

Operator's manual

Pentrunder[®] MDU3 Core Drill and Pentrunder[®] Universal Drill Stand

Pentrunder[®]

CONCRETE CUTTING SYSTEMS

Safety icons in this manual



Note!

Technical specifics and methods to facilitate the job.



Important!

Risks connected with use of the machine. Failure to comply with the safety precautions can result in damage to property and injury to persons in the machine's proximity.



WARNING!

Life-threatening dangers connected with use of the machine. Examples of potential injuries given in italic type. Failure to comply with safety precautions can result in serious or fatal injuries to persons in the machine's proximity.

Introduction

Thank you very much for your confidence in our product! You have chosen to invest in a product which will give you many years of efficient and profitable production. The Pentruder MDU3 core drill has been developed based on more than 25 years of experience in this specialized field. The machine is state of the art and follows present regulations. With correct handling it offers outstanding performance, safety, and reliability.

The Pentruder MDU3 represent a very modern and safe type of concrete core drill. It is developed and manufactured by **Ttractive AB** in Sweden in a process where safety awareness, performance and reliability are the most important design parameters.

We are confident that your investment in this equipment and its many design features will enhance your competitive edge and profitability!



It is essential that all personnel working with or in the proximity of the machine have read and understood all contents of this manual before commencing operations. Please take careful note of the Safety instructions.

The operator's manual must always be available to the operator of the machine.

To reduce the risk for serious or fatal injuries to the operator and persons in the proximity of the machine, it is an absolute requirement that the machine only is operated by trained, responsible personnel.

Validity

This operator's manual is only valid for the Pentruder MDU3 core drill as described in Chapter 1 Description of the machine.

Tractive AB always strives to improve the products. Therefore, we reserve the right to make technical changes without previous notice.

In this operator's manual, the terms "the machine", "drilling machine", "core drill", "Pentruder HFi core drill", "Pentruder MDU3", "MDU3" are used to refer to the complete machine as listed in 1. Description of the machine.

Should questions arise, please contact our sales distributor. The address can be found at www.pentruder.com.

Product	Description	Serial number
Category:	Core drill	
Make and type:	Pentruder MDU3	
Drive system:	Integrated drive	
Accessories:	As stated in Chapter 1	
Manufacturer: Tractive AB Gjutargatan 54 S-781 70 Borlänge Sweden		Pentruder Distributor
Phone: +46 (0)243 - 22 11 55		
Fax: +46 (0)243 - 22 11 80		
E-mail: info@tractive.se		
Web: www.tractive.se		

**Operator's manual for
Pentruder® MDU3 Core Drill and
Pentruder Universal Drill Rig**



Version: 1.1 Date: 2025-06-02

Support & Service document

Original instructions



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1 Description

1.1 Complete machine

A complete Pentrunder MDU3 Core Drill is comprised of at least:

1. MDU3 Core drill (+ 3-phase female cable connector depending on market)
2. CER2 Carriage
3. A BTS base plate
4. A TS Track
5. Minimum one track stop
6. QC Adapter + C-spanner

as described in this Operator's manual. Please note that a Pentrunder MDU3 Core Drill is not complete without the modules listed in this paragraph.



1.2 Symbols and signs



Refer to the Operator's manual.



This product is in accordance with applicable EC-directives.



Warning sign



The trash bin symbol is an environmental marking and indicates that this machine contains electrical/electronic equipment which should be recycled. Please contact your Pentruder Distributor for more information



High voltage triangle. Warning – danger of life



Safety helmet, safety glasses and hearing protection should be worn.



Protective shoes should be worn.

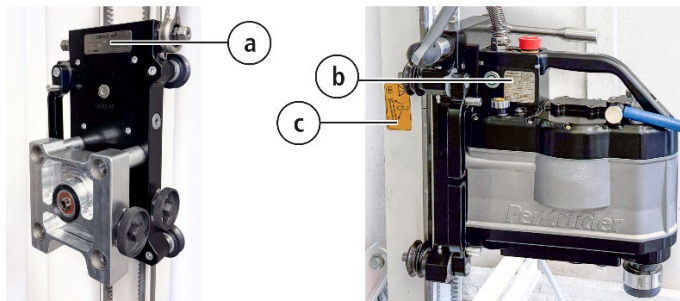


Protective gloves should only be worn when the spindle is not rotating.
Warning! Do not use close to rotating parts!

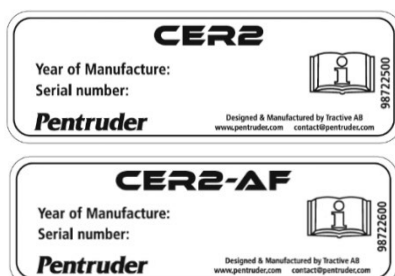


An appropriate safety dust mask or adequate respiratory protection should be worn depending on the material cut and the environment.

1.2.1 Signs on the machine

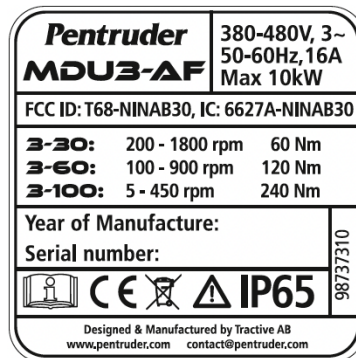
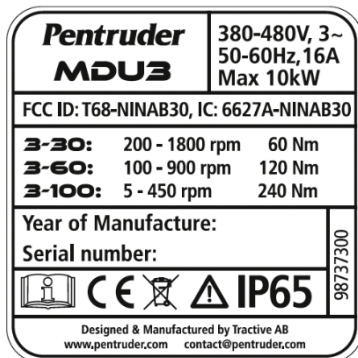


a. Sign for CER2 Carriage / CER2-AF Carriage with autofeed

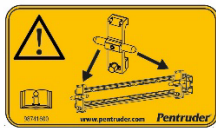


a. Year of Manufacture

b. Serial number

b. Machine sign for MDU3 / MDU-AF

- Connect to 380 – 480 V input power, see chapter 3.2,
Maximum input power 10 kW
 - Bluetooth module
 - Spindle speed range / Maximum Torque
3-30: 200-1800 rpm / 60 Nm
3-60: 100-900 rpm / 120 Nm
3-100: 5-450 rpm / 240 Nm
 - Year of Manufacture
 - Serial number of Pentruder MDU3 / - AF
- Symbols, see 1.2.1

a. Sign on Track

Track stops should be mounted. See chapter 3.1.9 for instructions.

2 Safety instructions

2.1 Intended use of the machine

It is of paramount importance that the operator has full knowledge and understanding of the Safety instructions.

This core drill may not be used unless the operator is fully familiar with the contents of this manual and has been trained in its operation by an authorized distributor of Tractive AB's products. The operator is fully responsible for the manner in which the machine is operated. It is the responsibility of the purchaser that the operator has received the information needed to operate and handle the machine in a safe a correct way.

Good working practice should always be used along with common sense. Tractive cannot foresee every possible situation and this manual is not a substitute for professional skills and experience.

The Pentruder MDU3 Core Drill may only be used for drilling of

- Concrete
- Stone material
- Masonry

It is our expressed recommendation that the machine may only be used for cutting in these materials.

The base plate must be mounted on a stable structure, not on a mobile device.

Other use is non-intended and therefore to refrain from.

Always use a diamond core bit suited for the power of the machine. Follow the diamond core bit manufacturer's recommendations. For maximum drill bit size, see Technical Data.



WARNING!

Do not use the machine for cutting other materials than listed or on loose masonry. The safe fastening of the base plate cannot be guaranteed.



Important!

Please observe that Tractive's responsibility as a manufacturer can only be accepted when the machine is used together with accessories described in this Operator's manual. If the machine is used with non-original equipment the warranty and Tractive's CE-marking will be void.

2.2 General safety instructions



WARNING!

