

ZAK®-System  
ZAK 69 outlet

## About this brochure

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



sewage water products



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/)



You can receive the latest information via our free newsletter. You can find the registration at [www.hawle.de/newsletter](http://www.hawle.de/newsletter)

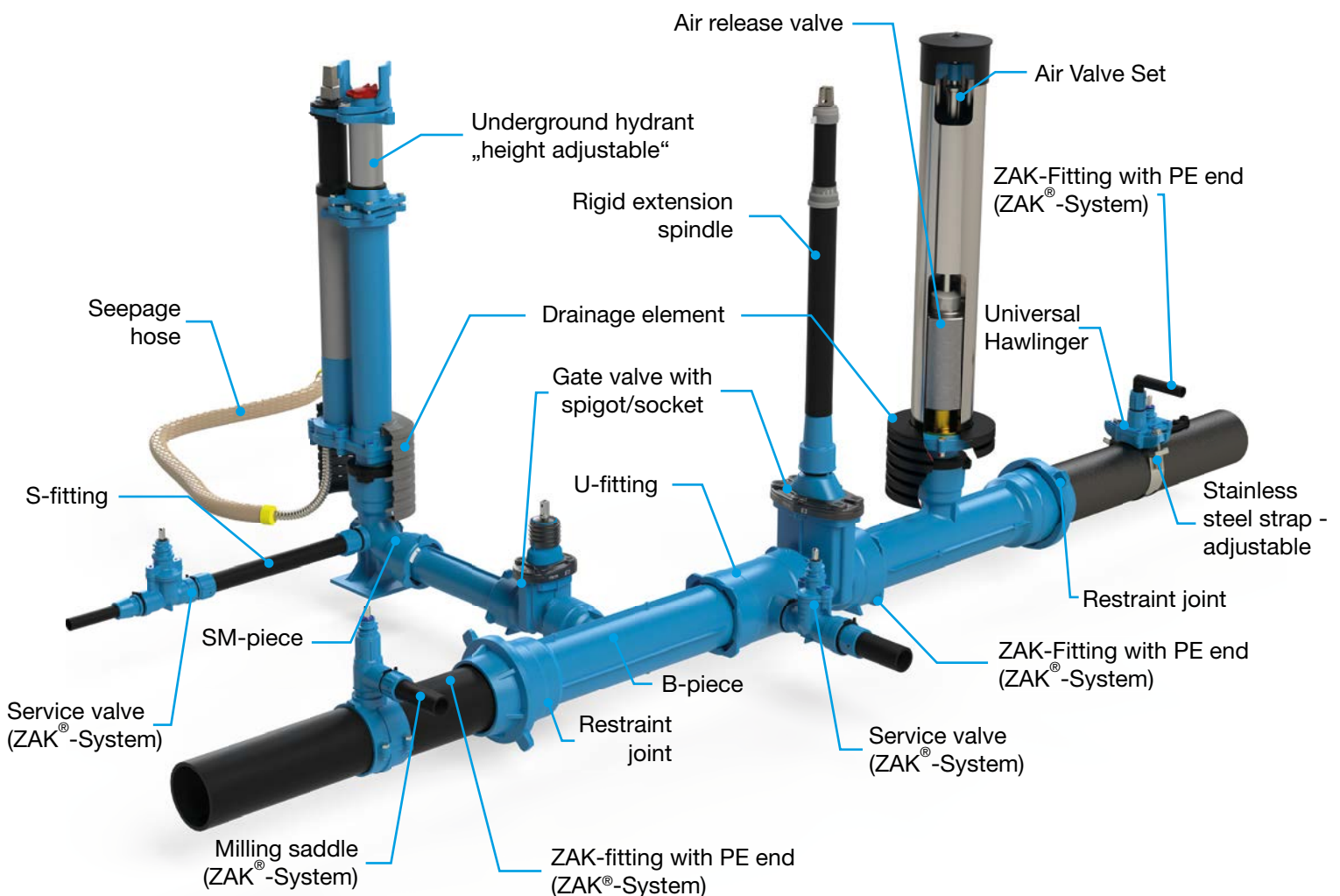
# Significant Advantages of Threadless Connection Technology

For decades flangeless connections have been used for joining pipes and fittings in the construction of underground supply lines as this connection technology offers technical and economic advantages compared to conventional flange and welded connections. In the past, threaded connections were used in the construction of domestic supply lines. With this type of connection, contact corrosion frequently occurred on the bare transition areas, permanently damaging the connection or sealing through incrustation.

For this reason, we developed the Hawle BAIO® system at the beginning of the 1980s with the aim of providing the customer with a simple and stressless installation of pipeline parts and fittings, while at the same time guaranteeing a long service life of the system through integrated corrosion protection.

This idea evolved into the Hawle ZAK® system for the service connection sector in order to develop a long life for the service connection system. Both connection technologies have now become established and are state of the art.

