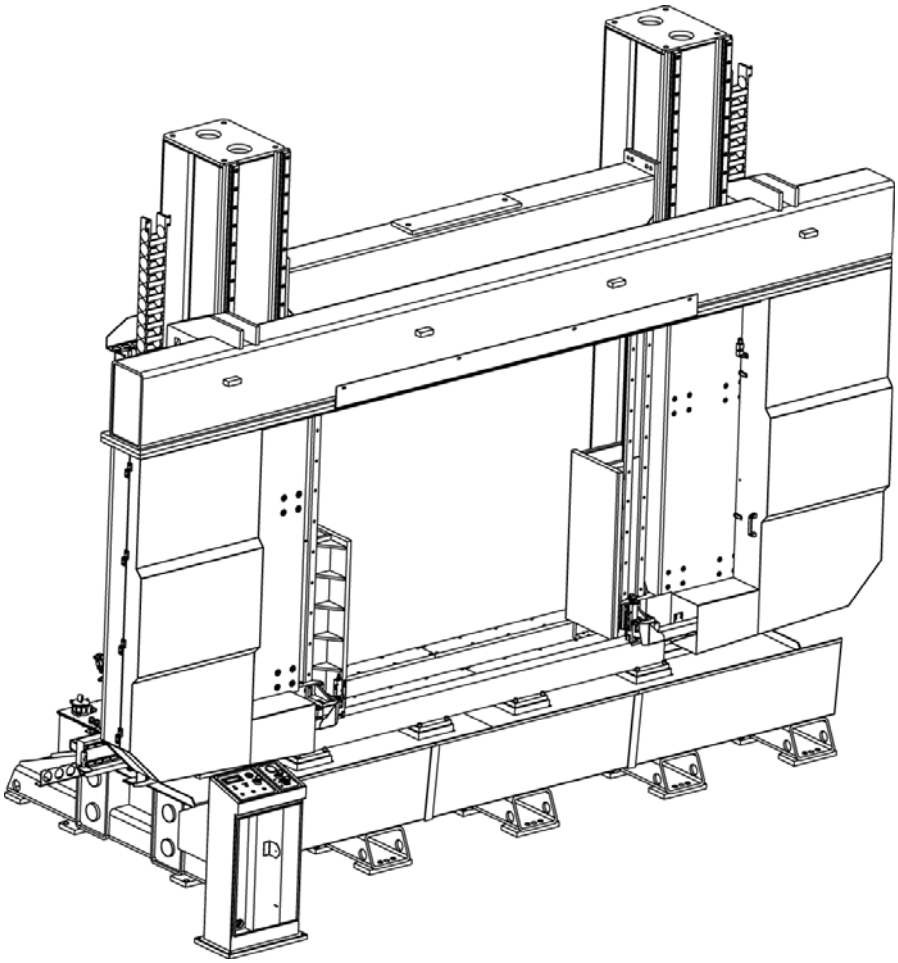
Serie **Extend**



Extend 2020.2020

Operating instructions

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

Seriové číslo / Serien Nummer / Serial Number _____

Service and information

Your BOMAR dealer:

Direct BOMAR contact:		
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We are available:		
Mondays to Fridays	7^{00} – 16^{00}	
Version:		
1.00 / Feb. 2012 rev. 1		

Content

1. Safety notes

Manual version: 1.00 / Feb. 2012
Manual rev.: 1

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

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

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

1.1. Machine determination

The band saw **Extend 2020.2020** is determined for cutting and shortening of rolled bars and drawn bars and profiles from steels, stainless steels, non-ferrous metals and plastics **without angle cuts.**

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!**

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.

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

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

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

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

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

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

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

1.4. Safety notes for the servicing and repairs

Attention!
Only a qualified professional can carry out the servicing and repairs of the 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.

1.4.1. 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.

1.5. Safety machine accessories

The machine is equipped with safety accessories. It protects the operator from injuries and the machine before damage. The safety accessories are blocking accessories, emergency switches and covers. Check once in a week the function of the safety accessories. If the safety accessories are functionless, you must stop work and repair or change the safety accessories.

