nova™

NEBULA DVR™

Woodturning Lathe

Operating Instructions

Model: 55603 – EU version

Original Operating Instructions: 128-0721-004_EN
Version: February 2022

Teknatool INTERNATIONAL

CONTACT

Worldwide (except USA)

Teknatool International Ltd.

Phone: (+64) 9 477 5600

E-mail: service@teknatool.com

Website: www.teknatool.com

Europe

Neureiter Maschinen und Werkzeuge

Gewerbegebiet Brennhoflehen

Kellau 167

A - 5431 Kuchl

Phone: +43 (0)6244 202 99

E-mail: kontakt@neureiter-maschinen.at

Website: www.neureiter-maschinen.at

Alternatively, you can contact the retailer from whom you purchased your **nova** product.

Applied directives / standards

- Machinery Directive 2006/42/EC
- Electromagnetic Compatibility (EMC) Directive 2014/30/EU

Applied harmonised standards:

EN ISO 12100:2010
EN 60204-1:2006+A1: 2009+AC:2010
EN 61000-6-2:2005
EN 61000-6-4:2007 + A1:2011

Table of contents

Explanation of symbols

	Wear eye protection		Damage and/or danger to persons, machine, material, or environment		Important notes
	Wear ear protection		Environmentally hazardous substance		Do not dispose together with domestic waste
	Wear protective footwear		Imminent danger to health and risk of serious injuries		
	Wear respiratory protection		Notes on using the operating instructions		

Introduction

This manual contains instructions on safety, assembly, operation and maintenance, and spare parts lists.

If you take into account the recommendations given in these instructions, the NOVA NEBULA DVR will give you years of failure-free service.

1 | Warranty

This product is subject to the statutory warranty according to Austrian law from the time the product is handed over.
There is no basic claim to replacement or rescission.
In case of a complaint, please contact your local dealer. He will coordinate the further procedure with you.

2 | Basic health and safety instructions for power tools

Please note:
Failure to read and observe these operating instructions may result in serious injury. As with all machinery, operating a woodturning lathe can lead to dangerous situations. Careful use and handling can significantly reduce the risk of injury. Neglecting basic precautions can lead to user injuries. The machine is designed exclusively for the recommended use. Therefore, do not carry out any work on the machine that is not intended by the manufacturer and do not make any changes whatsoever. If you have any questions regarding the use of the machine you cannot find an answer to in these operating instructions, please contact your dealer.

Workplace safety

a. **Keep your workplace clean and well lit.** Messy or unlit workplaces can lead to accidents.

b. **Do not use power tools in potentially explosive environments where flammable liquids, gases or dusts are present.** Power tools may produce sparks which can ignite the dust or vapours.

c. **Keep children and other people away while using the power tool.** Distraction can cause you to lose control of the power tool.

Electrical safety

a. **The plug of the power tool must fit into the socket. The plug must not be changed in any way. Do not use adapter plugs together with earthed power tools.** Unmodified plugs and matching sockets reduce the risk of an electric shock.

b. **Avoid physical contact with earthed surfaces such as pipes, heaters, stoves and refrigerators.** There is an increased risk of an electric shock if your body is earthed.

c. **Keep your power tool away from rain or moisture.** Water entering a power tool increases the risk of an electric shock.

d. **Do not misuse the power cord to carry the power tool, hang it up or pull the plug out of the socket. Keep the power cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled power cords increase the risk of an electric shock.

e. **If operating the power tool in a damp environment cannot be avoided, use a residual-current circuit breaker.** Using a residual-current circuit breaker reduces the risk of an electric shock.

Personal safety

a. **Be attentive, pay attention to what you are doing and take the utmost care when operating a power tool. Do not use a power tool when you are tired or under the influence of drugs, alcohol or medication.** One moment of carelessness when using a power tool can cause serious injury.

b. **Wear personal protective equipment and safety glasses.** Wearing personal protective equipment such as dust mask, non-skid safety shoes, hard hat or ear protection, depending on the type and use of the power tool, reduces the risk of personal injury.

c. **Avoid unintentional starting. Ensure the power tool is switched off before connecting it to the power supply and/or battery pack, picking it up or carrying it.** Carrying power tools with your finger on the switch or connecting activated power tools to the power supply can cause accidents.

d. **Remove any adjusting tool or spanner before turning the power tool on.** A tool or spanner that gets caught in a rotating part of the power tool can cause injuries.

e. **Avoid an abnormal posture. Ensure secure footing and maintain balance at all times.** This enables better control of the power tool in unexpected situations.

f. **Wear suitable clothing. Do not wear loose clothing or jewellery. Keep your hair and clothing away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.

g. **If dust extractors and collectors can be installed, ensure these are connected and used properly.** Using a dust extractor can reduce dust-related hazards.

h. **Do not let familiarity gained from frequent use of the power tool allow you to become careless and ignore tool safety principles.** Within a fraction of a second, careless behaviour can lead to serious injuries.

Use and care of the power tool

a. **Do not overload the power tool. Use the appropriate power tool for your work.** Using the right power tool will enable you to work better and safer within the indicated power range.

b. **Do not use a power tool if its switch is defective.** A power tool that cannot be turned on or off is dangerous and must be repaired.

c. **Disconnect the plug from the socket and/or remove the battery pack before making any adjustments to the device, changing inserts or putting the power tool away.** This precaution prevents the unintentional start of the power tool.

d. **Store idle power tools out of the reach of children. Do not allow persons unfamiliar with the power tool or its instructions to operate the power tool.** Power tools are dangerous when used by inexperienced people.

e. **Maintain power tools and accessories with care. Check whether moving parts are working properly and are not jammed, and whether parts are broken or damaged to the extent that the function of the power tool is impaired. Have damaged parts repaired before using the power tool.** Many accidents are caused by poorly maintained power tools.

f. **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to jam and easier to control.

g. **Use the power tool, accessories, etc., according to the present instructions. Take into account the working conditions and the work to be performed.** The use of power tools for other than its intended applications can lead to dangerous situations.

h. **Keep handles and gripping surfaces dry, clean and free from oil and grease.** Slippery handles and gripping surfaces do not allow for safe handling and control of the power tool in unexpected situations.

i. **Only connect the type F plug of the machine to an earthed socket. Do not** turn on the machine if it is not earthed.

Service

a. **Only have your power tool repaired by qualified personnel and only with original spare parts.** This ensures that the safety of the power tool is maintained.

3 | General health and safety instructions for woodturning lathes

a. Wear **personal protective equipment (PPE).**

Ear protection: Wear ear protection for longer work. Certain materials can produce an increased noise level during wood turning.

Safety glasses / face shield: Always wear at least safety glasses when working on the machine. If necessary, use a full eye protection or face shield, since normal eyeglasses are usually only shock-resistant and safety glasses only protect the eyes. A face shield protects eyes and face.

Respiratory protection: When processing different types of wood, exotic wood-based and other materials, and when performing certain tasks like sanding, sawing or drilling, dusts are produced that are harmful to health. Therefore, operate the machines only in well-ventilated areas and wear respiratory protection. Use also a suitable dust extractor and/or a filtering system of the circulating air.

If you are using the woodturning lathe commercially, an automatic chip and dust extractor approved by the professional association must be installed.

b. **Inform yourself about the lathe before using it for the first time.** If you are unfamiliar with the function of a lathe, get professional support. An instruction by an experienced and trained woodturner is strongly recommended. Do not operate the lathe until it is fully assembled.

c. **Minimum age.** The minimum age to use a lathe is 16 years.

d. **Wear suitable clothing.**

Rotating parts can be dangerous. Clothing, jewellery and long hair can get caught in the rotating parts. Therefore, do not wear loose clothing or jewellery and use a headgear or hairnet. Avoid wearing gloves that can get caught during turning. Wear protective footwear and make sure the floor is non-slip.

e. **Do not work in damp, dark and dangerous environment.** The lathe is designed exclusively for indoor use. Protect the lathe from hazy or damp locations and do not expose it to wet conditions. Ensure adequate lighting and ventilation of the workplace. Avoid areas with explosive atmospheres. Failure to comply with these rules may result in warranty loss.

f. **Keep your workplace neat and clean.** Untidy workplaces and tables cause accidents. Do not switch on the lathe until all objects (tools, pieces of wood, etc.) have been removed from it. Keep the immediate work area and floor free from dirt and leftover pieces. Accumulated sawdust is a fire and accident risk.

g. In case of a **power failure**, the workpiece is no longer slowed down. The run-down time may be longer.

h. **Avoid unintentional starting.** Make sure that the main switch (if present) is in the “OFF” position when connecting the lathe to a type F socket.

i. **Do not leave the lathe running unattended.** Do not leave the lathe until the power is turned off and the machine has come to a complete stop.

j. **Use the right tool.** Use only suitable tools or accessories for wood turning. Avoid unnecessary force of the tools. Keep the woodturning tools in good condition. Sharp and clean tools guarantee best results and minimise the risk of injury. Ensure that the tool is in the correct position to the workpiece. Do not use tools designed for spindle turning for faceplate turning and vice versa. Choosing the wrong tool can cause injuries or damage the workpiece.

k. **Working on the lathe.** Make sure the electrical voltage is switched off and then check the spindle by turning it with your hand to see whether the workpiece can move freely.

   Check the workpiece to prevent parts of it from chipping during turning.

   When using adhesives (even cyanoacrylate superglues), bear in mind that they can still be liquid in voids or wide cracks even after hours of drying. During turning, they can leak due to the centrifugal forces and fly in the direction of the chip flight, i.e. in the direction of the woodturner, posing a health or injury risk.

   Always check that the correct speed is set before switching on the spindle. Use the lowest speed for new or out-of-balance workpieces.

   Always turn at the recommended speed. For more information see page 33.

   Do not try to slow down workpieces by hand.

   Place the tool rest as close as possible (about 5-10 mm) to the workpiece. Before each start, rotate the workpiece by hand to make sure that it runs freely. Turn off the lathe from time to time and readjust the tool rest.

   Make sure that the tool rests firmly on the tool rest. Remove the tool rest when sanding or polishing to avoid pinching your fingers.

   When roughing, do not ram the tool into the workpiece and do not cut too deep.

   Do not strike the workpiece on a drive centre which is mounted on the spindle.

   When spindle turning, do not use the tailstock to press the workpiece into the mounted drive centre.

   Mount the workpiece securely for spindle turning. Make sure the tailstock is locked before switching on the power.

   Never loosen the headstock or tailstock while the workpiece is rotating. Make sure that all lock handles are locked before starting the lathe.

   Use the faceplate correctly. Be sure to use a suitable faceplate, prepare the workpiece as best as possible before mounting it on the faceplate and fasten the workpiece securely. Make sure that the mounting screws do not obstruct the woodturning tool during turning.

   Do not use the lathe if it is damaged or malfunctioning. In this case, switch off the lathe and disconnect it from the power supply. Ensure that the damaged parts are repaired.

l. **Pay attention to secure footing** (foot position, balance).

m. **Make sure there is enough work space around the machine.** Untidy work surfaces and floors can lead to injuries.

n. **Use only original accessories and follow the steps described in the operating instructions.** Using accessories from other manufacturers may result in injuries.

o. **Handle the spindle threads with the utmost care.** The spindle threads are very sharp. Do not use them to lift the lathe or to stop or manually turn the spindle.

4 | Technical data

Dimensions
Length x depth x height ..... 1200 mm x 600 mm x 1250 mm

Weight
Machine ..... 206 kg

Distance between centres ..... 640 mm
Centre height ..... 228 mm

Headstock
Spindle thread ..... M33 x 3.5 mm ASR EUROLOCK
Bore ..... Morse taper MT 2 with 12.5 mm through hole through headstock
Indexing device with window ..... 24 positions (15-degree increments)
Pivoting ..... 0 to 360 degrees with detent positions at -45° | 0° | 22.5° | 45° | 90° and 180 degrees
Slidability ..... sliding

Drive ..... ~240 volt, DVR direct drive smart motor, IP54, 1,420 rpm, 50 Hz, 1,800 W

Power supply ..... 240 volt ~ L1-N-PE, 50 Hz, 10 A

Speed ranges (rpm on spindle) ..... 50 – 4,000 rpm

Tailstock
Bore ..... Morse taper MT 2 with 12.5 mm through hole
Quill travel ..... 120 mm

Tool rest ..... 300 mm with 1“ shaft (25.4 mm)

Basic equipment

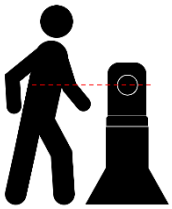
Headstock handwheel, 2 live centres MT 2, 4-prong drive centre MT 2, 150 mm steel faceplate, 300 mm tool rest, knockout bar, tool tray, IEC 60320 power cord, USB cable, operating instructions.

5 | Workshop environment

Installation site requirements

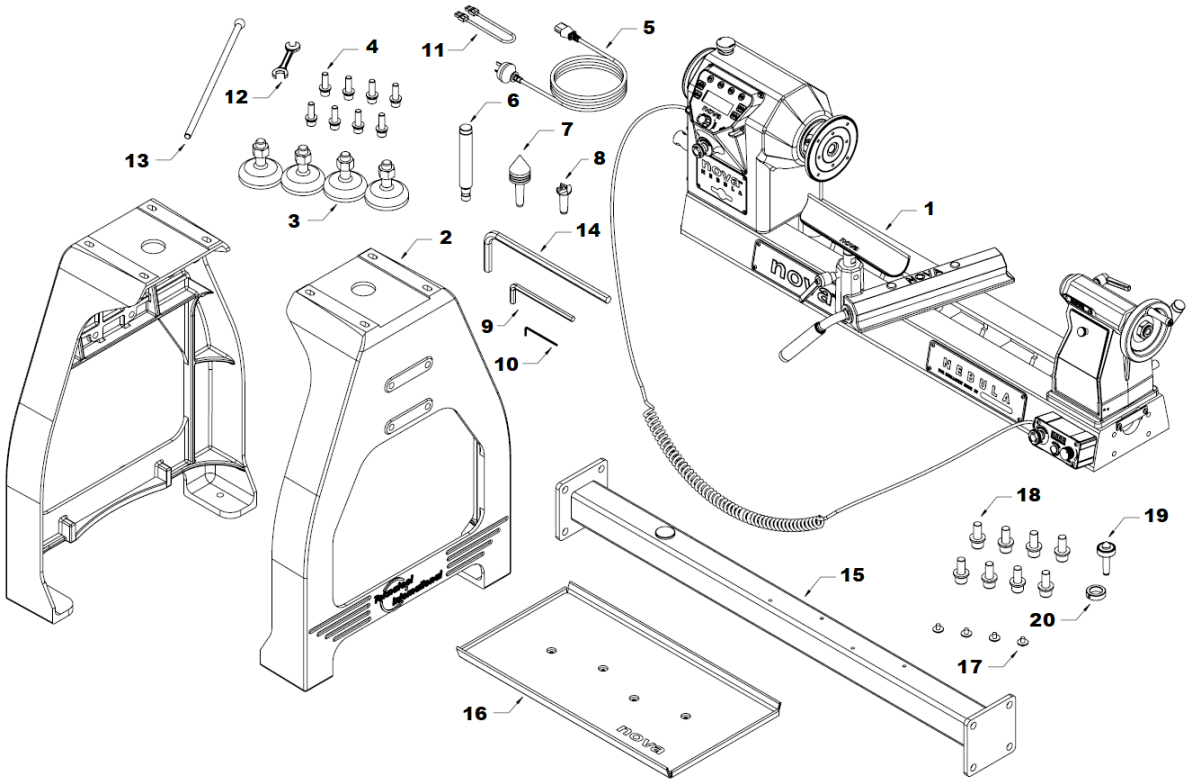
Requirement	Recommendation
Installation site	Place the lathe near a power source in a well-lit area. Make sure the ground is level, firm and has a sufficient load capacity. Leave enough space around the machine. Make sure there is sufficient space for turning the headstock and optional accessories. Other machines installed in the workshop must not affect the operation of the lathe.
Lighting	Pay attention to good lighting. In addition, use adjustable lighting for your work area on the lathe so that no shadows are cast on the workpiece. If possible, place the lathe near a window.
Electrical environment	In order to operate the NOVA NEBULA DVR lathe, a suitable 240 V type F socket is required nearby. Electrical cables and sockets must comply with local electrical codes. In case of doubt, ask your electrician. Avoid using an extension cord.
Ventilation	Ventilate your workplace adequately. The degree of ventilation depends on the size of the workshop and the number of manufactured workpieces. Depending on the type of wood and the residual moisture content, dust may be produced during turning. The use of dust extractors, masks and filters reduces your health risk.

Work ergonomics



Installing the lathe correctly facilitates fatigue-free and safe working. It helps to handle the tools safely and to more easily achieve the desired shape of the workpiece.
Place the lathe in such a way that the tips (of 4-prong drive centre and live centre) are level with your elbows when you stand upright.
If possible, place the lathe near a source of natural light. Artificial light should come from above, but not fall directly into the eyes.

6 | Transport package content



Ref.	Description	Part number
1	Headstock (assembly)	5569002 + 5569008+5699005
	Tool rest (assembly)	5569004
	Tailstock (assembly)	5569003
	Bed	5569013
	ASR locking ring	5569039
	Faceplate (150 mm)	5569033
	Mobile control box	5569006
2	Stand	5699018
3	Adjustable feet	5569061
4	Bolts and washers for stand	C1240/SW12/FW12
5	Power cord	55106/55090/55063/55112
6	Headstock clamping lever	5569067
7	Live centre (heavy duty)	4718069
8	4-prong drive centre	2MTSPUR
9	10mm hex key	AK10
10	3 mm hex key	AK3
11	USB A-A cable	8379059
12	Open-ended spanner	5569074
13	Knockout bar	5699033
14	14 mm hex key	AK16
15	Beam for stand	5569084/5569090
16	Tool tray	5569085/5569086
17	Tool tray mounting screws	SBHCS0814/5569089/FW08
18	Beam mounting bolts	C1640/SW16/FW16
19	Live centre (light-duty)	2MTLC
20	Set collar	27007

7 | Lathe assembly

CAUTION! Handle the spindle threads with the utmost care. The spindle threads are very sharp. Do not use them to lift the lathe or to stop or manually turn the spindle.