WARNING - DANGER OF LIFE!

Cutting in a power line which is energized can result in serious injury and even to fatal injuries. The machine can get energized. A circuit breaker cannot protect against this danger.



WARNING!



- The machine is state of the art and follows the present regulations. However, incorrect handling of the machine can lead to serious or even fatal injury to the operator and persons in proximity to the machine.
- All persons which are operating or in any way working machine has to read and understand the whole operator's manual and especially the safety instructions, before any work is commenced. It is the obligation of the buyer to make sure that the operator really has received the information necessary to operate and take care of the machine in a correct and safe way.
- Good working practice should always be used along with common sense. Tractive cannot foresee every possible situation and this manual is not a substitute for professional skills and experience.
- The machine may only be operated and serviced by authorized and trained personnel. The personnel should be trained by personnel authorized by Tractive.
- A Pentruder machine used in the correct way is a safe and efficient tool. If the machine is used improperly this can expose the operator and other persons staying in the same area to extreme danger or even risk of fatal injuries.
- The user is liable that the machine is in faultless condition and that all functions are in order before work is commenced.
- To maintain the level of safety inherent in the design of this machine, only Tractive original spare parts may be fitted. Tractive AB disclaims all responsibility for damages occurring as a result of use of non-original parts.
- Modifications or changes on machine are not allowed.
- All warranty claims are void if non original spare parts are used.
- Before any kind of service or mounting on the machine is commenced, the machine must always be disconnected from the electric power supply.
- The machine may not be used in an environment where explosion protected equipment is demanded.
- Tractive AB disclaims all responsibility for damages to persons and / or property resulting from use of the machine, whether they are caused by faulty handling or from damages that have occurred as a consequence of negligent or faulty maintenance, or as a consequence of failure to check and control the machine with regard to damages and / or faults.



2.3 Safety precautions at site

WARNING!

BEFORE CUTTING

Before cutting is commenced, make sure that;

- There are no power lines, gas or piping which can be damaged by the machine.
- The statics of the building are not compromised because of the cut openings.
- Check with the foreman responsible that all necessary precautions have been performed before commencing work. Await the approval of the safety precautions and mounting position of the machine from the foreman before work is commenced.
- Safety and health regulations at the work place must be followed.
- No work should be commenced which cannot be judged to be safe. Always use common sense and good working practice.
- Always check that the machine and diamond core drill bit is in faultless condition and that all functions are in order before work is commenced.
- Never use a diamond core drill bit for material which it is not intended for.
- Before cutting is commenced all persons involved must know how the stop buttons are working.
- The electrical mains connection has to have a circuit breaker.



WEAR SAFETY EQUIPMENT

- All persons working with, or in the proximity of the machine should wear safety equipment, i.e. protection helmet, protection shoes, gloves (Warning! Do not wear gloves close to rotating parts), eye and ear protectors. The noise level during drilling might lead to permanent hearing disorders if not ear guards are worn.
- Find out what material is cut and wear appropriate dust mask or respirator protection if necessary.



MOUNT ACCORDING TO THE INSTRUCTIONS

- Before any kind of service or mounting on the machine is commenced, the machine must always be disconnected from the electric power supply.
- The base plate may only be mounted according to the instructions given in this manual.

LIFTING AND TRANSPORTING

- Always lift the machine ergonomically correct and in a safe way.
- Should the machine need to be lifted with a crane, this should only be done after permission and instructions have been given by a person responsible for safety on the site.

DURING DRILLING

- The drill bit may not be touched when the drill motor is in operation.
- Don't use any extension or lever to get a higher feeding power.
- A heavy concrete core which rotates in a drill bit outside of the drilled hole can cause very strong vibration which can lead to the drill stand coming lose. Therefore the drill motor should always be stopped shortly before the drill bit is completely fed out of the drilled hole.
- Rebar which has been cut unfavorable can become wedged between the drill bit and the core. This will block the drill bit and can also damage it. Before the drilling is commenced any broken diamond segments have to be removed from the drilled hole.
- If the drill bit is blocked, the drill motor has to be stopped and the power plug to the motor has to be unplugged. Use a suitable wrench to turn the drill bit backwards and forwards until the drill bit has come lose and can be fed out of the drilled hole.
- When drilling into hollow structures, always check where the cooling water flows to avoid damage.



**WARNING!****RISK AREA**

- The risk area must be roped off and the operator must make sure that no unauthorized persons are within the risk area (the area around the machine.)
 - Clear the working area and make sure no unauthorized persons are within the risk area before the machine is allowed to be started.
 - Remember always to cover cut openings so that no person falls down and gets hurt.
 - Before starting work, make sure there is no possibility that concrete blocks may fall down causing injury or damage to persons or property. When drilling holes in the ceiling, the drilled core has to be secured and the danger area blocked.
 - Concrete blocks which are cut free may not be allowed to fall freely as this could compromise the safety of the machine and/or diamond tool. A drill motor which falls down can lead to severe injury. Avoid the risk area around the drill rig and drill motor.
-

3 Preparations and mounting

3.1 Preparations before drilling

3.1.1 Equipment needed for drilling

In addition to the modules of a complete machine the operator should have the following at hand:

- Hammer drill: Used to drill holes to secure the base plate.
- Hammer: Securing anchors.
- Anchors and bolts: Mounting the base plate and removal of drilled cores.
- Tools for mounting the drill stand and adjustments: 19 mm key/wrench
- Torque wrench: Good to have for tightening CDC-90 coupling.
- C-spanner for the QC-coupling for the drill bit. Included in delivery
- Level: Can be good to have. A level is also built in to the MDU3.
- Measuring tape: Positioning of base plate in relation to cored hole.
- Cables and electrical plugs: When needed, extension cables can be used.
- Industrial vacuum cleaner: Collection of concrete slurry and water retention.
- Water collector ring: To avoid spreading the water around the drill hole during drilling.
- Equipment for safe removal of drilled cores: Small cores can be removed by hand, big diameter cores must be removed with a crane or other lifting equipment.
- Helmet, eye- and ear protection, dust guards in dusty environments, protective clothes, shoes and gloves.

3.1.2 Mounting the track on the base plate

We recommend to assembly the base plate on the track first, and then fastening the assembled drill rig on the concrete.



a. Slide the upper clamp in to the track. Older tracks with only one rack can be used. In this case make sure the rack is on the left side seen from the rack side of the track.

b. Slide the lower clamp into the track.



c. Tighten the two bolts on the lower clamp.



d. Tighten the upper bolt loosely.



e. When the track is in the right position, tighten the bolt properly.



f. Next tighten the upper bolt on the back brace.



g. Tighten the lower bolt on the back brace.

3.1.3 Fastening the base plate

1. The base plate must be securely fastened to perform safe drilling. Be careful to clean the mounting hole for the base plate with water or air before fitting an expander bolt. If mounted on brick or light concrete, we recommend to secure the base plate with through bolts.
2. Secure the base plate to the floor or wall with an expanding anchor and minimum M14 bolt.
3. When drilling with large drill bits we recommend using two anchors of M16 size to fasten the base plate.



WARNING!

- Be observant on what material the base plate will be mounted on. The base plate must be securely fastened to perform safe drilling.
- Never hit the column or track into position with a hammer or the like.

3.1.4 Adjusting the drill angle

The MDU3 has a built-in level indicator which is shown on the display to help with aligning the drilling angle. See 4.1.1.



a. Loosen the upper bolt on the back support.



b. Loosen the lower bolt on the back support.



c. Loosen the bolt on the upper brace and tilt the track to the wanted positioned backwards or forwards.



d. Tighten the bolt on the lower brace and the upper and lower bolt on the back support.



Note!

When the track is tilted in a large angle, the size of the maximum drill bit is reduced.



WARNING!

