

Drilling device W400/W410

System/Products

→ For under pressure
and pressureless drilling
from 17mm - 84mm on:

- Threaded saddles
- PE Spigots
- Metal Flanges
- Tapping Tees

Georg Fischer Waga N.V.

Drilling device

» For under pressure and pressureless drilling »

Under pressure drilling is an installation procedure where you do not have to shut off the distribution line to make a new branch off or any other connection to the pipeline. This installation technique gives the water and gas companies a reduction in their installation costs. At the same time it increases the comfort of the end user, because during an under pressure drilling, the supply of water and gas to the end user will still be continued.

Fields of application

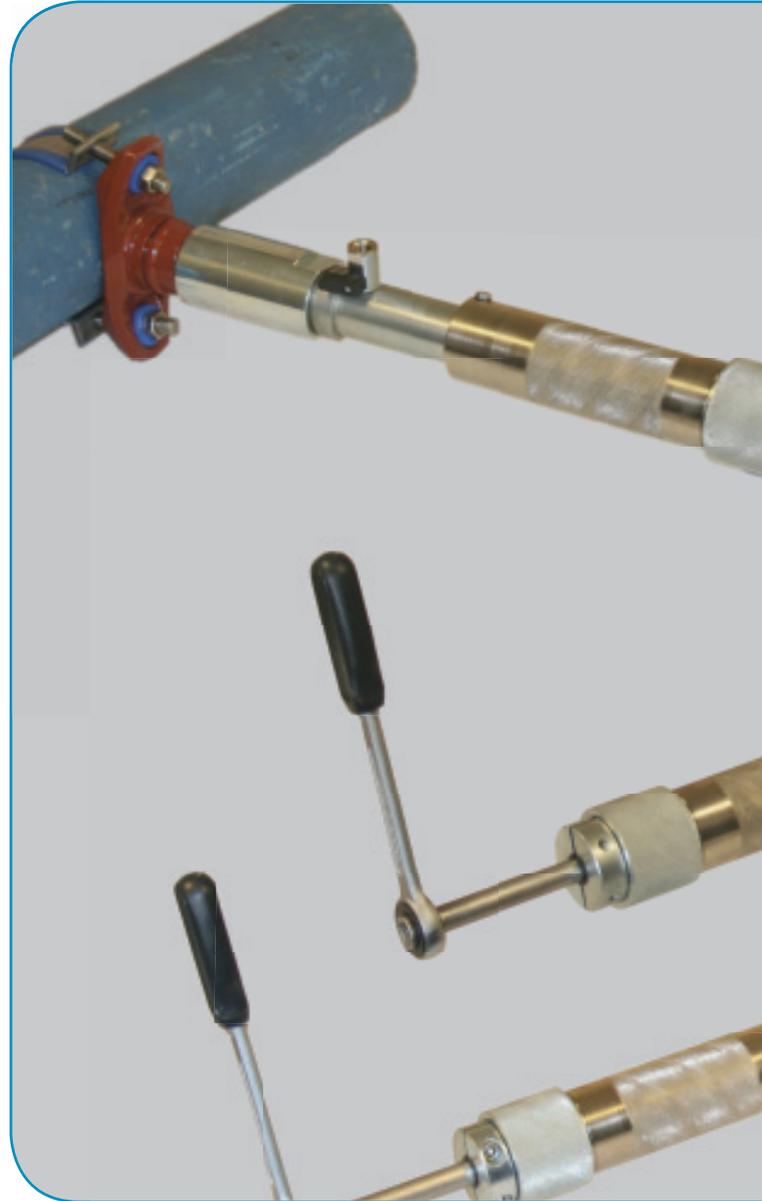
The main field of application for drilling devices are distribution lines in the potable water and gas network. The lines used in the network appear mainly in the range from DN50 to DN300. These pipes have a design pressure of up to 16 bar for water, whereas actual working pressure seldom exceeds 8 bar. In the gas distribution lines we see low pressures going up to 4 - 5 bar.

