Smartloop-Inliner circulation line

Intended use

The system is suitable for use as an internal circulation line in drinking water installations, especially in hot water riser pipes from 28 mm, together with the Viega press connector systems.

To lay a drinking water installation with Smartloop-Inliner technology, we recommend using the Viega Viptool planning software.
Installation is only permitted by trained specialists exclusively using Viega components. Any applications differing from those described here must be agreed with Viega Service Center.

System Description

The system consists of the components

- Connecting kit, with end connector and Smartloop-pipe connections
- Smartloop-pipe, flexible.

Smartloop-inliner

Connecting kit

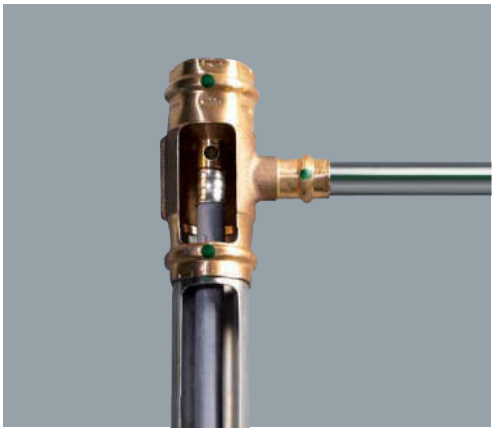


Fig. D — 110

Fig. D — 111

Smartloop-pipe

Hygienically packed through to assembly

Fig. D — 112

The circulation of hot water in the pipe is achieved by permanently channelling water back into the water heating system from the last T-piece of the riser pipe. This ensures that sufficient hot water is available at hygienically flawless temperatures at every floor outlet.

