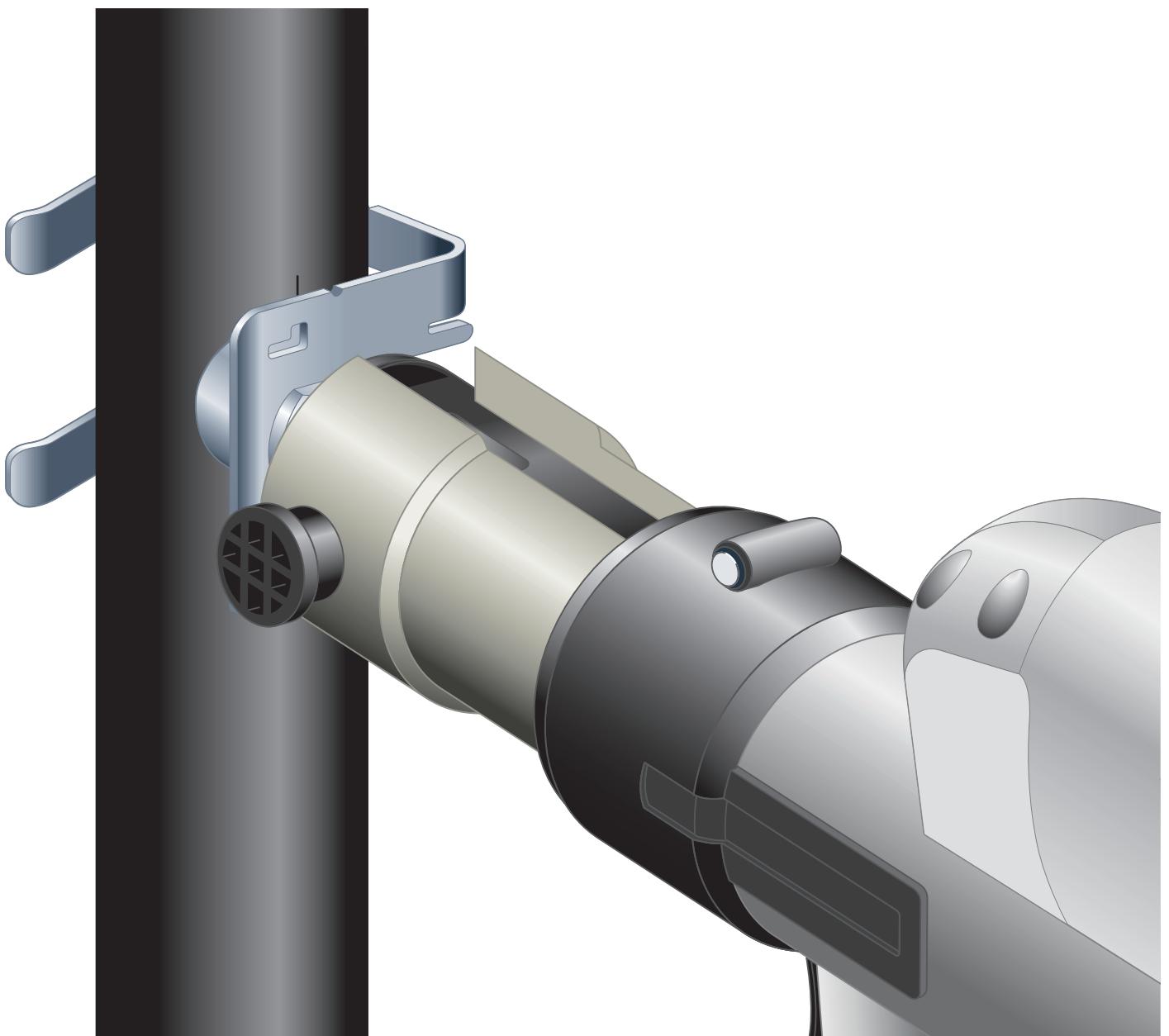


Tool set, press-in branch connector, PT2

Instructions for Use



for creating threaded connections in steel pipelines

Model
4278.5

Year built:
from 03/2016

en_INT

viega

Table of contents

1	About these instructions for use	4
1.1	Target groups	4
1.2	Labelling of notes	4
1.3	About this translated version	5
2	Product information	6
2.1	Standards and regulations	6
2.2	Intended use	7
2.2.1	Areas of use	7
2.2.2	Media	8
2.3	Product description	8
2.3.1	Press-in branch connector	9
2.3.2	Tool set	9
2.3.3	Compatible pipes	11
2.3.4	Marks on components	14
2.4	Accessories and spare parts	15
3	Handling	17
3.1	Safety advice	17
3.2	Assembly information	18
3.2.1	Space requirements and intervals	18
3.2.2	Required tools	20
3.3	Assembly	22
3.3.1	Preparing the pipes	23
3.3.2	Drilling the bore hole	24
3.3.3	Mounting the press-in branch connector by means of the press-in tool	31
3.3.4	Mounting a reducer	35
3.3.5	Other area of application of the press-in branch connector	36
3.4	Commissioning	36
3.4.1	Leakage test	36
3.5	Care and maintenance	37
3.5.1	Cleaning	37
3.5.2	Maintenance intervals	38
3.5.3	Replacing the drilling bit	39
3.5.4	Replacing the centre drill	40
3.5.5	Replacing the drive for the power drill	41
3.6	Disposal	42

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 qualified heating and sanitary professionals and trained personnel.

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

It is not permitted for individuals without the abovementioned training or qualification to mount, install and, if required, service this product. This restriction does not extend to notes on operation, if provided.

These instructions for use must remain with the tool set.

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.
	<i>This symbol gives additional information and hints.</i>

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

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: Press-in branch connector

Scope / Notice	Regulations applicable in Germany
Pipe threads for connections sealing inside the thread	DIN EN 10226-1

Regulations from section: Pipes

Scope / Notice	Regulations applicable in Germany
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
Requirements in steel pipes - Threaded pipe quality	DIN EN 10255 (old: DIN 2440, 2441 and 2442)

Regulations from section: Accessories and spare parts

Scope / Notice	Regulations applicable in Germany
HSS drill with flat clamping surface	DIN 338

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 Trinkwasserinstalltionen mit Druckluft, Inertgas oder Wasser"
Requirements in filling and top-up water	VDI 2035
Flushing a system	DIN EN 14336

2.2 Intended use



The use of the Megapress tool set and the Megapress/Megapress S press-in branch connector for areas of use and media other than those described herein must be approved by the Viega Service Center.

2.2.1 Areas of use



The Megapress/Megapress S press-in branch connector is suitable for thick-walled steel pipes. The press-in branch connector generates a threaded connection in pipelines. Particularly suitable for confined spaces, e.g. manifold installations for sensors, thermometers, or drains. The press-in branch connector is not suitable for use in potable water installations. For this reason, press-in branch connectors are labelled with a black symbol "Not potable water".

Do not use the press-in branch connector with Prestabo system components or for fuel gases, see  „Regulations from section: Fields of application“ on page 6.

Use is possible in the following areas among others:

- Industrial and heating systems
- Compressed air systems

- Shipbuilding
- Cooling water pipelines (closed circuit)
- Systems for technical gases (on request)

Area of use	Heating	Compressed air	Technical gases
Area of use	Pump hot water heating system	All sections of pipe	All sections of pipe
Operating temperature [T _{max}]	110 °C (EPDM) 140 °C (FKM)	60 °C	—
Operating pressure [P _{max}]	1.6 MPa (16 bar)	1.6 MPa (16 bar)	—
Comments	in accordance with DIN EN 12828 T _{max} : 105 °C	dry, oil content: ≤ 25 mg/m ³ (EPDM) > 25 mg/m ³ (FKM)	1) —

¹⁾ Consultation with the Viega Service Center required

Compressed air systems

Compressed air systems subject to the Pressure Equipment Directive must not exceed the following operating pressures:

Pipe dimension in inches	Operating pressure p _{max}
1½, 2, 2½, 3, 4	1.6 MPa (16 bar)
5, 6	1 MPa (10 bar)

2.2.2 Media

The press-in branch connector is suitable e.g. for the following media:

For the applicable directives, see  „Regulations from section: Media“ on page 6.

- Heating water for closed pump hot water heating systems
- Compressed air
- Anti-freeze, cooling brines up to a concentration of 50%
- technical gases (on request)

2.3 Product description

To produce a press-in branch connector, you need the components and tools listed in the following.

2.3.1 Press-in branch connector



A separate press-in branch connector is available for different pipe dimensions. The press-in branch connector is factory-fitted with an EPDM or FKM profile seal ring.



The profile seal ring must not be replaced.

The press-in branch connector is coated on the outside with a zinc-nickel coat; it is suitable for thick-walled steel pipe, see [„Compatible pipes“ on page 11](#). The press-in branch connector is available with a standardised internal thread Rp $\frac{3}{4}$, see [„Regulations from section: Press-in branch connector“ on page 6](#).

Reducer G $\frac{3}{4}$ x Rp $\frac{1}{2}$



For the installation of thermometers etc., a reducer (internal thread Rp $\frac{1}{2}$) with EPDM sealing ring is available.