Quick and easy installation

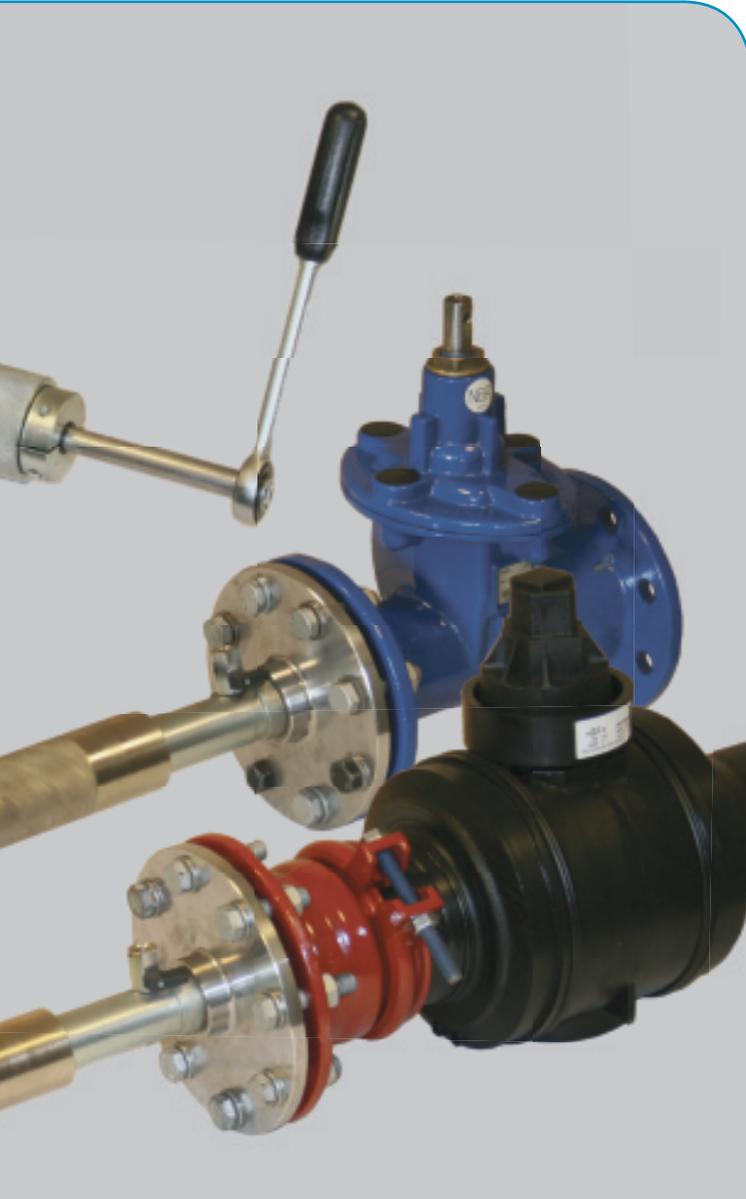
The drilling device of Georg Fischer Waga N.V. enables easy drilling in water and gas distribution lines which are still under pressure. The drilling device is available in several versions, such as the W400 for threaded outlets and the W410 especially for branches above 2 inch on all kind of pipe materials.

Connecting under all circumstances

The drilling devices type W400 and W410 are very compact and lightweight. The W400 is suitable for drilling in the dimensions ½" up to 2". The type W410, is suitable to make a connection to spigot ends in d63 up to d200 thanks to the modular system. In this case a high quality connection is made to branch saddles mounted on PE pipes, such as the ELGEF® branch fitting. For the PE pipes we have drilling sizes available in diameter 63mm and 84 mm. The W410 is also the right drilling device to make flange to flange connections. Available in flange sizes DN50 up to DN200. The perfect fit to a flanged valve.



Your benefits



→ Your benefits

- **Ease of operation**, mounting by one-man.
- **Reduction in installation costs**, thanks to no supply interruption of water and gas.
- **Modular drilling system**, can be combined with various branch connections.
- **Easy handling in the trench**, due to compact design.

