



Workline 410.280 DG

Operating instructions

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

Service and information

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7⁰⁰ – 16⁰⁰

Version:

1.23 / Sept. 2023
rev. 1

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EC/EU Declaration of Conformity

1) 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 : Workline 410.280 DG
Serial number: 011-100 000
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 arm, saw band and drive, hand clamping device, cooling system, machine control
 Pneumatic ☒ NO ☐ YES ☐ Hydraulic ☒ NO ☐ YES ☐ Control system ☒ NO ☐ YES ☐
Technical data: Cutting rate 20-120 m.min-1
 Cutting angle - 60° to 60°
 Characteristic cutting range 410 x 280 mm

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/ES
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 13857:2021
+ Opr.1:2020 + Opr.2 :2021		ČSN EN 60204 -1 ed.3:2019
ČSN EN ISO 4413:2011		ČSN EN IEC 61000-6-4 ed.3:2019
ČSN EN 55011 ed.4:2017	ČSN EN 61000-6-2 ed.4:2019	
+ A1: 2017+ A11:2020 + A2:2020		

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

Brno, 17.08.2022

Point of issue, datum



Alfred Pichlmann, Managing Director

Name and function of the responsible subject,
signature

Person authorized to complete the technical documentation:: BOMAR, spol. s r. o., Těžební 1236/1, 627 00 Brno

- 1) Name, address and identification number of the subject issuing the conformity declaration (producer of importer)
 2) The authorized or accredited body co-operating on the conformity judging



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. **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!

Attention!

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

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

1.1. Machine determination

The band saw **Workline 410.280 DG** is determined for cutting and shortening of rolled bars and drawn bars and profiles from steels, stainless steels, non-ferrous metals and plastics **with cutting angle** from -60° to 60°.

Combustible materials are excepted 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!**

Attention!

Consider the safety signs on the machine. Do not remove or damage them!

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!

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***

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!

Machine can be operated only by one person. Machine operator is responsible for presence of other persons by the machine.

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.

- 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!

Attention!

Do not connect the machine to electricity if the covers are removed. Do not touch the electrical equipment.

- 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 electric equipment! Take special care during the work with electrical equipment. High voltage shock can have fatal consequences! Always keep notes about work safety! Otherwise, there is possibility of heavy injury!

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

Only qualified person can do the servicing and repairs. For parts changing, use only parts, which are identical with the originals. Otherwise, there is possibility of health hazard. Use only recommended type of the hydraulic oils and oils and lubricants!

Do not remove or do not lock the limit switches or safety equipments! Any use of the saw, accessories or machine parts other than that intended by the BOMAR, spol. s r.o. company is not permitted. The guarantee on this product will be afterward lost and BOMAR, spol. s r.o. takes no responsibility for caused damages.

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

Compliance with the 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.

1.6. Safety instructions for laser radiation sources

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!.

Laser radiation sources may be used on the machine.

Warning signs and information about the corresponding laser class are placed near each laser source.

It is forbidden to look into the laser beams!

Depending on the design and optional equipment of the saw, laser radiation sources can be located in particular:

- on the saw feeder
- before the main vice of the band saw
- on a safety fence (laser barrier)
- on the section line projection device



Commonly used laser safety classes:

- 1 (laser barriers)
- 1M (laser barriers)
- 3R (Laser-Liner)

1.7. 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.

1.7.1. Emergency Stop Switch

Enhanced risk!

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

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.

1.7.2. 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! Limit switch on saw arm control if covers are open or not.

1.7.3. Saw band stretching and rupture inspection

This device checks the saw band stretching and causes immediate machine shut – down in the event the band ruptures.



The device contains limit switch. Check the stretching carefully and periodically – eventually adjust.

1.7.4. Band saw cover

It covers the visible area of the saw band from left guiding cube to the frame.



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

1.7.5. Brush cover

It covers the saw blade brush.



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

1.8. Safety notes for the cooling

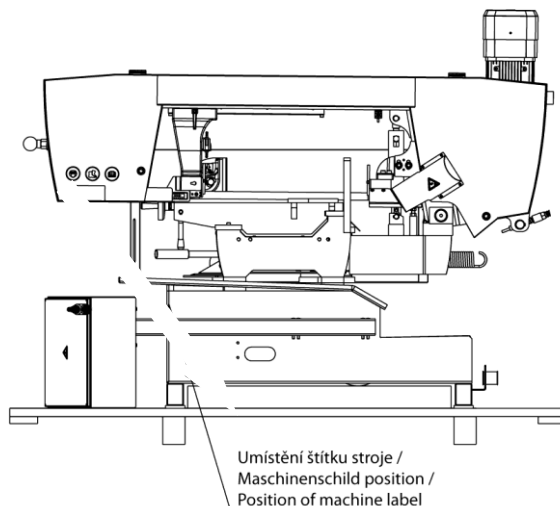
Attention!

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

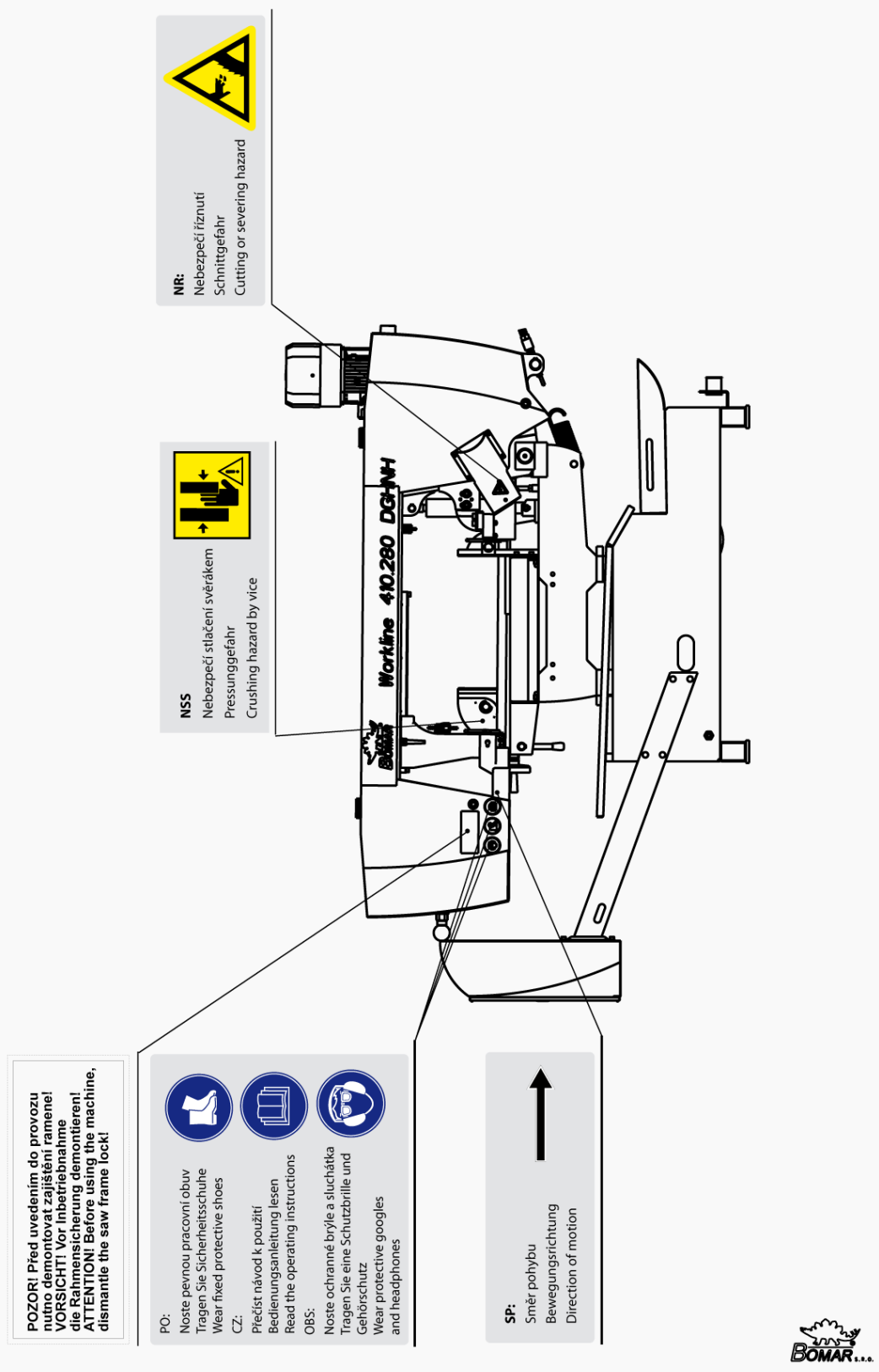
1.8.1. Instructions for first help

1. Pull off and safely remove polluted, soaked clothing.
2. For breathing, go out in the fresh air or look for first aid treatment.
3. Wash with water or use crèmes for contact with the skin.
4. Flush with water for eyes and look for first aid treatment.
5. For swallowing, drink a lot of water and induce vomiting. Look for medical help.

1.9. Umístění štítku stroje / Maschinenschild position / Position of machine label

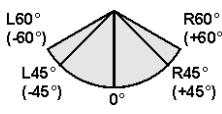
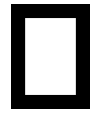
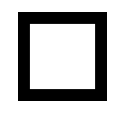


1.10. Umístění bezpečnostních značek / Verteilung der Sicherheitszeichen / Position of safety symbols



2. **Machine documentation**

2.1. Technická data / Technische Daten / Technical data

Hmotnost stroje / Maschinengewicht / Machine weight:	
• Hmotnost / Gewicht / Weight	530 kg
Rozměry stroje / Maschinengröße / Machine size :	
• Délka / Länge / Length	2130 mm
• Šířka / Breite / Width	1070 mm
• Výška / Höhe / Height	1425 mm
Elektrické vybavení / Elektrische Ausrüstung / Electical equipment:	
• Napájení / Versorgungsspannung / Supply voltage	~3 x 400/230 V, 50Hz, TN-S
• Příkon / Gesamtschlosswert / Total Input	2,4 kW
• Max.jištění / Max. Vorschaltssicherung / Max.Fuse	12 A (400V)/ 25A(230V)
• Krytí / Schutzart / Protection	IP 54
Akustický tlak / Schalldruckpegel / Acoustic pressure:	
• Workline 410.280 DG	$L_{Aeqv}=76,3$ dB
Pohon / Atrieb / Drive:	
• Typ / Typ / Type	TM90 4X B14-FT115
• Napájení / Versorgungsspannung / Supply voltage	~3 x 400V, 50Hz
• Výkon / Leistung / Output	2,2 kW
• Jmenovité otáčky / Motornenndrehzahl / Nominal speed	1440 min ⁻¹
Hydraulické zařízení / Hydraulikeinrichtung / Hydraulic equipment:	
• Typ / Typ / Type	205.M216-000
Chladicí zařízení / Kühlmiteleinrichtung / Cooling equipment:	
• Typ / Typ / Type	3-COA4-12 HP1
• Obsah nádrže / Volumen vom Kühlmittel / Capacity	40 l
Rozměr pásu / Sägebanddimension / Band size:	
3800×27 (25)×0,9 mm	
Řezná rychlost / Schnittgeschwindigkeit / Cutting speed:	
20–120 m/min.	
Řezné rozsahy / Schnittbereiche / Cutting size:	
	
0°	   
45° R	   
45° L	   
60° R	   
60° L	   

Warning:

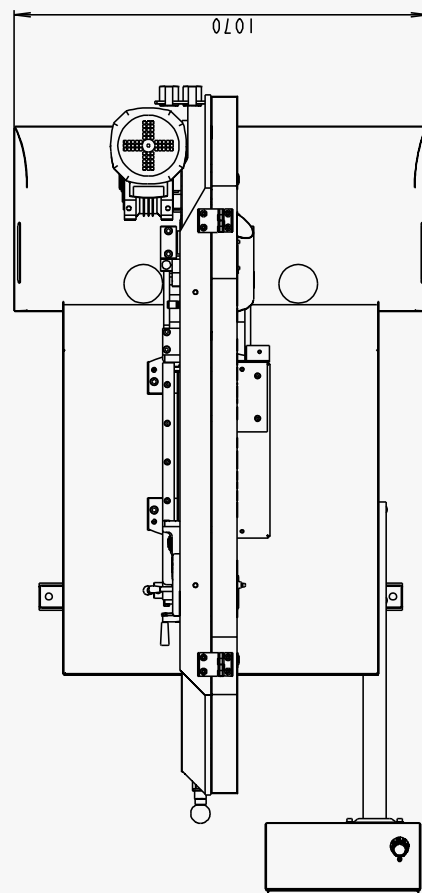
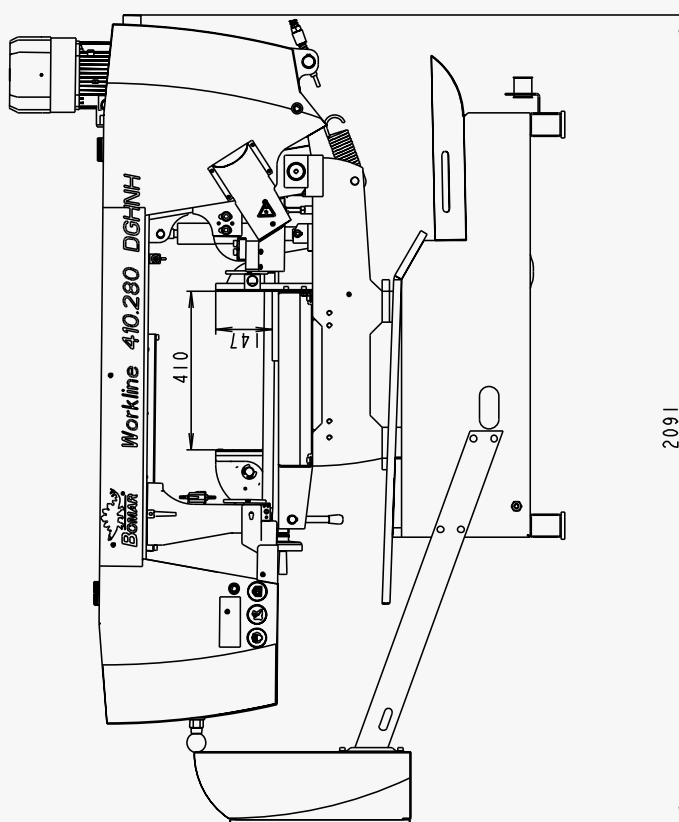
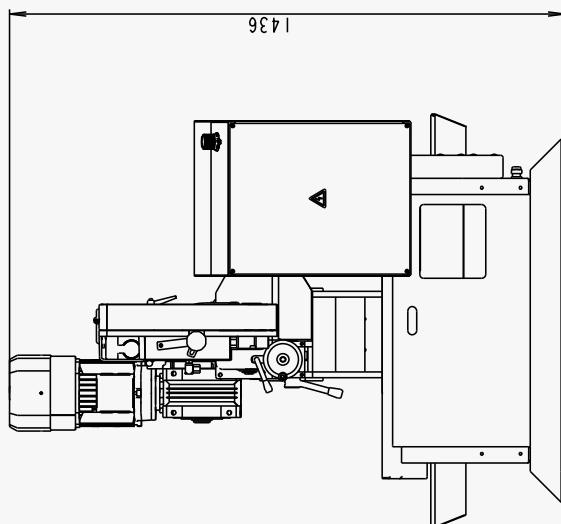
If the material detection device is installed on the machine then maximal workpiece height is 10 mm shorter.

Level of acoustic pressure:

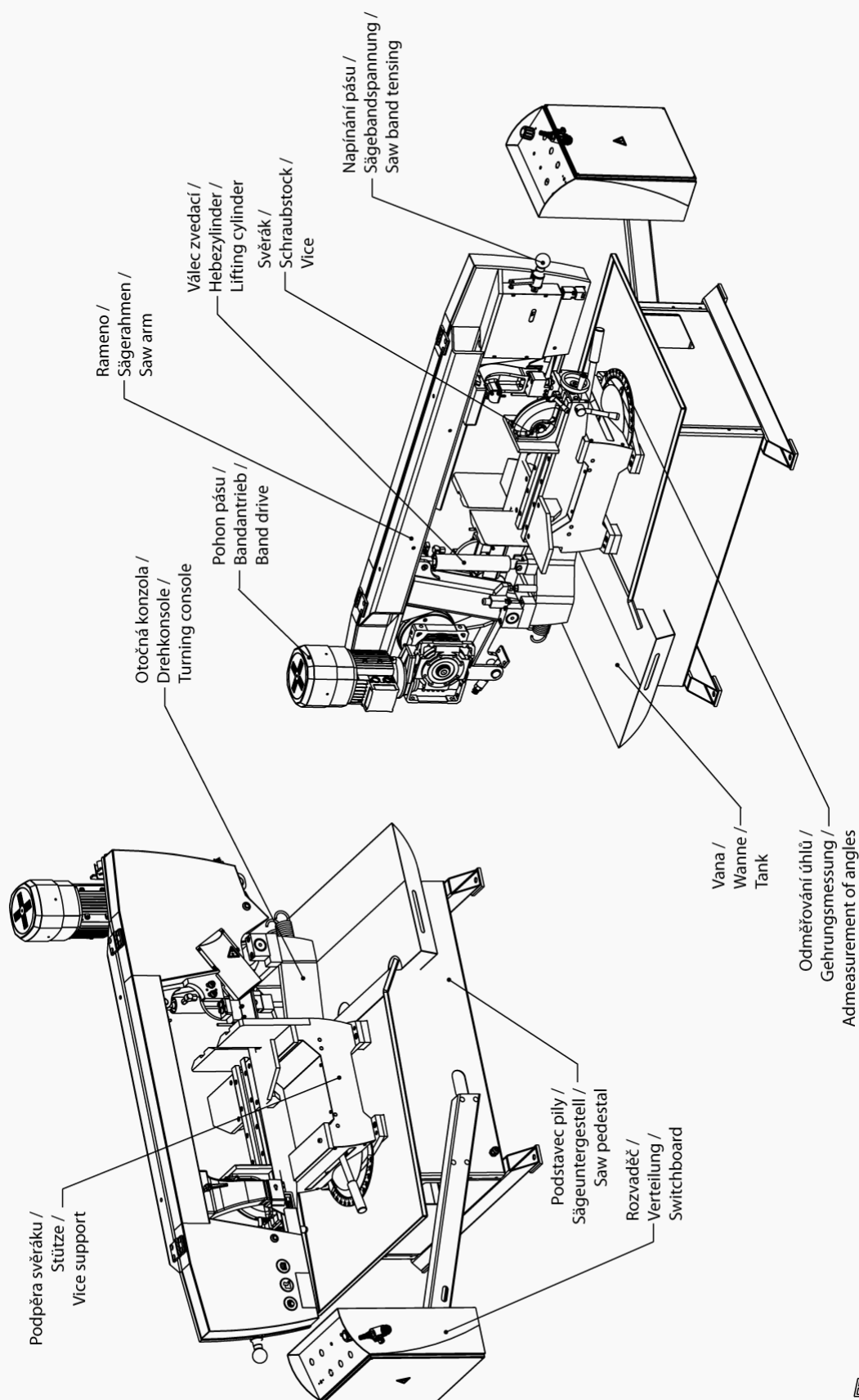
Equivalent level of acoustic pressure A (noise) at operator position are $L_{Aeqv}=76,3$ dB. Mentioned values are levels of emission which doesn't have to represent safe levels. Factors which influence real level of acoustic pressure on machine operator are: working place characteristics, cut material,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

2.2. Rozměrové schéma / Aufstellzeichnung / Installation diagram

Dokumentace stroje
Dokumentation der Maschinen
Machine documentation



2.3. Popis / Beschreibung / Description



Dokumentace stroje
Dokumentation der Maschinen
Machine documentation

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.

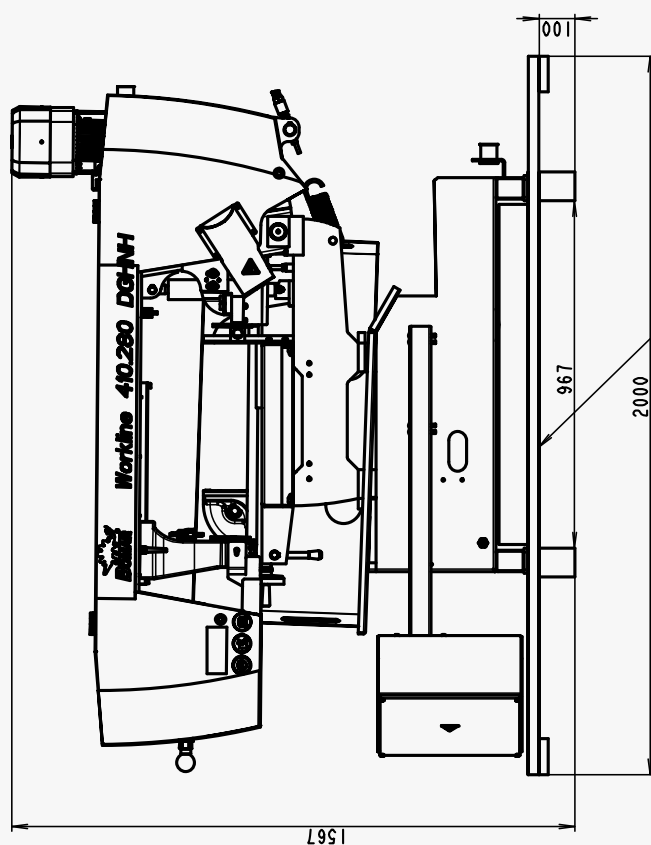
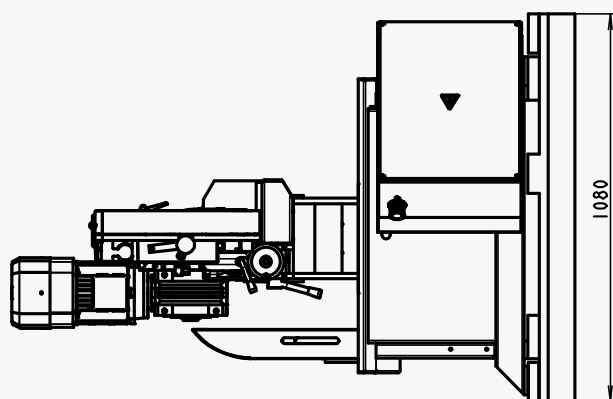
Fix the stickers stating the minimum approximate machine weight to at least five well visible places.

2.4.3. Transport and stocking

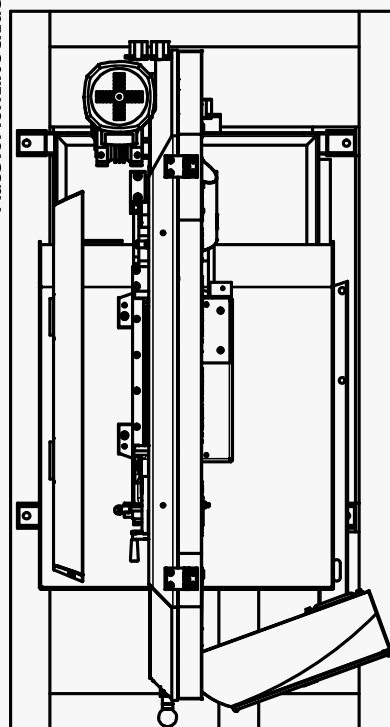
The machine must be secured during transportation. Screw on the palette to the floor of the van or the trailer. Be careful that the machine is not damaged during transportation. Store the machine only under conditions mentioned in the manual, to avoid damage of the machine.

It is forbidden to handle the machine any other way, than it is written in this operating instructions, the machine can be damaged.

2.4.4. Transportní schéma / Transport schema / Transport scheme



Místo pro lyžiny
vysokozdvízného vozíku
Die Stelle für Greifen mit
der Gabel des Gabelstaplers
Place for forklift's skides



Dokumentace stroje
Dokumentation der Maschinen
Machine documentation

2.5. Activation

2.5.1. Machine working conditions

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.

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).

2.5.2. 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.

2.5.3. 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 – Workline 410.280 DG – 530 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.

2.5.4. 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.

2.5.5. First run of the power pack

Before the first run check:

- The direction of the Pump, while run the power pack for max. 2seconds.
- The cooling fan of the motor has to rotate in the same direction as the arrow on the top of the motor cowling indicates.
- In case of wrong rotational direction, the electrical phase in the connection box is to be changed. This check is required after every disconnection from the power source
- 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
- During this time a careful bleeding off for the whole hydraulic system is necessary. In case there is no bleeder port, the power pack will bleed itself after a while via the air breather on the tank or the return line filter.
- After multiple start-up.

2.5.6. 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.

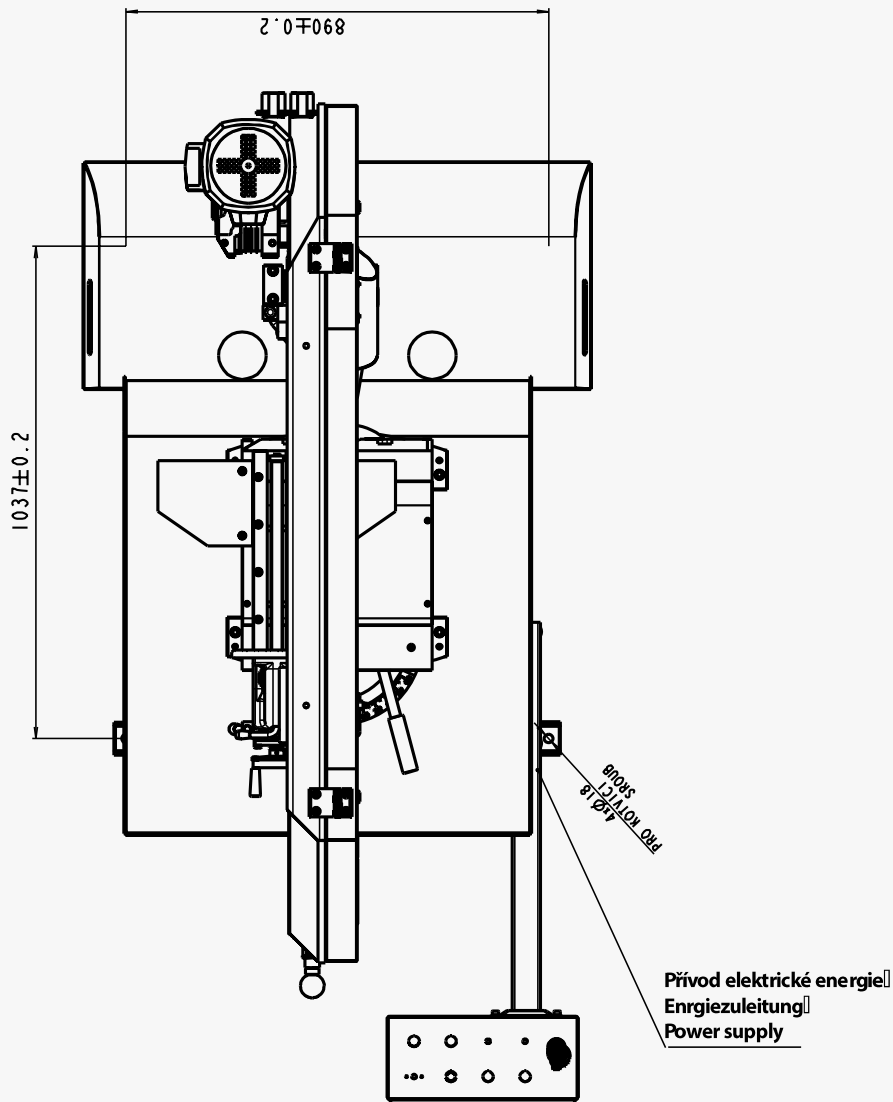
Power packs have to be filled up with clean, pre-filtered oil! The purity of the hydraulic fluid must correspond to the class 10 NAS 1638 (reachable with filter $\beta = 75$)!

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

2.5.7. Kotevní plan / Verankerungsplan / Grounding plan



Kotvicí 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 – 4× M16×135

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

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

± 10 mm / 1 m

2.5.8. 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: $\sim 3 \times 400/230 \text{ V}$, 50 Hz, TN-S
- Total input 2,4 kW
- Max. fuse: 12 A (400V)/ 25A(230V)

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

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 kW.

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

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.

2.5.9. 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.

2.5.10. 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!!!

2.5.11. Filling of the cooling system

Prepare the mixture of the water and the cooling liquid. Keep the concentration specified by manufacturer. Shift away the cover from the drainage hole. Fill the mixture of the water and the cooling liquid to the tank of the cooling system. Area of the tank for the cooling liquid is discovered from the chapter *Technical data*.

Let the drainage hole opened and with the sieve during operation, because it secures the right work 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.

Note:

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

2.6. Check machine function

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. 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..

2.7. Saw band

Refit the saw band cover only after you have installed and tightened the saw band.

2.7.1. Saw band size

3800×27 (25)×0,9 mm

2.7.2. 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



BOMAR recommended Variable tooth system for band saw.

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

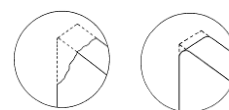
Examples of the tooth system marking:

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.

2.7.3. Saw band running-in

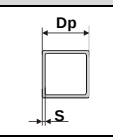
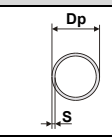
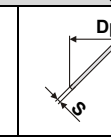
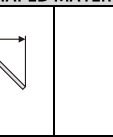
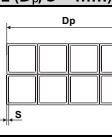
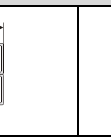
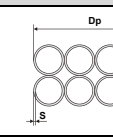
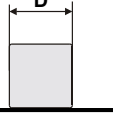
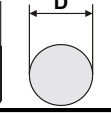
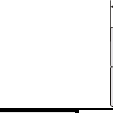
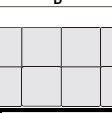
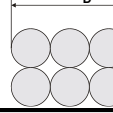
Running-in: Cut the material with the frame lowering reduced to 50% only. When vibrations occur increase or decrease the band speed.



Note: Run regrinding saw bands too.

When cutting small pieces run the band until approximately 300 cm² of material has been cut. 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. The optimal running in of the saw band produces ideal rounded cutting edges and therefore the conditions for an optimal service life.