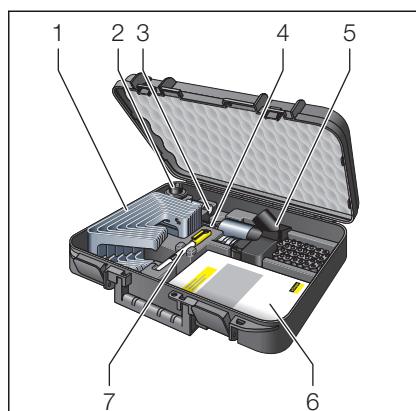
NOTICE!

Do not additionally seal the thread between reducers and the press-in branch connector.



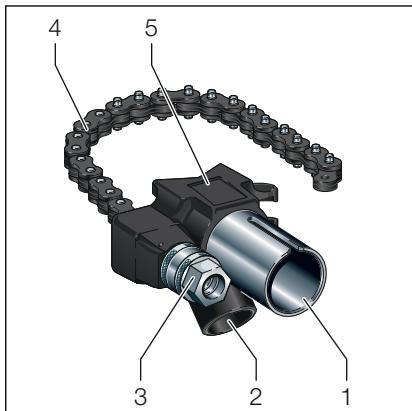
The use of other sealing rings is not permitted.

2.3.2 Tool set

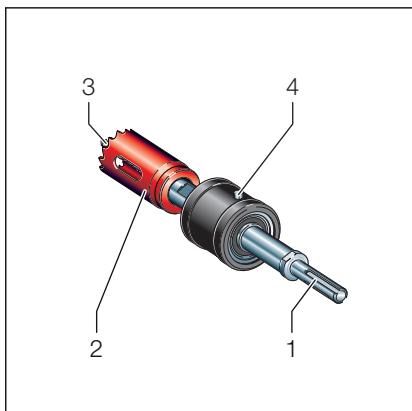


- 1 - positioning devices (D 1½–6 inch)
- 2 - Press-in tool
- 3 - Installer drift for press-in tool
- 4 - Drilling shaft
- 5 - Drilling device for guiding the drilling shaft
- 6 - Instructions for use
- 7 - Marking pen

The tool set (article 731 243) for the press-in branch connector comes in a case.

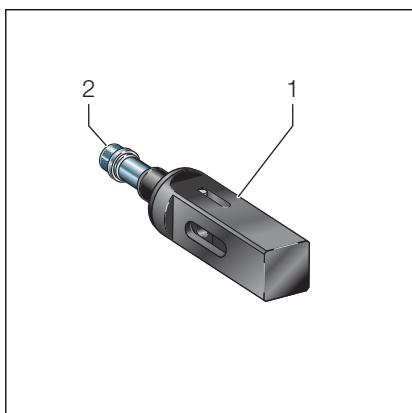
Drilling device with tension chain for guiding the drilling shaft

- 1 - Guide for the drilling shaft
- 2 - Extractor connection 35 mm
- 3 - Tension nut
- 4 - Tension chain
- 5 - Milled slot as mark for subsequent alignment

Drilling shaft

- 1 - Drilling shaft with SDS-plus drive
- 2 - Drilling bit 27 mm
- 3 - centre drill
- 4 - Guide bolt

As an alternative, the SDS-plus drive can be replaced by a hexagonal drive. Viega recommends use of the hexagonal drive (article 735 753) for this purpose.

Press-in tool

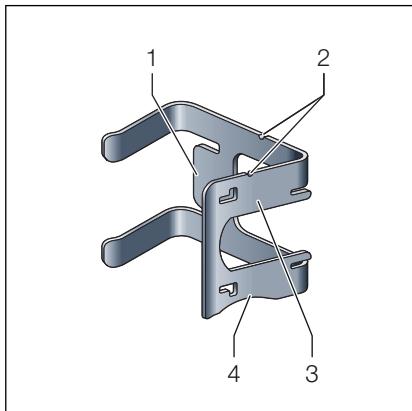
- 1 - Insert for the press machine
- 2 - installer drift

We recommend to keep the installer drift in assembled state and store it in the case at all times.

Positioning device D 1½–2½ inch and D 3–6 inch

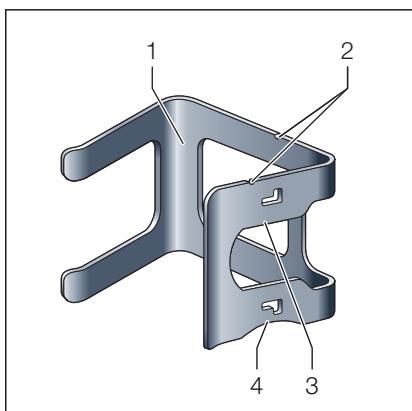
Use the positioning aids to mount the individual press-in branch connectors. A separate positioning aid is provided for each pipe dimension.

The positioning device indicates the nominal outside diameter in inch and mm.



1 - handle
2 - The marks are provided as orientation for marking the positions of other press-in branch connectors on the pipe circumference
3 - Recess for the key surface of the press-in branch connector
4 - pipe template. Use the positioning aid to check the pipe dimension for correctness.

Fig. 1: Positioning device D 1 1/2-2 1/2 inch



1 - handle
2 - The marks are provided as orientation for marking the positions of other press-in branch connectors on the pipe circumference
3 - Recess for the key surface of the press-in branch connector
4 - pipe template. Use the positioning aid to check the pipe dimension for correctness.

Fig. 2: Positioning device D 3-6 inch

2.3.3 Compatible pipes

Use the press-in branch connector with the following seamless (S) steel pipes or steel pipes welded along the longitudinal seam (W):

- black
- galvanised
- industrially painted
- powder coated

The steel pipes must correspond to the applicable regulations, see  „Regulations from section: Pipes“ on page 6.

For smooth operation, it is imperative that you use the proper press-in branch connector for the given pipe dimension. Otherwise the press-in branch connector may fail or leak.



Note the tolerances specified for the pipe wall thicknesses and external diameters.

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, see  „Regulations from section: Pipes“ on page 6.

Press-in branch connector for steel pipe – threaded pipe quality – Heavy series H and Medium series M

Article number press-in branch connector Rp ¾		For pipe dimension	Nominal external diameter	External diameter		Wall thickness Heavy series H	Wall thickness Medium series M
EPDM	FKM	inch	mm	min. mm	max. mm	mm	mm
731 168	780 470	1½	48.3	47.9	48.8	4.0	3.2
731 175	780 487	2	60.3	59.7	60.8	4.5	3.6
731 182	780 494	2½	76.1	75.3	76.6	4.5	3.6
731 199	780 500	3	88.9	88.0	89.5	5.0	4.0
731 205	780 517	4	114.3	113.1	115.0	5.4	4.5
731 212	780 524	5	139.7	138.5	140.8	5.4	5.0
731 229	780 531	6	165.1	163.9	166.5	5.4	5.0

Press-in branch connector for steel pipe – threaded pipe quality – pipe type L

Article number press-in branch connector Rp ¾		For pipe dimension	Nominal external diameter	External diameter		Wall thickness
EPDM	FKM	inch	mm	min. mm	max. mm	mm
731 168	780 470	1½	48.3	47.8	48.6	2.9
731 175	780 487	2	60.3	59.6	60.7	3.2
731 182	780 494	2½	76.1	75.2	76.0	3.2
731 199	780 500	3	88.9	87.9	88.7	3.2
731 205	780 517	4	114.3	113.0	113.9	3.6
731 212	780 524	5	139.7	138.5	140.8	4.5
731 229	780 531	6	165.1	163.9	166.5	4.5

Press-in branch connector for steel pipe – threaded pipe quality – pipe type L 1

Article number press-in branch connector Rp 3/4		For pipe dimension	Nominal external diameter	External diameter		Wall thickness
EPDM	FKM	inch	mm	min. mm	max. mm	mm
731 168	780 470	1 1/2	48.3	47.8	48.6	2.9
731 175	780 487	2	60.3	59.6	60.7	3.2
731 182	780 494	2 1/2	76.1	75.2	76.3	3.2
731 199	780 500	3	88.9	87.9	89.4	3.6
731 205	780 517	4	114.3	113.0	114.9	4.0

Press-in branch connector for steel pipe – threaded pipe quality – pipe type L 2

Article number press-in branch connector Rp 3/4		For pipe dimension	Nominal external diameter	External diameter		Wall thickness
EPDM	FKM	inch	mm	min. mm	max. mm	mm
731 168	780 470	1 1/2	48.3	47.8	48.4	2.9
731 175	780 487	2	60.3	59.6	60.2	2.9
731 182	780 494	2 1/2	76.1	75.2	76.0	3.2
731 199	780 500	3	88.9	87.9	88.7	3.2
731 205	780 517	4	114.3	113.0	113.9	3.6

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, see „*Regulations from section: Pipes*“ on page 6.

