

Pipe Drilling Saddles  
for Potable Water and Gas Supply

# Explanations

The scope of medium can be restricted within the product data sheets. In case of any inquiry or order point out the medium of each project.

In case of any questions, don't hesitate to contact our application engineers.



Potable water products



Gas products (according to DVGW G 260)



In general our products are subject to the statutory warranty period of two years from the day of delivery by Hawle. Due to the high quality of Hawle products we are able to offer you an extended warranty period of 5 years for our products. Further information for potable water products: [www.hawle.de/en/warranty-extension](http://www.hawle.de/en/warranty-extension)



Further information of „10 years quality warranty“ for potable water products: [www.hawle.de/en/10-years-quality-warranty](http://www.hawle.de/en/10-years-quality-warranty)



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# Hawle Pipe Drilling Saddles

There are basically four systems of pipe drilling saddles with shut-off facility available for drilling a pipe under operating pressure:

- Hawlinger®
- Milling saddle
- Valve saddle
- Clamp saddle with auxiliary shut-off facility

These four systems are available in a great number of connection and outlet variants. Besides, there are numerous clamp saddles and tapping saddles without shut-off facility.

Hawle pipe drilling saddles for DCI, steel, and AC pipes are provided with the Hawle strap system. These straps allow the use of the same type of pipe drilling saddle for pipe diameters from DN 65 to DN 500.

The valve is adapted to the pipe by means of the holding strap of the appropriate nominal width, as well as the suitable saddle gasket. This strap system allows considerable economies in terms of storage.

If the pipe outside diameter is unknown, a special universal holding strap can be used which is adapted on site (only for potable water pipelines).

For AC pipes, wider straps must be used to protect the pipe. Therefore, the width of Hawle straps for AC pipes is generally 90 mm for all nominal widths.

Hawle pipe drilling saddles for plastic pipes of PE and PVC are provided with the HAKU system. This system consists of two metal saddle halves connected via four screws.

These saddle halves are calibrated to the outside diameter of the plastic pipe. Metal stops prevent the inadmissible deformation of the pipe when connecting the saddle halves. Sealing to the pipe is effected by means of gaskets lining the upper and lower halves.

For plastic pipes of PE, HA-WELD® electrofusion saddles are available. In combination with the pipe drilling saddle, these PE saddle halves for welding on allow drilling the pipe under pressure.

For gas supply, pipe drilling saddles and straps and/or saddle halves with special gaskets for gas are required. See also the pipe drilling saddles marked with the yellow gas symbol in this brochure.

## Design Variants of Pipe Drilling Saddles with Shut-off Facility



**Hawlinger®:**  
Drilling from above, shut-off effected by means of installed shut-off blade of stainless steel



**Milling saddle:**  
Drilling from above by means of integrated drilling tool, with operational shut-off facility



**Valve saddle:**  
Lateral drilling, shut-off effected by means of resilient-seated wedge



**Clamp saddle with auxiliary shut-off facility:**  
Shut-off effected by means of a shut-off blade of stainless steel, lateral drilling or drilling from above possible

# Hawlinger® Pipe Drilling Saddle

The Hawlinger® pipe drilling saddle with integrated shut-off facility allows the easy drilling of pipes under operating pressure. The Hawlinger® is composed of the following components:

- Shut-off mechanism consisting of a shut-off blade of stainless steel
- Connecting element adapted to the respective pipe, e.g. strap system for DCI, steel, and AC pipes, and half-shell system for PE and PVC pipes

There are three main Hawlinger® variants available:

- With vertical outlet (“A”)
- With one vertical outlet and one horizontal outlet in pipe direction (“S”)
- With one vertical outlet and one horizontal outlet 90° to pipe direction (“U”)

The outlets are provided with a ZAK® socket ZAK 34 or ZAK 46 and/or with female thread F 1”, 1 1/4” or 1 1/2” acc. to DIN EN ISO 228-1.

## Technical Features

- The Hawlinger is opened and closed via one half turn of the spindle (180°).
- Reliable shut-off function ensured by a shut-off blade of stainless steel driven via slotted link gear.
- The shut-off blade is moved horizontally in a housing against fixed metal stops.
- The spindle of high-grade stainless steel is welded to the drive pulley of the shut-off blade driving mechanism.
- Completely straight-through bore when opened.
- Easy and quick installation due to flexible strap or half-shell system.
- The pipe can be easily drilled from above by means of a drilling device, even with the pipe in service.
- Pinless fixing of the extension spindle by screwing it onto the round thread of the shut-off valve.
- Great variety of connection and outlet variants.
- Long service life due to robust shut-off blade technology and Hawle epoxy powder coating acc. to the Quality Assurance Association for Heavy-Duty Corrosion Protection GSK.
- Spindle O-rings fully embedded in corrosion-resistant material.
- Back seal to relieve double spindle sealing.
- Corrosion-protected housing screw connections.
- The slewable type of the Hawlinger allows a flexible alignment of the potable water service connection in case of repair.

## Technical data

Medium:	Potable water, gas
Max. operating pressure:	Potable water: 16 bar; gas: 1 bar, 5 bar or 10 bar (depending on the version)
Closing:	Clockwise, one half turn of the spindle (180°)
Material:	Body: GJS-400 Corrosion protection: Hawle epoxy powder coating Shut-off blade: stainless steel 1.4310 Spindle: stainless steel 1.4310
Outlet types:	ZAK 34, ZAK 46 or female thread (FTHR) F 1“, 1 1/4“, 1 1/2“
Possible connections:	Strap, HAKU, HA-WELD®, ZAK®, or thread
Max. bore (depending on the pipe and drilling saddle):	ZAK 34: Ø 24 mm ZAK 46: Ø 36 mm ZAK 46 slewable type: Ø 28 mm ZAK 69: Standard drilling diameter Ø 45 mm, special drilling diameter up to Ø 50 mm (With a drilling diameter between 46mm and 50mm, the use of the special saddle seal order no. 314-00 is recommended.) Female thread F 1“ and F 1 1/4“: 24 mm Female thread F 1 1/2“: 36 mm

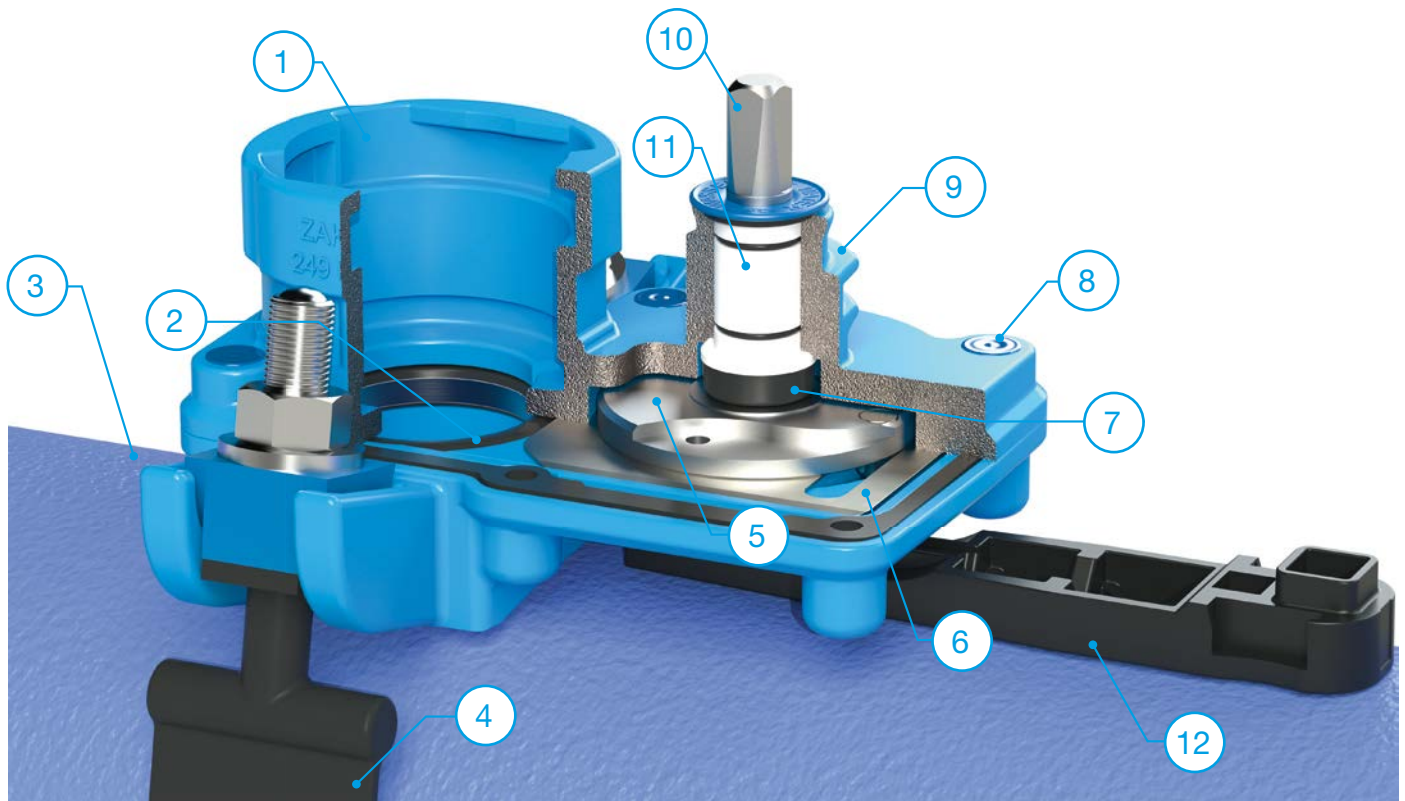


Figure: Universal Hawlinger 2" for DCI, steel, and AC pipes with vertical ZAK® 69 socket

No.	Component
1.	Body: GJS-400, Hawle epoxy powder coated
2.	O-ring
3.	DCI, steel and AC pipes
4.	Strap: fully vulcanized or stainless steel, with saddle gasket
5.	Chambered flat gasket
6.	Stainless steel shut-off blade
7.	Back seal

No.	Component
8.	Countersunk hexagon socket screw closed with sealing compound
9.	Round thread for receiving the DCI cover of the Hawle extension spindle
10.	Spindle with square 12.3 mm and shut-off blade driving mechanism of stainless steel, Spindle bore upon request
11.	Bushing of POM
12.	UNI key for Hawlinger®

## Threadless Connection ZAK®-System

The ZAK® socket outlets of the Hawlinger in combination with the ZAK® spigot end fittings are used for connecting service pipes. When mounting a fitting, the ZAK® spigot end is pushed into the ZAK® socket, turned clockwise by 90°, locked, and pulled back as far as it will go. The restraint connection, which is movable, is fixed by means of a locking ring.

