructions for Use

Propress G



Press connector system made of copper for copper pipes

System
Propress G

Year built (from)
07/2006

viega

Table of contents

1 About these instructions for use

1.1 Target groups

The information in this instruction manual is directed at the following groups of people:

- Contract installers
- Professional specialist companies for the construction, maintenance and alteration of a natural or liquid gas system

Liquid gas systems may only be constructed, maintained or altered by companies that have the necessary qualification and experience.

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. National regulations can be found on the relevant web site of your country at *viega.com.au/standards*

Regulations from section: Fields of application

Scope / Notice	Regulations applicable in Germany
Planning, execution, modification and operation of gas installations	DVGW-TRGI 2018
Gas installations for industrial, commercial and process plants	DVGW-Arbeitsblatt G 5614
Gas installations for industrial, commercial and process plants	DVGW-Arbeitsblatt G 462
Gas installations for industrial, commercial and process plants	DVGW-Arbeitsblatt G 459-1
Gas installations for industrial, commercial and process plants	DVGW-Fachinformation Nr. 10
Planning, execution, modification and operation of liquid gas installations	DVFG-TRF 2012

Regulations from section: Media

Scope / Notice	Regulations applicable in Germany
Suitability for gasses Liquid gas in the gaseous state	DVGW-Arbeitsblatt G 260
Suitability for fuel oil	DIN 51603-1
Suitability for Diesel fuel	DIN EN 590

Regulations from section: Pipes

Scope / Notice	Regulations applicable in Germany
Rules of the fixing technology for gas installations	DVGW-TRGI 2018, Point 5.3.7
Rules of the fixing technology for gas installations	DVFG-TRF 2012, Point 7.3.6
Approval of press connectors for use with copper pipes	DVGW G 5614
Approval of press connectors for use with copper pipes	DIN EN 1057
Approval of press connectors for use with copper pipes	DVGW-Arbeitsblatt GW 392

Regulations from section: Corrosion

Scope / Notice	Regulations applicable in Germany
(Subsequent) corrosion protection for underground installation	DIN 30672
Corrosion protection for external pipes	DVGW-TRGI 2018, Point 5.2.7.1
Corrosion protection for internal pipelines	DVGW-TRGI 2018, Point 5.2.7.2
Corrosion protection measures for external pipelines	DVFG-TRF 2012, Point 7.2.7.1
Corrosion protection for internal pipelines	DVFG-TRF 2012, Point 7.2.7.2
Overground pipelines in recesses in the bare floor or levelling layer	DVGW-TRGI 2008, Point 5.3.7.8.4

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
The general rules of mounting for gas installations	DVGW-TRGI 2018, Point 5.3.7
The general rules of mounting for gas installations	DVFG-TRF 2012, Point 7.3.6

Regulations from section: Leakage test

Scope / Notice	Regulations applicable in Germany
Leakage test for gas installations	DVGW-TRGI 2018, Point 5.6
Testing and initial commissioning of a liquid gas system	DVFG-TRF 2012, Point 8

Regulations from section: Maintenance

Scope / Notice	Regulations applicable in Germany
Ensuring and maintaining a safe operating condition of gas installations	DVGW-TRGI 2018, Appendix 5c

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.

The expression "SC-Contur" appearing in the instructions for use means "Smart Connect Feature".

2.2.1 Areas of use

Use is possible in the following areas among others:

- Gas installations, see *'Regulations from section: Fields of application' on page 5*
- Liquid gas installations, also see *'Regulations from section: Fields of application' on page 5*.
- Heating oil pipelines

- Diesel pipes
- Compressed air systems

Gas installation

For planning, execution, modification and operation of gas installations, observe the applicable regulations, see *'Regulations from section: Fields of application' on page 5*.

Use is possible in the gas installations described below:

- Gas installations
  - Low pressure range ≤ 100 hPa (100 mbar, 10 kPa)
  - Medium pressure range from 100 hPa (100 mbar, 10 kPa) up to 0.1 MPa (1 bar, 100 kPa)
  - industrial, commercial and process technical systems with the corresponding directives and technical regulations
- Liquid gas installations
  - With liquid gas tank in medium pressure range downstream of the pressure regulating valve, 1st level on the liquid gas tank > 100 hPa (100 mbar, 10 kPa) up to a permitted operating pressure of 0.5 MPa (5 bar, 500 kPa)
  - With liquid gas tank in the low pressure range ≤ 100 hPa (100 mbar, 10 kPa) behind the pressure regulating valve, 2nd level
  - with liquid gas pressurised container (liquid gas bottles) < 16 kg behind the small bottle pressure regulating valve
  - with liquid gas tank (liquid gas bottle) ≥ 16 kg behind the large bottle pressure regulating device

The Sanpress Inox G system must be used for liquid gas installations in areas with requirements of higher thermal resistance (HTR), with a pick-up pressure of the SSV > 0.1 MPa (1 bar, 100 kPa).

