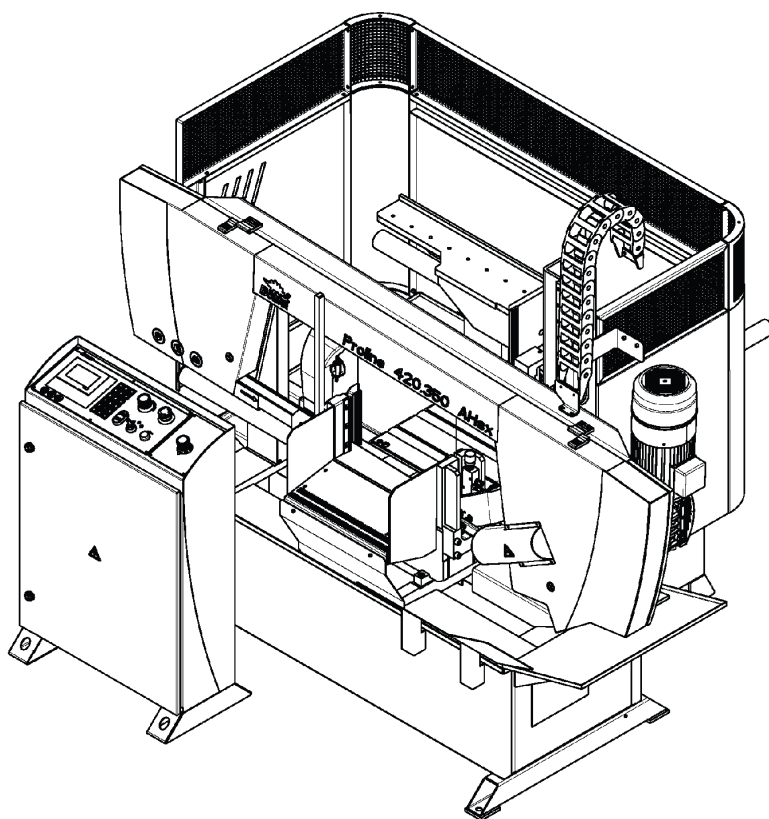




Proline 420.350 ANC

Operating instructions

**Before transporting and using the machine,
please read the instructions thoroughly!**

Service and information

Your BOMAR dealer:

Direct BOMAR contact:

BOMAR spol. s r.o.
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We are available:

Mondays to Fridays

7⁰⁰ – 16⁰⁰

Version:

1.22 /Febr. 2021
rev. 1

BOMAR, spol. s r.o. © – Subject to modifications and amendments.

EC/EU Declaration of Conformity

1) 2) We:

BOMAR, spol. s r.o.
Těžební 1236/1
627 00 Brno, Czech Republic
 Id. No: 48908827
declare herewith

that the following designated device based on its conception and construction as well as the design launched by us meets the relevant basic safety requirements of the decrees of the government.

This statement applies exclusively to the machine device in conditions in which it was brought to the market. It does not apply to parts subsequently added by the end user or to modifications performed subsequently by the end user.

In the event of any device modification not approved by us this declaration shall lose its validity

Name: Band Saw

Type : Proline 420.350 ANC

Serial number: 100-2000

Manufacturer BOMAR, spol. s r.o., Těžební 1236/1, 627 00 Brno

Product data

Determination: for cross dividing and cutting of rolled and towed bars and profiles made of steel, stainless steel, non-ferrous metals and plastics

Description: Stand, table, cutting unit with the saw band and drive, clamping device, cooling system, el. switch board with control panel.

Pneumatic ☒ NO ☐ YES ☐ Hydraulic ☐ NO ☒ YES ☐ Control system ☐ NO ☒ YES ☐

Technical data: Cutting rate 20–120 m.min-1
 Cutting angle 0°
 Total dimensions in mm (lxwxh) 2280x2017x2000
 Supply voltage 400 V TN-C-S, 400 V TN-C or 230 V TN-C
 Total power requirement 5,6 kW
 Weight 1300kg

Documentation:

Technical documentation for this machine device was elaborated in compliance with Government regulation no. 176/2008, Annex 7, part A.

The device meets relevant requirements of the given directives: 2006/42/EC
 2014/30/EU

The applied harmonized standards, National standards and technical specifications:

ČSN EN ISO 12100:2011	ČSN EN ISO 16093:2018	ČSN EN ISO 16093:2018
ČSN EN ISO 4413:2011		ČSN EN 60204 -1 ed.3:2019
ČSN EN 55011 ed.4+A1:2017	ČSN EN 61000-6-2 ed.3:2006	ČSN EN 61000-6-4 ed.2+A1:2011

The product is safe on condition of the common and determined usage.

The conformity judging was performed according to §12, art..3a), of the Law no. 22/1997 Coll. as amended.

BOMAR, spol. s r.o.
 Těžební 1236/1, 627 00 Brno
 Czech Republic
 IČO: 48908827
 DIČ: CZ48908827



Alfred Pichlmann, Managing Director

Brno, 15.02.2021

Point of issue, datum

Name and function of the responsible subject, signature

1) Name, address and identification number of the subject issuing the conformity declaration (producer of importer)

2) Person authorized to complete the technical documentation

!

If the equipment is installed without safety equipment offered by BOMAR, spol. s ro or its agents and used by the customer (or buyer) then EC declaration loses validity.
 EC Declaration of conformity is valid only if customer (buyer) installed the BOMAR safety equipment with the machine or with some other with equivalent safety device in accordance with current applicable regulations and standards.
 All machine elements and components that were built into the device by BOMAR, spol. s ro have been declared "identical" to a safety device, as offered by BOMAR, spol. s ro or its agents.

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1. **Bezpečnostní pokyny / Sicherheitshinweise / Safety notes**

The operating instructions must be read by the person, who keeps in touch with the machine before transportation, installation, using, servicing, reparation, stocking or removal!

The operating instructions include relevant information. The operator must familiarise himself with the install and operation, safety notes and machine servicing, because reliability and service life must be reached. The operating instructions must avoid risks, which are linked to work on the machine.

The machine operator must be familiar with the installation, operation and maintenance of machines and also with the safety instructions. Before transporting and using of the machine, please read the instructions thoroughly!

Attention!
The operating instructions must be available at the machine! Keep the operating instructions in good condition!

1.1. Machine determination

The band saw **Proline 420.350 ANC** is determined for cutting and shortening of rolled bars and drawn bars and profiles from steels, stainless steels, non-ferrous metals and plastics **with no angle cutting**.

Combustible materials are excluded for cutting! Any other usage and operation outside this range are unauthorized and the manufacturer/supplier does not accept any responsibility for any damages resulting from such misuse. **The operator has full responsibility!**

The machine is equipped with safety and protective guarding for operator and machine protection. Nevertheless, this safety and protective guarding cannot prevent injury. Service personnel must read this chapter and comprehend it, before he starts to work on the machine. **Always keep instructions about work safety!** Service personnel must take into account other aspects of the risk, which refer to the ambient conditions and the material.

1.2. Protective suit and personal safety

Wear tight fitting overalls! Loose fitting clothes may be caught with machine parts and cause serious injury.

Wear protective gloves! Material cuts and saw band have sharp edges and may cause serious injuries.

Attention!
Gloves you can use only at working material replacement (saw band)! The machine and accessories must be inactive! If the machine is running, you must not wear gloves! It is dangerous, because some parts of the machine can catch gloves!

Wear protective shoes with non-skid soles! The unsuitable shoes may cause balance loss and following injury. Falling work pieces may cause serious injuries too.

Wear protective goggles! Chips and cooling liquid may damage your eyes.

Always wear ear protections! Most of the machines emit up to 80 dB and may damage your hearing.

Do not wear jewellery and always tie back long hair! Moving machine parts can catch jewellery or loose hair and may cause serious injuries.

Operate the machine only when you are fit enough to work. Illnesses or injuries diminish concentration. Avoid machine work, which may compromise the safety of you and your colleagues!

Avoid machine work, which may compromise the safety of you and your colleagues!

Attention!
Consider the safety signs on the machine. Do not remove or damage them! Keep these labels still readable!

1.3. Safety notes for machine operator

Attention!
Machine can be operated by person older than 18 years!
Machine can be operated only person physically and mentally fit for this activity

Machine can be operated only by one person.

Machine operator is responsible for presence of other persons by the machine.

The person, which is controlling the machine using control equipments of the machine (control panel or another control equipment) mustn't oneself or with help of another persons manipulate with the machine or with the cutted or another way processed material.

Keep instructions and orders about work safety!
Read the operating instructions, before you start to work on the machine! Keep the operating instructions in good condition!

Close covers before the machine starting and check, if the covers are not damaged. Damaged covers must be repaired or changed. Do not start the machine, if the cover is removed! Check, if the electric cables are not damaged.

Attention!
Do not connect the machine to electricity if the door or any covers are removed. Do not touch the high voltage electrical equipment (transformers, motors, terminals or wiring).

- Check that the power cables are not damaged.
- Do not hold the material for clamping to the vice and for cutting!
- Do not operate with the buttons and the switches on the control panel, when you have gloves!
- For machine starting take care, that there is nobody in the working area of the machine (it means in the working area of the vice, the saw band, the saw arm etc.).
- In no circumstances touch the rotating elements.
- Work on the machine only when the machine is in good condition!
- Check at least once in a shift, if the machine is not damaged. If the machine is damaged, you must bring the machine in order and you must inform your superior!
- Keep your working area clean!
- Ensure sufficient lighting in the working area.
- Take off the spilt water or the oil from the floor and dry it.

- Do not touch the cooling liquid with bare hands!
- Do not set the nozzle of the cooling liquid, when the machine is started on!
- Do not remove the chips from the working area of the machine, when the machine is started on!
- Do not use the compressed air for the machine cleaning or for the chips removing!
- Use the protective instruments for chips removal!

1.4. Safety notes for the servicing and repairs

Attention!

Only a qualified professional can carry out the servicing and repairs of the electrical equipment (e.g. fuse replacement etc.)! Take special care during the work with electrical equipment. High voltage shock can have fatal consequences! Always follow the work safety instructions! Otherwise, there is possibility of heavy injury!

Switch off the main switch and lock it, before you start service work! If you have the Practix type of machine, disconnect it from electrical network. This way you eliminate a possibility of starting the machine accidentally.

Take care when manipulating the frequency converter. It is still energized for 20 minutes after machine shutdown.

Always adhere to the safety instructions!

Only an authorized professional can carry out the servicing and repairs.

For parts replacement, use only those, which are identical with the originals. Otherwise, there is possibility of health hazard.

Use only recommended types of hydraulic oils, oils and lubricants!

Do not remove or lock the limit switches or any other safety equipment!

Any use of the saw, accessories or machine parts other than that intended by BOMAR, spol. s r.o. company is not permitted. The guarantee on this product will be lost afterward and BOMAR, spol. s r.o. takes no responsibility for damage caused.

Do not turn the machine on if all covers are not in place!

1.4.1. Safety notes for the servicing and repairs on hydraulic unit

Caution!

Repairs and maintenance of the hydraulic system is allowed to be carried out only by a qualified person who was entrusted to make the maintenance, and who has sufficient knowledge of the hydraulic circuit to perform the specific tasks according to his or her entrustment. If you do not have sufficient knowledge, do not intervene in the hydraulic circuit, but contact the manufacturer or the manufacturer's authorized service.

Compliance with the principles of cleanliness is basic requirement for trouble-free operation of hydraulic equipment. Hydraulic components are products made with high accuracy, and any contamination leads to a reduction lifetime or even malfunction. The consequences are very difficult to remove and expensive.

Always use clean tools. Parts and fasteners, which are part of a hydraulic circuit, never put away the dirty surface. The best cleaning agent is crepe paper, because the fibers of the cleaning cloths can also cause malfunction.

Protective cap from the threaded chamber remove just before the assembly of the unit.

Hoses and pipes before mounting flush with gasoline or other cleaning agent and blow compressed air.

All fittings must be properly tightened. However, do not raw power.

1.5. Safety notes for the cooling

Attention!

- *When handling cooling agents always wear hazardous fluid-proof gloves!*
- *Wear impervious protective gloves when handling with a cooling liquid!*
- *Wear protective goggles!*
- *Cooling liquid can get in contact with your eyes and may cause permanent severe injuries*

1.5.1. Instructions for first help

Pull off and safely remove polluted, soaked clothing.

For breathing, go out in the fresh air or look for first aid treatment.

Wash with water or use crèmes for contact with the skin.

Flush with water for eyes and look for first aid treatment.

For swallowing, drink a lot of water and induce vomiting. Look for medical help.

1.6. Safety instructions for laser barriers

Machine for its function using laser sensors for control purposes.

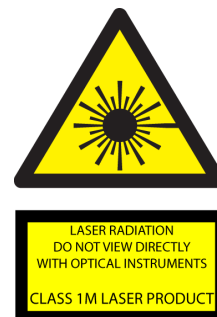
Laser sensors for control purposes are located on the feeder.

In the vicinity of the laser ray source is installed security sticker.

It is forbidden to look to the laser ray!

Safety classes of lasers:

1M – laser barriers



Attention!

It is necessary for correct functionality of a laser to regularly check the patency of the laser ray on the sensor and to clean the laser from impurities (clean rag + spirit) after each shift. Be careful during the cleaning in order the laser was not been scratched and broken!

1.7. Safety notes for Swarf conveyor (optional accessories)

Swarf conveyor is an optional accessory of the machine, this article is valid just for the machine which is equipped with this device.



Attention!

It is forbidden to enter the swarf conveyor area if the saw is in operation. All maintenance and other works on the swarf conveyor could be done only on equipment which has been switched off.

For control of the swarf conveyor - see Chapter „Machine control“.

1.8. Safety machine accessories

The machine is equipped with safety accessories. It protects the operator from injuries and the machine before damage. The safety accessories are blocking accessories, emergency switches and covers.

Check once in a week the function of the safety accessories. If the safety accessories are functionless, you must stop work and repair or change the safety accessories.

Enhanced risk!

Do not come into or intervene in the cutting area. Otherwise, there is possibility of heavy injury.

1.8.1. Emergency Stop Switch

Emergency Stop Switch is used for emergency switching – off the machine in case defect or health hazard.

By pressing **Emergency Stop Switch** will immediately stop all dangerous machine movements.

If any damages or fault appears, immediately press Emergency Stop Switch!

It is possible to release the pressed button by twisting of the upper part of the button.



The **Emergency Stop Switch** is placed at the control panel of the machine.

1.8.2. Arm covers

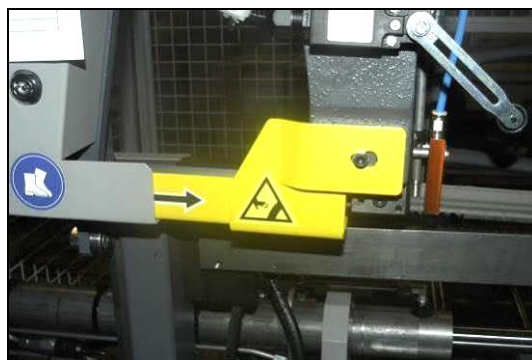
If the cover is opened during operation, the limit switch is opened and the band saw is stopped. The band saw is not possible to start in set mode.



The band saw is stated to the operation, when the covers is closed!

1.8.3. Saw band cover

This protective cover envelops the saw band in the area from guiding cube to the arm.



Never switch on the saw band driver if this cover is not mounted!

1.8.4. Brush cover

This cover covers the brush which is intended for cleaning of the saw band from impurities.



Never switch on the saw band driver if this cover is not mounted!

1.8.5. Saw band stretching and rupture inspection

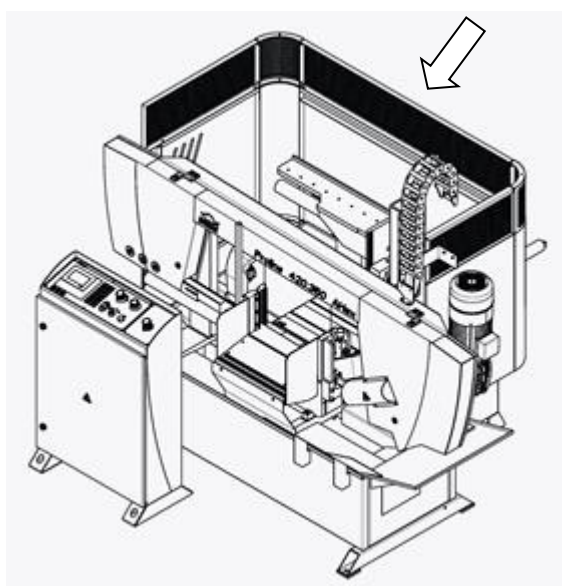
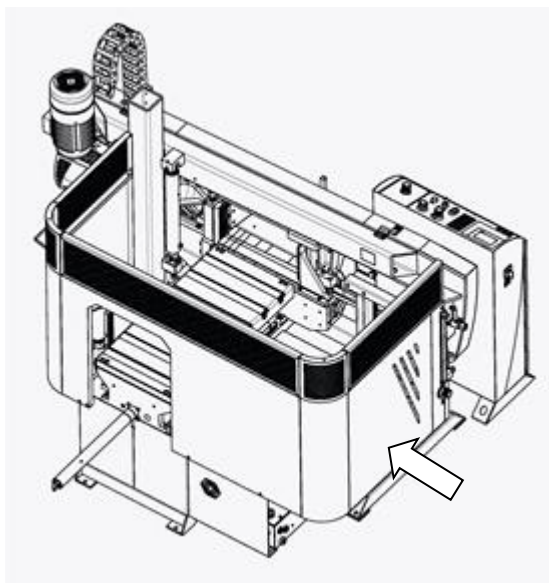
This device checks the saw band tension and causes immediate machine stop if the band incidentally ruptures.



The device includes a limit switch. Its adjustment is described in chapter „Servicing and adjusting“. Check the switch carefully and periodically – adjust it if necessary.

1.8.6. Protective fencing

The protective fencing prevents persons from entry and intervention in the device working area during the working cycle of the machine.



The doors of the protective fencing are protected with end (limit) switches. If any end switch is unconnected the machine is stopped.

1.9. Umístění bezpečnostních značek / Verteilung der Sicherheitszeichen / Position of safety symbols

PO:

Noste pevnou pracovní obuv
 Tragen Sie Sicherheitsschuhe
 Wear fixed protective shoes



CZ:

Přečíst návod k použití
 Bedienungsanleitung lesen
 Read the operating instructions



OBS:

Noste ochranné brýle a sluchátka
 Tragen Sie eine Schutzbrille und Gehörschutz
 Wear protective goggles and headphones



SP:

Směr pohybu
 Bewegungsrichtung
 Direction of motion



NS

Nebezpečí stlačení
 Pressungsgefahr
 Crushing hazard



HV

Hlavní vypínač
 Hauptschalter
 Main switch



NE

Nebezpečí úrazu
 elektrickým proudem
 Verletzungsgefahr vom
 elektrischen Strom
 Electrical hazard

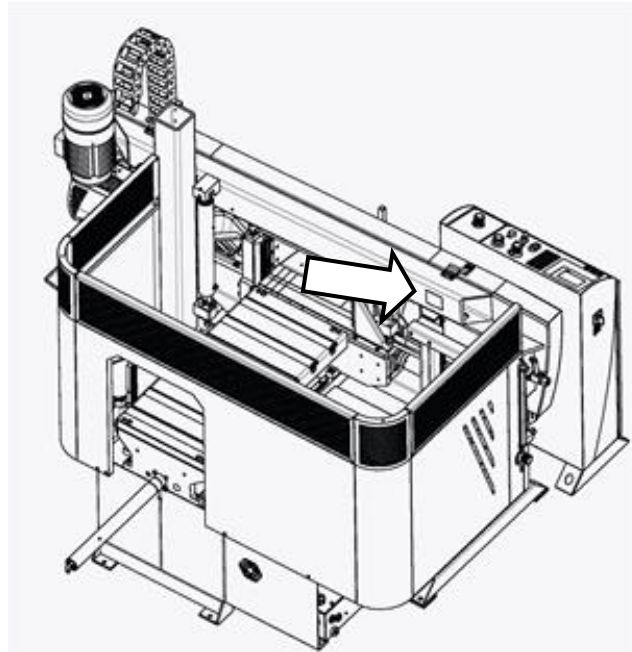


NR:

Nebezpečí říznutí
 Schnittgefahr
 Cutting or severing hazard

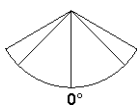


1.10. Umístění štítku stroje / Maschinenschild position / Position of machine label3



2. **Dokumentace stroje / Dokumentation der Maschinen / Machine documentation**

2.1. Technická data / Technische Daten / Technical data

Hmotnost stroje / Maschinengewicht / Machine weight:				
• Hmotnost / Gewicht / Weight	1300 kg			
Rozměry stroje / Maschinengröße / Machine size :				
• Délka / Länge / Lenght	2280 mm			
• Šířka / Breite / Width	2017 mm			
• Výška / Höhe / Height	2000 mm			
Elektrické vybavení / Elektrische Ausrüstung / Electical equipment:				
• Napájení / Versorgungsspannun / Supply voltage	~3 x 400 V, 50Hz, TN-C-S			
• Příkon / Gesamtschlusswert / Total Input	5,6 kW			
• Max.jištění / Max. Vorschaltsicherung / Max. Fuse	16 A			
• Krytí / Schutzart / Protection	IP 54			
Akustický tlak / Schalldruckpegel / Acoustic pressure:				
• Proline 420.350 ANC	L _{Aeqv} =76,3 dB			
Pohon / Atrieb / Drive:				
• Typ / Typ / Type	91.001.053 00086182			
• Napájení / Versorgungsspannung / Supply voltage	~3 x 230/400V, 50Hz			
• Výkon / Leistung / Output	3 kW			
• Jmenovité otáčky / Motornenndrehzahl / Nominal speed	1440 min ⁻¹			
Hydraulické zařízení / Hydraulikeinrichtung / Hydraulic equipment:				
• Typ / Typ / Type	92.001.070 S001 058 2			
• Výkon / Leistung / Output	4 MPa / 1,1 kW			
Chladicí zařízení / Kühlmiteleinrichtung / Cooling equipment:				
• Typ / Typ / Type	91.020.032 – PA70/120 + filter			
• Obsah nádrže / Volumen vom Kühlmittel / Capacity	40 l			
Rozměr pásu / Sägebandedimension / Band size:				
4780×34(32)×1,1 mm				
Jeden Zdvih / Vorschublänge Einfachhub / One Upstroak::				
600 mm / 440 mm (svazkovač/ obere spannung/ upper clamping				
Řezná rychlost / Schnittgeschwindigkeit / Cutting speed:				
20–120 m/min.				
Řezné rozsahy / Schnittbereiche / Cutting size:				
				
0°	Ø350 mm	420×350 mm	420×350 mm	350×350 mm

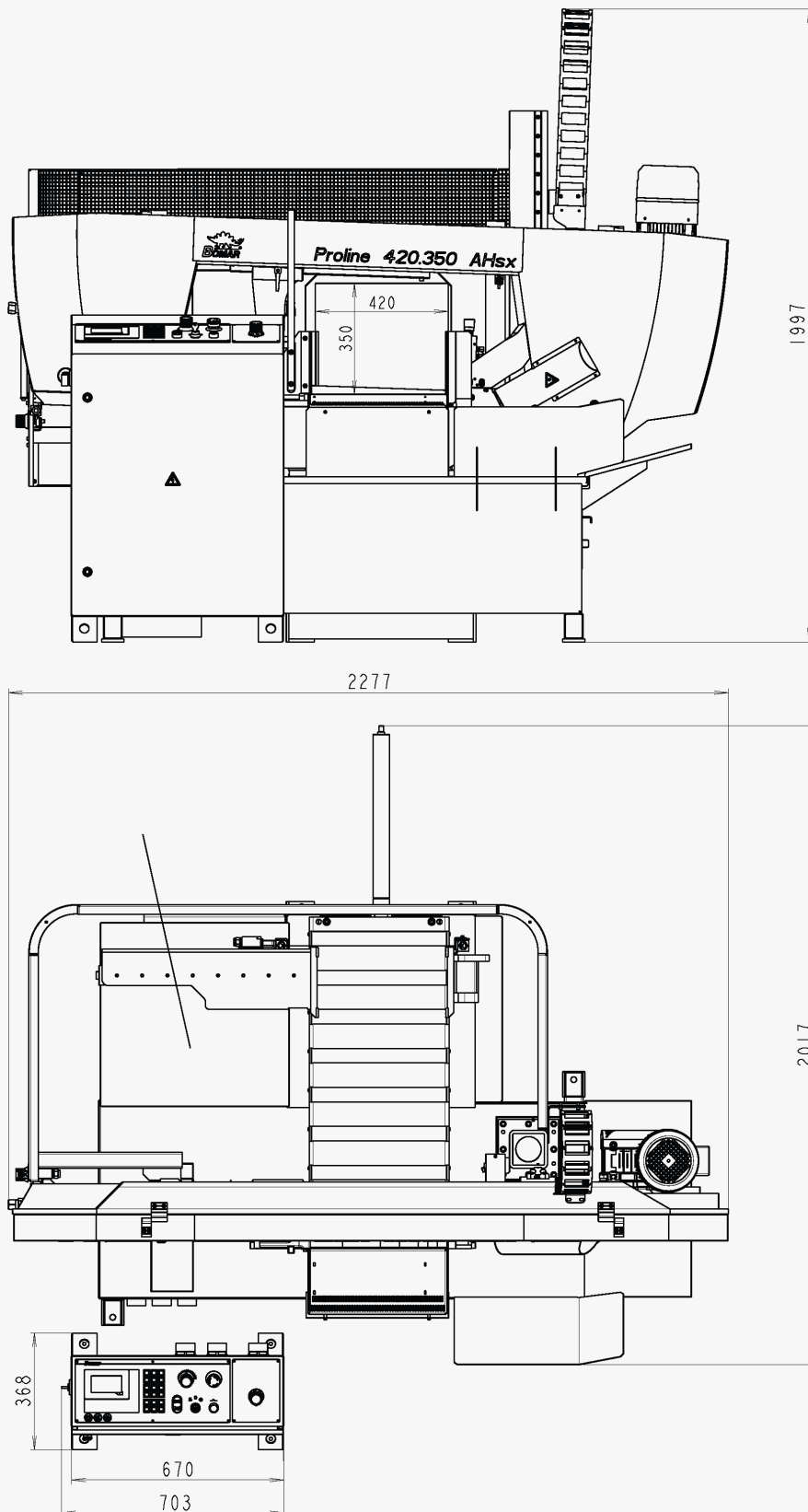
Warning:

If the material detection device is installed on the machine then maximal workpiece height is 10 mm shorter.
If machine has bundle device then material maximal height is half.

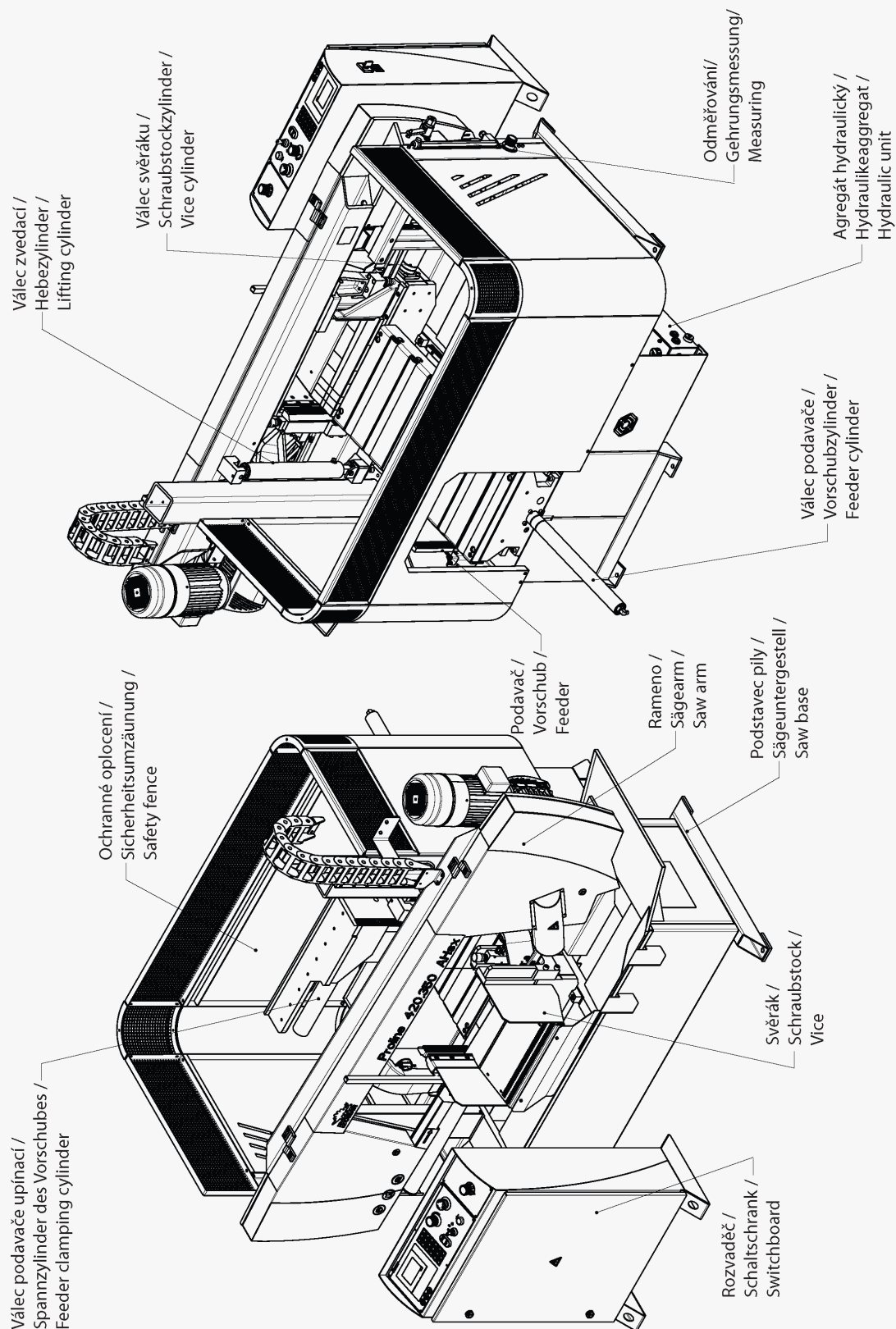
Level of acoustic pressure:

Equivalent level of acoustic pressure A (noise) at operator position are $L_{Aeqv}=76,3$ dB. Mentioned values are levels of emission which doesn't have to represent safe levels. Factors which influence real level of acoustic pressure on machine operator are: working place characteristics, cut material, saw band. These factors have significantly influence on acoustic pressure.

2.2. Rozměrové schéma / Aufstellzeichnung / Installation diagram



2.3. Popis / Beschreibung / Description



2.4. Transportation and stocking

2.4.1. Conditions for transportation and stocking

Keep recommendations for the manufacturers for transportation and stocking! If the recommendations are not kept, damage can occur to the machine.

- Don't use a forklift truck for handling the machine, if you do not have license for it!
- Don't move under suspended loads! Fault in lifting device may cause serious injury.
- Keep a safe distance from the machine during the transport.
- Temperature of the air from **-25°C to 55°C**, for a *short term* (max. 24 hours) temperature of the air until 70°C
- Do not expose the machine to radiation (for example microwave radiation, ultraviolet radiation, laser radiation, x-ray radiation). Radiation can cause problems with the machine function and deteriorating condition of the isolation.
- Take measures, to prevent damage by dampness, by vibrations and by shakes.

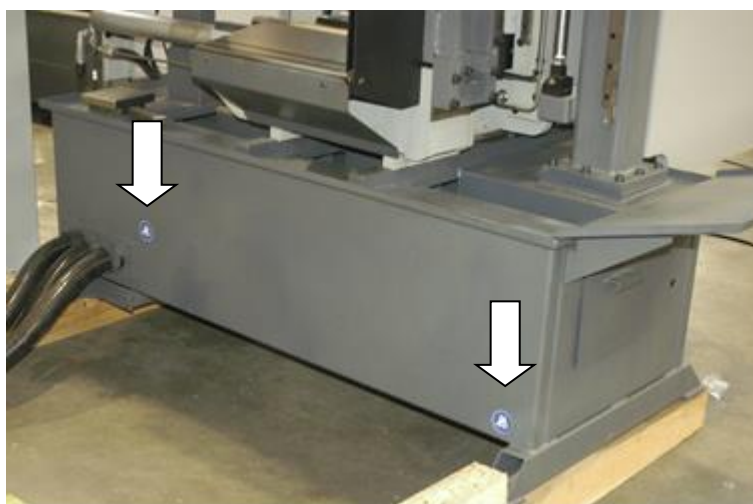
2.4.2. Transport and stocking preparations

- Close the vice and thoroughly oil all blank surfaces.
- Lower the saw frame to the lowest position.
- Make sure to empty the machine of all traces of the cooling agent.
- Fasten all loose parts securely to the machine.
- Pack and wrap the control desk securely to avoid damage during transport.
- To transport the machine must be absolutely bolted to a pallet! Ensure that the pallet was strong enough to carry the machine!

2.4.3. Transport and stocking

- Handle the machine only with the hand pallet truck or the forklift truck! Use the lifters of the truck according to the Transport schema.
- Place the forks of a fork lift truck according to these marks!





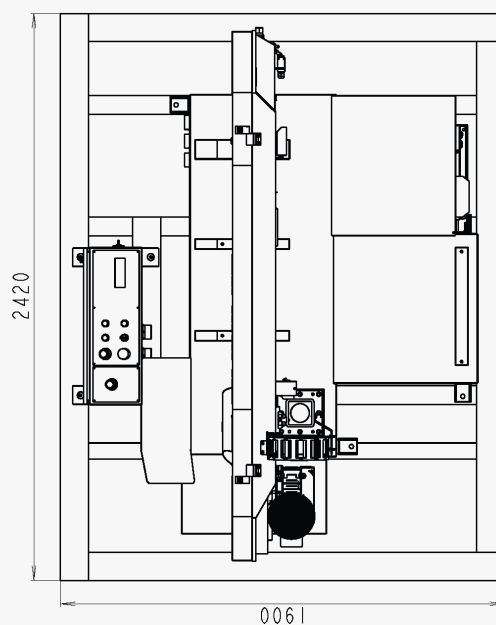
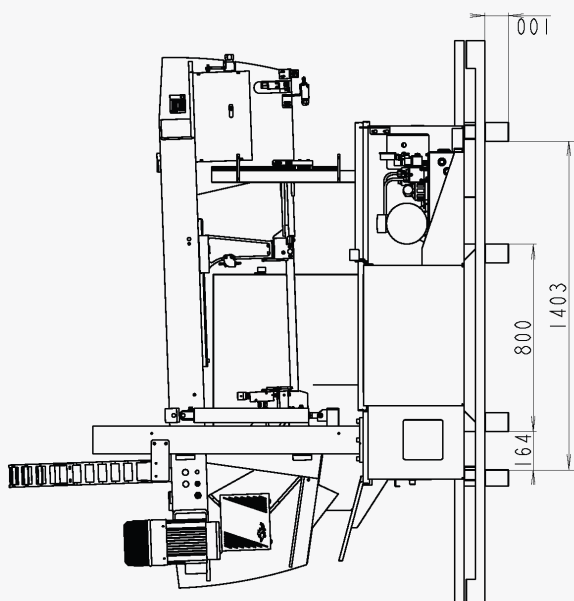
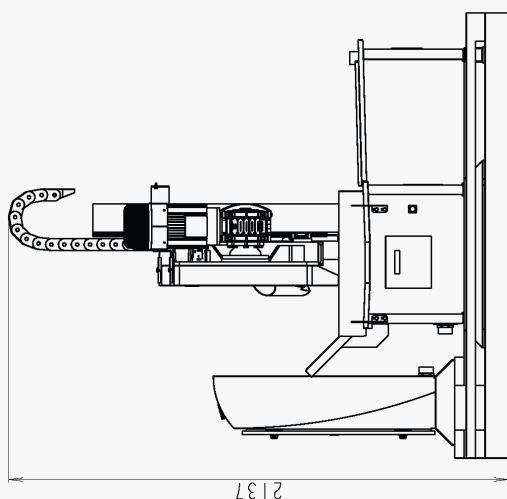
- If the hand pallet truck or the forklift truck is not available it is possible to use suspension cables and the crane. The machine is equipped with screw threads M16 for fixing the shackles.
- Make sure that the hand pallet truck; the forklift truck or the crane and the suspension cables had sufficient capacity. Use only shackles with appropriate capacity..
- Make sure that the van or the trailer had sufficient capacity.

- The machine must be properly secured during transport, to not tip over or fall from the transport vehicle.
- Screw on the palette to the floor of the van or the trailer.
- Be careful that the machine is not damaged during transportation.
- It is forbidden to handle the machine any other way (for example by, lifting by the saw frame of the band saw), than it is written in this operating instructions, the machine can be damaged!

Store the machine only under the conditions specified in this manual to prevent damage to the machine

2.5. Transportní schéma / Transport schema / Transport scheme

Dokumentace stroje
Dokumentation der Maschinen
Machine documentation



2.6. Activation

2.6.1. Machine working conditions

Attention!

If the ambient temperature drops below 15 °C is required before operating the machine to have switch on hydraulic unit around 10 minutes and then made several motion few times (for example, in manual mode) by all hydraulic cylinders. The reason is to heat hydraulic oil to the operating temperature for proper function of the pressure switches (and choke).

Keep the conditions of the manufacturer for machine operating! If recommendations are not kept, damage can occur to the machine.

The manufacturer warrants the correct function of the machine for these conditions:

- At temperature air from **10°C to 40°C**, the temperature average during 24 hours must **not exceed over 35°C**.
- At relative dampness of the air in the extend from 30% to 95% (not concentrate). Altitude lower than 1000 metres.
- Do not expose the machine to the radiation (for example microwave radiation, ultra-violet radiation, laser radiation, x-ray radiation). Radiation can cause problems with the machine function and deteriorating condition of the isolation.

2.6.2. Band saw unpacking and assembling

Remove the packing from the machine and unpack all parts.

Attention!

Switch off the main switch and lock it, before you start assembly! Otherwise, there is possibility of hazardous machine starting.

If the hydraulic unit is outside the machine (the machine only connected hoses and cables), it needs to be placed and mounted on a solid basis (floors, etc.). The mounting holes are used on the bottom (bases) of the tank.

Attention!



The scale for setting of saw arm height may be misaligned during transport. Check the scale position and the correct operation of the limit switch in all positions before use.

Feeder drive cylinder assembly

For transport, the fixing screws of the feeder drive cylinder are dismantled and the cylinder is partly inserted in the machine.



Before commissioning of the machine, the cylinder must be mounted again.

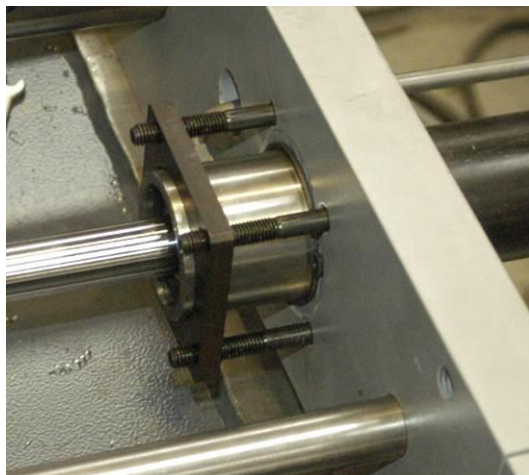
Procedure:

Manually (without using control elements) shift the carriage to the farthest position from the saw.

The cylinder moves out together with the carriage travel.

If the feeder carriage is in the farthest position from the saw, the cylinder can be fixed with four screws included in the packaging

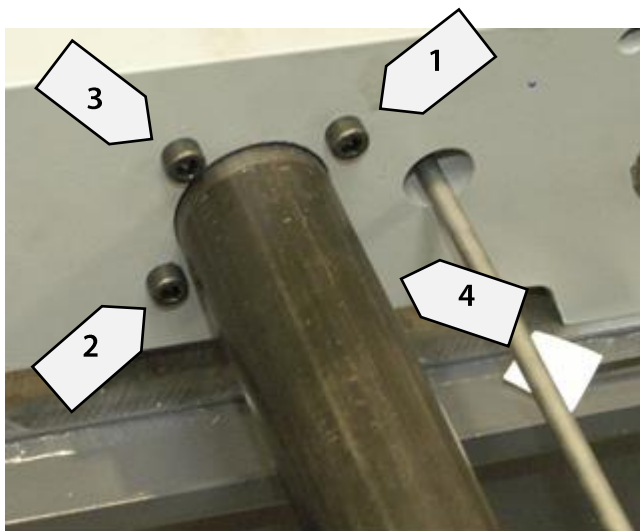




Caution!

To ensure correct position of the cylinder axis in relation to the feeder guide axis, it is necessary to:

- mount and tighten the installation screws for fixing the cylinder only if the feeder is in the farthest position from the saw;
- mount and tighten the individual screws diagonally (crosswise – for principle, see the picture) – not stepwise along the circle.



Otherwise there is a risk of the cylinder axis misalignment with the feeder guide axis, which may cause excessive wear or operational failures.

2.6.3. Machine installing and levelling

Check the floor supporting capacity before machine installing. If the floor capacity does not agree with requirements, you must prepare the necessary base for the machine.

Minimal requirement:

machine weight – Proline 420.350 ANC – 1300 kg

+ weight of accessories

+ maximum weight of material

- The machine must be levelled at the horizontal position. All feet of the machine must touch with the floor after levelling

- The machine must be levelled by means of the calibrated spirit level. Spirit level is put on the vice area. Set the roller conveyors according to the spirit level.
- For machine levelling, take care that there is sufficient available space for operation, repair work, servicing of the machine and handling the material..
- The machine including appended parts and accessories must be visible from the place of operation.

2.6.4. Putting into operation of the hydraulic unit

Before the first run check:

- the tank is filled with the prescribed oil to upper limit
- pump is not running in the opposite direction. Hydraulic generator must not be operated in opposite directions of rotation for longer than 5-10 seconds.
- connections are properly tightened, pipes assembled without internal stress
- wiring matches with electrical and hydraulic diagrams
- the electric motors (pump and cooler) are properly connected and have the prescribed rotation
- the hydraulic accumulator with nitrogen gas to the specified value
- aux. elements work right (thermometer, level gauge, heater)

First run (Attention – working pressure on securing valve is set by producer in accoring the hydraulic diagram):

- In the short intervals activate an electric pump
- check for leaks and noise
- Bleed the hydraulic circuit
- if possible, test the circuit function with minimum load
- test the electrical equipment
- during operation monitor measuring equipment, noise, height and temperature of oil in the tank
- Upon the first start-up, the devices and distribution system are filled up with oil, and therefore the oil level in the tank drops. If the level drops below the minimum value, you must refill the oil after switching off the device.
- After multiple start-up, the hydraulic unit is ready for operation.

2.6.5. Filling the reservoir with hydraulic oil

Oil regulations and recommendations of the manufacturer in the technical documentation (appendix) are to be carefully observed. For standard power packs we recommend the oiltype OH-HM32 (DIN 51524) of all known oil manufacturers.

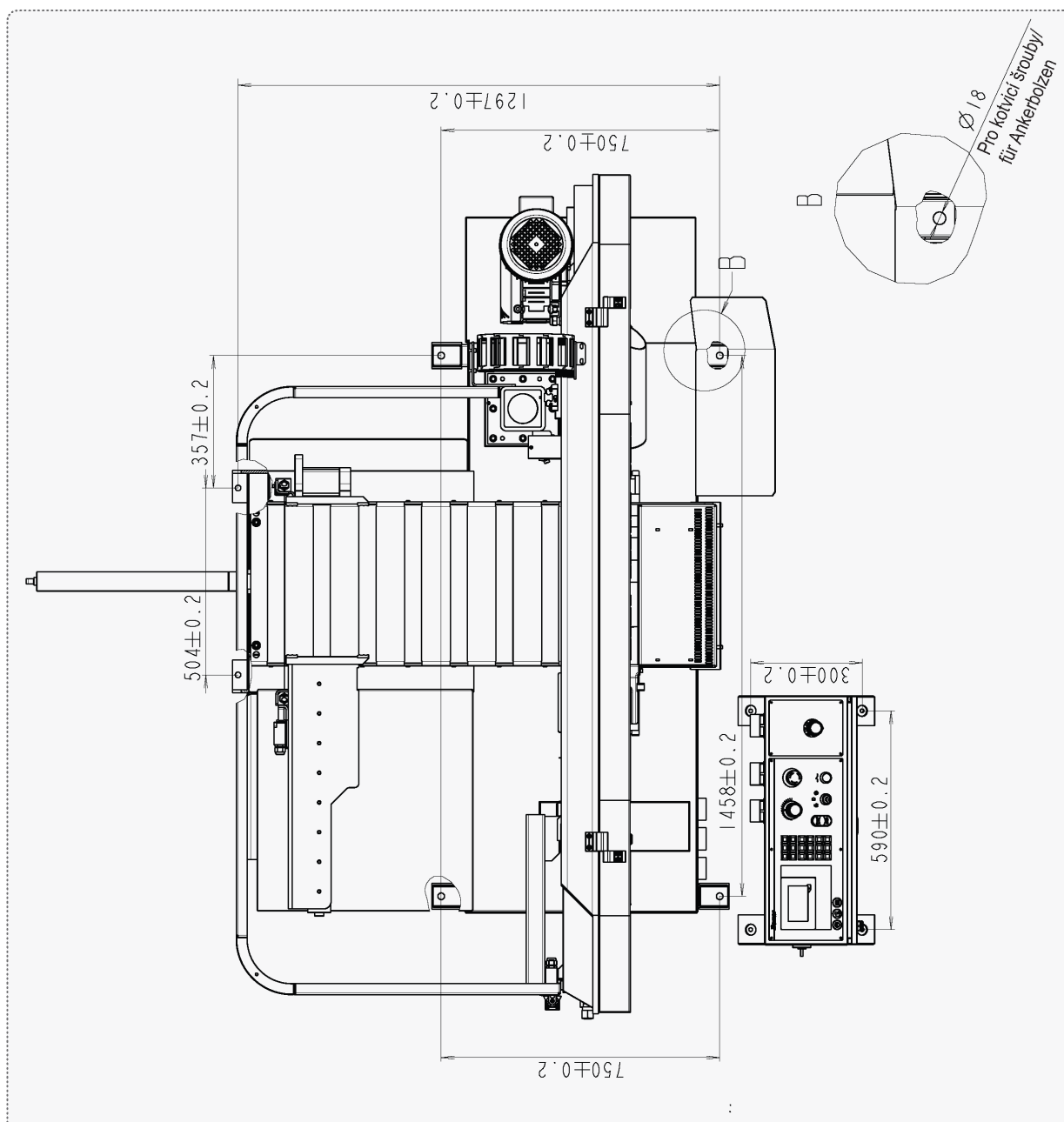
Power packs have to be filled up with clean, pre-filtered oil! The purity of the hydraulic fluid must correspond to the class 10 NAS 1638 (reachable with filter $\beta = 75$)!

Filling from container, such as barrels, buckets, etc. is not recommended or permitted!

The maximum oil level will be shown on the upper marking at the dipstick or the sight level glass. Overfilling has to be prevent. The maximum filling rate of 15 l/min shouldn't be exceed.

Oil type	Kinematic viscosity ν in mm ² /s in relationship to the fluid temperatur					Freezing point
	0°C	20°C	40°C	60°C	80°C	°C
OH-HM 32	220	100	32	15	7	-40
OH-HV 32	180	67	32	17	11	-40

2.6.6. Kotevní plan / Verankerungsplan / Grounding plan



Kotvící materiál / Verankerungsmaterial / Grouding material

- 4× Hmoždina / Dübel / Plug – $\varnothing 12$ mm
- Vrtáno do hloubky / In die Tiefe gebohrt / Drilled to – 95 mm
- Šrouby / Schraube / Screws – M16×135

- Šrouby podložit deskami o min. rozměrech P10×100-100
- Die Schrauben mit Platten mit Minimaldimensionen P10×100-100 unterlegen
- Screws must be bottomed with plates (min. dimensions P10×100-100)

Požadavky na rovinnost podlahy / Anforderungen an die Bodenebenheit / Requirements for floor flatness

± 10 mm / 1 m

2.6.7. Electrical connection

Attention!

Only a qualified professional must carry out the servicing and repairs of the electric equipment! Take special care during work with electrical equipment. High voltage shock can have fatal consequences! Always keep notes about work safety.

Electrical parameters of the machine:

- Service voltage: ~3×400 V, 50 Hz, TN-C-S
- Total input: 5,6 kW
- Max. fuse: 16 A

Before connecting switch off the main switch of the power supply circuit for the machine and ensure dry place when doing connecting works!

Service voltage must agree with the line voltage! Crosscut of the supply line must respond with rated current for max. machine load

Note:

The values of the crosscut of the conductor and the rated current are in the norms.

Note:

The socket with the fork can be used only at the machines with the rated current less than 16 A and total input less than 3 kVA.

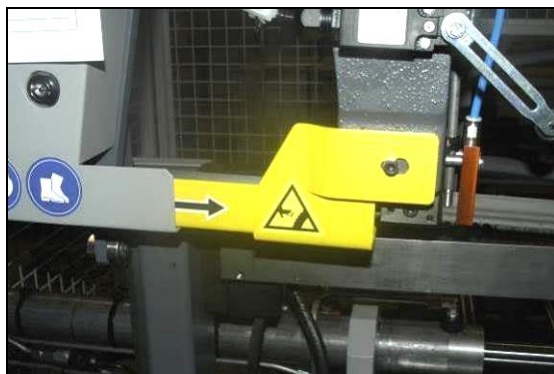
Supply is equipped with a nend part 16 A for connection to power source.

In case the machine is connected with a direct connection, an extra main switch must be added which can be locked in zero position.

Attention!

In this case the extra main switch becomes primary and the main switch on the machine has only secondary function.

2.6.8. Check the direction of the saw band



After the machine has been successfully connected, briefly switch on the machine and put the driving engine of the band in the running position. The direction must be in accordance with the arrow direction on the saw band cover. In case the direction of the saw band does not match, two phases at the terminal strip must be switched.

2.6.9. Check machine connection into electrical network

Attention!

When you connect the machine to the electrical network observe correct connection of all phases!

ENGINE IN IN HYDRAULIC AGGREGATE CANNOT BE OPERATED WITH REVERSE TURNING MORE THEN 10 SECONDS!!!

2.6.10. Filling of the cooling system

Prepare the mixture of the water and the cooling liquid. Keep the concentration specified by manufacturer.

Fill the mixture of the water and the cooling liquid to the tank of the cooling system.

Filling the tank with the cooling liquid, take care that the liquid does not drip out of the tank and the tank does not overflowed.

Keep by manufacturer specified recommendation for adding the anticorrosive agents, the antifreezes or other agents! For mixture of two different mixes can produce toxic and aggressive mixes, which can threaten your health or damage cooling system of the machine!

Note:

If machine is equiped with microniser, fill microniser with prescribed cooling liquid. This made the Microniser ready for use.

2.6.11. Connecting to the compressed air supply (Micronizer, MicroBox)

Connect the machine to the compressed air supply by means of the G1/4 screwing.

Compressed air must satisfy conditions:

- Roughly cleaned and partly dry
- $p_{\min} = 0,4 \text{ MPa}$
- $p_{\max} = 0,6 \text{ MPa}$
- $Pr_{\text{tok}} = 50 \text{ l/min.}$

2.7. Check machine function

Before starting the check machine functions, you must read the chapter „**Machine operation**“. Do not carry out check machine functions, if you do not comprehend meaning of all buttons and all machine functions.

Check, if the machine or some parts of the machine were not damaged during transport.

Check, if covers are installed and functional.

Check by means of the Tenzomat if the saw band is correctly stretched. If it is necessary, you can stretch the saw band according to chapter *Selection and replacement of the saw band*. Values of the saw band stretching are on the Tenzomat.

Switch on the main switch and check the motors and systems (saw band drive, hydraulic pump, cooling pump, chips conveyor).

Open and close the main vice and the feeding vice. Drive the front feeder from the front position to the rear position. Turn the saw frame of the band saw from one outer position to other outer position. Raise the saw frame to the top position and drop the saw frame to the lowest position

Start the machine with the cooling pump and let it run without load until the cooling system will be filled with cooling liquid. As soon as the cooling liquid starts to escape from the nozzles of the cooling system, the cooling system is ready for the operation.

Carry one cycle of cutting without material. Check, if the machine runs with no irregularities. If all machine functions are right, the machine is ready for operation.

2.8. Machine disposal after lifetime

Blown out all service fluids (cooling liquid, hydraulic oil) into designated reservoir. Dismantle machine into separate parts and dispose them in accordance with valid directives.

Packaging material Also dispose in accordance with valid directives.

Packaging and machine parts that contain secondary raw materials can be recycled.

2.9. Saw band

To reduce the risk of injury, refit the saw band cover only after you have installed and tightened the saw band.



2.9.1. Saw band size

4780×34(32)×1,1 mm

2.9.2. Selection of the saw band tooth system

The manufacturers provide the saw bands with constant and variable tooth system. The important factor for selection of the tooth system is length of the cutting canal with respect to the size of the product.

1. *Constant tooth system* – the saw band has parallel tooth pitch all over length. This way is suitable for cutting of solid material.

BOMAR recommended Variable tooth system for band saw.

2. *Variable tooth system* – tooth pitch is variable. Variable tooth system is used for profiled materials and bundle cutting. Variable tooth pitch lowers vibration of the saw band, increases service life of the saw band and quality of the cutting area.

In tables, there are advised type of the tooth system depending on sizes and form of the cutting material.

Footnotes:

Z_pZ – teeth number on one inch

S – tooth with zero angle of the teeth

K – tooth with positive angle of the teeth

Examples of the tooth system marking:

32 S – number „32“ means 32 teeth on one inch (that means constant tooth system), letter „S“ marks teeth with zero angle of the tooth.

4–6 K – number „4–6“ means 4 till 6 teeth on one inch (that means variable tooth system); letter „K“ marks teeth with positive angle of the teeth.

2.9.3. Saw band running-in

To achieve the full life of the blade is recommended to carry out its initial run.

Running-in: Cut the material with the frame lowering reduced to 50% only. When vibrations occur increase or decrease the band speed.

When cutting **large pieces** run the band for 15 minutes approximately.

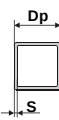
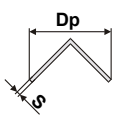
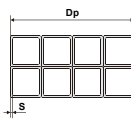
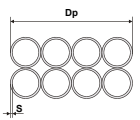
When the band has been run, increase the lowering-speed to normal speed.

The running in of the saw band avoids micro-breaks on the cutting edges of new saw band ensuing from first excessive stress. This would decrease service life substantially.

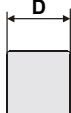
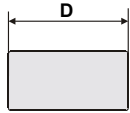
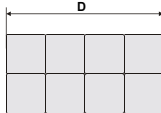
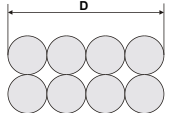


Note: Run regrounding saw bands too.

2.9.4. Tables for teeth selection

SHAPED MATERIAL (D _p , S = mm)						
						
Note: Table shows tooth system selection for cutting one piece of the profile. For cutting of more pieces of the profiles (bundle), you must think of the size of the wall as double size of the wall of one profile (that means, size „S“ equates to 2xS). In table, there are tooth systems constant and variable.						
Size of the wall S [mm]	Tooth system (Z _p Z) Outer diameter of the profile D _p [mm]					
	20	40	60	80	100	120
2	32 S	24 S	18 S	18 S	14 S	14 S
3	24 S	18 S	14 S	14 S	10–14 S	10–14 S
4	24 S	14 S	10–14 S	10–14 S	8–12 S	8–12 S
5	18 S	10–14 S	10–14 S	8–12 S	6–10 S	6–10 S
6	18 S	10–14 S	8–12 S	8–12 S	6–10 S	6–10 S
8	14 S	8–12 S	6–10 S	6–10 S	5–8 S	5–8 S
10	-	6–10 S	6–10 S	5–8 S	5–8 S	5–8 S
12	-	6–10 S	5–8 S	5–8 S	4–6 K	4–6 K
15	-	5–8 S	5–8 S	4–6 K	4–6 K	4–6 K
20	-	-	4–6 K	4–6 K	4–6 K	3–4 K
30	-	-	-	3–4 K	3–4 K	3–4 K
50	-	-	-	-	-	3–4 K

Size of the wall S [mm]	Tooth system (Z _p Z) Outer diameter of the profile D _p [mm]					
	150	200	300	500	750	1000
2	10–14 S	10–14 S	8–12 S	6–10 S	5–8 S	5–8 S
3	8–12 S	8–12 S	6–10 S	5–8 S	4–6 K	4–6 K
4	6–10 S	6–10 S	5–8 S	4–6 K	4–6 K	4–6 K
5	6–10 S	5–8 S	4–6 K	4–6 K	4–6 K	3–4 K
6	5–8 S	5–8 S	4–6 K	4–6 K	3–4 K	3–4 K
8	5–8 S	4–6 K	4–6 K	3–4 K	3–4 K	3–4 K
10	4–6 K	4–6 K	4–6 K	3–4 K	3–4 K	2–3 K
12	4–6 K	4–6 K	3–4 K	3–4 K	2–3 K	2–3 K
15	4–6 K	3–4 K	3–4 K	2–3 K	2–3 K	2–3 K
20	3–4 K	3–4 K	2–3 K	2–3 K	2–3 K	2–3 K
30	3–4 K	2–3 K	2–3 K	2–3 K	1,4–2 K	1,4–2 K
50	2–3 K	2–3 K	2–3 K	1,4–2 K	1,4–2 K	1,4–2 K
75	-	2–3 K	1,4–2 K	1,4–2 K	1,4–2 K	0,75–1,25 K
100	-	-	1,4–2 K	0,75–1,25 K	0,75–1,25 K	0,75–1,25 K
150	-	-	-	0,75–1,25 K	0,75–1,25 K	0,75–1,25 K
200	-	-	-	0,75–1,25 K	0,75–1,25 K	0,75–1,25 K

SOLID MATERIAL (D = mm)						
						
Constant tooth system			Variable tooth system			
length of the cut D	tooth system (Z _p Z)		length of the cut D	tooth system (Z _p Z)		
to 3 mm	32		to 30 mm	10–14		
to 6 mm	24		20–50 mm	8–12		
to 10 mm	18		25–60 mm	6–10		
to 15 mm	14		35–80 mm	5–8		
15–30 mm	10		50–100 mm	4–6		
30–50 mm	8		70–120 mm	4–5		
50–80 mm	6		80–150 mm	3–4		
80–120 mm	4		120–350 mm	2–3		
120–200 mm	3		250–600 mm	1,4–2		
200–400 mm	2		500–3000 mm	0,75–1,25		
300–800 mm	1,25					
700–3000 mm	0,75					

In spite of the proposals above, consider your supplier’s recommendations and ask him for professional advice although the manufacturers often recommend their own saw bands to you.

3. Ovládání stroje / Bedienung der Maschine / Machine control

3.1. Starting the band saw

- »
- Switch on the main switch of the band saw. The main switch is placed on the switchboard side.



After switch-on, the system is initialized and initialization screens appear.

- When prompt appears activate the machine safety circuit with the button on the machine control panel.



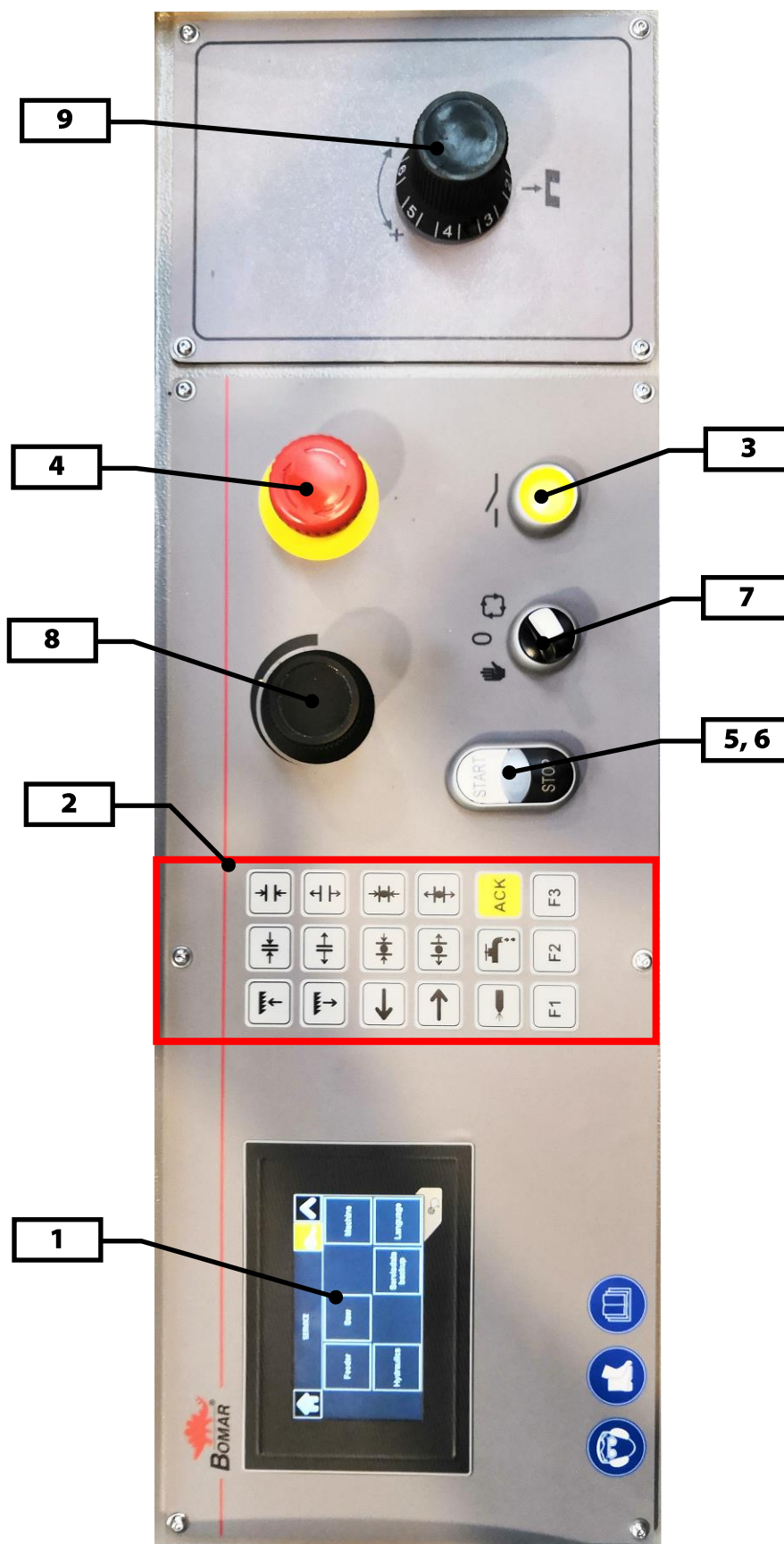
Unless the safety circuit is activated, the machine cannot be started.

If the safety circuit cannot be activated with the button on the machine control panel, check all safety elements.

- After the safety circuit is activated, the first screen of the selected mode appears according to the mode selected (see the mode selector position).
- Reference the machine – see the chapter on the machine referencing.

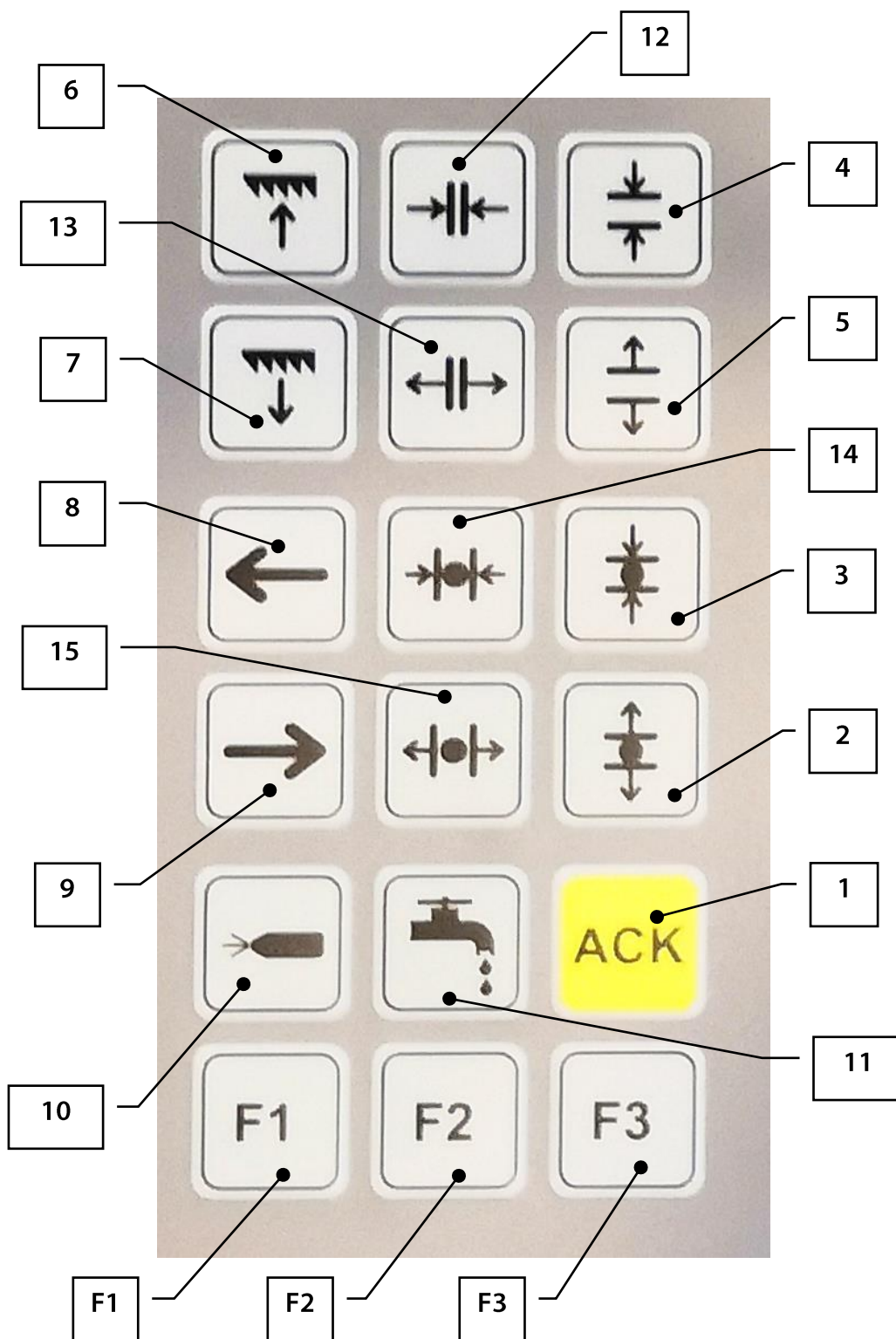
3.2. Control panel

Ovládání stroje
Bedienung der Maschine
Machine control



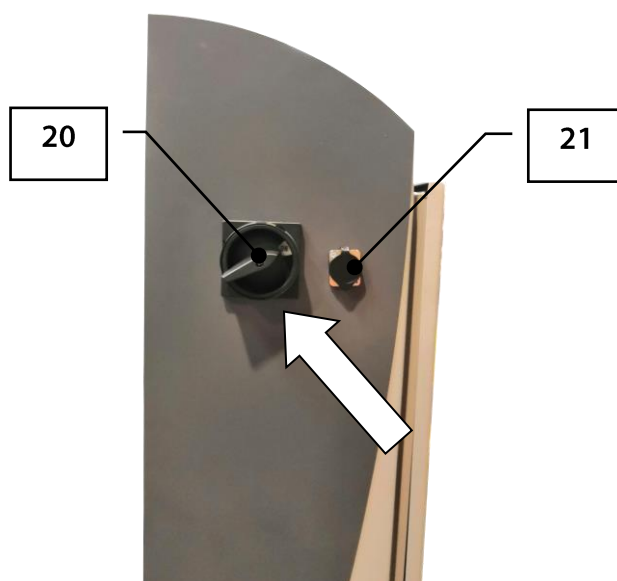
1	Touch screen The touch screen displays the current operating mode and enables dialogue between the machine control software and an operator..
2	Control buttons
3	Safety circuit Switch on the safety circuit by pressing button.
4	Emergency Stop Switch In the case of health or operational safety risk, push the Emergency stop Switch button – all dangerous movements of the machine are IMMEDIATELY stopped.
5	Button START Button push starts the cutting cycle.
6	Button STOP After the button is pushed, the cutting cycle is interrupted or switched off.
7	Machine mode 0 for service and setup  for manual mode  for automatic mode Manual mode In the manual mode, it is possible to: - manually (by pushing buttons) control the individual machine functions - start the semi-automatic cycle by pushing the START button (4); the semi-automatic cycle can be interrupted/ended with the STOP button (6). Automatic mode After the mode is started, fully automatic mode is running according to the preset program. Main menu of the machine Enabling entry in menus in which the service and user setting parameters can be changed.
8	Saw band speed control Turn to change the speed of the saw band. in the range 20-120 m/min.
9	Arm decline to cut speed control By turning the valve, the speed of the arm decline to cut can gradually be controlled (the final working speed in the cut is, however, further influenced by the ADFR setting – thrust to cut control). ATTENTION! If you keep closing the throttle valve too tightly, the valve seat may wear off which causes its leakage. Therefore, close the valve always gently.

3.2.1. Ovládací tlačítka na ovládacím panelu



F1 – F3		Soft key The function is assigned according to the current LCD menu
1		ACK key Quitting – confirmation of faults; if a fault is not confirmed, the machine working cycle cannot be started.
2		Control of the upper thrust of the bundler at the feeder vice (optional accessory) 2 – releasing 3 – clamping
3		
4		Control of the upper thrust of the bundler at the main vice (optional accessory) 4 – clamping 5 – releasing
5		
6		Arm movement Pushing the button moves the arm in the requested direction 6 – upwards 7 – downwards To move the arm, the button must be kept pushed. Pushing key 7 together with key 6 allows rapid movement downwards (if the saw band isn't in material).
7		
8		Feeder movement Po dobu stisku tlačítka se podavač pohybuje zvoleným směrem For the time the button is pushed the feeder is moving in the requested direction. 8 – outwards from the saw 9 – towards to the saw If the STOP button is pushed and held simultaneously with the button for movement of the saw feeder, the MICROFEED in the given direction is activated. If the machine is not referenced, the feeder can not move.
9		
10		Micronization (optional equipment) Button for saw band cooling on/off by means of micronization.

11		Belt emulsion cooling By pushing the button, you switch on/off the cooling emulsion pump
12		Clamping/Releasing main vice 12 - clamping 13 - release
13		If the upper clamping is installed (optional accessory), it is clamped / released together with the main vice.
14		Clamping/Releasing feedservice 2 - clamping 3 - release
15		If the upper clamping is installed (optional accessory), it is clamped / released together with the feeder vice.

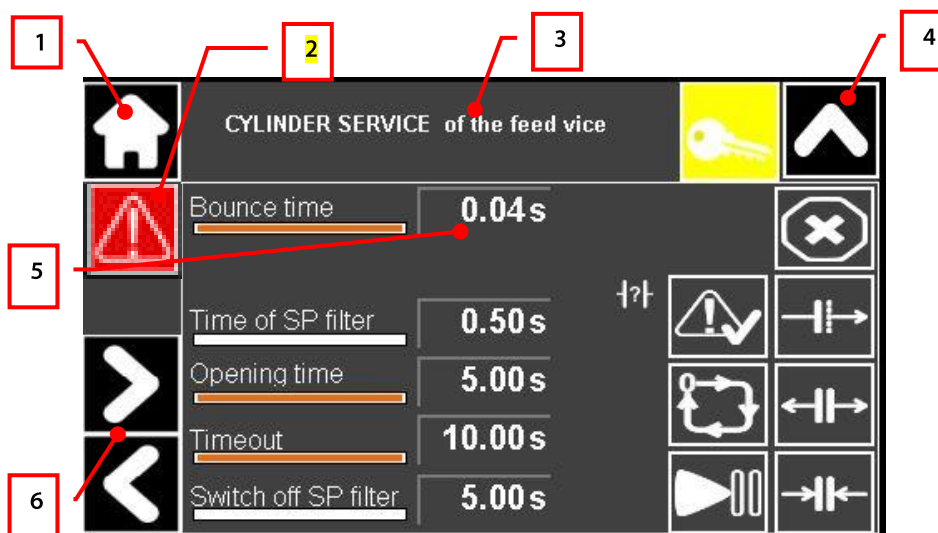


20	Main switch
21	USB port (optional accessories) can be used when retrieving or saving data.

3.3. Screens of the control software – basic description

3.3.1. The basic description of the screens of the control software

Pay increased attention when operating the touch panel. Make your selection by slightly touching the display with a bare finger or stylus designed for touch screen control. By no means use sharp objects or other tools!



(Picture for information only)

Meaning of icons on the touch screens:

1 –return to the main screen

2 – icon indicating errors – if this icon is lit on the display , an error has occurred on the machine. By touching the icon, you can hide the error message and activate control screens..

3 –selected menu name

4 –return to the nearest higher screen in the hierarchy

5 –parameter setting window

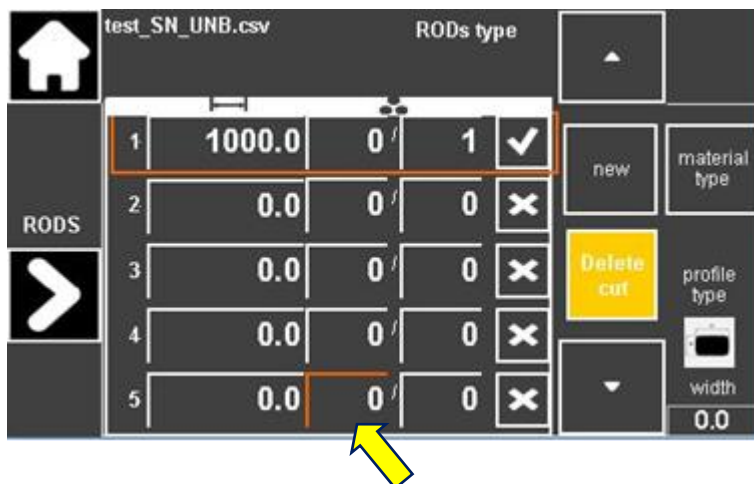
6– browsing between screens at the same hierarchical level (e.g., if parameter control or setting is divided into several screens or if there are more elements controlled or more units to set service parameters)

The individual options on the touch screen can be chosen by **direct touch on the pertinent icon.**

To fill in numeric values or letters, the parameter setting window is used – see, for example, No. 5.

If the window is coloured, it is active for entry of parameters.

Touching of the parameter filling window activates a keyboard which appears on the display.



3.3.2. Touch screen keyboard

Keyboard types:

- a) If only numeric values can be entered in the window, (such as in the window for recipe setting), only the **numeric keyboard** appears:



- b) If both figures and text can be entered in the window, the **combined keyboard** appears:



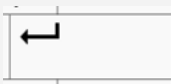
The combined keyboard enables choice whether to display:

- **numeric keyboard – selection 0-9**



- **or a pertinent part of the alphabetic keyboard**



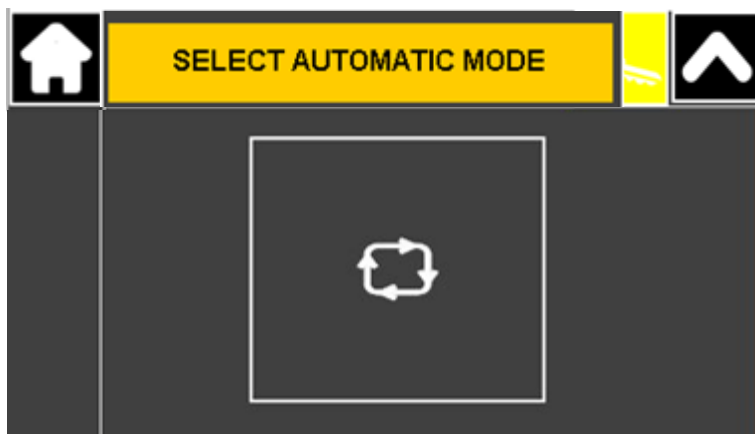
Pos.	Funkce
	Keyboard closing without saving the data entered
	Deletion of data entered in the keyboard window
	Keyboard closing with saving the data entered (confirmation of the value entered)
	Shift function (capital letters and upper case)
	Caps Lock function

3.3.3. Warning (Error) messages

In the title bars of screens

Warning messages appear at the top of the screens to alert the operator to situations that prevent the continuation of an initiated operation or that prevent the continuation of a cycle.

Also, if the mode switch key is in a wrong position and the machine cannot be operated in the displayed mode, a warning appears in the header of the screen:



The warning messages which are displayed in the screen header do not need to be acknowledged, it is sufficient to correct the error state.

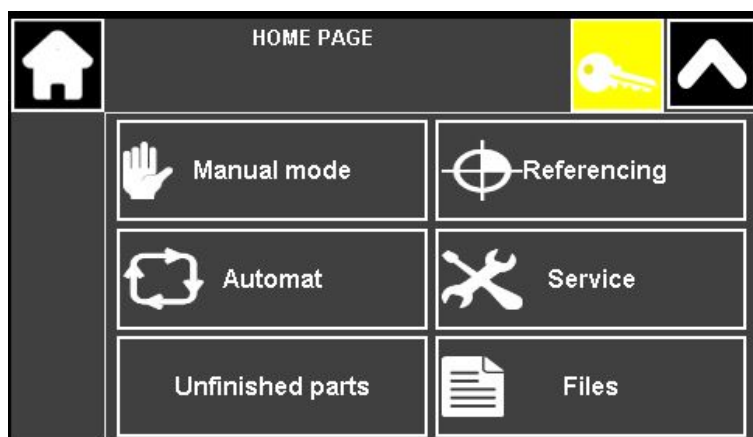
On the screens

If a warning (error) message appears on the screen, eliminate the cause of the error condition and then always acknowledge (confirm) the error message.

Once the cause of the error has been successfully resolved, the error message disappears from the screen after the confirmation.

3.3.4. Main screen of the control software, machine modes

The main screen of the control software shows the basic menu for selection of working modes and other modes and menus necessary to set up and control the machine.



Working modes:

- **Manual mode** – used to control the individual machine functions manually
- **Semiautomatic mode** – used to execute one cut according to the given conditions (accessible from the manual mode)
- **Automatic mode** – used to execute the entire cutting cycle automatically according to the recipe entered

Referencing mode:

- **Referencing** – used to reference the machine – that is, after setting the machine in the operating state.

Other menus:

- **Service** – entry in the menu used for setting the machine parameters
- **Files** – entry in the menu used for administration of recipe files. Recipes are software plans controlling the cutting procedure for final pieces of various lengths in the automatic cycle;
- **Unfinished pieces** – the option displays a table in which incompletely cut pieces are registered, which could not be cut in the “RODS” type automatic cycle.

Displaying of the main screen of the control software

- The main screen of the control software is displayed after the machine is switched on and when the machine mode switch is in the position for manual or for automatic cycle.



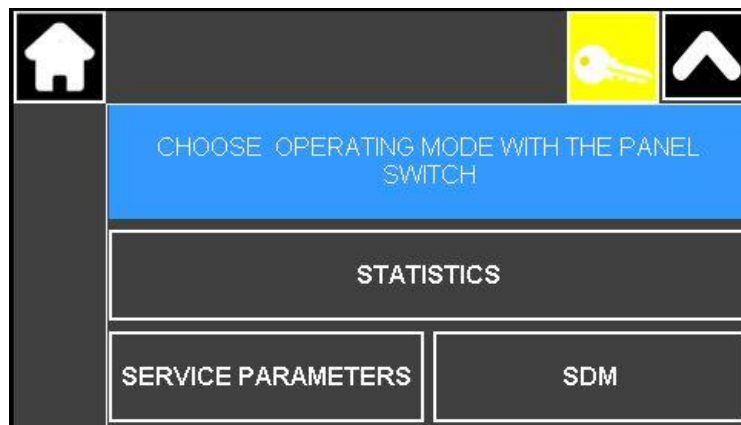
- It is possible to initialize the main screen using the selection  from any screen of control software.

3.3.5. Auxiliary screen of the control software

The auxiliary screen appears after the machine start-up if the mode selector is in the "0" position.

This screen provides access to the machine diagnostics.

This screen also enables opening of the menu screen for setting of service parameters.



Pos.	Function
CHOOSE OPERATING MODE WITH THE PANEL SWITCH	Instructions for further procedure
STATISTICS	Statistic data of the machine
SERVICE PARAMETERS	Setting and modification of service parameters for the cutting process.
SDM	Management diagnostic system – system of the device diagnostics, used for service only

3.4. Complete working cycle of the machine

The complete working cycle of the machine consists of the following steps:

1. Switching on the machine and safety circuits (see chapter "Switching on the machine and safety circuits")
 2. Referencing the machine (see chapter "Machine referencing")
 3. Setting service parameters (see chapter "Setting service parameters")
 4. Adjusting the band saw (see chapter "Adjusting the band saw")
 5. Executing
 - the cut in the semiautomatic mode (see chapter "Semiautomatic mode")
 - or
 - the cutting cycle in the automatic mode (see chapter "Automatic mode" and the "Recipes" chapter)
 6. Executing another cut or cutting cycle, or end of cutting and switching the machine off
- Manual control of the individual machine elements – see chapter "Manual mode".

3.5. Machine referencing

Caution!

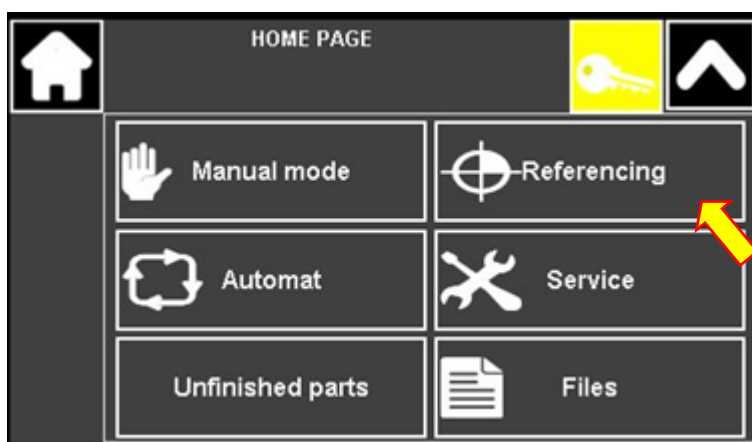
Before starting the referencing, remove all material from the saw and feeder.

