Machine for chamfering edges of pipes and tubes

NKO MACHINES

Stinger, model E

Instructions for use and maintenance

CE

Contents:

1.General information

1.1. Introduction

Thank you for purchasing one of our machines. We hope you will be completely satisfied with it.

This manual contains all the instructions for installing, adjusting, operating, and maintaining the Stinger
Stinger E series in accordance with applicable safety standards.

The information and data in this manual may be subject to change as a result of further improvements to the machines. For the avoidance of doubt, please contact N.KO if you find any discrepancies.

Never perform any operations on the machine before reading and understanding the instructions in the manual. A large proportion of accidents that occur in the workplace are caused by failure to follow the instructions and recommendations contained in the manual.

Graphic symbols in the manual are used to highlight important information regarding safety and machine operation.

Caution:
Essential information for the personal safety of the operator.

Important:
Instructions that must be followed to ensure proper operation of the machine.

1.2. Testing

The edge beveling machine is tested in our technical testing laboratory.
During this test, the correct functioning of the machine is tested.

1.3. Warranty

The seller provides a warranty for the Stinger model E chamfering system that the goods will be free of material and manufacturing defects for a period of 1 year from the date of delivery.

A warranty is provided for the proper functioning of the goods and the materials used for a period of 1 year from the date of delivery of the goods.

The seller undertakes to ensure the removal of any defects covered by the warranty free of charge and without undue delay so that the buyer can use the goods properly. If the buyer exercises their rights arising from liability for defects not covered by the warranty, they shall reimburse the seller for the costs associated with this.

The warranty period shall not run from the date on which the buyer reported to the seller the existence of a defect covered by the warranty and for which the buyer cannot use the goods and exercised his rights arising from liability for defects under the warranty provided, until the date of its removal by the seller.

The warranty does not cover natural and normal wear and tear of the goods and defects caused by improper use of the goods contrary to the training provided or the instructions for use. Furthermore, the warranty does not

does not apply to defects caused by overloading the machine, nor to defects caused by unprofessional intervention in the machine or unprofessional repair or modification of the machine. Improper intervention, repair, or modification means any intervention, repair, or modification that was performed contrary to the training and documentation provided, or was performed by a person other than the seller or a person authorized or approved by the seller.

Rights arising from liability for defects under the warranty must be exercised with the seller without undue delay after the buyer discovers the defect, but no later than the end of the warranty period, otherwise these rights shall expire.

To exercise rights arising from liability for defects under the warranty provided, it is necessary to present the warranty card or proof of purchase. Otherwise, these rights cannot be granted to the buyer.

The seller's liability for defects covered by the warranty does not arise if these defects were caused by external events. External events are understood to mean, in particular, natural disasters, force majeure, or the behavior of third parties.

N.KO considers the warranty invalid in the following cases:
- improper use of the machine
- use contrary to national or international standards
- incorrect installation of the machine
- defective power supply
- serious deficiencies and errors in maintenance
- unauthorized modifications or interventions
- use of non-original or incorrect spare parts and accessories for the model in question
- complete or partial failure to follow the instructions in the manual
- exceptional events, natural disasters, or other events.

1.3. Identification data

The identification data of the edge beveling machine are indicated on the aluminum CE label attached to the machine body.

1.4. Reference standards (CE declaration of conformity)

EU Prohlášení o shodě

(EU Declaration of Conformity)

Výrobce / Manufacturer:

N.KO spol. s r.o.
Adresa: Táborská 398/22, 29301 Mladá Boleslav, Czech Republic
IČ: 26161109

Výrobek:

Název stroje / Model: Mobilní obráběcí stroj pro úkosování trubek
Typ / Model: Stinger, modelová řada E
Výrobní číslo: viz výrobní štítek stroje

Prohlašujeme, že uvedený výrobek je v souladu s ustanoveními následujících směrnic EU:

- 2006/42/ES – Směrnice o strojních zařízeních (Machinery Directive)
- 2014/30/EU – Směrnice o elektromagnetické kompatibilitě (EMC Directive)
- 2014/35/EU – Směrnice o nízkém napětí (Low Voltage Directive)

Harmonizované normy:

- EN ISO 12100:2010 – Bezpečnost strojních zařízení, obecné zásady návrhu
- EN 60204-1:2018 – Elektrická zařízení strojů
- EN ISO 13849-1:2015 – Bezpečnost strojních zařízení – Řídicí systémy související s bezpečností
- EN 55014-1 a EN 55014-2 – EMC normy pro stroje s elektromotorem

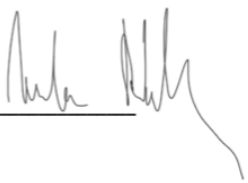
Místo a datum vydání:

Mladá Boleslav 12. 8. 2025

Jméno a funkce odpovědné osoby:

Milan Richtr CEO

Podpis: _____



2. SAFETY

2.1 Safety recommendations

⚠ Caution
Read the following instructions carefully to prevent injury to persons or damage to property.

- Never attempt to operate the machine until you have thoroughly familiarized yourself with how it works. If you still have doubts after carefully and thoroughly reading this manual, contact N.KO.

- Ensure that all technical personnel who are to use and maintain the machine are sufficiently familiar with all relevant safety recommendations.

- The machine must only be transported and installed by designated personnel in accordance with the instructions in this manual.

- Before starting the machine, the operator must ensure that all safety devices are functional and that all safety guards are in place.

- Never use the machine for purposes other than those specified in the manual. Never process products or workpieces other than those specified.

- Contact N.KO before using the machine for purposes other than those specified and request permission.

- The voltage values used to power the machine are dangerous: make sure that all connections are made correctly. Never perform maintenance or replace parts on the machine when it is connected to a power source, and never make any connections to electrical connections.

- Replace parts considered defective with others recommended by the manufacturer. Never replace with anything other than original spare parts.

- Never wear clothing or jewelry that could get caught in moving parts. It is advisable to wear safety clothing: shoes with non-slip soles, ear protectors, and safety glasses.

Important:
If any faults occur during the machine's service life that cannot be repaired according to this manual, it is necessary to contact your supplier or the manufacturer, N.KO, so that the problem can be resolved as quickly as possible.

2.2. Safety stickers

Safety labels with warnings for operator protection may be installed on the edge beveling machine.

Do not remove any stickers from the machine.

2.3. Operator qualification and protection

The employer is obliged to inform the operator about safety standards and, in addition, to ensure that they are observed and to make sure that the work area is sufficiently large and well lit. The machine may only be operated and used by a designated person, i.e. the machine operator.

The term "operator" refers to the person who installs, operates, adjusts, maintains, cleans, and repairs the machine. This person must be fully familiar with this manual and trained by the supplier. If this is not the case, ask your supplier to remedy the situation. Otherwise, the manufacturer disclaims any liability for damage or injury.

⚠ Caution:
Before starting work, make sure that the operator has read and understood the contents of this user manual.

⚠ Caution:
The operator must always:

- Ensure that all safety guards are in place and that safety devices are functioning before starting the machine.
- Avoid wearing clothing or jewelry that could get caught in moving parts.
- Wear approved safety clothing, such as shoes with non-slip soles, ear protectors, and safety glasses.
- Apply safety standards, ensure that they are always followed, and if in doubt, refer to this manual again.
- Contact the machine supplier if you cannot remedy faults that cause the machine to malfunction, if the faults relate to faulty parts or irregularities in operation.

2.4. Residual risks

The machine is manufactured with an emphasis on operator safety.

However, there is one remaining risk:

As mentioned above, the work zone is protected as much as possible, but it must remain partially open so that the machining process can be monitored.

It is therefore possible that the operator could insert their fingers into this zone, where both the cutting tool and the workpiece holder are located.

⚠ Caution:
Always keep your hands and other parts of your body as far away from the cutting zone as possible.

⚠ Caution:
Always apply the safety regulations contained in the manual and ensure that they are observed and that all remaining risks are eliminated.

3. TECHNICAL SPECIFICATIONS

3.1. Existing versions of the Stinger E machine

All versions of the Stinger model E have certain features in common:

- They are powered by a single-phase electric motor with a voltage of 230V or 120V (check the voltage on the nameplate).
- The cutting tool feed is manual.
- The machine clamping is manual, inside the tube and self-centering.

