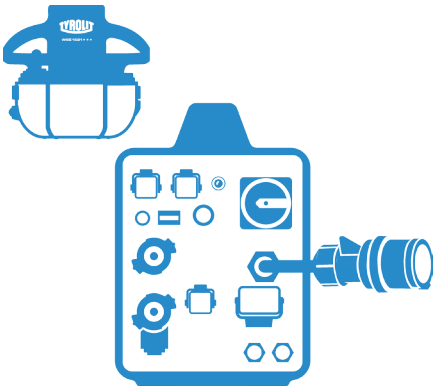
PREMIUM

# OPERATING INSTRUCTIONS

## CONTROL UNIT WSE1621

Index 000



Translation of the original instructions
10999160 en / 01.10..2018

## 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 replacement 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 ensure that 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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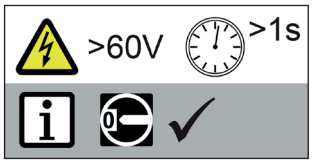
# 1 Safety

**DANGER**
Failure to comply with the safety instructions in the "Safety Manuals / System Manuals" may result in serious injury or even death.
▶ Make sure the "Safety Manuals / System Descriptions" for the relevant type of saw have been read and understood in full.

**DANGER**
**Death or serious injury can be caused by sudden start-up of the machine!**
▶ Before switching on the system, ensure that no other persons are present in the danger areas.
▶ Switch the system off before connecting or disconnecting cables.
▶ When leaving the system unattended: switch off and secure the system to prevent it being switched on again.

**Death or serious injury as a result of the sawing machine continuing to run after an accident**
▶ Ensure that the EMERGENCY STOP button can be reached quickly.

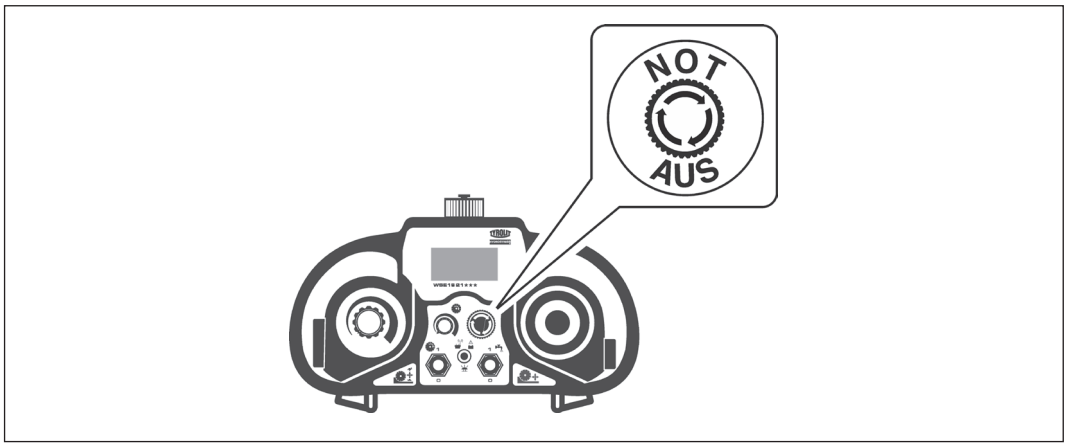
**Electric shock from live cables and connectors!**
▶ Switch off the WSE1621 Control unit before connecting or disconnecting cables.
▶ Ensure the power supply is earthed and fitted with an AC/DC sensitive residual current circuit breaker (FI type B) with a maximum residual current of 30mA.




**Risk of fire due to incorrect mains voltage!**
▶ Make sure the mains voltage and mains frequency correspond with the mains settings of the WSE1621 Control unit.

## 1.1 What to do in an emergency

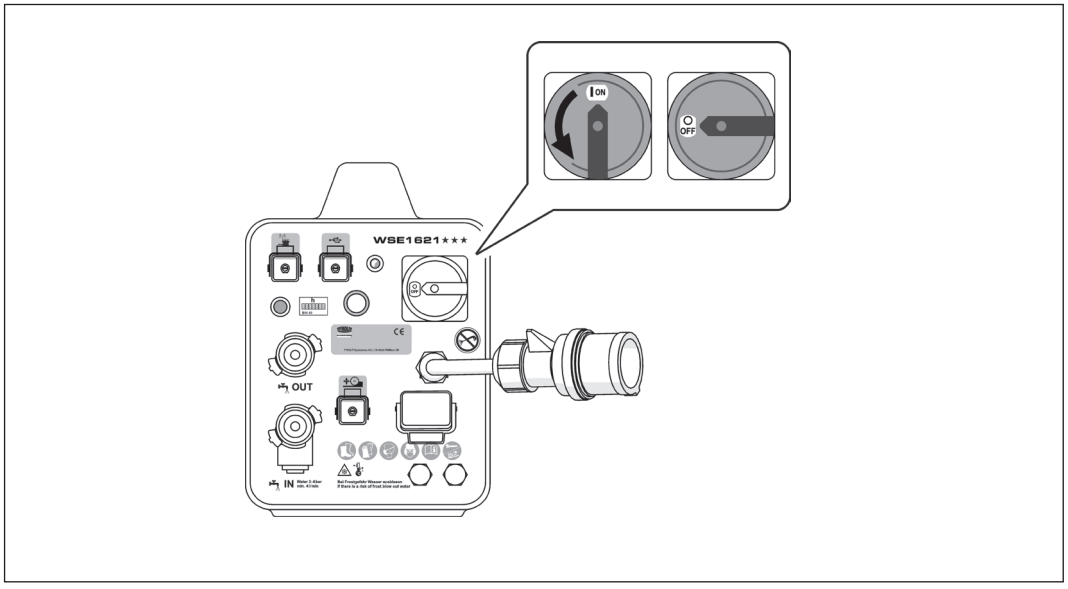
▶ Press the EMERGENCY STOP button on the remote controller.




EMERGENCY STOP

If the EMERGENCY STOP function is activated on the radio remote controller, the power supply of the main motor is interrupted.

In the event of an emergency, the machine systems can also be switched off via the main switch on the WSE1617 control unit.

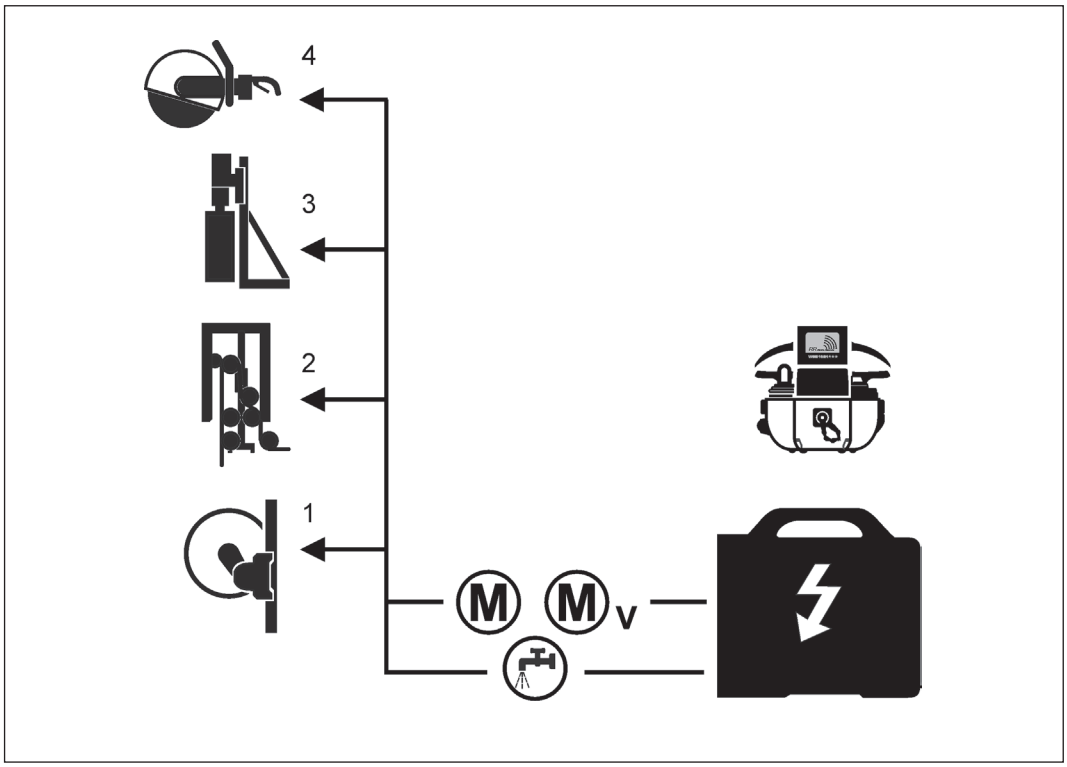



Main switch

# 2 Description

## 2.1 System

The WSE1621 Control unit / Remote controller can be used to operate various TYROLIT machine systems.




System

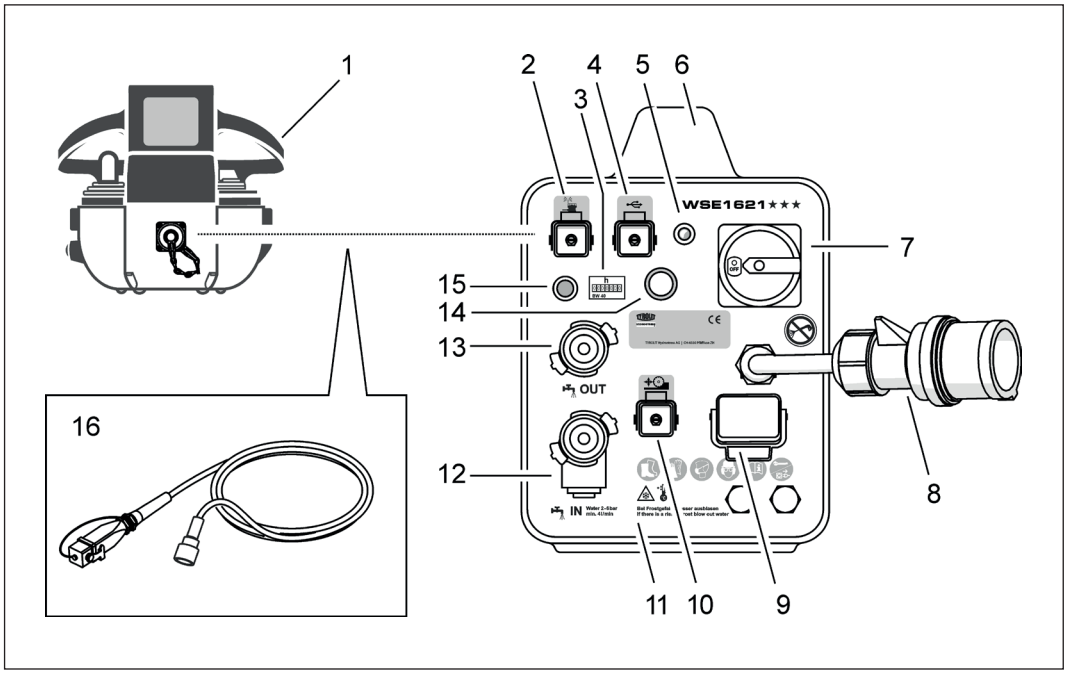
1 Wall saw systems
2 Wire saw systems
3 Core drilling systems
4 Hand saw systems

M Connection for main/drive motor
Mv Connection for feed motor(s)

Water connection

## 2.2 Main components

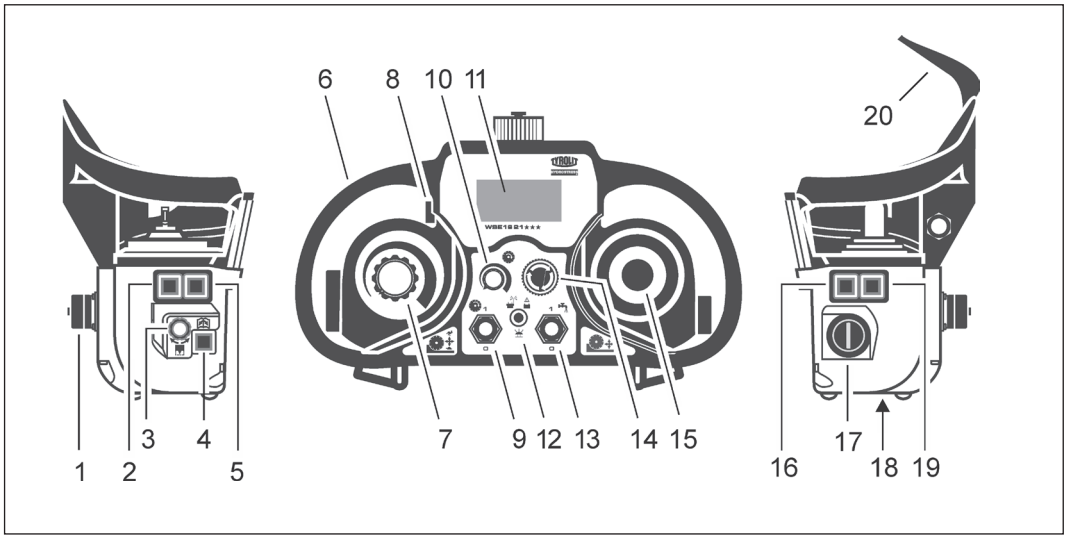
### 2.2.1 Main components Control unit




Main components Control unit

1 Remote controller
2 Connection for remote controller
3 Hour counter
4 USB port
5 Indicator light
6 Housing with grip
7 Main switch
8 Power supply
9 Connection for main motor
10 Connection for feed motor
11 Switchboard
12 Water coupling / water inlet
13 Water coupling / water outlet
14 Radio antenna / remote query
15 Radio antenna / remote controller
16 Remote controller cable

