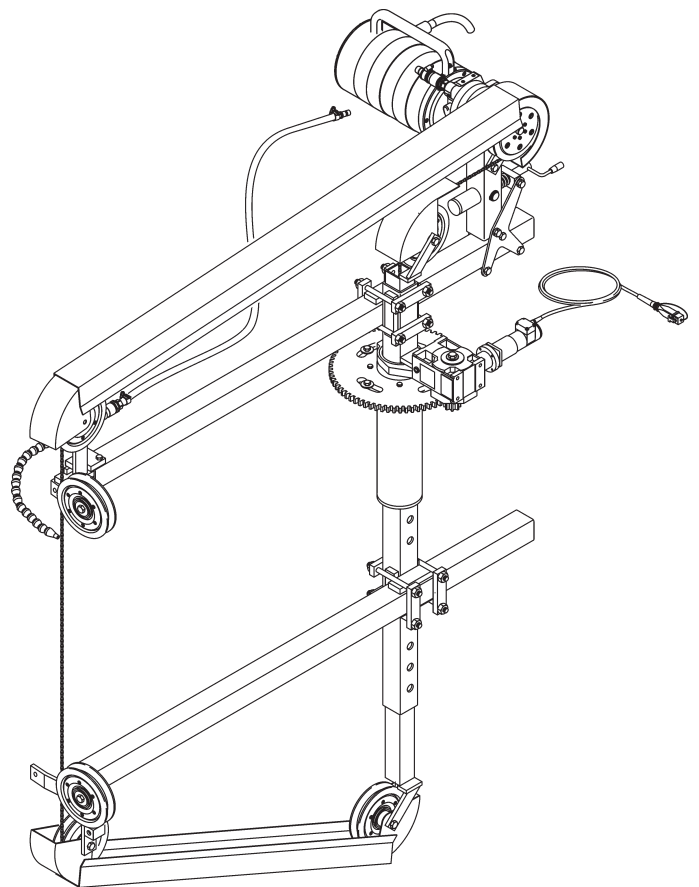


Operating Instructions

Wire Saw CCE25★ ★ ★ / CCH25★ ★ ★

Index 003



Congratulations!

With a Hydrostress unit from TYROLIT, you have chosen a tried and tested piece of equipment which has been designed and built to leading technical standards. Only genuine TYROLIT Hydrostress replacement parts can guarantee quality and interchangeability. We are unable to fulfil our warranty obligations if maintenance work is neglected or carried out unprofessionally. Any repair work must be carried out by trained personnel only.

Our aftersales service is available to help ensure that your TYROLIT Hydrostress units remain in perfect working order.

We hope that you enjoy untroubled and fault-free working with your TYROLIT unit.

TYROLIT Hydrostress

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1 Safety



These instructions are just one part of the documentation which is supplied together with the wire saw. These instructions go together with the "Safety Manual / System Description for Wire Saws" to form a complete set of documentation.



DANGER

Failure to comply with the safety instructions in the "Safety Manual / System Description" may result in serious injury or even death.

- ▶ Please ensure that the "Safety Manual / System Description for Wire Saws" has been read and understood in full.



DANGER

Cuts from the diamond wire!

- ▶ Always wear protective gloves when working on the wire saw, particularly when working on the diamond wire.
- ▶ Only operate the wire saw with a guard.



DANGER

Serious injury or material damage as a result of uncontrolled movements of the wire saw!

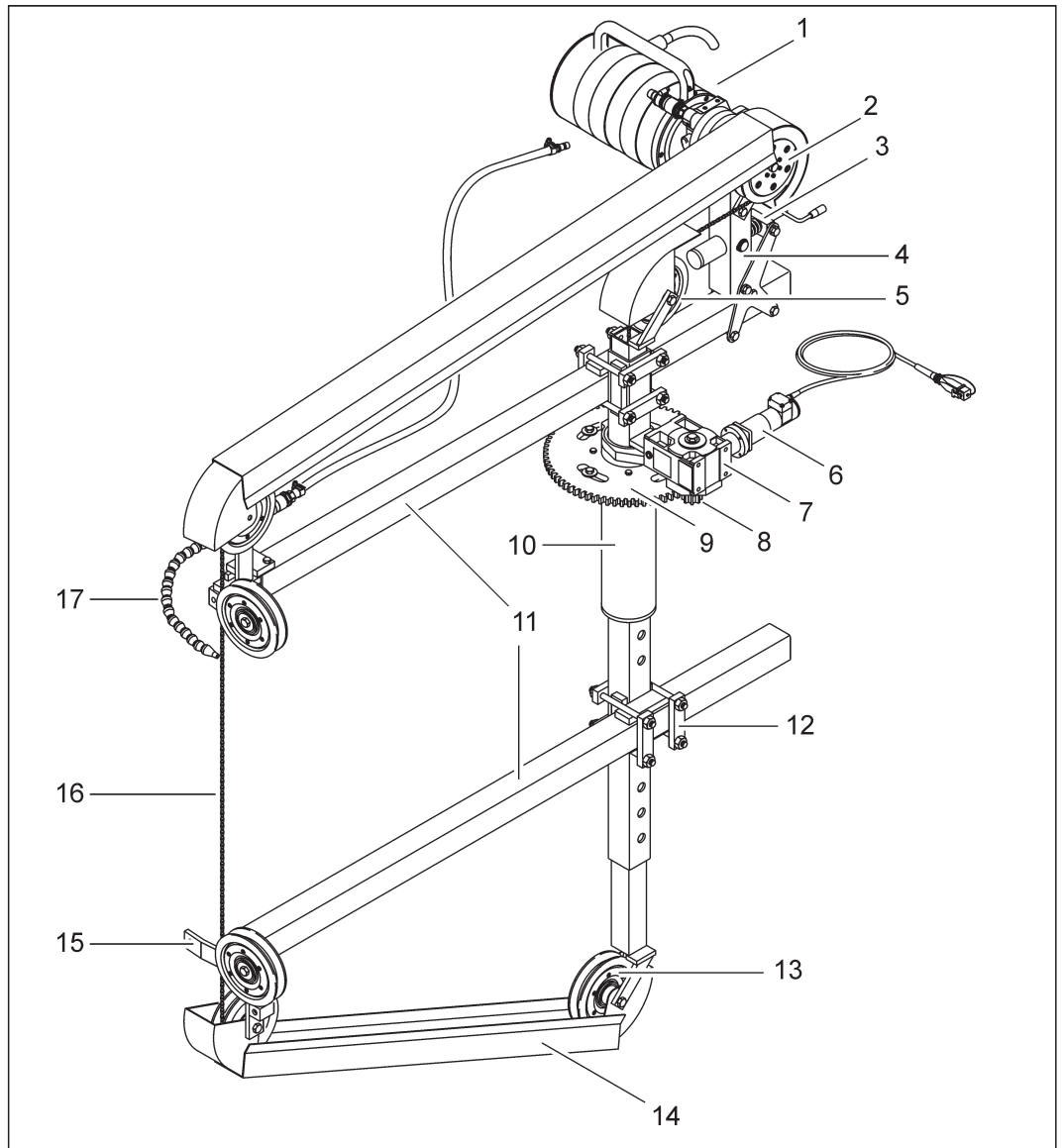
- ▶ Never connect or disconnect hoses while the wire saw is running.