CAUTION!

- Pay attention to the weight of the components and handle them carefully to avoid injuries.
- Make sure that all screw connections are tightened firmly, but not over-tightened. Check all screw connections for tightness after eight operating hours.

7.1 Unpacking and preparing the lathe

1. Remove all smaller items from the main carton. Do not discard the carton or the packing material until the lathe is assembled and running satisfactorily.

2. Inspect the contents for shipping damage and, if you find any, report it to your distributor.

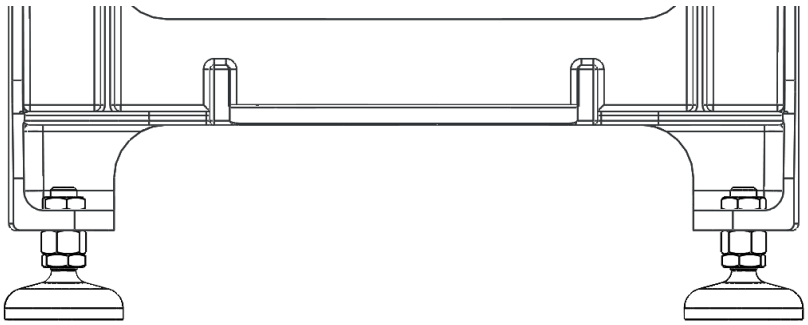
3. Compare the contents of the carton with the contents list in this manual. Report shortages, if any, to your distributor. Some parts may have been pre-installed and can be found on the lathe.

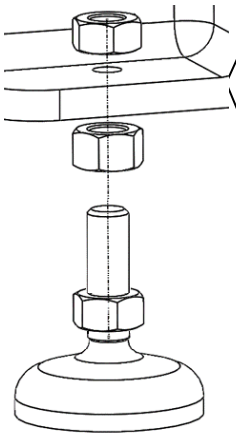
4. Exposed metal areas of the lathe, such as bed and spindles, have been factory coated with a protectant. Remove this coating with a soft cloth and a cleaner degreaser. Clean the bed areas under headstock, tailstock and banjo. Do not use an abrasive pad, and do not allow solvents to contact painted or plastic areas.

WARNING! Seek help when moving the NOVA NEBULA DVR lathe and its heavier components to avoid injuries. Use straps in good condition. Straps/lifting mechanisms must be properly rated for the weight of the lathe. Read this manual carefully before attempting to assemble or operate the lathe.

DO NOT CONNECT POWER ON THE LATHE UNTIL IT IS FULLY ASSEMBLED.

7.2 Installing the stands and the beam



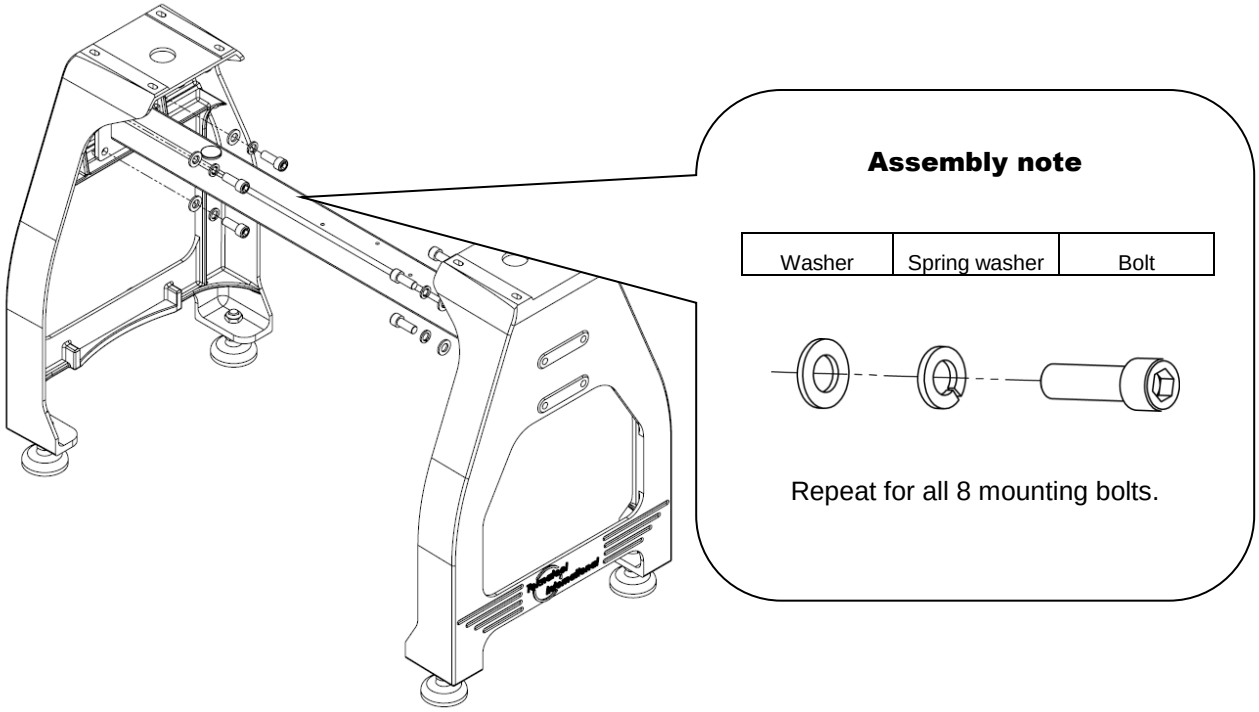


Assembly note

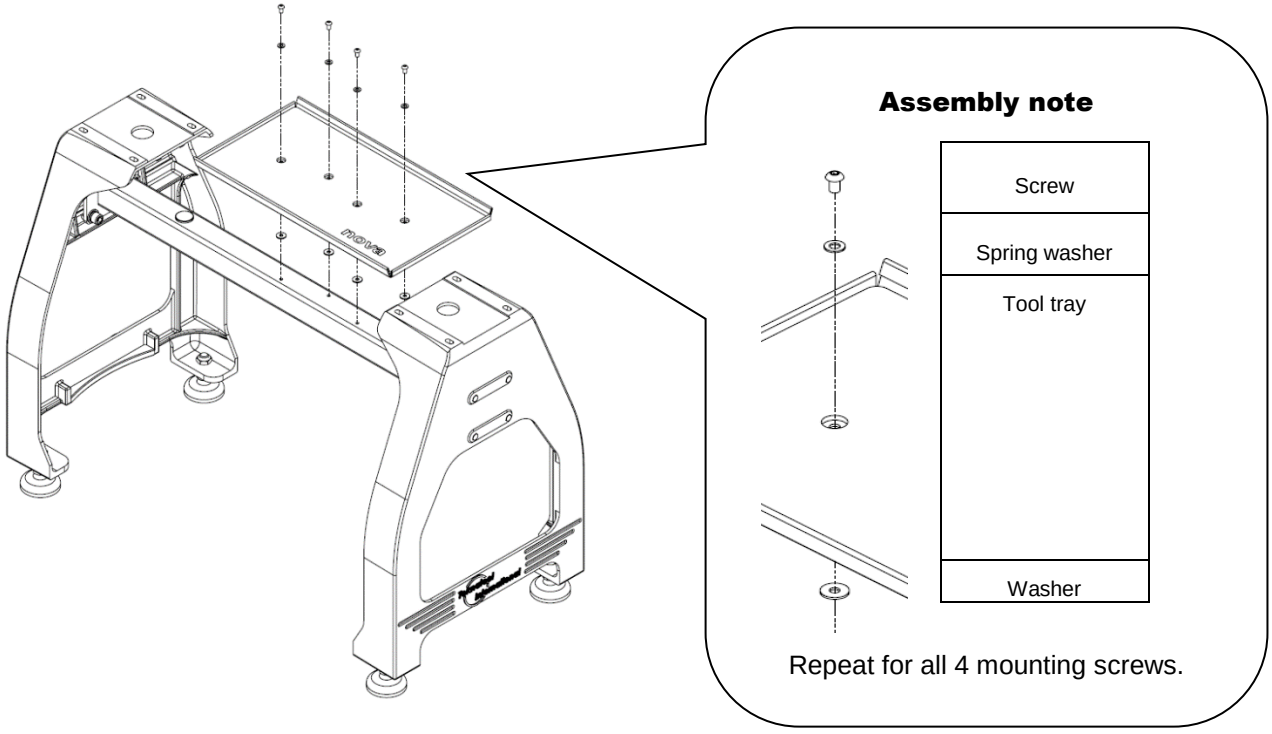
Locknut
Stand
Adjustable nut
Foot

Repeat for all 4 feet.

1. Install the adjustable feet, as shown above, into the bottom of the stands and tighten the hex nuts against the casting. The feet can be adjusted later.

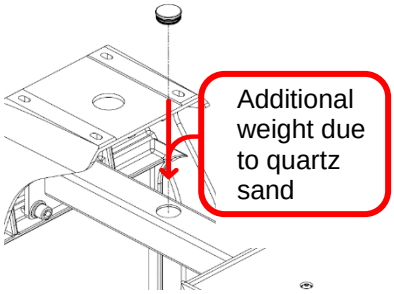


2. Install the beam, as shown above, between the stands and tighten the bolts.



3. Position the tray on the beam and secure it, as shown above, with bolts and washers using a 6 mm hex key.

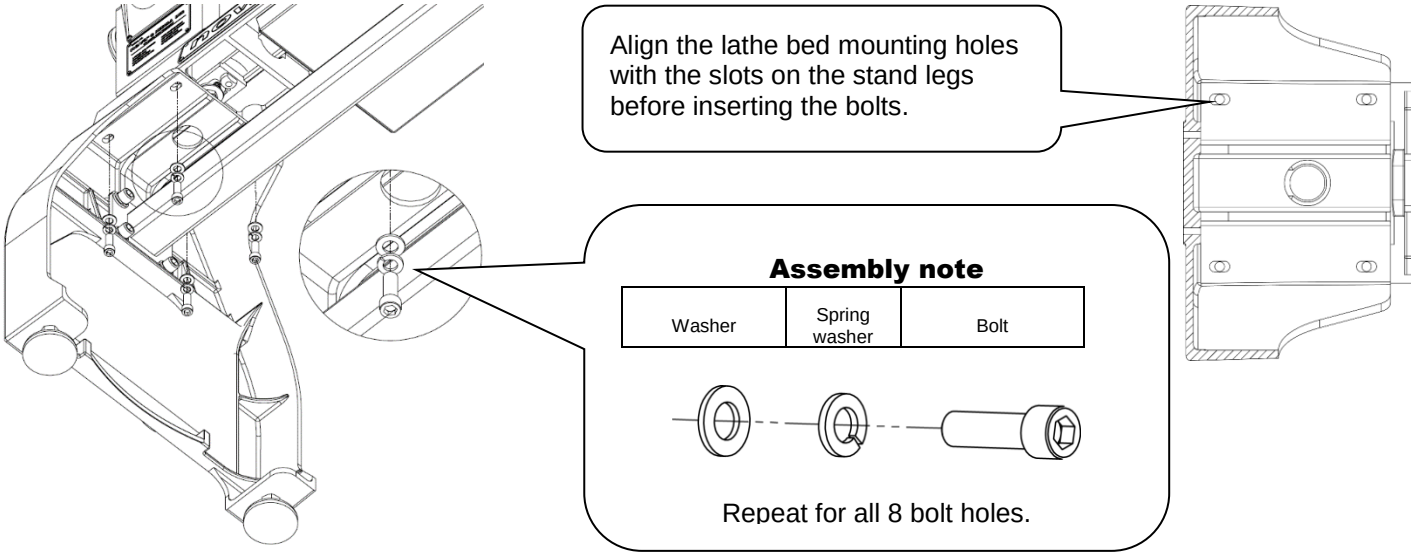
4. Optionally, you can fill the beam with quartz sand (not included) for extra stability. You may get quartz sand in hardware stores or the like. You require approx. 4.5 kg.



7.2.1 Lifting the lathe with lifting mechanisms

1. Position straps around the bed.

IMPORTANT! Do not place the straps around the spindle, near levers, knobs or other parts that can be damaged when lifting.

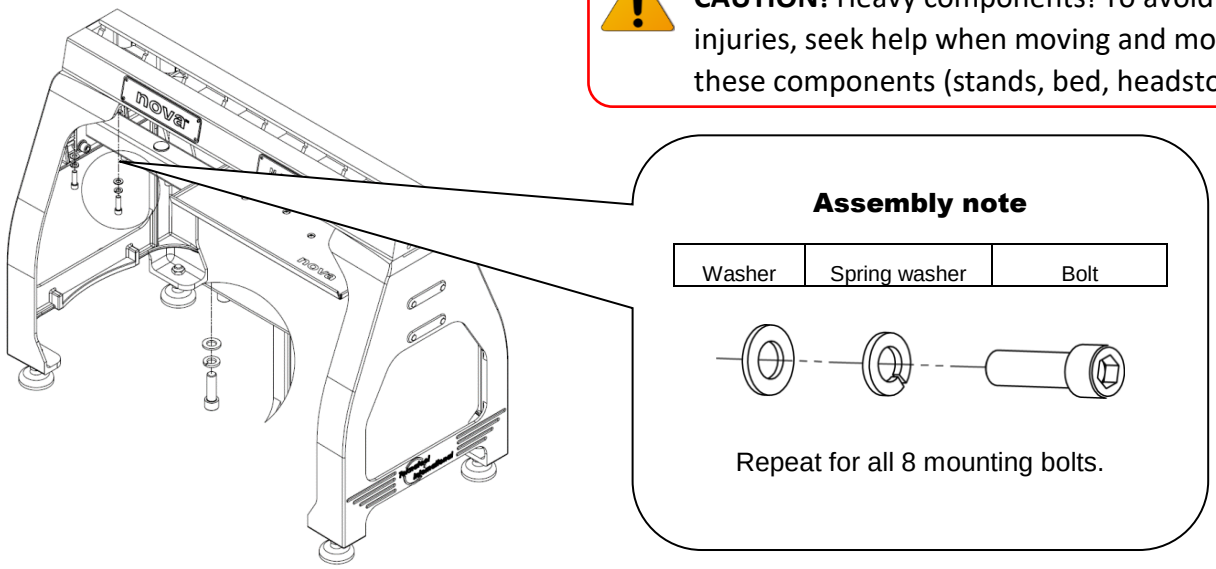


2. Position the lathe on the stands and secure it, as shown above, with bolts and washers using a 10 mm hex key.
3. Tighten the bolts firmly. Rotate the adjustable nuts on the feet as needed to level the lathe. Tighten the locknut on each foot against the adjustable nut and the casting.

7.2.2 Lifting the lathe manually

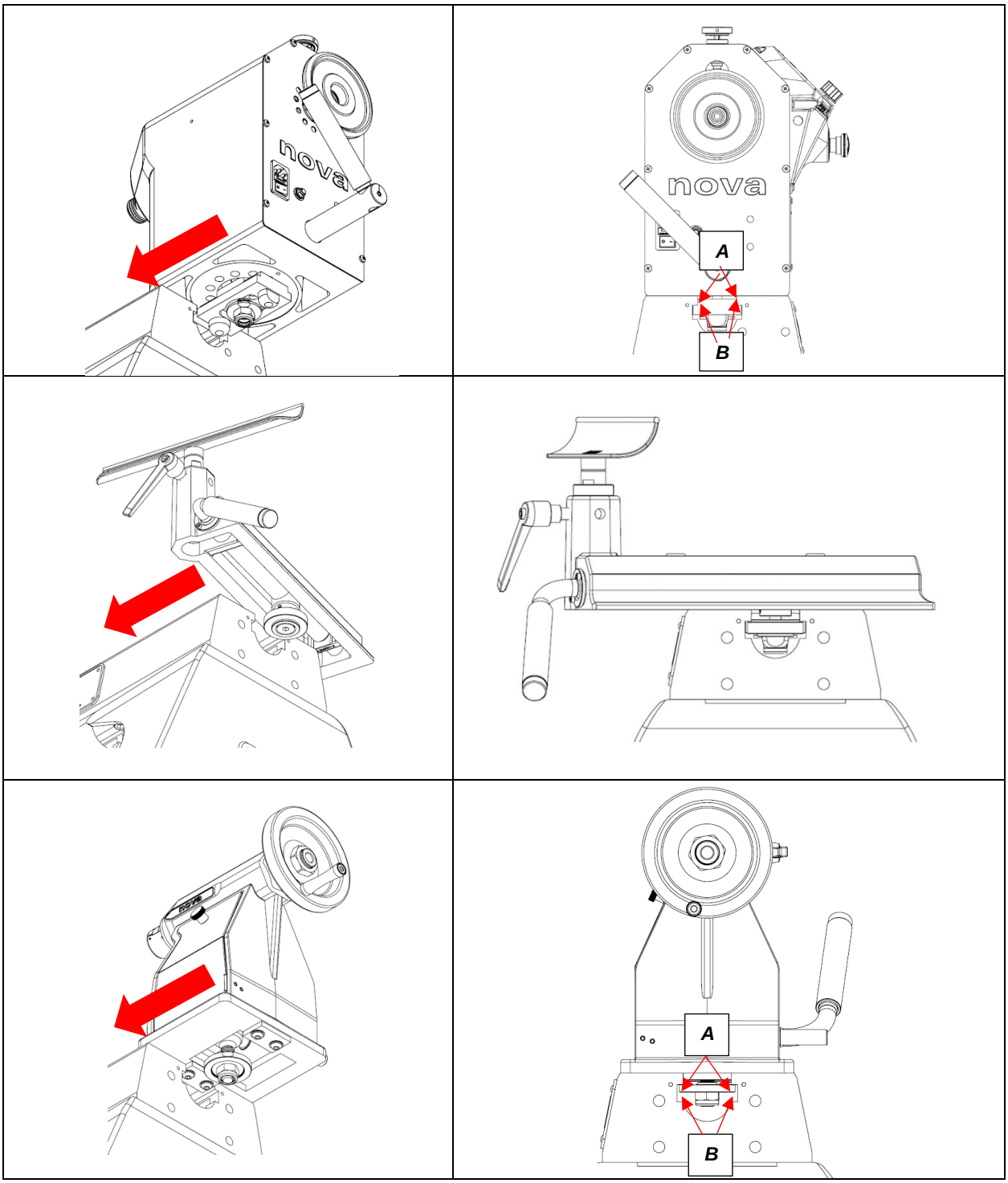
1. For easier lifting of heavy components, take apart the walls of the transport container, remove the cross-head screws and stop plates at the ends of the bed and slide the headstock, tool rest and tailstock off the bed before lifting the bed from the container.
2. Attach the bed to the stands with the bolts and washers. Use a 10 mm hex key.
3. Tighten the bolts firmly. Rotate the adjustable nuts on the feet as needed to level the lathe. Tighten the locknut on each foot against the adjustable nut and the casting.