### 2.2.2 Main components Remote controller

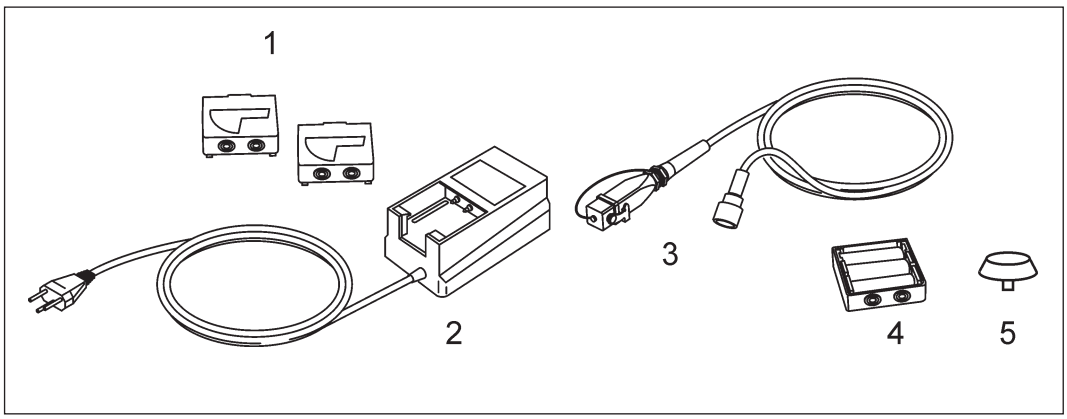



Main components of remote controller

| | | | |
|---|---|---|---|
| 1 | Connection for remote controller cable | 11 | Display |
| 2 | Locking button (traverse feed) | 12 | Indicator light (radio & battery) |
| 3 | Rotary knob/push button, universal | 13 | Water On/Off |
| 4 | Menu selection button | 14 | EMERGENCY STOP |
| 5 | Tool selection button | 15 | Feed joystick |
| 6 | Casing | 16 | Pulse button |
| 7 | Feed motor potentiometer | 17 | Start switch |
| 8 | USB port | 18 | Battery compartment |
| 9 | Main motor On/Off | 19 | Reset button |
| 10 | Main motor potentiometer | 20 | Sun shield |

### 2.2.3 Accessories for remote controller

The battery charger is exclusively designed for recharging the original interchangeable rechargeable batteries. The battery holder and the cable insert must not be inserted.




Accessories

| | | |
|---|---|---|
| 1 | 2x interchangeable rechargeable batteries | No. 10999383 |
| 2 | Rechargeable battery charger | No. 10984305 |
| | Rechargeable battery charger with 10–30 VDC connection | No.10984840 |
| 3 | Remote controller cable | No. 10999372 |
| 4 | Battery holder | No. 10999384 |
| 5 | Key | No. 10984309 |

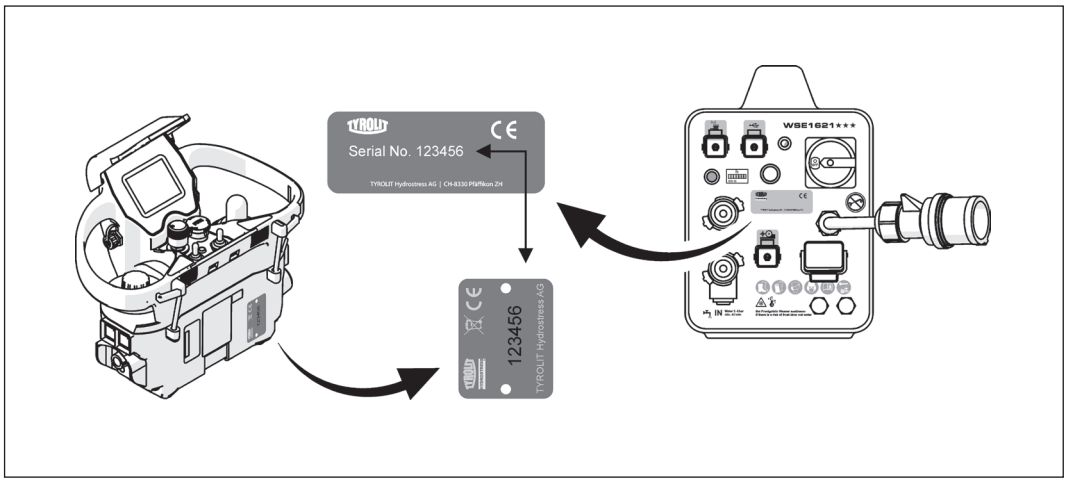
## 2.3 Remote controller

The remote controller can be replaced by an accumulator or a battery operated radio remote controller. The remote controller can also be operated using a cable.

### 2.3.1 Operating modes

#### Radio remote controller

The transmitter and receiver are a pair of matched units. They cannot be used with other devices. The number on the back of the remote controller must match the serial number on the machine name plate.




Radio remote controller

### 2.3.2 Operating modes

**Rechargeable battery operation:**
The interchangeable rechargeable battery is inserted in the base of the casing of the remote controller. The operating period with a fully charged battery is approximately 12 hours. The maximum reception distance is 25 m.

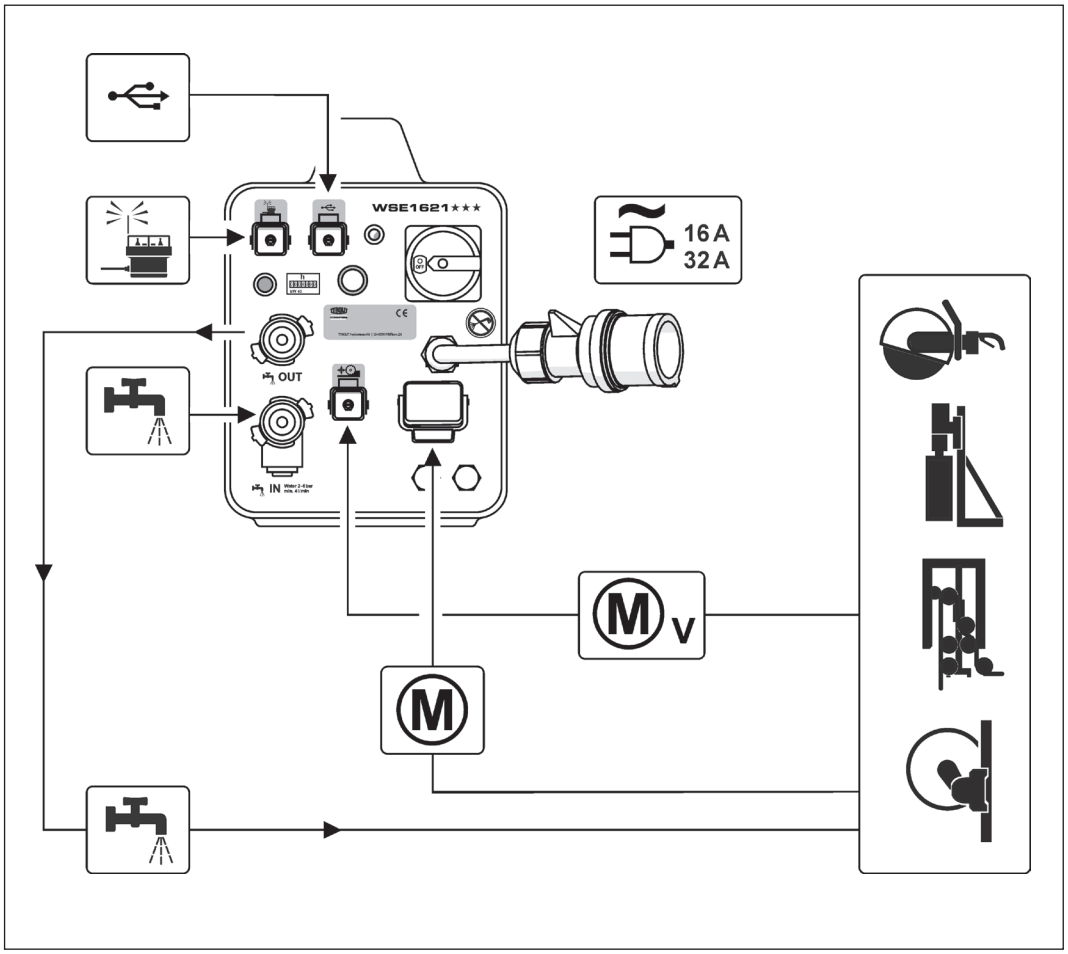
**Ordinary battery operation:**
The battery insert included in the scope of supply allows operation with three 1.5 V AA batteries. The reception distance is 25 m and the maximum operating time is 1 hour.

**Cable operation:**
The cable insert is included in the scope of supply and allows connection of the remote controller to the WSE1621 Control unit. The cable length is 10 m. Cable operation makes it possible to work in areas where radio operation is not allowed (e.g. hospitals).
When working with the cable connection, all control signals are transmitted via the electric cable. The rechargeable/ordinary battery holders must not be inserted in the base of the casing during cable operation.

## 2.4 Connections

### 2.4.1 Establishing connections for the control unit

- ✓ The control unit is isolated from the power supply
- ✓ The connectors and couplings are clean
- ✓ Cables and hoses are undamaged




Control unit connections

Cutting tool drive motor

Feed motor

Water

Mains supply

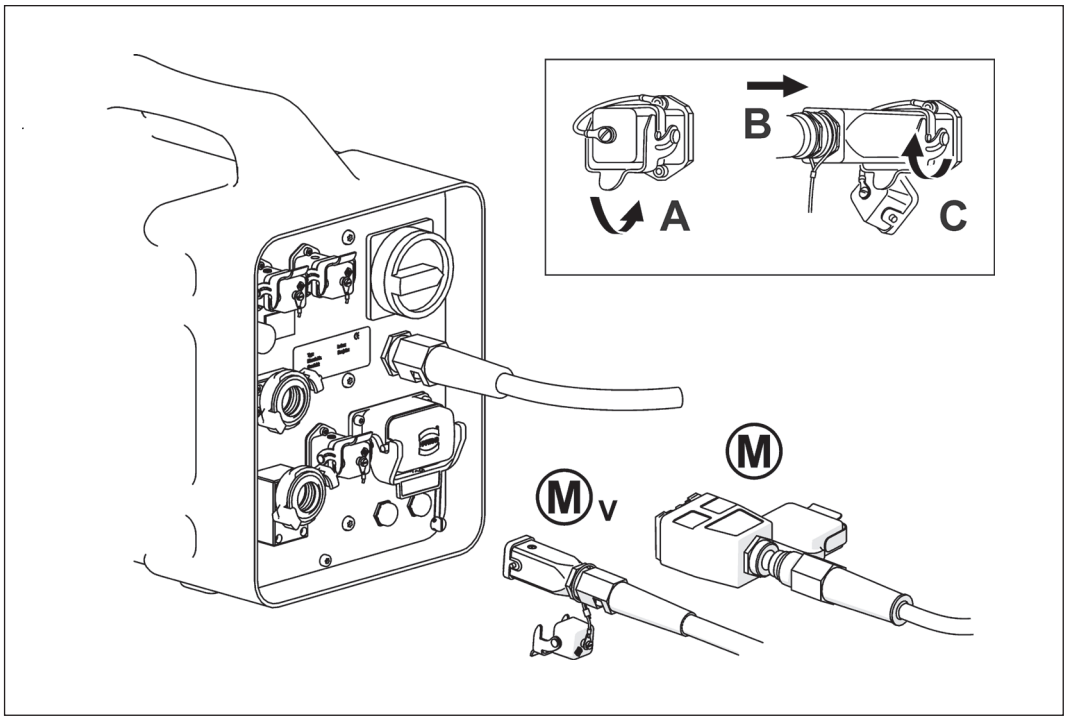
Cable connection for remote controller

USB port

## 2.4.2 Connecting the power and water supply

### Connecting motors

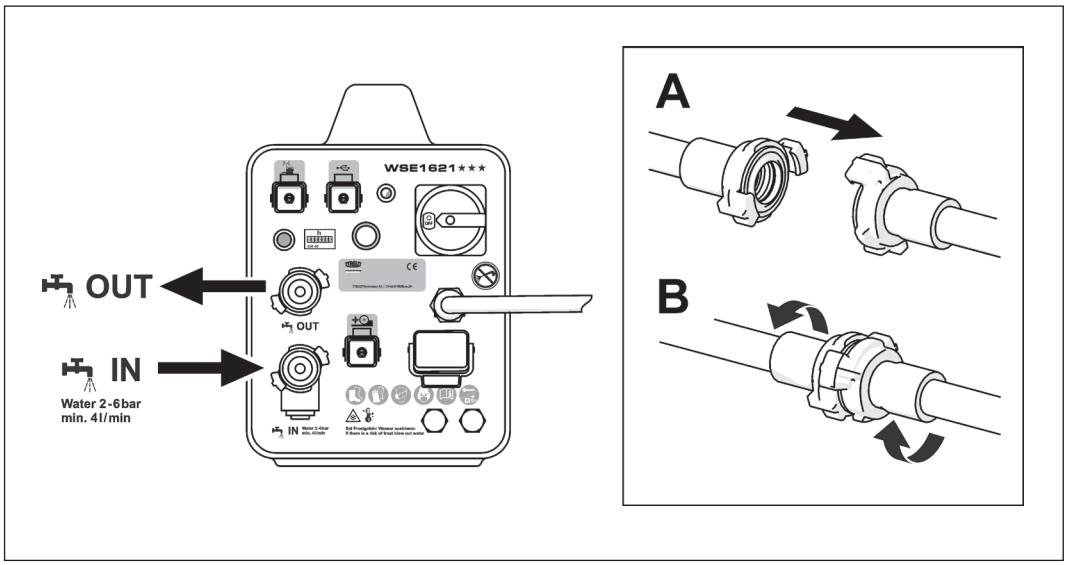
- ✓ The power supply is earthed and fitted with a residual current operated protective device (FI; max. residual current 30mA)
- ✓ Sufficient cable cross-sections: up to 25 m long 5 x 4 mm², more than 25 m long 5 x 6 mm²
- ✓ Connectors are clean
- ✓ Cables are undamaged




