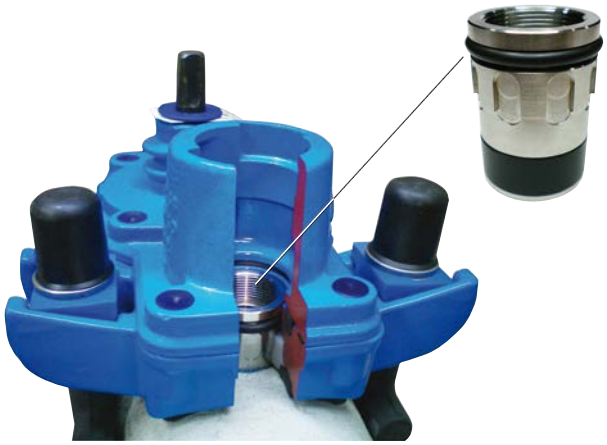
Operating and maintenance instructions for

Borehole sealing sleeve for Universal Hawlinger Ord.No. 835-00

1. Intended use / Product description



Medium: Potable water

Max. operating pressure: 16 bar

Material: Sleeve: stainless steel
Gaskets: EPDM according to DVGW W 270 for water

Borehole sealing sleeves for Universal Hawlingers are used for drilling of cement-coated pipes. The time-consuming removal of the cement coating in the area of drilling as well as re-insulating is no longer necessary.

The borehole sealing sleeve is designed in two parts, with the inner sleeve with the sealing element in the borehole sealing the hole against the DCI pipe wall, and the outer sleeve with the O-ring sealing against the valve.
On screwing the inner sleeve with the outer sleeve the sealing element is crimped and radially expanded in the bore.

After insertion of the sleeve, the pigging of the main line is possible only to a limited extent (slight internal projection). Borehole sealing sleeves can be used only with Universal Hawlingers with FTHR 1 1/2“ or ZAK 46.

Attention: no special saddle seal (no thicker seal) is required.

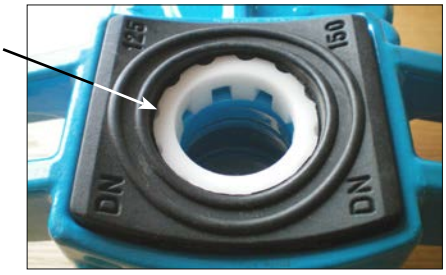
Accessories:
Spiral drill HM Ø36 mm Order No. 831 106 3600 or
Hole miller HM Ø36 mm Order No. 831 104 3600 (depending on pipe type)
Drill shaft adapter with hexagon head Order No. 835 200 0040 for twist drill HM / hole miller HM (optional)
Drill shaft Order No. 835 011 0005
Adapter drilling machine ZAK 46 Order No. 835 021 0046 or
Adapter drilling machine external male thread 1 ½“ Order No. 831 000 6351 (depending on outlet variant of the universal Hawlinger)

When laying, installing the pipes and during maintenance, it is necessary to refer to and comply with applicable standards and regulations, accident prevention regulations and regulations from trade associations.
Installation, assembly and maintenance should only be carried out by qualified personnel.

2. Montage/Demontage

	Torque spanner Adapter for torque spanner Order No. 835 200 0002 Handwheel Order No. 845 000 0024

2.1. Assembly Hawlinger



- Insert plastic centring ring between the Hawlinger lower part and saddle seal.
- Mount Hawlinger on the main pipe (without removing the outer casing).
- Tighten the Hawle strap evenly and firmly (60 – 70 Nm/ max. tightening torque 100 Nm). This clamps the centring ring to prevent it from twisting.

2.2 Drilling procedure

- Perform the drilling procedure in the usual manner with Hawle drilling machine Order No. 830-00 (see assembly instruction for Hawle drilling machine). The hole shall have a diameter of 36,0 + 0,5 mm.

Caution: Drill shaft Order No. 835 011 0005 is delivered with mounted safety sleeve. The sleeve serves as an anti-rotation device for the set adapter. To unlock the sleeve, actuate the plastic ring at the oval point.)