2.7.4. Tables for teeth selection

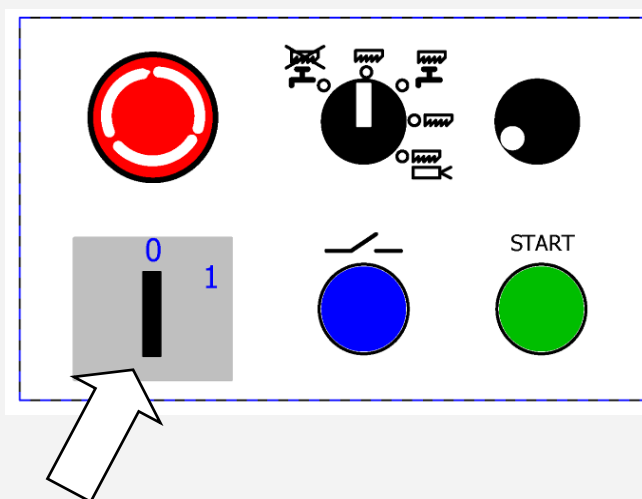
SHAPED MATERIAL ($D_p, S = \text{mm}$)						
						
Note: Table shows tooth system selection for cutting one piece of the profile. For cutting of more pieces of the profiles (bundle), you must think of the size of the wall as double size of the wall of one profile (that means, size „S“ equates to 2xS). 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 ($D = \text{mm}$)						
						
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					

3. **Machine control**

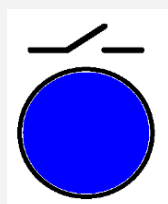
3.1. Starting the band saw

»

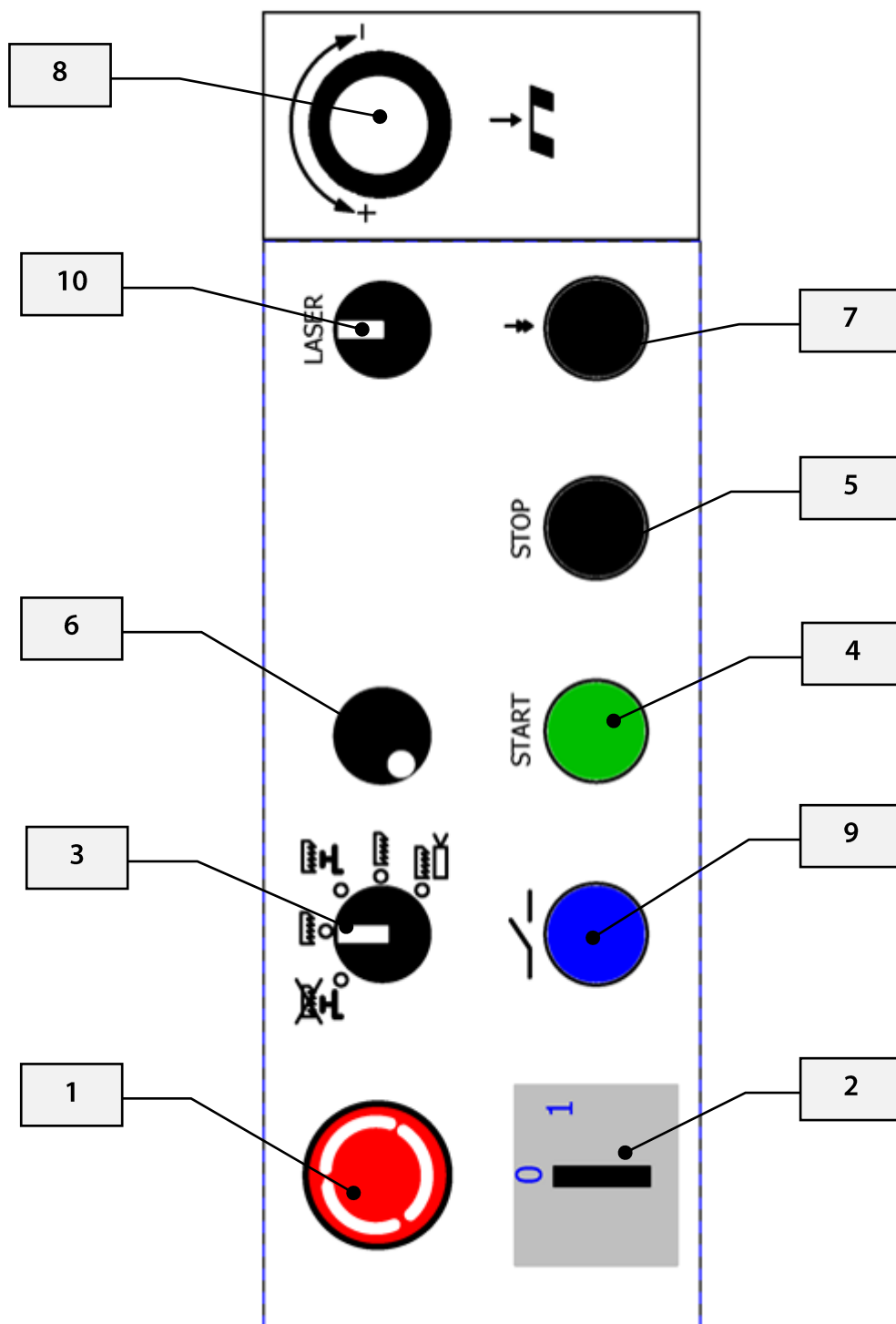
1. Switch on the main switch of the band saw. The main switch is situated on the the switchboard.



2. Switch the saw's safety (control) circuit on –button **No. 9** at the control panel of the saw.



3.2. Control panel



1	Emergency Stop Switch In emergency causes the machine must be immediately switched off.
2	Machine Turn ON/OFF Switch into position 1 to turn ON the machine or into position 0 to OFF.
3	Cooling system selection You can select from three possibilities: See chapter "Setting of a cooling method"
4	START - Switch on the semi-automatic cycle Push of a button starts the cutting cycle Button STOP stops cutting cycle.
5	STOP - Switch off the engine of the band saw Stop cutting cycle.
6	Frequency convertor Turn to change the speed of the saw band.
7	Saw arm rapid move into cut Pressing the button starts a saw arm rapid falling into cut, without the operator had to change the speed of falling through the governing valve. ATTENTION! Do not use rapid move when saw blade is in cut! This button can be used only for the rapid movement ABOVE material!
8	Governing valve Adjust the speed of the arm sinking to the cut by governing valve. 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.
9	Safety circuit Button switch on the control circuit of control system
10	Laserliner (optional accessory) Switcher of the laser beam

3.3. Machine control

1. Set the cutting angle.
2. Lift the saw arm to the top position.
3. Open the vice by pressing button and insert material.
4. Clamp material to the vice.

Attention!

Do not move the saw frame to the material, when the saw band driving is not running! Do not move the saw frame to the material with accelerated motion! The saw band can be damaged!

5. Press button START. The arm begins fall into the cut and the drive for sawbelt is started. For speed up saw arm falling into the cut is possible push the button on pos. 7 – saw arm rapid move into cut. Stop the rapid move at least 10 mm above material. Do not use the rapid move, if the blade is in the cut.
6. Remove cutted material from vice.

7. You can repeat whole process.

Caution!

The material must not be stored under the stopped saw band for a longer period of time. During the time when the machine is inactive, the pressure in the hydraulic circuit decreases and the saw arm can drop to the position in which the stopped saw band hits the material. There is a risk of damage of the saw band or the machine or the material. Spontaneous lowering of the saw arm from its upper position to its lowest position takes approximately 8 hours.

3.3.1. Cycle breaking

»

- **STOP button**

Semi-automatic cycle is interrupted by pressing button **5 – STOP** of the cycle

The arm stops fall into cut and saw blade is stopped.

By pressing button **4 – START of the working cycle**, you can start the cycle.

- **Emergency Stop Switch**

In case of the risk, press Emergency Stop Switch.

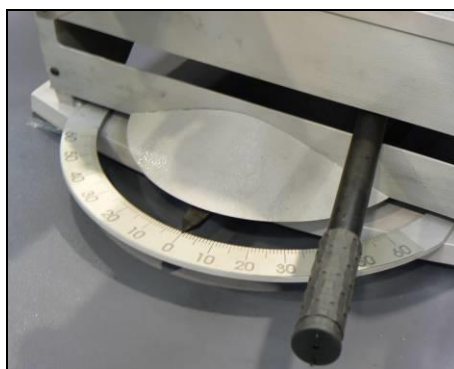
After pressing button, saw band drive is immediately broken and the arm sinking is stopped.

- **Reactivation**

1. Turn Emergency Stop Switch according to the arrows (on the button).
2. Switch the saw's safety (control) circuit on – button **No. 9** at the control panel of the saw.
3. Lift saw arm above cutted material and push START button.

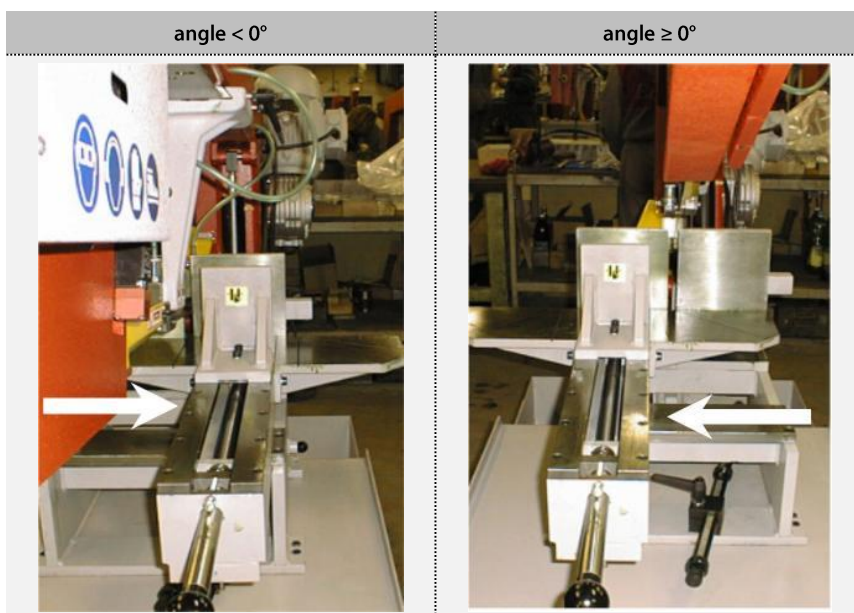
3.4. Band saw adjusting

3.4.1. Angular cut setting



1. Release securing lever of the console, Swivel the frame to the desired angle by pulling the saw arm. Angle is shown on scale. a páku znovu utáhněte. Then re-tighten the lever.

2. According to the cutting angle is needed to move the vice. For cutting angle less than 0° move vice to the right, for cutting angle more than 0° move vice to the left.



3.4.2. 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.

3.4.3. Material clamping to the vice



Release the clamping lever, shift the vice ca. 5 mm from the material and clamp the material to the vice by lever.

3.4.4. 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.

3.4.5. Adjustment of pressure to the cut



For cutting extremely hard materials operator can add strength to the cut by the M16 nut on spring holder.

3.4.6. Speed adjustment of the arm lowering

Speed of the arm lowering is adjusted by regulation valve on control panel – pos. 8.

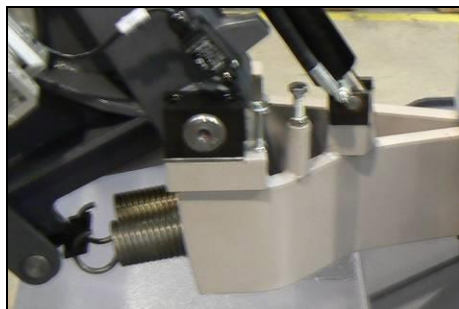
- Set the **lower speed** of the arm lowering to the cut by turning the switch **clockwise**.
- Set the **higher speed** of the arm lowering to the cut by turning the switch **anti-clockwise**.

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.

3.4.7. Saw frame lower stop position

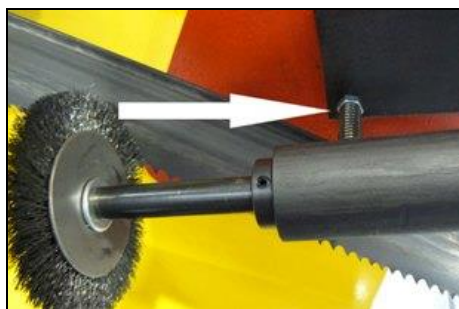
The lower stop limits the lowest position of the saw frame. This stop point has to be checked at least once a month. If the lower stop point is incorrectly adjusted, the cutting table can be damaged or the material will not be cut completely.



Setting the lower stop position is set using the screw in Console.

3.4.8. 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. Release the fixative screw of the brush. It is possible to move with the brush.
2. Set the brush to the saw band according to the picture.

Attention!

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

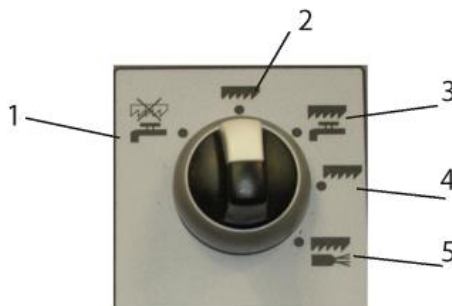
3. Tighten the fixative screw.
4. In case, that the brush is not turned right (driving wheel slips on the driving wheels of the saw band), push by means of the screw (see arrow) driving wheel of the brush to the driving wheel of the saw band.

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!

3.4.9. Setting of a cooling method

Required cooling method can be selected using a switch no. 3 on control panel.



Liquid cooling

1. Coolant pump runs when the drive of the belt is switched off (rinse)
2. Saw band runs without cooling
3. Cooling starts while starting of the drive of the saw band .

Chlazení olejovou mlhou – Micronizer (volitelné vybavení)

4. Saw band runs without cooling
5. Cooling starts while starting of the drive of the saw band .

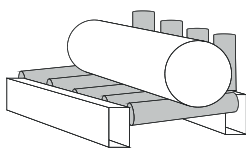
3.5. Material insertion

- 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!

3.5.1. 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!

3.5.2. 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.

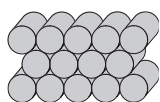
Be especially careful with round materials that it always stays on two vertical rollers and that it cannot fall off the conveyor!

3.5.3. Bundle material cutting

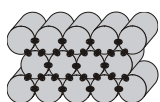
Attention:

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

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.

4. 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. Pull up the saw band from the guiding cubes

4.2. Saw band mantling

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 star to 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. The arrow on the cover must match the direction of the arrow on the band. If it does not, you must turn the band round.

4.3. Saw band stretching and inspection

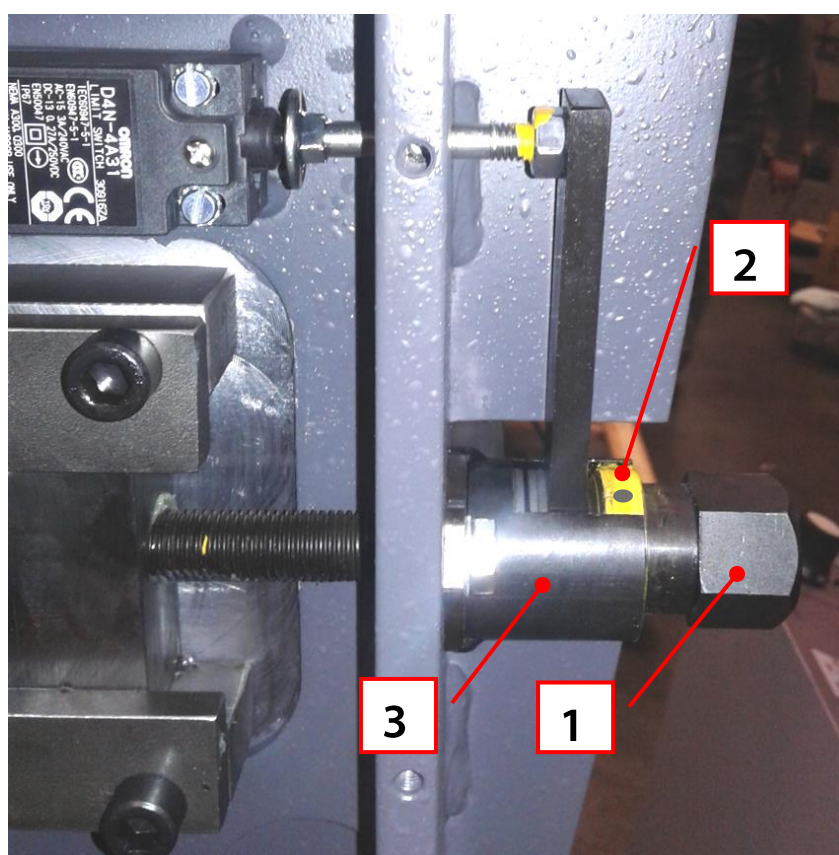
Right saw band stretching is one of the most important criteria's, which influents accuracy and saw band service life. Stretch the saw bands according to the selected saw band and the band saw. Keep the recommendation of your manufacturer.

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. 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

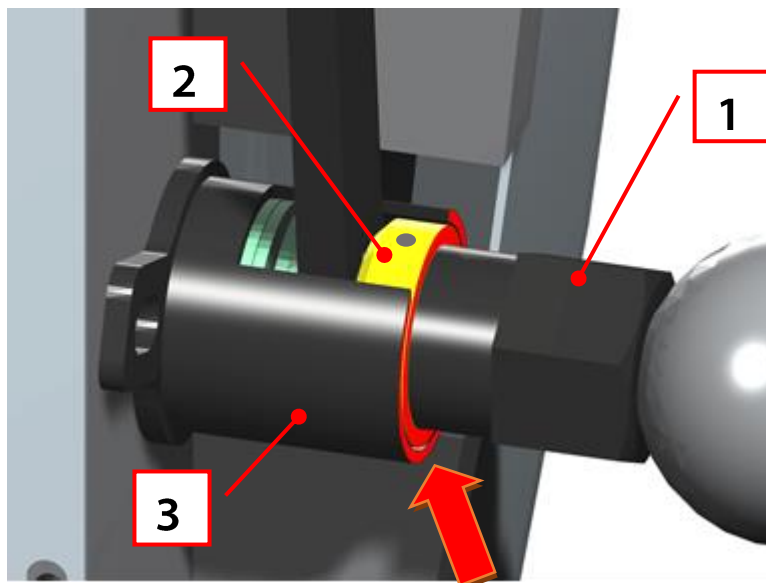


1	Tightening screw
2	Yellow ring – indicator of correct belt tightening
3	Bush

1. 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!

4.3.2. 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. 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.

4.5. 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.

4.5.1. 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.

4.5.2. Saw band setting



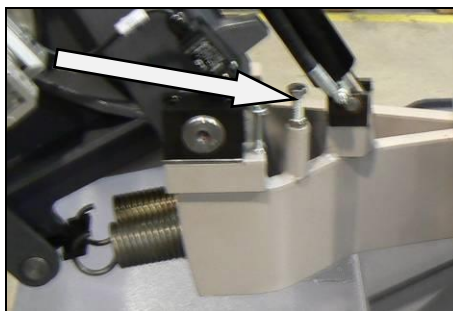
The saw band run is set with screw in the stretching cube on the saw frame. Optimal distance has been determined at **1 – 3 mm**.

- 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.

4.6. Saw frame lower stop position adjustment

The lower stop limits the lowest position of the saw frame. This stop point has to be checked at least once a month. If the lower stop point is incorrectly adjusted, the cutting table can be damaged or the material will not be cut completely



1. Lift the saw frame to the top position.
2. Release the nut of the screw and set it to the desired value.
3. Secure the screw with nut.

4. Set the limit switch of the saw frame lower position.

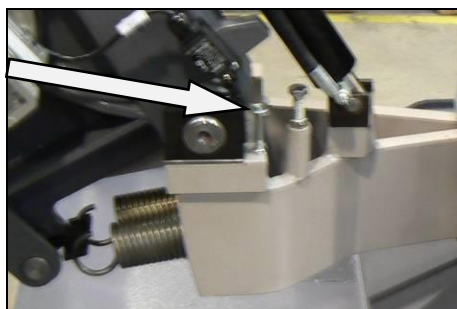
4.7. Limit switch of the saw frame lower position adjustment

If the lower stop of the saw frame was set, the limit switch must be set again.

4.7.1. Check setting

Lower the saw frame to the bottom position. If the saw frame is on the lower stop and the limit switch was responded, the limit switch adjustment is right. If the limit switch is not right, it must be set.

4.7.2. Limit switch setting



1. Release the nut of the stop screw of the switch and screw on the screw.
2. Lower the saw frame to the lower stop. Start the saw band drive.
3. Screw off the stop screw of the switch, until the saw band drive is not stopped.
4. Secure the screw with the nut and check limit switch adjustment again.

4.8. 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 • impurity • 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 behaviour increases • emulsions stability deteriorates • sticky residue develops

4.8.1. 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

4.8.2. 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.

4.9. Hydraulic, Greases and oils

4.9.1. 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 recommended by BOMAR or 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
Workline 410.280 DG	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

4.9.2. Lubricant 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

4.9.3. Lubrication

There are several places on the machine, which are necessary to grease periodically. It secures the right function of the machine.

Lubrication place	Lubrication
	The guiding cubes leading – grease with oil from both sides once a week.

4.9.4. Hydraulic oils

Replace the hydraulic oil once a year, 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-HLP, ISO 6743-4 and viscosity grade ISO VG 32 in hydraulic aggregates. Hydraulic oils quantity – see chapter **Hydraulic oil level check**.

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	Hungary	Hidrokomol P 32
Benzina	OH-HM 32	Mobil	Mobil DTE 25
BP	Energol HLP 32	ÖMV	HLP 32
Bulgaria	MX-M/32	Poland	Hydrol 30
Castrol	Hyspin AWS 32	Rumania	H 32 EP
Čepro	Mogul HM 32	Russia	IGP 30
DEA	Astron HLP 4hy6	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		

4.9.5. Hydraulic unit service

After 50 hours working time, or the latest 3 month 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 hydraulic oil level
- During time of duty the oil temperature shouldn't exceed 60-70°C

- check function of signaling components (thermometer, level gauge, dirty filter indicator)
- 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	-	-	•	-	-	-

4.10. 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.

4.11. Worn pieces replacement

4.11.1. 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.

4.11.2. Round brush replacement

If the chip removing brush is so worn, that it does not fulfil its function, the brush must be replaced.



1. Release the nut of the brush, exchange old brush to new brush and screw on the nut of the brush.
2. Set the brush to the saw band.

4.11.3. 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.

ATTENTION!

Mark both eccentrics placing and components on the eccentric! Eccentrics must not be replaced with each other!!



3. Tighten the guiding cube to the vice and dismantle both eccentrics with bearings following way.
4. Screw off nuts from eccentrics..



5. Remove eccentrics from bearings by means of the swager



6. Change all bearings and other worn parts.



ATTENTION!

Do not replace the eccentrics placing in the cube

7. Install eccentrics to the cubes. Install components on both eccentrics in given order. Put bearings by means of the preparation on eccentrics.



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.

4.11.4. Stretching wheel replacement

1. Dismantle the saw band.



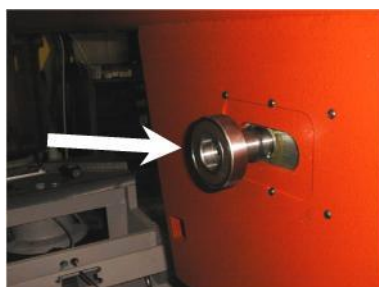
2. Screw off the screw and take down the washer.



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.



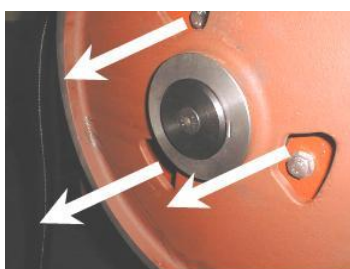
11. Screw on washer and screw back..
12. Install the saw band. Wheel replacement is ready.

4.11.5. Driving wheel replacement

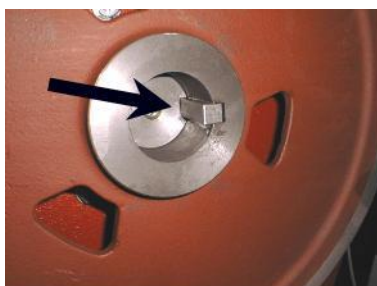
1. Dismantle the saw band



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.

4.11.6. Cooling pump replacement

Only a qualified worker can carry out the connection!

High-voltage shock may have fatal results

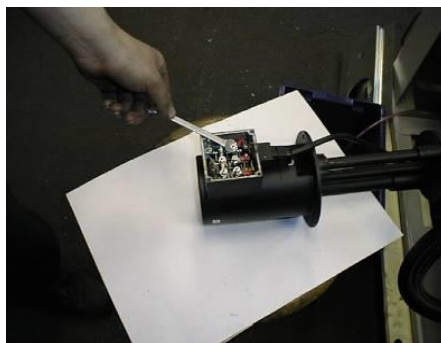
1. Pull the tank with the liquid from the pedestal..
2. Remove the hosepipe leading to the cooling agent from the plug on the pump. Screw off four screws from the cooling pump flange and pull out the pump from the sheet metal holder.



3. Remove the cover of the pump terminal switchboard. Disconnect 4 terminal connectors of the input cables. Cables are identified according to the red clamps..



4. Loosen the bushing and pull the cable out from the pump.



5. Dismantle new pump switchboard cover. Push the cable through the bushing and fasten it.



6. Screw on the cable bushing and cover of the terminal block. Do not forget the rubber gasket! Tighten the cooling liquid hose with non-stick tape and screw it again. Install cooling liquid hose, place the pump on the sheet metal holder and screw i

5. 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.
2. The cut is not cut upon desired angle	- Unexpected oscillation in material quality.	Set the cut and feeding speed to the relevant material.
	- 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.
3. Short lifetime of the saw band	- Dirt between material and clamping jaw.	Cleanse the material and mating jaw.
	- 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	Check the condition of the hard metal guide and

Problem	Possible causes	Repair
	band.	if it is too worn, replace hard metal guides according to chapter „Worn pieces replacement“
	- 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.

Problem	Possible causes	Repair
	- 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.
	- 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 and hydraulic 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

Problem	Possible causes	Repair
		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
1. 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.
2. 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
3. Increased mechanical noise	• damaged joint drive	Call service
	• damaged or destroyed motor bearings	Call service
	• air intake	Check for leaks.
4. 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
5. 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
6. Overheating oil	•	cooler malfunction	Check the cooler function or call service.
	•	wear the pump, the energy is converted into heat	Call service
7. 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

6. Schematics

6.1. Elektrické schéma /Elektroschema / Wiring diagrams

6.1.1. 3x400V+PE, 50 Hz



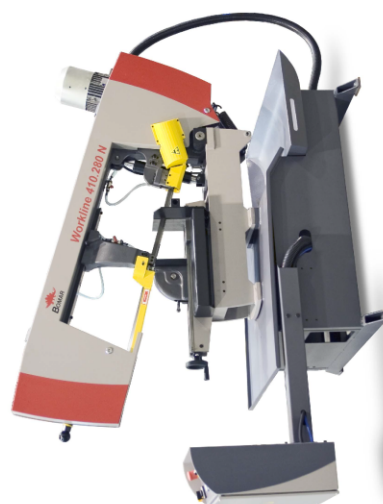
Bomar, spol. s r.o.
Těžební 1236/1
627 00 Brno
Czech republic

WorkLine 410.280 DG

ES-101.303-B1/B2-V5.1

Wiring diagram

3x400V + PE, 50 Hz



 BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: WorkLine 410.280 DG	Název stránky/Name page/Name seiten: Úvodní strana / Start page / Startseite	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-101.303-B1/B2-V5.1 Napájení/Power supply/Einspeisung: 3x400V + PE, 50 Hz Zpracováno/Processed /Hat verarbeitet: 13.08.2021 Datum/Date/Datum:	List/Page/ Seite.: 1 List/Page/ Seite.: 14
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Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednáací číslo Type number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-BM1	Bezpečnostní relé 24VDC, 3NO/1NC Safety relay 24VDC, 3NO/1NC Sicherheitsrelais 24VDC, 3NO/1NC	ABB.2TLA010040R0000	ABB	91.051.076	1	/9.5
-TR1	Držák Holder Inhaber	30.6030-413	BOMAR s.r.o.	30.6030-413	1	/6.6
-FU1	Pojistka trubičková - 2A/400V, pomalá, 5x20 Tube fuse - 2A/400V, slow, 5x20 Rohrsicherung - 2A / 400V, langsam, 5x20	T2A/400V	ESKA	91.230.073	1	/6.5
-FU2	Pojistka trubičková - 2A/400V, pomalá, 5x20 Tube fuse - 2A/400V, slow, 5x20 Rohrsicherung - 2A / 400V, langsam, 5x20	T2A/400V	ESKA	91.230.073	1	/6.5
-FU3	Pojistka trubičková - 4A/250V, pomalá, 5x20 Tube fuse - 4A/250V, slow, 5x20 Rohrsicherung - 4A / 250V, langsam, 5x20	T4A/250V	ESKA	91.230.015	1	/6.9
-FU5	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	/10.7
-RP1	Potenciometr 4k7 Potentiometer 4k7 Potentiometer 4k7	TP195 4k7/N20A	Elektronické součástky CZ, a.s	91.283.015	1	/7.6
-HV1	Ventilový konektor, LED Valve Plug, LED Ventilanschluss, LED	VCAFA0322-LED	Finecables Co.,Ltd.	93.017.077	1	/8.7
-HV2	Ventilový konektor, LED Valve Plug, LED Ventilanschluss, LED	VCAFA0322-LED	Finecables Co.,Ltd.	93.017.077	1	/8.9
-RP1	Hlavice potenciometru - 24mm Head of potentiometer 24mm Leiter Potentiometer 24mm	S8877 BLK	GES-ELECTRONICS, a.s.	91.060.063	1	/7.6
-C1	Kondenzátor Condenser Kondensator	2200uF/50V	GM Electronic s.r.o.	91.282.063	1	/6.8
-RCF1	Filtr RFC vývodový Efferent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Vlček	91.041.015	1	/6.2

The manufacturer reserves right to use an equivalent replacement device.

 BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno	Strojí/Machine/Maschine: WorkLine 410.280 DG	Název stránky/Name page/Name seiten: Kusovník artiklů / Parts list / Artikelstückliste	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-101.303-B1/B2-V5.1 Napájení/Power supply/Einspeisung: 3~400V + PE, 50 Hz Zpracováno/Processed /Hat verarbeitet: 13.06.2021	List/Paper/ Strán.: 3
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Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednáací číslo Type number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-RCF11	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Vlček	91.041.015	1	/6.6
-RCF12	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Vlček	91.041.015	1	/6.7
-FA1	Tepelné relé - 0.31A Thermal relay - 0.31A Thermische Relais - 0.31A	T16-0.31	ABB	91.050.020	1	/6.3
-FU1	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/THSI5U	WIELAND	91.251.102	1	/6.5
-FU2	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/THSI5U	WIELAND	91.251.102	1	/6.5
-FU3	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/THSI5U	WIELAND	91.251.102	1	/6.9
-FU4	Pojistka trubicíková - 200mA/250V, pomalá, 5x20 Tube fuse - 200mA/250V, slow, 5x20 Rohrsicherung - 160mA / 250V, langsam, 5x20	T200mA/250V	ESKA	91.230.037	1	/10.1
-FU4	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/THSI5U	WIELAND	91.251.102	1	/10.1
-FU5	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/THSI5U	WIELAND	91.251.102	1	/10.7
-HL1	Signálka LED bílá na adaptér White LED light for adapter Weißes LED-Licht für Adapter	M22-LED-W	EATON	91.061.034	1	/9.9
-KM1	Minisvkač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B6S-30-01-1.7-71	ABB	91.040.049	1	/8.3
-KM11	Svkač 5,5kW/400V Contactor 5.5kW/400V Schütz 5.5kW/400V	AF12-30-01-11	ABB	91.040.051	1	/9.7

The manufacturer reserves right to use an equivalent replacement device.