2 Description

2.1 Wire saw system

The "Safety Manual / System Description for Wire Saws" describes how to work safely with wire sawing systems.

2.2 Components

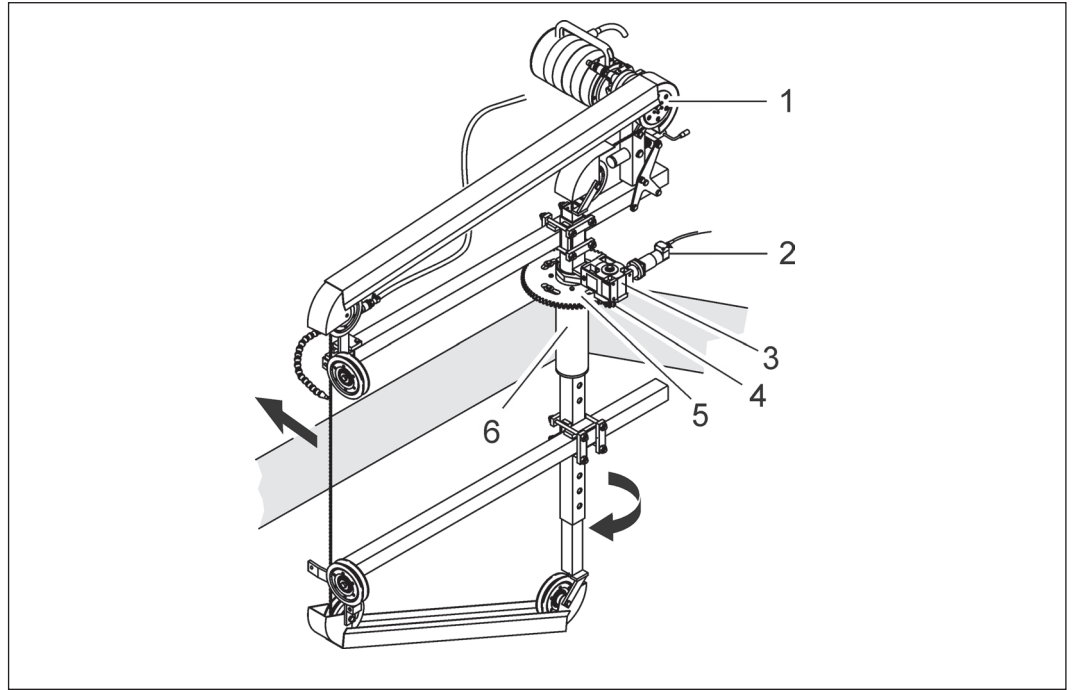


- | | |
|----------------------|-----------------------|
| 1 Drive motor | 8 Feed drive shaft |
| Motor hydraulic | 9 Gear wheel |
| Motor electric | 10 Central tube |
| 2 Drive roll | 11 Extension arm |
| 3 Tensioning device | 12 Cruciform member |
| 4 Swivel arm | 13 Diverter roll |
| 5 Diverter roll | 14 Diamond wire guard |
| 6 Feed motor | 15 Guide roller unit |
| Hydraulic feed motor | 16 Diamond wire |
| Feed motor electric | 17 Water supply line |
| 7 Gearbox | |

3 Design and function

3.1 Operating principle

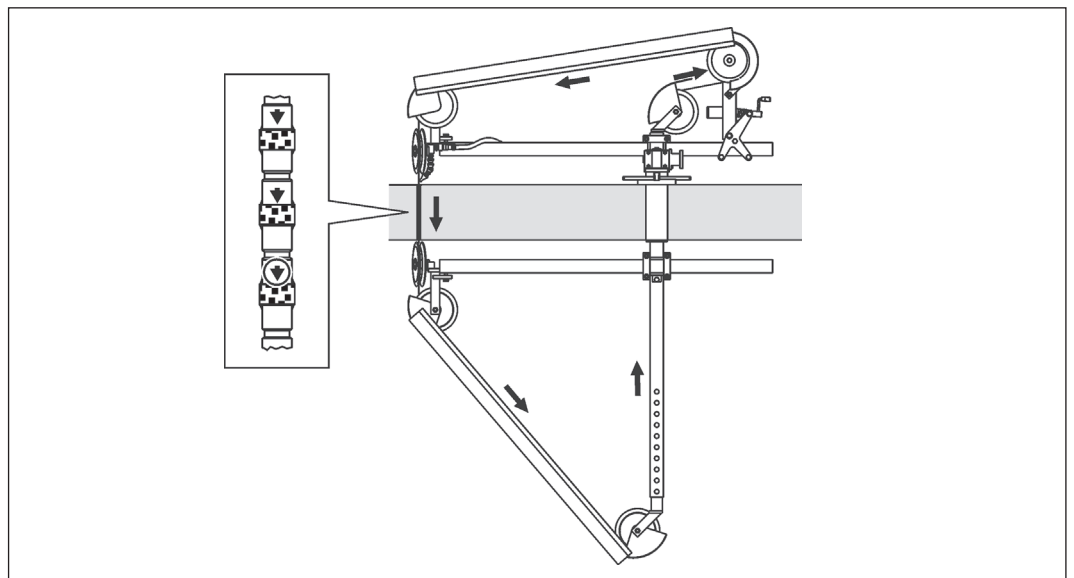
The diamond wire is driven by the main motor via the drive roll. The feed motor drives the gear shaft through the gear box. The wire saw is revolved about the axis of the centre tube by gears.