Model	Working range ID - OD:	Maximum wall thickness	Tool feed	Motor power	Machine weight
Stinger 28E	18-28mm (OD max. 50mm) 0.7" - 1.1" (OD max. 1.96")	15	22	1200W	10 kg (22 lb)
Stinger 76E	28-76 mm (OD max 89 mm) 1.10" - 2.99" (OD max 3.5")	15	22	1200W	10 kg (22 lb)
Stinger 120E	40-120 mm (OD max 126 mm) 1.57" - 4.72" (OD max 4.96")	15	22	1500W	18 kg (39 lb)
Stinger 159E	65-159 mm (OD max 168 mm) 2.55" - 6.25" (OD max 6.61")	20	30 mm	1500W	25 kg (55 lb)
Stinger 240E	80-240 mm (OD max 273 mm) 3.14" - 9.44" (OD max 10.74")	20	40	2000	35 kg (77 lb)
Stinger 330E	150-330 mm (OD max 355 mm) 5.90" - 12.99" (OD max 13.97")	20	40	2000	52 kg (114 lb)
Stinger 426E	250-425 mm (OD max 426 mm) 9.84" - 16.73" (OD max 16.73")	20	45	2400	90 kg (199 lb)
Stinger 600E	300-600 mm (OD max 630 mm) 11.81" - 23.62" (OD max 24.8")	20	45	2400	115 kg (254 lb)
Stinger 830E	600-830 mm (OD max 850 mm) 23.62" - 32.67" (OD max 33.46")	20	45	2400	182 kg (401 lb)

Important:
The dimensions of the machines and lists of spare parts can be found in the technical data sheet that was delivered with the machine. If not, contact your supplier and request it.

3.2. Machine description

The Stinger model E pipe and tube edge machining machine is designed for chamfering and aligning pipes and tubes made of structural and stainless steels.

One of its main features is that it is portable and can perform multiple operations simultaneously. These mainly include pipe edge alignment, edge chamfering and internal countersinking (calibration), and unification of pipe and tube internal diameters.

The machine is equipped with a powerful motor, a robust clamping mandrel, and cutting tool holders.
The Stinger Model E machine is designed for use directly on machined pipes.

The Stinger Model E machine consists of a motor, gearbox, clamping mandrels, and accessories.

The Stinger Model E chamfering machine is reliable and requires minimal maintenance.

Fig. 3.2.1.

A.	Main switch
B	Lever or knob for controlling the machine's cut
C.	Machine clamping screw
D.	Plate with cutting tool holders
E.	Centering and clamping mandrel
F.	Lifting eye (only for heavier types)
G.	Speed control (only on selected types)

The appearance of the machine and the position of the controls may vary from type to type. However, they are easily recognizable and their placement is logical and intuitive.

3.3. Noise level

The machine was designed and manufactured to minimize noise emissions.
Measurements taken from the operator's position while the machine is running in automatic cycle mode yielded the following values:
- during cutting **74.9 dB**
- during operation without load **64.5 dB**

3.4. Working environment conditions

The environment in which the machine operates must comply with the following values:

Temperature: 0º C - 50º C (32º F - 122º F)
Humidity 10% - 90% (non-condensing)

The machine must be placed in a covered location and must not be exposed to rain.

Working conditions other than those specified above could cause serious damage to the machine or injury (especially from electric shock).

When the machine is not in use, it can be stored in a location where the temperature fluctuates between:
-10º C and 70º C (14º F - 158º F)
All other values remain unchanged.

4. INSTALLATION

4.1 Transport and lifting

Important:
The activities described in this section must only be performed by qualified personnel.

When the machine is delivered to its destination, make sure (while the transport company is still present) that it complies with the specifications in the order and that it has not suffered any damage during transport. Immediately inform the supplier and the transport company in detail if any damage is found or if any parts are missing.

Caution:
Follow these instructions to ensure safe handling of the machine:

- The Stinger Model E can usually be handled manually. However, some types in this model series are so heavy that they can only be handled using handling equipment such as cranes and hoists. In this case, we recommend that at least two people handle the machine.
- When using a crane or other handling equipment, observe local safety regulations and use only approved lifting equipment and aids.
- To lift the Stinger Model E, use the lifting eye mounted on the machine body for this purpose.
- Wear protective clothing such as work gloves, safety goggles, non-slip shoes, and a helmet when handling and using the machine.
- When disposing of additional transport packaging, dispose of it in accordance with the applicable waste disposal laws of the relevant country.