Press-in branch connector for steel pipe (boiler pipe quality) - pipe series 1

Article number press-in branch connector Rp 3/4		For pipe dimension	Nominal external diameter	External diameter		Wall thickness	
EPDM	FKM	inch	mm	min. mm	max. mm	min. mm	max. mm
731 168	780 470	1 1/2	48.3	47.8	48.8	2.3	4.0
731 175	780 487	2	60.3	59.7	60.9	2.3	4.5
731 182	780 494	2 1/2	76.1	75.3	76.9	2.6	4.5
731 199	780 500	3	88.9	88.0	89.8	2.6	5.0
731 205	780 517	4	114.3	113.2	115.4	2.6	5.4

Article number press-in branch connector Rp 3/4		For pipe dimension	Nominal external diameter	External diameter		Wall thickness	
EPDM	FKM	inch	mm	min. mm	max. mm	min. mm	max. mm
731 212	780 524	5	139.7	138.3	141.1	2.9	5.4
731 229	780 531	6	168.3	166.6	170.0	2.9	5.4

2.3.4 Marks on components

"Not for potable water" rectangle



The Megapress press-in branch connector (EPDM sealing element) is marked with a black dot and the Megapress S press-in branch connector (FKM sealing element) is marked with a white dot. The dot identifies the SC-Contur where the test medium would escape in the case of an inadvertently unpressed connection.

The black rectangle indicates that the system is not suitable for potable water.

Press-in branch connectors

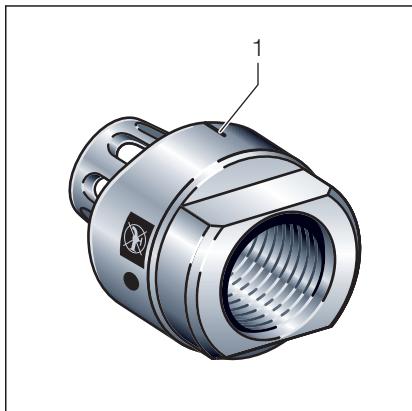


Fig. 3: Megapress press-in branch connector

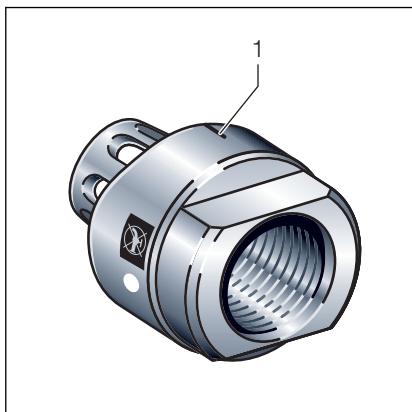
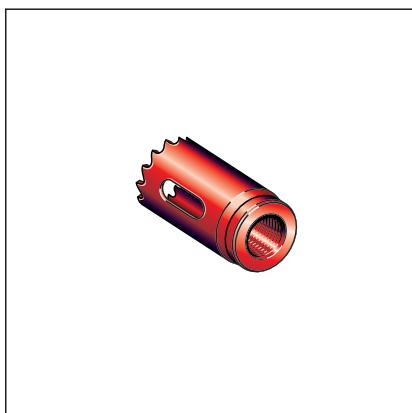


Fig. 4: Megapress S press-in branch connector

2.4 Accessories and spare parts

Various accessories and spare parts are available in addition to the tool set:

Drilling bit



The external diameter of the drilling bit is 27 mm.

Viega recommends using the following spare drilling bits (external diameter 27 mm):

- Viega Article 731 151
- equivalent Ridgid article

Do not use worn drilling bits. If the drilled hole is not perfectly circular or too small, the press-in branch connector cannot be mounted.



The drilling bit and drilling device are coordinated. When other drilling bits are used, leak tightness cannot be guaranteed.

Centre drill



The centre drill has a diameter of 6 mm, a length of 93 mm, and has a flat clamping surface. This flat surface ensures that the centre drill is properly fastened.

Viega recommends using the Viega centre drill (article 734 688). As an alternative, standardised HSS drills (6 mm x 93 mm) with flat clamping surface can be used, also see  „Regulations from section: Accessories and spare parts“ on page 7.

Hexagonal drive adapter



When power drills without SDS-plus chuck are used, the hexagonal drive adapter (article 735 753) can be used at the drilling shaft instead of the SDS-plus drive. A 13 mm chuck is required for the hexagonal drive adapter.

3 Handling

3.1 Safety advice



- Always comply with the applicable accident prevention regulations.
- Wear protective glasses and suitable hand protection.

Mandatory signs

Pay attention to the mandatory and warning labels on the drilling device:



General warning symbol

This symbol warns of possible injury.



Follow the instructions for use

Read the operating and safety instructions carefully before commissioning.



Wear head protection

Viega recommends that you wear suitable head protection when doing work marked with this symbol.



Wear eye protection

Viega recommends that you wear protective glasses when doing work marked with this symbol.

Transport and storage

- To protect the tools from damage and loss, always transport them in the case provided for this purpose.
- Store the case and the tools in a clean, dry place at all times.

Safety when drilling

- Before each use, check the tool for proper function and smooth running.
 - Do not use damaged parts.
 - Only use original system parts in perfect condition.
- Dropping the tools or individual parts may cause damage.
 - Do not use machines that have been dropped. Replace them or send them to a service partner for inspection.
- Before drilling, completely drain and de-pressurize the pipelines.

- Comply with the minimum distances for the tools, *„Space requirements and intervals“ on page 18*.
- Chips will form during the drilling process. Always wear suitable protective glasses.
- Drilling bit, centre drill, and drill core may get very hot.
 - Allow the parts to cool after the end of drilling.
 - Wear suitable hand protection when removing the parts.
 - Do not deposit hot parts on flammable materials.
- Comply with the safety information in the instructions for the power drill and the suction device.

Maintenance

- Comply with the maintenance, servicing and care instructions.
- Have maintenance and service carried out by service providers authorized by Viega only.

3.2 Assembly information

3.2.1 Space requirements and intervals



CAUTION!

Risk of injury due to insufficient distances

Risk of injury to persons and damage to other components if the required minimum distances are not observed when mounting the press-in branch connector.

After mounting the press-in branch connector, avoid thermal loading beyond the maximum permitted operating temperature, e.g. in the course of welding work. If the pipeline needs bending after the press-in branch connector has been mounted, the press-in branch connector must be outside the bending area. Observe a minimum distance of 0.5 x outside pipe diameter to the bending area.

Viega recommends checking the space situation before every drilling process.

For the minimum distances, refer to the table in the respective section.



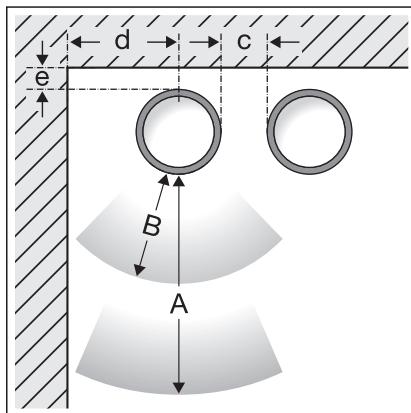
There may be no press connectors, clamps etc. in the area of the bore hole so that you can mount the positioning aid and the drilling device properly.

Keep a 50 mm distance.

Minimum distances for power drill, press machine and positioning device

The working area **A** depends on the power drill used. Area **A** is defined by the length of the power drill plus the length of the drilling shaft (170 mm).

Working area **B** is the length of the press machine (incl. 20 mm duty stroke) with press-in tool and press-in branch connector.

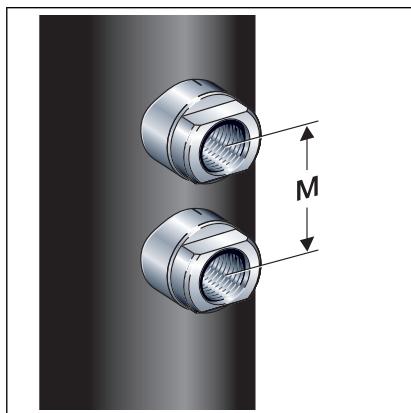


Press machine	Working area B in mm
Type 2	590
PT3 H/EH	620
PT3 AH	500
Pressgun 4B/4E	530
Pressgun 5	480

The minimum distances **c**, **d**, and **e** are mandatory for mounting the drilling device and the positioning aid.

Dimension in inch	Minimum dis- tance c in mm	Minimum dis- tance d in mm	Minimum dis- tance e in mm
1½	30	110	30
2	30	110	30
2½	30	110	30
3	35	110	35
4	40	110	40
5	45	120	45
6	55	145	55

Minimum distances between press-in branch connectors longitudinal to the pipe axis



Dimension in inch	M in mm
1½	
2	
2½	
3	70
4	
5	
6	

Minimum distances between press-in branch connectors diagonal to the pipe axis

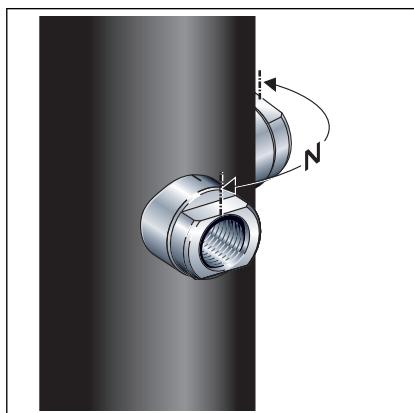
When press-in branch connectors are mounted close to each other, minimum distances must be observed. Compliance with the minimum distances allows the positioning aid to be used correctly.

Firstly drill all the holes and then mount the press-in branch connectors. Otherwise the tension chain cannot be fastened properly.