→ Fields of application

- Water distribution lines
- Gas distribution lines
- House connections
- Service lines
- Hydrants and fire networks



Drilling device

» W400, W410 flange and W410 spigot »

Drilling device W400

The W400 drilling device is suitable for pressureless or under pressure drilling for all kind of saddles in the range 1/2" up to 2". Depending on the installed saddle you can insert the matching threaded adaptor directly. A large range of adaptors with male or female threaded outlets can be used. Even anti clockwise adaptors are available. The W400 is the perfect system in combination with our Multi/Saddle Plus system. With the correct selection of the adaptor and the cupdrill you will have a trouble free drilling on site. The W400 can be used for all kind of pipe materials.

Drilling device W410 flange

The W410 offers a solution for drilling through regular flanged gate valves. These gate valves appear with flanges in different sizes. It is possible to connect the drilling device to these flanged valves which are on site. The W410 drilling device in combination with a flange connection can be mounted to the gate valve in the trench directly. Flanges are available from DN50 up to DN200. Flange to flange connections, thanks to the modular system!

Drilling device W410 PE spigot

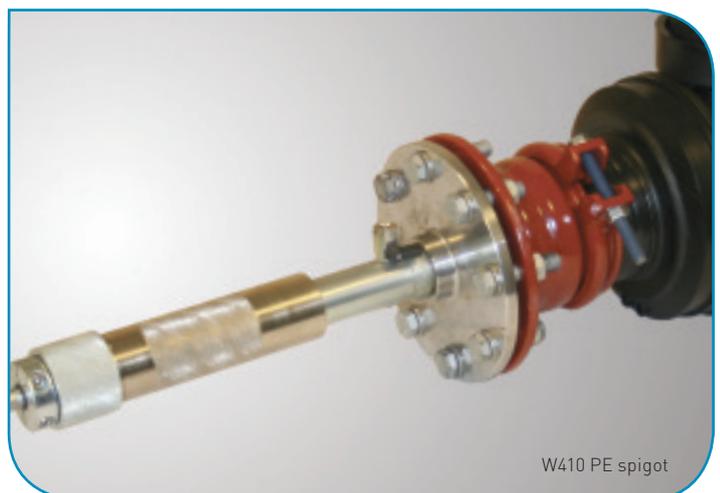
In those situations where a branch connection is ended with a spigot end you need a special connection. With our W410 PE spigot system you can connect the Plast/Joint® coupling in many dimensions (d63 up to d200) to this spigot end directly. Just make the drilling configuration, slide the Plast/Joint® on to the spigot end, fasten the one bolt system and start your drilling. With the superb sealing and restraint properties of this coupling and the connection to a flange you can be sure of a perfect drilling.



W400 and Multi/Saddle Plus



W410 flange



W410 PE spigot

Cup drills

» Select the right cup drill »

A great deal of the drilling quality and process is depending on the correct selection of cup drills or also called hole saws. The drilling device is able to drill different kind of materials like PE, PVC, cast iron, steel, ductile iron and asbestos cement pipes.

Pilot drill and mandrel

This pilot drill will retain the coupon. A unique solution to capture the coupon during under pressure drilling. Costly time of recovering a dropped coupon is prevented in this manner. This pilot drill will be mounted on the mandrel which is available in two sizes depending on the cupdrill size used. We advise the use of pilot drills for wall thicknesses up to 26mm.

PE/PVC Multi purpose drill ($\text{Ø}1\frac{1}{16}"$ - $\text{Ø}2"$)

To obtain the best results in PE and PVC, we have selected a multi purpose drill especially for the smaller hole diameters in the range 1" to 2". The special opening gives a reduced chip during the drilling process. The cup height is 58mm. Suitable for wall thicknesses up to 28mm.

PE Chipless Cup drill ($\text{Ø}63$ and $\text{Ø}84$ mm)

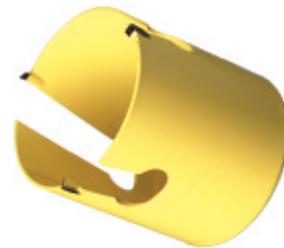
For demanding drillings on PE we designed our own chipless cup drills in cup lengths of 60 and 120 mm. This is the most ideal cup drill for under pressure drillings of your ELGEF® saddles or any other PE saddles. We strongly suggest the use of this cup drill in under pressure drilling situations. The maximum PE pipe that can be drilled is d630 in SDR11 (wall thickness of 58 mm).