These generally accepted advantages can be transferred without restriction to the connection between pipelines and valves, as well as between the valves themselves. In addition to the technical advantages of this threadless connection system, the economic efficiency of the sleeve technology should also be mentioned. The compact design of the Hawle BAIO® system results in savings in storage and transport as well as in installation due to considerably shorter assembly times compared to conventional flange and welded joints.



# Technical Features of the ZAK<sup>®</sup>-System

## ZAK<sup>®</sup>-System threadless connection

### Locking and Sealing

When installing, only the ZAK<sup>®</sup> spigot end is inserted into the ZAK<sup>®</sup> socket fitting, locked by turning 90° clockwise and fully retracted. In order to lock the ZAK<sup>®</sup> spigot end in the ZAK<sup>®</sup> socket fitting, the connection must then be secured against unintentional disconnection by means of an anti-twist device.

The bayonet connection, consisting of a corrosion-resistant socket fitting with an internal bayonet locking mechanism and a corrosion-resistant spigot end with locking lugs and double O-ring sealing, guarantees that the connection is reliably sealed.



## Technical features

- Medium: drinking water, sewage water and gas
- Nominal diameters:
  - ZAK 34 corresponds to a dimension of 1"
  - ZAK 46 corresponds to a dimension of 1 1/2"
  - ZAK 69 corresponds to a dimension of 2" (ZAK 69 is not suitable for gas)
- Maximum operating pressure: drinking water 16 bar, sewage water 16 bar (gas upon request)
- Simple and fast installation
- Threadless connection technology
- Reduced tension through flexible connection
- Safe double O-ring sealing of the connection
- Long service life through integral corrosion protection
- No tools required for installation

## Drilling in the ZAK<sup>®</sup>-System

The Hawle pipe drilling fitting allows the pipeline to be tapped under-pressure up to a maximum operating pressure of 16 bar.

The Hawle Hawlomat pipe drilling device (please see Chapter 7) enables you to drill cast iron, steel, PVC, PE and AC pipelines using a drilling saddle, for example in the ZAK<sup>®</sup> system. Drilling can be carried out in the areas of both drinking water and sewage water. The ZAK 69 system has been specially developed for the waste water sector. It is also possible to drill a retrofitted Hawle free-flow underground hydrant by means of an extra-long drilling spindle with a claw adapter. (Please refer to Chapter 2 for more information on Hawle drilling saddles.)



Application example in the drinking water sector  
Drilling an existing PE supply line using HAKU-Hawlinger ZAK 46



Application example in the waste water sector  
Drilling a waste pipeline using a ZAK 69 service gate valve for sewage water with a HAKU pipe drilling saddle

Further information on our Hawlomat pipe drilling device or our rental drilling devices can be found in the Internet at [www.hawle.de](http://www.hawle.de).

# ZAK 69 outlet: Pipe Drilling Saddles



**243-00**  
Universal Hawlinger with vertical ZAK® socket



**352-00**  
Universal pipe drilling saddle with ZAK® socket



**372-01**  
Shut-off adaptor with ZAK® outlets





**524-00**  
HAKU pipe saddle with 45° ZAK® outlet



**525-01**  
HAKU pipe saddle with ZAK® outlet


## Operating pressure max.




No.	Description	Operating pressure max.		Dimension
				
243-00	Universal Hawlinger with vertical ZAK® socket	16 bar	-	Abgang oben: ZAK 69 Rohr: DN 65 - 500
352-00	Universal pipe drilling saddle with ZAK® socket	16 bar	16 bar	Abgang: ZAK 69 Rohr: DN 65 - 500
372-01	Shut-off adaptor with ZAK® outlets	16 bar	16 bar	Abgang: ZAK 69
524-00	HAKU pipe saddle with 45° ZAK® outlet	16 bar	16 bar	Abgang: ZAK 69 Rohr: d 63, d 75, d 90, d 110, d 140, d 160, d 225
525-01	HAKU pipe saddle with ZAK® outlet	16 bar	16 bar	Abgang: ZAK 69 Rohr: d d 90, d 110, d 140, d 160, d 225

# ZAK 69 outlet: Service Valves



 **253-00**  
Service valve with ZAK® spigot end  
and ZAK® socket





 **253-01**  
Service valve with ZAK® sockets



 **483-01**  
Service valve for sewage water  
with ZAK® spigot end and  
ZAK® socket

## Operating pressure max.

No.	Description	Operating pressure max.		Dimension
				
253-00	Service valve with ZAK® spigot end and ZAK® socket	16 bar	-	ZAK 69
253-01	Service valve with ZAK® sockets	16 bar	-	ZAK 69
483-01	Service valve for sewage water with ZAK® spigot end and ZAK® socket	-	10 bar	ZAK 69

