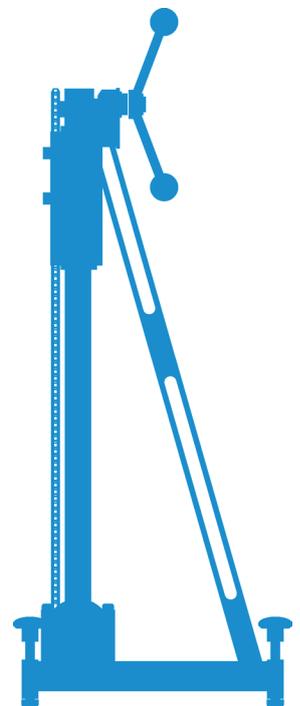




# **OPERATING INSTRUCTIONS**

**Drill rig BY**

**Index 001**



## **Congratulations!**

You have decided to purchase a tried-and-tested TYROLIT Hydrostress unit and have thus acquired a highly sophisticated and reliable state-of-the-art device. Only genuine TYROLIT Hydrostress spare parts can guarantee quality and interchangeability. If maintenance work is neglected or carried out inexpertly, we will be unable to honour our warranty obligations. All repairs must be carried out by trained personnel only.

Our after-sales service is available to help make sure your TYROLIT Hydrostress units remain in perfect working order.

We hope that working with your TYROLIT unit will be a satisfying and fault-free experience.

### **TYROLIT Hydrostress**

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# 1 Safety



These instructions are just one part of the documentation that is supplied together with the drill rig. These instructions belong together with the "Core Drill Safety Manual / System Description" to form a complete set of documentation.



## **DANGER**

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

- ▶ Make sure the "Core Drills Safety Manual / System Description" is read and fully understood.



## **DANGER**

**The machine starting up without warning can cause serious injury or death!**

- ▶ Before switching on the system, make sure nobody is present in the danger areas.
- ▶ Switch off the system before connecting or disconnecting cables and hoses.
- ▶ Switch off the system and make sure it cannot be switched on again if you leave it unattended.

**Serious injury or death can result if you leave the drill bit running after an accident**

- ▶ Make sure the ON / OFF button can be reached quickly.

**Risk of electric shock from live cables and connectors!**

- ▶ Switch the drill motor off before connecting or disconnecting cables.

**Risk of fire due to incorrect mains voltage!**

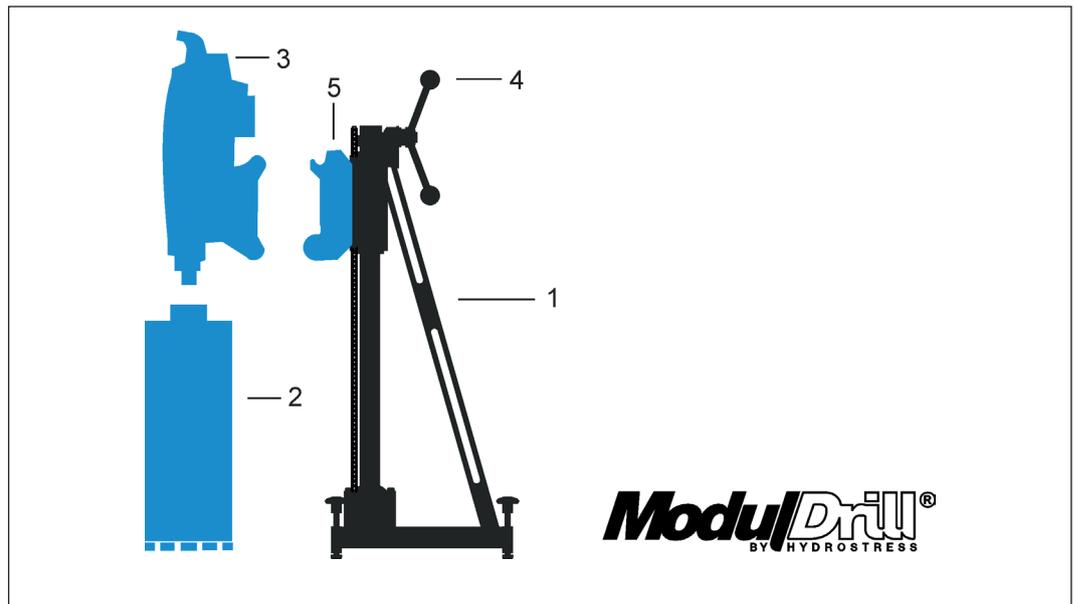
- ▶ Make sure the mains voltage and frequency match the mains settings of the drill motor.

## 2 Description

### 2.1 Core drilling systems

**2.1.1** It is possible to supplement the drill rig BY with suitable TYROLIT Hydrostress components to form an electric or hydraulic core drilling system.