- | | |
|--------------|--------------------|
| 1 Drive roll | 4 Feed drive shaft |
| 2 Feed motor | 5 Gear wheel |
| 3 Gearbox | 6 Central tube |

3.2 Diamond wire direction of motion

The direction of motion of the diamond wire is determined by the drive motor and can be changed at the drive unit or at the controls.

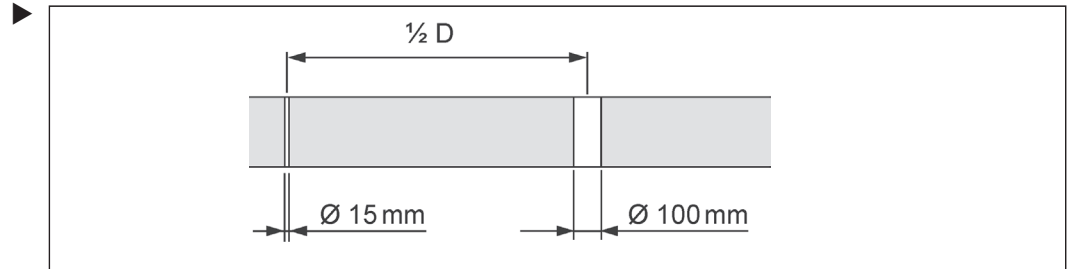


3.3 Assembly

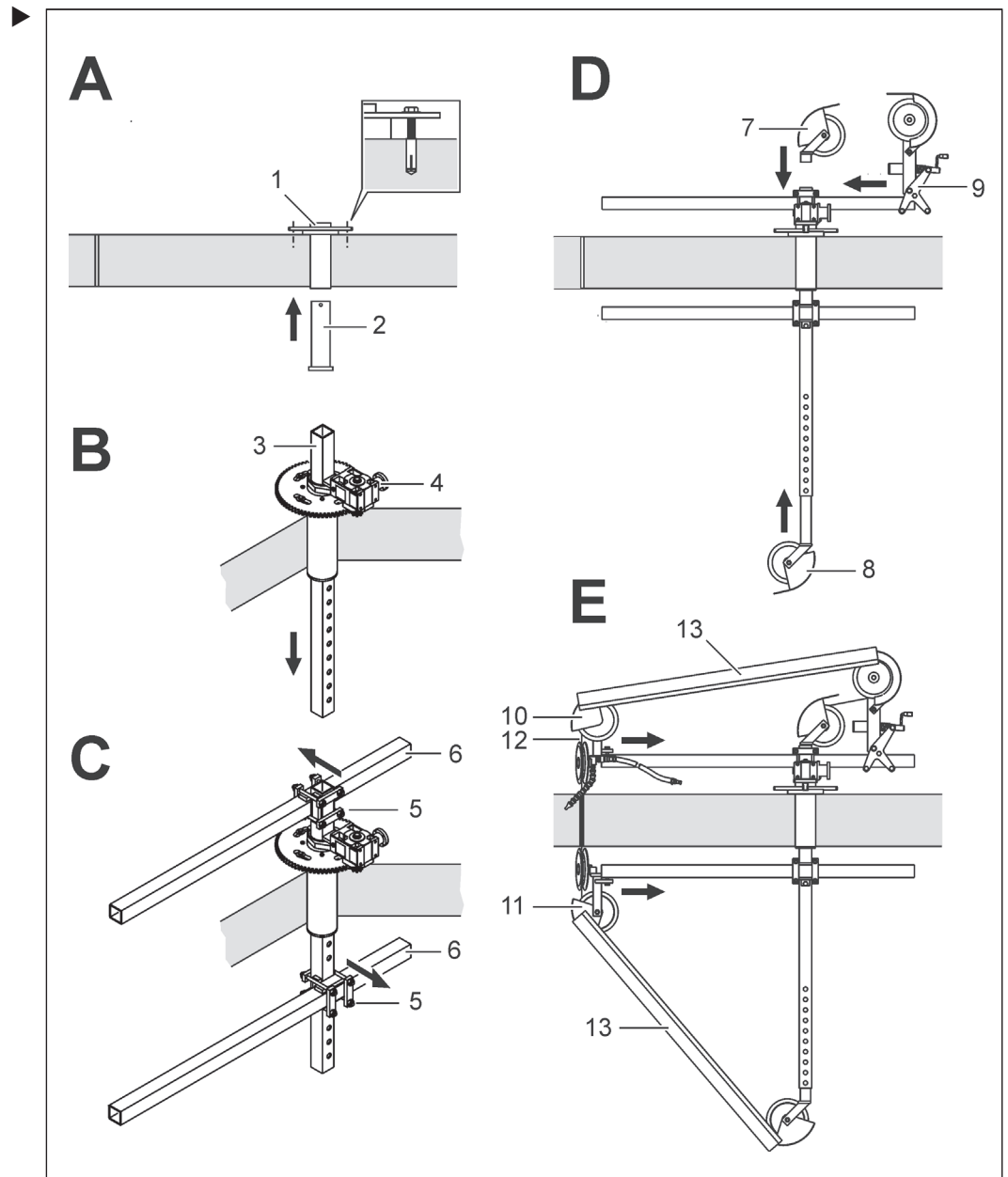
Preparation



The wire saw must be anchored firmly to the substrate. In preparation a hole for the central tube and a hole for the wire to pass through must be bored.



Assembly



Assembly Description

Step A

- ▶ Secure central tube (1) with at least two M12 bolts and drive-in location dowels
- ▶ Locate rotating tube (2) from below in the central tube

Step B

- ▶ Bolt rotating tube (2) to gearbox plate and gearbox (4)
- ▶ Push the diverter roll tube (3) from above through the central tube and bolt to the gearbox plate

Step C

- ▶ Assemble cruciform member (5) (Note mounting position)
- ▶ Mount extension arm (6)

Step D

- ▶ Mount diverter rolls (7) and (8)
- ▶ Bolt down tensioning unit (9)

Step E

- ▶ Bolt guide roller units (10) and (11) to extension arm tubes
- ▶ Insert diamond wire (12) and tension over tensioning unit (9)
- ▶ Mount diamond wire guard (13)



DANGER

To secure the wire saw appropriate sub-surface anchoring elements should be used. When positioning the dowels the installation instructions of the dowel manufacturer must be followed.