Do not reference the machine, if there is any material clamped in any of the vices.

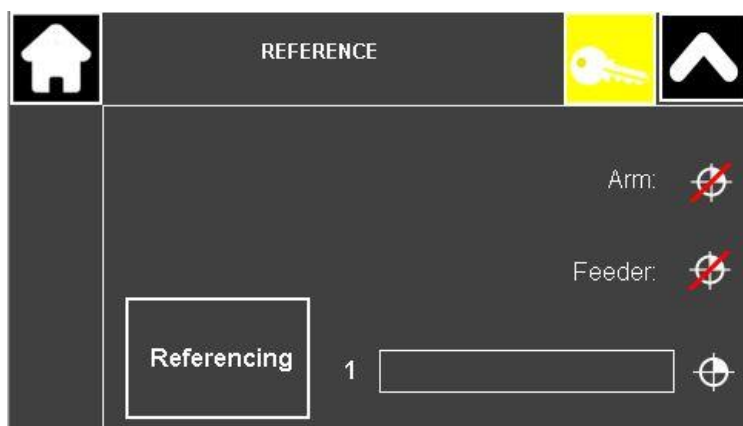
1. Turn the **mode selector** to the manual mode position  or to the automatic mode position. .

Referencing will not be done if the mode selector is in the "0" position!

2. In the main screen of the control menu, choose the **Referencing** option.



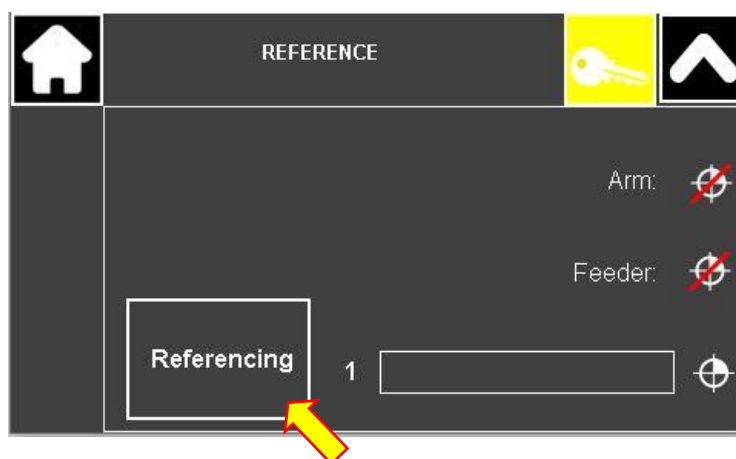
3. This screen appears to display the referencing process:



Pos.	Function
	Start of referencing process.

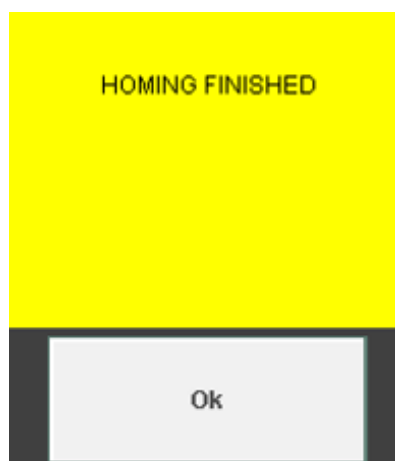
Pos.	Function
	Status bar Referencing process course initialization When referencing is completed, the status bar returns to the beginning.
	Referenced
	Not referenced
1	Number of current step of referencing process If consulting referencing errors, always inform the consultant of the step number in which the referencing was interrupted. Note The referencing process step numbers do not correspond to referencing movements; the process steps also include software testing operations.

4. By pushing the “Referencing” option, start the referencing process.



Referencing will be executed as a sequence of movements of the individual saw units which will be set from the current positions to their reference ones.

Successful end of referencing is indicated by a notice on the control panel display



O.K. – return to the main screen

If referencing of any unit fails, first check the state of the reference position limit switch and the switching counterpart.

3.6. Manual mode

3.6.1. Machine control in the manual mode

The manual mode is intended for manual control of the individual machine elements.

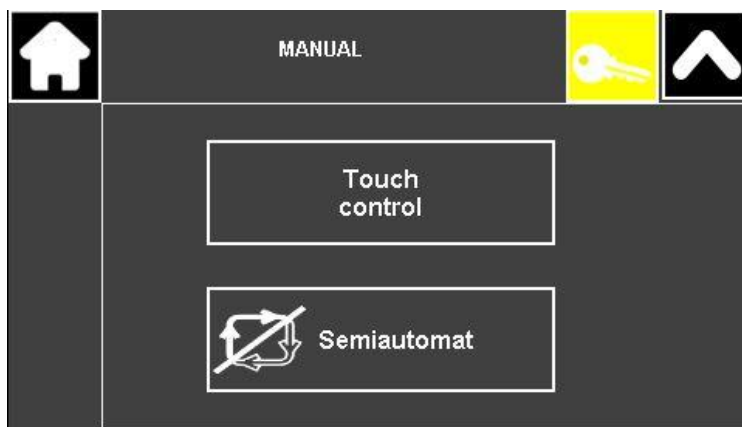
Caution!

Pay increased attention when moving the material towards the saw, there is the risk of collisions particularly during manual operation!

1. To switch the machine into the manual mode, turn the **mode selector to the manual mode position** .

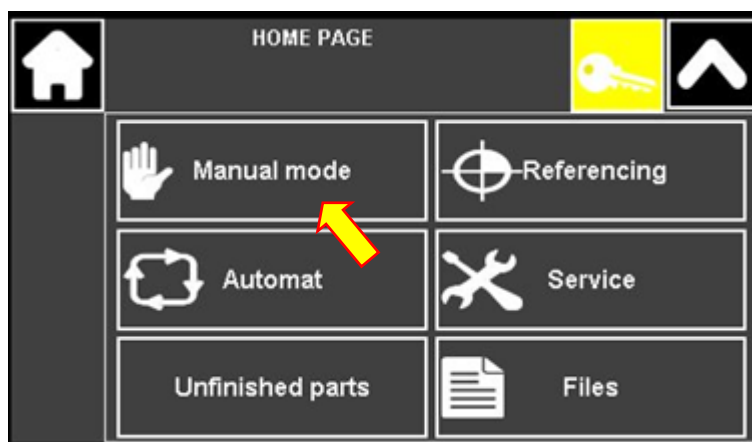
2. A screen with the options appears:

- „Touch control” – to control the particular saw movements
- „Semiautomat” – to control the saw in the semiautomatic mode



Note:

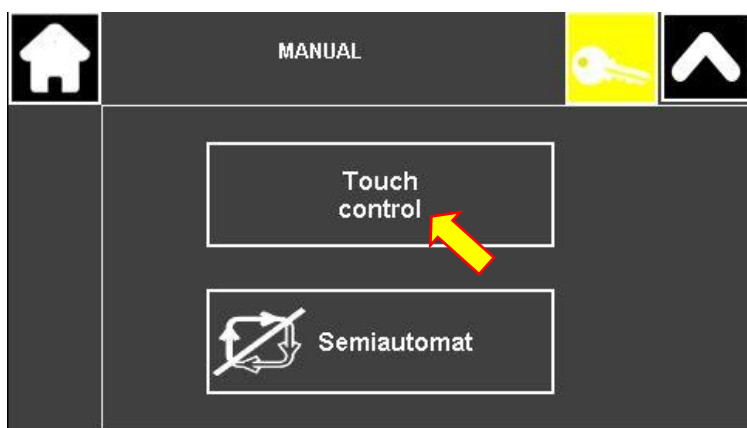
To display this screen, you can also choose **the option for manual mode initiation** on the main screen of the control software:



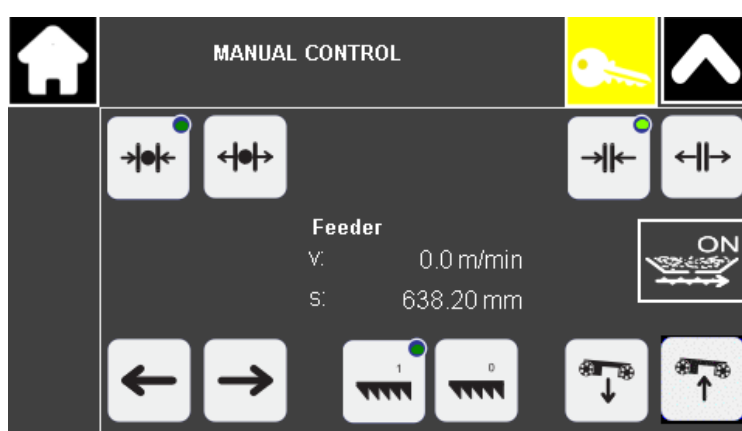
But control elements aren't functional if the mode selector isn't in manual mode

position  !

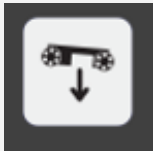
3. To control the machine manually, choose the „Touch control“ option on this screen



4. The following screen is used for manual control of the saw:



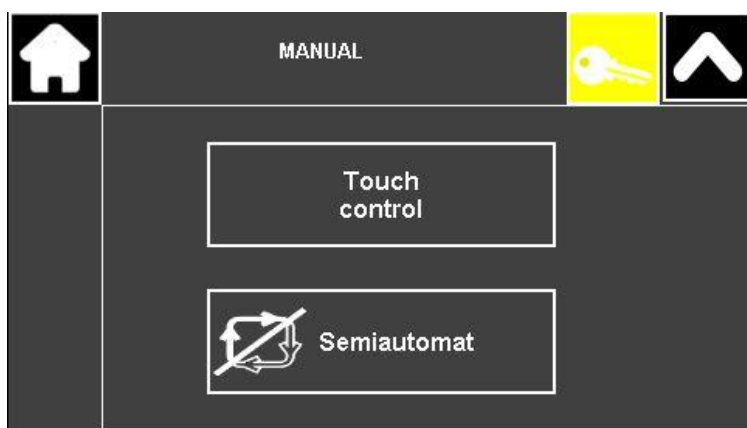
Pos.	Function
	Feeder vice open / close Vice clamping is indicated by lighting the green lamp at the icon. 
	Feeder movement from/to the saw

Pos.	Function
	Main vice open / close Vice clamping is indicated by lighting the green lamp at the icon. 
	Arm upward movement. The button must be pushed continually for the movement time. If the button is released, the movement stops.
	Arm downward movement The button must be pushed continually for the movement time. If the button is released, the movement stops.
Feeder v: 0.0 m/min s: 1136.82 mm	Course of feeder movement v – current speed
Feeder v: 0.0 m/min s: 1136.82 mm	Course of feeder movement s – current position
	Rotate the saw band Rotation of the saw band is indicated by lighting the green lamp at the icon.
	Stop the band motor
Swarf conveyer	
	Activation/ deactivation of the swarf conveyer (optional accessory)

3.7. Semiautomatic mode

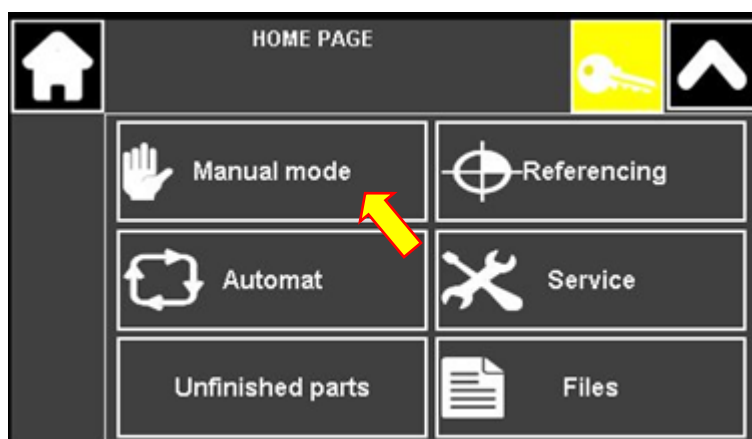
3.7.1. Cutting execution in semiautomatic mode

1. In the manual mode, move the arm all the way up
2. In the manual mode, open the saw vice and feeder vice sufficiently with regard to the width of the material loaded.
3. To switch the machine to the semiautomatic mode, turn the mode selector to the manual mode position 
4. This screen with the options appears:
 - „Touch control” – to control the saw particular movements
 - „Semiautomatic” – to control the saw in the semiautomatic mode



Note:

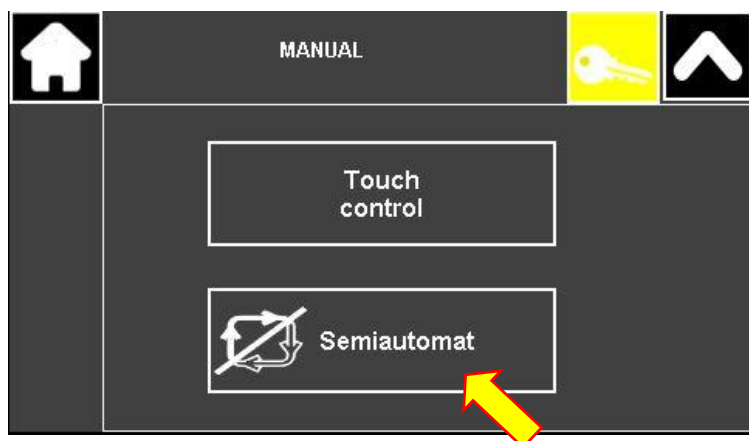
To display this screen, you can also choose the option for manual mode initiation on the main screen of the control software:



However control elements are not functional if the mode selector is not in the position

for manual mode  !

5. To initiate the semiautomatic mode, choose the "Semiautomat" option in this screen



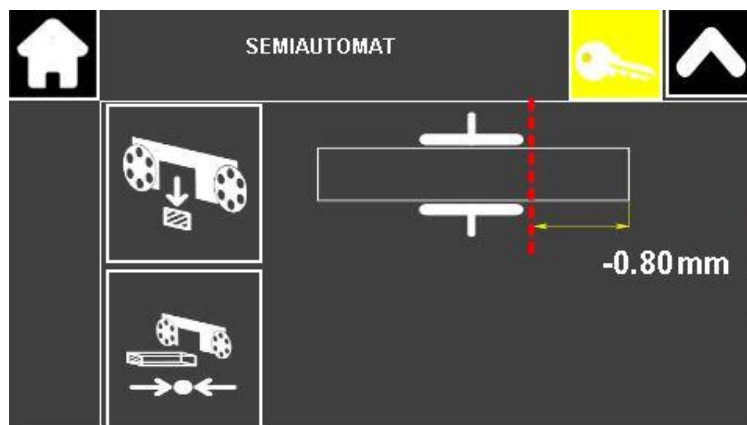
6. The screen appears for control of the machine in the semiautomatic mode, in one of the following variants, a) or b):

a) Invalid material

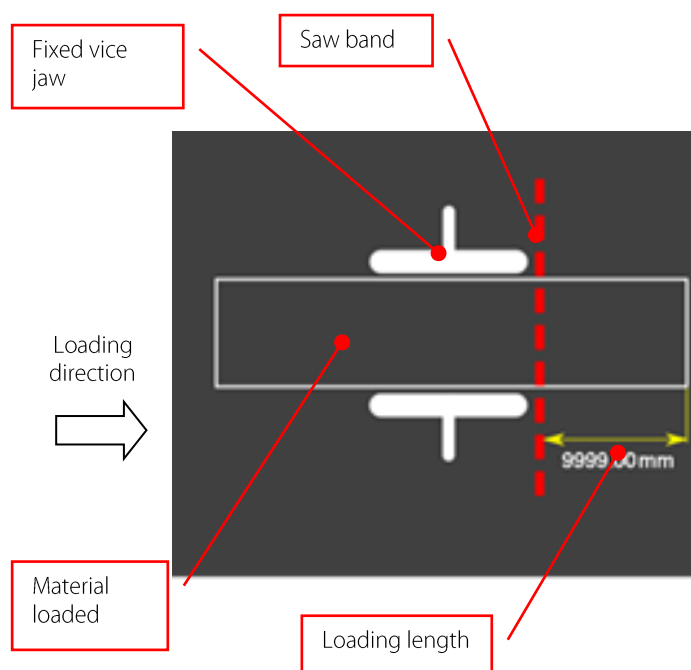


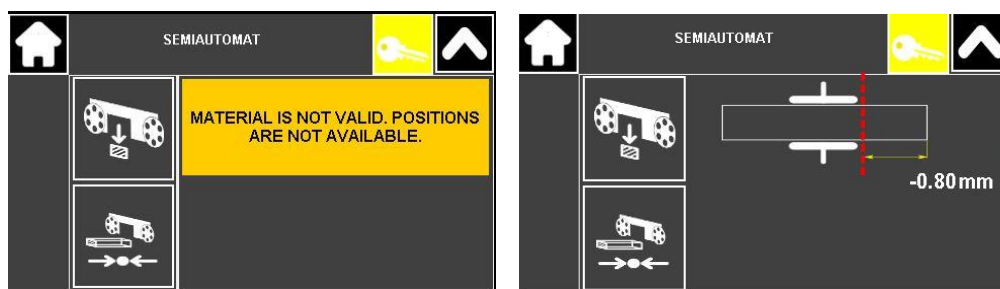
Pos.	Function
	Information that the machine has no information on the material face position.: Without a valid material, the semiautomatic mode enables: - entry of parameters - cutting of material without a length entered To load the given material length in the semiautomatic mode, the material must be valid. Before loading the required material length, cut the material in!

b) valid material



If the material is valid, a sketch of the current state is shown in the box on the right side of the screen





Pos.	Function
	Option for length loading
	Semiautomatic cut setting

Options in the left screen column – options for setting the length loading and initiation of the screen for cutting start – they are only accessible if the mode selector is in the manual mode position!

7. Insert material

The material can be:

- inserted manually under the saw band (into the main vice)
- loaded automatically with the feeder to the given length – see "Loading the required material length in the semiautomatic mode" (known position of the material face)

Caution!

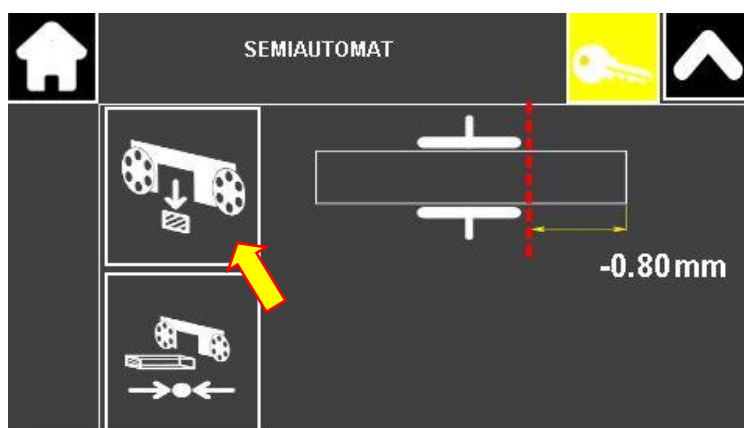
While being loaded, the material must not be loaded to the main vice with the feeder! There is a risk of the material face collision with the main vice!

A new piece of material, on the position of the face of which the machine has no information and which does not reach the main vice area with its face, must always be loaded manually.

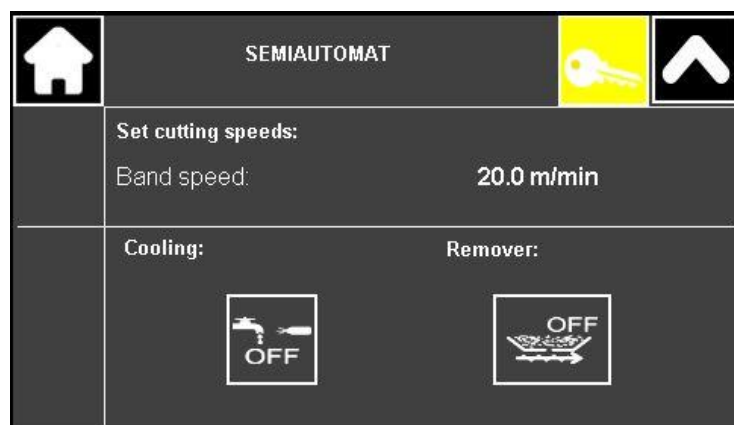
If the material has been cut in, the machine has information on its face position and this face reaches into the main vice area, it can be loaded to the given length automatically.

8. Set the cooling method

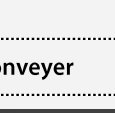
The material cooling method can be set in the semiautomatic-setting screen which appears after you choose the option for setting the semiautomatic cut in the screen for the machine control in the semiautomatic mode



Screen for setting of the semiautomatic cut



Pos.	Function
Set cutting speeds	
Band speed	Set band speed The parameter shows the value of the saw band speed which is set with the controller at the control panel.

Pos.	Function
Cooling	
	Cooling method You can choose the cooling methods by repeatedly pushing.
	
	
	
	 - liquid cooling  - Micronizer cooling (optional accessory)  - without cooling
Swarf conveyer	
	Activation/ deactivation of the swarf conveyer (optional accessory)

The cooling and chip extractor selections are retained even after the machine is switched off and switched on again. If you do not want to change the settings, you do not need to set them again after the machine was turned on.

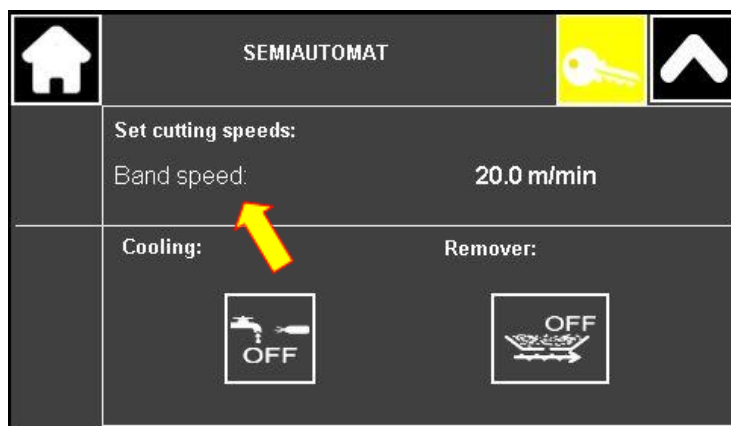
9. **Adjust the initial arm position before the cut** with regard to the material height - recommended adjustment approx. 10mm above the material.

The arm will return to this height after every cut.

See chapter: Band saw adjustment.

10. By means of the potentiometer on the saw control panel, **set the required cutting speed**

The set speed value is displayed on the screen for starting the semiautomatic cut:



11. By means of the valve on the saw control panel, **set the speed of the arm descent to into cut.**
12. **By pushing the START** button on the control panel, **start cutting.**
13. **After pushing START – semiautomatic cut process:**
 - The saw band starts up and the arm starts feeding to cut.
 - While the arm is descending to cut or even during cutting, you can adjust the saw band speed, speed of arm descent to cut and pressure into cut by means of the control elements on the machine control panel
 - On the control panel display, a screen appears with information on the cutting process.

Screen with information on the semiautomatic cut process



Pos.	Function
Cutting parameters	
	Set
Band speed	Set band speed
	Current
Band speed	Current band speed

14. After **cutting** in the semiautomatic mode **is completed:**
 1. The arm automatically returns to the position at which the cut was started.
 2. Completion of cutting in the semiautomatic mode is indicated by a message on the control panel display that the cut has been completed.
15. **Remove the cut-off. Now you can repeat the entire procedure.**

3.7.2. Loading the required material length in the semiautomatic mode

Attention!

Size of burr and unevenness of the material face has an effect on the precision of the length loaded by the feeder!

Attention!

Before loading the material, clear the main vice area! Impurities may affect the first piece length precision.

Attention!

To load the given length, the material must be valid – that is, the machine should have information on the material beginning position – the material must stay clamped at least in one from the vices.

Information on the material beginning position is kept even if the semiautomatic cycle follows on the automatic cycle and the material has remained clamped in at least one of the vices.

1. If the machine reports **invalid material** before starting to load material to the required length in the semiautomatic mode:

**MATERIAL IS NOT VALID. POSITIONS
ARE NOT AVAILABLE.**

...**make trim cut of the material**

To make trim cut before loading of the length in the semiautomatic mode, proceed as follows:

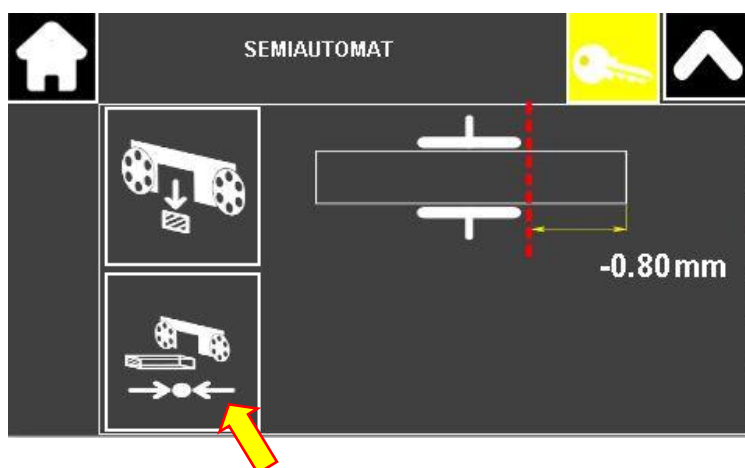
- a) load the material under the saw band manually

Attention!

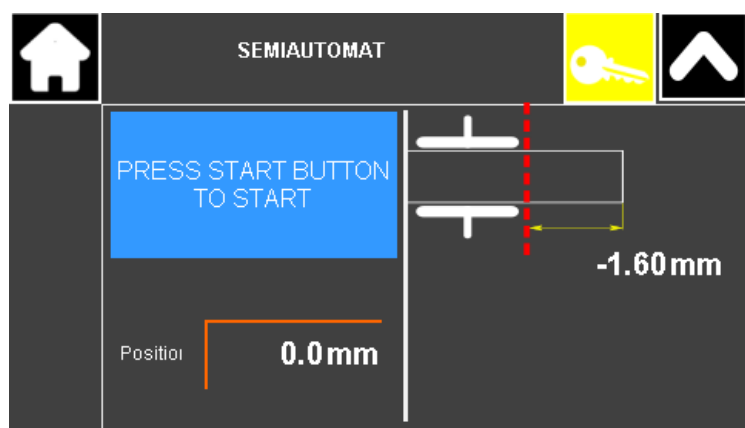
When inserting the material, the material must not be fed to the main vice with a feeder! There is a risk of material collision with the main vice!

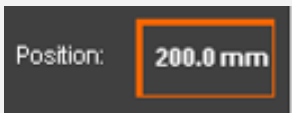
- b) start the cut in the semiautomatic mode

2. If the material is valid, choose the option for length loading

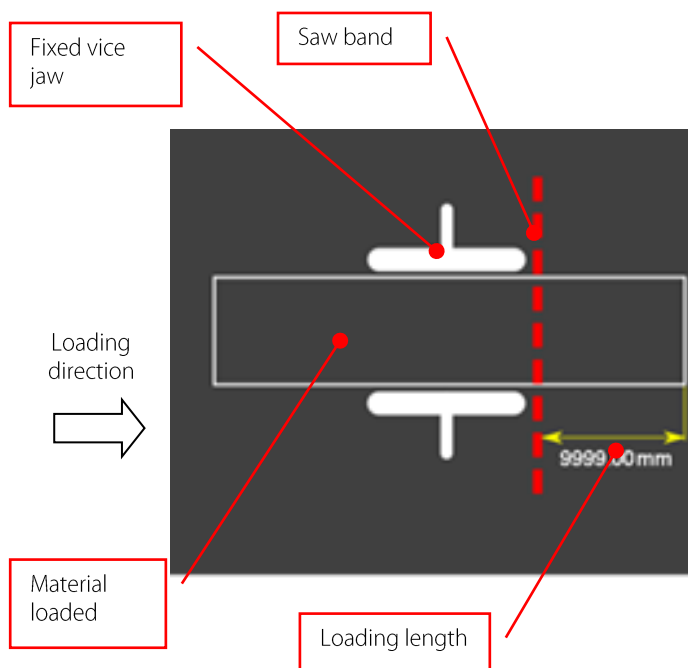


3. The screen appears for entry of the required material length to be loaded



Pos.	Function
	Window for entry of the required length to be loaded. The length will be measured from the inlet end of the material to the outlet edge of the band – see Fig. 1 - dimension A.
	Instructions for further procedure

Picture no.1



4. **Enter the required length** in the window for setting parameters on the screen for entry of the desired length to be loaded.
5. **Push the START button** to start loading of the material.
6. After you push the Start button to start loading of the material, **the required length will be loaded.**

3.7.3. Semiautomatic sequence interruption

3.7.3.1. With the STOP button

1 push - interruption of the executed sequence of the „pause” type

This interruption is only possible if the cut has not been started.

After the Start button is pushed, the interrupted sequence (material loading to the given length, arm rotation to the given angle) is resumed from the interruption place.

2 pushes – complete stop and finish of the sequence or cut executed

If cutting was started in the semiautomatic mode, the machine does not respond to 1 push; only after the 2nd push of the STOP button, the cut is stopped.

Double-push of the STOP button can also be used to finish another sequence started in the semiautomatic mode.

The interrupted sequence cannot be resumed; it must be restarted from the beginning.

3.7.3.2. With the Emergency Stop Switch

In emergency cases, push the **Emergency Stop Switch** button on the control panel.

1 push

- interruption of safety circuits
- complete stop and finish of the sequence executed

It is possible to release the pressed button by twisting of the upper part of the button.

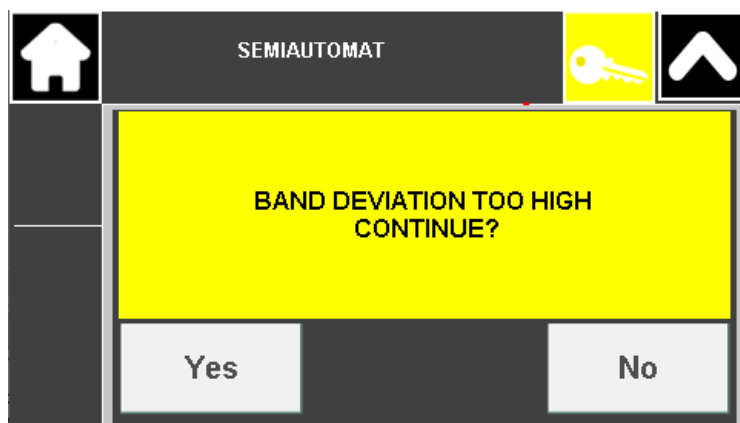
The interrupted sequence cannot be resumed; the safety circuits must be switched on again and the interrupted sequence restarted from the beginning.

3.7.3.3. Interruption of safety circuits

The interrupted sequence cannot be resumed; you must restart the safety circuits and start the interrupted sequence again from the beginning.

3.7.3.4. Reaction to excess belt deflection (optional accessory)

If the machine responds to exceeding of the permissible belt deflection by interrupting of the cut, the screen appears:



Yes – the saw bands will start to run and the interrupted cut will be finished

No – the saw arm will be raised to up position

3.8. Automatic mode

In the automatic mode on this machine:

- **cutting** is executed in **automatic cycles**;
- **cutting of required lengths of final pieces is controlled by predefined plans – called “recipes”**.

Recipes are software plans controlling the cutting procedure for final pieces of various lengths in the automatic cycle;

- **necessary intervention of operators within one automatic cycle are only limited to material handling** – that is, loading semi-products and handling cut-up and residual pieces.

One automatic cycle is controlled by one recipe and used for cutting of final pieces from one or more bar semi-products or one or more bundles of bar semi-products.

All semi-products loaded to be cut within one automatic cycle:

- **must have identical section parameters**;
- **can have identical or different length parameters.**

This machine enables execution of the automatic cycle of two types:

1. **“PIECES” type automatic cycle (“Pieces” automat)**

In the “Pieces” type automatic cycle, final pieces are cut in continuous sequence by the recipe, **as long as further required length can be loaded.**

If the material is too short so that the next required length cannot be loaded any more, loading of another semi-product is required.

2. **“RODS” type automatic cycle (“Rods” automat)**

In the “RODS” type automatic cycle, final pieces are cut in batches precisely defined by the recipe, being specified in the recipe for every individual semi-product piece. By the customer’s requirements, batches of final pieces can be specified either individually for one semi-product piece or by means of a uniform specification common to the entire batch of semi-products.

Another semi-product must be loaded:

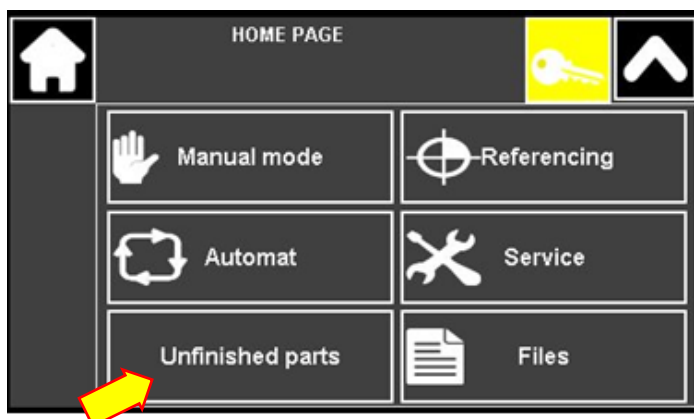
- either after cutting up the batch of final pieces specified for the given semi-product piece – if a semi-product is loaded in a defined length which must be sufficient to cut up all of the pieces specified;
- or after another required length cannot be loaded – if a semi-product is loaded in a length not sufficient for cutting of all specified pieces.

Cutting in the RODS type automatic cycle enables a residual piece of a predefined minimum length to be preserved from every standard length bar so that this residual piece can be utilized for further processing.

Note:

If in the "RODS" type automatic cycle a semi-product is loaded, being of insufficient length for cutting of all specified pieces, you are asked to load another semi-product according to laser detection – similarly to the "PIECES" automatic cycle.

However, uncut pieces from the short semi-product will not be cut from the next semi-product; they will just be registered in the table of unfinished pieces.



Another semi-product loaded within the same automatic cycle will be cut precisely according to the pertinent batch of final pieces specified, regardless of whether or not all pieces of the previous semi-product have been cut up according to its recipe.

The automatic cycle executed on this machine can be controlled:

- **by means of a recipe created on this machine directly** – that is, by the software included in this machine.

The software included in this machine enables creation of recipes:

- for the "PIECES" type automatic cycle
- for the "RODS" type automatic cycle
- **by means of an imported recipe created on a computer by the Saw Manager software** (software for creation of recipes with optimized use of material, supplied by Bomar spol.s.r.o.)

From the Saw Manager software, recipes are imported:

- for the "RODS" type automatic cycle

Cooperation between the machine and Saw Manager software is subject to purchase of a Saw Manager software license. For information on purchase of the licensed software, please contact the sales department of the Bomar spol.s.r.o. company.

3.8.1. Cutting execution in automatic mode

Caution!

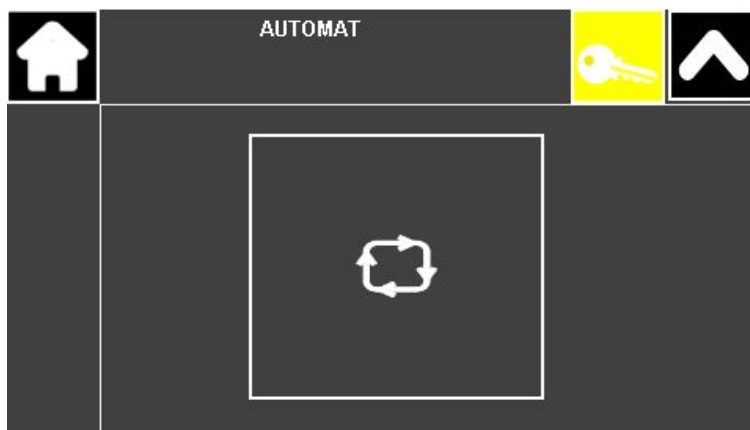
**Short pieces which the feeder cannot feed to the main vice cannot be cut in the automatic mode!
Imminent risk of collisions!**

Caution!

Size of burr and unevenness of the material face has an effect on the precision of the length loaded by the feeder!

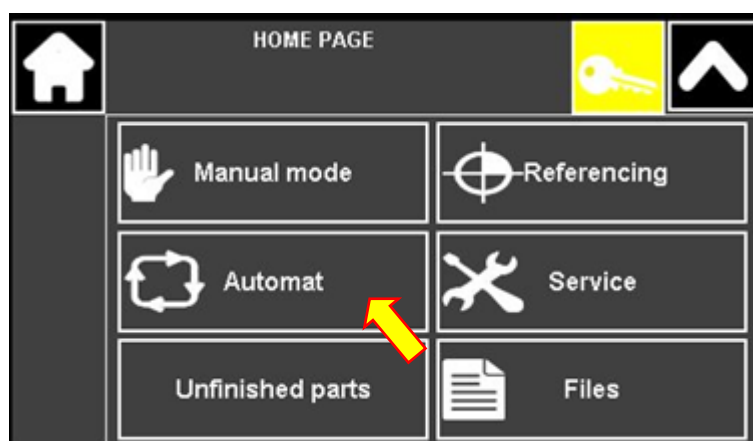
1. Turn the mode selector to the automatic mode position .

A screen appears for **entry in the automatic cycle settings**.



Note:

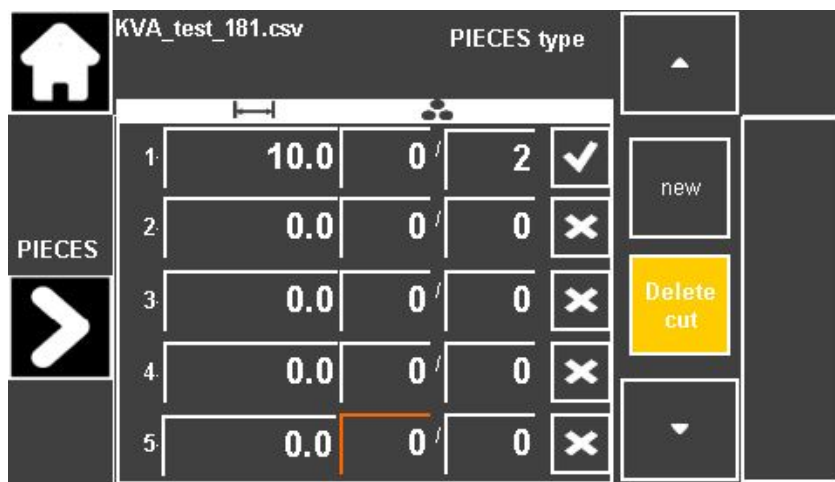
To display the screen for **entry in the automatic cycle settings**, you can also **choose the option for the automatic mode initiation** on the main screen of the control software.



But control elements aren't functional if the mode selector isn't in **automatic mode** position .

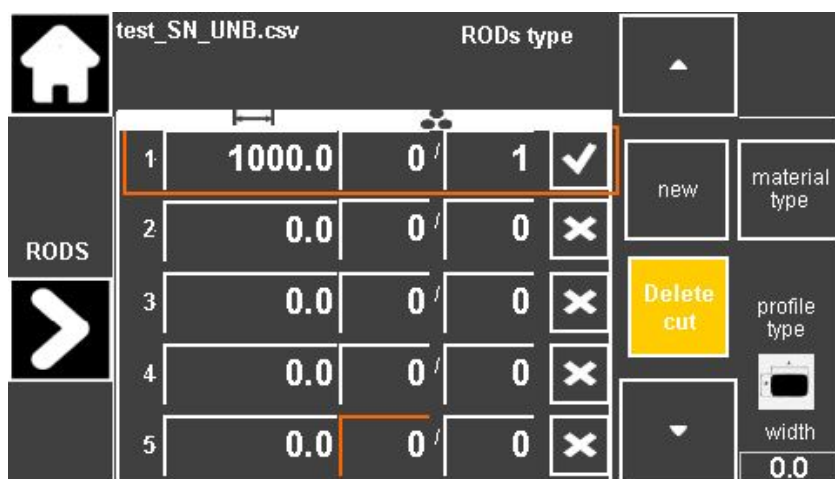
2. After you push the option for entry in the automatic cycle settings, the first screen of the currently loaded recipe appears in one of the following forms:

Recipe screen for the "PIECES" type automatic cycle (PIECES automat)



	1	2	3	4	5
1	10.0	0	2	✓	
2	0.0	0	0	✗	
3	0.0	0	0	✗	
4	0.0	0	0	✗	
5	0.0	0	0	✗	

Recipe screen for the "RODS" type automatic cycle (RODS automat)



	1	2	3	4	5
1	1000.0	0	1	✓	
2	0.0	0	0	✗	
3	0.0	0	0	✗	
4	0.0	0	0	✗	
5	0.0	0	0	✗	

The recipe displayed in this step, which is the currently loaded recipe, will control the automatic cycle which is set up by this procedure and which will be started by means of the START button.

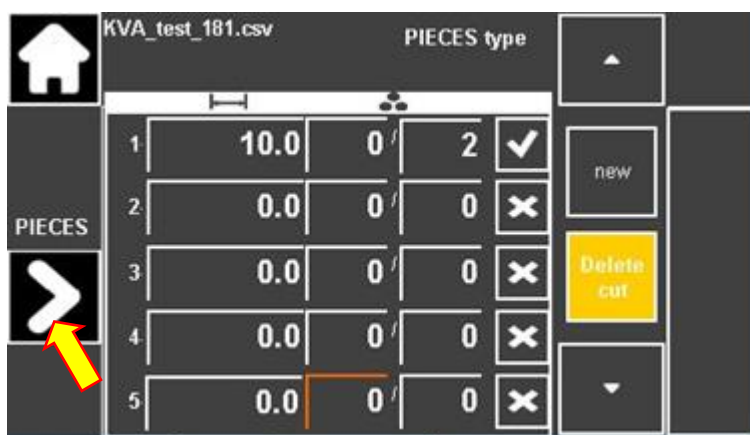
In this step you can:

- load another current recipe
- modify the current recipe without saving

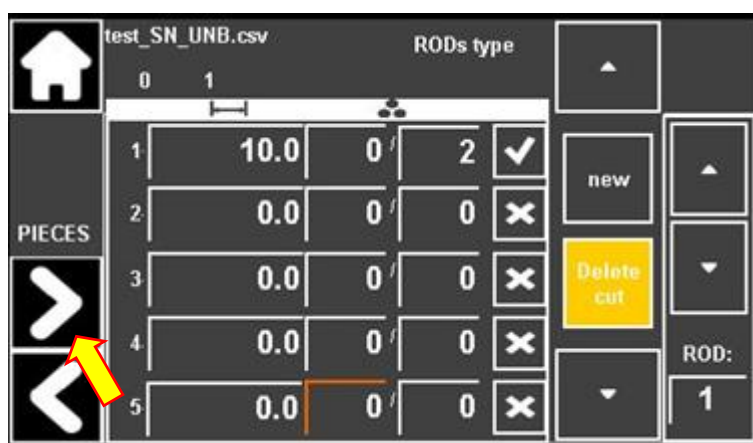
For further work with recipes, see the "Recipes" chapter.

3. After setting the required recipe, use the screen browsing option to pass to the next screen, on which you can select setting of various parameters governing the automatic cycle process.

Switching from the recipe screen to the "PIECES" type automatic cycle



Switching from the recipe screen to the "RODS" type automatic cycle



4. Unless the previous automatic cycle has been completed, a screen with options to continue with the unfinished automatic cycle appears first in this step.

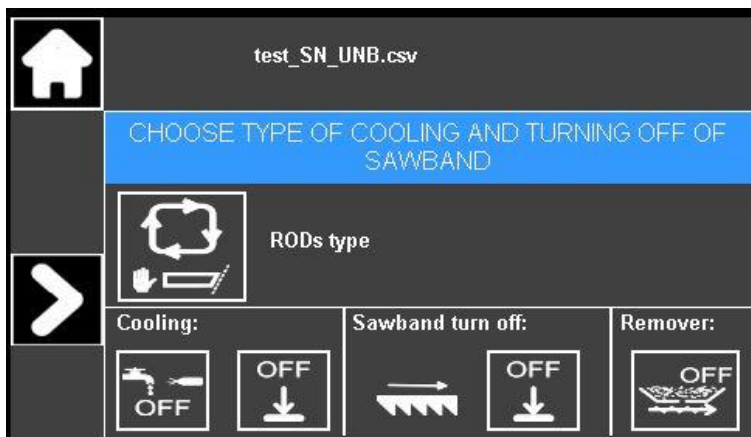
On this screen, the operator can choose whether to continue with the unfinished automatic cycle or start up another automatic cycle.

For details of the individual options, see "Automatic cycle interruption".



5. If the previous automatic cycle has been completed properly or either of the Yes/No options has been pushed on the screen with options to interrupt the automatic cycle, a screen appears for setting of the automatic cycle conditions.

On this screen, you can enter options for the material loading method, options for cooling and switch-off of the band and for the chip remover (optional equipment).



Material loading method selection

Pushing the icon repeatedly, you can choose one of the two loading methods.

Pos.	Function
	Selection for manual loading of the material with cut-in - material is manually inserted into the vice by the operator - the cut-in length set manually (by estimation or measurement) - after cut-in, the automatic cycle is started automatically according to the given recipe
	Selectuion for manual loading of the material without cut-in This mode is only used: - if the automatic cycle has been interrupted and the operator wants to resume it - If an automatic cycle has been completed and the operator wants to continue in cutting the residual material, according to a different setting of the automatic cycle, however To continue in the interrupted cycle or cutting the same material without the necessity of cut-in, it is always necessary that the operator does not open the vices! (Spontaneous release if the hydraulics are switched off is not detrimental.).

Options for setting other conditions of the automatic cycle:

Pos.	Function
  	Cooling method You can choose the cooling methods by repeatedly pushing.  - liquid cooling  - Micronizer cooling (optional accessory)  - without cooling
	Selection of the cooling switch-off method By repeated touch, you can choose the methods of cooling switch-off.  - switch-off if the arm is down  - switch-off if the arm is up
	State display  - band running  - band off
	Selection of the saw band switch-off method By repeated touch, you can choose the methods saw band switch-off.  - switch-off if the arm is down  - switch-off if the arm is up

Pos.	Function
	Swarf conveyor off/on (optional accessory)

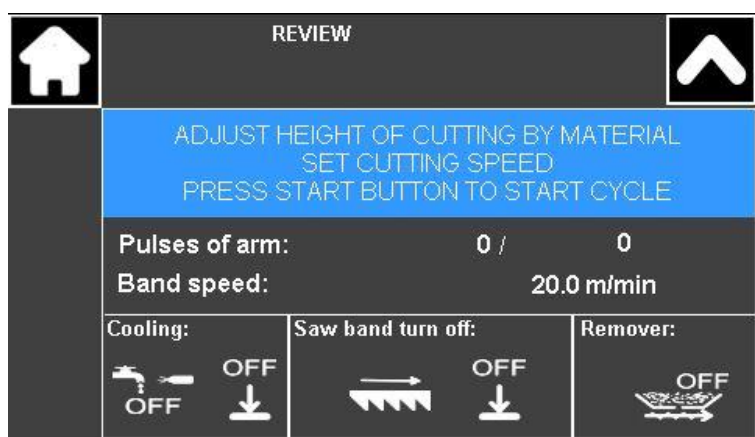
The options for the loading method, cooling, band switch-off and chip remover are preserved even after switching the machine off and on. If you do not want to change the settings, you do not need to set them again after the machine was turned on.

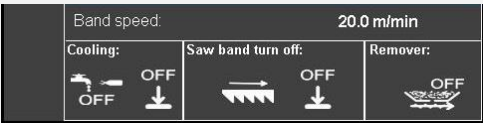
6. After setting all cutting conditions, **shift to the screen for the automatic cycle start**



by means of the browsing option. The screen for the automatic cycle start appears.

The screen for start of automatic cycle:



Pos.	Function
	Instructions for further procedure
	Entered parameters display Parameter: The Saw blade speed parameter shows the saw band speed :set on the control pane.

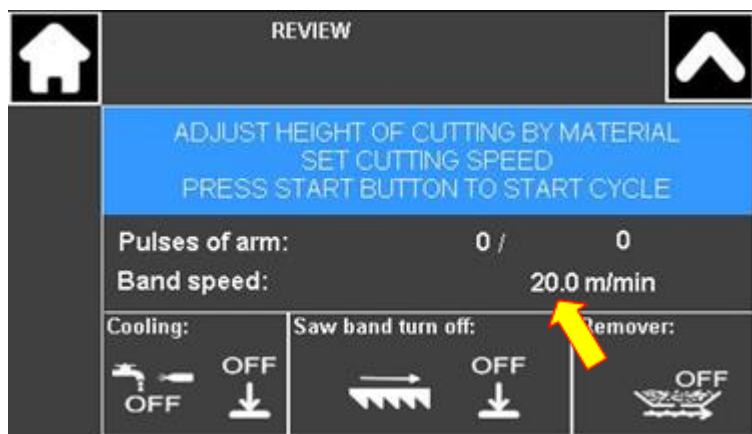
7. **Adjust the initial arm position before cut** with regard to the material height - recommended setting approx. 10mm above the material.

The arm will return to this height after every cut.

See chapter: Band saw adjustment.

8. By means of the potentiometer on the saw control panel, set the required cutting speed

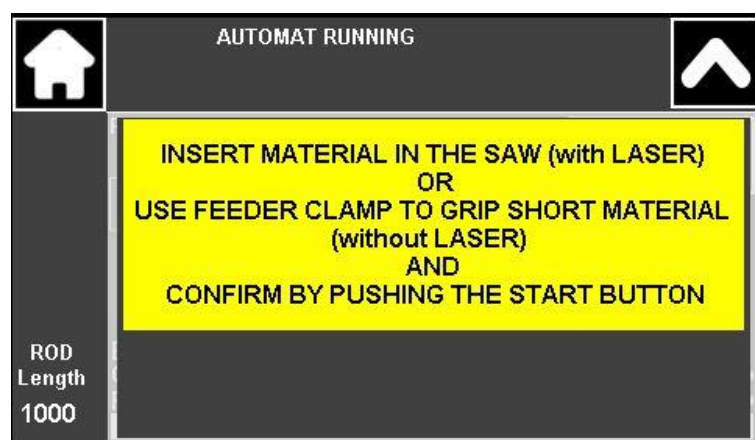
The set speed value is displayed on the screen for starting the semiautomatic cut:



9. By means of the potentiometer on the saw control panel, set the required cutting speed
10. Push the START button for start of the automatic cycle
11. Loading and aligning of the material

After pushing of the START button for start of the automatic cycle:

- a) The feeder vice moves to the position for material loading
- b) The operator is asked to load material (semi-product) in the saw.



Because this screen may appear several times during the automatic cycle if several semi-product pieces are cut, **the left-hand part of the screen contains information on the automatic cycle type and the current automatic cycle step in which the machine is at the moment.**

- c) **Manually** (not using the feeder) insert the material as far as the main vice, manually set the requested length for cut-in..

Caution!

When inserting the material, the material must not be fed to the main vice with a feeder! There is a risk of material collision with the main vice!

Caution!

The automatic feeding mode assumes that a straight face material is inserted.

Caution!

Clean the main vice area before inserting the material! Dirt can affect the accuracy of the length of the first piece!

Attention!

For detailed instructions for the material loading - see chapter Material loading before starting the automatic cycle.

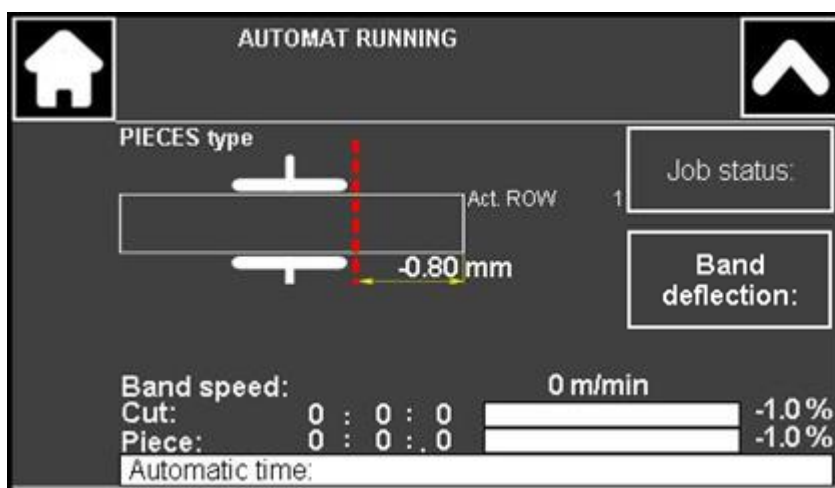
Correct loading of the material (see chapter Material loading before starting the automatic cycle) is to be confirmed by the operator by pushing the START button.

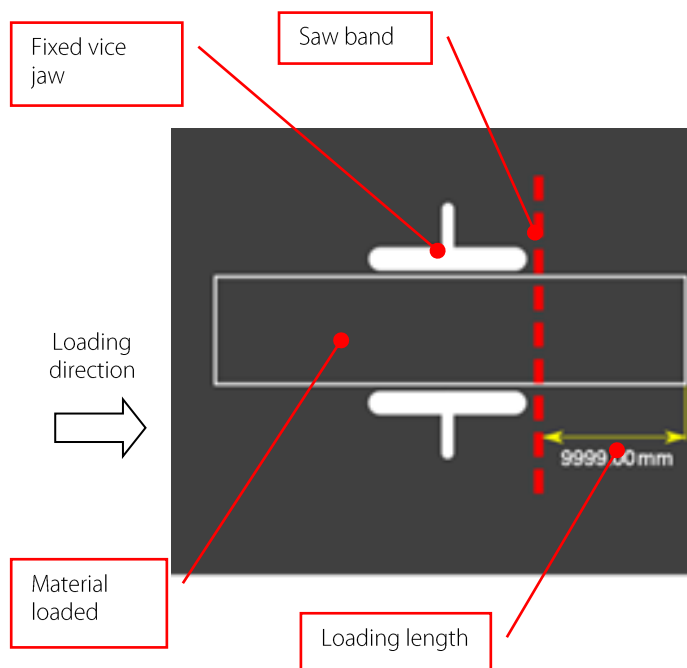
By pushing the START button now, you also start up the automatic cycle.

12. Automatic cycle start-up

Confirming correct loading of the material by pushing the START button, the operator also starts up the automatic cycle:

A screen appears, showing the automatic cycle process.



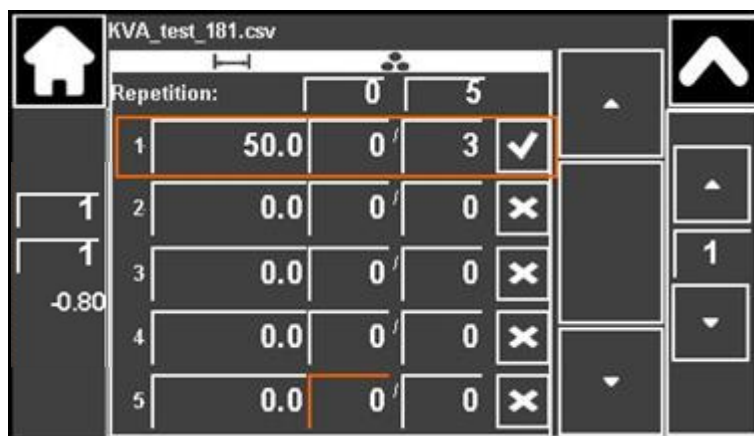


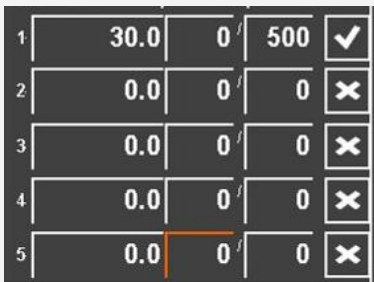
If the machine has information on the material face position ("familiar material"), the horizontal dimension in the diagram indicates the current distance of the material face from the band area.

Information on the course of cutting is at the bottom of the screen.

Pos.	Function
Job status:	Option for viewing the current order state After you push the "Material" option in the screen showing the automatic cycle process, a screen with the current order appears.
Band deflection:	Option for viewing the parameters of the band deviation (optional accessory) After you push the "Band deflection" option in the screen showing the automatic cycle process, a screen with viewing the parameters of the band deviation appears. Setting of the parameters of the device for measurement of the saw band deviation – see Service parameters

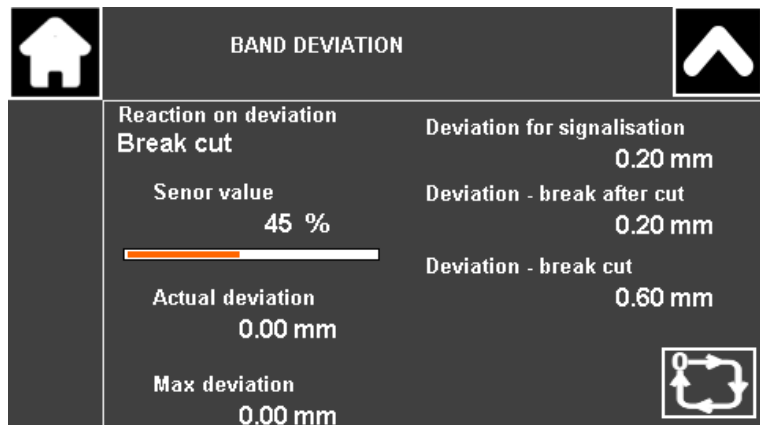
Screen showing the current order state



Pos.	Function
 	Browsing between lines
  	Browsing through semi-product batches in the "RODS" automat
	Currently loaded order Green line – currently cut Orange line – browsed up line
	Number of semi-product pieces cut in the currently cut batch / Required number of semi-product pieces in the currently cut batch
	Information on the current step of the automatic cycle

Band
deflection:

Screen with viewing the parameters of the band deviation



If the indication value is exceeded and an option of the machine response to the band deviation is chosen, except for "Not used"

- a) Exceeding of the admissible value is indicated by the beacon flashing; the machine responds according to the option chosen

On the screen showing the band deviation parameters, a button appears to reset



the deviation

- b) Having removed the cause which has led to exceeding of the admissible deviation limit, the operator resets the measured deviation with the reset button displayed

The deviation is deleted and the beacon stops flashing

Resetting interrupts deviation measurement until the cut is completed. When the next cut is started, deviation measurement is renewed.

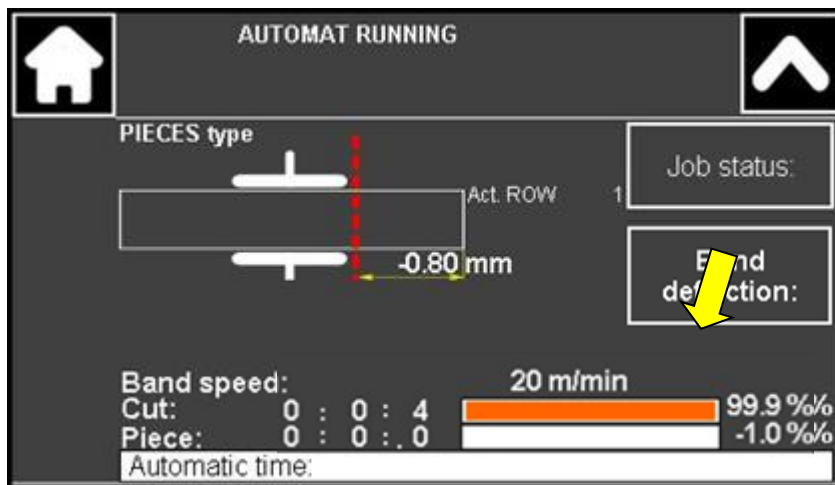
13. Automatic cycle procedure:

While the arm is descending to cut or even during cutting, you can modify the:

- saw band speed
- speed of the arm descent to cut

by means of control elements on the machine control panel.

The ongoing cut is indicated in colour in the "Cut" field; next to the field, the completed cut percentage is displayed.



Automatic cycle process:

- Automatic cycle with manual material loading with cut-in



- If the material is correctly loaded under the saw band, it will be clamped by the main vice.
- The saw starts cutting automatically and the material is cut in at the manually set length.
- After cut-in of the first piece, the automatic cycle will further start up according to the loaded recipe settings

- Automatic cycle with manual material loading without cut-in

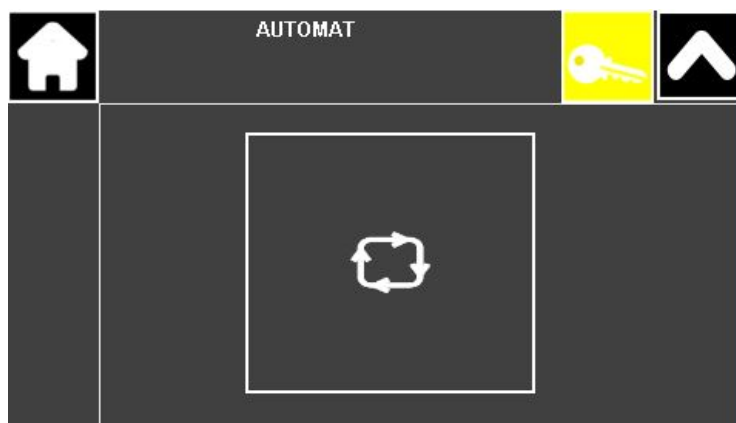


This mode is only used:

- if the automatic cycle has been interrupted, not all of the pieces have been cut and the operator wants to resume the started cycle
- if an automatic cycle was finished and the operator wants to continue with cutting of the remaining material, but using another cutting cycle

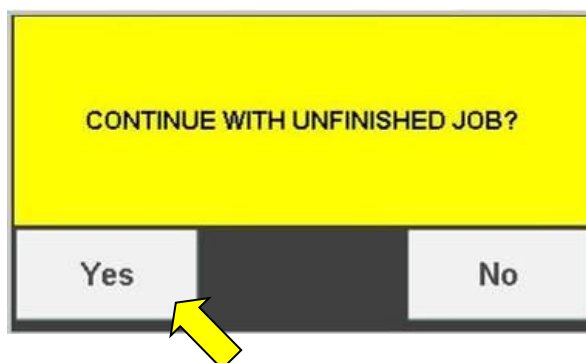
To resume an interrupted cycle or cutting of the same material without the need of cutting-in, it is always necessary to prevent opening of the vice by the operator! If the material is clamped in at least one of the vices, information on the material face position after the last executed cut ("familiar material") remains in the machine memory and the machine can properly load the next required length for cutting. (Spontaneous release after switch-off of hydraulics is not a problem)

- a) If the automatic cycle has been interrupted, after you have solved the causes leading to the cycle interruption, **a screen appears for entry into the automatic cycle settings.**



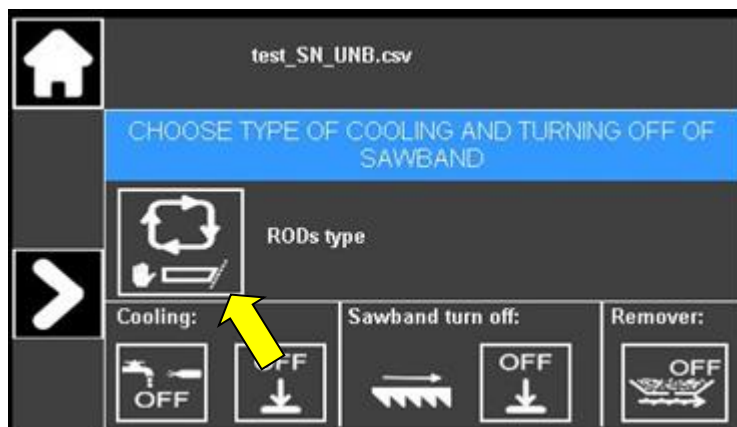
- b) Pass through the screens for setting of the automatic cycle parameters to the screen on which the operator is asked whether to continue with the unfinished task:

To resume the started cycle, it is necessary to choose "Yes"



- c) If you choose YES, the screen for setting the automatic cycle conditions appears on the display.

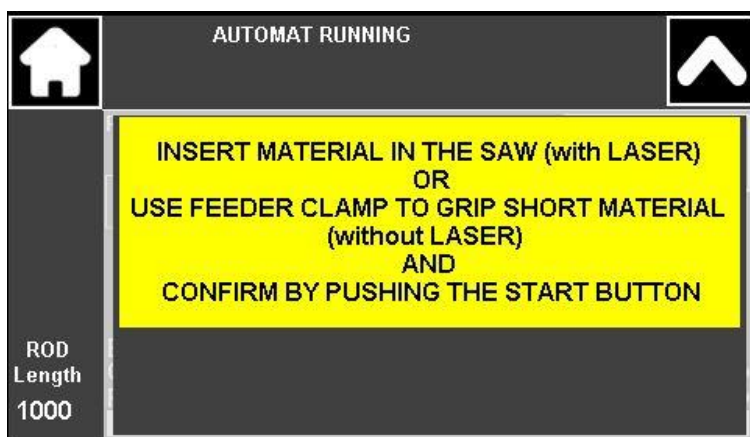
On this screen, the operator can choose **manual loading without cut-in.**



- d) Further, the operator proceeds in the above described way to the screen with the request for material loading.

On all of the screens which must be passed, the operator can also modify parameters and conditions of the existing automatic cycle process.

- e) When the screen with the request for material loading appears, **just push the START button to confirm that the material is loaded properly.**

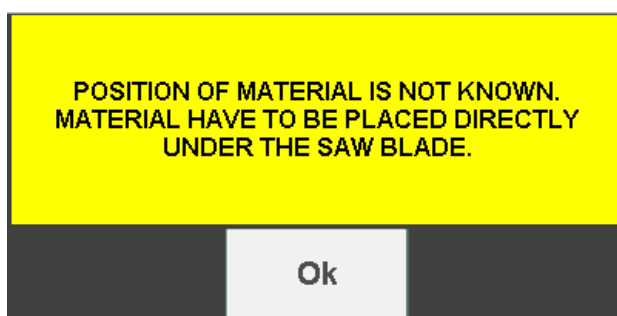


- f) After you push the START button to start the automatic cycle, the required length according to the control recipe will immediately be loaded as if the cut-in had already been done on the given piece – that is, as if the material face had been aligned with the saw band before loading of the required length started.

An exception is interruption of the automatic cycle by means of 2x STOP – if this interruption occurs during cutting, the cut will be completed first.

NOTE:

If the operator opened the vices after interruption of the automatic cycle and the machine lost information on the material, it will show a message after the START button is pushed to resume the cycle:

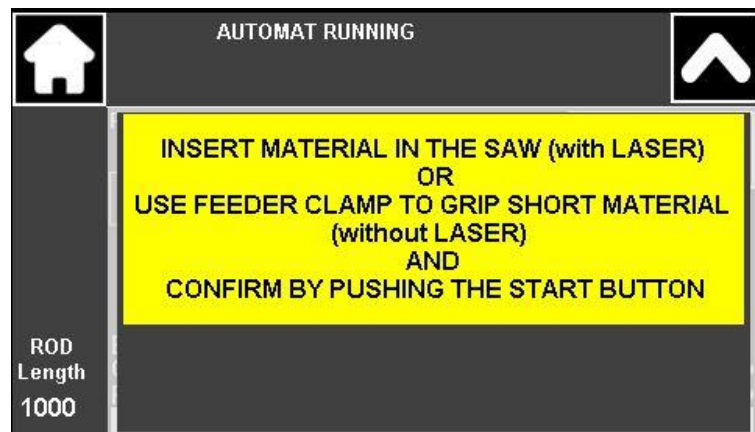


If you want to continue the cycle, confirm the message; the automatic cycle will start without cut-in of the material – this means that the saw feeds the material as if the cut-in had been done before feeding and the material had been aligned with the band before feeding.

If you do not want to continue with the cycle, shift to a mode other than automatic; thus you will cancel the unfinished cycle and be able to start a new cycle.

14. Adding material during automatic cycle

During the automatic cycle, the operator adds material whenever asked to do so by a prompt which appears on the control panel display.



According to the automatic cycle type, loading of further material is required

- if the material is short and it is no more possible to load another cutting length specified according to the current recipe ("PIECES" type automatic cycle);
- if the batch specified for the given piece of the loaded semi-product has been cut or if the material is short and it is no more possible to load another cutting length specified according to the current recipe ("RODS" type automatic cycle).

When adding material, the operator performs these actions:

- before loading new material, s/he removes the residual piece of the previous cutting from the machine;
- when loading new material, s/he repeats the above described procedure from the first step to this one.

The material is added until the entire automatic cycle is completed.

Caution!

While handling the material, observe all safety regulations mentioned in this manual and other general regulations related to manufacturing conditions on the specific workplace.

15. End of automatic cycle

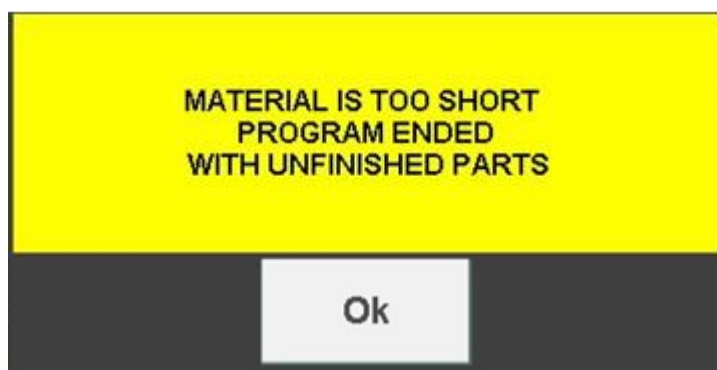
At the end of the automatic cycle:

- the arm automatically returns to the position at which the cut started
- Finish of the cycle is announced on the display.

The automatic cycle is completed according to the type:

- after all final pieces entered in the recipe have been cut ("PIECES" type automatic cycle);
- after all semi-products entered in the recipe have been cut ("RODS" type automatic cycle).

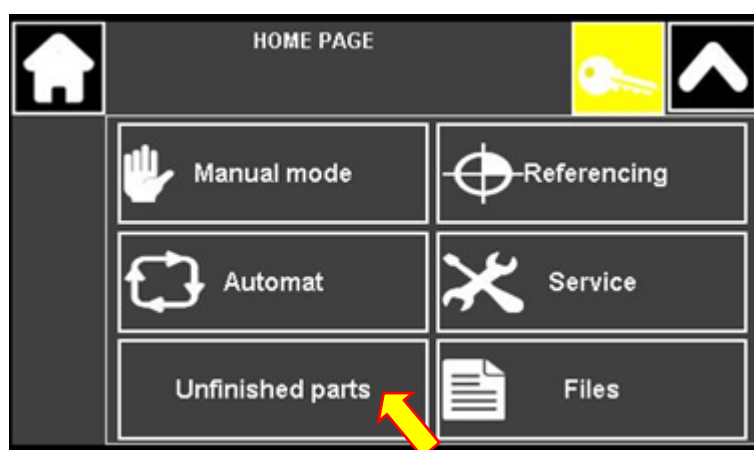
If it was not possible to cut all final pieces according to the "RODS" type automatic cycle recipe, the notice appears:



After you push OK, the table of unfinished pieces appears:

UNFINISHED PARTS			
1	0.0	0	▲ Delete ▼
2	0.0	0	
3	0.0	0	
4	0.0	0	
5	0.0	0	

In the same table, the operator can also check unfinished pieces by means of the "Unfinished pieces" option (for details, see chapter "Unfinished pieces").



For details, see chapter "Unfinished pieces".

16. After the automatic cycle ends, remove the last cut piece and the residual piece from the machine, if necessary.
17. Now you can repeat the entire procedure.

3.8.2. Loading material before starting and during the automatic cycle

Caution!

The automatic feedin mode to saw assumes that a straight face material is inserted!

Caution!

Before insertion of a material, the space of the main vice must be cleaned! Impurities can affect precision of the length of the first cut piece!

For correct course of the automatic cycle, it is important in which way the material is loaded before its actual start.

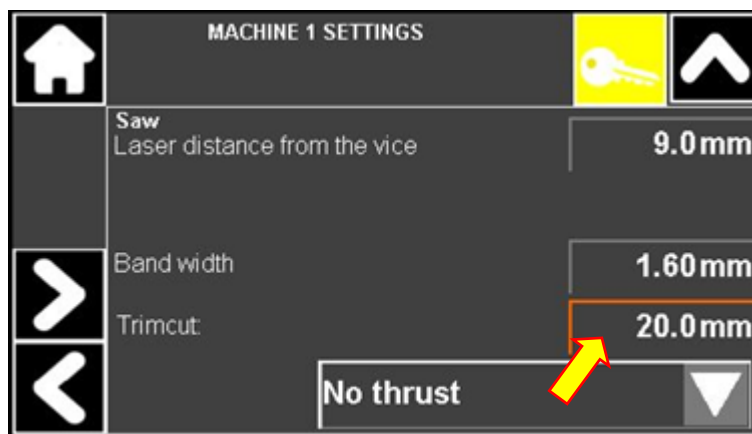
For safe and proper material loading in the automatic cycle, the material must be loaded before start and during the automatic cycle:

- manually – without using the feeder
- into the main vice – that is, aligned with the saw band or to the cut-in length

The cut-in length is set manually – the cut-in length corresponds to the distance of the loaded piece face from the saw band.

Notice

During the "RODS" type automatic cycle, particularly if the automatic cycle is controlled by a recipe created in the Saw Manager software (Saw Manager is independent software for creation of recipes with optimized material utilization, supplied by Bomar spol.s.r.o), it is **recommended that the preset cut-in length corresponds to the cut-in length parameter, indicated in the service parameters screen, as closely as possible:**



Caution!

When loading of any material for the first cut do not feed the material using the feeder vice! There is a risk of collision between the forehead of the material and the main vice!

The collision risk results from the following factors:

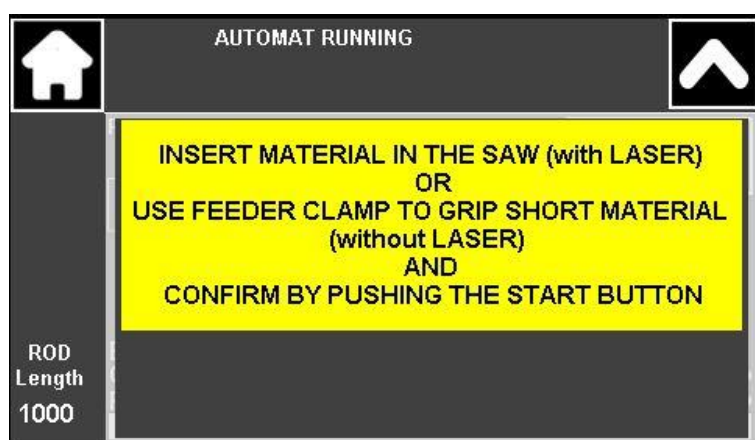
- material dimensions and dimensional deviations
- material shape deviations
- feeder deviations during loading to the left or right (in mm)

3.8.3. Completing the residual piece in the automatic mode

If the operator loads the material into the feeder vice so that it shades the laser beam for material detection in the feeder vice, and if the machine has not lost information on the material face position, the residual piece can be automatically reclamped by the feeder vice and its cutting finished according to the recipe even if after the new clamping the material end no longer reaches to the laser barrier for material detection.

If the operator loads the material into the feeder vice so that it does not shade the laser beam for material detection in the feeder vice, the feeder cannot reclamp the material automatically.

The message appears:



Cutting of residual material can also be completed in the automatic mode; according to the instructions displayed, however, it is first necessary to clamp the material in the feeder vice so that it can be clamped and cut completed safely.

Only the operator is responsible for safely handling the material in this mode.

Adjust the correct material position in the feeder vice with regard to safe clamping and final cutting, and clamp the material in the feeder vice with the button on the control panel (the machine need not be switched to the manual mode).

The START button starts flashing.

Push the flashing START button; the automatic cycle starts up, in which you can cut the remaining material.

To cut the remaining material, the automatic cycle must naturally be programmed to take the current remaining material length into account.

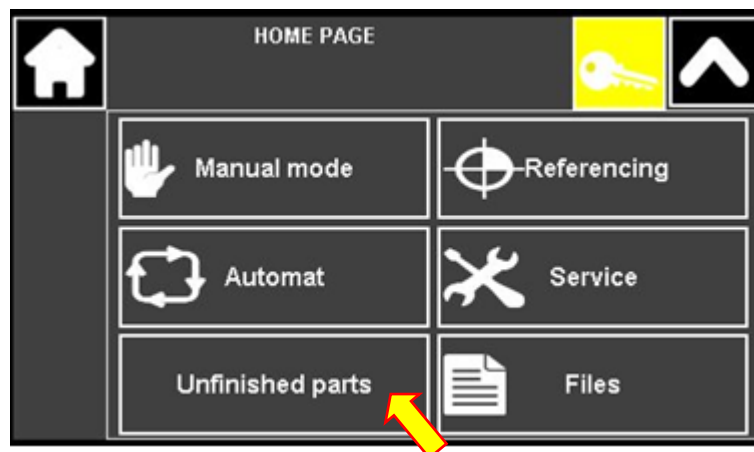
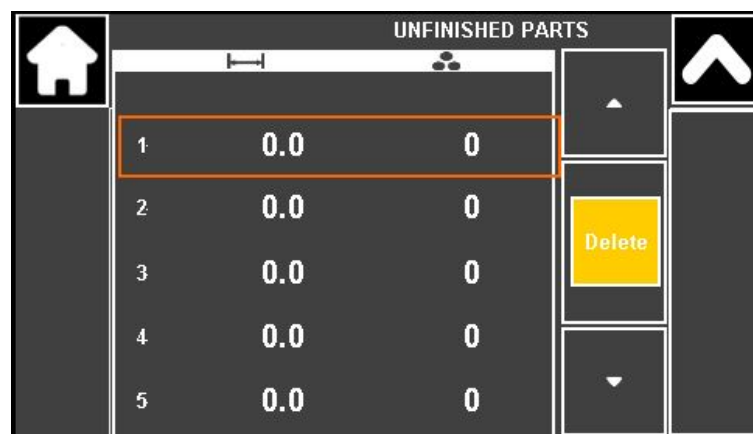
3.8.4. Unfinished pieces

If during the "RODS" type automatic cycle a semi-product is loaded in insufficient length for cutting of all specified pieces, loading of another semi-product is demanded.

Unfinished pieces from a batch specified for incorrectly loaded semi-product will not be finished from the next semi-product, only registered in the table of unfinished pieces.

The table of unfinished pieces appears at the end of the "RODS" type automatic cycle in which not all pieces have been cut.

The table of unfinished pieces can also be approached from the main screen of the control menu:

1	0.0	0
2	0.0	0
3	0.0	0
4	0.0	0
5	0.0	0

If the operator repeats the same cycle continually, the table data will not be deleted. Therefore, after repeated execution of the same automatic cycles, data from all executed cycles will be cumulated in the table.

The table of unfinished pieces is automatically deleted:

- if preparation of another automatic cycle with another recipe is started;
- if the NO option is chosen at interruption of the automatic cycle – that is, the unfinished job is not continued.

The table can be deleted with the "Delete" command.

3.8.5. Automatic cycle interruption

Caution!

If the automatic cycle is interrupted and you clearly want to continue with the interrupted automatic cycle without cutting in the currently loaded material, take care that the machine does not lose information on the material position – that is, the material must remain clamped in at least one of the two vices ("familiar material")!

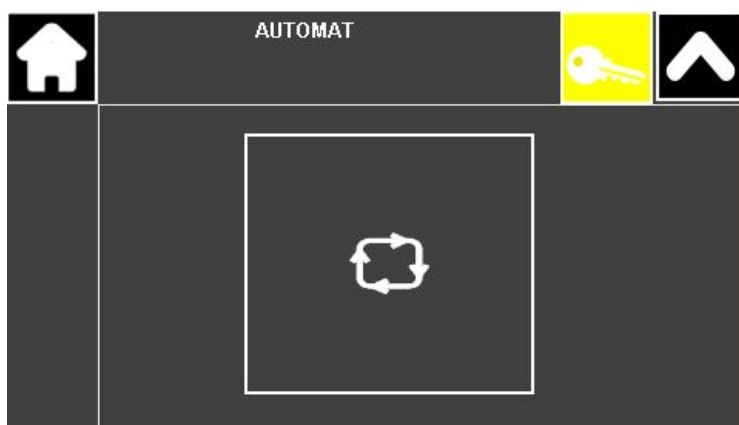
3.8.5.1. Procedure in case of interruption (not "Pause") of the automatic cycle if not all pieces/semi-products have been finished as specified by the currently set recipe

1. If the automatic cycle is interrupted for a reason other than "Pause", you must first **solve the problem which caused the machine stop.**
2. Further, you must **solve error messages shown on the display of the control panel.**

Some error messages disappear after you execute the indicated action.

If the error message does not disappear, confirm it by the "Confirm" option at the bottom part of the screen.

3. After you solve the cause of the automatic cycle interruption and all error messages disappear, **the screen for entry in the automatic cycle settings appears.**



4. Pass through the screens for setting of the automatic cycle parameters to the screen on which the operator is asked **whether to continue with the unfinished (interrupted) job:**



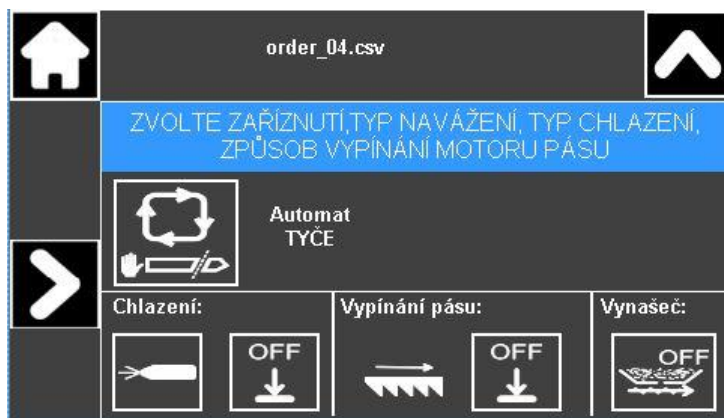
If you choose "Yes"

- the cycle can proceed from the point of interruption **and the information on the number of cut pieces is kept.**

If you choose "No"

- the cycle can proceed from the point of interruption, **but the information on the number of cut pieces is reset**

5. If you choose Yes/No on the previous screen, the screen for setting of the automatic cycle parameters appears.



On this screen, pay particular attention to the loading method option – for detailed information, see the procedure for setting and start-up of the automatic cycle.

6. Further, the operator passes the above described procedure for setting and starting the automatic cycle to the screen for starting the automatic cycle.

On all of the screens which must be passed, the operator can also modify parameters and conditions of the existing automatic cycle process.