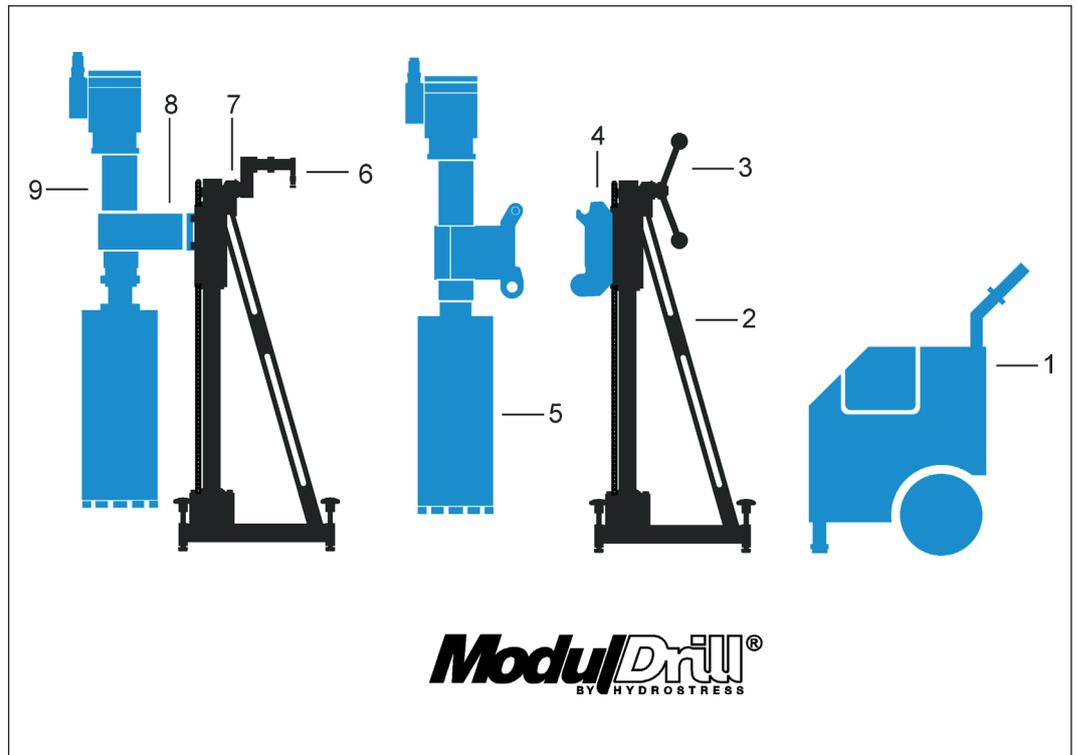
#### 2.1.2 Core drilling system electric



Core drilling system electric

- |                        |                  |
|------------------------|------------------|
| 1 Drill rig BY         | 4 Handwheel      |
| 2 Drill bit            | 5 Mounting plate |
| 3 Electric drill motor |                  |

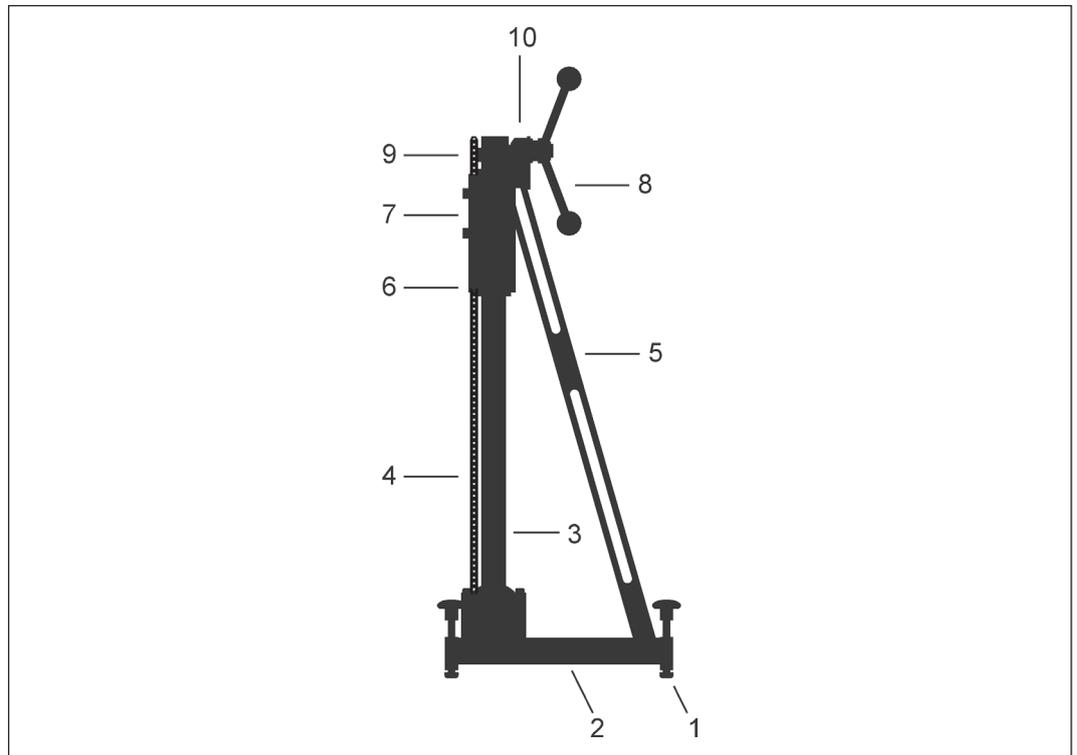
### 2.1.3 Core drilling system hydraulic