Example: TYROLIT instructions for dowel M12x50

M 12 x 50

Made in Germany

Concrete ≥ C20/25

„a“ min 400 mm
 „a_r“ min 200 mm
 „d“ min 200 mm
 „b“ min 400 mm

106/2
03/04 5.000

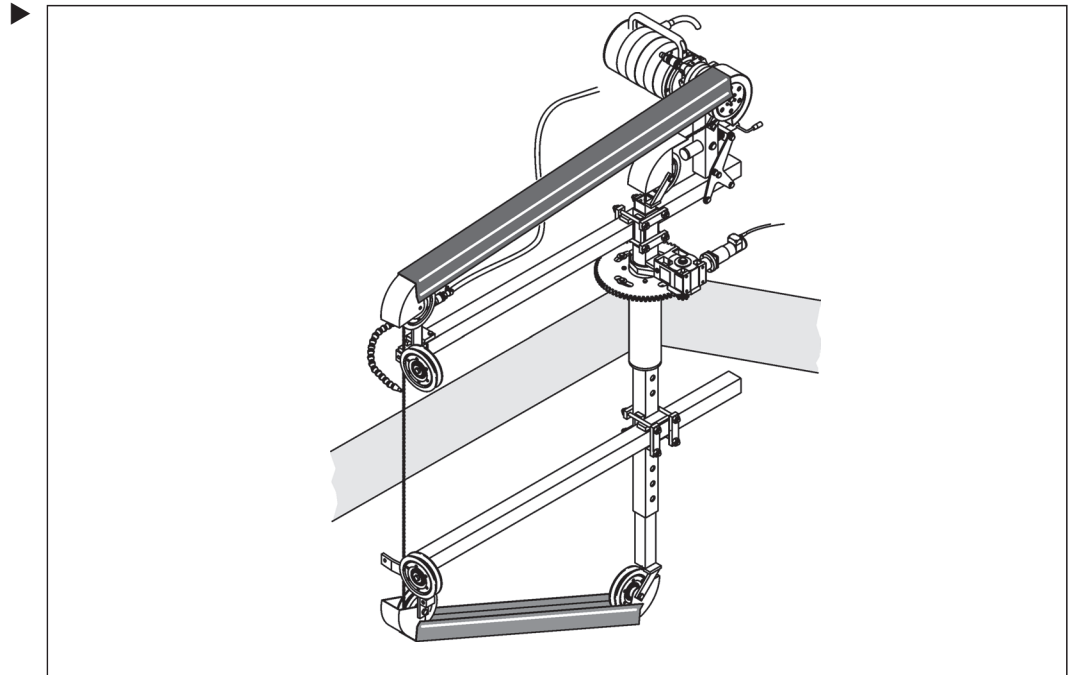
3.4 Diamond wire guard



DANGER

Death or serious injury as a result of the wire acting like a whip or diamond wire elements flying off.

- ▶ Always work with the diamond wire guard fitted.
- ▶ Make sure that you always stick to the defined safety distances and working areas.



3.5 Systems



The wire saw can be operated both hydraulically and electrically.

System components for the hydraulic version:

- 1x Drive unit
- 1x Drive motor hydraulic
- 1x Feed motor electric

System components for the electric version:

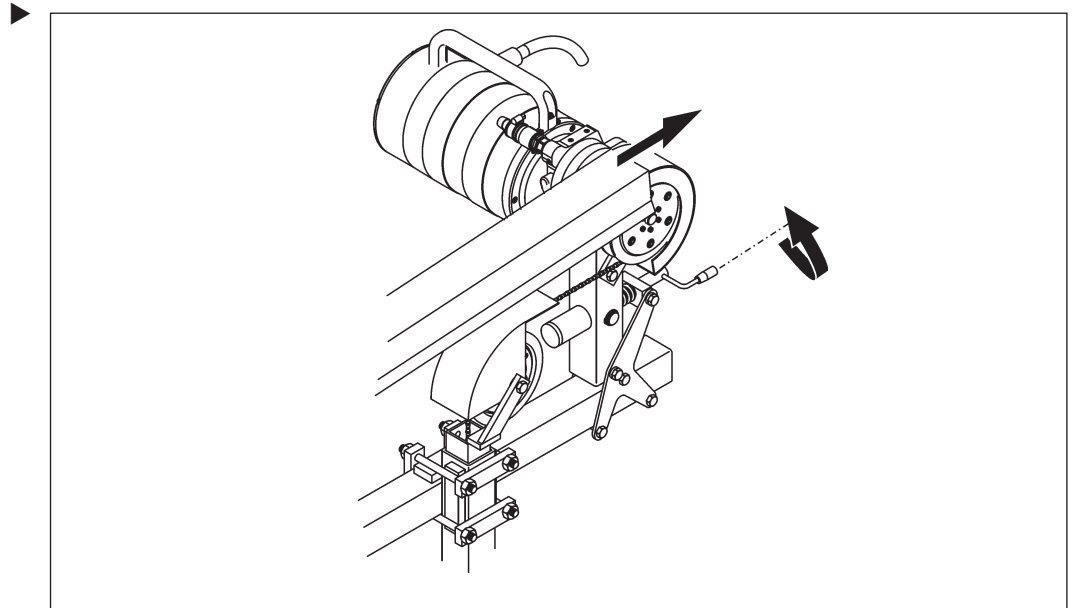
- 1x Control unit with remote control
- 1x Drive motor electric

3.6 Mounting motor



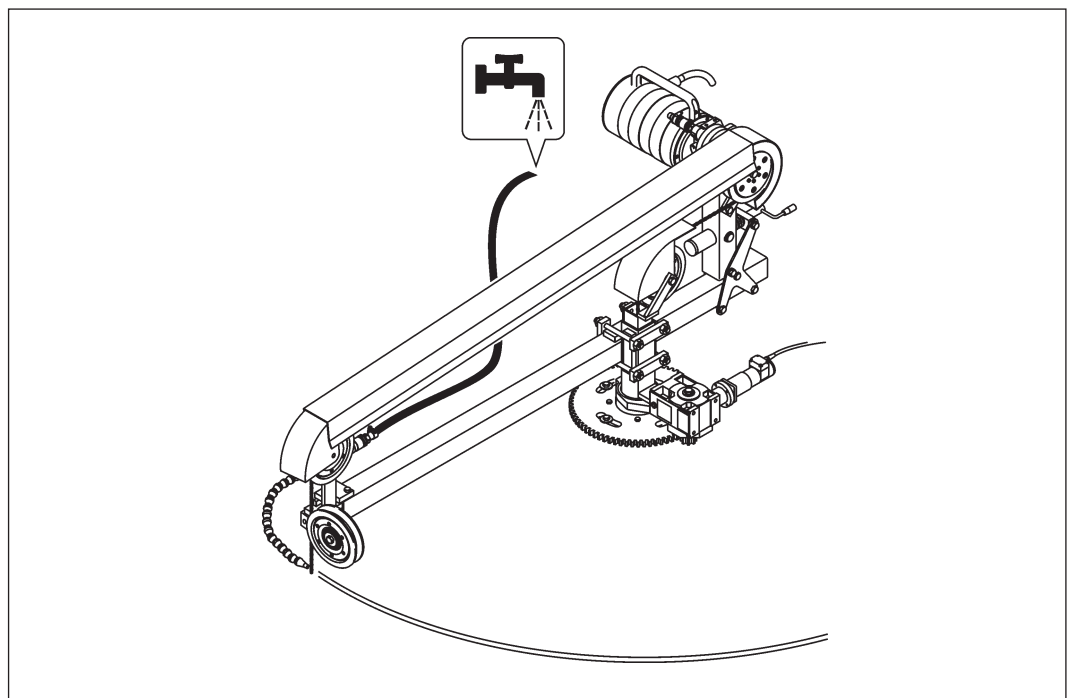
The drive motor and the feed motor must be mounted and connected prior to the first commissioning run according to the mounting instructions.