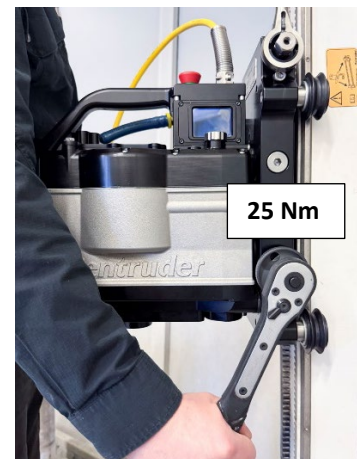
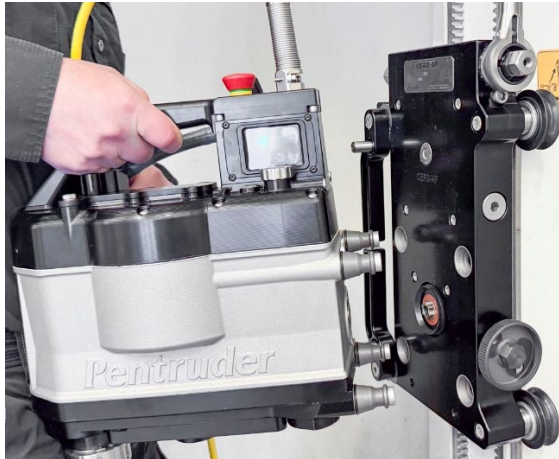
- If the track is tilted forwards in a big angle, check that there is no risk of drilling into the expander bolt.

3.1.5 Mounting and feeding of MDU3 Core Drill on Track

- Open the handles.
- Fold the CER2 onto the track with the side without handles first.
- To be able to close the handles the gear teeth must be in mesh with the gear rack.



Note! Make sure the rollers are properly adjusted on the track so that there is no play. There should be some resistance when closing the handles. See Maintenance for information on how to adjust the rollers. Grease if necessary.



- Fit the conical couplings on the MDU3 into the CDC-90 coupling-holes on the CER2, and pre-tighten the knob per hand to prevent it from falling off the CER2.

- Tighten the knob with a 19 mm wrench, 25 Nm.



Note! Make sure to tighten the knob properly so that the MDU3 doesn't loosen from vibrations during drilling.

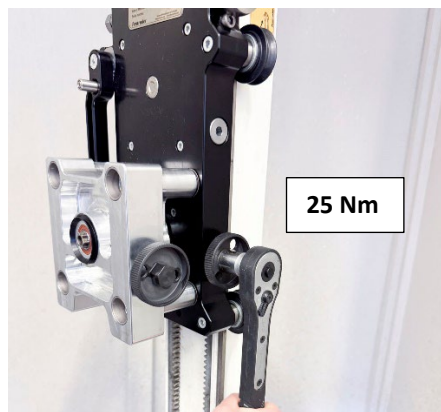
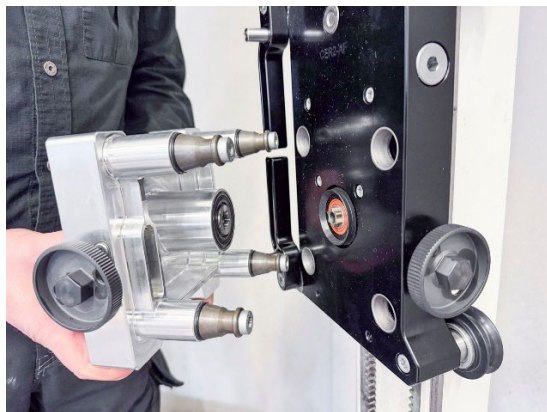


Warning!

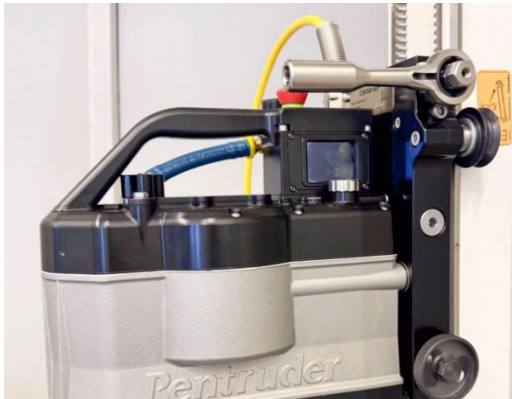


Make sure the drill motor is disconnected from the electrical supply before it is fitted on the drill rig.

3.1.6 Mounting of a Spacer Block (Accessory)



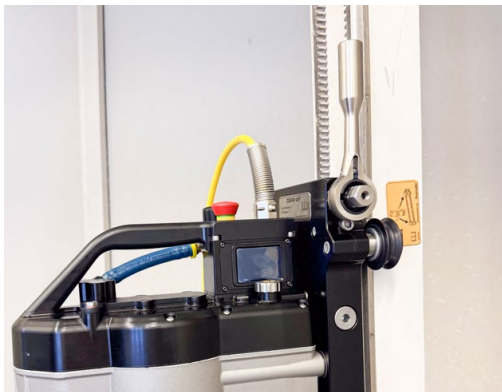
The spacer block is fastened the same way as the MDU3, see 3.1.6.

Manual feed with CER2-AF

- a. To feed the machine manually along the track, the brake lever should point 90° away from the track.



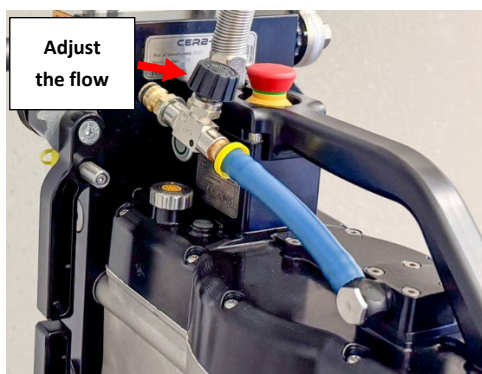
- b. Use a Knuckle bar 400 mm 1/2" with a 19 mm hex socket or a hand crank (HK-2) for feeding. It can be used on either side of the machine.

Automatic feed with CER2-AF

- a. To engage the autofeed, the brake lever must be in vertical position along the track.

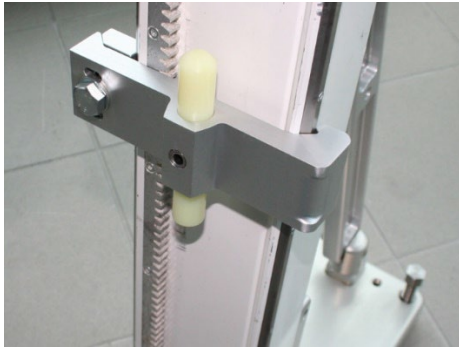
3.1.7 Cooling water and water bypass

Turn water on and off and regulate flow by turning the knob. There is no automatic water valve.

**Water bypass**

There will be an accessory available to connect to the output QC-connection on the drill spindle.

3.1.8 Track stop



The track stop must be used as a stop upwards and depending on the setup also downwards.



WARNING!

- If tracks with only one gear rack are used, make sure all of them are positioned correctly to engage with the travel gear on the core drill.
- Track stops must always be fitted at the end of the track. There is a risk that the core drill can fall off the track, should the operator not pay attention and feed it too far.

3.1.9 Mounting the drill bit on spindle with Quick Change coupling

There are Quick change drill bit adapters with different thread/P.C.D. available.



Note!

Make sure the drill bit has the correct thread corresponding to the drill bit adapter and that the coupling is clean and lightly greased, both the drill bit adapter and the coupling on the spindle unit.



a. Thread the drill bit on to the drill bit adapter, making sure the mating surfaces are clean and lightly greased. Insert the drill bit adapter with drill bit into the Quick Change coupling on the spindle unit.



b. Close the coupling by turning it to the right per hand.



c. Use the C-spanner to fasten the Quick Change coupling. There should be a "click" sound when it is properly secured.