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*.

- Gases
- Liquid gases, only in the gaseous state for domestic and commercial applications
- Heating oil
- Diesel fuel
- Compressed air

2.3 Product description

2.3.1 Overview

The piping system consists of press connectors for copper pipes and the corresponding press tools.

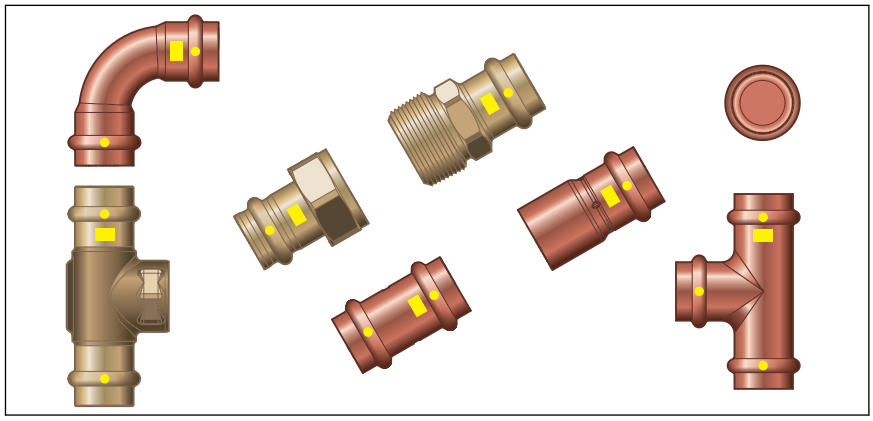


Fig. 1: Propress G product selection

The system components are available in the following dimensions: DN 15 / 20 / 25 / 35 / 40 / 50.

2.3.2 Pipes

Propress G press connectors are tested and certified with the following copper pipes, see *'Regulations from section: Pipes' on page 6*:

Thinner walls than stated are not permitted.

Copper pipes type A

d x s [mm]	Volume per metre of pipe [l/m]	Pipe weight [kg/m]	DN
12.7 x 1.02	0.089	0.335	15
19.1 x 1.42	0.206	0.703	20
25.4 x 1.63	0.385	1.088	25
31.8 x 1.63	0.637	1.379	32
38.1 x 1.63	0.953	1.670	40
50.8 x 1.63	1.775	2.251	50

Copper pipes type B

d x s [mm]	Volume per metre of pipe [l/m]	Pipe weight [kg/m]	DN
12.7 x 0.91	0.093	0.301	15
19.1 x 1.02	0.227	0.517	20
25.4 x 1.22	0.414	0.829	25
31.8 x 1.22	0.675	1.046	32
38.1 x 1.22	0.999	1.264	40
50.8 x 1.22	1.837	1.699	50

Laying and fixing pipes

Observe the general rules of fixing technology:

- For gas installations, see *Chapter 2.1 'Standards and regulations' on page 5*.
- Only fix on components with sufficient stability.
- Gas supply lines must not be secured to other pipelines nor should they be used as support for other pipelines.
- The system can be secured using commercially available plastic dowels together with non-flammable pipe clamps (e.g. metallic pipe clamps).

With gas supply lines, observe the following fixing intervals for pipelines laid horizontally:

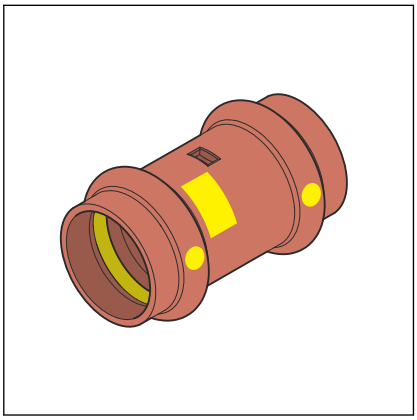
Interval between the pipe clamps

DN	Fixing distance between the pipe clamps [m]
15	1.25
20	2.00
25	2.25
32	2.75
40	3.00
50	3.50

2.3.3 Press connectors

The press connectors in the Propress G system consist of the following materials:

- Copper
- Bronze

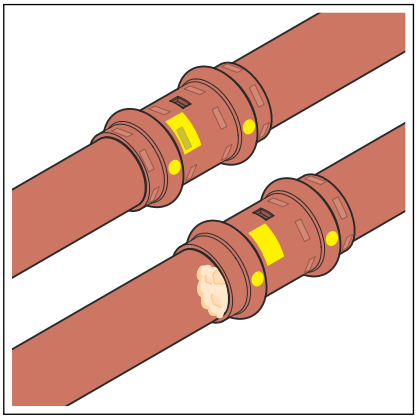


The press connectors have a circumferential bead in which the sealing element lies. The press connector is deformed upstream and downstream of the bead and permanently connected to the pipe during pressing. The sealing element is not deformed during pressing.

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

Fig. 2: Press connectors

Smart Connect Feature (SC-Contur)



Viega press connectors are equipped with the Smart Connect Feature (SC-Contur). The Smart Connect Feature (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 during a leakage test.

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

- in the case of the dry leakage test, in the pressure range from 2.2–300 kPa (22 mbar–3.0 bar)

Fig. 3: Smart Connect Feature (SC-Contur)

2.3.4 Sealing elements

The press connectors are factory-set with yellow HNBR sealing elements.

The sealing element is pre-lubricated and must not be removed from the press connector. In the event that lubrication is required, use only clean water.

Use	Gas installation	Liquid gas installation	Heating oil and diesel pipelines
Operating temperature	-20 °C up to +70 °C	-20 °C up to +70 °C	≤ 40 °C
Operating pressure	≤ 0.5 MPa (5 bar, 500 kPa) (MOP 5) ≤ 0.1 MPa (1 bar, 100 kPa) (HTB / GT1)[2)]	≤ 0.5 MPa (5 bar, 500 kPa) (MOP 5)[1)] ≤ 0.1 MPa (1 bar, 100 kPa) (HTB / GT1)[2)]	≤ 0.5 MPa (5 bar, 500 kPa) (MOP 5)

[1)] The maximum pressure equates to the pick-up pressure of the SSV in the pressure regulating valve.

[2)] GT1: Operating pressure at HTR requirement 650 °C / 30 min max. 0.1 MPa (1 bar, 100 kPa)

2.3.5 Markings on components

Markings on press connectors

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

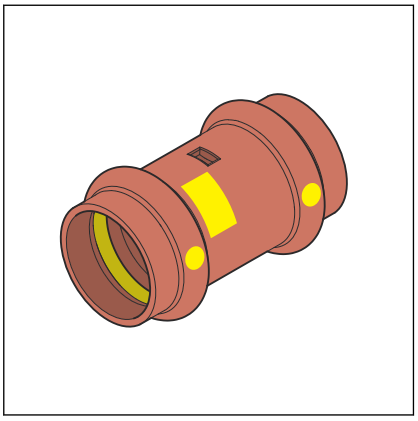


Fig. 4: Marking on the press connector

The press connectors are marked as follows:

- yellow dot and yellow rectangle for gas
- *Gas* for gas supply lines
- *MOP5* for maximum operating pressure 0.5 MPa (5 bar, 500 kPa)
- *GT1* for operating pressure with HTR requirement 0.1 MPa (1 bar, 100 kPa)
- *ATG* for certification in France
- *Gastec* for certification in the Netherlands
- *T2* for certification in Poland
- DVGW
- KIWA

2.4 Information for use

2.4.1 Corrosion

Depending on the area of use, corrosion protection measures may have to be taken into account. One differentiates between external pipelines (underground and overground external pipelines), as well as internal pipelines.

Information about the area of use, also see *Chapter 2.2.1 'Areas of use' on page 7*.

The pertinent guidelines must be observed for corrosion protection, see *'Regulations from section: Corrosion' on page 6*.

Overground pipes and fittings in rooms do not normally require external corrosion protection.

There are exceptions in the following cases:

- There is contact with aggressive building materials such as materials containing nitrite or ammonium.
- in aggressive surroundings
- In recesses within bare floors or in the compensating layer, they must be treated in the same way as buried external pipelines, see *'Regulations from section: Corrosion' on page 6*.

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 must 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.

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

3.3 Assembly information

3.3.1 Mounting instructions

Checking system components

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

- Check all parts.
- Replace damaged components.
- Do not repair damaged components.
- Contaminated components may not be installed.