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

Stroj/Machine/Maschine:
WorkLine 410.280 DG

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Číslo dok./Doc.No./Anzahl der Dokumente: ES-101.303-B1/B2-V5.1
Napájení/Power supply/Einspeisung: 3~400V + PE, 50 Hz
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Datum/Date/Datum: 13.06.2021

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-KM11	Pomocný kontakt - 1xNO Auxiliary contact - 1xNO Hilfskontakt - 1xNO	CA4-10	ABB	91.041.044	1	/9.7
-KM12	Stýkač 5,5kW/400V Contactor 5,5kW/400V Schütz 5,5kW/400V	AF12-30-01-11	ABB	91.040.051	1	/9.8
-KM12	Pomocný kontakt - 1xNO Auxiliary contact - 1xNO Hilfskontakt - 1xNO	CA4-10	ABB	91.041.044	1	/9.8
-PA1	Pojistkový odpínač pro válcové vložky - 3P Switch fuse for the cylinder inserts - 3P Schalter Sicherung für den Zylinderinsätze - 3P	E 93/32	ABB	91.241.014	1	/7.2
-QS1	3 pólový odpínač, 16A Disconnecter - 3P, 16A Trennschalter - 3P, 16A	OT16FT3	ABB	91.170.018	1	/6.0
-QS1	Kryt svorek Terminal shroud Klemmenabdeckung	OTS40T3	ABB	91.170.017	1	/6.0
-QS1	Rukojeť odpínače - černá Handle switch - black Griffschalter - schwarz	OHBS3RH	ABB	91.180.016	1	/6.0
-RE1	Patice pro relé Relay socket Relaissockel	CR-PSS	ABB	91.051.048	1	/8.6
-RE1	Patcové relé CR-P Plug-in relay CR-P Stecken Sie in Relais CR-P	CR-P024DC2	ABB	91.051.049	1	/8.6
-RP1	Svorka rychloupínací Fastconnect clamp Fast Connect Klemm	WAGO 224-112	WAGO	91.250.009	3	/7.6
-SA1	Hlavice s otočným přepínačem - 4 polohy Head with rotary switch - 4 positions Kopf mit Drehschalter - 4 Positionen	M22 - WRK4	EATON	91.060.087	1	/8.2
-SA1	Upevňovací adaptér Mounting adapter Montageadapter	M22-A4	EATON	91.061.045	1	/8.2

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: WorkLine 410.280 DG	Název stránky/Name page/Name seiten: Kusovník artiklů / Parts list / Artikelstückliste	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-101.303-B1/B2-V5.1 Napájení/Power supply/Einspeisung: 3~400V + PE, 50 Hz Zpracováno/Processed /Fert. verarbeitet: 19.08.2020	List/Paper/ Seite: 3.b List/Paper/ Seite: 14
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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
-SA1	Kontaktní blok - INO Contact block - INO Kontaktblock - INO	M22-K10	EATON	91.061.022	3	/8.2
-SA1	Kontaktní blok - INC Contact block - INC Kontaktblock - INC	M22-K01	EATON	91.061.024	1	/8.2
-SA2	Přepínač 2 polohy Switch 2 positions Schalter 2 Positionen	M22 - WKV	EATON	91.060.037	1	/10.1
-SA2	Upevňovací adaptér + INO Attaching adapter + INO Montageadapter + INO	M22-AK10	EATON	91.061.021	1	/10.1
-SB1	Hlavice tlačítka - zelená Head buttons - green Kopfstasten - grün	M22 - D-G	EATON	91.060.036	1	/8.5
-SB1	Upevňovací adaptér + INO Attaching adapter + INO Montageadapter + INO	M22-AK10	EATON	91.061.021	1	/8.5
-SB2	Upevňovací adaptér + INC Attaching adapter + INC Anbringen Adapter + INC	M22-AK01	EATON	91.061.020	1	/8.6
-SB2	Hlavice tlačítka - černá Head button - black Kopffaste - schwarz	M22-D-S	EATON	91.060.035	1	/8.6
-SB3	Hlavice dvoutlačítka bílá/černá šipka nahoru/dolů Double button head white/black, arrow up/down Doppelrundkopf weiß / schwarz, Pfeil nach oben / unten	M22-DDL-WS-+*	EATON	91.060.054	1	/8.9
-SB3	Upevňovací adaptér + INO Attaching adapter + INO Montageadapter + INO	M22-AK10	EATON	91.061.021	1	/8.9
-SB4	Hlavice prosvětleného tlačítka modrá Blue transparent switch Blau transparent Schalter	M22-DL-B	EATON	91.060.132	1	/9.6
-SB501	Total stop - hlavice + 2xNC Emergency-stop mushroom push - button + 2xNC Not-Aus-Pilz - Taster + 2xNC	YW1B-V4E02R	IDEC	91.060.084	1	/9.4

The manufacturer reserves right to use an equivalent replacement device.

 BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: WorkLine 410.280 DG	Název stránky/Name page/Name seiten: Kusovník artiklů / Parts list / Artikelstückliste	Číslo dok./Doc.No./Anzahl der Dokumente: ES-101.303-B1/B2-V5.1		Liš/Paper/ Seite: 3.c
			Napájení/Power supply/Einspeisung: 3x400V + PE, 50 Hz		Liš/Paper/ Seite: 3.c
			Zpracoval/Processed /Hat verarbeitet: 13.06.2021		Liš/Paper/ Seite: 14

3.b

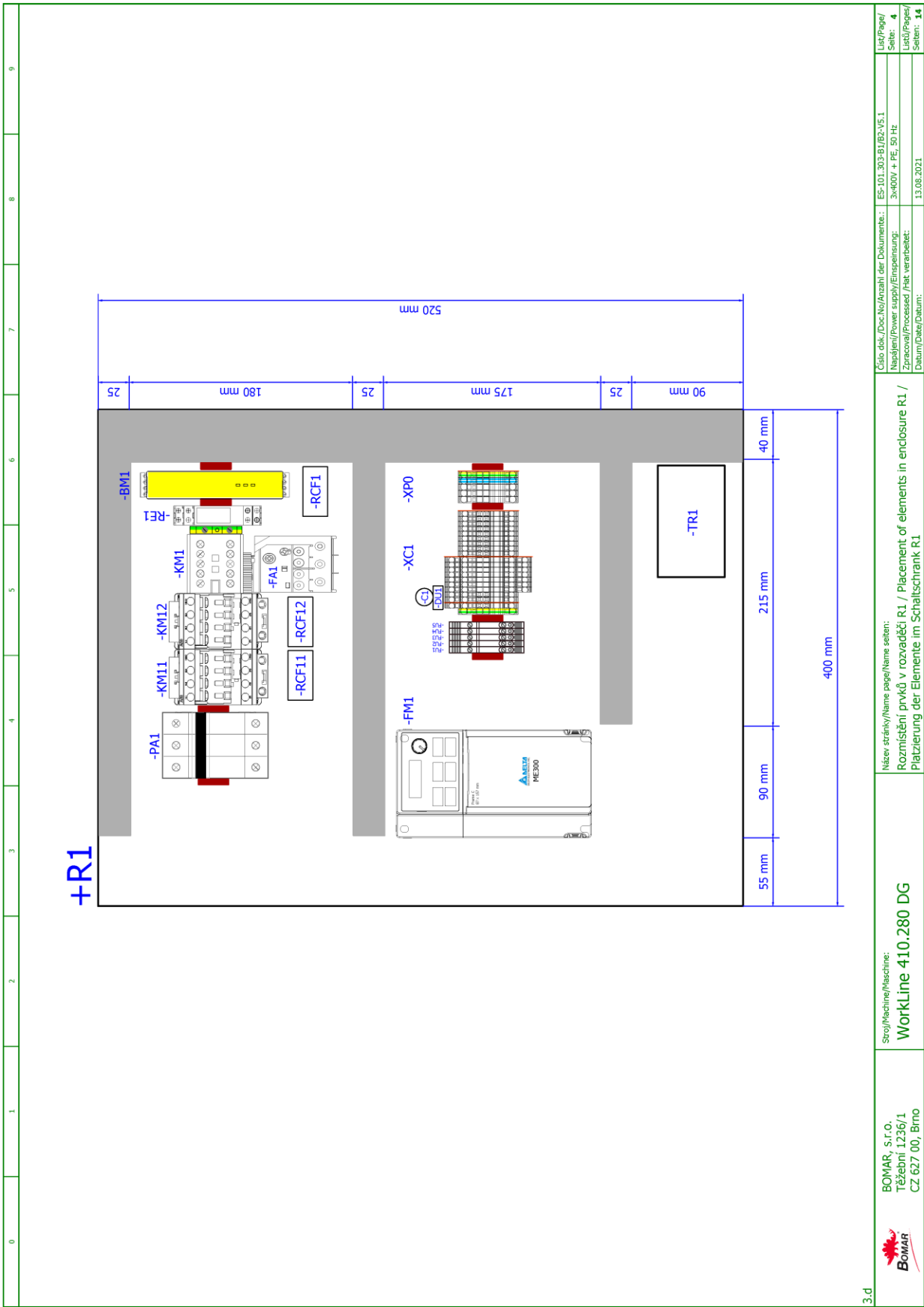
Kusovník artiklů / Parts list / Stückliste

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
-TR1	Toroidní transformátor - 400V/230V/17V 5,3A Toroidal transformer - 400V / 230V / 17V 5,3A Ringkerntransformator - 400V / 230V / 17V 5,3A	400V/230V/17V 5,3A 90VA	KARBAN s.r.o.	91.080.023	1	/6.6
-SQ21	Bezpečnostní koncový spínač - 2xNC Safety Limit Switch - 2x NC Sicherheitsendschalter - 2x NC	QKS8	KEDU	91.173.012	1	/9.4
-PA1	Pojistka válcová - 12A, 10x38, rychlá Tube fuse - 12A, 10x38, fast Rohrsicherung - 12A, 10x38, schnell	PV10 12A gG	OEZ	91.231.007	3	/7.2
-SQ1	Koncový spínač - 1NC+1NO Limit switch - 1NC+1NO Endschalter - 1NC+1NO	D4N-4A31	OMRON	91.173.007	1	/8.2
-SQ2	Koncový spínač - 1NC+1NO Limit switch - 1NC+1NO Endschalter - 1NC+1NO	D4N-4A31	OMRON	91.173.007	1	/8.4
-FM1	Frekvenční měnič - 2,2kW, 3x400VAC Frequency converter - 2,2kW, 3x400VAC Frequenzumrichter - 2,2kW, 3x400VAC	VFD5ASME43AFNAA	DELTA ELECTRONICS, INC.	91.012.190	1	/7.2
-M1	Čerpadlo chlazení 120W Cooling pump 120W Kühlpumpe 120W	PA70/120	SAP srl	91.020.032	1	/6.3
-DU1	Usměrňovací můstek - 6A, 100V Rectifier bridge - 6A, 100V Brückengleichrichter - 6A, 100V	KBU6B	SOS Electronic, spol. s r.o.	91.280.019	1	/6.7
-M3	Ventilátor 24VDC, 154CFM Fan 24VDC, 154CFM Fan 24VDC, 154CFM	RDH1238 B2	Xinrui Electronic Co.	91.015.126	1	/8.5

The manufacturer reserves right to use an equivalent replacement device.

3.c

 BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: WorkLine 410.280 DG	Název stránky/Name page/Name seiten: Kusovník artiklů / Parts list / Artikelstückliste	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-101.303-B1/B2-V5.1	List/Page/ Seite: 3.d
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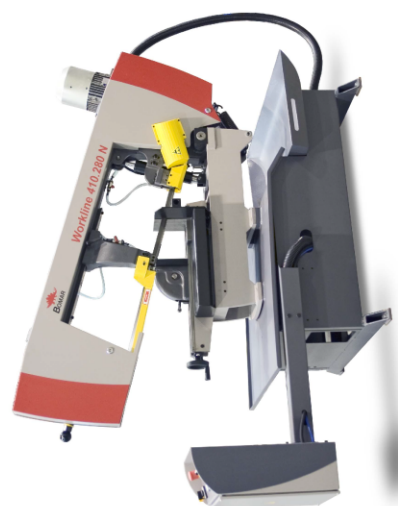


 BOMAR, S.r.o. Těžební 1236/1 CZ 627 00, Brno	Stroj/Machine/Machine: WorkLine 410.280 DG	Název stránky/Name page/Name sheet: Ovládací část / Control part / Betriebsstellungssteuerskreis	Císlo dok./Doc.No./Anzahl der Dokumente.: ES-101.303-B1/B2-V5.1 Náapiln/Power supply/Einspeisung: 3x400V + PE, 50 Hz Zpracoval/Processed / Hat. verarbeitet: Datum/Date/Datum: 13.08.2021	List/Page/ Seite: 8 List/Page/ Seite: 14
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					Bomar, spol. s r.o. Těžební 1236/1 627 00 Brno Czech republic							
												
WorkLine 410.280 DG ES-101.303-B3-V5.1 Wiring diagram 3x230V + PE, 50-60 Hz												
 BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno					Stroj/Machine/Maschine: WorkLine 410.280 DG					Název stránky/Name page/Name seiten: Úvodní strana / Start page / Startseite	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-101.303-B3-V5.1 Napájení/Power supply/Einspeisung: 3x230V + PE, 50-60 Hz Zpracováno/Processed /Hat verarbeitet: 13.06.2021	List/Page/ Seite: 1 List/Page/ Seite: 14

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/3.c	Kusovník artiklů / Parts list / Artikelstückliste	13.08.2021
/3.d	Kusovník artiklů / Parts list / Artikelstückliste	20.08.2020
/4	Rozmístění prvků v rozvaděči R1 / Placement of elements in enclosure R1 / Platzierung der Elemente im Schaltschrank R1	13.08.2021
/5	Rozmístění prvků na ovládacím panelu / Placing the elements on the control panel / Die Platzierung der Elemente auf dem Bedienfeld	13.08.2021
/6	Silová část / Power part / Feld partie	13.08.2021
/7	Silová část / Power part / Feld partie	20.08.2020
/8	Ovládací část / Control part / Betätigungssteuirkreis	13.08.2021
/9	Bezpečnostní okruh / Safety circle / Sicherheitsbereich	13.08.2021
/10	Příslušenství / Accessories / Zubehör	13.08.2021

 BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: WorkLine 410.280 DG	Název stránky/Page name/Name seiten: Obsah / Table of contents / Inhaltsverzeichnis	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-101.303-B3-V5.1 Napájení/Power supply/Enspenung: 3x230V + PE, 50-60 Hz Zpracováno/Processed/Has verarbeitet: Datum/Date/Datum: 13.08.2021	List/Page/ Seite: 2
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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
-BM1	Bezpečnostní relé 24VDC, 3NO/1NC Safety relay 24VDC, 3NO/1NC Sicherheitsrelais 24VDC, 3NO/1NC	ABB.2TLA010040R0000	ABB	91.051.076	1	/9.5
-TR1	Držák Holder Inhaber	30.6030-413	BOMAR s.r.o.	30.6030-413	1	/6.6
-FU1	Pojistka trubičková - 2A/250V, pomalá, 5x20 Tube fuse - 2A/250V, slow, 5x20 Rohrsicherung - 2A / 250V, langsam, 5x20	T2A/250V	ESKA	91.230.001	1	/6.5
-FU2	Pojistka trubičková - 2A/250V, pomalá, 5x20 Tube fuse - 2A/250V, slow, 5x20 Rohrsicherung - 2A / 250V, langsam, 5x20	T2A/250V	ESKA	91.230.001	1	/6.5
-FU3	Pojistka trubičková - 4A/250V, pomalá, 5x20 Tube fuse - 4A/250V, slow, 5x20 Rohrsicherung - 4A / 250V, langsam, 5x20	T4A/250V	ESKA	91.230.015	1	/6.9
-FU5	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	/10.7
-RP1	Potenciometr 4k7 Potentiometer 4k7 Potentiometer 4k7	TP195 4k7/N20A	Elektronické součástky CZ, a.s	91.283.015	1	/7.6
-HV1	Ventilový konektor, LED Valve Plug, LED Ventilanschluss, LED	VCAFA0322-LED	Finecables Co.,Ltd.	93.017.077	1	/8.7
-HV2	Ventilový konektor, LED Valve Plug, LED Ventilanschluss, LED	VCAFA0322-LED	Finecables Co.,Ltd.	93.017.077	1	/8.9
-RP1	Hlavice potenciometru - 24mm Head of potentiometer 24mm Leiter Potentiometer 24mm	S8877 BLK	GES-ELECTRONICS, a.s.	91.060.063	1	/7.6
-C1	Kondenzátor Condenser Kondensator	2200uF/50V	GM Electronic s.r.o.	91.282.063	1	/6.8
-RCF0	RFC-filtr - 5.5 kW, 3x400V/230V, 25A RFC-filter - 5.5 kW, 3x400V/230V, 25A RFC-filter - 5.5 kW, 3x400V/230V, 25A	ATV31/5.5KW	Ing. Miroslav Vlček	91.041.027	1	/7.2

The manufacturer reserves right to use an equivalent replacement device.

 BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno	Strojí/Machine/Maschine: WorkLine 410.280 DG	Název stránky/Name page/Name seiten: Kusovník artiklů / Parts list / Artikelstückliste		Číslo dok./Doc.No./Anzahl der Dokumente.: ES-101.303-B3-V5.1 Napájení/Power supply/Einspeisung: 3x230V + PE, 50-60 Hz Zpracováno/Processed /Hat verarbeitet:		List/Paper/ Seite: 3
		Datum/Date/Datum:		13.06.2021		List/Paper/ Seite: 14
						List/Paper/ Seite: 14

Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednáací číslo Type number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-RCF1	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Vlček	91.041.015	1	/6.2
-RCF11	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Vlček	91.041.015	1	/6.6
-RCF12	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Vlček	91.041.015	1	/6.7
-FA1	Teplotné relé - 0.74A Thermal relay - 0.74A Thermische Relais - 0.74A	T16-0.74	ABB	91.050.021	1	/6.3
-FU1	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/THSI5U	WIELAND	91.251.102	1	/6.5
-FU2	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/THSI5U	WIELAND	91.251.102	1	/6.5
-FU3	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/THSI5U	WIELAND	91.251.102	1	/6.9
-FU4	Pojistka trubičková - 200mA/250V, pomalá, 5x20 Tube fuse - 200mA/250V, slow, 5x20 Rohrsicherung - 160mA / 250V, langsam, 5x20	T200mA/250V	ESKA	91.230.037	1	/10.1
-FU4	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/THSI5U	WIELAND	91.251.102	1	/10.1
-FU5	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/THSI5U	WIELAND	91.251.102	1	/10.7
-HL1	Signálka LED bílá na adaptér White LED light for adapter Weißes LED-Licht für Adapter	M22-LED-W	EATON	91.061.034	1	/9.9
-KM1	Ministrykač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B65-30-01-1.7-71	ABB	91.040.049	1	/8.3

The manufacturer reserves right to use an equivalent replacement device.

 BOMAR, s.r.o. Těšební 1236/1 CZ 627 00, Brno	Strojí/Machine/Maschine: WorkLine 410.280 DG	Název stránky/Name page/Name seiten: Kusovník artiklů / Parts list / Artikelstückliste	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-101.303-B3-V5.1 Napájení/Power supply/Enspannung: 3x230V + PE, 50-60 Hz Zpracováno/Processed /Fert. verarbeitet: 13.06.2021	List/Paper/ Seite: 3.a
				List/Paper/ Seite: 3.a
				List/Paper/ Seite: 14

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
-KM11	Stýkač 5,5kW/400V Contactor 5,5kW/400V Schütz 5,5kW/400V	AF12-30-01-11	ABB	91.040.051	1	/9.7
-KM11	Pomocný kontakt - 1xNO Auxiliary contact - 1xNO Hilfskontakt - 1xNO	CA4-10	ABB	91.041.044	1	/9.7
-KM12	Stýkač 5,5kW/400V Contactor 5,5kW/400V Schütz 5,5kW/400V	AF12-30-01-11	ABB	91.040.051	1	/9.8
-KM12	Pomocný kontakt - 1xNO Auxiliary contact - 1xNO Hilfskontakt - 1xNO	CA4-10	ABB	91.041.044	1	/9.8
-PA1	Pojistkový odpínač pro válcové vložky - 3p Switch fuse for the cylinder inserts - 3p Schalter Sicherung für den Zylinderinsätze - 3p	E 93/32	ABB	91.241.014	1	/7.2
-QS1	3 pólový odpínač, 25A Disconnecter - 3P, 25A Trennschalter - 3P, 25A	OT25FT3	ABB	91.170.016	1	/6.0
-QS1	Kryt svorek Terminal shroud Klemmenabdeckung	OTS40T3	ABB	91.170.017	1	/6.0
-QS1	Rukojeť odpínače 48x48mm - černá Handle switch 48x48mm - black Griffschalter 48x48mm - Schwarz	OHBS3PH	ABB	91.180.018	1	/6.0
-RE1	Patice pro relé Relay socket Relaissockel	CR-PSS	ABB	91.051.048	1	/8.6
-RE1	Patčové relé CR-P Plug-in relay CR-P Stecken Sie in Relais CR-P	CR-P024DC2	ABB	91.051.049	1	/8.6
-RP1	Svorťka rychloupínací Fastconnect clamp Fast Connect Klemm	WAGO 224-112	WAGO	91.250.009	3	/7.6
-SA1	Hlavice s otočným přepínačem - 4 polohy Head with rotary switch - 4 positions Kopf mit Drehschalter - 4 Positionen	M22 - WRK4	EATON	91.060.087	1	/8.2

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: WorkLine 410.280 DG	Název stránky/Name page/Name seiten: Kusovník artiklů / Parts list / Artikelstückliste	Číslo dok./Doc.No./Anzahl der Dokumente: ES-101.303-B3-V5.1		Účt./Page/ Seite: 3.a
				Napájení/Power supply/Einspeisung: 3x230V + PE, 50-60 Hz		Účt./Page/ Seite: 3.b
				Zpracováno/Processed /Hat verarbeitet: 20.08.2020		Účt./Page/ Seite: 14

Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednáací číslo Type number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-SA1	Upevňovací adaptér Mounting adapter Montageadapter	M22-A4	EATON	91.061.045	1	/8.2
-SA1	Kontaktní blok - INO Contact block - INO Kontaktblock - INO	M22-K10	EATON	91.061.022	3	/8.2
-SA1	Kontaktní blok - INC Contact block - INC Kontaktblock - INC	M22-K01	EATON	91.061.024	1	/8.2
-SA2	Přepínač 2 polohy Switch 2 positions Schalter 2 Positionen	M22 - WKV	EATON	91.060.037	1	/10.1
-SA2	Upevňovací adaptér + INO Attaching adapter + INO Montageadapter + INO	M22-AK10	EATON	91.061.021	1	/10.1
-SB1	Hlavice tlačítka - zelená Head buttons - green Kopflasten - grün	M22 - D-G	EATON	91.060.036	1	/8.5
-SB1	Upevňovací adaptér + INO Attaching adapter + INO Montageadapter + INO	M22-AK10	EATON	91.061.021	1	/8.5
-SB2	Upevňovací adaptér + INC Attaching adapter + INC Anbringen Adapter + INC	M22-AK01	EATON	91.061.020	1	/8.6
-SB2	Hlavice tlačítka - černá Head button - black Kopflaste - schwarz	M22-D-S	EATON	91.060.035	1	/8.6
-SB3	Hlavice dvoutlačítka bílá/černá šipka nahoru/dolů Double button head white/black, arrow up/down Doppelrundkopf weiß / schwarz, Pfeil nach oben / unten	M22-DDL-WS-**-*	EATON	91.060.054	1	/8.9
-SB3	Upevňovací adaptér + INO Attaching adapter + INO Montageadapter + INO	M22-AK10	EATON	91.061.021	1	/8.9
-SB4	Hlavice prosvětleného tlačítka modrá Blue transparent switch Blau transparent Schalter	M22-DL-B	EATON	91.060.132	1	/9.6

The manufacturer reserves right to use an equivalent replacement device.

3.b

 BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno	Stroj/Machine: WorkLine 410.280 DG	Název stránky/Name page/Name seiten: Kusovník artiklů / Parts list / Artikelstückliste	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-101.303-B3-V5.1	List/Paper/ Seite: 3.c
			Název/Power supply/Enspierung: 3x230V + PE, 50-60 Hz	List/Paper/ Seite: 3.c
			Zpracoval/Processed /Fert. verarbeitet: 13.06.2021	List/Paper/ Seite: 14

Kusovník artiklů / Parts list / Stückliste

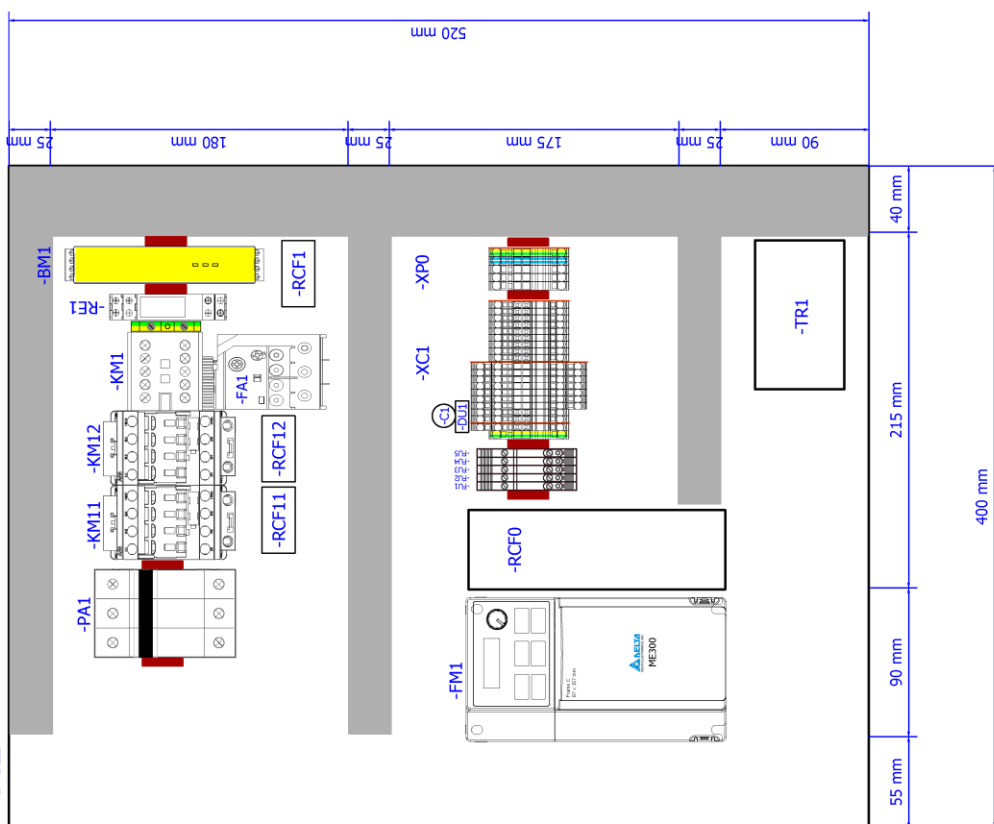
Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednávací číslo Type number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-SB501	Total stop - hlavice + 2xNC Emergency-stop mushroom push - button + 2xNC Not-Aus-Pliz - Taster + 2xNC	YW1B-V4E02R	IDEC	91.060.084	1	/9.4
-TR1	Toroidní transformátor - 400V/230V/17V 5,3A Toroidal transformer - 400V / 230V / 17V 5,3A Ringkerntransformator - 400V / 230V / 17V 5,3A	400V/230V/17V 5,3A 90VA	KARBAN s.r.o.	91.080.023	1	/6.6
-SQ21	Bezpečnostní koncový spínač - 2xNC Safety Limit Switch - 2x NC Sicherheitsendschalter - 2x NC	QKS8	KEDU	91.173.012	1	/9.4
-PA1	Pojistka válcová - 25A, 10x38, rychlá Tube fuse - 25A, 10x38, fast Rohrsicherung - 25A, 10x38, schnell	PV10 25A gG	OEZ	91.230.021	3	/7.2
-SQ1	Koncový spínač - 1NC+1NO Limit switch - 1NC+1NO Endschalter - 1NC+1NO	D4N-4A31	OMRON	91.173.007	1	/8.2
-SQ2	Koncový spínač - 1NC+1NO Limit switch - 1NC+1NO Endschalter - 1NC+1NO	D4N-4A31	OMRON	91.173.007	1	/8.4
-FM1	Frekvenční měnič - 3,7kW, 3x230VAC Frequency converter - 3,7kW, 3x230VAC Frequenzumrichter - 3,7 kW, 3x230VAC	VFD17AME23ANNA	DELTA ELECTRONICS, INC.	91.012.196	1	/7.2
-M1	Čerpadlo chlazení 120W Cooling pump 120W Kühlpumpe 120W	PA70/120	SAP srl	91.020.032	1	/6.3
-DU1	Usměrňovací můstek - 6A,100V Rectifier bridge - 6A, 100V Brückengleichrichter - 6A, 100V	KBU6B	SOS Electronic, spol. s r.o.	91.280.019	1	/6.7
-M3	Ventilátor 24VDC, 154CFM Fan 24VDC, 154CFM	RDH1238 B2	Xinrullian Electronic Co.	91.015.126	1	/8.5

The manufacturer reserves right to use an equivalent replacement device.