CAUTION! Heavy components! To avoid injuries, seek help when moving and mounting these components (stands, bed, headstock).



7.3 Mounting the headstock, tool rest and tailstock onto the bed

1. Slide the headstock, tool rest and tailstock onto the bed, ensuring that lock plate (A) is correctly aligned with bed way (B), as shown below:



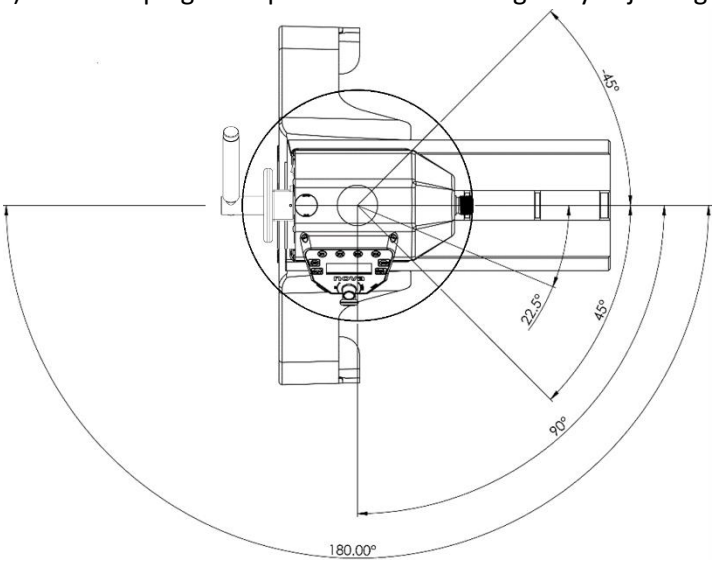
NOTE: Turn the clamping lever to change the position of the lock plate if you cannot slide the headstock onto the bed.

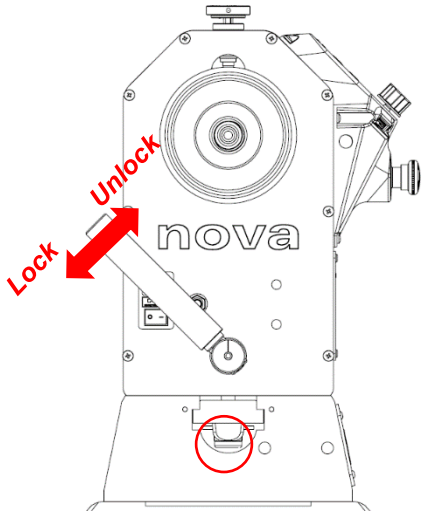
2. Replace the stop plates on both ends of the bed.

7.4 Positioning the headstock on the bed

The headstock of the NOVA NEBULA DVR lathe uses a cam lock assembly for securing in place along the bed. To move the headstock:

1. Insert the knockout bar into the through hole in the locking shaft and loosen the shaft (the shaft can be tightened by rotating in either direction, so rotate in the opposite direction).
2. Move the headstock along the bed and swivel the headstock to the desired position (-45°, 0°, 22,5°, 45°, 90°, 180°). The clamping lever position can be changed by adjusting the nut at the bottom of the lock plate.



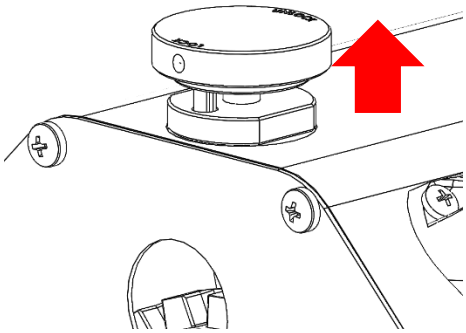


3. Re-tighten the locking shaft.
4. Ensure the headstock is secured before running the lathe.

WARNING! PINCH HAZARD – Take your hand off the locking shaft when swivelling the headstock.

7.4.1 Indexing device and spindle lock

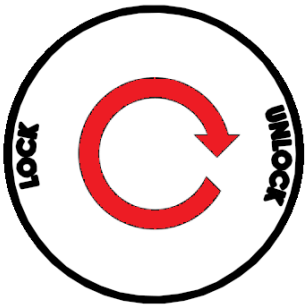
The index locking pin locks the headstock spindle. It is selectable in 15-degree increments (24 divisions). The setting can be read through the window (0 to 23).



Stop the lathe.

1. Pull the index locking pin and turn it until the pin drops into the hole. To lock the spindle, this pin must engage into one of the slots in the index plate.

WARNING! Make sure the index locking pin is disengaged before operating the lathe. The locking knob must be secured in the “Unlock” position to prevent it from engaging while the spindle is turning.



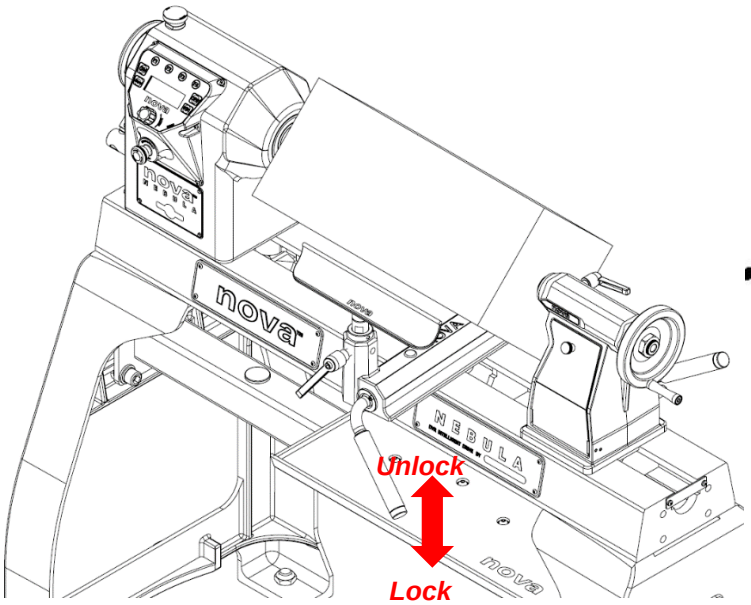
7.5 Tool rest

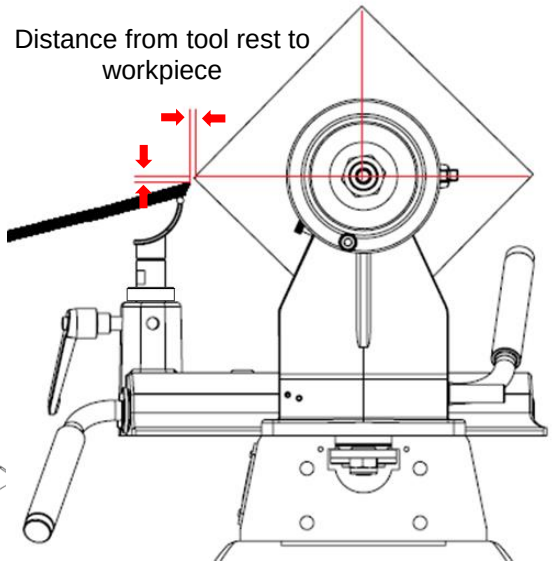
To move the banjo along the bed, loosen the clamping lever, move the banjo to the desired position and tighten the clamping lever.

Adjust the tool rest close to the workpiece. The exact position may be varied to suit your needs. Before each start, rotate the workpiece by hand to make sure that it runs freely.

Turn off the lathe from time to time and readjust the tool rest.

WARNING! As long as woodturning tools are in contact with the workpiece, they must rest firmly on the tool rest. Remove the tool rest when sanding or polishing to avoid pinching your fingers.



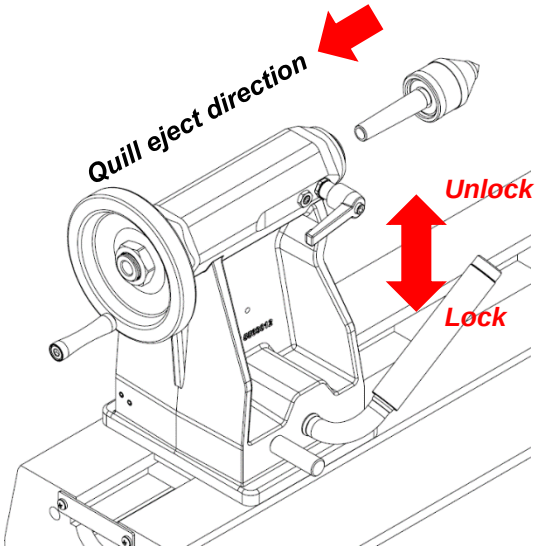


7.6 Tailstock

To move the tailstock along the bed, loosen the clamping lever, slide the tailstock to the desired position and tighten the clamping lever.

To move the tailstock quill in our out, loosen the quill lock handle and turn the handwheel. Lock the quill in place with the quill lock handle.
The quill accepts live centres and accessories with a no.2 Morse taper (MT2) . To install a taper, insert it firmly into the quill shaft by hand. Do not pound the taper into the shaft.

To remove a taper, either wind the quill into the tailstock until the taper is ejected, or insert the knockout bar through the tailstock quill hole. Hold the taper to prevent it from falling and then tap it out.



WARNING! Never loosen the quill of the tailstock or the tailstock itself while the workpiece is rotating.

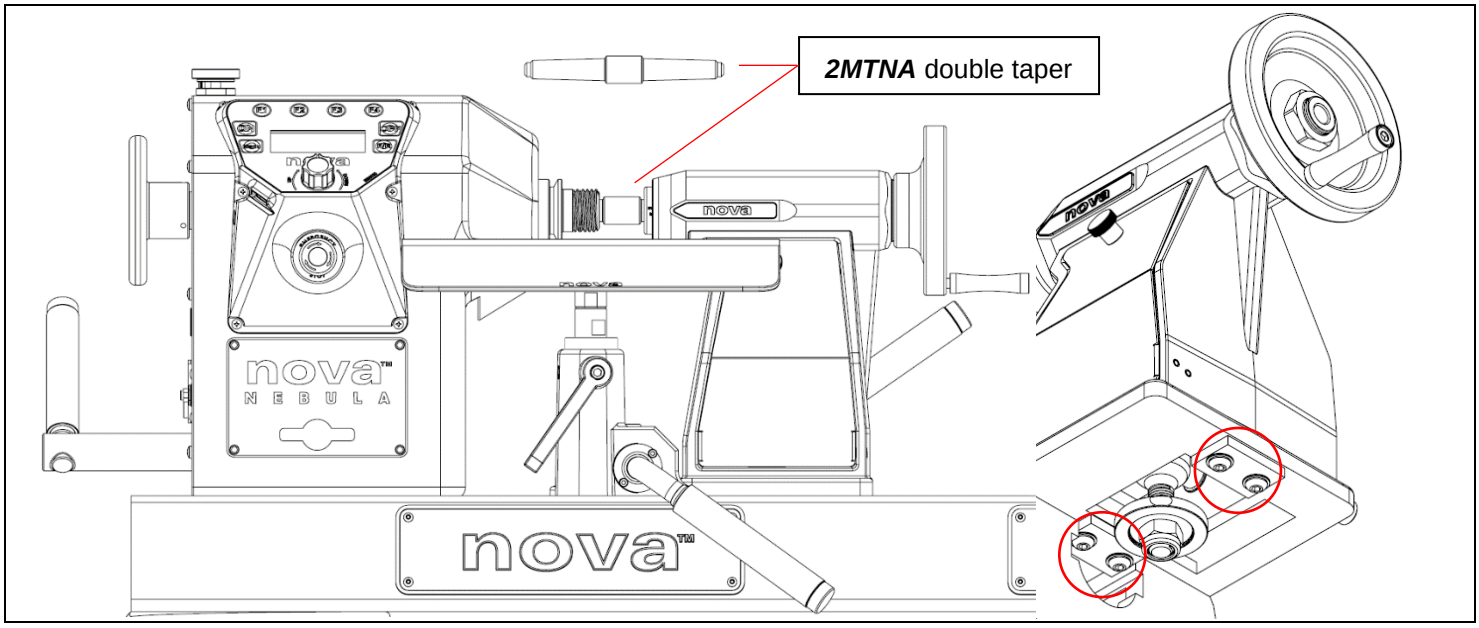
7.7 Aligning the lathe

Generally, new lathes are strictly inspected in factory and do not need to be aligned again. However, after longer use of the lathe, you may need to re-align it. Below, you will find two common alignment methods.

Aligning the headstock at any position on the bed using a double taper

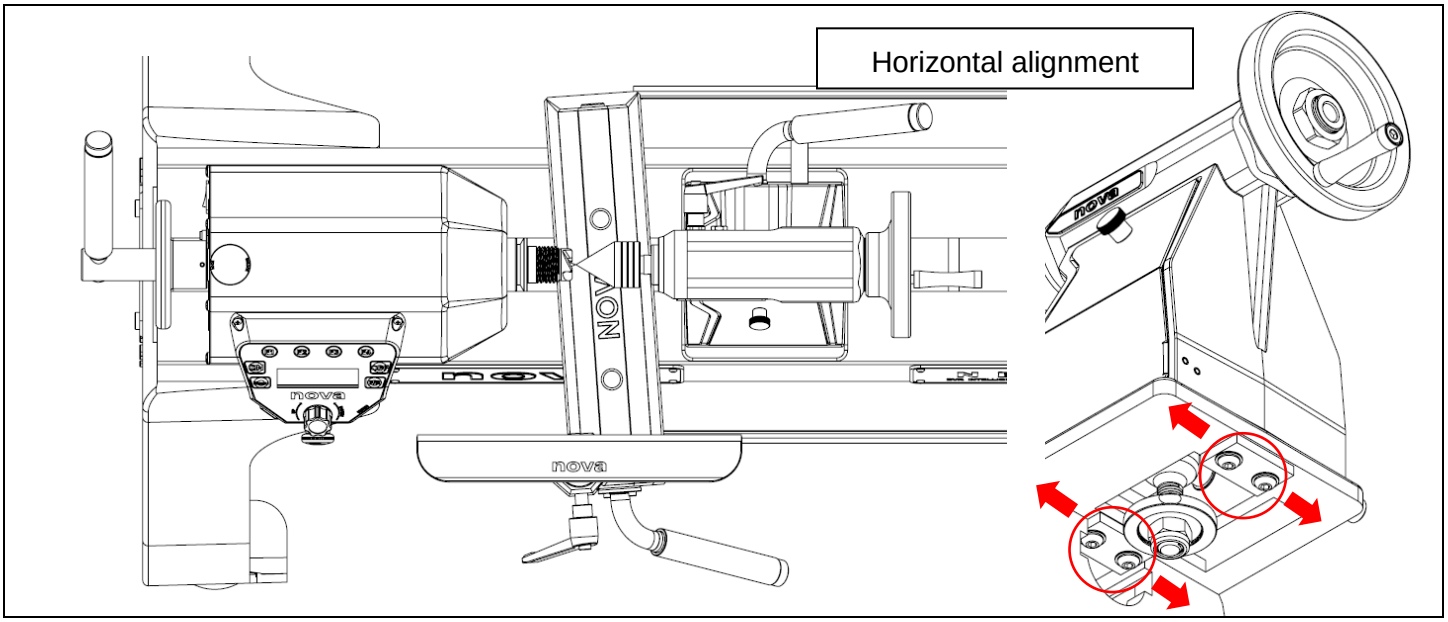
The headstock can be clamped at any position on the bed. For spindle turning, it is necessary to align the headstock with the tailstock.
Loosen the clamping lever on the left side of the headstock, move the headstock to the desired position and turn it until it is flush with the bed and the tailstock.
Mount the double taper in the tailstock and insert it into the spindle by moving the tailstock so that it slides in without any resistance.
If necessary, align the headstock accordingly by gripping the released headstock with your left hand and the tailstock with your right hand and agitating them in opposite directions. As soon as the quill and the spindle are in alignment, lock the headstock with the clamping lever.
Make sure that the headstock does not twist while being clamped.