If you do not want to continue with the interrupted cycle, you can start another cycle, switch to another mode or switch off the machine.

3.8.5.2. Automatic cycle interruption with the STOP button

- **1 push - cycle interruption of the „Pause“ type**

This interruption is only possible if the cut has not been started.

After you push the Start button, the interrupted cycle will proceed from the point of interruption.

- **2 pushes – automatic cycle interruption**

If the cut has been started, the machine does not respond to 1 push; the cut will be stopped only after the 2nd push of the STOP button.

Double push of the STOP button can also be used to interrupt the automatic cycle at any other phase.

If not all pieces of the unfinished job have been completed, continue after interruption of the automatic cycle by pushing twice the STOP button according to the above procedure "Procedure in case of interruption (not Pause)...".

Caution!

If the cycle has been interrupted by double push of the STOP button at the moment when cut was started and if the material remains valid, the interrupted cut will be completed immediately after restart – which means that the next specified length is not loaded immediately.

3.8.5.3. Automatic cycle interruption with the Emergency Stop Switch button

In emergency cases, push the **Emergency Stop Switch** button on the control panel..

1x push

- **interruption of safety circuits**
- **automatic cycle interruption**

1. It is possible to release the pressed button by twisting of the upper part of the button.
2. Switch on the safety circuits again.
3. If not all pieces of the unfinished job have been completed, follow the above indicated procedure "Procedure in case of interruption (not Pause)..."

3.8.5.4. Interruption of safety circuits

Before the machine is restarted, the safety circuits must be switched on.

If not all pieces of the unfinished job have been completed, after enabling safety circuits, follow the above indicated procedure "Procedure in case of interruption (not Pause)..."

3.9. Recipes

- **Recipes are software plans controlling the cutting procedure for final pieces of various lengths in the automatic cycle.**
- **One automatic cycle is controlled by one recipe** and used to cut final pieces from bar semi-products or bundles of semi-products which have:
 - **identical section parameters**
 - **identical or different length parameters**

If you need to cut material with different section parameters, it is necessary to create a specific recipe for every section and cut every section in a specific automatic cycle.

Note:

Everything stated below for "bar semi-products" also applies to "bundles of bar semi-products".

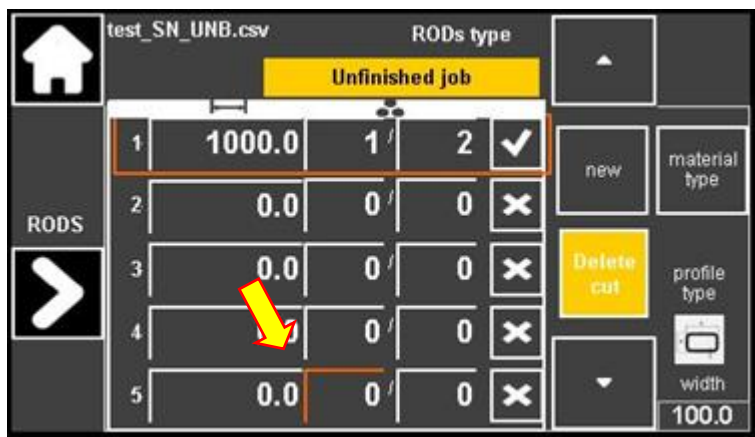
- **The machine software enables two types of recipes to be created on the machine directly:**
 - recipes for the "PIECES" type automatic cycle
 - recipes for the "RODS" type automatic cycle
- **Another option for creation of recipes for this machine is use of the independent Saw Manager software (supplied by Bomar spol. s.r.o.).**

The Saw Manager software is used to create recipes with optimized material; recipes for the "RODS" type automat are created by means of it.

A recipe created in Saw Manager is put together on computer (independently of the machine) and can be imported to this machine memory via network connection or USB connector by the procedure described in the chapter on work with recipe files.

Cooperation between the machine and Saw Manager software is subject to purchase of a Saw Manager software license.

- The machine software also enables the loaded (current) recipe to be modified and saved with the changes made.
- To enter parameters on all recipe screens, you can touch the field in which you want to enter the parameter to activate a numeric keyboard with which you can enter and confirm the given value.



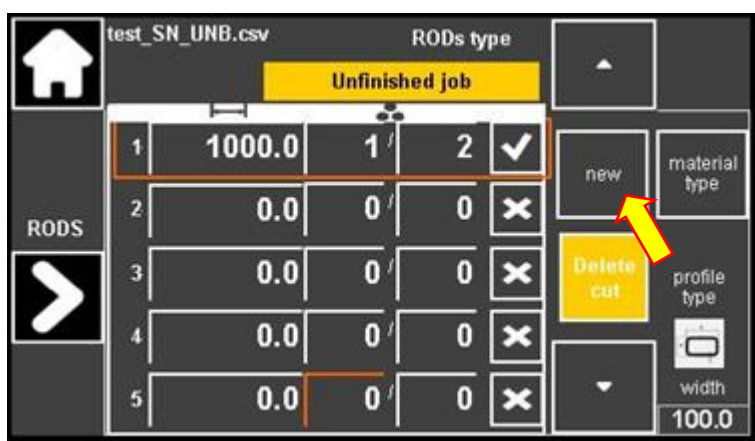
- By means of ticks and crosses at the line ends, you can also operatively modify the given recipe configuration additionally:

Mark the lines to be executed in the given automatic cycle with a tick 

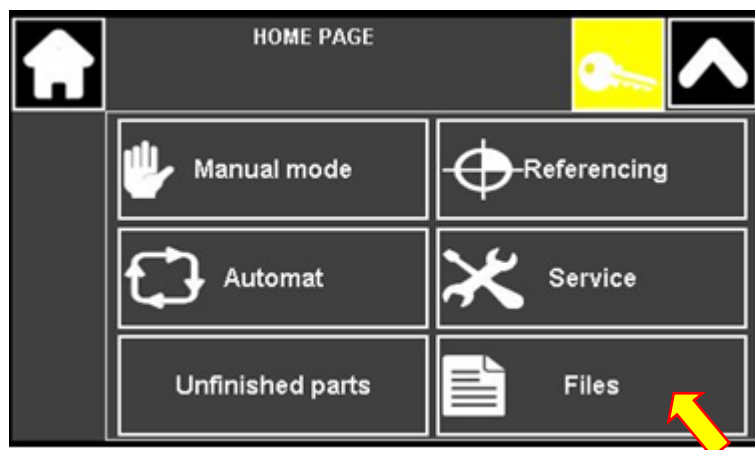
Mark the lines not to be executed in the given automatic cycle with a cross 

- Basic actions during work with recipe files

When creating a new recipe, you must start work with the “New” command on the currently loaded recipe screen.



Newly created recipes and modified recipes can be saved by means of the "Files" option on the main screen of the control software:



To load saved recipes you can proceed in **both of the above indicated ways**.

- **Caution!**

Unless you save the modified or newly created recipe, the entered data will be lost at the moment when you choose the "New" option on any recipe screen.



Unsaved data will not be lost if the machine is switched off or cycle interrupted. (Only information on the number of cut pieces may be lost according to the operator's choice – see information on interruption of the automatic cycle).

3.9.1. Modification of currently loaded recipe

On the screens of currently loaded recipes, the currently loaded recipes can be modified to any extent.

Unless these modifications are saved, they will only be valid until you choose the "New" option on any recipe screen.

If the modification should be kept, the modified recipe must be saved.

Modification procedure:

1. As necessary, modify the required parameters in the individual recipe fields.

2. By marking  , adapt configuration of the current recipe so that:

- non-zero lines marked with a tick  will be executed;
- non-zero lines marked with a cross  will not be executed.

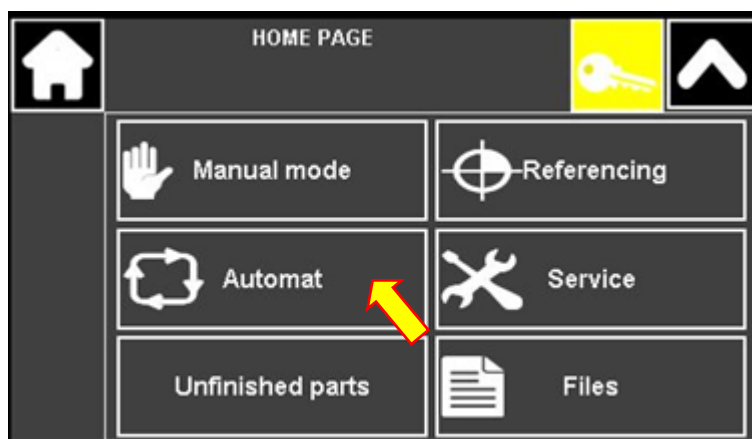
The automatic cycle always starts with the first ticked off non-zero line and proceeds step by step through all subsequent ticked off non-zero lines in the numerical order of the lines.

3. If necessary, you can delete the record on the number of cut pieces by the "Delete cut" option.
4. If necessary, save the modified recipe – for the procedure, see the chapter on work with recipe files.

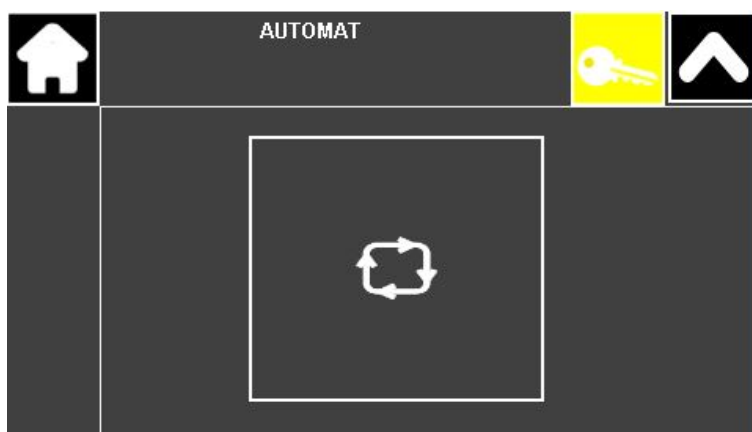
3.9.2. Selection of recipe type during creation of a new recipe on the machine

As the machine software enables execution of the automatic cycle by two different recipe types, it is necessary to choose the **type of the created recipe** before it is created.

1. Switch the mode selector to the automatic mode position  and choose the option for initiation of the automatic mode on the main screen of the control software:

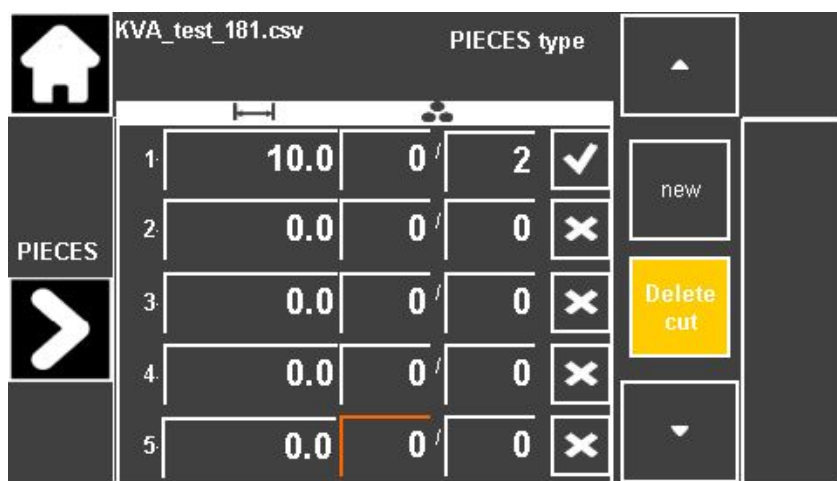


2. A screen appears for entry in the automatic cycle settings.

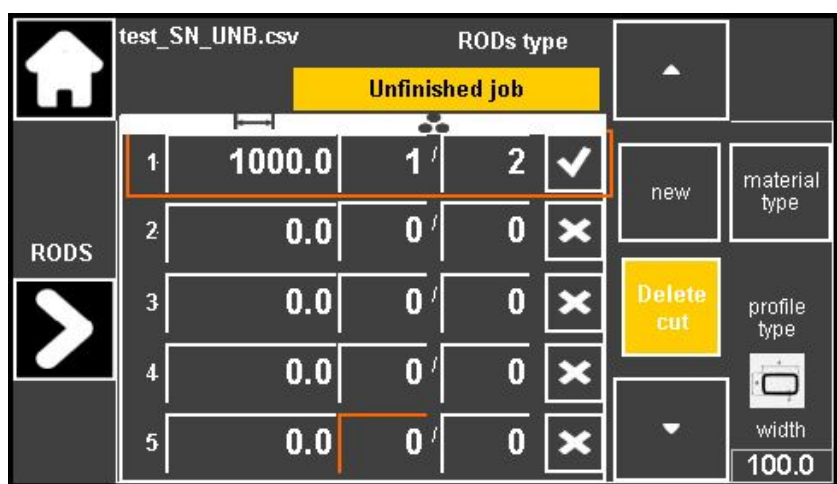


3. After you push the option for entry in the automatic cycle settings, the first screen of the currently loaded recipe appears.

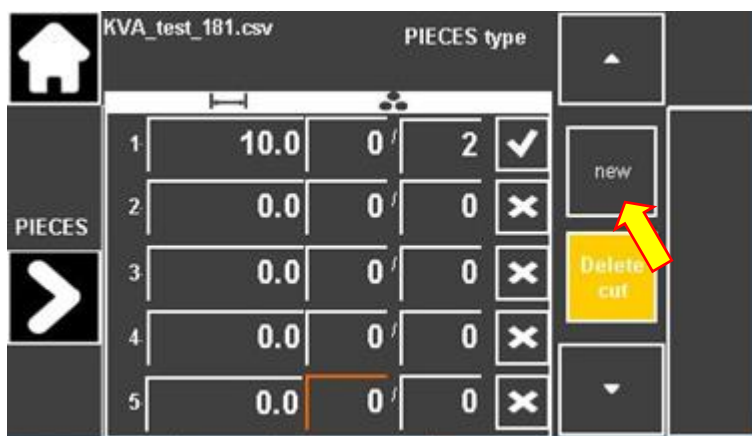
Recipe screen for the "PIECES" type automatic cycle ("PIECES" automat)



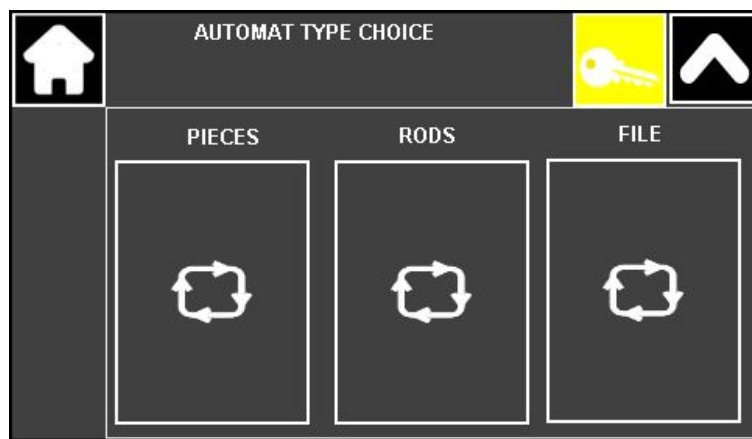
Recipe screen for the "RODS" type automatic cycle ("RODS" automat)



4. Choose the “New” option on any displayed screen of the currently loaded recipe.



5. After you push the “New” option, a screen appears for selection of the automatic cycle type for which the new recipe will be intended:

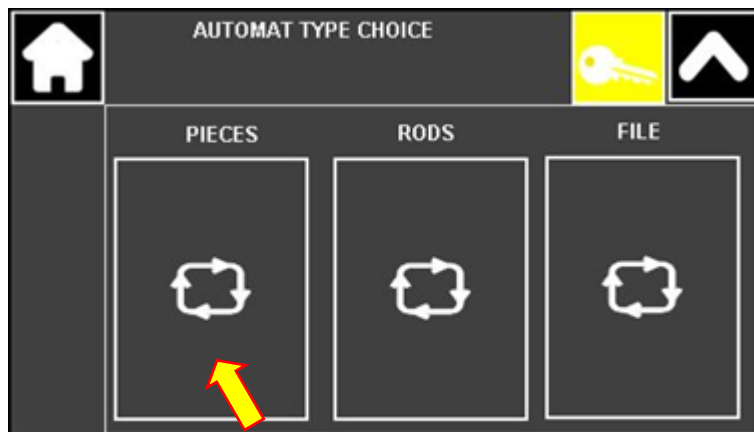


Pos.	Function
PIECES	Entry in the menu enabling creation of a recipe for the “PIECES” type automatic cycle.
RODS	Entry in the menu enabling creation of a recipe for the “RODS” type automatic cycle.
FILE	Entry in the menu for administration of recipe files. It is recommended to use this option only to load a saved recipe as the current recipe. Caution! This option is not used to save a newly created recipe! For details, see chapter “Administration of recipe files”.

3.9.3. Recipe creation on the machine for the "PIECES" type automatic cycle

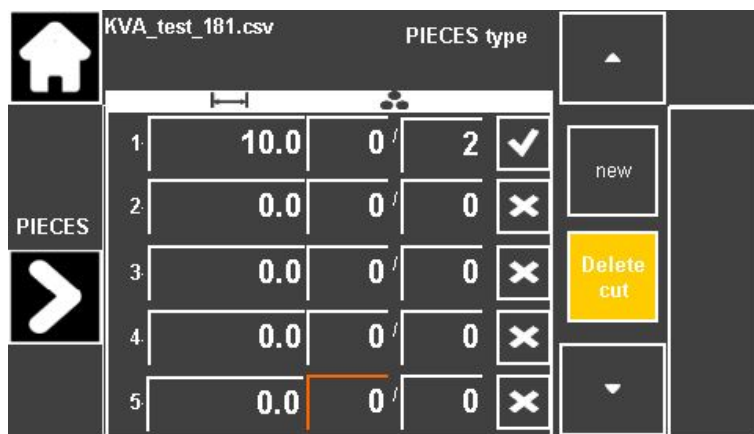
3.9.3.1. Entry in the menu for recipe creation for the "PIECES" type automat

1. On the screen for selection of the automat types, choose the "PIECES" automat type.

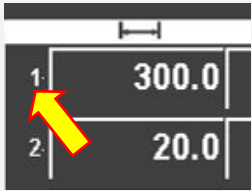
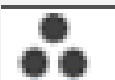


2. The first recipe screen appears

This screen is used to enter information on lengths, quantities and cutting sequence of final pieces



3.9.3.2. Description of the recipe creation screen for the "PIECES" type automat

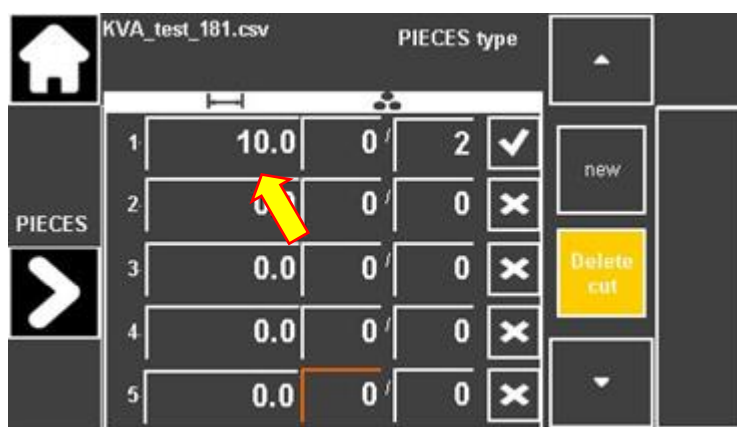
Pos.	Function
	Recipe name
	Type of the automatic cycle for the control of which the recipe is intended
	PIECES – information that data on final pieces are entered on the given screen
	Browsing between screens
	Line number = number of the batch of final pieces, to which parameters entered in the given line apply. If more than 1 piece is entered in the field for the required number of pieces, all pieces of this batch will be cut in immediate succession.
	Required length of cut piece
	Number of already cut final pieces of the given length from the batch entered in the given line / Required number of final pieces of the given length in the batch entered in the given line
	 - cut the given recipe line  - not cut the given recipe line
	Browsing between lines The chosen line is highlighted in a colour frame.
	New – The icon is used to load a new recipe.

Pos.	Function
	Option to delete the number of finished pieces

3.9.3.3. Procedure of recipe creation for the "PIECES" type automatic cycle

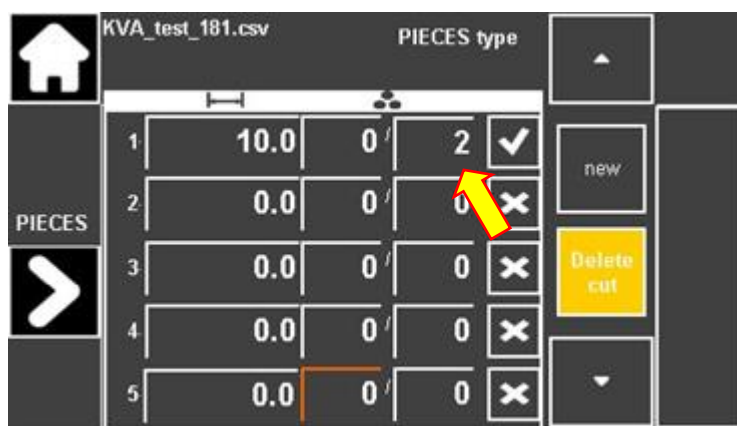
During recipe composition, the following rules must be taken into account:

- The recipe for the "PIECES" type automatic cycle requires entry of information on:
 - required length of final pieces



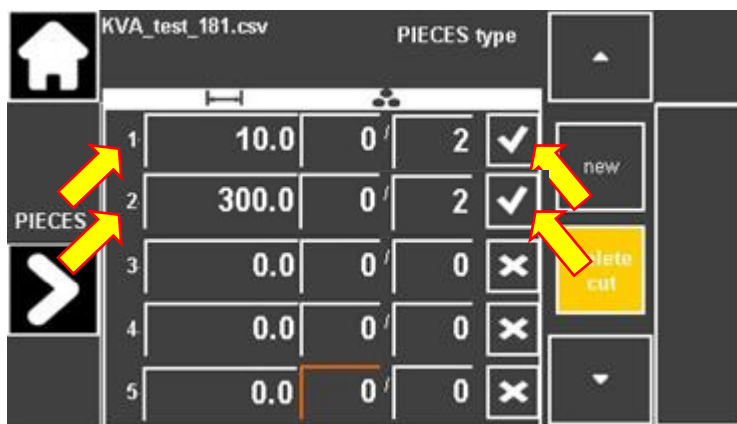
Pos.	Length	Quantity	Check
1	10.0	2	✓
2	0.0	0	✗
3	0.0	0	✗
4	0.0	0	✗
5	0.0	0	✗

- required number of final pieces of identical length to be cut successively



Pos.	Length	Quantity	Check
1	10.0	2	✓
2	0.0	0	✗
3	0.0	0	✗
4	0.0	0	✗
5	0.0	0	✗

- cutting sequence of final pieces – that is, defining sequence in which the planned pieces will be cut successively. This information is given by the sequence of the individual recipe lines and their ticking off.



KVA_test_181.csv		PIECES type		
1	10.0	0	2	✓
2	300.0	0	2	✓
3	0.0	0	0	✗
4	0.0	0	0	✗
5	0.0	0	0	✗

- Enter information in the individual lines in the sequence in which final pieces will be cut successively.
- One or more pieces of the same length can be entered in one line on the recipe screen.
- After parameters of final pieces have been entered fully, you can still additionally adapt configuration of final pieces by ticking off the lines which should really be executed in the given automatic cycle.

On the recipe screen:

Mark the pieces (lines) to be cut in the given cycle with a tick .

Mark the pieces (lines) not to be cut with a cross .

3.9.3.4. Cutting by recipe for the "PIECES" type automatic cycle

- The "PIECES" type automatic cycle starts cutting according to the pertinent recipe of the "PIECES" type from the first non-zero line ticked off.
- All pieces in the current line are always cut in immediate succession; only then the cycle continues with the next line.

Loading of another material is required whenever it is no longer possible to load the required cutting length specified according to the current recipe

3.9.3.5. Examples of recipes created for the "PIECES" type automatic cycle

• EXAMPLE 1

Task

In one automatic cycle, the following should be cut:

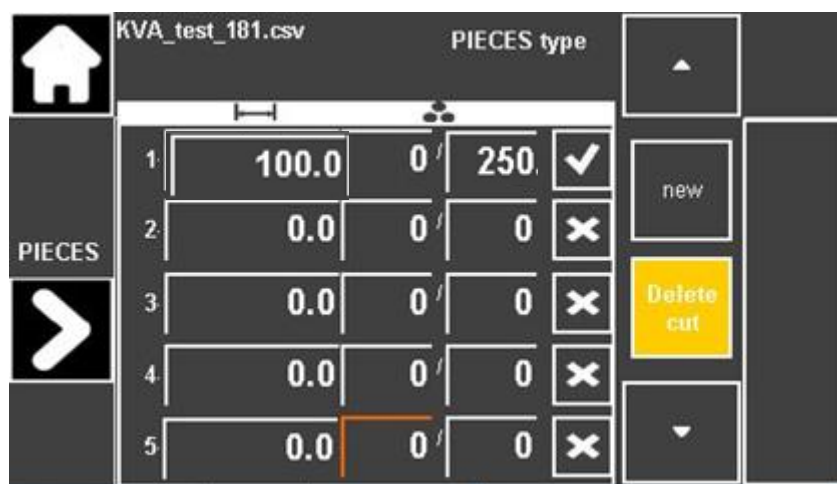
250 pcs of 100mm length

Semi-products will be RODS of identical section, different length.

The cut-in length is to be set approximately.

The minimum residual length required by the machine user for further processing is not specified.

Recipe



KVA_test_181.csv		PIECES type	
1	100.0	0	250
2	0.0	0	0
3	0.0	0	0
4	0.0	0	0
5	0.0	0	0

Cutting in the "PIECES" automatic cycle will proceed as follows:

Every bar will be cut as long as the required cutting length can be loaded.

As soon as another specified length cannot be loaded, loading of another material will be requested.

The resultant length of residual piece from every cut will be individual, depending on the cut-in length entered and the number of whole pieces which could be cut from the given material after cut-in.

• **EXAMPLE 2**

In one automatic cycle, cutting should be done in the following sequence:

18 pcs of 100mm length

3 pcs of 200mm length

4 pcs of 250 mm length

2 pcs of 300mm length

6 pcs of 400mm length

Semi-products will be RODS of identical section, different length.

The cut-in length is to be set approximately.

The minimum residual length required by the machine user for further processing is not specified.

Recipe

KVA_test_181.csv		PIECES type			
PIECES	Length (mm)	Count	Check	new	Delete cut
1	100.0	0	18	✓	
2	200.0	0	3	✓	
3	250.0	0	4	✓	
4	300.0	0	2	✓	
5	400.0	0	6	✓	

Cutting in the "PIECES" automatic cycle will proceed as follows:

Every bar will be cut as long as the required cutting length can be loaded.

As soon as another specified length cannot be loaded, loading of another material will be requested.

The resultant length of residual piece from every cut will be individual, depending on the cut-in length entered and the number of whole pieces which could be cut from the given material after cut-in.

3.9.4. Recipe creation on the machine for the “RODS” type automatic cycle

Before creation of a recipe for the “RODS” type automatic cycle, it is necessary to prepare a cutting plan which orders all required final pieces on the individual semi-products so that there remains a residual piece of a minimum length required by the machine user. This plan is a prerequisite for recipe creation for the “RODS” type automatic cycle.

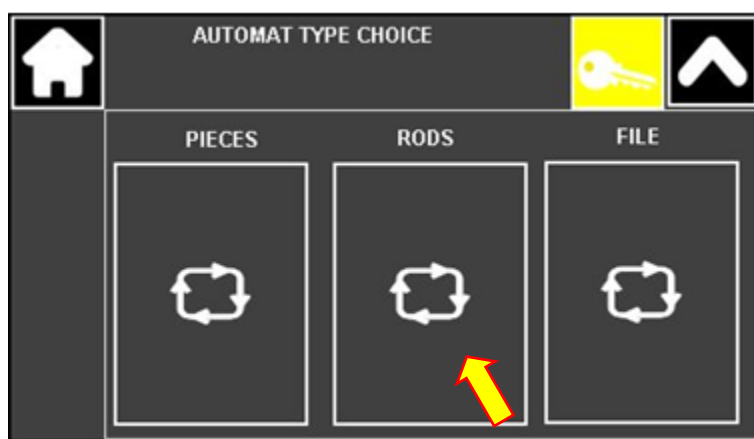
If a recipe for the “RODS” type automatic cycle is created by means of the machine software, the above mentioned plan must be created in advance by a person authorized by the user; the recipe is only entered in the machine on the basis of this plan.

If a recipe for the “RODS” type automatic cycle is created by means of the independent Saw Manager software, the above mentioned cutting plan is created automatically by means of this software; the output of the Saw Manager software is a completed recipe for control of the “RODS” type automatic cycle on the machine.

The required minimum residual length must not be lower than the length of the minimum technological remainder for the given machine with the given equipment (the residual length is primarily affected by the upper clamping).

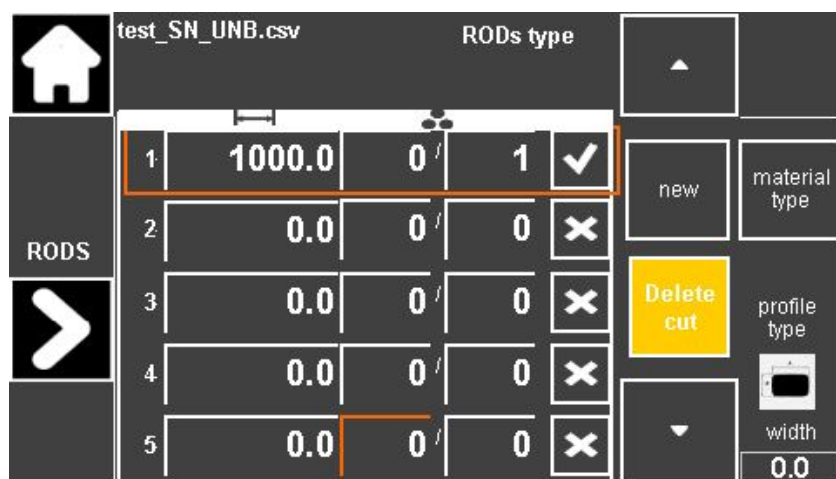
3.9.4.1. Entry in the menu for recipe creation for the “RODS” type automat

1. On the automat type selection screen, choose the “RODS” automat type.



After you push the “RODS” option, the first recipe screen appears.

The first recipe screen is always used to enter information on parameters and sequence of bar semi-product batches as they are to be successively loaded in the machine during the automatic cycle.



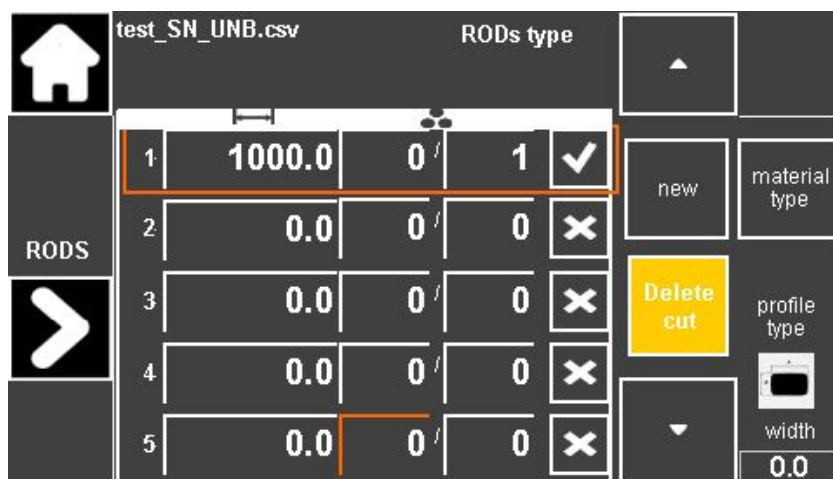
3.9.4.2. Description of screens for the "RODS" type automat

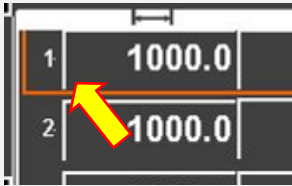
The recipe for the "RODS" type automat has:

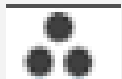
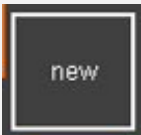
- two types of basic screens
- and one additional screen.

Basic screens:

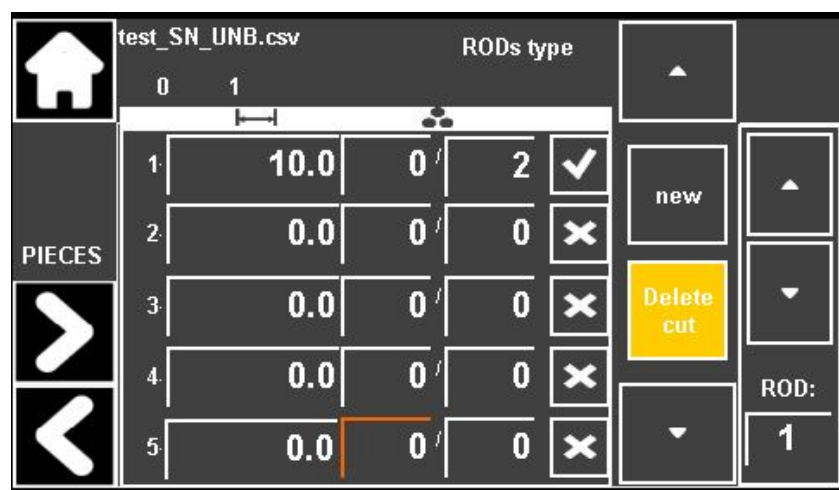
1. Screen for entry of information on bar semi-product batches ("RODS" screen)



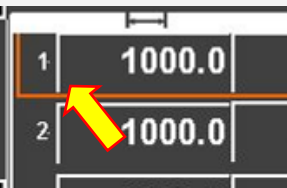
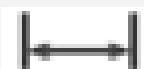
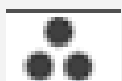
Pos.	Function
	Recipe name
	Type of automatic cycle for control of which the recipe is intended
	RODS – information that data on bar semi-products are entered on the given screen
	Browsing between screens
	Line number = identification number of the given aggregate batch of bar semi-products
	Length of bar semi-products in the given batch

Pos.	Function
	number of already cut rods from the given batch / total number of rods to be loaded in the given batch
 	 - cut the given recipe line  - not cut the given recipe line
 	Browsing between lines The chosen line is highlighted in a colour frame.
	New – The icon is used to load a new recipe.
	Option to enter bar section parameters for the given recipe
	Option to delete the number of finished pieces
	Display of entered parameters of bar sections for the given recipe These parameters are entered in the table located under the option 

2. Screen for entry of information on layout of final pieces on semi-product rods ("PIECES" screen)



Pos.	Function
	Recipe name
	Information on number of already cut semi-products from the given batch (that is, the corresponding line on the RODS screen) / required total number of semi-products from the given batch to be loaded
	Automat type for which parameters are entered
	PIECES – information that data on final pieces to be cut from the given bar are entered on the given screen
	Browsing between screens

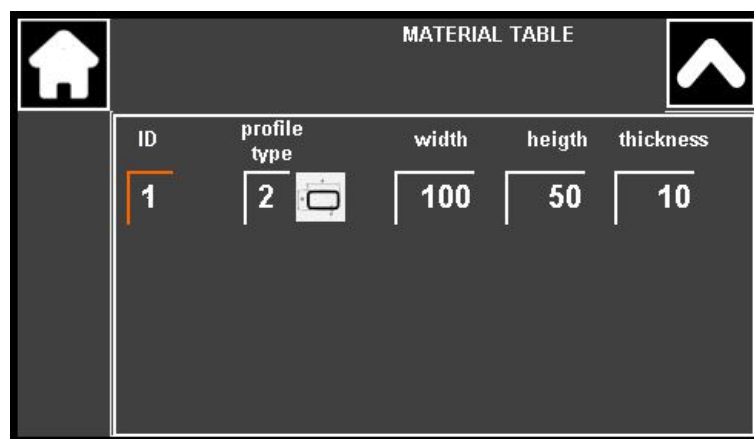
Pos.	Function
	Line number = number of the batch of final pieces, to which parameters entered in the given line apply. If more than 1 piece is entered in the field for the required number of pieces, all pieces of this batch will be cut in immediate succession.
	Required length of cut piece
	Number of already cut pieces of the given length from the batch entered in the given line / Required number of pieces of the given length in the batch entered in the given line
	 - cut the given recipe line  - not cut the given recipe line
	Browsing between lines The chosen line is highlighted in a colour frame
	New – icon used for work with recipes (creation, saving, loading, deleting)
	Option to delete the number of finished pieces
	Browsing between entered rods You can use the arrows to browse in the given recipe, between rods displayed on the screen for entry of bar parameters without having to switch between the PIECES and RODS screens.

Pos.	Function
ROD: 1	Number of the line in which parameters for the given semi-product rods are entered, to which the displayed "Pieces" screen applies

Additional screen:

The recipe for the "RODS" type automat also includes an additional screen "Material table".

The table contains information on semi-product sections entered in the given recipe.



ID	profile type	width	height	thickness
1	2 	100	50	10

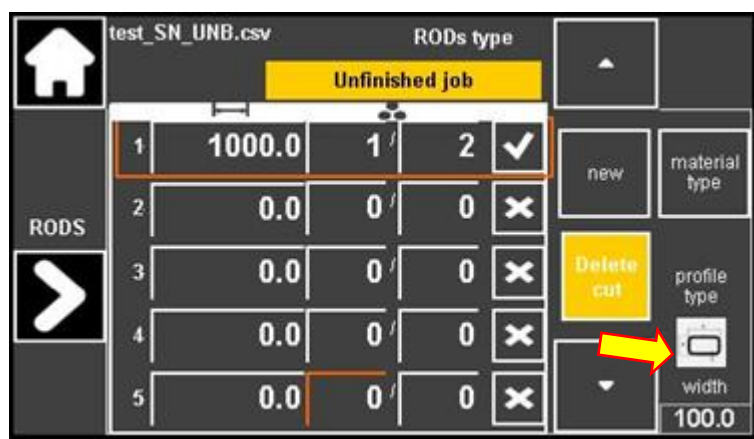
Note:

If the selection does not include the section corresponding to the really cut section, choose the most similar section, which best enables entry of the required basic parameters – the real section.

If a bundle of rods is entered, choose a section corresponding to the entire bundle section.

Note:

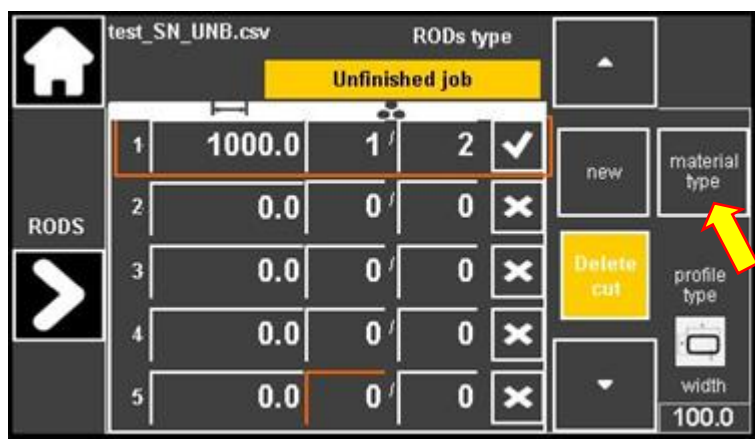
The chosen parameters of the semi-product section (section type and width), entered on the "Material table" screen, are automatically displayed on the screen used for entry of bar semi-product parameters



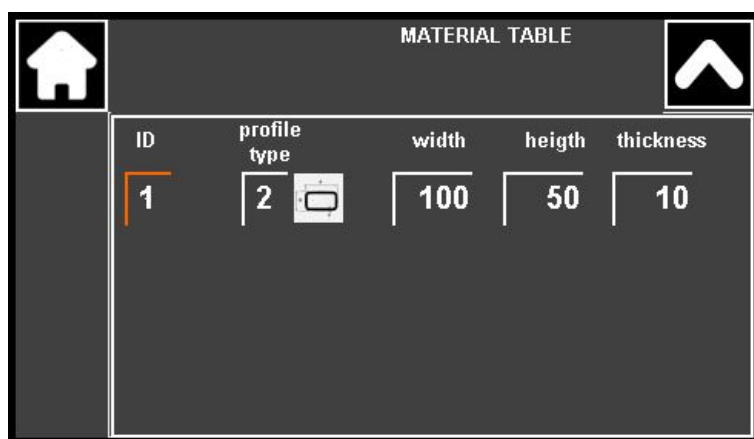
ID	width	height	thickness	
1	1000.0	1	2	✓
2	0.0	0	0	✗
3	0.0	0	0	✗
4	0.0	0	0	✗
5	0.0	0	0	✗

3.9.4.3. Procedure of recipe creation for the "RODS" type automatic cycle

1. On the auxiliary screen of the recipe for the "RODS" type automatic cycle, you must first enter information on the semi-product sections which are to be individually loaded in the machine within the given cutting cycle.
 - a) On the screen for entry of information on batches of bar semi-products, push the "Material type" option



- b) A screen opens with a table in which you must enter data on sections of bar semi-products to be cut in the automatic cycle controlled by this recipe



2. Further, it is necessary to enter information on cutting batches of bar semi-products on the RODS screen.

The cutting batch of bar semi-products is a series of bar semi-products which:

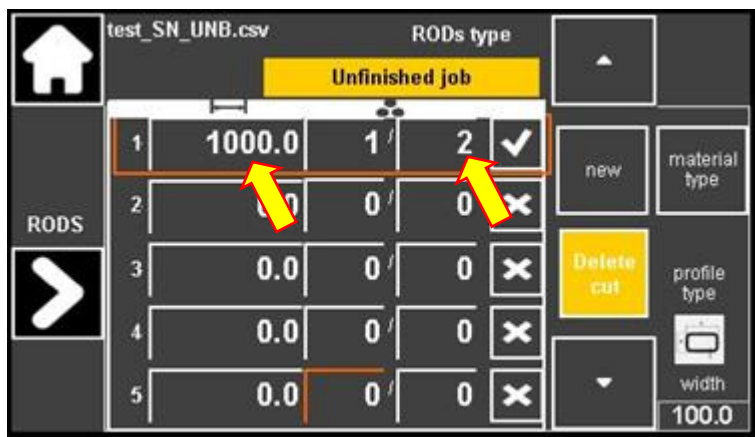
- are of the same length;
- are to be loaded successively in the automatic cycle;
- and the final pieces will be cut on them according to the same specification of configuration of final pieces on every bar (entered on the "PIECES" screen).

One cutting batch of bar semi-products is entered in one recipe line on the RODS screen.

Semi-products of different lengths can be loaded in one automatic cycle; every different length must be indicated in a separate line on the RODS screen.

In each line of the RODS screen, it is necessary to enter:

- length of individual semi-products to be cut in the given batch
- number of pieces of semi-products to be cut in the given batch



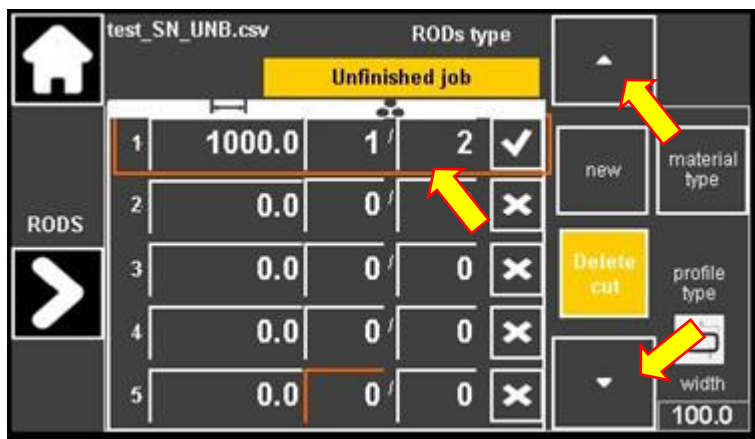
	Length	Pieces	Check
1	1000.0	1	2 ✓
2	0.0	0	0 ✗
3	0.0	0	0 ✗
4	0.0	0	0 ✗
5	0.0	0	0 ✗

In the individual lines of the recipe on the RODS screen, enter data on bar semi-product batches in the sequence in which these batches are to be successively loaded in the machine.

- For every line created on the "RODS" screen, it is further necessary to create a separate specification defining layout of final pieces on every bar of the given batch.

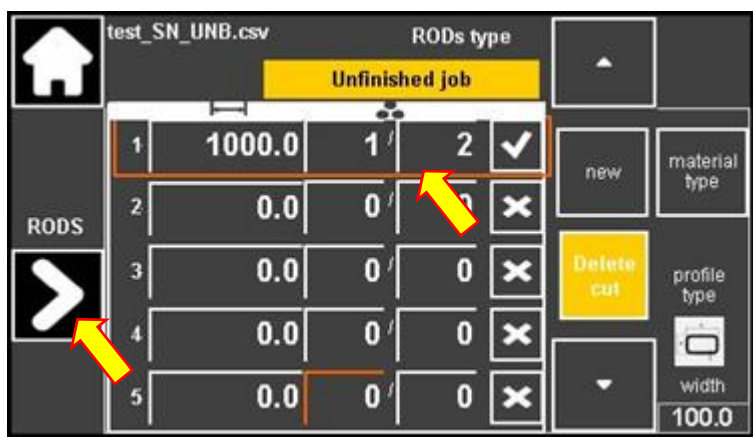
All rods in a single line on the "RODS" screen will be cut by one recipe created for the given line specifically.

- On the screen used for entry of information on batches of bar semi-products, use the browsing arrows to find the line, namely the bar batch, for which you are to enter the first specification on layout of final pieces.



	Length	Pieces	Check
1	1000.0	1	2 ✓
2	0.0	0	0 ✗
3	0.0	0	0 ✗
4	0.0	0	0 ✗
5	0.0	0	0 ✗

- b) After you have chosen and marked the pertinent line with the pertinent bar batch, push the option for browsing between screens



Line	Length	Diameter	Check
1	1000.0	1	2 ✓
2	0.0	0	0 ✗
3	0.0	0	0 ✗
4	0.0	0	0 ✗
5	0.0	0	0 ✗

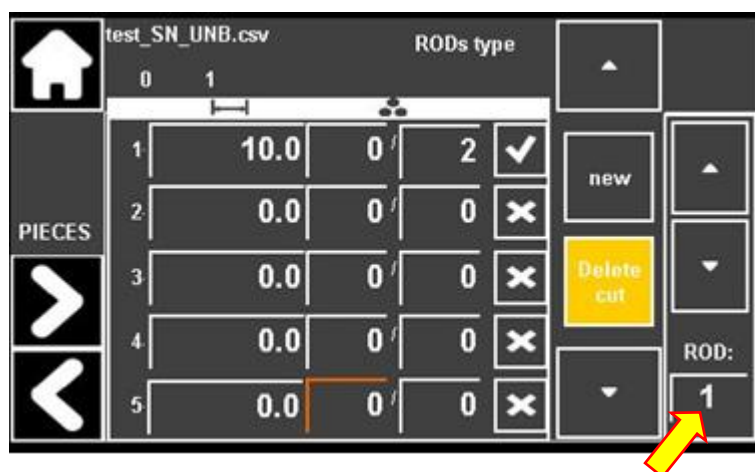
Note

To make clear the relationship between the individual lines on the RODS screen and the individual PIECES screens in the recipe for the "RODS" type automatic cycle, **the layout specification of final pieces and the pertinent semi-product batch are identified with an identical number which:**

- on the screen for entry of information on batches of bar semi-products, identifies **number of the line** in which the pertinent batch is entered;
- on the screen for entry of information on layout of final pieces, it is indicated in the "ROD" field.



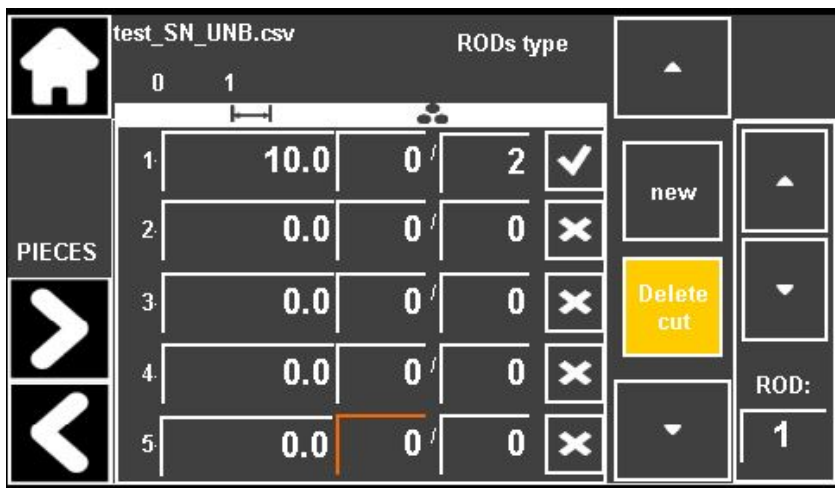
Line	Length	Diameter	Check
1	1000.0	1	2 ✓
2	0.0	0	0 ✗
3	0.0	0	0 ✗
4	0.0	0	0 ✗



Line	Length	Diameter	Check
1	10.0	0	2 ✓
2	0.0	0	0 ✗
3	0.0	0	0 ✗
4	0.0	0	0 ✗
5	0.0	0	0 ✗

ROD: 1

- c) The “PIECES” screen appears to enter information on layout of final pieces on rods from the given bar batch



test_SN_UNB.csv		RODs type	
0	1		
1	10.0	0	2 ✓
2	0.0	0	0 ✗
3	0.0	0	0 ✗
4	0.0	0	0 ✗
5	0.0	0	0 ✗

PIECES

new

Delete cut

ROD: 1

- d) On this screen, compile the specification according to which final pieces are to be laid out and cut on every bar of the given batch.

For a single bar, more different lengths of final pieces can be entered in more lines.

Therefore, one line on the screen for entry of information on layout of final pieces on rods is intended for entry of information on one continuous series of final pieces which:

- are of identical length
- and are to be cut in immediate succession

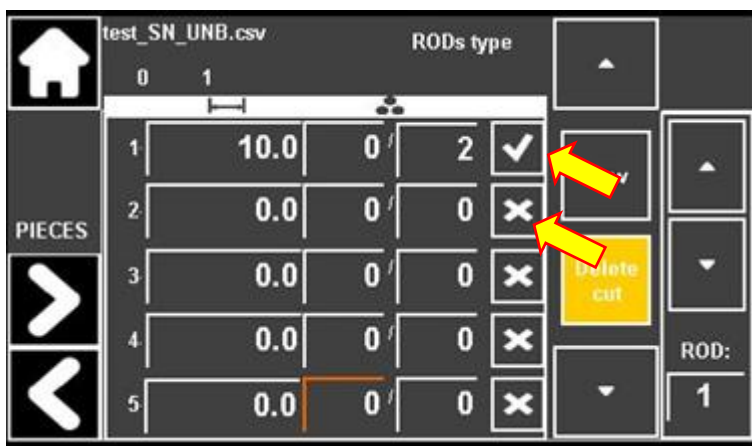
The lines must be entered in the sequence in which final pieces are to be ordered and successively cut on the semi-product bar.

4. Having completely entered parameters of final pieces on the “PIECES” screen, you can additionally adapt configuration of final pieces which should really be executed in the given automatic cycle by **ticking off lines on the “PIECES” screen**

Mark the pieces (lines) which are to be cut in the given cycle with a tick



Mark the pieces (lines) which are not to be cut in the given cycle with a cross

test_SN_UNB.csv		RODs type	
0	1		
1	10.0	0	2 ✓
2	0.0	0	0 ✗
3	0.0	0	0 ✗
4	0.0	0	0 ✗
5	0.0	0	0 ✗

PIECES

new

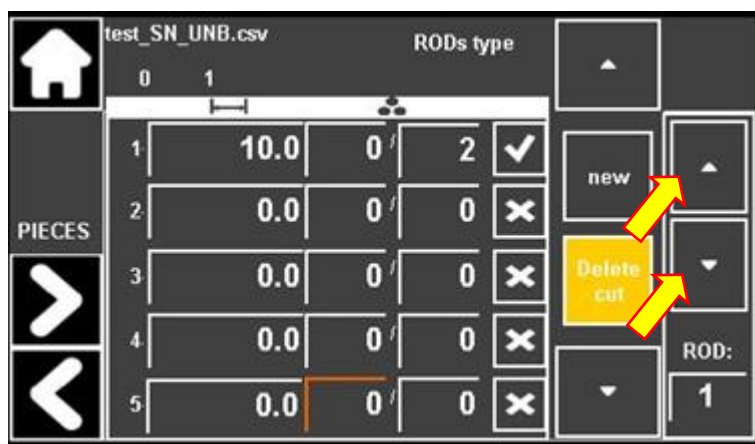
Delete cut

ROD: 1

5. Create the pertinent specification with configuration of final pieces for each line on the RODS screen.

Other individual specifications for bar semi-product batches in the recipe can be opened:

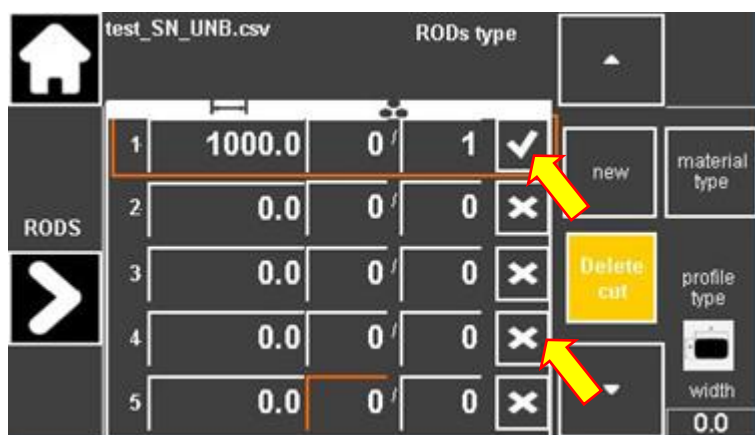
- either by return to the screen for entry of information on bar semi-product batches, in the above described way
- or by means of browsing arrows on the screen for entry of information on layout of final pieces on rods from the given batch of rods



6. Having completely entered the recipe, you can additionally adapt configuration of semi-product batches which are to be loaded and cut during a specific cutting cycle by ticking off lines on the "RODS" screen

Mark the semi-product batches to be loaded in the given cycle with a tick .

Mark the semi-product batches not to be loaded in the given cycle with a cross .



3.9.4.4. Cutting by a recipe for the "RODS" type automatic cycle

- **The automatic cycle of the "RODS" type starts cutting by the pertinent recipe so that:**
 - It starts from the first non-zero line ticked off on the "RODS" screen.
 - On the first bar in this line, it cuts all pieces entered on the pertinent "PIECES" screen created for this line.
 - If more bar semi-products are entered in the cutting batch of bar semi-products on the "RODS" screen, the same configuration of all final pieces is repeatedly cut on every bar according to the same "RODS" screen.
 - After all bar semi-products in the given line have been cut, the cycle passes on the next line on the "RODS" screen and again cuts the first and all the other rods in the given line according to the uniform specification created on the "PIECES" screen which belongs to this line.
- **If bar semi-products of sufficient length are loaded, loading of another material is required any time when the whole configuration entered on the "PIECES" screen has been cut on one loaded bar.**
- **If a bar is loaded with insufficient length for cutting the whole entered batch, loading of another piece is required as soon as it is no longer possible to load another length for cutting.**

Unfinished pieces of the given semi-product will then not be cut from the next semi-product; they will just be registered in the table of unfinished pieces (see chapter "Unfinished pieces").

The new loaded material will be cut from the beginning precisely according to the given semi-product specification created on the "PIECES" screen.

3.9.4.5. Examples of recipes created for the "RODS" type automatic cycle

- **EXAMPLE 1**

Task

In one automatic cycle, the following should be cut:

250 pcs of 100mm length

Semi-products will be rods of solid square section 20 mm x20 mm, length 1000mm.

The approx. cut-in length will be 20 mm.

The minimum length of the technological remainder specified by the manufacturer is, for instance, 100 mm (*note: the value of 100 mm is only given for calculation purposes; it may not correspond to the real value for the given machine*).

The minimum specified residual value required by the machine user for further processing is 400 mm.

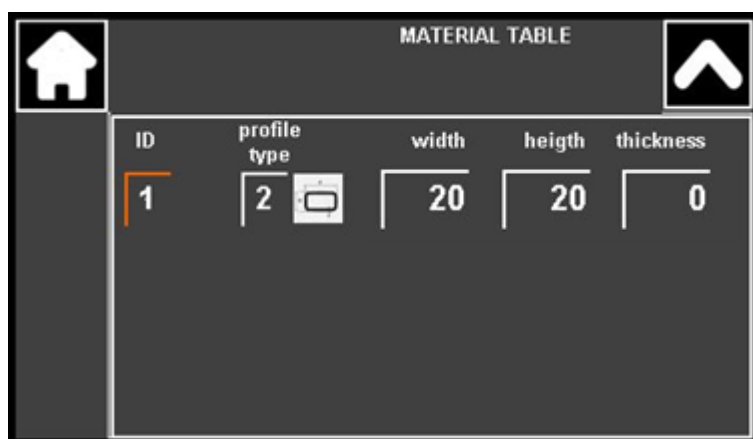
Preparation – pieces layout plan for individual rods

Layout of the given pieces on semi-product rods, so that a piece of min. length of 400 mm remains from every bar, is to be determined as follows::

Specification of final pieces				Semi-products specification		
Cutting sequence of final pieces on one semi-product bar	Number of pcs	Length	Check – residual piece length calculation	Number of rods to be loaded	Length of 1 bar	Semi-product batches sequence
1.	5 pcs	100mm	1000mm – 20 mm – (5 x 100mm) = 480mm	50	1000 mm	1.dose (= 1. line on the ROD screen)

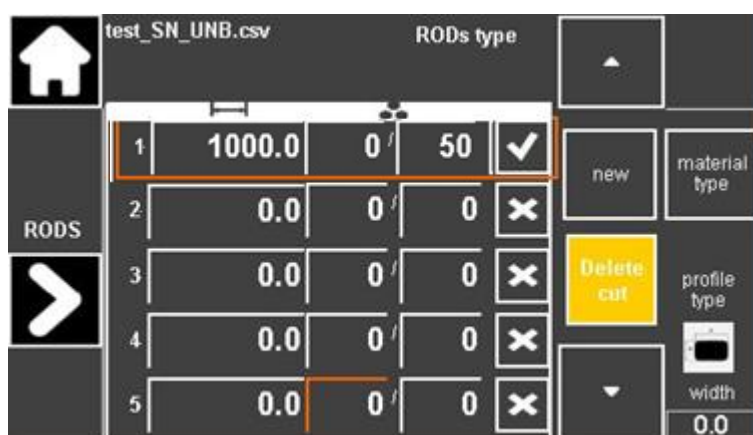
Recipe

1. Entry of bar semi-product section



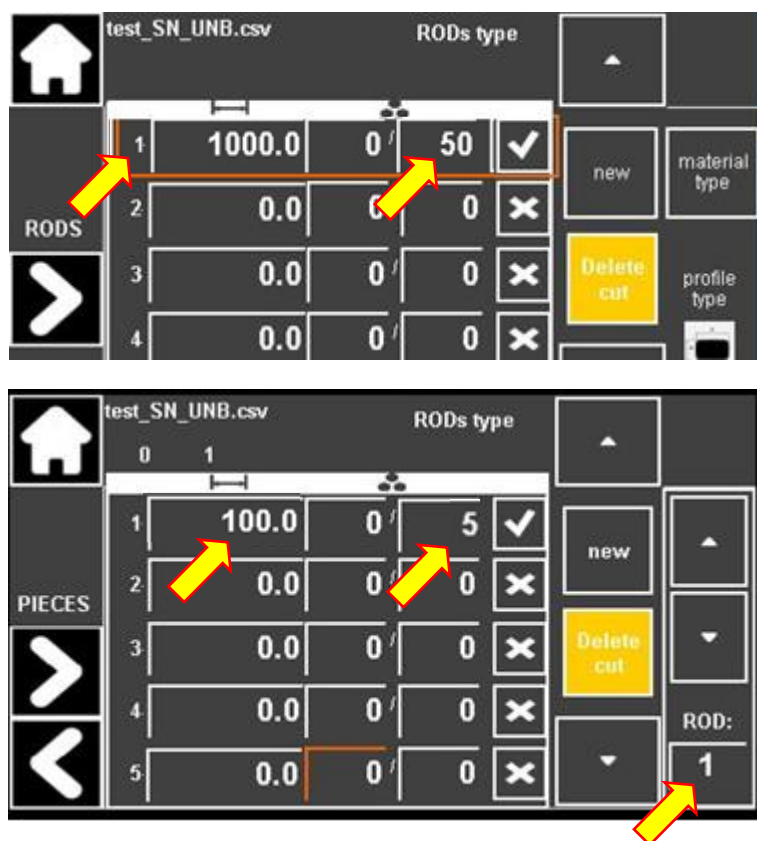
ID	profile type	width	height	thickness
1	2	20	20	0

2. Entry of parameters of the individual bar semi-product batches on the RODS screen:



ID	length	width	height	checkbox
1	1000.0	0	50	✓
2	0.0	0	0	✗
3	0.0	0	0	✗
4	0.0	0	0	✗
5	0.0	0	0	✗

3. Entry of final pieces for the 1st batch on the PIECES screen



Cutting by this recipe in the "RODS" type automatic cycle proceeds as follows:

In one batch, 50 pcs of semi-product rods of 100mm length will be cut so that 5 final pieces will be cut from every bar.

50 x 5 = 250 final pieces of 100mm length

From every semi-product bar, a residual piece remains of the length: $1000 - 20 - (8 \times 100) = 480 \text{ mm}$

After 5 pieces have been cut from every loaded bar, loading of another material will be required.

After cutting of 5 pieces from the last bar – end of the automatic cycle.

• **EXAMPLE 2**

Task

One automatic cycle includes cutting of:

18 pcs of 100mm length

3 pcs of 200mm length

4 pcs of 250mm length

2 pcs of 300mm length

6 pcs of 400mm length

Semi-products will be rods of solid square section 20 mm x20 mm, length 1000mm.

Approx. cut-in length will be 50mm.

The minimum length of the technological remainder specified by the machine manufacturer is, for instance, 100 mm (*note: the value of 100 mm is only given for calculation purposes; it may not correspond to the real value for the given machine*).

The minimum specified residual value required by the machine user for further processing is 140 mm.

Preparation – pieces layout plan for individual rods

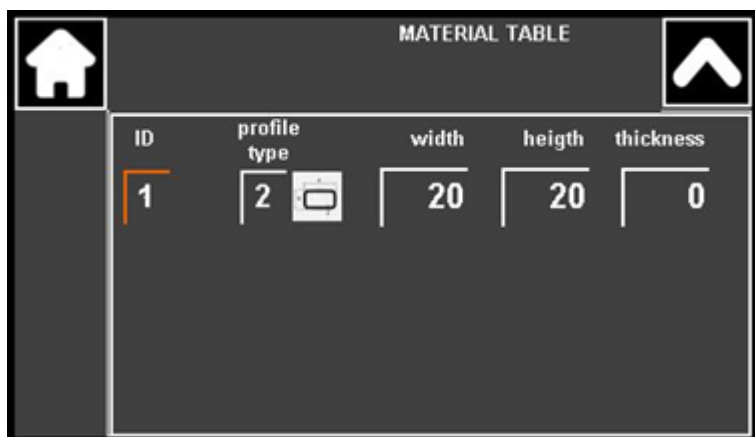
Layout of the given pieces on semi-product rods, so that a piece of min. length of 150 mm remains from every bar, is to be determined as follows::

Specification of final pieces				Semi-products specification		
Cutting sequence of final pieces on one semi-product bar	Number of pcs	Length	Check – residual piece length calculation	Number of rods to be loaded	Length of 1 bar	Semi-product batches sequence
1.	8 ks	100mm	1000mm – 50 mm – (8x 100mm) = 150mm	2	1000 mm	1.dose
1.	8 ks	100mm	1000mm – 50 mm – (8x 100mm) = 150mm			(= 1. line on the ROD screen)

Specification of final pieces			Check – residual piece length calculation	Semi-products specification		
Cutting sequence of final pieces on one semi-product bar	Number of pcs	Length		Number of rods to be loaded	Length of 1 bar	Semi-product batches sequence
1.	2 pcs	100mm	1000mm – 50mm - (2x100mm) – (3x200mm) = 150mm	1	1000 mm	2.dose (= 2. line on the ROD screen)
2.	3 pcs	200mm				
1.	2 pcs	250mm	1000mm- - 50mm --(2x250mm) - (1x300mm) = 150mm	2	1000 mm	3.dose (= 3. line on the ROD screen)
2.	1 pcs	300mm				
1.	2 pcs	250mm	1000mm- - 50mm --(2x250mm) - (1x300mm) = 150mm			
2.	1 pcs	300mm				
1.	2 pcs	400mm	1000mm – 50 mm - (2x 400mm) = 150mm	3	1000 mm	4.dose (= 4. line on the ROD screen)
1.	2 pcs	400mm	1000mm – 50 mm - (2x 400mm) = 150mm			
1.	2 pcs	400mm	1000mm – 50 mm - (2x 400mm) = 150mm			

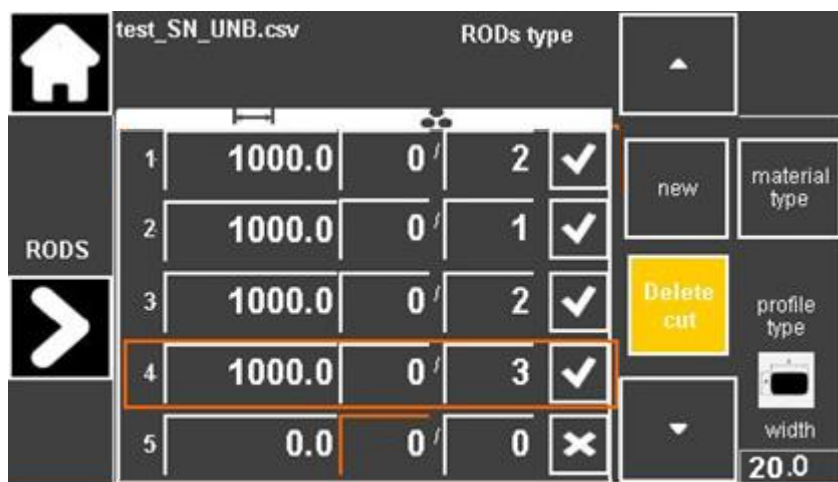
Recipe

1. Entry of bar semi-product section



ID	profile type	width	height	thickness
1	2 	20	20	0

2. Entry of parameters of the individual bar semi-product batches on the RODS screen:

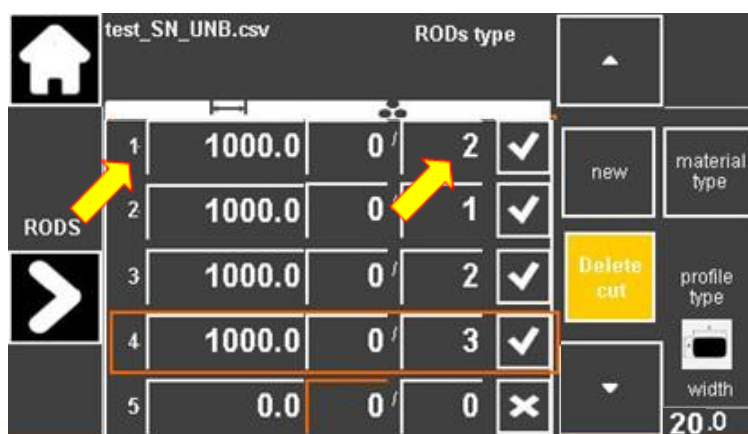
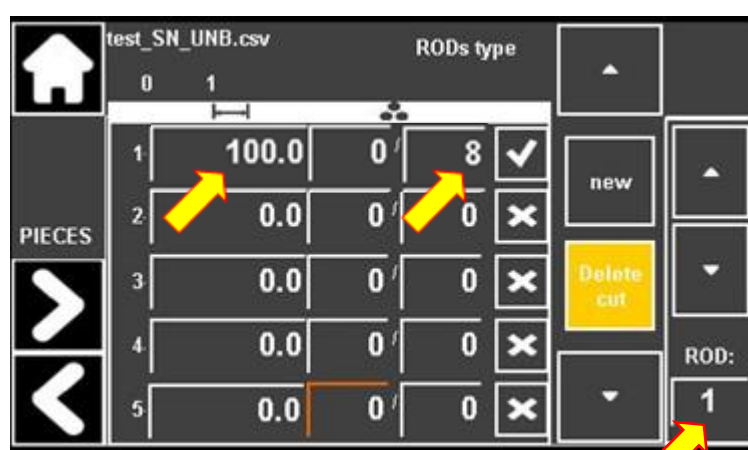


ID	width	height	RODs type	checkbox
1	1000.0	0	2	☒
2	1000.0	0	1	☒
3	1000.0	0	2	☒
4	1000.0	0	3	☒
5	0.0	0	0	☒

Buttons: new, material type, profile type, width, Delete cut

3. Entry of final pieces for the 1st batch on the PIECES screen

Specification of final pieces			Check – residual piece length calculation	Semi-products specification		
Cutting sequence of final pieces on one semi-product bar	Number of pcs	Length		Number of rods to be loaded	Length of 1 bar	Semi-product batches sequence
1.	8 pcs	100mm	1000mm – 50 mm – (8x 100mm) = 150mm	2	1000 mm	1.dose
1.	8 pcs	100mm	1000mm – 50 mm – (8x 100mm) = 150mm			(= 1. line on the ROD screen)

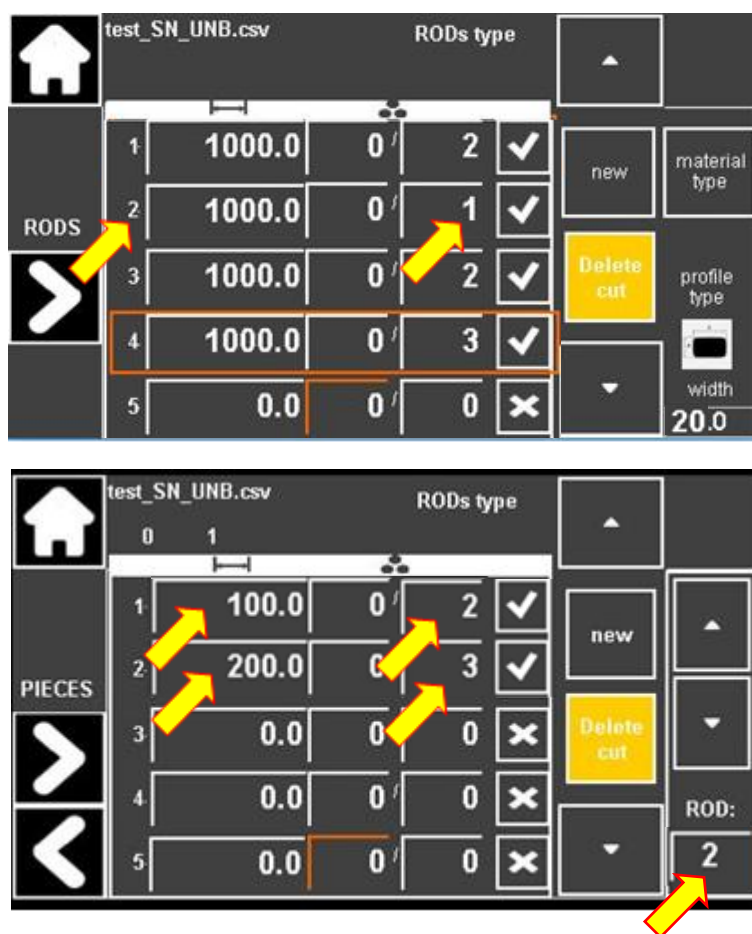
Cutting:

In the first batch, 2 semi-product rods will successively be loaded and cut so that 8 final pieces of 100mm length will be cut from every bar of 1000mm length.

$2 \times 8 = 16$ final pieces of 100mm length

4. Entry of final pieces for the 2nd batch on the PIECES screen

Specification of final pieces			Check – residual piece length calculation	Semi-products specification		
Cutting sequence of final pieces on one semi-product bar	Number of pcs	Length		Number of rods to be loaded	Length of 1 bar	Semi-product batches sequence
1.	2 pcs	100mm	1000mm – 50mm – (2x100mm) – (3x200mm) = 150mm	1	1000 mm	2.dose (= 2. line on the ROD screen)
2.	3 pcs	200mm				



RODS screen:

RODS	Length	Residual	Count	Check
1	1000.0	0	2	✓
2	1000.0	0	1	✓
3	1000.0	0	2	✓
4	1000.0	0	3	✓
5	0.0	0	0	✗

PIECES screen:

PIECES	Length	Residual	Count	Check
1	100.0	0	2	✓
2	200.0	0	3	✓
3	0.0	0	0	✗
4	0.0	0	0	✗
5	0.0	0	0	✗

Cutting:

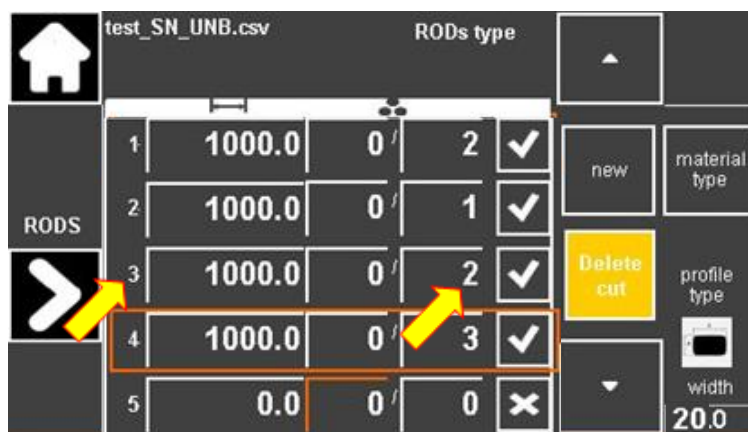
In the second batch, 1 semi-product bar of 1000mm length will be loaded and cut so that 2 final pieces of 100mm length and 3 final pieces of 200mm length will be cut.

1 x 2 final pieces of 100mm length

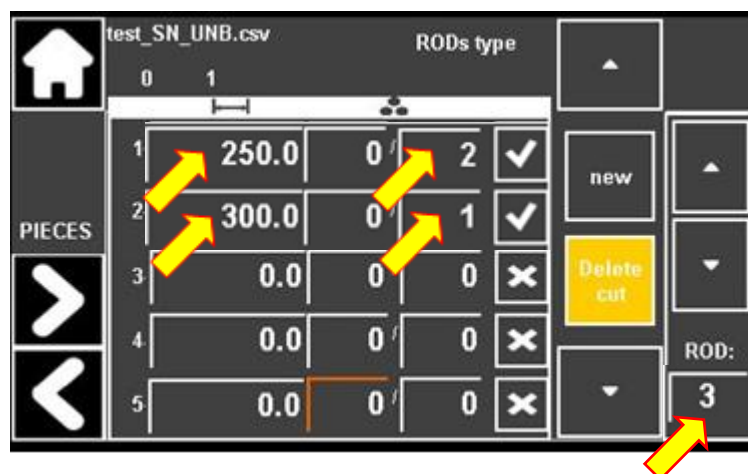
1 x 3 final pieces of 200mm length

5. Entry of final pieces for the 3rd batch on the PIECES screen

Specification of final pieces			Check – residual piece length calculation	Semi-products specification		
Cutting sequence of final pieces on one semi-product bar	Number of pcs	Length		Number of rods to be loaded	Length of 1 bar	Semi-product batches sequence
1.	2 pcs	250mm	1000mm- - 50mm --(2x250mm) - (1x300mm) = 150mm	2	1000 mm	3.dose (= 3. line on the ROD screen)
2.	1 pcs	300mm				
1.	2 pcs	250mm	1000mm- - 50mm --(2x250mm) - (1x300mm) = 150mm			
2.	1 pcs	300mm				



	1	2	3	4	5
1	1000.0	0	2	✓	
2	1000.0	0	1	✓	
3	1000.0	0	2	✓	
4	1000.0	0	3	✓	
5	0.0	0	0	✗	



	1	2	3	4	5
1	250.0	0	2	✓	
2	300.0	0	1	✓	
3	0.0	0	0	✗	
4	0.0	0	0	✗	
5	0.0	0	0	✗	

Cutting:

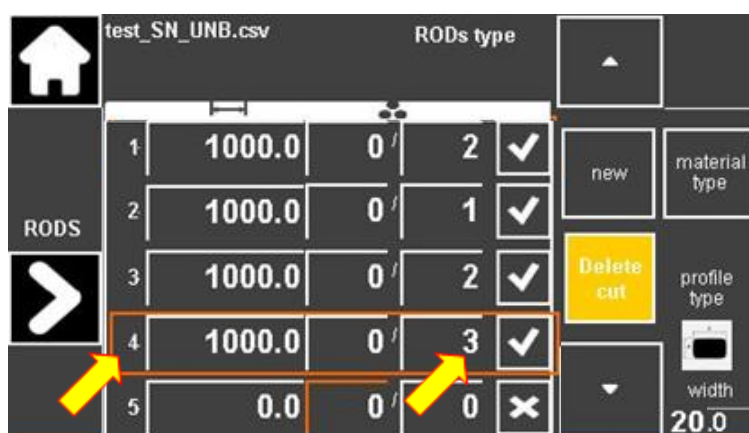
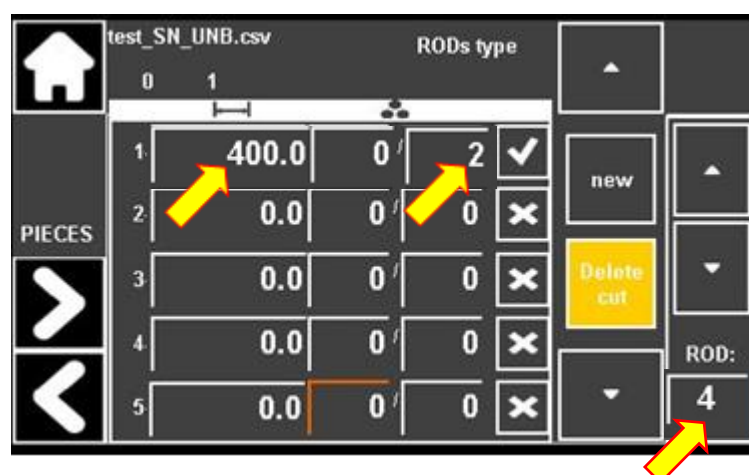
In the third batch, 2 semi-product rods will successively be loaded and cut so that 2 final pieces of 250mm length and 1 final piece of 300mm length will be cut from every bar of 1000mm length.

2x2 = 4 final pieces of 250mm length

2x1 = 2 final pieces of 300mm length

6. Entry of final pieces for the 4th batch on the PIECES screen

Specification of final pieces				Semi-products specification		
Cutting sequence of final pieces on one semi-product bar	Number of pcs	Length	Check – residual piece length calculation	Number of rods to be loaded	Length of 1 bar	Semi-product batches sequence
1.	2 pcs	400mm	1000mm – 50 mm – (2x 400mm) = 150mm	3	1000 mm	4.dose (= 4. line on the ROD screen)
1.	2 pcs	400mm	1000mm – 50 mm – (2x 400mm) = 150mm			
1.	2 pcs	400mm	1000mm – 50 mm – (2x 400mm) = 150mm			

Cutting:

In the 4th batch, 3 semi-product rods will successively be loaded and cut so that 2 final pieces of 400mm length will be cut from every bar of 1000mm length.

$3 \times 2 = 6$ final pieces of 400mm length

3.9.5. Administration of recipe files

3.9.5.1. Recipe file extensions

Recipe files saved in the machine memory have always the **.bcpl** extension.

The **.bcpl** extension will be assigned to any recipe file saved in the machine memory, even if the original file had another extension.

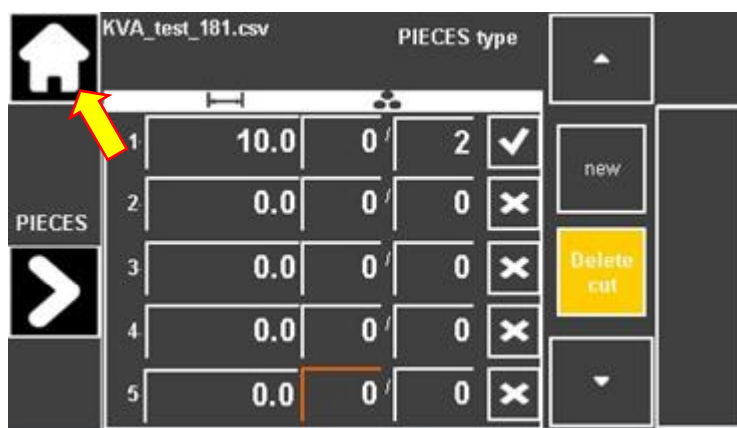
Recipes exported from the independent Saw Manager software have the **.csv** extension.



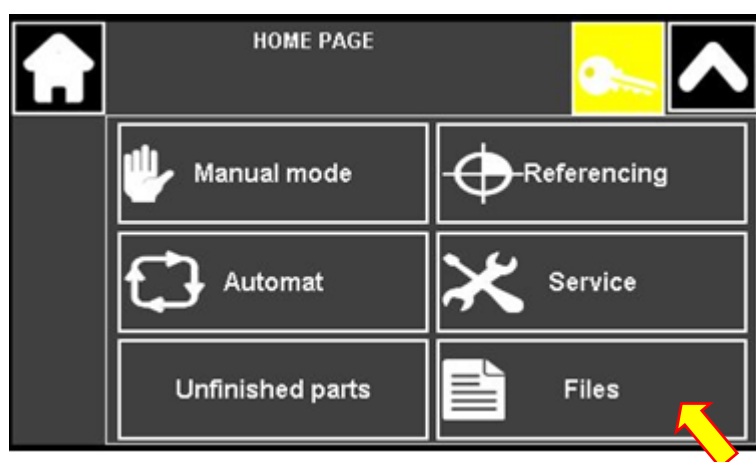
3.9.5.2. Saving a created or modified recipe

Unless the created (modified) recipe is saved, the entered data will be deleted if another recipe is loaded or the "New" option pushed on the screen with the currently loaded recipe.