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

1.5.1. Total Stop

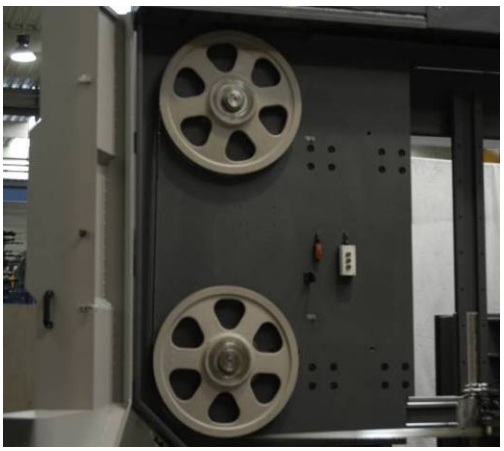
TOTAL STOP button is used for emergency switching – off the machine in case defect or health hazard. By pressing **TOTAL STOP** button is interrupted the supply of the electrical power.

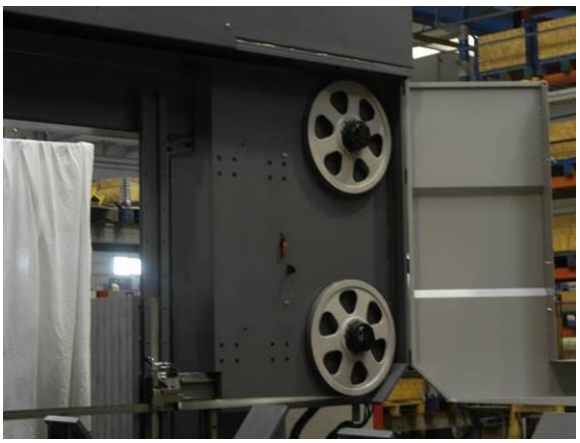
If any damages or fault appears, immediately press TOTAL STOP button! Release the pressing button is possible by twisting of the upper part of the button.

1.5.2. Arm covers

Left cover – It covers tighteningand aux. wheel. If the cover is opened during operation, the limit switch is opened and the band saw is stopped. The band saw is not possible start in set mode.

Right cover – It covers driving wheels. If the cover is opened during operation, the limit switch is opened and the band saw is stopped. The band saw is not possible start in set mode.





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

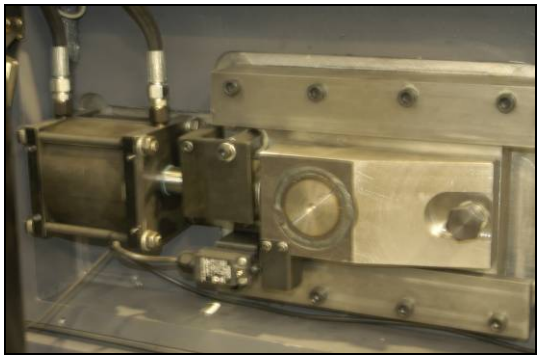
1.5.3. Band saw cover

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

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

1.5.4. 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. Release the saw band by pressing left button. Press the right button to stretch the saw band.