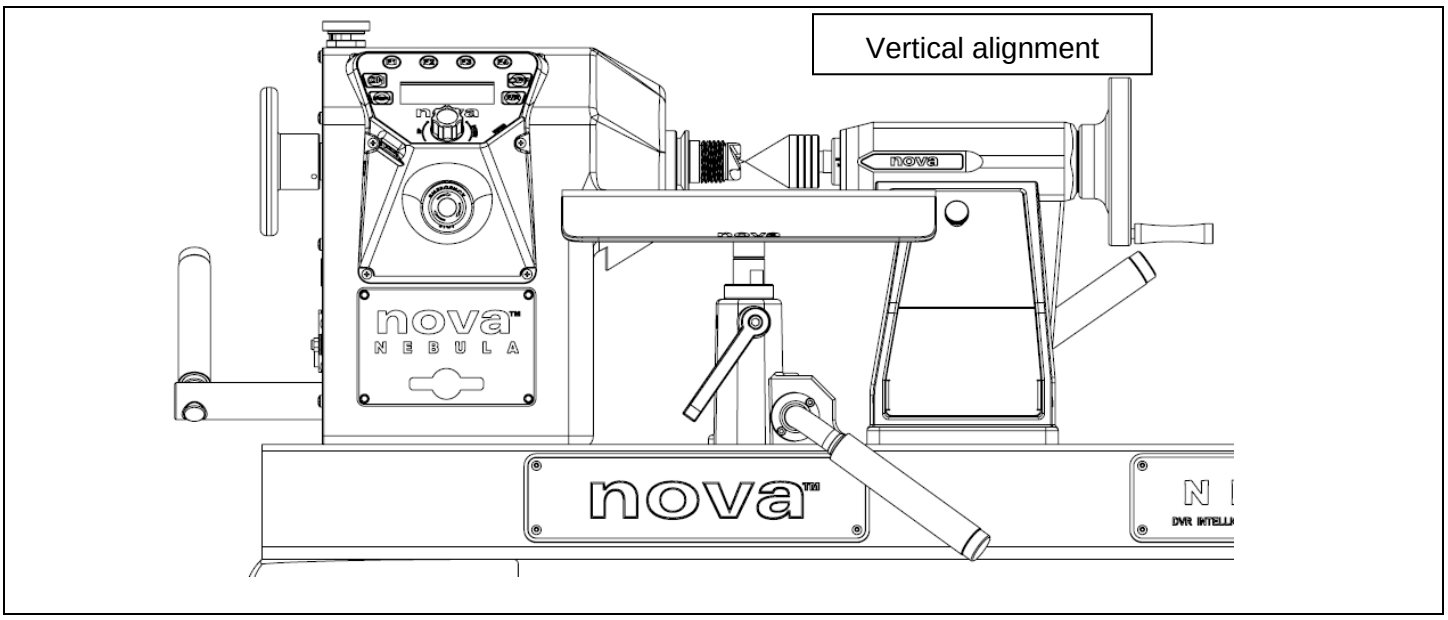
WARNING! Make absolutely sure that the machine is always switched off before turning or displacing the headstock or before aligning it by means of the double taper (pull the power plug). Otherwise, injuries or material damages may occur.
Realign the headstock as described above every time you have turned the headstock, e.g. for outboard turning.



Aligning the headstock by aligning the centres

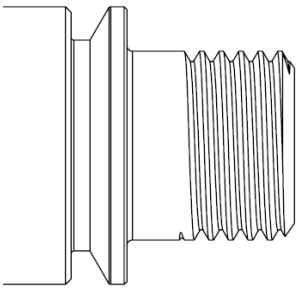
Of course, headstock and tailstock can also be aligned without double taper by aligning live and drive centres (see illustration on the next page).
This is a quick alignment method, but the double taper method is more accurate.





7.8 Mounting a faceplate or chuck

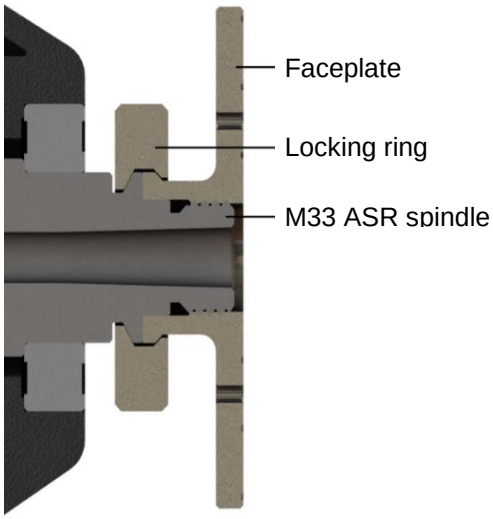
The NOVA NEBULA DVR (EU version) is equipped with a spindle with a M33 x 3.5 mm thread and a Morse taper 2 (MT2).



M33

7.8.1 Mounting a faceplate or chuck on the M33 x 3.5 mm spindle

The illustration shows a cross sectional view of the spindle with a mounted faceplate and locking ring



WARNING! The faceplate or chuck body must contact the shoulder on the spindle bearing. Before installation or removal, the side-locking safety screws on faceplate or chuck (if any) must be completely removed. This avoids possible damage to the spindle.

7.8.1.1 Installing the locking ring

Use the index locking pin to lock the spindle before commencing.

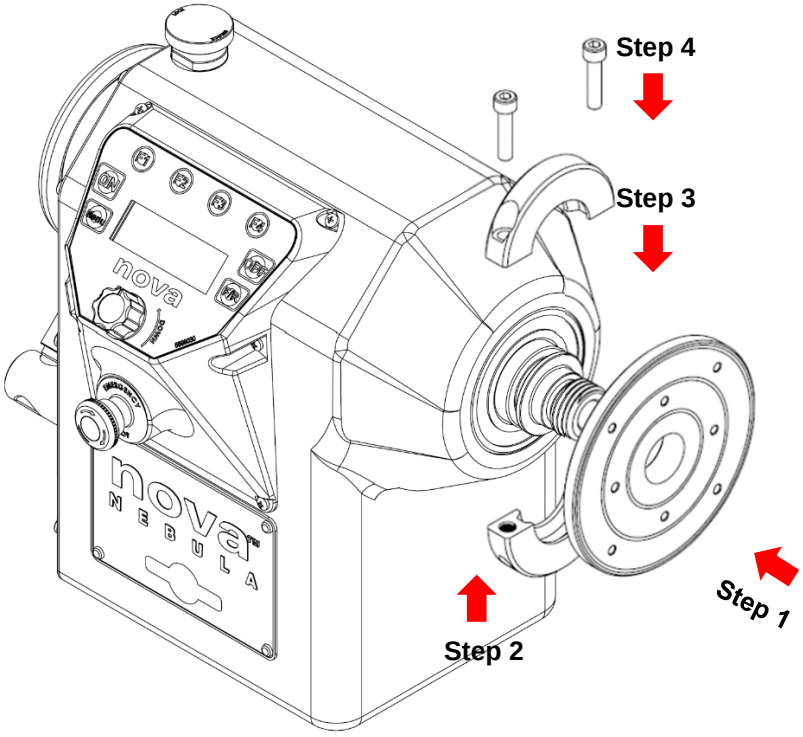
Step 1:
Screw the M33 ASR faceplate or chuck onto the spindle thread as far as it will go. Check that the spindle and faceplate or chuck are touching at the clamping ridge.

Step 2:
Put the lower part of the locking ring on the two flanges from below.

Step 3:
Put the upper part of the locking ring on the two flanges from above.

Step 4:
Fix the two parts of the locking ring to each other with the bolts. For this, use a hex key.

Unlock the spindle before turning the machine on.



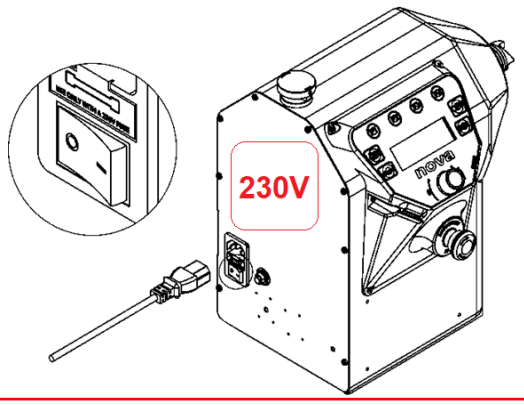
IMPORTANT NOTE! The index locking pin is designed for indexing purposes only, not for leveraging against when removing faceplates, inserts and chucks. For this, we recommend holding the spindle using a spanner.

WARNING!

Improper power connection can be life-threatening.

Before plugging the NOVA NEBULA DVR into the power source, check that the main switch is turned off.

Make sure the rocker switch is in the “0” (OFF) position before connecting the power cable to the power source.



NOTE: The European version of the NOVA NEBULA DVR has an IEC 60320 C13 port and a C14 supply line on the machine side and a type F plug on the power cable for connection to a socket. Make sure that the local regulations regarding electrical installations are observed.

If an extension cord is required, make sure

a. that the extension cord has the necessary diameter and is rated for the expected voltage.
b. that the insulation is sufficient and intact.

In case of doubt, ask your electrician.

IMPORTANT!

- The use of a line filter is recommended.
- In countries where 220 – 240 V are used, it should be rated to 10 A.

8.1 Residual-current circuit breaker (RCCB)

For a RCCB to be compatible with the DVR motor, it is recommended to use a circuit breaker with a leak current threshold rating of 30 mA (0.03 A).

NOTE: A normal household RCCB is typically rated at 5 mA (0.005 A) and may trigger during the operation of the DVR motor. However, frequent tripping of the RCCB will not cause any harm to the DVR motor or its control electronics as it has a built-in protective circuit to prevent damage from frequent switching.

8.2 Input voltage

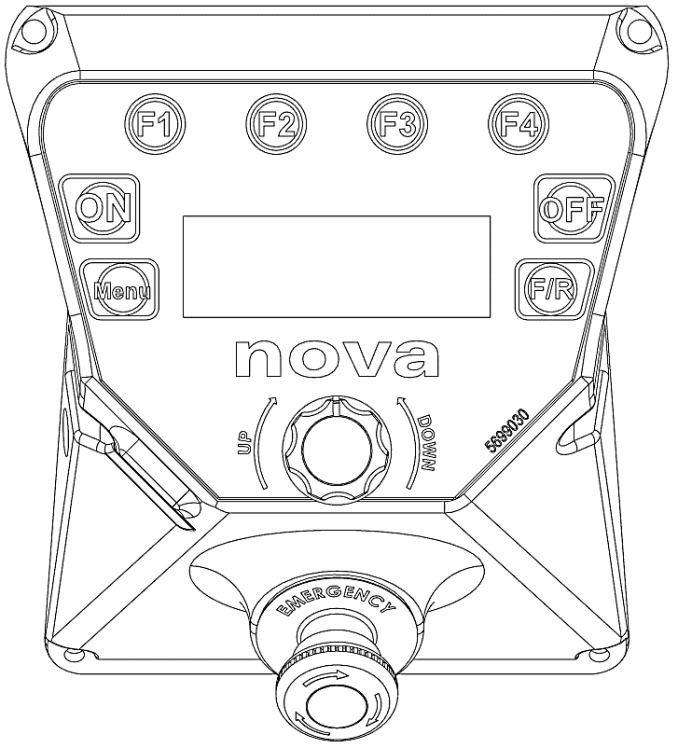
The NOVA NEBULA DVR lathe is capable of handling both 110V and 220V without any changes to its internal circuits.

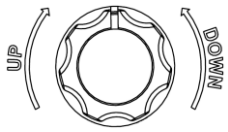
The lathe will automatically recognise the input voltage and adjust the output power. Simply change the input power plug to a suitable plug for the desired input voltage to change the lathe's input voltage (not necessary in Europe).

9 | Operating the lathe via the control panel

9.1 Control panel

The control panel of your lathe has eight keys, a speed control knob and an emergency stop switch. The LCD screen shows the status of the lathe in real time.

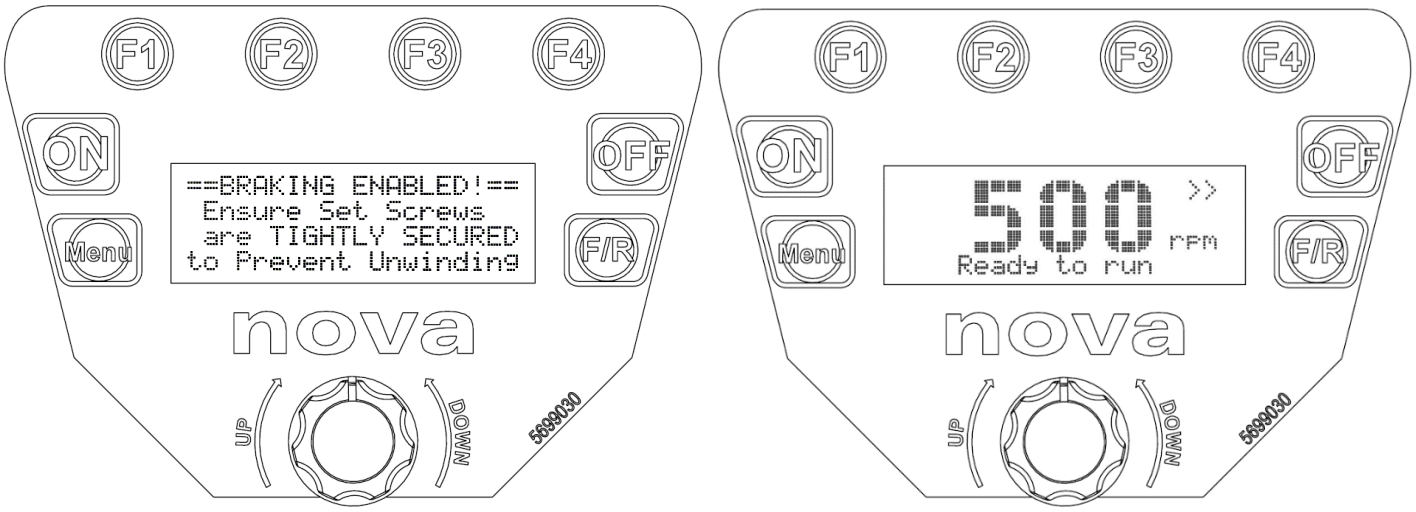


Icon	Description
	**F1-F4: Direct selection** of one of 8 possible preset favourite **speeds**.
	**ON: Start** the lathe.
	**OFF: Stop** the lathe, programmable with or without braking function.
	**Menu: Access to menu** and advanced features or **cancel/back** when navigating menus.
	**F/R:** Toggle **the direction of rotation** forward/reverse or **confirm** a selection made in a menu.
	**Speed control knob:** Turn this knob clockwise or anti-clockwise to **increase** or **decrease** the **speed** correspondingly. Also use this knob to **scroll** through menus or select functions. To **confirm** functions, press down on the knob.
	**Emergency stop switch**: programmable with or without braking function. After having pressed the switch, turn it clockwise to release it.

9.2 Start-up

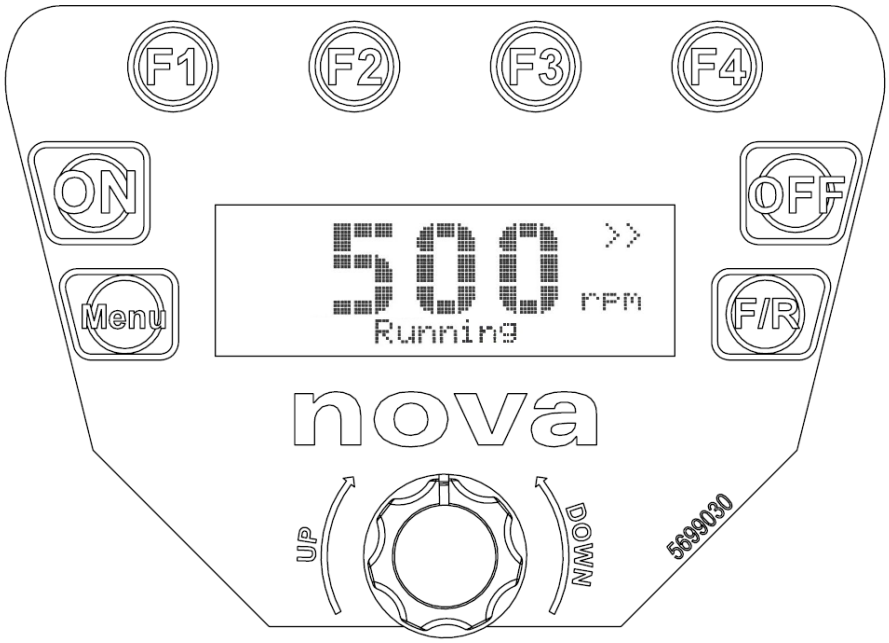
After turning on the main switch, the lathe will perform a self-check for 15 seconds. The self-checking operation will play a short piece of music and a warning message will show up on the screen. After a successful self-check, the LCD screen displays the “Ready to run” home page.

Press any key on the control panel. The LCD screen will display the home page. The lathe is ready to run now.



9.3 Starting the lathe

With the home page displayed, press the ON key. The motor will accelerate to reach the set speed. This will be displayed on the screen.

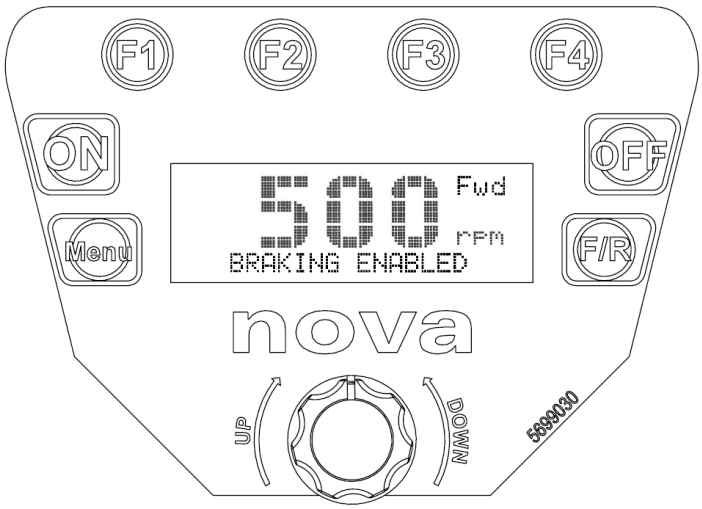


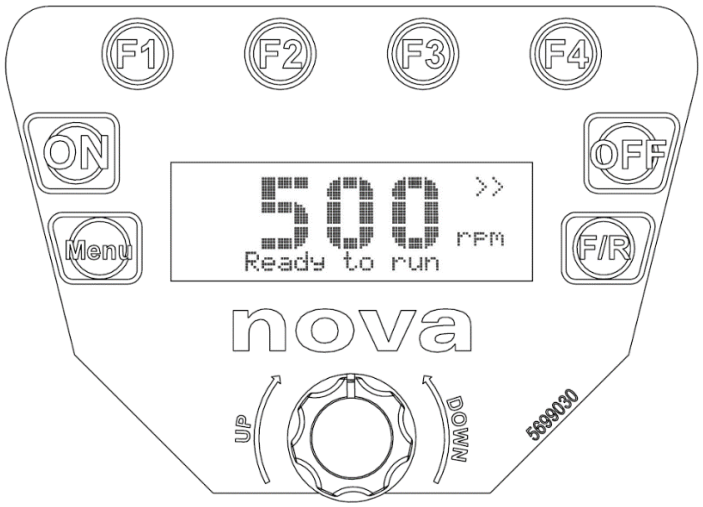
9.4 Stopping the lathe

There are two options for this:

9.4.1 Normal stop

Press the OFF key while the lathe is running. The motor will be stopped with or without braking function depending on the setting. The screen will display the home page.