4.2. Installation and connection

Important:
The activities described in this section must only be performed by qualified personnel.

When connecting the machine to the power supply, proceed as follows:

- Check the frequency and voltage values on the motor identification label and compare them with your electrical network at the place of use of the machine.

4.3. Destruction and disposal

When disposing of the Stinger Model E machine, keep in mind that the materials from which it is made are not hazardous in nature and mainly include:

- Painted or plated ferritic steel
- 300/400 series stainless steel
- Plastic materials of various types
- Lubricants
- Electric motor
- Electric cables and wires
- Electrical monitoring and excitation devices.

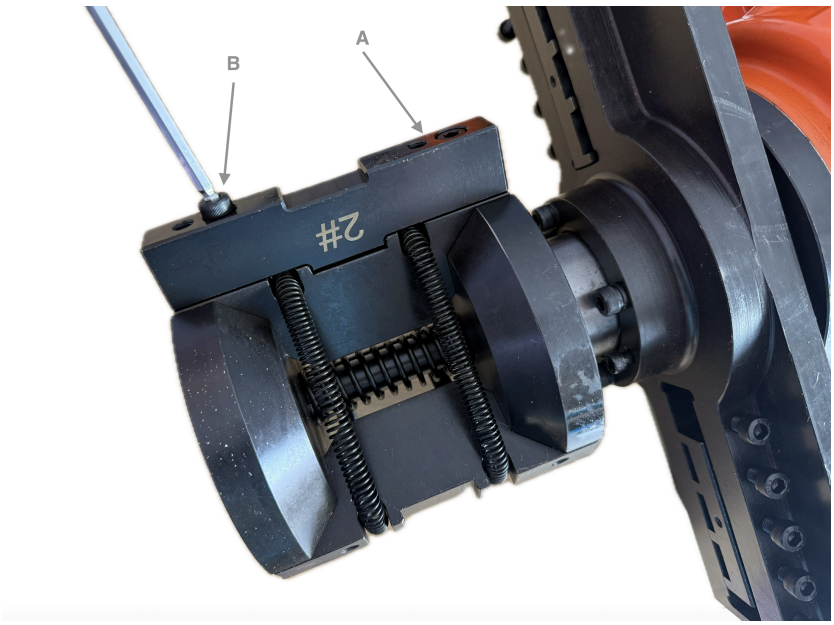
Follow this procedure:
- Follow the applicable laws of your country relating to occupational safety and waste disposal
- Disconnect the machine from the power supply
- Dismantle the machine and sort the components into groups according to their chemical nature and composition
- Scrap machine parts in accordance with the applicable waste disposal laws in your country.
- Strictly observe applicable occupational safety regulations during the dismantling phases.

4.4. Preparing the Stinger Model E machine and checks before use

Important:
Never start the Stinger Model E without performing the steps described in this section.

Compensation jaws - correct selection and installation
- Prepare the correct compensation jaws supplied with the machine. If the jaw range is not indicated directly on the jaw itself, use the table below.
- For each mounting, you will always need three identical jaws (item A in Fig. 4.4.1) or a combination of several jaws, see the table in the document - Technical data sheet for the machine (provided with the manual).
- Tighten the compensation jaws on the clamping mandrel properly using the screws supplied with the machine (item B, Fig. 4.4.1.).

Fig. 4.4.1.