3.c

 BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: WorkLine 410.280 DG Název stránky/Name page/Name sheet: Kusovník artiklů / Parts list / Artikelstückliste	Číslo dok./Doc.No./Anzahl der Dokumente: ES-101.303-B3-V5.1 Napájení/Power supply/Einspeisung: 3x230V + PE, 50-60 Hz Listo/Page/Seite: 3.d Zpracováno/Processed /Hat verarbeitet: 20.08.2020 Datum/Dat./Datum: 20.08.2020 Listo/Page/Seite: 14
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+R1



3.d



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

Stroj/Machine/Maschine:
WorkLine 410.280 DG

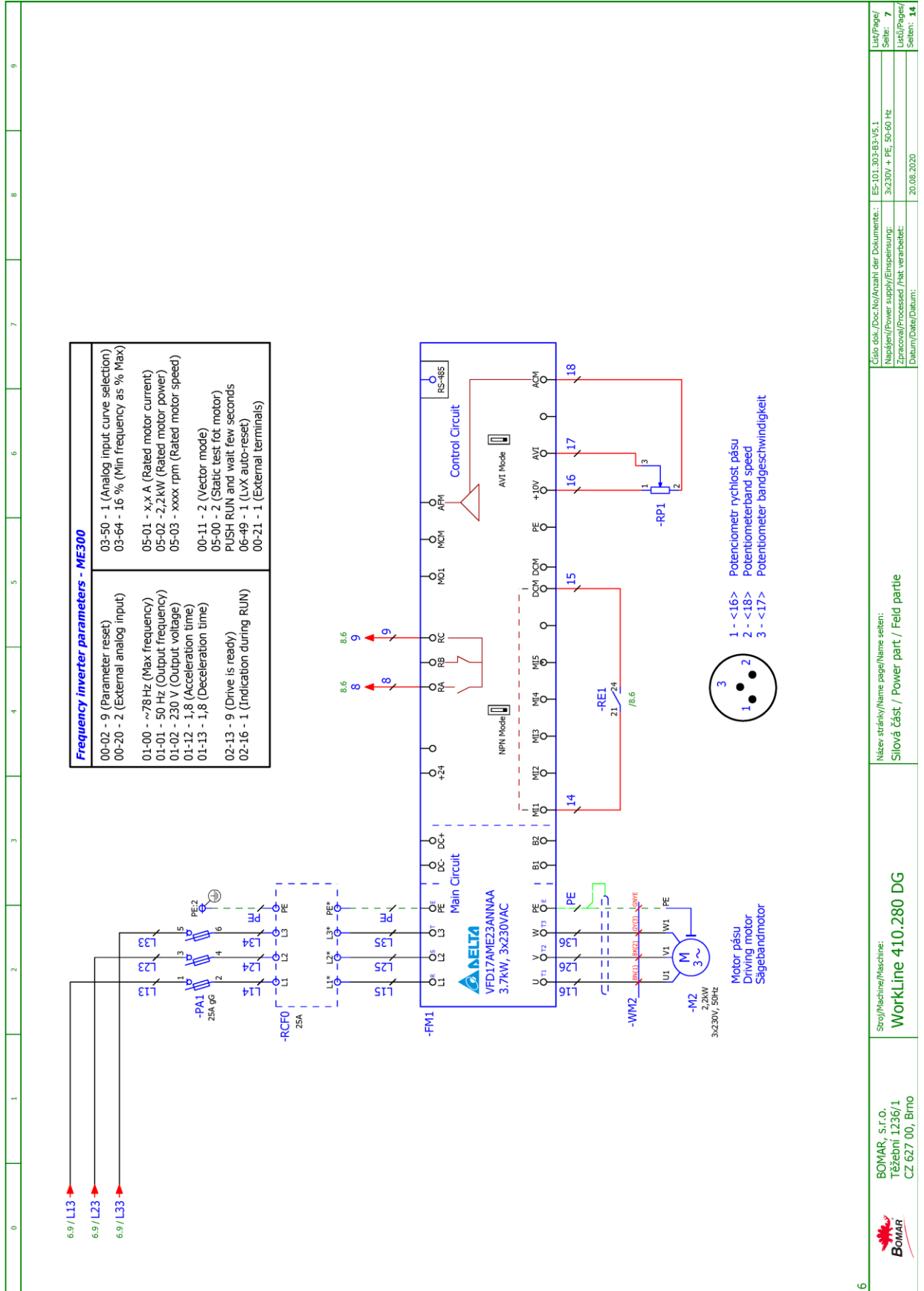
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Platzierung der Elemente im Schaltschrank R1

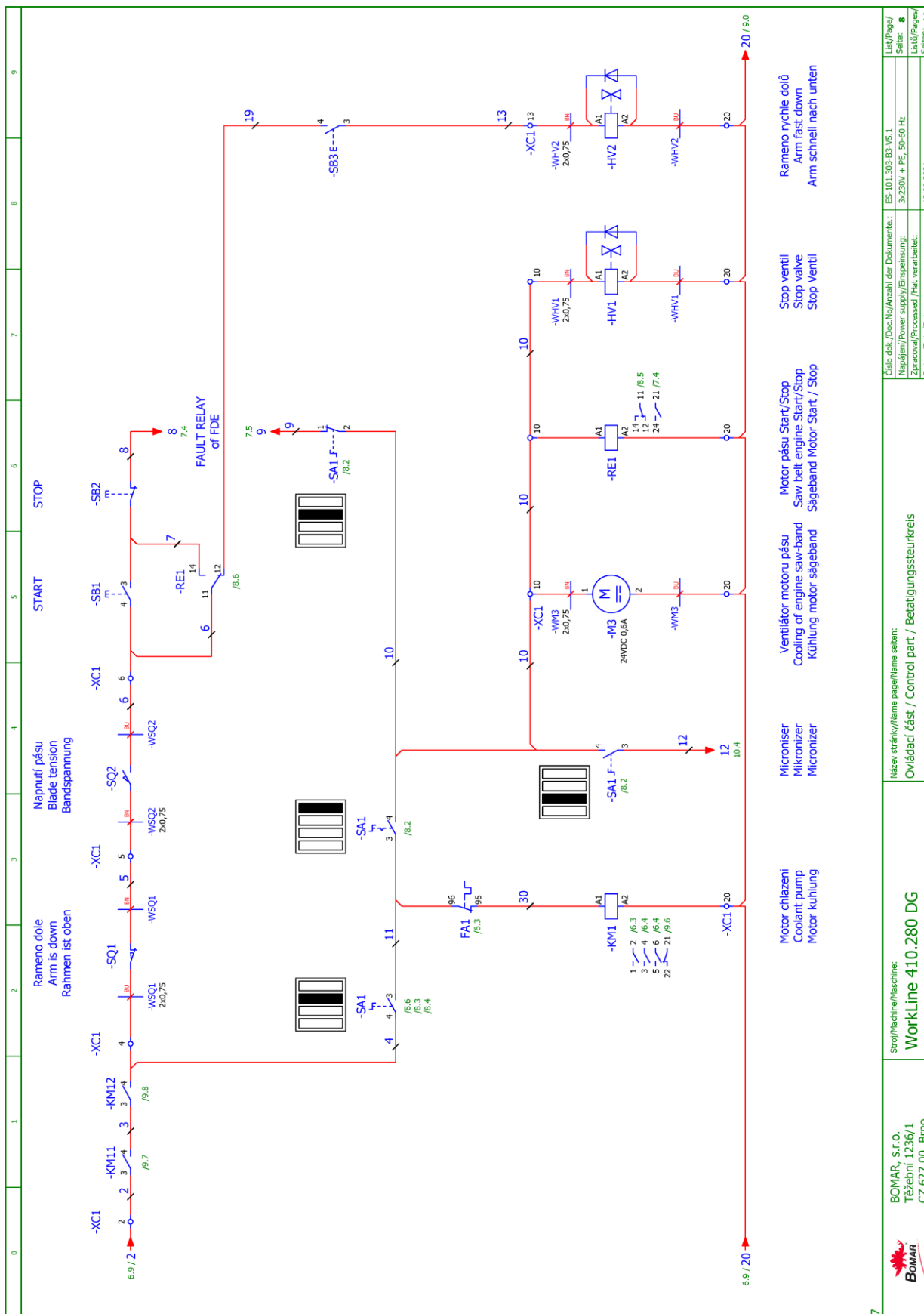
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Napájení/Power supply/Einspeisung: 3x230V + PE, 50-60 Hz
Zpracováno/Processed /Hat verarbeitet:
Datum/Date/Datum: 13.06.2021

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+OP1





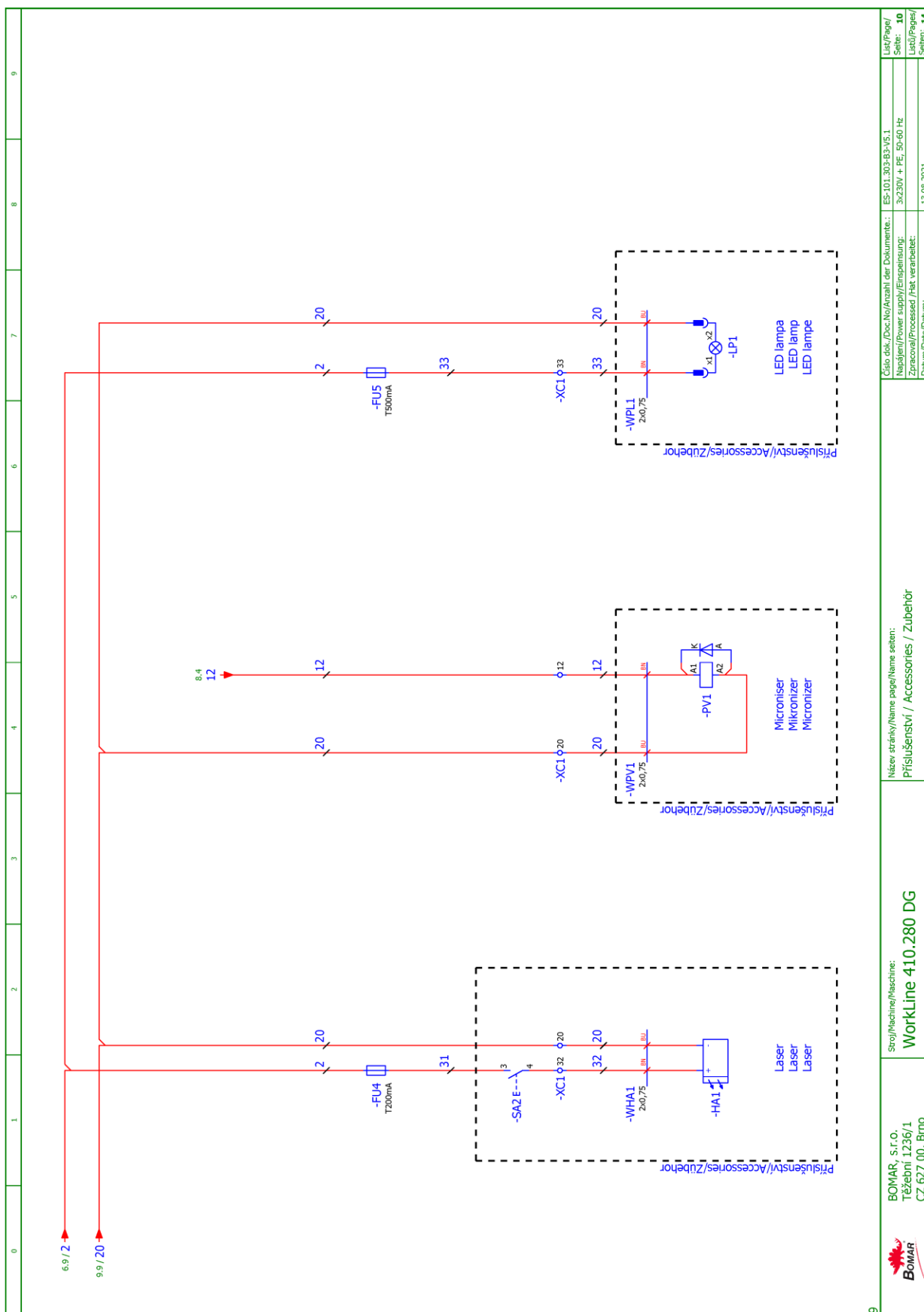


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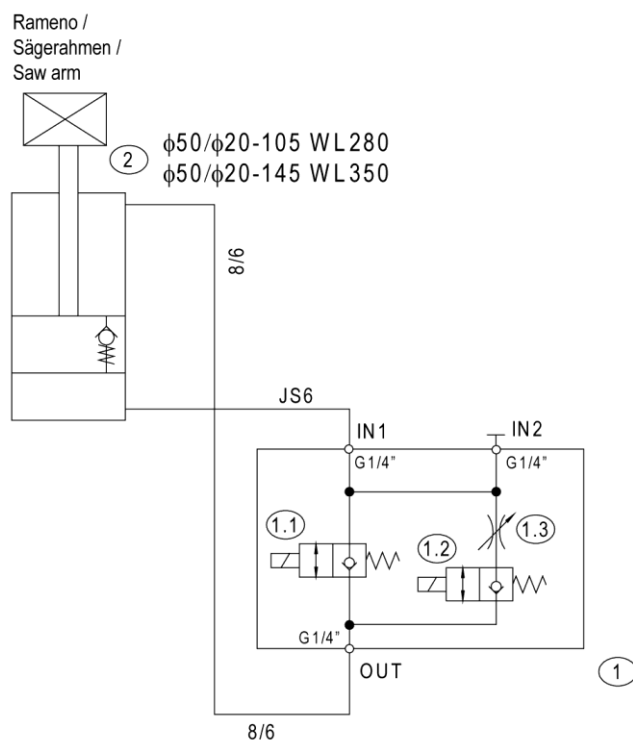
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	BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: WorkLine 410.280 DG	Název stránky/Name page/Name seiten: Bezpečnostní okruh / Safety circle / Sicherheitsbereich	Číslo dok./Doc.No./Anzahl der Dokumente: ES-101_303-83-V5.1 Napájení/Power supply/Einspeisung: 3x230V + PE, 50-60 Hz Zpracováno/Processed / Hat verarbeitet: Datum/Date/Datum: 13.08.2021	List/Page/ Seite: 9 List/Page/ Seite: 14
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6.2. Hydraulické schéma / Hydraulikschema / Hydraulic diagram



205.M216-000

WORKLINE 280 var.: N / G / DG
WORKLINE 350 var.: N / G / DG

24.2.2011

Poz.	Název položky		ks
Pos.	Bezeichnung		Menge
Pos.	Item		Pcs.
1	Kostka / Klotz / Cube	92.153.071	1
1.1	Rozváděč / Schaltschrank / Switchboard	TOTALSTOP 24VDC	1
1.2	Rozváděč / Schaltschrank / Switchboard	Rapidmove 24VDC	1
1.3	Škrticí ventil / Drosselventil / Throttle-valve	0–360st (0,1,2,...,7)	1
2	Válec zvedací / Hebezyylinder / Lifting cylinder	BOMAR	1

Attention!

The saw arm must always be in the down position after finishing work and resting or during longer intervals between cuts or at night. Otherwise there is a risk of damage to the hydraulic part of the saw arm.

All material must be removed from the saw area. (Risk of damage to the saw blade)

7. **Drawing assemblies for spare parts order**

- Při objednávání náhradních dílů vždy uvádějte: typ stroje (např. Workline 410.280 DG) , výrobní číslo (např. 125) a rok výroby (např. 1999).
- In die Bestellung der Ersatzteile führen Sie immer an: Maschinentyp (z. B. Workline 410.280 DG), Serien Nr. (z. B. 125) und Baujahr (z. B. 1999).
- For spare parts order, you must always to allege: type of machine (for example Workline 410.280 DG), serial number (for example 125, see cover page) and year of construction (for example 1999).

7.1. WORKLINE 410.280 DG

7.2. Kusovník / Piece list / Stückliste - WORKLINE 410.280 DG

NÁZEV SESTAVY				ČÍSLO SESTAVY		REVIZE	Kategorie: WL280DG-		Konstruktér: VINOHRADSKY		
PILA PASOVA				201.M200-000		8	Datum: 25.08.2022				
						8,6					
pos.	číslo výkresu	verze	množství	název	polotovár	jakost	pov.upr.	váha	poznámka		
2	201.M201-000	5	1	PODSTAVEC				130,9			
3	201.M202-100 (5)	2	1	KONZOLA OTOCNA				315			
4	201.M203-000	3	1	SVERAK	SESTAVA SESTAVA			43,0			
5	201.M204-200 (2)	12	1	RAMENO				113,4			
6	201.M207-300 (8)	0	1	VALEC ZVEDACI	SESTAVA	SESTAVA		3,1			
7	201.M209-000	2	1	PODSTAVEC				79,0			
8	201.M230-200 (4)	3	1	OVLADACI PANEL				346804,9			
9	30.M299-001	5	1	STITEK TYPOVY	P 0,5x65 - 76 30.M299-110			0,0			
11	31.0599-005 (7)	0	2	STITEK	pozor světlák 40x35 mm			0,0			
12	99.900.040	0	1	SAMOLEPKA	NR Nebezpečí říznutí			0,0			
13	99.900.043 (7)	0	1	SAMOLEPKA	NZ Nebezpečí zachycení			0,0			
14	99.900.047	0	1	SAMOLEPKA	OBS Noste brýle sluchátka			0,0			
15	99.900.048	0	1	SAMOLEPKA	PO Noste pevnou pracovní			0,0			
16	99.900.049	0	1	SAMOLEPKA	CN Přečíst návod k použití			0,0			
17	99.900.053 (7)	0	1	SAMOLEPKA	SŠ - Směrová šipka			0,0			
19	99.900.068 (4)	0	4	SAMOLEPKA	vozik			0,0			
20	99.901.038	2	1	SAMOLEPKA	WORKLINE 410.280 DGHANC new od 3_2013			1,3			
INDEX ZMĚNA											
1. ZRUSEN VALEC 201.LD07-000 A NAHR. 201.M207-000, 11.3.2011 ODVARKA											
2. ZRUS. RAMENO 201.M204-000 A NAHR. 201.M204-200, 21.9.ZM288 20.10.2011 SLEZACKOVA											
3. ZRUS. OVLADACI PANEL 201.M230-000 A NAHR. 201.M230-050, 061.ZM110 27.3.2012 SLEZACKOVA											
4. ZRUS. OVLADACI PANEL 201.M230-050 A NAHR. 201.M230-200, PRID. 4xSAMOLEPKA 99.900.068, 055, 293.ZM086 9.4.2014 SLEZACKOVA											
5. ZRUS. KONZOLA OTOCNA 201.M202-000 NAHR. KONZOLU OTOCNOU 201.M202-100 068.ZM/143 25.4.2018 SZABARI											
6. ZRUS. CERTIFIKACNI ZNACKA TUV SUD 99.901.032 282.ZM197 29.6.2021 KOVAR											
7. ZRUS. NALEPKA 31.3199-005 A NAHR. 2x31.0599-005; PRID. NALEPKA 99.900.043 A 99.900.053, 197.ZM211 15.5.2022 JAGNESAK											
8. ZRUS. VALEC ZVEDACI 201.M207-000 A NAHR. 201.M207-300, ZRUS. SAMOLEPKA 99.900.055, 180, 206.ZM244 26.10.2023 SLEZACKOVA											

Číslo Sestavy/Number of assembly: 201.M200-000

Název Sestavy/Name of assembly: Pila pasova

Verze /Version: 8

Název skupiny/Group name: WL280DG

Datum /Date: 25.08.2022

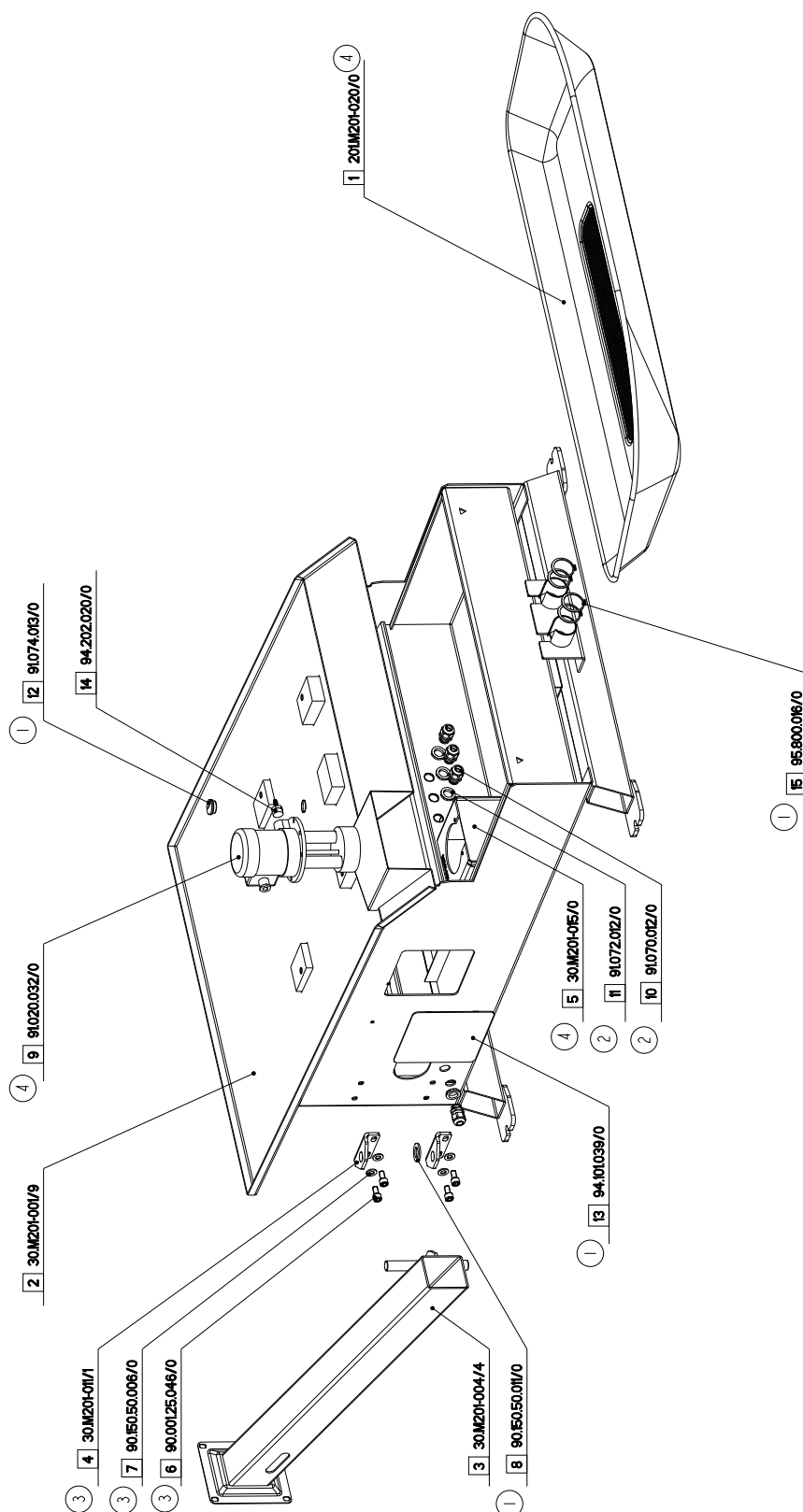
Konstruktor /Designer: VINOHRADSKY

Podpis /Signature: _____

Datum /Date: _____

Číslo Sestavy/Number of assembly/Nummer der Baugruppe; Verze [Ver./Version/Version; Název sestavy/Assembly name/Name der Baugruppe; Datum/Date/Datum; Konstruktér/Designer/Konstrukteur; Číslo výkresu/Drawing number/Zeichnung number; Název/Name/Name; Polotovár/Semi-product/Halbfabrikat; Vstupní materiál/Default material/Eingangsmaterial; Jakost/Norm/Norm; Pov. úpr./Surface finish/Oberflächenegüte; Váha/Weight/Gewicht; Poznámka/Note/Notiz

7.3. Podstavec / Base / Untersatz



	NAZEV SESTAVY	CISLO SESTAVY	STROJ
	PODSTAVEC	201.M201-000	WORKLINE 280
	Konstruoval:	VINOHRADSKY	
	Datum:	13. 10.2010	
	Meritko:	13:100	

7.4. Kusovník / Piece list / Stückliste - Podstavec / Base / Untersatz

NAZEV SESTAVY			CISLO SESTAVY	REVIZE			
PODSTAVEC			201.M201-000	5			
Poz.	Objednáč. číslo	Verze	Název CZ	Name EN	Name DE	Polotovar	ks /m
1	201.M201-020 (4)	0	VANA	TANK	WANNE		1
2	30.M201-001	9	PODSTAVEC	BASE	UNTERSATZ		1
3	30.M201-004	4	KONZOLA	BRACKET	KONSOLE		1
4	30.M201-011 (3)	1	KONZOLA	BRACKET	KONSOLE	<Chybné parametry pro polotovar '40.0010130' typu 'P'->	2
5	30.M201-015 (4)	0	PLECH	SHEET METAL	BLECH	P1.5 - 120x169	1
6	90.00125.046 (3)	0	SROUB IMBUS	HEXAGON SOCKET SCREW	IMBUSSCHRAUBE	10x20 DIN 912 8.8 černý	4
7	90.150.50.006 (3)	0	PODLOŽKA	WASHER	UNTERLEGSCHIBE	10,5 M10 DIN 125 Zn	4
8	90.150.50.011 (1)	0	PODLOŽKA	WASHER	UNTERLEGSCHIBE	21 M20 DIN 125 Zn	1
9	91.020.032 (4)	0	CERPADLO CHLAZENÍ	COOLING PUMP	KÜHLMITTELPUMPE	PA70/120 with filter 4,IPOMPA70120 + 22FILTRO-PA-nahr.91.020.004.906	4
10	91.070.012 (2)	0	VÝVODKA KLESTINOVA	COLLET WITH OUTLET	SPANNZANGENTÜLLE	AG-1545.20.13 V-BIMED M20x1,5 -černá	4
11	91.072.012 (2)	0	MATICE ČERNA	BLACK NUT	MUTTER ROH	AG-8245.20 M 20x1,5 - černá M-BIMED M20x1,5 -černá	4
12	91.074.013	0	UCPAVKA	PLUG	ABDICHTUNG	AG-8845.25 U-BIMED M25x1,5 -černá	1
13	94.101.039 (1)	0	ZATKA	PLUGBLIND PLUG	BLINDSTOPFEN	kryt otvoru 157x154x4, rozměr 167x167x3	1
14	94.202.020 (5)	0	REDUKCE	REDUCTION / ADAPTOR	REDUKTION	1/2"-6 GES 6-R1/2"	1
15	95.800.016 (1)	0	KROUZEK POJIST.VNEJS	EXTERNAL RETAINING RING	SICHERUNGSRING AUBEN	d42 DIN 471	4

1. DOPLNENÍ DRZAKU 30.M201-007, 30.M201-008, SKLUZU 30.M301-020, SROUBU 90.001.25.054, PODLOZKY 90.150.50.011, UCPAVKY 91.074.013, ZASLEPKY 94.101.039, 178/ZM223, 19.8.2011, ODVÁRKA

2. PRID.3xMATICE M20x1,5 91.172.012(CELKEM 4ks), ZM. POLOHY CERPADLA 91.020.004 A VÝVODEK 91.070.012, 251/ZM320 15.11.2012 SLEZACKOVA

3. ZRUS.DRZAK 30.M201-007 A NAHR. 30.M201-011, PRID. KRYT 30.M201-014, ZRUS.DESKA 30.M201-008, ZRUS.4xSROUB M10x60 (90.001.25.054) A NAHR. 4xSROUB M10x20(90.001.25.046, PRID. PODLOZKA 10.5(90.150.50.006), 213/ZM277 11.12.2015 SLEZACKOVA

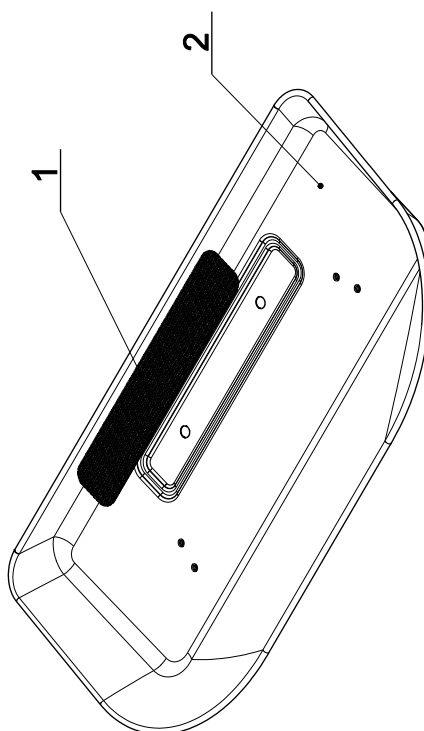
4. ZRUS.PLECH 30.M201-014 A NAHR. 30.M201-015, ZRUS.VANA 30.M201-010 A NAHR. 201.M201-020, ZRUS.SKLUZ 30.M301-020, ZRUS.CERPADLO 91.020.004 A NAHR. 91.020.032, PRID. REDUKCE 94.202.021 213/ZM020 26.1.2016 SLEZACKOVA

5. ZRUSENA REDUKCE 94.202.021 A NAHR. 94.202.020, 024/ZM200 29.6.2016 SLEZACKOVA

Číslo Sestavy/Number of assembly/Nummer der Baugruppe, Ver-Verze/Version/Version, Název sestavy/Assembly name/Name der Baugruppe, Poz-Position/Position/Position, Objednáč číslo/Order number/Bestellnummer, Polotovar/Semi-product/Halbfabrikat, Vstupní materiál/Starting material/Default material/Eingangsmaterial;

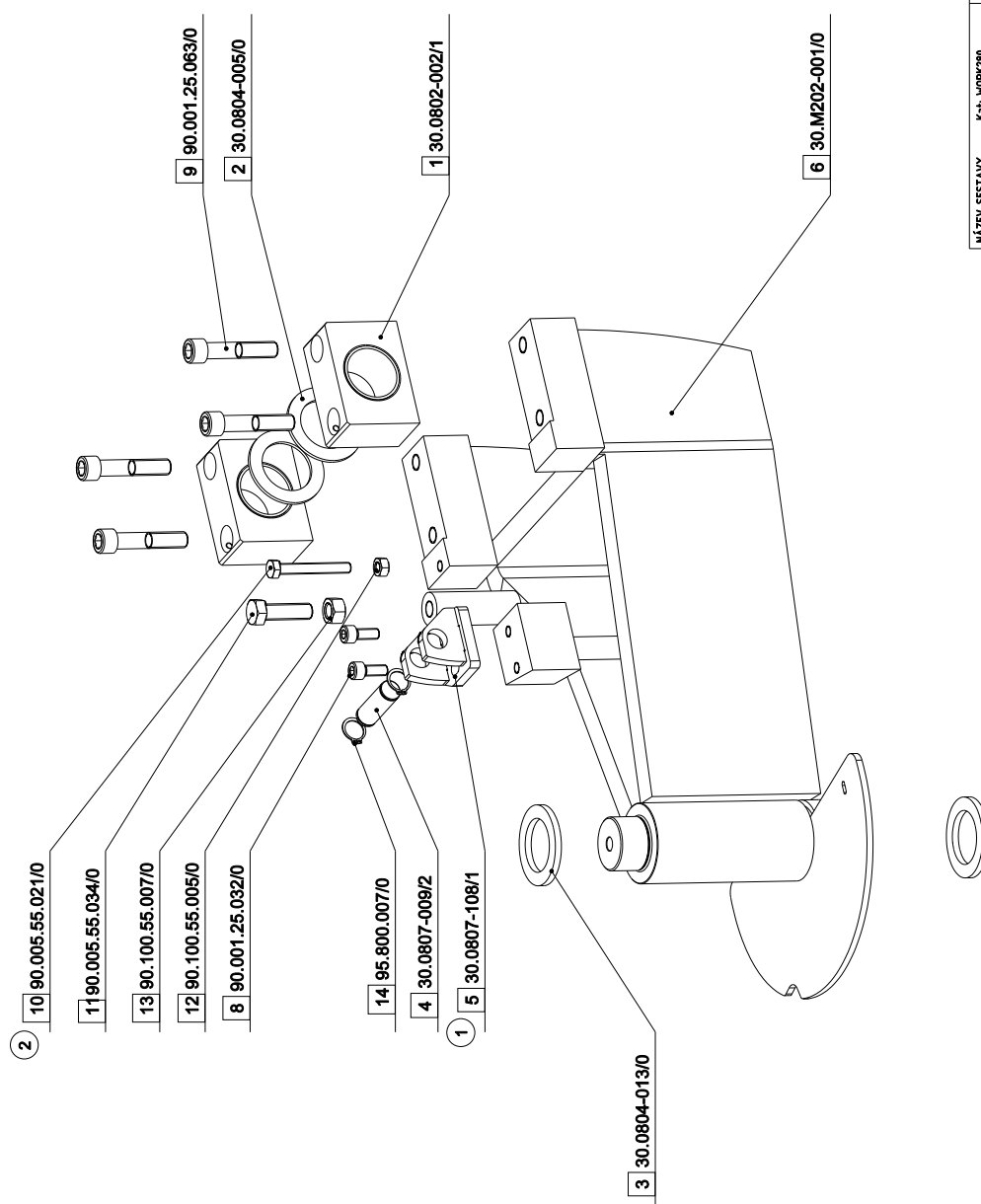
7.5. Vana/ Tank/ Wanne

Císlo Sestavy 201.M201-020		Ver. 0	Nazev sestavy VANA/TANK/WANNE	
Poz.	Objednací číslo	Ver.	Nazev položky	Ks
1	30.ER251-304	0	SITO / SIEVE / GITTERWERK	1
2	30.M201-021	0	VANA / TANK / WANNE	1