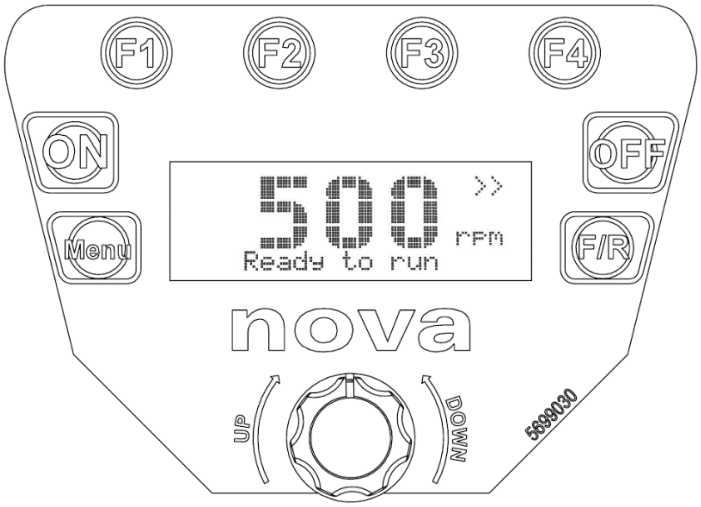




9.4.2 Emergency stop

Push the emergency stop switch while the lathe is running. The motor will be stopped with or without braking function depending on the setting. The screen will display the emergency stop page as long as the emergency stop switch has not been released. Turn the emergency stop switch clockwise to release it. The screen will return to display the home page.

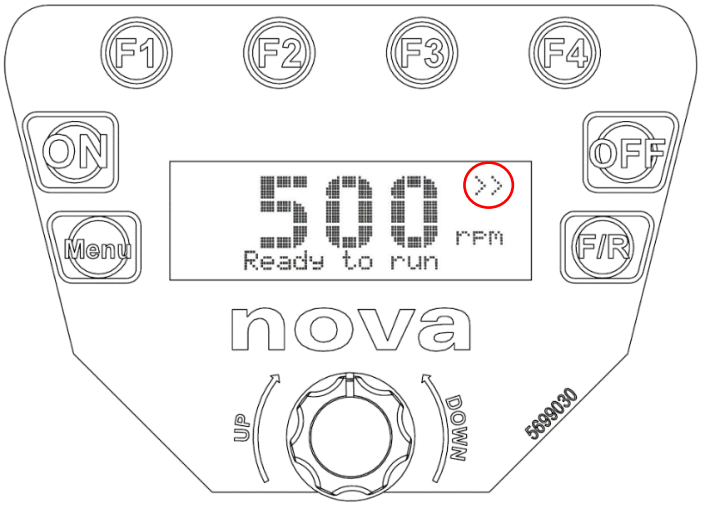
* Whether the braking function is enabled or disabled, is programmable (see section “Advanced features in menu”¤).

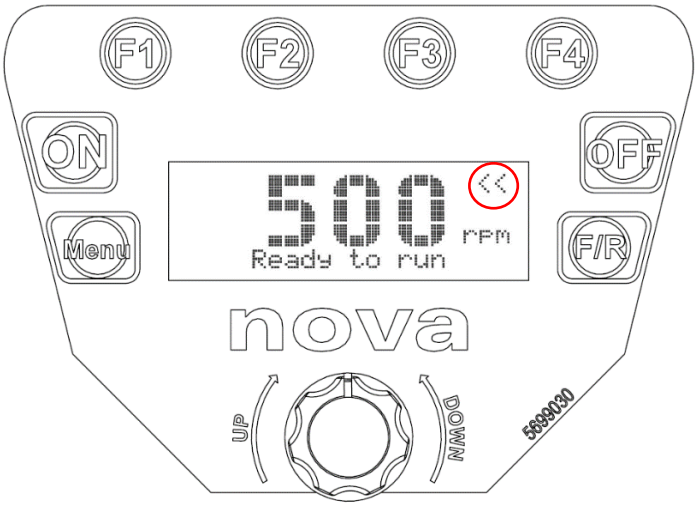


9.5 Selecting the direction of rotation

With the home page displayed, press the F/R key. The direction of rotation will be toggled between forward and reverse.

* For your safety, the direction of rotation cannot be changed while the lathe is running.





9.6 Speed control

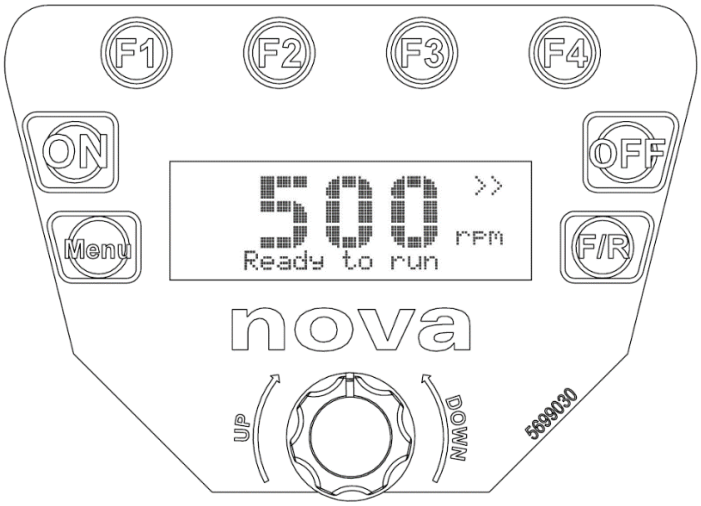
There are several ways to adjust the speed of the NOVA NEBULA DVR.

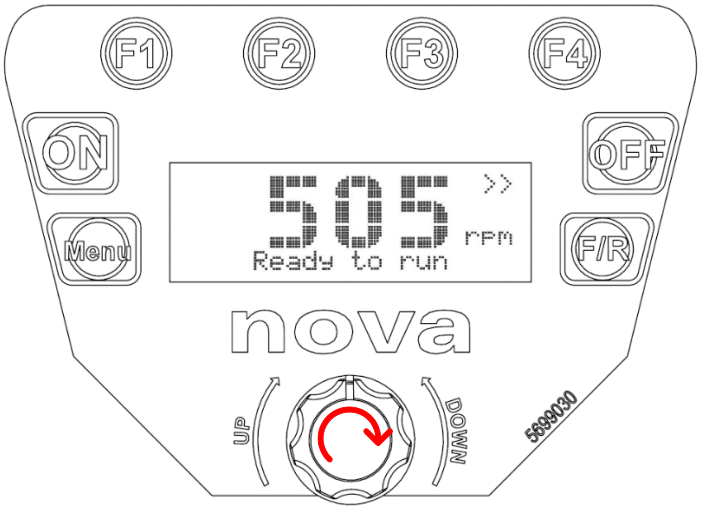
9.6.1 Fine/Coarse speed adjustment using the speed control knob

With the home page or “Ready to run” page displayed:

Fine speed adjustment: Turn the speed control knob clockwise or anti-clockwise to increase or decrease the speed in smaller increments.

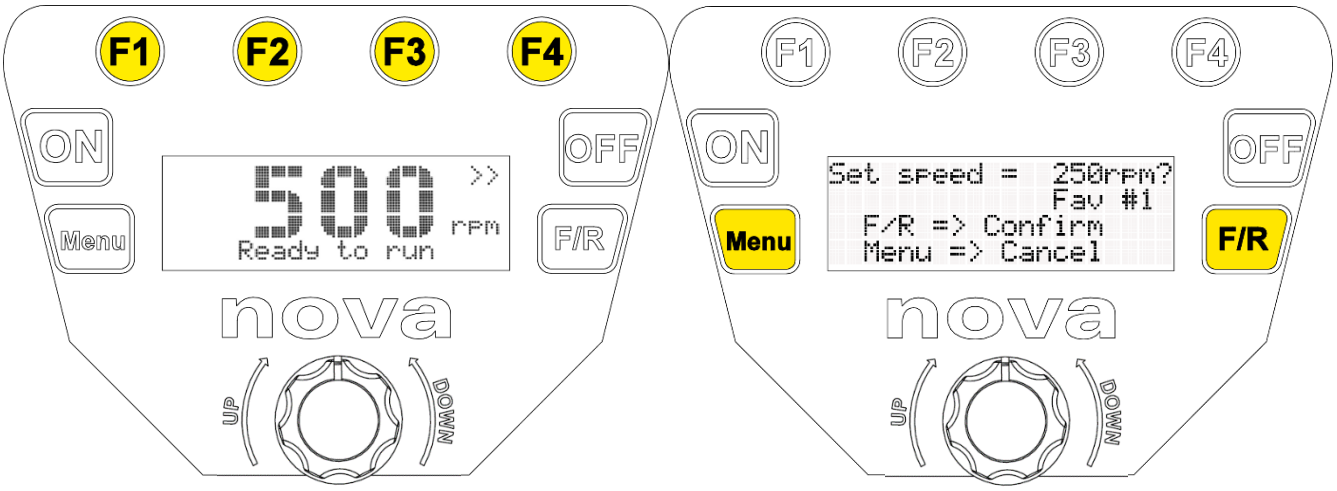
Coarse speed adjustment: Hold down and turn the speed control knob to increase or decrease the speed in larger increments.





9.6.2 Quick setting of a preset favourite speed

With the home page or “Ready to run” page displayed, press any function key  . The screen will display the favourite speed page, as shown below.



Press  to confirm the speed and then the favourite speed selected on the home page.

Press  to cancel and go back to the home page.

A total of 8 preset speeds are available. By default, the function keys are set as follows:

Key	Operation	Favourite speed number	Speed (rpm) set by default
	Press once	#1	250
	Press twice	#5	1250
	Press once	#2 (default)	500
	Press twice	#6	1500
	Press once	#3	750
	Press twice	#7	1750
	Press once	#4	1020
	Press twice	#8	2000

* The preset favourite speeds can be edited (see section “Advanced Features in menu”).

9.6.3 Speed adjustment by Speed Chart

Depending on the size of the material and the type of turning, the control unit will automatically suggest a recommended speed. For more details, refer to the section “Advanced Features in menu”.

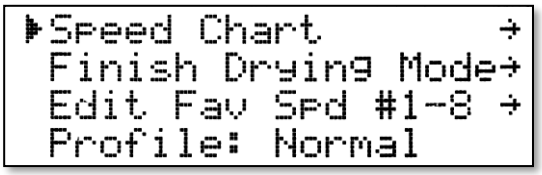
9.6.4 Preset speed by Input Set Speed

This function allows you to set a desired speed in a one-off operation. For more details, refer to the section “Advanced Features in menu”.

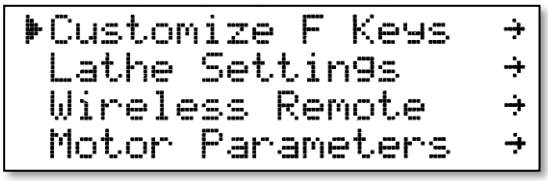
9.7 Advanced Features in menu

❖ You will find the following advanced features in the menu:

1. Speed Chart
2. Finish Drying Mode
3. Edit Fav Spd (favourite speed) #1-8
4. Profile



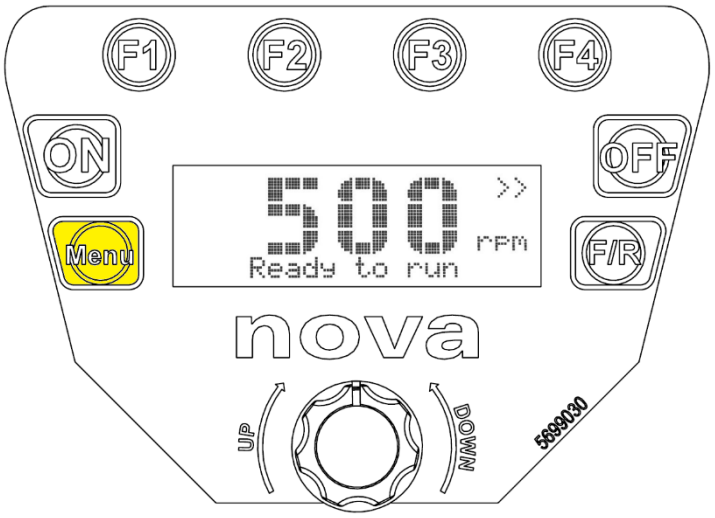
5. Customize F Keys
6. Lathe Settings
7. Wireless Remote
8. Motor Parameters



9. Password Lock
10. Firmware Upgrade
11. Version Info
12. Input Set Speed

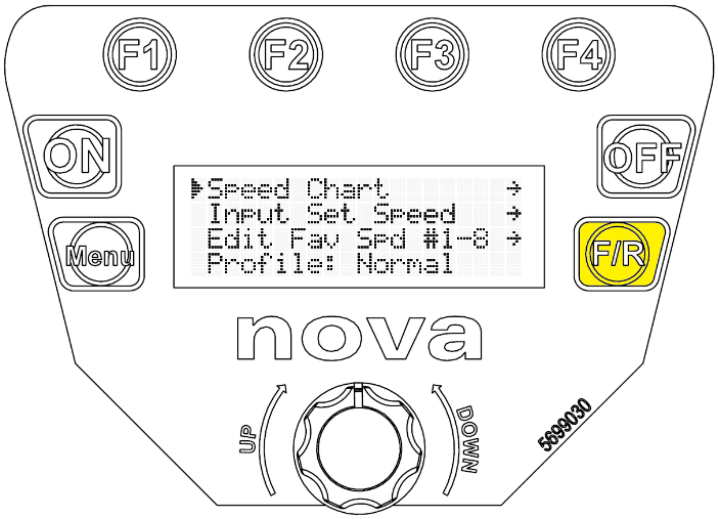
<u>With the home page or “Ready to run” page displayed:</u>

Press Menu once to access the advanced features page. Press once again to return to the home page or “Ready to run” page.



<u>With the advanced features page displayed:</u>

Turn the speed control knob clockwise or anti-clockwise to select the desired function and then confirm by pressing F/R or the speed control knob .

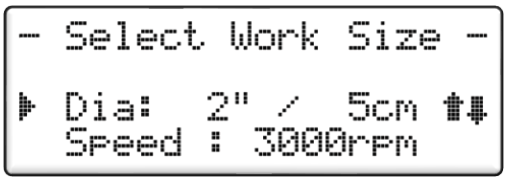


9.7.1 Speed Chart

Use the speed control knob to select the type of cut.
Press F/R or the speed control knob to confirm the selection
or press Menu to return to the previous page.

Use the speed control knob to select the workpiece size.
Press F/R or the speed control knob to confirm the selection, or press Menu to return to the previous page.

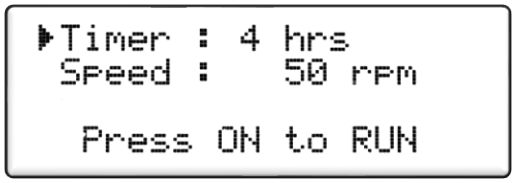
Press F/R to confirm.
Press Menu to cancel.



9.7.2 Finish Drying Mode

Press F/R to cycle between the timer options.
The preset options are:

- ½ hour (30 minutes)
- 1 hour
- 2 hours
- 4 hours
- 8 hours
- 12 hours
- no limit

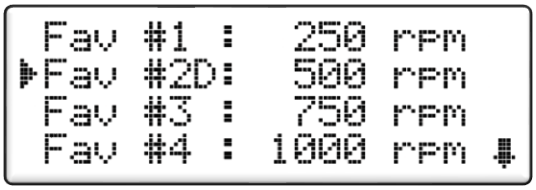


To start the drying mode, press ON.
The lathe will run for the set time at the minimum speed to allow any finish to dry evenly. The lathe will stop automatically when the timer countdown is complete.

9.7.3 Edit Fav Spd (Favourite Speed)

Turn the speed control knob to select the respective favourite speed.
Press F/R or the speed control knob to continue.
Press Menu to cancel.

Use the speed control knob or the F keys F1 F2 F3 F4 to set the desired speed.
Press F/R or the speed control knob to continue.
Press Menu to cancel.



Press F/R to confirm the selected speed and to save it.

After confirming, press Menu to return to the main page.

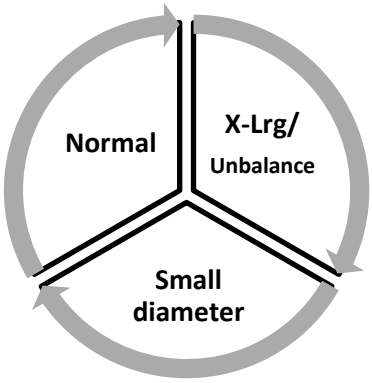
Note: *The speed shown on the lathe is only a guideline.*

9.7.4 Profile

To deliver the best performance for cutting, the software includes three non-customizable cutting settings.

Navigate to the profile option and press F/R or the speed control knob to toggle between the following profiles:

- **Normal:** General profile which can be used for most woodturning.
- **Unbalance (X-Lrg):** Profile for larger or unbalanced workpieces. This profile includes a soft start and a soft speed adjustment when roughing out-of-balance workpieces.
- **Small (small diameter):** Better speed control in case of smaller workpieces.



9.7.5 Customize F keys

Turn the speed control knob and select “Customize F keys”.

Press F/R or the speed control knob to continue.

Press Menu to cancel.

9.7.5.1 F1-F4 Function

Press F/R or the speed control knob to select one of the following options.

- Fav Speed (Favourite speed)
- Edit User Custom F Key Settings

**The favourite speed is set by default.*

Press the OFF key to return to the home page.

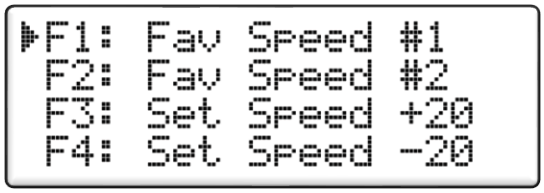
9.7.5.2 Edit User Custom

Turn the speed control knob and select “Edit user custom”.