The specified minimum distances must be observed to allow for proper mounting of the press-in branch connectors. If thermometers or similar devices are used, other minimum distances may apply. The minimum distances must be checked in advance.

The minimum distance **N** relates to the angle of the press-in branch connectors to each other. The angles are indicated in degrees in the table.



Dimension in inch	N in °	Symbol
1½		
2	180°	
2½		
3		
4		
5	90°	
6		

Z dimensions

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

3.2.2 Required tools

For producing a press-in branch connector, you need the following tools:

- Power drill / hammer drill
- Press machine
- Suction device, e.g. workshop vacuum cleaner
- Marking pen
- Ring or fork spanner, 27 mm
- Ring or fork spanner, 32 mm
- screwdriver
- Wire brush

- Sanding paper (grade 180)
- If applicable, pipe pliers

Power drill / hammer drill

Use commercially available power drills / hammer drills for the drilling shaft. Viega recommends the use of powerful machines. Using a cordless screwdriver would result in a significantly longer drilling time.

In the following, power drills and hammer drills are briefly referred to as 'drill'.

The drills must meet the following minimum specifications:

- Rated input: \geq 600 Watt
- Drilling speed max.: 1200 U/min
- Chuck: SDS-plus or hexagonal drive adapter
- Impact function (can be switched off)
- Friction clutch



NOTICE! Perform drilling

Incorrect machine settings result in inaccurately drilled holes.

- The impact function of the drill must be switched off.
- Only use drills that run smoothly and are in perfect condition.
- Note the correct speed for the drill in order to maintain the drilling bit's service life.

Press machine

Viega recommends using Viega press machines for mounting the Mega-press/Megapress S press-in branch connector.

Recommended Viega press machines:

- Pressgun 5
- Pressgun 4E/4B
- Type PT3-AH
- Type PT3-H/EH
- Type 2

Unsuitable press machines:

- Type 1
- Picco
- Pressgun Picco



When pressing with a Pressgun 5, the machine may terminate the pressing process even though the press-in tool cannot be released yet. In this case, start a second pressing process.

Suction device

Chips are formed during drilling. Connecting a suction device to the drilling device can reduce the contamination of the pipeline by chips to a minimum.

The pipelines must be de-pressurized and drained completely to avoid the extraction of residual fluid.



NOTICE!

Caution: Risk of fire!

Hot chips may damage the suction device or the surroundings.

- Remove flammable components, e.g., a dust bag, from the suction device.
- Observe the information from the suction device manufacturer.

To allow for extraction of chips, the suction device specifications must comply with following specifications as a minimum:

- Type: workshop vacuum cleaner
- Rated input: ≥ 1200 Watt
- Air volume: ≥ 50 l/s
- Vacuum: ≥ 200 hPa (200 mbar)
- Nozzle size of connector: 35 mm
- For other connector sizes, use a commercially available 35 mm adapter.

3.3 Assembly

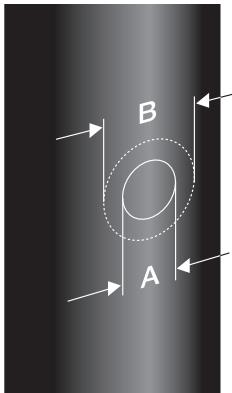
General notes on longitudinal extension of pipelines

Pipelines are subject to extension due to temperature differences. If the press-in branch connector is used for an outgoing pipeline (e.g. radiator connection), select the drilling position in such a way that the longitudinal extension of the outgoing and through-pipes will not put much tension on the press-in branch connector. The maximum permissible longitudinal extension of the through-pipe is ± 10 mm.

If you cannot exclude larger length expansions, use appropriate expansion compensation as well as fixed and gliding points according to the recognized standards of good practice.

3.3.1 Preparing the pipes

Requirements in the contact area of the profile seal



- The mounting surface of the press-in branch connector is minimum 50 mm (B).
- The bore hole is in the centre of the mounting surface.
- The diameter of the bore hole is 27 mm (A).

Causes for roughness on the pipe



Major roughness on the pipe may cause the press-in branch connector to leak.

Roughness can occur due to for example the following factors:

- Insufficient smoothing of external pipe welding seams
- manual application of paint
- in galvanised pipes:
projections in the zinc layer

Preferably, the press-in branch connector should not be positioned on the welding seam. If this is unavoidable, align the welding seam to the pipe bend. Pressing on recesses in the welding seam is not permitted.

Preconditions for leak tightness of the press-in branch connector

- The pipe is free of grooves, corrosion, damage, etc.
- There is no roughness such as engraved pipe markings in the pipe surface.
If roughness is present, treat the area of the sealing surface for the press-in branch connector until the surface is smooth and even.
Viega recommends first removing coarse dirt such as scaling with a wire brush, followed by smoothing with grade 180 sanding paper.
- For drilling, the pipe must have a minimum wall thickness, see *Chapter 2.3.3 „Compatible pipes“ on page 11*.
- In the area of the bore hole, the pipe wall must be free of damage or impairment (e.g. due to inside or outside corrosion).
- There may be no press connectors, clamps etc. in the area of the bore hole. The drilling device must be able to be properly mounted.
- A wire brush was used to remove paint applied by hand.

3.3.2 Drilling the bore hole



CAUTION!

Risk of injury by metal chips and dropping machines.

- Wear protective glasses.
- Wear safety shoes.



Chips in the pipeline

Chips will form during the drilling process. Connecting a suction device to the drilling device can reduce the contamination of the pipeline by chips to a minimum.



Centre drill

- *Do not make a drill hole without the centre drill.*
- *Do not use worn centre drills.*
- *Do not re-sharpen the centre drill.*

Requirements



It is important that you drill the bore hole properly to ensure correct mounting of the press-in branch connector and smooth operation later on.

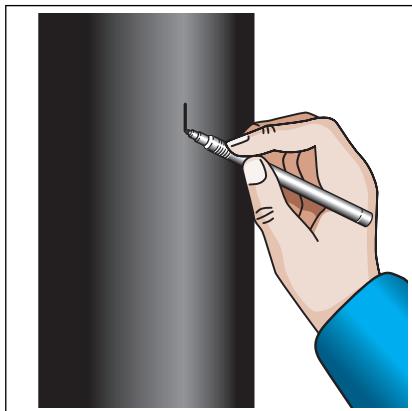
Viega recommends using the tool set article 731 243.

- When drilling the bore hole without using the tool set (e.g. by means of a column drill), the vertical bore hole must have an external diameter of 27 mm \pm 0.75 mm.
- Before drilling the hole, de-pressurize and drain the pipeline section.
- Before drilling the bore hole, read the following chapters: *Chapter 3.2.1 „Space requirements and intervals“ on page 18* and *Chapter 3.3.1 „Preparing the pipes“ on page 23.*

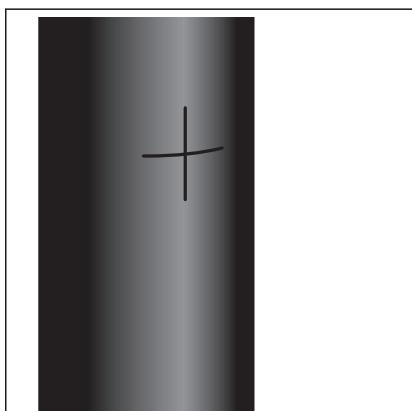
Marking the bore hole

Carry out the steps in the sequence described in the following.

- Clean the bore hole area before marking.



► Mark the bore hole centre at the desired position.



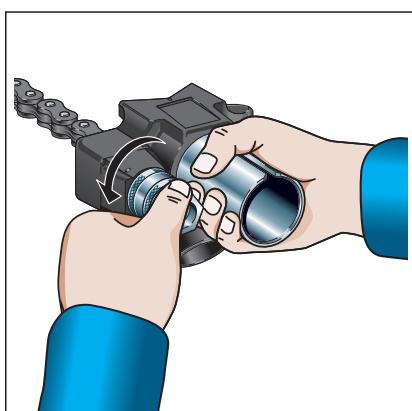
► Draw the marking lines.

Draw the marking lines in such a way that they are longer than the press-in branch connector. The marking lines facilitate subsequent aligning.

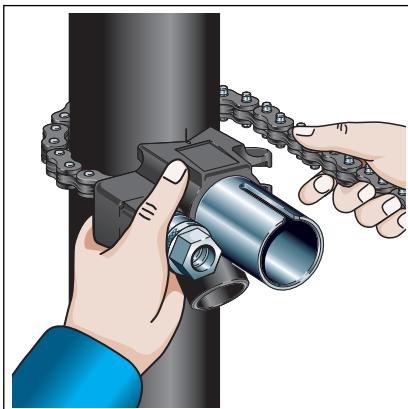
There are milled slots at the drilling device and at the press-in branch connector. During mounting, the marking line on the pipe must be aligned with the milled slots.

INFO! If several press-in branch connectors are mounted along the pipe axis (beneath each other and side by side), the marking line must run over the first and last press-in branch connector.