3.2 Connections

3.2.1 Electrical supply from mains/grid

Connect the Pentruder MDU3 Core Drill to 3-phase power, 16A, 380V to 480V, 50-60 Hz. A neutral-line is NOT required.

In Europe a RCCB Type B must be used in the supply line.

The MDU3 is equipped with a 16 Amp receptacle.



Important!

Check that all cables and connectors are undamaged and in faultless condition. Make sure all connectors are clean and dry. Do not lubricate the pins since they then will attract more dirt than when clean and dry.

3.2.2 EMC-filter

The EMC-filter, which is a prerequisite to fulfil the EMC-directive, is mounted on the cable.

Electromagnetic interference is often a problem when powering machines with a generator. The EMC-filter reduces the level of electromagnetic interference caused by the machine which may disturb voltage regulators in generators, etc.



3.2.3 Electrical power supply from mobile generator

When using a mobile generator, the recommended minimum size is 20 kVA. Make sure the MDU3 is the only machine connected to the generator. It is important that when a mobile generator set is used, it complies with the recommendations.



Important!

If the mobile generator's electrical capacity is too low, there is a significant risk of destroying power electronics in the MDU3.

3.2.4 Requirements for the electrical supply according to EMC directive

This machine is OK to install on any socket connected to a supply with a large enough short circuit power. It complies with IEC 61000-3-12 provided that short-circuit power SSC at the interface point between the user's supply and the public supply network is greater than or equal to 350 MVA.

It is the responsibility of the installer or operator of the machine to ensure, by consultation with the supply network operator, if necessary, that this device is connected only to an interface point with an SSC rating greater than or equal to 350 MVA.

3.2.5 Extension cable

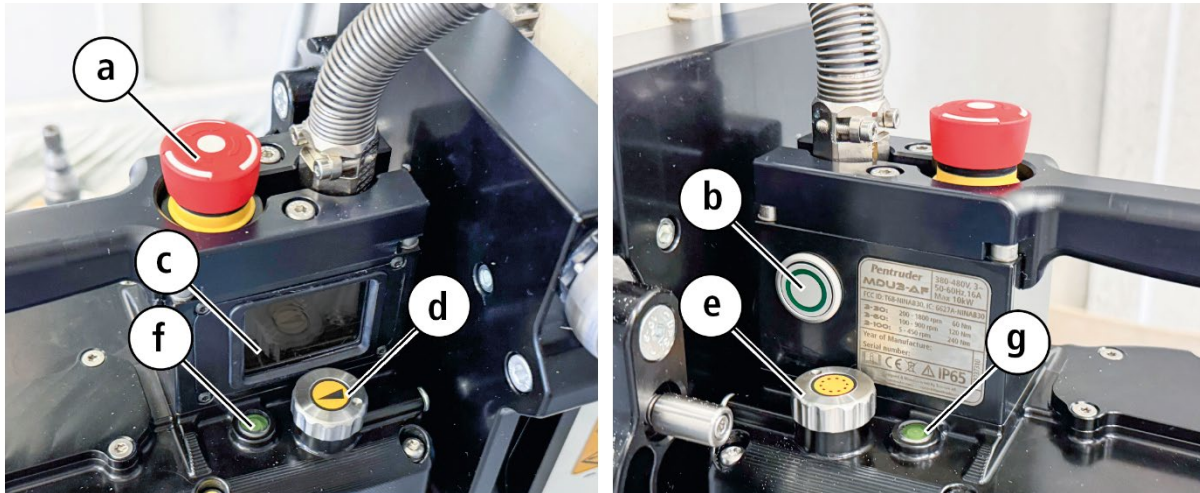
An extension cable may be used. The size must be adequate for the length:

- Extension cable 1-50 meters: min 2.5 mm² CU / 14 AWG
- Extension cable 50-100 meters: min 6 mm² CU / 10 AWG

3.2.6 Water supply

The MDU3 is water cooled and needs a minimum of 4 liters / 1 USG of cool water per minute at full power output. The water pressure should be at least 1 bar / 14 psi and maximum 6 bar / 87 psi.

3.3 User interface



- a. E-stop
- b. Green button
- c. Display
- d. PWR:
 - 1.  Manual feed: Controls the maximum allowed power on the drill bit (torque)
 - 2.  Auto feed: Controls the speed, direction and power on the drill bit (torque)
- e. RPM:
 - 1.  Start and stop main motor
 - 2.  Main motor RPM dial
- f. LED1: Indicates torque
 - 1. Green: Below set torque limit
 - 2. Yellow: Reached set torque limit
 - 3. Red: Above set torque limit (rpm will start dropping)
- g. LED2: Indicates torque
 - 1. Green: Below set torque limit
 - 2. Yellow: Reached set torque limit
 - 3. Red: Above set torque limit (rpm will start dropping)

3.4 Spindle speed, peripheral speed and power level

3.4.1 Spindle speed – Peripheral speed with different models and sizes of drill bits

Set desired spindle speed with the RPM-dial. The suitable spindle speed varies with the drill bit, type of concrete and amount of rebar. See charts below for Peripheral speed with different MDU3 models and sizes of drill bits in meter/second and SFPM.

There are drop gear kits available to change model. Contact your authorized Pentruder distributor for more information.

For each MDU3 model, there are totally 15 positions, 1 reverse, 1 neutral and 13 forward speeds. The spindle speed can be adjusted up and down during drilling. For optimal performance, try different spindle speeds until the core bit cuts well and the drilling goes fast and smooth.



Note!

The power from the main motor is at its highest on the higher rpm's. See bold values.

Peripheral speeds with MDU3-30 in meter per second

MDU3-30														
Ø mm	200	300	400	500	600	700	800	900	1000	1200	1400	1600	1800	RPM
50	0.5	0.8	1	1.3	1.6	1.8	2.1	2.4	2.6	3.1	3.7	4.2	4.7	M/sec
100	1	1.6	2.1	2.6	3.1	3.7	4.2	4.7	5.2	6.3	7.3	8.4	9.4	M/sec
150	1.6	2.4	3.1	3.9	4.7	5.5	6.3	7.1	7.9	9.4	11	12.6	14.1	M/sec
200	2.1	3.1	4.2	5.2	6.3	7.3	8.4	9.4	10.5	12.6	14.7	16.8	18.8	M/sec
250	2.6	3.9	5.2	6.5	7.9	9.2	10.5	11.8	13.1	15.7	18.3	20.9	23.6	M/sec
300	3.1	4.7	6.3	7.9	9.4	11	12.6	14.1	15.7	18.8	22	25.1	28.3	M/sec

Peripheral speeds with MDU3-60 in meter per second

MDU3-60														
Ø mm	100	150	200	250	300	350	400	450	500	600	700	800	900	RPM
100	0.5	0.8	1	1.3	1.6	1.8	2.1	2.4	2.6	3.1	3.7	4.2	4.7	M/sec
150	0.8	1.2	1.6	2	2.4	2.7	3.1	3.5	3.9	4.7	5.5	6.3	7.1	M/sec
200	1	1.6	2.1	2.6	3.1	3.7	4.2	4.7	5.2	6.3	7.3	8.4	9.4	M/sec
250	1.3	2	2.6	3.3	3.9	4.6	5.2	5.9	6.5	7.9	9.2	10.5	11.8	M/sec
300	1.6	2.4	3.1	3.9	4.7	5.5	6.3	7.1	7.9	9.4	11	12.6	14.1	M/sec
400	2.1	3.1	4.2	5.2	6.3	7.3	8.4	9.4	10.5	12.6	14.7	16.8	18.8	M/sec
500	2.6	3.9	5.2	6.5	7.9	9.2	10.5	11.8	13.1	15.7	18.3	20.9	23.6	M/sec
600	3.1	4.7	6.3	7.9	9.4	11	12.6	14.1	15.7	18.8	22	25.1	28.3	M/sec