Press F/R or the speed control knob to continue.

Press Menu to cancel.

The screen will display the current functions assigned to the F keys.



*__Note:__ Functions can be set up on individual F keys.

Turn the speed control knob to select the respective F key.

Press F/R or the speed control knob to continue.

Press Menu to cancel.

Use the speed control knob to select a function, press F/R or the speed control knob to confirm.

Press Menu to quit.

The following functions can be assigned to the F keys:

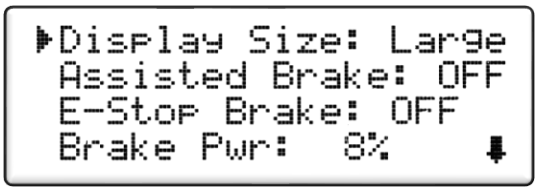
Function	Description
Do Not Use	The selected F key will be disabled.
Fav (favourite) Speed	Any favourite speed can be set on any of the F keys. E.g., favourite speed #8 can be assigned to key <F1>.
Speed Up/Down	When this function is assigned to the F key, the selected F key can be used to either increase or decrease the speed in the following increments: • 5 rpm • 20 rpm • 100 rpm • 250 rpm • 500 rpm
Speed Profile	One of the following profiles can be selected: • Low • Medium • High The speed profile will determine the acceleration of the motor. E.g., the high speed profile causes faster acceleration.
Brakes On/Off	Enables / disables the electronic brakes.
Menu Shortcuts	This will assign a shortcut to the selected F key.

9.7.6 Lathe Settings

Turn the speed control knob and select “Lathe Settings”.

9.7.6.1 Changing the display size

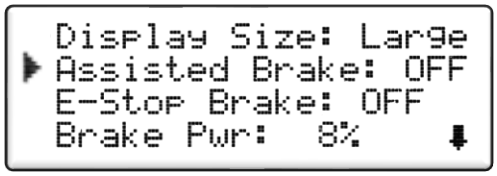
Go to “Display Size” and press F/R or the speed control control knob to toggle the font size between “Normal” and “Large”.



9.7.6.2 Assisted Brake

Go to “Assisted Brake” and press F/R or the speed control knob to activate or deactivate the brake when the “OFF” button is pressed.

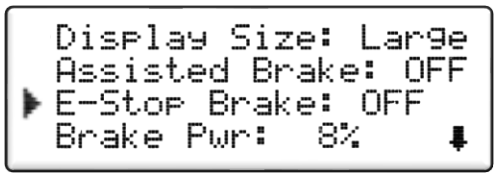
Press F/R to confirm. Press Menu to cancel.



9.7.6.3 E-Stop Brake

Go to “E-Stop Brake” and press F/R or the speed control knob to activate or deactivate the brake when the emergency stop switch is pressed.

Press F/R to confirm. Press Menu to cancel.



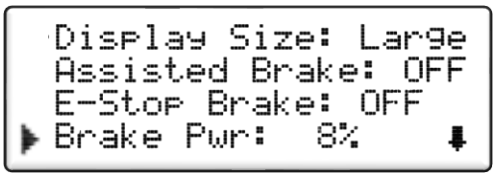
9.7.6.4 Brake Pwr (Power)

Go to “Brake Pwr” and press F/R to set the power level when the braking is applied.

Use the speed control knob to adjust the braking power parameter.

Press F/R to confirm the new parameter.

Press Menu to cancel the change.



9.7.6.5 Idle=AutoStop (Idle detection)

When this function is on, the lathe will monitor the spindle spinning and will automatically stop the lathe if the spindle is in idle for 5 minutes.

Use F/R or the speed control knob to toggle the settings between ON and OFF. Press F/R to confirm. Press Menu to cancel.

9.7.6.6 Vibr. Sensor (Vibration sensor)

The vibration sensor offers extra protection during turning. Different sensitivities can be set. Press F/R or the speed control knob to cycle the settings between OFF, LOW, MEDIUM and HIGH.

Press F/R to confirm. Press Menu to cancel.

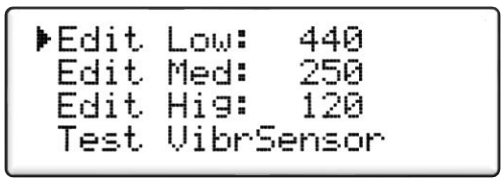
9.7.6.7 Vibr.Threshold (Vibration sensor threshold)

The vibration sensor threshold parameters (Low/Medium/High) can be adjusted via the menu.

Turn the speed control knob to select the parameter to adjust.

Press F/R to enter the menu to adjust each parameter.

Note: *The threshold values are the digital readout values. The “Test VibrSensor” function can be used to show the readouts for each axis.*

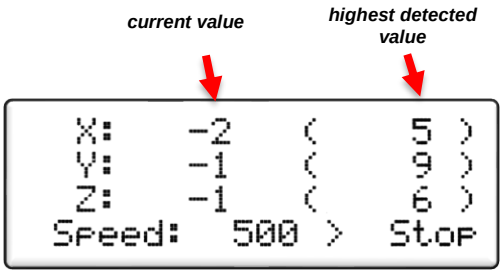


Testing the vibration sensor function:

The “Test VibrSensor” function is used to measure the current vibration value of the machine. The function measures the values for the X, Y and Z axis.

Press the ON key to start the motor and record the highest detected value. This value can then be used to set the threshold for Low / Medium / High.

Press the OFF key to exit the function or to stop the motor.



The image on the right shows the screen when the function is enabled. The screen will display the current value readout, which will change depending on the current vibration experienced by the headstock. The highest detected value is the peak value for each axis. This can be used to set the threshold value in the previous menu.

9.7.6.8 Language

Switching the language between English, German and French.

Use F/R or the speed control knob to select a display language.

Press Menu to cancel.

9.7.6.9 Load Disp (Load Display)

Shows the load when the machine is running.

Press F/R or the speed control knob to enable/disable the load display. The load will be displayed on the bottom right of the main screen.

9.7.6.10 Skip Warning

If this function is activated, the warning message/music will be skipped when starting the machine. Press F/R or the speed control knob to activate/deactivate this function.

Press Menu to cancel.

9.7.7 Password

9.7.7.1 Set Password

Use the speed control knob to select “Set Password”.

Press F/R or the speed control knob to continue.

Press Menu to cancel.

Use the F keys F1 F2 F3 F4 to set the new password.

Press ON or F/R to confirm.

Press Menu to exit the menu.

9.7.7.2 Clear Password

Use the speed control knob to select “Clear Password”.
Press F/R or the speed control knob to continue.
Press Menu to cancel.

Use the F keys F1 F2 F3 F4 to enter the current password.
Press ON or F/R to confirm.
Press Menu to exit the menu.
This will clear the password stored in the system.

9.7.7.3 Lock Lathe Now

Once a password has been set, the lathe can be locked.
Use the speed control knob to lock the lathe (select ”Lock Lathe Now”).
Press F/R or the speed control knob to confirm.
Press Menu to exit the menu.

To unlock the lathe, use the F keys to enter the current password.
Press ON or F/R to unlock.

9.7.7.4 Protect menus

Press F/R or the speed control knob to activate or deactivate the menu protection.
Press Menu to exit the menu.

9.7.8 Motor Parameters

Use the speed control knob to select “Motor Parameters”.
Press F/R or the speed control knob to continue. Press Menu to cancel.
Use the speed control knob to select the objective parameter.
Use the speed control knob to edit the parameter.
Press F/R to confirm and Menu to cancel.

Parameter content			
<u>Page 1</u> Speed control	<u>Page 2</u> Voltage control	<u>Page 3</u> Temperature	<u>Page 4</u> Memory
Profile = Normal	V Kprop = 2000	T Heatsink = xx °C	Save to EEPROM
Kprop = 414%	V Kint = 9000	T Threshold = 60 °C	Factory reset
Kint = 3125%	Vd DC Bus = 362v		

9.7.9 Firmware Upgrade

The firmware can be upgraded using a USB cable and a PC with internet connection. You will find the latest version at www.teknatool.com/upgrade-your-firmware/.

Use the speed control knob to select “Firmware Upgrade”.

Press F/R or the speed control knob to switch to USB mode.

Press Menu to cancel.

9.7.10 Version Info

Use the speed control knob to select “Version Info”. Press F/R or the speed control knob to continue. The current version is displayed.

Press Menu to exit.

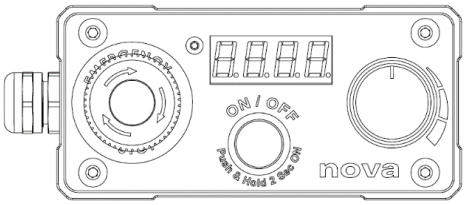
9.7.11 Input Set Speed

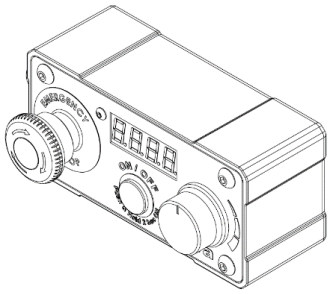
Use the speed control knob or the F keys F1 F2 F3 F4 to set the desired speed. Press F/R or the speed control knob to confirm your selection. Press Menu to cancel.

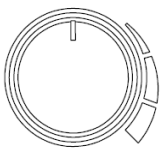
Press F/R to confirm your selection. Press Menu to cancel.

The F1 key changes the value by +100 rpm, the F2 key by -100 rpm, The F3 key by + 5 rpm and the F4 key by -5 rpm.

9.8 Mobile control box





Control element	Description
	**ON:** Starting the lathe. To start, hold down the button for 2 seconds. **OFF:** Stopping the lathe, programmable with or without braking function. Push the button once while the lathe is running. Depending on the programming, the workpiece is or is not braked and the motor is stopped.
	**Speed control knob:** Regulating the lathe speed. Turn the speed control knob clockwise to increase the speed and anti-clockwise to decrease the speed.
	**Emergency stop switch:** Emergency stop switch, programmable with or without braking function. This switch is locked after actuation. This prevents an unintentional restart. To unlock, turn the switch as indicated by the arrow.

10 | Care and maintenance

CAUTION!

- Cleaning rags or polishing wool soaked in oils, greases, solvents and cleaning agents are flammable. Collect them in suitable closed metal containers.
- Oil-soaked cleaning rags or polishing wool tend to self-ignite and must be stored and disposed of separately.

General care

Interval	Measure
After each use	Clean the work area and the lathe. Vacuum shavings and dust from the headstock, from the bed guide, from underneath the banjo and from the tailstock. Proceed carefully, especially after having turned green wood. Insufficient cleaning after green wood turning may lead to rust marks and pitting on the lathe surfaces.
Monthly	Protect the exposed cast iron parts, especially the bed rails, with appropriate products (Metallglanz, WD-40, Caramba or the like) or a dry silicone spray. Check all bolts and nuts for tightness. Clean all tapers to ensure a secure hold.
Every six months	Lubricate the tailstock quill and the inside threads with a light coat of light oil. Check for any rust on the underneath of tool rest, tailstock and bed. If you find rust, remove it by using a rust removal agent and an abrasive sponge. **NOTE:** Some rust removal agents may leave a stain on the metal surface. Test the removal agent on an inconspicuous area.
Banjo	If the banjo becomes hard to move and adjust, it has to be cleaned and lubricated. 1. To allow the banjo to move more freely along the bed, make sure the bed rails are clean. Apply some corrosion protection with slight lubricating properties to the bed rails. 2. It the banjo is difficult to adjust, remove it from the bed. Clean the eccentric rod with a petroleum-based solvent. Lubricate the rod with light oil or a silicone spray. 3. Slide the banjo back onto the bed.
Tailstock	If the tailstock quill becomes hard to adjust or if the handwheel is hard to turn, the tailstock has to be cleaned and lubricated. 1. Remove the 6 mm set screw from the tailstock handwheel. If needed, turn the handwheel to expose the set screw. 2. Remove the quill by unscrewing the quill lock handle and extending the quill out all the way. Remove the handwheel from the tailstock. 3. Wipe clean all parts including the inside of the tailstock bore. 4. Lubricate the quill, the quill lead screw and the tailstock bore with light oil. Apply a small amount of oil to the threads and the quill. 5. Reassemble the tailstock.

11 | Guidelines for rotational speeds

Turning above the bed

Workpiece diameter	Turning rpm
up to 15 cm	1000
15 – 20 cm	800
20 – 25 cm	650
25 – 30 cm	500
30 – 35 cm	450
35 – 40 cm	400
40 – 45 cm	360

Recommendations on working with the 150 mm faceplate

CAUTION! Observe the rule of thirds!

The faceplate should not be smaller than 1/3 of the workpiece diameter.

For workpieces with a diameter of more than 45 cm, use bigger faceplates.

→ Select the speed corresponding to the workpiece conditions.

→ Create a flat supporting surface.

→ Avoid impact stress.

→ Shorter thick screws are better than long thin ones. (Shear force)

→ Do not use faceplates with recognizable damages.

→ Always use the supplied tool to remove the faceplate from the spindle.

→ Never stand in a critical area while working (critical: directly in front of the workpiece).

→ Only mount blanks that are as homogeneous and round as possible.

→ Do not use unbalanced, cracked or crack-prone wood.

→ Avoid using risky and untrained techniques or turning tools that can get caught / stuck.

Improving the performance of your lathe

To get the best performance out of your lathe, keep your woodturning tools sharp. For this, regularly sharpen the cutting edges on a grinding machine. Keeping the edges sharp significantly reduces the load on the motor allowing for better output. As a consequence, turning conditions are improved and cleaner finishes are achievable.

For best results, remove wood in thinner shavings. The correct position of your tool (cutting angle) to the workpiece is very important in achieving this.

Also note that the type of wood and grain will affect the removal of material from your workpiece.

Learning to turn

An important step towards working safely and achieving good results is learning the right technique. Unfortunately, the technique of turning is a subject beyond the scope of these operating instructions. Get books and video material, ask your dealer about woodturning classes and meet other turners and ask them for advice.

12 | Troubleshooting

12.1 Mechanical issues

Symptom	Where to check	How to resolve
Excessive vibration	▪ Workpiece ▪ Lathe mounting ▪ Bed, stand	1. Remove any workpiece/accessory from the headstock. Check the threads for foreign materials or damages. 2. Attach the accessories one at a time and check which part is causing the vibration. 3. Add extra weight to the lathe to reduce the amount of vibration when working on large and unbalanced workpieces.
Faceplate or chuck running out of true	▪ Back of faceplate ▪ Threads ▪ Inner threads on faceplate ▪ Spindle thread on headstock	1. Check the threads for damages. 2. Attach the faceplate or chuck to the machine and check if it is properly seated. 3. The back of the chuck/faceplate must rest against the spindle collar.
Woodturning tools not sliding smoothly across tool rest	▪ Tool rest surface	1. Smooth the edge with a file and then lightly sand the surface with sandpaper or a grinder.
Drive/live centre not holding in spindle or quill taper when turning	▪ Morse taper surface	1. Check the male and female Morse taper surfaces for foreign materials or defects. 2. Clean the surfaces and remount the tools.
Tailstock and headstock centres not aligning	▪ Bed connection ▪ Headstock detent position ▪ Tailstock adjustment plate	1. Inspect all connections of the bed sections to make sure all the top surfaces are flush with one another. 2. Check if the headstock is properly locked in the zero-degree position. 3. Loosen the tailstock adjustment plate located on the bottom of the tailstock and align headstock and tailstock. Tighten the tailstock adjustment plate.
Tailstock handwheel hard to turn or does not turn at all	▪ Quill lock ▪ Inside of quill housing	1. Make sure that the quill lock on the tailstock is not engaged. 2. Fully extend the quill and extract the quill from its housing. Check the surfaces of quill and housing and the threads for damages or dirt. Apply machine grease to the quill surface and the thread and mount the quill again.
Tailstock binds while sliding along the bed	▪ Bed ▪ Tailstock adjustment plate	1. Check the bed for foreign materials and damages. 2. Loosen the tailstock lock.
Tailstock jumps at bed connection areas	▪ Bed ▪ Tailstock bottom surface	1. Inspect the uneven surfaces and make sure the bed connection areas are flush. 2. Check for any foreign materials and defects on the bottom of the tailstock. 3. Lightly sand down the defects on the tailstock or bed with sandpaper.

12.2 Electrical issues

WARNING!

Do not carry out work on electrical system components unless the lathe is switched off and the power plug is disconnected. Do not leave the power plug unattended and secure it against being plugged in. Have work on the electrical system carried out only by qualified electricians.

Symptom	Where to check	How to resolve
NO display on screen when the main power is on	10-pin ribbon cable	1. Dismount the control panel from the headstock. 2. Unplug and re-plug the grey ribbon cable to make sure it is well connected.
Rotor fault	▪ Spindle ▪ Index locking pin	1. Check if the locking pin is engaged. Disengage it if necessary. 2. Check if there is anything preventing the spindle from turning. 3. Remove the obstruction and try starting the motor again.
Sensor error (RP State Error) (0 or 1)	Optical motor sensor	1. Turn the spindle by hand to see if this will loosen the material that has built up around the sensor. 2. Blow air through the headstock to blow off the material that has built up around the sensor.
Power factor corrector (PFC Corrector) (flashing)	Headstock body	1. CAREFULLY touch the lower section of the headstock to see if it is hot. 2. Turn off the main switch and leave the headstock to cool down. Restart the machine.