HSS and carbide tipped cup drills($\text{Ø}1\frac{1}{16}"$ - $\text{Ø}2"$)

For abrasive pipe materials, like cement lined metal pipes or asbestos cement, carbide tipped HSS cutters are available. For other rigid materials you can use the HSS cutter.

Power tool for the drilling device W400/410

We advise the use of a powertool for a pipe wall-thickness between 20 and 26 mm. Above 26 mm it is highly recommended.



Modular package

Drilling shafts

The modular system enables the use of various drilling shafts with different lengths for both the W400 and W410. Open the clamp parts and take out the drilling shaft and replace with the desired length. For the correct selection of the drilling shaft length, use table and formula below.

Top of pipe to flange (a) +/- length of cupdrill (b) = build up length

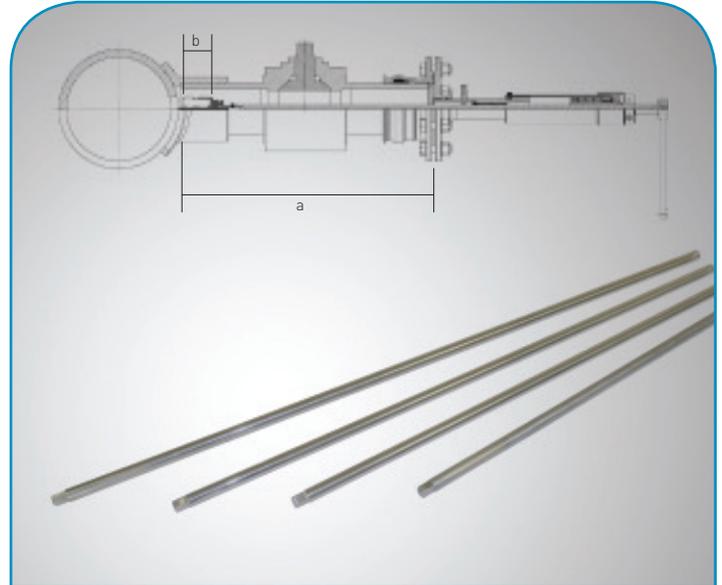
<u>Build up length</u>	<u>Drilling shaft length</u>
< 200 - 354 mm	620 mm
355 - 499 mm	775 mm
500 - 649 mm	920 mm
max. 650 mm	1070 mm

Adaptors

The W400 can be combined with threaded adaptors. Adaptors are available from ½" up to 2". Depending on the saddle outlet you can insert the adaptors into the saddles directly. Due to the modular system you are able to select the adaptor size that is most common in your system or just take the complete series to cover the entire range.

Flanges

The flange plate is especially designed to match the drilling device. In the middle of the flange plate a threaded socket enables mounting the flange plate onto the drilling device. The drilling device contains an O-ring to obtain a sealed connection. Flanges are available in DN50 up to DN200. The modular system allows you to pick the flange you mostly use, or take the complete series.



Select your system and product

» Our solutions »