Peripheral speeds with MDU3-100 in meter per second

MDU3-100														
Ø mm	50	75	100	125	150	175	200	225	250	300	350	400	450	RPM
150	0.4	0.6	0.8	1	1.2	1.4	1.6	1.8	2	2.4	2.7	3.1	3.5	M/sec
200	0.5	0.8	1	1.3	1.6	1.8	2.1	2.4	2.6	3.1	3.7	4.2	4.7	M/sec
250	0.7	1	1.3	1.6	2	2.3	2.6	2.9	3.3	3.9	4.6	5.2	5.9	M/sec
300	0.8	1.2	1.6	2	2.4	2.7	3.1	3.5	3.9	4.7	5.5	6.3	7.1	M/sec
400	1	1.6	2.1	2.6	3.1	3.7	4.2	4.7	5.2	6.3	7.3	8.4	9.4	M/sec
500	1.3	2	2.6	3.3	3.9	4.6	5.2	5.9	6.5	7.9	9.2	10.5	11.8	M/sec
600	1.6	2.4	3.1	3.9	4.7	5.5	6.3	7.1	7.9	9.4	11	12.6	14.1	M/sec
700	1.8	2.7	3.7	4.6	5.5	6.4	7.3	8.2	9.2	11	12.8	14.7	16.5	M/sec
800	2.1	3.1	4.2	5.2	6.3	7.3	8.4	9.4	10.5	12.6	14.7	16.8	18.8	M/sec
900	2.4	3.5	4.7	5.9	7.1	8.2	9.4	10.6	11.8	14.1	16.5	18.8	21.2	M/sec
1000	2.6	3.9	5.2	6.5	7.9	9.2	10.5	11.8	13.1	15.7	18.3	20.9	23.6	M/sec

**Note!**

The power from the main motor is at its highest on the higher rpm's.
See bold values.

Peripheral speeds with MDU3-30 in SFPM

MDU3-30														
Ø inch	200	300	400	500	600	700	800	900	1000	1200	1400	1600	1800	RPM
2"	105	157	209	262	314	367	419	471	524	628	733	838	942	SFPM
4"	209	314	419	524	628	733	838	942	1 047	1 257	1 466	1 676	1 885	SFPM
6"	314	471	628	785	942	1 100	1 257	1 414	1 571	1 885	2 199	2 513	2 827	SFPM
8"	419	628	838	1 047	1 257	1 466	1 676	1 885	2 094	2 513	2 932	3 351	3 770	SFPM
10"	524	785	1 047	1 309	1 571	1 833	2 094	2 356	2 618	3 142	3 665	4 189	4 712	SFPM
12"	628	942	1 257	1 571	1 885	2 199	2 513	2 827	3 142	3 770	4 398	5 027	5 655	SFPM

Peripheral speeds with MDU3-60 in SFPM

MDU3-60														
Ø inch	100	150	200	250	300	350	400	450	500	600	700	800	900	RPM
6"	157	236	314	393	471	550	628	707	785	942	1 100	1 257	1 414	SFPM
8"	209	314	419	524	628	733	838	942	1 047	1 257	1 466	1 676	1 885	SFPM
10"	262	393	524	654	785	916	1 047	1 178	1 309	1 571	1 833	2 094	2 356	SFPM
12"	314	471	628	785	942	1 100	1 257	1 414	1 571	1 885	2 199	2 513	2 827	SFPM
16"	419	628	838	1 047	1 257	1 466	1 676	1 885	2 094	2 513	2 932	3 351	3 770	SFPM
20"	524	785	1 047	1 309	1 571	1 833	2 094	2 356	2 618	3 142	3 665	4 189	4 712	SFPM
24"	628	942	1 257	1 571	1 885	2 199	2 513	2 827	3 142	3 770	4 398	5 027	5 655	SFPM

Peripheral speeds with MDU3-100 in SFPM

MDU3-100														
Ø inch	50	75	100	125	150	175	200	225	250	300	350	400	450	RPM
8"	105	157	209	262	314	367	419	471	524	628	733	838	942	SFPM
10"	131	196	262	327	393	458	524	589	654	785	916	1 047	1 178	SFPM
12"	157	236	314	393	471	550	628	707	785	942	1 100	1 257	1 414	SFPM
16"	209	314	419	524	628	733	838	942	1 047	1 257	1 466	1 676	1 885	SFPM
20"	262	393	524	654	785	916	1 047	1 178	1 309	1 571	1 833	2 094	2 356	SFPM
24"	314	471	628	785	942	1 100	1 257	1 414	1 571	1 885	2 199	2 513	2 827	SFPM
28"	367	550	733	916	1 100	1 283	1 466	1 649	1 833	2 199	2 566	2 932	3 299	SFPM
32"	419	628	838	1 047	1 257	1 466	1 676	1 885	2 094	2 513	2 932	3 351	3 770	SFPM
36"	471	707	942	1 178	1 414	1 649	1 885	2 121	2 356	2 827	3 299	3 770	4 241	SFPM
40"	524	785	1 047	1 309	1 571	1 833	2 094	2 356	2 618	3 142	3 665	4 189	4 712	SFPM

**Note!**

The power from the main motor is at its highest on the higher rpm's.
See bold values.

3.4.2 Power Level

To use the full power (torque x rpm) of the main motor set the PWR dial to maximum, 100% on the display.

It is recommended to restrict power (torque x rpm) when drilling with a small diameter drill bit or a drill bit which is not well adapted to the object being cut.

**Note!**

The MDU3 can put up to 8 kW power on the drill bit. There is a big risk of overloading a small diameter drill bit which will inevitably damage the segments.

Reduce the setting on the PWR dial. See the display for indication of chosen setting.

Example 1: If the PWR dial is set to 100%, the main motor will give full RPM until 100% load is reached. If going above 100% load, the rpm will drop, indicating for the operator that max power is reached.

Example 2: If the PWR dial is set to 50%, the main motor will give full RPM until 50% load is reached. If going above 50% load, the rpm will drop, indicating for the operator that max power is reached.

4 Drilling

When all the instructions in Chapter 2 and 3 have been followed, you are ready for the next step, Drilling. The machine should be clean, properly lubricated and all functions checked before drilling is commenced. See the instructions in **Maintenance**.

**WARNING!**

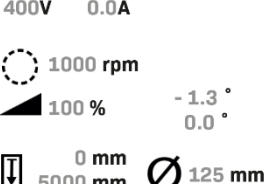
- Before starting to cut, it is essential that all personnel working with or in close proximity of the machine have read and understood the contents of this operator's manual and that the instructions are followed.
 - If the safety precautions are not respected, this can result in serious injury and even to fatal injuries to persons in proximity of the machine.
-

4.1 Operating the MDU3

4.1.1 Connections and start sequence

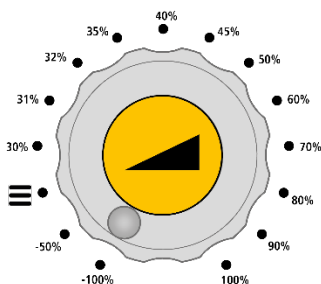
- Make sure the drill bit runs true and is not damaged.
- Connect the water supply and make sure there is a sufficient water pressure/flow available.
- Connect the MDU3 to the power source. The display will show the Pentruder logotype and then go over to show the MDU3 model, serial number, etc.
- L1, L2 and the Green button will now start flashing and the display shows "Release E-stop and press Green button". Make sure the E-stop is released and press the Green button (reset) to activate the safety system.
- The display will show input voltage, set rpm, etc., "Start display".
Before the any of the motors are started the level in two axis is shown on the display.
Two angles are shown when drilling vertically (front/back, left/right) and only one angle is shown when drilling horizontally.
- When the main motor is started (4.1.3), the level indicator is replaced by cutting data, "Cutting display".