Core drilling system hydraulic

- |                        |                               |
|------------------------|-------------------------------|
| 1 Hydraulic drive unit | 6 Hydraulic-feed mounting kit |
| 2 Drill rig BY         | 7 2-stage feed gearbox        |
| 3 Handwheel            | 8 Extension arm               |
| 4 Mounting plate       | 9 Drilling spindle            |
| 5 Drill bit            |                               |

## 2.2 Main components



### Main components

- |                   |                       |
|-------------------|-----------------------|
| 1 Adjustable foot | 6 Support guide clamp |
| 2 Chassis         | 7 Support             |
| 3 Guide tube      | 8 Handwheel*          |
| 4 Chain           | 9 Drive shaft         |
| 5 Brace *         | 10 Gearbox *          |

\* Accessories

## 3 Assembly

### 3.1 Drill motor interface



The gear reduction arm, extensions and the ModulDrill mounting plate are connected to the support by means of bolted connections.

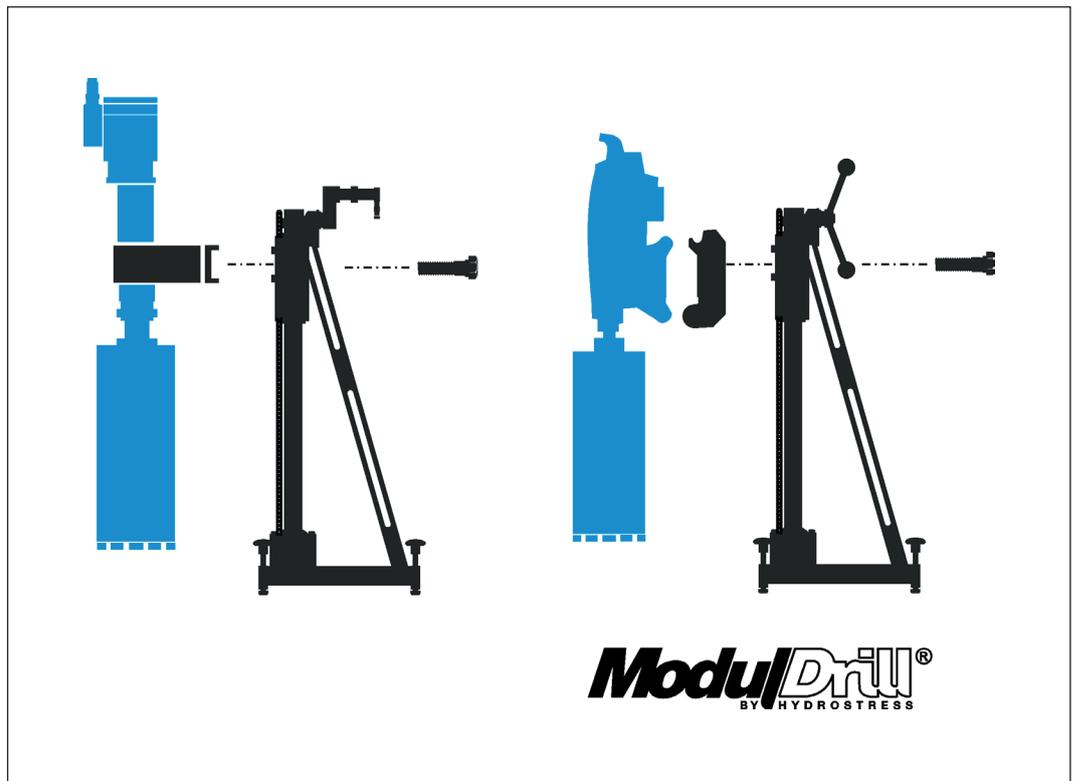
#### 3.1.1 Mounting the drill motor

✓ Tool

Fork wrench



TYROLIT No. 973784 (size 19)

