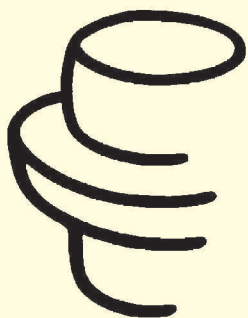
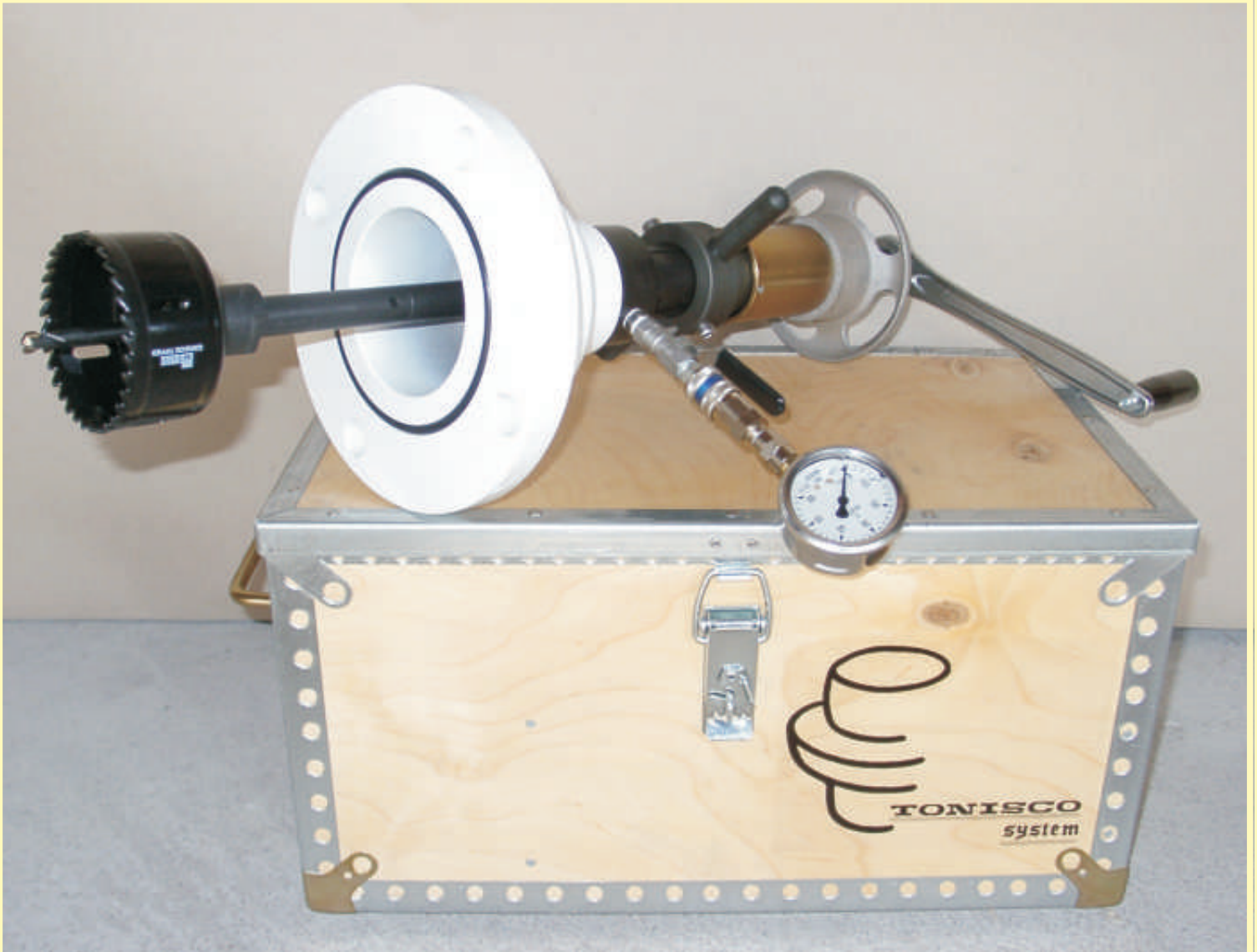


TONISCO Drilling Machines

Branching under pressure



TONISCO

Pipe maintenance
under Pressure

system

TONISCO Jr. - Branching pipes using Ball and Slide valves



TONISCO Jr. drilling machine

TONISCO Jr. drilling device is designed to use while branching steel pipe lines under pressure. The materials and the construction of each part of the drilling device have been chosen to fulfill the requirements of demanding circumstances in most drilling sites.