Display start up sequence

4.1.1	c. MDU3 connected to the power source		
d.	MDU3 is now ready to be activated by pressing the green button		
e.	Start display: Input voltage Amperage draw from supply Set spindle rpm Level indicator (-1.3°) Set torque in % Level indicator (0.0°) Actual depth Drill bit Ø (if set) Set depth		
f.	Cutting display: Input voltage Amperage draw from supply Set spindle rpm Cutting speed (if Ø is set) Set torque in % Autofeed speed Actual depth Drill bit Ø (if set) Set depth		

4.1.2 Autofeed settings (if applicable)

To access the menus and settings, turn the PWR dial to the symbol for menu  and press the PWR dial. To navigate through the menus, turn the PWR dial and press to select.



Display 1 - Menu	
4.1.2	
	Return to previous view
	Depth setting mode
	Drill bit $\varnothing$
	Error code list
	Info
	Metric / Imperial













Pentruder Autofeed principles

The autofeed will measure the load on the main motor and adapt the feeding pressure to:

1. Set power is reached. Maximum allowed power is set with the PWR dial. See 3.4.2
 2. Avoid overloading the stability of the drill.
 3. Avoid overloading the drill bit when hitting steel or other aggregates.
- The rpm from the main motor will normally not be affected but can be continuously adjusted by the operator.

Several parameters affect the load on the main motor, and thus the autofeed pressure:

- Feed pressure as set with the PWR dial
- High temperature of motor and drive electronics. See warning on display.
- High friction which can be caused by many factors:
 - Drill bit diameter. A larger drill bit will lead to more friction
 - Drill bit not being round
 - Vibrations. The autofeed will react as if the load on the main motor is higher than it actually is.
 - Poor alignment of drill rig and drill bit will give more friction
 - Segments on drill bit poorly adapted to the aggregate. Size, number of segments, softness, etc.
 - Water flow not well adapted
- RPM not well adapted which affects friction. See 3.4.1

Depth setting mode**Zero point**

- a. Position the core drill at the desired start height and set Zero point
- b. Move the cursor to + "Increase depth setting" and press/hold the PWR dial to desired depth.

Automatic return

- c. Move cursor to A and press to activate Automatic return if desired.
If active, the core drill will return to set zero point automatically after set depth is reached.
Not active = Core drill stops when set depth is reached.
Return to previous view if no Breakthrough detection is needed, for next step, Select drill bit Ø.

Breakthrough detection

- d. Move cursor to B and press to activate "Breakthrough detection" if desired.
If active, the core drill will stop after detecting breakthrough.
Please note that the depth setting must be higher than the actual breakthrough point. Otherwise, the core drill will stop at chosen depth.
If Automatic return is selected, the core drill will return to the Zero point automatically.
Return to previous view for next step, Select drill bit Ø.

Display 2 – Depth setting mode

4.1.2



Return to previous view

0

Zero point

+

Increase depth setting

-

Decrease depth setting

A

Automatic return



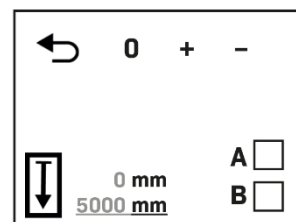
Active

B

Breakthrough detection



Active

**Select drill bit Ø**

- g. Move cursor to + to increase and – to decrease the diameter in 5 mm (1/4") increments.
This setting will not affect the spindle rpm but is used for showing peripheral speed on the display and will also adapt the algorithm for auto feed based on drill bit diameter.
- h. See 4.1.3 Starting and stopping the main motor/spindle.

Display 3 – Select drill bit Ø

4.1.2



Return to previous view



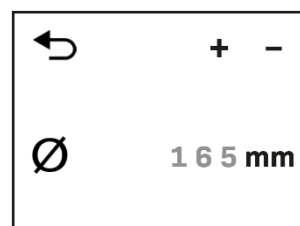
Move cursor to + to increase and – to decrease the diameter.

+

Increase diameter

-

Decrease diameter

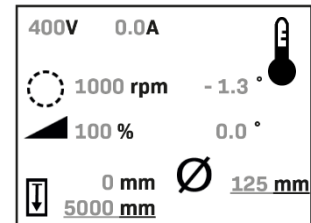


Display 4 – Motor temperature high

4.1.2



Thermometer symbol starts blinking when machine temperature has reached a certain level. Power will be automatically reduced to prevent further temperature increase. When temperature has reached maximum level, the machine will stop and the thermometer symbol will stop blinking. See trouble shooting.

**Error code list**

- i. Move cursor to scroll in the list.

Display 5 – Error code list

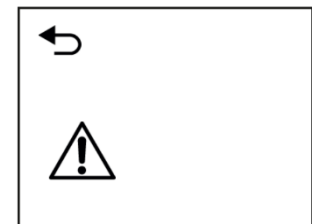
4.1.2



Return to previous view



Error code list will show stored errors.
See 5 Trouble shooting

**Display 6 – Info**

4.1.2



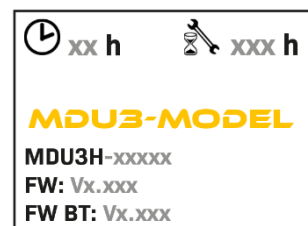
Return to previous view



Machine hour counter (spindle hours)



Service hour counter – Time to next service

MDU3-MODEL**MDU3H-** Machine serial number**FW** Firmware version Drive electronics**FW BT** Firmware version Bluetooth Interface**Display 7 – Metric / Imperial**

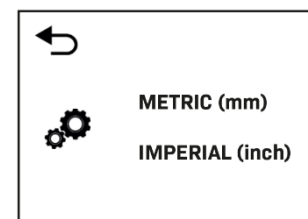
4.1.2



Return to previous view



Choose between metric or imperial
measurements



4.1.3 Starting and stopping the main motor/spindle

- Set desired spindle speed with the RPM-dial. See 3.4
- Press the RPM dial to start the main motor, the spindle starts rotating.
- For autofeed, see 4.1.4.
- The rpm can be continuously adjusted, also while the spindle is rotating.
- Stop the spindle by pressing the RPM dial once more.
- For manual feed, see 4.1.5.

4.1.4 Autofeed

- Set desired power setting with the PWR-dial and press to activate. See 3.4.
- The power setting and RPM can be continuously adjusted, also while the spindle is rotating.
- Stop the autofeed by pressing the PWR dial.

4.1.5 Manual operation

Use a Knuckle bar 400 mm 1/2" with 19 mm hex socket or HK-2 to move the drill motor up or down the track.

**Note!**

- The actual torque value shown in the display may seem low, especially on small drill bits. This is normal as small drill bits cannot handle more torque.
- The amperage draw from supply shown in the display may seem low, especially when drilling with small drill bits. This is normal as it is not possible to use more power in many cases.

4.1.6 Spindle reverse

The reverse is mainly meant to be used when using threaded extension tubes.

To select Reverse, turn the RPM dial counterclockwise to the end. Verify that the display shows -200.

Press the RPM dial to start reverse rotation. Press the RPM dial to stop the rotation of the spindle.

**Important!**

We don't recommend using a ratchet for feed as it cannot be used in both directions. Don't use any lever or extension to get a higher feed power.

**WARNING - DANGER OF LIFE!**

Cutting into an energized power line can make the machine and its accessories conductive of high voltage and current which can result in serious or fatal injuries. A circuit breaker cannot protect against this danger.