Both the ZAK® spigot end of the fitting and the ZAK® socket of the Hawlinger are completely coated with Hawle epoxy powder coating which ensures a long service life of this system. The ZAK® system is a modular system offering a great variety of integration options for connection pipes.



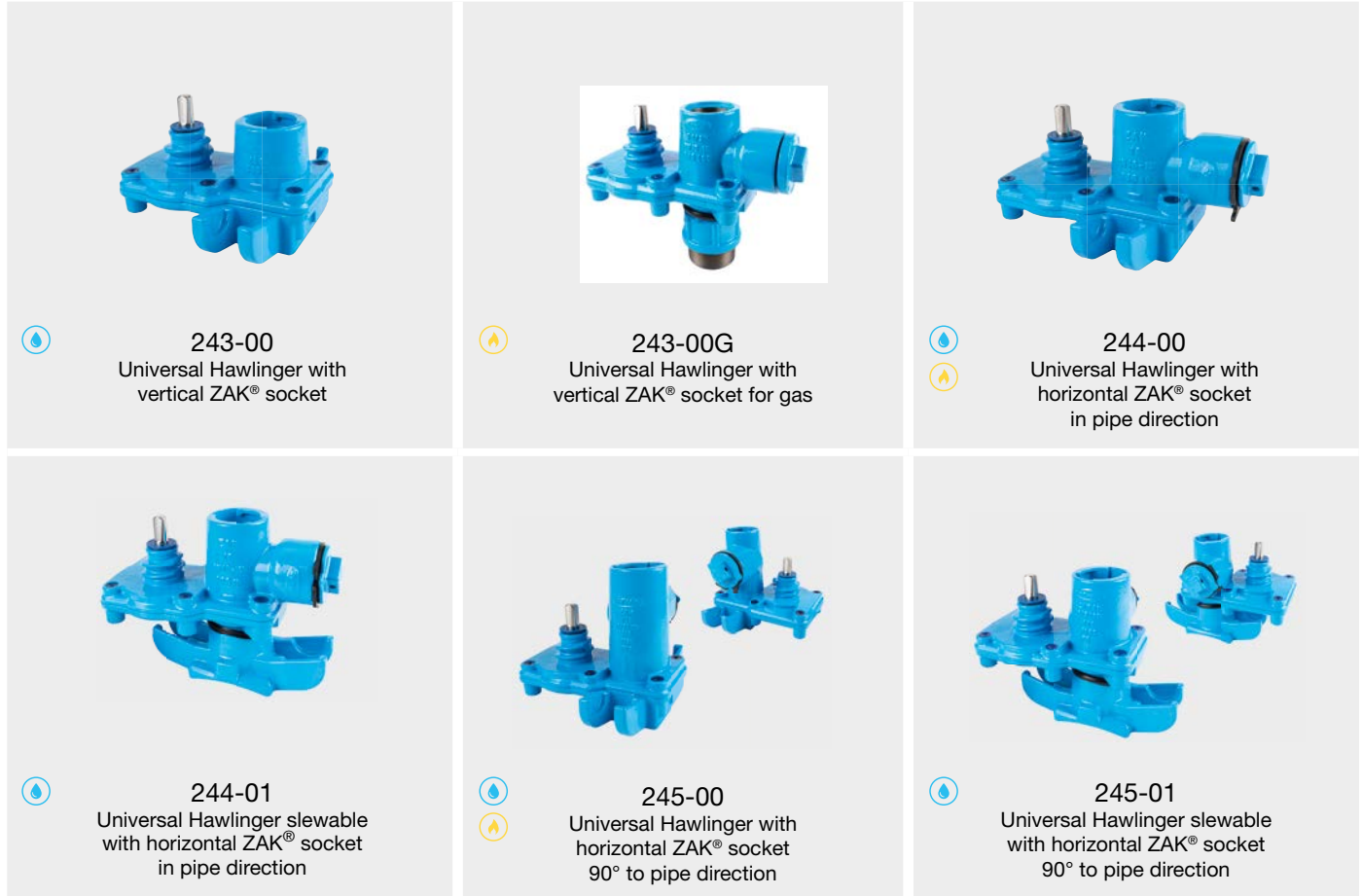
# Hawlinger® for DCI, steel, and AC pipes

## Versions with ZAK®



### Universal Hawlinger

Universal Hawlingers are to be used for installation on DCI, steel, and AC pipes from DN 65 to DN 500. They are available with ZAK® or with female thread.

Adaptation to the pipe is effected by means of a holding strap and saddle gasket of the respective nominal width.



### Max. Operating Pressure

No.	Description	Max. Operating Pressure		Details
				
243-00	Universal Hawlinger with vertical ZAK® socket	16 bar	-	Pipe: DN 65 - 500 Outlet: ZAK 34, 46, 69*
243-00	Universal Hawlinger with vertical ZAK® socket for gas	-	5 bar	Pipe: DN 65 - 500 Outlet: ZAK 34, 46
244-00	Universal Hawlinger with horizontal ZAK® socket in pipe direction	16 bar	5 bar	Pipe: DN 65 - 500 Outlet: ZAK 34, 46
244-01	Universal Hawlinger slewable with horizontal ZAK® socket in pipe direction	16 bar	-	Pipe: DN 65 - 500 Outlet: ZAK 46
245-00	Universal Hawlinger with horizontal ZAK® socket 90° to pipe direction	16 bar	5 bar	Pipe: DN 65 - 500 Outlet: ZAK 34, 46
245-01	Universal Hawlinger slewable with horizontal ZAK® socket 90° to pipe direction	16 bar	-	Pipe: DN 65 - 500 Outlet: ZAK 46

\* ZAK 69 not for gas  
www.hawle.de

# Hawlinger® for DCI and steel pipes

## Borehole Sealing Sleeve and Borehole Sleeve

### Borehole Sealing Sleeve

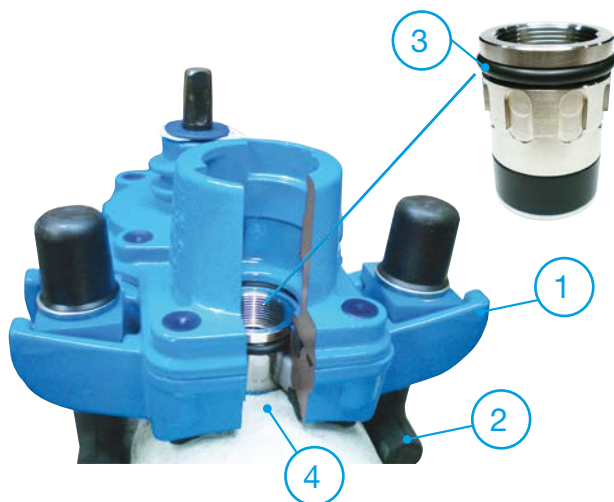
Borehole sealing sleeves 835-00 for Universal Hawlingers in the field of potable water are used to seal cement-coated DCI pipes during drilling. The time-consuming removal of the cement coating in the drilling area as well as re-insulating is no longer necessary.

The borehole sealing sleeve is composed of two parts. On screwing the inner sleeve with the outer sleeve, the sealing element is crimped and radially expanded in the bore.

Details for fixing the borehole sealing sleeve are provided in the operating and maintenance instructions at: [www.hawle.de/835-00](http://www.hawle.de/835-00)

#### Technical Features

- The borehole sealing sleeve 835-00 can be used with a Universal Hawlinger ZAK 46 (ZAK 69 in preparation) or FTTH 1 1/2".
- No time-consuming removal of the cement coating in the drilling area and no re-insulating.
- Drilling is to be performed with a diameter of 36.0 +0.5 mm.
- The borehole sealing sleeve is fixed by means of a special fixing adaptor.
- The inner sleeve with the sealing element seals against the DCI pipe wall inside the borehole.
- The outer sleeve with the O-ring seals inside the fitting.