Connecting motors

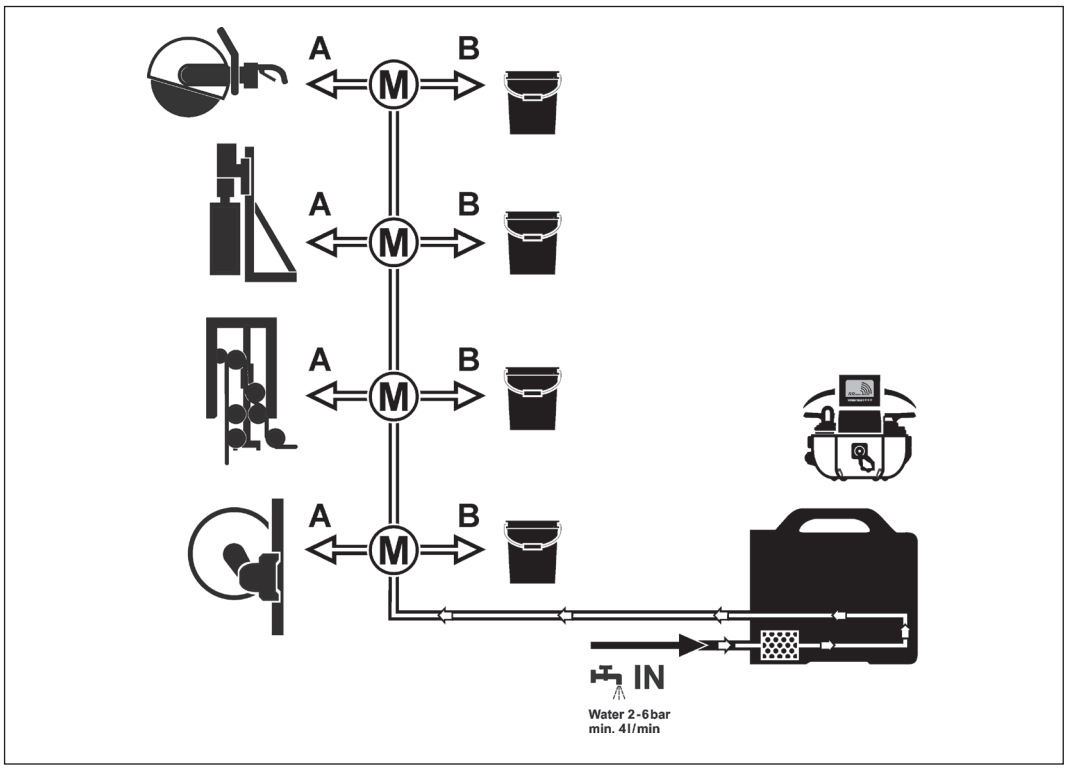
M Cutting tool drive motor
M v Feed motor

## Connecting the water supply




Water connections

The WSE1621 Control unit is cooled by water. The control unit must also be cooled during dry applications. The incoming water is routed through the water filter via the control unit and on to the machine system. After cooling the main motor of the machine system during a dry application, the water is drained via a water hose.

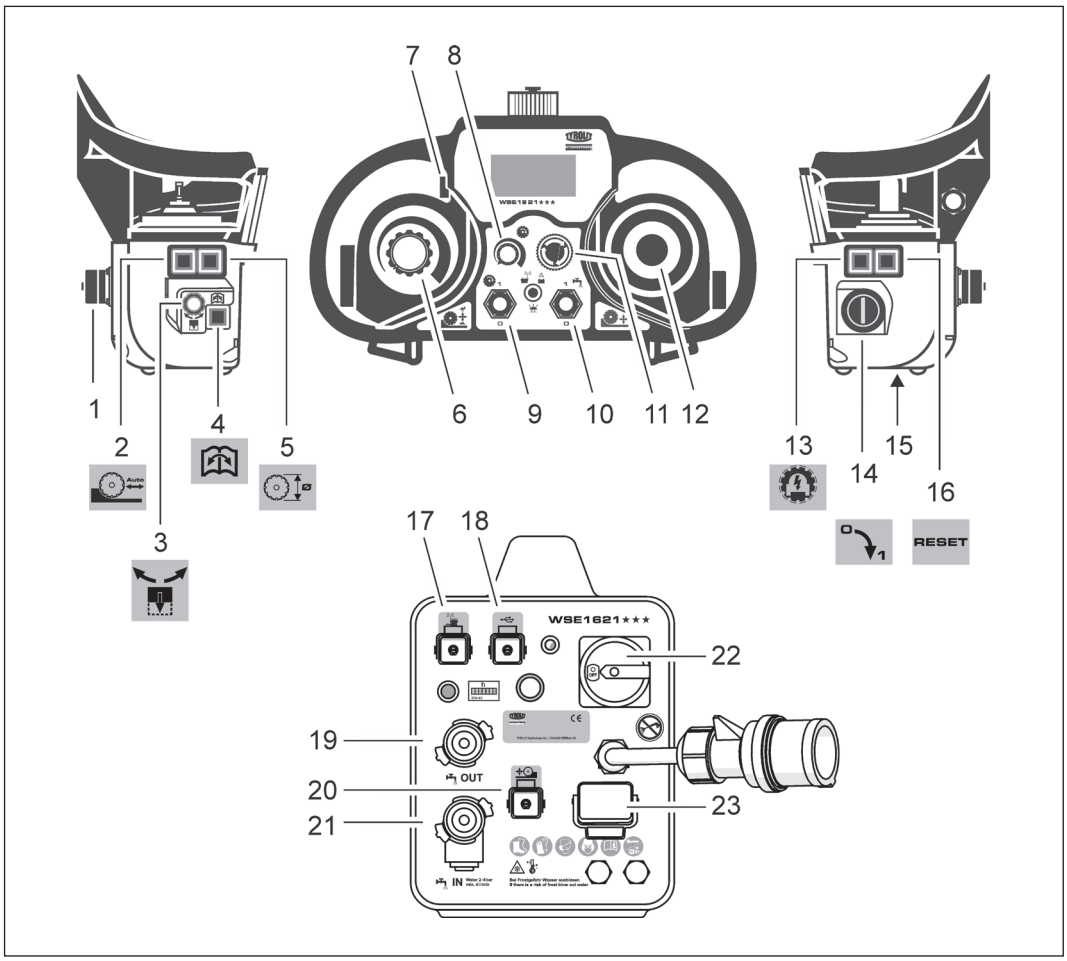



Control unit connections

A Wet applications
B Dry applications

# 3 Operation

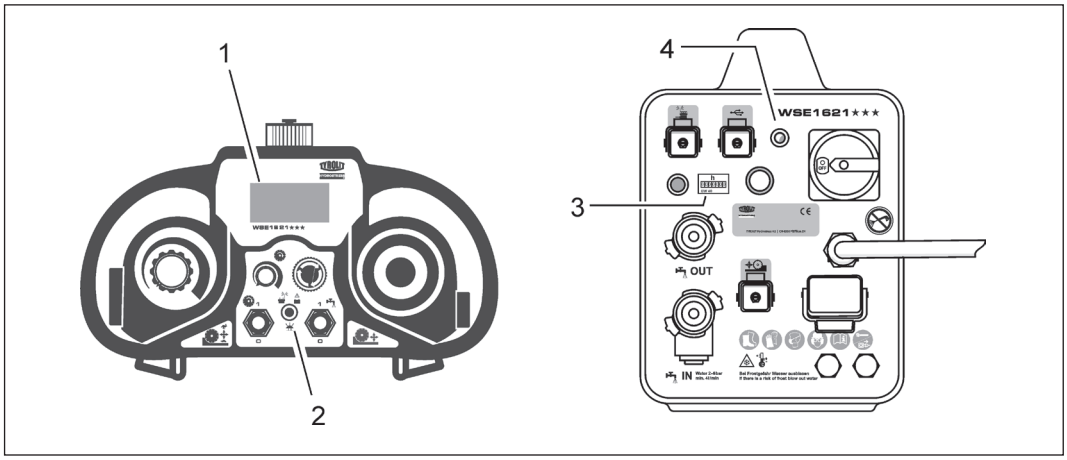
## 3.1 Overview of controls




Controls

1 Connection for remote controller cable
2 Locking button (traverse feed)
3 Rotary knob/push button, universal
4 Menu selection button
5 Tool selection button
6 Feed motor potentiometer
7 USB port
8 Main motor potentiometer
9 Main motor On/Off
10 Water On/Off
11 EMERGENCY STOP
12 Feed joystick
13 Pulse button
14 Start switch
15 Battery compartment
16 Reset button
17 Connection for remote controller cable
18 USB port
19 Water connection
20 Connection for feed cable
21 Water connection
22 Start switch
23 Connection for main motor cable

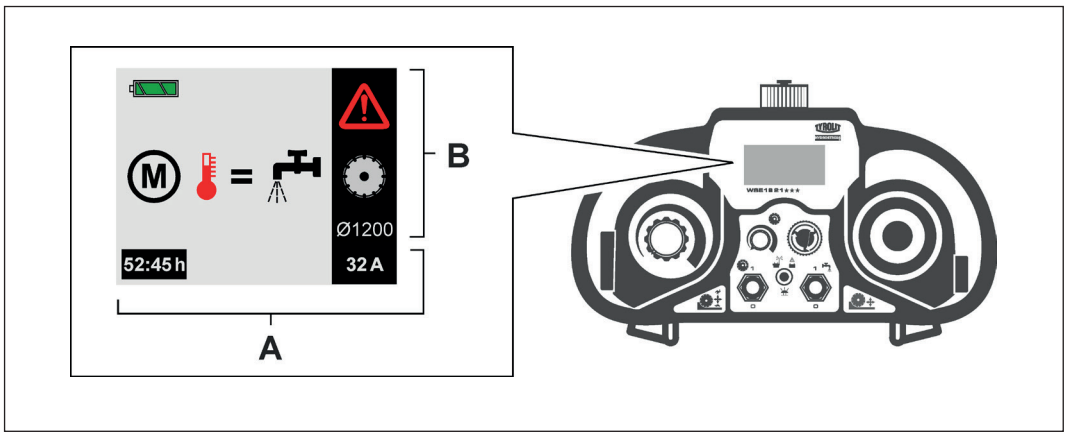
## 3.2 Display elements




Display elements

1 Display
2 Indicator light (radio & battery)
3 Hour counter
4 Indicator light (ON/OFF)

### 3.2.1 Display fields




Display fields

A Vario information field
B Status information field

#### Vario information field

The vario information field displays information regarding faults, power and time.

#### Status information field

The status information field displays information regarding the machine system.

### 3.2.2 Display symbols

**Status information field**


Error displays


System displays


Repair / service displays

Ø TYROLIT diamond tool

Ø high-speed diamond tool

Ø drill bit

Diamond wire

**Vario information field**


Operating Instructions


Electric


Information

Main motor


Repair / service


Potentiometer

Potentiometer 0 position


Water


Rechargeable battery:
Battery empty


Rechargeable battery:
Low battery level


Rechargeable battery:
Fully charged


Phase


Phase missing


Relay


FC intermediate circuit


FC output stage


Data exchange


EMERGENCY STOP function / ON


EMERGENCY STOP function / OFF


Contact


Stopwatch / daily hour counter

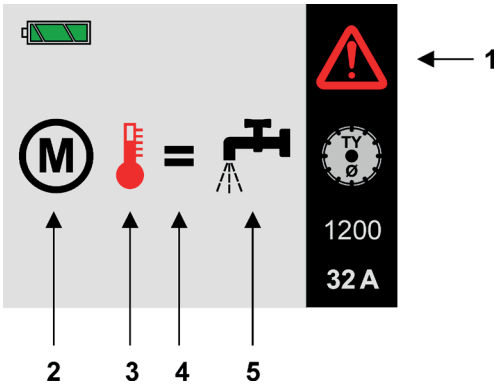

Electronics

**Vario information field**

| | | | |
|---|---|---|---|
| Insert feed | | Current | |
| Advance feed | | Overcurrent | |
| Feed | | Undercurrent | |
| Main motor, clockwise direction of rotation | | Earth | |
| Main motor, counter-clockwise direction of rotation | | Earth fault | |
| Overheating | | Equal sign | |

The individual vario symbols can be combined to create statements

Example of an error display:
Cause: Overtemperature of main motor
Action: Cool with water

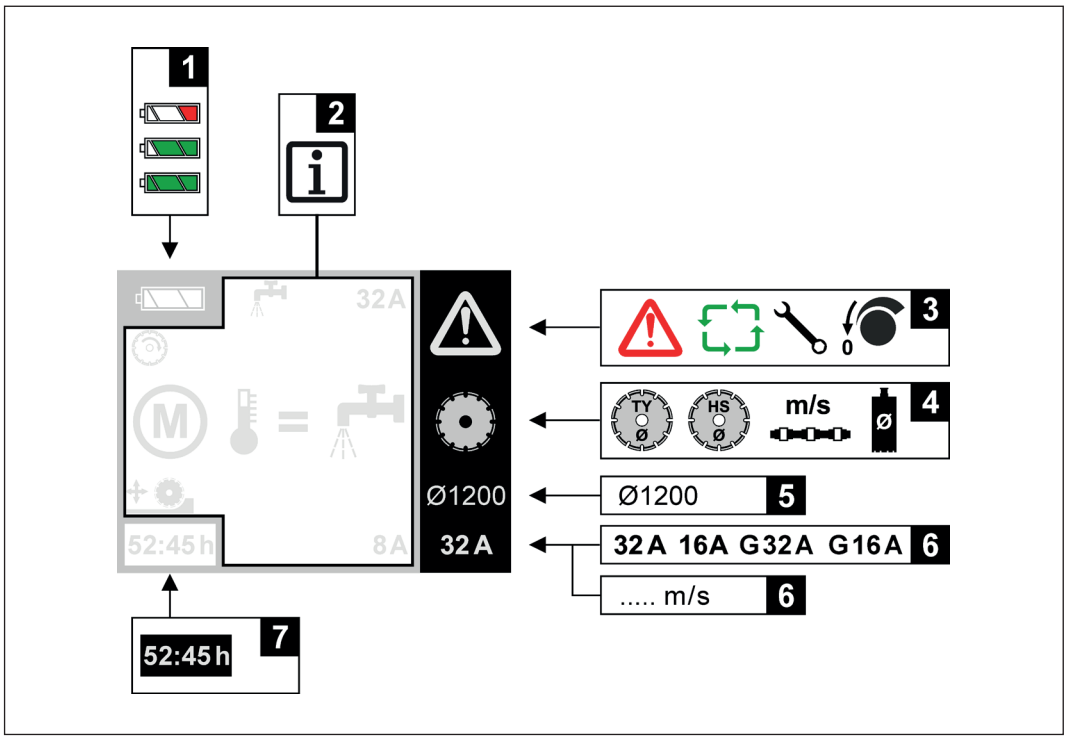



Example of vario fields

Display:

Error display (1): Main motor (2) has reached overtemperature (3), countermeasure equals (4) cool with water (5).