1.6. 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*

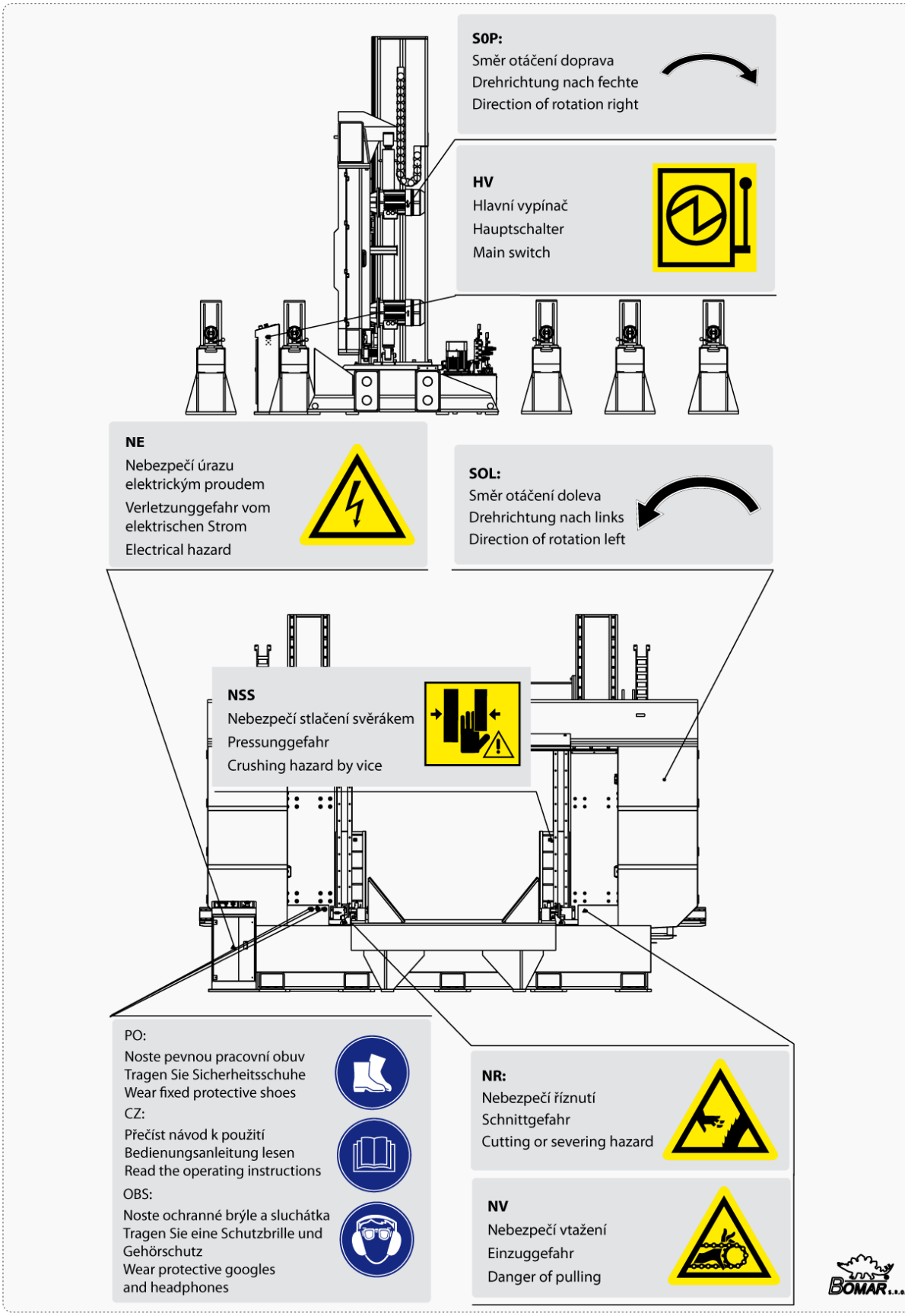
1.6.1. Instructions for first help

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.

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

Machine label is placed on base.

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

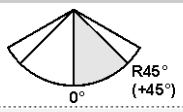


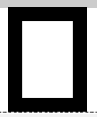
Manual version: 1.00 / Feb. 2012
Manual rev.: 1

2. Machine documentation

2.1. Technická data / Technische Daten / Technical data

Hmotnost stroje / Maschinengewicht / Machine weight:	
• Hmotnost / Gewicht / Weight	17500 + 4500 kg
Rozměry stroje / Maschinengröße / Machine size :	
• Délka / Länge / Lenght	6063 mm
• Šířka / Breite / Width	2300 mm
• Výška / Höhe / Height	4520 mm
Elektrické vybavení / Elektrische Ausrüstung / Electical equipment:	
• Napájení / Versorgungsspannun / Supply voltage	~3 x 400V, 50Hz, TN-C-S/TN-C
• Příkon / Gesamptschlusswert / Total Input	26 kW
• Max.jištění / Max. Vorschaltsicherung / Max. Fuse	60 A
• Krytí / Schutzart / Protection	IP 54
Akustický tlak / Schalldruckpegel / Acoustic pressure:	
• Extend 2020.2020	L_{Aeqv} = 86 dB
Pohon / Atrieb / Drive:	
• Typ / Typ / Type	
• Napájení / Versorgungsspannun / Supply voltage	~3 x 400V, 50Hz
• Výkon / Leistung / Output	7,5 kW
• Jmenovité otáčky / Motornenndrehzahl / Nominal speed	1440 min^{-1}
Hydraulické zařízení / Hydraulikeinrichtung / Hydraulic equipment:	
• Typ / Typ / Type	881-0028
• Výkon / Leistung / Output	0,5+5,5kW
Chladící zařízení / Kühlmiteleinrichtung / Cooling equipment:	
• Typ / Typ / Type	Microniser
Rozměr pásu / Sägebanddimension / Band size:	
14870×54 (41)×1,3 mm	
Řezná rychlost / Schnittgeschwindigkeit / Cutting speed:	
15–90 m/min. (special 10-70 $m.min^{-1}$, 20-120 $m.min^{-1}$)	
Řezné rozsahy / Schnittbereiche / Cutting size:	