1. On the screen with the currently loaded recipe or screen with the currently modified recipe, choose the option to open the main screen



- Choose the „Files“ option on the main screen



- The screen for administration of recipe files appears.



Pos.	Function
Open	open the marked folder or marked file
Copy	copy the marked folder or marked file
Delete	delete the marked folder or marked file
New folder	create a new folder
Save recipe	export the marked folder or marked file
LOCAL_RECIPE ▼	Pull-down menu for selection of disk (memory) for loading or saving By default, the Proline 420.350 ANC machine only allows you to save in the internal memory of the machine.
Open storage	Open disk (memory) – selected in the pull-down menu

Pos.	Function
	Load USB By default, the Proline 420.350 ANC machine only allows you to save in the internal memory of the machine.
	Browsing / marking a file / folder

4. By touching, choose the active side of the window to view the memory in which you are to save – the screen is backlit in light grey.



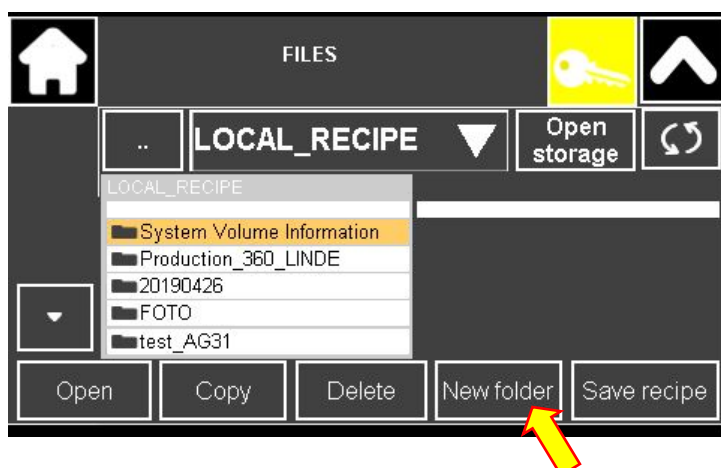
5. In the pull-down menu, choose LOCAL_RECIPE– option for saving in the machine memory.



6. If the memory is not open, open it (Open – above) – its content will be displayed in the active (grey) window.



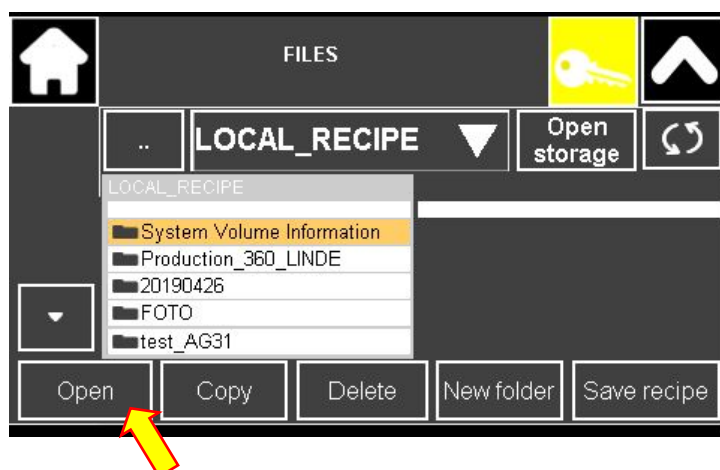
7. By means of the New folder option, you can create a folder in the memory to insert a file with a recipe sequence.



When creating a new folder, you will be asked to enter its name. The name can be entered after touching the coloured window with the keyboard on the display.



8. If saving in the folder, mark the pertinent folder; to open it, choose the Open option in the bottom left-hand corner.



If the pertinent folder is not open before the recipe is saved, the given recipe will be saved as a file in the memory directly, outside the folder.

9. Now you can save the prepared recipe in the pertinent open folder or memory by means of the Save recipe option.



You will be asked to enter the file name under which the given recipe is to be saved.



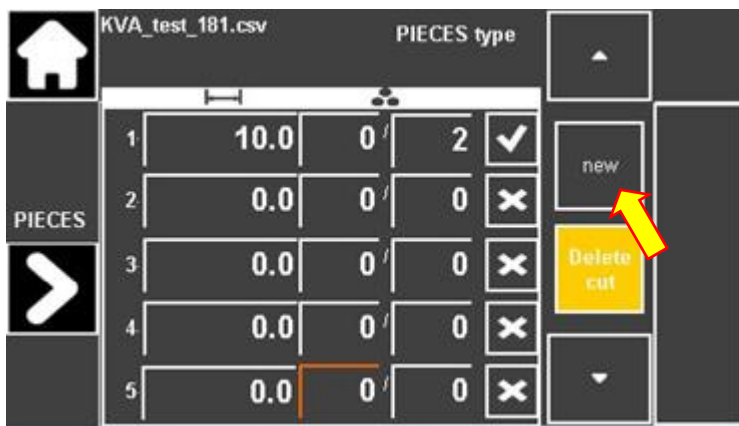
The prepared recipe will be saved in the selected place as a **file with the given name and the .bcpl extension**

3.9.6. Loading a saved recipe

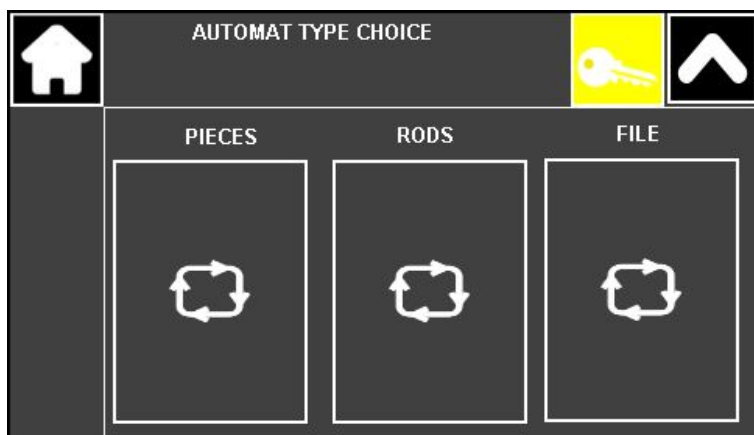
When loading a recipe, you can open the screen for recipe files administration in **two ways**.

By means of the "New" option on the screen with the currently loaded recipe:

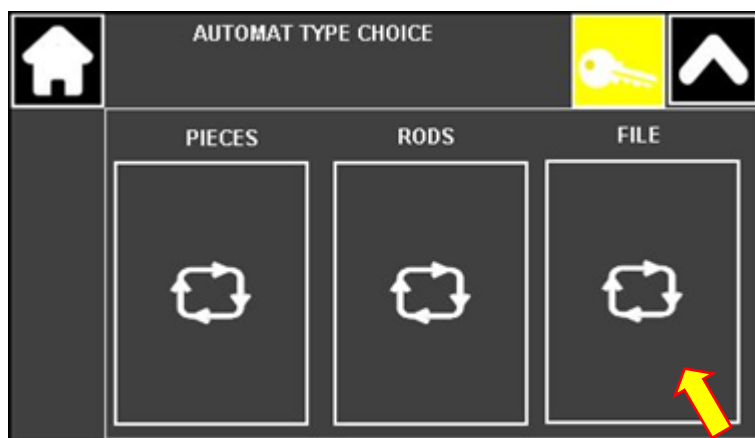
1. On the screen with the currently loaded recipe or screen with the currently modified recipe, choose the "New" option



2. After you push the "New" option, the screen for the automat type selection appears:

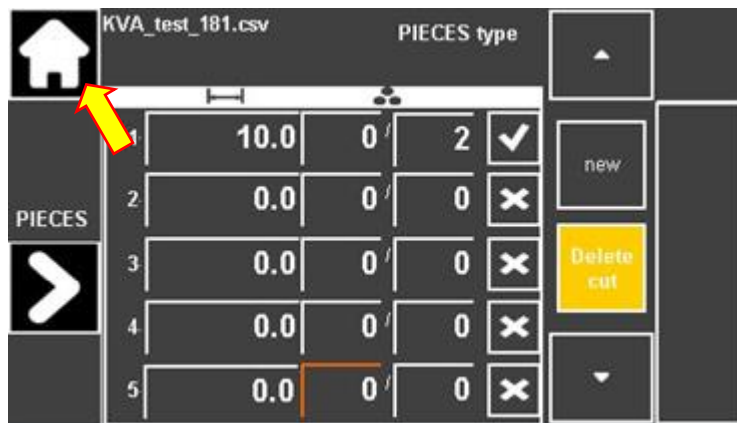


3. Choose the „FILE" option on the screen for the automat type selection"

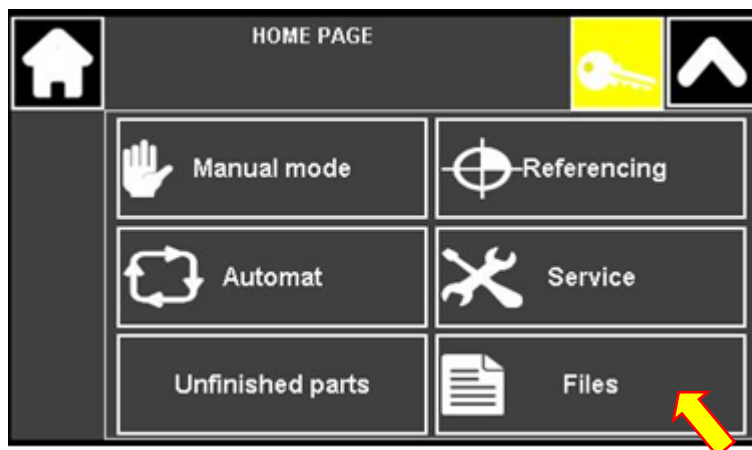


By means of the control software main screen:

1. On the screen with the currently loaded recipe or screen with the currently modified recipe, choose the option to open the main screen



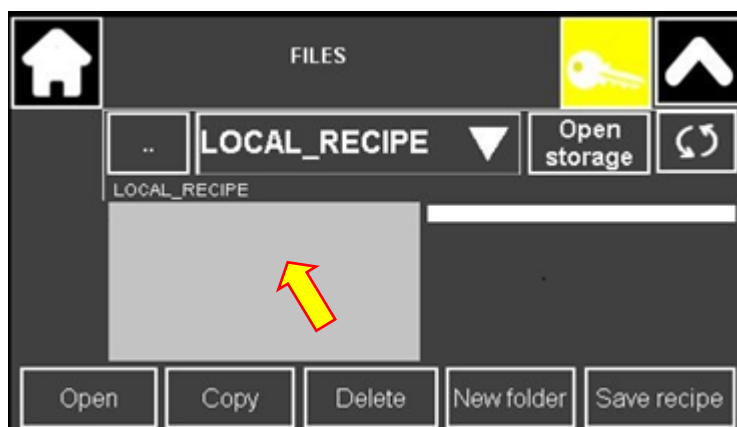
2. Choose the „Files” option on the main screen:



3. The screen for administration of recipe files appears



4. By touching, choose the window side which will be active to view the memory from which you want to load – the screen will be backlit in light grey



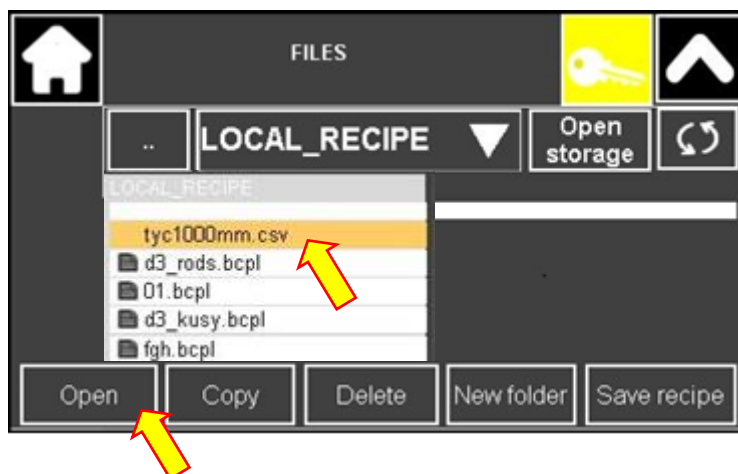
5. In the pull-down menu, choose LOCAL_RECIPE– to load from the machine memory.



6. If the memory is not opened, open it (Open – above) – its content will be displayed in the active (grey) window.

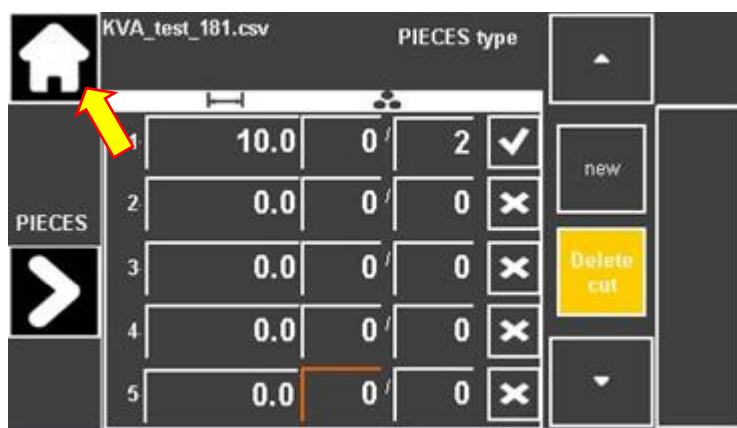


- Browse up the pertinent recipe (**.csv or bcpl file**) and open it with Open – left at the bottom.

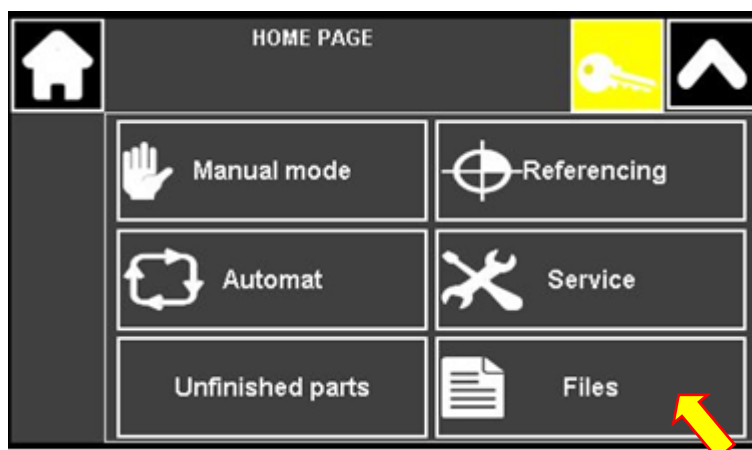


3.9.7. Deleting a recipe from the machine memory

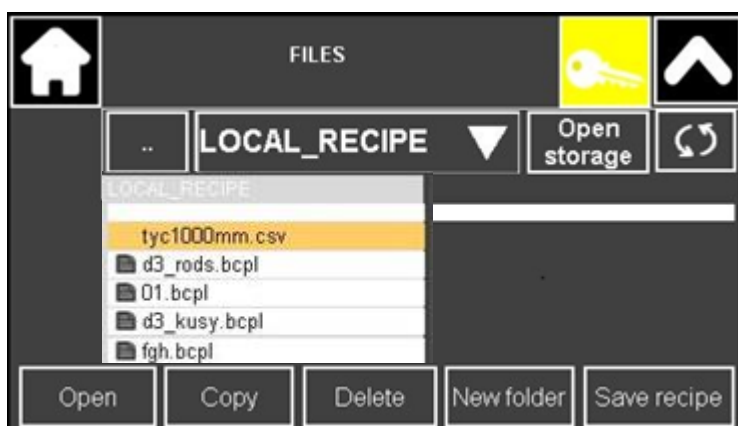
- Upper clamping is an optional accessory; the parameters are only valid if this accessory is installed and enabled on the machine



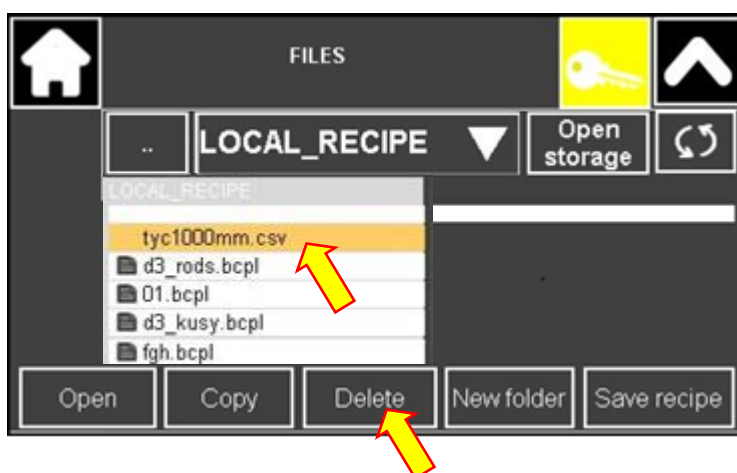
- Choose the „Files” option on the main screen:



3. The screen for administration of recipe files appears

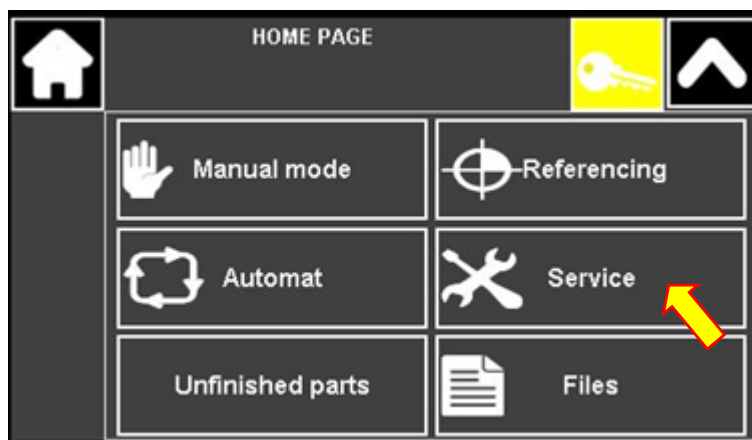


4. Browse up the pertinent file or folder, mark and delete it with the "Delete" option.

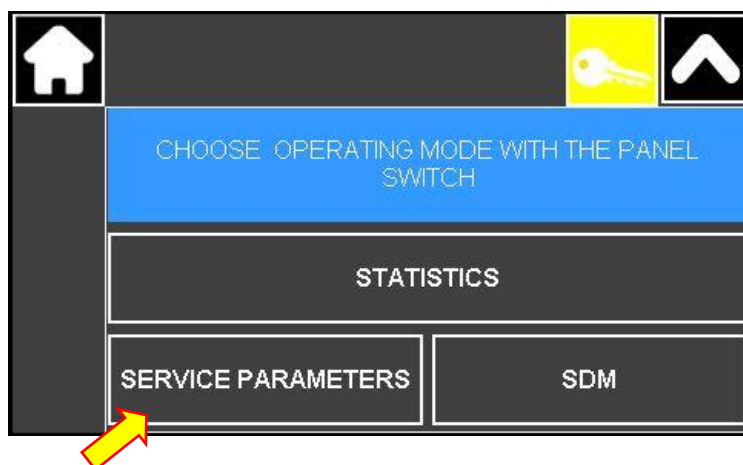


3.10. Setting of service parameters

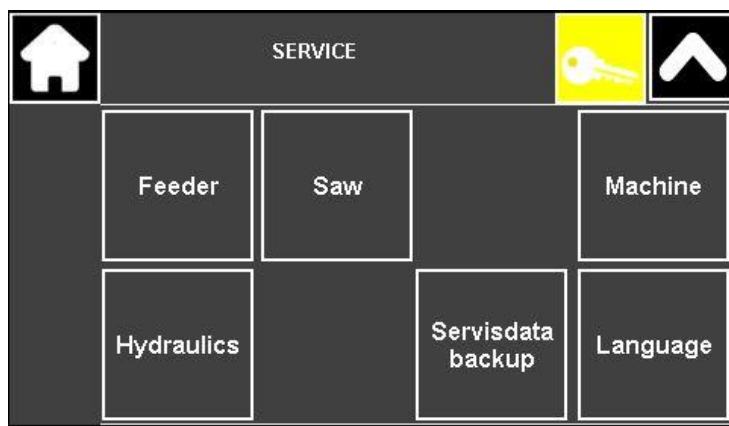
1. Choose the option for setting of service parameters.
 - in the main screen of the control software:



- or in the screen which appears on the touch display after you switch the mode selector to the "0" position.



2. A screen appears with options for selection of setting units.



3.10.1. Entering a password to insert service parameters

In the individual screens, it is only possible to set the parameters which are coloured immediately or after the password at the certain hierarchical level is entered. Parameters the boxes of which remain uncoloured can only be set at a higher hierarchical level.

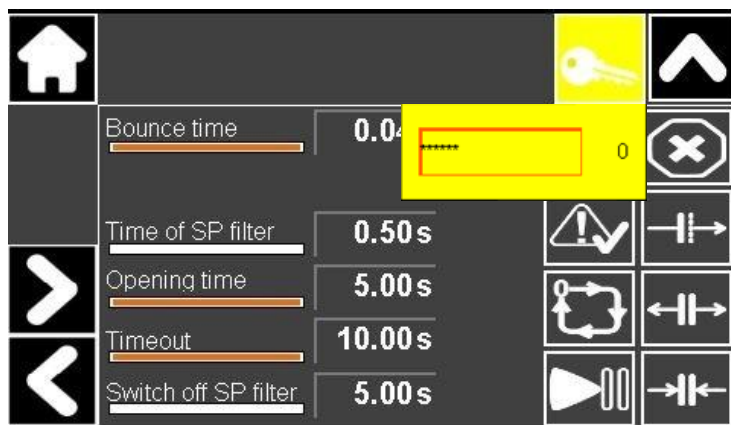
The parameter setting options are protected by passwords at three hierarchical levels.

The password for the hierarchical level 1 is 1234

Parameters at the hierarchical level 2 can be set by a specially trained service engineer.

Parameters at the hierarchical level 3 can only be set by the manufacturer.

The icon for password entry appears at the top of the screen.



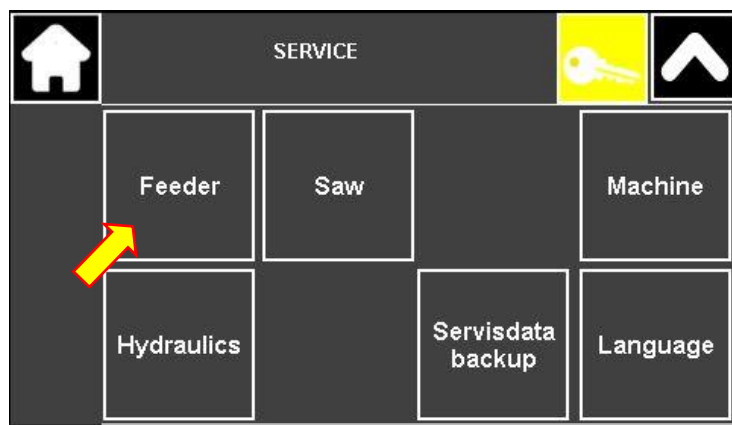
After touch, the menu for password entry opens up.

The password can be entered any time during parameter setting.

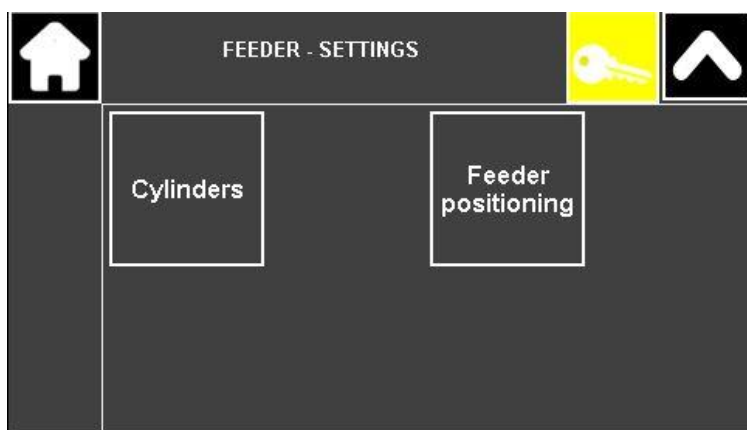
Again, you can enter the password with the keyboard activated by touching in the box for password entry.

3.10.2. Setting the feeder service parameters

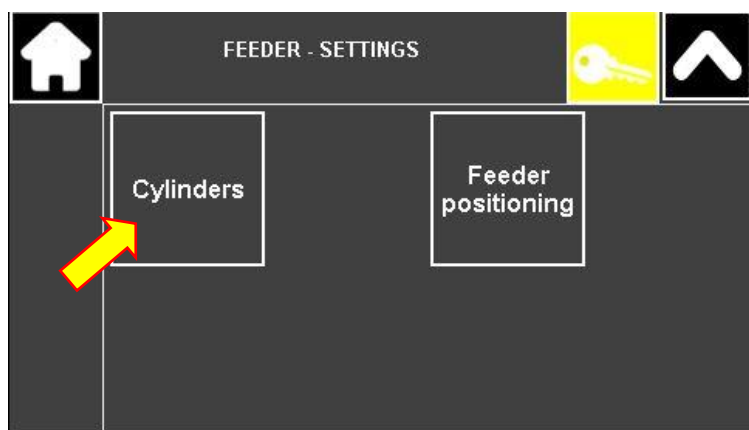
1. In the screen for selection of setting units, choose the "Feeder" option.



2. The next screen contains options for setting the feeder units.

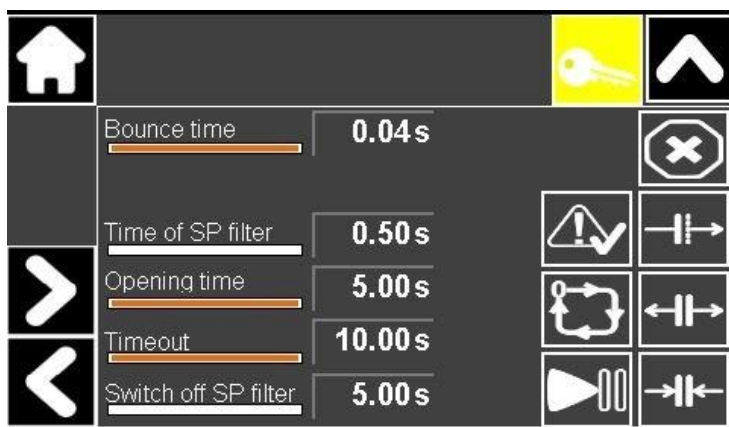


3.10.2.1. Feeder cylinders

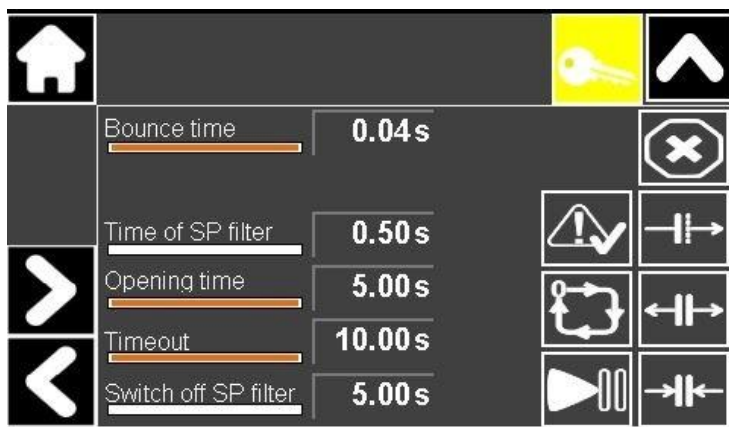


In the "Cylinders" service parameter under the service parameter settings, you can set the individual service parameters of hydraulic cylinders for:

- **Cylinder for feeder vice movable jaw**

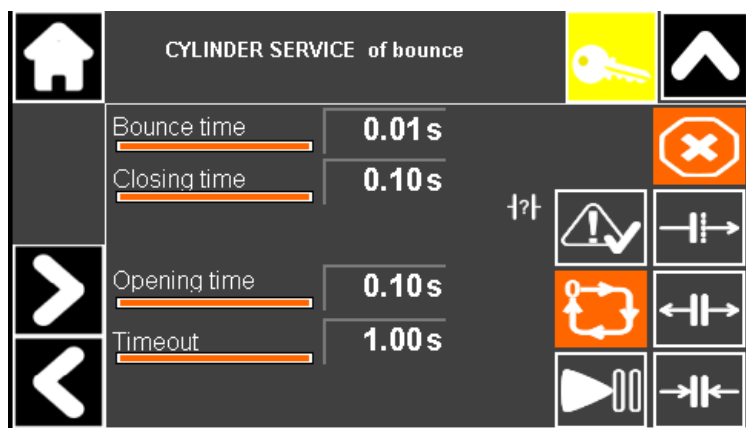


- **Cylinder for upper thrust clamping jaw**

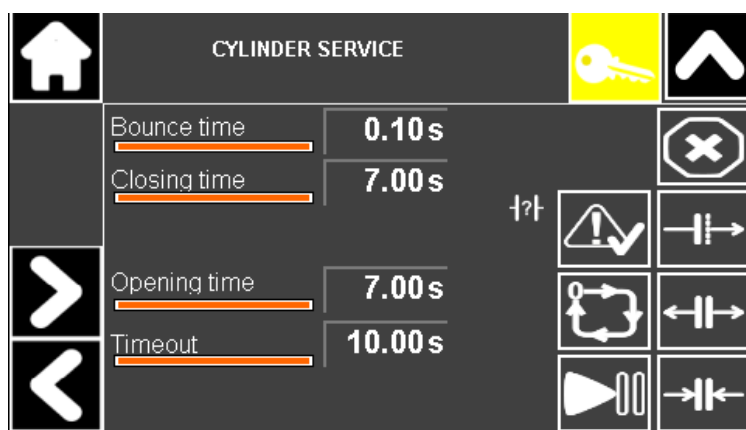


Upper clamping is an optional accessory; the parameters are only valid if this accessory is installed and enabled on the machine.

- Cylinder for bounce of the fixed jaw*



- Cylinder of feeder aretation*

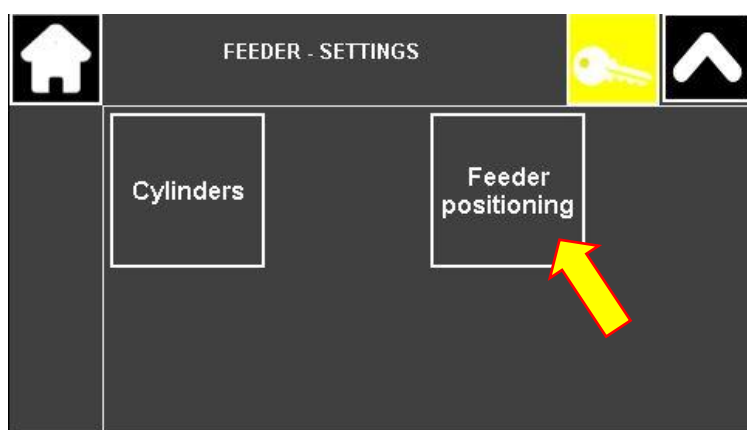


*The parameters are active / inactive according to the machine design

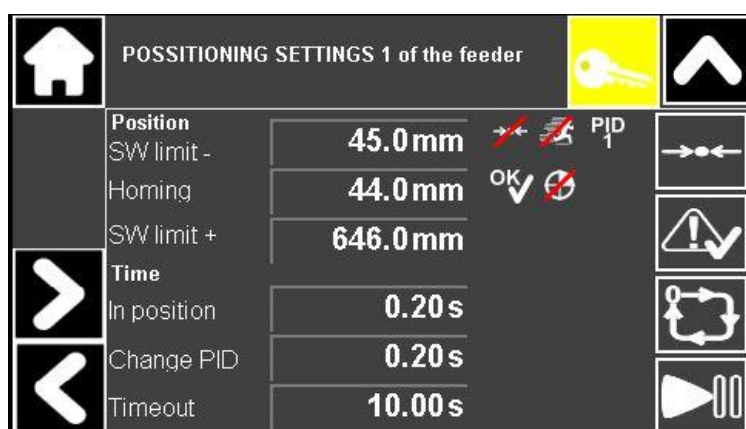
Pos.	Function
Bounce time	Vice cylinder bounce-off time
Time of SP filter	Switching filter time, filter for attenuation of overswings at the limit switch during movement toward the limit switch.
Opening time	Vice opening time
Timeout	Time limit for opening and closing of the vice
Switch of SP filter	Switching filter time, filter for attenuation of overswings at the limit switch, when leaving position
	 - vice is opening
	 - vice is closing
	 - unknown state

Pos.	Function
	Error message. If no error occurs, the error message box is empty.
	Error confirmation
	Restart, value settings remain.
	Interruption and restarting the line.
	Stop
	Vice bounce-off
	Release vice
	Clamp vice

3.10.2.2. Feeder positioning parameters setting

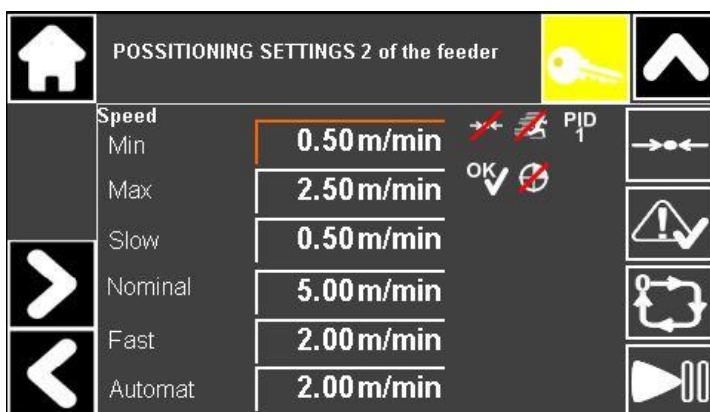


- Screen no.1



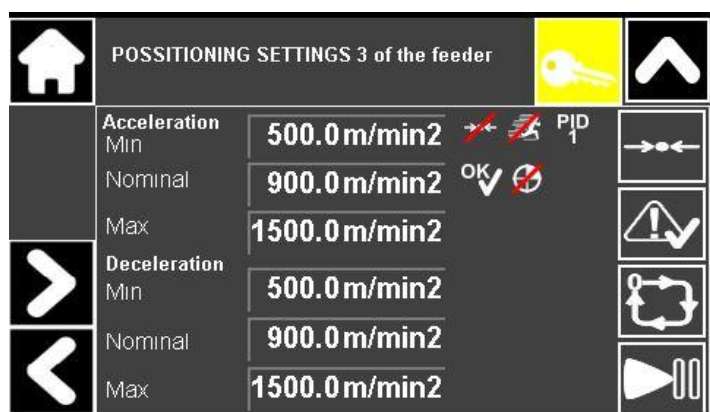
Pos.	Function								
<table> <tr> <td>Position</td><td>45.0 mm</td></tr> <tr> <td>SW limit -</td><td>44.0 mm</td></tr> <tr> <td>Homing</td><td>646.0 mm</td></tr> <tr> <td>SW limit +</td><td></td></tr> </table>	Position	45.0 mm	SW limit -	44.0 mm	Homing	646.0 mm	SW limit +		Setting the minimum permissible unit position • Referieren – Referencing position of the unit • SW limit – maximum permissible position of the unit in the direction to the saw band • SW limit – maximum permissible position of the unit in the direction from the saw band
Position	45.0 mm								
SW limit -	44.0 mm								
Homing	646.0 mm								
SW limit +									
<table> <tr> <td>Time</td><td></td></tr> <tr> <td>In position</td><td>0.20 s</td></tr> <tr> <td>Change PID</td><td>0.20 s</td></tr> <tr> <td>Timeout</td><td>10.00 s</td></tr> </table>	Time		In position	0.20 s	Change PID	0.20 s	Timeout	10.00 s	• The “in position” time value is the time for which the position must be in tolerance to finish the movement. • The time value is without function. The “Timeout” time value is the time after which the regulator parameters are switched; after the double of the preset value, an error is reported, positioning is impossible.
Time									
In position	0.20 s								
Change PID	0.20 s								
Timeout	10.00 s								

• Screen no. 2



Pos.	Function
Speed Min 1.00 m/min Max 15.00 m/min Slow 5.00 m/min Nominal 15.00 m/min Fast 15.00 m/min Automat 10.00 m/min	Setting of positioning speed parameters • Minimum speed • Maximum speed • Low speed • Nominal speed • High speed • Speed in the automatic mod

• Screen no. 3



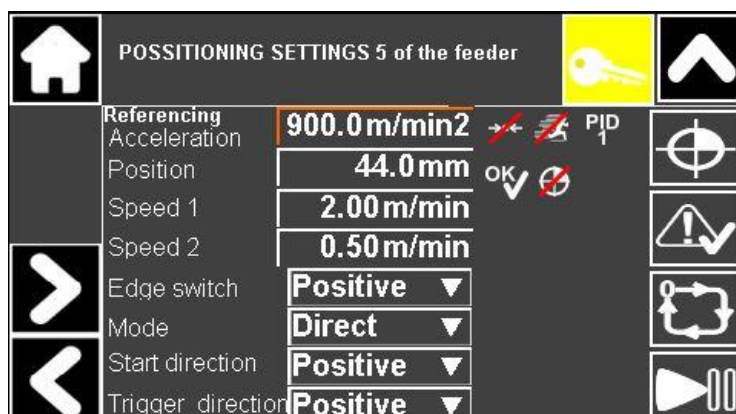
Pos.	Function
Acceleration Min 500.0 m/min2 Nominal 900.0 m/min2 Max 1500.0 m/min2	Setting of unit movement acceleration in the given axis
Deceleration Min 500.0 m/min2 Nominal 900.0 m/min2 Max 1500.0 m/min2	Setting of unit movement deceleration in the given axis

• Screen no. 4



Pos.	Function
PID Switch 0.50 mm	PID regulator • Switch-over – position tolerance after switch-over of parameters • KP1 – parameter, proportional component 1 • Tn1 – parameter, integration component
Kp 1 4.00	
Kp 2 2.00	
Tn 1 0.00	
Tn 2 2.00	

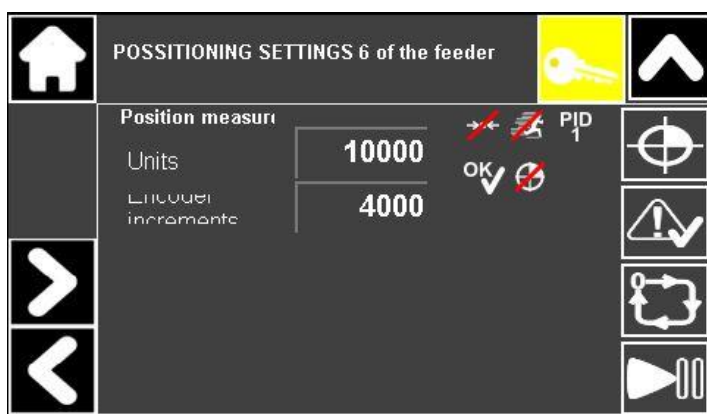
• Screen no. 5



Pos.	Function
Acceleration	Unit acceleration at reference
Position	Unit reference position
Speed 1	Speed at search for reference switch
Speed 2	Speed of running from reference position
Edge switch	Edge at which movement stops during search for reference switch

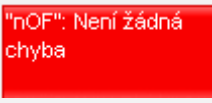
Pos.	Function
Mode	Reference type • Directly to the reference switch • To the limit switch
Start direction	Feeder direction at referencing start • Positive – from the saw • Negative – to the saw
Trigger direction	Feeder starting direction • Positive – from the saw • Negative – to the saw

- Screen no. 6



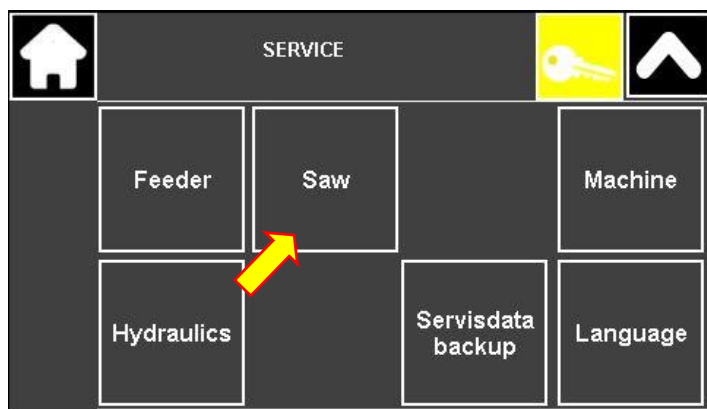
Pos.	Function
Position measurement Units Encoder increments	Parameters are used for correction of the feeder position measurement

Meaning of other symbols on the screens for positioning:

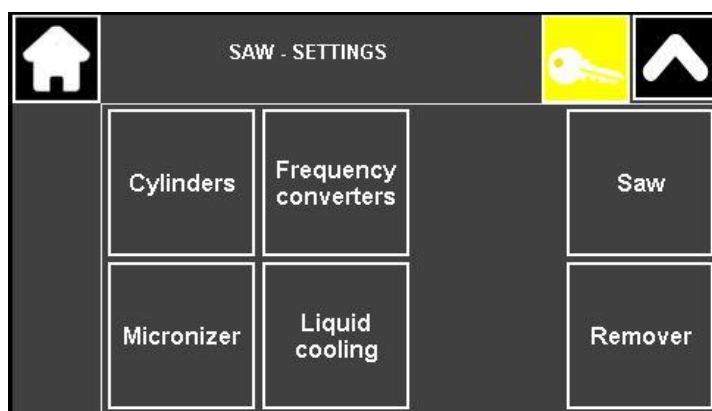
Pos.	Function
	Unit prepared
	The unit is / is not referenced
	The unit is / is not in position
	Currently used PID regulator settings
	Entered / real unit speed
	Entered / real unit position
	Unit travel to position
	Error confirmation
	Reset
	Stop and restart
	Error message. If no error occurs, the error message box is empty.

3.10.3. Setting of the saw service parameters

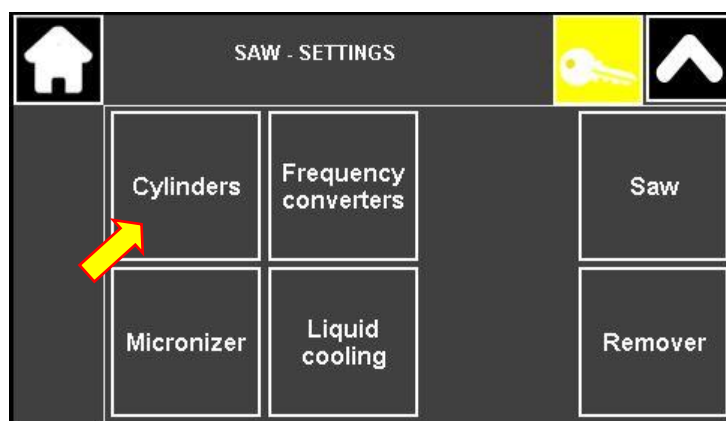
- In the screen for setting unit selection, choose the "Saw" option



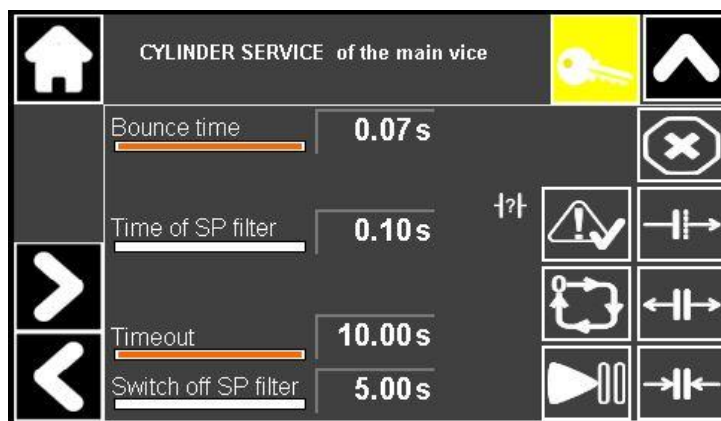
- The following screen contains options for the saw unit settings.



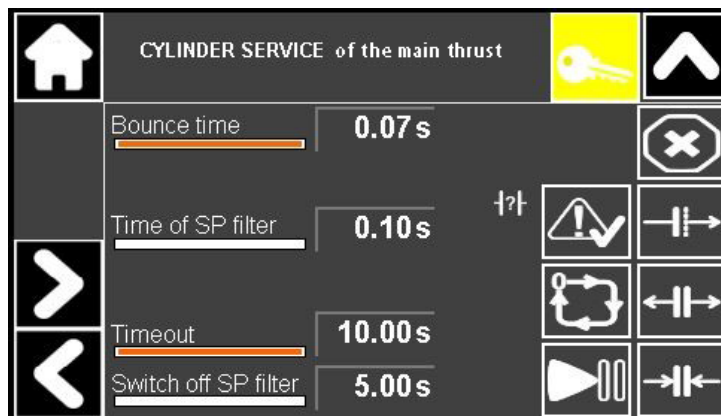
3.10.3.1. Service parameters of the saw hydraulic cylinders



- Service of the cylinder of the main vice



- Service of the cylinder of the main thrust

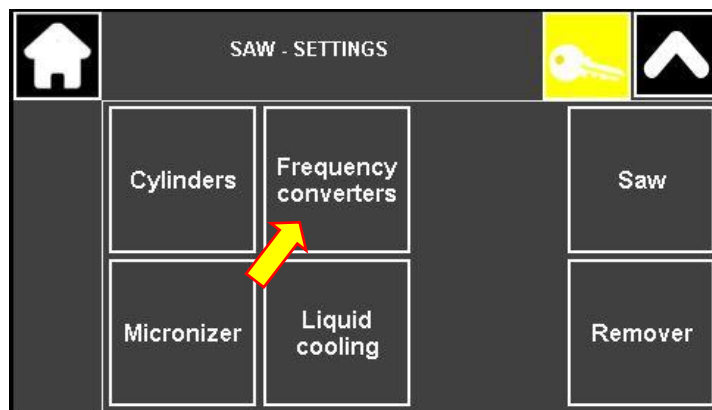


Upper clamping is an optional accessory; the parameters are only valid if this accessory is installed and enabled on the machine..

The description of the cylinder screens applies to all screens for setting of cylinder service parameters:

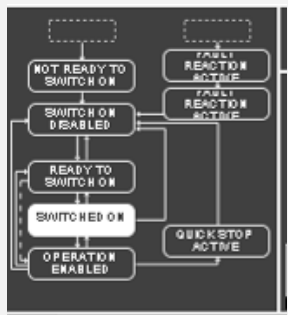
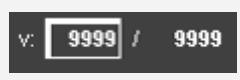
Position	Function
Bounce time	Vice bounce-off time
Time of SP filter	Switching filter time, filter for attenuation of overswings at the limit switch, during movement toward the limit switch
Opening time	Time limit for the vice opening
Timeout	Time limit for the vice opening and closing
Switch off SP filter	Switching filter time, filter for attenuation of overswings at the limit switch, during leaving position
	Current state display  - vice is opening  - vice is closing  - unknown state
	Error message. If no error occurs, the error message box is empty.
	Error confirmation
	Restart, value settings remain.
	Interruption and restarting the unit
	Stop
	Bounce-off
	Release
	Clamp

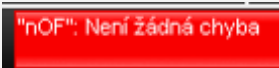
3.10.3.2. Diagnostics of the saw frequency converters (hierarchical level 2)



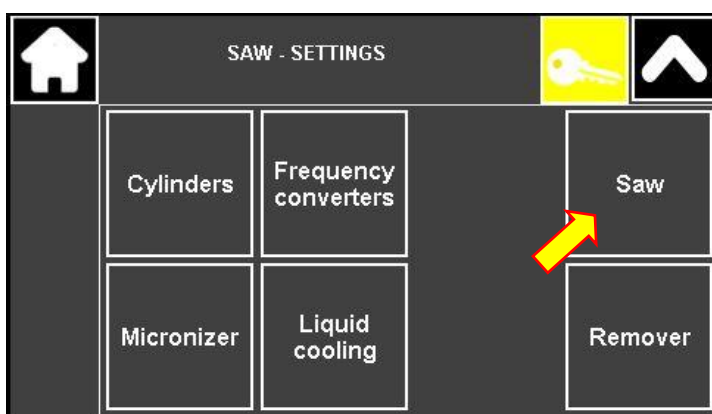
The "Frequency converters" service menu under the saw settings enables display of the individual service parameters of the frequency converters for setting the band speed.



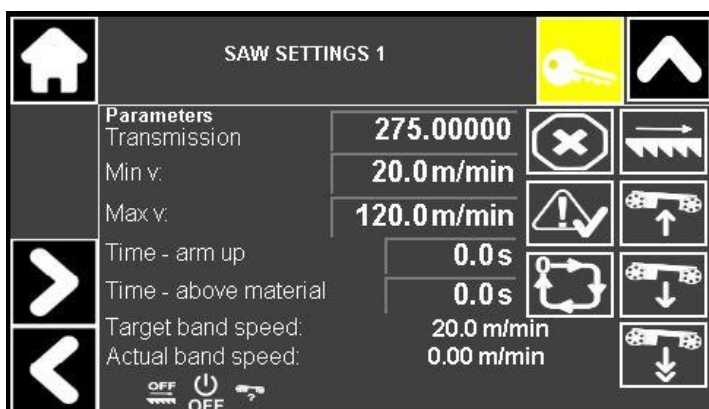
Pos.	Function
	State diagram of the current frequency converter.
	Converter state: ON / OFF OK – frequency converter start-up state Error message at the given frequency converter
	Entered and real speed of the frequency converter 0.1 Hz or in rpm
	Current value of the current flowing to the motor
	Current value of the motor torque, 0 to 100 %

Pos.	Function
	Error message. If no error occurs, the error message box is empty.
	Switch on / off the converter
	Error confirmation
	Restart, value settings remain.
	Converter stop and restart

3.10.3.3. Saw settings



- Screen No.1



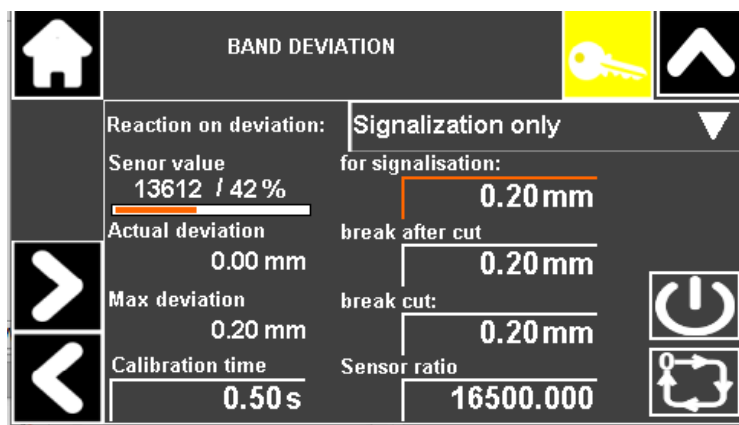
Pos.	Funkce
Transmission	Value for conversion of the detected motor frequency to speed in m/min
Min.v:	Minimum band speed Minimum recommended value Min v = 20; at a lower speed, there is a risk of the band stopping in the material.
Max.v:	Maximum band speed Maximum recommended value Max v = 120
Time arm up	the period of time during which the saw arm is still moving upwards after the switch for detection of the upper position of the saw arm is closed
Time above material	without function
Target band speed	Requested (set) band speed
Actual band speed	Current band speed

- Screen no.2



Pos.	Funkce
Min.	Minimum band speed Minimum recommended value Min v = 20; at a lower speed, there is a risk of the band stopping in the material.
Max.	Maximum band speed Maximum recommended value Max v = 120
Max. AI	Maximum range of the potentiometer for the band speed. Set by the manufacturer Change the given setting in consultation with the manufacturer only.
Speed	current belt speed

- Screen no.3 - Band deviation



Pos.	Function
Reaction on deviation	Select the desired machine response in case the preset deviation limit is exceeded Not used – no response Signal only - just light indication Finish cutting – the ongoing cut will be finished and then the machine stopped Interrupt cutting (Stop) – the machine is stopped immediately
Sensor value	Current deviation in sensor units
Actual deviation	Current deviation in mm
Max. deviation	Maximum deviation measured during one measuring cycle
Deviation for signalisation Deviation – break after cut Deviation – break cut	Deviation values for the individual machine reactions
Sensor ratio	Machine transmission constant. The parameter has been factory set. Do not change the parameter value! The parameter affects the equipment accuracy.
Calibration time	Band running time to reset the deviation Recommended to keep the factory settings
	Reset of the current deviation response

The band deviation sensor is located in the holder of the adjustable cube guiding the saw band

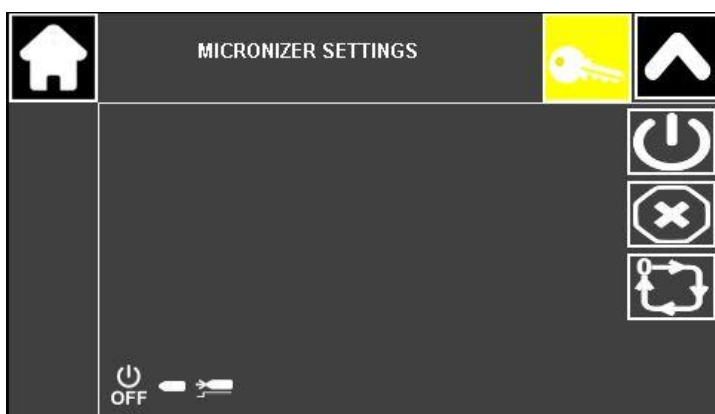
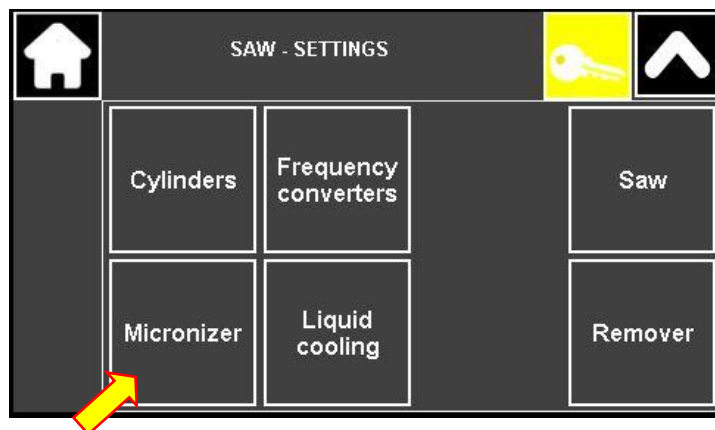
The signalling light to indicate exceeding of the band deviation is located on the upper cover wall above the outlet saw hole

The band deviation monitoring device is an optional accessory; the parameters are only valid if this accessory is installed and enabled on the machine.

Meaning of other symbols in the screens for saw band settings:

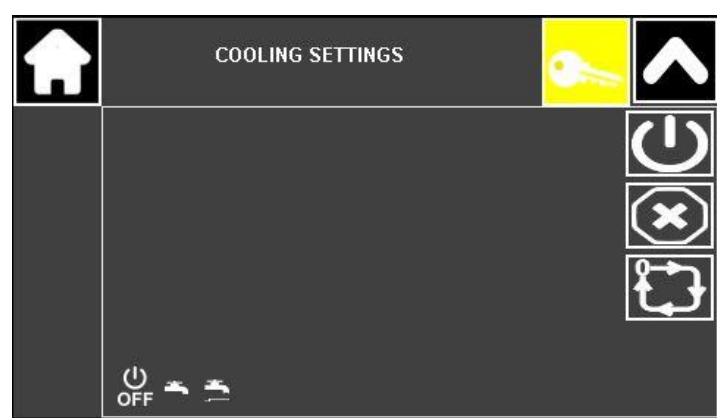
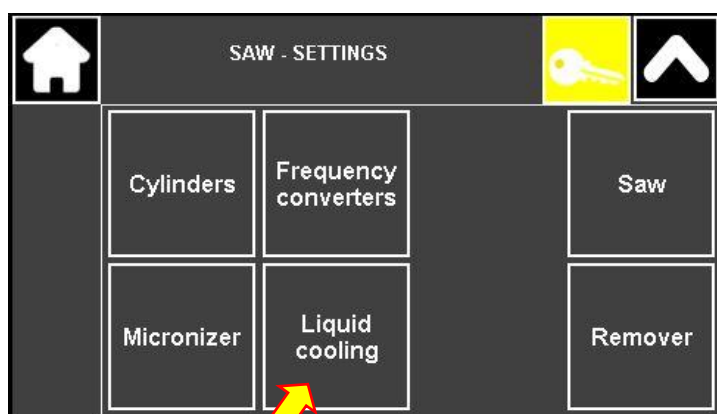
Pos.	Function
	The saw band is / is not rotating
	The unit is / is not in position
	Start the saw band
	Stop the band
	Error confirmation
	Restart, value settings remain
	Arm upward movement. The button must be pushed continually during movement. If you release the button, the movement stops..
	Arm downward movement The button must be pushed continually during movement. If you release the button, the movement stops.
	Arm downward movement with fast feed The button must be pushed continually during movement. If you release the button, the movement stops.

3.10.3.4. Setting of Micronizer (optional accessory)



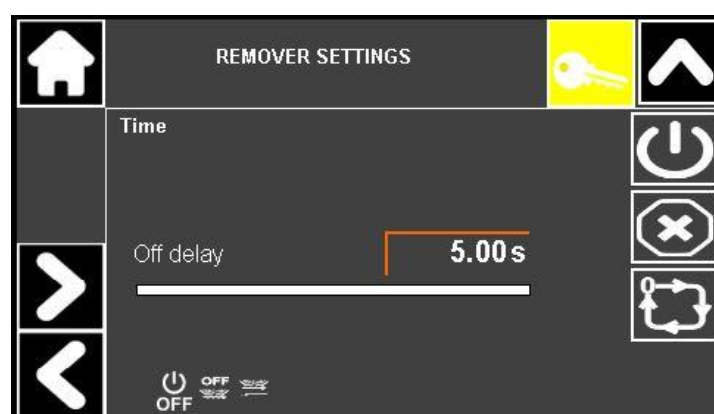
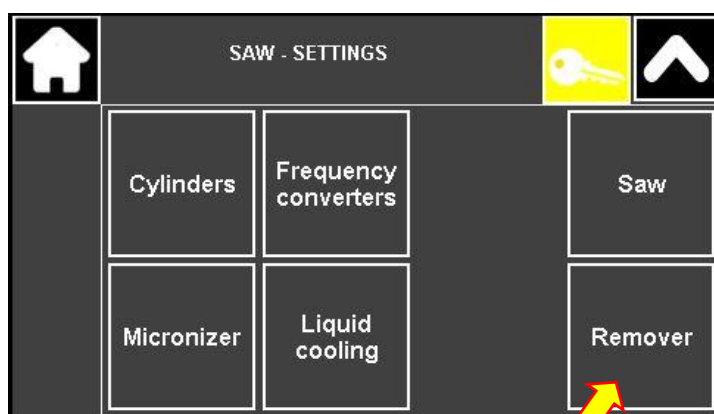
Pos.	Funkce
	Micronizer state: ON or OFF
	Micronizer is set without timing, continues to run.
	Cooling setting indication
	Switch on/off the Mikronizer
	Stop
	Restart, value settings remain.

3.10.3.5. Setting of the cooling



Pos.	Function
On	Cooling on + set timing
Off	Cooling off + set timing
	Cooling state: ON or OFF
	Cooling pump on state
	Cooling setting indication
	Switch on/off the cooling
	Stop
	Restart, value settings remain.

3.10.3.6. Chip remover settings - optional accessory



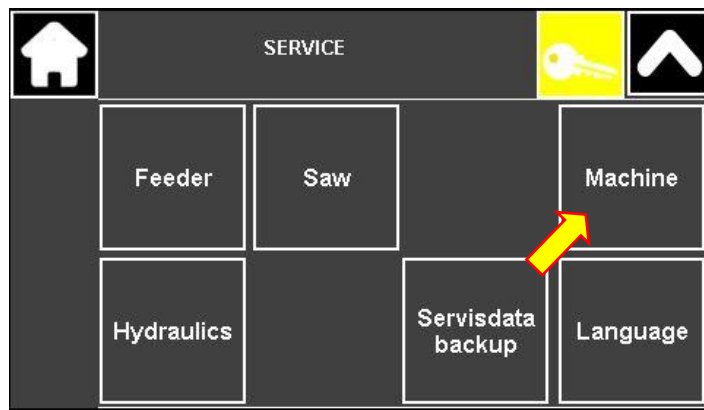
Pos.	Function
On	Time, for which the remover motor is on
Off	Time, for which the remover motor is off
Off delay	Time in which the chip removing process is finished after the last cut is completed
	Remover state: ON or OFF
	Remover on state
	Remover setting indication
	Switch on/off the cooling
	Stop
	Restart, value settings remain.

Attention!

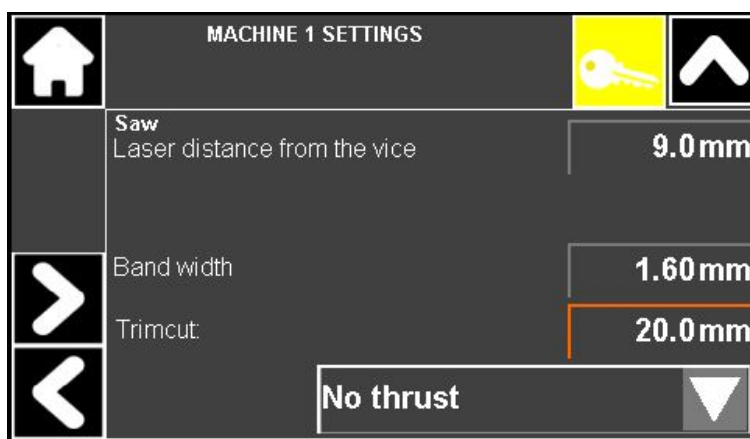
The "On" and "Off" parameters are only active if the machine is equipped with the timing function (optional equipment).

3.10.4. Setting of the machine service parameters

On the screen for selection of setting units, choose the "Machine" option"



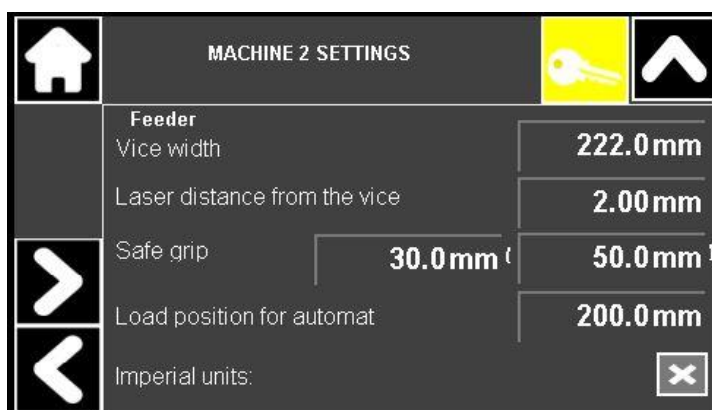
- Screen no.1



Pos.	Function
Saw	
Laser distance from the vice	Distance of the laser beam from the nearest edge of the feeder jaw
Band width	Band width correction (cut-through correction) The parameter has an effect on the cut length precision!

Pos.	Function
Cut-in	Expected cut-in value The cut-in length must roughly be set to this value during material loading so that there is a residual piece of sufficient length in the "RODS" type automatic cycle. Particularly, this value must be observed if the automatic cycle is controlled by a recipe created in the Saw Manager software (independent software for creation of recipes, supplied by Bomar spol. s.r.o.).
Pull-down menu	
No thrust	Upper thrust disabling
1.Vice 2. Thrust	First the main vice is clamped, then the thrust.
1. Thrust 2. Vice	First the upper thrust is clamped, then the main vice.
If the upper thrust is installed on both the feeder and the main vice, the option applies to both of the thrusts simultaneously. Upper clamping is an optional accessory; the parameters are only valid if this accessory is installed and enabled on the machine..	

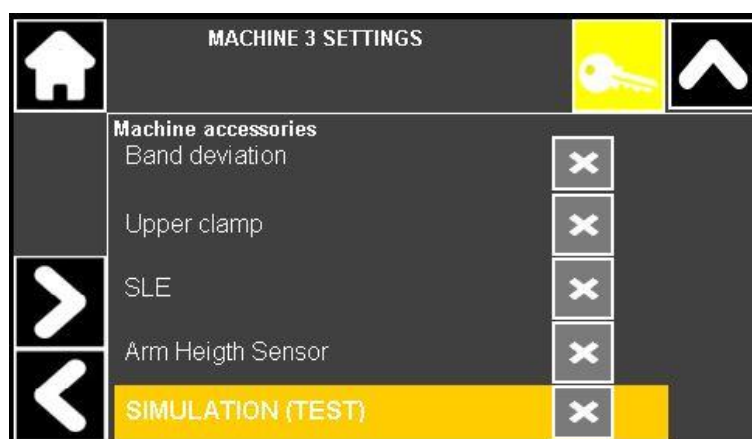
- Screen no.2



Pos.	Funkce
Feeder	
Vice width (hierarchical level 2)	Feeder vice jaw width See Pict. 1
Laser distance from the vice (hierarchical level 2)	Distance of the laser beam from the nearest edge of the feeder jaw
Safe grip	Minimum length beyond which the feeder vice can clamp the material safely.

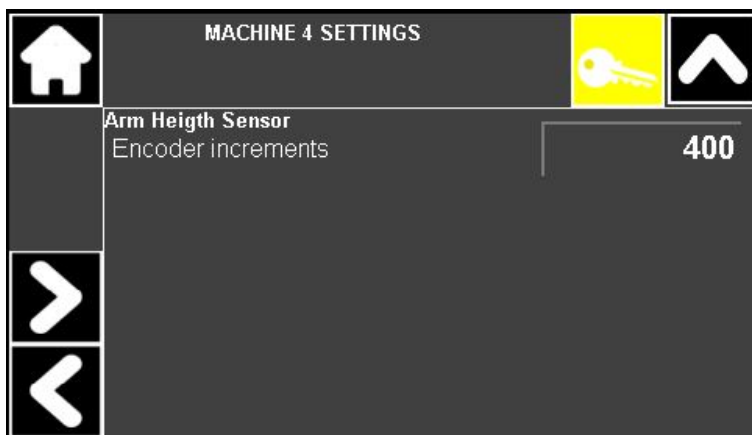
Pos.	Funkce
Load position for automat	Position of the feeder vice for automatic feeding The feeder vice moves to the position for aligning of the material – see process of an automatic cycle. The value of the parameter should be optimized according to the length of the material and taking account of the next circumstances: - the parameter indicates the optimal position of the feeder for aligning of the material – when the feeder is in this position, the material should be aligned the best way before next operations - the parameter should be less than the service parameter SW limit + for the feeder position (SW limit + for the feeder means the maximum allowed position of the feeder in the positive direction). In an opposite case the automatic cyclis is interrupted. The parameters value must fall within the range of the SW limit + and SW limit - values.
Imperial units	Units selection If the selection is checked – Inches If the selection is crossed - mm

- screen no.3



Pos.	Function
Machine accessories	List to enable cooperation with optional accessories By ticking off, you can enable cooperation between the machine and the given optional accessory, if connected. It is recommended, that only accessories installed and connected to cooperate with the machine be enabled by ticking off.
SIMULATION (TEST)	Option for starting the function test. The function test involves simulated automatic cycle according to the recipe loaded. The saw performs all actions except for cutting with simulated endless material.

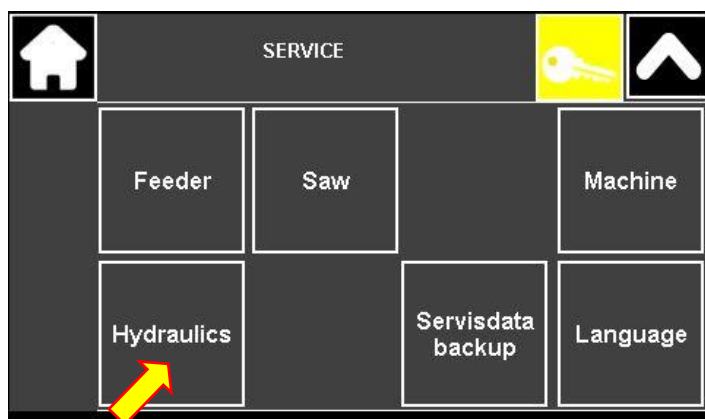
- Obrazovka č..4



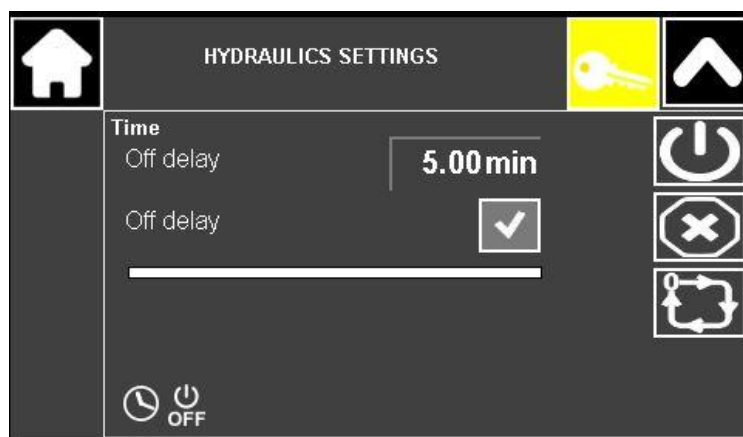
Pos.	Function
Arm Height Sensor Encoder increments	The parameters are used to correct measuring of the arm position (height). The arm height sensor is an optional accessory; the parameters are only valid if this accessory is installed and enabled on the machine.

3.10.5. Setting the hydraulic service parameters

- In the screen for setting units selection, choose the "Hydraulics" option "

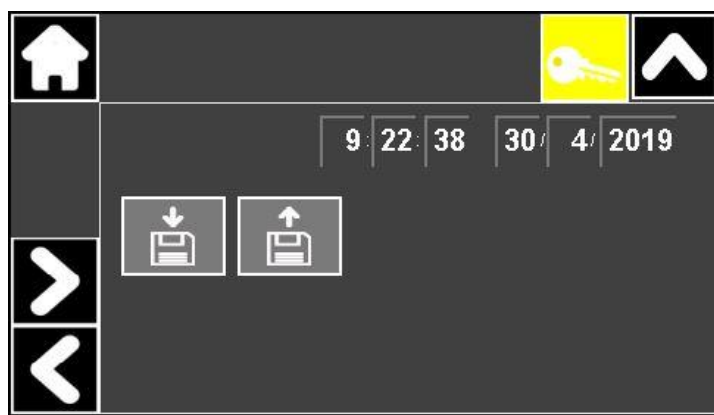
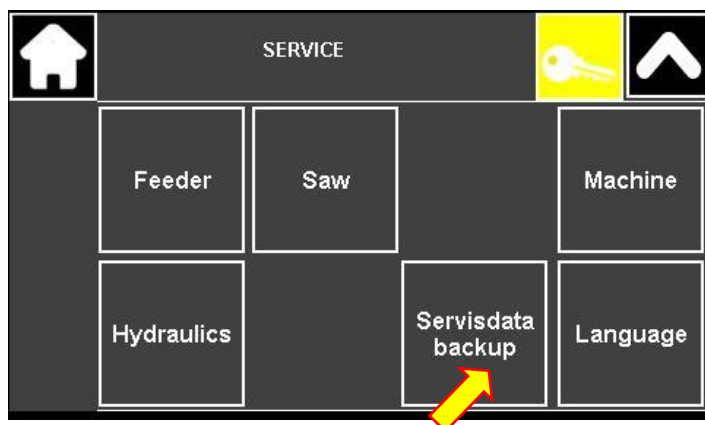


- The screen appears for setting of hydraulic parameters. (**hierarchical level 2**)



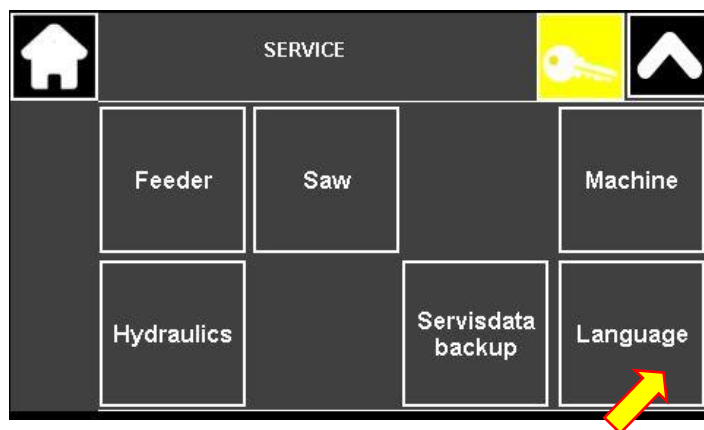
Pos.	Function
Off delay	Switch-off time of the hydraulic unit  If the function " Off delay" is active () and if none of the following operations is executed for the preset time: - hydraulic cylinder movement - cut - positioning ...the hydraulic unit is witched off automatically in any of the working modes (manual, semiautomatic, automatic). After the hydraulic unit is switched off, the vice jaws may be released – the saw evaluates the release of the jaws as an error. If the hydraulic unit is switched off during the automatic mode, the automatic cycle must be resumed after the error message. In as much as the machine still remembers the material position even after spontaneous release of the vices (the operator must not release the vices!), the automatic cycle can be resumed by starting of the automatic with manual loading without cut-in.
Off delay	 -The "Switch-off delay" function is enabled – which means that if the hydraulic units are inactive for the preset time interval, the hydraulic unit is automatically switched off after this time interval.  The "Switch-off delay" function is disabled – which means that if the hydraulic units are inactive for the preset time interval, the hydraulic unit remains in operation even after this time interval - not switched off.

3.10.6. Saving of service settings



Pos.	Function
9:22:38 30/4/2019	Date and time
	Save service parameters (hierarchical level 2)
	Load service parameters (hierarchical level 2)

3.10.7. Language selection



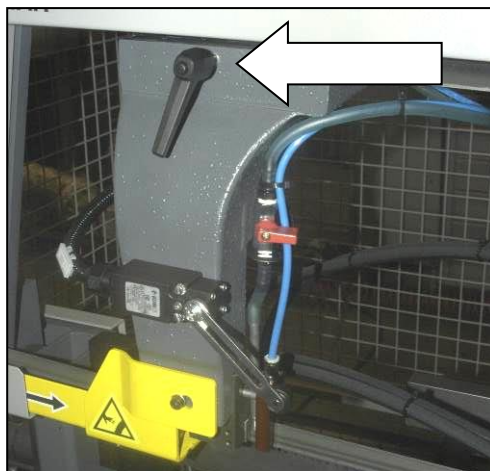
In the "Language" service parameter, it is possible to set language mutations for the device control.



3.11. Machine adjustment

3.11.1. Adjusting band guides

If you want to achieve a smooth and precise cut, it is helpful to position the guide cube as close as possible to the material.



1. Release the stopping lever of the listel. Move the left part of the guide so that the left edge of the guide blocks is as close as possible cutted material.
2. Lower the frame to the lower position and check the position of the guide cube towards vice loading area. The guide cube must be a distance of at least 10 mm from the vice loading area.
3. Tighten the lever of the gib and check the guide cube setting once more for possible collision with binding table or vice jaw.

3.11.2. Cutting speed adjusting

Blade speed is possible adjusted continuously from 20 to 120 m / min.



Use the frequency convertor on control panel (pos. 6) to adjust requested speed of the saw band.

3.11.3. Speed adjustment of the arm lowering

Speed of the arm lowering is adjusted by regulation valve on control panel.



- Set the **lower speed** of the arm lowering to the cut by turning the switch **clockwise**.
- Set the **higher speed** of the arm lowering to the cut by turning the switch **anti-clockwise**.

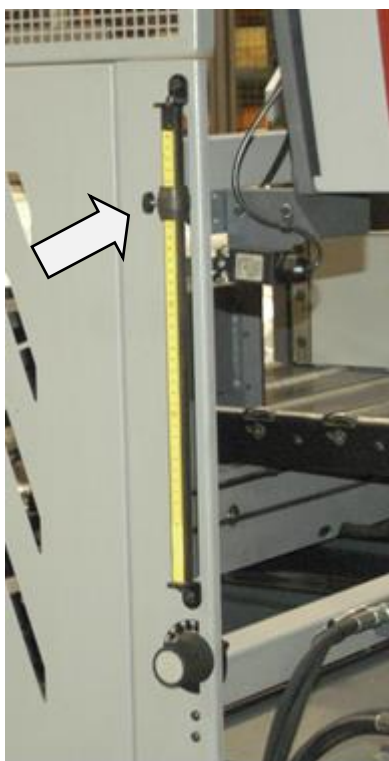
Notice:

If you keep closing the throttle valve too tightly, the valve seat may wear off which causes its leakage. Therefore, close the valve always gently.

3.11.4. Setting of start position of the saw frame before a cut

If you want to shorten the time of operations in automatic cycle, you have to adjust the height of the saw arm according to the height of the cutting material.

It is possible to set the start position of the saw frame before a cut using adjustable stop.



1. Using the button **Move saw frame up** lift the saw frame above the material to sufficient height.
2. Insert a material into the main vice.
3. Carefully lower the saw arm to the material using the button **Move saw frame down**. Stop the saw arm **5 -10mm** above the material.
4. Turn the locking bolt and release the adjustable stop. Move the stop so that it is in contact with a limit switch which controls the height of the boom.

Lock the stop In the set position by screwing of the locking screw.

When the cut is finished the frame automatically lifts, the limit switch gets into contact with the adjusted stop and the frame is stopped in this desired position.

3.11.5. Setting the arm height to start cutting by means of an electronic device (optional accessory)

If the saw is equipped with an electronic device for setting the arm position above the material, the arm position can be adjusted with the buttons on the control panel.

Setting procedure:

1. Using the button **Move saw frame up** lift the saw frame above the material to sufficient height.
2. Insert a material into the main vice.
3. Carefully lower the saw arm to the material using the button **Move saw frame down**. Stop the saw arm **5 -10mm** above the material.

4. Start cutting by pushing START

The saw start cutting from this position; after cutting is completed, the arm automatically returns to the position at which cutting was started with the START button (the machine remembers the position automatically).

3.11.6. Frame bottom stop position setting

The bottom stop position of the frame limits the lowest position of the frame. This position must be checked once per month. In case of wrong setting the vice may be cut or the material is not cut completely.

Setting of frame bottom stop position is made by adjustable excenter on the frame beam.



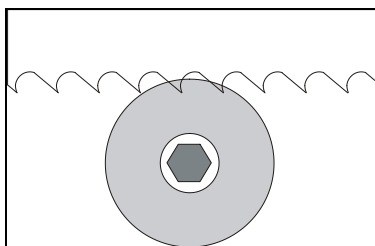
3.11.7. Brush adjustment

The brush for chip removal from the saw band influences cutting durability, saw band lifetime and wheels lifetime, hard metal guides and finally the cut accuracy. **Brush adjustment must be checked every shift.**

1. Open the cover of the band arm
2. Adjust the position of brush to the saw band by turning the adjusting screw (see arrow) of the brush.



The brush must touch with teeth of the saw band.



Attention!

The brush **must not** touch the bottom of the saw teeth!

3. In case, that the brush is not turned right (driving wheel of the brush slips on the driving wheel of the saw band), push by means of the screws (see arrows) driving wheel of the brush to the driving wheel of the saw band.



Attention!

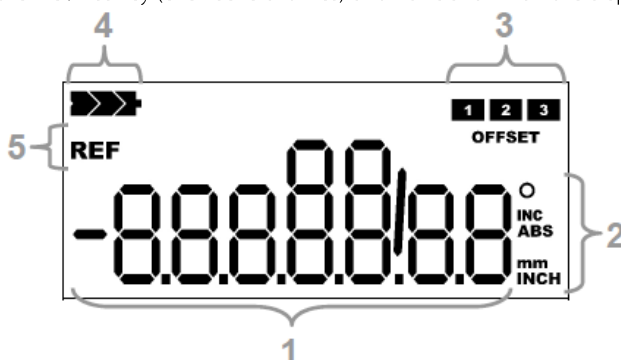
The screw must not be tightened with heavy force, because driving wheel of the brush can be damaged or the lifetime of the bearings of the driving wheel of the band can be lowered!

4. Mount the brush cover back to its place / Close saw arm cover

3.11.8. Electronic measuring device (optional accessories)

Zero position setting

Push the Incr/Abs key (even several times) until "0" is shown on the display.



Digital measuring adjustment

Position	Description
1	Current position
2	Unit, measuring mode
3	Active additional constant (* key)
4	Battery status
5	Reference record shall be made – after the apparatus is switched on.

Description of key functions:

Key	Stop mode	Setting mode
	Basic key	Entering parameters (3 sec) Saving parameters and returning (3 sec)
	Reference recording (P09 value)	-
	Change of displaying in inches	Selection of following decade
	Absolute and incremental measuring	Change of active decade o +1
	Selection of additional constant	Change of sign •

Description of key functions at measuring initialisation:

Key	Description
	Induces calibration of the apparatus when it is switched on (battery inserted).
	Induces calibration of the apparatus and sets default values when the apparatus is switched on.

Description of digital measuring parameters:

Parameter	Description	Default value
P01 A	Measuring configuration: A = 0: positive direction of measuring A = 1: negative direction of measuring	0
P02 A	Measuring unit: A = 0: mm / symbol "mm" A = 1: inch / symbol "Inch" A = 2: mm / symbol "m" A = 3: mm / symbol "mm" A = 4: mm / no symbol	0
P03 A	Decimal point (0...4) > only for mm	2
P05 ABC	Key blocking: A: "Set" key (0 = active / 1 = inactive) B: "Incr/Abs" key (0 = active / 1 = inactive) C: "*" key (0 = active / 1 = inactive)	000
P08	Correction factor (0.0001...9.9999)	1.0000
P09	Reference (-9999999 ... +9999999)	0
P10	Additional constant 1 (-9999999 ... +9999999)	0
P11	Additional constant 2 (-9999999 ... +9999999)	0
P12	Additional constant 3 (-9999999 ... +9999999)	0
P13 A	Configuration of additional constants (0...3) A = 0: inactive (cannot be selected) A = 1: Additional constant 1 active A = 2: Additional constants 1 & 2 active A = 3: Additional constants 1 & 2 & 3 active	3
P90	No function	0
P99	Displaying firmware version	x.xx

3.11.8.1. Speed adjustment of the arm lowering (optional accessory)

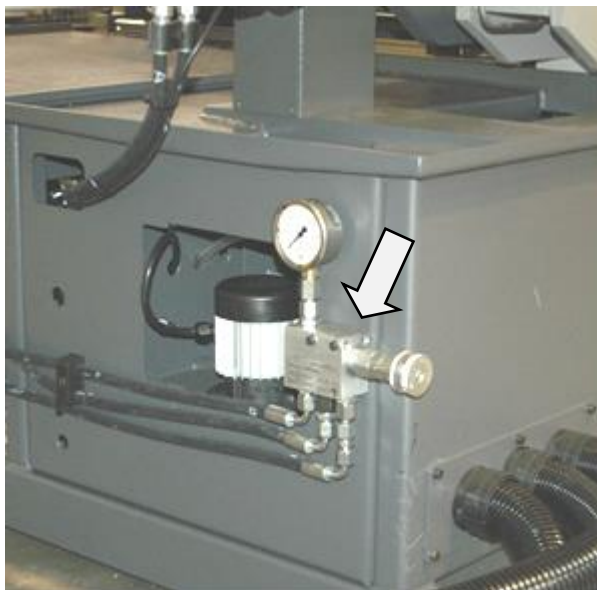
The current speed of vertical movement of the arm is displayed on a digital display which is mounted on the saw arm.