### 3.2.3 Display segments




Display fields

| 1 Power supply | | |
|---|---|---|
| | 1/3 red | Rechargeable battery: Battery empty |
| | 2/3 green | Rechargeable battery: Low battery level |
| | 3/3 green | Rechargeable battery: Fully charged |
| **2 Information field** | | |
| | | The vario information field displays information regarding faults, power and operating status. |
| **3 Display status** | | |
| | | This status indicates an error in the Information field. |
| | | This status indicates operating/system information in the Information field. |
| | | This status indicates repair information in the Information field. |
| 0 | | Potentiometer of the feed motor is not in the 0 position. |

| 4 Machine system display | | |
|---|---|---|
|  | Wall saws | with TYROLIT diamond tool |
|  | Wall saws | with TYROLIT high-speed diamond tool |
|  | Wire saws | Diamond tool speed |
|  | Core drilling | Ø diamond tool |

| 5 Type / dimension of cutting tool | |
|---|---|
| Ø 1200 | e.g. saw blade with Ø 1200mm (650mm / 825mm / 1025mm / 1200mm / 1600mm) |

| 6 Mains power supply display / speed of diamond tool | |
|---|---|
|  | The mains power supply is displayed in field 6, which, during the cutting procedure, switches to the speed of the diamond tools. |
|  | 16 A mains power supply / G16 A generator |
|  | 32 A mains power supply / G32 A generator |
| **... m/s** | Speed of the diamond tool |

| 7 Time field | |
|---|---|
| **... h** | 00:00h time field |

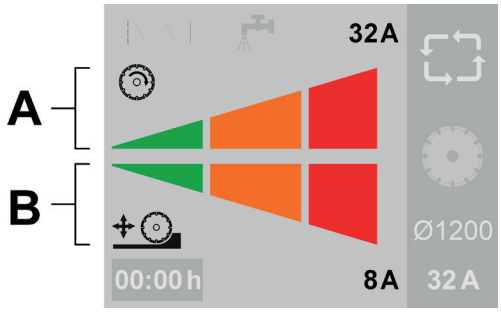
The machine system is detected automatically during the startup process.

The WSE1621 Control unit is preset for a 32 A mains power supply. (32A appears on the display). It is possible to switch to a 16 A mains power supply. The control unit will automatically return to the 32 A setting when it is restarted.

The WSE1621 Control unit will switch off if it is not used for 30 seconds. The control unit can be reactivated by pressing the pulse button (12).

### 3.2.4 Power display during operation

The current power range is displayed with a coloured bar and a power value (digit adjusts continuously).
Ideal scenario: In the second orange segments (in iron in the third red segments).

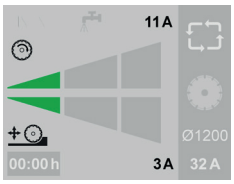



Display of the power for the feed- and main motor

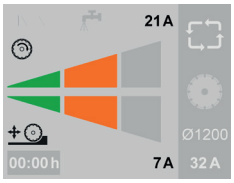
A Power display for the main motor
B Power display for the feed motor

#### Display of the power for the feed- and main motor

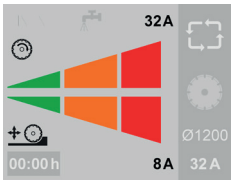
**Power display during operation**




Operation with less than 40% nominal power

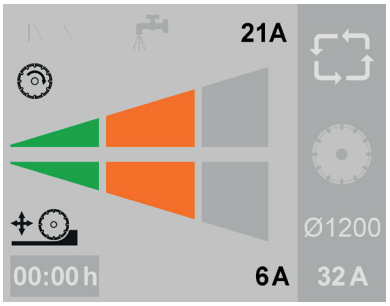



Operation with 40% to 80% nominal power



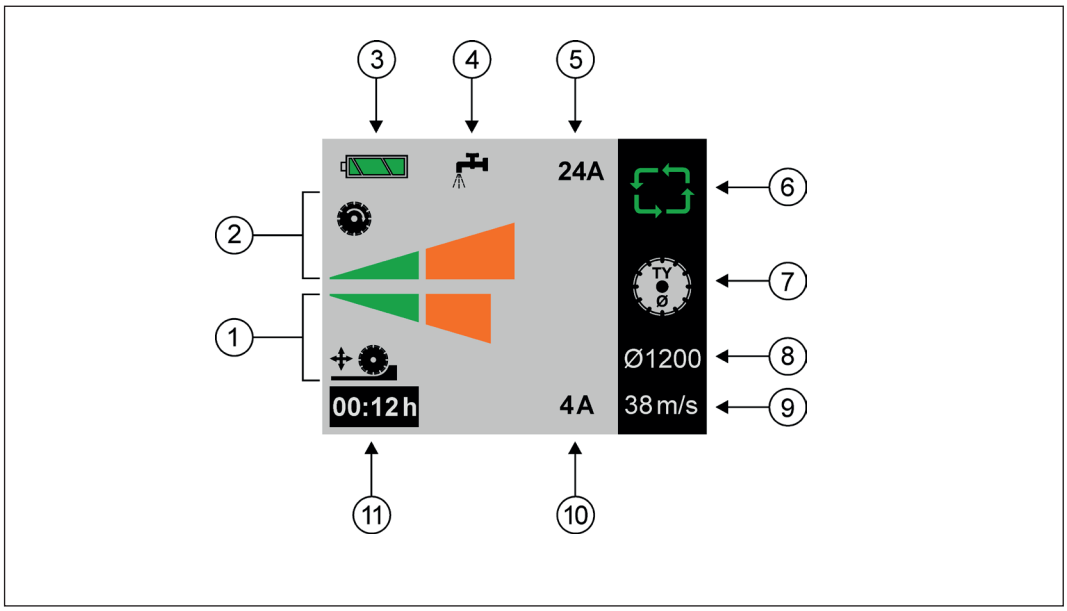

Motors are operated at 100%

Example:




Main motor 80% nominal power
Feed motor 80% nominal power

### 3.2.5 Examples of an operating screen

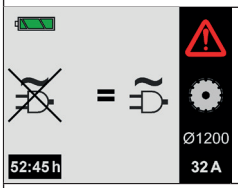
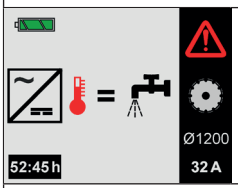
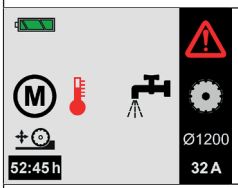
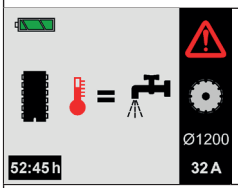
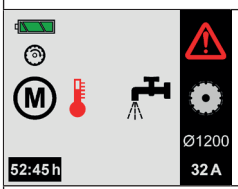
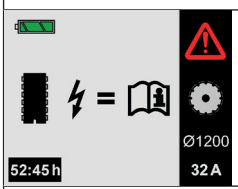
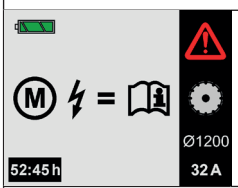
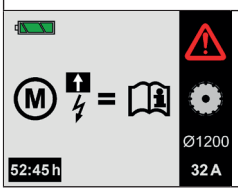


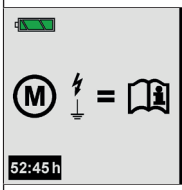
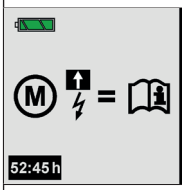
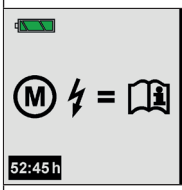
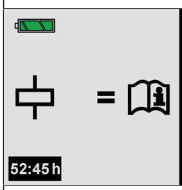
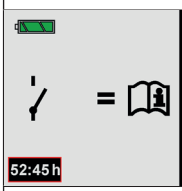
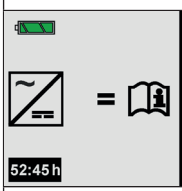
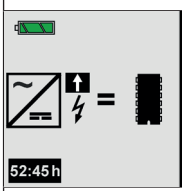
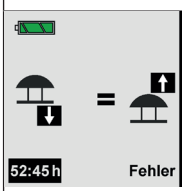

Display fields

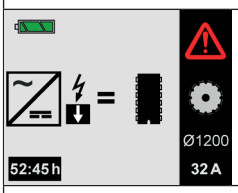
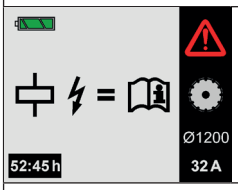
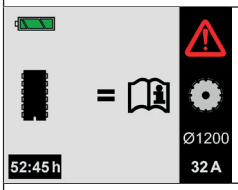
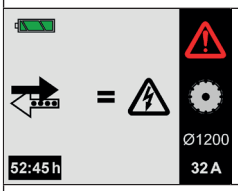
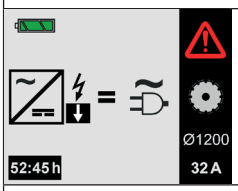
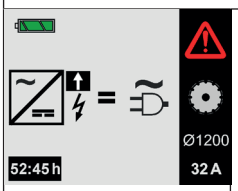
| Status information | | |
|---|---|---|
| 6 | | The machine system is in the operating mode |
| 7 | | Wall saw with TYROLIT saw blade |
| 8 | Ø1200 | Saw blade diameter Ø1200mm |

| Vario information | | |
|---|---|---|
| 1 | | The feed motor operates at a nominal power between 40 and 100% |
| 2 | | The main motor operates at a nominal power of 75% |
| 3 | | Rechargeable battery: Fully charged |
| 4 | | The diamond tool is supplied with water |
| 5 | 24A | Current nominal power of the main motor: 24A (adjusts continuously) |
| 9 | 38m/s | The speed of the diamond tool is 38m/s |
| 10 | 4A | Current nominal power of the feed motor: 4A (adjusts continuously) |
| 11 | 00:12 h | The machine system has been in use for 12 minutes |

### 3.2.6 Error displays

| Error displays | | | |
|---|---|---|---|
| | **Error** | **Possible cause** | **Action** |
|   | Mains phase missing | • Fault during installation<br>• Fuse defective | • Check phases and fuses |
|   | Overtemperature of frequency converter | • Absence of cooling<br>• Ambient temperature too high<br>• No, too little or too hot cooling water | • Avoid direct contact with sunlight |
|   | Overtemperature of feed motors | • Absence of cooling<br>• Ambient temperature too high | • Allow control unit to cool down for 3 minutes<br>• Avoid direct contact with sunlight |
|   | Overtemperature of control unit components | • Absence of cooling<br>• Ambient temperature too high | • Allow control unit to cool down for 3 minutes<br>• Avoid direct contact with sunlight |
|   | Overtemperature of the main motor | • Absence of cooling<br>• No, too little or too hot cooling water | • See Technical data |
|   | Short circuit fault | • Blocked main motor | • Contact TYROLIT after-sales service |
|   | Short circuit detection of the main motor | • Earth fault | • Contact TYROLIT after-sales service |
|   | Main motor overcurrent | • Main motor blocked<br>• Overcurrent earth fault | • Contact TYROLIT after-sales service |

| Error displays | | | |
|---|---|---|---|
| | **Error** | **Possible cause** | **Action** |
|   | Main motor current earth fault | • Electrical connection earth fault | • Contact TYROLIT after-sales service |
|   | Overcurrent DC axis | • Feed motor overloaded | • Reduce feed |
|   | DC motor short circuit | • Blocked feed motor<br>• Defective feed motor | • Contact TYROLIT after-sales service |
|   | The safety relay no longer switches properly | • Hardware defect | • Contact TYROLIT after-sales service |
|   | The safety contact no longer functions properly. | • Hardware defect | • Contact TYROLIT after-sales service |
|   | Transformer fault | • Motor outside of possible parameters | • Contact TYROLIT after-sales service |
|   | Overvoltage at the feed output stage | • Defective power supply unit<br>• Power supply unit overloaded | • Contact TYROLIT after-sales service |
|   | EMERGENCY STOP has been actuated | • EMERGENCY STOP has been actuated<br>• Radio communication has been interrupted | • Reset the EMERGENCY STOP push-button, perform the startup procedure<br>• Change the radio frequency by switching the key switch on the radio remote controller on and off |