### Borehole Sleeve

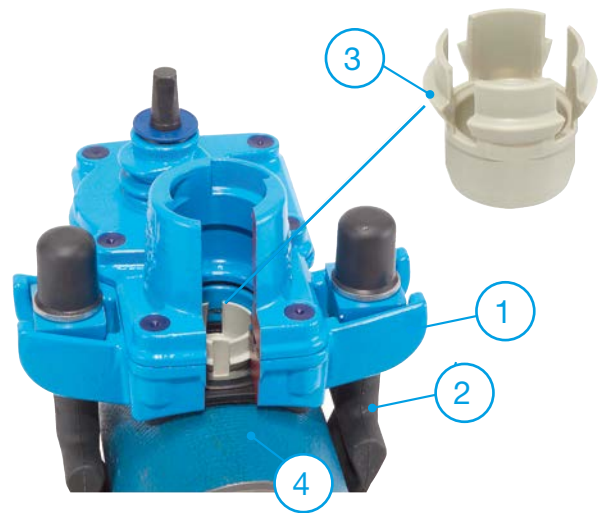
Borehole sleeves 835-01 for Universal Hawlingers in the field of potable water prevent the borehole pipes from "clogging" due to incrustation in DCI and steel pipes.

During installation, the "wings" in the upper part of the borehole sealing sleeve are folded inward and, after reaching the end position, engage in the lower part of the Hawlinger.

Details for fixing the borehole sleeve are provided in the operating and maintenance instructions at: [www.hawle.de/835-01](http://www.hawle.de/835-01)

#### Technical Features

- The borehole sleeve 835-01 can be used with a Universal Hawlinger ZAK 46 or FTTH 1 1/2".
- Drilling is to be performed with a diameter of 36.0 +0.5 mm.
- The borehole sleeve is fixed by means of a special fixing adaptor.



No.	Component
1.	Universal Hawlinger with verticaler ZAK® socket 243-00
2.	Hawle strap - fully vulcanized 310-00
3.	Borehole sealing sleeve for Universal Hawlinger 835-00
4.	DCI pipe, cement-coated

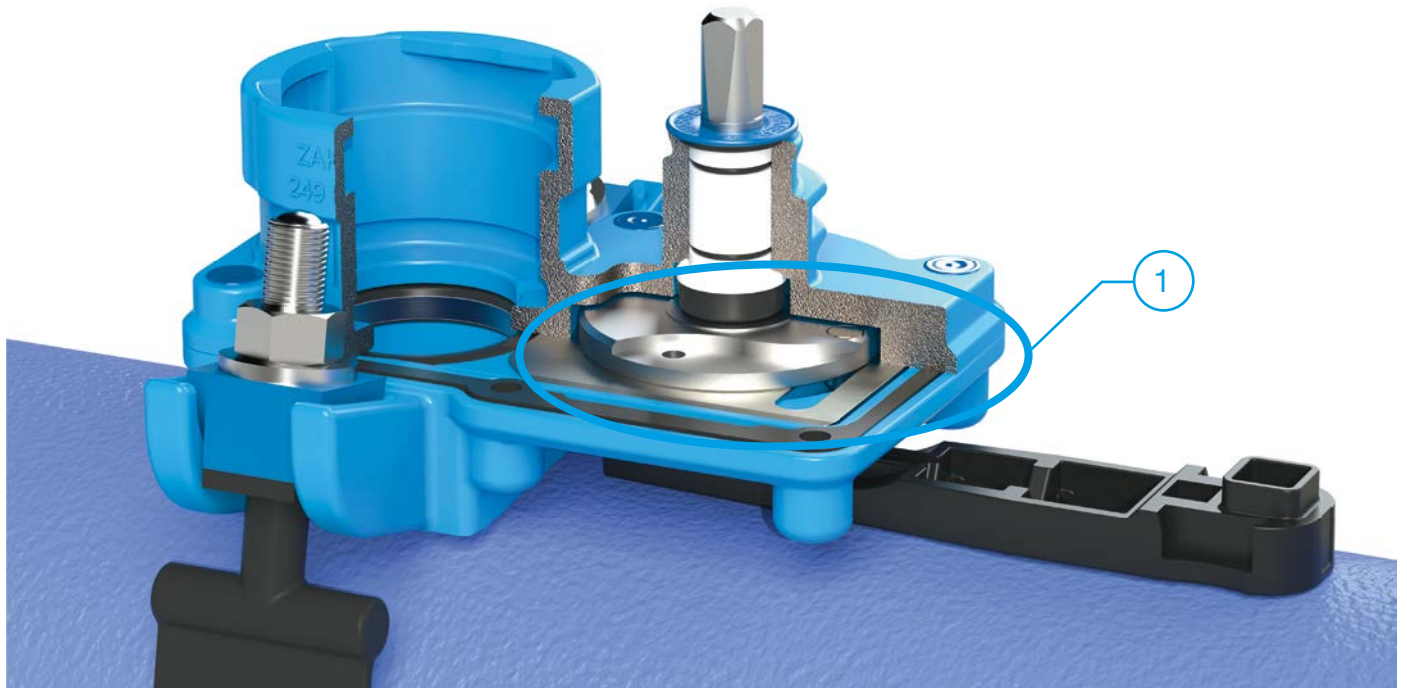
No.	Component
1.	Universal Hawlinger with verticaler ZAK® socket 243-00
2.	Hawle strap - fully vulcanized 310-00
3.	Borehole sleeve for Hawlinger 835-01
4.	DCI or steel pipe

# Functional Principle of a Hawlinger® with Drainage

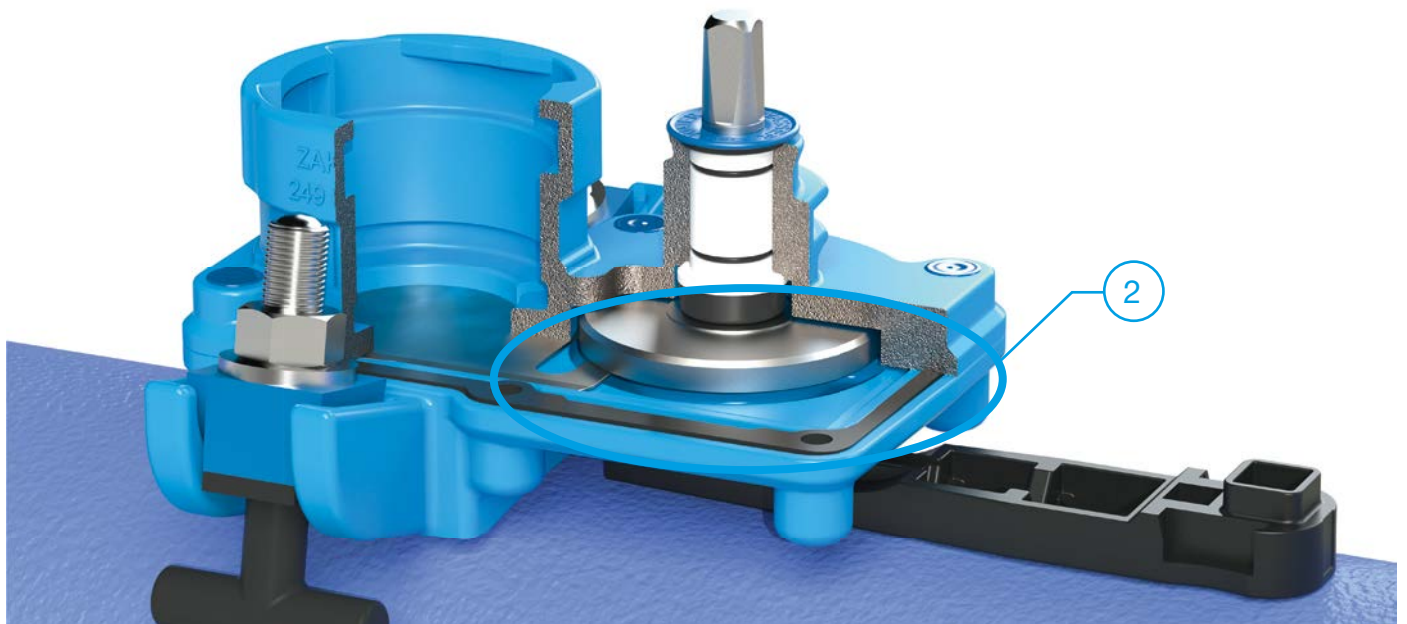
## Automatic Drainage in the Field of Potable Water

When used in the field of potable water, all Hawlinger® pipe drilling saddles can be ordered with an additional drainage mechanism (type "E") which is needed if the blocked pipe section is to be drained after closing the fitting.

This is the case, for example, when there are shut-off valves below air valves, or in holiday homes. In the area of the drain hole, a sufficiently dimensioned seeping water drain packing must be installed.



1. Opened position with closed drainage mechanism (shut-off blade outside of flow)



2. Closed position with opened drainage mechanism



# Hawlinger® for PE and PVC Pipes

## Versions with ZAK®

### HAKU Hawlinger

HAKU Hawlingers are to be used for installation on PE pipes (DIN EN 12201, 8074) and PVC pipes (DIN EN ISO 1452, DIN 8062). The saddle halves are placed around the pipe and fixed by means of hexagon head screws tightened evenly and crosswise against metal stops at the max. torque specified for the respective nominal width.

As in case of all Hawle pipe drilling saddles type Hawlinger®, shut-off is effected by means of a shut-off blade of stainless steel.

HAKU Hawlingers are available either with ZAK® or with female thread.