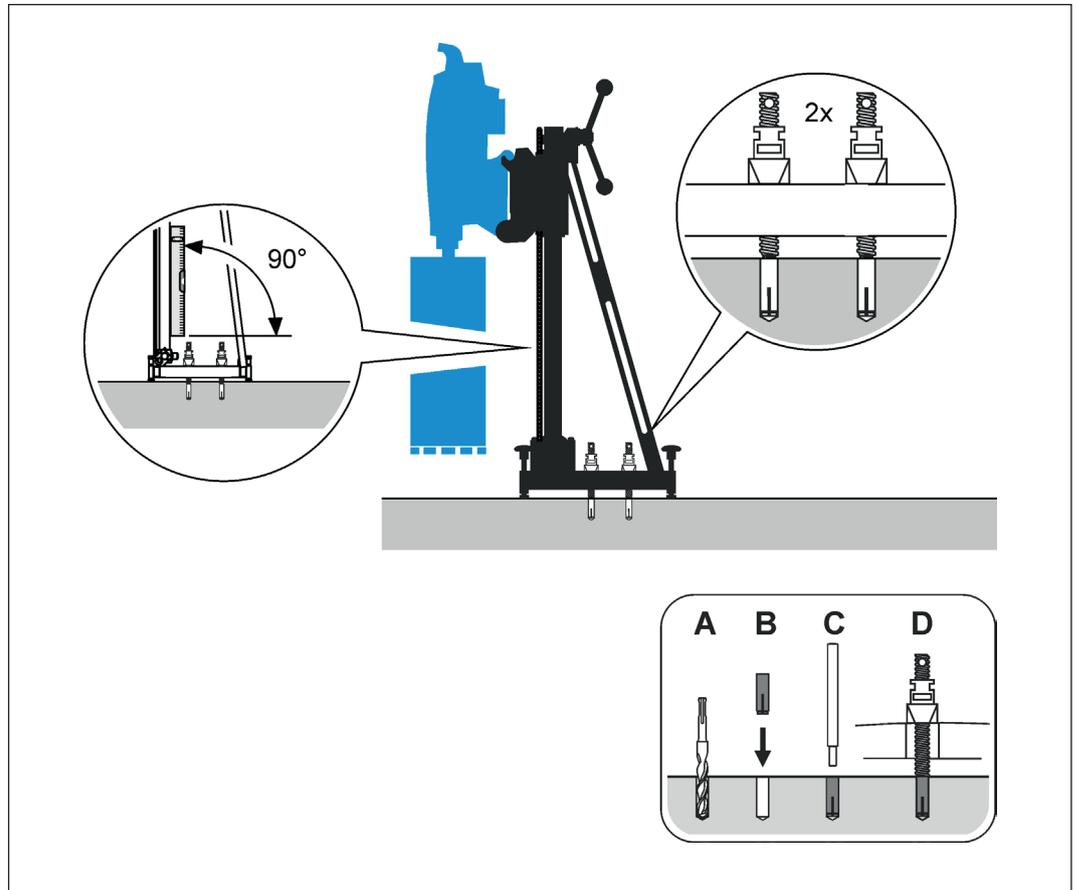


Mounting the drill motor

## 3.2 Interface to work surface

### 3.2.1 Dowel anchoring

It is possible to secure the drill rig BY to the work surface using dowel anchors.



Dowel anchoring

#### Proceed as follows:

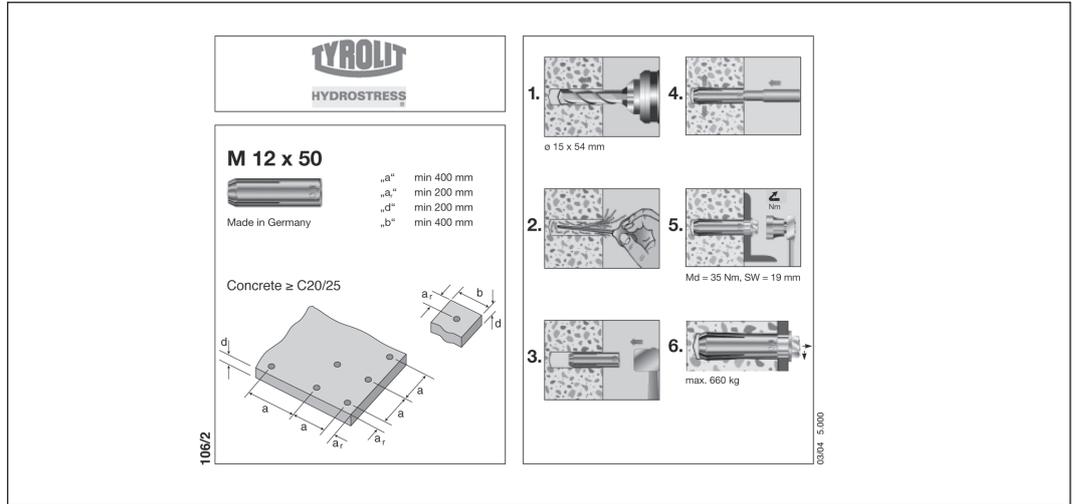
- ▶ Position the anchoring dowels suitable for the work surface as specified by the dowel manufacturer.
- ▶ Screw in the anchoring elements.
- ▶ Loosely secure the core drill rig.
- ▶ Set up the drill rig using a spirit level. The drill rig must be set at a 90° angle to the work surface for vertical bores.
- ▶ Attach the core drill rig securely to the work surface using the two anchoring elements.
- ▶ Check the anchoring of the core drill rig.