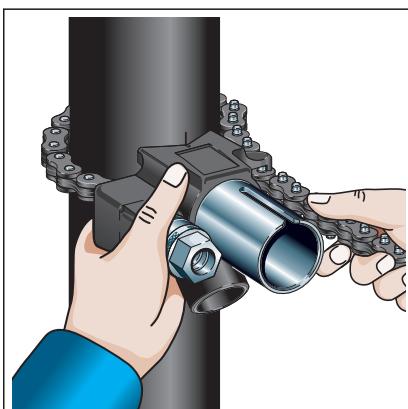
Attaching the drilling device



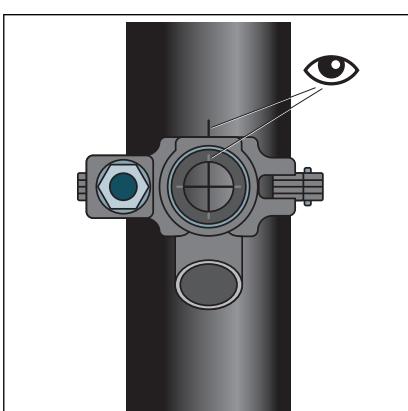
► Turn the tension nut counter-clockwise as far as it will go.



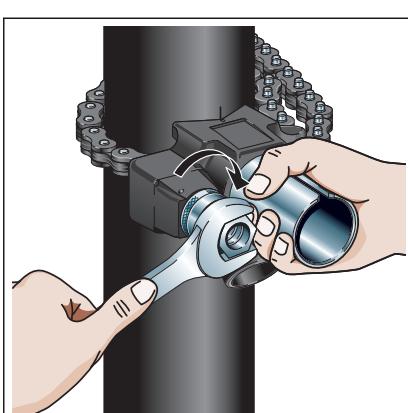
- ▶ Place the tension chain evenly around the pipe.
Mount the drilling device with the suction connection pointing down.
NOTICE! With horizontal pipelines, guide the tension chain from above over the pipe.



- ▶ Insert the bolts of the closest chain link into the bolt receiver of the drilling device.
NOTICE! The bolts must be fully inserted in the bolt receiver. If the bolts are positioned incorrectly there is a risk of damage and increased wear.

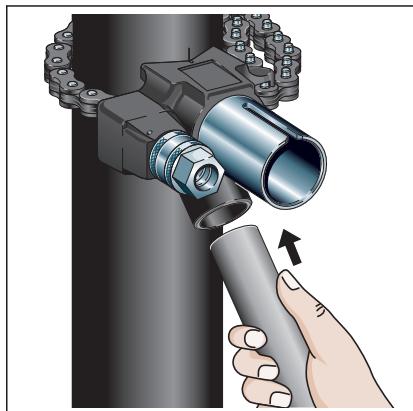


- ▶ Align the drilling device along the respective pipe axis.
Align the outer milled slot at the drilling device and the marking lines on the pipe.
- ▶ Use the milled slots on the inside to align the bore hole centre marked on the pipe centrally.

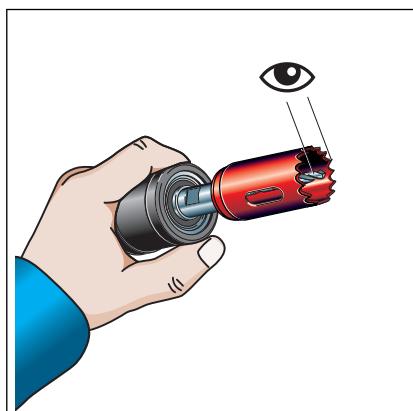


- ▶ Hand-tighten the tension nut as far as it will go.
INFO! Do not undertighten or overtighten the tension chain. Incorrect tension can result in damage.
- ▶ Use a ring or fork spanner (27 mm) to tighten the tension nut securely (max. 10 Nm).

Preparing the tools



► Push the suction connection into the drive on the drilling device.

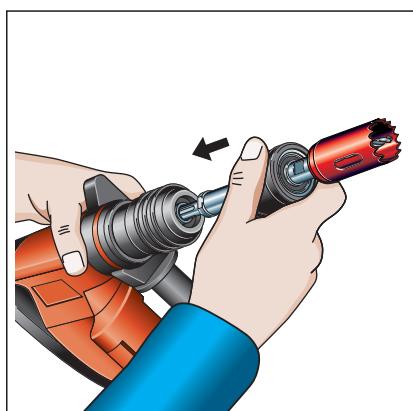


► Check the drilling bit and the centre drill for damage, wear, and proper height clearance between drilling bit and centre drill (2 mm). Replace parts if necessary.

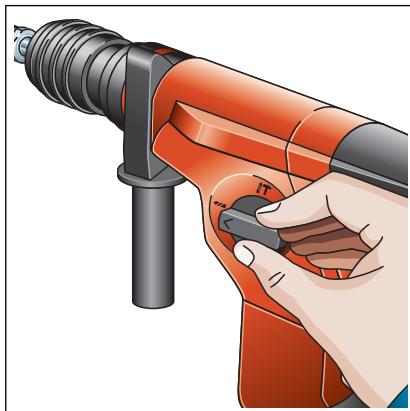
► Check the centre drill is securely fitted, tighten if necessary.

INFO!

- Only use parts in perfect condition.
- Do not use any lubricants and oils (such as cutting oil) during drilling. Lubricants and oils may damage the profile seal ring on the press-in branch connector.

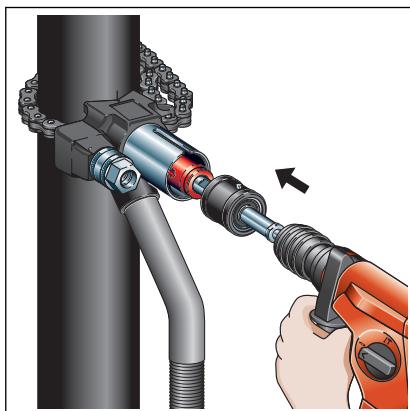


► Insert the drilling shaft into the power drill (SDS-plus) or use the hexagonal adapter to clamp the drilling shaft in the chuck.



- ▶ Switch the impact function off.
- ▶ Set clockwise rotation.

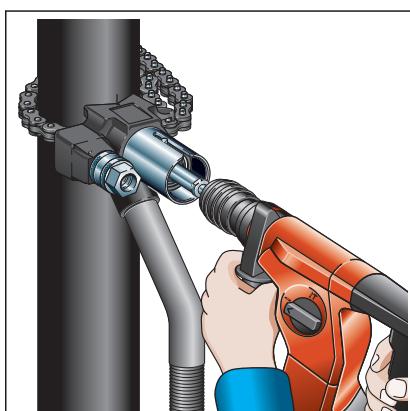
Drilling the bore hole



NOTICE! Do not switch the power drill on yet.

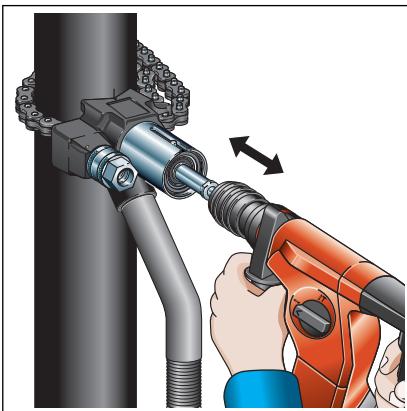
- ▶ Push the guide bolt of the drilling shaft in the guide of the drilling device.
- ▶ With minimal force, push the drilling shaft in the drilling device as far as it will go.

Do not tilt the drilling shaft or drilling bit when pushing in.



- ▶ Switch the suction device on.
- ▶ Switch the power drill on.
- ▶ Drill the hole completely in one go.

Apply some pressure when drilling.



INFO! To increase the service life of the drilling bit, with a pipe wall thickness of ≥ 3 mm, the chips must be extracted.

- In regular intervals during drilling, pull the power drill out of the bore hole for approx. 3–4 mm.
Pulling out extracts the chips and cools the drilling bit.

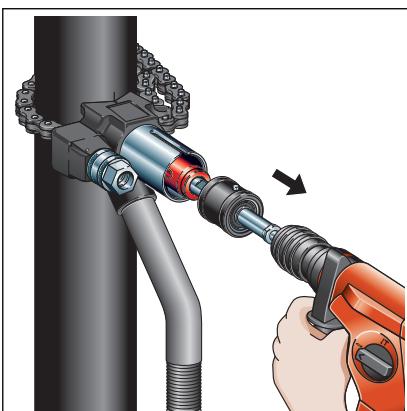
Terminating the drilling process



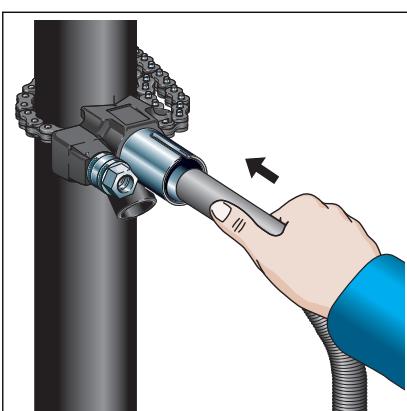
CAUTION!

Risk of injury and combustion of flammable materials due to hot drilling bit or centre drill.