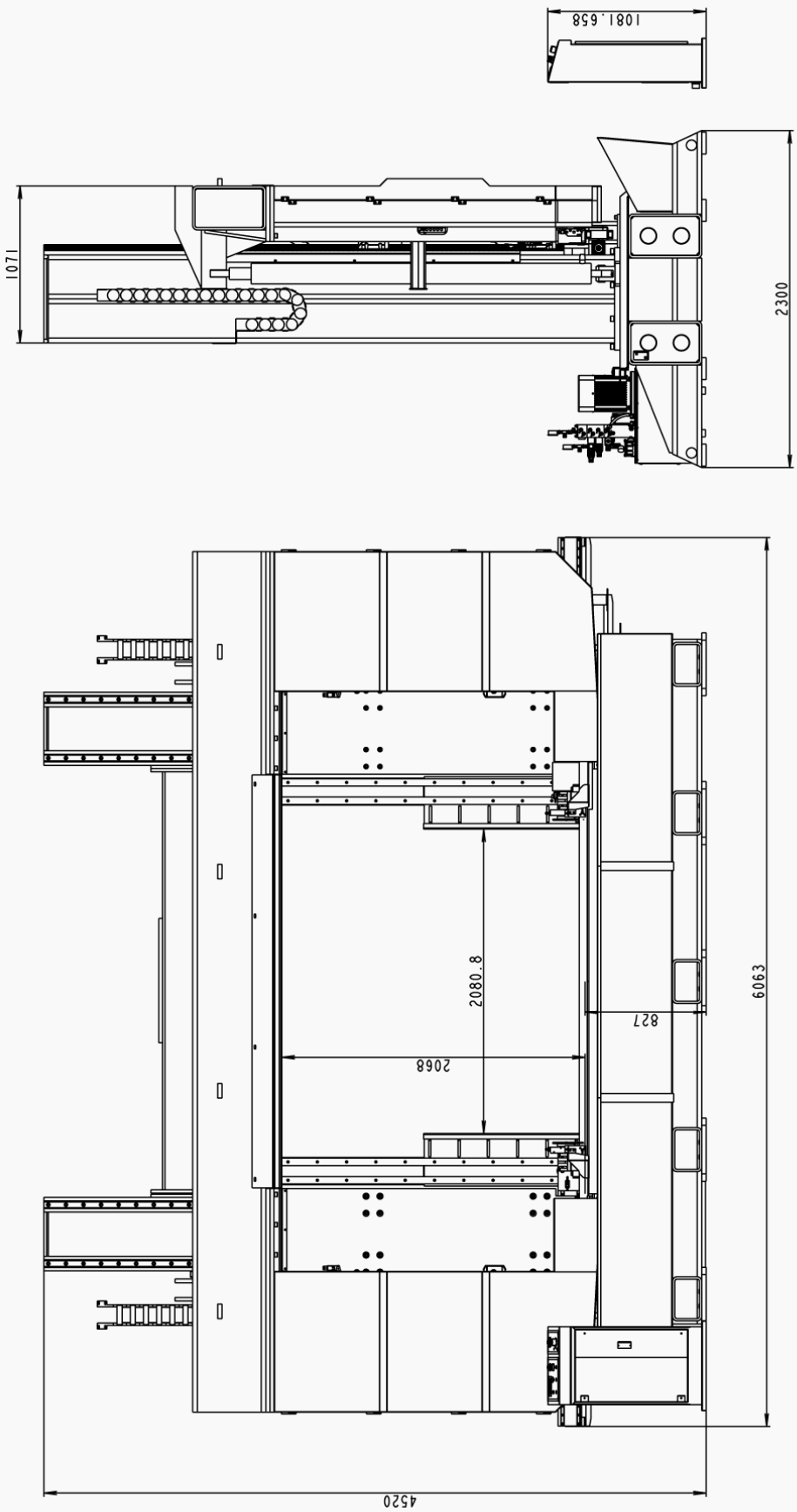


0°	∅2020 mm			2020×2020 mm

Level of acoustic pressure:

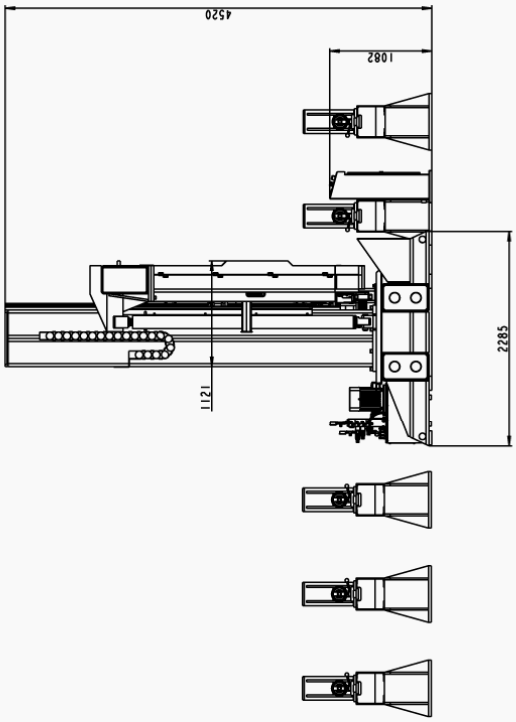
Equivalent level of acoustic pressure A (noise) at operator position are L_{Aeqv}=86 dB. Mentioned values are levels of emission which doesn't have to represent safe levels. Factors which influence real level of acoustic pressure on machine operator are: working place characteristics, cut material, saw band. These factors have significantly influence on acoustic pressure.

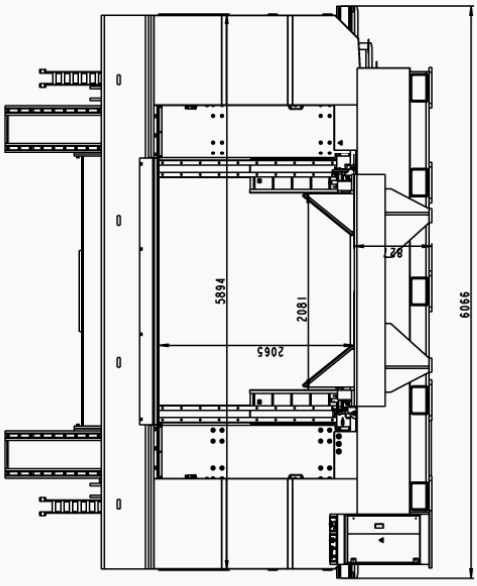
2.2. Rozměrové schéma / Aufstellzeichnung / Installation diagram – 1