# ZAK 69 outlet: Fittings



536-01  
Transition fitting BAIO®  
spigot end / ZAK® socket



551-00  
Adaptor with flange and  
ZAK® socket



616-00  
Push-fit fitting with ZAK®  
spigot end



618-00  
ZAK® PE fusion end



618-01  
Transition fitting with ZAK® socket  
and male thread



618-03  
ZAK® end cap

## Operating pressure max.

No.	Description	Operating pressure max.		Dimension
536-01	Transition fitting BAIO® spigot end / ZAK® socket	16 bar	16 bar	ZAK 69 DN 80
551-00	Adaptor with flange and ZAK® socket	16 bar	16 bar	ZAK 69 DN 50, 80
616-00	Push-fit fitting with ZAK® spigot end	16 bar	16 bar	ZAK 69 Pipe: d 50, d 63, d 75
618-00	ZAK®-PE fusion end	16 bar	16 bar	ZAK 69 Rohr: d 63
618-01	Transition fitting with ZAK® socket and male thread	16 bar	16 bar	ZAK 69 M: 3" cylindrical, 3" conical
618-03	ZAK® end cap	16 bar	16 bar	ZAK 69

# ZAK 69 outlet: Fittings



626-00  
Transition fitting with  
ZAK® socket



630-00  
Connector (S-fitting, short) with  
two ZAK® spigot ends



630-03  
Transition piece with two  
ZAK® sockets



630-05  
Reduction fitting with ZAK®  
spigot end and ZAK® socket,  
reduced





647-01  
Elbow 90° with ZAK® spigot end  
and push-fit socket



649-00  
Elbow 45° with ZAK® spigot end  
and push-fit socket

## Operating pressure max.

No.	Description	Operating pressure max.		Dimension
				
626-00	Transition fitting with ZAK® socket	16 bar	16 bar	ZAK 69 Pipe: d 75
630-00	Connector (S-fitting, short) with two ZAK® spigot ends	16 bar	16 bar	ZAK 69
630-03	Transition piece with two ZAK® sockets	16 bar	16 bar	ZAK 69
630-05	Reduction fitting with ZAK® spigot end and ZAK® socket, reduced	16 bar	16 bar	ZAK 69 spigot end and ZAK 46 socket
647-01	Elbow 90° with ZAK® spigot end and push-fit socket	16 bar	16 bar	ZAK 69 Pipe: d 50, d 63
649-00	Elbow 45° with ZAK® spigot end and push-fit socket	16 bar	16 bar	ZAK 69 Pipe: d 50, d 63



# ZAK 69 outlet: Fittings



651-00  
Tee branch fitting with ZAK® sockets at all ends



651-01  
Tee branch fitting with ZAK® sockets and ZAK® spigot end



651-03  
Connector with ZAK® outlet (ZAK 69), 45°





740-01  
Synoflex Transition piece to ZAK®-System





859-00  
Wafer type tee piece with ZAK® outlets

## Operating pressure max.



No.	Description	Operating pressure max.		Dimension
				
651-00	Tee branch fitting with ZAK® sockets at all ends	16 bar	16 bar	ZAK 69
651-01	Tee branch fitting with ZAK® sockets and ZAK® spigot end	16 bar	16 bar	ZAK 69
651-03	Connector with ZAK® outlet (ZAK 69), 45°	16 bar	16 bar	ZAK 69 d 63
740-01	Synoflex Transition piece to ZAK®-System	16 bar	16 bar	ZAK 69 Pipe: d 46 - 58, d 56 - 71
859-00	Wafer type tee piece with ZAK® outlets	16 bar	-	Outlet: 1x ZAK 69 Flange: DN 150, DN 200 PN 10

# ZAK 69 outlet: Pipe fittings, accessories



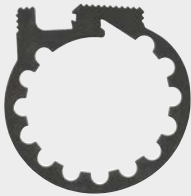
  **532-01**  
SM-fitting with ZAK® outlets





  **541-00**  
U-fitting (collar)





  **249-00**  
ZAK® plug




  **616-03**  
Locking ring for ZAK® sockets





  **830-00**  
Pipe drilling device „Hawlomat“



 **835-00**  
Borehole sealing sleeve for  
Universal Hawlinger

## Operating pressure max.

No.	Description	Operating pressure max.		Dimension
				
532-01	SM-fitting with ZAK® outlets	16 bar	16 bar	Outlet: 2x ZAK 69 DN 250, 300
541-00	U-fitting (collar) - BAIO® system Optional with female thread or ZAK® outlet	16 bar	16 bar	Outlet: 1x, ZAK 69 DN 100, 125, 150, 200, 250, 300
249-00	ZAK®-plug	16 bar	16 bar	ZAK 69
616-03	Locking ring for ZAK® sockets	-	-	ZAK 69
830-00	Pipe drilling device „Hawlomat“	-	-	-
835-00	Borehole sealing sleeve for Universal Hawlinger	-	-	ZAK 69





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