Císlo 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

7.6. Konzola otočná / Turnable consol / Drehkonsole



NÁZEV SESTAVY KONZOLA OTOČNÁ	Kač. WORK280-	ČÍSLO SESTAVY 201M202-100	Revize 2
Konstruoval: Datum: Měřičko:	VINOHRADSKY 25.08.2022 33:100	Lar/Jan/21	21

7.7. Kusovník / Piece list / Stückliste -
Konzola otočná / Turnable consol / Drehkonsole

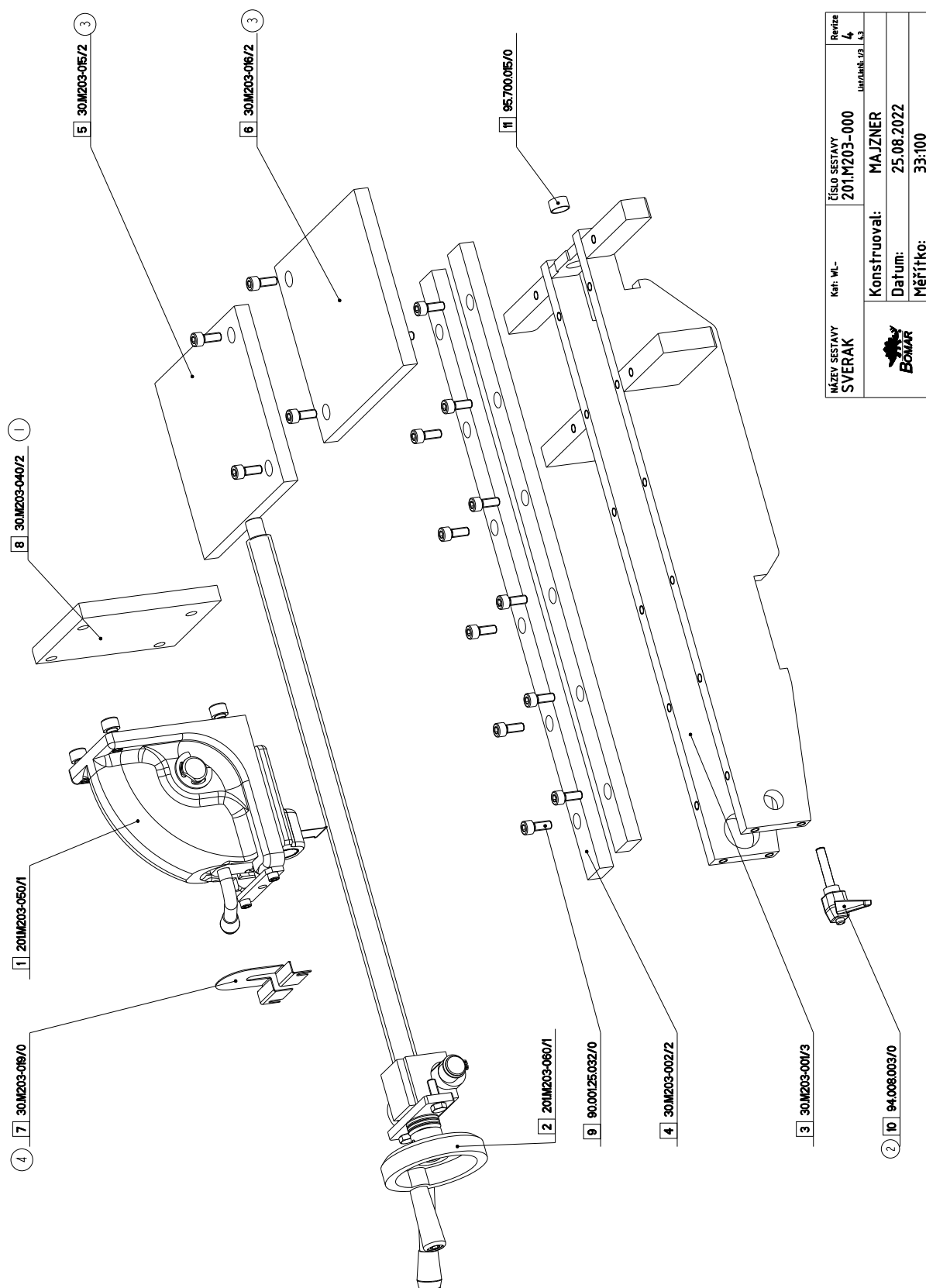
NAZEV SESTAVY		CISLO SESTAVY	REVIZE			
KONZOLA OTOCNA		201.M202-100	2			
Poz.	Objednáč. číslo	Verze	Název CZ	Name EN	Name DE	Položtovar
1	30.0802-002	1	LOŽISKO	BEARING	LAGER	
2	30.0804-005	0	KROUZEK	RING	RING	P3 - 60x60
3	30.0804-013	0	KROUZEK	RING	RING	P5 - 60x60
4	30.0807-009	2	CEP	PIVOT	BOLZEN	D16 - 51
5	30.0807-108	1	DRZAK	HOLDER	HALTER	
6	30.M202-001	0	KONZOLA OTOCNA	PIVOT BRACKET	DREHKONSOLE	
8	90.001.25.032	0	SROUB IMBUS	HEXAGON SOCKET SCREW	IMBUSSCHRAUBE	8x20
9	90.001.25.063	0	SROUB IMBUS	HEXAGON SOCKET SCREW	IMBUSSCHRAUBE	12x60
10	90.005.55.021	0	SROUB 6HRANNY	HEX HEAD SCREW	SECHSKANTSCHRAUBE	8x60
11	90.005.55.034	0	SROUB 6HRANNY	HEX HEAD SCREW	SECHSKANTSCHRAUBE	12x40
12	90.100.55.005	0	MATICE PRESNA ZINEK	PRECISION NUT - ZN	PRÄZISE MUTTER - ZN	8
13	90.100.55.007	0	MATICE PRESNA ZINEK	PRECISION NUT - ZN	PRÄZISE MUTTER - ZN	12
14	95.800.007	0	KROUZEK POJIST.VNEJS	EXTERNAL RETAINING RING	SICHERUNGSRING AUBEN	d16

rpt.index

1.ZRUS. DRZAK 30.M202-008 A NAHR. DRZAKEM 30.0807-108. 280/ZM392 25.10.2021 KOVAR
2.ZRUS.DIL 30.0808-007 A NAHR.90.005.55.021. 118/ZM254 30.8.2022 JAGNESAK

Číslo Sestavy/Number of assembly/Nummer der Baugruppe, Ver-Verze/Version/Version, Název sestavy/Assembly name/Name der Baugruppe;; Poz.-Pozice/Position/Position; Objednáč. číslo/Order number/Bestellnummer;
Položtovar/Semiproduct/halbfabrikat; Vstupní materiál(Default material/Eingangsmaterial);

7.8. Svěrák / Vice / Schraubstock



NÁZEV SESTAVY SVĚRÁK	Kč: VL-	ČÍSLO SESTAVY 201M203-000	Revize	
			4	
			14/03/06 V2 L3	
			Konstruoval: MAJZNER	
			Datum: 25.08.2022	
 BOMAR	Měřičko: 33:100			

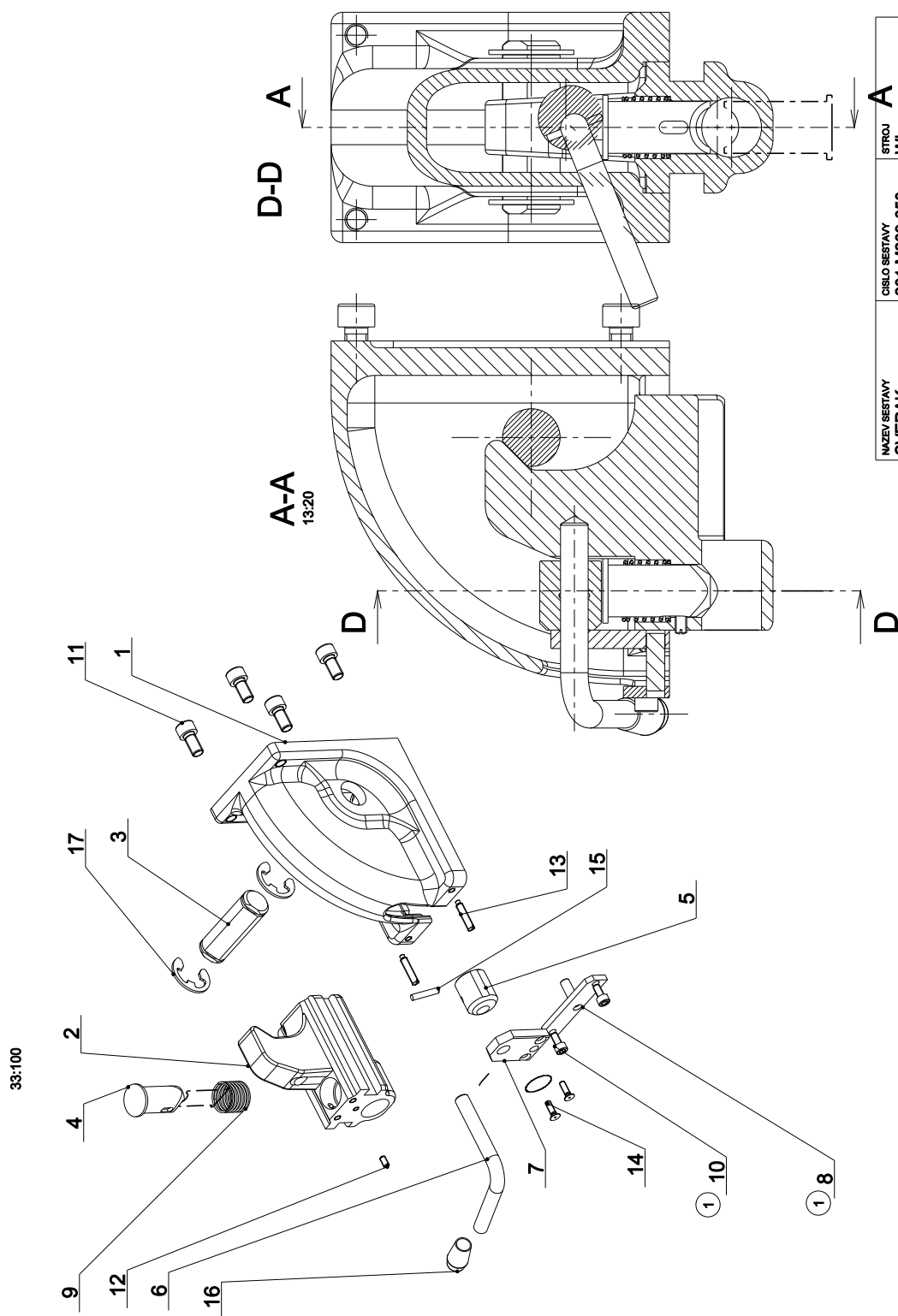
7.9. Kusovník / Piece list / Stückliste - Svěrák / Vice / Schraubstock

NAZEV SESTAVY SVERAK		CISLO SESTAVY 201.M203-000	REVIZE 4			
Poz.	Objednáč. číslo	Verze	Název CZ	Name EN	Name DE	Položovar
1	201.M203-050	1	SVERAK	VICE	SCHRAUBSTOCK	1
2	201.M203-060	1	SVERAK	VICE	SCHRAUBSTOCK	1
3	30.M203-001	3	TELESO SVERAKU	VICE BODY	SCHRAUBSTOCKKÖRPER	1
4	30.M203-002	2	LISTA VODICI	GUIDING SLAT	FÜHRUNGSLEISTE	2
5	30.M203-015	2	DESKA	BOARD	PLATTE	1
6	30.M203-016	2	DESKA	BOARD	PLATTE	1
7	30.M203-019	0	PLECH	SHEET METAL	BLECH	1
8	30.M203-040	2	DESKA	BOARD	PLATTE	1
9	90.001.25.032	0	SROUB IMBUS	HEXAGON SOCKET SCREW	IMBUSSCHRAUBE	16
10	94.008.003	0	PAKA MONTAZNI	ASSEMBLY LEVER	MONTAGEHEBEL	1
11	95.700.015	0	POUZDRO	SLEEVE	BÜCHSE	1

1. ZRUS, DESKA 30.M203-032 A NAHR 30.M203-040 181/ZM231 18.7.2012 ODVARKA
2. PRIDANA PAKA 94.008.003; 107/ZM202 21.6.2018 SCERBA
3. UP.TVARU DESKY 30.M203-016 A 30.M203-016, 331/ZM044 4.2.2022 SLEZACKOVA
4. PRIDAN PLECH 30.M203-019; 028/ZM048 9.2.2024 HALAS

Číslo Sestavy/Number of assembly/Nummer der Baugruppe, Ver-Verze/Version/Version, Název sestavy/Assembly name/Name der Baugruppe;; Poz-Position/Position/Position; Objednáč. číslo/Order number/Bestellnummer;
Položovar/Semiproduct/Halbfabrikat; Vstupní materiál/Default material/Eingangsmaterial;

7.10. Svěrák / Vice / Schraubstock



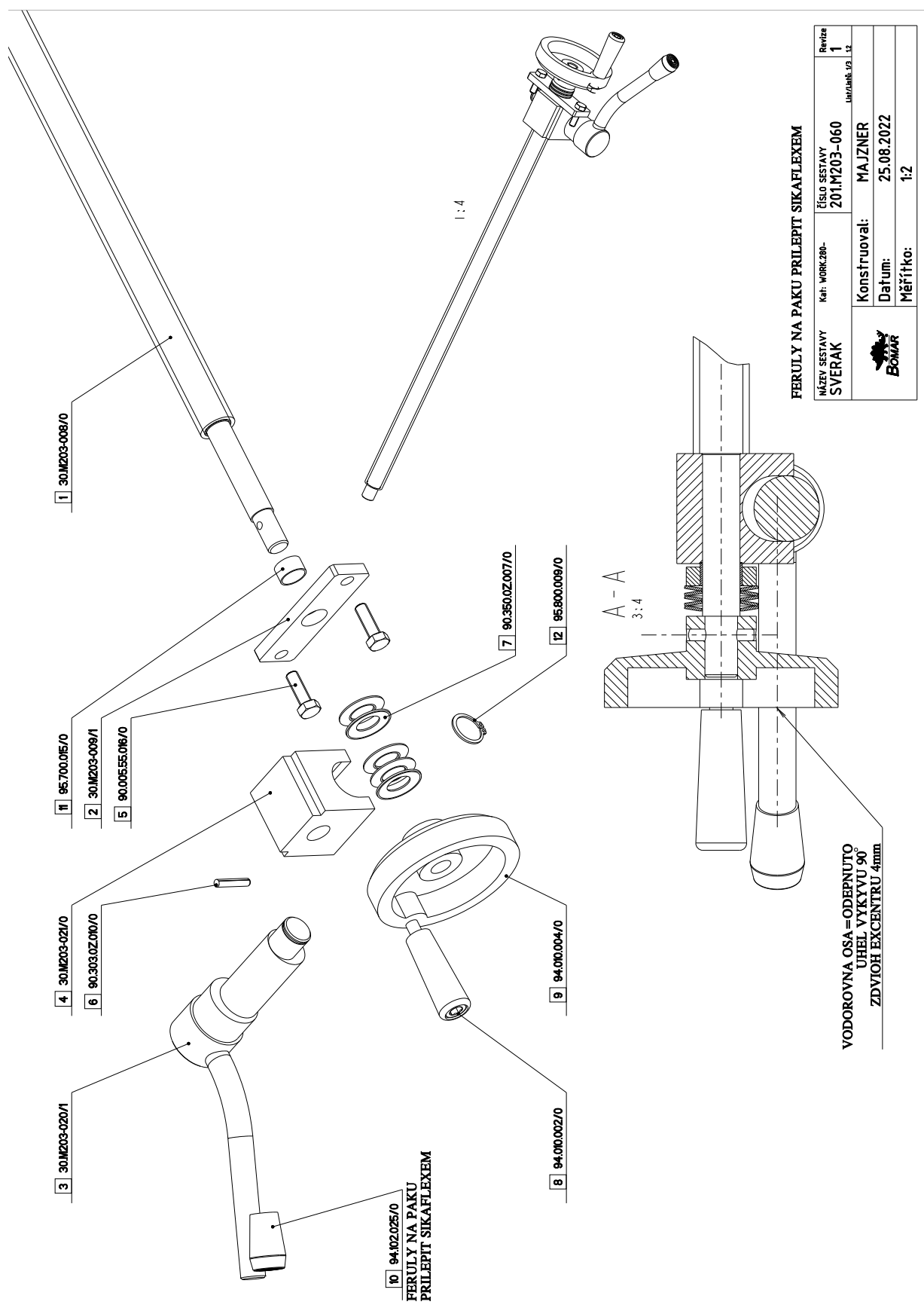
NAZEV SESTAVY SVERAK	CISLO SESTAVY 201.M203-050	STROJ WL	A
Konstruoval: MAJZNER			
Datum: 19. 07. 2012			
Merkto: 1:2			

7.11. Kusovník / Piece list / Stückliste - Svěrák / Vice / Schraubstock

Císlo Sestavy 201.M203-050		Ver. 0	Název sestavy SVERAK/VICE/SCHRAUBSTOCK		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.M203-003	0	TELESO SVERAKU / VICE BODY / SCHRAUBSTOCKKÖRPER	ODLITEK	1
2	30.M203-004	0	DORAZ / STOP PIECE / ANSCHLAG	ODLITEK	1
3	30.M203-005	0	CEP / PIVOT / BOLZEN	D 25	1
4	30.M203-006	0	CEP / PIVOT / BOLZEN	D 30	1
5	30.M203-007	0	EXCENTR / EXCENTER	d 28	1
6	30.M203-013	0	TAHLO / TOWING ROD / ZUGSTANGE	d 12	1
7	30.M203-014	0	DESKA / BOARD / PLATTE	HR 35x8	1
8	30.M203-041	0	DESKA / BOARD / PLATTE		1
9	31.M203-012	0	PRUŽINA / SPRING / FEDER	d 1.5x25x47x7,5	1
10	90.001.25.016	0	SROUB IMBUS / HEXAGON SOCKET SCREW / IMBUSSCHRAUBE	M6X12	2
11	90.001.25.046	0	SROUB IMBUS / HEXAGON SOCKET SCREW / IMBUSSCHRAUBE	M10X20	4
12	90.002.2D.005	0	SROUB STAVECI / SET SCREW / STELLSCHRAUBE	SROUB M5X10	1
13	90.004.2D.004	0	SROUB STAVECI / SET SCREW / STELLSCHRAUBE	SROUB M6X30	2
14	90.011.27.022	0	SROUB ZAPUSTNY / COUNTERSUNK SCREW / SENKSCRAUBE	SROUB M5X16	2
15	90.300.0Z.029	0	KOLIK VALCOVY KALENY / CYLINDRICAL PIN HARDENED / ZYLINDERSTIFT GEHÄRTET	KOLIK 5X28	1
16	94.102.024	0	ZATKA / PLUGBLIND PLUG / BLINDSTOPFEN	465387	1
17	95.802.005	0	PODLOŽKA POJISTNA / SAFETY WASHER / SICHERUNGSSCHEIBE	POJISTNY KROUZEK 19	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

7.12. Svěrák / Vice / Schraubstock



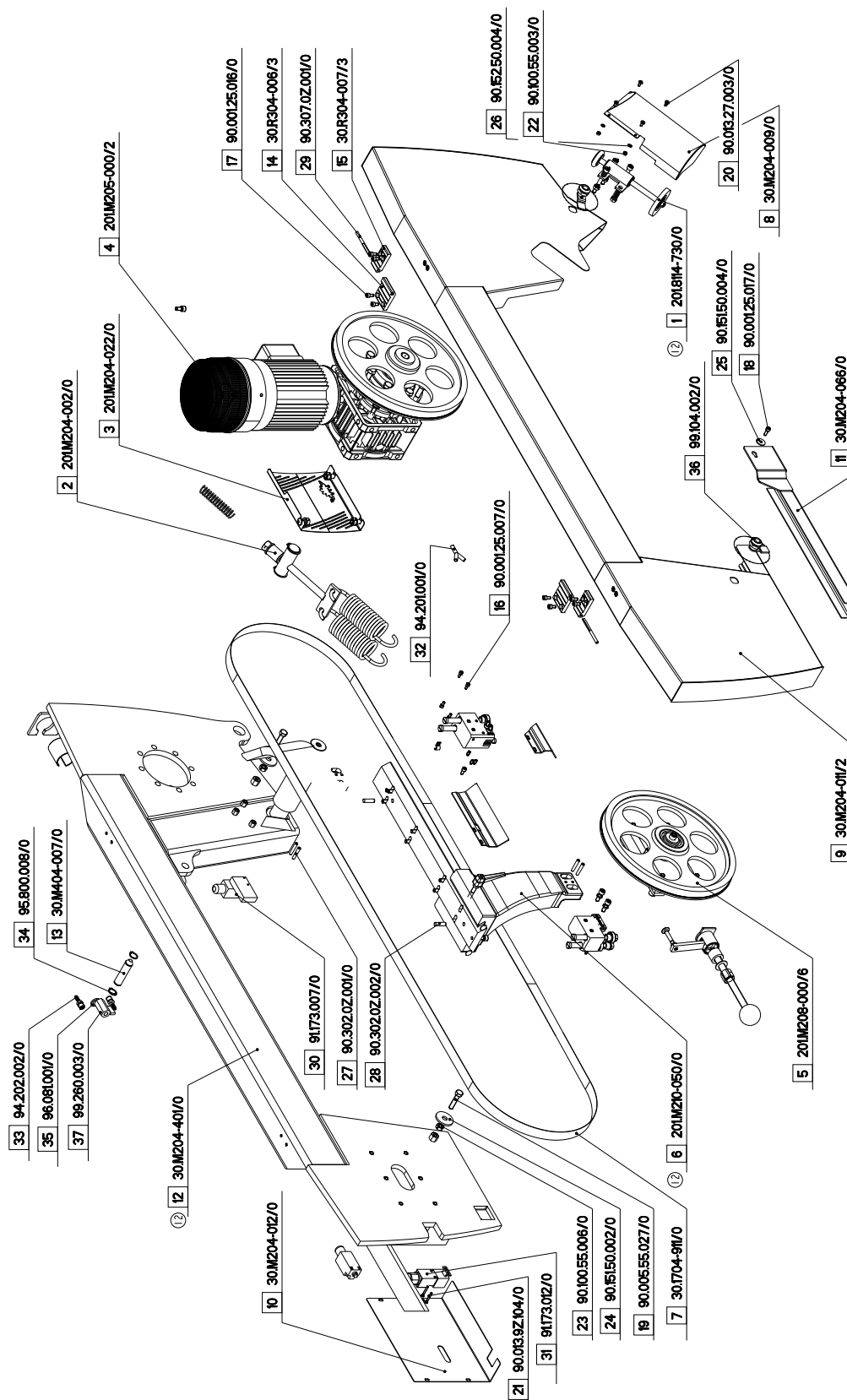
7.13. Kusovník / Piece list / Stückliste - Svěrák / Vice / Schraubstock

NAZEV SESTAVY SVERAK			CISLO SESTAVY 201.M203-060		REVIZE 1				rpt.index ks / m
Poz.	Objednací číslo	Verze	Název CZ	Name EN	Name DE	Položovar			
1	30.M203-008	0	SROUB	SCREW	SCHRAUBE	-Položovar nemá nastavené označení-	1		
2	30.M203-009	1	KOSTKA	CUBE	WÜRFEL	P8 – 30x95	1		
3	30.M203-020 (1)	1	EXCENTR	EXCENTR	EXZENTER		1		
4	30.M203-021 (1)	0	KOSTKA	CUBE	WÜRFEL	HR50x50 – 49	1		
5	90.005.55.016	0	SROUB 6HRANNY	HEX HEAD SCREW	SECHSKANTSCHRAUBE	8x25 DIN 933 8,8 Zn	2		
6	90.303.02.010	0	KOLIK PRUŽNY BEZ PU	FLEXIBLE PIN WITHOUT SURF. TREATMENT	FLACHENBEFESTIGUNG 1481		1		
7	90.350.02.007	0	PRUŽINA TALIROVA	DISC SPRING	TELLERFEDER	31,5x16,3x1,25 DIN 2093	5		
8	94.010.002	0	RUKOJET KOMPLETNÍ	COMPLETE HANDLE	KOMPLETTER GRIFF	plast. rukojeť kompletní M8	1		
9	94.010.004	0	KOLO	WHEEL	RAD	100 d14H7	1		
10	94.102.025	0	ZATKA	PLUGBLIND PLUG	BLINDSTOPFEN	16x36x29 černá kulatá ferule pro vysoké namáhání	1		
11	95.700.015	0	POUZDRO	SLEEVE	BÜCHSE	16x10	1		
12	95.800.009	0	KROUZEK POJIST.VNEJŠÍ	EXTERNAL RETAINING RING	SICHERUNGSRING AUBEN	d20 DIN 471	1		

I. ZRUS. EXCENTR 30.M203-010 A NAHR. 30.M203-020, ZRUS. KOSTKA 30.M203-011 A NAHR. 30.M203-021. 035/ZM033 20.2.2014 SLEZACKOVA

Číslo Sestavy/Number of assembly/Numer der Baugruppe, Ver-Verze/Version/Version, Název sestavy/Assembly name/Name der Baugruppe;; Poz-Position/Position/Position; Objednáč číslo/Order number/Bestellnummer;
Položovar/Semiproduct/halbfabrikat, Vstupní materiál/Default material/Eingangsmaterial;

7.14. Rameno / Saw arm / Sägerahmen



 BOMAR	NÁZEV ŠESTAY BRAMENO	Kač: WORKLINE8080- 201.M204--200	ČÍSLO ŠESTAY 201.M204--200	Revize 12
	Konstruoval: VINOHRADSKY			LM: 04.01.92
Datum: 25.08.2022		43.100		

7.15. Kusovník / Piece list / Stückliste - Rameno / Saw arm / Sägerahmen

NAZEV SESTAVY			CISLO SESTAVY		REVIZE		
RAMENO			201.M204-200		12		
Poz.	Objednáč číslo	Verze	Název CZ	Name EN	Name DE	Polotovar	k s /m
1	201.8114-730	(12)	KARTAC	BRUSH	BÜRSTE		1
2	201.M204-002	(9)	PRUŽINA	SPRING	FEDER		1
3	201.M204-022	(6)	KRYT	COVER	ABDECKUNG		1
4	201.M205-000		PREVODOVKA	GEARBOX	GETRIEBE		1
5	201.M208-000	6	NAPINANI	TENSIONING	SPANNUNG		1
6	201.M210-050	(12)	VEDENÍ PASU	SAW BAND GUIDE	SÄGEBANDFÜHRUNG		1
7	30.1704-911	(7)	PAS PÍLOVY 260	SAW BAND	SÄGEBAND		1
8	30.M204-009		KRYT KARTACKU	BRUSH COVER	BÜRSTENABDECKUNG		1
9	30.M204-011	2	KRYT	COVER	ABDECKUNG		1
10	30.M204-012		KRYT NAPINANI	COVER FOR TENSIONING DEV.	BANDSPANNUNGSABDECKUNG	P15 - 280x280	1
11	30.M204-066	(5)	KRYT PASU	BELT COVER	BANDABDECKUNG		1
12	30.M204-401	(12)	RAMENO	BEAM	RAHMEN		1
13	30.M404-007	(3)	CEP	PIVOT	BOLZEN	D18 - 76	1
14	30.R304-006	3	PANT	HINGE	TÜRBAND		2
15	30.R304-007	3	PANT	HINGE	TÜRBAND		2
16	90.001.25.007		SROUB IMBUS	HEXAGON SOCKET SCREW	IMBUSSCHRAUBE	5x10 DIN 912 8,8 černý	4
17	90.001.25.016	(7)	SROUB IMBUS	HEXAGON SOCKET SCREW	IMBUSSCHRAUBE	6x12 DIN 912 8,8 černý	8
18	90.001.25.017	(7)	SROUB IMBUS	HEXAGON SOCKET SCREW	IMBUSSCHRAUBE	6x16 DIN 912 8,8 černý	1
19	90.005.55.027	(11)	SROUB 6HRANNY	HEX HEAD SCREW	SECHSKANTSCHRAUBE	10x45 DIN 933 8,8 Zn	2
20	90.013.27.003		SROUB PULKULATY	BUTTON HEAD SCREW	RUNDKOPFSCHRAUBE	5x10 ISO 7380 čern	4
21	90.013.92.104	(10)	SROUB PULKULATY	BUTTON HEAD SCREW	RUNDKOPFSCHRAUBE	4x30 ISO 7380 TX A2 BEZPEČNOSTNÍ S KOLÍČKEM	2
22	90.100.55.003		MATICE PRESNA ZINEK	PRECISION NUT - ZN	PRÄZISE MUTTER - ZN	5 DIN 934 8,8 Zn	4
23	90.100.55.006		MATICE PRESNA ZINEK	PRECISION NUT - ZN	PRÄZISE MUTTER - ZN	10 DIN 934 8,8 Zn	2
24	90.151.50.002		PODLOŽKA VELKOPL.	LARGE WASHER	GROßFLÄCHENSCHIBE	13,5x44x4 M12 DIN 440 Zn	2
25	90.151.50.004	(7)	PODLOŽKA VELKOPL.	LARGE WASHER	GROßFLÄCHENSCHIBE	6,6x22x2 M6 DIN 440 Zn	1
26	90.152.50.004	(7)	PODLOŽKA VEJIROVA	FAN WASHER	FÄCHERSCHIBE	5,3 A DIN 6798 Zn	4
27	90.302.02.001		KOLIK KUZELOVY+ZAVIT	TAPER PIN + THREAD	KEGELBOLZEN + GEWINDE	6x36 DIN 7978	4
28	90.302.02.002		KOLIK KUZELOVY+ZAVIT	TAPER PIN + THREAD	KEGELBOLZEN + GEWINDE	8x30 DIN 7978	2
29	90.307.02.001		KOLIK RYHOVANY	GOOVED PIN	KERBSTIFT	6x80 6x80	2
30	91.173.007		SPINAC KONCOVY	END SWITCH	ENDSCHALTER	KBA11.11 Lovato [D4N-4A31] 1xNO/1xNC	2
31	91.173.012		SPINAC KONC.-ZAMEK	END SWITCH -LOCK	ENDSCHALTER - SCHLOSS	OKS8 2xNC, 250V/400V, 14A/8A, IP54	1
32	94.201.001		ROZDOJKA Y	Y-BRANCH	Y-STÜCK	6 YS 6	1
33	94.202.002		REDUKCE	REDUCTION / ADAPTOR	REDUKTION	1/4"-6 GES 6-R1/4"	2
34	95.800.008		KROUZEK POJIST.VNEJS	EXTERNAL RETAINING RING	SICHERUNGSRING AUBEN	d18 DIN 471	2