The measuring unit is set by the manufacture.

3.11.9. Device for regulation of clamping pressure (optional accessory)

The hydraulic pressure device is determined for pressure setting on the main vice and feed vise.

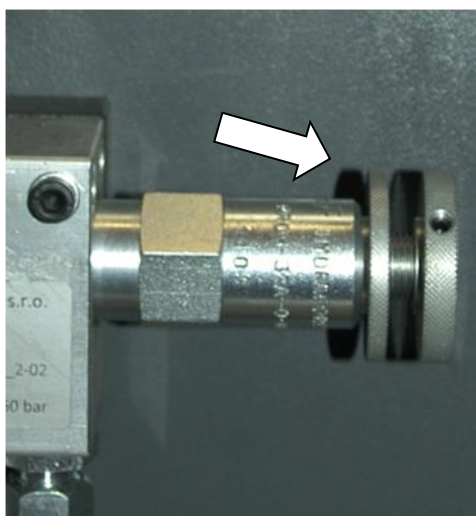


Warning !

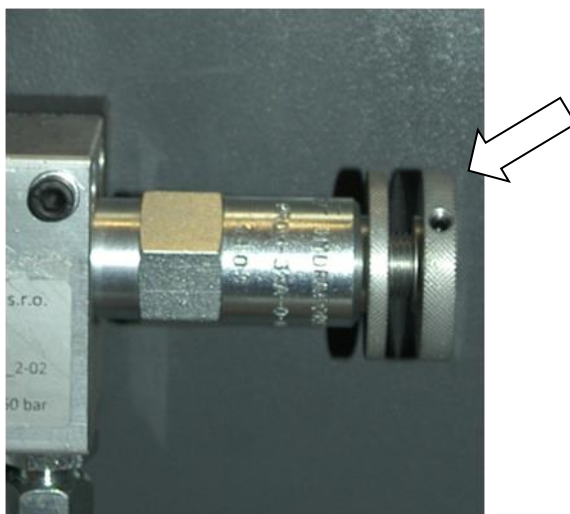
Because the hydraulic pressure equipment pressure 2,2 – 4 MPa, loosen the screws with caution!

Instruction for adjustment of clamping pressure

1. Release the locknut of the control screw at the pressure valve



2. Adjust the clamping pressure to the required value using the control screw.



- When turning the pressure valve **clockwise the pressure increases**.
- When turning the pressure valve **counterclockwise lowers the pressure**.

The indicator at the manometer at the device for clamping pressure adjustment indicates the set value.

The recommended pressure value is between the values defined through the green arrows at the manometer at the device for controlling of the clamping pressure.



3. Tighten the locknut of the control screw at the pressure valve.

Attention:

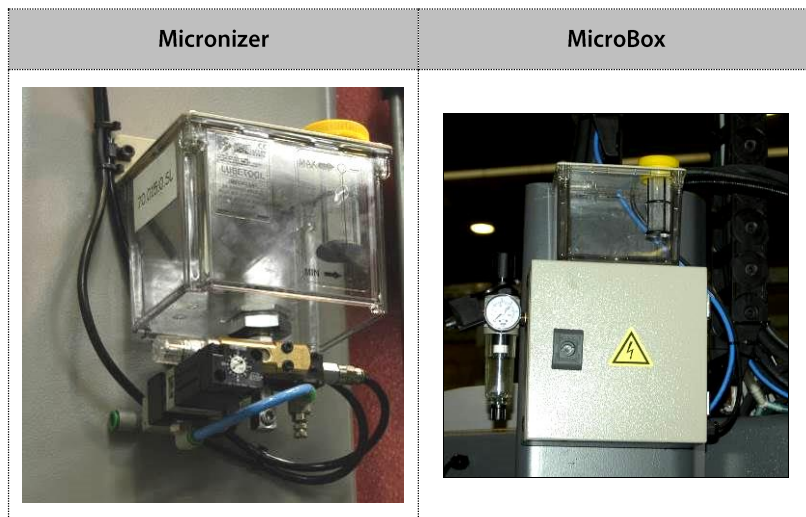
It isn't necessary to adjust the hydraulic pressure of the whole saw in order to adjust the clamping pressure

3.11.10. Mikroniser(box) – mist lubrication

The placement of a Microniser at the machine is pursuant to this photo

Next photos are for illustrative purposes only.

Microniser and MicroBOX are devices used to create a lubricating oil mist in precise doses of oil and air mixture, which is then applied directly to the saw band.



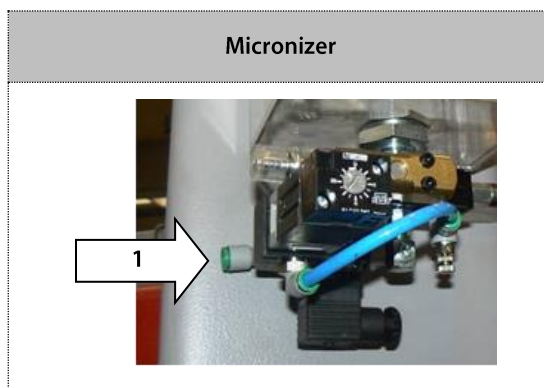
The device serves for ideal cooling and lubrication of the cutting blade when closed profiles are cut, and helps to maximize ease of cut.

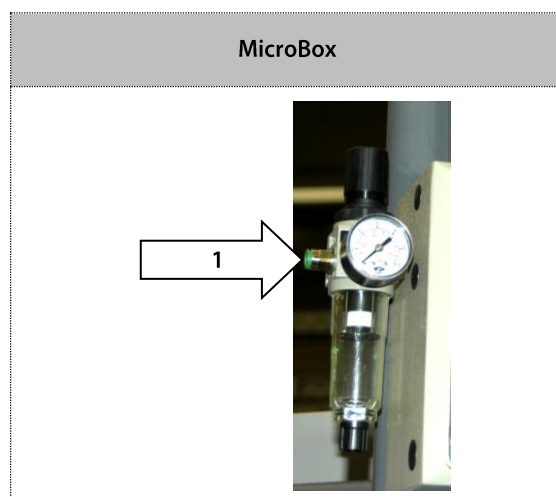


There is no leakage of coolant outside the work area of the saw when a profile material is cut.

.Microniser setting:

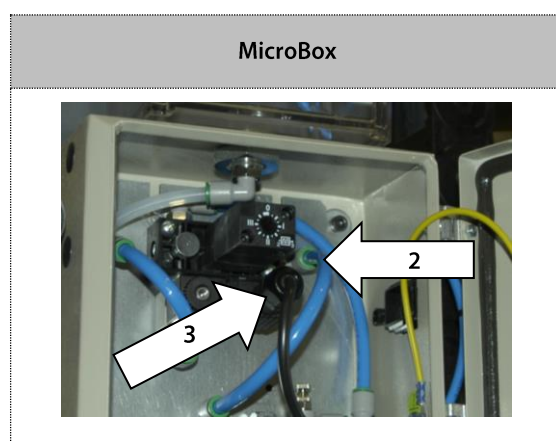
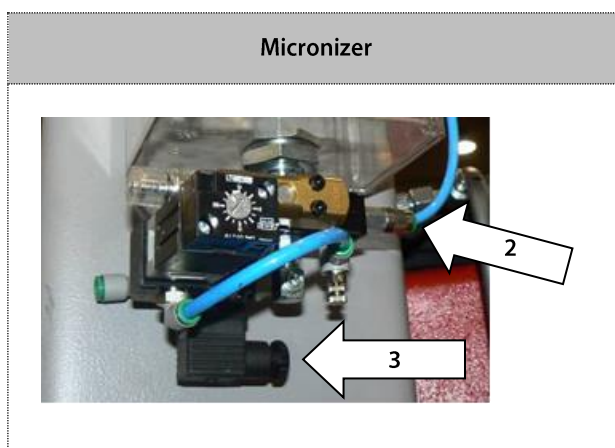
1. For proper function of the Microniser pressured air (in the range of 0.5 to 0.5 MPa (5-6 bar)) must supplied from the pneumatic system (dry, clean, free of particles) see - arrow **1**





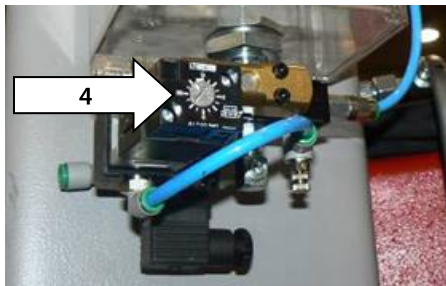
2. Arrow **2** - shows the output of the cooling medium (air + oil).

Arrow **3** - shows the inlet for the power supply cable.

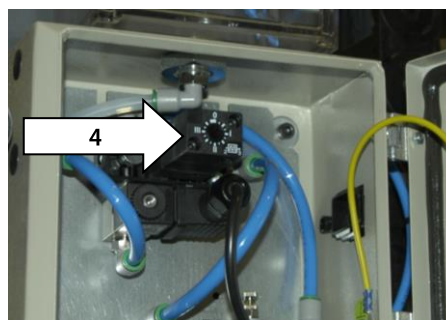


3. Set the interval of cutting oil dispersion on the Microniser- **arrow 4** (3-20 pulses / min.).
Adjust this interval to the parameters of the saw band and cut material.

Micronizer

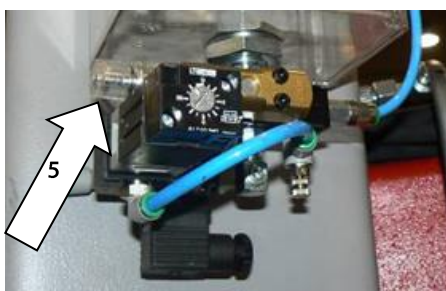


MicroBox

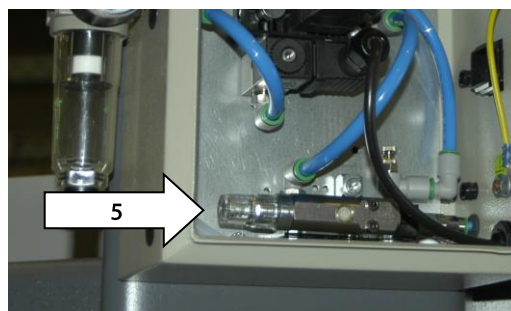


4. Adjust the amount of oil with a regulator - arrow **5**

Micronizer

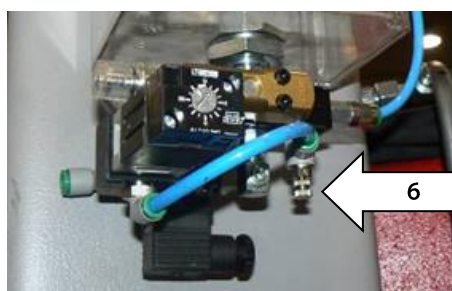


MicroBox



5. Setting the air quantity using another regulator - arrow 6

Micronizer



MicroBox



Switching on / off of the Microniser is depends on the control system of the machine it is installed on. See chapter "Machine control".

Recommended cutting oils for Micronisation:

Manufacturer	Cutting oil
Biona	Biocut
Paramo	Paramo cut 22

Featured are cutting oils with viscosity class 22.I

Adding of the coolant is possible after removing the filling cap. After the filing is finished the cap must be screwed in again.

Package Includes: a tank with regulators, connection 6m hose, diffuser.

3.11.11. Third cooling inflow (optional accessory)

Flexible coolant supply allows to bring the coolant to the desired location.

Third, easily routable and adjustable coolant supply with nozzle ensures sufficient lubrication and cooling of the strip in the middle of the cut material



Particularly suitable for cutting materials with a larger average, where the opening of the guide blocks larger blade and prevents proper lubrication and cooling of the entire length of the cut

For normal cutting off the third coolang inflow may be easily disconnected by closure



When adjusting the nozzle, pay increased attention that the inlet hose does not stand in the way of the saw band.

The third coolant inflow get in the package complete package including all jumpers and hoses - just connect to existing cooling divorce

Complete package includes: flexible hose (length 600 mm), shunt valve, inlet plastic hose (depending on the type of machine - min. 1m), interconnection schedule, holderto the machine screws (2xM5), transformer and wiring.

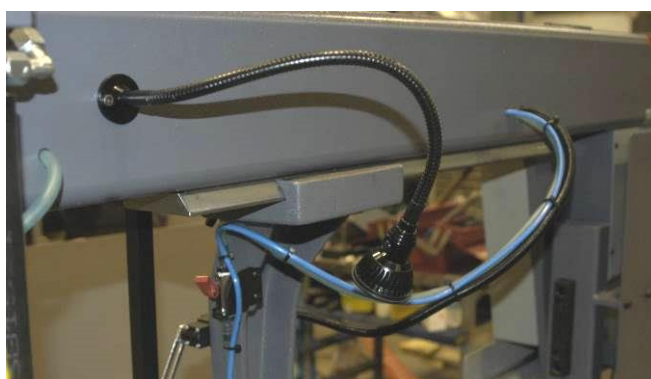


3.11.12. Halogen lighting of working area (optional accessory)

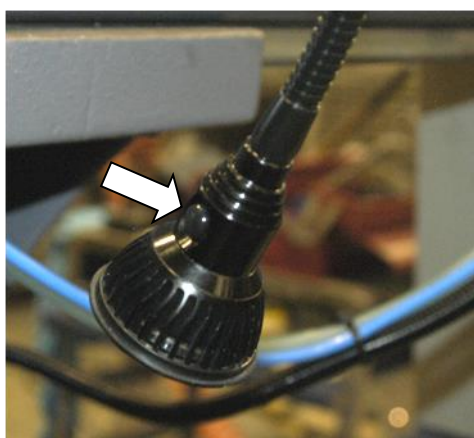
Light the working area of the machine with natural light and helps to facilitate cutting with a band saw.

Proper lighting in your work area greatly enhances ergonomics machines

Thanks flexible arm halogen light can accurately adjust to the desired location.



Turn on and off light switch is made directly to the halogen light.



Design lighting unit meets IP54 - Protection against water jets.

Technical data:

Supply voltage	230 V
Lenght flexible arm	300 mm
average	Ø 5,5 mm
lenght	80 m

**3.11.13. Tool cleaning machines from chips after cutting.
- optional accessory**

The tool can be used for cleaning of a machine from chips which were produced during cutting proces.

As a cleaning liquid is used coolant which spouts from the nozzle of the „gun“ when its handle is pushed down.



With custom pump (min. capacity 16 l / min.) The coolant gets into the rinsing pistol with the trigger lever.

Sufficient pressure to the chips and debris were eliminated from the bearing surfaces of the base material and the saw.

Gun cleaning machine from the chip is supplied with a sufficient supply hose for easy handling (diameter of 12/8 mm).

Package includes:

1. Ergonomic handle allows easy handling of the gun during cleaning machine.



2. Brass adjustable nozzle allows for smooth width rinse stream.



3. Valve for setting maximum coolant flow



4. Also included is a convenient holder for postponement gun after use



5. Connecting part equipped with a transparent tube with a connecting part for coupling the cleaning pistol to the pump.



6. Transparent inlet hose to couple the pistol to the connecting part.



Suitable for machine brand Bomar

3.11.14. Chip remover installation

The chip remover can be installed in the place of the standard chip drawer in the saw base

Remove the chip reservoir and install the chip remover in its place.



On the side of the base, a connector is mounted for connecting the chip remover to the saw



The chip conveyer starts automatically with the saw

Running of the chip remover can be set in the saw service menu.

3.12. Saw manager

Saw Manager is independent software for creation of recipes with optimized use of material, supplied by Bomar spol.s.r.o.

Saw manager is software which, on the basis of entered parameters of input semi-products, required minimum length of residual pieces and required parameters of final pieces, compiles a **complete recipe for control of the "RODS" type automatic cycle**, optimally considering all of the given required parameters.

If using the Saw Manager software, you do not need to create a specific cutting plan as a basis for creation of a recipe for control of the "RODS" type automatic cycle created on the machine.

Optimization by means of Saw Manager enables division of the entire batch of pieces to be cut within a single automatic cycle into precisely specified partial batches, which will be cut from specific individual rods with regard to the required residual piece length.

By default, this machine is quipped for control of the automatic cycle by recipes created in the Saw Manager software; however, **cooperation between the machine and a recipe created in the Saw Manager software is subject to purchase of a Saw Manager software licence**. For detailed information, contact the sales department of the Bomar spol.s.r.o. company.

If you own the required licence for the Saw Manager software, you can import a recipe created in Saw Manager to the machine as a file with the .csv extension (for the procedure, see chapter "Recipes") and start the automatic cycle controlled by this recipe in a standard way.

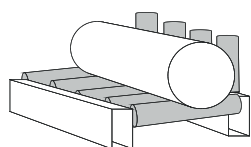
3.13. Material insertion

- Never walk under a suspended load!
- Never climb onto the gravity-roller conveyor!
- Do not hold the material for clamping material to the vice! The vice can cause injury!

3.13.1. Handling agent selection

- Use the strong handling agents to lift and transfer the material!
- Handle with the material only with the lift truck or use the suspension strands and the crane!
- Do not use the lift truck or crane in case that you do not have the license to handle with it!

3.13.2. Insertion



Insert material to the vice and ensure that the material cannot move in the vice or fall from the vice after the clamping. If you cut long pieces of the material (for example rod, tube), you must use the roller conveyors for material shifting to the band saw. Contact Bomar for more information about roller conveyors

Make sure the conveyor is long enough and the material cannot tip off the conveyor.

Be especially careful with round materials that it always stays on two vertical rollers and that it cannot fall off the conveyor!

Attention!

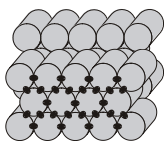
*Manual bundle clamping device is not standard equipment.
Without this device is a not possible cut bundle.*

Attention!

If machine has bundle device then material maximal height is half.

3.13.3. Bundle material cutting

If you want to cut the material in the bundle, there are suggestions for the positioning of bundles



Round material bundle: Take care especially with round material that the bars are put according to the picture. If the bars are put differently, you may have problems with movement.

Always weld the material at the rear end of the bundle to secure it from moving.

Before welding always, switch the machine off at the main switch! The magnetic fields, which often occur during welding, may damage the controls!

Attention:

Not all material shapes are suitable for bundle cuts. Keep the recommendation of your supplier of the saw bands for material insertion to the bundle.

3.13.4. Hydraulic fixture bundles (auxiliary vice) - optional accessory

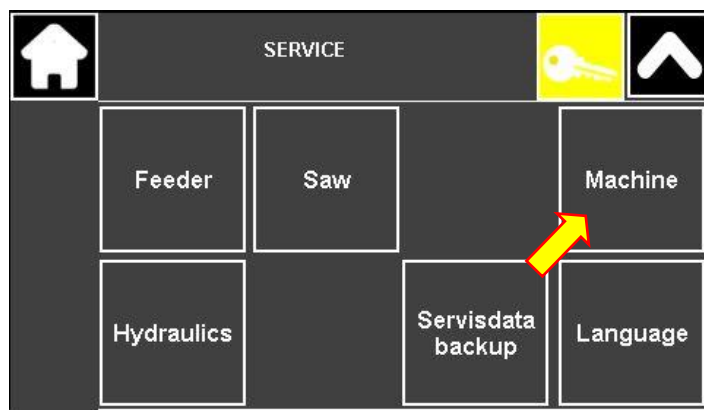
To better maintain the workpiece in the vise we recommend using **hydraulic fixture bundles** of material that is not part of the standard equipment, optional accessories only. It is suitable especially in the case of uneven cutting material.



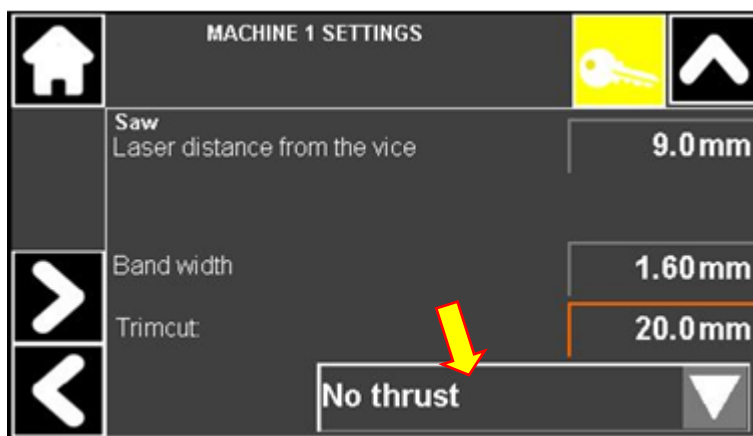
In manual mode it is possible to control the top clamping manually – by means of buttons at control panel.

In automatic cycle the jaws are controlled automatically.

The process of clamping of horizontal and vertical vices is in accordance with preset which was made in service parameters:



- Screen no.1



Pos.	Function
Pull-down menu (hierarchical level 1)	
No thrust	Upper thrust disabling
1.Vice 2. Thrust	First the main vice is clamped, then the thrust.
1. Thrust 2. Vice	First the upper thrust is clamped, then the main vice.
If the upper thrust is installed on both the feeder and the main vice, the option applies to both of the thrusts simultaneously.	

4. Údržba stroje / Wartung / Machine service

4.1. Saw band dismantling

During the dismantling, take care that you do not damage the limit switch if the saw band stretching.

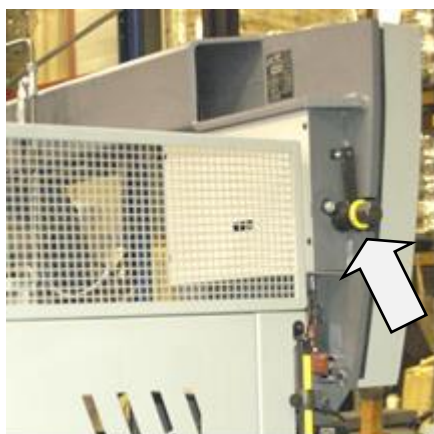
1. Lift the saw frame to the top position. Stop the saw frame in top position by control valve.



2. Dismantle yellow protective cover of the saw band. The cover is clamped with two screws.



3. Open the cover of the arm.



4. Turn by stretching star to the left side, release saw band stretching and pull saw band from blade wheels.



5. Remove the saw blade from the runner wheels



6. Pull up the saw band from the guiding cubes

4.2. Saw band instalation

During the installation, take care that you do not damage the limit switch if the saw band stretching!

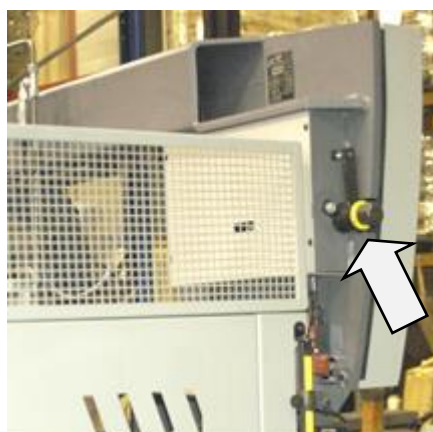
1. Prior to installation, clean all track wheels, guide cubes and inner side of the arm thoroughly of all traces of chips and dirt. **Keep in mind the teeth direction when installing the saw band.**



2. Insert new saw band in the guide cubes. Make sure the saw band runs between both guide rollers and it is pushed all the way to the top.



3. Put the saw band on both guide wheels. Make sure that the saw band ridge fits tightly to the wheel rim. Then push the saw band as far back as possible.

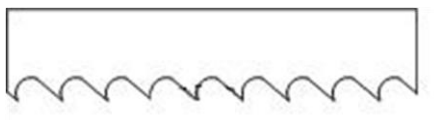


4. By turning the stretching bolt ito the right, you will stretch the saw band slightly. Remove the plastic cover of the saw band teeth.

5. Close the cover of the arm.



6. Install the yellow protective cover of the band.



Arrow on the cover must agree with the direction of the teeth. If it does not, you have to flip the saw band.

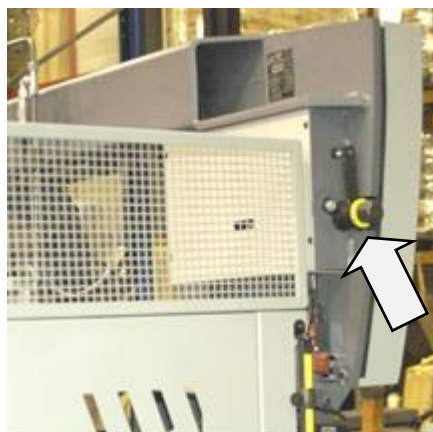
4.3. Saw band stretching and inspection

Right saw band stretching is one of the most important criteria's, which influents accuracy and saw band service life. Keep the recommendation of your manufacturer.

Pilový pás Sägeband Saw band	Napětí pilového pásu Sägebandspannung Blade tension	Napětí pilového pásu PSI (pro Tenzomat) Sägebandspannung PSI (für Tenzomat) Blade tension PSI (for Tenzomat)
20 x 0,9 mm	160 N.mm ⁻²	23 500
27 x 0,9 mm	180 N.mm ⁻²	26 500
34 x 1,1 mm	210 N.mm ⁻²	30 500
41 x 1,3 mm	240 N.mm ⁻²	35 000
54 x 1,3 mm	240 N.mm ⁻²	35 000
54 x 1,6 mm	280 N.mm ⁻²	40 600
67 x 1,6 mm	290 N.mm ⁻²	42 000
80 x 1,6 mm	300 N.mm ⁻²	43 500

4.3.1. Saw band stretching

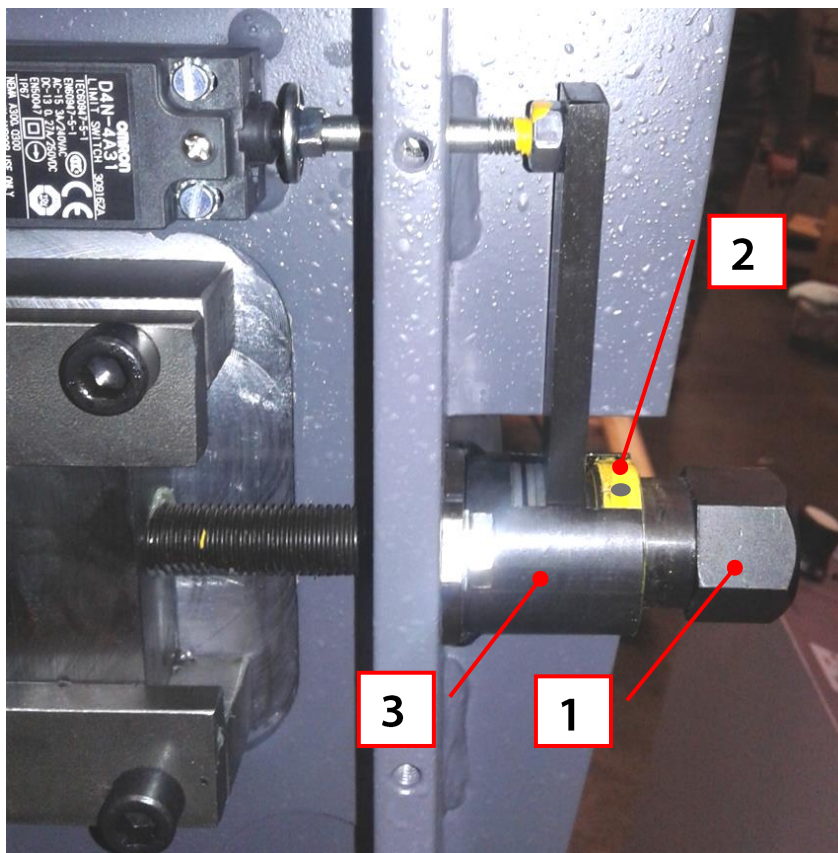
After putting on, tighten the saw band slightly so that it does not fall from the wheels



4.3.2. Mechanical indicator of belt tightening

To facilitate tightening of the belt, a mechanical indicator is installed on the machine by default, enabling the belt to be tightened to the optimum value easily and quickly.

Mechanical indicator of belt tightening

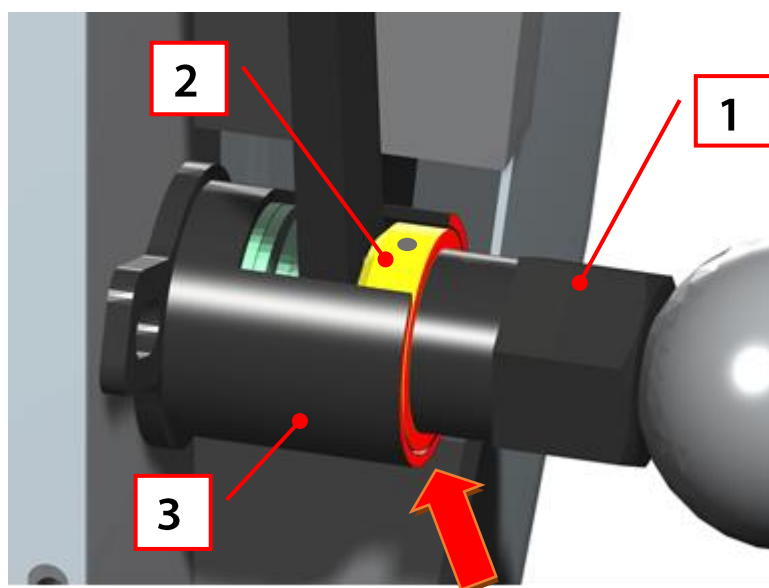


1	Tightening screw
2	Yellow ring – indicator of correct belt tightening
3	Bush

After the belt replacement, the tightening screw (Pos. 1) must be tightened so that the face of the yellow ring (Pos. 2) be aligned with the face of the bush (Pos.3)

The areas indicated in red in Fig. 1 must be aligned.

Fig.1



NOTE:

The belt length with deviations within normal tolerances has no influence on the method of the belt tightening indication!

If the belt length deviations fall within normal tolerances and the belt is tightened correctly, the face of the yellow ring (Pos. 2) is always aligned with the face of the bush (Pos. 3), regardless of the real dimension of the belt.

Belts with deviations outside the normal tolerances must not be mounted on the machine!

4.3.3. Hydraulic indicator of belt tightening (optional accessory)

If the machine is equipped with a hydraulic indicator of the belt tightening (optional accessory), the belt tightening value can be seen on the indicator gauge.

The optimum working tightening value of the belt is indicated with a green arrow.



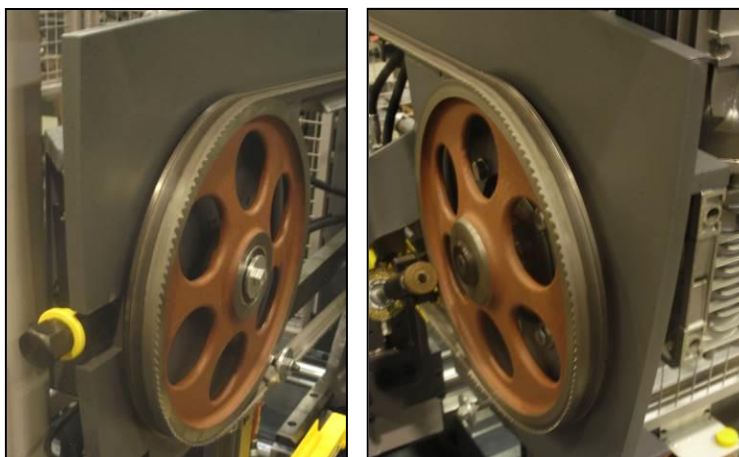
4.4. Saw band run adjustment on stretching wheel

Saw band run on the stretching wheel must be regularly inspected. The inspection has to follow every saw band replacement.

4.4.1. Saw band run inspection

If the run is not correct, the following problems may occur:

- **The saw band falls from the wheels** – The saw band and protective cover can be damaged.
- **The saw band runs on the wheel rim** – The saw band and wheel rim can be damaged



1. Start and stop saw band drive.
2. Stop the main switch!
3. Open rear cover of the saw frame.
4. Check saw band placing on the wheels.
 - If the distance of the rear part of the saw band from wheel rim is 1 – 3 mm, setting is right.
 - If the distance is bigger than 3 mm, or the saw band runs on the wheel rim, saw band run must be set.

4.4.2. Saw band setting



The saw band run is set with screw in the stretching cube on the saw frame. Optimal distance has been determined at **1 – 3 mm**.

- Turn by screw to the right, the saw band approximates to the stretching wheel rim.
- Turn by screw to the left, the saw band departs from the stretching wheel rim.

Check saw band run again after setting.

4.5. Adjusting of the limit switch of the saw band stretching



After the saw band is replaced, the saw band stretching must be checked. If the limit switch is not adjusted correctly, the band is stretched too little or too much.

1. Dismantle the protective cover



2. Tighten the saw band on the optimal value using TENZOMAT (see table for TENZOMAT)
 - If the drive engine is switched on, but it is not running, turn with the screw clockwise, until the engine begins run..
 - If the drive engine is possible switched on, turn with the screw anticlockwise, until the engine is stopped and then turn with the screw clockwise, until the engine begins run.
3. Install the protective cover.

4.6. Cooling agents and chips disposal

The quality of the cooling agent will deteriorate due to:	If the solution is too weak:	If the solution is too strong:
• use of contaminated water • outside oil contamination (hydraulics, gears) • high operating temperatures • lack of air circulation • wrong concentration	• corrosion protection is diminished • lubrication decreases • microbial attack is more likely	• the cooling ability is decreased • foam behavior increases • emulsions stability deteriorates • sticky residue develops

4.6.1. Coolant device inspection

The state of the cooling agent has significant influence on the cutting quality and on the operational life of the machine. Lifetime of the cooling liquid is 1 year, after this time we recommend change the cooling liquid. This time is dependent on the degree of pollution cooling liquid (especially with oils) and on the other factors.

Check level of the cooling liquid and function of the pump periodically!

Note:

If the state of the cooling liquid is not satisfactory, the cooling liquid must be changed.

Check the state of the cooling agent according to the following table:

Testing	Interval	Method	Condition	Precaution
Liquid level	daily	visually	too low	after concentration check, refill with water or emulsion
Concentration	daily	refractometer densimeter	too high too low	refill water refill base emulsion
Smell	daily	by sense of smell	unpleasant smell	good ventilation, add biocides or renew coolant
Contamination	daily	by sense of smell	visible oil leaks, sludge fungi	surface cleaning, fix leaks, add biocides or fungicides, or coolant renewal after added system cleanser*
Corrosion-protection	when necessary	visually chip test Herbert-test	insufficient corrosion protection	test stability, if necessary – increase concentration or pH value
Stability	when necessary	refractometer	oiling	add concentrate, enquiries to supplier
Foam reaction	when necessary	shaking test	too much foam, foam disperses too slowly	avoid aeration, increase water hardness, ix with defoamer

* According to manufacturers' instructions

4.6.2. Chips disposal

Chips resulting from cutting operations must be disposed of in accordance with the relevant regulations.

- Let the chips drip excess fluid!
- Fill a watertight container with the chips! Be careful that the container does not leak, because even after a long dripping time, they still contain coolant residue.
- *Place the container into the care of a disposal company equipped for the disposal of chips contaminated with cooling liquid.* In case the machine is equipped with micro-spray installation, the chips must also be handed over to a disposal company.

4.7. Hydraulic, Greases and oils

4.7.1. Gearbox oils

In gearboxes, oil is used for the whole lifetime of the gearbox. We recommend replacing of the filling oil in case of repair.

Use oils with specification DIN 51517 in the gearboxes. Select the viscosity grade ISO VG according to the original oil fill.

Attention:

When replacing use oils which has comparable parameters from the other manufacturers.

Do not forget, that mineral and synthetic oils must not be mixed!

Recommended oils and quantity according to the type of the band saw

Band saw	Gearbox oil	Capacity
Proline 420.350 ANC	Shell Tivela S 320	1,0 l
Swarf conveyor	Shell Tivela S 320	0,075 l

Comparative table of the gearbox oils

Manufacturer	Viscosity grade		
	ISO VG 100	ISO VG 220	ISO VG 320
BP	Energol GR-XP 100	Energol GR-XP 220	Energol GR-XP 320
Castrol	Alpha SP 100 Alpha MW 100	Alpha SP 220 Alpha MW 220	
Elf	Reductelf SP 100	Reductelf SP 220 Reductelf Synthese 220	Reductelf SP 320
Esso	Spartan EP 100	Spartan EP 220	Spartan EP 320
Mobil	Mobilgear 627	Mobilgear SHC 220 Mobilgear 630	Mobilgear 632
ÖMV		PG 220	
Paramo	PP 7	Paramo CLP 220	Paramo CLP 320
Shell	Shell Omala 100	Shell Omala 220 Shell Tivela S 220	Shell Omala 320 Shell Tivela S 320
Total	Carter EP 100	Carter EP 220	Carter EP 320

4.7.2. Greases

We recommend using lithium based saponified grease, class NGLI-2 for lubrication. Different greases are mixable, if their oil bases and consistence type are identical.

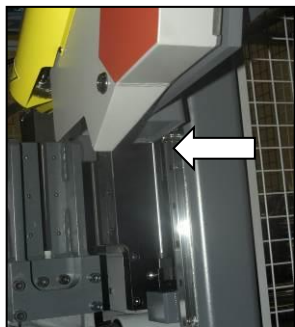
Comparative table of the lubricant greases:

Manufacturer	Type of the lubricant grease
BP	Energrease LS - EP
DEA	Paragon EP1
Esso	FETT EGL 3144
	Beacon EP 1
	Beacon EP 2
FINA	FINA LICAL M12
Klüber	Microlube GB0
	Staburags NBU8EP
	Isoflex Spezial
Optimol	Optimol Longtime PD 0, PD1, PD2
Shell Aseol AG	ASEOL Litea EP 806-077
Texaco	Multifak EP1

4.7.3. Lubrication

There are several placing on the machine, which are necessary to grease periodically. It secures the right function of the machine.

Lubrication place	Lubrication
	The guiding cube leading Grease with oil from both sides once a week.
	Main vice leading Grease with oil from both sides once a week.



The linear guiding of the saw arm

Lubricate with grease once a three months (see chapter Lubricant greases).

Use 3–5g grease on the every carriage of the linear guiding.

Use the grease gun to the lubrication.

Drive 3–5 times whole line of the linear guiding during lubrication.



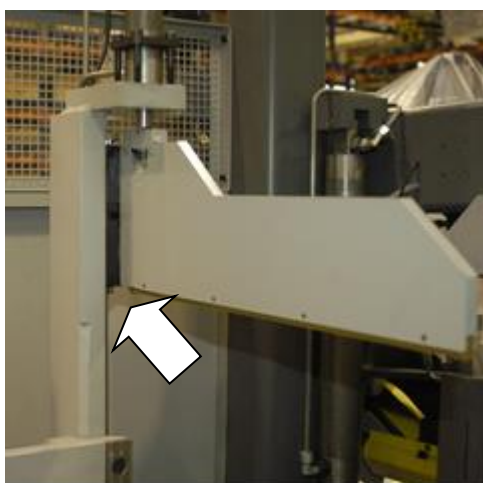
Linear guiding for the upper clamping at the main vice

Lubricate with grease once a three months (see chapter Lubricant greases).

Use 3–5g grease on the every carriage of the linear guiding.

Use the grease gun to the lubrication.

Drive 3–5 times whole line of the linear guiding during lubrication.



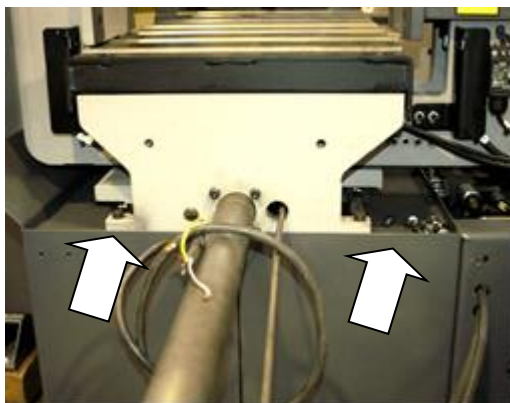
Linear guiding for the upper clamping at the feeder vice

Lubricate with grease once a three months (see chapter Lubricant greases).

Use 3–5g grease on the every carriage of the linear guiding.

Use the grease gun to the lubrication.

Drive 3–5 times whole line of the linear guiding during lubrication.



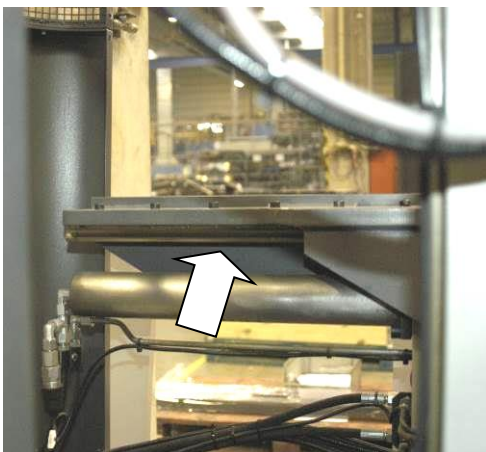
Linear guiding for feeder movement

Lubricate with grease once a three months (see chapter Lubricant greases).

Use 3–5g grease on the every carriage of the linear guiding.

Use the grease gun to the lubrication.

Drive 3–5 times whole line of the linear guiding during lubrication.

Lubrication place	Lubrication
	Linear guide of the movable jaw of the feeder vice Lubricate with grease once a three months (see chapter Lubricant greases). Use 3–5g grease on the every carriage of the linear guiding. Use the grease gun to the lubrication. Drive 3–5 times whole line of the linear guiding during lubrication.

4.7.4. Hydraulic oils

Replace the hydraulic oil once in 2 years, because the oil can deteriorate its properties and cause problems the hydraulic equipment. If the hydraulic system is equipped with filter (2SF 56/48-0,063), replace the filter too.

Use oils with specification DIN 51524, ISO 6743-4 and viscosity grade ISO VG 32.

Note:

When replacing, use oils recommended by BOMAR or oils, which has comparable parameters from the other manufacturers. Do not forget, that mineral and synthetic oils may not be mixed!

Comparative table of the hydraulic oils

Manufacturer	Type	Manufacturer	Type
Agip	Oso 32	Ina	Hidraol 32 HD
Aral	Vitam GF 32	Klüber	Lamora HLP 32
Avia	Avilub RSL 32	Ungarn	Hidrokomol P 32
Benzina	OH-HM 32	Mobil	Mobil DTE 25
BP	Energol HLP 32	ÖMV	HLP 32
Bulgarien	MX-M/32	Polen	Hydrol 30
Castrol	Hyspin AWS 32	Rumänien	H 32 EP
Čepro	Mogul HM 32	Russland	IGP 30
DEA	Astron HLP 32	Shell	Tellus Oil 32
Elf	Elfolna 32	Sun	Sunvis 832 WR
Esso	Nuto H 32	Texaco	Rando HD B 32
Fam	HD 5040	Valvoline	Ultramax AW 32
Fina	Hydran 32		

4.7.5. Hydraulic unit service

After 50 hours working time, or the latest 3 months after the first run, the first service should be carried out. This includes:

- checking off all screws and connections, fixing points, tubes and hoses for leakage
- check function of signaling components (thermometer, level gauge, dirty filter indicator)



- Check hydraulic oil level



The oil level must be between the halves of both watermarks

- During time of duty the oil temperature shouldn't exceed 70°C
- Check the adjustment of working pressure

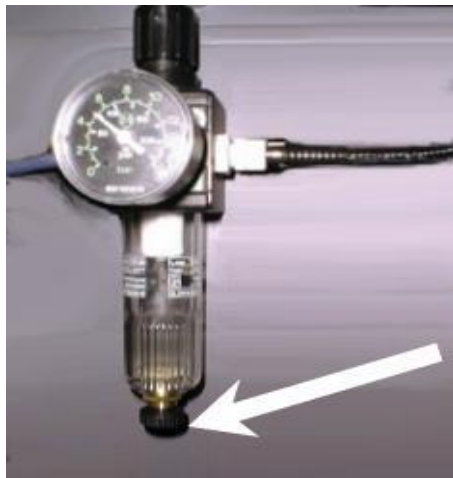


To realise a high reliability of the power pack, the manufacturer lays down following inspection intervals

Interval	daily	weekly	monthly	three monthly	six monthly	annually
Hydraulic fluid						
Level	-	•	-	-	-	-
Temperature	-	•	-	-	-	-
Condition	-	-	•	-	-	-
Change interval	-	-	-	-	-	•
Filter						
Change interval	-	-	-	-	-	-
Other checks						
External Leakages	•	-	-	-	-	-
Contamination	•	-	-	-	-	-
Damages	•	•	-	-	-	-
Noise-(level)	•	-	-	-	-	-
Gauges	-	-	•	-	-	-

4.8. Pressure system servicing (microBOX)

Filter of the pressure system is necessary to clean periodically, that means drain sediments and impurities from the reservoir.



Close the pressure air supply. Screw off the screw and let to drain sediments to the reservoir. Screw on the screw again.

WARNING!

There is the pressure 0,5 – 0,6 MPa in the pressure system, therefore you must release the screw very carefully!!

4.9. Machine cleaning

Clean the machine from the cooling liquid and impurities after every shift stopping. Conserve the guiding surfaces, mainly.

- Clamping jaws guiding of the vice.
- The guiding of the feeder.
- Loading surface of the vice.

4.10. Worn pieces replacement

4.10.1. Hard metal guides replacement

If the hard metal guides cannot be adjusted, they have to be replaced.

1. Dismantle the saw band. Remove the hosepipe leading the cooling agent. Dismantle guide cube of the saw band.



2. Loosen the adjusting screws of the metal guide.



3. Loosen the binding screw of first metal guide. Remove adjustable hard metal guide.



4. Loosen the binding screw of second metal guide. Remove the hard metal guide
5. Insert new hard metal guides and fasten them tightly.
6. Mount the saw band. Adjust the hard metal guides.

4.10.2. Saw band guiding rollers replacement

If the saw band is not sufficiently guided by guiding pulleys or if the pulleys are obviously worn, the pulleys should be replaced.

ATTENTION!

Guiding pulleys must be replaced together on both guiding cubes!!

1. Dismantle the saw band.
2. Disconnect the hose from the cooling agent, screw off the pressure regulation. Let the pressure regulation connected to the hydraulic system. Dismantle the guiding cube of the saw band..



3. Tighten the guiding cube to the vice and dismantle both eccentrics with bearings following way.

ATTENTION!

*Mark both eccentrics placing and components on the eccentric!
Eccentrics must not be replaced with each other!!*

4. Screw off nuts from eccentrics..



5. Remove eccentrics from bearings by means of the swager



6. Change all bearings and other worn parts.



7. Install eccentrics to the cubes. Install components on both eccentrics in given order. Put bearings by means of the preparation on eccentrics.

ATTENTION!

Do not replace the eccentrics placing in the cube



8. Screw on nuts on both eccentrics and tighten them.



9. Insert the saw band to the guiding cube (ca. 15 – 20 cm). Set the eccentrics by means of the wrenches, the saw band must run in the centre. Guide pulleys must not press too much on the band, but must spin freely during the band run.
10. Tighten nuts on both eccentrics.
11. Remove the testing piece of saw band from the cube lead. Install the guiding cube on the machine and connect the pressure regulation to the cut and cooling. Install the saw band.

4.10.3. Stretching wheel replacement

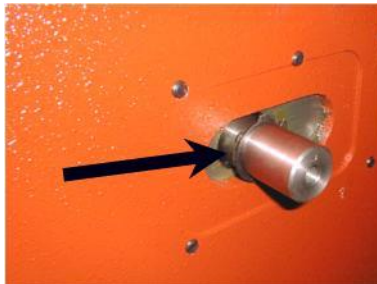
1. Dismantle the saw band.



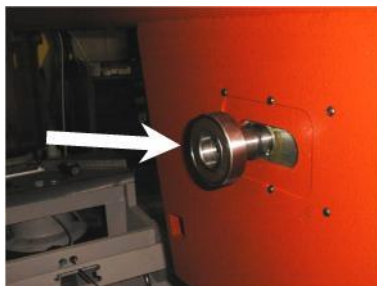
2. Screw off the screw and take down the washer.



3. Pull off the wheel from the shaft by means of the three-armed puller. If bearing stayed on the shaft, pull off it too
4. Check score of the bearings of the stretching wheel and replace them for new.



5. Clean the shaft and grease it with oil. Insert retaining ring to the groove.



6. Install bearing on the shaft and move it to the retaining ring. Insert the distance ring on the shaft and move it to the bearing.



7. Insert the retaining ring to the hole in the wheel.



8. Insert the bearing to the hole in the wheel and press it to the retaining ring.



9. Put the wheel on the shaft and screw on the preparation to the wheel stretching to the hole in the shaft.



10. Pull on the wheel on the shaft.



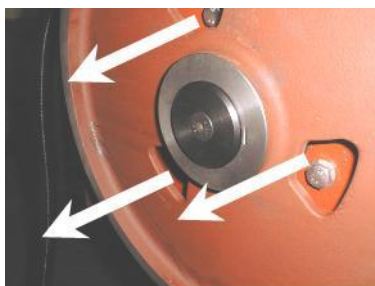
11. Screw on washer and screw back..
12. Install the saw band. Wheel replacement is ready.

4.10.4. Driving wheel replacement

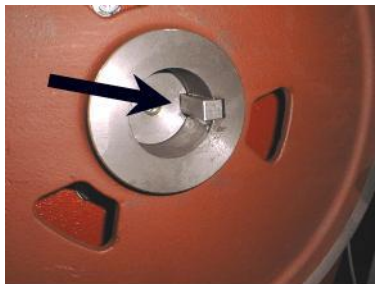
1. Dismantle the saw band



2. Screw off the screw and remove the washer.



3. Pull off the wheel from the shaft by means of the three-armed puller.



4. Install the wheel on the shaft. Insert the feather to the groove.



5. Screw on the preparation to the wheel stretching to the hole in the shaft. Pull on the wheel on the shaft.



6. Screw on washer and screw back.
7. Install the saw band. Wheel replacement is ready.

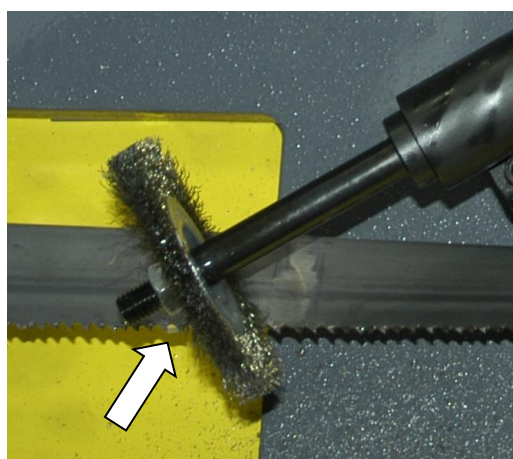
4.11. Round brush replacement

If the chip removing brush is not able to fulfil its function, it has to be replaced.

1. Open the cover of the saw arm
2. Hold shaft of the brush by wrench.



3. Release the nut on the brush, replace worn brush on the new brush, screw on the nut.



4. Adjust the brush to the saw band
5. Close saw arm cover

5. Závady / Störungen / Troubleshooting

5.1. Mechanical problems

Problem	Possible causes	Repair
1. Slanting cut	- Wrongly adjusted hard metal guides.	Set according to the chapter „Servicing and adjustment“
	- Worn hard metal guides.	Replace to the chapter „Worn pieces replacement“
	- Wrongly adjusted cubes of the saw band guiding.	Set according to the chapter „Servicing and adjustment“
	- Worn bearings of the saw band guiding.	Replace according to the chapter „Worn pieces replacement“
	- Wrongly adjusted swarf brush.	Set according to the chapter „Servicing and adjustment“
	- Worn swarf brush.	Replace according to the chapter „Worn pieces replacement“
	- Insufficient saw band stretching.	Rise the saw band stretching and set the limit switch.
	- Wrongly chosen tooth system of the saw band.	Replace the saw band and keep the instructions of manufacturer on new saw band choice.
	- Worn saw band.	Replace the saw band.
	- Wrongly balanced roller conveyor.	Set the roller conveyor.
	- Dirty feeding board.	Cleanse the feeding board from debris, chip and residue material.
	- Guiding arm and guiding cube are loosened.	Clamp the guiding arm.
	- Guiding arm and cube are too far from the material.	Set the guiding cube to the material.
	- Too fast cutting rate.	Lower the material feeding speed.
	- Unexpected oscillation in material quality.	Set the cut and feeding speed to the relevant material.
2. The cut is not cut upon desired angle	- Securing lever is loosened.	Check the securing lever efficiency and carry out its adjustment according to chapter „Servicing and adjustment“.
	- Set angle does not match the cut angle.	Check the angle adjustment with a protractor and possibly set it according to chapter „Servicing and adjustment“.
	- Insufficient saw band stretching.	Stretch the saw band and set the limit switch according to chapter „Servicing and adjustment“.
	- Guiding arm and guiding cube are loosened.	Fasten the guiding arm and the cube.
	- Dirt between material and clamping jaw.	Cleanse the material and mating jaw.
3. Short lifetime of the saw band	- Insufficient saw band stretching.	Raise the tightening of the saw band set the scanner of saw band tightening according to chapter „Servicing and adjustment“.
	- Worn swarf brush.	Check the swarf brush condition and replace it in case of excessive use as described in chapter „Worn pieces replacement“
	- Wrongly adjusted swarf brush.	Check swarf brush adjustment, set it according to chapter „Servicing and adjustment“
	- Over stretched saw band	Lower stretching of the saw band and set the limit switch of the saw band stretching according to chapter „Servicing and adjustment“
	- Wrongly adjusted hard metal guides.	Check the adjustment of the hard metal guides and carry out adjustment as described in chapter „Servicing and adjustment“
	- Worn hard metal guides of the saw band.	Check the condition of the hard metal guide and if it is too worn, replace hard metal guides according to chapter „Worn pieces replacement“

Problem	Possible causes	Repair
	- Worn saw band guide bearings.	Check guiding bearings and if you notice some sort of excessive damage, replace them according to chapter „Worn pieces replacement“
	- Wrongly adjusted guiding cubes of the saw band.	Set guiding cube according to chapter „Servicing and adjustment“
	- Wrongly adjusted down feed and saw band speed.	Adjust the feeding and speed of a saw band according to values published by saw band manufacturer.
	- Different material quality.	Adjust feeding and speed of a saw band according to desired material (try cut-test).
	- Low-class saw band	Replace the saw band (contact your local accessory supplier for more information)
	- Wrongly chosen saw band tooth system.	Replace the saw band and keep instructions of the manufacturer on the choice.
	- Wrongly adjusted tracking.	Check the space between top of a saw band and driving wheel. Perhaps adjust the tracking as described in chapter „Servicing and adjustment“
4. Insufficient cut output.	- Worn saw band.	Replace the saw band and keep instructions of the manufacturer on the choice.
	- Wrong saw band tooth system.	Replace the saw band and keep instructions of the manufacturer on the choice.
	- Wrongly set down feed and speed of a saw band.	Set feed and speed of a saw band according to values published by saw band manufacturer.
5. The cut is not finished.	- Wrongly adjusted lower stop point of the saw frame.	Check lower limit switch and screw.
	- Stop point surface is messed-up.	Cleanse stop point surface of the limit switch from debris and residue material.
6. By choke is not possible turn	- Metal clamps between valve and panel.	Clamps must be removed and put on the shaft O-Ring about 10x2 mm.
	- Metal clams are in body of valve.	Valve must be cleared or changed.
7. Saw band drive cannot be started.	- Pressure switch is adjusted wrong.	Set the pressure switch according to chapter „Servicing and adjustment“
	- Pressure switch is defective.	Replace defective parts of the pressure switch.
8. The saw bands are cracked.	- In stretching wheel is wrong adjusting geometry.	Adjust distance band from recess wheel c.2 mm according to operating instructions.
	- Hard metal plates of circuit saw band are not adjusting.	Hard metal plates of circuit saw band must be adjusting according to operating instructions.
	- Guiding cubes are not adjusting (bearings + hard metal circuit)	Guiding cubes must be adjusting (bearings + hard metal circuit) according to operating instructions.
	- Bearings of guiding cubes are used (rolling elements are damaged or outside ring of bearing has conical form).	Bearings of guiding cubes must be replaced. Bearings must be adjusting according to operating instructions.
9. Damage tooth system of the saw band	- In gripping the lifting cylinder is backlash.	
	- Squeezed pin upper or downer holder of the lifting cylinder.	Exchange complete upper or downer holder of lifting cylinder.
10. The saw is cut downing.	- Geometry of hardmetal guiding cubes is wrong adjusted.	Hardmetal guiding cubes must be adjusted.
	- Bearings of guiding cubes are used.	Bearings of guiding cubes must be replaced.
11. Cleansing of the saw band is not functional.	- Elastic wheel of the brush drive is worn-down.	Elastic wheel of the brush must be changed.
	- Knurling of the driving wheel is worn-down.	Driving wheel must be changed.
	- The shaft of the brush drive is rusted.	The shaft of the brush must be cleaned and oiled.

Problem	Possible causes	Repair
	- The brush position and the brush cover is adjusted wrong – with the brush cannot be turned.	The brush cover must be posed, in order to the brush can be turned.
12. The saw arm periodically rise and fall during the cut; this cause short lifetime of the saw band.	- Backlash in driving wheel lodgement on the shaft.	Change the driving shaft for a long one, new bearings, distance ring, new driving wheel, spring, two covers on the forehead of the shaft + screws.
	- Worn channel for spring.	

5.2. Electric problems

Problem	Possible causes	Repair
1. Machine is not possible start.	- In socket is not voltage	Line voltage must be checked.
	- Transfer relay is closed (thermal protector)	Each FA relay must be checked.
	- Limit switch of saw band stretching, cover of frame or cover of saw band is not started.	Check of saw band stretching and covers closing.
2. When cut is finished, the frame is not raising.	- Bottom limit switch is adjusted wrong.	Bottom limit switch must be adjusted according to chapter ADJUSTING.
	- In hydraulic (pneumatic) ring is error. HYTOS (BOSCH) is not acting to frame uplift.	Function of magnetic valve must be checked, valve must be closed, voltage of clamps and inductor must be checked.
3. Electric motor and pump are without voltage. Between contactor and thermal protector is not voltage.	- Wrong contactor.	Replace contactor of engine.
4. The indicator of speed saw band is not functional.	- Sensor of speed is not adjusted.	Sensor of speed must be adjusted.
	- Defective display	The display must be changed.
	- Wrong sensor – diode of indicator speed is not light.	Sensor must be changed and adjusted.
5. Protector is switched off from engine hydraulic aggregate MA3 sometimes.	- Into hydraulic system is high working pressure.	Service engineer must reduce the pressure in hydraulic system.
6. The hydraulic aggregate cannot be started	Auxiliary contact on thermo-relay FA1 is defective.	Replace the defective contact on motor starter FA1.
7. Hydraulic aggregate is switched on but the saw arm or the main vice is not functional	- Wrong connection of electrical supply. The electrical phases are connected conversely.	The phases must be switched. Only service engineer can do this.
8. Cooling is not active	Lack of cooling agent.	Fill the tank with cooling agent.
	- Thermal relay is defective	Change the thermal relay
	- Input hosepipe is broken or obstructed.	Check the cooling circuit and perhaps cleanse cooling system.
	- Cooling pump protection is defective	Check the protection of cooling pump if need change it.
	- Cooling pump is defective.	Replace the cooling pump.

5.3. Hydraulic problems

Problem	Possible causes	Repair
9. Hydrogenerator not supplying oil	• reverse rotation	Check the connections of each phase. Reconnect properly connection of the electrical phases.
	• shortage of oil in the tank	Add hydraulic oil
	• Oil viscosity does not correspond prescribed viscosity value	Change hydraulic oil.
	• Hydrogenerator malfunction	Call service
	• Wrong power supply connection.	Check the connections of each phase. Reconnect properly connection of the electrical phases.
10. Hydraulic oil contains bubbles	• Hydraulic circuit is not adequately deaerated	Make deaeration of hydraulic circuit.
	• Low oil level	Add hydraulic oil
	• the pump shaft seals damaged	Call service
11. Increased mechanical noise	• damaged joint drive	Call service
	• damaged or destroyed motor bearings	Call service
	• air intake	Check for leaks.
12. Low pressure, pump supplies oil	• problem in the safety valve	Wrong settings. Check the settings and adjust the safety valve.
	• pump wear	Call service
	• external or internal leakage	Call service
13. Hydrogenerator is seized	• damage by solid particles in oil	Make oil filtration, or call the service.
	• non-prescribed oil	Change hydraulic oil.
	• wrong type of oil	Change hydraulic oil.
	• exceeding the life of the pump	Call service
14. Overheating oil	• cooler malfunction	Check the cooler function or call service.
	• wear the pump, the energy is converted into heat	Call service
15. Hydraulic valve can not be readjusted	• electromagnet has no signal (voltage) - interrupted supply lines	Check again.
	• Electromagnet coil burnt	Replace coil – Call service.
	• spool valve sticking	Replace valve – Call service

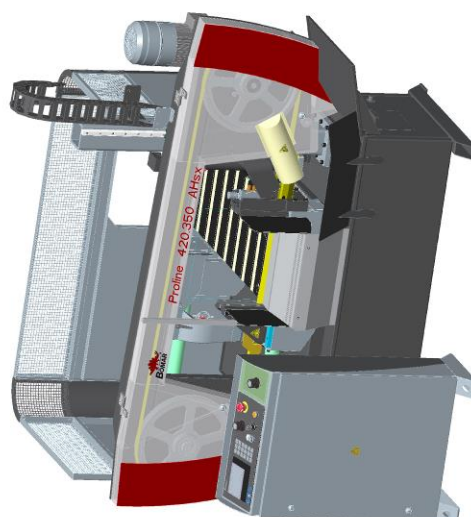
Note:**Frequency converter**

Connect the machine to electrical networks with corresponding technical parameters only.

We recommend protecting the machine with RCD protection with U characteristics, which is able to compensate changes of current escaping from the filter of the frequency converter, so that additional equipments will not be required. We don't recommend protecting the machine with a standard protection for currents smaller than 100 mA (the standard used is 30 mA) because of current escape in accordance to frequency converters used by machine. Alternative solution should be a current protection (FI) with sensitivity of 100 mA.

6. **Schémata / Schemas / Schematics**

6.1. Elektrické schéma / Elektroschema / Wiring diagrams

0	1	2	3	4	5	6	7	8	9															
					Bomar, spol. s r.o. Těžební 1236/1 627 00 Brno Czech republic																			
Proline 420.350 ANC Wiring diagram					ES-101.265-B1/B2-V8.1 3x400V + PE, 50Hz																			
																								
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=SAW/3.g	Kusovník artiklů / Parts list / Artikelstückliste	17.02.2020
=SAW/3.h	Kusovník artiklů / Parts list / Artikelstückliste	17.02.2020
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=SAW/6	Silová část / Power part / Feld partie	19.03.2020
=SAW/7	Pohon plového pásu / Saw belt drive / Saw Riemenantrieb	14.04.2020
=SAW/8	Výnašeč třísek, Čerpadlo hydrauliky / Swarf conveyor, Hydraulic pump / Spaeneförderer, Hydraulikpumpe ...	19.03.2020
=SAW/9	Napájecí zdroj 24V DC / Power supply 24V DC / Stromversorgung 24 V DC	21.08.2019
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=SAW/11	Bezpečnostní závozy / Safety barriers / Sicherheitsbarrieren	14.04.2020
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=SAW/13	CPU - DI, RS232	14.02.2020
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=SAW/15	CPU - DI, FDI	14.04.2020
=SAW/16	CPU - DO, DI	14.04.2020
=SAW/17	CPU - DO	14.02.2020
=SAW/18	Výhybka pásu / Band deflection / Ablekung Band	14.04.2020
=SAW/19	Stýkače, hydraulika / Contactors, hydraulics / Schütze, Hydraulik	03.10.2019

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-LP10.1	LED osvětlení LED lighting LED-Beleuchtung	SL-136.003.10.1-500-0.3	KAMAT spol. s r.o.	91.063.054	1	/23.3
-LP10.1	LED osvětlení - montážní spina LED lighting - mounting clip LED-Beleuchtung - Befestigungscлип	ML-113.011.10.0	KAMAT spol. s r.o.	91.063.057	2	/23.3
-BM1.1	Bezpečnostní relé 24VDC, 3NO Safety relay 24VDC, 3NO Sicherheitsrelais 24VDC, 3NO	BT50	ABB	91.051.063	1	/10.6
-PA1.2	Pojistkový odpínač pro válcové vložky - 3P Switch fuse for the cylinder inserts - 3P Schalter Sicherung für den Zylindereinsätze - 3P	E93/32	ABB	91.241.014	1	/9.1
-+OP1.1-KL1.1	Klávesnice fólová Foil keyboard Folientastatur	31.ER2530-303	AKI ELECTRONIC, spol.s.r.o.	31.ER2530-303	1	/22.2
-+OP1.1-KL1.1	Převodník maticové klávesnice na RS232 Matrix keyboard converter to RS232 Matrix-Tastatur-Konverter auf RS232	HT4666-232	ASTP s.r.o.	91.995.101	1	/22.2
-FA1.1	Pomocné kontakty - 1xNO+1xNC Auxiliary contacts - 1xNO+1xNC Hilfskontakte - 1xNO+1xNC	HKF1-11	ABB	91.046.002	1	/8.7
-FA1.2	Pomocné kontakty - 1xNO+1xNC Auxiliary contacts - 1xNO+1xNC Hilfskontakte - 1xNO+1xNC	HKF1-11	ABB	91.046.002	1	/8.4
-+OP1.1-CU1.1	Řídicí jednotka + display 4.3" Control unit + display 4.3" Die Steuereinheit + Display 4.3"	T3043CP1301	B&R	91.995.254	1	/22.5
-A3.1	Modul analogových vstupů Analog input module Analog-Eingangsmodul	X20AI2622	B&R	91.995.201	1	/18.1
-A3.1	Šňemnicový modul - 1xI/O Bus module - 1xI/O Bus module - 1xI/O	X20BM11	B&R	91.995.205	1	/18.1
-A3.1	Svorkovnice 12-pin Terminal block 12-pin Klemmenblock 12-pin	X20TB12	B&R	91.995.217	1	/18.1

2.a The manufacturer reserves right to use an equivalent replacement device.

	BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: Proline 420.350 ANC	Název stránky/Name page/Name seiten: Kusovník artiklů / Parts list / Artikelstückliste	Číslo dok./Doc.No./Anzahl der Dokumente: ES-101.265-B1/B2-V6.1		Úč./Page/
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Označení přístroje Device Identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednávací číslo Type number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-A7.1	Modul digitálních výstupů Digital output module Digitales Ausgangsmodul	X20DO8332	B&R	91.995.213	1	/19.0
-A7.1	Sběrníkový modul - 1xI/O Bus module - 1xI/O Bus module - 1xI/O	X20BM11	B&R	91.995.205	1	/19.0
-A7.1	Svorkovnice 12-pin Terminal block 12-pin Klemmenblock 12-pin	X20TB12	B&R	91.995.217	1	/19.0
-A7.3	PWM motorový můstek PWM motor bridge PWM Motorbrücke	X20MM2436	B&R	91.995.215	1	/21.0
-A7.3	Svorkovnice 12-pin Terminal block 12-pin Klemmenblock 12-pin	X20TB12	B&R	91.995.217	1	/21.0
-A7.3	Sběrníkový modul - 2xI/O Bus module - 2xI/O Bus-Modul - 2xI/O	X20BM31	B&R	91.995.206	1	/21.0
-SQ10.4	Indukční snímač vzdálenosti Inductive proximity sensor Induktive Näherungssensor	BAW R06AC-UAF20B-EP03	BALLUFF	91.172.016	1	/18.1
-M10.3	Asynchronní motor 3x230/400V, 50Hz, 0.25kW Asynchronous motor 3x230 / 400V, 50Hz, 0.25 kW Asynchronmotor 3x230 / 400V, 50Hz, 0.25 kW	BN71A4	BONFIGLIOLI	91.001.255	1	/8.2
-IRC1.1	Lineární inkrementální snímač - 10-30VDC/10-30VDC Linear Encoder - 10-30VDC / 10-30VDC Linearencoder - 10-30VDC / 10-30VDC	LMIX2-026-08.0-1-00	ELGO	91.270.011	1	/15.6
-IRC1.1	Magnetická páska Magnetic tape Magnetband	MB20.50	ELGO	91.271.002	1	/15.6
-IRC1.2	Lineární inkrementální snímač - 10-30VDC/10-30VDC Linear Encoder - 10-30VDC / 10-30VDC Linearencoder - 10-30VDC / 10-30VDC	LMIX22-012-12.0-2NS0-00	ELGO	91.270.029	1	/15.3
-IRC1.2	Magnetická páska Magnetic tape Magnetband	MB20.50	ELGO	91.271.002	1	/15.3

The manufacturer reserves right to use an equivalent replacement device.

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-FU1.2	Pojistka trubičková - 2A/250V, pomalá, 5x20 Tube fuse - 2A/250V, slow, 5x20 Rohrsicherung - 2A / 250V, langsam, 5x20	T2A/250V	ESKA	91.230.001	1	/9.4
-FU1.3	Pojistka trubičková - 6,3A/250V, pomalá, 5x20 Tube fuse - 6,3A/250V, slow, 5x20 Rohrsicherung - 6,3A / 250V, langsam, 5x20	T6,3A/250V	ESKA	91.230.002	1	/9.4
-FU1.4	Pojistka trubičková - 2A/250V, pomalá, 5x20 Tube fuse - 2A/250V, slow, 5x20 Rohrsicherung - 2A / 250V, langsam, 5x20	T2A/250V	ESKA	91.230.001	1	/9.4
-FU1.7	Pojistka trubičková - 500mA/250V, pomalá, 5x20 Tube fuse - 500mA/250V, slow, 5x20 Rohrsicherung - 500 mA / 250 V, langsam, 5x20	T500mA/250V	ESKA	91.230.011	1	/23.2
-+OP1.1-RP1.1	Potenciometr 4k7 Potentiometer 4k7 Potentiometer 4k7	TP195 4k7/N20A	Elektronické součástky CZ, a.s	91.283.015	1	/7.5
-+OP1.1-RP1.1	Hlavice potenciometru - 24mm Head of potentiometer 24mm Leiter Potentiometer 24mm	S8877 BLK	GES-ELECTRONICS, a.s.	91.060.063	1	/7.5
-LP10.2	Laser Laser Laser	Laser 24AC/DC	HOFMAN SYSTEMS s.r.o.	91.100.109	1	/23.6
-LQ1.1A	Jednocestná světelná závořa - vysílač Through-beam sensor transmitter Einweglichtschranke Sender	IFM.O6S701	IFM electronic	91.401.031	1	/12.6
-LQ1.1B	Jednocestná světelná závořa - přijímač Through-beam sensor receiver Einweglichtschranke Empfänger	IFM.O6E701	IFM electronic	91.401.030	1	/12.7
-+OP1.1-H1.1	Signálka zelená na adaptér Green light for Eaton adapter Grünes Licht für Eaton-Adapter	M22-LED-G	EATON	91.061.023	1	/17.3
-+OP1.1-RP1.1	Svorka rychloupínací Fastconnect clamp Fast Connect Klemm	WAGO 224-112	WAGO	91.250.009	3	/7.5
-+OP1.1-SA1.1	Upevňovací adaptér + INO Attaching adapter + INO Montageadapter + INO	M22-AK10	EATON	91.061.021	1	/14.4

The manufacturer reserves right to use an equivalent replacement device.

3.a	BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: Proline 420.350 ANC	Název stránky/Name page/Name seiten: Kusovník artiklů / Parts list / Artikelstückliste	Číslo dok./Doc.No./Anzahl der Dokumente: ES-101.265-B1/B2-V6.1 Napájení/Power supply/Einspeisung: 3x400V + PE, 50Hz Zpracoval/Processed /Hat verarbeitet: 17.02.2020	Úč/Pager/ Seite: 3.b List(Pager/ Seite: 33
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--OP1.1-SA1.1	Kontaktní blok - INO Contact block - INO Kontaktblock - INO	M22-K10	EATON	91.061.022	1	/14.4
--OP1.1-SA1.1	Hlavice 3 polohového přepínače Head of 3 position switch Leiter der 3-Positionsschalter	M22-WRK3	EATON	91.060.051	1	/14.4
--OP1.1-SB1.1	Upevňovací adaptér + INO Attaching adapter + INO Montageadapter + INO	M22-AK10	EATON	91.061.021	1	/14.1
--OP1.1-SB1.1	Hlavice dvoutlačítka bílá/černá start/stop Double button head white/black start/stop Doppelrundkopf weiß/schwarz Start/Stop	M22-DDL-WS-GB1/GB0	EATON	91.060.034	1	/14.1
--OP1.1-SB1.2	Kontaktní blok - INO Contact block - INO Kontaktblock - INO	M22-K10	EATON	91.061.022	1	/14.2
--OP1.1-SB1.500	Total stop - hlavice + 2xNC Emergency-stop - button + 2xNC Not-Aus-Pilz - Taster + 2xNC	YW1B-V4E02R	IDEC	91.060.084	1	/10.4
--OP1.1-SB1.500	Kontakt - 1x NO Contact - 1x NO Kontakt - 1x NO	YW-E10	IDEC	91.061.044	1	/14.3
-FA1.1	Motorový spouštěč - 0.4A Motor starter - 0.4A Motorstarter - 0.4A	MS116-0.4	ABB	91.045.017	1	/8.7
-FA1.2	Motorový spouštěč - 4A Motor starter - 4A Motorstarter - 4A	MS116-4.0	ABB	91.045.022	1	/8.4
-FA10.3	Motorový spouštěč - 1A Motor starter - 1A Motorstarter - 1A	MS116-1.00	ABB	91.045.019	1	/8.2
-FA10.3	Pomocné kontakty - 1xNO+1xNC Auxiliary contacts - 1xNO+1xNC Hilfskontakte - 1xNO+1xNC	HKF1-11	ABB	91.046.002	1	/8.2
-FU1.2	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/THS15U	WIELAND	91.251.102	1	/9.4

The manufacturer reserves right to use an equivalent replacement device.

3.b	 BOMAR, s.r.o. Těšební 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: Proline 420.350 ANC	Název stránky/Name page/Namen seiten: Kusovník artiklů / Parts list / Artikelstückliste	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-101.265-B1/B2-V6.1 Napájení/Power supply/Einspeisung: 3x400V + PE, 50Hz Zpracováno/Processed /Hes verarbeitet: 17.02.2020	List/Page/ Seite: 3.c List/Page/ Seiten: 33



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Označení přístroje Device Identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednávací číslo Type number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-FU1.3	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/THSI5U	WIELAND	91.251.102	1	/9.4
-FU1.4	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/THSI5U	WIELAND	91.251.102	1	/9.4
-FU1.7	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/THSI5U	WIELAND	91.251.102	1	/23.2
-FU1.8	Pojistka trubičková - 200mA/250V, pomalá, 5x20 Tube fuse - 200mA/250V, slow, 5x20 Rohrsicherung - 160mA / 250V, langsam, 5x20	T200mA/250V	ESKA	91.230.037	1	/23.6
-FU1.8	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/THSI5U	WIELAND	91.251.102	1	/23.6
-H1.2	Signálka - žlutá Signal - Yellow Signal - Gelb	M22-L-Y	EATON	91.060.125	1	/10.6
-H1.2	Hlavice prosvětleného tlačítka žlutá Yellow transparent switch Leiter beleuchtet gelbe Taste	M22-DL-Y	EATON	91.060.053	1	/10.6
-H10.4	Maják - základna Lighthouse - Base Leuchtturm - Basis	SL7-CB-100	EATON	91.063.058	1	/17.4
-H10.4	Maják - žlutý Lighthouse - yellow Leuchtturm - gelb	SL7-L-Y	EATON	91.063.059	1	/17.4
-H10.4	Žárovka 24V Lamp 24V Lampe 24V	SL7-L24	EATON	91.063.061	1	/17.4
-KM1.1	Ministrykač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B65-30-01-1.7-71	ABB	91.040.049	1	/17.2
-KM1.2	Ministrykač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B65-30-01-1.7-71	ABB	91.040.049	1	/19.1

The manufacturer reserves right to use an equivalent replacement device.

3.c	BOMAR, s.r.o. Třezební 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: Proline 420.350 ANC	Název stránky/Name page/Name seiten: Kusovník artiklů / Parts list / Artikelstückliste	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-101.265-B1/B2-V6.1 Napájení/Power supply/Einspeisung: 3x400V + PE, 50Hz Zpracování/Processed /Hst. verarbeitet: 17.02.2020	Účt./Page/ Seite: 3.d Účt./Page/ Seite: 33
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Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednávací číslo Type number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-KM1.11	Stýkač 5,5kW/400V Contactor 5,5kW/400V Schütz 5,5kW/400V	AF12-30-01-11	ABB	91.040.051	1	/10.7
-KM1.11	Pomocný kontakt - 1xNO Auxiliary contact - 1xNO Hilfskontakt - 1xNO	CA4-10	ABB	91.041.044	4	/10.7
-KM1.12	Stýkač 5,5kW/400V Contactor 5,5kW/400V Schütz 5,5kW/400V	AF12-30-01-11	ABB	91.040.051	1	/10.8
-KM1.12	Pomocný kontakt - 1xNO Auxiliary contact - 1xNO Hilfskontakt - 1xNO	CA4-10	ABB	91.041.044	4	/10.8
-KM10.3	Ministýkač 4kW/400V Minicontactor 4kW/400V Minischütz 4kW/400V	B6S-30-01-1-7-71	ABB	91.040.049	1	/19.1
-PA1.1	Pojistkový odpiňáč pro vřetové vložky - 3P Switch fuse for the cylinder inserts - 3P Schalter Sicherung für den Zylinderinserte - 3P	E 93/32	ABB	91.241.014	1	/7.1
-QS1.1	3 pólový odpiňáč, 25A Disconnecter - 3P, 25A Trennschalter - 3P, 25A	OT25FT3	ABB	91.170.016	1	/6.1
-QS1.1	Kryt svorek Terminal shroud Klemmenabdeckung	OTS40T3	ABB	91.170.017	1	/6.1
-QS1.1	Rukojeť odpiňáče - černá Handle switch - black Griffschalter - schwarz	OHBS2RJ	ABB	91.180.015	1	/6.1
-SA10.2	Přepínač 2 polohy Switch 2 positions Schalter 2 Positionen	M22 - WKV	EATON	91.060.037	1	/23.6
-SA10.2	Upevňovací adaptér + 1NO Attaching adapter + 1NO Montageadapter + 1NO	M22-AK10	EATON	91.061.021	1	/23.6
-SA10.2	Nosič štítků Moeller Moeller label holder Moeller Etikettenhalter	M22S-ST-X	EATON	91.062.009	1	/23.6

The manufacturer reserves right to use an equivalent replacement device.

3.d	 BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: Proline 420.350 ANC	Název stránky/Name page/Name seiten: Kusovník artiklů / Parts list / Artikelstückliste	Číslo dok./Doc.No./Anzahl der Dokumente: ES-101.265-B1/B2-V6.1		Let/Pager/
				Napájení/Power supply/Einspeisung: 3x400V + PE, 50Hz		Seite: 3.e
				Zpracováno/Processed /Hst. verarbeitet: 19.03.2020		Let(Pager)/ Seite: 33

Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednávací číslo Type number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-SB1.3	Kontaktní blok - INO Contact block - INO Kontaktblock - INO	M22-K10	EATON	91.061.022	1	/10.7
-SB1.3	Hlavice prosvětleného tlačítka žlutá Yellow transparent switch Leiter beleuchtet gelbe Taste	M22-DL-Y	EATON	91.060.053	1	/10.7
-SQ1.51	Bezpečnostní koncový spínač - 2xNC Safety Limit Switch - 2x NC Sicherheitsendschalter - 2x NC	QKS8	KEDU	91.173.012	1	/10.4
-PA1.1	Pojistka válcová - 12A, 10x38, rychlá Tube fuse - 12A, 10x38, fast Rohrsicherung - 12A, 10x38, schnell	PV10 12A gG	OEZ	91.231.007	3	/7.1
-PA1.2	Pojistka válcová - 2A, 10x38, rychlá Tube fuse - 2A, 10x38, fast Rohrsicherung - 2A, 10x38, schnell	PV10 2A gG	OEZ	91.230.034	3	/9.1
-SQ1.5	Koncový spínač - 1NC+1NO Limit switch - 1NC+1NO Endschalter - 1NC+1NO	D4N-4A31	OMRON	91.173.007	1	/16.7
-SQ1.5	Koncový spínač - 1NC+1NO, M20, pomalý Limit switch - 1NC+1NO, M20, slow Endschalter - 1NC+1NO, M20, langsam	D4N-4A32	OMRON	91.173.010	1	/16.7
-SQ1.1	Koncový spínač - 1NO + 1NC, kladka, pomalá akce Limit switch - 1NO + 1NC, pulley, slow action Endschalter - 1NO + 1NC, rolle, langsame Einwirkung	FR 605-M2	PIZZATO	91.173.009	1	/12.8
-SQ1.2	Koncový spínač - 1NO + 1NC, dlouhá nastavitelná kladka, M2, snap action Limit switch - 1NO + 1NC, long adjustable pulley, M2, snap action Endschalter - 1NO + 1NC, lange verstellbare rolle, M2, schnapp	FR 655-M2	PIZZATO	91.173.045	1	/15.1
-SQ1.3	Koncový spínač - 1NO + 1NC, kladka, pomalá akce Limit switch - 1NO + 1NC, pulley, slow action Endschalter - 1NO + 1NC, rolle, langsame Einwirkung	FR 605-M2	PIZZATO	91.173.009	1	/16.5
-SQ1.4	Koncový spínač - 1NO + 1NC, kladka, pomalá akce Limit switch - 1NO + 1NC, pulley, slow action Endschalter - 1NO + 1NC, rolle, langsame Einwirkung	FR 615-M2	PIZZATO	91.173.044	1	/16.6
-FM1.1	Frekvenční měnič - 3.7kW, 3x400VAC Frequency converter - 3.7kW, 3x400VAC Frequenzumrichter - 3.7kW, 3x400VAC	VFD9A0ME43AFNAA	DELTA ELECTRONICS, INC.	91.012.191	1	/7.1

3.e The manufacturer reserves right to use an equivalent replacement device.

 BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: Proline 420.350 ANC	Název stránky/Name page/Name seiten: Kusovník artiklů / Parts list / Artikelstückliste	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-101.265-B1/B2-V6.1		Let/Pager/ Seite: 3.f
			Napájení/Power supply/Einspeisung: 3x400V + PE, 50Hz		Let/Pager/ Seite: 3.f
			Zpracoval/Processed /Hst. verarbeitet:		Let/Pager/ Seite: 3.f
			Datum/Date/Datum: 19.03.2020		Let/Pager/ Seite: 3.f

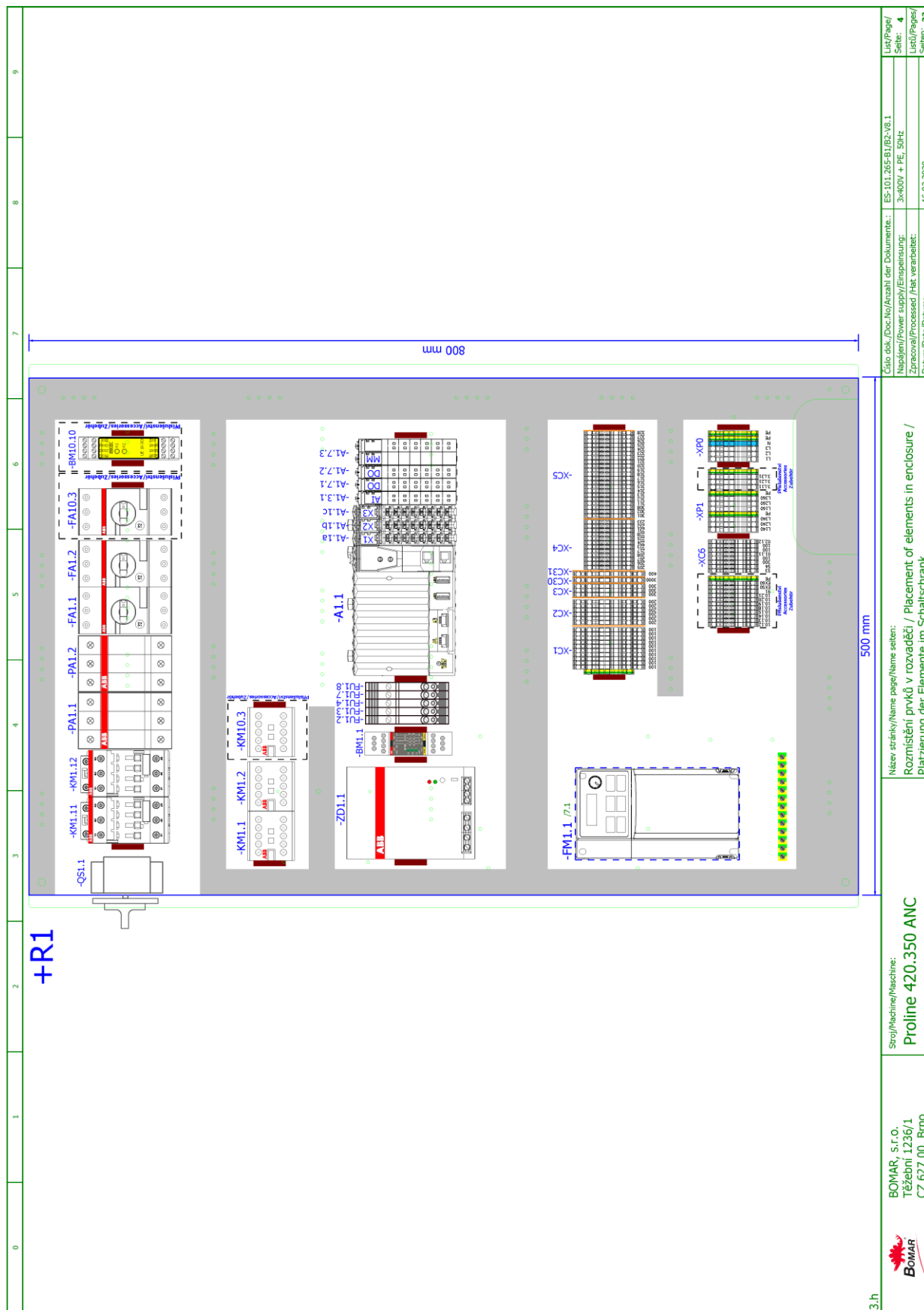
Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednávací číslo Type number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-M1.1	Čerpadlo chlazení 120W Cooling pump 120W Kühlpumpe 120W	PA70/120	SAP srl	91.020.032	1	/8.7
-BM10.10	Bezpečnostní spínací přístroj Safety switch Sicherheitssschalter	UE10-30S2D0	SICK	91.176.003	1	/11.6
-SQ1.10	Induktivní senzor - 2mm, NO, 24V DC, 200mA, M8 Inductive sensor - 2mm NO, 24VDC, 200 mA, M8 Induktive Sensor - 2mm NO, 24VDC, 200 mA, M8	IME08-02BPSZT0S	SICK	91.172.033	1	/13.1
-SQ1.11	Induktivní senzor - 2mm, NO, 24V DC, 200mA, M8 Inductive sensor - 2mm NO, 24VDC, 200 mA, M8 Induktive Sensor - 2mm NO, 24VDC, 200 mA, M8	IME08-02BPSZT0S	SICK	91.172.033	1	/13.3
-SZ10.10A	Víceprásková bezpečnostní světelná závora - přijímač Safety multi-beam light curtain - receiver Sicherheits-Mehrstrahl - Lichtvorhang - Empfänger	M40E-025030RR0	SICK	91.401.009	1	/11.3
-SZ10.10A	Kabel s přímým konektorem M12, 8pin Cable with straight connector M12, 8pin Kabel mit geradem Stecker M12, 8pin	DOL-127SG15ME25KM0	SICK	91.142.015	1	/11.3
-SZ10.10B	Víceprásková bezpečnostní světelná závora - vysílač Safety multi-beam light curtain - transmitter Sicherheits-Mehrstrahl - Lichtvorhang - Sender	M40S-025010AR0	SICK	91.401.008	1	/11.0
-SZ10.10B	Kabel s přímým konektorem M12, 8pin Cable with straight connector M12, 8pin Kabel mit geradem Stecker M12, 8pin	DOL-127SG15ME25KM0	SICK	91.142.015	1	/11.0
-+R1.2	PS 41x89x74mm - šedá PS 41x89x74mm - grey PS 41x89x74mm - grau	Z54	SOS Electronic, spol. s r.o.	91.190.036	1	/18.1
-XUSB	Konektor USB Connector USB Anschluss USB	CLIFF CP30110	CLIFF	91.141.110	1	/22.7
-XUSB	Kryt zásuvky USB USB socket cover Abdeckung der USB-Buchse	CLIFF CP30112	CLIFF	91.141.111	1	/22.7
-XUSB	Kabel USB 2,0 m USB cable 2,0 m USB-Kabel 2,0 m	GOOBAY 50856	GOOBAY	91.142.134	1	/22.7

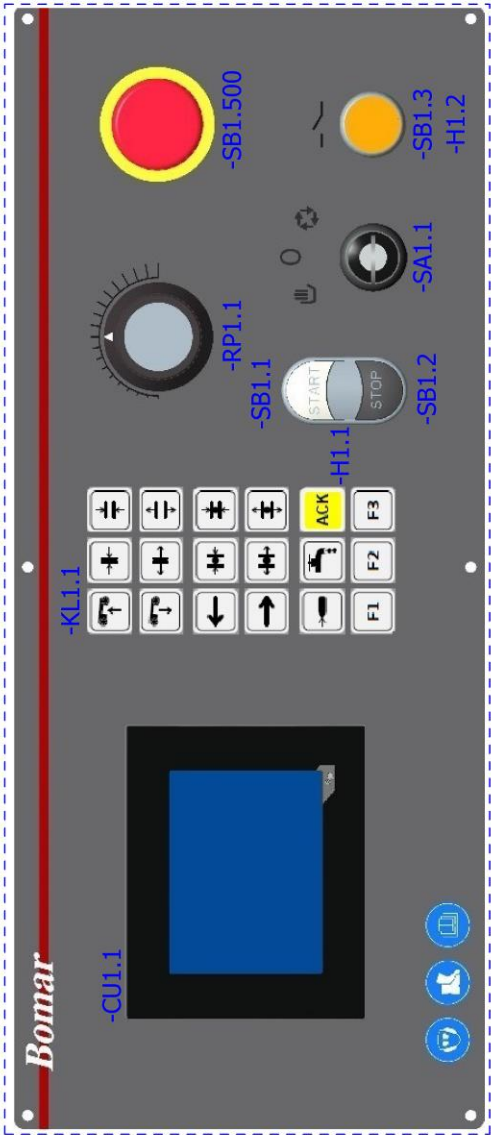
The manufacturer reserves right to use an equivalent replacement device.

3.f

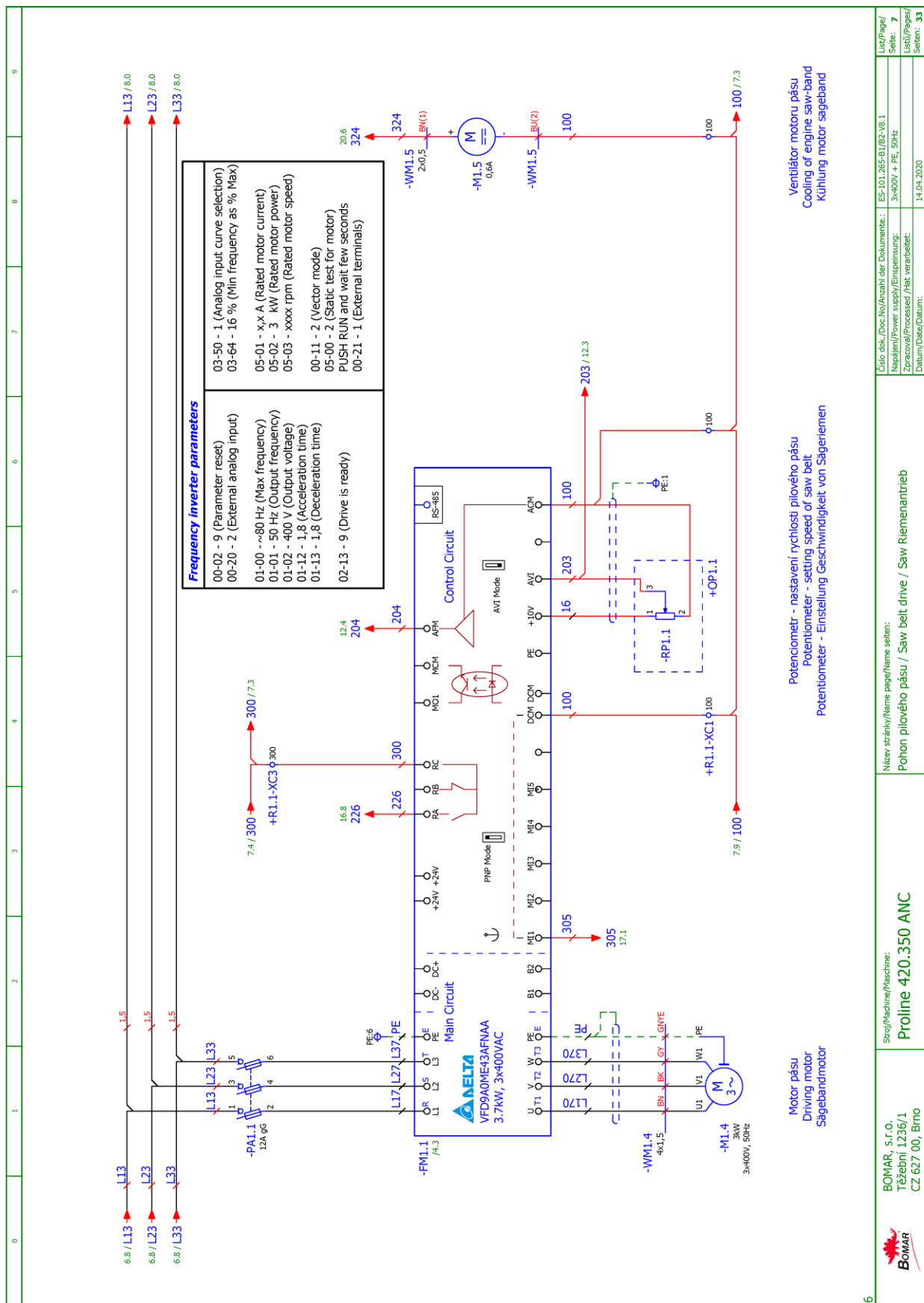
 BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: Proline 420.350 ANC	Název stránky/Name page/Name seiten: Kusovník artiklů / Parts list / Artikelstückliste	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-101.265-B1/B2-V6.1 Napájení/Power supply/Einspeisung: 3x400V + PE, 50Hz Zpracování/Processed /Hst. verarbeitet: 17.02.2020	Lič/Page/ Seite: 3.g
				Lič/Page/ Seite: 3.g
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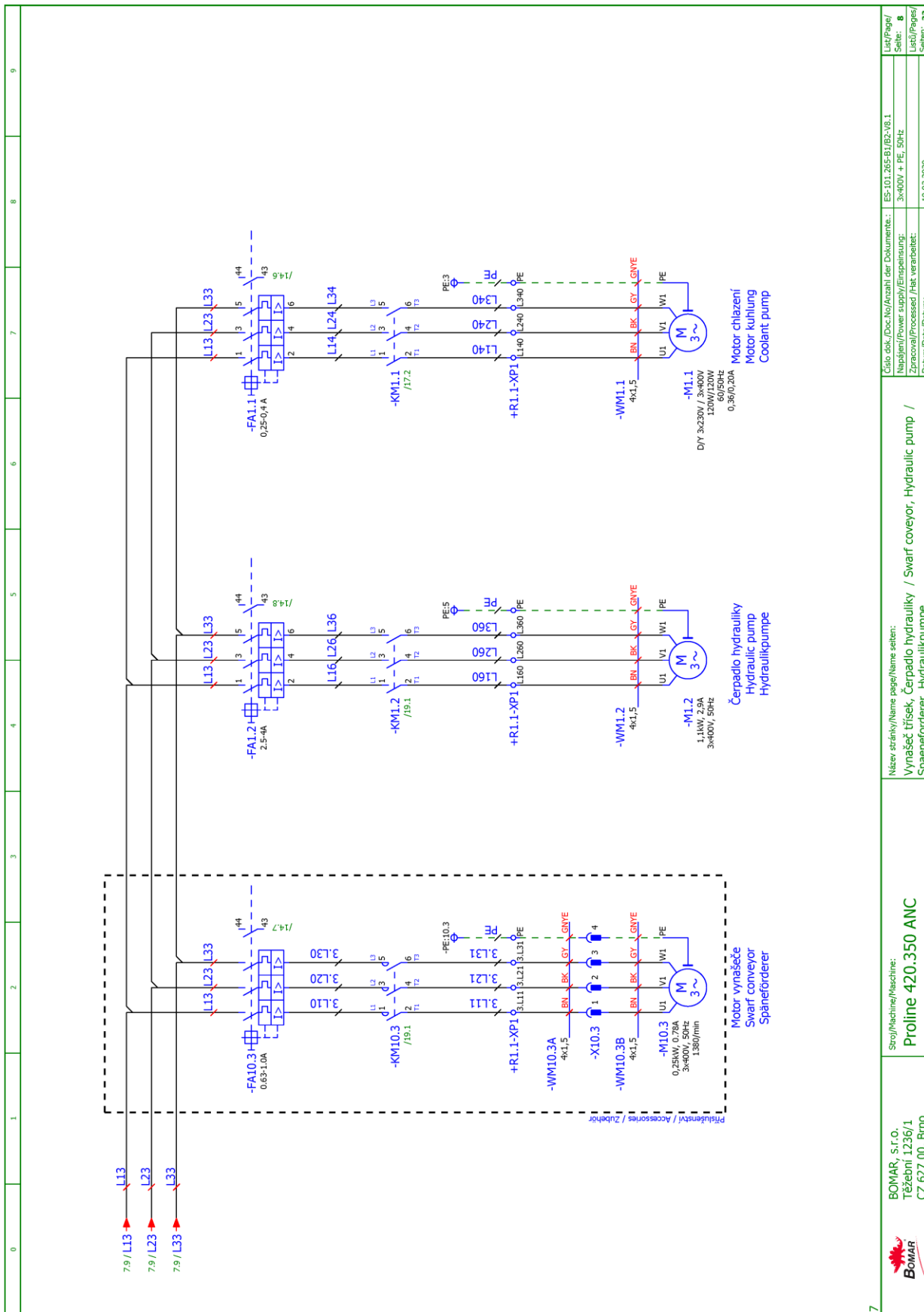


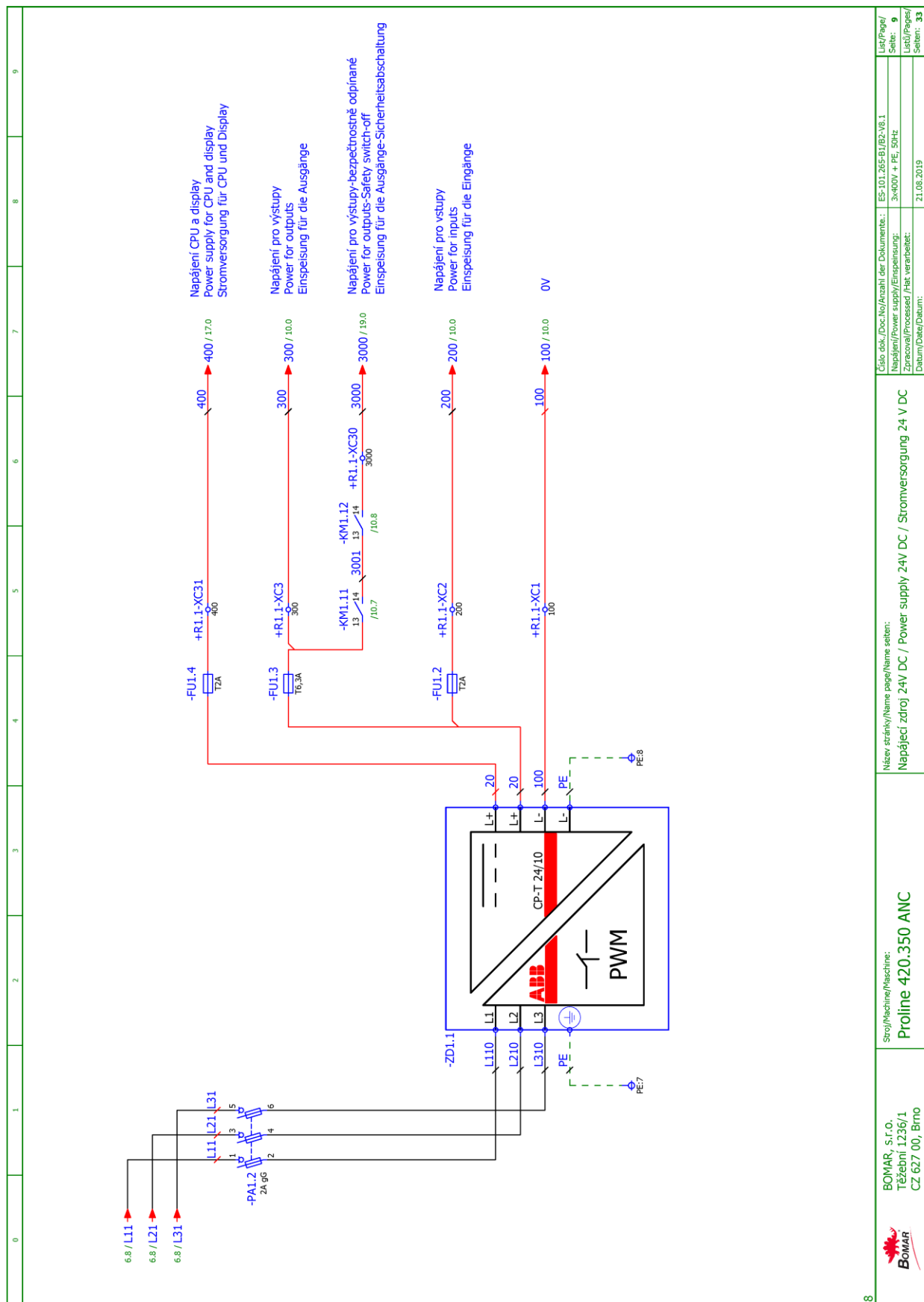
+OP1.1



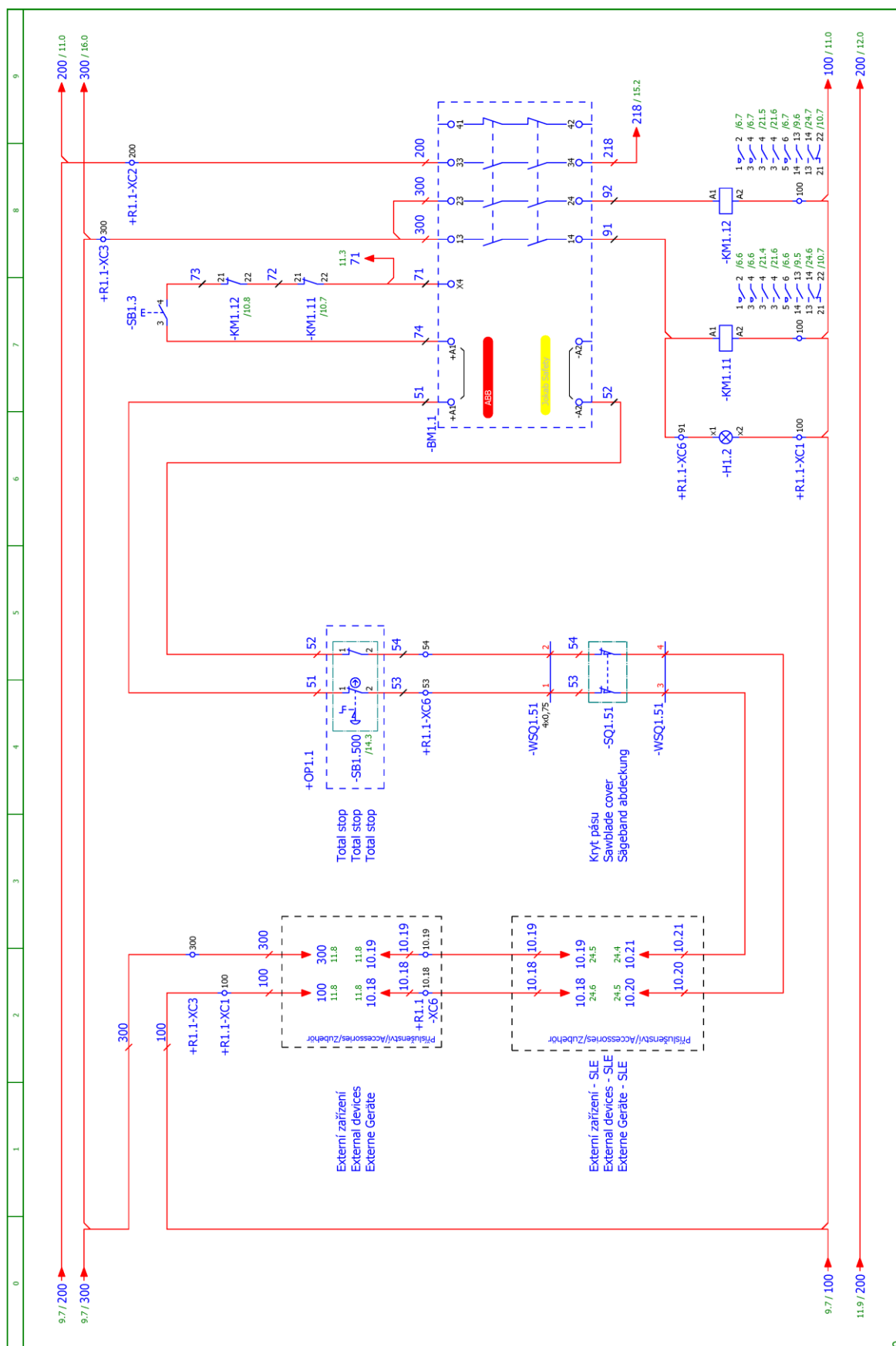




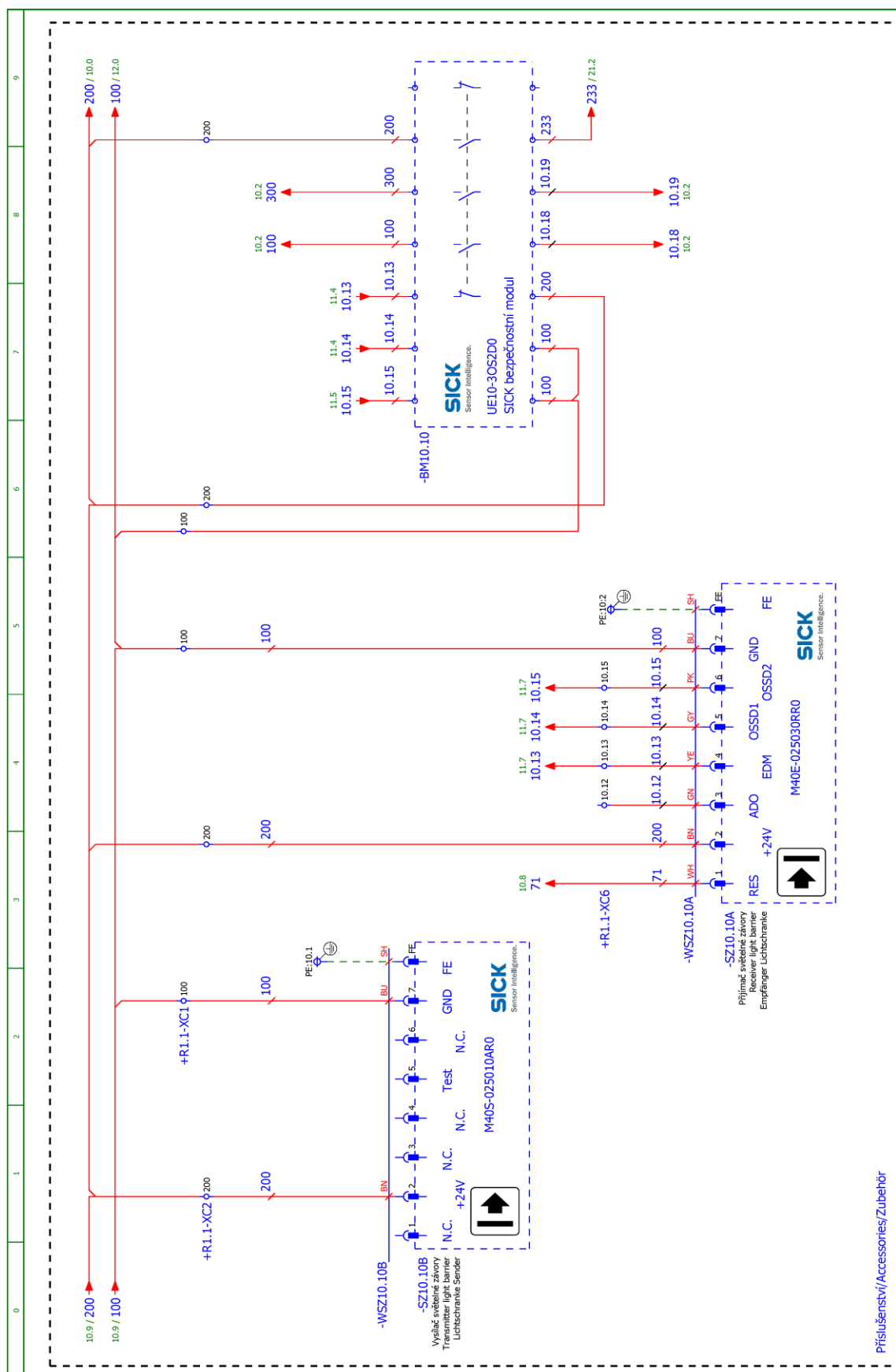




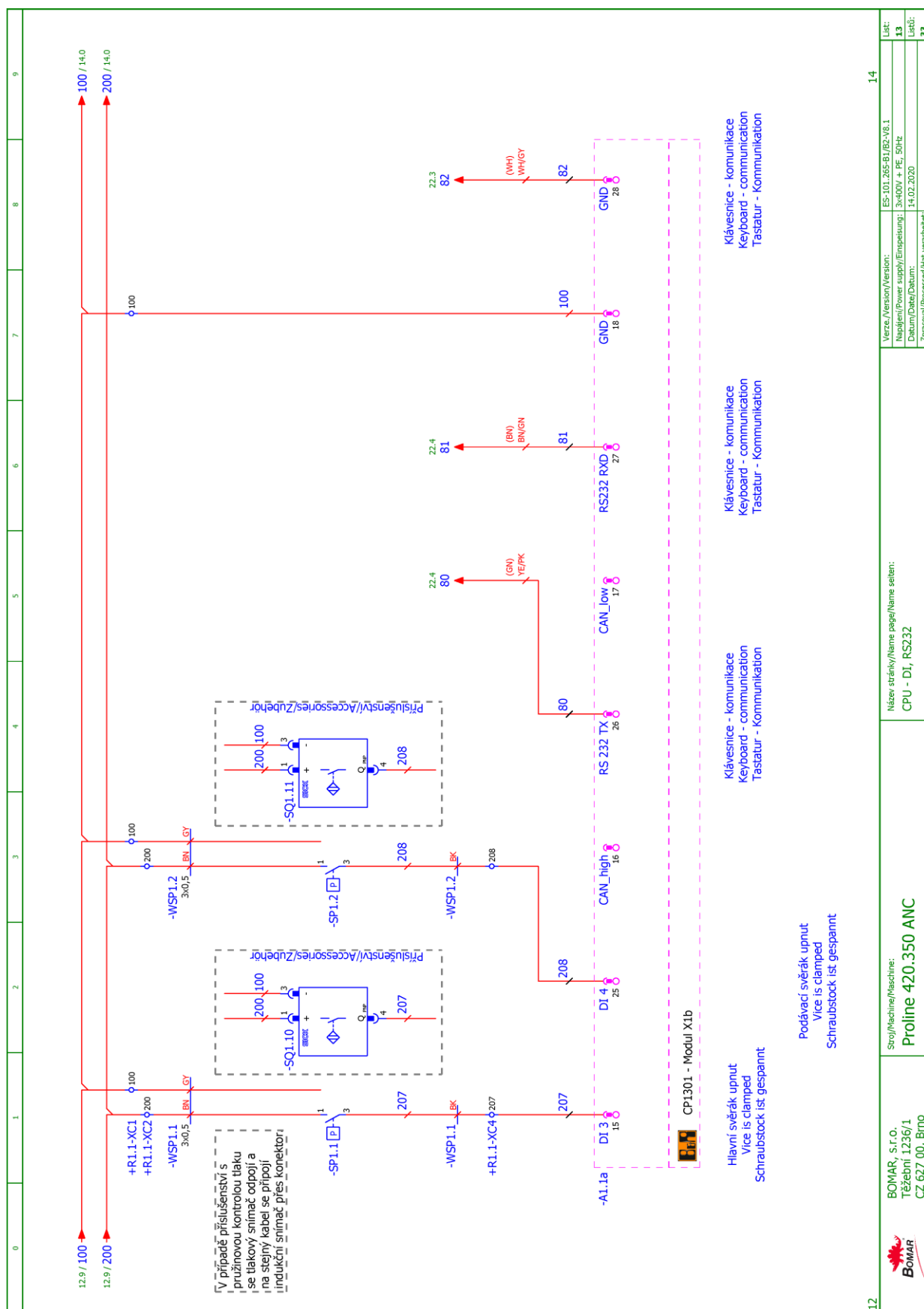
	BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: Proline 420.350 ANC	Název stránky/Name page/Name seiten: Napájecí zdroj 24V DC / Power supply 24V DC / Stromversorgung 24 V DC Číslo dok./Doc.No./Anzahl der Dokumente.: ES-101.265-B1/B2-V6.1 Napájení/Power supply/Einspeisung: 3x400V + PE, 50Hz Zpracoval/Processed /Hst. verarbeitet: Datum/Date/Datum: 21.08.2019 Lič/Page/ Seite: 9 Lič/Page/ Seite: 33
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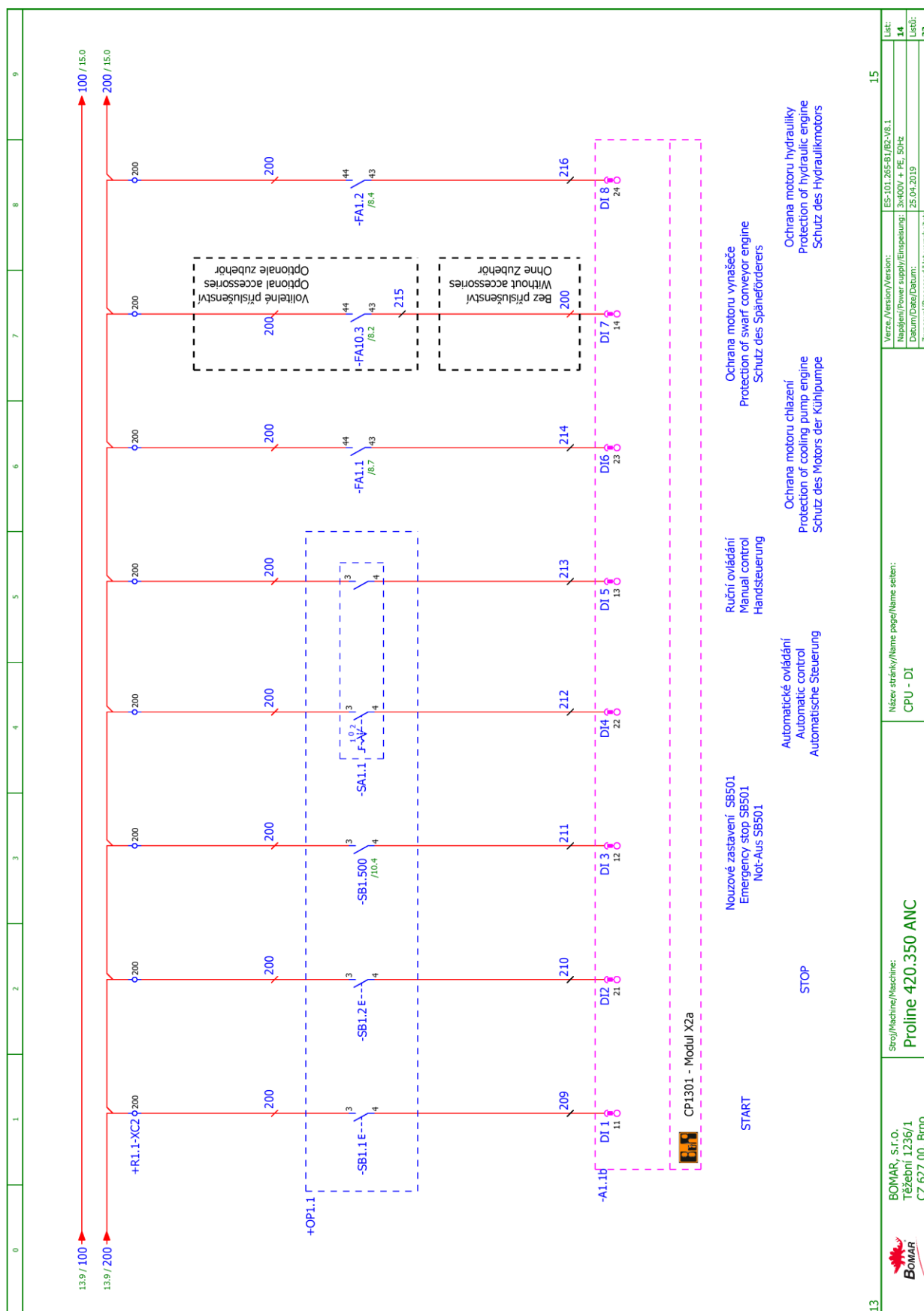


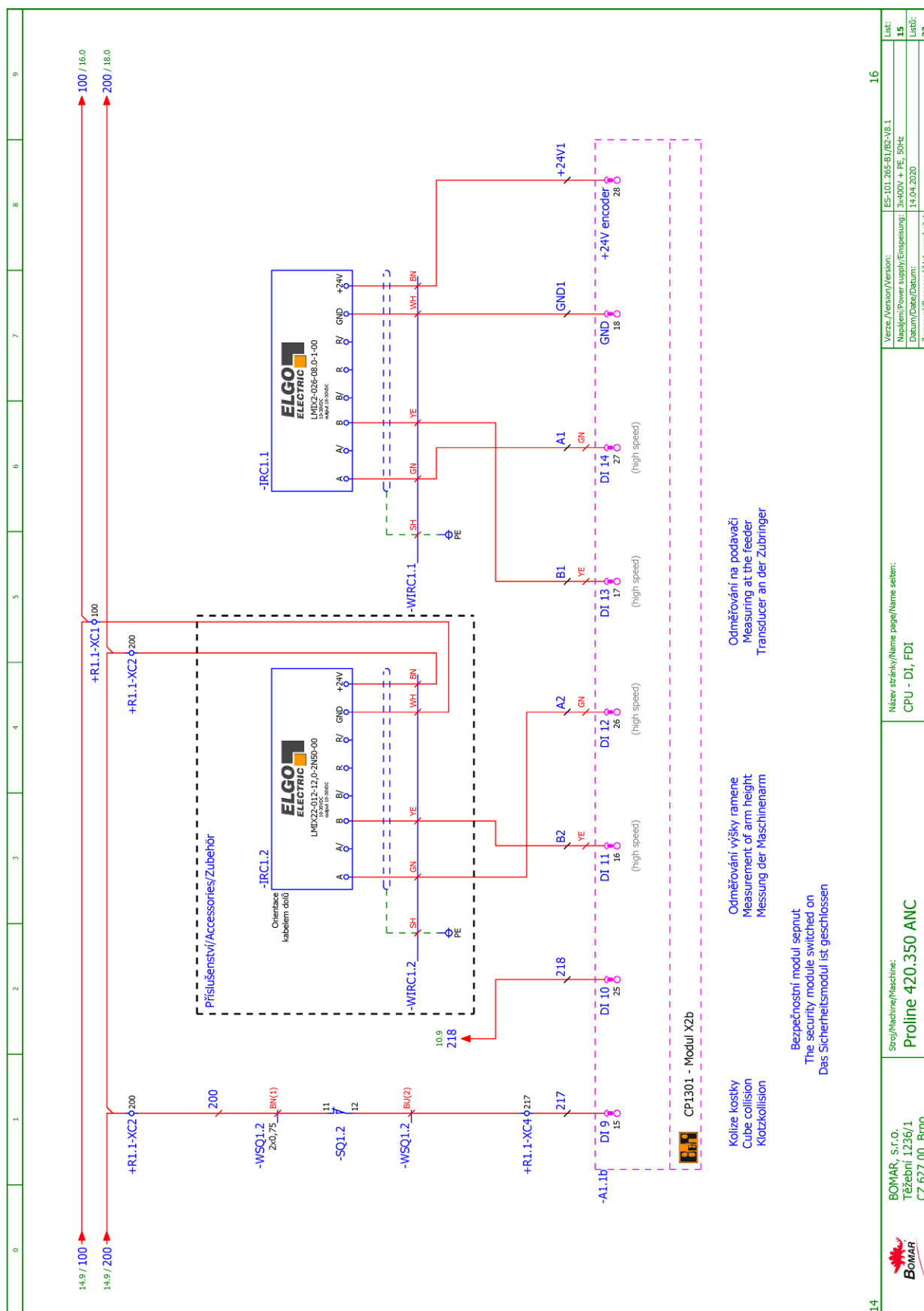
	BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: Proline 420.350 ANC	Název stránky/Name page/Name seiten: Bezpečnostní okruh / Safety circle / Sicherheitsbereich	Cílo dok./Doc.No./Anzahl der Dokumente: ES-101.265-B1/B2-V6.1 Napájení/Power supply/Einspeisung: 3x400V + PE, 50Hz Zpracováno/Processed /Hat verarbeitet: 14.02.2020	Let/Page/ Seite: 10 Let/Page/ Seite: 33
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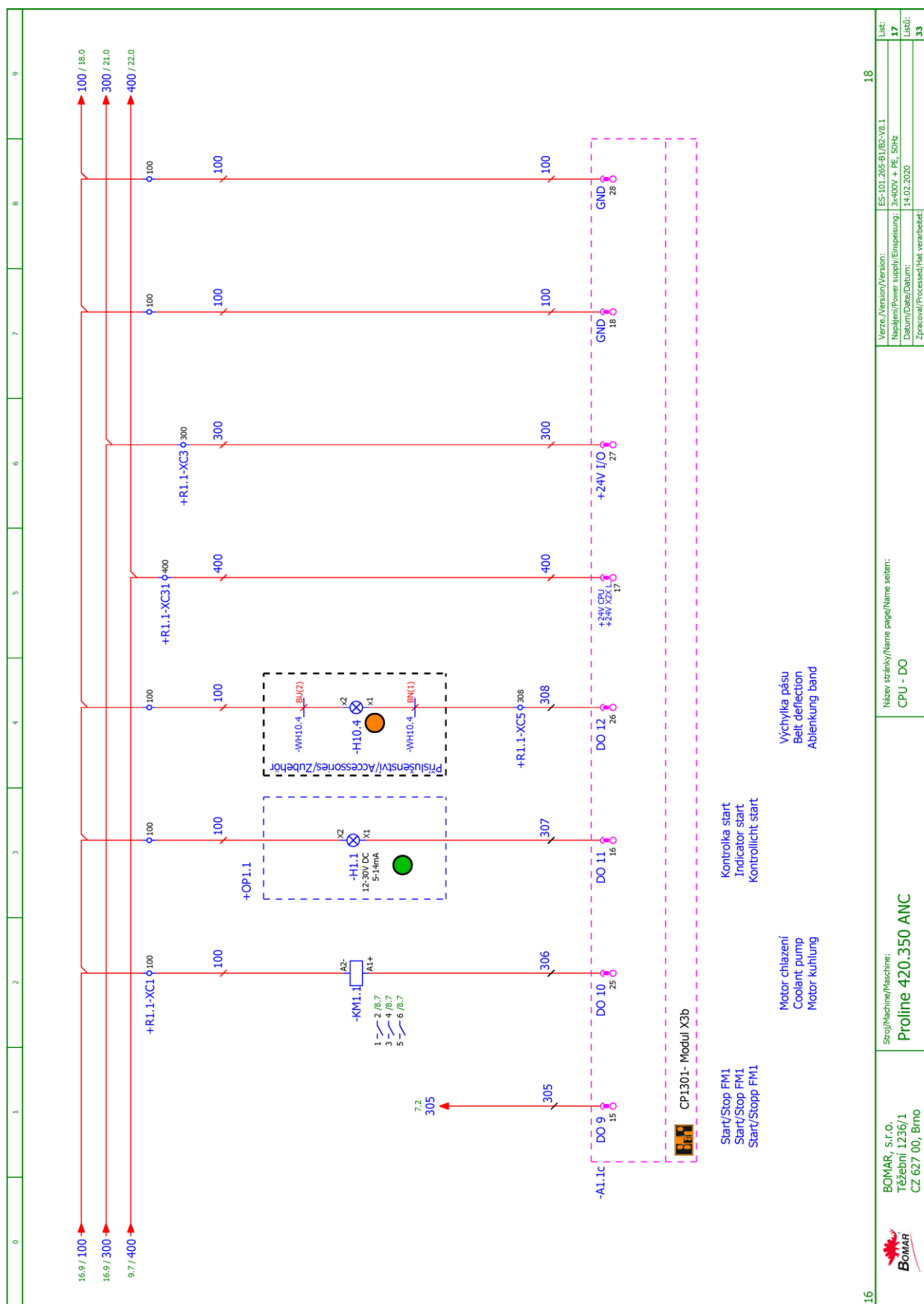




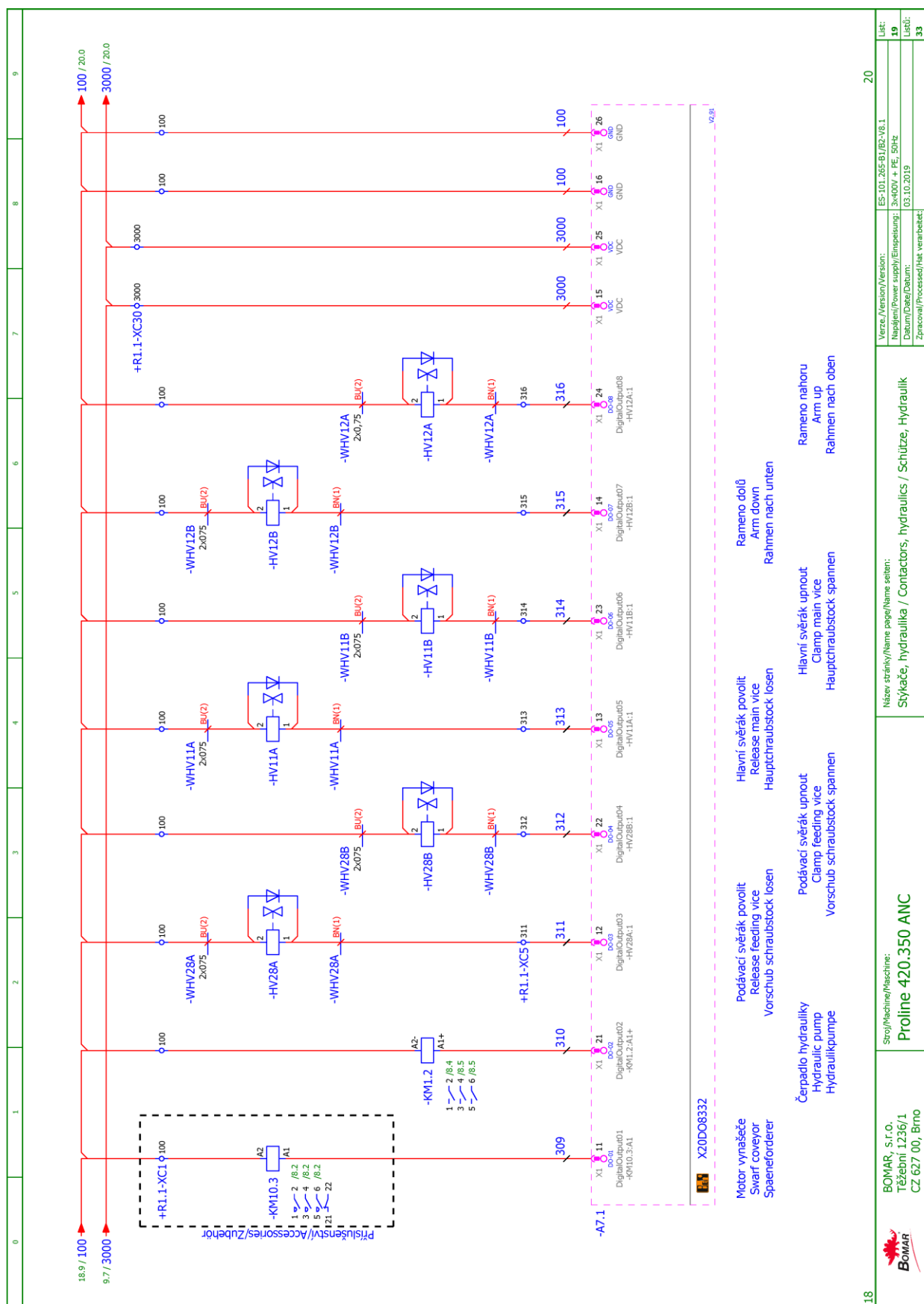








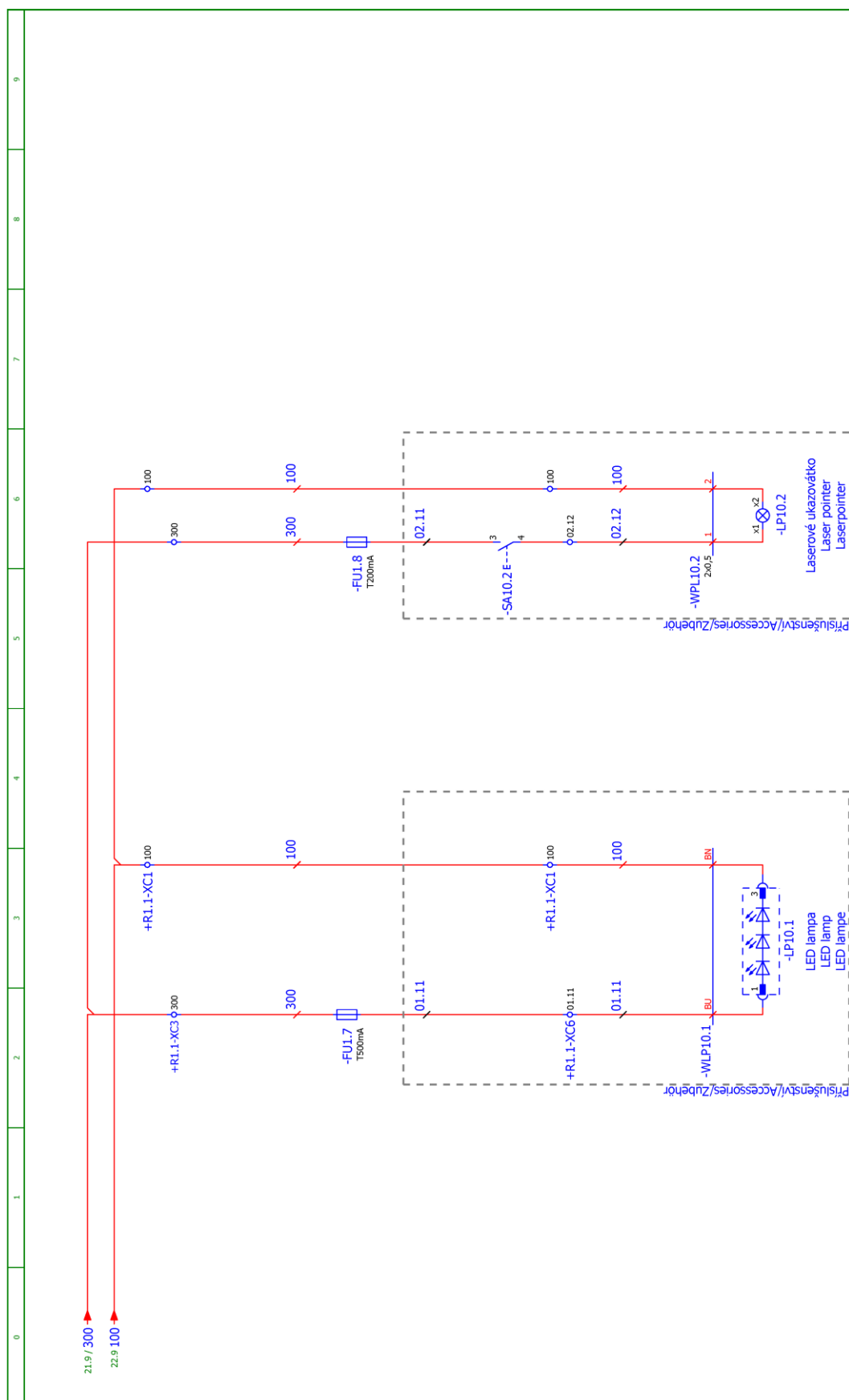


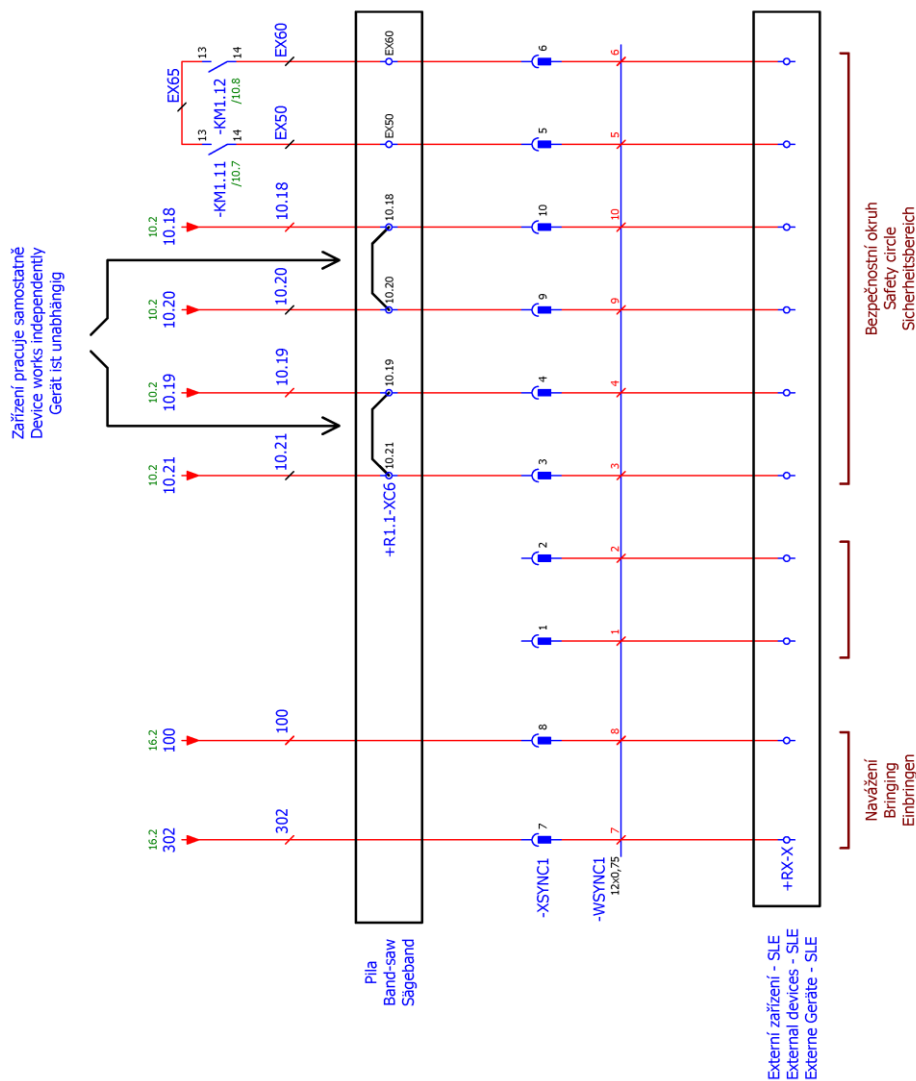






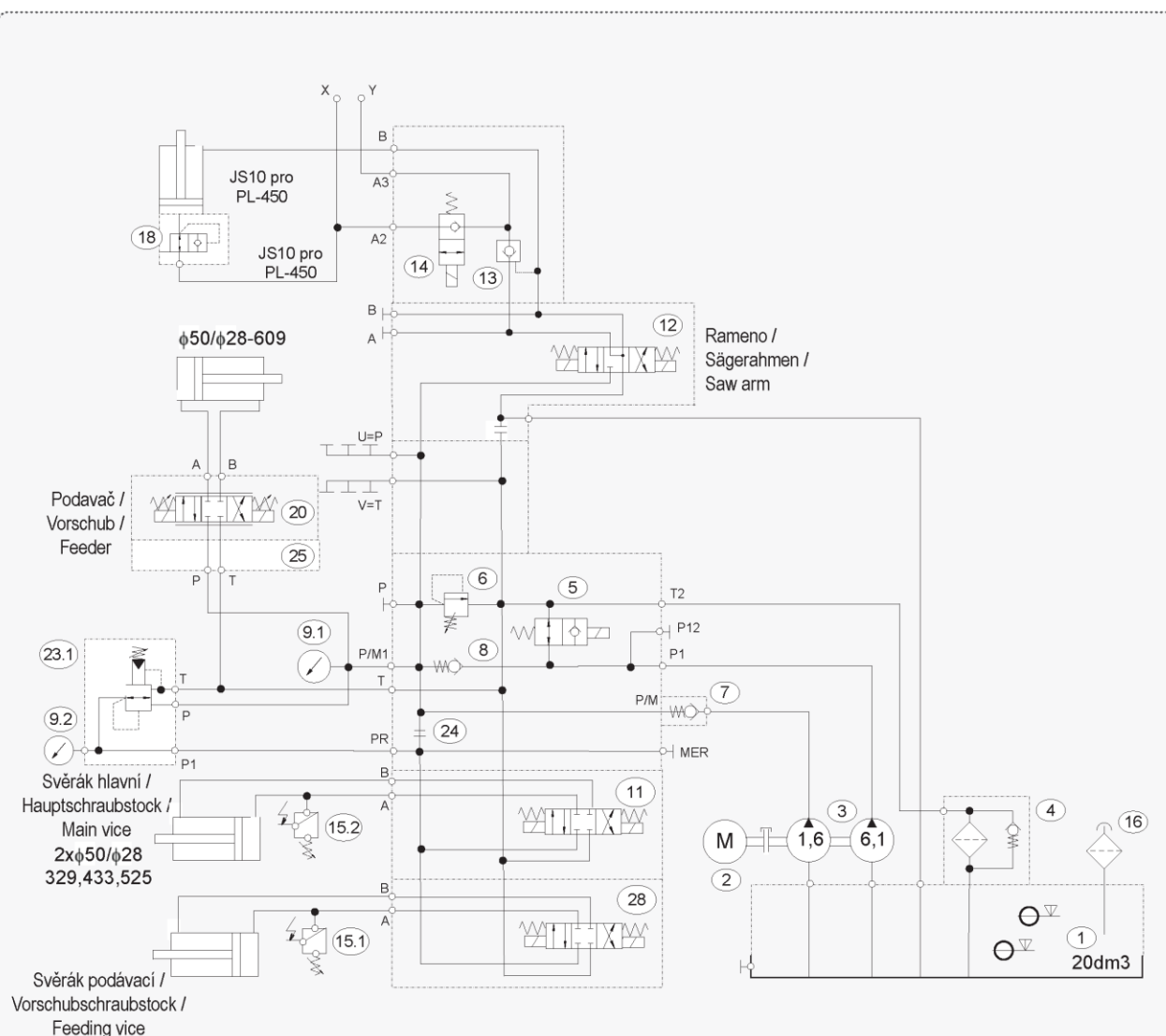






	Stroj/Machine/Maschine: Proline 420.350 ANC	Název stránky/Name page/Name seiten: SyncFree / SyncFree / SyncFree	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-101.265-B1/B2-V6.1	Titul/Page/ Seite: 24		
				Titul/Page/ Seite: 24		
				Titul/Page/ Seite: 24		
				Titul/Page/ Seite: 24		
Napájení/Power supply/Einspeisung: 3x400V + PE, 50Hz			Datum/Date/Datum: 17.05.2019	List(Pages)/ Seiten: 33		
Zpracování/Processed /Hst. verarbeitet:						

6.2. Hydraulické schéma / Hydraulikschema / Hydraulic diagram



Typ / Type / Type

Workline 280/350/450 GANC, Proline 280/350/450 ANC

Hydraulický agregát / Hydroaggregat / Hydro aggregat

92.001.070 (FMW), S001-058-2, PPM-AC13-PG11/61-1,6-TM20-CB03-FR

Neuvedené světlosti / Unerwähnt Lichtbreite / Unlisted inside diameters

JS6

Výstupní šroubení / Ausgangschraubung / Output screewing

G1/4"

205.M216-350
(09.11.2018)

PROLINE 280/350/450 Anc

Pmax - WL/PL-280; WL/PL-350

4 MPa

Pmax - WL/PL-450

5,5 MPa

Q

8+2,1 dm³/min

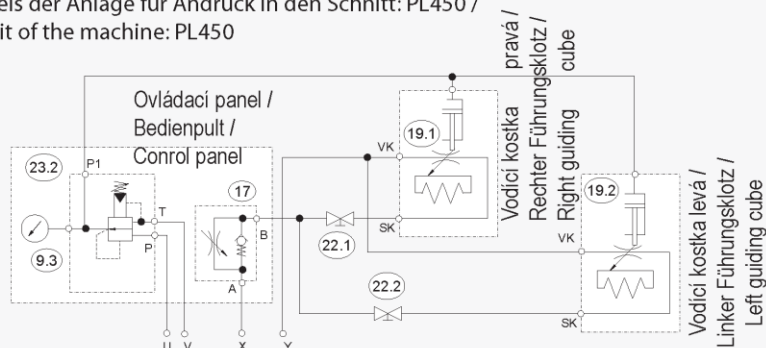
n

1400 ot./min

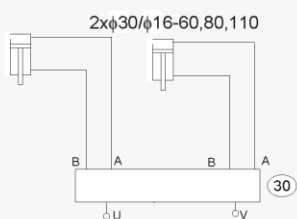
P

1,1 kW

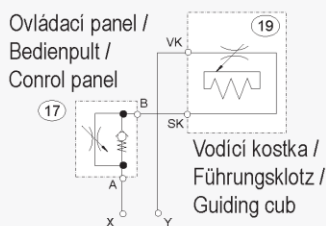
Regulační závlek stroje: PL450 /
Regelungskreis der Anlage für Andruck in den Schnitt: PL450 /
Control circuit of the machine: PL450



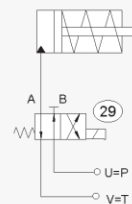
Horní upínače (na přání zákazníka)/
Hydraulische Bedienung der oberen Spanner
(auf Wunsch des Kunden)/
Control of upper fixtures (by customer's request)



Regulační závlek stroje: PL 280, PL350 /
Regelungskreis der Anlage
für Andruck in den Schnitt: PL280, PL350 /
Control circuit of the machine: PL280, PL350



Aretace podavače (na samostatném držáku) /
Vorschub - Arretierung (in einer separaten Halterung)/
Feeder - Arrestment (on a separated holder)



205.M216-350
(09.11.2018)

PROLINE 280/350/450 Anc

Typ / Type / Type

Workline 280/350/450 GANC, Proline 280/350/450 ANC

Hydraulický agregát / Hydroaggregat / Hydro aggregat

92.001.070 (FMW), S001-058-2, PPM-AC13-PG11/61-1,6-TM20-CB03-FR

Neuvedené světlosti / Unerwähnt Lichtbreite / Unlisted inside diameters

JS6

Výstupní šroubení / Ausgangsschraubung / Output screewing

G1/4"

Pmax - WL/PL-280; WL/PL-350

4 MPa

Pmax - WL/PL-450

5,5 MPa

Q

8+2,1 dm³/min

n

1400 ot./min

P

1,1 kW

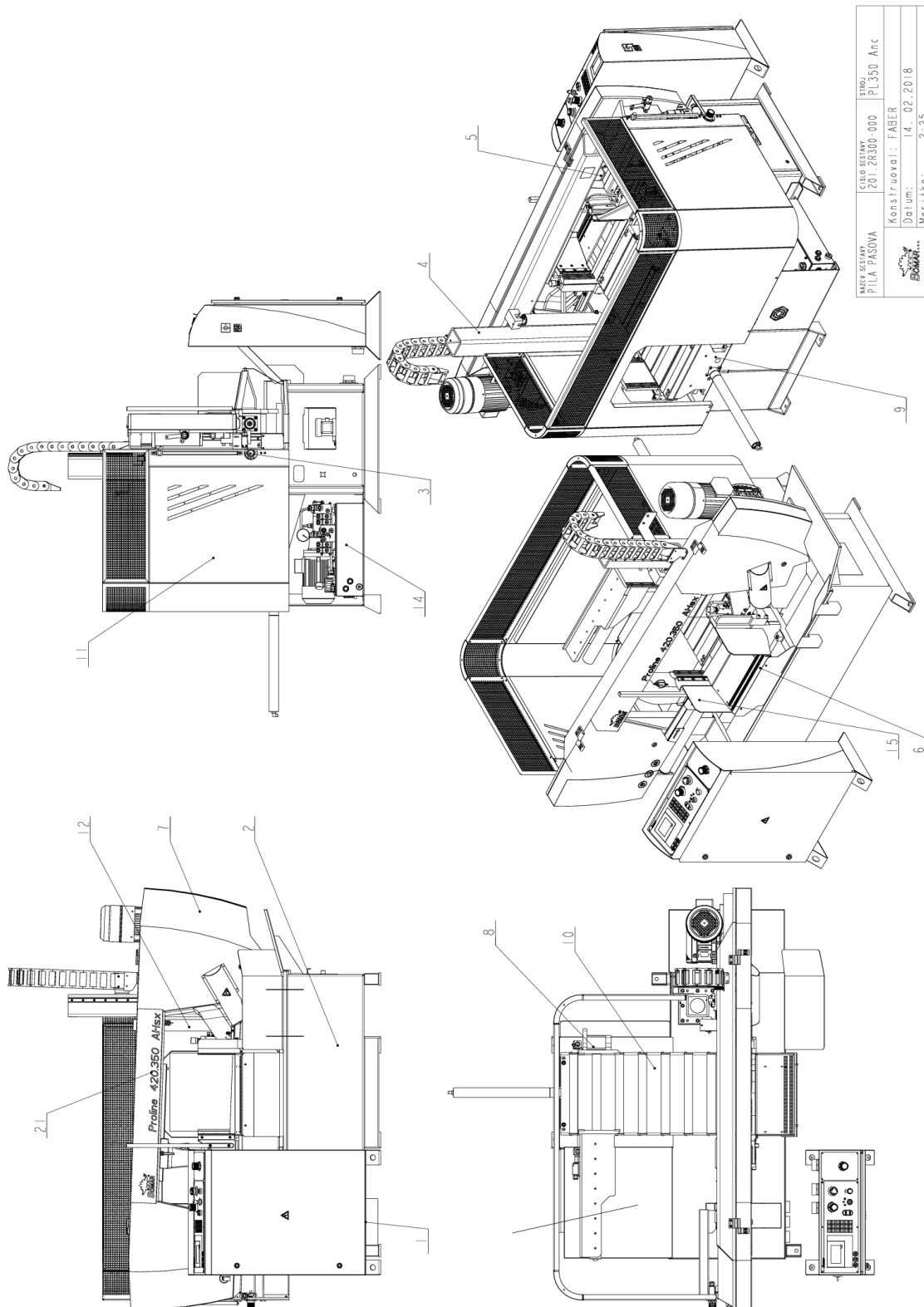
Poz.	Název položky		Obj. číslo	ks
Pos.	Bezeichnung		Bestellnum.	Menge
Pos.	Item		Order Nr.	Pcs.
1	Nádrž / Behälter / Tank	TM26		1
2	Elektromotor / Elektromotor / Electromotor	EM 90 1,1 kW/3 B34 400/230 V, 50 Hz		1
3	Hydrogenerátor / Hydraulikgenerator / Hydrogenerator	11A10A6,1X181G/101, 6X182G, 1,6+6,1cm³/ot 92.153.148	92.153.148	1
4	Zpětný filtr / Filter / Filter	MPF0301AG1 P10NBP01	92.153.131	1
5	Rozvaděč / Verteilungsventil / Distributor	SV08-21-N-24EG	92.101.035	1
6	Přepouštěcí ventil / Bypassventil / Bypass valve	MO-020/10	92.159.001	1
7	Ventil zpětný / Gegendruckventil / Clack-valve	RVZ-10LR		1
8	Ventil zpětný / Gegendruckventil / Clack-valve	CV08-20-0-N-4	92.160.001	1
9	Manometr / Manometer / Manometer	D68, s/ with /mit glycerinem	92.080.008	3/1
10	--	--		--
11	Rozváděč / Schaltschrank / Switchboard	DVE03-S01-B4-C24/20/T1-M1	92.101.039	1
12	Rozváděč / Schaltschrank / Switchboard	DVE03-S04-B5-C25/20/T1-M1	92.101.034	1
13	Hydraulický zámek / Hydraulisches Schloß / Hydraulic lock	PC08-30-0-N 92.103.007	92.103.007	1
14	Rozváděč / Schaltschrank / Switchboard	SV08-20-N-24EG	92.101.035	1
15	Tlakový spínač / Druckschalter / Pressure switch	20-50bar	92.201.003	2
16	Nalévací zátka / Stopfen / Fill stopper	CPT-MD-FA/1"	92.019.007	1
17	Škrťací ventil / Drosselventil / Throttle-valve	VS01-04/R2,5-O	92.152.001	1
18	Pojistný ventil / Sicherungventil / Safety valve	VPNH ¼	92.151.001	2/1
19	Kostka regulace / Regulationklotz / Regulation cube	Manuální přítlač na pilový pás/Manuellen Druck auf dem Blade /Manual pressure on the saw band		1/0
		Hydraulický přítlač na pilový pás /Hydraulikdruck auf dem Blade /Hydraulic pressure on the saw band (Proline 450 pouze/ only/ lediglich)		2/0
20	Rozváděč / Schaltschrank / Switchboard	PRM2-043Z11/04-24 MIKRO	92.101.024	1
21	-	-		-
22	Kulový ventil / Kugelventil / Globe valve / Control valve			4/0
23	Redukční ventil / Reduktionventil /	VRN2-06/S-6R	92.154.001	2/0
24	Záslepka / Blanking/ Blanking	IMBUS M6x10 – upravený / adaptiert/ modified	30.M216-201	1

25	Deska / Platte / Platte	DP4-04/32-4 G1/4"	92.105.001	1
26	Rychlospojka / Schnellkupplung / Gladhand	KM/S11 106007	92.060.007 92.060.008	4/0
27	Ventil / Ventil / Valve	S103 228 1 FMV SV 08-20 S BLOKEM	92.158.001	1
28	Rozváděč / Schaltschrank / Switchboard	DVE03-S01-B4-C24/20/T1-M1	92.101.041	
29	Rozváděč / Schaltschrank / Switchboard			1
30	Horní upínání / Upper clamping / Obere spannung			1

7. Výkresy sestav pro objednání náhradních dílů / Zeichnungen für Bestellung der Ersatzteile / Drawing assemblies for spare parts order

- Při objednávání náhradních dílů vždy uvádějte: typ stroje (např. Proline 420.350 ANC), výrobní číslo (např. 125) a rok výroby (např. 1999).
- In die Bestellung der Ersatzteile führen Sie immer an: Maschinentyp (z. B. Proline 420.350 ANC), Serien Nr. (z. B. 125) und Baujahr (z. B. 1999).
- For spare parts order, you must always to allege: type of machine (for example Proline 420.350 ANC), serial number (for example 125) and year of construction (for example 1999).