3.7 Tensioning the diamond wire



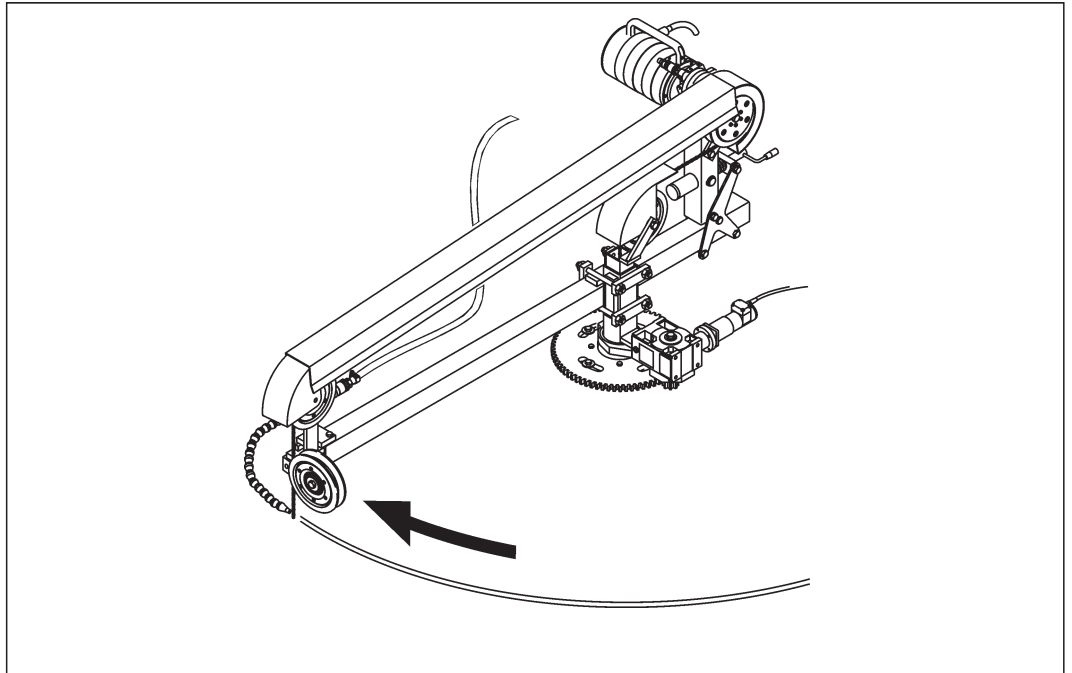
3.8 Water connection

The cooling water for the saw system flows from the drive unit or the control unit directly to the wire saw.