Číslo Sestavy/Number of assembly/Nummer der Baugruppe, Ver-Verze/Variation/Version, Název sestavy/Assembly name/Name der Baugruppe; Poz-Position/Position/Position; Objednáč číslo/Order number/Bestellnummer; Polotovar/Semi-product/Halbfabrikat; Vstupní materiál/Starting material/Default material/Eingangsmaterial;

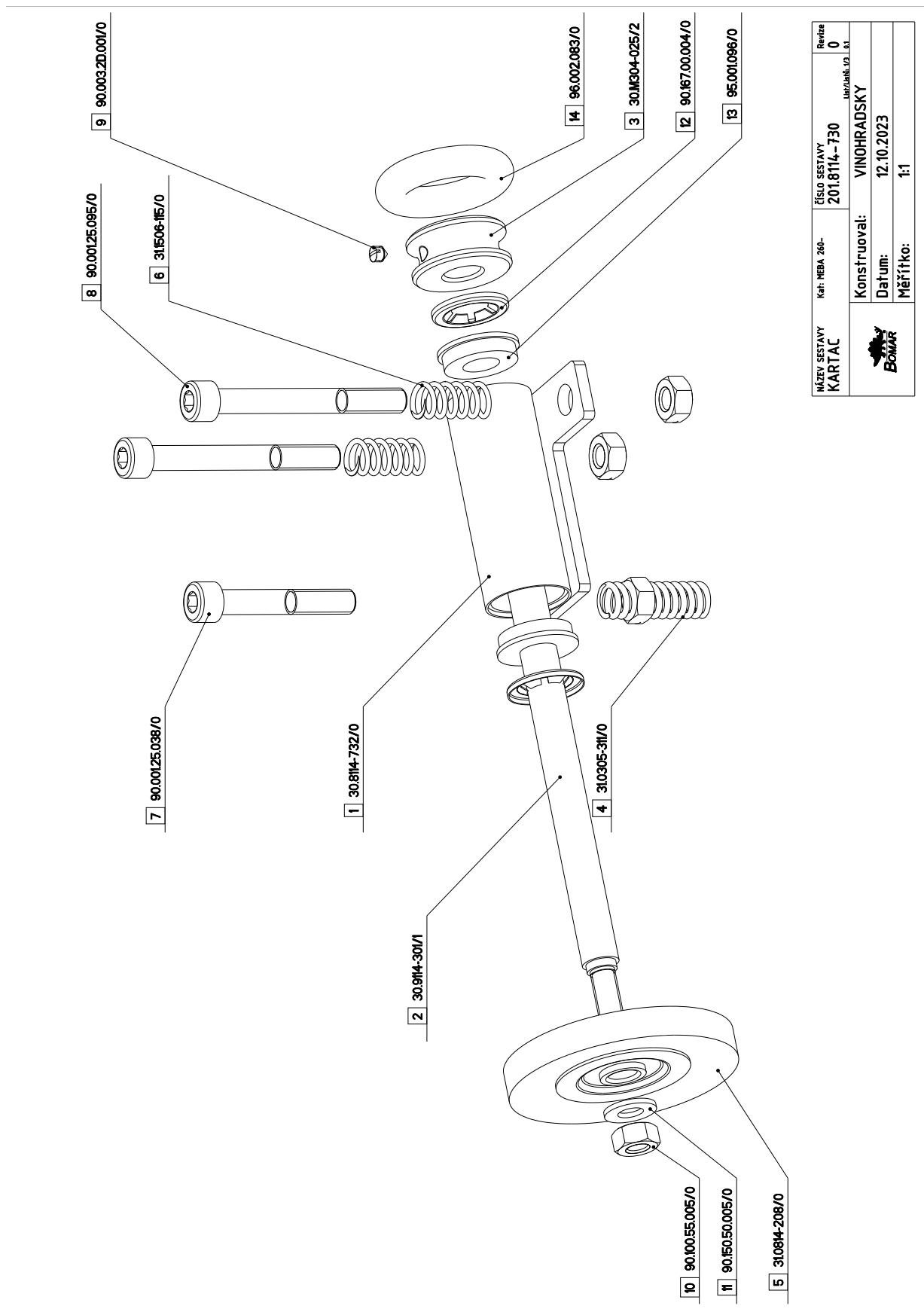
7.17. Kusovník / Piece list / Stückliste - Rameno / Saw arm / Sägerahmen

Poz.	Objednáč číslo	Verze	Název CZ	Name EN	Name DE	Položovar	k s / m
35	96.081.001	0	KROUZEK TESNICI	SEALING RING	DICHTUNGSRING	23x15x3 PRYŽ S TEXT. VLOŽKOU	1
36	99.104.002	0	ZÁMEK	LOCK	SCHLOSS	zámek na krytí ramene zámek + klíčka	2
37	99.260.003	0	VENTIL KULOVÝ	BALL VALVE	KUGELVENTIL	1/4" /// možno nahradit 99.260.004, vnitřní/vnitřní China	1

1. PRID. 1xPODLOZKA 30.9204-006, 1xPODLOZKA 90.150.50.009, 170/ZM238 13.8.2012 SLEZACKOVA
 2. ZRUS. PODLOZKA 30.9204-006 A NAHR. 90.162.00.002, 225/ZM288 4.10.2012 SLEZACKOVA
 3. ZRUS. CEP 30.6607-103 A NAHR. 30.M404-007, 275/ZM346 14.1.2013 SLEZACKOVA
 5. ZRUS. KRYTÍ PASU 30.M204-016 A NAHR. 30.M204-066, 090/ZM109 16.5.2014 SLEZACKOVA
 6. PRIDAN KRYTÍ PREYODOVKY 201.M204-022, 005/ZM013 28.1.2015 SLEZACKOVA
 7. ZRUS. PAS 44.103.002 A NAHR. 30.1704-911, PRID. 8xSROUB M6x12(90.001.25.016), 1xSROUB M6x16(90.001.25.017),
 1xPODLOZKA 6(90.151.50.004), 4xPODLOZKA 5,3(90.152.50.004), 044/ZM093 8.4.2016 SLEZACKOVA
 8. ZMENENA TYC 30.3404-056 ZA 6HR SROUB 90.005.55.029; 291/ZM046 1.2.2018 SCERBA
 9. ZRUS. DILY SESTAVY A NAHR, PODSESTAVOU 201.M204-002, 068/ZM143 18.4.2018 SZABARI
 10. PRID. 2xSROUB M4x30 90.013.9Z.104, 171/ZM302 29.8.2018 SZABARI
 11. ZRUS. 2xMATICE 90.100.55.006, ZRUS. 2xSROUB 90.005.55.029 A NAHR. 2xSROUBEM 90.005.55.027, 283/ZM376 14.10.2021 KOVAR
 12. ZRUS. RAMENO 30.M204-201 A NAHR. RAMENO 30.M204-401, ZRUS. VED. PASU 201.M210-000 A NAHR. VED. PASU 30.M210-050,
 ZRUS. KARTAC 201.8114-630 NAHR. KARTAC 201.8114-730, ZRUS. DRZAK 30.1814-011, 209/ZM232 17.10.2023 CHUCHRO

Číslo Sestavy/Number of assembly/Nummer der Baugruppe, Ver-Verze/Version/Version, Název sestavy/Assembly name/Name der Baugruppe; Poz-Position/Position/Position; Objednáč číslo/Order number/Bestellnummer;
 Položovar/Sampproduct/Halbfabrikat, Vstupní materiál/Default material/Eingangsmaterial;

7.18. Kartáč / Brush / Bürste

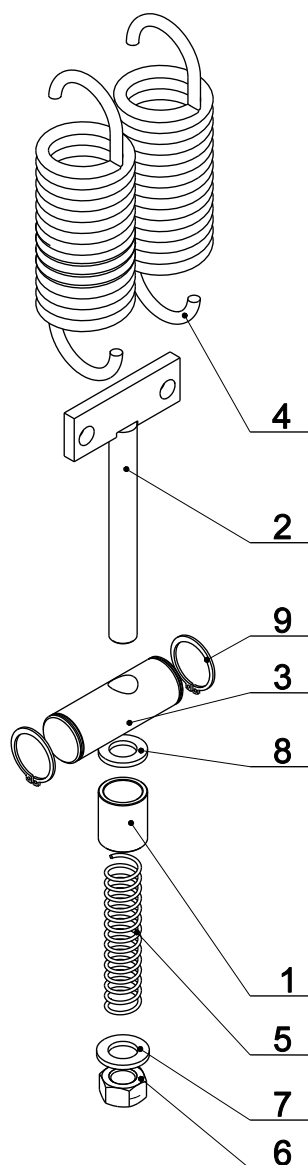


7.19. Kusovník / Piece list / Stückliste - Kartáč / Brush / Bürste

NAZEV SESTAVY KARTAC			CISLO SESTAVY 201.8114-730		REVIZE 0			
Poz.	Objednáací číslo	Verze	Název CZ	Name EN	Name DE	Polotovar	Ks.	
1	30.8114-732	0	DRZAK	HOLDER	HALTER		1	
2	30.9114-301	1	HRDEL	SHAFT	WELLE	D12 - 204	1	
3	30.M304-025	2	KOLECKO	WHEEL	ROLLE	D35 - 15	1	
4	31.0305-311	0	PRUZINA	SPRING	FEDER	2.00x12x35x12.5	1	
5	31.0814-208	0	KARTAC	BRUSH	BÜRSTE	dia 75, width 10, bore 9,5mm brassed steel, crimped wire 0,30mm	1	
6	31.1506-115	0	PRUZINA	SPRING	FEDER	1.6x12x25x7.5	2	
7	90.001.25.038	0	SROUB IMBUS	HEXAGON SOCKET SCREW	IMBUSSCHRAUBE	8x50 DIN 912 8,8 černěný	1	
8	90.001.25.095	0	SROUB IMBUS	HEXAGON SOCKET SCREW	IMBUSSCHRAUBE	8x70 DIN 912 8,8 černěný	2	
9	90.003.20.001	0	SROUB STAVECI	SET SCREW	STELLSCHRAUBE	5x6 DIN 914 černěný	1	
10	90.100.55.005	0	MATICE PRESNA ZINEK	PRECISION NUT - ZN	PRÄZISE MUTTER - ZN	8 DIN 934 8,8 Zn	5	
11	90.150.50.005	0	PODLOZKA	WASHER	UNTERLEGSCHIBE	8,4 M8 DIN 125 Zn	1	
12	90.167.00.004	0	PODLOZKA	WASHER	UNTERLEGSCHIBE	12 STARLOCK pojistný kroužek černý	2	
13	95.001.096	0	LOZISKO	BEARING	LAGER	F6901 2Z CMB - (F61901 2Z - Evropské značení)	2	
14	96.002.083	0	O-KROUZEK DYNAMICKY	O-RING DYNAMIC	O-RING DYNAMISCH	25x10 - NBR 70Sh	1	

Číslo Sestavy/Number of assembly/Nummer der Baugruppe, Ver-Verze/Version/Version, Název sestavy/Assembly name/Name der Baugruppe;; Poz-Position/Position/Position; Objednáč číslo/Order number/Bestellnummer;
Polotovar/Semiproduct/halbfabrikat, Vstupní materiál/Default material/Eingangsmaterial;

7.20. Pružina / Spring / Feder



NAZEV SESTAVY PRUZINA	CISLO SESTAVY 201.M204-002	STROJ WORK280
	Konstruoval: SZABARI	
	Datum: 09. 05.2018	
	Meritko: 3:10	

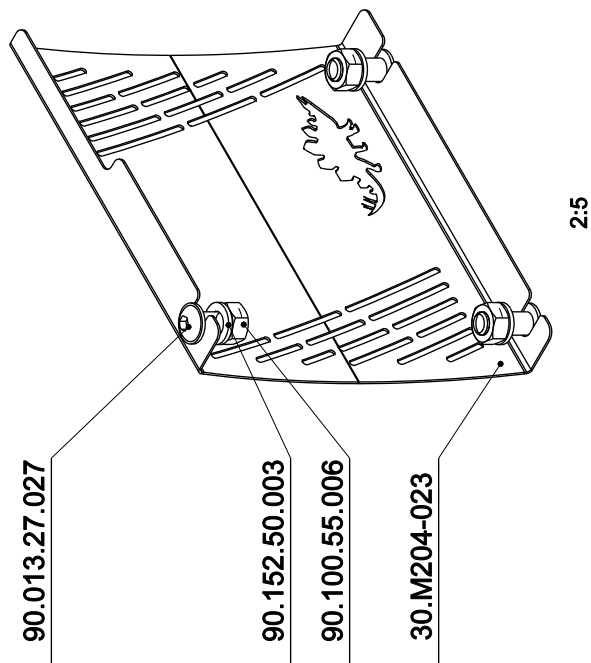
7.21. Kusovník / Piece list / Stückliste - Pružina / Spring / Feder

Číslo sestavy 201.M204-002		Ver. 0	Název sestavy PRUŽINA/SPRING/FEDER	
Poz.	Objednávací číslo	Ver.	Název položky	Ks
1	30.9204-004	0	DISTANC / SPACER / ABSTANDSSTÜCK	1
2	30.LD04-005	0	DRŽÁK / HOLDER / HALTER	1
3	30.M204-006	0	ČEP / PIVOT / BOLZEN	1
4	31.0502-719	0	PRUŽINA / SPRING / FEDER	2
5	31.9204-003	0	PRUŽINA / SPRING / FEDER	1
6	90.100.55.008	0	MATICE PŘESNA ZINEK / PRECISION NUT - ZN / PRÄZISE MUTTER - ZN	1
7	90.150.50.009	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	1
8	90.162.00.002	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	1
9	95.800.013	0	KROUZEK POJIST.VNEJŠÍ / EXTERNAL RETAINING RING / SICHERUNGSRING AUßEN	2
			POJISTNÝ KROUZEK 30	

Číslo 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

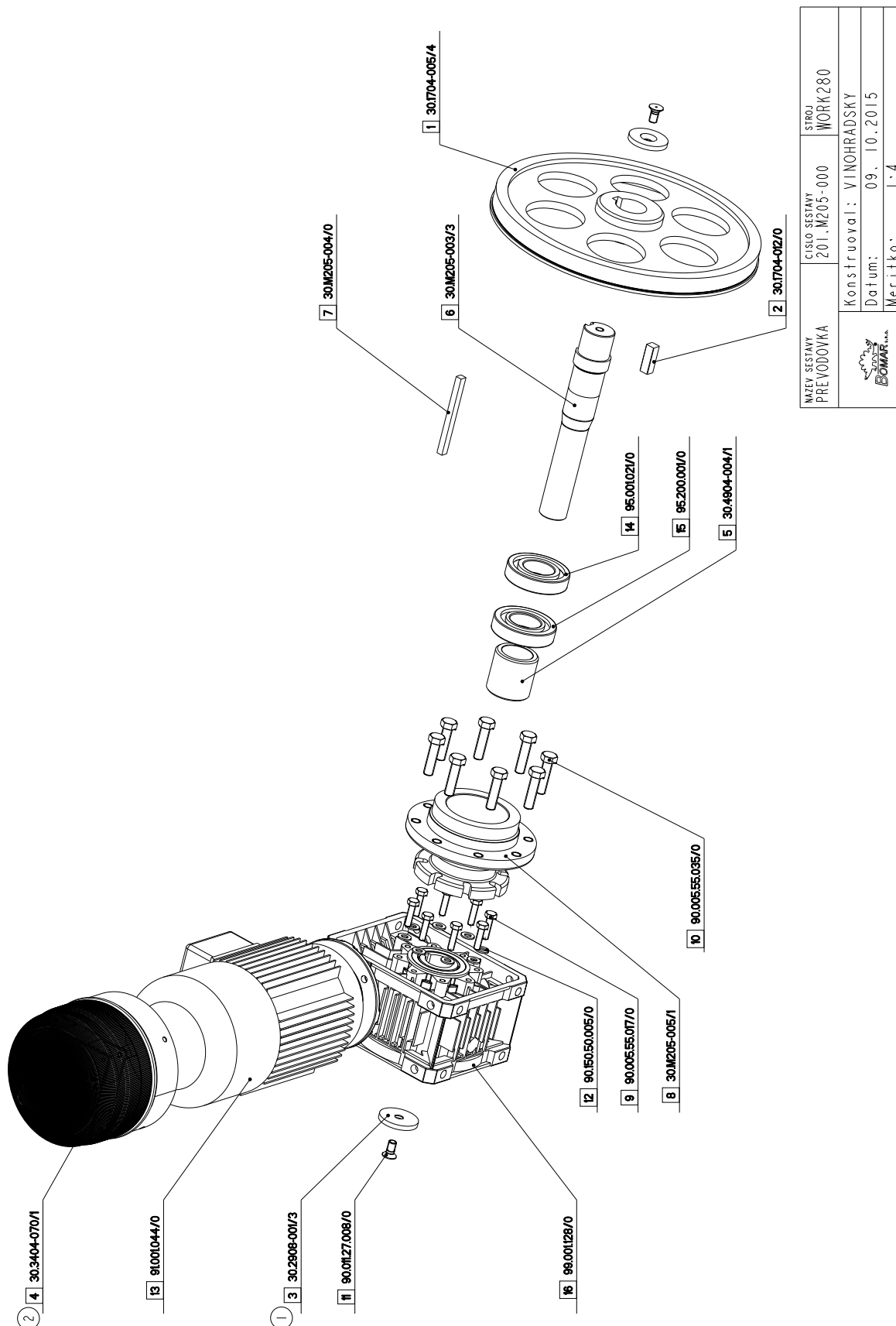
7.22. Kryt / Cover / Abdeckung

NAZEV SESTAVY		CISLO SESTAVY		VERZE						STROJ		
KRYT		201.M204-022		0		Datum: 28. 05.2014				1 KS/ST		WL280
Zhotovili: FABER												
číslo výkresu	ver.	nazev položky	rozmer	delka	mat.vych	mat.kon.	pov.upr.	c.hm	ks	pozice sklad	puvod	Poznamka
30.M204-023	0	PLECH	P1x197	221	40.001.01.01	11521	KOM 7036 STR	0.3	1		WL280	
90.013.27.027	0	SROUB PULKULATY	M10X25_ISO_7380					0.0	3			
90.100.55.006	0	MATICE PRESNA ZINEK	MATICE _ M10					0.0	3			
90.152.50.003	0	PODLOZKA VEJIROVA	PODLOZKA 10,5					0.0	3			



Cislo Sestavy/Number of assembly/Nummer der Baugruppe: Verze (Ver./Version/Version; Nazev sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position;
Objednac cislo/Purchase order number/Bestellnummer; Nazev položky/Volume title/Name der Position; Rozmer/Stock size/Abmessung

7.23. Převodovka / Transmission / Getriebe



7.24. Kusovník / Piece list / Stückliste - Převodovka / Transmission / Getriebe

NÁZEV SESTAVY				ČÍSLO SESTAVY		REVIZE	Kategorie: WORK280-		Konstruktér: VINOHRADSKY	
PREVODOVKA				201.M205-000		2	Datum: 25.08.2022			
				Liet/Laib. 2/2		2,2				
pos.	číslo výkresu	verze	množství	název	polotovár	jakost	pov. upr.	váha	poznámka	
1	30.1704-005	4	1	KOLO HNACÍ	ODLITEK 80.1704-005	GG 25		7.8		
2	30.1704-012	0	1	PERO	#12x12 - 37 BLANK	11600		0.0		
3	30.2908-001	1	2	PODLOZKA	P6 - 50x50 40.001.01.30	S235		0.1		
4	30.3404-070	2	1	VENTILATOR	SESTAVA		LAKOVAT RAL7036 GSI			
5	30.4904-004	1	1	DISTANC	TR55x8 - 57 40.120.01.34	11353		0.5		
6	30.M205-003	3	1	HRDEL	D45 - 262 40.140.04.21	11600		2.2		
7	30.M205-004	0	1	PERO	HR10x8 - 107 40.165.00.05	11600		0.1		
8	30.M205-005	1	1	PRIRUBA	ODLITEK 80.M205-005	42 2420	LAK 9005	4.8		
9	90.005.55.017	0	8	SROUB 6HRANNY	8x30 DIN 933 8.8 Zn			0.0		
10	90.005.55.035	0	8	SROUB 6HRANNY	12x45 DIN 933 8.8 Zn			0.0		
11	90.011.27.008	0	2	SROUB ZAPUSTNY	10x20 DIN 7991 10.9 čeměný			0.0		
12	90.150.50.005	0	8	PODLOZKA	8.4 MB DIN 125 Zn			0.0		
13	91.001.044	0	1	ELEKTROMOTOR	MS2-90 L2-4_S4-80; 2,2kW; 4P; 3x230/3x400V; B14-FT115; Vel.90			4.95		
14	95.001.021	0	1	LOZISKO	6208 T3 CMB ZRS			0.3		
15	95.200.001	0	1	LOZISKO	NJ208 T3 CMB NJ			0.2		
16	99.001.128	0	1	PREVODOVKA SNEKOVA	MU75; 20-i; IE90; B14; V5 abtriebshohlwelle 35mm inkl. Schmierstoff			8.0		

INDEX ZMĚNA

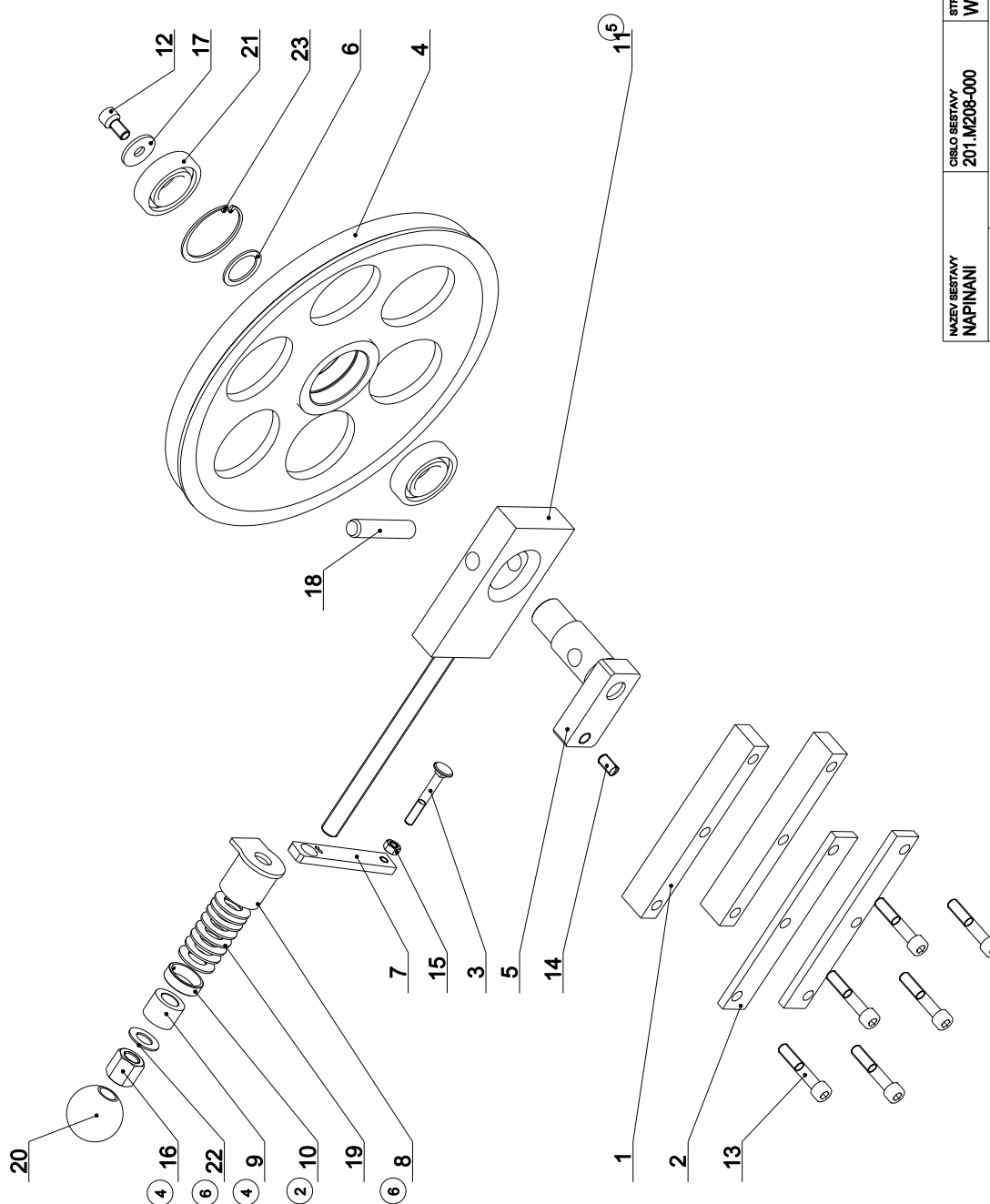
1. ZRUS. PODLOZKA 30.1704-008 A NAHR. 30.2908-001. 110/ZM212 25.6.2012 SLEZACKOVA
2. ZRUS. VENTILATOR 30.3404-060 A NAHR. 30.3404-070. 120/ZM141 20.6.2014 SLEZACKOVA

DATUM

PODPIS

Číslo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly name/Name der Baugruppe; Datum/Date/Datum; Konstruktér/Designer/Konstrukteur; Číslo výkresu/Drawing number/Zeichnung number; Název/Name/Name; Polotovar/Semiproduct/Halbfabrikat; Vstupní materiál/Default material/Eingangsmaterial; Jakost/Norm/Norm; Pov. úpr./Surface finish/Oberflächengüte; Váha/Weight/Gewicht; Poznámka/Note/Notiz

7.25. Napínání / Tensioning / Spannung



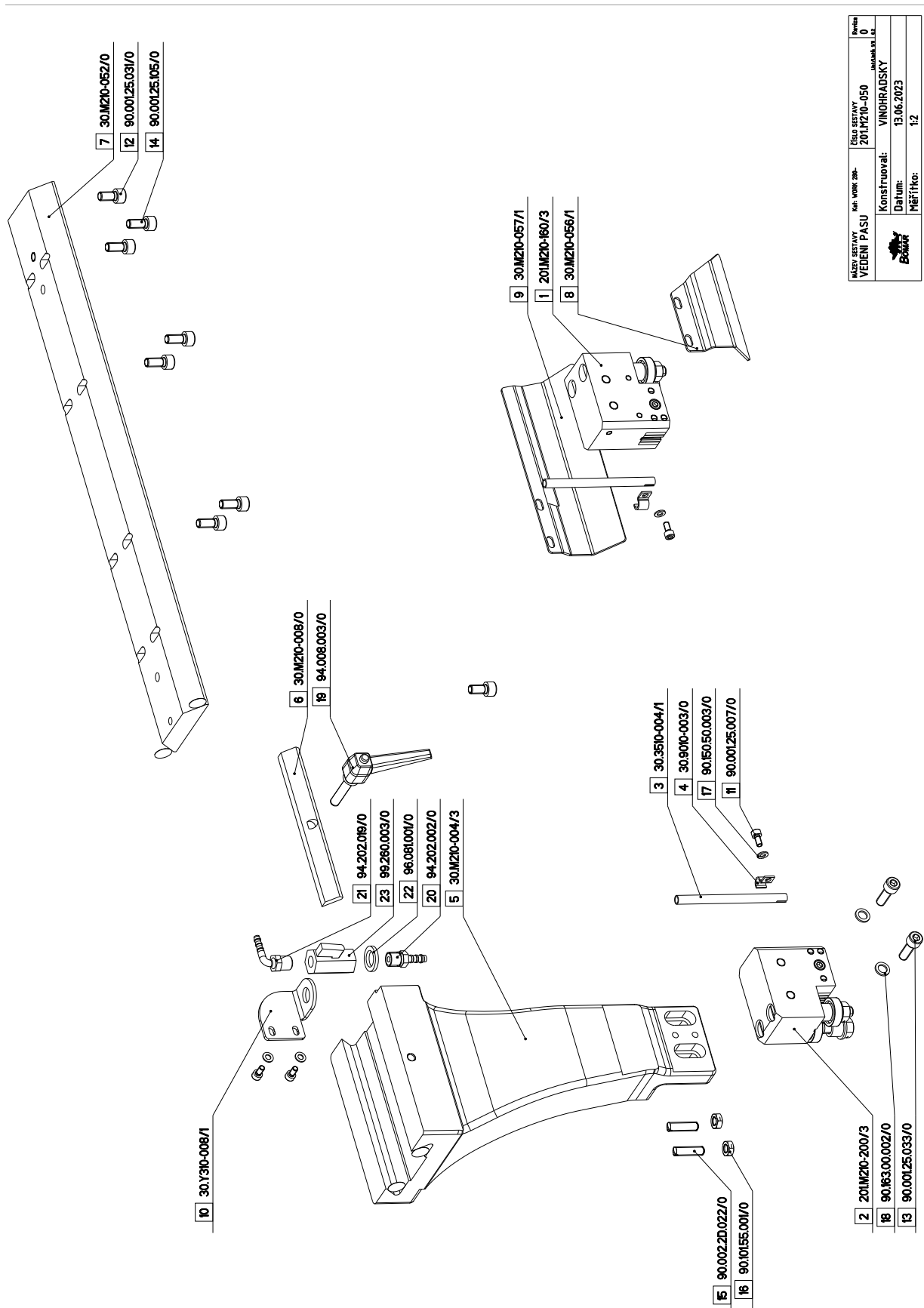
NAZEV / SESTAVY NAPINANI	CISLO SESTAVY 201.M208-000	STROJ WORK280
Konstruoval: VINOHRADSKY		
Datum: 10. 05.2022		
Meritko: 3:10		