Circulation Pipe

Smartloop-Inliner

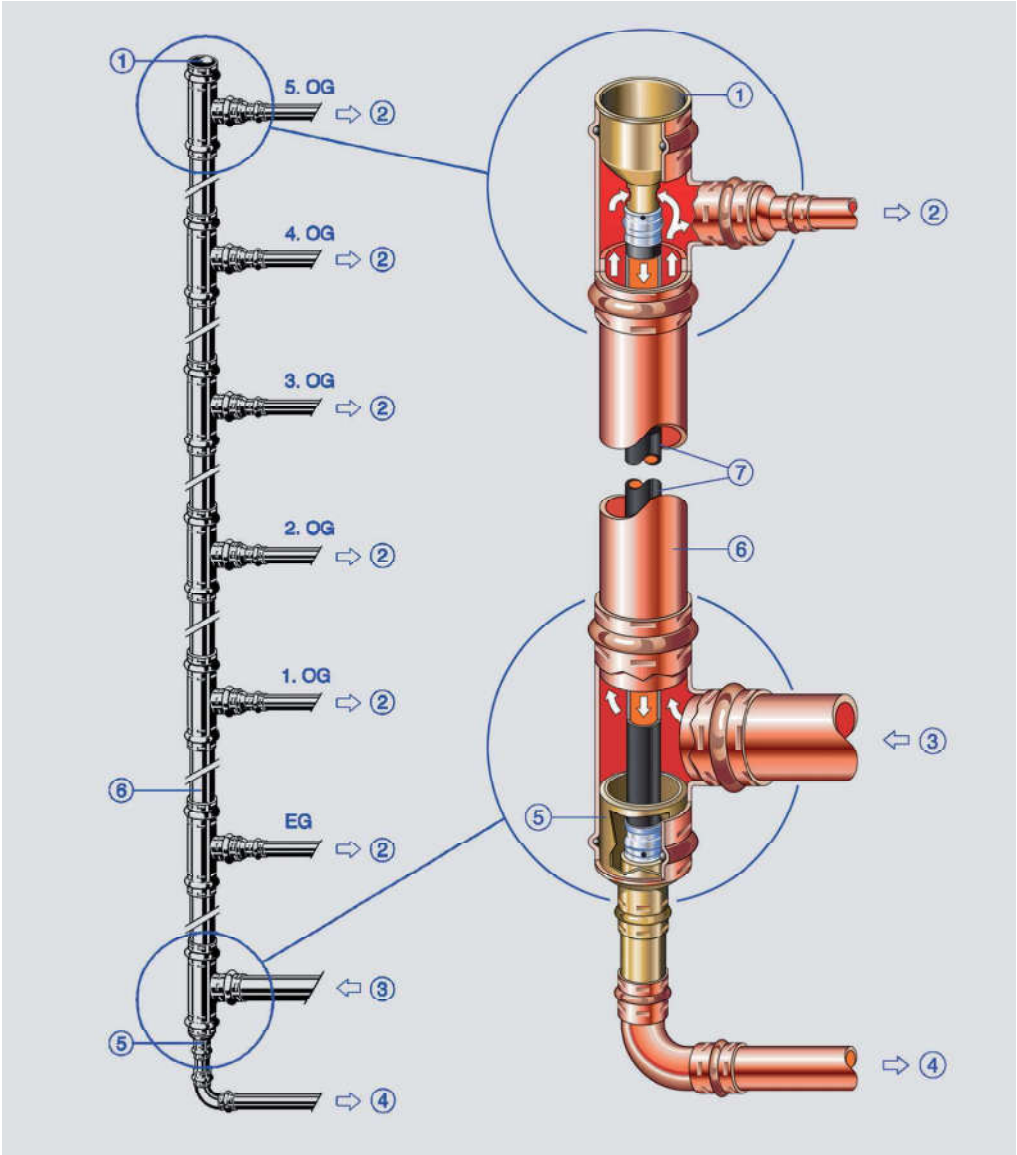


Fig. D — 113

① End closing piece
② Storey connection pipe – warm
③ Warm water distribution pipe
④ Circulation collector pipe
⑤ Connection piece
⑥ Warm water riser pipe
⑦ Internal circulation pipe

Temperature Graduation

In comparison to conventional circulation, the temperature in the riser pipe area does not drop continually in the direction of flow with Smartloop-Inliner circulation.

The lowest temperature in the riser pipe is not at the crossover between the riser pipe and circulation collector pipe ②. Instead, it is in the end connection near the direction change in the internal circulation ①. With large-scale systems with several lines, this leads to an increase of temperature in the circulation collector pipe. As a result, the temperature of the back-flow water is higher than with conventional circulation systems, which, in turn, has advantages in terms of energy.