#### Max. Operating Pressure

No.	Description	Max. Operating Pressure		Details
236-00	HAKU Hawlinger with vertical ZAK® socket	16 bar	1 bar (nur PVC)	Pipe: d 63, 75, 90, 110, 125, 140, 160, 180, 225, 250, 280, 315 mm, Outlet: ZAK 34, 46
237-00	HAKU Hawlinger with horizontal ZAK® socket in pipe direction	16 bar	1 bar (nur PVC)	Pipe: d 63, 75, 90, 110, 125, 140, 160, 180, 225, 250, 280, 315 mm, Outlet: ZAK 34, 46
238-00	HAKU Hawlinger with horizontal ZAK® socket 90° to pipe direction	16 bar	1 bar (nur PVC)	Pipe: d 63, 75, 90, 110, 125, 140, 160, 180, 225, 250, 280, 315 mm, Outlet: ZAK 34, 46
237-02	HAKU Hawlinger slewable with horizontal ZAK® socket in pipe direction	16 bar	-	Pipe: d 90, 110, 125, 140, 160, 180, 225 mm Outlet: ZAK 46



# Hawlinger®

## Versions with Thread





  **230-00**  
HAKU Hawlinger with vertical female thread outlet





  **231-00**  
HAKU Hawlinger with horizontal female thread outlet in pipe direction




  **232-00**  
HAKU Hawlinger with horizontal female thread outlet 90° to pipe direction





  **240-00**  
Universal Hawlinger with vertical female thread outlet





  **241-00**  
Universal Hawlinger with horizontal female thread outlet in pipe direction



  **242-00**  
Universal Hawlinger with horizontal female thread outlet 90° to pipe direction

### Max. Operating Pressure

No.	Description	Max. Operating Pressure		Details
				
230-00	HAKU Hawlinger with vertical female thread outlet	16 bar	1 bar (nur PVC)	Pipe: d 63, 90, 110, 125, 140, 160, 180, 225 mm Outlet: IG 1" - 1 1/2"
231-00	HAKU Hawlinger with horizontal female thread outlet in pipe direction	16 bar	1 bar (nur PVC)	Pipe: d 63, 90, 110, 125, 140, 160, 180, 225 mm Outlet: IG 1" - 1 1/2"
232-00	HAKU Hawlinger with horizontal female thread outlet 90° to pipe direction	16 bar	1 bar (nur PVC)	Pipe: d 63, 90, 110, 125, 140, 160, 180, 225 mm Outlet: IG 1" - 1 1/2"
240-00	Universal Hawlinger with vertical female thread outlet	16 bar	5 bar	Pipe: DN 65 - 500 Outlet: IG 1" - 1 1/2"
241-00	Universal Hawlinger with horizontal female thread outlet in pipe direction	16 bar	5 bar	Pipe: DN 65 - 500 Outlet: IG 1" - 1 1/2"
242-00	Universal Hawlinger with horizontal female thread outlet 90° to pipe direction	16 bar	5 bar	Pipe: DN 65 - 500 Outlet: IG 1" - 1 1/2"

# Hawlinger for Welding

## Versions with ZAK<sup>®</sup>

Hawlingers for welding are available as weld-on Hawlinger with a HA-WELD<sup>®</sup> electrofusion saddle, either with ZAK<sup>®</sup> or as threaded version.

HA-WELD<sup>®</sup> electrofusion saddles are suitable for welding onto PE pipes (DIN to EN 12201, DIN 8074). The tapping saddle of polyethylene is fused and permanently welded at the connecting surfaces by means of the resistance wires (invisible heating coil) integrated in the saddle. The metal connections integrated in the saddle upper part are intended for receiving the pipe drilling saddles.

Please observe the operating and maintenance instructions for HA-WELD<sup>®</sup> electrofusion saddles for PE pipes at: [www.hawle.de/526-00](http://www.hawle.de/526-00)



As in case of all Hawlinger<sup>®</sup> pipe drilling saddles, shut-off is effected by means of shut-off blade of stainless steel moved horizontally in the housing against fixed metal stops. For opening and/or closing, one half turn of the spindle (180°) is required. After welding, the pipe can be drilled under operating pressure by means of a drilling

device (e. g. Hawle drilling device “Hawloamat” for potable water, 830-00).

Weld-on Hawlingers with ZAK socket/s for PE pipes 239-03, so-called top loaders, are to be used for welding onto PE pipes with outside diameters d 250 - d 315 mm. For mounting the weld-on Hawlinger<sup>®</sup>, a transition adaptor as well as a clamping device are needed.



Weld-in Hawlingers with PE tail are suitable for welding into electrofusion saddles +GF+ type ELGEF<sup>®</sup> Plus with push-in connection d 63 mm.



No.	Description	Max. Operating Pressure		Details
				
239-00	Hawlinger with upper vertical ZAK <sup>®</sup> socket and lower electrofusion saddle	16 bar	10 bar	Pipe: d 63, 90, 110, 125, 160, 180, 200, 225 mm Outlet: ZAK 34, 46
239-01	Hawlinger with upper horizontal ZAK <sup>®</sup> socket in pipe direction and with lower electrofusion saddle	16 bar	10 bar	Pipe: d 63, 90, 110, 125, 160, 180, 200, 225 mm Outlet: ZAK 34, 46
239-02	Hawlinger with upper horizontal ZAK <sup>®</sup> socket 90° to pipe direction and lower electrofusion saddle	16 bar	10 bar	Pipe: d 63, 90, 110, 125, 160, 180, 200, 225 mm Outlet: ZAK 34, 46

# Hawlinger for Welding in Versions with ZAK® / Thread





No.	Description	Max. Operating Pressure		Details
				
235-00	Hawlinger with upper vertical female thread outlet and lower electrofusion saddle	16 bar	10 bar	Pipe: d 63, 90, 110, 125, 160, 180, 200, 225 mm Outlet: IG 1" - 1 1/2"
235-01	Hawlinger with upper horizontal female thread outlet in pipe direction and with lower electrofusion saddle	16 bar	10 bar	Pipe: d 63, 90, 110, 125, 160, 180, 200, 225 mm Outlet: IG 1 1/4" - 1 1/2"
235-02	Hawlinger with upper horizontal female thread outlet 90° to pipe direction and lower electrofusion saddle	16 bar	10 bar	Pipe: d 63, 90, 110, 125, 160, 180, 200, 225 mm Outlet: IG 1" - 1 1/2"
239-03	Weld-on Hawlinger for PE pipes d 250 - 315 mm with ZAK® socket(s)	16 bar	10 bar	Pipe: d 250 - 315 mm Outlet: ZAK 34, 46



# Hawlinger for Welding in

For Electrofusion Saddles +GF+ ELGEF® Plus, Thread / ZAK®





  **229-00**  
Hawlinger with upper vertical female thread outlet and lower PE end





  **229-01**  
Hawlinger with upper horizontal female thread outlet in pipe direction and lower PE end





  **229-02**  
Hawlinger with upper horizontal female thread outlet 90° to pipe direction and lower PE end





  **229-03**  
Hawlinger with upper vertical ZAK® socket and lower PE end





  **229-04**  
Hawlinger with upper horizontal ZAK® socket in pipe direction and with lower PE end



  **229-05**  
Hawlinger with upper horizontal ZAK® socket 90° to pipe direction and lower PE end

## Max. Operating Pressure

No.	Description	Max. Operating Pressure		Details
				
229-00	Hawlinger with upper vertical female thread outlet and lower PE end	16 bar	5 bar	Lower outlet: d 63 mm Upper outlet: F 1" - 1 1/2"
229-01	Hawlinger with upper horizontal female thread outlet in pipe direction and lower PE end	16 bar	5 bar	Lower outlet: d 63 mm Upper outlet: F 1" - 1 1/2"
229-02	Hawlinger with upper horizontal female thread outlet 90° to pipe direction and lower PE end	16 bar	5 bar	Lower outlet: d 63 mm Upper outlet: F 1" - 1 1/2"
229-03	Hawlinger with upper vertical ZAK® socket and lower PE end	16 bar	5 bar	Lower outlet: d 63 mm Upper outlet: ZAK 34, 46
229-04	Hawlinger with upper horizontal ZAK® socket in pipe direction and with lower PE end	16 bar	5 bar	Lower outlet: d 63 mm Upper outlet: ZAK 34, 46
229-05	Hawlinger with upper horizontal ZAK® socket 90° to pipe direction and lower PE end	16 bar	5 bar	Lower Outlet: d 63 mm Upper outlet: ZAK 34, 46

# Pipe Drilling Saddles of PE

## Versions for Welding

The weld-on PE Hawlinger with horizontal PE outlet 247-00 is a variant of the Hawlinger® featuring a body completely made of PE. The weld-on Hawlinger is provided with a HA-WELD® electrofusion saddle and is used for welding onto PE pipes (EN 12201, DIN 8074).

The horizontal PE tail (in pipe direction or 90° to pipe direction) can be used for welding into PE pipes via resistance or hot plate welding, or for mounting a push-fit fitting. The vertical outlet with trapezoidal thread (protected by a threaded cap of PE) serves the purpose of receiving a drilling device.

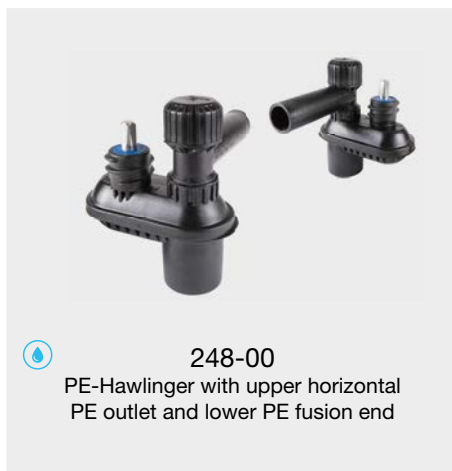
In combination with a drilling device, e.g. Hawle drilling device "Hawloamat" for potable water 830-00, and a special drilling adaptor, the shut-off system allows the easy drilling of a pipe, even with the pipe in service.