**WARNING!**

If there is a possibility that drilled cores may fall causing injury or damage to persons or property, then they must be secured before starting work. The risk area must be roped off and a responsible person left in charge, in a safe place, to prevent entry of unauthorized persons

**Important!**

- If material should get stuck between the drill bit and the wall of the drill hole, shut off the drill motor and try to remove the bit.
- Remember to cover drilled holes.
- If the drilled core should get stuck in the diamond core drill bit when removing it, increase the water flow if possible and tap lightly on the drill bit until the drilled core gets loose.
- Never leave the drilled core in the diamond core drill bit when taking the drill bit out after drilling a hole in a wall. The drill core can weigh a lot and make the drill spindle break, and the drill column fall down due to overload. First remove the drill bit from the drill spindle then remove the drill bit with the drill core from the wall using a crane or other device.
- Inspect the diamond core drill bit before drilling is commenced to see if it runs true or if segments are missing. Never use a defective diamond core drill bit!

4.1.7 Drilling at an angle

When drilling at an angle it is important to only use a low feed pressure until the whole drill bit diameter is in the drilled material.

4.1.8 Drilling through steel

When hitting steel, we recommend keeping the spindle speed as it is or just turn it down a little and use less feed pressure than in concrete. Make sure that the water flow is quite high when drilling in steel. By using less feed pressure but relatively high speed and having enough water, the risk of overloading the drill bit is lower.

4.1.9 Drilling with a big or long drill bit

When drilling with a big or long drill bit a big and heavy body is in movement which contains a lot of energy when rotating. Therefore, it is crucial to assemble the drilling machine following the instructions given in this operator's manual. The following are steps which are extra important when drilling with a big or long drill bit.

1. **Fasten the base plate securely with two anchors** of preferable M16 size, or minimum M12. Otherwise, the base can twist under load and cause misalignment between drill bit and hole.
2. **Tighten all bolts** on the base plate, the back brace and the track. Do not overtighten the two bolts that clamps the track to the base plate. If over tightened, the track T-slot can be deformed, and then the base-to-track stability is compromised.
3. **Make sure the eccentric rollers are properly adjusted to the track.** This will eliminate play. See 5. Maintenance.
4. **Clean and lightly grease** the Quick-Change coupling both QC-adaptor and the threads in the drill bit thread adapter.
5. **Start approaching the wall with the drill bit, with a much reduced speed of the drill bit** by using a low speed. Do not use full speed to start with. It is necessary to be very gentle when the drill bit is fed into the wall. The first 10 mm are crucial for successful drilling when the drill bit plunges further in.
6. **Drill gently for at least the first 10 – 20 mm, or more.** When the drill bit has penetrated about 10 - 20 mm into the wall, full speed can be applied.

Note!



If the drill bit starts with a misalignment, then this misalignment will grow the deeper the drill goes, ending up in a lot of friction between the drill bit inside and outside wall, and the hole. It is crucial to get a very good alignment from the start. If the alignment is good, then the friction between the drill bit and the hole will be greatly reduced, and the torque needed to drill the hole will be much lower. This will minimize problems with twisting/bending of the track.

4.1.1 When drilling is finished

See 6. Maintenance.

4.2 Storage of the machine

Store the drill motor in a dry environment and in temperatures above freezing.

If the temperature is below freezing, the water must be drained from the MDU3 drill motor. This is easily done by opening the water valve and pointing the water hose upwards. Position the drill motor as seen in the picture below.



Important!

Do not leave water in the core drill in temperatures below freezing. This will damage the core drill.

5 Trouble shooting and Pentruder app for smartphone

5.1 Trouble shooting

Issue	Possible cause	Error code/ Symbol	Solution
RPM drops 	Too high feed pressure in relation to set PWR value (available power from main motor). Set PWR is reached.		Increase PWR setting, if possible. If you drill manually, reduce feeding pressure.
	High temperature of motor and drive electronics.		Make sure you have sufficient water supply.
	Set power is reached		Increase PWR setting, if possible.
	Excess friction - see list below:		
	• Drill bit diameter - more friction with a larger drill bit		If automatic feed seems to fail, try manual feed
	• Drill bit not being round		Change drill bit
	• Uncontrolled friction in the cut, e.g. loose stones, steel, jamming the drill bit.		Remove loose objects from the cut.
	• Vibrations. The autofeed will react as if the load is higher than it actually is.		Adjust RPM (RPM dial) to get less vibrations.
	• Poor alignment of drill rig and drill bit.		Adjust the drill rig. Make sure it is fastened properly. Check stability. If line/stitch-drill setup is used, make sure enough support/track feet is used to achieve enough stability.
	• Drill rig not fastened properly		
	• Segments on drill bit poorly adapted to the aggregate. Size, number of segments, softness, etc.		Try manual feed or change drill bit.
	• Water flow not well adapted		Make sure you have sufficient water supply.
	• RPM not well adapted which affects friction. See 3.4.1		Adjust RPM (RPM dial)
	• High temperature of motor and drive electronics.		Make sure you have sufficient water flow and pressure and that the water is cool enough. Protect from direct sun.
Machine shuts off	Overvoltage	E2851	Adjust the power supply voltage
	Voltage drop under a certain level due to poor power supply, long cables.	E2850	Make sure the power supply has sufficient voltage. Use extension cables with enough size for the machine. See 3.2
	Loss of one phase while drilling.	E2853	Check fuses at power source. Check extension cables and connectors/adapters
	Abrupt overload, eg due jamming of drill bit.	E2409	Loosen the drill bit manually if necessary.
	Main motor slip clutch slipping	E1003	This is normal if the drill bit is jammed. If this happens often while drilling without obvious reason, the machine needs service. Contact your Pentruder authorized service workshop.
	See Error codes		

Problem	Possible cause	Error code/ Symbol	Solution
Autofeed moves very slowly	If the 19 mm hex for manual feed rotates while trying to autofeed:		
	Check the position of the brake lever. It should be parallel to the CER2-AF for autofeed operation		Move the brake lever all the way to the physical stop.
	If the 19 mm hex for manual feed DOES NOT rotate while trying to autofeed:		
	Brake mechanism in CER2-AF slipping and needs adjustment.		See Maintenance
	Make sure autofeed is activated		Press PWR dial to activate
Poor cutting performance/ Autofeed moves very slowly	Wrong MDU3 model for the drill bit diameter.		Change model by installing another drop gear kit better suited for the drill bit size. See 3.4.1
	Set power is reached		Increase PWR setting, if possible.
	Excess friction caused by:		Remove excess friction:
	Drill bit diameter → more friction with a larger drill bit		If automatic feed seems to fail, try manual feed
	Drill bit not being round		Change drill bit
	Uncontrolled friction in the cut, e.g. loose stones, steel, jamming the drill bit.		Remove loose objects from the cut.
	Vibrations. The autofeed will react as if the load is higher than it actually is.		Adjust RPM (RPM dial)
	Poor alignment of drill rig and drill bit		Adjust the drill rig. Make sure it is fastened properly. Check stability. If line/stitch-drill setup is used, make sure enough support/track feet is used to achieve enough stability.
	Rollers on CER2-AF poorly adjusted or worn.		Adjust or replace rollers. See Maintenance
	Segments on drill bit poorly adapted to the aggregate. Size, number of segments, softness, etc.		Try manual feed or change drill bit.
	Water flow not well adapted		Make sure you have sufficient water supply.
	RPM not well adapted which affects friction. See 3.4.1		Adjust RPM (RPM dial)
	High temperature of motor and drive electronics.		Make sure you have sufficient water flow and pressure and that the water is cool enough. Protect from direct sun.
Manual feed is blocked	Check the position of the brake lever. It should be 90° to the CER2-AF		Move the brake lever

5.2 Error codes

Before drilling

E2853	Phase missing in mains supply	Check fuses, extension cables and connectors
E2852 E2863 E2864	Mains supply, voltage outside range (too high or too low)	Check voltage in power supply, adjust generator if applicable (380-480V 50/60Hz)
E2862 E2850	Undervoltage in mains supply before activating/start	Check voltage in power supply, adjust generator if applicable (380-480V 50/60Hz)

During drilling

E2861 E2860 E2114 E2414	Undervoltage in mains supply during load	Check extension cables and connectors
E2851 E2113 E2413	Overvoltage in mains power supply during load	Check voltage in power supply, adjust generator if applicable (380-480V 50/60Hz)
E2105 E2121 E2122 E2127 E2405 E2421 E2422 E2427	Overtemperature E21xx Feed motor E24xx Main motor	Make sure there is a sufficient supply of cooling water, keep machine out of direct sunlight, especially in warm areas
E2423	Slipclutch in main motor slipped	Jammed drill bit. Loosen the drill bit and try again. If this happens repeatedly the slip clutch may need service
E1610 E2106 E2406 E2112 E2412 E2120 E2420 E2199 E2499	Internal electronic errors	These error codes can be caused by electrical disturbance in the electrical supply, disconnect the MDU3 from supply and wait 1 minute before plugging it in again and see if the error disappeared

Please contact your authorized Pentruder service workshop for support.