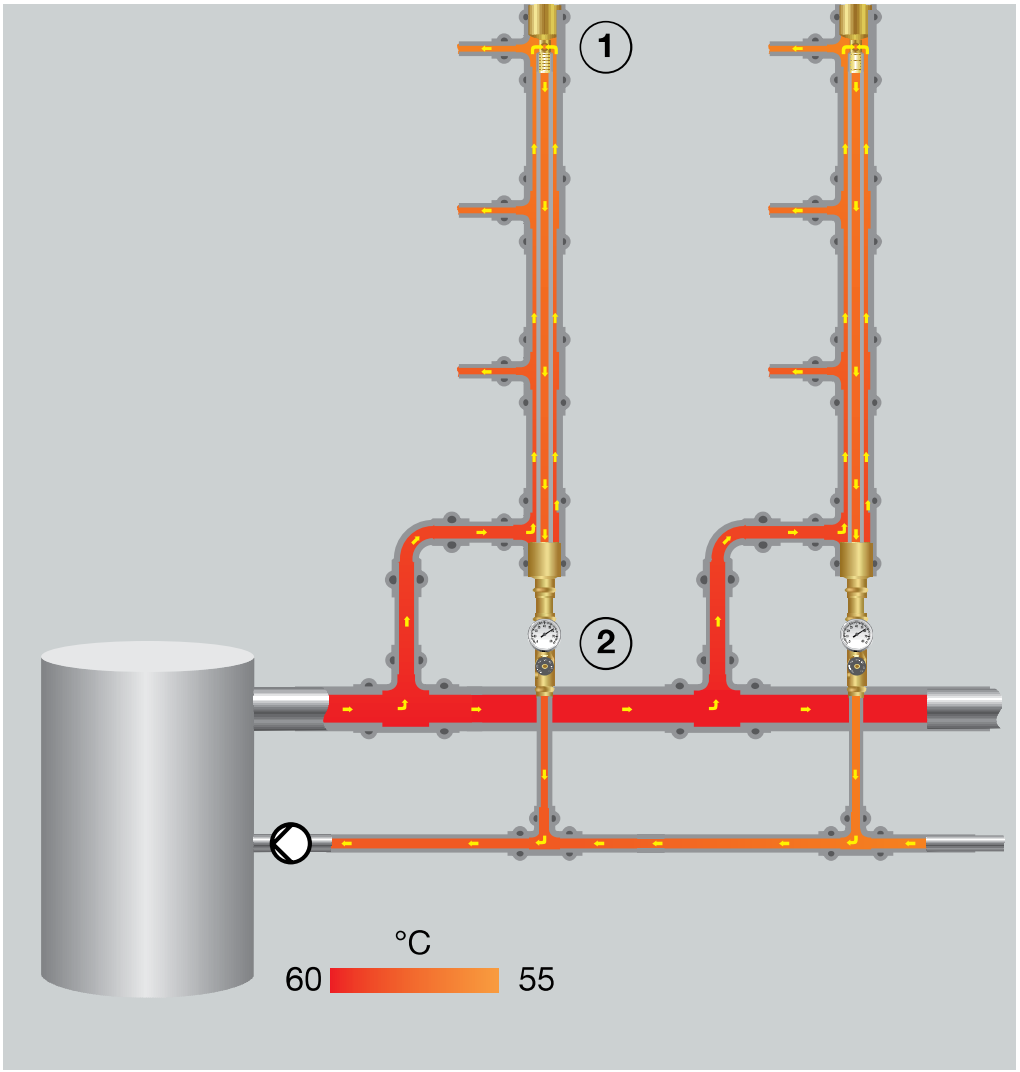


Fig. D — 114

① Hot water floor outlet
② Hot water distribution pipe

Advantages

- 20 to 30 % less heat distribution losses
- Guarantee of drinking water quality as a result of temperature maintenance and circulation
- Lower heat emissions in the duct supports temperature maintenance in cold water
- Approx. 20 % lower costs for core drillings, fire protection, pipe insulation and fastenings
- Lower assembly costs as there is no need for a separately laid circulation pipe system
- More living space due to smaller installation ducts
- Flexible Smartloop pipe permits parallel offset in the riser pipe

Offset riser pipe

Fig. D — 115

Components

Connection set

Model 2276.1

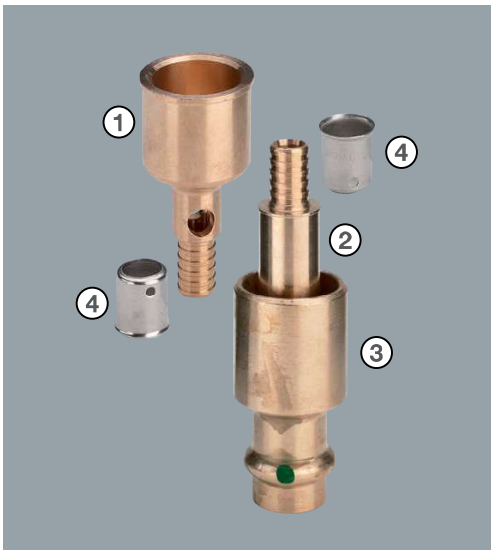


Fig. D — 116

① End closure plug
② Adaptor
③ Connecting piece
④ Press sleeve

Tension coupling

Model 2276.9

Fig. D — 117

① Support sleeve
② Jack head

Repair coupling

Model 2276.8

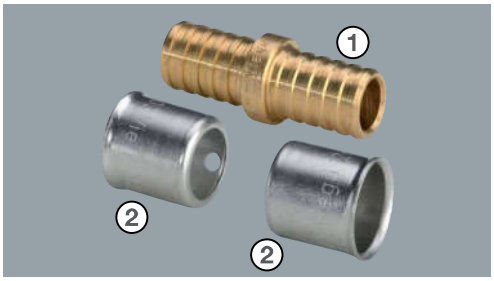


Fig. D — 118

① Repair coupling
② Press sleeve

Smartloop-pipe

Model 2007.3

Fig. D — 119

Assembly

The components and tools required to assemble a Smartloop-Inliner in a Sanpress, Sanpress Inox or Profipress riser pipe are shown on the side before previous page. The press connection for the Smartloop-pipe can be carried out using manual pressing tools (Model 2782) or the pressing pliers (Model 2799.7) and a suitable press machine – we recommend using the Viega press machines PT2, PT3H, PT3-AH, PT3-EH or Pressgun 4E and 4B. Pressgun 5.