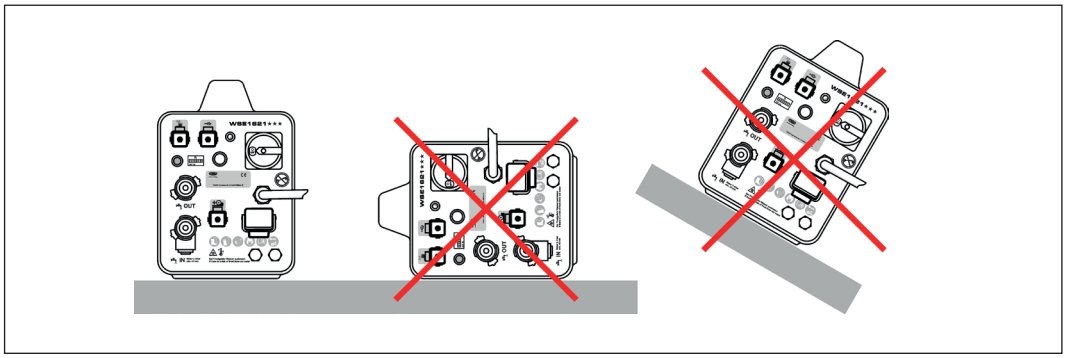
| Error displays | | | |
|---|---|---|---|
| | **Error** | **Possible cause** | **Action** |
|   | Overvoltage at the feed output stage | • Defective power supply unit<br>• Power supply unit overloaded | • Contact TYROLIT after-sales service<br>• Switch to generator mode |
|   | Main contactor does not switch | • Defective main contactor | • Contact TYROLIT after-sales service |
|   | Fan does not rotate | • Defective fan | • Contact TYROLIT after-sales service |
|   | Communication fault | • Communication fault due to interference | • Contact TYROLIT after-sales service |
|   | Direct current link voltage too low | • Incorrect mains voltage | • Check the mains voltage; see Technical data |
|   | Direct current link voltage too high | • Mains overvoltage<br>• The saw blade feeds back too much energy. | • Check the mains voltage; see Technical data<br>• Only use diamond saw blades between Ø650mm (25.5”) and Ø1600mm (63”)<br>• Switch to generator mode |

## 3.3 Positioning the WSE1621 Control unit

**CAUTION**
The WSE1621 Control unit can be damaged if it slips or topples over!

▶ Make sure the WSE1621 Control unit is level and located on a firm surface (grip at the top).

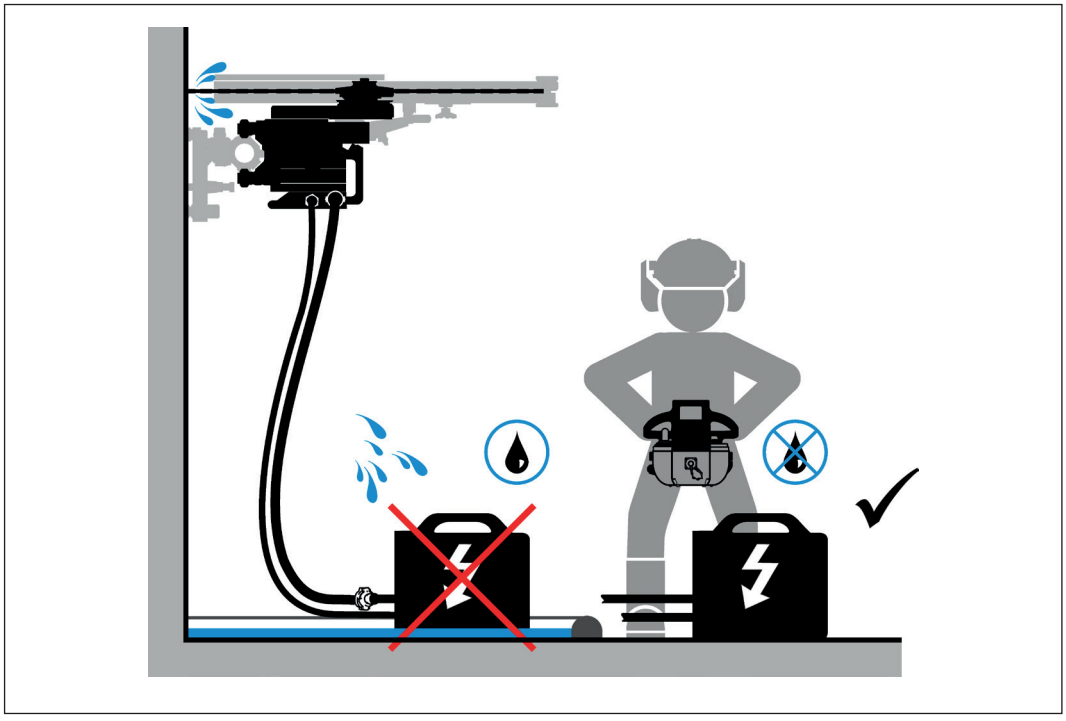
The WSE1621 Control unit should only be switched on when level and upright.



Positioning the WSE1621 Control unit

**CAUTION**
Risk of water damage to the WSE1621 Control unit.

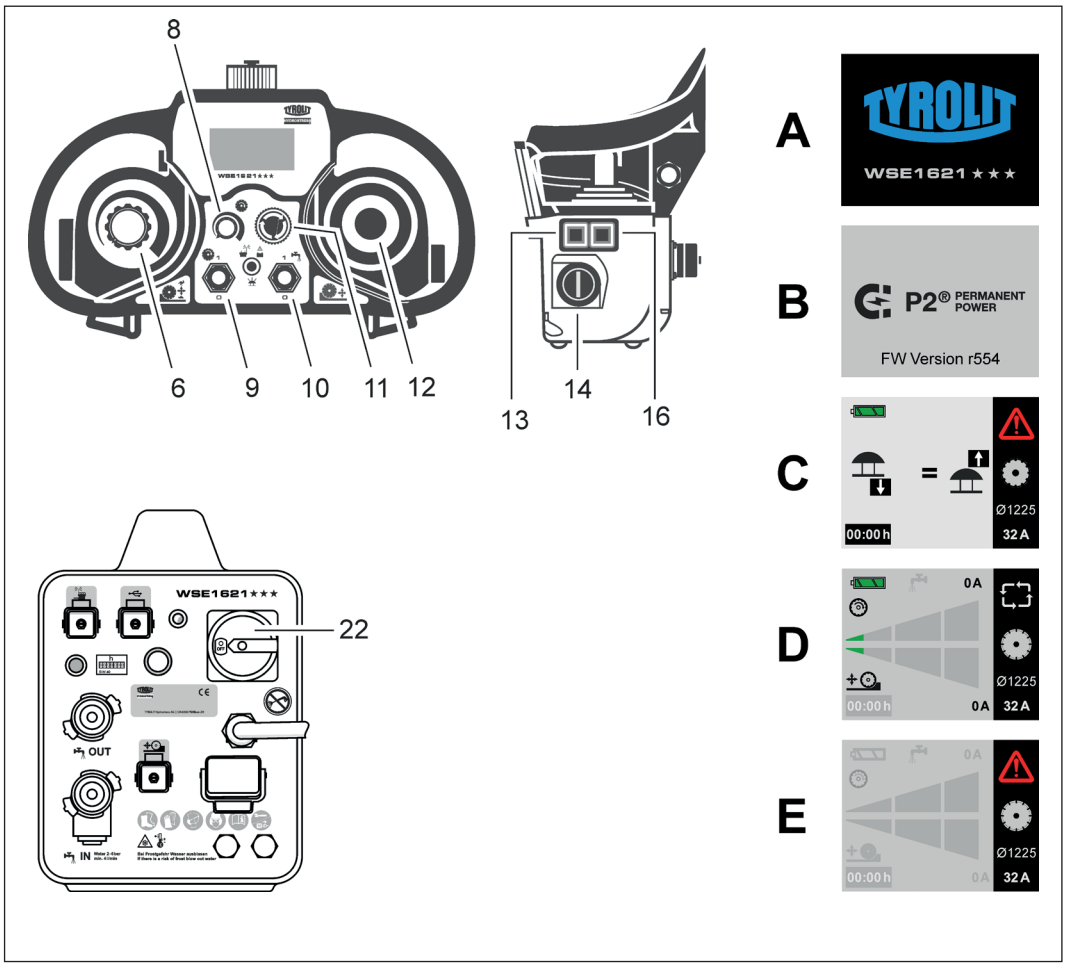
▶ Make sure the WSE1621 Control unit is not positioned in water and that it is located at a safe distance to any splash water.



Positioning the WSE1621 Control unit

## 3.4 Starting the WSE1621 Control unit

✓ The WSE1621 Control unit is connected to the mains and the water supply.
✓ The machine system is connected to the WSE1621 Control unit.
(See "Operating instructions - Sawing system")
✓ The remote controller EMERGENCY STOP (11) has been deactivated.




Starting the control unit

▶ Move the operating elements listed below on the remote controller to their 0 position.

Feed motor potentiometer (6)
Main motor potentiometer (8)
Main motor On/Off (9)
Water switch (10)
Feed joystick, automatically takes up 0 position (12)
Start switch (14)

▶ Switch on the WSE1621 Control unit by using the main switch (22).
▶ Switch on the radio remote controller using the start switch (14).

– Indicator lights (radio and battery) initially light up red
– An audible signal is emitted simultaneously
– The TYROLIT logo (A) appears in the display
– The P2 logo and firmware version e.g. r554 appear in the display (B)
– "EMERGENCY STOP information" screen appears in the display (C)
– The indicator light flashes green

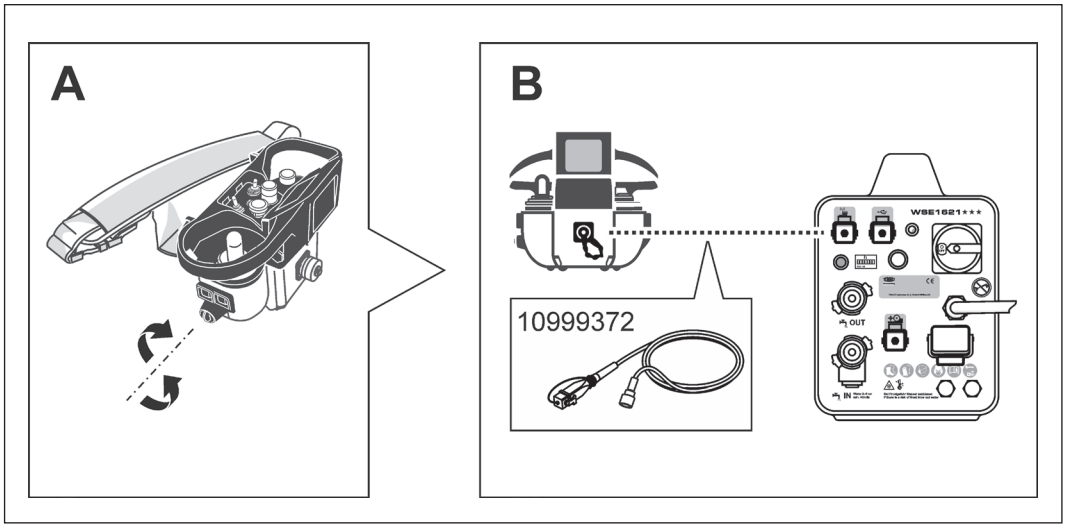
If only the remote controller is switched on, the P2 screen will remain on the display.
Application: Check display of software version e.g. r554

▶ Press the blue reset button (16) on the radio remote controller.

– The operating screen (D) appears on the display
– If an error message (E) appears, press the blue reset button (16) again.

▶ Press the green pulse switch (13)
– The system indicator on the display lights up.
– The feed and main motors are released from this point onwards.
– The control unit automatically detects which machine system is connected.
▶ Open the water valve on the system supply line.
– The water valve is displayed on the screen
▶ Press the Water On/Off switch (10) on the remote controller to I.
– Water emerges at the cutting tool.
▶ Press the main motor On/Off switch (9) on the remote controller to position I.
– The electric motor starts when the main motor potentiometer is in the max. position.
▶ The WSE1621 Control unit has started up and is ready for operation.

### 3.4.1 Changing the frequency of the remote controller




Frequency search

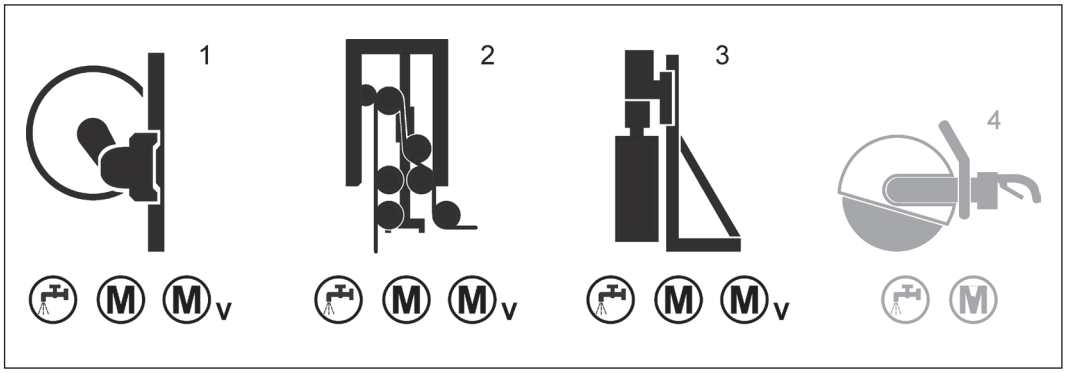
The radio remote controller systems are equipped with a frequency generator for selecting a frequency.
If the systems experience a malfunction or radio communication is interrupted (external transmitter, range, rechargeable battery empty), the systems immediately revert to the EMERGENCY STOP state.