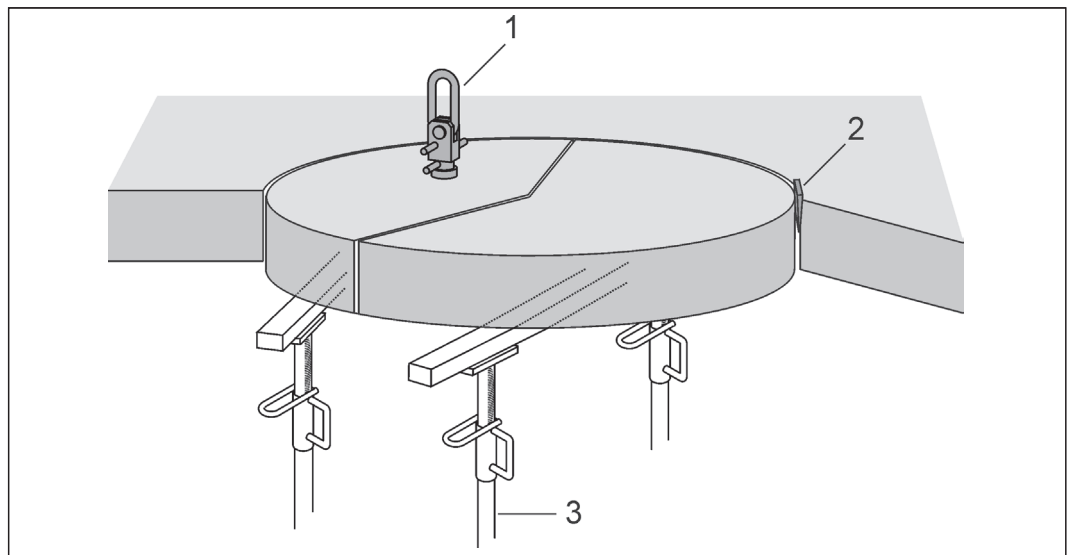


4 Application

4.1 Correct cutting direction



Securing cut-outs

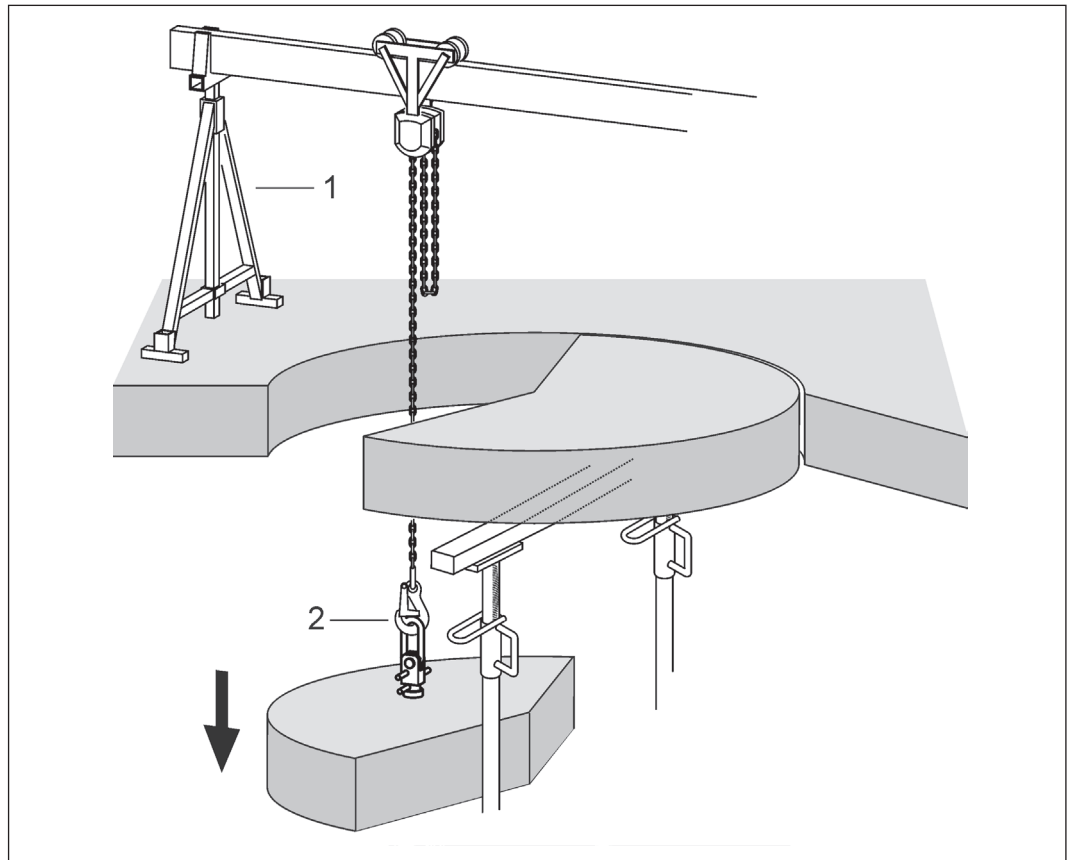


- 4.2**
- 1 Suspension device
 - 2 Wedge
 - 3 Support rod

4.3 Remove cut-outs



Use appropriate removal devices and take precautions against the cut-outs falling.



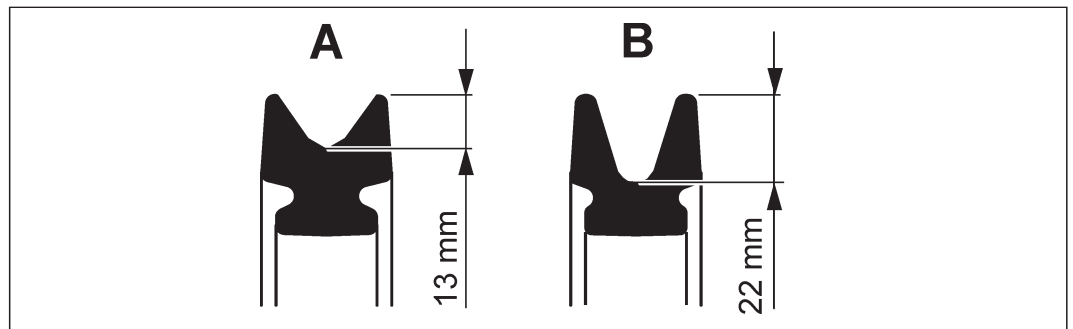
- 1 Carrying device with block and tackle
- 2 Suspension device

5 Servicing and maintenance

5.1 Maintenance table

Maintenance and servicing table							
		Before every commissioning	At end of work	Weekly	Yearly	After faults	After damage
Wire saw	▶ Retighten loose screws and nuts	X				X	X
Drive rolls and guide rolls	▶ Check the bandages for wear, see 5.2	X	X			X	X
	▶ Check bearings	X				X	X
	▶ Clean	X	X				X
Drive motor	▶ Check for cleanliness / damage	X	X			X	X
Couplings	▶ Check for cleanliness / damage	X	X			X	X
Water economy	▶ Check the water line for cleanliness and leak-tightness	X				X	X
	▶ Blow out water		X				
Diamond wire	▶ Clean with water		X				
	▶ Check for wear	X	X			X	X
Service	▶ To be performed by TYROLIT Hydrostress AG or an authorised workshop	After 100 / 300 / 500 / 700 hours					