Assembly with Parallel Offset

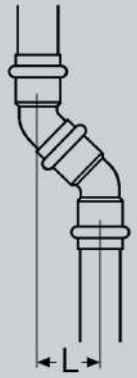
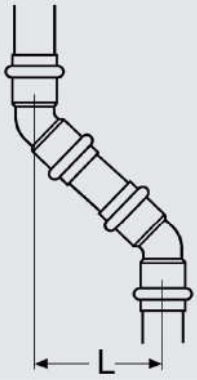
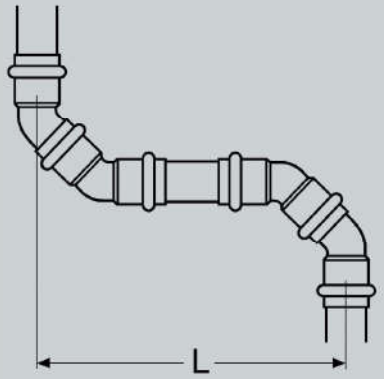
The flexible Smartloop-pipe also enables assembly in offset riser pipes. Even wall projections and ducts that are not aligned with one another are no obstacle for professional assembly.

The Materialprüfungsamt NRW has inspected and examined the assembly in the case of parallel offsetting of the riser pipe for the necessary requirements.

Vertical offsetting of the riser pipe in a position does not affect the function or the assembly of the Inliner. Any installation situations differing from those shown should be agreed with Viega Service Center.

To incorporate the Smartloop-pipe, we recommend using the tension coupling or, for more pronounced offsetting, the adapted assembly method.

Maximum offset – Material suggestion

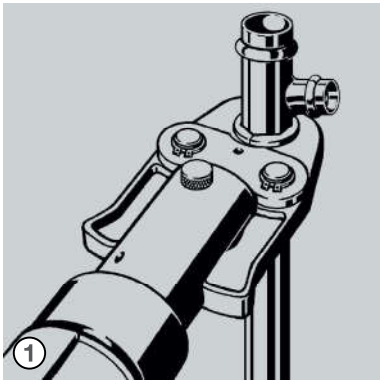
Offset	Minimal	45°	90°
			
Diversion L [mm]	≥ 40 – 45	≥ 45 – 500	≥ 150 – 500
Components required	1 bend 45° 1 bend 45°, with insertion ends	2 bend 45°	2 bend 45° 2 bend 45°, with insertion ends

Tab. D — 17

Assembly with slight or no offsetting

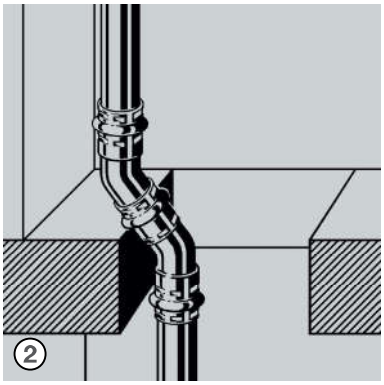
Assembly of the riser pipe with subsequent incorporation of the Smartloop-pipe.

Fig. D — 120
Fig. D — 121
Fig. D — 122

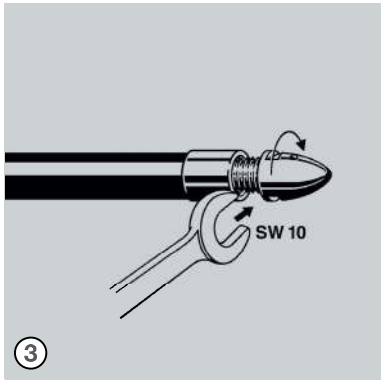


– Build the riser pipe and press on a Tee above and below.

– Create floor outlets size 22 mm, if necessary reduce.

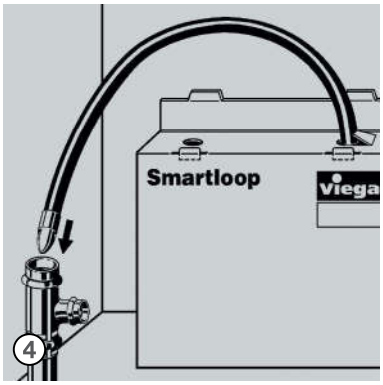


In the case of slight offsetting, combine two 45° arches: the upper with the shank, the lower with two press ends.