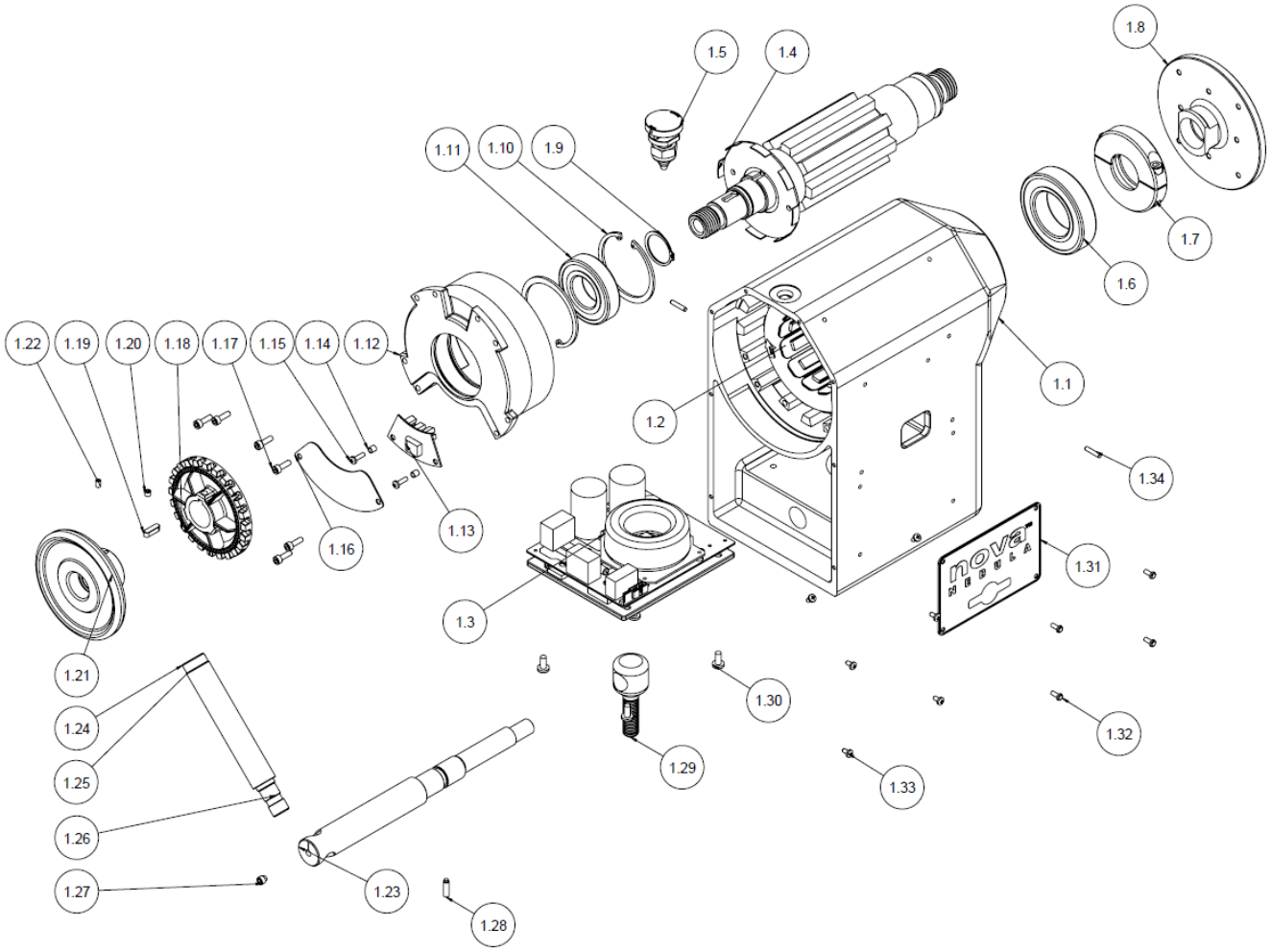
If necessary, contact our service team at service@teknatool.com or your dealer.

13 | Terms of guarantee

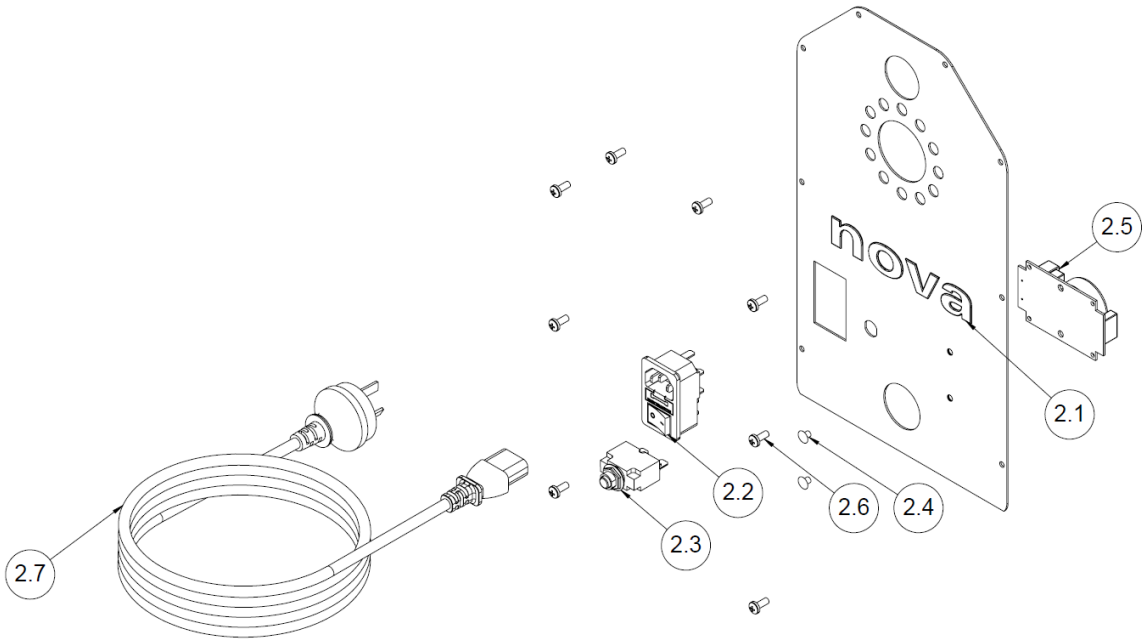
Teknatool grants an extended warranty on this product from the date of purchase: 5 years on mechanical parts and 2 years on motor and electronics.
If defects in material or workmanship occur during the intended use of the product, please contact your dealer. After submission of a copy of the invoice, the defect in question will be verified in coordination with our service department and, as required, it will be repaired or the product will be replaced. The organisation of a possible transport (after consultation with our service department) lies within the responsibility of the customer. The packaging must be safe for transport. For the return transport to the customer, Teknatool will choose the most cost-effective transport. Any costs for special transport will be at the expense of the customer.
If it is determined that the complaint lies outside the granted terms of guarantee (e.g. in the case of defects arising from normal wear, improper use, power overload, overvoltage, unauthorized modifications of the machine, use of force, failure to observe the safety precautions or own attempts of repair), the customer has to pay the full costs for transport and repair.
Only the terms of guarantee cited here are valid, any side agreements are not recognised unless they are presented in written form and signed (documented) by the manufacturer/importer. No claim whatsoever arises from verbal agreements that have not been documented. The present terms of guarantee are valid in German-speaking countries; elsewhere different terms of guarantee may apply. In this case, please contact your local dealer.
Please note that your statutory rights are not restricted by the above guarantee.