To secure core drill rigs, use anchoring elements suitable for the work surface. When positioning the dowels, the installation instructions of the dowel manufacturer must be followed.

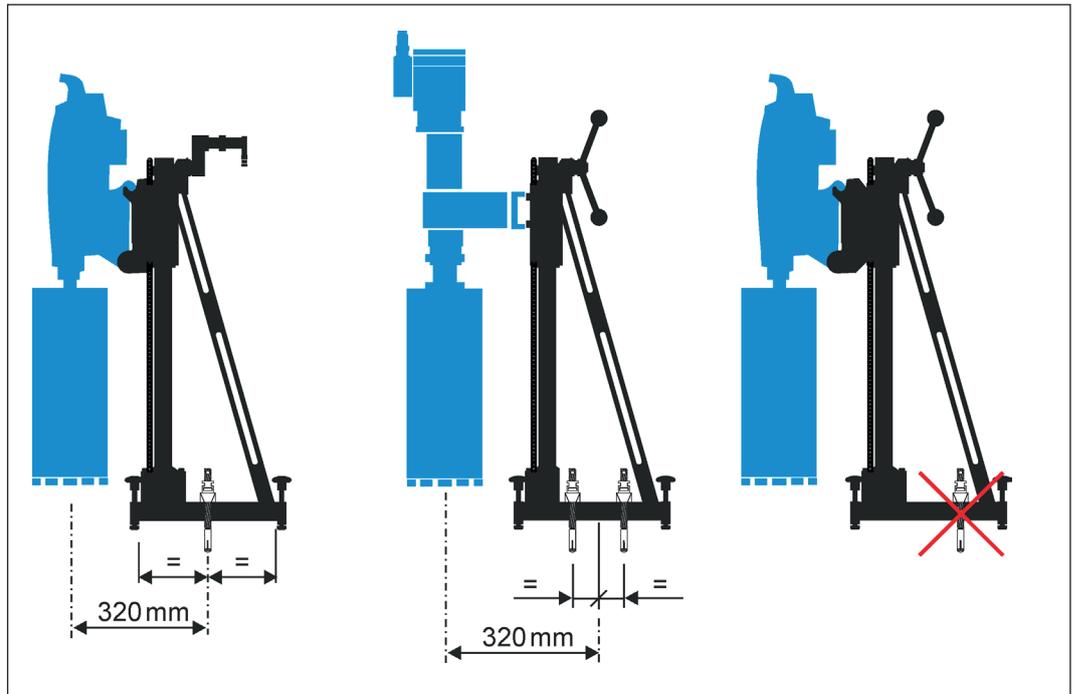
Example:

Dowel instruction leaflet



Anchoring instructions

### 3.2.2 Dowel dimensions



Dowel dimensions

## 4 Settings

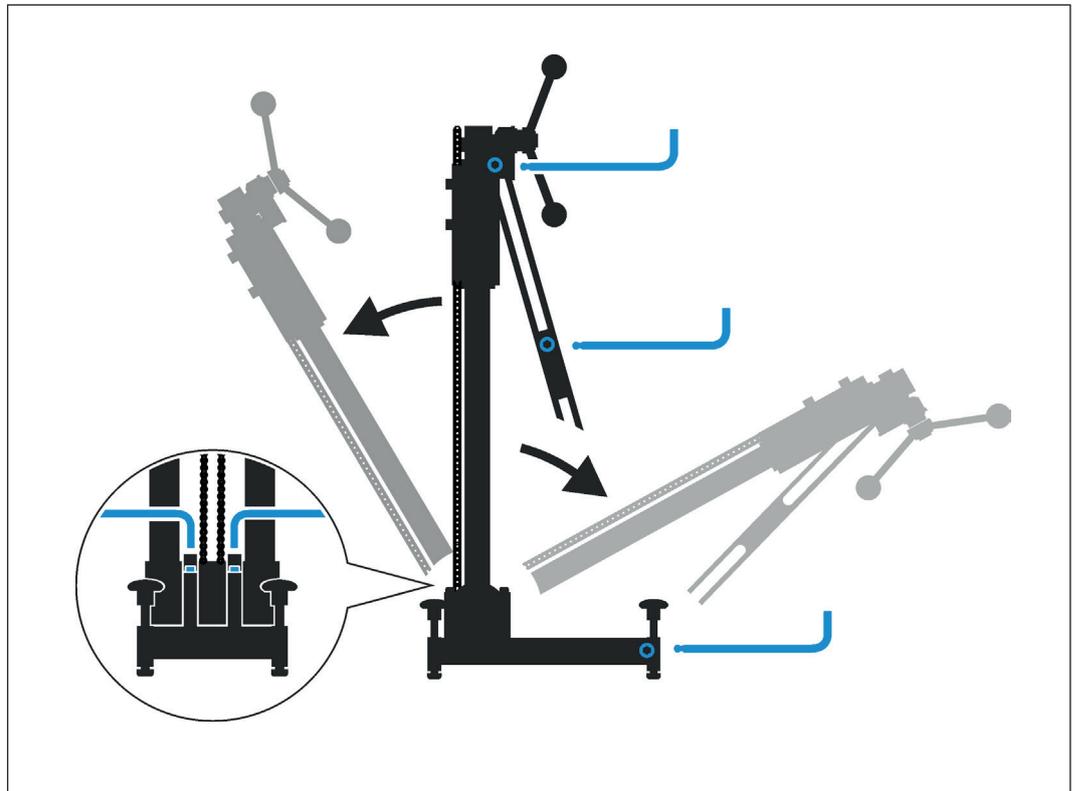
### 4.1 Angled position

✓ Tool

Allen key



TYROLIT No. 973792 (size 6)



Angled position

#### Proceed as follows:

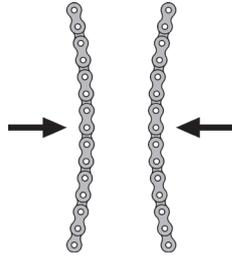
- ▶ Undo the bolts of the guide carriers and the support rods.
- ▶ Tilt the guide rods to the angle required.
- ▶ Tighten the guide carrier and support rod bolts.

## 5 Servicing and maintenance

### 5.1 Maintenance table

Maintenance and servicing table		Before each use	After finishing work	Weekly	Annually	After faults	After damage
Drill rig	▶ Wash down with water	•	•			•	•
	▶ Lubricate threads of adjustable feet			•		•	•
	▶ Tighten loose screws and nuts	•					
	▶ Lubricate chain	•		•			
Support	▶ Tighten loose screws and nuts	•				•	•
	▶ Check sliding guide and adjust if necessary (see 5.4 Adjusting the drill rig guide)	•				•	
Service	▶ To be performed by TYROLIT Hydrostress AG or an authorised workshop.	First service after 100 operating hours Further services after every further 200 operating hours					

## 5.2 Checking the chain tension



Checking the chain tension

**Proceed as follows:**

- ▶ Press the chain together in the middle of the drill rig using your thumb and index finger.



The chain is tensioned correctly if it can be pressed together by hand.

- The chain is too tight if it cannot be pressed together.
- The chain is too loose if it can be pressed together without resistance.

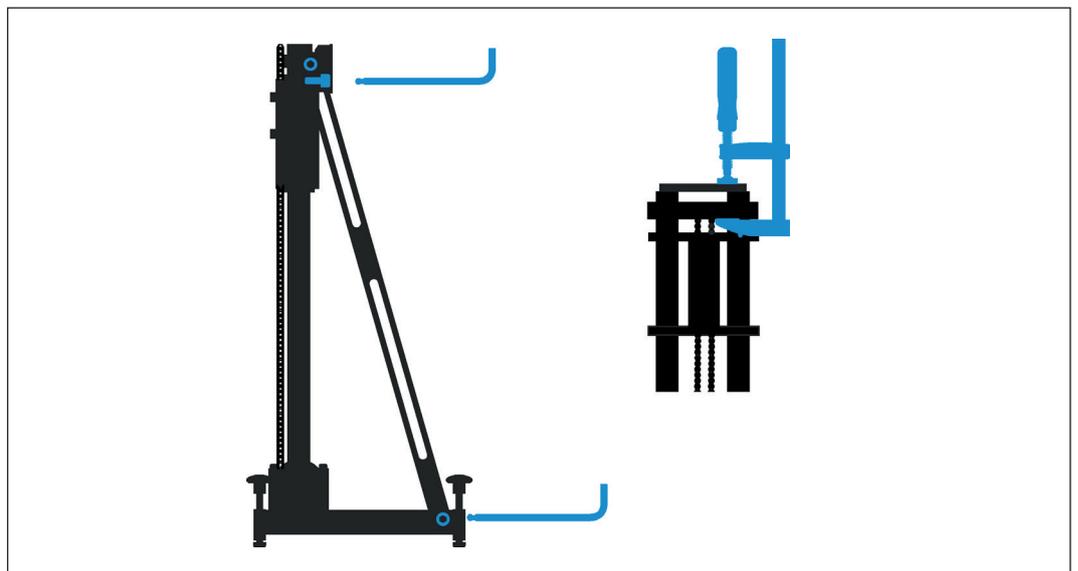
## 5.3 Tightening the chain

✓ Tool

Allen key



TYROLIT No. 973792 (size 6)



Tightening the chain

**Proceed as follows:**

- ▶ Undo the bolts of the guide carriers and the support rods.
- ▶ Tension the chain using a C-clamp and a steel plate until the correct tension has been reached.
- ▶ Tighten the guide carrier and support rod bolts.