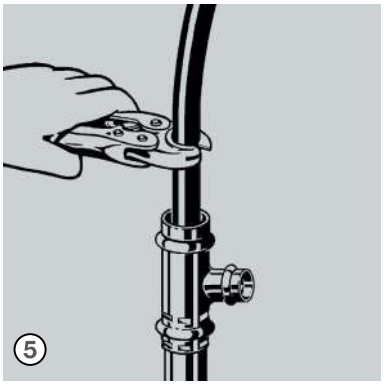


The tension coupling (Model 2276.9) is helpful for incorporation of the Smartloop-pipe.

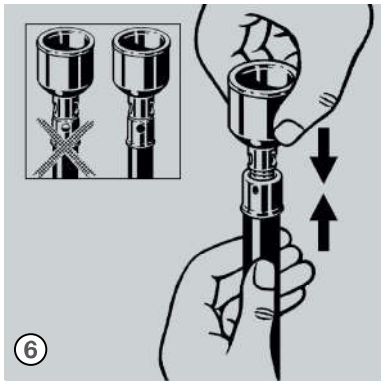
Fig. D — 123
Fig. D — 124
Fig. D — 125



Introduce the Smartloop-pipe from above into the hot water riser pipe until the pipe protrudes at the lower end of the riser pipe by about 30 cm.



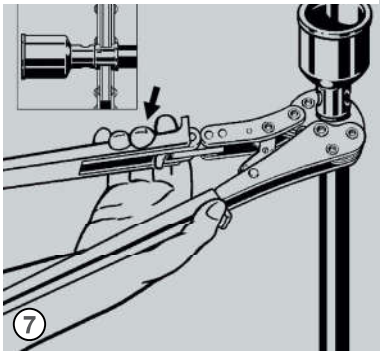
Shorten the Smartloop-pipe appropriately.



– Push the press sleeve onto the upper pipe end.

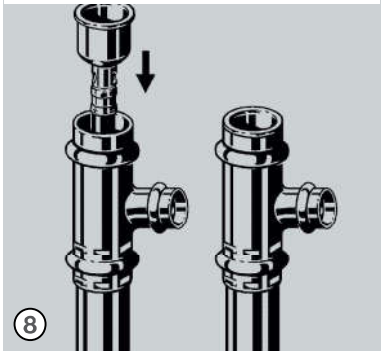
– Push the end connection into the pipe and check the insertion depth using the inspection panel.

Fig. D — 126
Fig. D — 127
Fig. D — 128

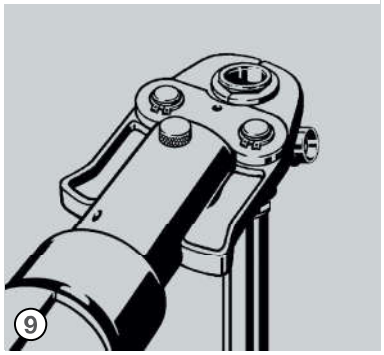


– Apply the manual press pliers at a right-angle.

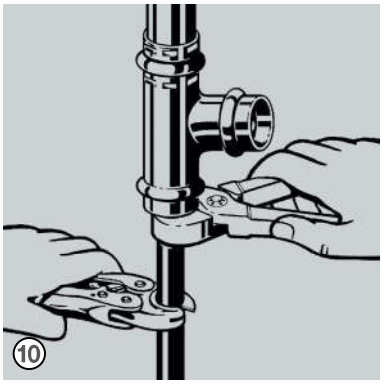
– When pressing, compress until the pliers can be reopened. Trim the Smartloop-pipe to fit.



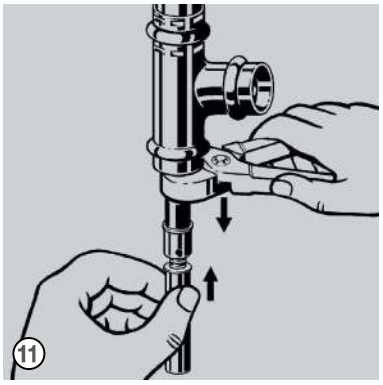
Position the end connection in the upper Tee of the hot water riser pipe.