Analogous to the Hawlinger® of DCI, the shut-off function of the PE Hawlinger is effected by means of a shut-off blade of stainless steel. The shut-off blade is moved

horizontally in a housing against fixed stops. For opening and/or closing, only one half turn of the spindle (180°) is required.

The weld-in PE Hawlinger with lower PE tail and horizontal PE outlet 248-00 can be used for welding into electrofusion saddles +GF+ type ELGEF® Plus.

In combination with a shut-off unit, e. g. push-in Hawlinger 226-00, HA-WELD® electrofusion saddles with ZAK® outlet 526-00 can be used for drilling a pipe under pressure.



No.	Description	Max. Operating Pressure		Details
				
247-00	PE-Hawlinger with upper PE fusion end outlet and lower electrofusion saddle	16 bar	-	Pipe: d 90, 110, 125, 160, 225 mm Outlet: d 40 mm
248-00	PE-Hawlinger with upper horizontal PE outlet and lower PE fusion end	16 bar	-	Lower outlet: d 63 mm Upper outlet: d 40 mm
526-00	HA-WELD® electrofusion saddle with ZAK® outlet	16 bar	10 bar	Pipe: d 90, 110, 125, 160, 225 mm Outlet: ZAK 46

# Hawlinger of Type „NA“

## Later Drilling of Service Lines

The Universal Hawlinger for later drilling allows the drilling of already installed service lines for potable water. The Hawlinger of type “NA” is to be used on DCI, steel, and AC pipes from DN 65 to DN 500. Adaptation to the potable water pipe is effected by means of a holding strap and saddle seal of the respective nominal width.

By using this system, it is no longer necessary to dig up the pipeline for drilling the main pipe when putting the service connection into operation. For later drilling, the Hawle drilling device “Hawlomat” is used with an extra-long drill spindle.

Later drilling prevents the development of stagnation areas in the potable water pipeline which may occur when service connections are not needed immediately. Thus, possible microbial contamination is avoided.



This drilling process can be implemented by means of Universal Hawlingers with ZAK® 245-02, as well as with thread 241-01 and 242-01.

The Universal Hawlinger for later drilling with ZAK® 245-02 includes a PE guide tube, an aluminium support tube, a protective cap, and a telescopic extension spindle. The strap for fixing on the pipe must be selected according to the pipe material and the nominal width of the pipe. The surface box to be used is the rectangular surface box 212-00.

For more detailed information for later drilling with ZAK®, please refer to our operating and maintenance instructions at: [www.hawle.de/245-02](http://www.hawle.de/245-02)



### Max. Operating Pressure

No.	Description	Max. Operating Pressure		Details
				
241-01	Universal Hawlinger for later drilling with horizontal female thread outlet in pipe direction	16 bar	-	Pipe: DN 65 - 500 Outlet: IG 1 1/2"
242-01	Universal Hawlinger for later drilling with vertical and horizontal threaded outlet 90° to pipe direction	16 bar	-	Pipe: DN 65 - 500 Outlet: IG 1 1/2"
245-02	Universal Hawlinger for later drilling with vertical and horizontal ZAK® outlet 90° to pipe direction*	16 bar	-	Pipe: DN 65 - 500 Outlet: ZAK 46

\*HAKU Variante für PE- und PVC-Rohre auf Anfrage erhältlich

# Milling Saddles for PE and PVC Pipes

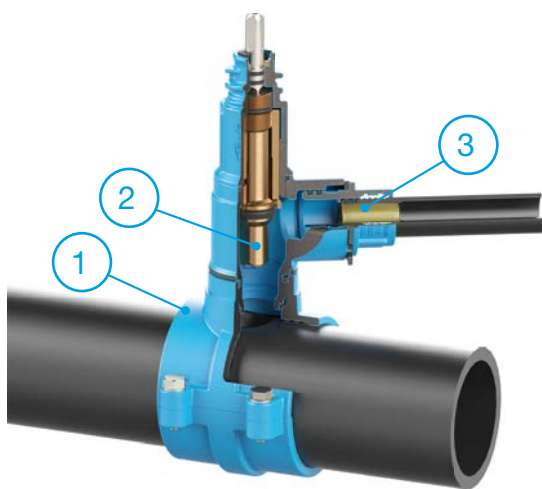
## Self-tapping Device / Later Drilling

Hawle milling saddles are provided with an integrated drilling tool and an operational shut-off facility. They are so-called “self-tapping devices” allowing potable water pipelines of PE and PVC to be drilled without the need for an additional drilling device, even with the pipe in service.

The service line can be drilled and put into operation directly when water is needed (later drilling). Thus, water is prevented from the stagnating, and microbial

contamination caused by the lack of flow in the pipe is avoided.

To ensure proper drilling, the drilling tool is fed in at high speed until it almost touches the material. The drilling process proper is performed at low feed rate. Shut-off during operation is effected by means of a profile gasket plunging into a cylindrical sealing surface.



No.	Component
1.	Haku milling valve with horizontal ZAK® socket 313-00
2.	Integrated milling cutter and/or punch
3.	ZAK fitting with PE tail and integrated support liner 618-00 (optional)

## Technical Features

- Two-stage feed mechanism
- Robust shut-off mechanism
- With milling cutter for PE and PVC pipes
- With punch for PE pipes

Connection to the main pipe is effected by means of:

- HAKU system (PE and PVC pipes)
- HA-WELD® electrofusion saddles (PE pipes)
- PE-X tail for welding into electrofusion saddles +GF+ type ELGEF® Plus

## Technical Data

Medium:	Potable water
Max. operating pressure:	16 bar
Upper outlet:	Socket ZAK 46 or PE outlet d 40 / d 50 mm
Material:	Body: GJS-400 / red brass Corrosion protection: Hawle epoxy powder coating Milling cutter, punch: brass Spindle: stainless steel
Max. drilling diameter:	25 mm (punch for PE only) and/or 35 mm (milling cutter for PE/PVC)
Application range:	PE, SDR 11: d 63 - d 225 mm PE, SDR 17: d 63 - d 315 mm PVC, PN 10: d 63 - d 280 mm PVC, PN 16: d 63 - d 160 mm



# Milling Saddles for PE and PVC Pipes

## Versions with ZAK<sup>®</sup> and PE



### Max. Operating Pressure

No.	Description	Max. Operating Pressure		Details
313-00	HAKU milling valve with horizontal ZAK <sup>®</sup> socket	16 bar	-	Pipe: d 63, 75, 90, 110, 125, 140, 160, 180, 225, 250, 280, 315 mm Outlet: ZAK 46
313-01	HAKU milling saddle (with punch) for PE pipes with horizontal ZAK <sup>®</sup> outlet	16 bar	-	Pipe: d 63, 90, 110, 125, 140, 160, 180, 225, 250, 280, 315 mm Outlet: ZAK 46
313-03	HAKU milling valve with horizontal PE fusion end	16 bar	-	Pipe: d 63, 75, 90, 110, 125, 140, 160, 180, 225, 280, 315 mm Outlet: d 40, 50 mm
313-04	HAKU milling saddle (with punch) for PE pipes with horizontal PE outlet	16 bar	-	Pipe: d 63, 75, 90, 110, 125, 140, 160, 180, 225, 280, 315 mm Outlet: d 40, 50 mm
313-05	Service valve with milling device (punch) and electrofusion saddle with horizontal PE fusion end	16 bar	-	Pipe: d 90, 110, 125, 160, 225 mm Outlet: d 40 mm

# Clamp Saddles / Tapping Saddles

Clamp saddles with the Hawle strap system are used on DCI, steel, and AC pipes. Tapping saddles are to be used for installation on PE and PVC pipes.

Clamp saddles and tapping saddles with auxiliary shut-off facility are used wherever a pipeline has to be shut off only temporarily, and no permanent shut-off valve is required.

Auxiliary shut-off is effected by means of a shut-off blade of stainless steel. After pulling the shut-off blade, the seat of the shut-off blade is sealed by mounting

a sealing cover.

Push-in or screw-in Hawlingers are used in combination with the suitable universal clamp saddle and/or HAKU tapping saddle or HA-WELD® electrofusion saddle.