7.1. Proline 420.350 ANC



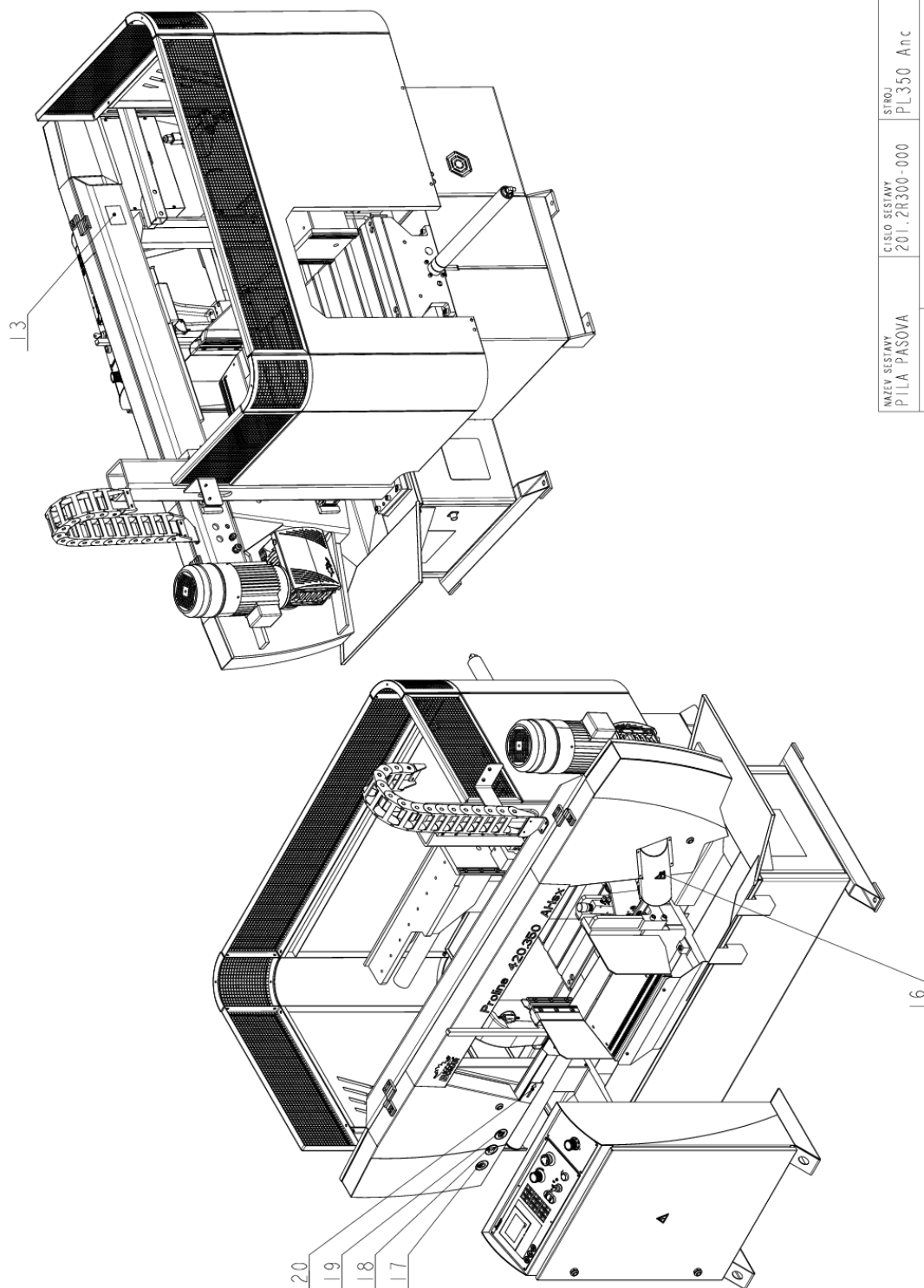
WATK. SZERWY	CIEŁO SZERWY	STROJ.
PILA PASOWA	201.2R300-000	PL350 Anc
Konstruował: FABER		
Datum: 14. 02.2018		
Meritko: 2:25		

7.2. Kusovník / Piece list / Stückliste - Proline 420.350 ANC

Císlo Sestavy 201.2R300-000		Ver. 0	Název sestavy PILA PASOVA/BAND SAW/BANDSÄGE			
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks	
1	201.2R230-000	0	OVLADACÍ PANEL / CONTROL PANEL / BEDIENPULT		1	
2	201.2R301-000	0	PODSTAVEC / BASE / UNTERSATZ		1	
3	201.2R302-030	0	ODMEROVÁNÍ / POLE / SÄULE		1	
4	201.2R302-050	0	SLOUP / POLE / SÄULE		1	
5	201.2R302-060	0	SLOUP / POLE / SÄULE		1	
6	201.2R303-000	0	SVERAK / VICE / SCHRAUBSTOCK		1	
7	201.2R304-200	0	RAMENO / SAW ARM / SÄGERAHMEN		1	
8	201.2R311-000	0	PODAVAC / MOUNTING / LAGERUNG		1	
9	201.2R311-100	0	TRAT / TRACK / BAHN		1	
10	201.2R312-000	0	TRAT / TRACK / BAHN		1	
11	201.2R316-000	0	KRYTY / COVERS / ABDECKUNGEN		1	
12	201.Y307-010	4	VALEC ZVEDACÍ / LIFTING CYLINDER / HEBEZYLINDER		1	
13	30.2R399-001	0	STÍTEK TYPOVÝ / MACHINE LABEL / MASCHINE SCHILD	P 0.5x65	1	
14	92.001.070	0	AGREGAT HYDRAULICKÝ / HYDRAULIC GENERATOR / HYDRAULI MAGGREGAT	FW	1	
15	99.900.039	0	SAMOLEPKA / STICKER / AUFKLEBER	NEBEZP. STLACENÍ	1	
16	99.900.040	0	SAMOLEPKA / STICKER / AUFKLEBER		1	
17	99.900.047	0	SAMOLEPKA / STICKER / AUFKLEBER		1	
18	99.900.048	0	SAMOLEPKA / STICKER / AUFKLEBER		1	
19	99.900.049	0	SAMOLEPKA / STICKER / AUFKLEBER		1	
20	99.900.053	0	SAMOLEPKA / STICKER / AUFKLEBER		1	
21	99.901.044	2	SAMOLEPKA / STICKER / AUFKLEBER		1	

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.3. Proline 420.350 ANC



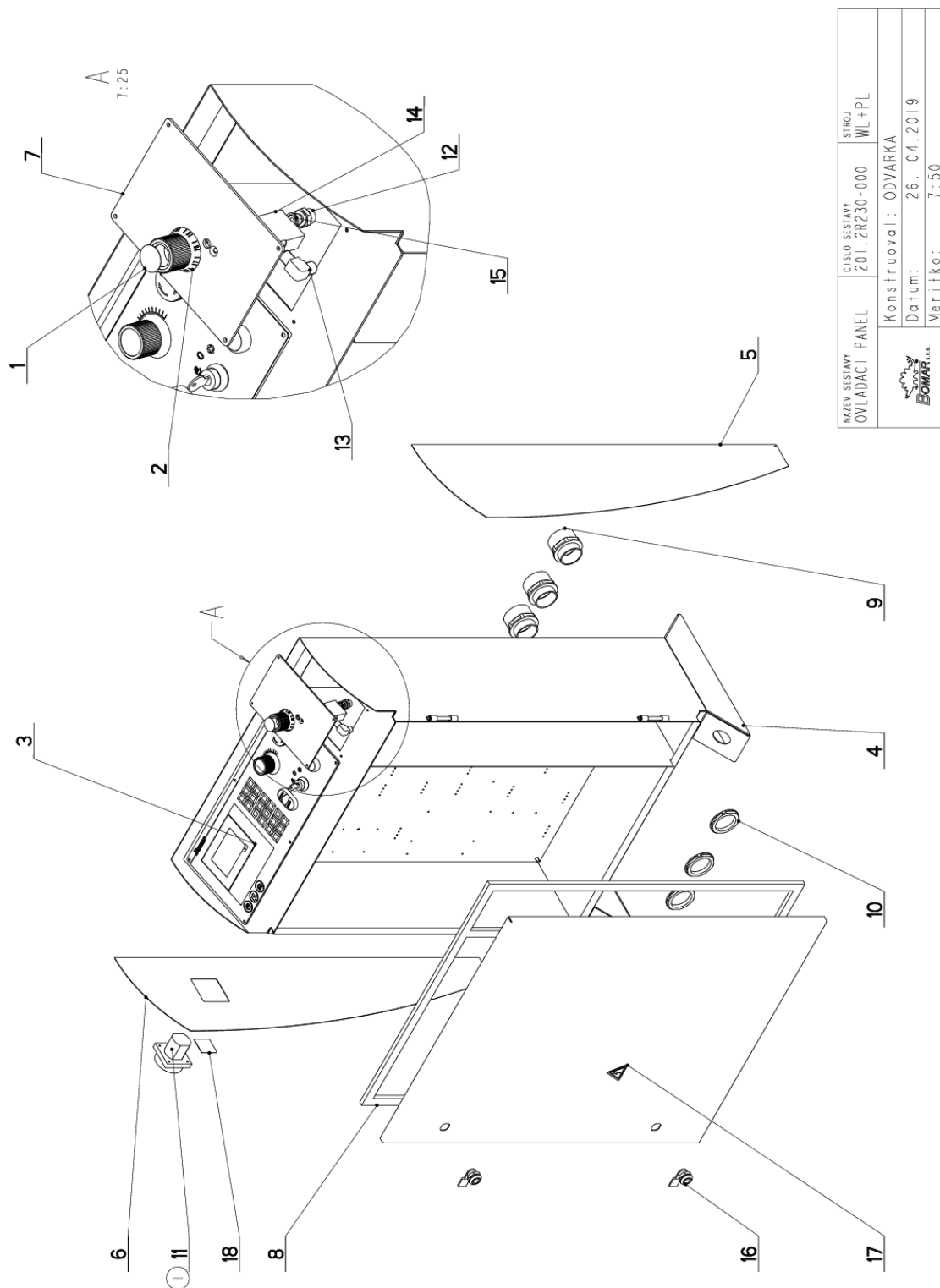
NAZEV SYSTÉMU PILA PASOVA	CÍSLO SYSTÉMU 201.2R300-000	STROJ PL350 Anc
Konstruoval: FABER		
Datum: 14. 02.2018		
Verze: 2:25		

7.4. Kusovník / Piece list / Stückliste - Proline 420.350 ANC

Císlo Sestavy 201.2R300-000		Ver. 0	Nazev sestavy PILA PASOVA/BAND SAW/BANDSÄGE		
Poz.	Objednací číslo	Ver.	Nazev položky	Rozmer	Ks
1	201.2R230-000	0	OVLADACI PANEL / CONTROL PANEL / BEDIENPULT		1
2	201.2R301-000	0	PODSTAVEC / BASE / UNTERSATZ		1
3	201.2R302-030	0	ODMEROVANI / POLE / SÄULE		1
4	201.2R302-050	0	SLOUP / POLE / SÄULE		1
5	201.2R302-060	0	SLOUP / POLE / SÄULE		1
6	201.2R303-000	0	SVERAK / VICE / SCHRAUBSTOCK		1
7	201.2R304-200	0	RAMENO / SAW ARM / SÄGERAHMEN		1
8	201.2R311-000	0	PODAVAC / MOUNTING / LAGERUNG		1
9	201.2R311-100	0	TRAT / TRACK / BAHN		1
10	201.2R312-000	0	TRAT / TRACK / BAHN		1
11	201.2R316-000	0	KRYTY / COVERS / ABDECKUNGEN		1
12	201.Y307-010	4	VALEC ZVEDACI / LIFTING CYLINDER / HEBEZYLLINDER		1
13	30.2R399-001	0	STITEK TYPOVY / MACHINE LABEL / MASCHINE SCHILD	P 0.5x65	1
14	92.001.070	0	AGREGAT HYDRAULICKY / HYDRAULIC GENERATOR / HYDRAULI MAGGREGAT	FW	1
15	99.900.039	0	SAMOLEPKA / STICKER / AUFKLEBER	NEBEZP.STLACENI	1
16	99.900.040	0	SAMOLEPKA / STICKER / AUFKLEBER		1
17	99.900.047	0	SAMOLEPKA / STICKER / AUFKLEBER		1
18	99.900.048	0	SAMOLEPKA / STICKER / AUFKLEBER		1
19	99.900.049	0	SAMOLEPKA / STICKER / AUFKLEBER		1
20	99.900.053	0	SAMOLEPKA / STICKER / AUFKLEBER		1
21	99.901.044	2	SAMOLEPKA / STICKER / AUFKLEBER		1

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.5. Ovládací panel / Bedienpult / Control panel



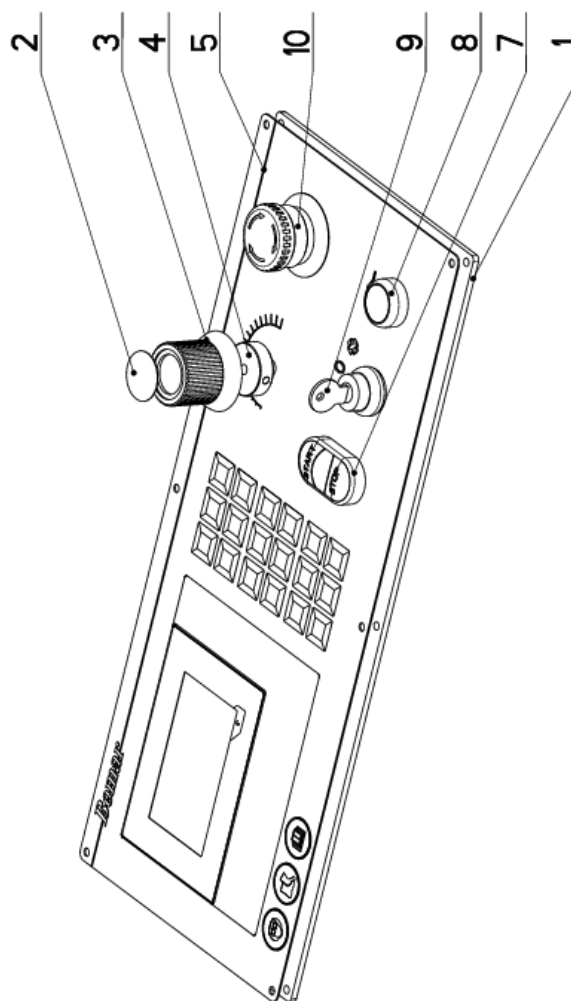
7.6. Kusovník / Piece list / Stückliste - Ovládací panel / Bedienpult / Control panel

Císlo Sestavy 201.2R230-000		Ver. 1	Název sestavy OVLADACÍ PANEL/CONTROL PANEL/BEDIENPULT		
Poz.	Objednávací číslo	Ver.	Název položky	Rozměr	Ks
1	30.6130-012	0	VÍKO / COVER / DECKEL	P 0.5x30	1
2	30.6130-018	0	HLAVICE / HEAD / KOPF	VYLÍSEK	1
3	201.2R230-010	0	PANEL ELEKTRO / ELECTRO PANEL / PANEL		1
4	30.R230-201	4	SKRIN / BOX / KASTEN		1
5	30.R230-204	1	PLECH / PLATE / BLECH	P 1x220	1
6	30.R230-206	2	PLECH / PLATE / BLECH	P 1x220	1
7	30.R230-208	1	DESKA / BOARD / PLATTE	P 3x150	1
8	61.352.001	0	TESNENÍ / SEALING / DICHTUNG	TESNENÍ 19x10	1
9	91.071.022	0	VÝVODKA / BUSHING / TÜLLE		3
10	91.072.016	0	MATICE / NUT / MUTTER		3
11	91.170.030 ①	0	VYPINAC / SWITCH / SCHALTER	VYPINAC	1
12	92.002.103	0	SROUBENÍ PRÍME / DIRECT BOLTING / GERADE VERSCHRAUBUNG	G 1/4" tr12	1
13	92.004.001	0	SROUBENÍ UHLÍVE / ANGLE BOLTING / WINKELVERSCHRAUBUNG	37701	1
14	92.152.001	0	VENTIL SKRTICI / CHOKE VALVE / DROSSELVENTIL	V501-04/R 2.5-0	1
15	96.082.002	0	TESNENÍ / SEAL RING / DICHTUNGSRING	13/17x1.5 CU	1
16	99.104.002	0	ZAMEK / LOCK / SCHLOSS	ZAMEK CÍNSKY	2
17	99.900.045	0	SAMOLEPKA / STICKER / AUFKLEBER		1
18	99.900.046	0	SAMOLEPKA / STICKER / AUFKLEBER		1
1.ZRUS. SPINAC 91.170.003 A 91.170.001 A NAHR. VYPINAC 91.170.030. 131/ZM181 26.4.2019 SZABARI					

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Pos./Position/Position;
Objednávací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

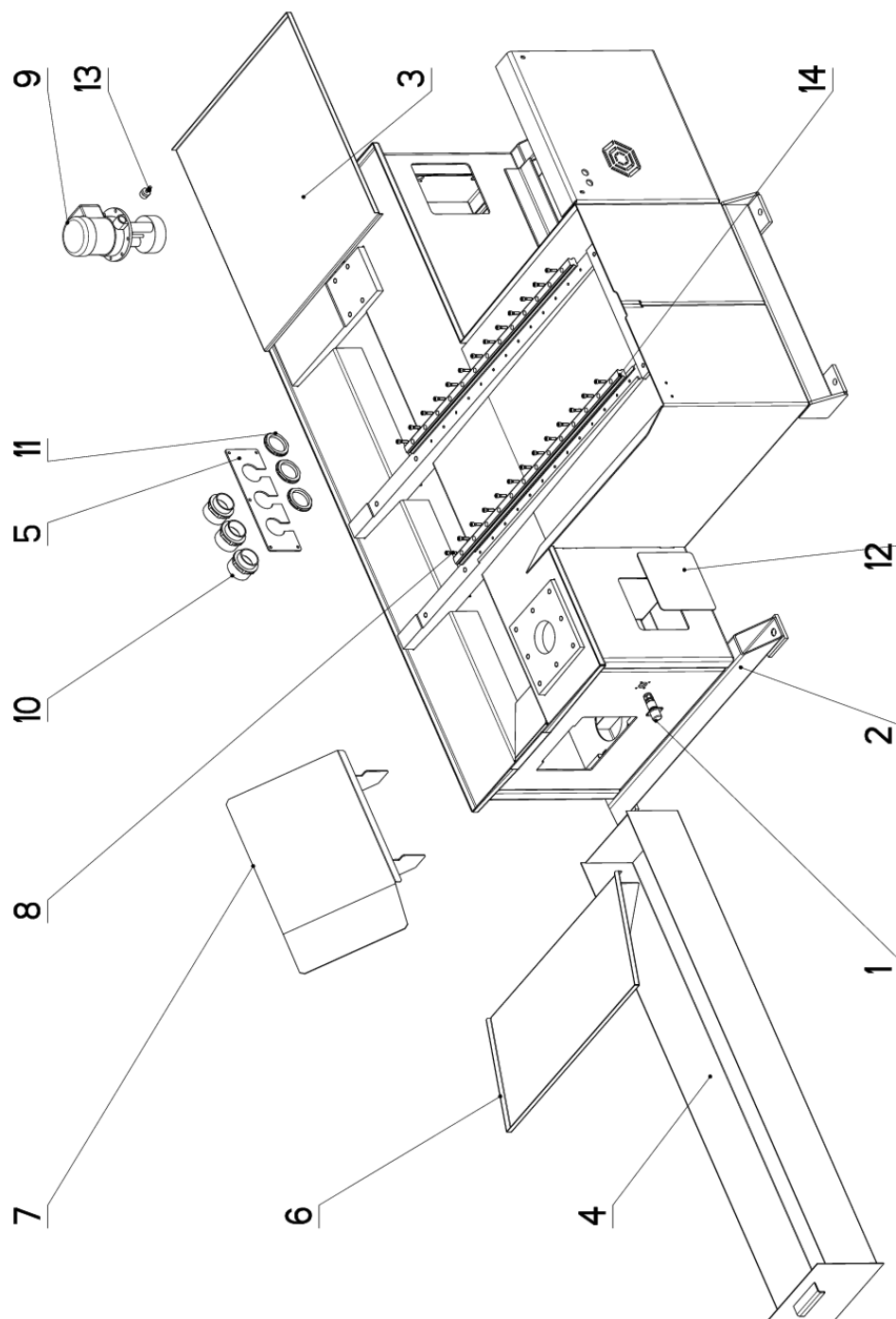
7.7. Panel elektro / Panel / Electro panel

Cislo sestavy 201.2R230-010		Ver. 0	Název sestavy PANEL ELEKTRO/ELECTRO PANEL/PANEL		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.2R230-002	0	OVLADACÍ PANEL / CONTROL PANEL / BEDIENPULT		I
2	30.6130-012	0	VÍKO / COVER / DECKEL	P 0.5x 30x30	I
3	30.6130-020	0	OVLADÁNÍ / CONTROLS / STEUERUNG	VYLISEK	I
4	30.R230-010	0	MEZIKUS / INTERMEDIATE PIECE / PASSSTÜCK	d 32	I
5	31.ER2530-303	0	SAMOLEPKA / STICKER / AUFKLEBER		I
6	6PPT30.043F-208	0	OVLADACÍ PANEL / CONTROL PANEL / BEDIENPULT		I
7	91.060.034	0	HLAVICE / HEAD / KOPF	START/STOP	I
8	91.060.053	0	HLAVICE / HEAD / KOPF		I
9	91.060.058	0	PREPINAC / SWITCH / UNSCHALTER		I
10	91.060.084	0	HLAVICE TOTAL STOP / TOTAL STOP HEAD / TASTE TOTAL STOP		I



Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.8. Podstavec / Base / Untersatz



NAZEV SESTAVY PODSTAVEC	CÍSLO SESTAVY 201.2R301-000	STROJ PL 350
Konstruoval: FABER		
Datum: 05. 04.2018		
Měřitko: 1:100		

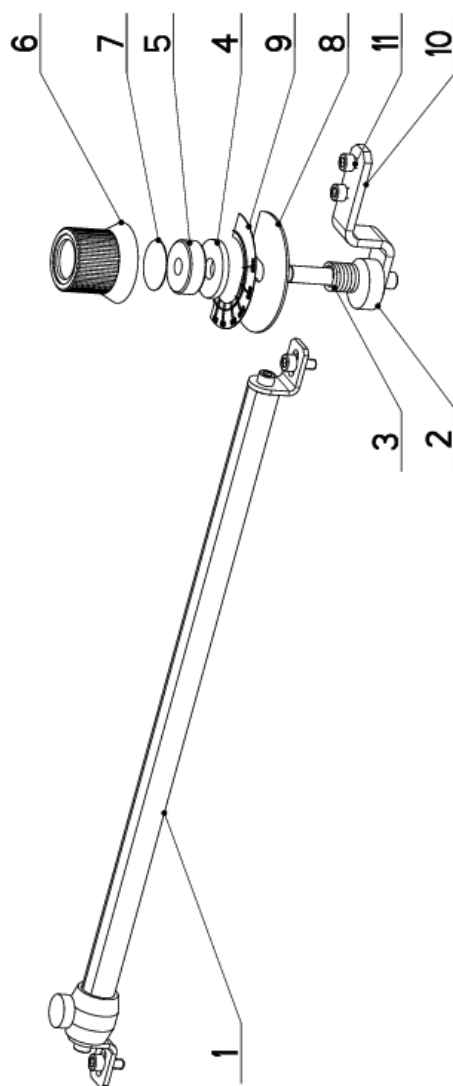
7.9. Kusovník / Piece list / Stückliste - Podstavec / Base / Untersatz

Císlo Sestavy 201.2R301-000		Ver. 0	Název sestavy PODSTAVEC/BASE/UNTERSATZ		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	262.007	0	KONEKTOR / CONNECTOR / STECKVERBINDER		1
2	30.2R301-001	0	PODSTAVEC / BASE / UNTERSATZ		1
3	30.2R301-005	0	KRYT / COVER / ABDECKUNG		1
4	30.2R301-006	0	VANA / TANK / WANNE		1
5	30.R201-056	1	VÍKO / COVER / DECKEL	P 4x100	1
6	30.R301-053	1	KRYT / COVER / ABDECKUNG		1
7	30.R314-260	0	KRYT / COVER / ABDECKUNG		1
8	90.001.25.019	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x25	26
9	91.020.032	0	CERPADLO CHLAZENÍ / COOLING PUMP / KÜHLMITTELPUMPE	230/400V	1
10	91.071.022	0	VÝVODKA / BUSHING / TÜLLE		3
11	91.072.016	0	MATICE / NUT / MUTTER		3
12	94.101.039	0	ZASLEPKA / PLUG / BLINDEFLANSCH	154x154x4	1
13	94.202.020	0	REDUKCE / REDUCTION / ADAPTOR / REDUKTION	1/2" - 6	1
14	99.200.489	0	VEDENÍ LINEARNÍ / LINEAR GUIDE / LINEARE FÜHRUNG	MSA25R 790-35/35 N	2

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.10. Odměrování / Measuring/ Gehrungsmessung

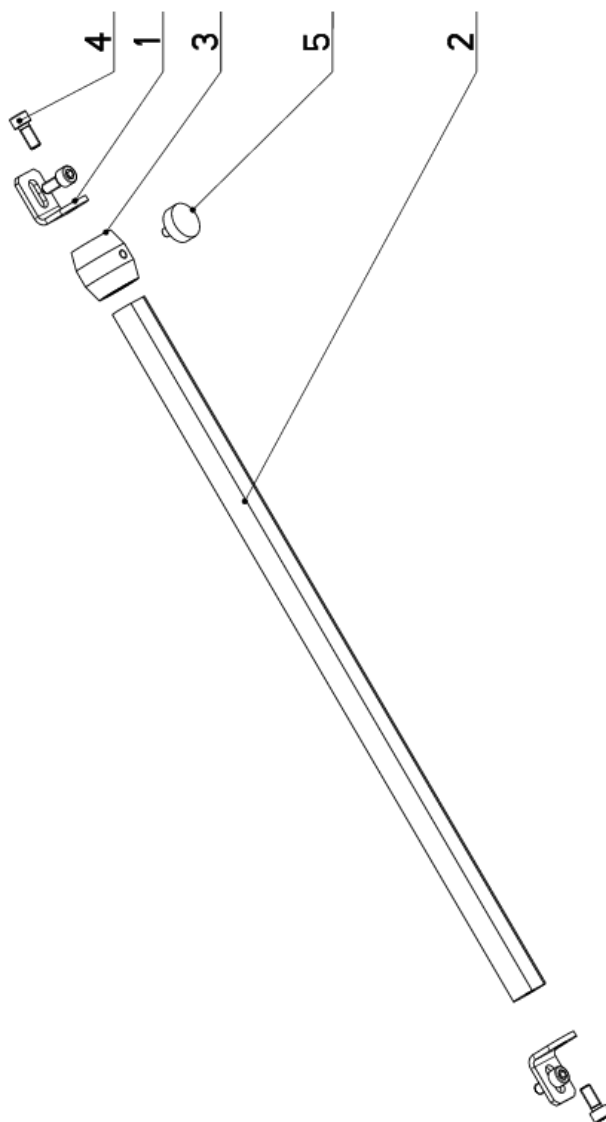
Císlo Sestavy 201.2R302-030		Ver. 0	Název sestavy ODMEROVANÍ / POLE / SÁULE		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	201.Y302-170	0	ODMEROVANÍ / MEASURING / GEHRUNGSMESSUNG	SESTAVA	1
2	30.R202-033	1	OSA / AXLE / AXHSE	SVARENO	1
3	31.T302-054	0	PRUŽINA / SPRING / FEDER	d 2.24	1
4	31.K107-006	1	GUMA / RUBBER / GUMMI	d35	1
5	30.Y302-058	1	VLOŽKA / INSERT / EINLAGE	d 32	1
6	30.6130-020	0	OVLADANÍ / CONTROLS / STEUERUNG	VYLISEK	1
7	30.6130-012	0	VÍKO / COVER / DECKEL	P 0.5x 30x30	1
8	30.Y302-153	0	PODLOŽKA / WASHER / UNTERLEGSCHIEBE	P 1.5x72	1
9	30.R302-034	0	STUPNICE / SCALE / SKALA	P1x41	1
10	30.R202-031	0	DRŽÁK / HOLDER / HALTER	HR 20x5	1
11	90.001.25.016	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x12	2



Císlu Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position;
Objednací číslo/purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

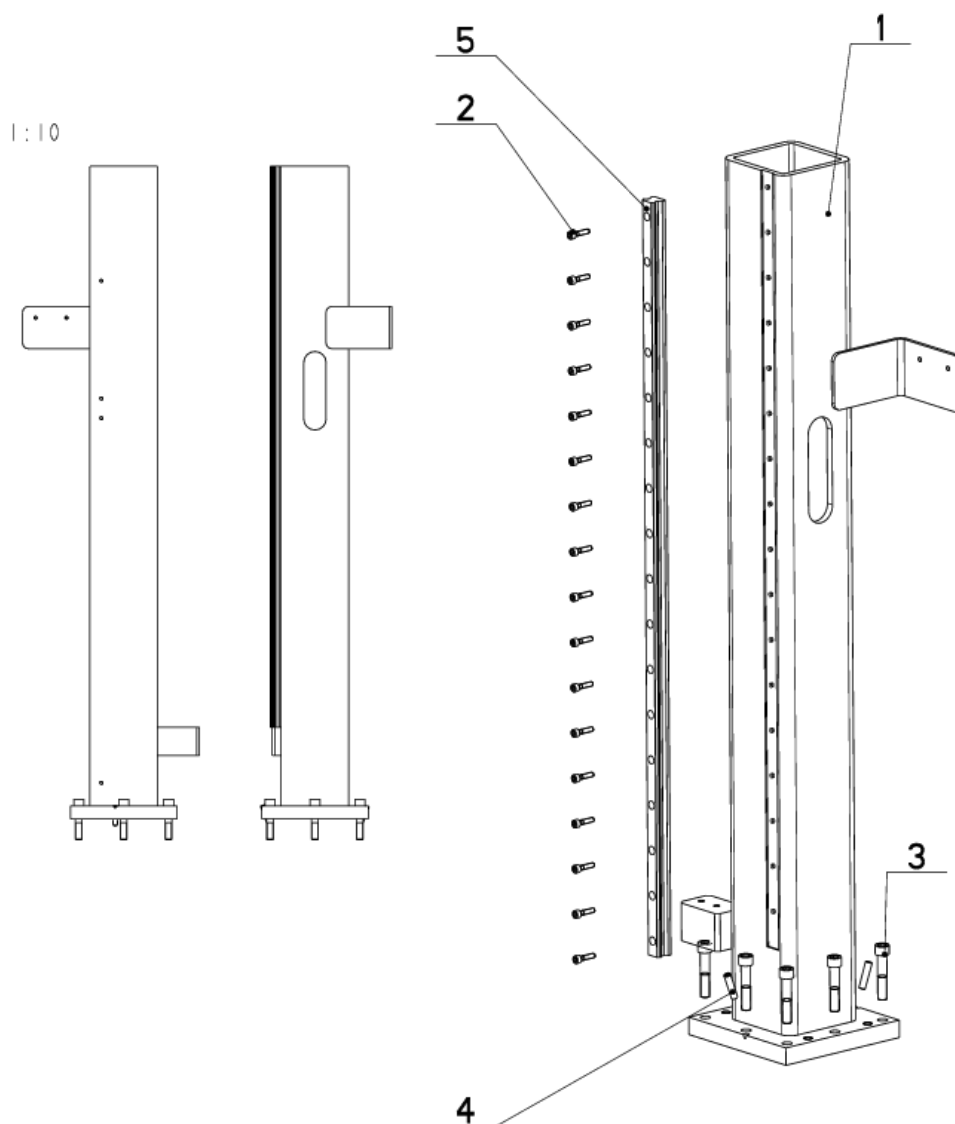
7.11. Odměrování / Gehrungsmessung / Measuring

Císlo Sestavy 201.Y302-170		Ver. 0	Název sestavy ODMEROVANÍ / MEASURING / GEHRUNGSMESSUNG		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.6114-323	0	DRŽÁK / HOLDER / HALTER	P 3x20	2
2	30.Y302-071	0	TYC / POLE / STANGE	d 20	1
3	30.2014-001	0	OBJÍMKA / CLAMP / KLAMMERSTÜCK	Ø 30-32	1
4	90.001.25.092	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x14	4
5	94.007.001	0	SROUB / BOLT / SCHRAUBE	M5x10	1



Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.12. Sloup/ Pole/ Säule



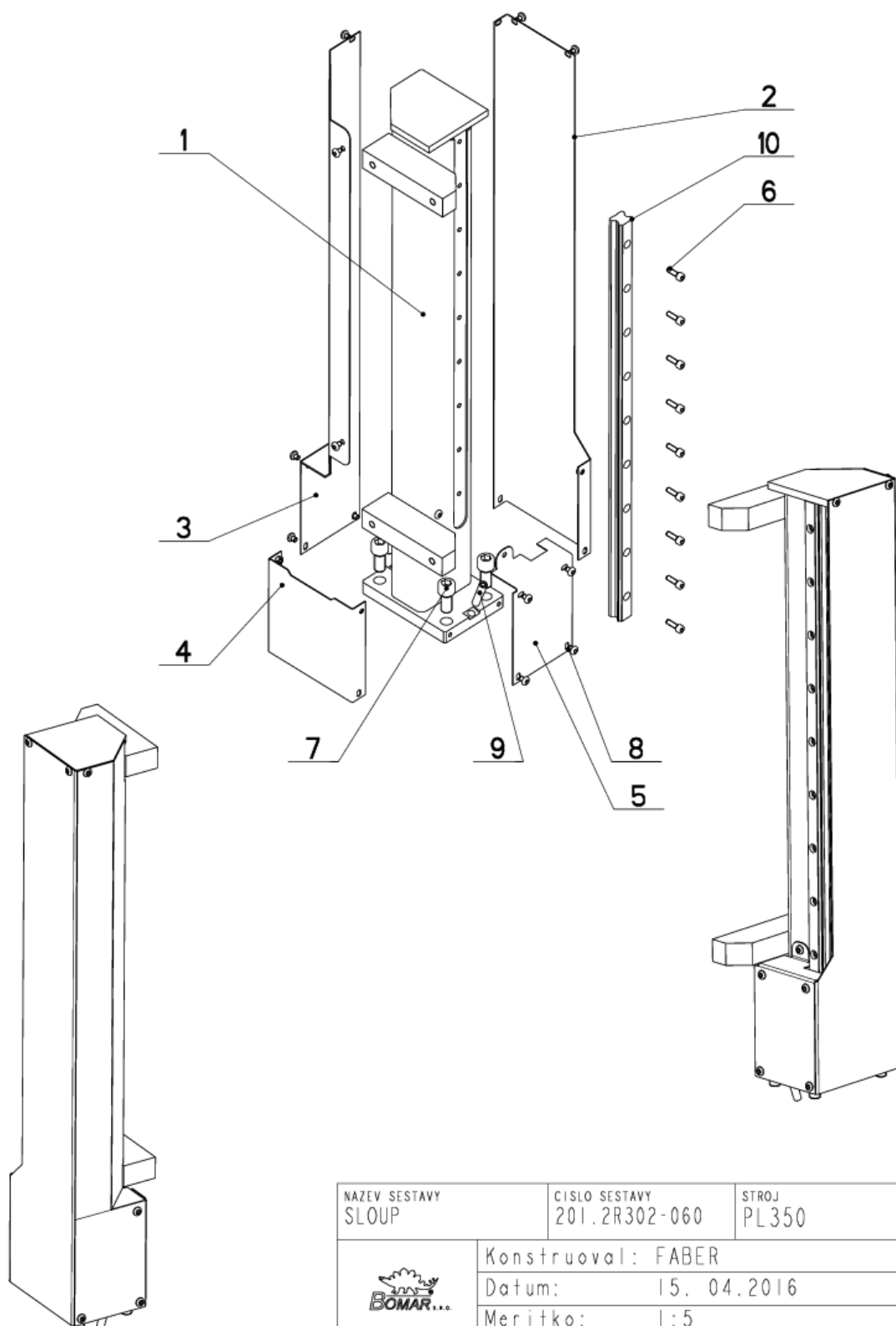
NAZEV SESTAVY SLOUP	CISLO SESTAVY 201.2R302-050	STROJ PL 350
	Konstruoval: FABER	
	Datum: 13. 04.2016	
	Meritko: 7:50	

7.13. Kusovník / Piece list / Stückliste - Sloup/ Pole/ Säule

Cislo sestavy 201.2R302-050		Ver. 0	Název sestavy SLOUP / POLE / SÄULE		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.2R302-051	1	SLOUP / POLE / SÄULE		1
2	90.001.25.019	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSHSCRAUBE	M6x25	17
3	90.001.25.063	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSHSCRAUBE	M12x60	8
4	90.302-07.003	0	KUZELE. KOLIK S ZAV. / TAPER PIN + THREAD / KEGELBOLZEN + GEWINDE	KOLIK 8x36	2
5	99.200.296	0	VEDENÍ LINEARNÍ / LINEAR GUIDE / LINEARE FÜHRUNG	MSA 258 1000 20/20N	1

Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.14. Sloup/ Pole/ Säule

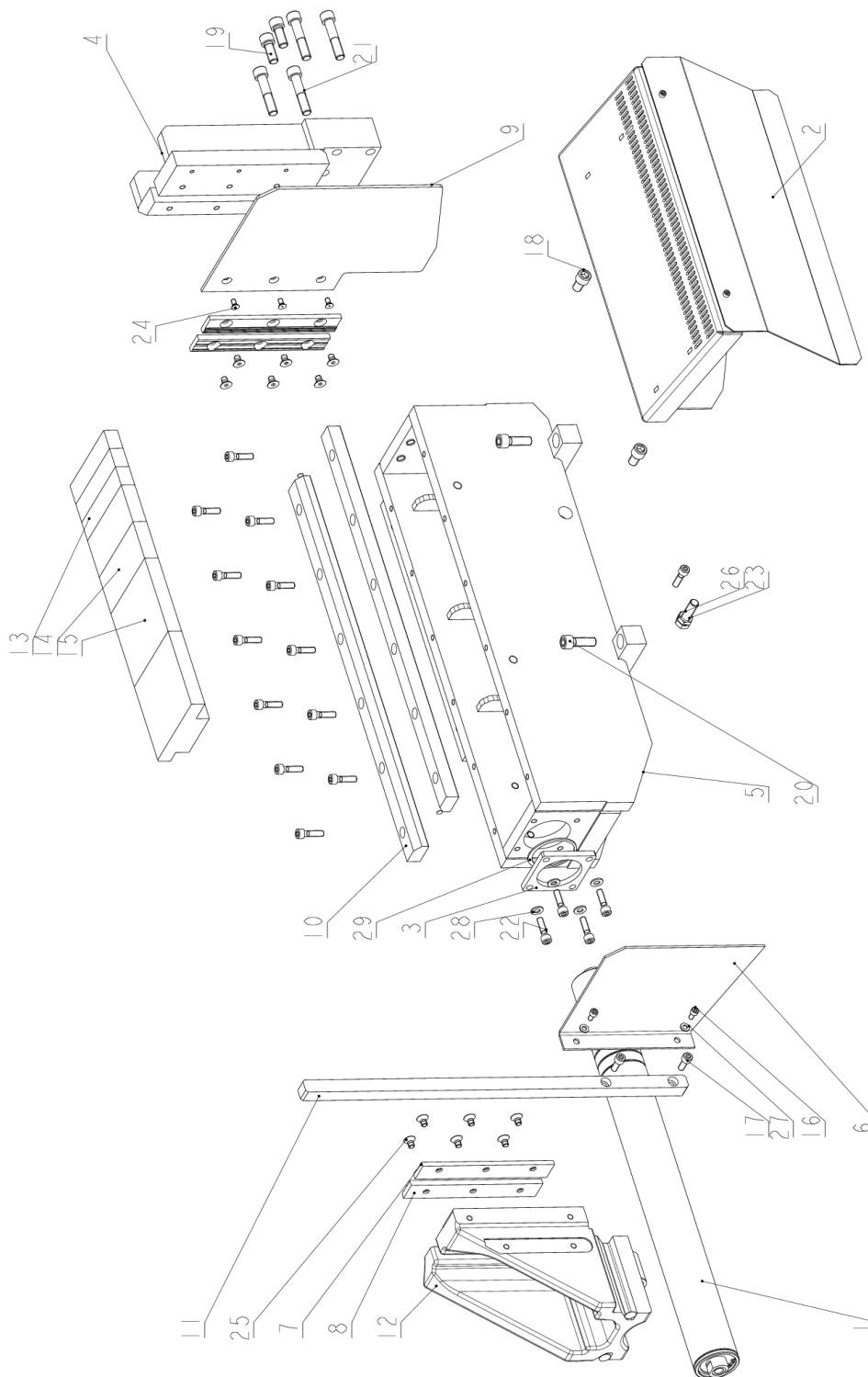


7.15. Kusovník / Piece list / Stückliste - Sloup/ Pole/ Säule

Císlo Sestavy 201.2R302-060		Ver. 0	Název sestavy SLOUP/POLE/SÄULE			
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks	
1	30.2R302-061	0	SLOUP / POLE / SÄULE		1	
2	30.2R302-062	0	KRYT / COVER / ABDECKUNG		1	
3	30.2R302-063	0	KRYT / COVER / ABDECKUNG		1	
4	30.2R302-064	0	KRYT / COVER / ABDECKUNG		1	
5	30.2R302-065	0	PLECH / PLATE / BLECH	Pl 1x90	1	
6	90.001.25.009	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5x16	9	
7	90.001.25.057	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x25	4	
8	90.013.27.002	0	SROUB PULKATY / HALF ROUND BOLT / HALBRUNDSCHRAUBE	M5x6	13	
9	90.302.07.003	0	KUZEL, KOLIK S ZAV. / TAPER PIN + THREAD / KEGELBOLZEN + GEWINDE	KOLIK 8x36	2	
10	99.200.274	0	VEDENÍ LINEARNÍ / LINEAR GUIDE / LINEARE FÜHRUNG	MSA20R 540 307/30N	1	

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.16. Svěrák / Schraubstock / Vice



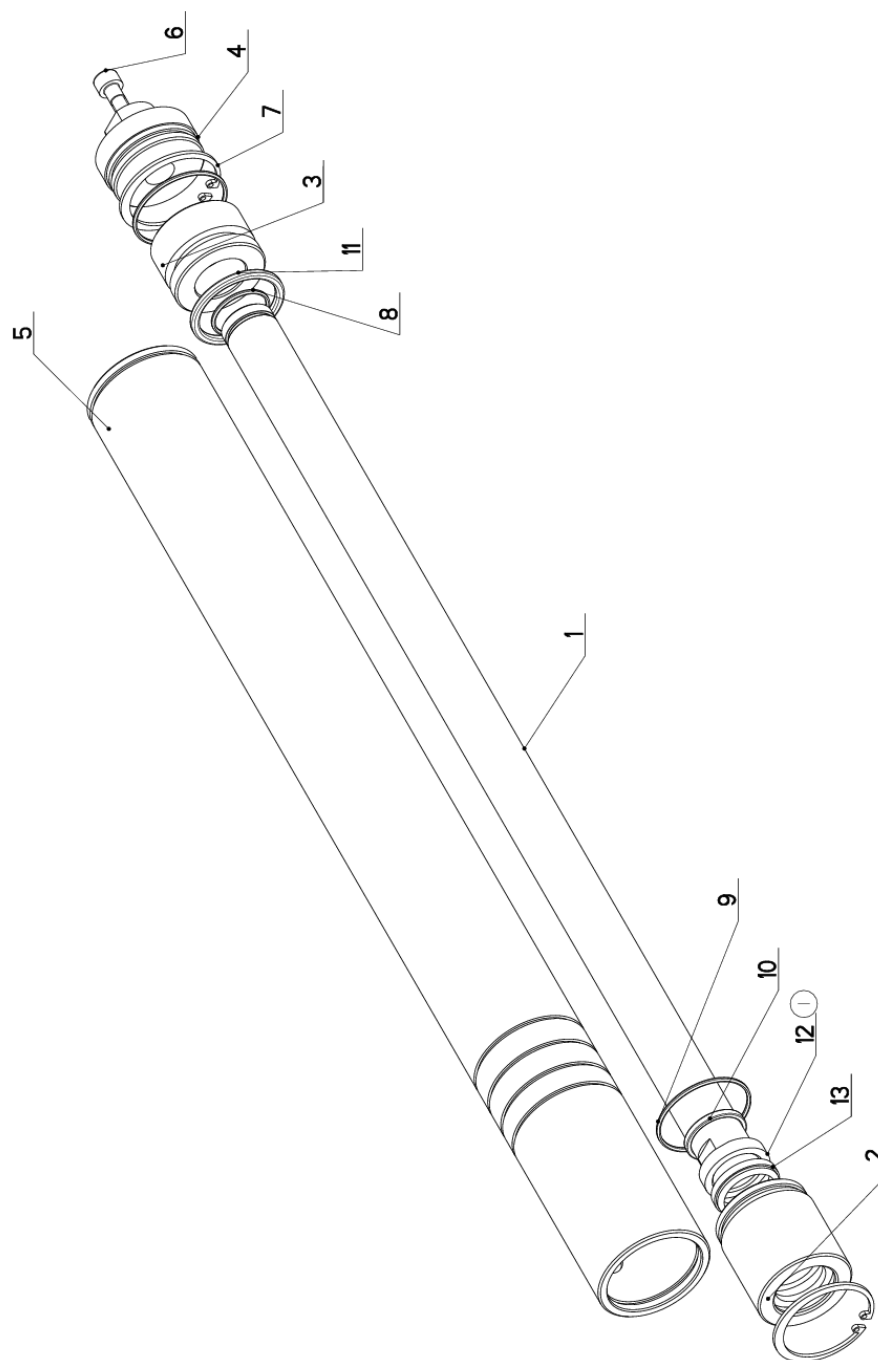
WAZE SESTAVY SVEŘÁK	CÍLOVÁ SESTAVA 201-2R303-000	STRUJ. PL350
Konstruoval: FABER		
Datum: 14. 04. 2016		
Verze: 29:100		

7.17. Kusovník / Piece list / Stückliste - Svěrák / Schraubstock / Vice

Císlo Sestavy 201.2R303-000		Ver. 0	Nazev sestavy SVERAK/VICE/SCHRAUBSTOCK		
Poz.	Objednací číslo	Ver.	Nazev položky	Rozmer	Ks
1	201.3707-000	1	VALEC / ROLLER / ZYLINDER		1
2	201.R303-050	1	SKLUZ / SLIDE / RUTSCH		1
3	30.2011-010	1	PRÍLOŽKA / STRAP / LASCHE	P8x80	1
4	30.2R203-018	0	CELIST PEVNA / SOLID JAW / FESTE BACKE		1
5	30.2R303-001	2	SVERAK / VICE / SCHRAUBSTOCK		1
6	30.5503-015	0	BOCNICE / SIDE PLATE / SEITENTEIL	P 3x230	1
7	30.6903-109	2	LISTA CELISTI / JAW TRIM / BACKENLEISTE	HR 30x10	2
8	30.D311-235	2	LISTA / TRIM / LEISTE	HR 30x10	2
9	30.R203-007	0	BOCNICE / SIDE PLATE / SEITENTEIL	P 4x237	1
10	30.R303-004	1	VEDENÍ / GUIDE / BACKENFÜHRUNG	HR 40x25	2
11	30.R303-005	1	LISTA / TRIM / LEISTE	HR 20x20	1
12	30.R303-014	2	CELIST POHYBLIVÁ / MOVING JAW / BEWEGLICHE BACKE	ODLITEK	1
13	30.R303-016	1	VLOŽKA / INSERT / EINLAGE	HR 40x30	3
14	30.R303-017	1	VLOŽKA / INSERT / EINLAGE	TYC 60x40	2
15	30.R303-018	1	VLOŽKA / INSERT / EINLAGE	HR 120x40	2
16	90.001.25.016	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x12	2
17	90.001.25.032	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x20	2
18	90.001.25.056	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x20	2
19	90.001.25.058	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x30	2
20	90.001.25.059	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x35	4
21	90.001.25.063	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x60	4
22	90.001.55.083	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x30	17
23	90.005.55.034	0	SROUB 6HRANNÝ / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M12x40	1
24	90.011.27.005	0	ZAPUSTNÝ IMBUS / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M6x12	3
25	90.011.27.007		SROUB / BOLT / SCHRAUBE	M8x12	12
26	90.101.55.006	0	MATICE / NUT / MUTTER	MATICE M12	1
27	90.150.50.004	0	PODLOŽKA / WASHER / UNTERLEGSCHLEIBE	PODLOŽKA 6,4	2
28	90.150.50.005	0	PODLOŽKA / WASHER / UNTERLEGSCHLEIBE	PODLOŽKA 8,4	4
29	95.800.021	0	SEGR HRÍDEL / OUTSIDE SAFETY RING / SICHERUNGSRING AUSSEN	POJISTIČNÝ KROUŽEK 62	1

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.18. Válec / Zylinder / Cylinder



NAZEV SESTAVY VÁLEC	CÍSLO SESTAVY 201.3707-000	STROJ STG 320GA
Konstruoval: ZEŽULA		
Datum: 17. 03.2015		
Měřítko: 1:5		

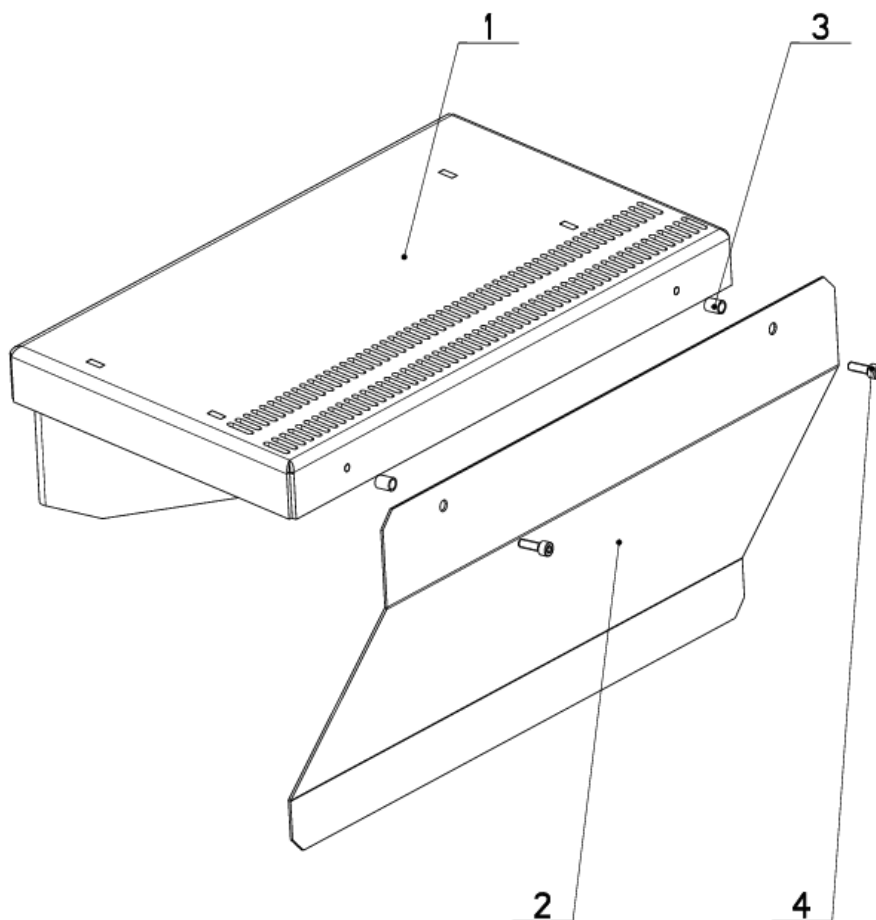
7.19. Kusovník / Piece list / Stückliste - Válec / Zylinder / Cylinder

Cislo Sestavy 201.3707-000		Ver. I	Nazev sestavy VALEC/ROLLER/ZYLINDER		
Poz.	Objednaci cislo	Ver.	Nazev položky	Rozmer	Ks
1	30.0607-102	I	PISTNICE / PISTON ROD / KOLBENSTANGE	d 28	I
2	30.1807-104	2	VÍKO / COVER / DECKEL	TYC 55	I
3	30.2007-302	0	PIST / PISTON / KOLBEN	d 55	I
4	30.2007-304	I	VÍKO / COVER / DECKEL	d 55	I
5	30.3707-001	3	VALEC SVĚRAKU / VICE CYLINDER / SCHRAUBSTOCKZYLINDER	TR 62/50H8	I
6	90.001.25.083	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSHRAUBE	M8X30	I
7	95.801.009	0	SEGR DIRA / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNY KROUZEK 52	2
8	96.001.007	0	O-KROUZEK STATIC / STATIC O RING / O-RING STATISCH	25x2 NBR 70SH	I
9	96.001.013	0	O-KROUZEK STATIC / STATIC O RING / O-RING STATISCH	45X2	2
10	96.002.014	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	28X3	I
11	96.020.005(1)	0	KROUZEK TESNICI / SEAL RING / DICHTUNGSRING	39.2X5.33	I
12	96.041.003	0	TESNENI / SEALING / DICHTUNG	601-28x36x7.1	I
13	96.060.003	0	KROUZEK STIRACI / SCRAPER RING / ABSTREIFRING	KROUZEK STIRACI 28	I

(1) O-KROUZEK 96.002.014 NAHRAZEN MANŽETOU 96.041.003 24.4.2003 ROZKOSNY

Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Nazev sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Nazev položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.20. Skluz / Rutsch / Slide



NAZEV SESTAVY SKLUZ	CISLO SESTAVY 201.R303-050	STROJ work350
	Konstruoval: VINOHRADSKY	
	Datum: 09. 04.2018	
	Meritko: 3:10	

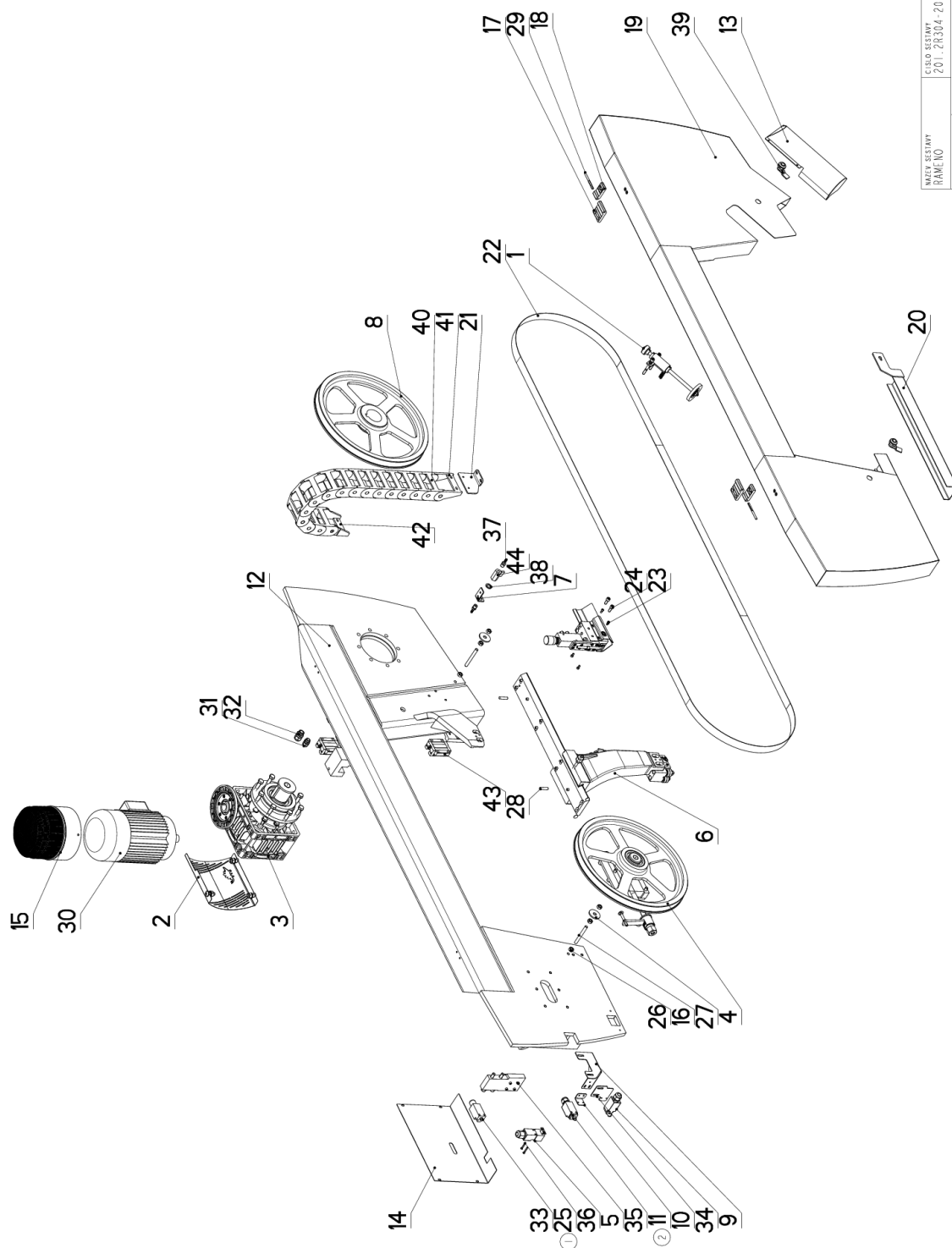
7.21. Kusovník / Piece list / Stückliste - Skluz / Rutsch / Slide

Císlo Sestavy 201.R303-050		Ver. I	Název sestavy SKLUZ/SLIDE/RUTSCH	
Poz.	Objednáací číslo	Ver.	Název položky	Ks
1	30.R303-051	2	STUL / TABLE / TISCH	1
2	30.R303-052	2	SKLUZ / SLIDE / RUTSCH	1
3	30.3509-015	2	KROUZEK DISTANČNÍ / DISTANCE RING / DISTANZRING	2
4	90.001.25.009 (1)	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	2

I.ZRUS.SROUB M6x16 (90.001.25.017) A NAHR. M5x16 (90.001.25.009). 191/ZM204 19.8.2011 SLEZACKOVA

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version); Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position);
Objednáací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.22. Rameno / Sägerahmen / Saw arm



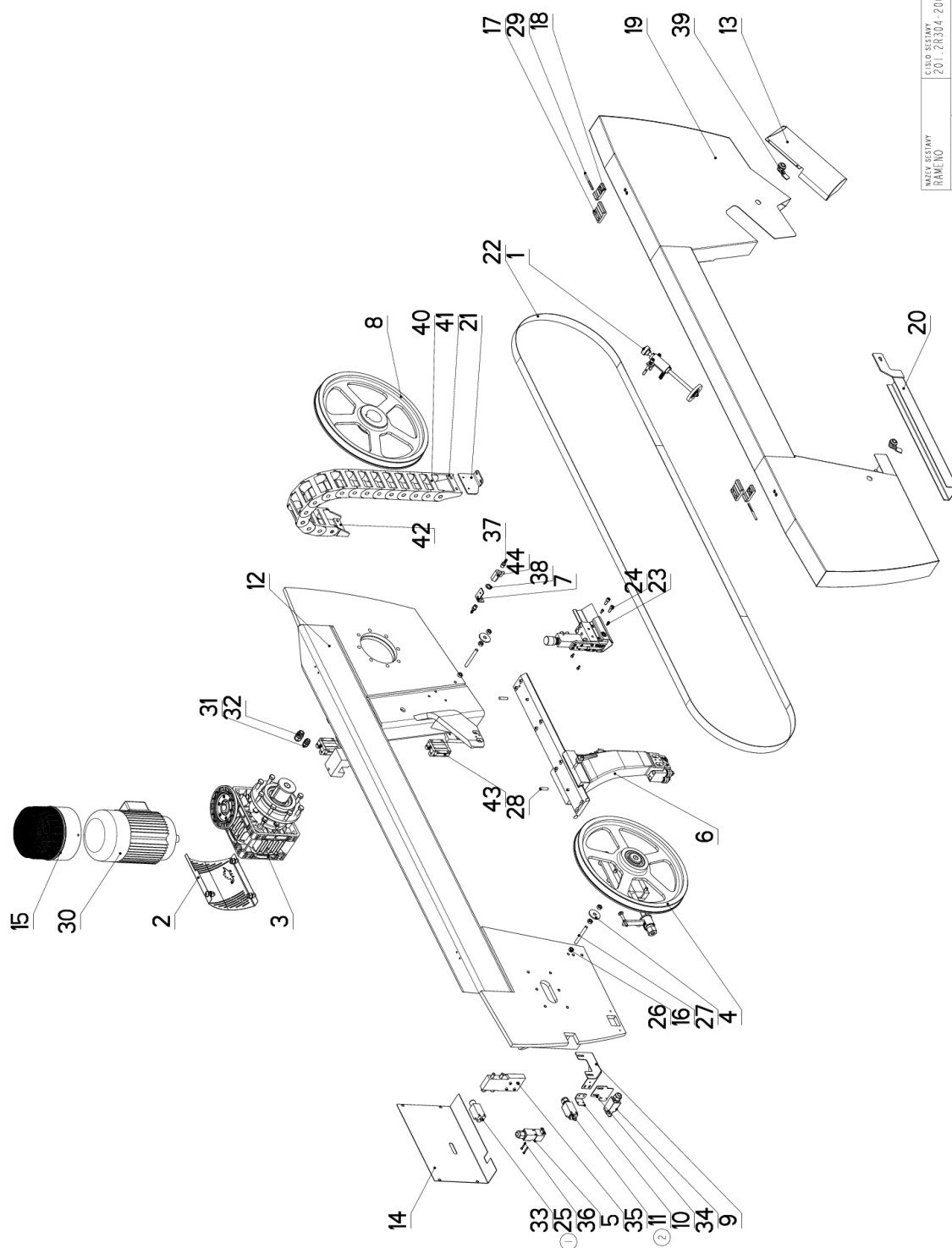
WYKŁ. SZKICOWY NAME NO	WYKŁ. SZKICOWY 201.25384-200	WYKŁ. SZKICOWY PL 350
Konstruował: FABER		
Datum: 16. 11. 2018		
Meritko: 11:100		

7.23. Kusovník / Piece list / Stückliste - Rameno / Sägerahmen / Saw arm

Císlo Sestavy 201.2R304-200		Ver. 2	Název sestavy RAMENO/SAW ARM/SÄGERAHMEN			
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks	
1	201.M304-020	0	KARTAC / BRUSH / BÜRSTE		1	
2	201.M304-022	0	KRYT / COVER / ABDECKUNG		1	
3	201.M305-000	1	PREVODOVKA / TRANSMISSION / GETRIEBE		1	
4	201.M308-100	1	NAPINANI / TENSIONING / SPANNUNG		1	
5	201.R304-040	0	KONZOLA / CONSOLE / KONSOLE		1	
6	201.R310-000	1	VEDENÍ PASU / BELT GUIDE / SÄGEBANDFÜHRUNG		1	
7	30.1814-011	2	DRŽAK / HOLDER / HALTER	P 3x76	1	
8	30.2904-003	3	KOLO HNACÍ / DRIVE WHEEL / ANTRIEBSRAD	ODLITEK	1	
9	30.2R304-021	1	PLECH / PLATE / BLECH	P2x136	1	
10	30.2R304-022	1	DRŽAK / HOLDER / HALTER	P2x76	1	
11	30.2R304-023	0	DRŽAK / HOLDER / HALTER	P2x40	1	
12	30.2R304-201	0	RAMENO / SAW ARM / SÄGERAHMEN		1	
13	30.M304-009	0	KRYT KARTACKU / BRUSH COVER / BÜRSTENABDECKUNG		1	
14	30.M304-017	0	KRYT NAPINANI / TENSIONING COVER / BANDSPANNUNGSABDECKUNG	P 1.5x310	1	
15	30.M304-070	0	VENTILATOR / VENTILATOR / VENTILATOR		1	
16	30.M404-056	0	TYC ZAVITOVÁ / THREADED POLE / GEWINDESTANGE	M10	2	
17	30.R304-006	3	PANT / BOARD / PLATTE	PROFIL	2	
18	30.R304-007	2	PANT / BOARD / PLATTE	PROFIL	2	
19	30.R304-012	1	KRYT / COVER / ABDECKUNG		1	
20	30.R304-016	1	KRYT PASU / BELT COVER / BANDABDECKUNG		1	
21	30.T304-014	1	DRŽAK / HOLDER / HALTER	P 4x100	1	
22	44.104.003	0	PAS PÍLOVÝ 330 / SAW BELT / SÄGEBAND	4780x32(4)x0.90	1	
23	90.001.25.007	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5x10	4	
24	90.001.25.032	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x20	2	
25	90.013.92.104	0	SROUB PULKULATÝ / HALF ROUND BOLT / HALBRUNDSCHRAUBE	M4x30	2	
26	90.100.55.006	0	MATICE / NUT / MUTTER	MATICE - M10	6	
27	90.151.50.002		PODLOŽKA / WASHER / UNTERLEGSCHEIBE	PODLOŽKA 12	2	
28	90.302.02.003	0	KUZEL, KOLÍK S ZAV. / TAPER PIN + THREAD / KEGELBOLZEN + GEWINDE	KOLÍK 8x36	2	
29	90.307.02.001	0	KOLÍK / PIN / BOLZEN	D6	2	
30	91.001.053	0	ELEKTROMOTOR / ELECTRIC MOTOR / ELEKTROMOTOR		1	
31	91.070.011	0	VÝVODKA / BUSHING / TÜLLE	M16x1.5	1	

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position; Objednávací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.24. Rameno / Sägerahmen / Saw arm



NÁZEV SOUŠTAVY RAMENO	ČÍSLO SOUŠTAVY 201.26304-200	STRANA PL 350
Konstruoval: FABER		
Datum: 16. 11. 2018		
Měřitka: 1:100		

7.25. Kusovník / Piece list / Stückliste - Ramen / Sägerahmen / Saw arm

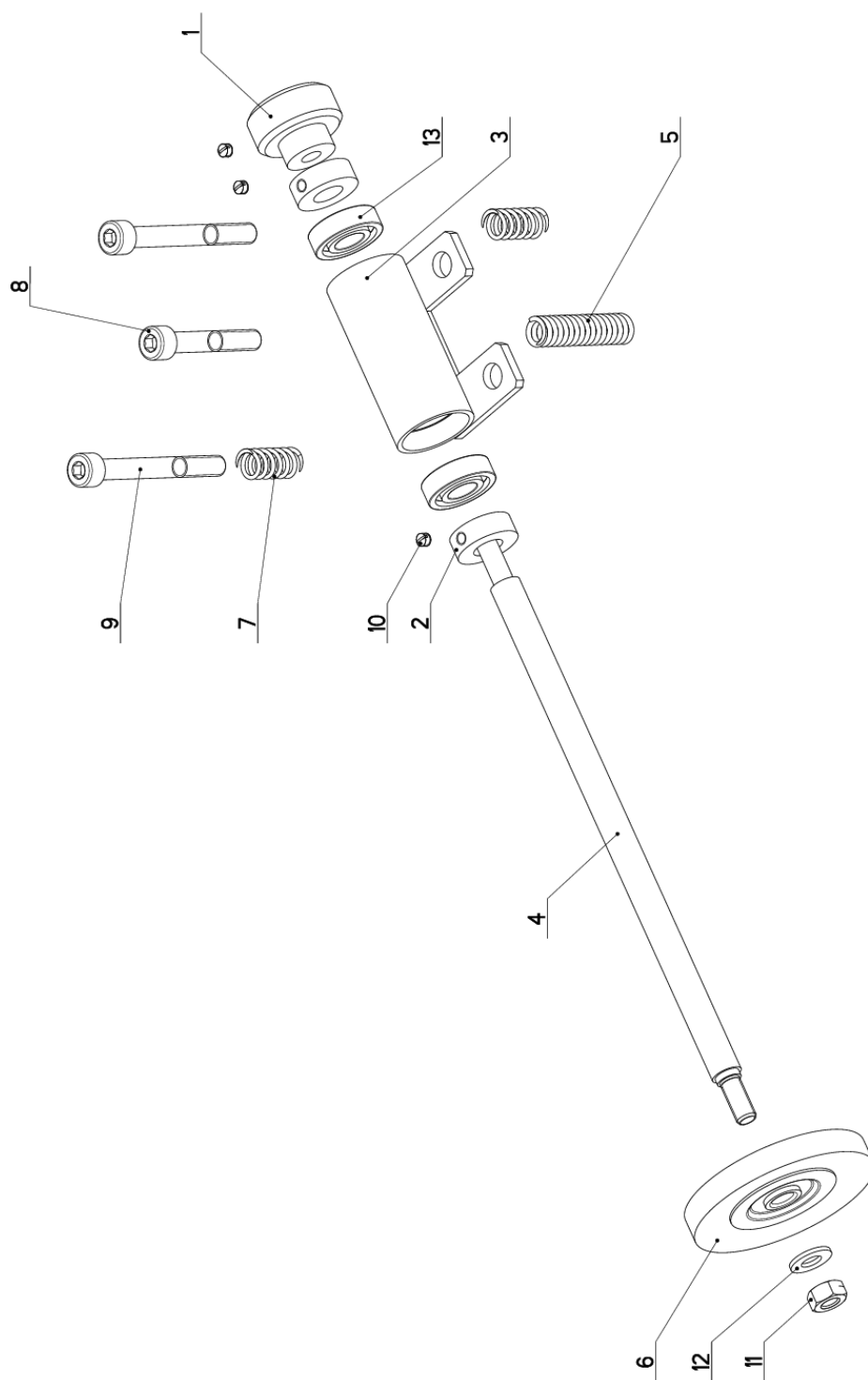
32	91.070.012	0	VYVODKA / BUSHING / TÜLLE	M20x1.5	1
33	91.173.007	0	SPINAC KONCOVÝ / END SWITCH / ENDSCHALTER	-RIWK	1
34	91.173.009		SPINAC KONC.S KLADK. / END SWITCH WITH PULLEY / ENDSCHALTER MIT ROLLE	PZ-FR605-M2	1
35	91.173.010		SPINAC KONC.S KLADK. / END SWITCH WITH PULLEY / ENDSCHALTER MIT ROLLE	FR 615 (PIZZATO)	1
36	91.173.012	0	SPINAC KONCOVÝ / END SWITCH / ENDSCHALTER		1
37	94.202.002	0	REDUCE / REDUCTION / ADAPTOR / REDUKTION	REDUCE 6/RI 1/4"	2
38	96.081.001	0	KROUZEK TESNICI / SEAL RING / DICHTRINGSRING	23x15x3	1
39	99.104.002	0	ZAMEK / LOCK / SCHLOSS	ZAMEK CINSKY	2
40	99.170.001	0	RETEZ ENERGII / ENERGY BELT / ENERGIEKETTE	0555.030.075.100	15
41	99.173.001	0	RETEZ ENERGII / ENERGY BELT / ENERGIEKETTE	KONCOVKA VNEJ	1
42	99.173.002	0	RETEZ ENERGII / ENERGY BELT / ENERGIEKETTE	KONCOVKA VNIT	1
43	99.201.046	0	VEDENÍ LINEARNÍ / LINEAR GUIDE / LINEARE FÜHRUNG	MSA25E SS F0 N	2
44	99.260.003	0	VENTIL / VALVE / VENTIL	1/4"	1

1. PRID. 2xSROUB M4x30 90.013.9Z.104. 171/ZM311 5.9.2018 SZABARI

2. PRID. 30.2R304-023; 257/ZM418 16.11.2018 SCERBA

Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Nazev sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Nazev položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.26. Kartáč/ Brush/ Bürste



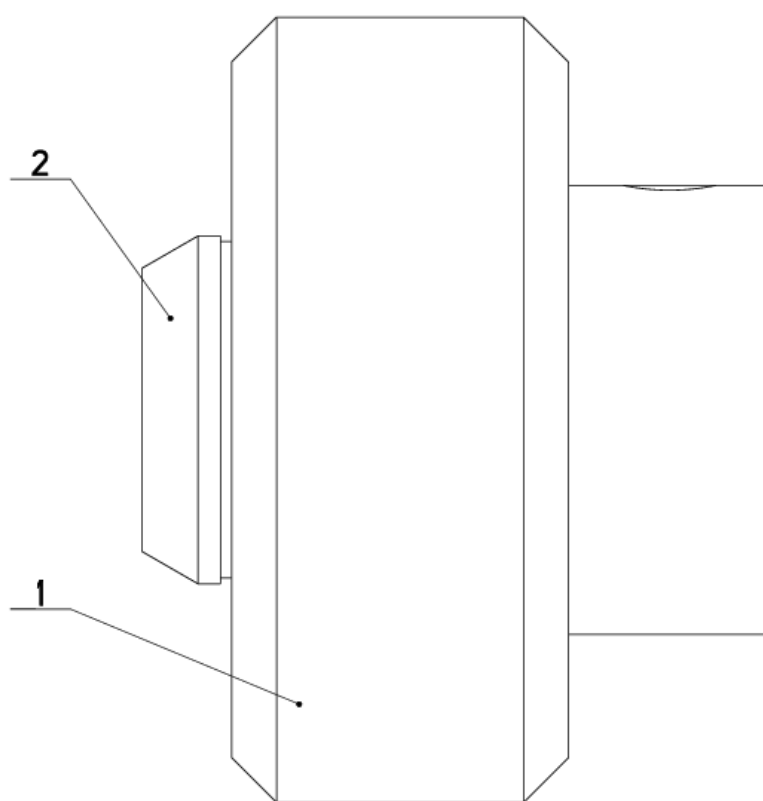
NAZEV SESTAVY KARTÁČ	CÍSLO SESTAVY 201.M304-020	STROJ WORK350
Konstruoval: VINOHRADSKÝ		
Datum: 16. 02.2015		
Měřítko: 7:10		

7.27. Kusovník / Piece list / Stückliste - Kartáč/ Brush/ Bürste

Císlo Sestavy 201.M304-020		Ver. 0	Název sestavy KARTAC/BRUSH/BÜRSTE		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	201.0814-204	0	KOLEČKO / WHEEL / ROLLE	SESTAVA	1
2	30.0814-207	0	KROUZEK / RING / RING	d 25	2
3	30.9214-301	2	DRŽÁK / HOLDER / HALTER		1
4	30.M304-021	0	HRDEL / SHAFT / WELLE	d 12	1
5	31.0305-211	0	PRUŽINA / SPRING / FEDER	2x12x50x15,5	1
6	31.0814-208	0	KARTAC / BRUSH / BÜRSTE		1
7	31.1506-115	0	PRUŽINA / SPRING / FEDER	1.6x12x25x7,5	2
8	90.001.25.038	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x50	1
9	90.001.25.095	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x70	2
10	90.003.20.001	0	SROUB STAVEČ / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M5x6	3
11	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE _ M8	1
12	90.150.50.005	0	PODLOŽKA / WASHER / UNTERLEGSCHLEIBE	PODLOŽKA 8,4	1
3	95.001.005	0	LOŽISKO / BEARING / LAGER	6001 2RS	2

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version); Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position);
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.28. Kolečko/ Wheel/ Rolle



NAZEV SESTAVY KOLECKO	CISLO SESTAVY 201.0814-204	STROJ STG440
	Konstruoval:	
	Datum:	20. 04.2018
	Meritko:	4:1

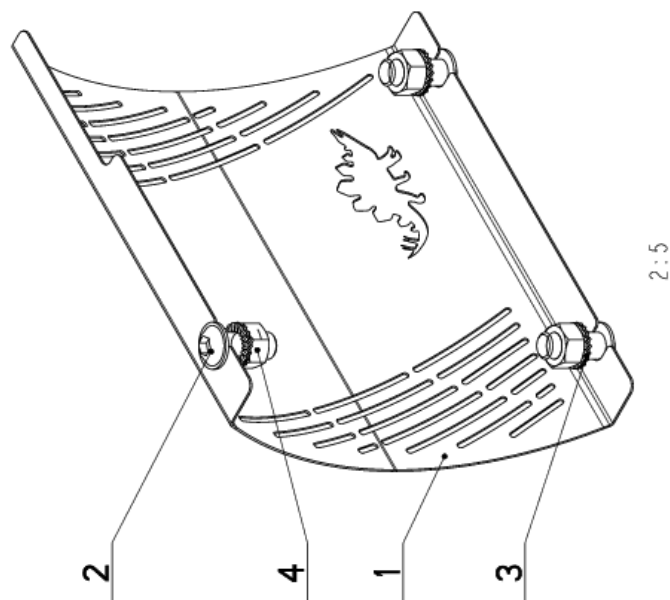
7.29. Kusovník / Piece list / Stückliste - Kolečko/ Wheel/ Rolle

Císlo Sestavy 201.0814-204		Ver. 0	Název sestavy KOLEČKO/WHEEL/ROLLE		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.0814-204.1	0	KOLEČKO / /	d 35	1
2	30.0814-204.2	1	NABOJ / /	D 20	1

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

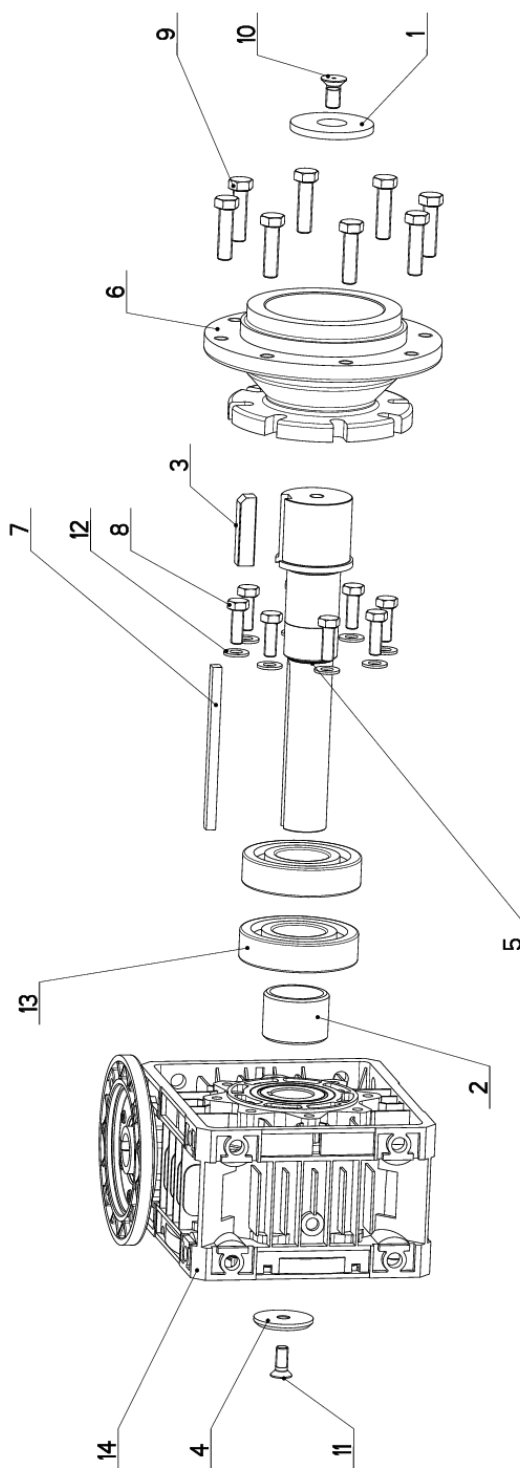
7.30. Kryt / Abdeckung / Cover

Cislo Sestavy 201.M304-022		Ver. 0		Název sestavy KRYT/COVER/ABDECKUNG	
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.M304-023	0	PLECH / PLATE / BLECH	Pl x238	1
2	90.013.2T.028	0	SROUB / BOLT / SCHRAUBE	M12X30-ISO_7380	3
3	90.152.50.006	0	PODLOŽKA / WASHER / UNTERLEGSCHLEIBE	M12 DIN6798	3
4	90.100.55.007	0	MATICE / NUT / MUTTER	MATICE - M12	3



Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version); Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position);
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.31. Převodovka / Getriebe / Transmission



NAZEV SYSTÉMU PŘEVODOVKA	ČÍSLO SYSTÉMU 201.M305-000	STROJ WL 350
Konstruoval: VINOHRADSKÝ		
Datum: 08. 10. 2015		
Meritko: 3:10		

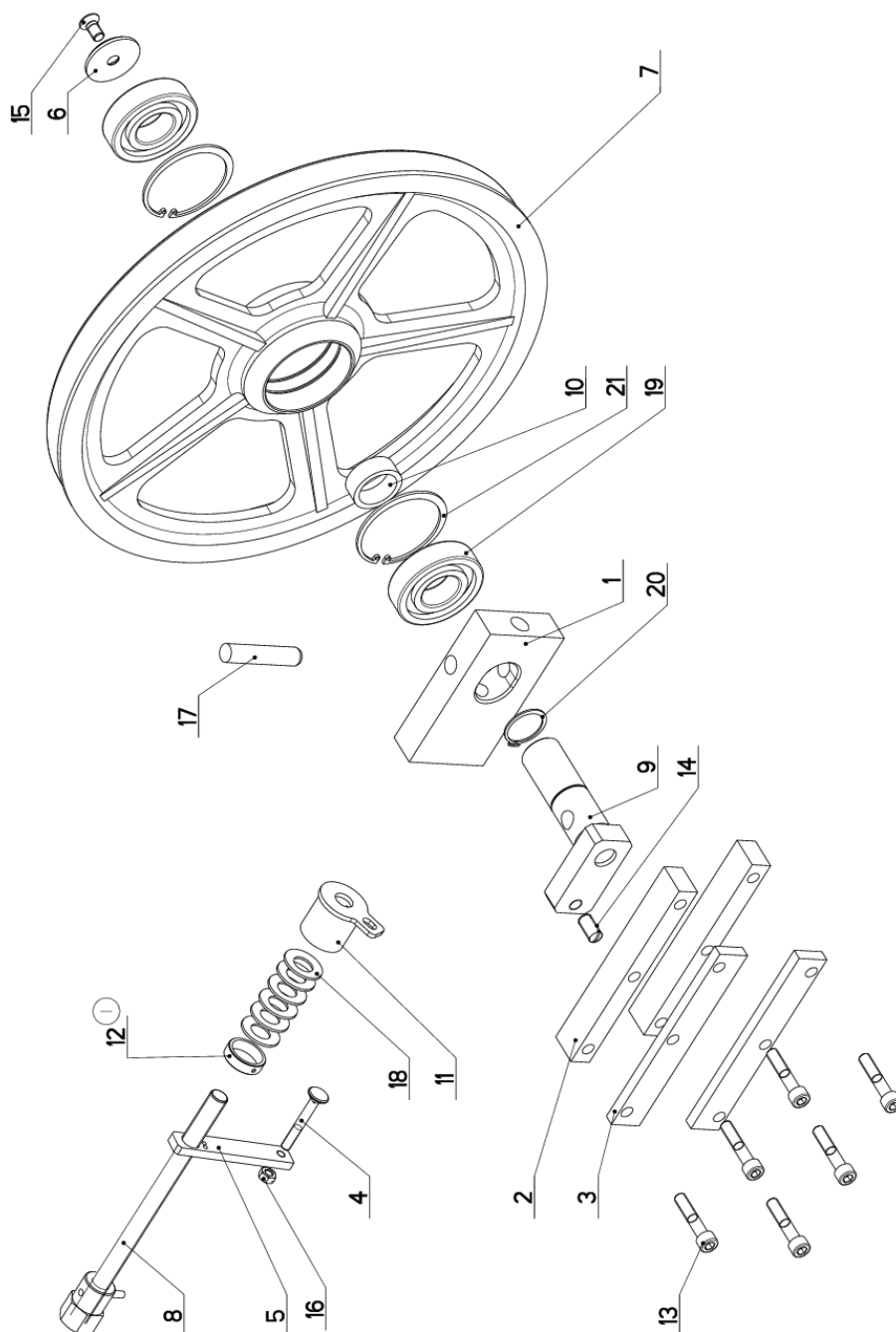
7.32. Kusovník / Piece list / Stückliste - Převodovka / Getriebe / Transmission

Císlo Sestavy 201.M305-000		Ver. 1	Název sestavy PŘEVODOVKA/TRANSMISSION /GETRIEBE		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.1804-010	0	PODLOŽKA / WASHER / UNTERLEGSCHIEBE	P 6x70	1
2	30.2904-005	0	DISTANC / DISTANCE / DISTANZ	TR 55x8	1
3	30.2904-006	0	PERO / SPRING / FEDER	HR 14x14	1
4	30.2908-001	1	PODLOŽKA / WASHER / UNTERLEGSCHIEBE	d 50	1
5	30.M305-003	2	HRÍDEL / SHAFT / WELLE	d 65	1
6	30.M305-005	0	PŘÍRUBA / FLANGE / FLANSCH	ODLITEK	1
7	30.M305-008	0	PERO / SPRING / FEDER	HR 10x8	1
8	90.005.55.025	0	SROUB 6HRANNÝ / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M10x30	8
9	90.005.55.035	0	SROUB 6HRANNÝ / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M12x45	8
10	90.011.27.025	0	SROUB ZAPUSTNÝ / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M12x25	1
11	90.011.27.036	1	SROUB ZAPUSTNÝ / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M10x25	1
12	90.150.50.006	0	PODLOŽKA / WASHER / UNTERLEGSCHIEBE	PODLOŽKA 10,5	8
13	95.001.027	0	LOŽISKO / BEARING / LAGER	6309 2RS	2
14	99.001.129	0	PŘEVODOVKA SNEKOVÁ / WORM GEAR TRANSMISSION / SCHNECKENGETRIEBE		1

1.ZRUS.1xSROUB M12x25(90.011.27.025) A NAHR.1xSROUBEM M10x25(90.011.27.036). 110/ZM112 25.6.2012 SLEZACKOVA

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version); Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position);
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.33. Napínání / Spannung / Tensioning



NAZEV SESTAVY NAPÍNÁNÍ	CÍSLO SESTAVY 201.M308-100	STROJ WOK K350
Konstruoval: VINOHRADSKÝ		
Datum: 13. 02.2017		
Meritko: 3:10		

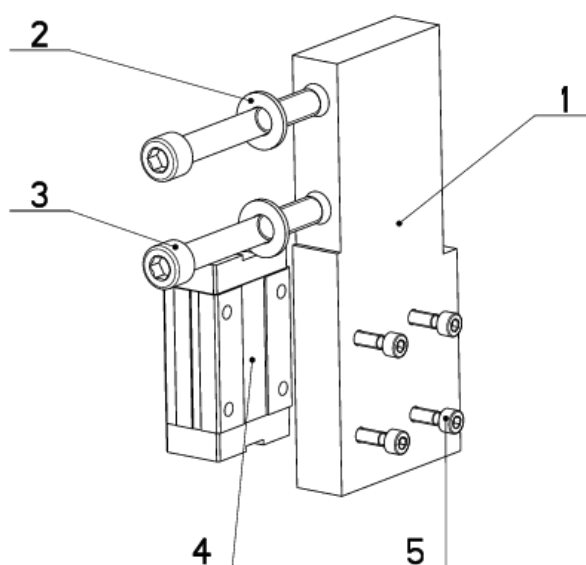
7.34. Kusovník / Piece list / Stückliste - Napínání / Spannung / Tensioning

Císlo Sestavy 201.M308-100		Ver.	Název sestavy NAPINANI/TENSIONING/SPANNUNG	
Poz	Objednací číslo	Ver.	Název položky	Rozmer Ks
1	30.0808-001	1	KOSTKA NAPINANI / TENSIONING CUBE / BANDSPANNUNGSWÜRFEL	80x30 1
2	30.0808-002	1	LISTA VODICI / LEAD TRIM / FÜHRUNGSLISTE	30x20 2
3	30.0808-006	1	LISTA / TRIM / LEISTE	HR 30x10 2
4	30.0808-007	0	SROUB / BOLT / SCHRAUBE	M8x60 1
5	30.1708-004	4	DRZAK / HOLDER / HALTER	HR 20x8 1
6	30.2908-001	1	PODLOŽKA / WASHER / UNTERLEGSCHLEIBE	d 50 1
7	30.2908-103	2	KOLO NAPINACI / TENSIONING WHEEL / UMLENKRAD	ODLITEK 1
8	30.4008-001	2	SROUB / BOLT / SCHRAUBE	 1
9	30.4808-101	4	ČEP NAPINANI / TENSIONING LUG / SPANNUNGSBOLZEN	 1
10	30.4808-103	1	KROUZEK DISTANČNÍ / DISTANCE RING / DISTANZRING	TR 45x5 1
11	30.6908-102	1	DRZAK / HOLDER / HALTER	 1
12	30.M208-001	0	KROUZEK / RING / RING	TR 35x6 1
13	90.001.25.052	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x50 6
14	90.002.20.013	0	SROUB STAVEČI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M12x25 1
15	90.011.27.008	0	ZAPUSTNÝ IMBUS / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M10x20 1
16	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE - M8 1
17	90.300.07.003	0	KOLÍK VALC. KAL. / CYLINDRICAL PIN TEMPERED / ZYLINDERSTIFT GEHÄRTET	KOLÍK 16x80 1
18	90.350.07.002	0	PRŮŽINA TALÍROVÁ / DISC SPRING / TELLERFEDER	35,5x18,3x2,0x2,8 6
19	95.001.026	0	LOŽISKO / BEARING / LAGER	6307 2RS 2
20	95.800.014	0	SEGR HRÍDEL. / OUTSIDE SAFETY RING / SICHERUNGSRING AUSSEN	POJISTNÝ KROUZEK 35 1
21	95.801.013	0	SEGR DÍRA / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNÝ KROUZEK 80 2

I.ZRUSEN KROUZEK 30.3508-004 A NAHR.30.M208-001. 0177ZM050 13.2.2017 SLEZACKOVA

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Pos./Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.35. Konzola / Konsole / Console



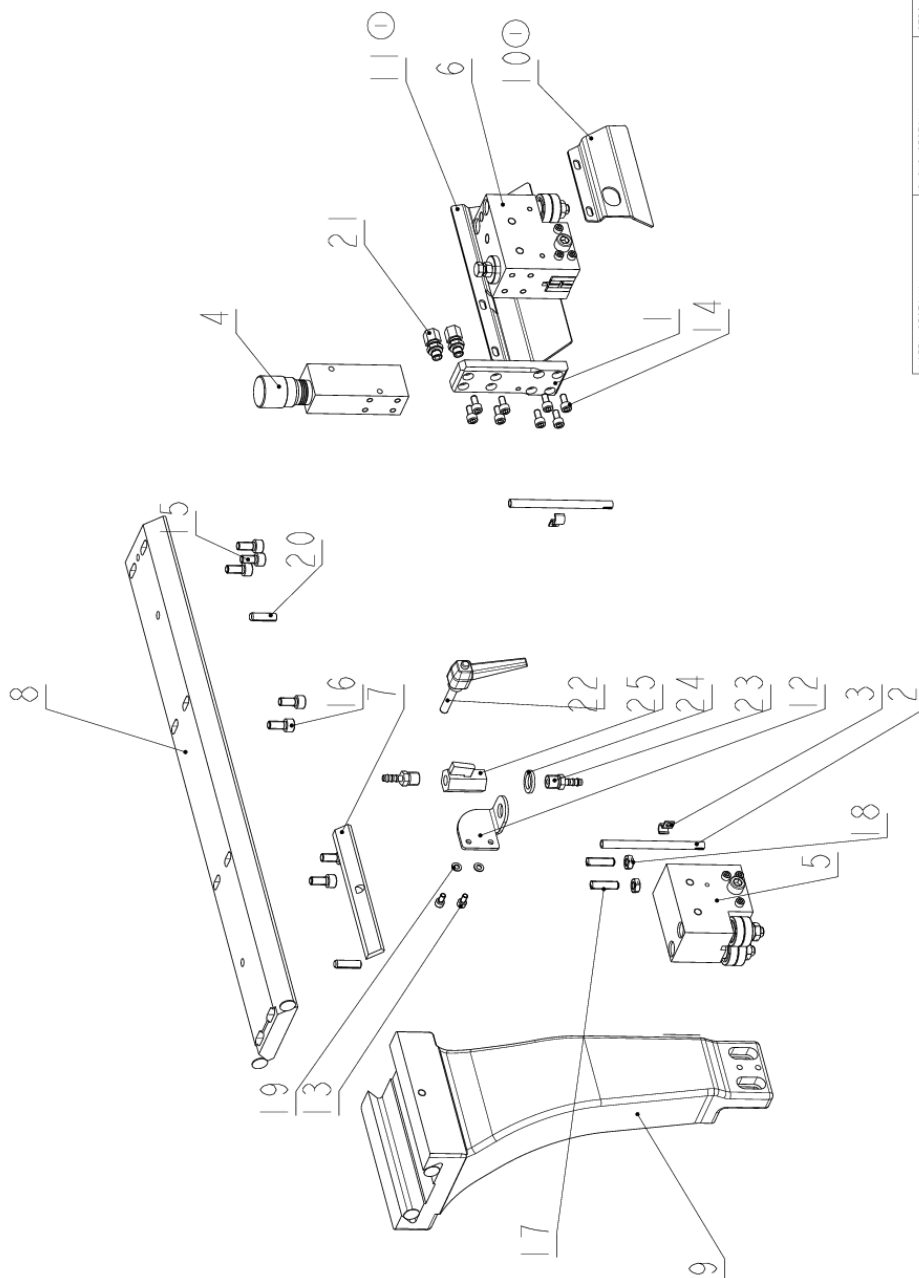
NAZEV SESTAVY KONZOLA	CISLO SESTAVY 201.R304-040	STROJ PL350
	Konstruoval: ODVARKA	
	Datum: 09. 04.2018	
	Meritko: 1:2	

7.36. Kusovník / Piece list / Stückliste - Konzola / Konsole / Console

Císlo Sestavy 201.R304-040		Ver. 0	Název sestavy KONZOLA / CONSOLE / KONSOLE	
Poz.	Objednací číslo	Ver.	Název položky	Ks
1	30.R204-041	0	KONZOLA / CONSOLE / KONSOLE	1
2	90.150.50.006	0	PODLOŽKA / WASHER / UNTERLEGSCHIBE	2
3	90.001.25.113	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	2
4	99.201.060	0	VOZÍK LINEÁRNÍHO VEDENÍ / LINEAR GUIDE CART / LINEARFÜHRUNGSWAGEN	1
5	90.001.25.010	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	4

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.37. Vedení pásu / Sägebandführung / Band guiding