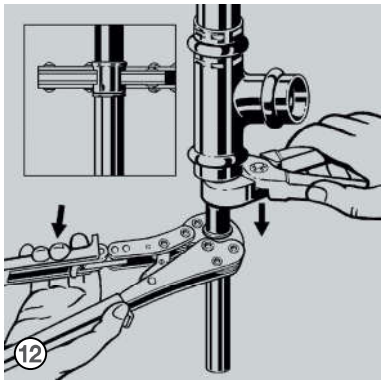
Press the connection with a suitable pressing tool.



– Tighten the Smartloop-pipe on the lower end using assembly pliers and cut to length 40 mm below the Tee at a right-angle.
– Tighten the Smartloop-pipe.

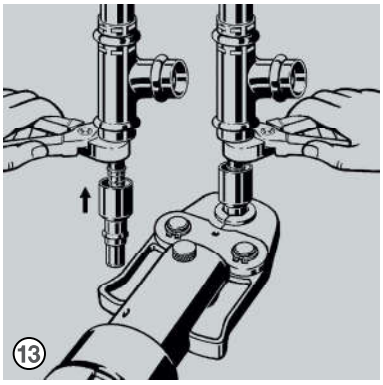


– Push the press sleeve onto the lower Smartloop-pipe end.
– Push the crossover part of the connection into the Smartloop-pipe and check the insertion depth using the inspection panel.

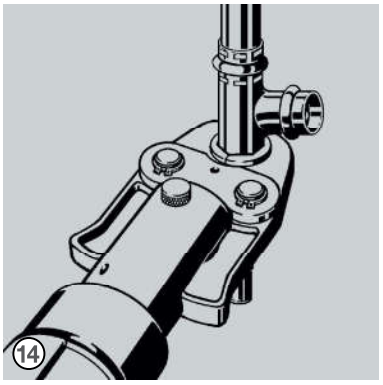


Apply manual pressing pliers at a right-angle and compress until the pliers can be reopened.

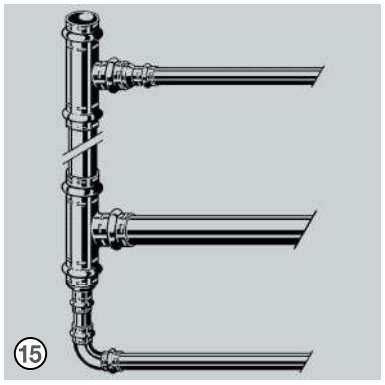
Fig. D — 129
Fig. D — 130
Fig. D — 131



Push the connection to the end of the crossover part and press.



– Remove assembly pliers.
– Push the connection to the end of the lower Tee of the hot water riser pipe and press.



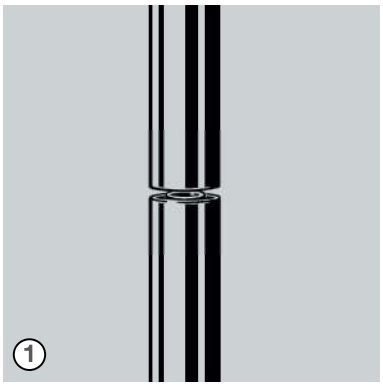
– Create a connection from the hot water riser pipe and the circulation pipe to the relevant cellar distribution and collector pipes.
– Check the entire piping system for leaks in accordance with ZVSHK datasheet.

Fig. D — 132
Fig. D — 133
Fig. D — 134

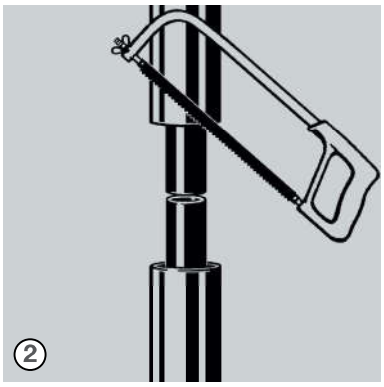
Repair coupling

In the case of a damaged riser pipe or the extension of the installation, Smartloop-pipe is repaired using the repair coupling model 2276.8 and the riser pipe using the sliding coupling models 2215.4 and 2215.5.