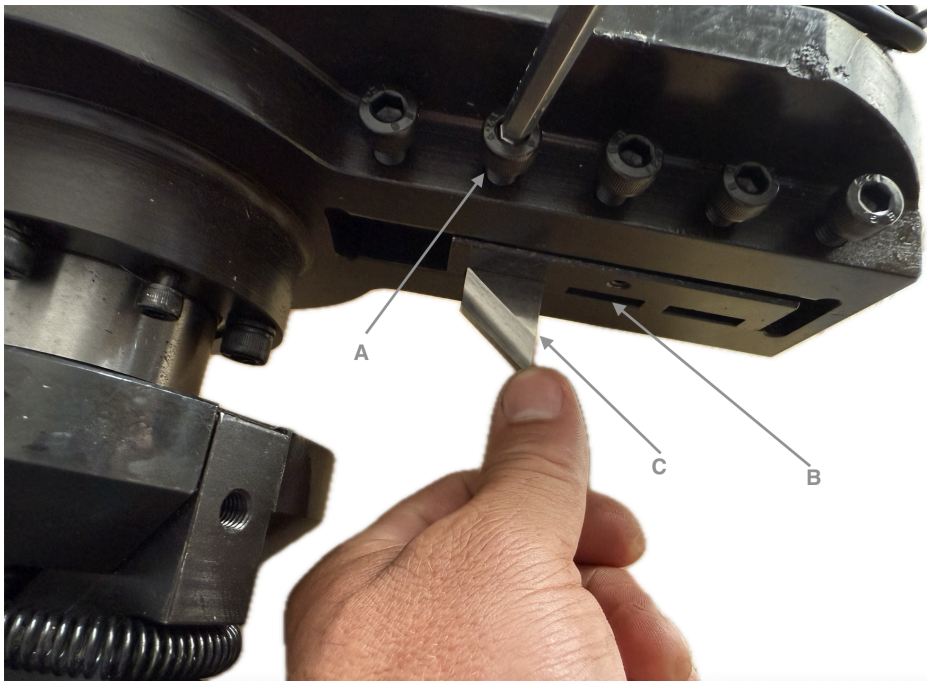


Cutting tool holders

Cutting tool holders are fully integrated into the machine at the factory. Depending on the machine type, the holder may or may not include a clamping block with three tool clamping options (item B, Fig. 4.4.2). The block can also be moved from right to left for ideal blade positioning (item C, Fig. 4.4.2).. If there is no clamping block on the machine, clamp the cutting knife only into the prepared groove. The holder also contains clamping screws (item A, Fig. 4.4.2.). The screws are installed along the entire length of the holder.

Depending on the exact type of equipment, there are 2-4 holders on one machine.
This allows two or more machining operations to be performed at the same time. For example, chamfering and aligning the end of a pipe/tube.

Fig. 4.4.2.



Final check before using the machine for the first time

- Make sure that no screws or other parts are loose.
- Make sure that the power cord is undamaged along its entire length and equipped with the correct connector.

5. USE

5.1 Proper use

The Stinger Model E beveling machine has been designed, manufactured, and sold for the purpose of preparing weld surfaces (beveling) of metal components and rolled metals of the following types:
iron, steel, stainless steel, brass, copper, and aluminum.
The maximum dimensions of pipes and wall thicknesses of machined pipes are specified in detail in Chapter 3, Section 3.2 Technical Data.

Any other uses differing from those described above are considered inappropriate. More specifically, it is prohibited to:

- Processing products other than those for which the machine is manufactured and sold.
- Modify the design and operation of the machine.
- Replacing parts with non-original ones.
- Modifying electrical connections and thereby bypassing integrated safety devices.
- Removing or modifying protective covers.
- Use the machine in places where the environment is aggressive and where there is a risk of corrosion of components.

⚠ Caution:
It is strictly forbidden to chamfer edges on materials other than those specified, as their processing could pose a risk to the operator and damage the machine.

Before making any modifications, it is necessary to contact N.KO for approval. Otherwise, N.KO declines all responsibility for damage to the machine or injury to the operator.

5.2 Preliminary settings

⚠ Caution:
Wear work gloves and safety goggles when adjusting the machine. Operations must be performed on a machine that is stationary and disconnected from the power supply.

Installation of the Stinger model E machine on a machined pipe.

⚠ CAUTION: Perform the work with maximum concentration. Some Stinger machine models can be quite heavy and pose a risk of injury. Use a crane if desired.

- Before installing the Stinger model E machine into the machined pipe, it is necessary to adjust the extension of the clamping mandrel so that after its installation and fastening inside the machined pipe, there is sufficient space available for the cutting tools themselves and also for their working stroke. If this is not the case, adjust the position of the mandrel and the tool plate with the cutting blade holders. The mandrel extension is adjusted by turning the machine's cutting control ratchet (item B in Fig. 3.2.1.).
- The jaw opening of the clamping mandrel must be adjusted so that the mandrel with jaws can be freely inserted into the machined pipe. Ideally, set the jaw opening diameter to be 5 mm smaller than the inner diameter of the machined pipe. Make the adjustment by turning the machine's clamping screw (item C in Fig. 3.2.1.).
- Now insert the entire prepared machine into the machined pipe with the mandrel first and use the machine's clamping screw (item C in Fig. 3.2.1.) to center the machine in the axis of the machined pipe and secure it by tightening the clamping screw properly.