14 | Exploded view

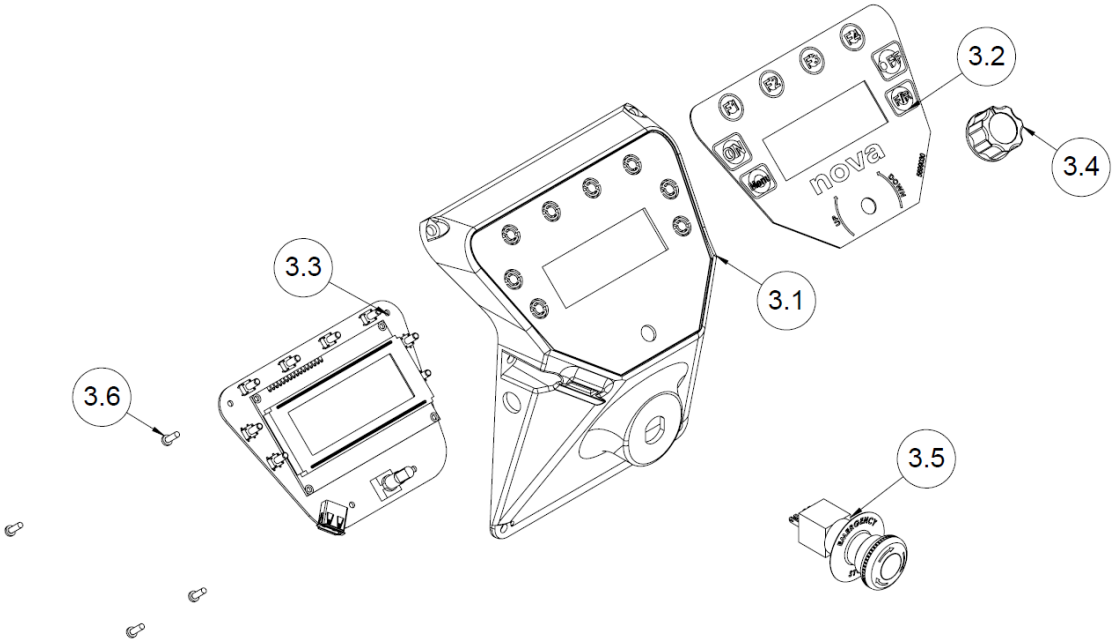
Headstock



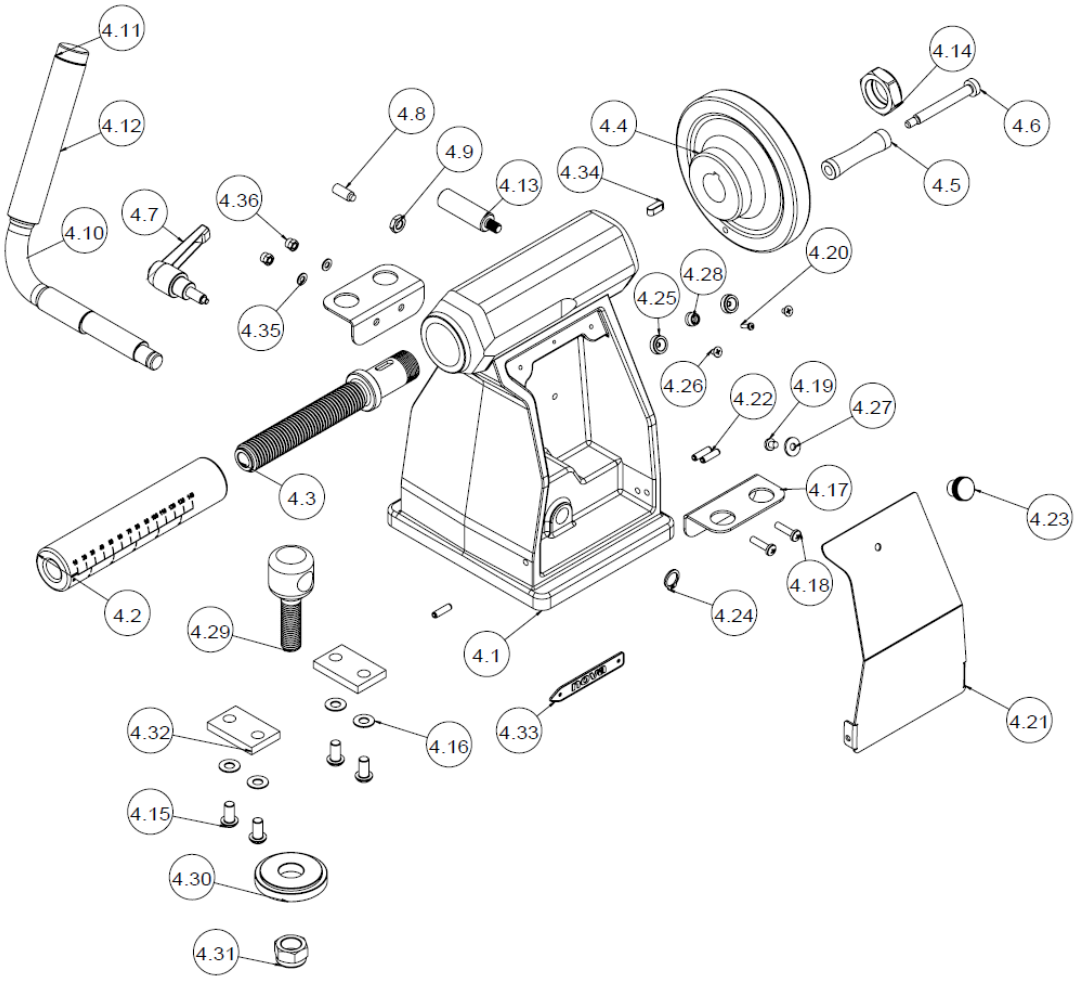
Rear cover plate assembly -A



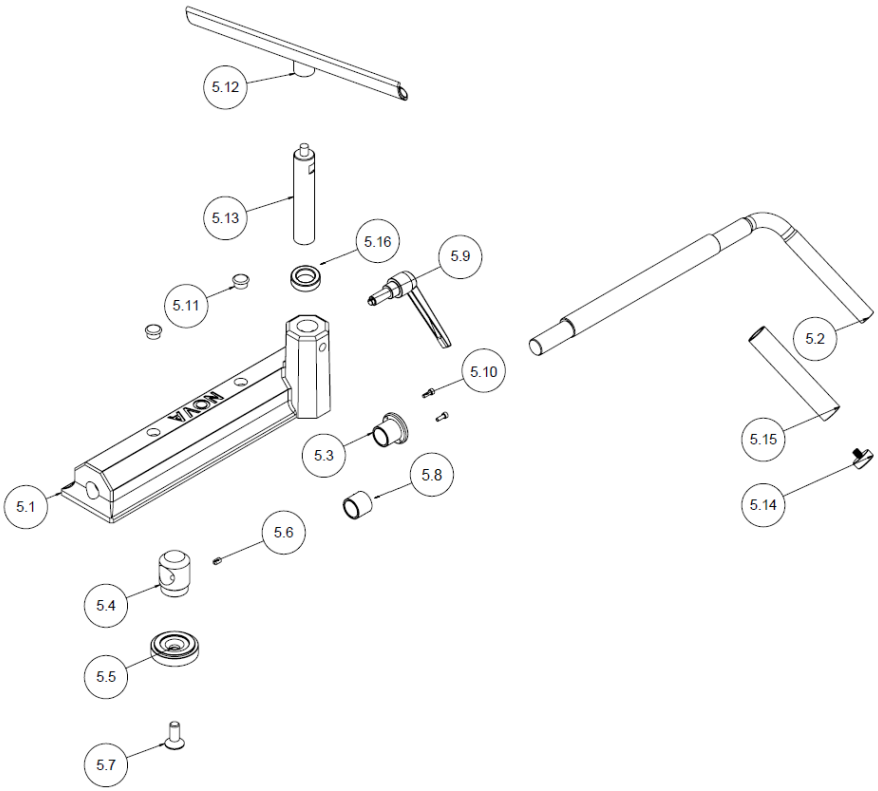
Control panel



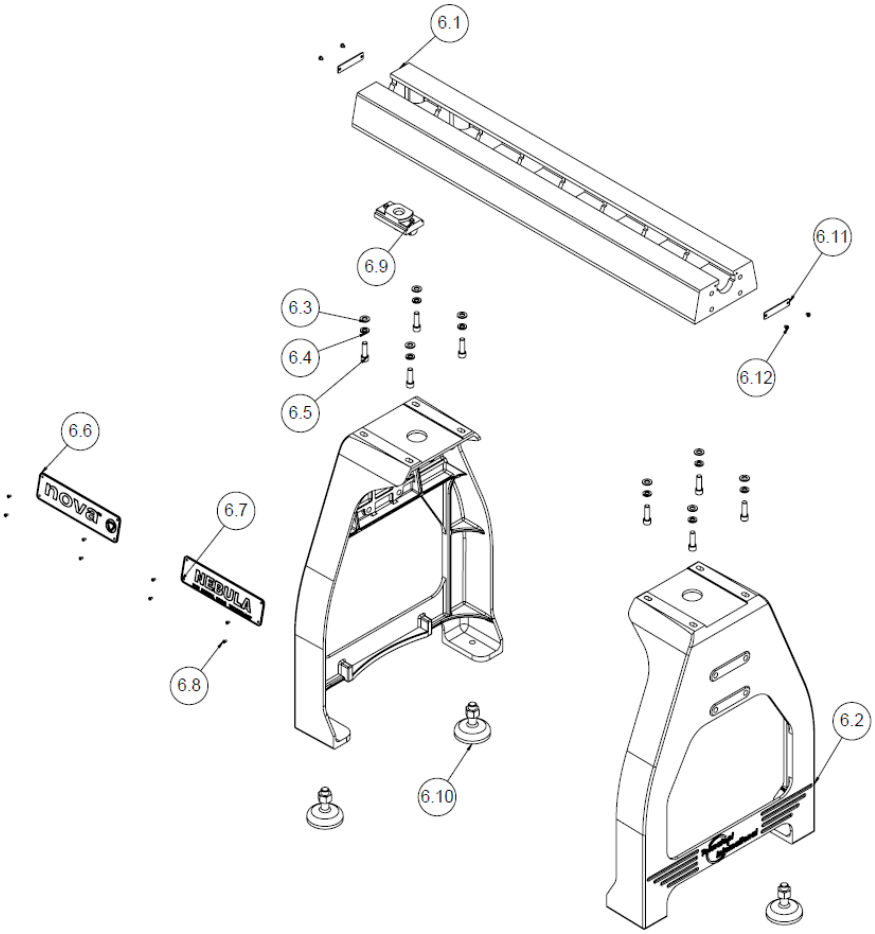
Tailstock



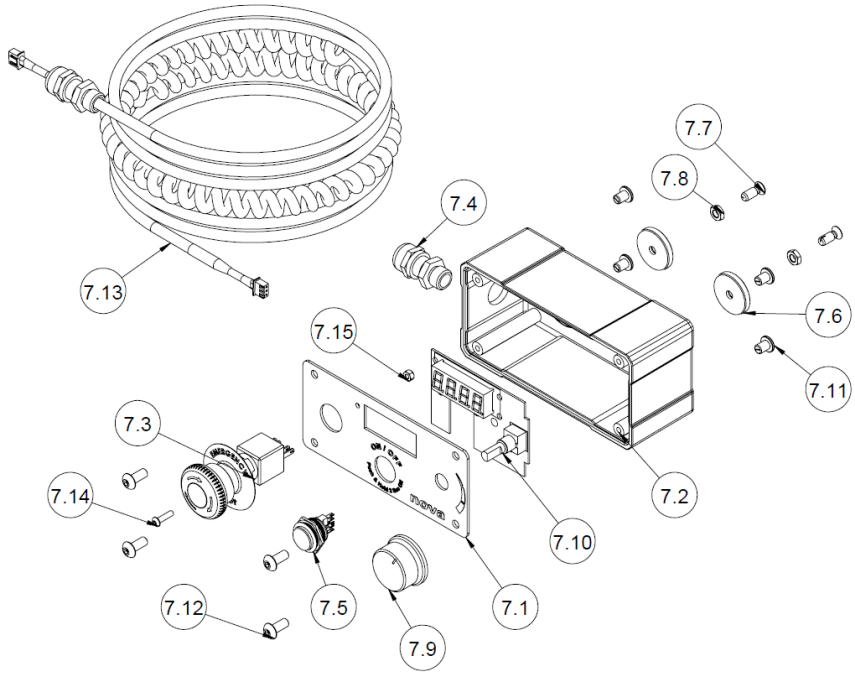
Tool rest with banjo



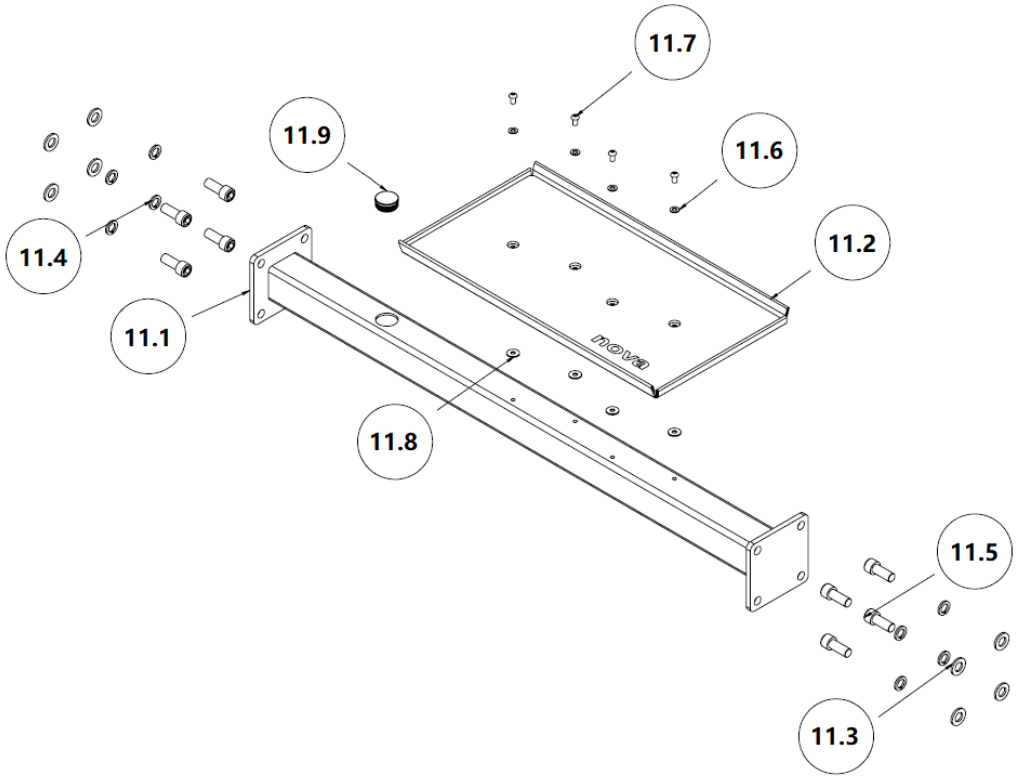
Bed and stand



Mobile control box



Beam



15 | Parts list

Ref.	Description	Part number	Qty
1	Headstock assembly	5569002	
1.1	Headstock casting	5569011	1
1.2	Stator 120 mm	5569038	1
1.3	PC board (assembly)	55530	1
1.4	Rotor (assembly)	5569007	1
1.5	Index locking pin (assembly)	5569009	1
1.6	Front bearing	6210 VV	1
1.7	ASR locking ring	5569039	1
1.8	Faceplate 150 mm	5569033	1
1.9	External circlip 35 mm	EC35	1
1.10	Internal circlip 75 mm	IC75	2
1.11	Rear bearing	6207 VV	1
1.12	Casted bearing housing	55146	1
1.13	Optical position sensor	55020	1
1.14	Dowel pin 6 mm	55055	2
1.15	Position sensor mounting screw	MPB0412	2
1.16	Cover plate (metal)	55174	1
1.17	Rotor assembly mounting bolt	C06020	8
1.18	Index plate	55011	1
1.19	Index plate key	55051	1
1.20	Index plate set screw M5x6	SZ0506	3
1.21	Headstock handwheel	5569016	1
1.22	Handwheel set screw M5x8	SZ0508	1
1.23	Headstock eccentric rod	5569018	1
1.24	End cap	5569028	1
1.25	Clamping lever grip	5569029	1
1.26	Clamping lever	5569030	1
1.27	Clamping lever set screw M8x8	SZ0808	1
1.28	Clamping lever set screw M6x20	SZ0620	1
1.29	Headstock clamping bolt	5569019	1
1.30	Main board mounting screw M6x13	MPB0613	4
1.31	Nameplate	5569037	1
1.32	Nameplate rivet 4x10 or screw M4x8	RV0410 or MPB0408	4
1.33	Control panel mounting screw M6x6	MPB0606	6
1.34	Dowel pin Ø4x20	23043	2
NP	Sensor cable	55411	1

Ref.	Description	Part number	Qty
4	Tailstock assembly	5569003	
4.1	Tailstock casting	5569012	1
4.2	Tailstock quill	5569020	1
4.3	Tailstock spindle	5569021	1
4.4	Tailstock handwheel	5569022	1
4.5	Handwheel handle	5699028	1
4.6	Handwheel handle mounting bolt	5699046	1
4.7	Quill lock handle	5569040	1
4.8	Quill alignment screw	SZ0820	1
4.9	Alignment screw sleeve	5569068	1
4.10	Tailstock clamping lever	5569023	1
4.11	End cap	5569028	1
4.12	Clamping lever grip	5569029	1
4.13	Clamping lever stop	5569024	1
4.14	Handwheel locknut	LN25	1
4.15	Alignment plate screw	BHC0816	4
4.16	Washer	FW08	4
4.17	Tool bracket	5569031	2
4.18	Tool bracket screw M5x10	MPB0510	2
4.19	Door knob screw M5x6	MPB0506	1
4.20	Rubber buffer screw M3x10	MPB0310	1
4.21	Door plate	5569026	1
4.22	Tension pin 5 mm	TP0518	3
4.23	Door knob	5569042	1
4.24	External circlip 12 mm	EC12	1
4.25	Door magnet	5569045	2
4.26	Door magnet screw M4x6	MPB0406	2
4.27	Door screw washer 5 mm	FW05	1
4.28	Door rubber buffer	5569046	1
4.29	Clamping bolt	5569025	1
4.30	Clamp	5569043	1
4.31	Locknut M16	LN16	1
4.32	Tailstock alignment plate	5569032	2
4.33	Nameplate	5569044	1
4.34	Handwheel key 6 mm	5569069	1
4.35	Bracket washer 5 mm	FW05	2
4.36	Bracket lock nut M5	LN05	2

2A	Rear cover plate assembly	5569008-A	
2.1	Headstock rear cover plate	5569027-A	1
2.2	Main switch	5699044	1
2.3	Thermal circuit breaker	5699045	1
2.4	Plastic rivet for EMI filter	RV0405	2
2.5	EMI filter (220-240V)	55236	1
2.6	Rear cover plate mounting screw	MPB0410	8
2.7	Power cord	55106	1

3	Control panel assembly	5699005	
3.1	Plastic housing	5698000	1
3.2	Keypad	5699030	1
3.3	Control panel circuit board	55446	1
3.4	Speed control knob	5699034	1
3.5	Emergency stop switch	5699016	1
3.6	Control panel mounting screw M3x10	MPB0310	4
NP	10-pin control panel cable	55139	1

5	Tool rest assembly	5569004	
5.1	Banjo	5699022	1
5.2	Banjo clamping lever	5569036	1
5.3	Clamping lever guide ring	5699038	1
5.4	Banjo clamping bolt	5699017	1
5.5	Banjo clamp	5699012	1
5.6	Grub screw M6x10	SZ0610	1
5.7	Clamp mounting screw	CM1230	1
5.8	Clamping lever ring B	5699037	1
5.9	Tool rest lock handle	5699036	1
5.10	Guide ring mounting screw	C04012	2
5.11	Mounting screw	HP-16	2
5.12	Nova 12” modular tool rest	9028	1
5.13	Tool rest post 1”x5”	9025	1
5.14	End cap	5569028	1
5.15	Clamping lever grip	5569029	1
5.16	Set collar 1” / 25,4 mm	27007	1

Ref.	Description	Part number	Qty
6	Bed and stand assembly	5569005	
6.1	Bed casting	5569013	1
6.2	Casted stand	5699018	2
6.3	Washer 12 mm	FW12	8
6.4	Spring washer 12 mm	SW12	8
6.5	Mounting bolt M12x40	C1240	8
6.6	Nameplate 1	5569058	1
6.7	Nameplate 2	5569060	1
6.8	Nameplate mounting screw	RV0410/ MPB0408	8
6.9	Headstock lock plate	5569062	1
6.10	Foot (assembly)	5569061	4
6.11	Stop plate	5569059	2
6.12	Stop plate screw M5x6	MPB0506	4
7	Mobile control box assembly	5569006	
7.1	Front panel	5569051	1
7.2	Control box housing	5569050	1
7.3	Emergency stop switch	5699016	1
7.4	Cable gland	5569081	1
7.5	ON/OFF button	5569052	1
7.6	Magnet	5569055	2
7.7	Magnet mounting screw M5x10	CM05010	2
7.8	Magnet mounting nut M5	NN05	2
7.9	Speed control knob	5569053	1
7.10	PC board	5569070	1
7.11	Rubber buffer	5569054	4
7.12	Panel screw M5x10	C05010	4
7.13	Control box cable	5569056	1
7.14	Panel screw M3x12	C03012	1
7.15	PC board nut M3	NN03	1

Ref.	Description	Part number	Qty
11	Beam assembly	5569088	
11.1	Main beam	5569084	1
11.2	Tool tray	5569085/ 5569096	1
11.3	Washer 16 mm	FW16	8
11.4	Spring washer 16 mm	SW16	8
11.5	Mounting bolt M16x40	C1640	8
11.6	Washer 8 mm	FW08	4
11.7	Button head screw M8x14	SBHCS0814	4
11.8	Nylon washer 8 mm	5569089	4
11.9	Plastic beam cap	5569090	1

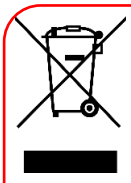
NP = not pictured

16 | Decommissioning

Please observe the following notes when preparing for final decommissioning:

- When decommissioning the machine, adhere to the applicable laws and regulations for disposal.

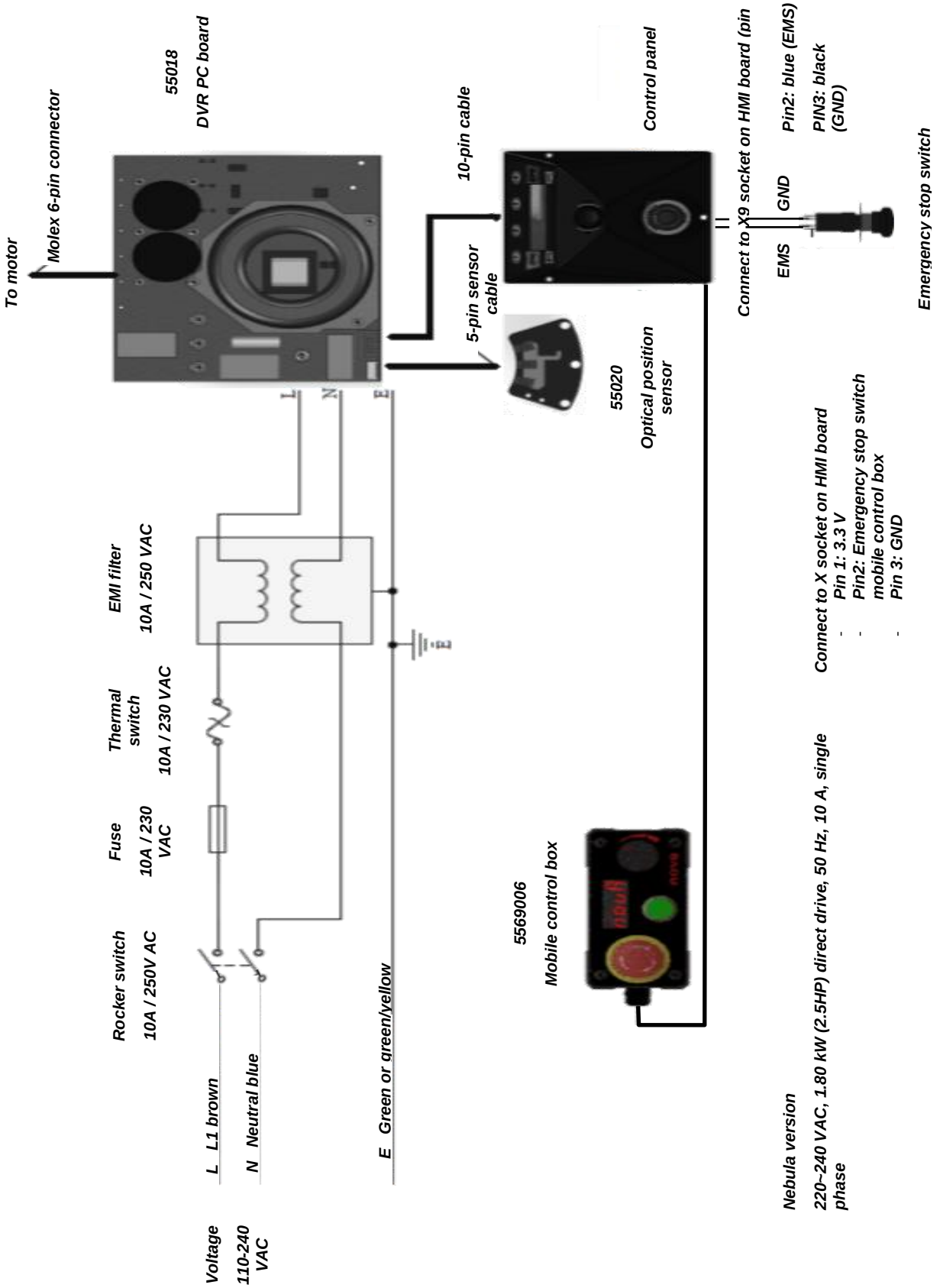
- Dispose of all parts of the machine in such a way that health and environmental damages are excluded. Check which materials can be recycled and recycle them properly.



- Do not dispose of the machine or parts of it together with domestic waste.

- Oils, greases, solvents and cleaning agents are hazardous to the environment and must not be allowed to reach sewage or normal domestic waste. Dispose of them via local recycling centres. The same applies to cleaning rags or polishing wool soaked in oils, greases, solvents and cleaning agents.

Of course, you can also bring your defective machine to your local dealer.
He will ensure proper recycling.


To motor
Molex 6-pin connector
55018
DVR PC board
10-pin cable
5-pin sensor cable
Control panel
Connect to X9 socket on HMI board (pin
EMS
GND
Pin2: blue (EMS)
PIN3: black (GND)
Emergency stop switch
55020
Optical position sensor
5569006
Mobile control box
Rocker switch
10A / 250V AC
Fuse
10A / 230 VAC
Thermal switch
10A / 230 VAC
EMI filter
10A / 250 VAC
L
N
E
L L1 brown
N Neutral blue
E Green or green/yellow
Voltage
110-240 VAC
Nebula version
220~240 VAC, 1.80 kW (2.5HP) direct drive, 50 Hz, 10 A, single phase
Connect to X socket on HMI board
- Pin 1: 3.3 V
- Pin2: Emergency stop switch
- mobile control box
- Pin 3: GND

CE

EC – Declaration of Conformity

For Machines (according EC-Directive 2006/42/EG)

No. of Declaration of Conformity:	Neu-TT-203-404-EN
Distributor:	Neureiter Maschinen Kellau 167, AT – 5431 Kuchl Austria
Responsible person for technical documentation:	Ludwig Neureiter Kellau 167 A – 5431 Kuchl
Subject of the declaration:	Woodturning Lathe
Model name:	**NOVA Nebula DVR 1825**
Model name (technical):	*DVR16XX / DVR18XX / DVR20XX / DVR22XX*
Manufacturer	*Teknatool*

The serial number, crucial technical information and marks of conformity can be found on the rating plate of each machine.
The distributor bears the sole responsibility for issuing this EC Declaration of Conformity.
The object of the declaration described above is in conformity with the relevant **Union harmonisation legislation**:

- Machinery Directive 2006/42/EC
- Electromagnetic Compatibility Directive 2014/30/EU

The following harmonised standards and technical specifications have been applied:

EN ISO 12100:2010	Safety of Machinery Generic principles for design Risk Assessment and Risk reduction
EN 60204-1:2006+A1:2009+AC:2010	Safety of Machinery Electrical equipment of machines – part 1: General requirements
EN 61000-6-2:2005	Electromagnetic compatibility (EMC) Generic immunity standard
EN 61000-6-4:2007 + A1:2011	Electromagnetic compatibility (EMC) Generic emissions standard Part 2

Mr. Ludwig Neureiter
Neureiter Maschinen GmbH
Gewerbegebiet Brennhoflehen
Kellau 167
A – 5431 Kuchl

Kuchl, 2020.02.17
Ludwig Neureiter (Owner)

DT55604_Neu-TT-203-404-EN

NOVA Nebula 18” DVR Operating Instructions

128-0721-004_EN