The system is intended for underground device connection pipelines for gas devices for use outside. Press connectors are not permitted in underground liquid gas pipelines.

For gas installations, observe the applicable regulations, see *'Regulations from section: Notes on mounting' on page 7*.

NOTICE!
Active and possibly passive protection measures are required to protect a gas installation from tampering by unauthorised persons, see *'Regulations from section: Notes on mounting' on page 7*.

Active protective measures must always be taken.

Passive protective measures must be selected and employed depending on the installation.

The general rules of mounting for gas supply lines

The following conditions amongst others are valid when laying gas supply lines:

- Lay gas supply lines with clearance from the installation body, concealed without hollow spaces, or in ventilated ducts or shafts.
- Do not install gas supply lines with operating pressures > 100 hPa (100 mbar, 10 kPa) concealed in the wall.
- Arrange gas supply lines in such a way that condense water or water dripping from other pipes and components does not affect them.
- Do not lay gas supply lines in screed.
- Shut-off systems and detachable connections must be easily accessible.

Requirements on concealed installations:

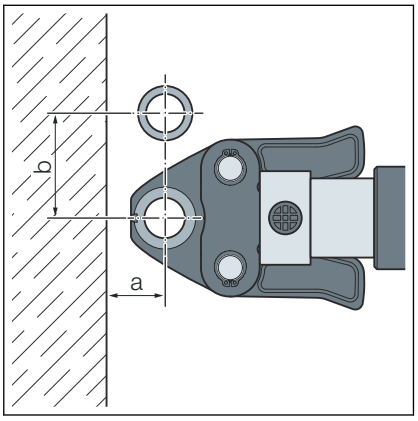
- Lay stress-free.
- Apply corrosion protection.
- Do not use any detachable connections (screw fittings).
- Do not use copper pipes together with materials containing nitrite or ammonium.

Continuous, connection-free gas supply lines may be laid in hollow spaces (pre-wall constructions) to be connected to a gas device or a gas socket.

Ventilation is not required.

3.3.2 Space requirements and intervals

Pressing between pipelines



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

DN	15	20	25	32	40	50
a [mm]	20	25	25	30	45	50
b [mm]	50	60	70	85	100	115

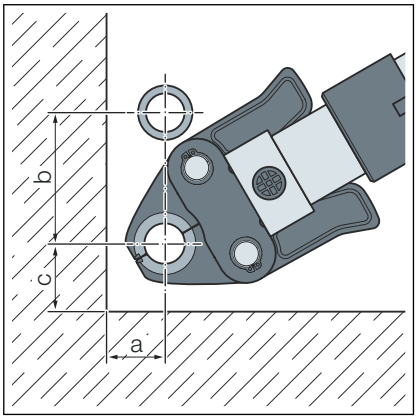
Space requirement Picco, Pressgun Picco

DN	15	20	25	32
a [mm]	25	25	25	25
b [mm]	60	65	65	65

Space requirement press ring

DN	15	20	25	32	40	50
a [mm]	40	45	50	55	60	65
b [mm]	50	55	70	75	85	90

Pressing between pipe and wall

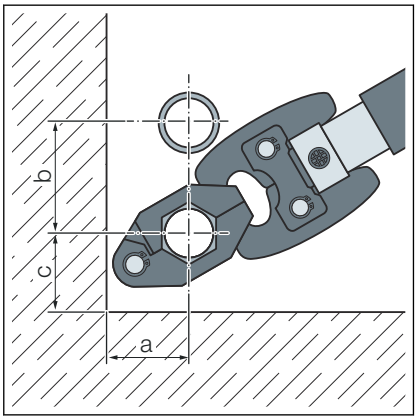


Space requirement PT1, type 2 (PT2), PT3-EH, PT3-AH, Pressgun 4B, 4E, 5

DN	15	20	25	32	40	50
a [mm]	25	30	30	50	50	55
b [mm]	65	80	85	95	115	140
c [mm]	40	40	50	50	70	80

Space requirement Picco, Pressgun Picco

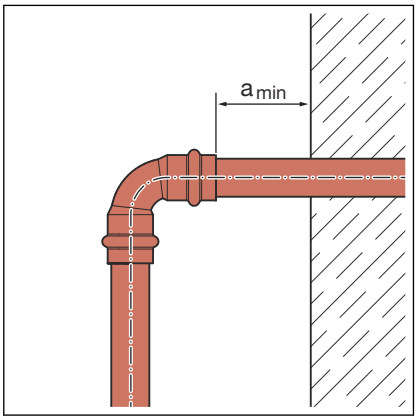
DN	15	20	25	32
a [mm]	30	30	30	30
b [mm]	70	75	80	80
c [mm]	40	40	40	40