NAZEV SESTAVY VEDENÍ PÁSU	CÍSLO SESTAVY 201.R310-000	STROJ prolin350
Konstruoval: VINOHRADSKÝ		
Datum: 14. 05.2014		
Měřitko: 1:4		

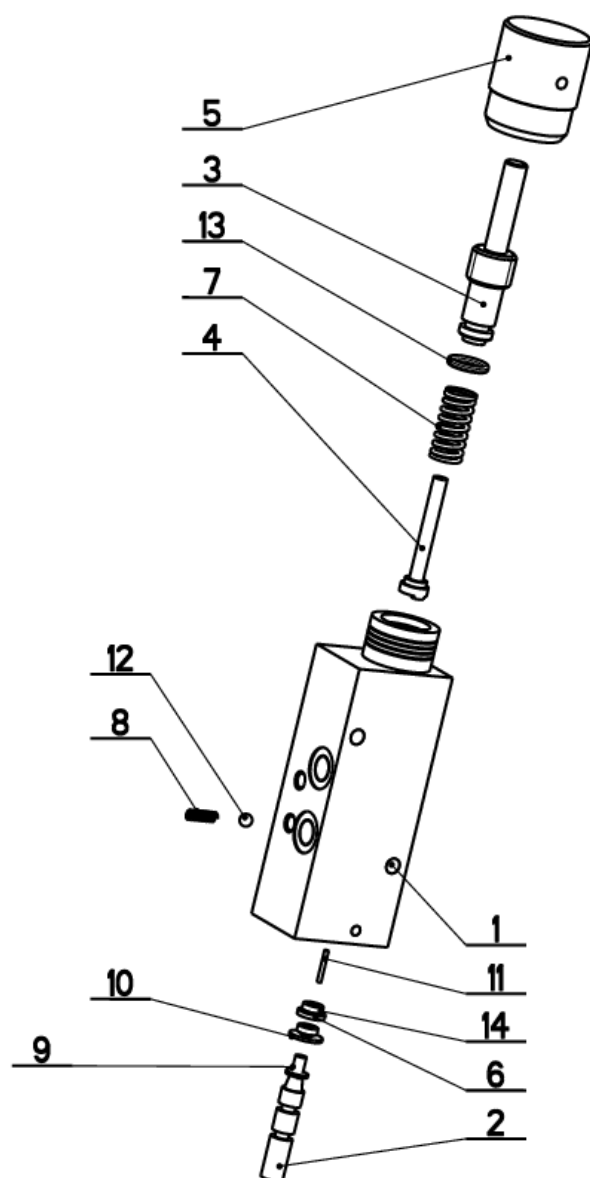
7.38. Kusovník / Piece list / Stückliste - Vedení pásu / Sägebandführung / Band guiding

Císlo Sestavy 201.R310-000		Ver. 1	Název sestavy VEDENÍ PASU/BELT GUIDE/SÄGEBANDFÜHRUNG		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.2016-006	0	DESKA / BOARD / PLATTE	HR 40x12	1
2	30.3510-004	0	TRUBKA / TUBE / ROHR	TR 8x 1	2
3	30.9010-003	0	DRŽAK / HOLDER / HALTER	PL 5x10	2
4	201.2016-000	0	REGULACE PRÍTLAKU / PRESSURE REGULATION / SCHNITTDRUCKREGULATION		1
5	201.Y310-300	1	KOSTKA VODICÍ / LEAD CUBE / FÜHRUNGSKLOTZ		1
6	201.Y310-400	1	KOSTKA VODICÍ / LEAD CUBE / FÜHRUNGSKLOTZ		1
7	30.M210-008	0	LISTA / TRIM / LEISTE	HR 25x6	1
8	30.M310-002	3	LISTA VODICÍ / LEAD TRIM / FÜHRUNGSLISTE	HR 90x20	1
9	30.M310-004	1	KONZOLA / CONSOLE / KONSOLE		1
10	30.M310-056 ①	0	KRYT PASU / BELT COVER / BANDABDECKUNG	P 2x95	1
11	30.M310-057 ①	0	KRYT PASU / BELT COVER / BANDABDECKUNG	P 2x95	1
12	30.Y310-008	0	DRŽAK / HOLDER / HALTER	P3-50	1
13	90.001.25.007	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5x10	2
14	90.001.25.016	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x12	8
15	90.001.25.031	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x16	1
16	90.001.25.105	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x18	6
17	90.002.20.022	0	SROUB STAVEČÍ / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M8x30	2
18	90.101.55.001	0	MATICE / NUT / MUTTER	MATICE M8	2
19	90.150.50.003	0	PODLOŽKA / WASHER / UNTERLEGSCHETBE	PODLOŽKA 5,3	2
20	90.303.02.021	0	KOLÍK PRUŽNÝ / PIN / BOLZEN	KOLÍK 8x28	2
21	92.002.102	0	SROUBENÍ / BOLTING / VERSCHRAUBUNG	S-GEV-8LLR	2
22	94.008.003	0	PAKA UPÍNACÍ / ATTACHMENT LEVER / SPANNHEBEL	M8x40	1
23	94.202.002	0	REDUKCE / REDUCTION / ADAPTOR / REDUKTION	REDUKCE 6/R1/4"	2
24	96.081.001	0	KROUZEK TESNICÍ / SEAL RING / DICHTUNGSRING	23x15x3	1
25	99.260.003	0	VENTIL / VALVE / VENTIL	1/4"	1

1.ZRUS.KRYT PASU 30.M310-006 A NAHR.30.M310-056.ZRUS.KRYT PASU 30.M310-007 A NAHR.30.M310-057.
090/ZM108 15.5.2014 SLEZACKOVA

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.39. Regulace přítaku/ Pressure regulation/ Schnittdruckregulation



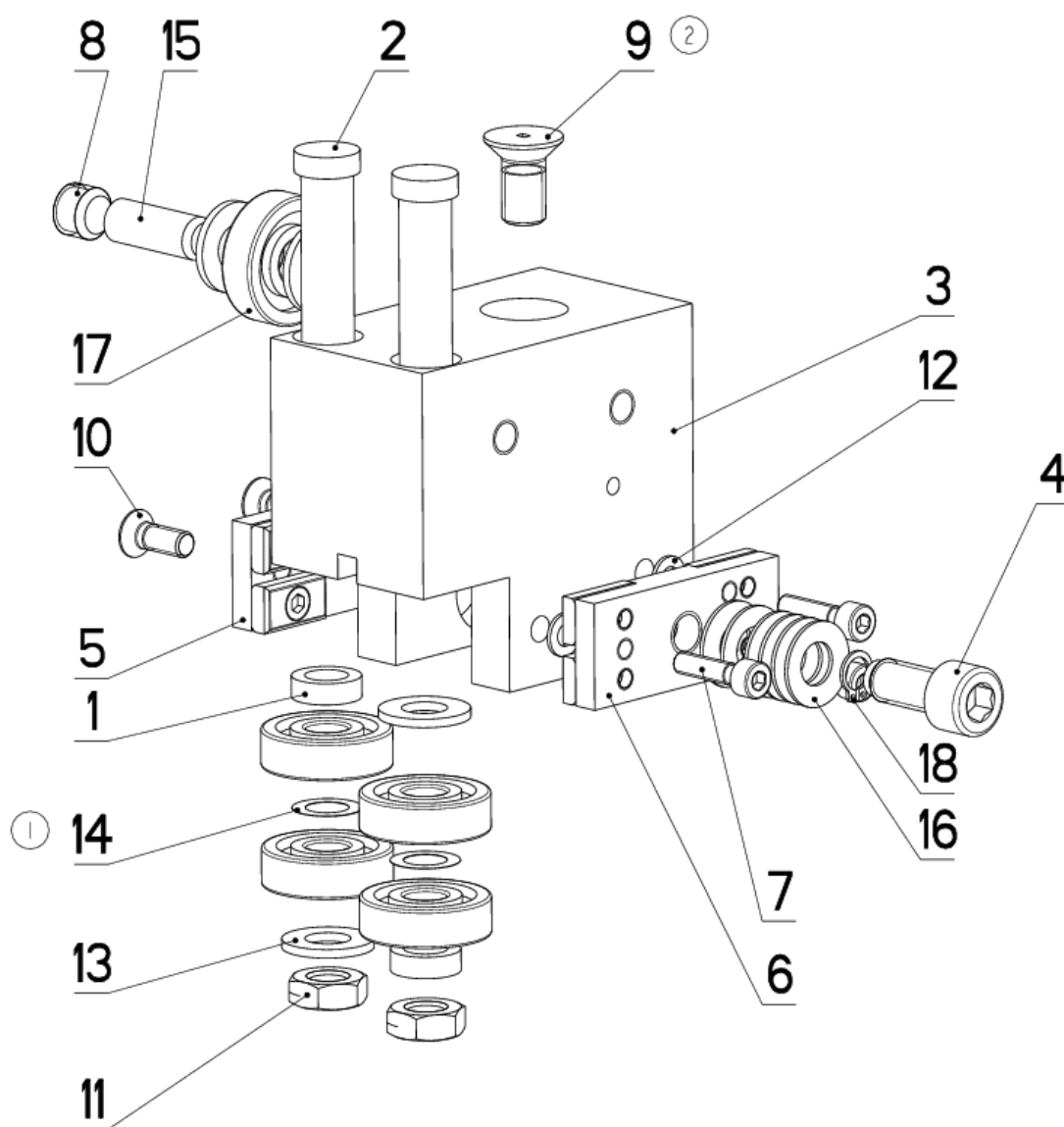
NAZEV SESTAVY REGULACE PRITLAKU	CISLO SESTAVY 001.2016-000	STROJ STG340DGS
	Konstruoval: &konstruoval	
	Datum: 19. 02.2010	
	Meritko: 1:2	

7.40. Kusovník / Piece list / Stückliste -Regulace přítlaku/ Pressure regulation/ Schnittdruckregulation

Císlo Sestavy 201.2016-000		Ver. 0	Název sestavy REGULACE PŘÍTLAKU/PRESSURE REGULATION/SCHNITTDRUCKREGULATION		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.2016-001	2	TELESO / BODY / KÖRPER	HR 40 x 40	1
2	30.2016-002	0	JEHLA / NEEDLE / NADEL	KR 8	1
3	30.2016-003	0	SROUB / BOLT / SCHRAUBE	d 16	1
4	30.2016-004	0	CÍDLO / SENSOR / SENSOR	d 10	1
5	30.2016-005	0	KOLEČKO / WHEEL / ROLLE	d 32	1
6	30.2016-009	0	KROUZEK / RING / RING	TR 10x1	1
7	31.2016-007	0	PRUŽINA / SPRING / FEDER	d 11.6x11.6	1
8	31.2016-008	0	PRUŽINA / SPRING / FEDER	0.25x3.6x12x9.5	1
9	90.099.002	0	SROUB PULKULATY / HALF ROUND BOLT / HALBRUNDSCHRAUBE	4x6	1
10	90.151.50.003	0	PODLOŽKA / WASHER / UNTERLEGSCHIEBE	PODLOŽKA 4	1
11	95.690.001	0	JEHLA / NEEDLE / NADEL	1.5x11.8	1
12	95.691.001	0	KULICKÁ LOŽISKA / BALL / KUGEL	RB 4.5	1
13	96.001.003	0	KROUZEK O STATICKY / STATIC O RING / O-RING STATISCH	8x2	1
14	96.002.001	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	4x2	2

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.41. Kostka vodící / Führungsklotz / Lead cube



NAZEV SESTAVY KOSTKA VODICI	CISLO SESTAVY 201.Y310-300	STROJ IND360
	Konstruoval: HLADIL	
	Datum: 05. 01. 2017	
	Meritko: 4:5	

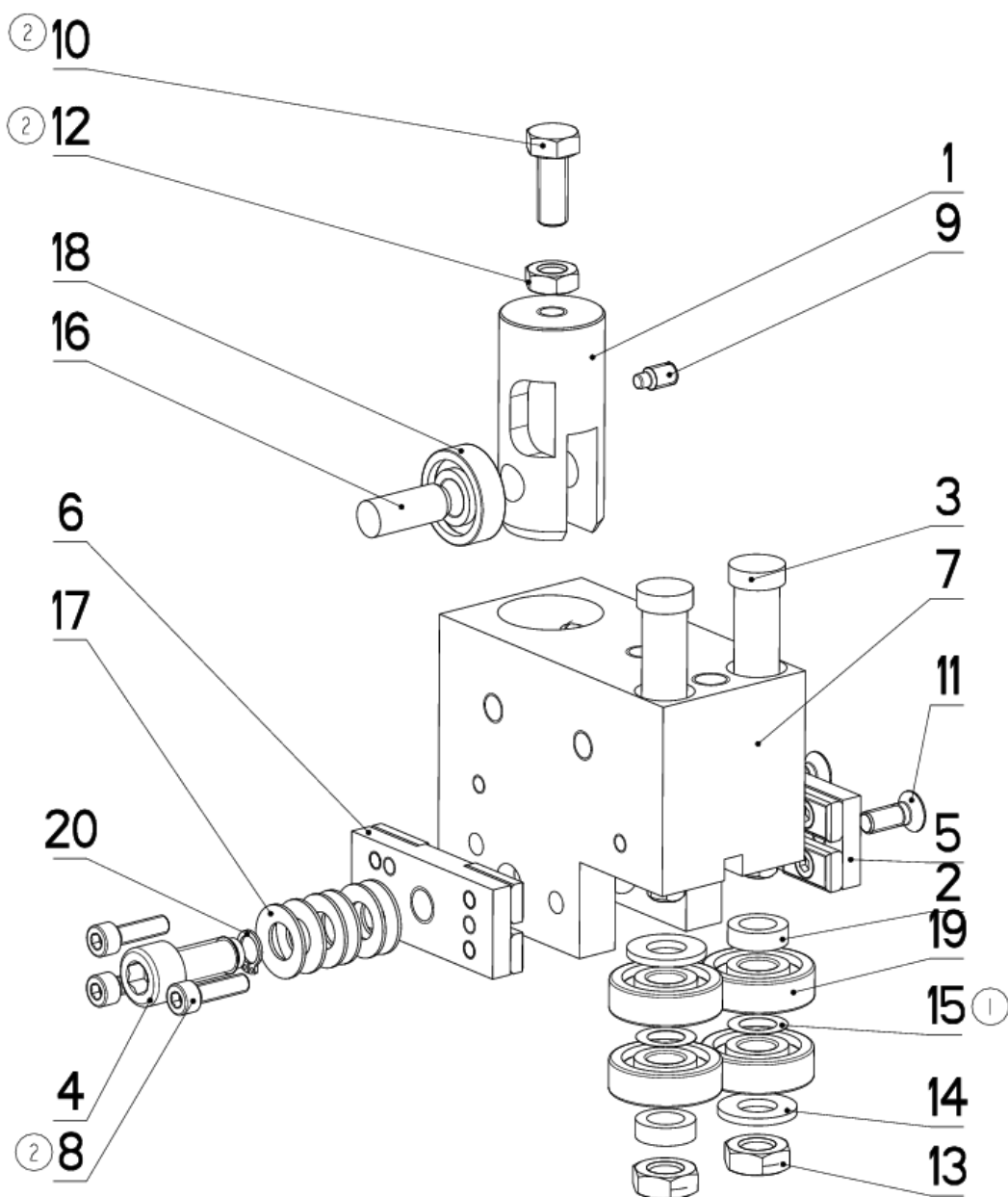
7.42. Kusovník / Piece list / Stückliste - Kostka vodící / Führungsklotz / Lead cube

Císlo Sestavy 201.Y310-300	Ver. 2	Název sestavy KOSTKA VODÍCI / LEAD CUBE / FÜHRUNGSKLOTZ			
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.C210-403	1	DISTANC / DISTANCE / DISTANZ	TR 16x3	2
2	30.Y310-212	2	EXCENTR / CAM / EXCENTER	d 15	2
3	30.Y310-301	3	KOSTKA VODÍCI / LEAD CUBE / FÜHRUNGSKLOTZ	HR 80x50	1
4	30.Y310-306	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x25	1
5	30.Y310-310	0	DRŽÁK TVRDOKOVU / POA HOLDER / HM-HALTER		1
6	30.Y310-320	0	DRŽÁK TVRDOKOVU / POA HOLDER / HM-HALTER		1
7	90.001.25.010	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5x20	3
8	90.002.20.016	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M12x10	1
9	90.011.27.008 (2)	0	SROUB ZAPUSTNÝ / COUNTERSINK BOLT / SENKSCHEIBE	SROUB M10x20	1
10	90.011.27.017	0	SROUB ZAPUSTNÝ / COUNTERSINK BOLT / SENKSCHEIBE	SROUB M6x16	2
11	90.101.55.002	0	MATICE / NUT / MUTTER	MATICE M10	2
12	90.150.50.003	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	PODLOŽKA 5,3	3
13	90.150.50.006	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	PODLOŽKA 10,5	4
14	90.154.50.001 (1)	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	10x16x0,1	2
15	90.301.02.001	0	KOLÍK VALCOVÝ / CYLINDRICAL PIN SOFT / ZYLINDERSTIFT WEICH	KOLÍK 10x28	1
16	90.350.02.005	0	PRŮŽINA TALIROVÁ / DISC SPRING / TELLERFEDER	20x10.2x1	6
17	95.001.014	0	LOŽISKO / BEARING / LAGER	6200 2RS	5
18	95.800.002	0	SEGR HRDEL. / OUTSIDE SAFETY RING / SICHERUNGSRING AUSSEN	POJISTNÝ KROUZEK 8	1
1. PRIDANA PODLOŽKA 90.154.50.001. 277/ZM294 1.11.2010 SLEZACKOVA					
2. PRIDAN 1xSROUB ZAPUSTNÝ M10x20 90.011.27.008. 003/ZM004 4.1.2016 SLEZACKOVA					

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Pos.)/Position/Position; Objednací číslo/Purchase order number/Bestellnummer; Verze položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Pos./Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.43. Kostka vodící / Führungsklotz / Lead cube



NAZEV SESTAVY KOSTKA VODICI	CISLO SESTAVY 201.Y310-400	STROJ IN360
	Konstruoval: HLADIL	
	Datum: 05. 02.2016	
	Meritko: 7:10	

7.44. Kusovník / Piece list / Stückliste - Kostka vodící / Führungsklotz / Lead cube

Císlo Sestavy 201.Y310-400		Ver. 2	Název sestavy KOSTKA VODÍCI / LEAD CUBE / FÜHRUNGSKLOTZ		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.1810-102	3	DRŽAK / HOLDER / HALTER	TYC 28	1
2	30.0210-403	1	DISTANC / DISTANCE / DISTANZ	TR 16x3	2
3	30.Y310-212	2	EXCENTR / CAM / EXZENTER	d 15	2
4	30.Y310-306	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x25	1
5	30.Y310-310	0	DRŽAK TVRDOVOU / POA HOLDER / HW-HALTER		1
6	30.Y310-320	0	DRŽAK TVRDOVOU / POA HOLDER / HW-HALTER		1
7	30.Y310-401	4	KOSTKA VODÍCI / LEAD CUBE / FÜHRUNGSKLOTZ	HR 80x50	1
8	90.001.25.143 (2)	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5x18	3
9	90.004.20.002	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M6x12	1
10	90.005.55.015 (2)	0	SROUB 6HRANNÝ / 6 SIDED BOLT / SECHSMANTSCHRAUBE	SROUB M8x20	1
11	90.011.27.017	0	SROUB ZAPUSTNÝ / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M6x16	2
12	90.101.55.001 (2)	0	MATICE / NUT / MUTTER	MATICE M8	1
13	90.101.55.002	0	MATICE / NUT / MUTTER	MATICE M10	2
14	90.150.50.006	0	PODLOŽKA / WASHER / UNTERLEGSCHLEIBE	PODLOŽKA 10,5	2
15	90.154.50.001 (1)	0	PODLOŽKA / WASHER / UNTERLEGSCHLEIBE	10x16x0,1	2
16	90.301.02.009	0	KOLÍK VALCOVÝ / CYLINDRICAL PIN SOFT / ZYLINDERSTIFT WEICH	KOLÍK 10x26	1
17	90.350.02.005	0	PRUŽINA TALIROVÁ / DISC SPRING / TELLERFEDER	20x10.2x1	6
18	95.001.004	0	LOŽISKO / BEARING / LAGER	6000 2RS	1
19	95.001.014	0	LOŽISKO / BEARING / LAGER	6200 2RS	4
20	95.800.002	0	SEGR HRIDEL / OUTSIDE SAFETY RING / SICHERUNGSRING AUSSEN	POJISTNÝ KROUZEK 8	1

1. PRIDANA PODLOŽKA 90.154.50.001 .277/ZM294 1.11.2010 SLEZACKOVA
2. ZRUS.SROUB M8x30(90.005.55.017) A NAHR.M8x20(90.005.55.015),ZRUS.MATICE M8(90.100.55.005) A NAHR.MATICE M8(90.101.55.001),ZRUS.SROUB M5x20(90.001.25.010) A NAHR.M8x18(90.001.25.143). 021/ZM041 5.2.2016 SLEZACKOVA

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version); Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position);
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

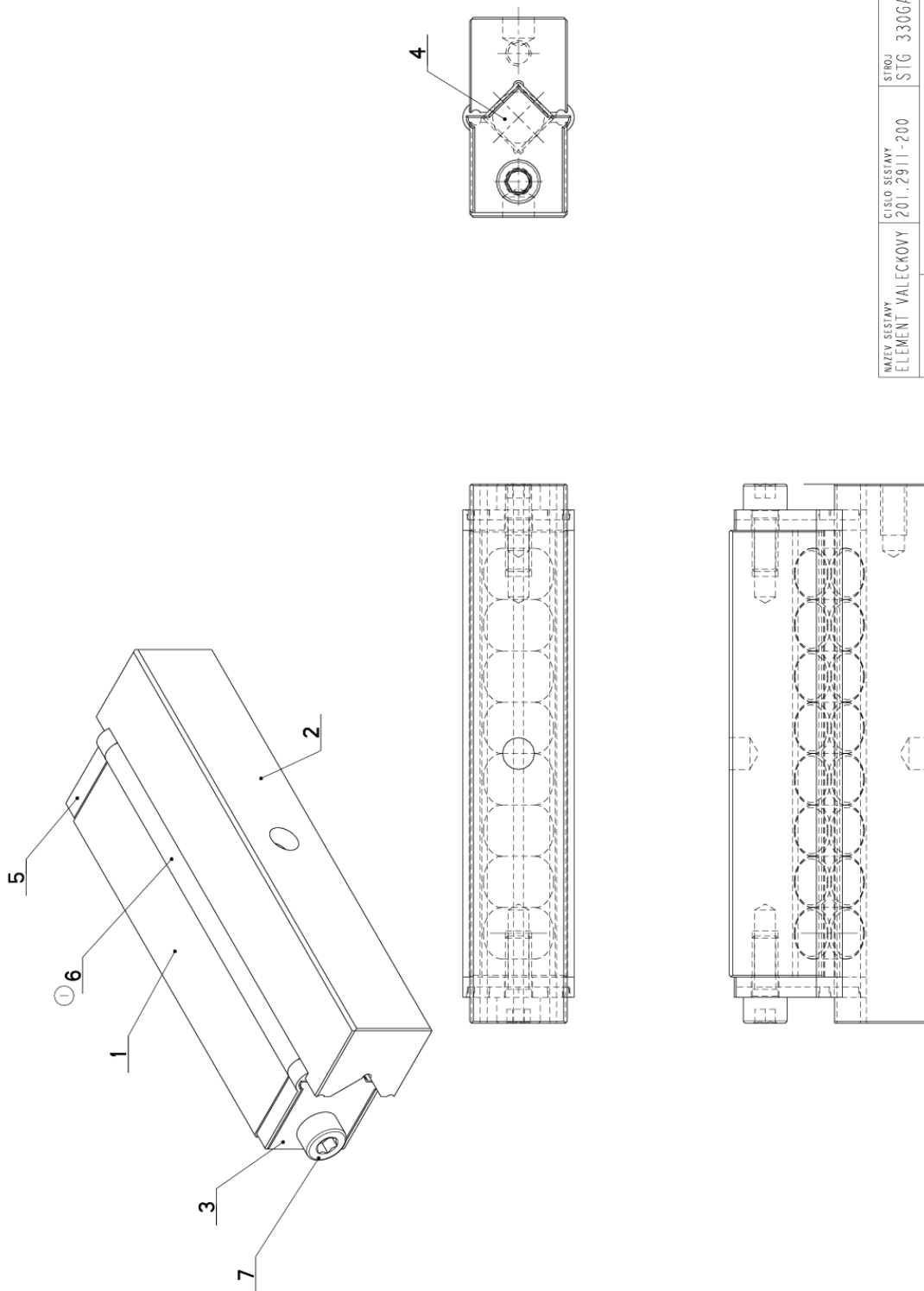
7.46. Kusovník / Piece list / Stückliste - Podavač / Vorschub / Feeder

Císlo Sestavy 201.2R311-000		Ver. 1	Název sestavy PODAVAC/MOUNTING/LAGERUNG			
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks	
1	201.2911-200	1	ELEMENT VALECKÝ / ROLLER ELEMENT / ROLLENELEMENT		4	
2	201.2R311-005	0	VALEC / ROLLER / ZYLINDER		1	
3	201.2R411-230	0	ZAVORA OPTICKÁ / OPTICAL GATE / LICHTSCHRANKE		1	
4	30.2911-029	0	DRŽÁK / HOLDER / HALTER	HR 50x50	1	
5	30.2911-030	0	STERAC / WIPER / ABSTREIFER	P 0.2-26.5	2	
6	30.2R311-001	2	PODAVAC / FEEDER / VORSCHUB		1	
7	30.2R311-002	1	RAMENO PODAVACE / FEEDER SHOULDER / VORSCHUBARM		1	
8	30.2R311-003	0	CELIST POHYBLIVÁ / MOVING JAW / BEWEGLICHE BACKE		1	
9	30.6007-107	0	PŘÍLOŽKA / STRAP / LASCHÉ	P 12x80	1	
10	30.0311-235	2	LISTA / TRIM / LEISTE	HR 30x10	4	
11	90.001.25.023	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x50	2	
12	90.001.25.060	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x40	4	
13	90.001.25.104	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x22	8	
14	90.001.55.086	0	SROUB IMBUS ZN / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M4x6	2	
15	90.002.20.013	0	SROUB STAVECÍ / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M8x25	12	
16	90.004.20.019	0	SROUB STAVECÍ / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M16x40	1	
17	90.011.27.007	0	SROUB / BOLT / SCHRAUBE	M8x12	12	
18	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE - M8	12	
19	91.270.011	0	SWIMAC MAGNET. / MAGNETIC SENSOR / MAGNETSENSOR	LW12-026-08.0-1-00	1	
20	95.700.004	0	POUZDRO / SLEEVE / BÜCHSE	20x20	1	
21	95.800.021	0	SEGR HRDEL. / OUTSIDE SAFETY RING / SICHERUNGSRING AUSSEN	POJISTNÝ KROUŽEK 62	2	
22	99.200.490	0	VEDENÍ LINEARNÍ / LINEAR GUIDE / LINEARE FÜHRUNG	MSA30T	1	
23	99.201.046	0	VEDENÍ LINEARNÍ / LINEAR GUIDE / LINEARE FÜHRUNG	MSA25E SS FO N	3	
24	99.201.058	0	VOZÍK LINEARNÍHO VEDENÍ / LINEAR GUIDE CART / LINEARFÜHRUNGSWAGEN	MSA30E SS FO N	2	

1. ZRUSENA ZAVORA 201.2R311-030 A NAHRAZENA ZAVOROU 201.2R411-230. 246/ZM347 20.08.2019 BENDA

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.47. Element válečkový/ Roller element/ Rollenelement



NAZEV SOUSTAVY ELEMENT VÁLEČKOVÝ	ČÍSLO SOUSTAVY 201.29111-200	STROJ STG 330GA
Konstruoval: ***		
Datum: 22. 11. 2017		
Meritko: 3:2		

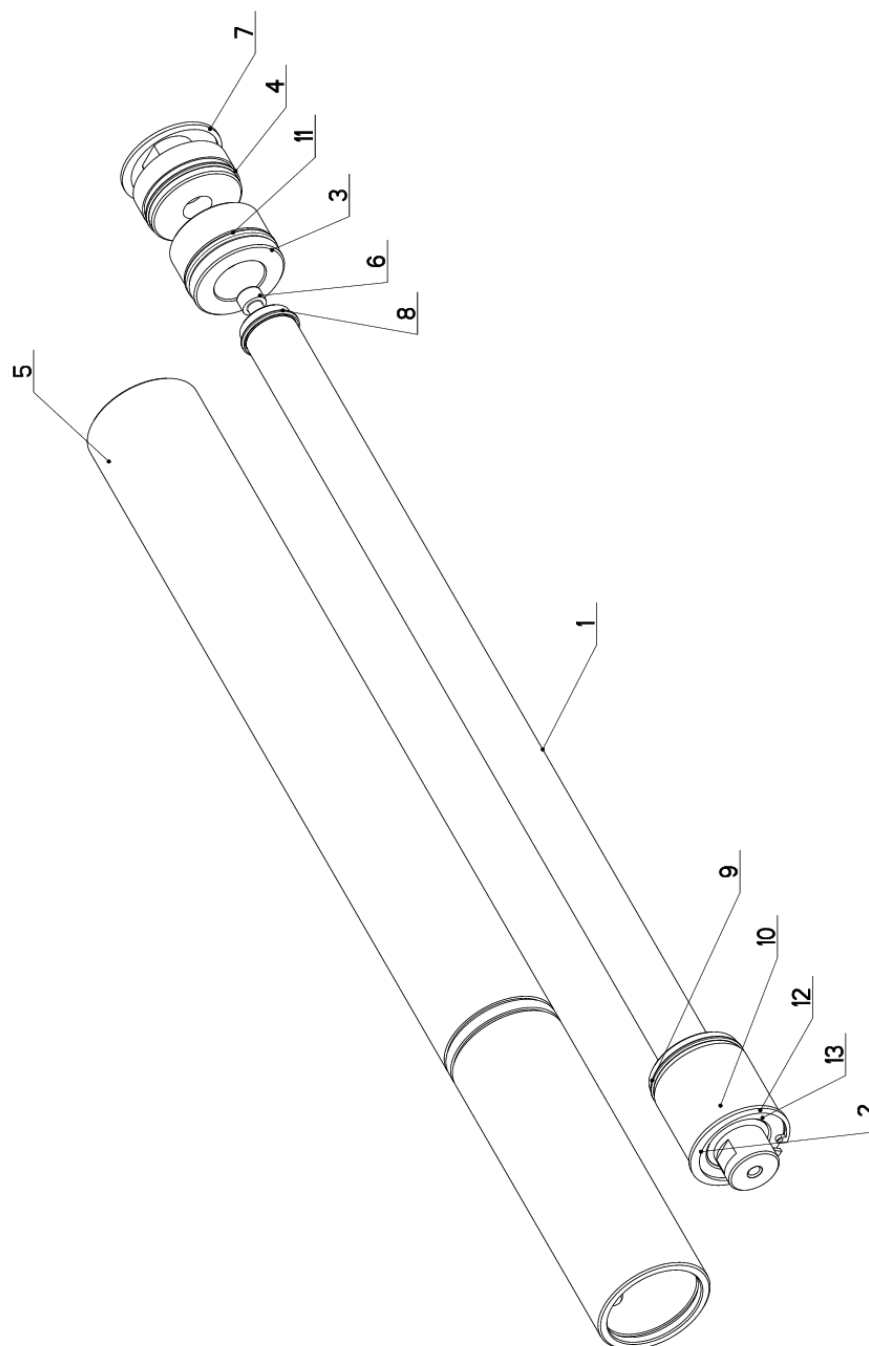
7.48. Kusovník / Piece list / Stückliste - Element válečkový/ Roller element/ Rollenelement

Císlo Sestavy 201.2911-200		Ver. 0	Název sestavy ELEMENT VALEČKOVÝ/ROLLER ELEMENT/ROLLENELEMENT		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.2911-201	1	LISTA / TRIM / LEISTE	HR 20x20	1
2	30.2911-202	1	LISTA / TRIM / LEISTE	HR 20x20	1
3	30.2911-206	0	PŘÍLOŽKA / STRAP / LASCHE	P 2x20	2
4	30.4311-203	0	VALEČEK / CYLINDER / ROLLE	d 10	8
5	31.2911-204	0	STERAC / WIPER / ABSTREIFER	PLAST. VYLÍSEK	2
6	89.2911-205	0	PRACHOVKA / DUST COVER / STAUBSCHUTZ	VYLÍSEK PLAST	2
7	90.001.25.008	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5x12	2

I.ZM.ČÍSLOVANÍ 31.2911-205 NA 89.2911-205; 129/ZM233 4.7.2018 SCERBA

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.49. Válec / Zylinder / Cylinder



NAZEV SOUSTAVY VÁLEC	ČÍSLO SOUSTAVY 201.2R311-005	STROJ PL350
Konstruoval: FABER		
Datum: 18. 04.2016		
Měřitko: 1:5		

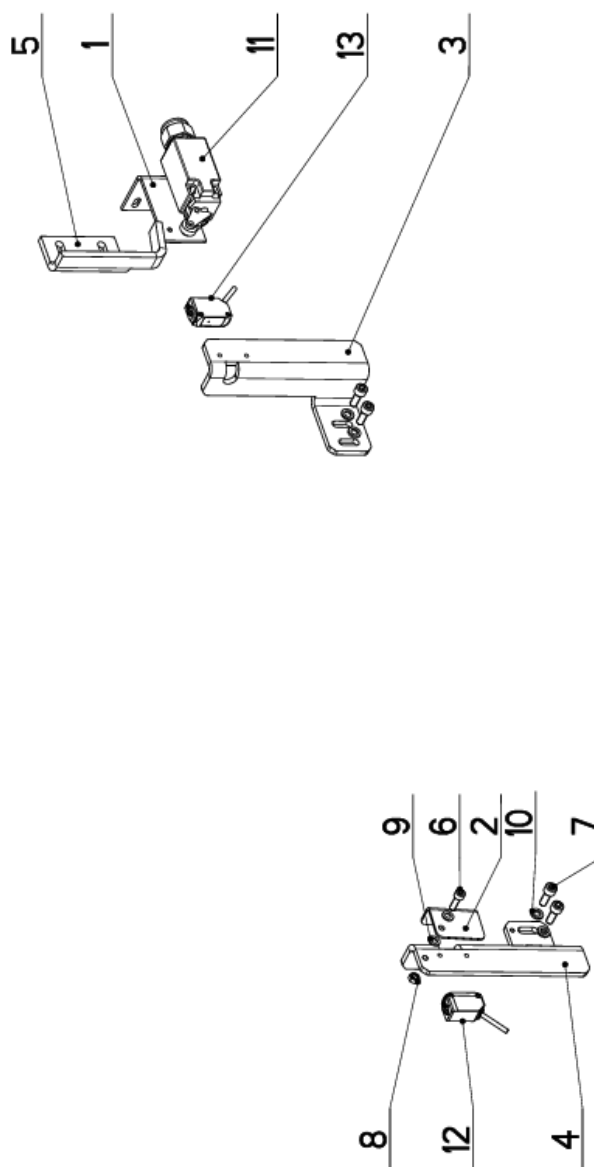
7.50. Kusovník / Piece list / Stückliste - Válec / Zylinder / Cylinder

Cislo Sestavy 201.2R311-005		Ver. 0	Nazev sestavy VALEC/ROLLER/ZYLINDER		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.0607-102	2	PISTNICE / PISTON ROD / KOLBENSTANGE	d 28	1
2	30.1807-104	2	VIKO / COVER / DECKEL	TYC 55	1
3	30.2007-302	0	PIST / PISTON / KOLBEN	d 55	1
4	30.2007-304	1	VIKO / COVER / DECKEL	d 55	1
5	30.2R311-006	0	VALEC SVERAKU / VICE CYLINDER / SCHRAUBSTOCKZYLINDER	TR 62/50H8	1
6	90.001.55.083	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x30	1
7	95.801.009	0	SEGR DIRA / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNY KROUZEK 52	2
8	96.001.007	0	O-KROUZEK STATIC / STATIC O RING / O-RING STATISCH	25x2 NBR 70SH	1
9	96.001.013	0	O-KROUZEK STATIC / STATIC O RING / O-RING STATISCH	45x2	2
10	96.002.014	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	28x3	1
11	96.020.005	0	KROUZEK TESNICI / DYNAMIC O RING / O-RING DYNAMISCH	39.2x5.33	1
12	96.041.003		TESNENI / SEALING / DICHTUNG	601-28x36x7.1	1
13	96.060.003	0	KROUZEK STIRACI / SCRAPER RING / ABSTREIFRING	KROUZEK STIRACI 28	1

Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

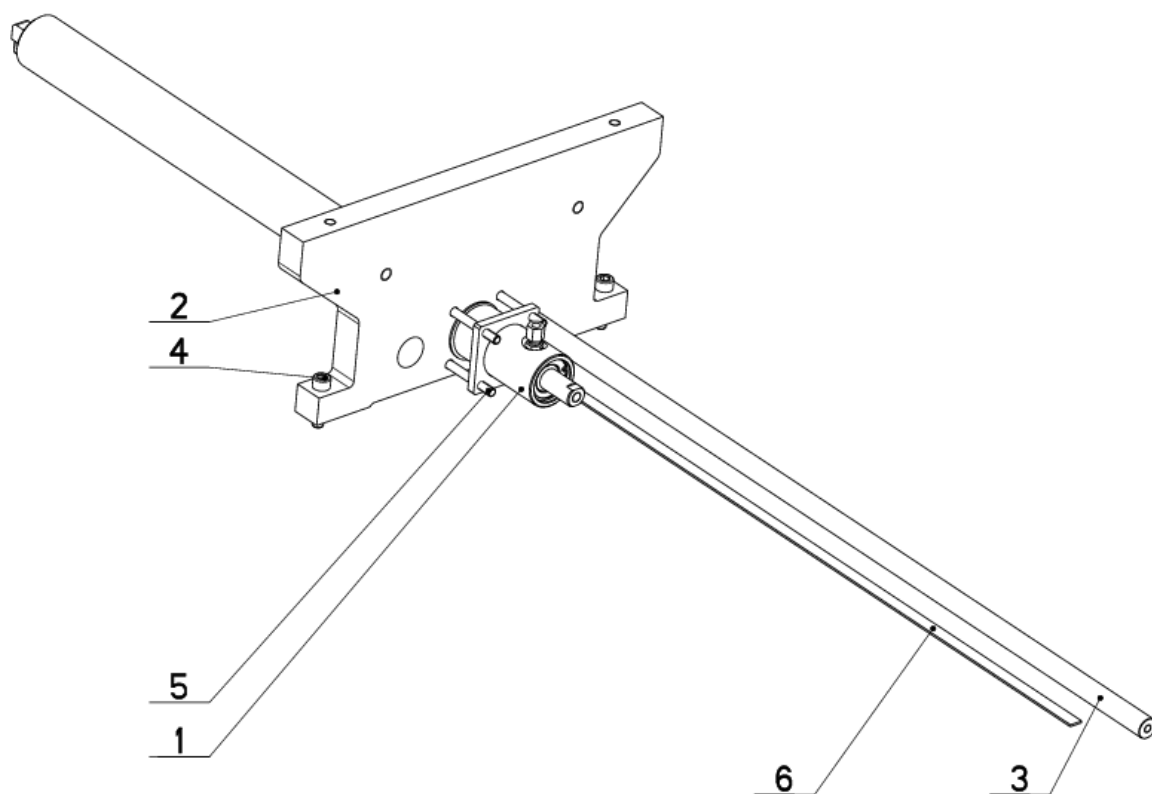
7.51. Závora optická / Lichtschanke / Optical gate

Cislo Sestavy 201.2R411-230		Ver. 0	Název sestavy ZÁVORA OPTICKÁ/OPTICAL GATE/LICHTSCHANKE		Rozměr	Ks
Poz.	Objednací číslo	Ver.	Název položky			
1	30.2R311-031	0	DRŽÁK / HOLDER / HALTER		P 3x40	1
2	30.2R311-134	0	KRYT / HOLDER / HALTER		P 2x45	1
3	30.2R311-135	0	PLECH / HOLDER / HALTER		P 5x125	1
4	30.2R311-136	0	PLECH / HOLDER / HALTER		P 5x125	1
5	30.R311-033	0	DORAZ / HOLDER / HALTER		P 6x56	1
6	90.001.25.009	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE		M5x16	1
7	90.001.25.017	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE		M6x16	4
8	90.100.55.003	0	MATICE / NUT / MUTTER		MATICE - M5	1
9	90.150.50.003	0	PODLOŽKA / WASHER / UNTERLEGSCHIEBE		PODLOŽKA 5, 3	2
10	90.163.00.012	0	PODLOŽKA / WASHER / UNTERLEGSCHIEBE		NORD-LOCK	4
11	91.173.010	0	SPINAC KONČ. S KLADK. / END SWITCH WITH PULLEY / ENDSCHALTER MIT ROLLE		PZ-FR605-M2	1
12	91.401.030	0	SNIMAC OPTICKÝ / OPTICAL SENSOR / OPTISCHER SENSOR		06E701	1
13	91.401.031	0	SNIMAC OPTICKÝ / OPTICAL SENSOR / OPTISCHER SENSOR		06S701	1



Cislo Sestavy/Number of assembly/Nummer der Baugruppe: Verze (Ver./Version/Version: Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.52. Trať/ Track/ Bahn



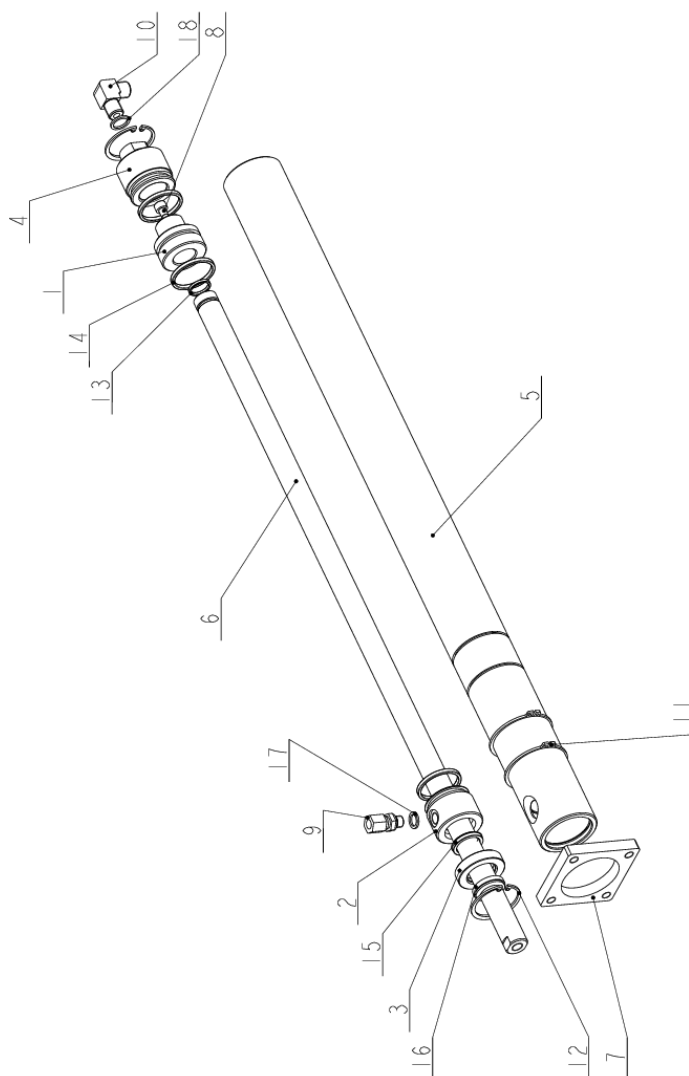
NAZEV SESTAVY TRAT	CISLO SESTAVY 201.2R311-100	STROJ PL350
	Konstruoval: FABER	
	Datum: 14. 04.2016	
	Meritko: 1:5	

7.53. Kusovník / Piece list / Stückliste - Trať/ Track/ Bahn

Císlo Sestavy 201.2R311 - 100		Ver. 0	Název sestavy TRAT/TRACK/BAHN		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	201.2R311-050	0	VALEC SVĚRAKU / VICE CYLINDER / SCHRAUBSTOCKZYLINDER		1
2	30.2R311-102	0	DESKA / BOARD / PLATTE	P 30x202	1
3	30.2R311-103	0	JEDNOTKA ODMEŘOVÁNÍ / MEASURING UNIT / MESSEINHEIT	D 20	1
4	90.001.25.050	0	ŠROUB IMBUS / ALLEN HEAD BOLT / IMBUSCHRAUBE	M10x40	2
5	90.001.25.078	0	ŠROUB IMBUS / ALLEN HEAD BOLT / IMBUSCHRAUBE	M8x90	4
6	91.271.002	0	PÁSKA MAGNETICKÁ / MAGNETIC TAPE / MAGNETBAND	S 10	1

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.54. Válec svěřáku



NAZEV SOUSTAVY VÁLEC SVĚŘÁKU	ČÍSLO SOUSTAVY 201.2R311-050	STROJ PL 350
Konstruoval: FABER		
Datum: 14. 04. 2016		
Meritko: 3:10		

7.55. Kusovník / Piece list / Stückliste - Válec svěráku

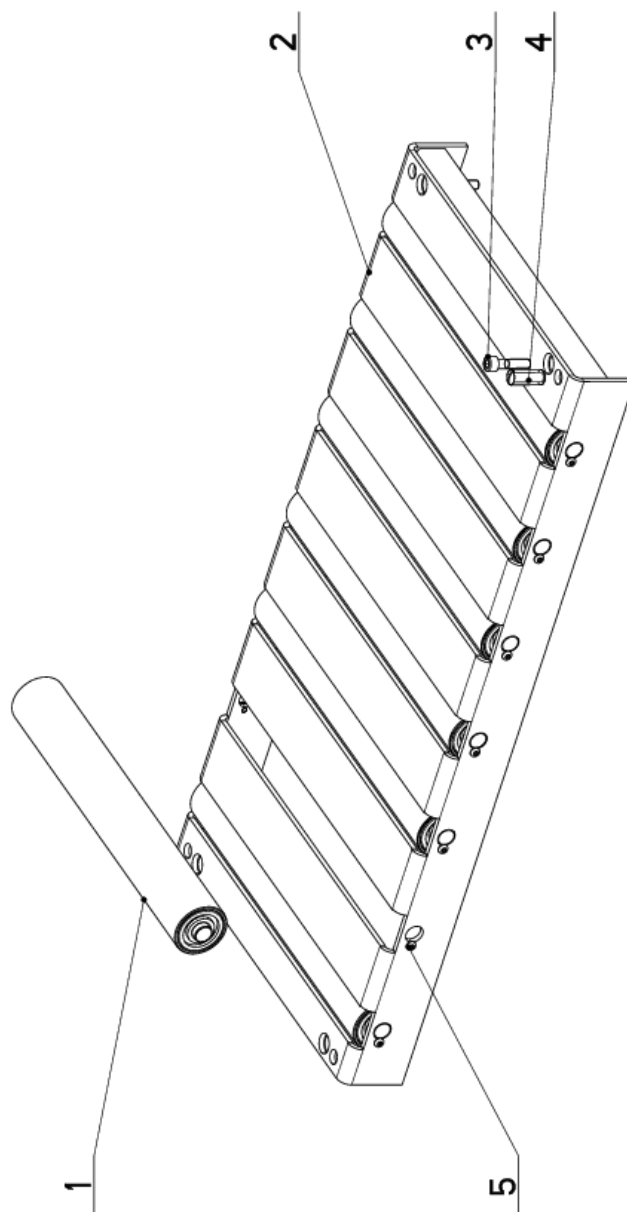
Cislo Sestavy 201.2R311-050		Ver. 0	Název sestavy VALEC SVĚRAKU/VICE CYLINDER/SCHRAUBSTOCKZYLINDER		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.2107-001	0	PIST / PISTON / KOLBEN	d 45	1
2	30.2107-002	0	PŘÍRUBA / FLANGE / FLANSCH	TYC 45	1
3	30.2107-003	0	VÝKO / COVER / DECKEL	d 45	1
4	30.2107-004	0	VÝKO / COVER / DECKEL	d45	1
5	30.20311-051	0	VALEC PODÁVACÍ / FEEDER CYLINDER / VORSCHUBWALZE	TRUBKA 52/40	1
6	30.20311-052	0	PISTNICE / PISTON ROD / KOLBENSTANGE	TYC 20	1
7	30.0311-109	0	PHILOZKA / STRAP / LASCH	HR 70x10	1
8	90.001.25.019	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSHSCRAUBE	M6x25	1
9	92.002.102	0	SROUBENÍ / BOLTING / VERSCHRAUBUNG	S-GEY-8LLH	1
10	92.004.001		SROUBENÍ UHLIČOVÉ / ANGLE BOLTING / WINKELVERSCHRAUBUNG	37701	1
11	95.800.019	0	SEGR HŘÍDEL. / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNÝ KROUZEK 52	2
12	95.801.006	0	SEGR DÍRA / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNÝ KROUZEK 42	2
13	96.002.007	0	KROUZEK O DYNAMICKÝ / DYNAMIC O RING / O-RING DYNAMISCH	16x2 NBR 70SH	1
14	96.002.017	0	KROUZEK O DYNAMICKÝ / DYNAMIC O RING / O-RING DYNAMISCH	34x3 NBR 70SH	3
15	96.041.002	0	TESNENÍ / SEALING / DICHTUNG	20x20x4	1
16	96.060.002	0	KROUZEK STÍRAČI / SCRAPER RING / ABSTREIFRING	KROUZEK STÍRAČI 20	1
17	96.082.001	0	KROUZEK TESNÍCÍ / SEAL RING / DICHTUNGSRING	10/14x1.5 CU	1
18	96.082.002	0	TESNENÍ / SEAL RING / DICHTUNGSRING	13/17x1.5 CU	1

Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position; Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

Cislo Sestavy/Number of assembly/Nummer der Baugruppe: Verze (Ver.)/Version/Version: Název sestavy/Assembly title/Name der Baugruppe: Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.56. Trát/ Track/ Bahn

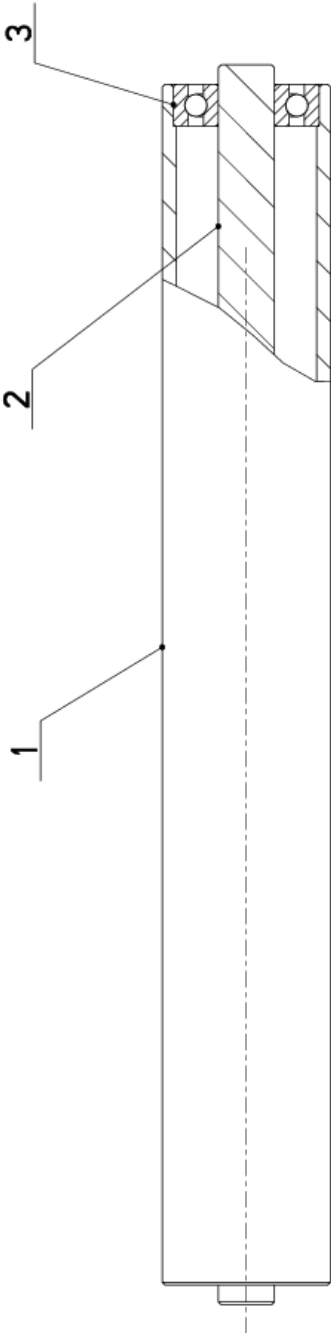
Cislo Sestavy 201.2R312-000		Ver. 0	Nazev sestavy TRAT/TRACK/BAHN		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.2R312-010	0	VALECEK / CYLINDER / ROLLE		7
2	30.2R312-001	0	TRAT / TRACK / BAHN		1
3	90.001.25.050	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x40	4
4	90.002.20.040	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M16x40	4
5	90.013.27.024	0	SROUB PULKULATY / HALF ROUND BOLT / HALBRUNDSCHRAUBE	M6x6	14



Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

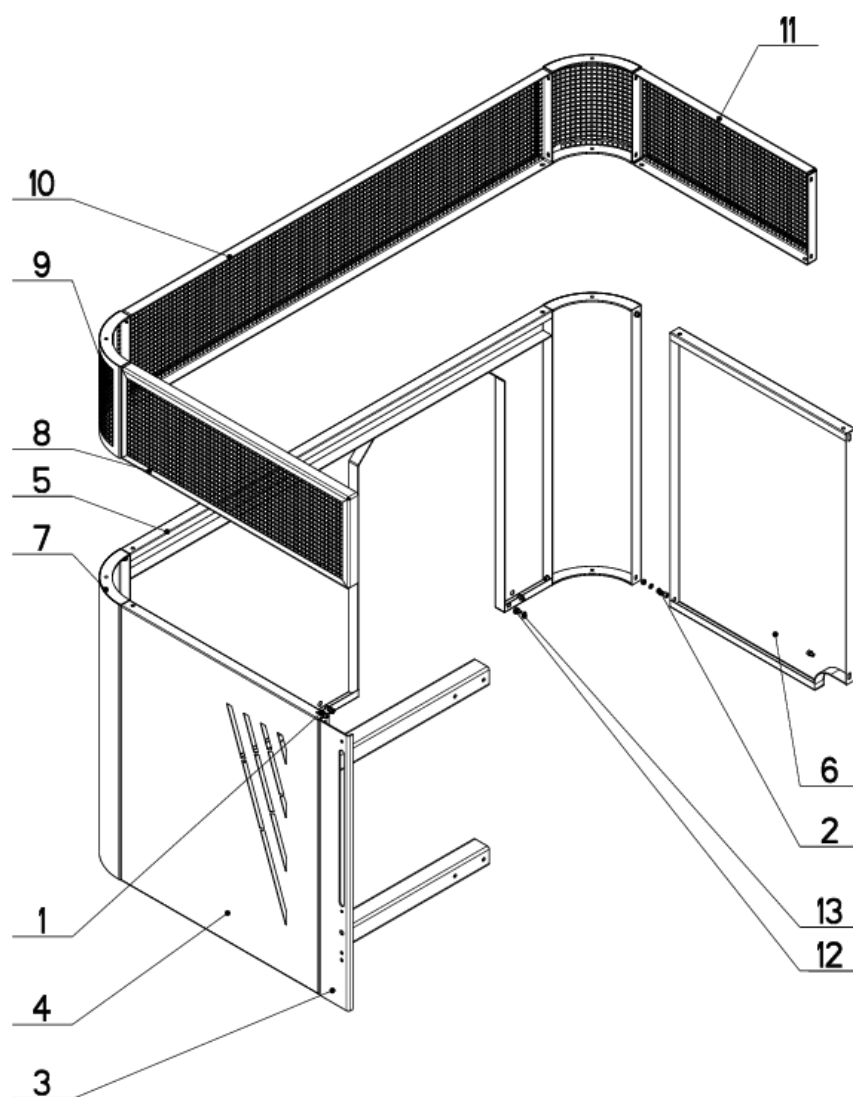
7.57. Váleček/ Rolle/ Cylinder

Císlo Sestavy 201.2R312-010		Ver. 0	Nazev sestavy VALECEK/CYLINDER/ROLLE		
Poz.	Objednací číslo	Ver.	Nazev položky	Rozmer	Ks
1	30.2R312-011	0	TRUBKA / TUBE / ROHR	TR 60x5	1
2	30.2R312-012	0	ČEP / LUG / BOLZEN	d 20	1
3	95.001.024	0	LOŽISKO / BEARING / LAGER	6304 2RSA	2



Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Nazev sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./)Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Nazev položky/Volume title/Name der Position; Rozmer/Stock size/Abmessung

7.58. Kryty/ Covers/ Abdeckung



NAZEV SESTAVY KRYTY	CISLO SESTAVY 201.2R316-000	STROJ PL350
	Konstruoval: FABER	
	Datum: 29. 04.2016	
	Meritko: 2:25	

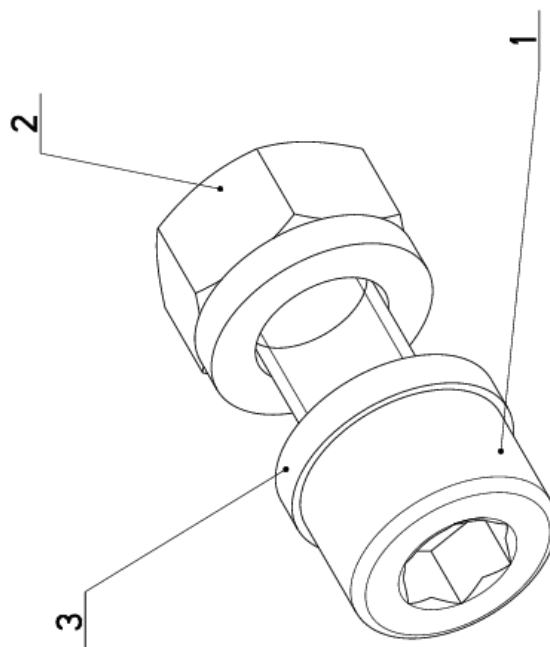
7.59. Kusovník / Piece list / Stückliste - Kryty/ Covers/ Abdeckung

Císlo Sestavy 201.2R316-000		Ver. 0	Název sestavy KRYTY/COVERS/ABDECKUNGEN			
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks	
1	201.2R316-010	0	SPOJKA / JOINT / KUPPLUNG		4	
2	201.2R316-011	0	SPOJKA / JOINT / KUPPLUNG		8	
3	30.2R314-031	0	DRŽÁK / HOLDER / HALTER		1	
4	30.2R316-001	0	BOČNICE / SIDE PLATE / SEITENTEIL	P1x679	1	
5	30.2R316-003	0	BOČNICE / SIDE PLATE / SEITENTEIL		1	
6	30.2R316-004	0	BOČNICE / SIDE PLATE / SEITENTEIL		1	
7	30.2R316-005	0	SLOUP / POLE / SAULE		2	
8	30.2R316-006	0	KRYT / COVER / ABDECKUNG		1	
9	30.2R316-007	0	SLOUP / POLE / SAULE		2	
10	30.2R316-008	0	KRYT / COVER / ABDECKUNG		1	
11	30.2R316-009	0	KRYT / COVER / ABDECKUNG		1	
12	90.001.25.015	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x10	4	
13	90.163.00.012	0	PODLOŽKA / WASHER / UNTERLEGSCHLEIBE	NORD-LOCK	4	

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position;
Objednací číslo/purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.60. Spojka/Joint/ Kupplung

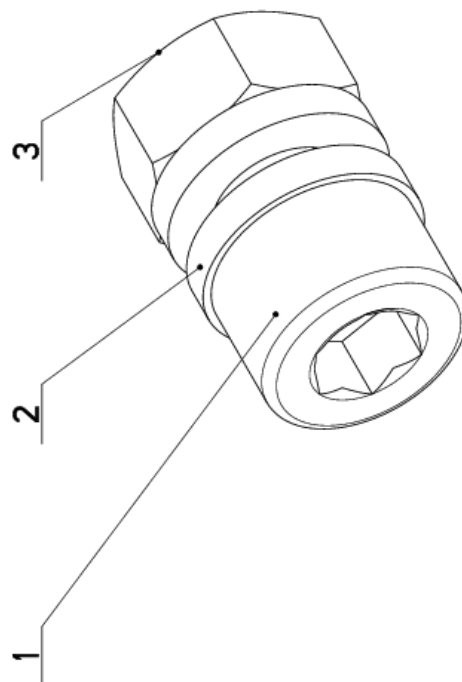
Císlo Sestavy 201.2R316-010		Ver.	Název sestavy SPOJKA/JOINT/KUPPLUNG		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	90.001.25.017	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x16	1
2	90.100.55.004	0	MATICE / NUT / MUTTER	MATICE - M6	1
3	90.163.00.012	0	PODLOŽKA / WASHER / UNTERLEGSCHLEIBE	NORD-LOCK	2



Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

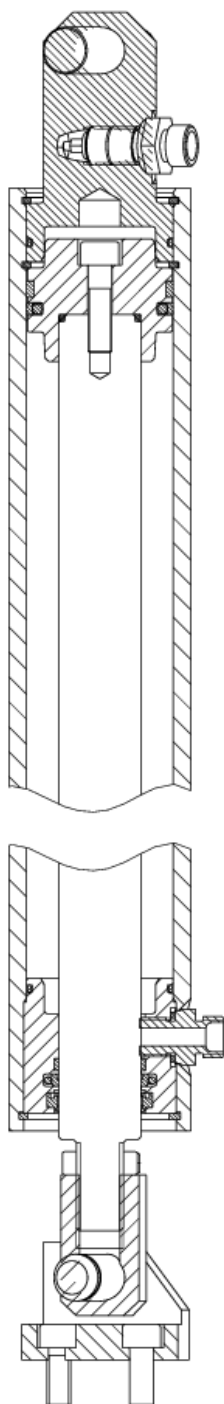
7.61. Spojka/Joint/ Kupplung

Cislo Sestavy 201.2R316-011		Ver. 0	Název sestavy SPOJKA/JOINT/KUPPLUNG		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	90.001.25.016	0	ŠROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x12	1
2	90.163.00.012	0	PODLOŽKA / WASHER / UNTERLEGSCHIBE	NORD-LOCK	2
	90.100.55.004	0	MATICE / NUT / MUTTER	MATICE M6	1



Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.62. Válec zvedací/ Hebezyylinder/ Lifting cylinder



A - A

NAZEV SESTAVY VALEC ZVEDACI	CISLO SESTAVY 201.Y307-010	STROJ 1360
	Konstruoval: MUSIL	
	Datum: 22. 11. 2011	
	Meritko: 1:2	

7.63. Kusovník / Piece list / Stückliste - Válec zvedací/ Hebezyylinder/ Lifting cylinder

Číslo Sestavy 201.Y307-010		Ver. 5	Název sestavy VALEC ZVEDACÍ/LIFTING CYLINDER/HEBEZYLINDER		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.0807-008	3	DRŽÁK / HOLDER / HALTER	HR 40x40	1
2	30.0807-009	2	ČEP / LUG / BOLZEN	d 16h9	1
3	30.8307-205	0	ČEP / LUG / BOLZEN	d 16h9	1
4	30.8607-001	1	DRŽÁK / HOLDER / HALTER	HR 25x25	1
5	30.C407-012	2	VÍKO / COVER / DECKEL	d 55	1
6	30.Y307-002	0	PISTNICE / PISTON ROD / KOLBENSTANGE	d 28 f8	1
7	30.Y307-003	3	VÍKO / COVER / DECKEL	d 55	1
8	30.Y307-011	5	VALEC ZVEDACÍ / LIFTING CYLINDER / HEBEZYLINDER	TR 62/50	1
9	30.Y307-012	1	PIST / PISTON / KOLBEN	d 55	1
10	90.001.25.032	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x20	2
11	90.001.55.083	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8X30	1
12	90.101.55.003	0	MATICE / NUT / MUTTER	MATICE M16	1
13	92.002.001	3	SROUBENÍ PRÍME / DIRECT BOLTING / GERADE VERSCHRAUBUNG	GES 08LR	2
14	92.151.008	4	VENTIL POJISTNÝ / SAFETY VALVE / SICHERUNGSVENTIL	VPN-H 1/4"	1
15	95.800.007	0	SEGR HRÍDEL. / OUTSIDE SAFETY RING / SICHERUNGSRING AUSSEN	POJISTNÝ KROUZEK 16	2
16	95.801.009	0	SEGR DÍRA / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNÝ KROUZEK 52	1
17	95.801.018	3	KROUZEK POJIST.VNITR. / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNÝ KROUZEK 50	2
18	96.002.011	0	KROUZEK O DYNAMICKÝ / DYNAMIC O RING / O-RING DYNAMISCH	24X2	1
19	96.002.019	0	KROUZEK O DYNAMICKÝ / DYNAMIC O RING / O-RING DYNAMISCH	46x2 NBR 70SH	2
20	96.061.009	0	KROUZEK STÍRACÍ / SCRAPER RING / ABSTREIFRING	WD2200280 ZZ01	1
21	96.082.002	5	TESNĚNÍ / SEAL RING / DICHTUNGSRING	13/17x1.5 CU	1
22	96.084.001	0	KROUZEK VODICÍ / LEAD RING / FÜHRUNGSRING	GP6500500-T47	1
23	96.084.006	0	KROUZEK VODICÍ / LEAD RING / FÜHRUNGSRING	GR4300280-T47	1
24	96.900.013	2	TESNĚNÍ KOMBINOVANÉ / COMBINATION SEALING / KOMBIDICHTUNG	PT0200500	1
25	96.900.021	0	TESNĚNÍ KOMBINOVANÉ / COMBINATION SEALING / KOMBIDICHTUNG	RSK200280-46N	1

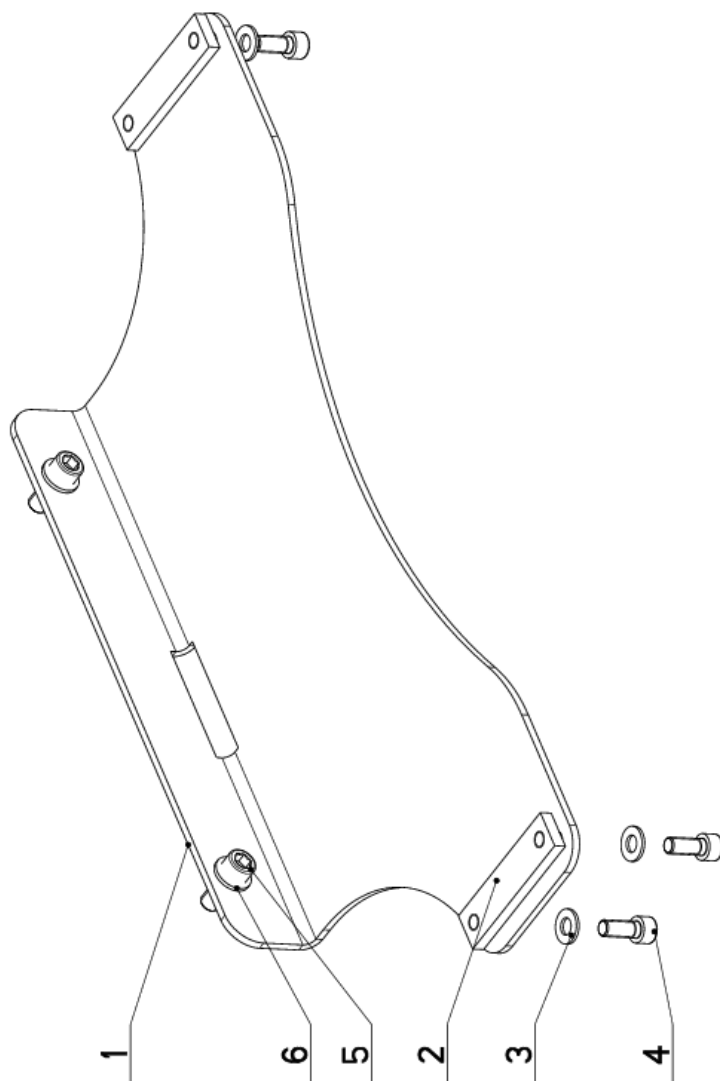
1. ZRUS. SROUBENÍ 92.002.005 A NAHR. 92.003.001, ZRUS. SROUBENÍ 30.6107-510 A NAHR. 30.9107-509., ZRUS. 1x TESNĚNÍ 96.082.002 (ZUSTAVAJÍ 2ks). 071/ZM097 12.4.2010 SLEZACKOVA
2. ZRUSENO TESNĚNÍ 96.900.001 A NAHR. 96.900.013. 336/ZM006 10.1.2011 SLEZACKOVA
3. ZRUS. REDUKCE 30.9107-509, ZRUS. SROUBENÍ 30.1807-005, ZRUS. VÍKO 30.Y307-005 A NAHR. 30.Y307-003, ZRUS. SROUBENÍ 92.003.001 A NAHR. 92.002.001, ZRUS. PIST 30.LM07-504 A NAHR. 30.Y307-012, ZRUS. KROUZEK 95.801.009 A NAHR. 95.801.018. 026/ZM027 24.2.2011 SLEZACKOVA
4. VENTIL 92.151.001 PREČISLOVAN NA 92.151.008. 222/ZM211 29.7.2013 SLEZACKOVA
5. ZRUS. 2x TESNĚNÍ 96.082.002. 290/ZM003 8.1.2019 SZABARI

8. **Výkresy sestav pro objednání náhradních dílů – volitelné vybavení / Zeichnungen für Bestellung der Ersatzteile – optionale Zubehör / Drawing assemblies for spare parts order – optional accessories**

- Při objednávání náhradních dílů vždy uvádějte: typ stroje (např. Proline 420.350 ANC), výrobní číslo (např. 125) a rok výroby (např. 1999).
- In die Bestellung der Ersatzteile führen Sie immer an: Maschinentyp (z. B. Proline 420.350 ANC), Serien Nr. (z. B. 125) und Baujahr (z. B. 1999).
- For spare parts order, you must always to allege: type of machine (for example Proline 420.350 ANC), serial number (for example 125) and year of construction (for example 1999).

8.1. Díl připojovací / Attachment part / Anschlussteil

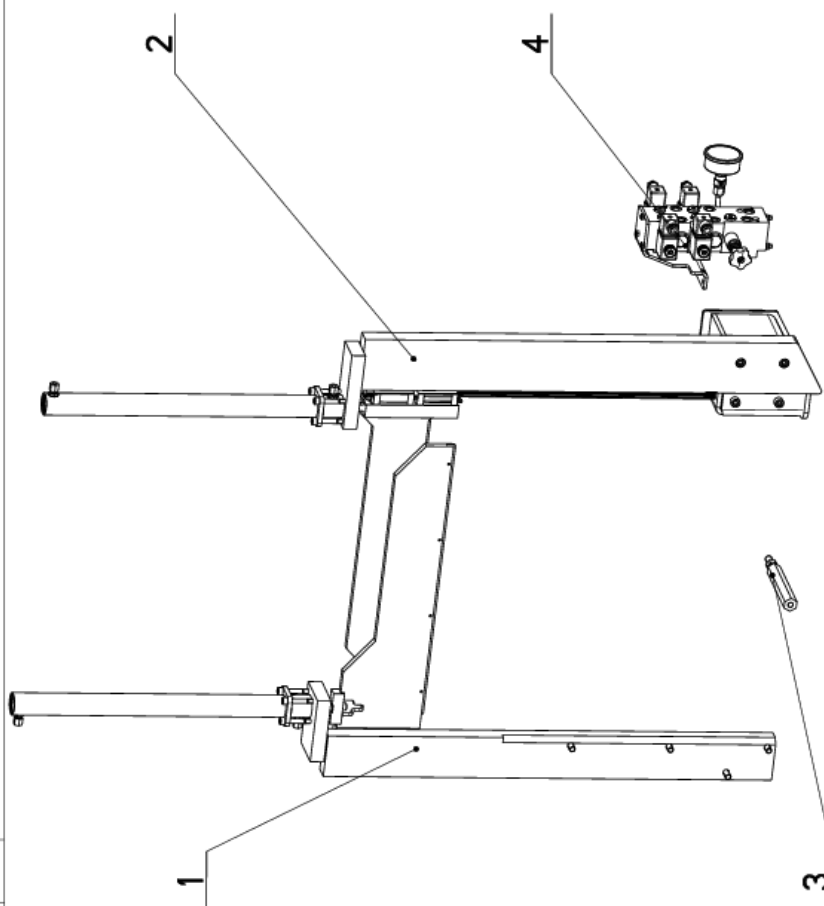
Císl. Sestavy 201.X195-200		Ver. 0	Název sestavy DÍL PŘIPOJOVACÍ / ATTACHMENT PART / ANSCHLUSSTEIL	
Poz.	Objednací číslo	Ver.	Název položky	Ks
1	30.X195-201	0	DÍL PŘIPOJOVACÍ / ATTACHMENT PART / ANSCHLUSSTEIL	1
2	30.X104-603	2	PŘILOŽKA / STRAP / LASCHE	2
3	90.150.50.006	0	PODLOŽKA / WASHER / UNTERLEGSCHIEBE	4
4	90.001.25.047	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	4
5	90.001.25.058	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	2
6	90.150.50.007	0	PODLOŽKA / WASHER / UNTERLEGSCHIEBE	2



Císl. Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

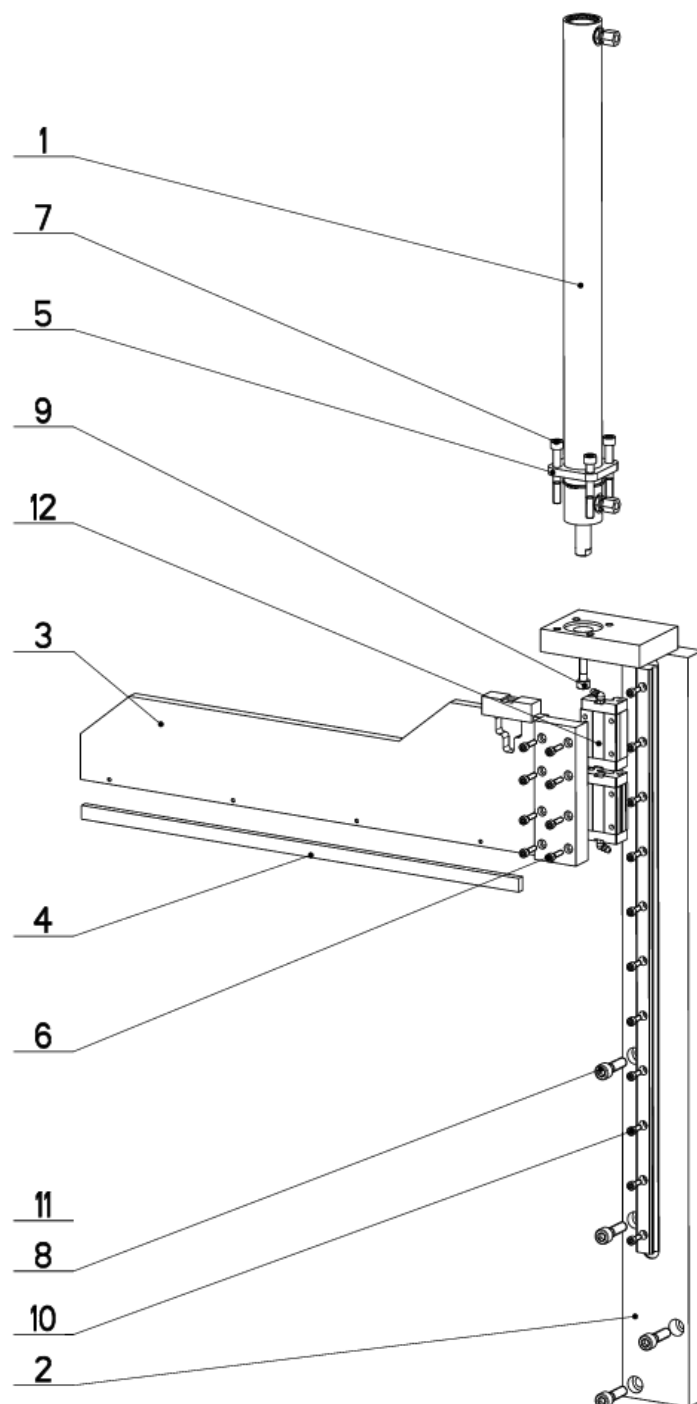
8.2. Upínání horní/ Top clamp/ Spannvorrichtung oben

Cislo Sestavy 201.2R420-000		Ver. 0		Název sestavy UPÍNÁNÍ HORNÍ / TOP CLAM/ SPANNVORRICHTUNG OBEN	
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	201.2R414-050	0	UPÍNÁNÍ HORNÍ / TOP CLAM / SPANNVORRICHTUNG OBEN		1
2	201.2R414-080	0	UPÍNÁNÍ HORNÍ / TOP CLAM / SPANNVORRICHTUNG OBEN		1
3	201.2R316-050	0	DORAZ / STOP PIECE / ANSCHLAG		1
4	201.ER2514-370	0	HYDRAULIKA / HYDRAULICS / HYDRAULIK		1



Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

8.3. Upínání horní/ Top clamp/ Spannvorrichtung oben



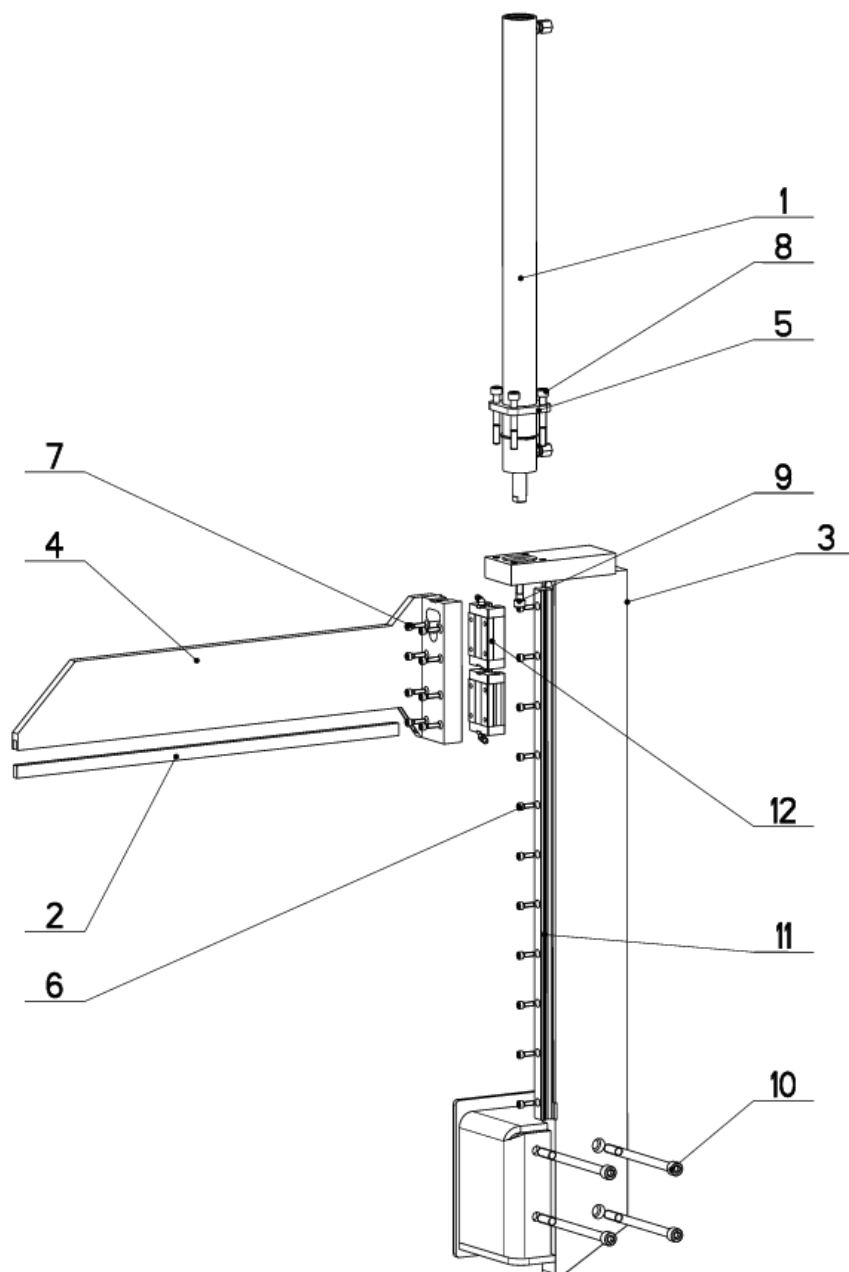
NAZEV SESTAVY UPINANI HORNI	CISLO SESTAVY 201.2R414-050	STROJ PL450
	Konstruoval: FABER	
	Datum: 14. 06.2016	
	Meritko: 17:100	

8.4. Upínání horní/ Top clamp/ Spannvorrichtung oben Kusovník / Piece list / Stückliste -

Císlu Sestavy 201.2R414-050		Ver. 0	Název sestavy UPÍNÁNÍ HORNÍ / TOP CLAMP / SPANNVORRICHTUNG OBEN		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	201.2R414-052	0	VALEC NAPÍNACÍ / TENSIONING CYLINDER / SPANNZYLINDER	D30/16	1
2	30.2R414-051	0	SLOUP / POLE / SÄULE		1
3	30.2R414-055	0	CELIST / JAW / BACKE		1
4	30.2R414-056	0	LISTA / TRIM / LEISTE	TYC 8x15x2000	1
5	30.0311-126	0	DRŽÁK / HOLDER / HALTER	P 8x58	1
6	90.001.25.010	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5x20	8
7	90.001.25.040	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x60	4
8	90.001.25.049	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x35	4
9	90.001.25.083	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x30	1
10	90.001.25.087	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5x14	11
11	99.200.207	0	VEDENÍ LINEARNÍ / LINEAR GUIDE / LINEARE FÜHRUNG	MSA20R 640-20/20 N	1
12	99.201.060	0	VOZÍK LINEARNÍHO VEDENÍ / LINEAR GUIDE CART / LINEARFÜHRUNGSWAGEN	MSA20S	2

Císlu Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

8.5. Upínání horní/ Top clamp/ Spannvorrichtung oben



NAZEV SESTAVY UPINANI HORNÍ	CISLO SESTAVY 201.2R414-080	STROJ PL450
	Konstruoval: FABER	
	Datum: 15. 06.2016	
	Meritko: 3:20	

8.6. Upínání horní/ Top clamp/ Spannvorrichtung oben Kusovník / Piece list / Stückliste -

Císlo Sestavy 201.2R414-080		Ver. 0	Název sestavy UPÍNÁNÍ HORNÍ / TOP CLAMP / SPANNVORRICHTUNG OBEN		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	201.2R414-052	0	VALEC NAPÍNACÍ / TENSIONING CYLINDER / SPANNZYLINDER	D30/16	1
2	30.2R414-056	0	LISTA / TRIM / LEISTE	TTC 8x15x2000	1
3	30.2R414-081	0	SLOUP / POLE / SÄULE		1
4	30.2R414-082	0	CELIST / JAW / BÄCKE		1
5	30.0311-126	0	DRŽÁK / HOLDER / HALTER	P 8x58	1
6	90.001.25.009	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5x16	11
7	90.001.25.010	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5x20	8
8	90.001.25.040	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x60	4
9	90.001.25.083	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x30	1
10	90.001.25.148	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x130	4
11	99.200.207	0	VEDENÍ LINEARNÍ / LINEAR GUIDE / LINEARE FÜHRUNG	MSA20R 640-20/20 N	1
12	99.201.060	0	VOZÍK LINEARNÍHO VEDENÍ / LINEAR GUIDE CART / LINEARFÜHRUNGSWAGEN	MSA20S	2

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

