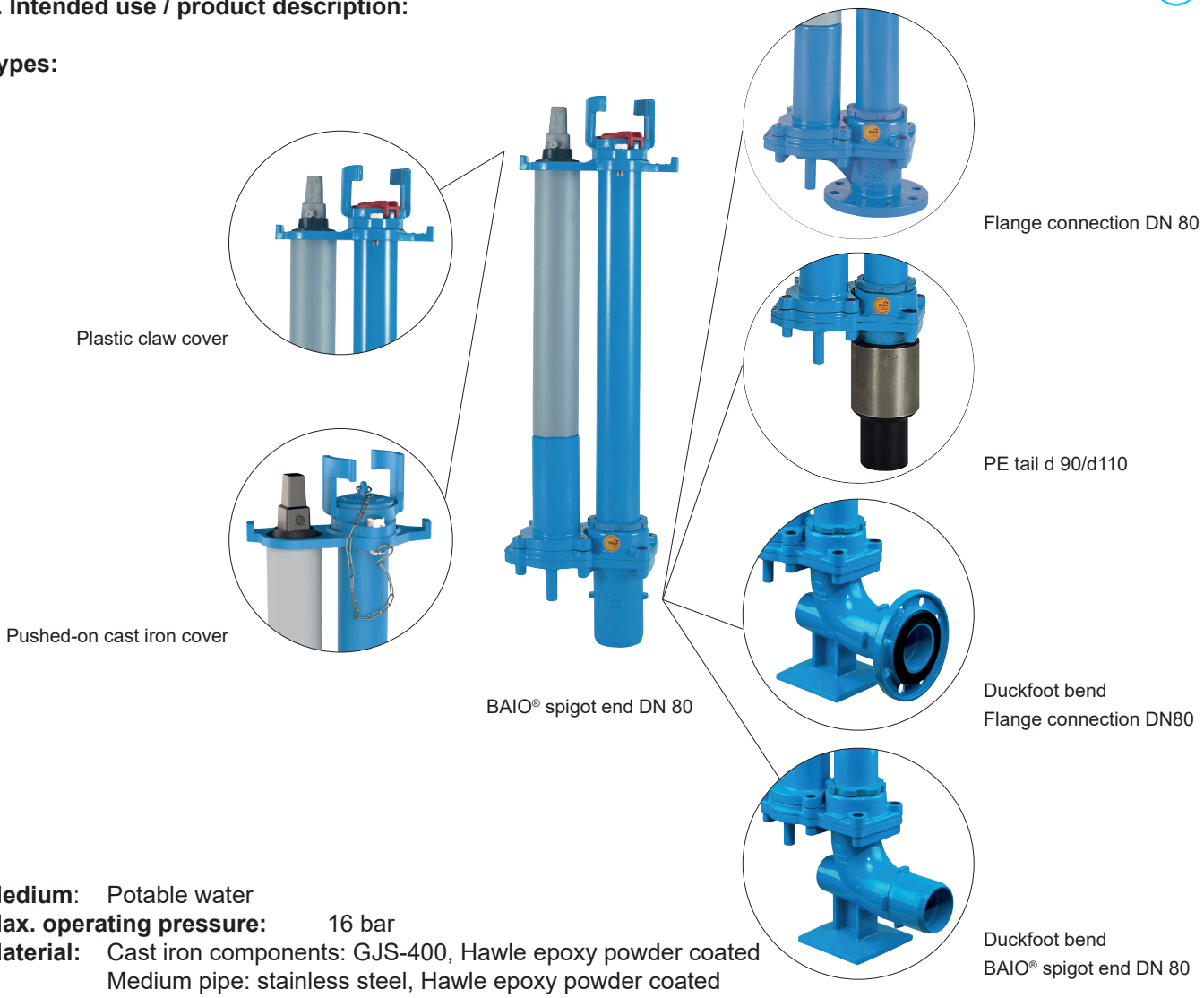
Operating and Maintenance Instructions for

Freeflow Underground Hydrant for Potable Water
Ord No. 490-00, 490-01

1. Intended use / product description:

Types:



Medium: Potable water
Max. operating pressure: 16 bar
Material: Cast iron components: GJS-400, Hawle epoxy powder coated
Medium pipe: stainless steel, Hawle epoxy powder coated
Spindle/shut-off blade/shut-off blade driving mechanism: stainless steel
Protection jacket: PP (polypropylene)
Gaskets: EPDM acc. to DVGW W 270
Metal materials in contact with potable water according to the positive list of the German Federal Environmental Agency (UBA)*

Accessories: (see respective separate operating instructions)
- Drainage element for underground hydrant, Ord. No. 490-03 (only for 490-00)
- Seepage hose for underground hydrant, Ord. No. 490-04
- Dirt cover and locking ring, Ord. No. 490-05 (mandatory for hydrants with spigot ends)
- Shortening set for underground hydrants, Ord. No. 490-06
- Extension set for underground hydrants, Ord. No. 490-07
- Predetermined breaking point for underground hydrants, Ord. No. 490-08
- Twist lock device for BAIO® spigot end - socket connections, Ord. No. 529-05

Hawle freeflow underground hydrants acc. to EN 14339, DIN EN 1074 and DVGW W386
Claw coupling for standpipes acc. to DIN 14375-1

Due to the separation of operating and medium pipe, all Hawle freeflow underground hydrants® feature considerably better hydraulic conditions than hydrants with conventional shut-off via valve plug.
Shut-off is effected via a shut-off blade of stainless steel. The shut-off blade is moved horizontally at low wear against fixed metal stops in a housing via an eccentric mechanism and gear. The minimum cross section is 70 mm.