Space requirement press ring

DN	15	20	25	32	40	50
a [mm]	40	45	50	55	60	65
b [mm]	50	60	70	75	85	90
c [mm]	35	40	45	50	55	65

Distance to walls



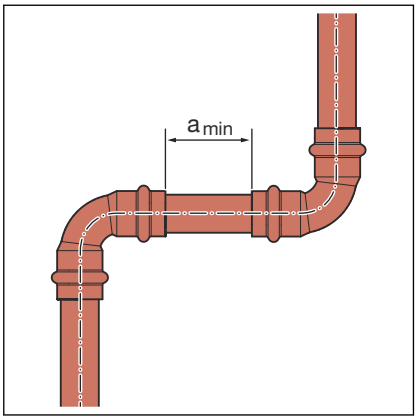
Minimum distance with DN 15-50

Press machine	a_{min} [mm]
Type PT3-AH	50
Pressgun 4B	
Pressgun 5	
Picco / Pressgun Picco	35

Interval between the pressings

NOTICE!
Leaking press connections due to pipes being too short

If two press connectors are to be mounted next to one another 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 leak.



Minimum distance with press jaws DN 15–50

DN	a_{min} [mm]
15	0
20	0
25	0
32	10
40	15
50	25

Z dimensions

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

3.3.3 Required tools

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

- pipe cutter or a fine-toothed hacksaw
- deburrer and coloured pen for marking
- press machine with constant pressing force
- Press jaw or press ring with corresponding hinged adapter jaw, suitable for the pipe diameter and suitable profile

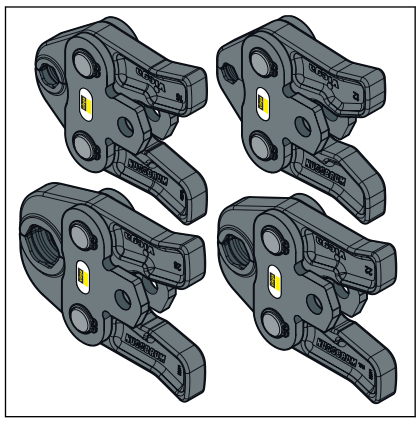


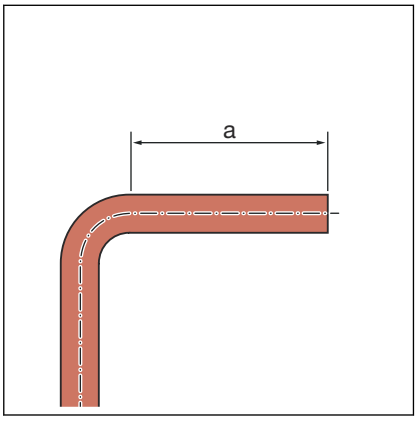
Fig. 5: Press jaws

Viega recommends the use of Viega system tools when installing the press fittings.

The Viega system press tools have been developed and tailored specifically for the installation of Viega press connector systems.

3.4 Assembly

3.4.1 Bending pipes



Copper pipes in the sizes DN 15 and 20 can be bent cold with commercially available bending equipment (radius at least 3.5 x d).

The pipe ends (a) must be at least 50 mm long so that the press connectors can be mounted properly.

3.4.2 Shortening the pipes

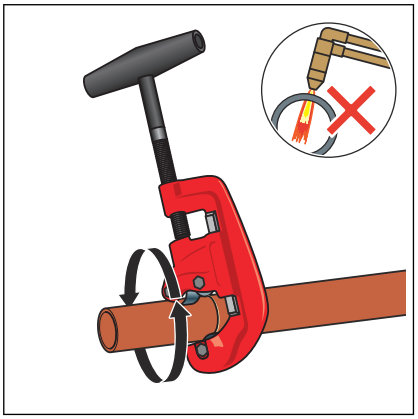
NOTICE!
Leaking press connections due to damaged material!

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

For information about tools, also see *Chapter 3.3.3 'Required tools' on page 18*.