**New frequency search:**

The next frequency is selected by switching the start switch on the remote controller off and then on again.
The process of switching off and on is limited to four attempts (channels). If the system does not locate a suitable frequency after four attempts, a changeover to cable operation is necessary.

## 3.5 Selecting the machine system

The machine system is detected automatically during the startup process.



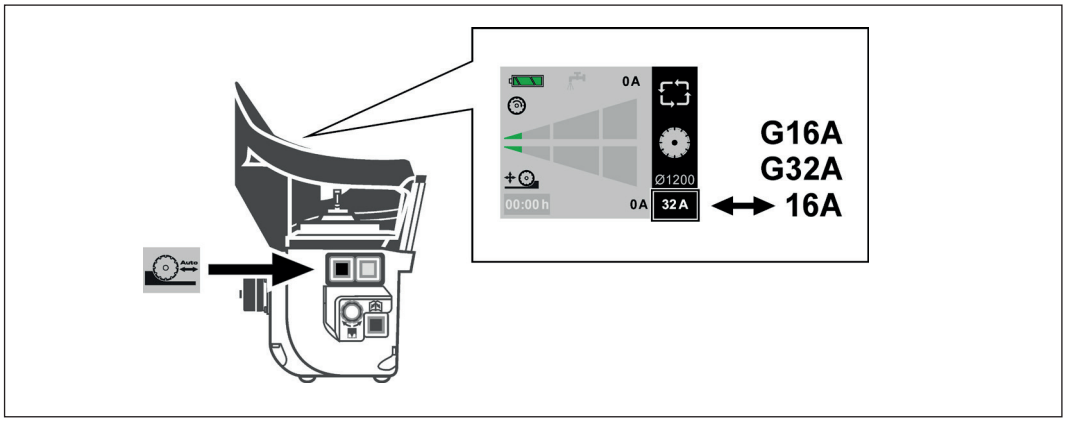

Detecting the machine system

| | | | |
|---|---|---|---|
| 1 | Wall sawing system | M | Cutting tool drive motor |
| 2 | Wire sawing system | M v | Feed motor |
| 3 | Core drilling system | | Water |
| 4 | Hand saw | | |

## 3.6 Selecting the mains power supply

The WSE1621 Control unit is preset for a 32 A mains power supply. (32A appears on the display). The mains power supply can be switched to a 16 A setting or an emergency power supply mode (G32A / G16A). The control unit will automatically return to the 32 A setting when it is restarted.

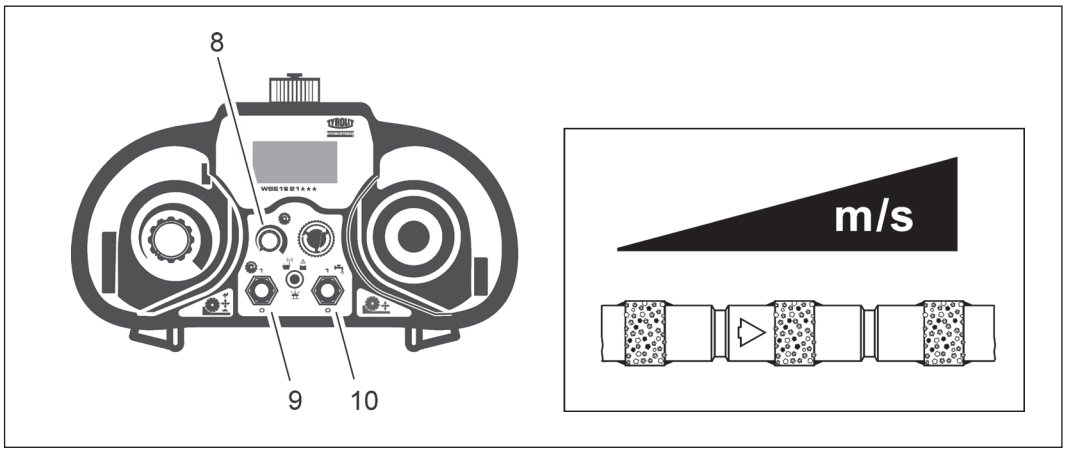
To switch the control unit to the 16 A setting or emergency power supply mode (G32A / G16A), perform the startup procedure as far as the point designated **“Press the black locking button (2) on the radio remote controller”**.
Instead of using the pulse button (13), you can now use the locking button (2) to switch to the 16 A mains power supply or the emergency power supply mode (G32A / G16A).
(16A or emergency power supply (G32A / G16A) appears on the display.)




Selecting the mains power supply

## 3.7 Tool soft start

The WSE1621 Control unit offers a tool soft start option. The soft start option is particularly applicable in the case of diamond wire saws.



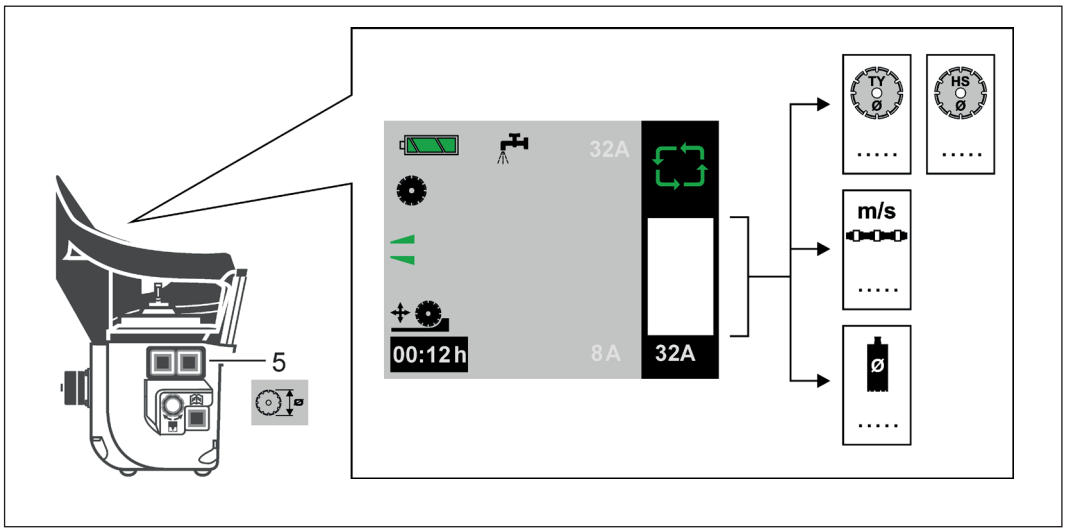

Selecting the tool station

Proceed as follows:

- ▶ Start the WSE1621 Control unit.
- ▶ Turn the main motor potentiometer (8) to the 0 position.
- ▶ Press the Water On/Off switch (10) on the remote controller to I.
- ▶ Press the main motor switch (9) to I.
- ▶ Slowly turn the main motor potentiometer (8) to 100% power.

## 3.8 Selecting the tool station

The machine systems (wall saws, wire saws, core drilling) are detected automatically during the startup process.
When the 1621 control unit has been started correctly, the tool stations can be selected before switching on the main motor.




Selecting the tool station

A selection can be made between the following cutting tools:

| Tool selection | | |
|---|---|---|
| TY Ø | Wall saws | TYROLIT diamond tool<br>(Ø650mm / Ø825mm / Ø1025mm / Ø1200mm / Ø1600mm) |
| HS Ø | Wall saws | TYROLIT high-speed diamond tool<br>Ø825mm / Ø1025mm / Ø1200mm / Ø1600mm |
| m/s | Wire saws | Diamond tool speed<br>0-26 m/s  0-22 m/s  0-17 m/s |
| Ø | Core drilling | Ø diamond tool<br>Ø150mm / Ø200mm / Ø250mm / Ø300mm / Ø350mm<br>Ø400mm / Ø450mm / Ø500mm / Ø600mm / Ø700mm<br>Ø800mm / Ø900mm / Ø1000mm |

Proceed as follows:

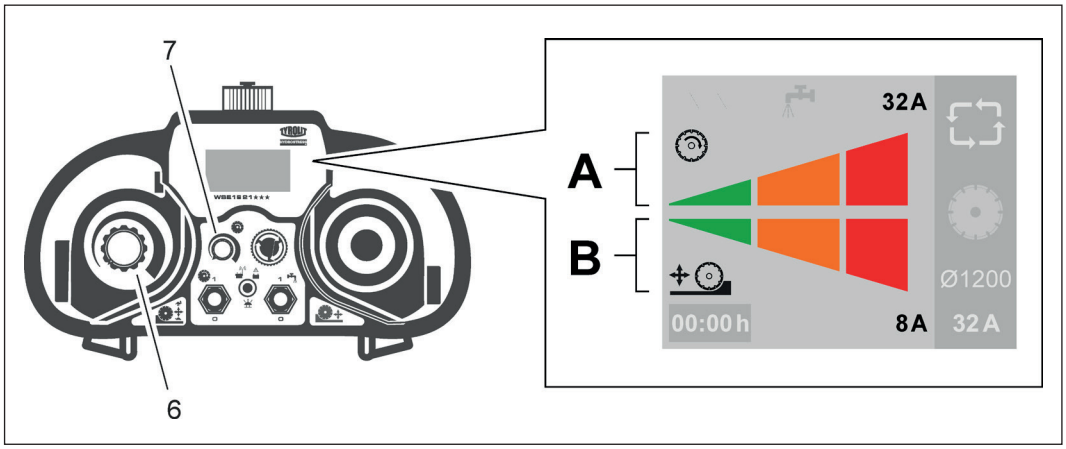
▶ Press the tool selection button (5). Toggle between the individual dimensions and speed ratings by repeatedly pressing the tool selection button.

To switch to the high-speed diamond tool:

▶ To activate the change, press the tool selection button (5) for 3 seconds.
When the button is released, the displayed symbol will change.
▶ Pressing the tool selection button (5) for 3 seconds again and then releasing it will result in the WSE1621 Control unit reverting back to the standard tools.

## 3.9 Power control

The main motor and the feed motor power are controlled via the potentiometers.



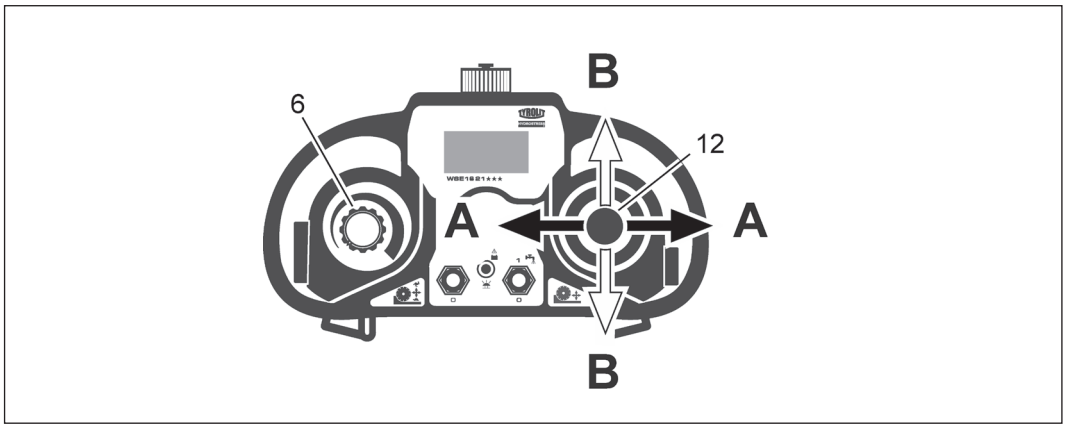

Power control

A Power display for the main motor (the digit value for current consumption adapts continuously)
B Power display for the feed motor (the digit value for current consumption adapts continuously)

6 Feed motor potentiometer
7 Main motor potentiometer

## 3.10 Adjusting the feed

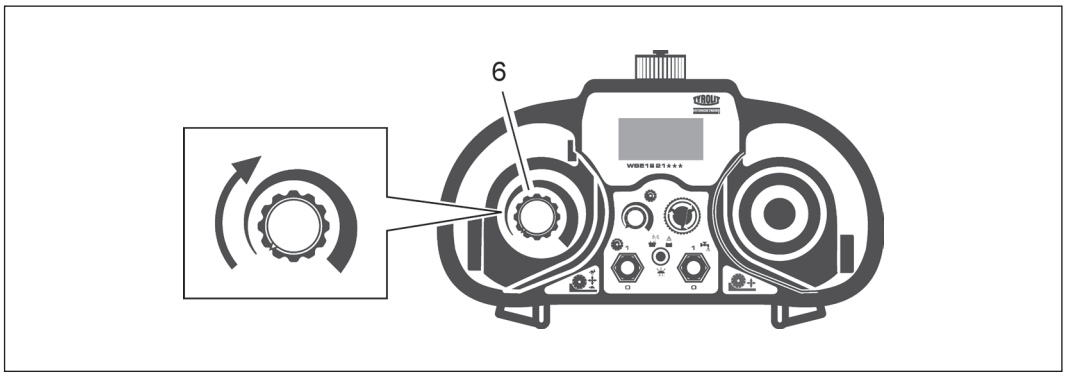
The feed movements are selected with the joystick (12) and the speed is regulated via the potentiometer (6).




Adjusting the feed

The feed speed is automatically assisted by a feed facility during the cutting process.