	Code	Description
	709 700 000	Basic drilling device W400 including ratchet
	709 700 100	Basic drilling device W410 including ratchet (accessories to be added)
	709 700 010	Drill shaft 620 mm
	709 700 021	Drill shaft 775 mm
	709 700 022	Drill shaft 920 mm
	709 700 023	Drill shaft 1070 mm
	709 702 045	Flange adaptor DN50
	709 702 046	Flange adaptor DN65
	709 702 047	Flange adaptor DN80
	709 702 048	Flange adaptor DN100
	709 702 049	Flange adaptor DN125
	709 702 050	Flange adaptor DN150
	709 702 051	Flange adaptor DN200
	709 702 001	Threaded adaptor 1/2"
	709 702 002	Threaded adaptor 3/4"
	709 702 003	Threaded adaptor 1"
	709 702 004	Threaded adaptor 1 1/4"
	709 702 005	Threaded adaptor 1 1/2"
	709 702 006	Threaded adaptor 2"
	709 702 111	Extender Multi/Saddle Plus 301 25/32
	709 702 112	Extender Multi/Saddle Plus 301 40/50
	709 702 107	Extender Multi/Saddle Plus 201 2"x1"
	709 702 108	Extender Multi/Saddle Plus 201 2"x1 1/4"
	709 702 109	Extender Multi/Saddle Plus 201 2"x1 1/2"
	709 102 110	Extender Multi/Saddle Plus 201 2"x2"
	709 702 265	Hole saw mandrel, splint version
	709 702 266	Hole saw mandrel, splint version
	709 702 268	Hole saw mandrel, splint version
	709 701 260	Hole saw mandrel 9/16" - 1 3/16"
	709 701 261	Hole saw mandrel 1 1/4" - 6"
	709 701 263	Hole saw mandrel
	709 800 006	Pilot drill 6 mm dual retention wires
	709 810 414	PE cup drill chipless 63mmx60mm
	709 810 416	PE cup drill chipless 84mmx60mm
	709 810 424	PE cup drill chipless 63mmx120mm
	709 810 426	PE cup drill chipless 84mmx120mm
	709 000 006	PE cup drill push rod
	709 810 711	Cup drill PRO-FIT 11/16"
	709 810 712	Cup drill PRO-FIT 3/4"
	709 810 714	Cup drill PRO-FIT 7/8"
	709 810 716	Cup drill PRO-FIT 1"
	709 810 720	Cup drill PRO-FIT 1 1/4"
	709 810 724	Cup drill PRO-FIT 1 1/2"
	709 810 728	Cup drill PRO-FIT 1 3/4"
	709 810 730	Cup drill PRO-FIT 1 7/8"

	Code	Description
	709 810 511	Cup drill HSS bi-metal cutter 11/16"
	709 810 512	Cup drill HSS bi-metal cutter 3/4"
	709 810 514	Cup drill HSS bi-metal cutter 7/8"
	709 810 515	Cup drill HSS bi-metal cutter 15/16"
	709 810 516	Cup drill HSS bi-metal cutter 1"
	709 810 518	Cup drill HSS bi-metal cutter 1 1/8"
	709 810 519	Cup drill HSS bi-metal cutter 1 3/16"
	709 810 520	Cup drill HSS bi-metal cutter 1 1/4"
	709 810 522	Cup drill HSS bi-metal cutter 1 3/8"
	709 810 523	Cup drill HSS bi-metal cutter 1 7/16"
	709 810 524	Cup drill HSS bi-metal cutter 1 1/2"
	709 810 528	Cup drill HSS bi-metal cutter 1 3/4"
	709 810 532	Cup drill HSS bi-metal cutter 2"
	709 810 612	Cup drill Blu-mol carbide tipped 3/4"
	709 810 614	Cup drill Blu-mol carbide tipped 7/8"
	709 810 616	Cup drill Blu-mol carbide tipped 1"
	709 810 618	Cup drill Blu-mol carbide tipped 1 1/8"
	709 810 620	Cup drill Blu-mol carbide tipped 1 1/4"
	709 810 622	Cup drill Blu-mol carbide tipped 1 3/8"
	709 810 624	Cup drill Blu-mol carbide tipped 1 1/2"
	709 810 628	Cup drill Blu-mol carbide tipped 1 3/4"
	709 810 632	Cup drill Blu-mol carbide tipped 2"
	709 257 210	Plast/Joint® flange adaptor d63, DN50
	709 257 212	Plast/Joint® flange adaptor d75, DN65
	709 257 214	Plast/Joint® flange adaptor d90, DN80
	709 257 216	Plast/Joint® flange adaptor d110, DN100
	709 257 218	Plast/Joint® flange adaptor d125, DN100
	709 257 222	Plast/Joint® flange adaptor d160, DN150
	709 257 226	Plast/Joint® flange adaptor d200, DN200
	709 706 415	Transport / warehouse box W410, with tools (screwdriver and hex. tools)
	709 706 416	Transport case W400, with tools (screwdriver and hex. tools)

For more information see also our product catalogue.

Power tool requirements:

- 150 Rpm. 80Nm.
- Socket connection 1/2" square
- Air supply 6 bar, 18L/S (based on desoutter)
- Pipe wall thickness > 26 mm, use motorized tool

displayed brand: desoutter H410-N-150