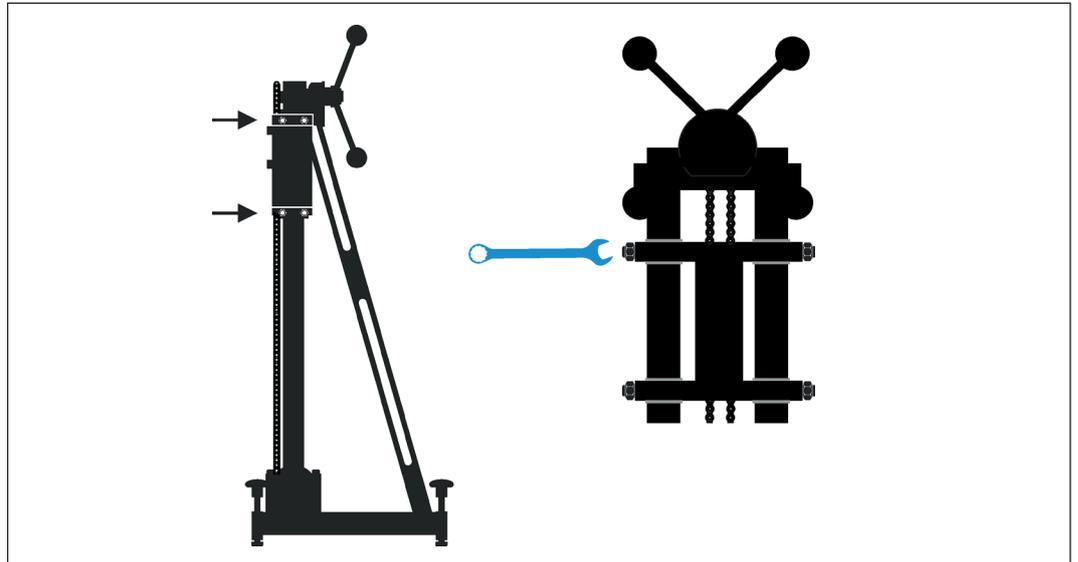
## 5.4 Adjusting the drill rig guide

✓ Tool

Fork wrench



TYROLIT No. 10995777 (size 10)



Adjusting the drill rig guide

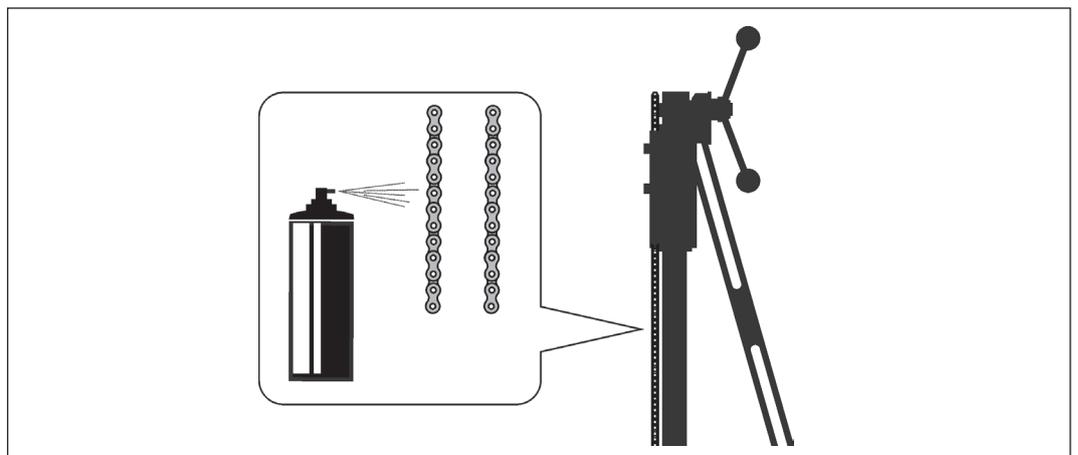
**Proceed as follows:**

- ▶ Tighten or loosen the four nuts on each side of the drill rig.



The support must be free of play but still slide on the guide rods without needing much force.