7.26. Kusovník / Piece list / Stückliste -
Napínání / Tensioning / Spannung

Číslo Sestavy 201.M208-000		Ver. 0	Nazev sestavy NAPINANI/TENSIONING/SPANNUNG		
Poz.	Objednací číslo	Ver.	Nazev položky	Rozmer	Ks
1	30.0808-002	1	LISTA VODICI / GUIDING SLAT / FÜHRUNGSLEISTE	30x20	2
2	30.0808-006	2	LISTA / SLAT / LEISTE	HR 30x8	2
3	30.0808-007	0	SROUB / SCREW / SCHRAUBE	M8x60	1
4	30.1708-001	0	KOLO NAPINACI / TENSIONING WHEEL / SPANNRAD	ODLITEK	1
5	30.1708-002	0	CEP NAPINANI / TENSIONING PIVOT / SPANNUNGSBOLZEN		1
6	30.1708-003	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	P 2x40	1
7	30.1708-004	4	DRZAK / HOLDER / HALTER	HR 20x8	1
8	30.2908-106	0	DRZAK / HOLDER / HALTER		1
9	30.4208-002.1	1	KROUZEK DISTANČNI / SPACER RING / DISTANZRING	D30	1
10	30.M208-001	2	KROUZEK / RING / RING	TR 35x2.5	1
11	30.M208-003	0	NAPINANI / TENSIONING / SPANNUNG		1
12	90.001.25.046	0	SROUB IMBUS / HEXAGON SOCKET SCREW / IMBUSSCHRAUBE	M10X20	1
13	90.001.25.053	0	SROUB IMBUS / HEXAGON SOCKET SCREW / IMBUSSCHRAUBE	M10X55	6
14	90.002.2D.015	0	SROUB STAVEČI / SET SCREW / STELSCHRAUBE	SROUB M10X20	1
15	90.100.55.005	0	MATICE PRESNA ZINEK / PRECISION NUT - ZN / PRÁZISE MUTTER - ZN	MATICE _ M8	1
16	90.106.05.005	0	MATICE / NUT / MUTTER	MATICE _ M16_1.5D	1
17	90.151.50.001	0	PODLOZKA VELKOPL. / LARGE WASHER / GROßFLÄCHENSCHLEIBE	PODLOZKA 10	1
18	90.300.02.003	0	KOLIK VALCOVÝ KALENÝ / CYLINDRICAL PIN HARDENED / ZYLINDERSTIFT GEHÄRTET	KOLIK 16X80	1
19	90.350.02.002	0	PRUŽINA TALIROVA / DISC SPRING / TELLERFEDER	35,5X18,3X2,0X2,8	8
20	94.001.005	0	RUKOJET / HANDLE / GRIFF	M16	1
21	95.001.019	0	LOŽISKO / BEARING / LAGER	6208 2RS	2
22	95.750.001	0	KROUZEK KU / TEFLON BEARING / GLEILAGER BUCHSEN	16x1	1
23	95.801.010	0	KROUZEK POJIST.VNITR / INERNAL RETAINING RING / SICHERUNGSRING INNEN	POJISTNÝ KROUZEK 62	1

- 1.ZRUSEN KROUZEK 30.4108-102. 034/ZM063 7.3.2016 SLEZACKOVA
2.ZRUSEN KROUZEK 30.3508-004 A NAHR.30.M208-001. 017/ZM050 13.2.2017 SLEZACKOVA
3.ZRUSEN SROUB NAPINANI 30.4108-001 A NAHRAZEN 30.4108-003. 216/ZM279 12.7.2019 SLEZACKOVA
4.ZRUS. SROUB 30.4108-003. ZRUS. KOSTKA NAPINANI 30.0808-001 A NAHR. NAPINANIM 30.M208-002. PRID. KROUZEK DISTANČNÍ
30.4208-002.1, PRID. MATICE 90.106.05.005. 269/ZM436 25.11.2021 KOVAR
5.ZRUS. NAPINANI 30.M208-002 A NAHR. NAPINANI 30.M208-003 038/ZM037 01.02.2022 ZINDULKA
6.ZRUS.DRŽAK 30.6908-102 A NAHR.30.2908-106;PRID.KROUZEK 95.750.001. 296/ZM153 10.5.2022 SLEZACKOVA

7.27. Vedení pásu / Belt guide / Sägebandführung

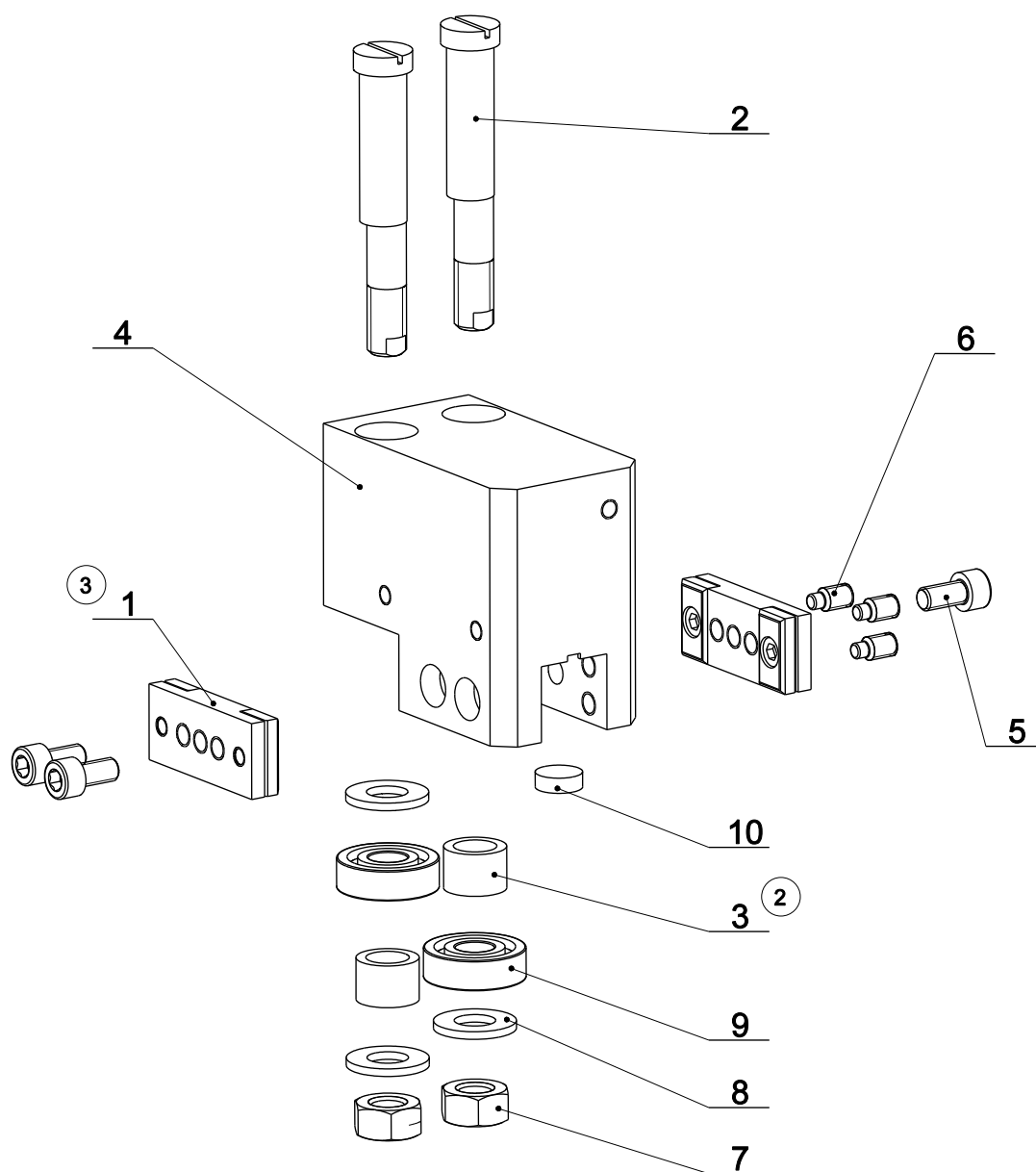


7.28. Kusovník / Piece list / Stückliste -
Vedení pásu / Belt guide / Sägebandführung

NÁZEV SESTAVY		ČÍSLO SESTAVY		REVIZE	Kategorie: WORK 280–		Konstruktér: VINOHRADSKY		BOMAR		
VEDENÍ PASU		201.M210-050		0	Datum: 13.06.2023						
		List/Listě: 2/0		0.2							
pos.	číslo výkresu	verze	množství	název	polotovár	jakost	pov.úpr.	váha	poznámka		
1	201.M210-160	3	1	KOSTKA VODICI				1.7			
2	201.M210-200	3	1	KOSTKA VODICI				1.7			
3	30.3510-004	1	2	TRUBKA	TR8x1 – 110 40.120.01.01	11373		0.0			
4	30.9010-003	0	2	DRZAK	P15 – 10x28 40.002.01.01	DX51	CERNIT	0.0			
5	30.M210-004	3	1	KONZOLA	80.M210-004		LAKOVAT	8.4			
6	30.M210-008	0	1	LISTA	HR25x6 – 160 40.160.01.56	11373		0.1			
7	30.M210-052	0	1	LISTA	HR80x20 – 560 40.160.01.34	11373		5.6			
8	30.M210-056	1	1	KRYT PASU	P2 – 82x112 40.001.01.23	DC01	KOM 1021	0.1			
9	30.M210-057	1	1	KRYT PASU	P2 – 80x190 40.001.01.23	DC01	KOM 1021	0.2			
10	30.Y310-008	1	1	DRZAK	P3 – 50x75 40.001.01.04	S235	CERNIT	0.1			
11	90.001.25.007	0	4	SROUB IMBUS	5x10 DIN 912 8,8 černěný			0.0			
12	90.001.25.031	0	2	SROUB IMBUS	8x16 DIN 912 8,8 černěný			0.0			
13	90.001.25.033	0	2	SROUB IMBUS	8x25 DIN 912 8,8 černěný			0.0			
14	90.001.25.105	0	6	SROUB IMBUS	8x18 DIN 912 8,8 černěný			0.0			
15	90.002.20.022	0	2	SROUB STAVECI	8x30 DIN 913 4,5H černěň			0.0			
16	90.101.55.001	0	2	MATICE PRNIZKA ZN	8 DIN 439 Zn			0.0			
17	90.150.50.003	0	4	PODLOZKA	5,3 M5 DIN 125 Zn			0.0			
18	90.163.00.002	0	2	PODLOZKA	M08x13,5 NORD-LOCK imbus (HLS-8)			0.0			
19	94.008.003	0	1	PAKA MONTAZNI	M8x40 Elesa MRX.63 p			0.1			
20	94.202.002	0	1	REDUKCE	1/4"-6 GES 6-R1/4"			0.0			
21	94.202.019	0	1	REDUKCE	WES 6 / R1/4" koleno 90 NORMA			0.0			
22	96.081.001	0	1	KROUZEK TESNICI	23x15x3 PRYŽ S TEXT. VLOŽKOU			0.0			
23	99.260.003	0	1	VENTIL KULOVY	1/4" /// možno nahradit 99.260.004 vnitřní/vnitřní China			0.1			
INDEX ZMĚNA				DATUM				PODPIS			

Číslo Sestavy/Number of assembly/Numer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly name/Name der Baugruppe; Datum/Date/Datum; Konstruktér/Designer/Konstrukteur;Číslo výkresu/Drawing number/Zeichnung number; Název/Name/Name; Polotovár/Semiproduct/Halbfabrikat; Vstupní materiál/Default material/Eingangsmaterial; Jakost/Norm/Norm; Pov. úpr./Surface finish/Oberflächengüte;Váha/Weight/Gewicht; Poznámka/Note/Notiz

7.29. Kostka vodící / Lead cube / Führungsklotz



281.252

NAZEV SESTAVY KOSTKA VODICI	CISLO SESTAVY 201.M210-160	STROJ WORK280
	Konstruoval: VINOHRADSKY	
	Datum: 03. 02.2020	
	Meritko: 7:10	

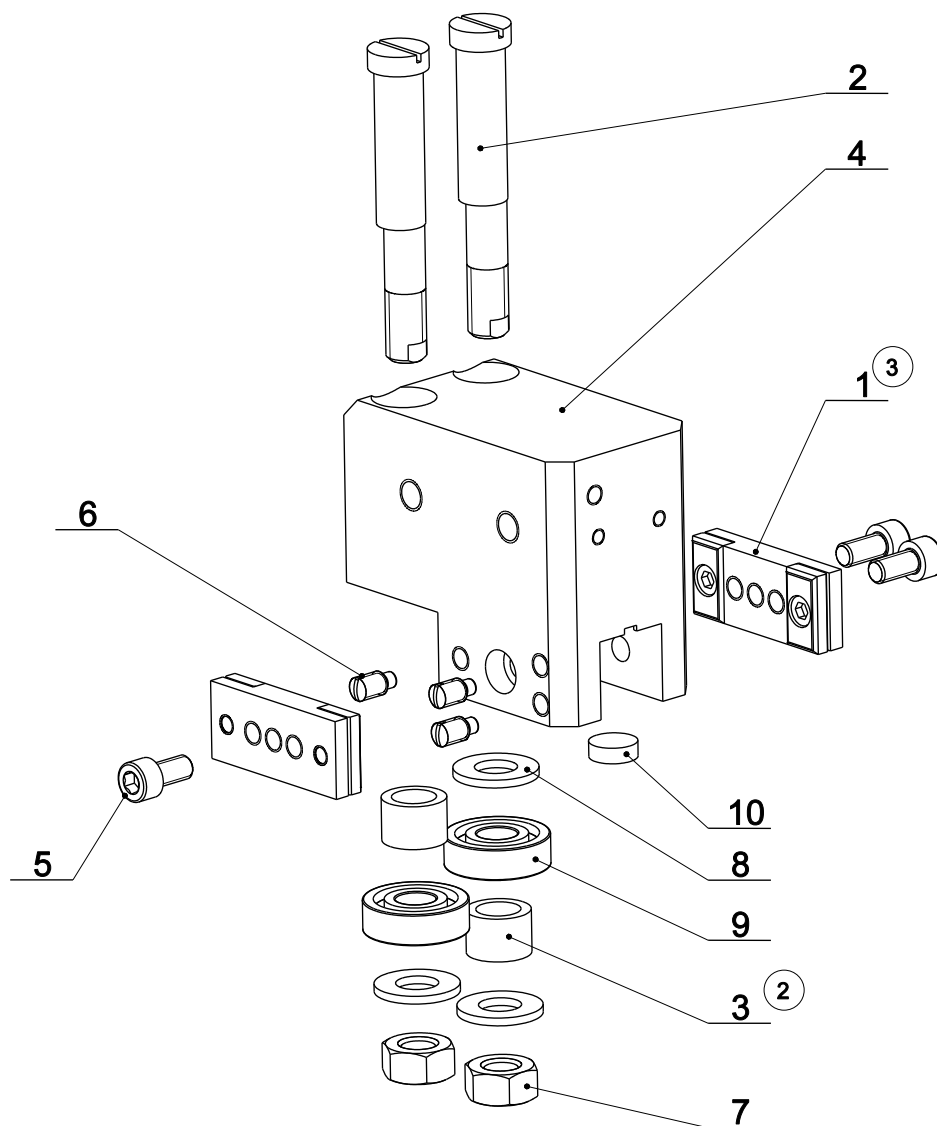
7.30. Kusovník / Piece list / Stückliste -
Kostka vodící / Lead cube / Führungsklotz

Číslo sestavy 201.M210-160		Ver. 0	Název sestavy KOSTKA VODICÍ/NAZEV_EN/NAZEV_DE	
Poz.	Objednávací číslo	Ver.	Název položky	Ks
1	30.1710-005	3	DRŽÁK TVRDOKOVU / HM HOLDER / HM-HALTER	2
2	30.M210-102	0	EXCENTR / EXCENTR / EXCENTER	2
3	30.M210-103	2	KROUZEK DISTANČNÍ / SPACER RING / DISTANZRING	2
4	30.M210-161	0	KOSTKA VODICÍ / GUIDING CUBE / FÜHRUNGSKLOTZ	1
5	90.001.25.016	0	SROUB IMBUS / HEXAGON SOCKET SCREW / IMBUSSCHRAUBE	3
6	90.004.2D.002	0	SROUB STAVEČI / SET SCREW / STELLSCHRAUBE	3
7	90.100.55.006	0	MATICE PRESNA ZINEK / PRECISION NUT - ZN / PRÄZISE MUTTER - ZN	2
8	90.150.50.006	0	PODLOŽKA / WASHER / UNTERLEGSCHIBE	3
9	95.001.004	0	LOŽISKO / BEARING / LAGER	2
10	99.040.002	0	TVRDOKOV / HARD METAL / HM-SEGMENT	1

1.ZRUS.KROUZEK DISTANČNÍ 30.1710-006 A NAHR.30.M210-103. 208/ZM257 20.9.2011 SLEZACKOVA
2.PRIDAN 1xKROUZEK 30.M210-103. 093/ZM172 28.5.202 SLEZACKOVA
2.ZRUSEN DRŽÁK TVRDIKOVU 30.1710-015 A NAHRAZEN 30.1710-005. 186/ZM230 3.11.2014 SLEZACKOVA

Číslo 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

7.31. Kostka vodící / Lead cube / Führungsklotz



281.250

NAZEV SESTAVY KOSTKA VODICI	CISLO SESTAVY 201.M210-200	STROJ WORK280
	Konstruoval: VINOHRADSKY	
	Datum: 03. 02.2020	
	Meritko: 7:10	

7.32. Kusovník / Piece list / Stückliste -
Kostka vodící / Lead cube / Führungsklotz

Císlo Sestavy 201.M210-200		Ver. 0	Název sestavy KOSTKA VODICÍ/NAZEV_EN/NAZEV_DE	
Poz.	Objednací číslo	Ver.	Název položky	Ks
1	30.1710-005	0	DRŽAK TVRDOKOVU / HM HOLDER / HM-HALTER	2
2	30.M210-102	0	EXCENTR / EXCENTR / EXCENTER	2
3	30.M210-103	0	KROUZEK DISTANČNÍ / SPACER RING / DISTANZRING	2
4	30.M210-201	0	KOSTKA VODICÍ / GUIDING CUBE / FÜHRUNGSKLOTZ	1
5	90.001.25.016	0	SROUB IMBUS / HEXAGON SOCKET SCREW / IMBUSSCHRAUBE	3
6	90.004.2D.002	0	SROUB STAVEČI / SET SCREW / STELLSCHRAUBE	3
7	90.100.55.006	0	MATICE PRESNA ZINEK / PRECISION NUT - ZN / PRÄZISE MUTTER - ZN	2
8	90.150.50.006	0	PODLOŽKA / WASHER / UNTERLEGSCHIEBE	3
9	95.001.004	0	LOŽISKO / BEARING / LAGER	2
10	99.040.002	0	TVRDOKOV / HARD METAL / HM-SEGMENT	1

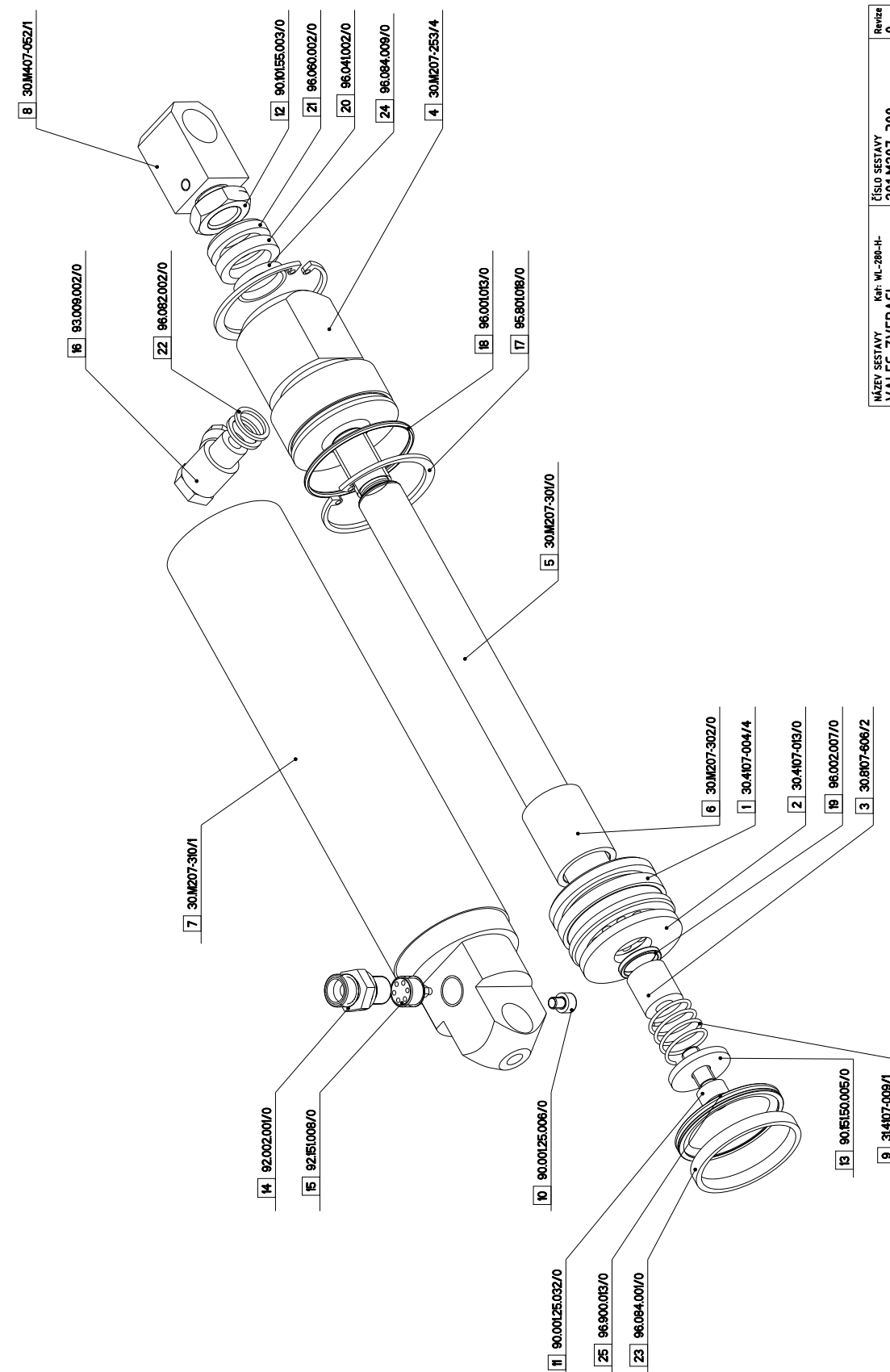
1.ZRUS.KROUZEK DISTANČNÍ 30.1710-006 A NAHR.30.M210-103. 208/ZM257 20.9.2011 SLEZACKOVA

2.PRIDAN 1xDISTANC 30.M210-103. 093/ZM264 28.8.2012 SLEZACKOVA

3.ZRUSEN DRŽAK TVRDOKOVU 30.1710-015 A NAHRAZEN 30.1710-005. 186/ZM230 3.11.2014 SLEZACKOVA

Císlo Sestavy/Number of assembly/Nummer der Baugruppe: Verza (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. Válec zvedací / Lifting cylinder / Hebezyylinder



NÁZEV SESTAVY VÁLEC ZVEDACÍ	Kač: WL-280-H-	ČÍSLO SESTAVY 201M207-300	Revize 0
		Let/Jan/19	L.A.
		Konstruoval: KIRST	
		Datum: 19.10.2023	
		Měřítko: 7:10	

7.34. Kusovník / Piece list / Stückliste -
Válec zvedací / Lifting cylinder / Hebezyylinder

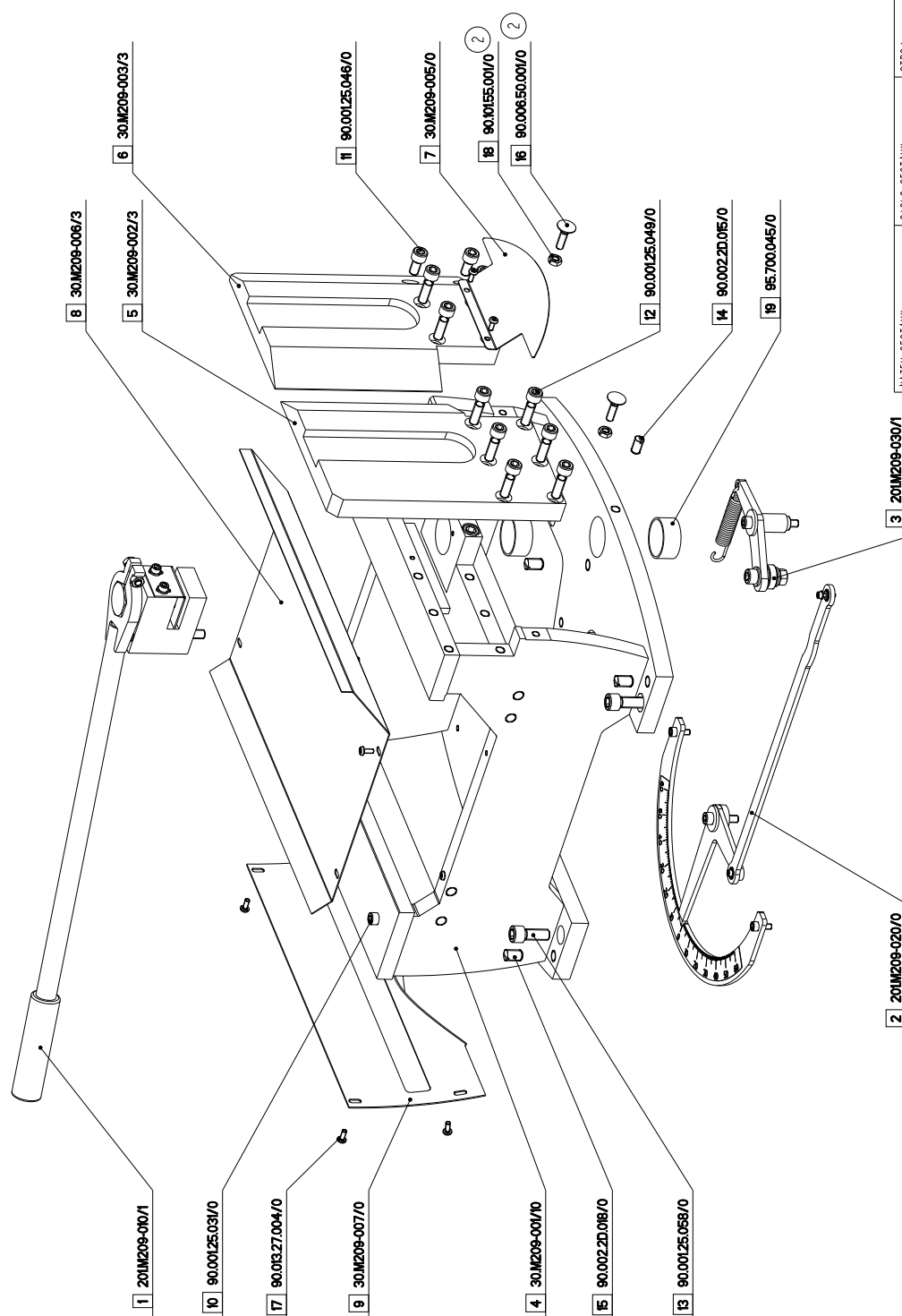
NÁZEV SESTAVY				ČÍSLO SESTAVY		REVIZE		Kategorie: WL-280-H-		Konstruktér: KIRST			
VALEC ZVEDACÍ				201.M207-300		0		Datum: 19.10.2023					
						0.4							
						List/Strán: 2/3							
pos.	číslo výkresu	verze	množství	název	polotovár	jakost	pov.upr.	váha	poznámka				
1	30.4.107-004	4	1	PIST	D55 - 28 40.700.00.03	GG 25		0.0					
2	30.4.107-013	0	1	KLAPKA	<Chybné parametry pro polotovár '40.001.01.28' typu 'P'>			0.0					
3	30.8.107-606	2	1	DISTANC	D18 - 19 40.140.04.08	11600		0.0					
4	30.M207-253	4	1	VÍKO	D55 - 66 40.140.05.21	11109		0.6					
5	30.M207-301	0	1	PISTNICE	D20 - 260 40.800.00.02	20MnV6		0.6					
6	30.M207-302	0	1	DISTANC	TR28x3 - 34 40.110.01.10	11373	-	0.0					
7	30.M207-310	1	1	VALEC ZVEDACÍ	SVARENO			1.2					
8	30.M4.07-052	1	1	DRZAK	HR25x25 - 42 40.150.01.06	11373	CERNIT	0.1					
9	31.4.107-009	1	1	PRUŽINA	Klapky 1,40x21,3x22,4x4			0.0					
10	90.001.25.006	0	1	SROUB IMBUS	5x6 DIN 912 8,8 černěný			0.0					
11	90.001.25.032	0	1	SROUB IMBUS	8x20 DIN 912 8,8 černěný			0.0					
12	90.101.55.003	0	1	MATICE PRUŽKA ZN	16 DIN 439 Zn			0.0					
13	90.151.50.005	0	1	PODLOŽKA VELKOPL.	9x28x3 H8 DIN 440 Zn			0.0					
14	92.002.001	0	1	SROUBENÍ PRÍME	GES 08LR WD Izměna na WD od 1.2019) 1/4" - 14x1,5	tláto+řasnění		0.0					
15	92.151.008	0	1	VENTIL POJISTNÝ	V204_004_1-01 1/4" bezpeč.ventil+ VUBA 1/4"			0.0					
16	93.009.002	0	1	SROUBENÍ UHL.NATAC. KOVOVE	514.10-1/4" + 1500-8/6 1/4" - 8/6			0.1					
17	95.801.018	0	2	KROUZEK POJIST.VNITR	d50 DIN 472			0.0					
18	96.001.013	0	1	O-KROUZEK STATICKÝ	45x2 NBR 70Sh		-	0.0					
19	96.002.007	0	1	O-KROUZEK DYNAMICKÝ	16x2 NBR 70Sh 16x2 NBR 70Sh			0.0					
20	96.04.1.002	0	1	MANŽETA	20x28x5 UN			0.0					
21	96.060.002	0	1	KROUZEK STÍRACÍ	TK 20x28 TK 20x28			0.0					
22	96.082.002	0	2	KROUZEK TESNICÍ	13/17x1,5 Cu			0.0					
23	96.084.001	0	1	KROUZEK VODICÍ	GP6500500 - T47 50,0x5,6x2,5x146,9			0.0					
24	96.084.009	0	1	KROUZEK VODICÍ	GR4300200 - T47 l =67 mm 20x4x1,55x66,3	T47		0.0					
25	96.900.013	0	1	TESNENÍ KOMBINOVANÉ	PT0200500-T46N 39x50x4,2	ZURKON WYNSEAL		0.0					
INDEX ZMĚNA												DATUM	PODPIS