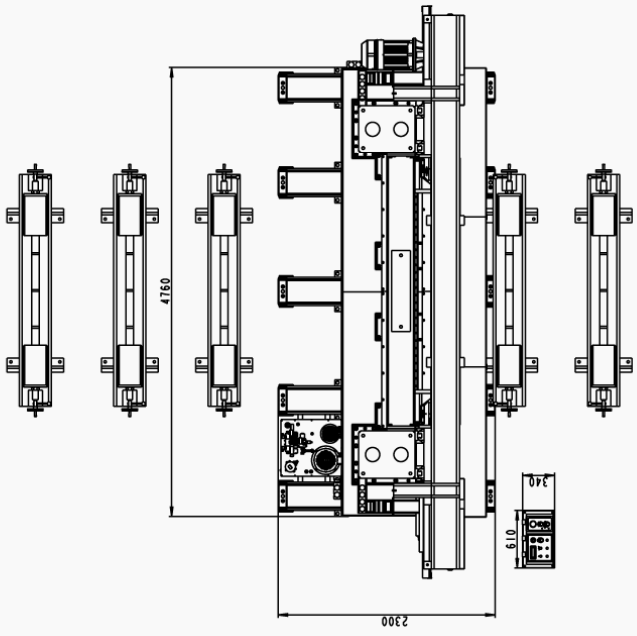


Manual version: 1.00 / Feb. 2012
Manual rev.: 1

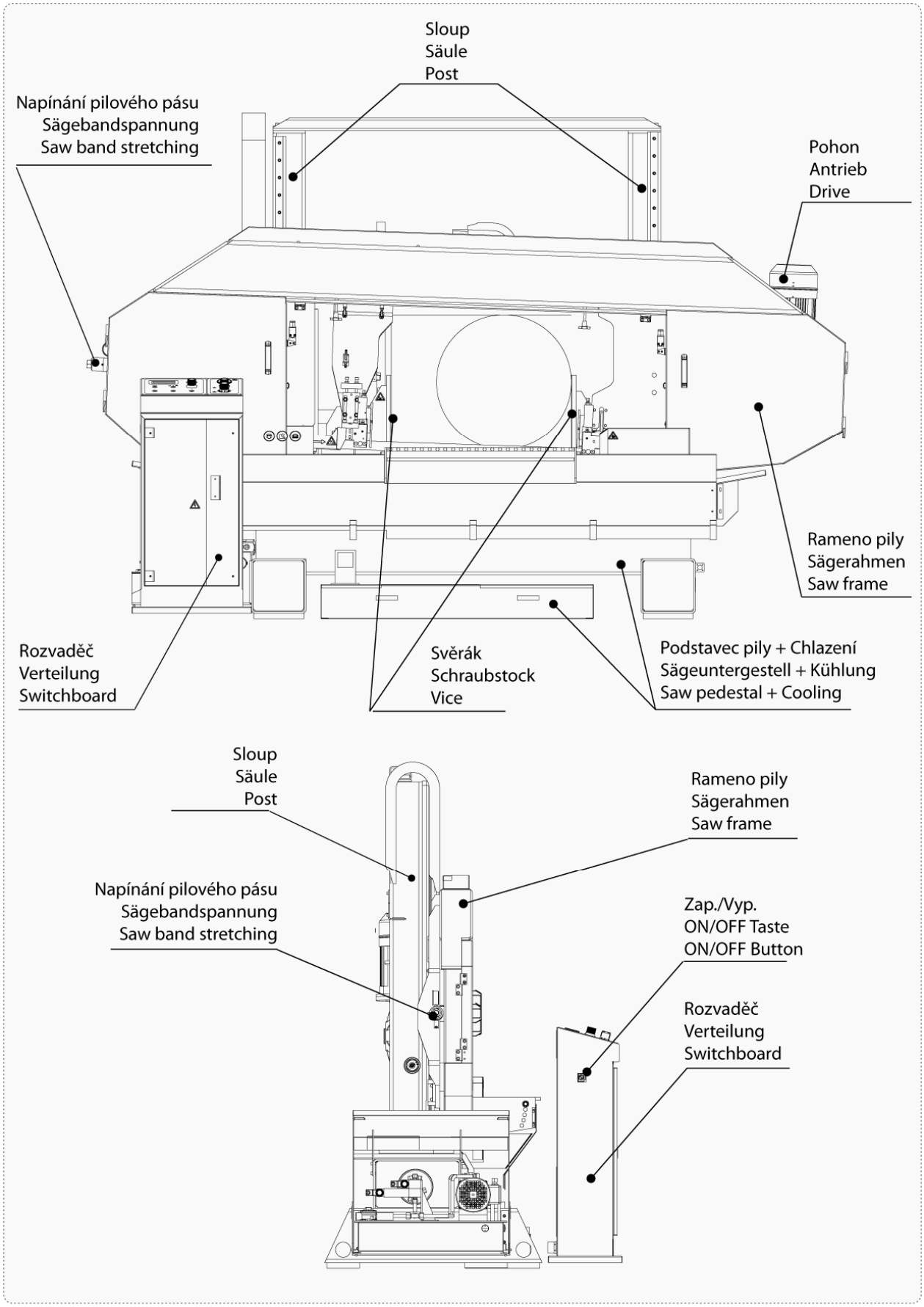
2.3. Rozměrové schéma / Aufstellzeichnung / Installation diagram – 2







2.4. Popis / Beschreibung / Description



Manual version: 1.00 / Feb. 2012
Manual rev.: 1

2.5. Transportation and stocking

2.5.1. 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.