## 5.5 Lubricating the chain



Lubricating the chain

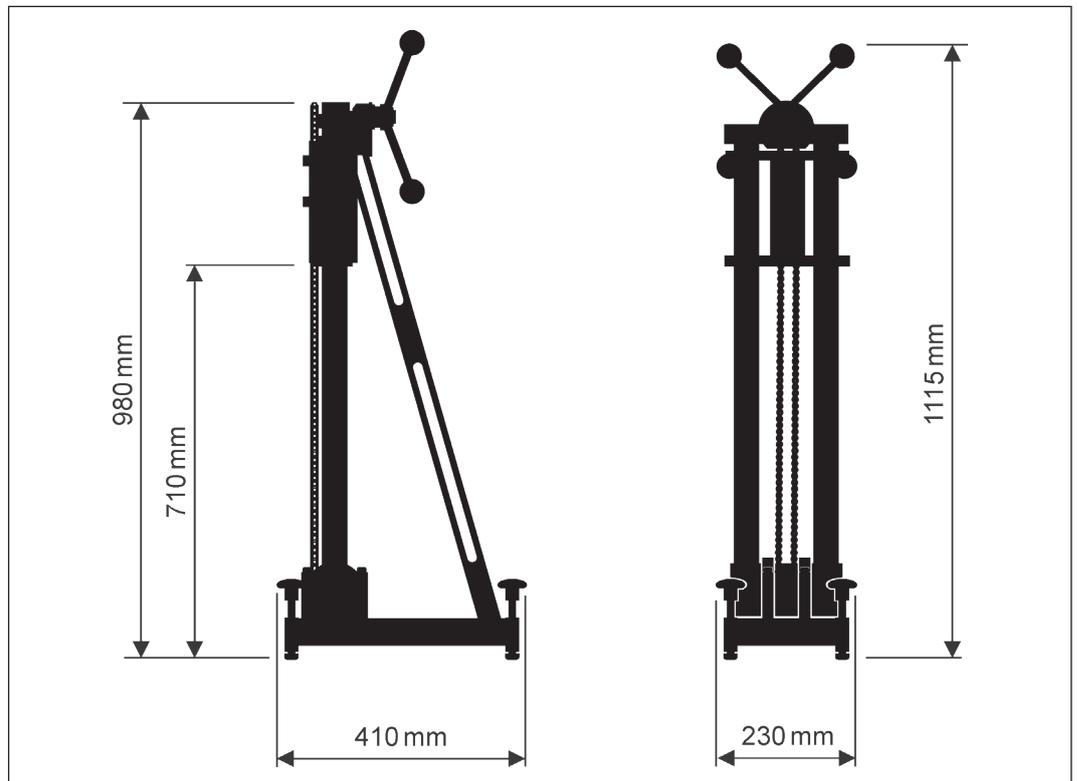


Lubricate the chain with chain spray before starting work.

## 6 Faults

Faults		
Fault	Possible cause	Solution
Diamond drill bit jams	Diamond drill bit off centre due to inadequate anchoring of guide columns or drill rig foot	▶ Loosen and extract diamond drill bit. Break up drilling core and correct drill rig anchoring
	Diamond drill bit drifts due to excessive play in the sliding guides	▶ Loosen drill rig and readjust sliding guides
	Drill segments are worn (no free cutting)	▶ Replace drill bit
Major wear on the drill bit tube	Diamond drill bit poorly guided in the drill hole	▶ Adjust sliding guides
	Defective drill motor bearings	▶ Replace drill motor ▶ Contact TYROLIT Hydrostress AG after-sales service
Feed jams along the whole length of the guide	Locking device of the sliding guides is too tight	▶ Adjust sliding guide clamping
Difficulty centring drill bit	Diamond drill bit off centre due to poor anchoring of the drill rig	▶ Correct drill rig anchoring
	Diamond drill bit drifts due to excessive play in the sliding guides	▶ Adjust sliding guides
	Poor concentricity of drill bit	▶ Replace drill bit ▶ Use TYROLIT diamond tool
Difficult or impossible to turn the foot adjustment screws	Thread not lubricated	▶ Lubricate thread
	Feet bent	▶ Contact TYROLIT Hydrostress AG after-sales service
Difficult or impossible to incline the drill rig	Guide tube bent or damaged	▶ Contact TYROLIT Hydrostress AG after-sales service

## 7 Technical data



Dimensions

### 7.1 Dimensions

Dimensions	
BY	
Length L	410 mm
Width B	230 mm
Height H	1115 mm

### 7.2 Weight

Weights	
BY	
Weight (without hand crank)	21 kg

### 7.3 Diamond tool

Drill bits	
BY	
Drill diameter range	Ø 80 – Ø 300 mm

### 7.4 Design

BY	
Foot	Steel dowel foot
Feed	By means of hand crank / hydraulic feed motor
Two-speed feed gearbox	i=2 and i=9
Feed gearbox	1:3
Angular adjustment	0° – 90°
Adjustable feet	Thread
Drill motor mount	ModulDrill quick change clamping system M12 screw plate

## 8 EC Declaration of Conformity

Description	Drill rig
Type designation	BY
Year of construction	2009

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

### Directive applied

Machinery Directives 2006/42/EC

### Applied standards

EN 12100:2010	Safety of machinery - General principles for design - Risk assessment and risk reduction
EN 12348:2010 + A1:2009	Core drilling machines on stands - Safety

Pfäffikon, 28/05/2019



Pascal Schmid  
Head of Development



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