INDEX ZMĚNA

DATUM PODPIS

Číslo Sestavy/Number of assembly/Nummer der Baugruppe; Verze [Ver./Version/Version; Název sestavy/Assembly name/Name der Baugruppe; Datum/Date/Datum; Konstruktor/Designer/Konstrukteur; Číslo výkresu/Drawing number/Zeichnung number; Název/Name/Name; Polotovár/Semiproduct/Halbfabrikat; Vstupní materiál/Default material/Eingangsmaterial; Jakost/Norm/Norm; Pov. úpr./Surface finish/Oberflächengüte; Váha/Weight/Gewicht; Poznámka/Note/Notiz

7.35. Podstavec / Base / Untersatz



NAZEV SESTAVY PODSTAVEC	CISLO SESTAVY 201.M209-000	STROJ WL 280
Konstruoval: ODVARKA		
Datum: 13. 10.2010		
Meritko: 1:4		

7.36. Kusovník / Piece list / Stückliste - Podstavec / Base / Untersatz

NAZEV SESTAVY			CISLO SESTAVY		REVIZE		
PODSTAVEC			201.M209-000		2		
Poz.	Objednáč. číslo	Verze	Název CZ	Name EN	Name DE	Polotovár	k s /m
1	201.M209-010	1	BRZDA	BRAKE	BREMSE		1
2	201.M209-020	0	ODMEROVANI	MEASURING	GEHRUNGSMESSUNG		1
3	201.M209-030	1	DORAZ	STOP PIECE	ANSCHLAG		1
4	30.M209-001	10	PODSTAVEC	BASE	UNTERSATZ		1
5	30.M209-002	3	CELIST	JAW	BACKE	HR200x25 – 270	1
6	30.M209-003	3	CELIST	JAW	BACKE	HR200x25 – 270	1
7	30.M209-005	0	KRYT	COVER	ABDECKUNG	-Chybné parametry pro polotovár '40.002.01.05' typu 'P's	1
8	30.M209-006	3	KRYT	COVER	ABDECKUNG	-Chybné parametry pro polotovár '40.002.01.09' typu 'P's	1
9	30.M209-007	0	KRYT	COVER	ABDECKUNG		1
10	90.001.25.031	0	SROUB IMBUS	HEXAGON SOCKET SCREW	IMBUSSCHRAUBE	8x16 DIN 912 8,8 černěný	2
11	90.001.25.046	0	SROUB IMBUS	HEXAGON SOCKET SCREW	IMBUSSCHRAUBE	10x20 DIN 912 8,8 černěný	2
12	90.001.25.049	0	SROUB IMBUS	HEXAGON SOCKET SCREW	IMBUSSCHRAUBE	10x35 DIN 912 8,8 černěný	10
13	90.001.25.058	0	SROUB IMBUS	HEXAGON SOCKET SCREW	IMBUSSCHRAUBE	12x30 DIN 912 8,8 černěný	4
14	90.002.2D.015	0	SROUB STAVECI	SET SCREW	STELLSCHRAUBE	10x20 DIN 913 45H černěn	2
15	90.002.2D.018	0	SROUB STAVECI	SET SCREW	STELLSCHRAUBE	12x20 DIN 913 45H černěn	5
16	90.006.50.001 (2)	0	SROUB VRATOVY	LAG BOLT	SCHLOSSSCHRAUBE	8x30 DIN 603 4,6 Čer	2
17	90.013.27.004	0	SROUB PULKULATY	BUTTON HEAD SCREW	RUNDKOPFSCHRAUBE	5x12 ISO 7380 čern	10
18	90.101.55.001 (2)	0	MATICE PR.NIZKA ZN	PRECISION THIN NUT - ZN	PRÄZISE MUTTER NIEDRIGE - ZN	8 DIN 439 Zn	2
19	95.700.045	0	POUZDRO	SLEEVE	BÜCHSE	40x20, 40/44x20 KU	2

1. ZRUS. KOSTKA 30.M209-004,ZRUS. SROUB M12x100 90.001.25.088, 016/ZM018 I.2.2011 ODVARKA

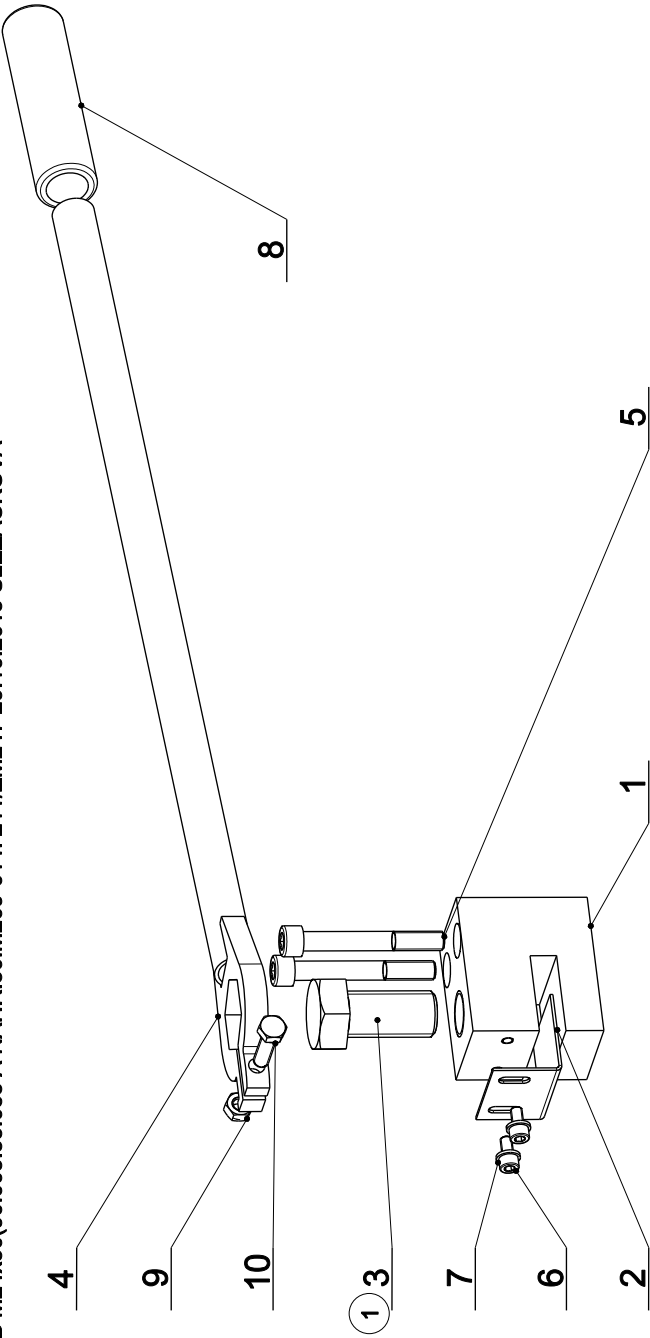
2. PRIDANY DORAZOVE SROUBY 90.006.50.001 A MATICE 90.101.55.001 097/ZM.102 29.4.2011 ODVARKA

Číslo Sestavy/Number of assembly/Nummer der Baugruppe; Ver.-Verze/Version/Version; Název sestavy/Assembly name/Name der Baugruppe; Poz.-Pozice/Position/Position; Objednáč. číslo/Order number/Bestellnummer; Polotovár/Semiproduct/Halbfabrikat; Výstupní materiál/Output material/Endgütermaterial;

7.37. Brzda / Brake / Bremse

Číslo Sestavy 201.M209-010		Ver. 0	Nazev sestavy BRZDA/BRAKE/BREMSE		
Poz.	Objednací číslo	Ver.	Nazev položky	Rozmer	Ks
1	30.M209-011	0	KOSTKA / CUBE / WÜRFEL	HR 70x50	1
2	30.M209-013	0	PLECH / SHEET METAL / BLECH	P 1,5x50	1
3	30.M209-014	1	SROUB 6HRANNY / HEX HEAD SCREW / SECHSKANTSCHRAUBE	SROUB M24X50	1
4	30.LC02-003	0	PAKA / LEVER / HEBEL	SVARENO	1
5	90.001.25.103	0	SROUB IMBUS / HEXAGON SOCKET SCREW / IMBUSSCHRAUBE	M10X75	2
6	90.001.25.016	0	SROUB IMBUS / HEXAGON SOCKET SCREW / IMBUSSCHRAUBE	M6X12	2
7	90.150.50.004	0	PODLOZKA / WASHER / UNTERLEGSCHIEBE	PODLOZKA 6,4	2
8	94.004.502	0	RUKOJET / HANDLE / GRIFF	D22	1
9	90.100.55.005	0	MATICE PRESNA ZINEK / PRECISION NUT - ZN / PRÄZISE MUTTER - ZN	MATICE M8	1
10	90.005.55.017	0	SROUB 6HRANNY / HEX HEAD SCREW / SECHSKANTSCHRAUBE	SROUB M8X30	1

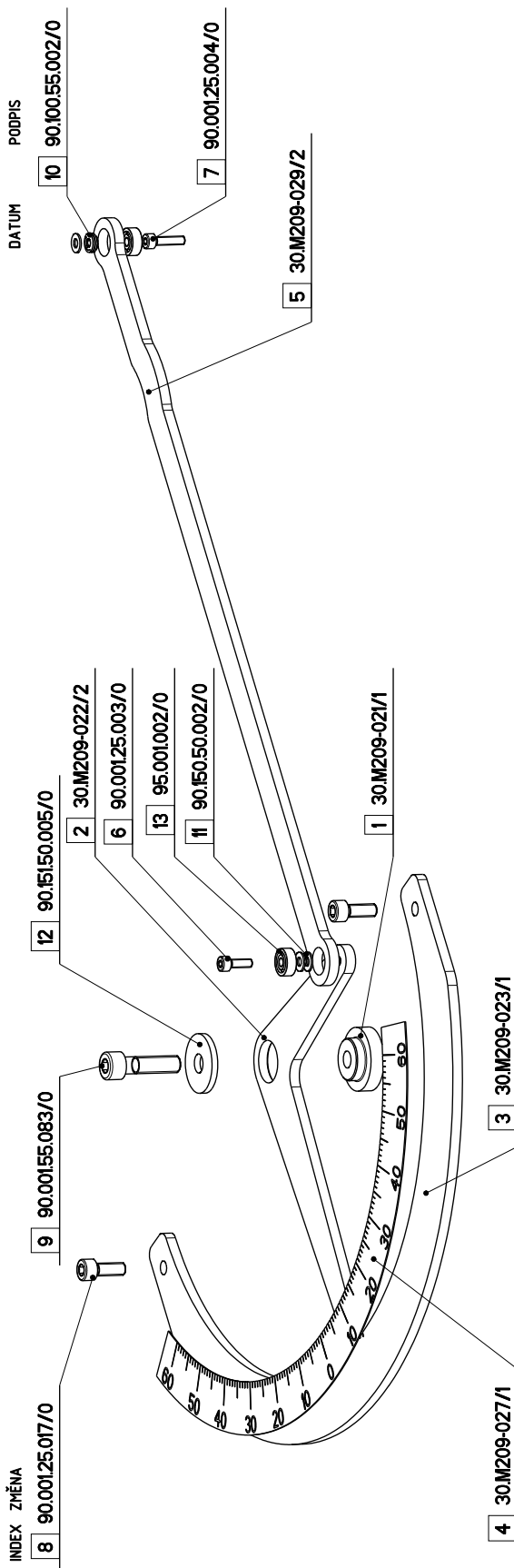
1.ZRUSEN SROUB M24x50(90.005.55.063 A NAHR.30.M209-014. 211/ZM247 29.10.2015 SLEZACKOVA



Číslo 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

7.38. Odměrování / Measuring / Gehrungsmessung

NÁZEV SESTAVY				ČÍSLO SESTAVY		REVIZE		Kategorie: WORKLINE 280 , 350-				
ODMEROVANI				201.M209-020		0		Konstruktér: ODVARKA				
						List/Listě 1/1		Datum: 25.08.2022				
pos.	číslo výkresu	verze	množství	název	polotovár	jakost	pov.úpr.	váha	poznámka			
1	30.M209-021	1	1	CEP	D30 – 12 40.140.0116	11373		0.0				
2	30.M209-022	2	1	UKAZATEL	P5 – 113x168 40.001.0137	S235	LAKOVAT RAL9005 0.2					
3	30.M209-023	1	1	PLECH	P5 – 180x340 40.001.0137	S235	KOMAXIT	0.6				
4	30.M209-027	1	1	STUPNICE	P0.5 – 111x316 40.005.0101	AlMg3		0.0				
5	30.M209-029	2	1	TYC	P5 – 23x420 40.001.0137	S235		0.3				
6	90.001.25.003	0	1	SRÓUB IMBUS	4x12 DIN 912 8,8 černěný			0.0				
7	90.001.25.004	0	1	SRÓUB IMBUS	4x16 DIN 912 8,8 černěný			0.0				
8	90.001.25.017	0	2	SRÓUB IMBUS	6x16 DIN 912 8,8 černěný			0.0				
9	90.001.55.083	0	1	SRÓUB IMBUS	8x30 DIN 912 8,8 Zn			0.0				
10	90.100.55.002	0	1	MATICE PRESNA ZINEK	4 DIN 934 8,8 Zn			0.0				
11	90.150.50.002	0	5	PODLOŽKA	4,3 M4 DIN 125 Zn			0.0				
12	90.151.50.005	0	1	PODLOŽKA VELKOPL.	9x28x3 M8 DIN 440 Zn			0.0				
13	95.001.002	0	2	LOŽISKO	624 T3 CMB 2RS			0.0				

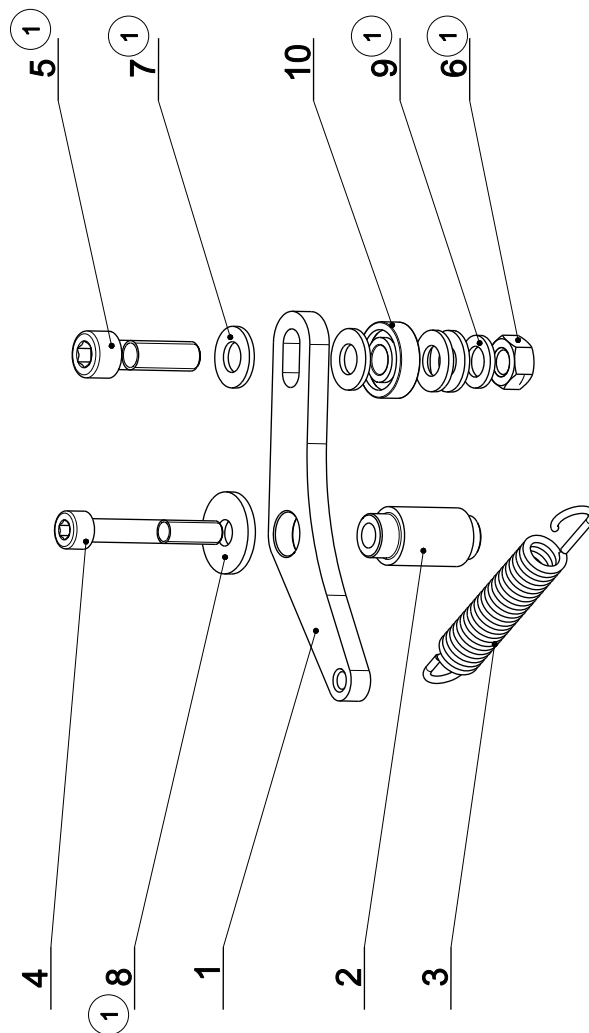


Číslo Sestavy/Number of assembly/Nummer der Baugruppe; Verze [Ver./Version/Version; Název sestavy/Assembly name/Name der Baugruppe; Datum/Date/Datum; Konstruktor/Designer/Konstrukteur; Číslo výkresu/Drawing number/Zeichnung number; Název/Name/Name; Polotovár/Semiproduct/Halbfabrikat; Vstupní materiál/Starting material; Pov. úpr./Surface finish/Oberflächenfinish; Jakost/Norm/Norm; Pov. úpr./Surface finish/Oberflächenfinish; Poznámka/Note/Notiz

7.39. Doraz / Stop piece / Anschlag

Císlo Sestavy 201.M209-030		Ver. 0	Název sestavy DORAZ/STOP PIECE/ANSCHLAG		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.M209-031	0	PAKA / LEVER / HEBEL	P 8x60	1
2	30.M209-032	0	CEP / PIVOT / BOLZEN	d 20	1
3	31.0208-005	0	PRUŽINA / SPRING / FEDER	2.50x16x90x27	1
4	90.001.25.039	0	SROUB IMBUS / HEXAGON SOCKET SCREW / IMBUSSCHRAUBE	M8x55	1
5	90.001.25.049	1	SROUB IMBUS / HEXAGON SOCKET SCREW / IMBUSSCHRAUBE	M10x35	1
6	90.100.55.006	1	MATICE PRESNA ZINEK / PRECISION NUT - ZN / PRÁZISE MUTTER - ZN	MATICE_ M10	1
7	90.150.50.006	1	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	PODLOŽKA 10,5	4
8	90.151.50.005	1	PODLOŽKA VELKOPL. / LARGE WASHER / GROßFLÄCHENSCHLEIBE	PODLOŽKA 8	1
9	90.152.50.003	1	PODLOŽKA VEJÍROVA / FAN WASHER / FÄCHERSCHLEIBE	PODLOŽKA 10.5	1
10	95.001.004	0	LOŽISKO / BEARING / LAGER	6000 2RS	1

1.ZRUS.PODLOŽKA 90.150.50.005 A NAHR.90.151.50.005.ZRUS.SROUB M10x30(90.001.25.048) A NAHR.M10x35(90.001.25.049),
ZRUS.PODLOŽKA 90.163.00.011 A NAHR.90.150.50.006.ZRUS.PODLOŽKA 90.163.004 A NAHR.90.150.50.006 A 90.152.50.003,
PRID.2xPODLOŽKA 90.100.55.006.ZRUS.MATICE 90.101.55.002 A NAHR.90.101.55.006. 288.ZM042 25.1.2018 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

7.41. Kusovník / Piece list / Stückliste -
Ovladací panel / Control panel / Bedienpult

NAZEV SESTAVY		CISLO SESTAVY	REVIZE				
OVLADACI PANEL		201.M230-200	3				
Poz.	Objednací číslo	Verze	Název CZ	Name EN	Name DE	Položovar	k s /m
1	30.6130-012	0	VÍKO	COVER	DECKEL	P0.5 – 30x30	1
2	30.6130-018	0	HLAVICE	HEAD	KOPF		1
3	30.M230-006	0	MEZIKUS	INSERTED PIECE	INGESETZTES STÜCK	D32 – 10	1
4	30.M230-201	4	SKRIN	BOX	KASTEN		1
5	30.M230-202	4	PANEL	PANEL	PANEL	P1.5 – 425x520	1
6	30.M230-204	1	PLECH	SHEET METAL	BLECH	P1 – 188x608	2
7	30.M230-206	2	VÍKO	COVER	DECKEL		1
8	31.M230-205	1	SAMOLEPKA	STICKER	AUFKLEBER	Workline 280,350 manuální, bezp. okruh	1
9	90.001.25.002	0	SROUB IMBUS	HEXAGON SOCKET SCREW	IMBUSSCHRAUBE	4x10 DIN 912 8,8 černěný	2
10	90.001.25.008	0	SROUB IMBUS	HEXAGON SOCKET SCREW	IMBUSSCHRAUBE	5x12 DIN 912 8,8 černěný	1
11	90.001.25.031	0	SROUB IMBUS	HEXAGON SOCKET SCREW	IMBUSSCHRAUBE	8x16 DIN 912 8,8 černěný	4
12	90.010.50.008	1	SROUB DO PLECHU	SHEET-METAL BOLT	BLECHSCHRAUBE	3,9x9,5 DIN 7981F Zn plochý	33
13	90.012.50.006	0	SROUB VALCOVÝ	CYLINDER HEAD BOLT	ZYLINDERKOPFSCHRAUBE	4x25 DIN 84 Zn	4
14	90.100.55.004	0	MATICE PRESNA ZINEK	PRECISION NUT – ZN	PRÄZISE MUTTER – ZN	6 DIN 934 8,8 Zn	4
15	90.150.50.002	0	PODLOZKA	WASHER	UNTERLEGSCHIBE	4,3 M4 DIN 125 Zn	4
16	90.150.50.003	0	PODLOZKA	WASHER	UNTERLEGSCHIBE	5,3 M5 DIN 125 Zn	1
17	90.150.50.004	0	PODLOZKA	WASHER	UNTERLEGSCHIBE	6,4 M6 DIN 125 Zn	4
18	90.150.50.005	0	PODLOZKA	WASHER	UNTERLEGSCHIBE	8,4 M8 DIN 125 Zn	4
19	91.170.028	3	VYPINAC	SWITCH	SCHALTER	SAP16/03-M1 16A 48X48mm OFF-ON 3P vypínač 16A, se zámkem, základna	4i
20	92.153.071	0	VENTIL	VALVE	VENTIL	V207_006-1 * stop ventil stop ventil	1
21	95.800.034	0	KROUZEK POJIST.VNEJS	EXTERNAL RETAINING RING	SICHERUNGSRING AUBEN	d55 DIN 471	2
22	99.900.045	0	SAMOLEPKA	STICKER	AUFKLEBER	NE Nebezpečí úrazu el.pro velká 43 mm	1

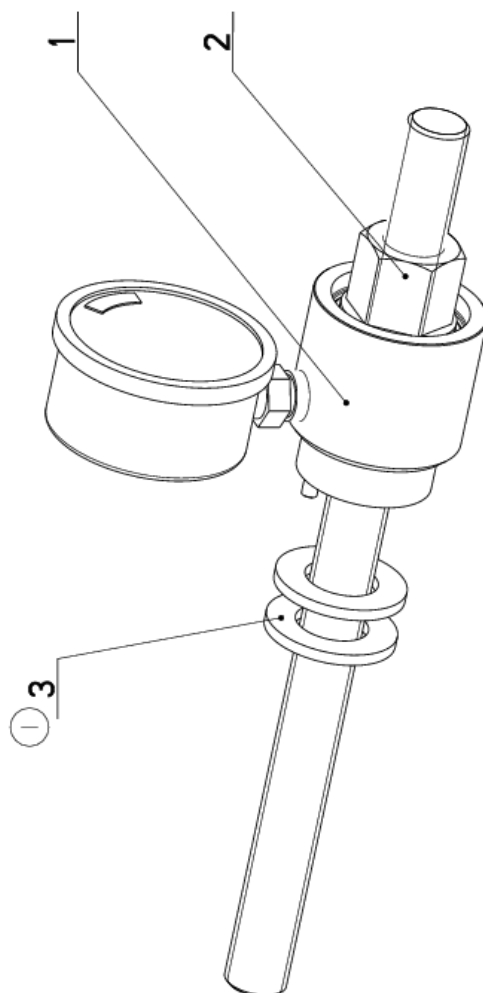
1. PRIDANO 33 SROUBU DO PLECHU 3,9x9,5(90.010.50.008,DIN7981,F), 012/ZM012 27.1.2015 SLEZACKOVA
2. ZRUŠENO VÍKO 30.M230-203 A NAHR. 30.M203-206, 056/ZM258 11.8.2017 SLEZACKOVA
3. PRID. 1xVYPINAC 91.170.028; 115/ZM213 29.6.2018 SCERBA

7.42. Volitelné příslušenství

7.42.1. Indikátor napínání / Power indicator / Spannungsindikator

Císlo Sestavy 201.M214-330		Ver. 1	Název sestavy INDIKÁTOR NAPÍNÁNÍ / POWER INDICATOR / SPANNUNGSINDIKATOR	
Poz.	Objednací číslo	Ver.	Název položky	Rozměr
1	201.0512-100	2	INDIKÁTOR NAPÍNÁNÍ / POWER INDICATOR / SPANNUNGSINDIKATOR	NAPĚTÍ V PASU 27mm
2	30.M208-101	1	ŠROUB NAPÍNACÍ / TENSION BOLT / SCHRAUBE BANDSPANNUNG	
3	90.150.50.010	0	PODLOŽKA / WASHER / UNTERLEGSCHLEIBE	PODLOŽKA 19

I. PRIDANA 2xPODLOŽKA 90.150.50.010. 257/ZM194 23.6.2016 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: Název položky/Volume title/Name der Position: Rozměr/Stock size/Abmessung

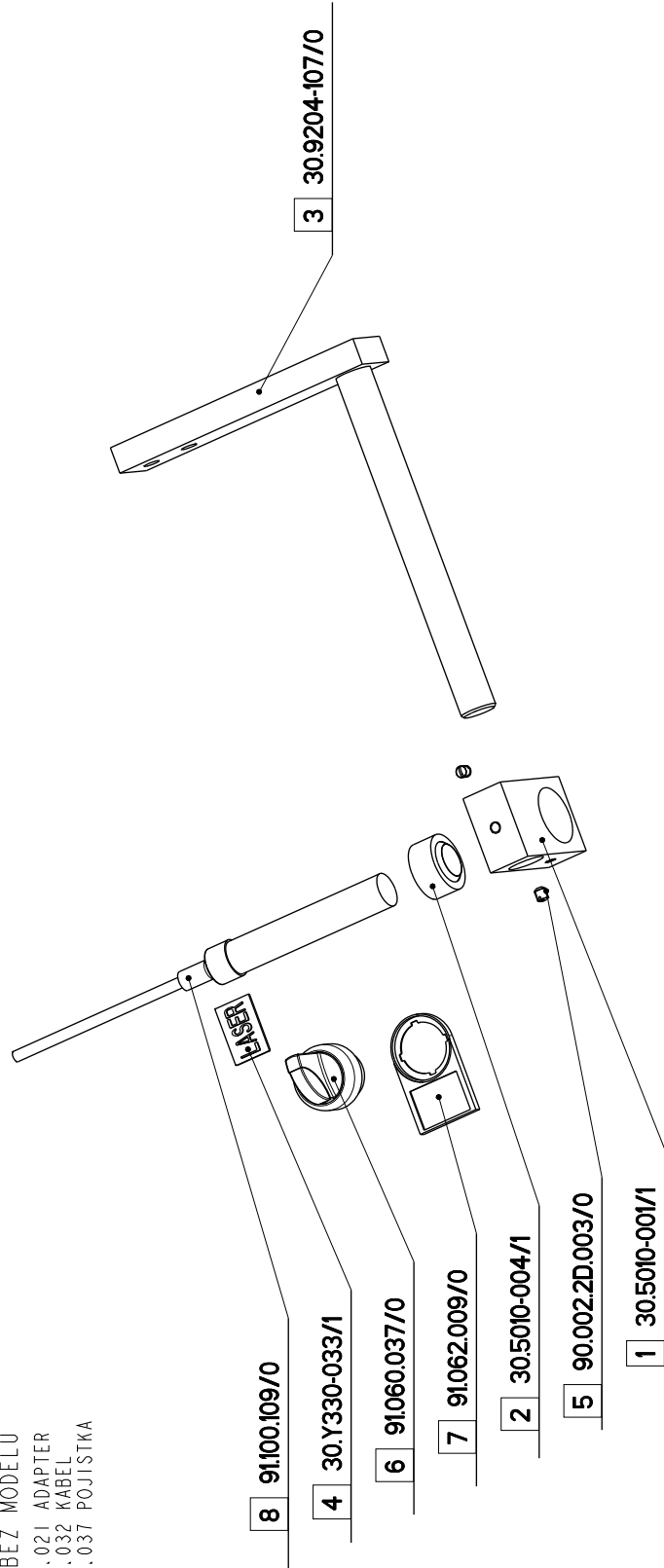
7.42.2. Laser / Laser / Laser

NÁZEV SESTAVY			ČÍSLO SESTAVY		REVIZE	Kategorie: -		Konstruktér: ZINDULKA		BOMAR	
LASER-UKAZOVATKO			201.9121-100		0	Datum: 16.12.2022					
			List/Leitb. 1/2		0.2						
pos.	číslo výkresu	verze	množství	název	polotovár	jakost	pov. upr.	váha	poznámka		
1	30.5010-001	1	1	DRZAK	HR55x20 - 36 40.550.00.28	AW2017		0.2			
2	30.5010-004	1	1	KLOUB	KGLM-12 95.705.001			0.0			
3	30.9204-107	0	1	DRZAK	SVARENO		CERNIT	0.6			
4	30.Y330-033	1	1	STITEK	LASER 30.Y399-110			0.0			
5	90.002.2D.003	0	2	SROUB STAVECI	5x6 DIN 913 45H černěn			0.0			
6	91.060.037	0	1	HLAVICE	M22 - WKV přepínač 2 polohy Moeller			0.1			
7	91.062.009	0	1	STITEK	držák pod tl.Meiler F-MO M22S-ST-X 216392			0.0			
8	91.100.109	0	1	LASER-UKAZOVATKO	24V AC/DC ukazovátko CL24-vypínač IP65			0.2			

INDEX ZMĚNA

DILY BEZ MODELU
91.061.021 ADAPTER
91.142.032 KABEL
91.230.037 POJISTKA

DATUM PODPIS



Číslo Sestavy/Number of assembly/Nummer der Baugruppe; Verze [Ver./Version/Version; Název sestavy/Assembly name/Name der Baugruppe; Datum/Date/Datum; Konstruktor/Designer/Konstrukteur; Číslo výkresu/Drawing number/Zeichnung number; Název/Name/Name; Polotovár/Semiprodukt/Halbfabrikat; Vstupní materiál/Entry material./Default material/Eingangsmaterial; Jakost/Norm/Norm; Pov. úpr./Surface finish/Oberflächengüte; Váha/Weight/Gewicht; Poznámka/Note/Notiz

7.42.3. Kusovník / Piece list / Stückliste -
Laser / Laser / Laser

NAZEV SESTAVY		CISLO SESTAVY	REVIZE				
LASER-UKAZOVATKO		201.9121-100	0				
Poz.	Objednací číslo	Verze	Název CZ	Name EN	Name DE	Položovar	Ks.
1	30.5010-001	1	DRŽAK	HOLDER	HALTER	HR55x20 – 36	1
2	30.5010-004	1	KLOUB	JOINT	GELENK		1
3	30.9204-107	0	DRŽAK	HOLDER	HALTER		1
4	30.Y330-033	1	STITEK	LABEL	SCHILD		1
5	90.002.2D.003	0	SROUB STAVECI	SET SCREW	STELLSCHRAUBE	5x6 DIN 913 45H černěň	2
6	91.060.037	0	HLAVICE	HEAD	KOPF	M22 – WKV přepínač 2 polohy Moeller	1
7	91.062.009	0	STITEK	LABEL	SCHILD	držák pod tl.Moeller F-MO M22S-ST-X 216392	1
8	91.100.109	0	LASER-UKAZOVATKO	LASER – LINER	LASER – LINER	24V AC/DC ukazovátko CL24-vypínač IP65	1

DILY BEZ MODELU
91.061.021 ADAPTER
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Číslo sestavy/Number of assembly/Nummer der Baugruppe; Ver.-Verze/Version/Version; Název sestavy/Assembly name/Name der Baugruppe;; Poz.-Pozice/Position/Position; Objednáací číslo/Order number/Bestellnummer;; Položkový/Semiproduct/Halbfabrikat; Výstupní materiál(Default material/Eingangsmaterial);

7.43.