### 3.10.1 Manually adjusting the feed speed



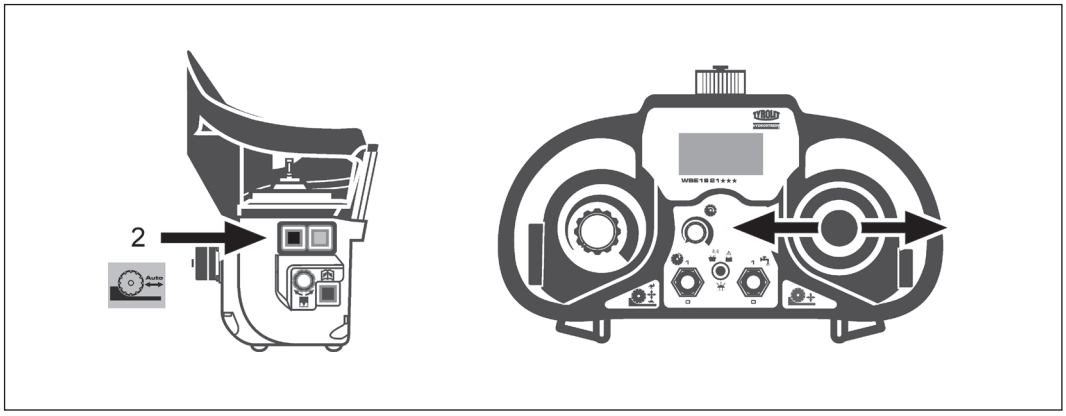

Feed speed

✓ The WSE1621 Control unit has been started

▶ Select the required feed speed via the feed potentiometer (6).

### 3.10.2 Locking the feed

So that the joystick does not have to be held in position during the travel feed motion, the travel feed can be locked.



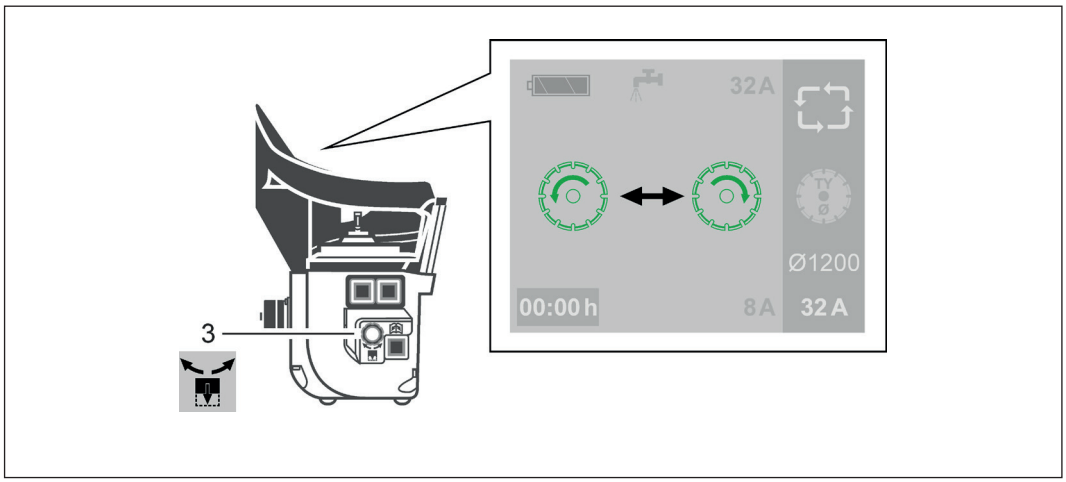

Proceed as follows:

▶ Push the joystick in the desired direction of travel and, at the same time, press the locking button (2).
▶ When the joystick and the locking button (2) are released, the feed is locked.

In order to release the feed lock, move the joystick slightly in any desired direction or press the locking button.

## 3.11 Changing the direction of rotation of the main motor

This function is only possible for wall sawing applications.
The direction of rotation can only be changed before starting the main motor.




Changing the direction of rotation of the main motor

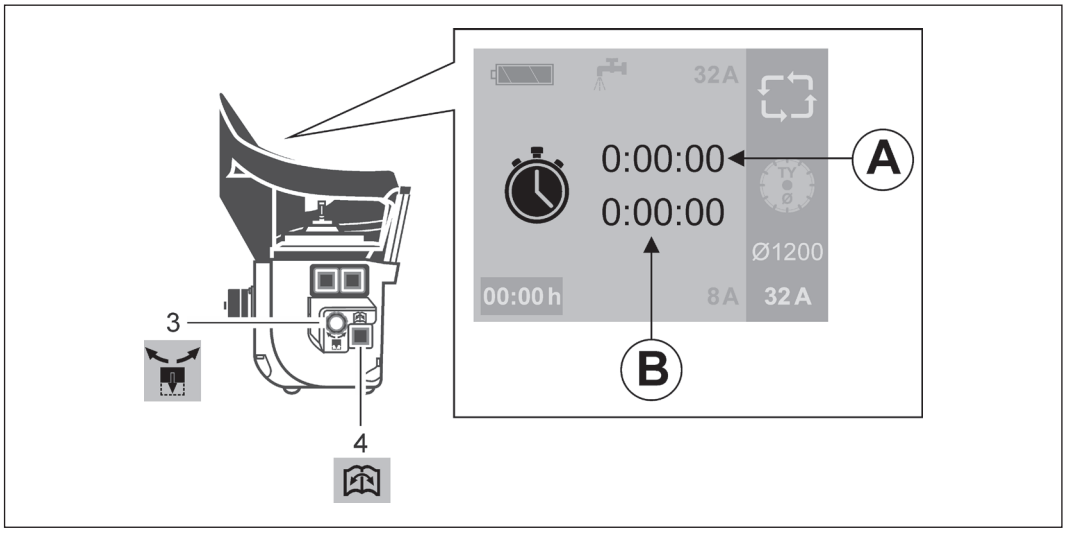
Proceed as follows:

- ▶ Press the universal rotary knob/push button (3).
  – The current direction of rotation of the main motor is indicated on the display.
- ▶ Turn the universal rotary knob/push button (3) until the direction of rotation changes on the display.
- ▶ Press the universal rotary knob/push button (3).
  – The direction of rotation has been changed and the operating screen is displayed.

When the WSE1621 Control unit is restarted, the direction of rotation of the main motor reverts to the default setting.

## 3.12 Daily hour counter / stopwatch

The WSE1621 Control unit is equipped with a daily hour counter and a stopwatch. The daily hour counter and the stopwatch can be used during operation as and when required.




Daily hour counter / stopwatch

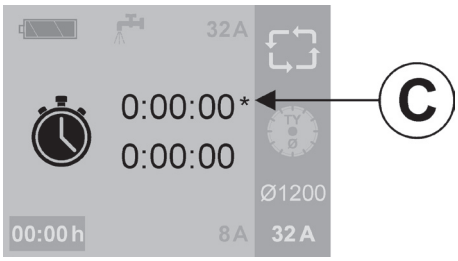
A Stopwatch
B Daily hour counter

### 3.12.1 Using the daily hour counter / stopwatch

Proceed as follows:

▶ Press the Menu selection button (4).
– The clock screen appears.
▶ You can alternate between the stopwatch and the daily hour counter by turning the universal rotary knob/push button (3).

When the time measurement is active, it is indicated by an asterisk (C).

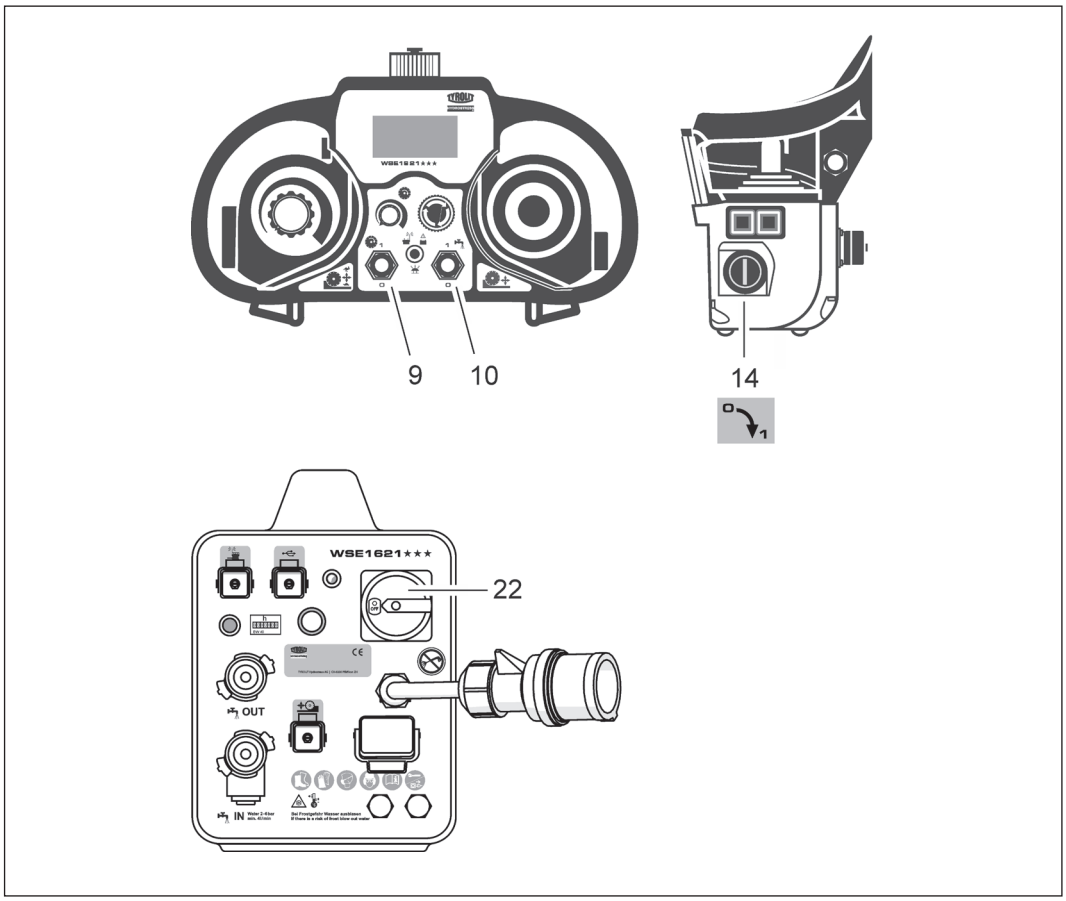



The stopwatch can be started, stopped and reset to 0 by pressing the universal rotary knob/push button (3). The stopwatch is set to 0 when the control unit is switched off.

The daily hour counter is operated in the same way as the stopwatch.
The daily hour counter remains active until it is reset manually (by repeatedly pressing the universal rotary knob/push button (3)).

▶ To revert back to the operating screen, press the Menu selection button (4).

## 3.13 Switching off the WSE1621 Control unit




Switching off the control unit

Proceed as follows:

- ▶ Switch off the electric motor, switch (9) Main motor On/Off.
- ▶ Deactivate the cooling water, switch (10) Water On/Off.
- ▶ Close the water valve on the WSE1621 Control unit.
- ▶ Turn the start switch (14) on the remote controller to the 0 position.
- ▶ Switch off the WSE1621 Control unit by using the main switch (22).

**CAUTION**

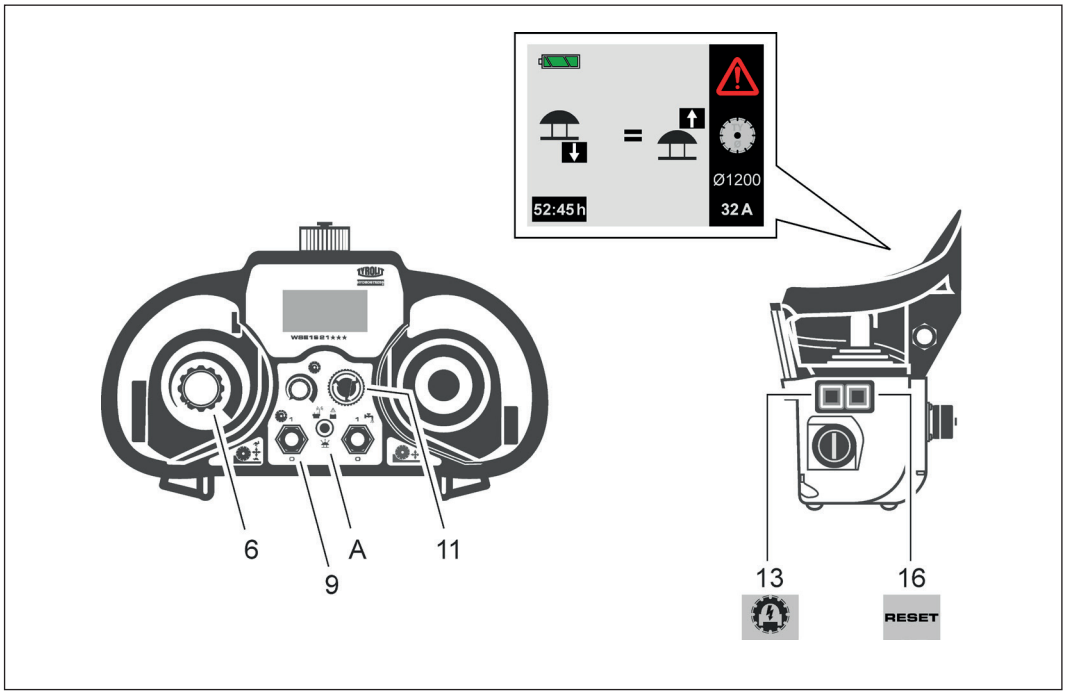
Risk of frost damage to the WSE1621 Control unit!

- ▶ If there is a risk of frost, blow out any water

Only use the EMERGENCY STOP function in an emergency to stop the WSE1621 Wall saw.

## 3.14 Deactivating the EMERGENCY STOP function

If the EMERGENCY STOP function is activated on the radio remote controller, the radio and battery light (A) will flicker.




Deactivating the EMERGENCY STOP function

The following controls must be moved to the 0 position:

- Feed potentiometer (6)
- Turn the EMERGENCY STOP button (11) clockwise
  – The EMERGENCY STOP screen appears on the display
- Main motor On/Off (9)..