The trenches are cramped and in hard-to-get places; the drilling machine is compact and light offering ease of handling and transporting. The small dimensions of the device allow branching operation in most narrow spaces.

Branches between DN 20 and DN 100 can be drilled under pressure without service interruptions or pressure drop-outs. The device is very simple and easy to assemble and use - this guarantees the safety of the drilling work.

The drilling can be carried out using electric drive. Because all working sites do not offer electricity, a manual operation or a pneumatic drive are offered as options. The cutting of the hole is done using a narrow teathed hole saw - in that way the cutting does not require much power and the amount of drilling waste is very small.

Drilling under pressure

The branching under pressure is well known method of doing alterations to existing pipe networks. It is widely used in water and gas distribution networks and everywhere, when service interruptions are not allowed or they would cause problems.



TONISCO Jr. properties:

Drilling range: DN20 - DN100
 Main line: Steel, stainless ductile iron or plastics
 Media: Water or gases
 Max pressure 60 Bar
 Temp. range: -20.....+200°C
 Weight 45 kg complete

TONISCO Jr. Electric Drive

A solid Feed Wheel gives a firm grip and an exact feed.

The Drilling start is adjusted using the feed socket.

Spooling of the chips and pressure testing is done through the cock.

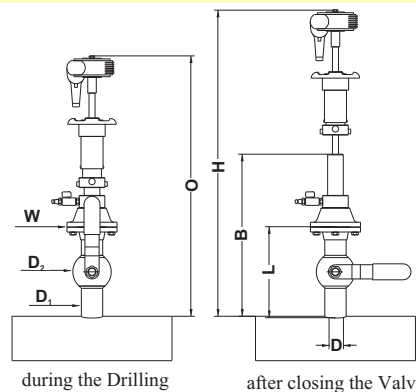
The spindle is tempered Steel and extendable.

The support rods are used while adjusting the drilling point.

Interchangeable adapters allow connecting the device to different sizes of flanged valves.

Cutting force of the thin teathed holesaw is low causing less drill chips.

A pilot drill grips the coupon.



DN Size	L	D ₁	D ₂	O	H	W	D
DN 20	250	26.9	42.4	780	920	120	19
DN 25	250	33.7	48.3	780	920	120	24
DN 32	270	42.4	60.3	815	990	155	24
DN 40	270	48.3	76.1	820	980	155	30
DN 50	330	60.3	88.9	880	1060	165	38
DN 65	330	76.1	114.3	860	1030	185	48
DN 80	340	88.9	139.7	880	1060	200	64
DN100	365	114.3	168.3	880	1090	235	76



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system

<http://www.tonisco.fi>

TONISCO B30 drilling device

TONISCO B30 offers more stiffness to drilling compared to the smaller machine. It reaches a little further branching range, starting from DN 40 and ending up to DN 200, the overall length of the complete drilling device is 200 mm more.

Because of the more steady drill shaft, drilling through the long Ball valves or valves connected with pipe extension are easier to accomplish.

The construction of the machine body makes it very easy to control the state of the gaskets, and either clean or change them - sealing sets made of different materials are available against various fluids and gases.

As with other TONISCO branching machines, different quality of hole saws are available to accomplish fast drilling to varying main pipe materials.

TONISCO B 30

Technical specifications:

Branching range:	DN 40 - DN 200
Drive alternatives:	
Electric drive:	220-240 V / 50 - 60 Hz 1000VA
Pneumatic:	6 - 7 bar / 1500 l / min
Construction materials:	
equipment	high strength steel
feed unit	Acid resistant steel
spindle sealings	EPDM (Viton)
O-ring sealings	EPDM (Viton)

Constructions inspection	pressure test and functional control
Test pressure	60 bar
Max. operating pressure	40 bar
Max. operating temp.	200 °C (240°C Viton/PTFE)
Weight of the compl. Device	68 kg



Branching DN 200 full Opening Length 950 mm
Width 150/350 mm
Weight 22 kg

TONISCO B40 drilling device.