2.5.2. 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.

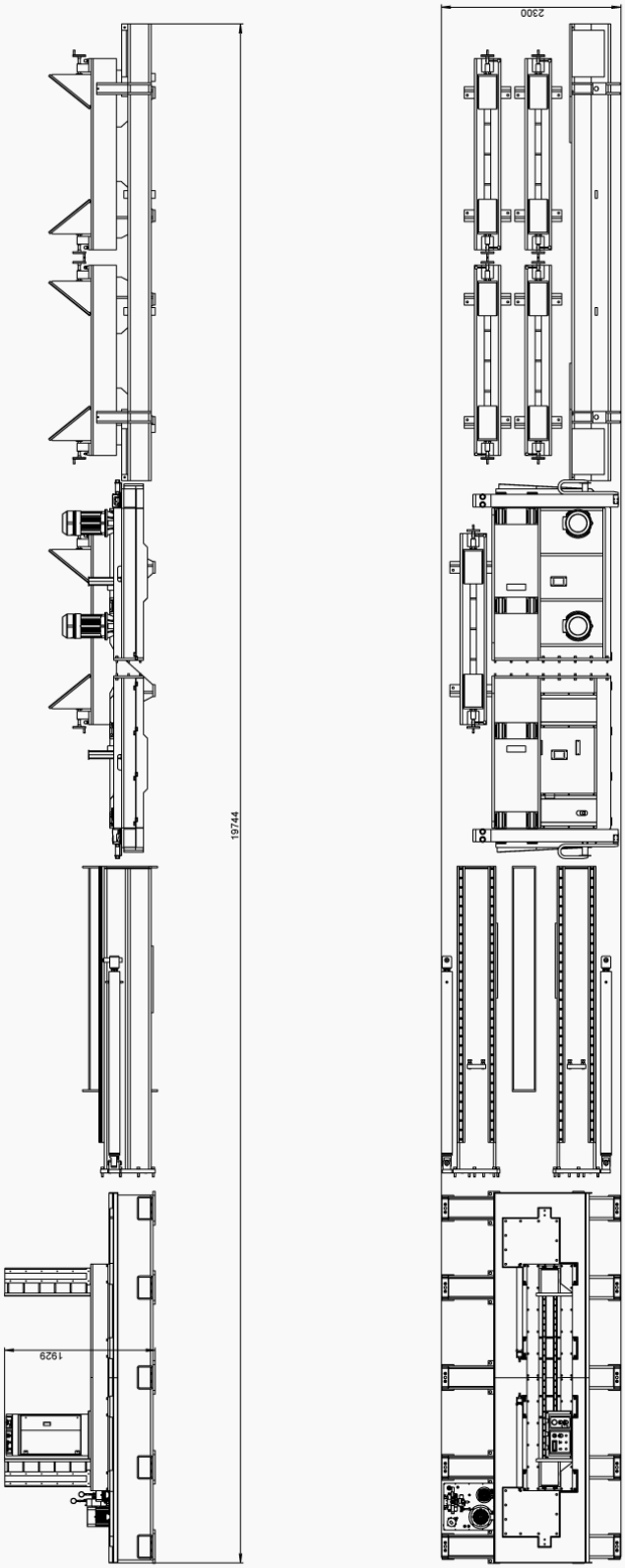
2.5.3. Transport and stocking

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.

2.5.4. Transportní schéma / Transport schema / Transport scheme

CELKOVA HMOTNOST 22t
TRANSPORTNI ROZMERY 20 000 x 2 400 x 2 000 mm



Manual version: 1.00 / Feb. 2012
Manual rev.: 1

2.6. Activation

2.6.1. 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 ***5°C to 40°C***, the temperature average during 24 hours must ***not exceed over 35°C***.
- At relative dampness of the air in the interval from 30% to 95% (not concentrate). Altitude must be 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).