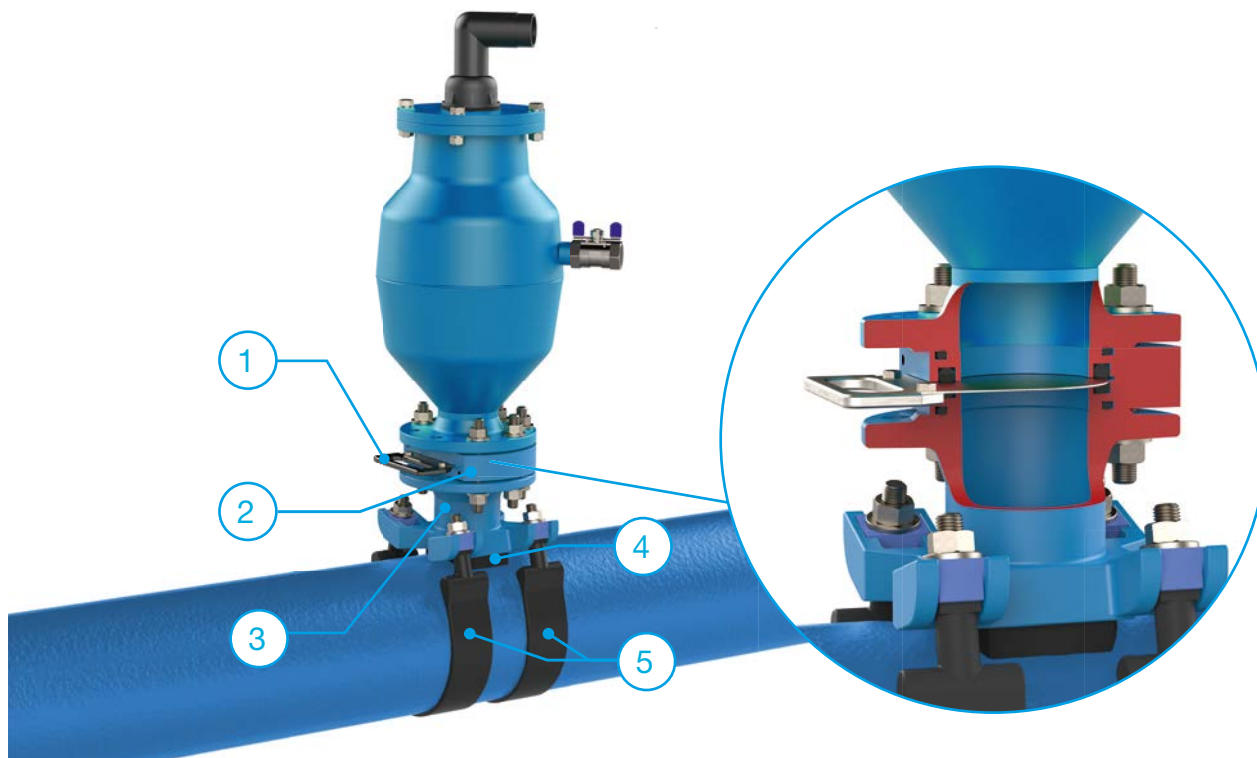
Angled service valves with ZAK® spigot ends, for example, are used with a universal clamp saddle with auxiliary shut-off facility 371-00 or with a HAKU tapping saddle with ZAK® outlet and auxiliary shut-off facility 522-00.

## Technical Data

Medium:	Potable water, gas (depending on the version)
Max. operating pressure:	Potable water: 16 bar, gas: 1 bar respectively 5 bar (depending on the version)
Body:	GJS-400, Hawle epoxy powder-coating
Outlet types:	ZAK®, female thread, flange

### Application example:

Double strap pipe drilling saddle with flanged outlet 359-01, auxiliary shut-off device via intermediate flange 373-00, shut-off blade (saddle blade) 840-00 and air valve for sewage water and potable water 986-00





No.	Component
1.	Shut-off blade (saddle blade)
2.	Auxiliary shut-off device

3.	Double strap pipe drilling saddle
4.	Saddle gasket
5.	Hawle straps

# Clamp Saddles for DCI, Steel, and AC Pipes

## Versions with Flange, BAIO<sup>®</sup>, and Thread





No.	Description	Max. Operating Pressure		Details
				
351-00	Universal pipe drilling saddle with flanged outlet	16 bar	5 bar	Pipe: DN 65 - 500 Outlet: Flange DN 40, 50
359-00	Double strap pipe drilling saddle with BAIO <sup>®</sup> socket	16 bar	5 bar	Pipe: DN 150 - 500 Outlet: BAIO <sup>®</sup> socket DN 80
359-01	Double strap pipe drilling saddle with flanged outlet	16 bar	5 bar	Pipe: DN 150 - 500 Outlet: Flange DN 80, 100
359-02	Double strap pipe saddle	16 bar	5 bar	Pipe: DN 150 - 500 Outlet: F 2 1/2", 3", M 3"
363-00	Double strap pipe saddle with flange and auxiliary shut-off device	16 bar	-	Pipe: DN 150 - 500 Outlet: Flange DN 80
373-00	Auxiliary shut-off device via intermediate flange	16 bar	-	Flange DN 50, 65, 80, 100, 150

# Clamp Saddles / Shut-off Adaptors

## Versions with ZAK® and Thread



No.	Description	Max. Operating Pressure		Details
				
352-00	Universal pipe drilling saddle with ZAK® socket	16 bar	5 bar	Pipe: DN 65 - 500 Outlet: ZAK 46, 69*
352-01	Universal pipe drilling saddle with female thread outlet	16 bar	5 bar	Pipe: DN 65 - 500 Outlet: IG 1" - 2"
371-00	Universal pipe saddle with integrated shut-off function	16 bar	5 bar	Pipe: DN 65 - 500 Outlet: ZAK 46
371-01	Universal pipe saddle with female thread and integrated shut-off function	16 bar	5 bar	Pipe: DN 65 - 500 Outlet: IG 1 1/4" - 2"
372-00	Shut-off adaptor with threaded outlet	16 bar	-	Lower outlet: AG 1 1/4" - 2" konisch, IG 2 1/2" Upper outlet: IG 1" - 2"
372-01	Shut-off adaptor with ZAK® outlets	16 bar	5 bar	Lower outlet: ZAK 46, 69* Upper outlet: ZAK 46, 69*

\* ZAK 69 not for gas

# Tapping Saddles for PE and PVC Pipes

## Versions with ZAK®, Thread and Flange



No.	Description	Max. Operating Pressure		Details
521-00	HAKU pipe saddle with female thread outlet and auxiliary shut-off facility	16 bar	-	Pipe: d 63, 75, 90, 110, 160 mm Outlet: 1" - 2"
522-00	HAKU pipe saddle with ZAK® outlet and auxiliary shut-off device	16 bar	-	Pipe: d 90, 110, 140, 160, 225 mm Outlet: ZAK 34, 46
523-00	HAKU pipe drilling saddle with flanged outlet	16 bar	-	Pipe: d 110, 125, 140, 160, 180, 200, 225, 250, 280, 315, 355, 450, 500, 630 mm Flange: DN 80, 100, 150
525-00	HAKU pipe drilling saddle with female thread outlet	16 bar	1 bar (nur PVC)	Pipe: d 40, 50, 63, 75, 90, 125, 140, 160, 180, 200, 225, 250, 280, 315 mm, Outlet: IG 1" - 2"
525-01	HAKU pipe saddle with ZAK® outlet	16 bar	1 bar (nur PVC)	Pipe: d 63, 75, 90, 110, 125, 140, 160, 180, 225 mm Outlet: ZAK 46, 69*
525-02	Strap-type HAKU pipe saddle with female thread outlet	16 bar	-	Pipe: d 250, 280, 315, 355, 400, 450, 500 mm Outlet: IG 1" - 2"

\* ZAK 69 not for gas

# Screw-in / Push-in Hawlinger ZAK® / Thread Angled Service Valve with ZAK®



## Max. Operating Pressure

No.	Description	Max. Operating Pressure		Details
226-00	Hawlinger with upper vertical ZAK® socket and lower tapered MTHR or lower ZAK® spigot end	16 bar	5 bar	Lower outlet: M 1 1/4", 2" conical or ZAK 46 Upper outlet: ZAK 34, 46
227-00	Hawlinger with upper horizontal ZAK® socket in pipe direction and lower tapered MTHR or lower ZAK® spigot end	16 bar	5 bar	Lower outlet: M 1 1/4" - 2" conical or ZAK 46 Upper outlet: ZAK 34, 46
228-00	Hawlinger with horizontal ZAK® socket 90° to pipe direction and with lower tapered MTHR	16 bar	5 bar	Lower outlet: M 1 1/4" - 2" conical Upper outlet: ZAK 34, 46
312-00	Angled service valve with ZAK® spigot end and push-fit socket	16 bar	-	Lower outlet: ZAK 34, 46 Upper outlet: d 25, 32, 40, 50 mm
312-01	Angled service valve slewable with ZAK® spigot end and ZAK® socket	16 bar	-	Lower outlet: ZAK 46 Upper outlet: ZAK 46
312-02	Angled service valve with ZAK® spigot end and ZAK® socket	16 bar	-	Lower outlet: ZAK 46 Upper outlet: ZAK 46

# Screw-in Hawlinger

## Versions with Thread



### Max. Operating Pressure

No.	Description	Max. Operating Pressure		Details
220-00	Hawlinger with upper vertical FTTH outlet and lower tapered MTHR	16 bar	5 bar	Lower outlet: M 1 1/4" - 2" conical Upper outlet: F 1" - 1 1/2"
220-01	Hawlinger with upper vertical FTTH outlet and slewable lower tapered MTHR	16 bar	-	Lower outlet: M 1 1/2", 2" conical Upper outlet: F 1 1/4", 1 1/2"
221-00	Hawlinger with horizontal FTTH outlet in pipe direction and with lower tapered MTHR	16 bar	5 bar	Lower outlet: M 1 1/4" - 2" conical Upper outlet: F 1" - 1 1/2"
221-01	Hawlinger with upper horizontal FTTH outlet in pipe direction and with slewable lower tapered MTHR	16 bar	-	Lower outlet: M 2" conical Upper outlet: F 1 1/2"
222-00	Hawlinger with horizontal FTTH outlet 90° to pipe direction and with lower tapered MTHR	16 bar	5 bar	Lower outlet: M 1 1/4" - 2" conical Upper outlet: F 1" - 1 1/2"
222-01	Hawlinger with upper horizontal FTTH outlet with slewable lower tapered MTHR	16 bar	-	Lower outlet: M 1 1/4" - 2" conical Upper outlet: F 1 1/4", 1 1/2"

# Pipe Drilling Saddles for Bladder Setting Devices in Gas Supply



To shut off a gas pipe temporarily, shut-off bladders are used which can be installed in the gas pipe through a special pipe drilling saddle by means of a bladder setting device.