The TONISCO B40 is the most rigid drilling machine for medium- to large-diameter under pressure branching - the branching range from 100 mm up to 400 mm.

The device is a designed very lightweighted to accomplish easy transporting to the drilling site and fast and reliable assembling to the welding end Ball valve.. The construction is heavy enough to allow branching in high temperature networks.

Special sealing sets are available for use in steam and various process industrial networks, or in chemical and petrochemical plants.



TONISCO B 40 (and TONISCO B 70)

Technical Specifications

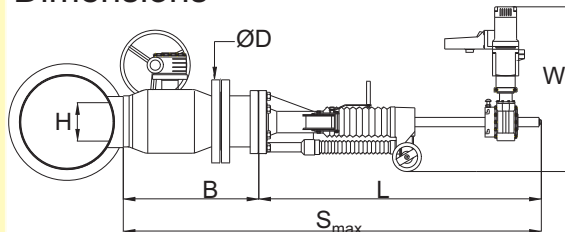
Branching range:	DN 100 - DN 400 (B70 - DN700)
Drive alternatives:	
Electric drive:	220-240 V / 50 - 60 Hz 1400 VA
Pneumatic:	6 - 7 bar / 3000 l / min
Hydraulic:	35 l / min / 140 bar

Construction materials:

Equipment body	high strength light metal alloy
Feed unit	high strength steel
	high strength light metal alloy
Spindle sealings	EPDM (Viton)
O-ring sealings	EPDM (Viton)

Construction inspection:	Pressure test and functional control
Test pressure	60 bar
Max. operating pressure	40 (60) bar
Max. operating temp.	200 °C (240 °C Viton/PTFE sealings)
Total Weight (DN 300)	87 kg

Dimensions



DN-size	B	L	W	D	S _{max}	H
DN 100	350	750	750	190	1350	95
DN 125	350	750	750	220	1350	121
DN 150	400	750	750	250	1450	140
DN 200	530	750	750	310	1740	180
DN 250	550	750	750	370	1760	220
DN 300	550	750	750	430	1750	220
DN 400	860	750	750	550	2350	325
DN 500	890	1250	900	660	2950	440
DN 600	990	1250	900	770	3150	540
DN 700	1090	1250	900	875	3450	640

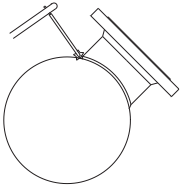


TONISCO

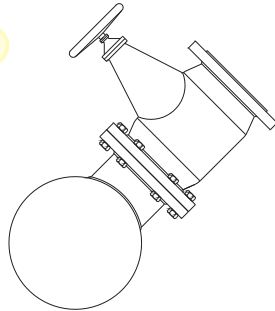
TONISCO System Oy
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system

1



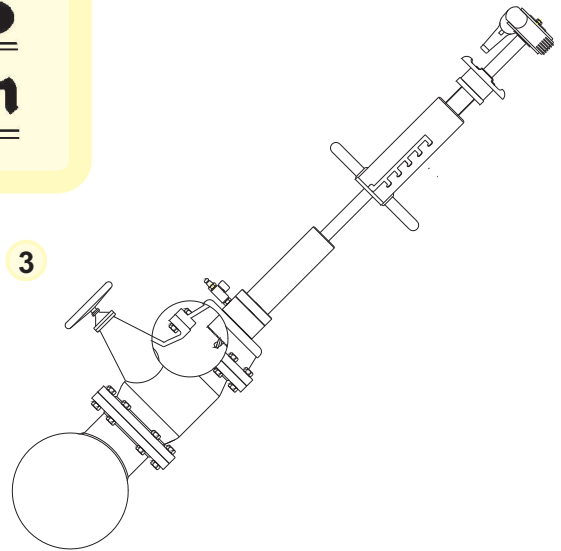
2



The end of the flanged branch line which shall be welded to the main line shall first be fitted to right form and thereafter welded to the desired spot on the main line