Proceed as follows:

▶ Press the blue reset button (16).
  – The operating screen appears.
▶ To continue operation, press the green pulse button (13).

# 4 Servicing and maintenance

| Maintenance and servicing table | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Before each use | After finishing work | Weekly | Annually | After faults | After damage |
| Electrical system | ▶ Check the condition and cleanliness of electric cables, plugs/connectors and switches. | X | X | | | X | X |
| | ▶ Check the condition and cleanliness of couplings. | X | X | | | X | X |
| Water economy | ▶ Check water lines for cleanliness and leaks. | X | X | | | X | X |
| | ▶ Blow out the water if there is a risk of frost. | | X | | | X | X |
| Overall WSE1621 Control unit | ▶ Clean with a damp cloth, do not use a high-pressure cleaner. | | X | | | | |
| Service | ▶ To be performed by TYROLIT Hydrostress AG or an authorised workshop. | First service after 100 operating hours<br>Further services after every further 200 operating hours | | | | | |

## 4.1 High-presure cleaning

**Caution**

Cleaning using high-pressure cleaning equipment is not permitted. The WSE1621 Wall saw could be damaged if it is cleaned with high-pressure cleaning equipment.
Products containing cleaning agent can damage parts of the WSE1621 Wall saw, the remote controller and the cables.

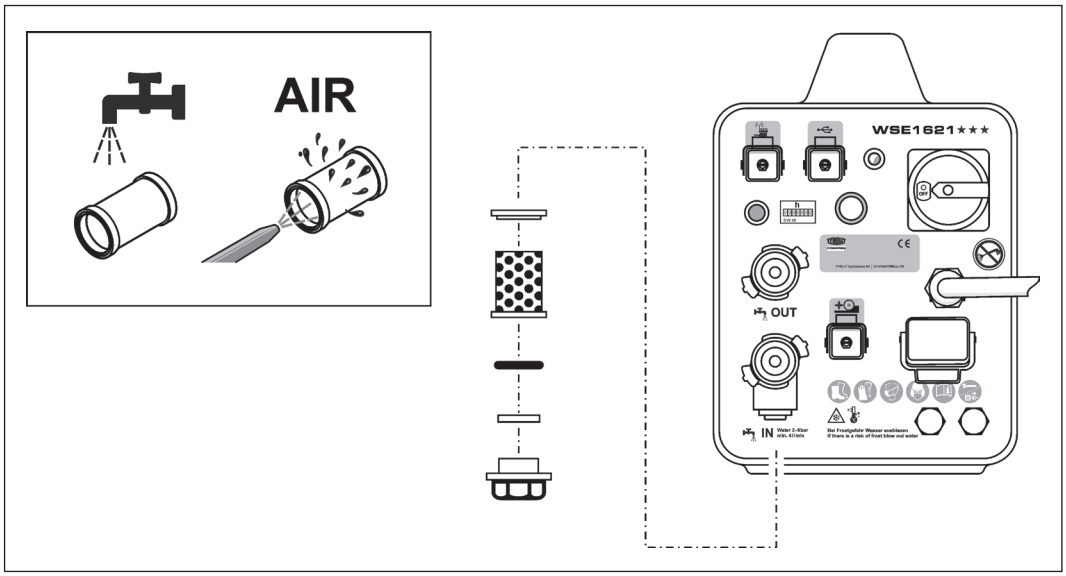
High-pressure cleaner

## 4.2 Cleaning the water filter

✓ Tool

Pliers 

Fork wrench  Size 32

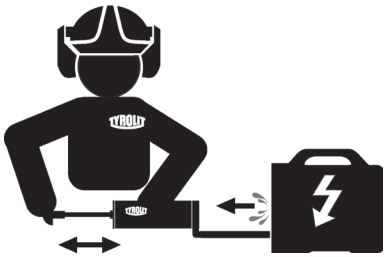



Cleaning the water filter

## 4.3 Blowing out water

✓ The main switch is set to **OFF**

▶ Disconnect the mains plug.
▶ Disconnect all water lines.
▶ Connect a purge pump to the water coupling.
▶ Blow out water until all of the cooling water has been removed.
▶ Remove the pump.



Blowing out water

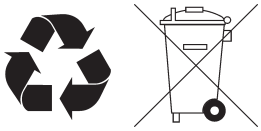
To ensure the water can be blown out of the lines properly, use the TYROLIT purge pump, no.10998115.

## 4.4 Rechargeable batteries

### 3.10.2 Handling and use of rechargeable batteries

- Keep batteries away from high temperatures, direct sunlight and fire.
- Batteries must not be disassembled, crushed, heated above 80°C or burnt.
- Damaged batteries must not be charged or reused.
- If the battery is too hot to touch, it may be defective. Place the product at a sufficient distance to combustible materials in a non-flammable location, where it can be observed, and allow it to cool. Contact TYROLIT customer service when the battery has cooled down.

## 4.5 Recycling waste



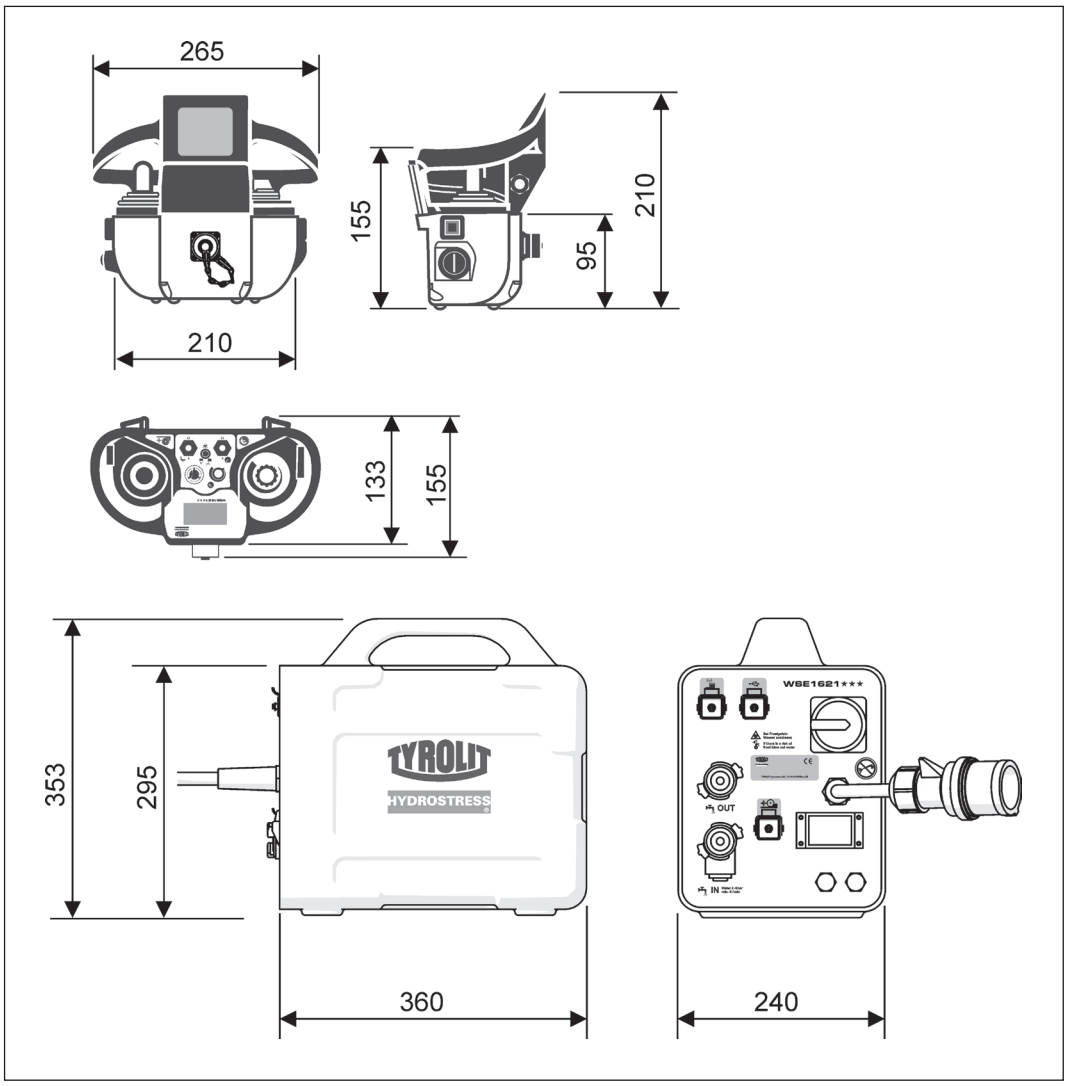
TYROLIT Hydrostress power tools are manufactured using a high proportion of recyclable materials. A prerequisite for recycling is proper material separation. In many countries, TYROLIT is already prepared for taking back your used equipment for recycling. Contact TYROLIT customer service or your sales adviser.

# 5 Faults

| Faults | | |
|---|---|---|
| **Fault** | **Possible cause** | **Solution** |
| The control unit does not work even though the mains cable is connected | Control unit is switched off | ▶ Switch on the control unit |
| | Defective mains cable | ▶ Replace the mains cable |
| | No voltage at the power supply (building site) | ▶ Check power supply |
| | Power supply phases incorrectly connected | ▶ Check power supply |
| | Phase missing | See the chapter entitled "Responding to displays" |
| The control unit starts and then cuts out again | Power supply fuse at the building site trips | ▶ Check the fuse and adjust if necessary<br>▶ If necessary, change the power supply<br>▶ See the chapter entitled "Responding to displays" |
| No power, even though the control unit is running | Incorrect voltage<br>Defective main motor | ▶ Make sure the voltage and frequency of the control unit correspond to the specifications for the mains supply<br>▶ Contact TYROLIT after-sales service |
| The control unit cuts out suddenly | Over- or undervoltage | ▶ Check the power supply. Refer to the error display |
| | Cross section of power supply cable too small | ▶ Check power supply |
| | Defective plug connection | ▶ Check the plug connection<br>▶ Check power supply |
| | Group alarm | ▶ Refer to the error displays |
| Main motor is not running | • Main motor potentiometer is in 0 position<br>• Defective main motor On/Off switch on remote controller<br>• Water On / Off switch is not in position 1 or it is defective<br>The remote controller 'Ready' light does not illuminate | ▶ Contact TYROLIT after-sales service<br>▶ Do not start the control unit |
| | The EMERGENCY STOP is activated | ▶ Deactivating the EMERGENCY STOP function |
| | Overheating | ▶ Check the water circuit and the plug-in couplings<br>▶ Refer to the error displays |
| | No water | ▶ Switch on the water supply<br>▶ Refer to the error displays |
| Remote controller not working | Rechargeable battery or batteries have too little charge | ▶ Replace and recharge the rechargeable battery or install cable operation<br>▶ Replace the batteries |
| Feed potentiometer indicates no function | • Defective potentiometer in the remote controller<br>• Feed motors not connected<br>• Defective feed motor<br>• Joystick is in the 0 position | ▶ Contact TYROLIT after-sales service<br>▶ See the chapter entitled "Responding to displays" |
| Feed motor fails to build up power | Remote controller potentiometer is defective or in the 0 position | ▶ Contact TYROLIT after-sales service |
| | Defective cable | ▶ Contact TYROLIT after-sales service |
| | Defective motor | ▶ Contact TYROLIT after-sales service |

# 6 Technical data

## 6.1 Dimensions




Measurements in mm

## 6.2 Weights

| Technical data | | |
|---|---|---|
| **Parameter** | | **Value** |
| Weight | WSE1621 Control unit | 11 kg |
| | WSE1621 Remote controller | 1.8 kg |

## 6.3 Electrical data

| Technical data | | |
|---|---|---|
| **Parameter** | | **Value** |
| Protection class | IP 65 | |
| Connected values | 400 to 480 VAC / 50 - 60 Hz | |
| Power consumption | 16 to 32 A (400 V / 50 Hz) | |
| Output | at 16 A | 11 kW |
| | at 32 A | 20 kW |
| Internal control voltages | Computer/remote controller | 24 VDC |
| | Feed drives | 48 VDC |
| | Main drive unit | 400VAC = 565VDC<br>480VAC = 680 VDC |
| Converter | High-frequency, water-cooled | |

## 6.4 Water

| Technical data | | |
|---|---|---|
| **Parameter** | | **Value** |
| Water | Cooling the control unit | Water cooling the power semi-conductors |
| | Cooling water flow rate | Min. 4 l/min at max 25 °C |
| | Water connection | 2 to 6 bar |

## 6.5 Ambient temperature recommendation

| Ambient temperature | |
|---|---|
| **Parameter** | **Value** |
| Storage | -20 °C to 50 °C |
| Operation | -15°C to 45°C |

## 6.6 Remote controller

| Remote controller | |
|---|---|
| **Parameter** | **Value** |
| Cable length (optional) | 10 m |
| Nominal voltage | 24 VDC |
| Protection class | IP 65 |
| Weight | 1.8 kg |
| Frequency | 2.4 GHz |

# 7 EC Declaration of Conformity

| | |
|---|---|
| Description | Control unit |
| Type designation | WSE1621 |

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

**Directive applied**

**Directive applied**

| | |
|---|---|
| 2006/42/EC | from 17 May 2006 |
| 2011/65/EU | from 08 June 2011 |
| 2012/19/EU | from 04 July 2012 |
| 2014/30/EU | from 26 February 2014 |
| 2014/53/EU | from 16 April 2014 |

**Applied standards**

EN ISO 12100:2010

EN ISO 13849-1:2008

EN 60204-1:2006+A1:2009

EN 61000-6-2:2005

EN 61000-6-4:2007+A1:2011

**TYROLIT Hydrostress AG**
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Pfäffikon, 10/04/2018

TÜV CERT
DIN EN ISO 9001:2000

Pascal Schmid
Head of Development

# 8 Spare parts