Such pipe drilling saddles are available with different thread contours at the upper outlet. The respective special model is to be selected according to the bladder setting device. Universal clamp saddles for bladder setting devices with female and male threads acc. to DIN EN ISO 228-1 are used for installation on DCI and

steel pipes DN 65 - DN 500. Adaptation to the pipe is effected by means of a holding strap and special saddle gasket for gas of the appropriate nominal width.

HAKU tapping saddles for bladder setting devices with female and male threads acc. to DIN EN ISO 228-1 are to be used for installation on PVC pipes acc. to DIN 8062. When connecting the saddle halves, an inadmissible deformation of the pipe is prevented by metal stops.



No.	Description	Max. Operating Pressure		Details
				
352-02	Universal pipe saddle for gas bladder setting device	-	5 bar	Pipe: DN 65 - 500 Outlet: F 2" / M 2 1/2" Select special model
525-04	HAKU pipe saddle with threaded outlet for gas bladder setting device	-	1 bar (nur PVC)	Pipe: d 63, 90, 110, 125, 140, 160, 225, 280 mm Outlet: F 1 1/2", 2" / M 2", 2 1/2" Select special model



# Valve saddles for DCI, Steel, and AC Pipes

Hawle valve saddles are a combination of clamp saddle and service valve. They are mounted laterally on DCI, steel, and AC pipes of nominal widths DN 65 - DN 500 using the appropriate holding straps and saddle seals.

Due to the integrated shut-off facility, the valve saddle allows an easy and quick drilling of the pipe by means of a drilling device, even with the pipe in service.

## Technical Features

- Valve and saddle in one saves one connection
- No loss of pipe cover depth due to lateral drilling

## Technical Data

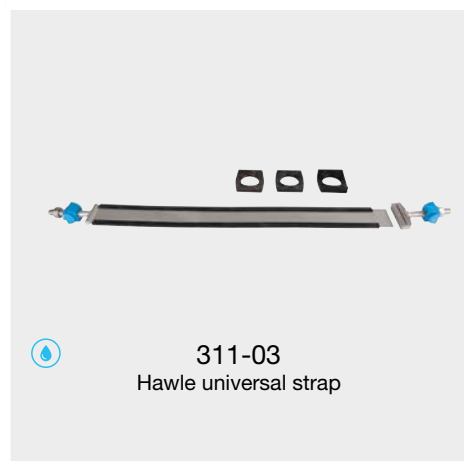
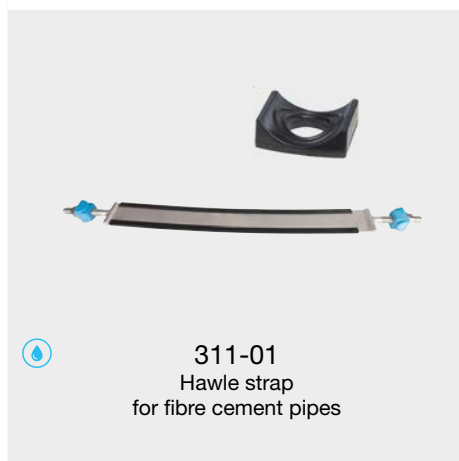
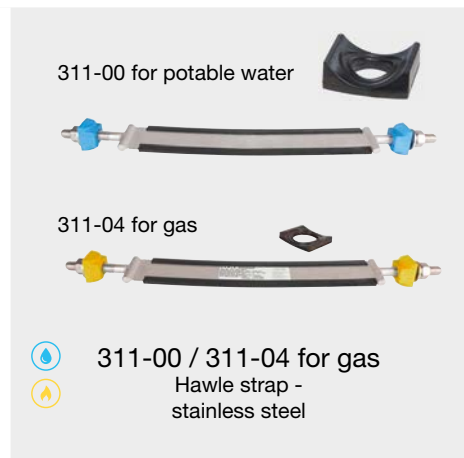
Medium:	Potable water, gas
Max. operating pressure:	Potable water: 16 bar, gas: 5 bar (type must be checked)
Outlet types:	ZAK® socket, female thread F, male thread M
Material:	Body: GJS-400 Corrosion protection: Hawle epoxy powder coating Wedge/ gasket: GJS-400, EPDM acc. to DVGW W 270 for potable water and/or NBR for gas





No.	Description	Max. Operating Pressure		Details
270-00	Valve saddle with female thread outlet	16 bar	5 bar	Pipe: DN 65 - 500 Outlet: F 1" - 2"
270-01	Valve saddle with ZAK® outlet	16 bar	5 bar	Pipe: DN 65 - 500 Outlet: ZAK 46
271-00	Valve saddle with restraint push-fit fitting and male thread outlet	16 bar	-	Pipe: DN 65 - 500 Fitting: d 32, 40, 50, 63, 75 mm Outlet: M 1 1/2" - 3 1/2"

# Accessories / Straps

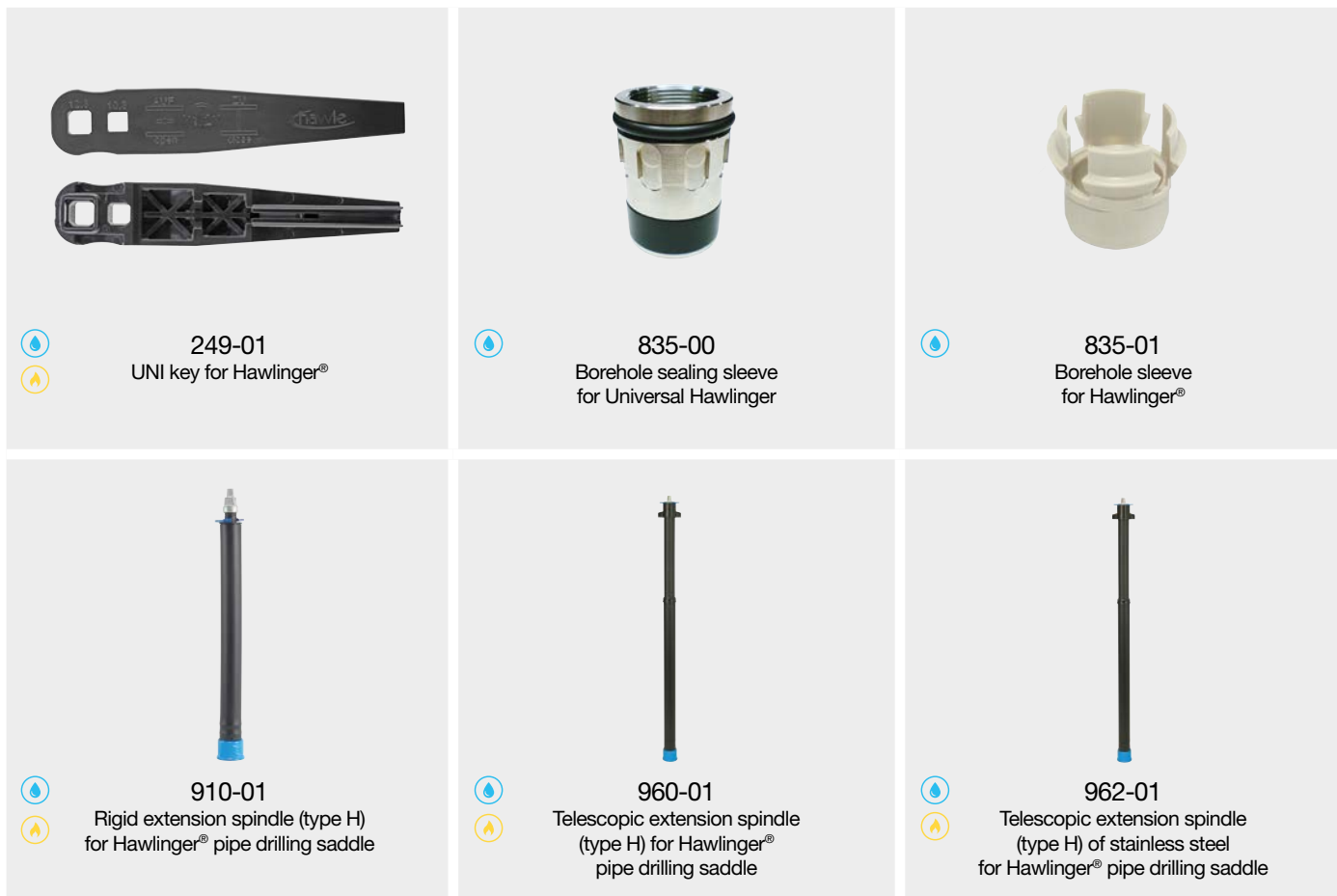
## for DCI, Steel, Fibre Cement, and AC Pipes





### Max. Operating Pressure

No.	Description	Max. Operating Pressure		Details
				
309-00	Stainless steel strap - adjustable	-	-	d 75 - 560 mm
310-00 / 310-01	Hawle strap - fully vulcanized 310-01 for gas	-	-	d 87 - 470 mm
311-00 / 311-04	Hawle strap - stainless steel 311-04 for gas	-	-	d 75 - 582 mm
311-01	Hawle strap for fibre cement pipes	-	-	d 90 - 248 mm
311-02	Hawle strap for AC pipes, width 90 mm	-	-	d 97 - 494 mm
311-03	Hawle universal strap	-	-	d 108 - 610 mm