- Drilling and mounting must be carried out under water pressure.
  From a pressure of 10 bar, increased mounting force is to be expected.
- When using the drill shaft adapter Order No. 835 200 0040, screw it onto the boring bar before carrying out the boring process and lock it positively with the locking sleeve.
  (See point 2.3 for the same procedure as for the set adapter)
- After pulling back the spiral drill, close the washer disc on the Hawlinger and remove the drilling machine.
- Unscrew the twist drill bit from the drill shaft and replace it with the set adapter Order no. 835 200 0050.
- Screw on the set adapter until it is approx. ¼ turn away from the stop, aligning the outer hexagonal surfaces of the drill shaft and adapter parallel to each other.
- Unlock the locking sleeve. Actuate the plastic ring at the oval point and secure it against twisting by pushing it onto the hexagon of the setting adapter.

Caution: Marking on the sleeve and on the hexagon of the drill shaft determine the alignment of the sleeve.

- After the sleeve has been positioned, the plastic ring of the locking sleeve engages in the recess on the drill shaft and thus fixes the sleeve.
- Push the drilled hole sealing sleeve onto the set adapter in the bolted state (as supplied). Let the driving pins snap into the recesses of the inner sleeve.
- Screw on the outer sleeve as far as it will go by turning it counter-clockwise (the inner sleeve will turn out approx. 3 mm). Lightly moisten the O-ring with mounting grease. Keep the lower crimp seal free of grease.

- Pull the drill shaft back as far as it will go and mount the drilling machine on Hawlinger with the flushing tap open. Place the blue handwheel (Order no. 849 000 0024) on the square of the drill shaft and open the washer disc on the Hawlinger. After another short rinse, close the flushing tap

Caution: If the drill shaft is not completely retracted, it can suddenly extend due to the internal pressure.

- For mounting the drill hole sealing sleeve, push the drill shaft with the flushing connection closed with manual force up to the lower stop. By slightly turning counter-clockwise, while retaining the axial force application, allow the teeth of the centring ring to engage in the recesses of the drilled hole sealing sleeve (clearly noticeable jerk downwards). Fix the drill shaft with the clamping screw in this position.

- Pre-tension the bore hole sealing sleeve by turning the handwheel clockwise with manual force approx. 4 turns. Remove the handwheel, put the adapter for torque spanner Order No. 835 200 0002 on and tighten finally with the torque spanner (max. tightening torque 50 Nm). Open clamping screw, unlock drill shaft counter-clockwise and pull back to upper stop.

Caution: Hold the drill shaft from above when opening the clamping screw, as it can suddenly extend due to the internal pressure.

- Close Hawlinger, open flushing tap to relieve pressure and remove drilling machine.

- Perform pressure testing.

2.3. Dismantling

- Pull the drill shaft back as far as it will go and mount the drilling machine on Hawlinger. Place the blue handwheel on the square of the drill shaft and open the washer disc on the Hawlinger.

Caution: If the drill shaft is not completely retracted, it can suddenly extend due to the internal pressure.

- For removing the drill hole sealing sleeve, push the drill shaft with the flushing connection closed with manual force up to the lower stop.
- By turning counter-clockwise, while retaining the axial force application, allow the driving pins of the set adapter to engage in the recesses of the inner sleeve.
- Fix the drill shaft with the clamping screw in this position (the clamping screw doesn´t need to engage in the recesses of the drill shaft).
- Relax the drill hole sealing sleeve by turning the ratchet counter-clockwise with manual force by approx. 3 turns. Remove the ratchet and relax further with the handwheel until it stops.
- Then turn the handwheel back max. ¼ clockwise (makes it easier to unscrew the drill hole sealing sleeve from the set adapter later on). Pull back the drill shaft and close the washer disc on the Hawlinger.

- Open the flushing tap to relieve pressure and remove the drilling machine.

- Unlock the outer sleeve by turning it clockwise and remove it from the set adapter.

3. Service and maintenance

The bore hole sealing sleeve is maintenance free.

4. Comissioning and pressure testing

After successful installation, a pressure test must be carried out in an open pipe trench, observing the maximum operation pressures in accordance with DVGW regulation.
Following the pressure testing, a functional check must be carried out.

Should you have questions or need further information, please contact:

Hawle Armaturen GmbH
- Applications Engineering -
Liegnitzer Str. 6, 83395 Freilassing
Telephone: +49 8654 6303-0
Telefax: +49 8654 6303-222
E-mail: info@hawle.de
Internet: www.hawle.de