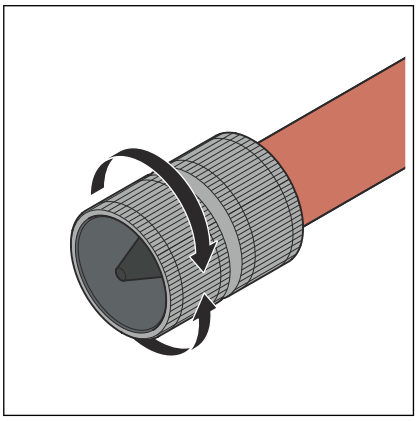
- Cut the pipe using a pipe cutter or fine-toothed hacksaw.

  Avoid grooves on the pipe surface.

3.4.3 Deburring the pipes

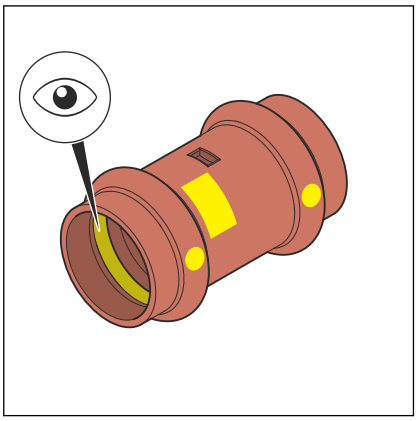
The pipe ends must be thoroughly deburred internally and externally after shortening.

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



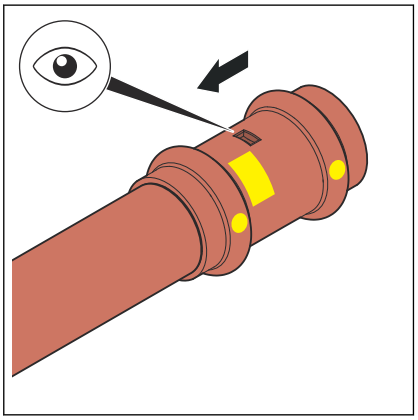
- Deburr the inside and outside of the pipe.

3.4.4 Pressing the connection

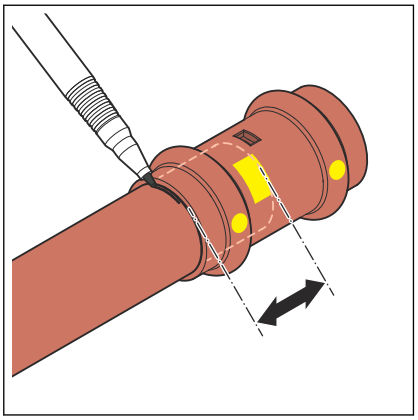


Requirements:

- The pipe end is not bent or damaged.
- The pipe is deburred.
- The correct sealing element is in the press connector.
  HNBR = yellow
- The sealing element is undamaged.
- The complete sealing element is in the bead.

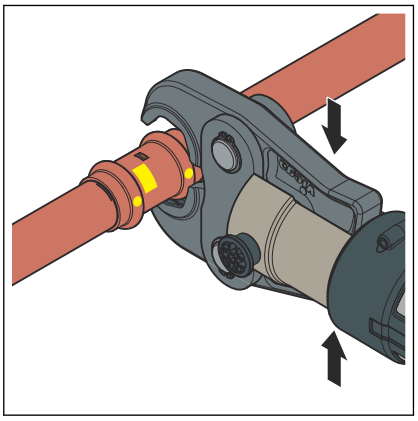


- Push the press connector onto the pipe as far as it will go.

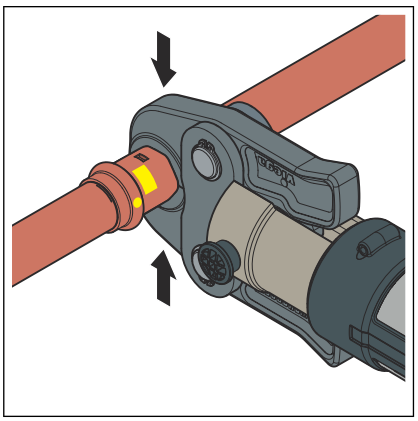


- Mark the insertion depth.
- Place the press jaw onto the press machine and push the retaining bolt in until it clicks into place.

  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.

  ▷ Connection is 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.

Observe the applicable regulations, see *'Regulations from section: Leakage test' on page 7*.

Document the result.

3.5 Maintenance

The gas installation must be given a visual inspection, e. g. by the owner, once a year.

Serviceability and leak tightness must be checked every twelve years by an installation contractor.

To be covered by the warranty and to ensure the safe operation of the gas installations, operate and maintain them as intended, see *'Regulations from section: Maintenance' on page 7*.

3.6 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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