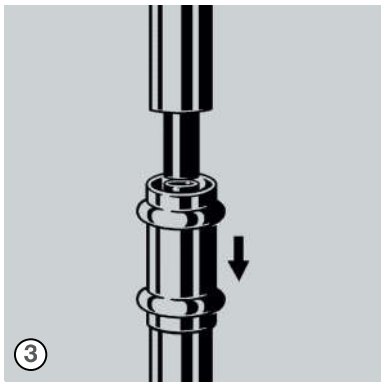
Fig. D — 135
Fig. D — 136
Fig. D — 137



Cut through the installation pipe and the Smartloop-pipe completely.

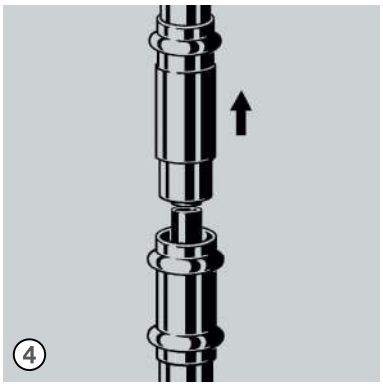


Using a fine toothed saw or pipe cutter, cut the piece of pipe – the length of the sliding coupling – out of the riser pipe.

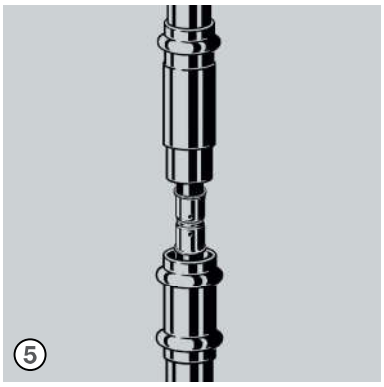


Push the sliding sleeve model 2215.5 onto the lower pipe.

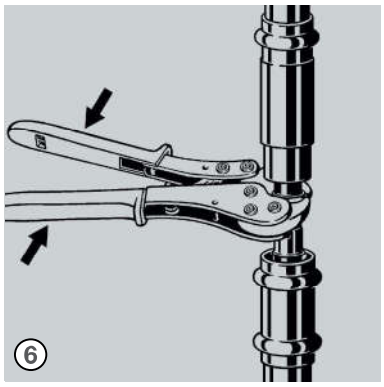
Fig. D — 138
Fig. D — 139
Fig. D — 140



Push the sliding sleeve with the insertion part model 2215.4 onto the upper pipe.

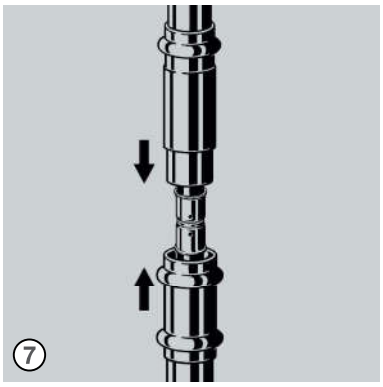


Place the repair coupling model 2276.9 onto the Smartloop-pipe.

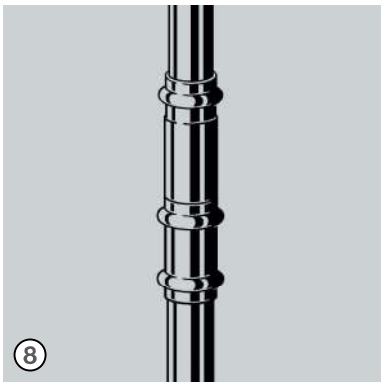


– Press the repair coupling
– Apply manual pressing pliers at a right-angle and compress until the pliers can be reopened.

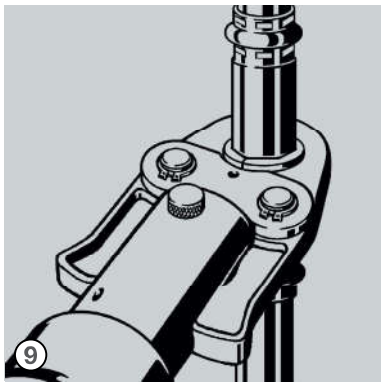
Fig. D — 141
Fig. D — 142
Fig. D — 143



Join the sliding sleeves together.



Place the sliding sleeves in such a position that the minimum insertion depth in the press sleeve is ensured.



Press the press connection with a suitable press machine.