# Accessories / Extension Spindles





## Max. Operating Pressure

No.	Description			Details
249-01	UNI key for Hawlinger®	-	-	-
835-00	Borehole sealing sleeve for Universal Hawlinger	16 bar	-	-
835-01	Borehole sleeve for Hawlinger®	16 bar	-	-
910-01	Rigid extension spindle (type H) for Hawlinger® pipe drilling saddle	-	-	Pipe cover 0,80 - 3,00 m
960-01	Telescopic extension spindle (type H) for Hawlinger® pipe drilling saddle	-	-	Pipe cover 0,60 - 3,10 m Special lengths on request
962-01	Telescopic extension spindle (type H) of stainless steel for Hawlinger® pipe drilling saddle	-	-	Pipe cover 0,70 - 2,50 m Special lengths on request



# Accessories / Extension Spindles



No.	Description	Max. Operating Pressure		Details
				
960-00	Telescopic extension spindle (type S) for service valve and valve saddle	-	-	Pipe cover 0,70 - 2,50 m Special lengths on request
962-00	Telescopic extension spindle (type S) of stainless steel for service valves and valve saddles	-	-	Pipe cover 0,70 - 2,50 m Special lengths on request
910-00	Rigid extension spindle (type S) for service valve and valve saddle	-	-	Pipe cover 0,80 - 2,50 m
962-02	Extension of extension spindle for service valves and Hawlingers®	-	-	Length 1500 mm
962-03	Extension of extension spindle for telescopic extension spindle service valves and Hawlingers®	-	-	Length 150 / 250 / 350 / 550 mm
901-00	Indicator plates for extension spindles Hawlinger: half a turn	-	-	Extension spindles for Hawle service valves 910-01 or 960-01, 962-01

# Accessories / Surface Boxes



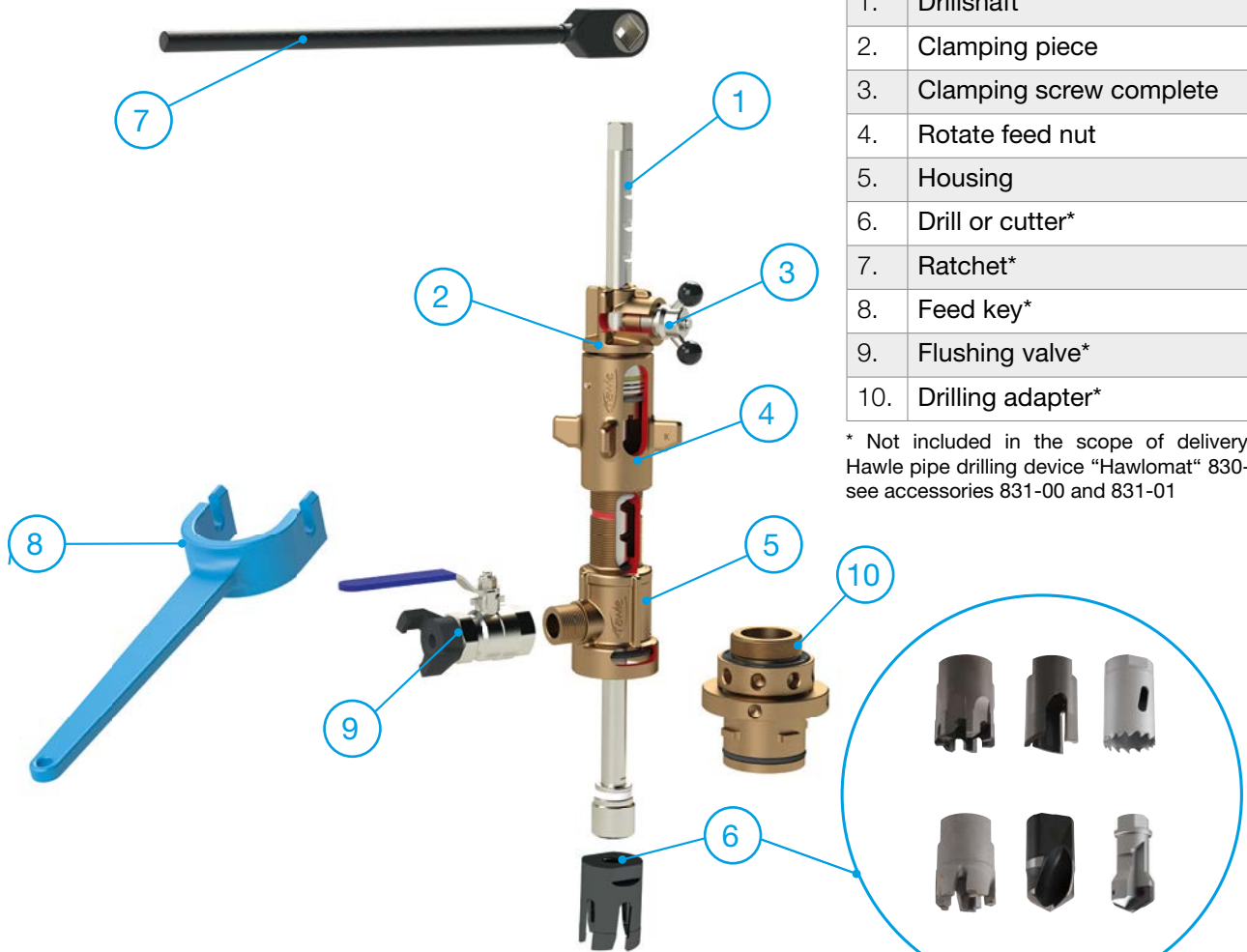
No.	Description	Max. Operating Pressure		Details
				
180-00	Surface box for valves rigid version	-	-	Use universal base plate 204-00
180-01	Valve cap rigid version, with locking bolt	-	-	Use universal base plate 204-00
180-02	Surface box for valves height adjustable, with locking bolt	-	-	Use universal base plate 204-00
187-01	Surface box for valves with cover, for rolling in	-	-	Use universal base plate 204-00
187-02	Heavy-duty surface box for valves	-	-	Use universal base plate 204-00
373-01	Mounting tool for shut-off blade for auxiliary shut-off device via intermediate flange	-	-	For flange DN 100, 150

# Hawle Pipe Drilling Device "Hawlomat"

The Hawle pipe drilling device "Hawlomat" is used for drilling potable water pipelines of DCI, steel, AC, PE, and PVC.

Drilling through a Hawle freeflow underground hydrant is possible, too, by using an extra-long drill spindle and a claw adaptor.

In combination with Hawle pipe drilling saddles, bore-holes of 1" - 2" can be drilled with the pipe in service.



No.	Component
1.	Drillshaft
2.	Clamping piece
3.	Clamping screw complete
4.	Rotate feed nut
5.	Housing
6.	Drill or cutter*
7.	Ratchet*
8.	Feed key*
9.	Flushing valve*
10.	Drilling adapter*

\* Not included in the scope of delivery of Hawle pipe drilling device "Hawlomat" 830-00, see accessories 831-00 and 831-01

Max. Operating Pressure



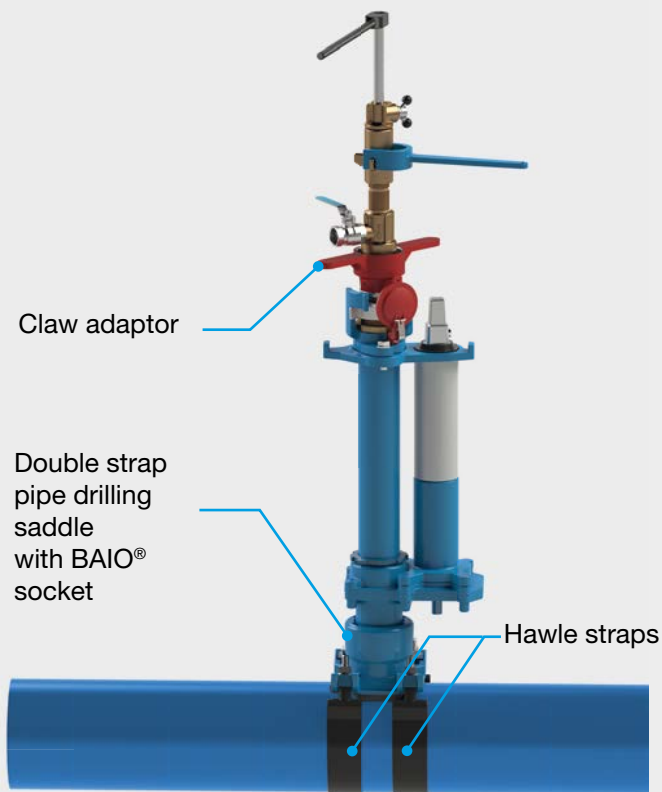
No.	Description	Max. Operating Pressure	Details
830-00	Pipe drilling device „Hawlomat“	16 bar	-
831-00	Accessories for drilling device „Hawlomat“	-	Accessories see <a href="http://www.hawle.de/831-00">www.hawle.de/831-00</a>
831-01	Drilling accessories for drilling device „Hawlomat“	-	Accessories see <a href="http://www.hawle.de/831-01">www.hawle.de/831-01</a>

# “Hawloamat” Application Examples

## Application Examples in the Field of Potable Water



Drilling a supply pipe of PE through a HAKU Hawlinger with ZAK® socket



Drilling a DCI pipe through a Hawle freeflow underground hydrant under operating pressure

### Note:

The pipe drilling device „Hawloamat“ is also available as a rental drilling device on request.

Please observe the operating and maintenance instructions of the specified pipe drilling saddles listed at [www.hawle.de](http://www.hawle.de)

If you have any questions, please contact:  
Hawle Application Technology  
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[info@hawle.de](mailto:info@hawle.de)



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