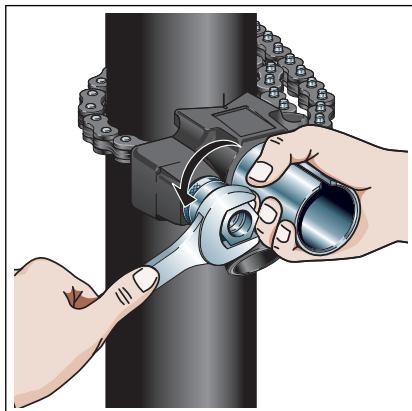
Allow the drilling bit and centre drill to cool down.



- Do not terminate the drilling process before
 - the pipe wall has been completely perforated, or
 - the drilling device has reached the stop
- Wait for the rotation of the drilling shaft to stop before removing the power drill with the drilling shaft.



- Pull out the suction hose and vacuum off the drilling device from the front.
- Switch the suction device off and put it aside.



► Remove the drilling device.

Final tasks

The drilling bit with the centre drill is designed in such a way that the drill core ideally remains inside the drilling bit.

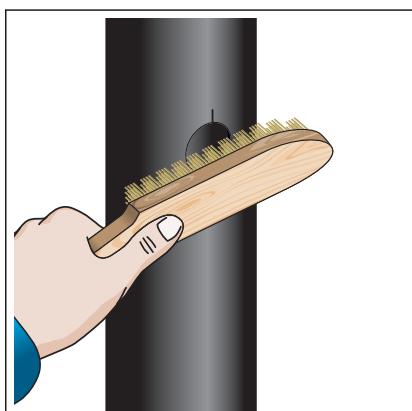
CAUTION! Risk of injury due to slipping or hot drill core.

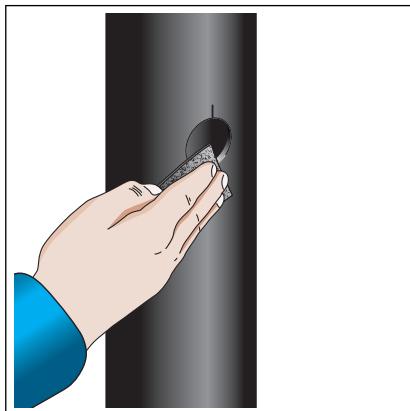
- **Allow the drilling bit and centre drill to cool down.**
- Use a screwdriver and multigrip pliers to remove the drill core from the drilling bit.



CAUTION! Risk of injury! Do not reach into the bore hole.

- Use a wire brush to remove coarse dirt such as scaling from the pipe surface around the bore hole.





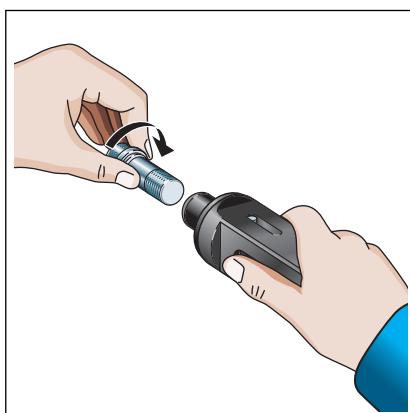
- ▶ Use sanding paper (grade 180) to remove or smoothen any remaining burrs.

The contact surface for the profile seal of the press-in branch connector must not be scratched by the sanding paper.

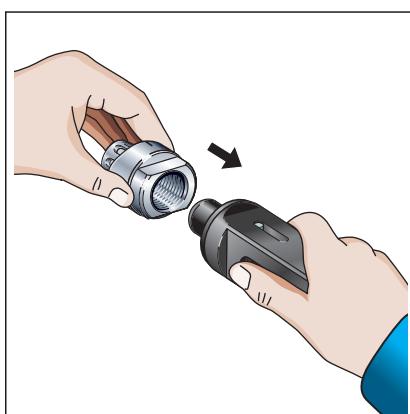
INFO! Do not sand down the bore hole again. If there are any projecting burrs, it may not be possible to push the press-in branch connector into the pipe deeply enough, or the profile seal ring could be damaged. If oil has been applied, remove it completely.

- ▶ If (cooling) lubricants have been applied, remove them.

3.3.3 Mounting the press-in branch connector by means of the press-in tool



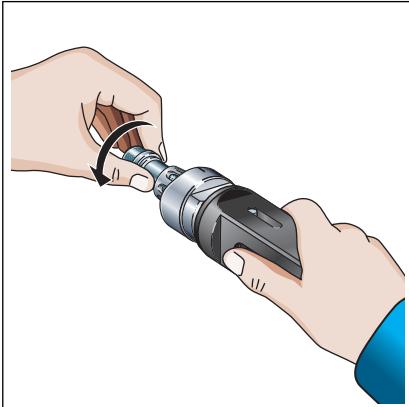
- ▶ Unscrew the installer drift from the press-in tool.



NOTICE! Use the appropriate press-in branch connector for the existing pipe dimension. Note the marks on the press-in branch connector.

- ▶ Put the press-in branch connector on the press-in tool.

The key surface must touch the press-in tool: The profile seal ring of the press-in branch connector must face the pipe.



► Using little force, manually screw the installer drift into the press-in tool as far as it will go.

NOTICE! Otherwise, the installer drift may tear off, or the pressing will not be performed correctly.

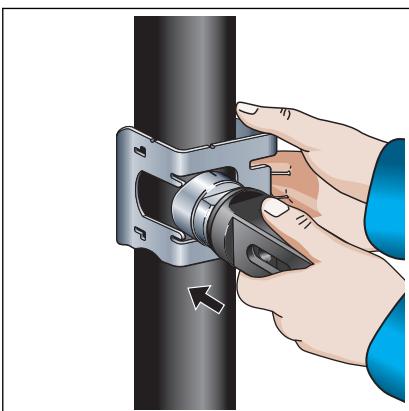
► Check the profile seal ring for proper seat, cleanliness and perfect condition.

Mounting the positioning device



CAUTION!
Risk of crushing!

- Hold the positioning aid in such a way that your fingers will not get crushed.



► Place the positioning aid around the pipe.

NOTICE! For mounting the press-in branch connector to the side of the installation pipe, the closed side of the positioning aid, when mounted, must not face the wall. Incorrect installation of the positioning aid can result in it getting jammed upon removal.

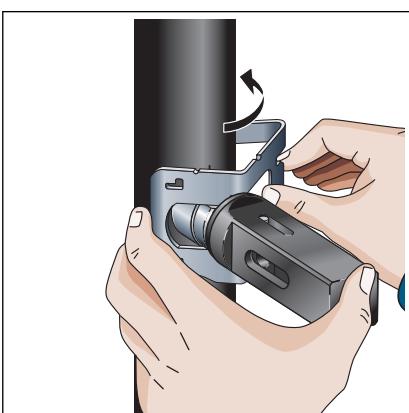
► Insert the press-in branch connector in the bore hole.

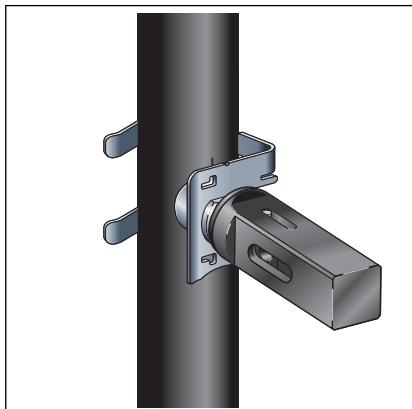
For better orientation, align the marks on the press-in branch connector with the marking line on the pipe.

NOTICE! It is imperative that you use the appropriate positioning device and press-in branch connector for the existing pipe dimension. Note the marks on the positioning aid and on the press-in branch connector.

► Make a sliding movement to move the recess for the key surface to the press-in branch connector.

NOTICE! If you have problems mounting the positioning aid correctly, you can also rotate it by 180°.



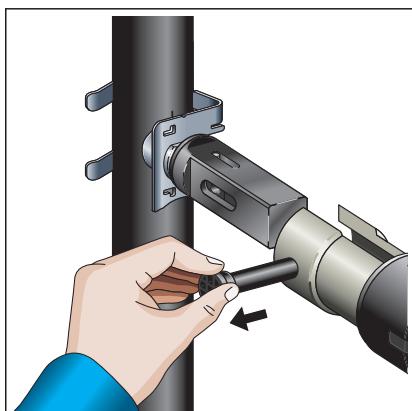


► Turn the positioning aid until it has full contact with the press-in branch connector and the pipe.

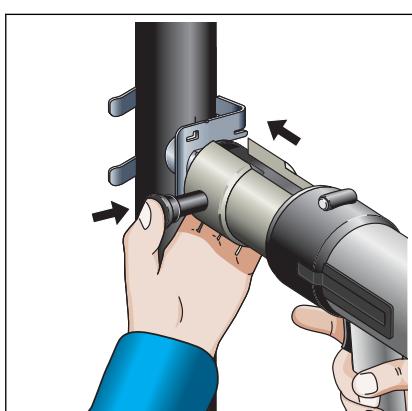
The press-in branch connector is in its proper position if the following conditions are met:

- The entire surface of the press-in branch connector touches the pipe.
- The press-in branch connector is in the limit position of the recess (as far as it will go) of the positioning device.
- The position mark of the press-in branch connector and the marking line on the pipe are aligned. To achieve this, the positioning device must touch the pipe.