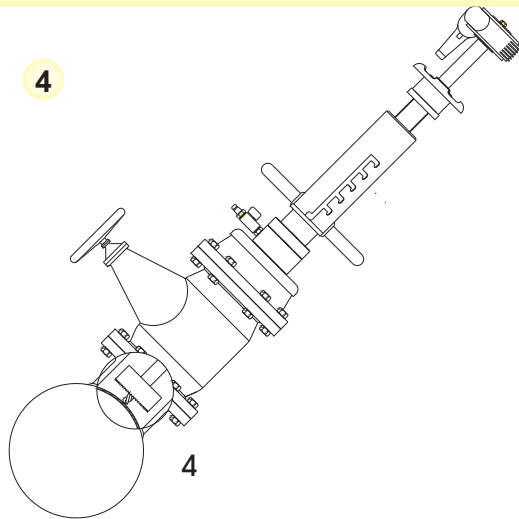
After welding the flanged valve shall be mounted.

3



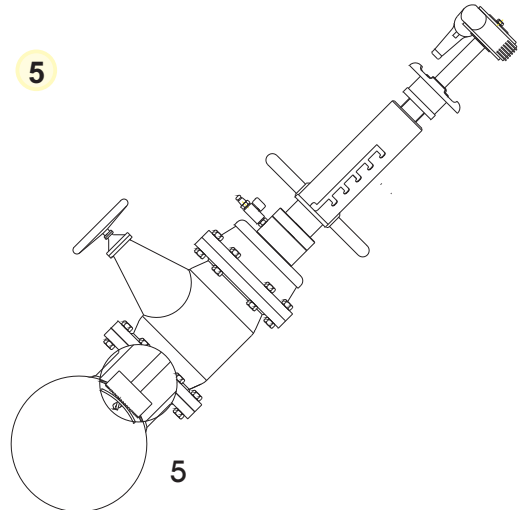
TONISCO drilling device shall be assembled by choosing the proper adapter and inserting the shaft of right length, pilot drill and the hole saw. The drill shall be attached to the opened valve.

4



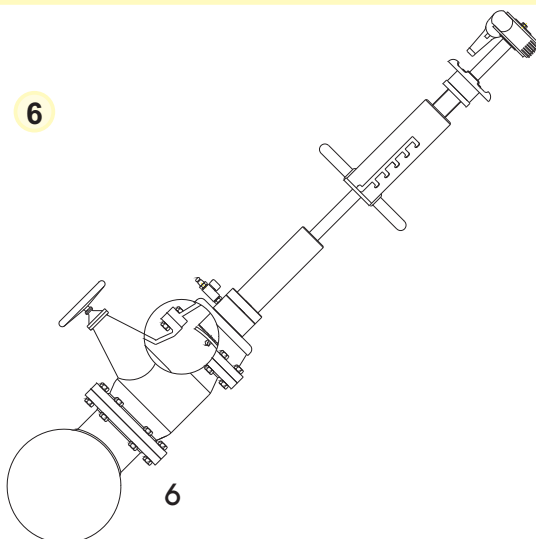
After choosing the right rotating speed the drilling starts by carefully feeding the pilot drill through. The pressure gage confirms the penetration.

5



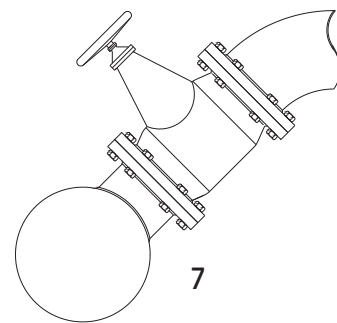
The boring of the actual hole is made using a hole saw at a smaller rpm. The loosened part of the main pipe is gripped by the pilot drill.

6



After completing the drilling the shaft can be let out from the drilling chamber using the shaft brake to control the movement. After the shaft is all away out, the valve can be closed and the device removed.

7



As the final stage the actual branch line can be connected to the valve and the valve may be opened. The branch is made under pressure.