Installation and adjustment of cutting tools

The clamped and centered Stinger Model E machine must be equipped with cutting tools according to the operation you want to perform. This means chamfering, face alignment, or internal countersinking and calibration.

● Important: It is always better to perform operations on opposite tool holders at the same time. In pairs. The forces required to perform the operation are better distributed and the machine is not overloaded. This means, for example, equipping one holder with a chamfering tool and the other with a pipe face alignment tool. Or, for example, if we only want to align the pipe face, equip both holders with the same tool!

Proceed as follows:
- Clamp the appropriate cutting tool in the tool holder so that its cutting edge is in the same position as the machined edge of the pipe wall.
- Carefully seat the cutting tool and tighten it in the jaws of the tool holder using the screw (item A in Fig. 4.4.2).
- Proceed in the same manner for the second tool.
- For more information on the correct machining procedure, see Chapter 5.4. Machining.

5.4. Machining

Important:
The activities described in this chapter must only be performed after the Stinger model E machine has been adjusted and prepared in accordance with the previous chapters.

As already mentioned, the Stinger machine can perform up to three operations simultaneously. These are edge alignment, chamfering, and internal countersinking—calibration of the inner diameter of the pipe.

Important:
Some Stinger machine models have speed control. Set the maximum speed for normal machining. Other, lower machine speeds are only used for machine setup and the first run into the material!

Aligning the pipe end
Use a 0º cutting tool.

- Install the 0º cutting tool for face alignment in any tool holder (item D in Fig. 3.2.1).
- Turn on the machine and move the cutting tool toward the machined edge by turning the machine's cutting control lever (item B in Fig. 3.2.1.).
- If the edge of the pipe is not square, the cutting tool will only touch the edge of the pipe being machined in certain places. By machining gradually, you will achieve a situation where the cutting tool machines the entire circumference of the pipe edge. At this point, machining is complete and the pipe edge is aligned.
- If the pipe needs to be shortened further, continue machining until the desired level of machining is achieved.
- For pipe end alignment, it is recommended to use two alignment knives in opposite holders. This distributes the load on the machine and drive more evenly and eliminates the risk of one-sided overload of the machine.

Creating a bevel
Use cutting tools according to the required bevel angle of 30º or 37.5º.
(Or a custom tool, if necessary).

- Install the cutting tool with the desired bevel angle in any tool holder (item D in Fig. 3.2.1.).
- Turn on the machine and, by turning the ratchet control (item B in Fig. 3.2.1), move the cutting tool toward the machined edge.
- If the edge of the pipe is not rectangular, the cutting tool will only touch the edge of the machined pipe in certain places. By machining gradually, you will achieve a situation where the cutting tool machines the entire circumference of the pipe edge. Continue in this manner until the entire edge of the pipe has been machined.

A chamfer made in this way is machined without a so-called blunt edge (root). This means that the chamfer is made right up to the very edge of the pipe (to the sharp edge). If you want to leave part of the pipe edge without a chamfer, i.e. with a blunt edge, proceed as follows:

- Now completely remove the chamfering cutter, or simply slide it slightly out of the tube in the holder.
- Install the 0º alignment knife in the second tool holder (item D in Fig. 3.2.1.) and machine the desired bevel.
- This completes the bevel. If you now reinstall the beveling blade close to the machined edge, the Stinger Model E will be adjusted for repeated operation. Each subsequent bevel will be machined with the same parameters without having to repeat the initial settings described above! Please note that this only applies to repeated machining of pipes of the same dimensions!
- Now slightly loosen the mandrel clamp with the screw (pos. C in Fig. 3.2.1) and remove the machine from the machined pipe. This completes the operation.
- For chamfering operations, it is also recommended to use two chamfering blades in opposite holders. This distributes the load on the machine and drive more evenly, eliminating the risk of one-sided overload.

Internal countersinking/calibration
Use a 15º internal countersinking blade.
(Or a custom tool, if necessary).