Pressing the press-in branch connector in



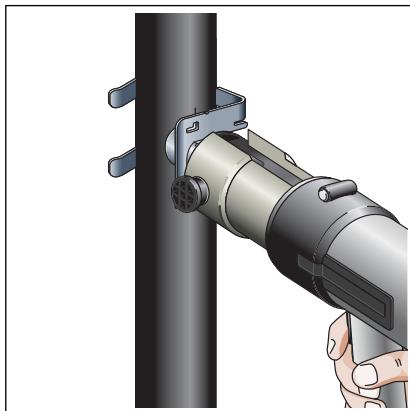
► Remove the retaining bolt of the press machine.



► Push the press machine over the press-in tool as far as it will go.

► Slide the retaining bolt in.

NOTICE! The press-in branch connector and the positioning aid must completely touch the pipe wall over their entire surface.

**CAUTION! Risk of crushing!**

- Only hold the press machine at its handle.

INFO! Do not obstruct the machine because it will retract by 20 mm. See ↗ Chapter 3.2.1 „Space requirements and intervals“ on page 18.

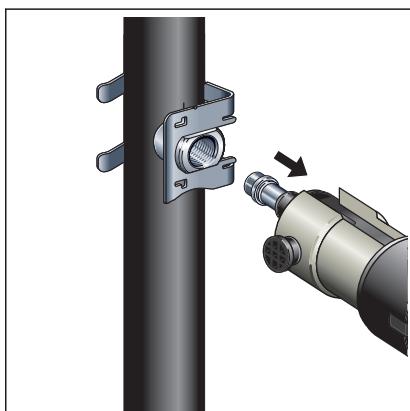
- Switch the press machine on.
- Hold the press machine at a right angle to the pipe axis, pay attention to the rebound of the positioning aid. The positioning aid gives you noticeable feedback if the press machine is not in the area of the perpendicular point.
Do not leave the press machine hanging from the positioning device.
- Carry out the pressing process completely in one go.

NOTICE! When pressing with a Pressgun 5, the machine may terminate the pressing process even though the press-in tool cannot be released yet. In this case, start a second pressing process.

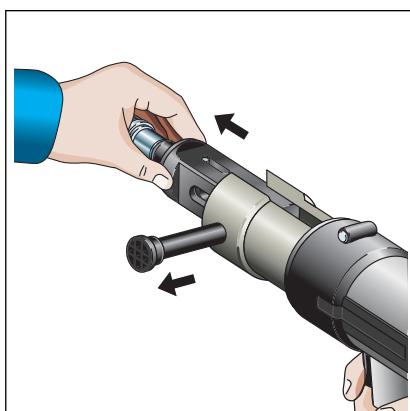
- After pressing, remove the press machine with the press-in tool.

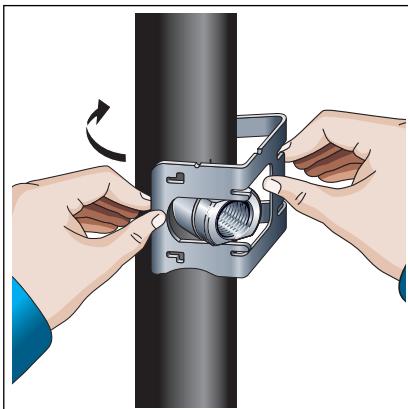
CAUTION! Risk of crushing or tool breakage!

- Do not carry out empty pressings without press-in branch connector. Pressing the press-in branch connector is permissible in the pipe only.



- Pull the press-in tool out of the machine.



**CAUTION! Risk of crushing!**

- Hold the positioning aid in such a way that your fingers will not get crushed.
- Remove the positioning aid from the pipe. Pull lightly on the handle when removing.



⇒ The press-in branch connector is mounted and ready for use.



Subsequent alignment of the press-in branch connector is not permitted.

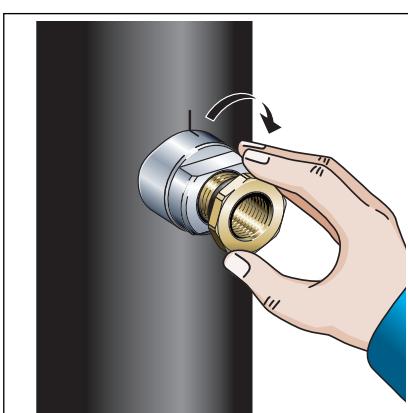
To screw an external thread into the press-in branch connector, use a suitable tool (e.g. a 32 mm fork spanner or pipe pliers) to hold the press-in branch connector up at the key surface.

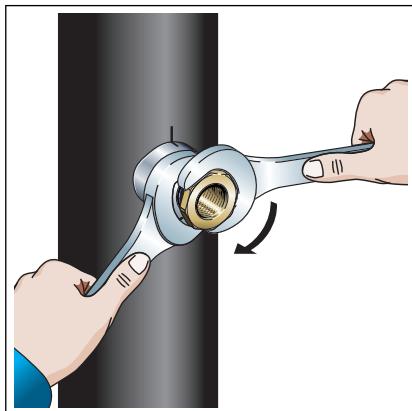
*Perform a leakage test after completion of the installation,
↳ Chapter 3.4.1 „Leakage test“ on page 36.*

3.3.4 Mounting a reducer

Use the reducer (article 731 236 with EPDM sealing element) to reduce the internal thread to Rp½.

- Check the sealing area of press-in branch connector and reducer for damage and dirt.
- INFO! Do not use additional sealants.**
- Screw the reducer in by hand.





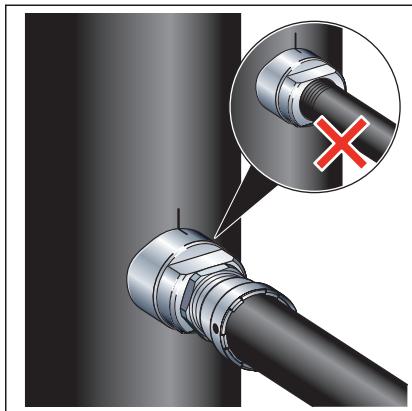
► Screw the reducer tight.

To tighten use a suitable tool (e.g., fork spanner 32 mm or pipe pliers) and hold against the press-in branch connector, make sure not to turn the press-in branch connector.

The marks on the pipe and the press-in branch connector must be aligned.

3.3.5 Other area of application of the press-in branch connector

The Rp-thread can be used for installing thermometers, temperature sensors, manometers or drains. It furthermore offers the option to connect pipelines, e.g. for subsequent connection of radiators.



► For the transition to pipelines, insert a moulded piece (e.g. Megapress model 4211 or Megapress S model 4311).

It is not permitted to screw pipe ends directly into the press-in branch connector.

Viega recommends using Viega piping systems for this purpose.



NOTICE!

If the connected pipeline needs subsequent alignment, you may only align the pipeline. Any temporary or permanent mechanical stress on the press-in branch connector caused by the alignment must be avoided.

3.4 Commissioning

3.4.1 Leakage test

The installer must perform a leakage test (load and leakage test) before commissioning.

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

Based on the provisions for potable water installations observe the applicable directives, see  „Regulations from section: Leakage test“ on page 7.

Also carry out a leakage test pursuant to these rules for non-potable water installations.

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 7.

Flushing the system

After performing the leakage test, the system must be flushed according to the valid regulations, also see  „Regulations from section: Leakage test“ on page 7.

3.5 Care and maintenance

3.5.1 Cleaning

To ensure smooth operation over a long time, the tool must be cleaned regularly.

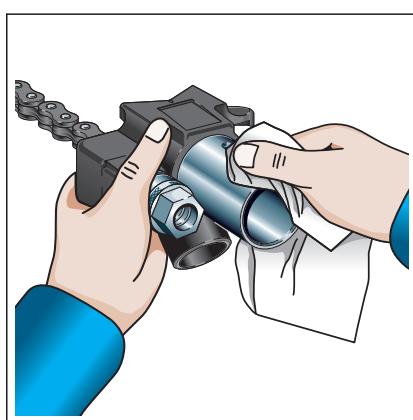
Cleaning agent

- clean cotton cloth
- Maintenance oil (article 667 924)



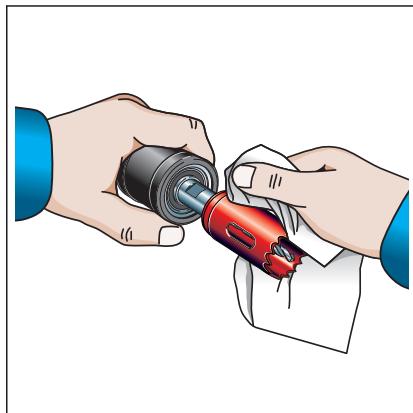
Do not use silicone oil.

Drilling device with tension chain



- Use the cloth to apply maintenance oil to the inside and outside of the drilling device.

Drilling shaft with drilling bit



- Use the cloth to apply maintenance oil from the outside to the bearing and the drilling bit.

3.5.2 Maintenance intervals

The functional safety primarily depends on the operational safety of the individual tools. The tools are subject to normal wear and tear. For this reason, the tools must be maintained regularly.