5.2 Check roller rims for wear

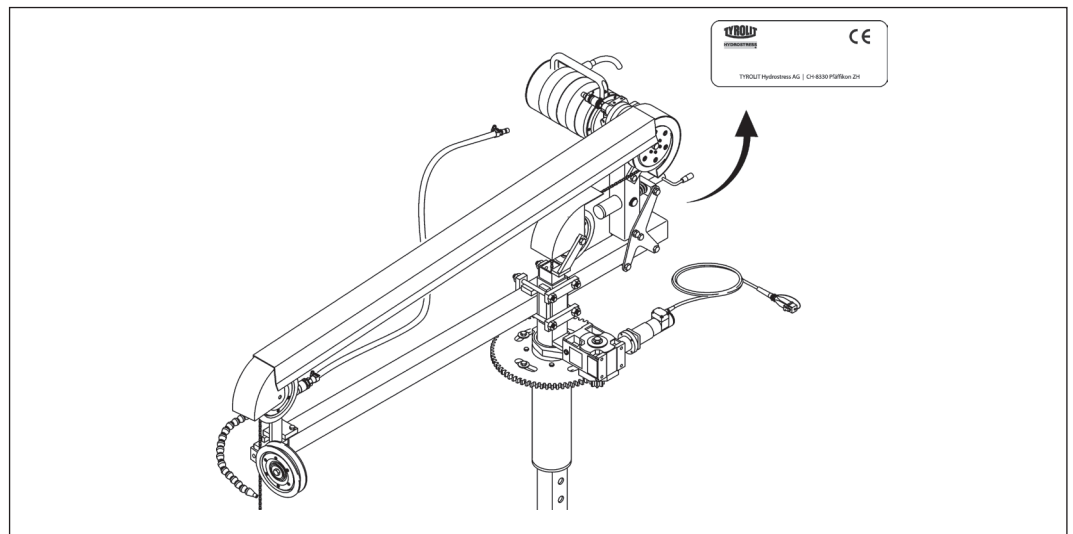


- A New bandage
- B Worn bandage

5.3 Troubleshooting

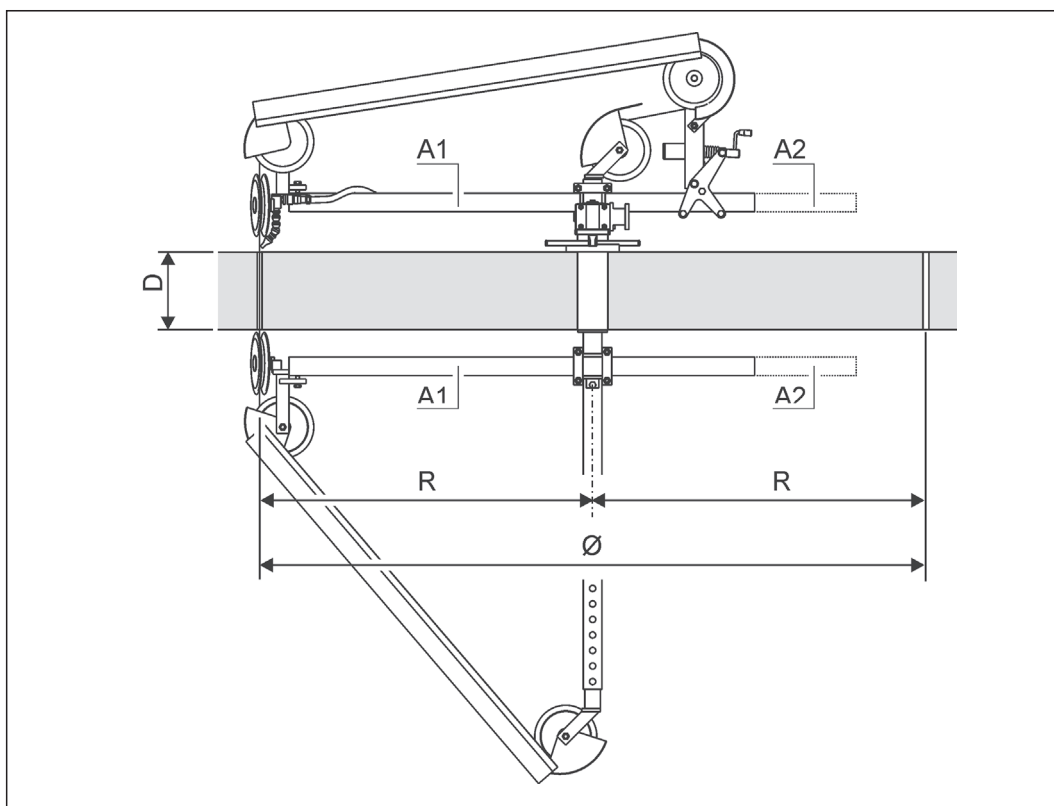
To guarantee a rapid and professional solution to the problem, it is important that you have prepared as follows before telephoning:

- Try to describe the fault as precisely as possible
- Make a note of the type and index description (refer to the name plate)
- Have the Operating Instructions close to hand



6 Technical data

6.1 Dimensions



Extension arm tube	Ø	R	D
L1 / 750 mm	500 mm - 700 mm	250 mm - 350 mm	max. 600 mm
L2 / 1,500 mm	700 mm - 2500 mm	350 mm - 1250 mm	max. 600 mm

6.2 Weight

The total weight of the wire saw without the main motor is kg

6.3 Noise nuisance (Noise level)

Hearing protection must be worn at all times when working with the wire saw.



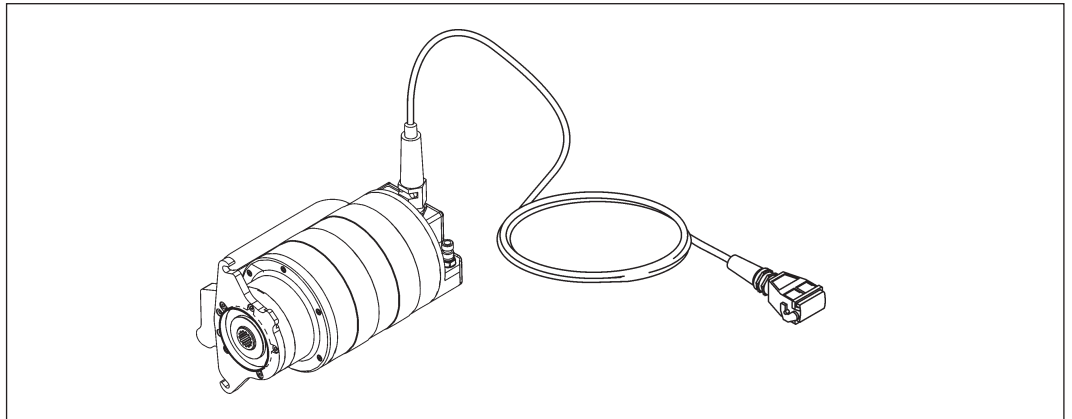
Noise level measurement



Noise data according to ISO 3744	
Parameter	Value
Sound pressure level L_{pA}	85 dB (A) *
Acoustic power level L_{WA}	93 dB (A) *

6.4 Motors

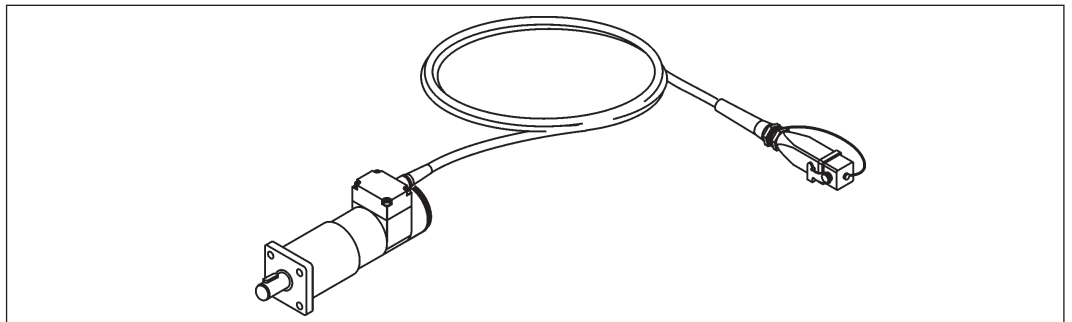
Drive motor, electric



Electric motor (high frequency, water-cooled)