5.3 Pentruder app

There is a Pentruder app available for download from Appstore (android and iPhone). The Pentruder app is not required to operate the MDU3 but it offers useful features:

- Mirroring of display
- Visualizing data
- Update of software
- Etc.

See Pentruder.com for instructions

6 Maintenance



WARNING!



No service or maintenance may be performed on the machine unless it is disconnected electrically from the mains.

For the machine to remain in a condition which is always safe for operation, maintenance is needed.

The maintenance in chapter 6.1 Every day / week maintenance should be performed by the operator or a service technician.

The machine should be serviced by a Pentruder authorized technician every 200 running hours.

6.1 Every day / week maintenance

6.1.1 Clean the machine, grease and lubricate, and check all functions

The machine should be carefully cleaned using a water hose with a brush.

All functions should be checked and found normal before use of the machine.

Check proper tightening of screws and bolts. Look for loose screws and bolts. Lubricate if needed.

Do not use a high-pressure washer.



Parts on the machine which require extra attention:

- Quick change mechanism for drill bit
- CER2 Track rollers
- CDC-90 CER2/MDU3 disconnect coupling
- Brake mechanism in CER2-AF (if applicable)
- Cables and connector

6.1.2 Quick change mechanism for drill bit

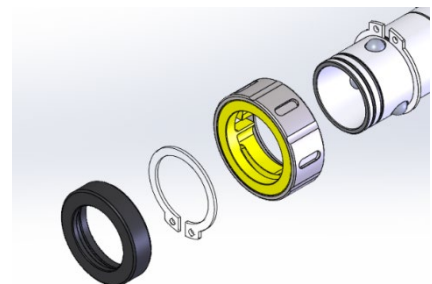
Make sure the quick change mechanism for the drill bit is in good shape and locks into position properly. See 3.1.10 Mounting the drill bit on spindle with Quick Change coupling.

If the lock ring does not move to the locking position, there is probably dirt or rust preventing it from moving freely.

If there is too much rust or damage, the parts need to be replaced.

To clean the mechanism, remove the plastic protection ring, remove the bottom circlip and pull off the locking collar, making sure to catch the three ball bearing balls.

Clean and lubricate all parts with grease and put the mechanism back together.



6.1.3 CER2 Track rollers

Adjusting the rollers on the CER2 Carriage

The CER2 carriage needs to be fitted on the track to do this.

- Adjust the track rollers correctly on the track. Use a 6 mm allen key for loosening the locking screw, use another 6 mm allen key from the track roller side to adjust the lower eccentric shafts on which the rollers are fitted, until tight. There should be a little resistance when turning the handles to lock the carriage on the track.
- Check that the track rollers on the carriage can move freely without too much friction. A certain amount of friction is always present as the bearings are double sealed with both rubber and steel scraper seals.
- Contact your Pentruder authorized service workshop for replacing bearings and steel scraper seals when worn or if the rollers don't run freely.
- Do the same procedure for the upper roller. After adjusting the upper roller, check the lower roller again to make sure it has not changed.



6.1.4 CDC-90 CER2/MDU3 disconnect coupling

Make sure all components are undamaged and moving freely. Clean and lubricate if needed.

6.1.5 Brake mechanism in CER2-AF carriage

Make sure it is preventing the machine from falling freely along the track in manual position.

The brake mechanism will wear over time and needs readjustment. Contact your authorized Pentruder service workshop.

6.1.6 Cables and connector

Check that the machine cable and connector are undamaged and in faultless condition.

Make sure the connector is clean and dry. Do not lubricate the pins since that will attract more dirt compared to a clean and dry one.

7 Technical data

Pentruder MDU3 Core Drill

		400V
Input power:		10 kW
Output power @ 16 Amp:		8 kW / 11 hp
Drill bit range Ø:		
MDU3-30 / MDU2-30AF		50-300 mm / 2"-12"
MDU3-60 / MDU3-60AF		100 - 600 mm / 6" – 24"
MDU3-100 / MDU3-100AF without Spacer (with Spacer)		150-600 mm (150-1000 mm) / 8"-24" (8"-40")
Gears:		15 including neutral and reverse
MDU3 Model	Spindle speed	Torque
MDU3-30 / MDU2-30AF	200-1800 rpm	Max 60 Nm / 44.5 ft.lb
MDU3-60 / MDU3-60AF	100-900 rpm	Max 120 Nm / 88 ft.lb
MDU3-100 / MDU3-100AF	50-450 rpm	Max 240 Nm / 177 ft.lb
Max autofeed speed:	mm/Minute	
Weight:		
MDU3 / MDU3-AF		15 / 16.7 kg / 33 / 36.8 lb
CER2 / CER2-AF		n.a. kg / 9.3 kg / n.a. / 20.5 lb
Protection class:		IP 65

Technical data for Quick Change Drill Bit Adapters

	Description
DR-1-1/4"	Adapter QC - 1-1/4"-7 UNC
DR-CR1-28	Adapter QC - CR1-28
DR-M33	Adapter QC - M33 x 3
DR-1/2" BSPP	Adapter QC – 1/2" BSPP
DR-A-Rod	Adapter QC – A-Rod
DRF-84	Adapter QC - P.C.D. 84 mm, C'bored holes 3x M10
DRF-94	Adapter QC - P.C.D. 94 mm, C'bored holes 6x M10
DRF-100	Adapter QC - P.C.D. 100 mm, C'bored holes 6x M10

Noise emission	Sound power level ¹	Sound pressure level ² :
Pentruder MDU3 core drill	107 dB(A)	95 dB(A)

- Noise emissions in the environment measured as sound power (L_{WA}) in conformity with EN 15027/A1. Measured in accordance with EN ISO 3744:1995.
- Noise pressure level according to EN 15027/A1. Reported data for noise pressure level has a typical statistical dispersion (standard deviation) of 1.0 dB(A). Measured in accordance with EN ISO 11201:1995.

Note:

With reservation for technical changes.

Declaration of conformity

The Manufacturer: Tractive AB
Gjutargatan 54
78170 Borlänge
Sweden

Person authorized to compile the technical file:

Martin Persson
Gjutargatan 54
78170 Borlänge
Sweden

Hereby declare that the machine:

Category: Drilling Machine
Make: Pentruder
Type: MDU3
Accessories: As stated in this Operator's manual and on Pentruder.com

is in conformity with the following provisions and norms:

The Machinery Directive 2006/42/EC.

Other EC-directives:

- DIN EN 12348 +A1; 2009 Core drilling machines on stand – Safety.
- Low Voltage Directive 2014/35/EU
- Electromagnetic Compatibility Directive 2014/30/EU
- Radio Equipment Directive 2014/53/EU

In accordance with the EC-declaration of conformity, the product must not be modified without the manufacturer's permission. If this occurs, this documented EC-declaration ceases to apply and the modifier is considered to be the manufacturer and must verify and draw up an addendum to the EC-declaration and file technical data for the inspection authority.

Borlänge, Sweden, 24th of March, 2025



Martin Persson

Product Engineer
Tractive AB