Drilling bit and centre drill

Immediately replace the drilling bit and centre drill if the first signs of wear appear. If used properly, Viega components can be used for the following number of bores:

Drilling bit	If used primarily at pipes with a minimum wall thickness of 2.3 mm	approx. 100 bores
Drilling bit	If used primarily at pipes with a maximum wall thickness of 5.4 mm	approx. 30 bores
centre drill		approx. 80 bores

Drilling device, drilling shaft, press-in tool



Only service partners authorized by Viega are permitted to maintain and service the tools.

The components must be maintained **every 2 years**.

Positioning device

The positioning device does not require maintenance. Replace it when worn or not operative.

3.5.3 Replacing the drilling bit

The drilling bit must be replaced when you observe the following:

- a deterioration of the drilling efficiency (e.g. you need to apply more force when drilling a hole)
- damage or heavy wear of the teeth

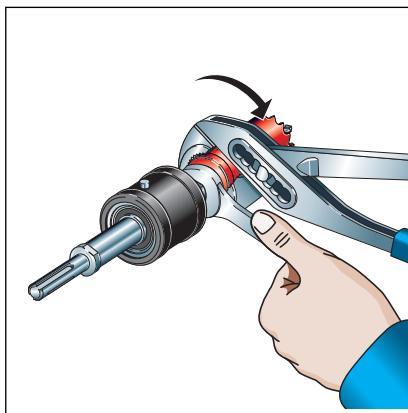
CAUTION!

Risk of injury due to hot and sharp drilling bit

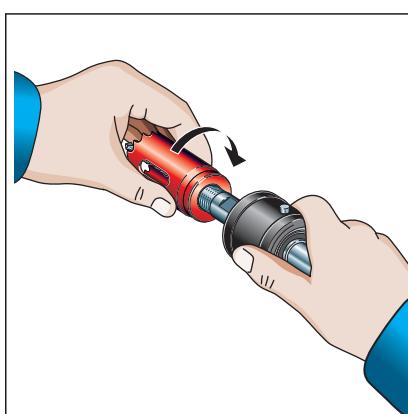
- If applicable, wear suitable hand protection.
- Allow the drilling bit to cool before proceeding.

► Use pipe pliers to loosen the drilling bit from the drilling shaft and remove it.

Hold up with a 14 mm fork spanner to avoid damage to the drilling shaft.

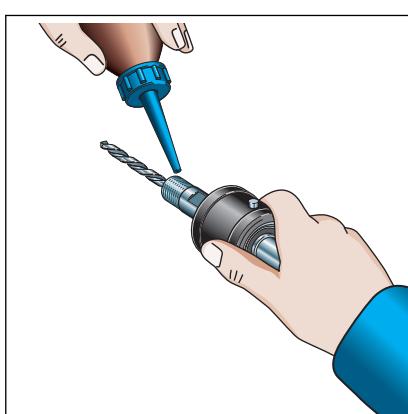


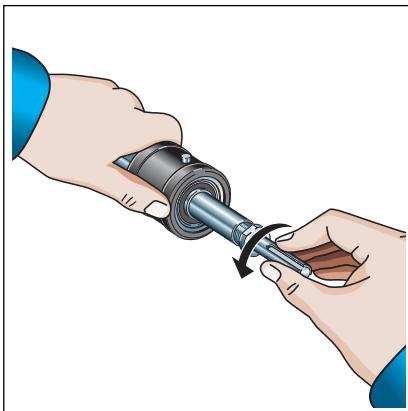
► Remove the drilling bit.



► Lubricate the fine thread of the drilling shaft every time you replace it. Thanks to the lubricant the drilling shaft is easier to remove later on.

MoS2 or graphite lubricants are suitable. Do not continue using drilling shafts or drilling bits when the thread is damaged.





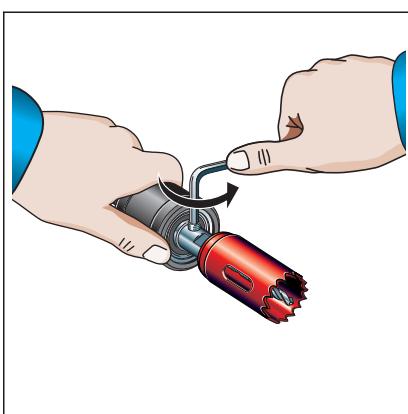
► Mount the new drilling bit and hand-tighten it as far as it will go.

Do not place the drilling bit **askew**.

⇒ With the next drilling process, the adapter automatically screws itself tight.

3.5.4 Replacing the centre drill

Replace the centre drill at first signs of wear.

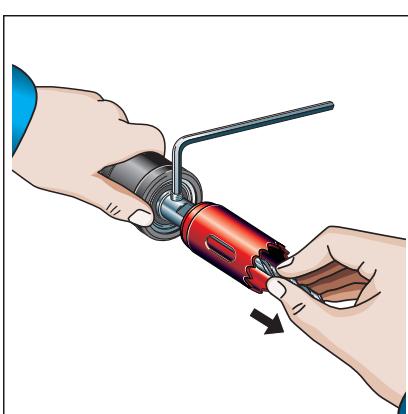


CAUTION!

Risk of injury due to hot and sharp drilling bit

- **If applicable, wear suitable hand protection.**
- **Allow the drilling bit to cool before proceeding.**

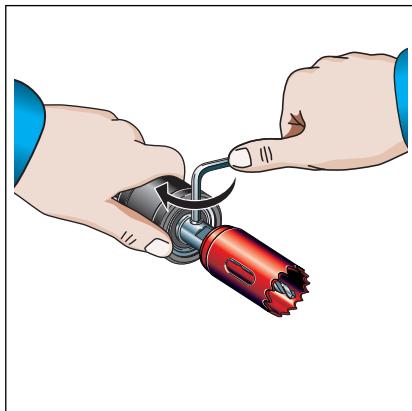
► Use an Allen key (4 mm) to loosen the fixing screw of the centre drill.



► Remove the centre drill.

► Push the new centre drill into the drilling shaft until it projects 2 mm from the drilling bit.

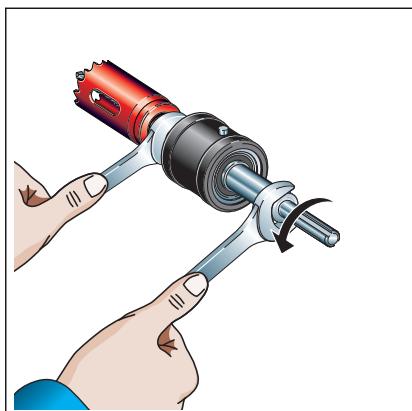
Rotate the centre drill around its own axis until the flat area lies directly at the fixing screw.



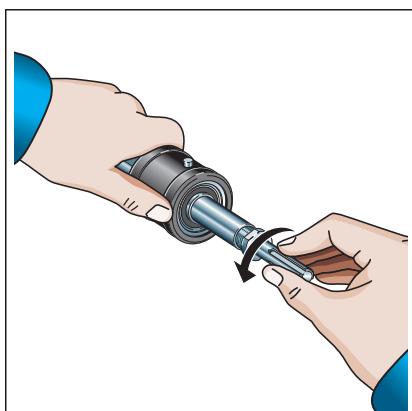
- To prevent the centre drill from co-rotating during drilling, use an Allen key to tighten the fixing screw.

3.5.5 Replacing the drive for the power drill

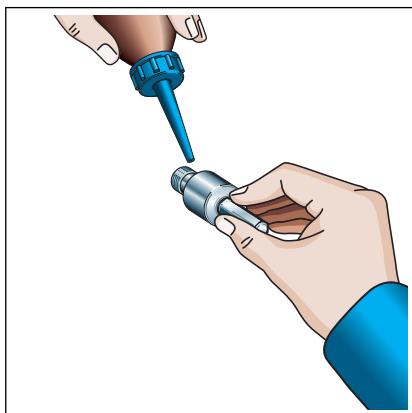
The drilling shaft is equipped with an SDS-plus drive. For power drills without an SDS-plus drive, the SDS-plus drive can be replaced by a hexagonal drive (article 735 753).



- Use a 17 mm fork spanner to loosen the adapter at the drilling shaft.
Hold up with a 14 mm fork spanner to avoid damage to the drilling shaft.

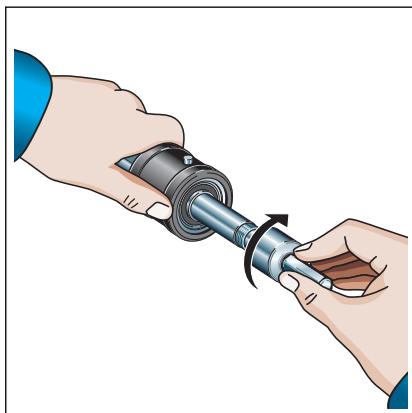


- Remove the adapter.



► Lubricate the fine thread of the adapter each time you replace it. This makes removing the adapter easier.

MoS2 or graphite lubricants are suitable. Do not continue using the adapter if the thread is damaged.



► Screw the adapter in and hand-tighten it as far as it will go. When screwing the adapter in, make sure not to place it **askew**. With the next drilling process, the adapter will automatically screw itself tight.

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.