Output at 16 A	8 kW
Output at 32 A	17 kW
Weight	22 kg

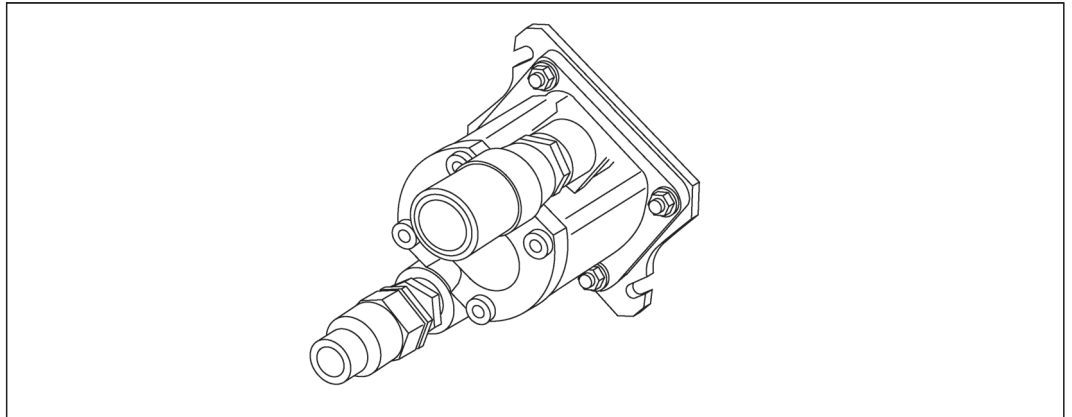
Electric feed motor



Electric feed motor with gears and brake

Gear reduction	1:20
Voltage	48 V
Feed	Toothed wheel on rail
Weight	4.10 kg


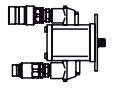
Drive motor, hydraulic



Hydraulic motor	
Speed	1100 to 3333 rpm.
Size	2
Absorption volume	12 cm ³ to 30 cm ³
Transmission ratio	1:1
Operating pressure	max. 260 bar
Type	External geared motor

Rotational speeds

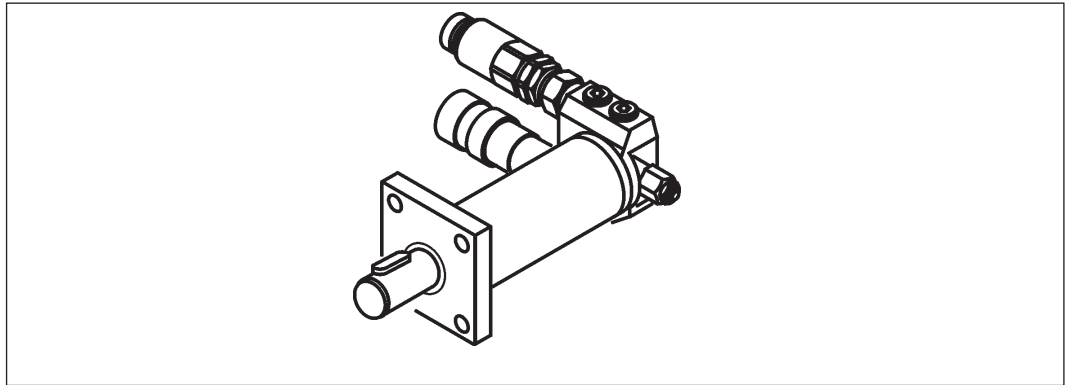
Hydraulic motor

Rotational speeds, hydraulic motors for wall saws							
							
	cm ³ 12	cm ³ 16	cm ³ 18	cm ³ 22	cm ³ 26	cm ³ 30	
l/min 33	2750	2063	1833	1500	1269	1100	
l/min 40	3333	2500	2222	1818	1538	1333	
l/min 45	3750	2813	2500	2045	1731	1500	
l/min 50	4167	3125	2778	2273	1923	1667	
l/min 60	5000	3750	3333	2727	2308	2000	
l/min 70	5833	4375	3889	3182	2692	2333	

 Operation possible


 Operation not possible

Hydraulic feed motor



Hydraulic motor	
Speed	187 rpm
Type	Gerotor
Operating pressure	max. 120 bar
Rated torque	50 Nm
Feed force	6000 N
Feed	Toothed wheel on rail

6.5 Water connection

	
Pressure	1 bar (min.) to 6 bar (max.)
Quantity	At least 4 l/min
Temperature	max. 25°C

6.6 Diamond wire lengths



The diamond wire guard are obtained from:

- Constant = 331 cm
- 2x thickness of structure D
- Table value A depending on hole diameter

Hole diameter	Value A
50 cm	0
100 cm	55 cm
150 cm	115 cm
200 cm	140 cm
250 cm	170 cm

Formula:

$$L_{\text{total}} = 331 \text{ cm} + 2 \times D + A$$

Example:

Wall thickness D = 45 cm

Hole diameter 150 cm thus A = 115 cm

$$L_{\text{total}} = 331 \text{ cm} + 2 \times 45 \text{ cm} + 115 \text{ cm} = 536 \text{ cm}$$

6.7 EC declaration of conformity

Description	Wire saw
Type designation	CCE25 ★★★
Year of construction	2011

We declare under our sole responsibility that this product complies with the following directives and standards:

Applied directives

2006/42/EG	17.05.2006
2004/108/EG	15.12.20004
2002/96/EG	27.01.2003
1999/5/EG	09.03.1999

Applied standards

EN 15027/A1:2009
 EN ISO 12100:2010
 EN 60204-1/A1:2009
 EN 61000-3-11:2000
 EN 61000-3-12:2005

TYROLIT Hydrostress AG
 Witzbergstrasse 18
 CH-8330 Pfäffikon
 Switzerland

Pfäffikon, 01.09.2011



Pascal Schmid
 Leiter Entwicklung



EC declaration of conformity

Description	Wire saw
Type designation	CCH25★★★
Year of construction	2011

We declare under our sole responsibility that this product complies with the following directives and standards:

Applied directives

2006/42/EG	17.05.2006
------------	------------

Applied standards

EN 15027/A1:2009
EN ISO 12100:2010

TYROLIT Hydrostress AG
Witzbergstrasse 18
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Pfäffikon, 01.09.2011



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Leiter Entwicklung