- Install the cutting tool in any tool holder (item D in Fig. 3.2.1) so that the cutting edge is inside the pipe and the tip of the tool almost touches the inner edge of the pipe.
- Turn on the machine and, by turning the ratchet control (item B in Fig. 3.2.1), move the cutting tool towards the machined edge.
- If the inside of the pipe is not perfectly symmetrical, the cutting tool will only touch the edge of the pipe being machined in certain places. By machining gradually, you will achieve a situation where the cutting tool machines the entire circumference of the pipe edge. Continue in this manner until the entire edge of the pipe has been completely machined.

Cooling of cutting tools
We strongly recommend cooling/lubricating cutting tools during machining. This prevents machine overload, improves the quality of the machined surface, and significantly extends the service life of cutting tools. For cooling or lubrication, we recommend using standard coolants for chip machining, or cutting oils in spray form or applied by other means.

Important:
Avoid overloading the machine. Overloading can be caused by:

- **blunt or damaged cutting tools**
- **excessive strength of the machined material**
- **excessive pressure exerted on the tool during cutting.**
- **Excessive pipe wall thickness**

6. ACCESSORIES

Cutting tools
Cutting tools are available for the Stinger machine in HSS or with replaceable cutting inserts.

	Chamfering	Face alignment	Internal countersinking	Notes
HSS	30º, 37.5º	0	15º	HSS blades can be easily modified for other shapes and bevel angles by yourself. For example, J bevel
VBD (HM)	30º, 37.5º	0	-	

For further information, contact your supplier or refer to the manufacturer's catalog or website.

7. MAINTENANCE

7.1. Recommendations

Important:
Maintenance personnel must be qualified technicians.

Never work on moving parts of the machine, even with tools or other objects.
It is strictly forbidden to remove, modify, or tamper with the safety devices on the machine. The manufacturer accepts no responsibility for the safety of the machine in the event of such actions.

Always use only original spare parts.

Caution:
Always wear work gloves when performing maintenance on the machine. Only perform maintenance operations on a machine that is switched off and disconnected from the power supply.

Before and after each work shift, and then as needed during the shift, clean the clamping mandrel, cutting tool holder mechanism, and compensation jaw with compressed air.

Caution:
When using compressed air for cleaning purposes, wear safety goggles and never use a pressure exceeding 2 bar.

Use the tools supplied with the machine for adjustment and maintenance operations.

7.2. Lubrication

To ensure proper operation, it is necessary to regularly lubricate the cutting tool holder mechanism and the clamping mandrel mechanism. Use a suitable lubricating and preservative spray for lubrication. Lubrication and preservation must be performed at least once a week.

⚠ Caution: When operating the machine in areas with particularly hazardous influences of AD and above, increased protection of the machine against electric shock must be provided!

In the event of a malfunction, the power supply must be switched off immediately.
Work on the electrical equipment of the machine may only be carried out by an electrical specialist or persons subordinate to him who are supervised by this specialist to ensure that the work is carried out in accordance with the applicable regulations.

⚠ Caution:
None of the parts on which maintenance and repairs are being carried out may be live. These disconnected parts must be checked with a two-pole measuring device to ensure that they are not live, then these parts must be earthed and adjacent parts that are live must be insulated!
Ensure that the power is turned off by disconnecting the machine from the power supply.

8. SPARE PARTS

8.1 How to order spare parts

Spare parts orders must include the following information:

- machine type;
- serial number;
- description of the required part and its number
- quantity.

An overview of spare parts for a specific type of Stinger model E machine can be found in the Technical Sheet document that was supplied with the machine.

A copy of this manual is supplied with every Stinger model E machine.

Manufacturer's and Distributor's Address:

N.KO spol. s r.o.
a Member of Richtr Group
Táborská 398/22
293 01 Mladá Boleslav
Czech Republic – Europe Union
Phone: +420 326 772 001 fax: +420 326 774 279
email:nko@nko.cz

USA Distributor's Address:

BEVELER USA INC.
Business Office, Workshop, Warehouse (PA)
(a Member of Richtr Group)
511 Parkway View Dr,
Pittsburgh, PA 15205
8:00 am to 4:00 pm EST
Toll Free Number: 1-800-973-1138
info@bevelerusa.com