During installation, assembly, and maintenance, the applicable standards and regulations, accident prevention regulations, as well as the trade associations' provisions shall be observed and complied with.
Installation, assembly, and maintenance may be performed by skilled personnel only.

CE-marking
(for types Baio spigot end, flange, PE tail)

- Cast parts: GJS-400 (GGG-40), high-quality corrosion protection by Hawle epoxy powder coating inside and outside acc. to DIN 3476 (P) and DIN 30677- 2, colour similar to RAL 5012 (coating thickness >250 µm, zero-porosity at 3000V, adhesion inside and outside >12 N/mm² after expo sure to hot water)

- Drainage acc. to EN 1074-6

- Corrosion-resistant to disinfectants permitted in the field of potable water

1085	
Hawle Armaturen GmbH, 83395 Freilassing 07 1085 - CPR -0025	
EN 14339 Freeflow underground hydrant Square of spindle acc. to W386	
PN	16
Number of revolutions for opening (total and ineffective)	15 and 4
Closing direction	Clockwise
MOT and mST	105 and 210
Kv (m^3/h)	153
Inlet	Flange EN 1092 - 2, BAIO®-spigot end, PE-end
Outlets	Claw coupling acc. to W386

2. Installation

2.1 General

Put the freeflow underground hydrant onto the pipeline using the respective connection (B-fitting, all socket tee) or, in case of lateral installation, put it on the duckfoot bend (EN-fitting, MMN-fitting).

By means of a pipe drilling saddle (pipelines DN 150 to DN 500), underground hydrants can be installed later and drilled while under pressure.

Moreover, when installing and operating underground hydrants, the DVGW sheets W331 and W405, as well as DIN EN 1717 shall be observed.

IMPORTANT: The hydrant is provided with a drain-off function. When used in areas with high groundwater levels (at the level of the drain-off fitting or higher) measures must be taken to prevent the ingress of dirt (e.g. forced drainage).

BAIO® connection:
When installing the underground hydrant in the pipeline, the BAIO® installation instructions shall be observed.

In a Hawle freeflow underground hydrant with a vertical BAIO® spigot end Ord.No. 490-00 a dirt cover and locking ring Ord.No. 490-05 has to be used between the hydrant spigot end and the BAIO® socket. In addition to preventing unintentional turning, the dirt cover and locking ring is also a protection against dirt.
In a Hawle freeflow underground hydrant with a horizontal BAIO® spigot end Ord.No. 490-01 (duckfoot bend) a twist lock device Ord.No. 529-05 has to be used between the hydrant spigot end and the BAIO® socket to prevent subsequent unlocking of the components.

Securing the BAIO® fittings in the unfilled utility trench
As long as the utility trench is not filled, all BAIO® fittings installed in horizontal and vertical position shall be properly secured against unlocking (tilting, rotating, etc.). See BAIO installation instructions.

Flange connection:
When installing the underground hydrant in the pipeline, the respective DVGW provisions for establishing a flange connection shall be observed.

PE tail / welded connection:
When installing the underground hydrant in the pipeline, the respective DVGW provisions for establishing a welded connection shall be observed.

Duckfoot bend:
In the trench, a foundation must be established for the Hawle underground hydrant with cast-on duckfoot bend. Subsequently, the underground hydrant must be lowered to the foundation, aligned vertically, and supported against unintentional turning.

2.2 Seeping water drain packing

In the area of the drainage mechanism, a seeping water drain packing consisting of seepable material (grain size > 5 mm) should be installed which absorbs the residual water accumulating during closing and subsequently prevents the hydrant from being undermined by water.
We recommend installing a drainage element Ord. No. 490-03 or alternatively a seepage hose Ord. No. 490-04 in connection with seepable backfilling.

2.3 Drainage element Ord. No. 490-03

The drainage element for Hawle hydrants serves the purpose of receiving and slowly draining off the residual water accumulating during closing. Additionally, a possible penetration of roots is prevented.

Use in:
- Normal soils
- Installation situations where no mud is expected to be washed into the body (no groundwater).

Important: The drainage element Ord. No. 490-03 is not suitable for the duckfoot bend type.

See operating instructions for drainage element Ord. No. 490-03.

2.4 Seepage hose Ord. No. 490-04

The seepage hose for Hawle underground hydrants serves the purpose of receiving and slowly draining off the residual water accumulating during closing. Additionally, a possible penetration of roots is prevented.
The seepage hose consists of a flexible drainage pipe d 50 mm wrapped in filter fleece. Via the big surface area, the residual water is released evenly.
The filter fleece largely prevents the penetration of fine soil material into the interior of the underground hydrant via the seepage hose.

Use for:
- Fine-textured soils
- Installation situations where mud is expected to be washed into the body (groundwater).

See operating instructions for seepage hose Ord. No. 490-04.

3. Servicing and maintenance

Hawle underground hydrants do not require any maintenance. Inspection acc. to DVGW sheet W400-3.
At regular intervals, visual and functional checks as well as the resultant maintenance work shall be carried out and documented.

To avoid any soiling of the hydrant's interior, the claw cover must be closed properly. Dirt accumulating inside the surface box, at the claw, and at the hydrant head shall be removed.

4. Commissioning and pressure-testing

After the successful installation, the hydrant has to be subjected to pressure testing in the open trench considering the maximum operating pressures as specified in the DVGW regulations.
After the leakage test, a function check has to be performed.

* Brass/red brass components > 0.1% lead acc. to regulation (EU) No. 1907/2006 (REACH Regulation)

If you have any other questions or if you need more information, please contact:

Hawle Armaturen GmbH
- Application Engineering -
Liegnitzer Str. 6
83395 Freilassing
Telephone: +49 (0)8654 6303-0
Telefax: +49 (0)8654 6303-222
E-Mail: info@hawle.de
Internet: www.hawle.de