2.7. 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.

2.7.1. 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 – Extend 2020.2020 – 17500 + 4500 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.

2.7.2. 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.

2.7.3. 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.

2.7.4. 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.

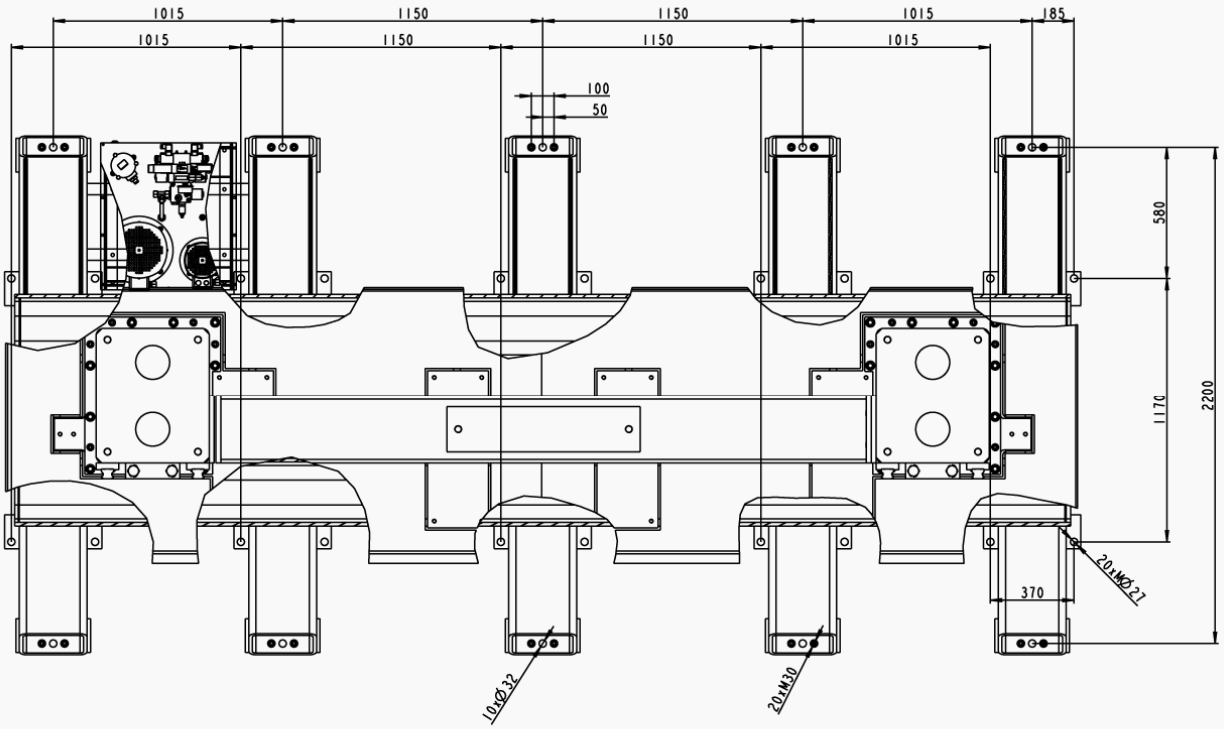
Power packs have to be filled up with clean, pre-filtered oil! The purity of the hydraulic fluid must correspond to the class 10 NAS 1638 (reachable with filter ß =75)!

Filling from container, such as barrels, backets, 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 v 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-HM 46	400	170	46	18	11	-30
OH-HM 68	700	170	68	26	14	-28
OH-HV 32	180	67	32	17	11	-40
OH-HV 46	350	110	46	25	14	-36

2.7.5. Kotevní plan / Verankerungsplan / Grounding plan



Kotvící materiál / Verankerungsmaterial / Grouding material

- 10× Hmoždina / Dübel / Plug – ø14×M30 mm
- Vrtáno do hloubky / In die Tiefe gebohrt / Drilled to – 300 mm
- Šrouby / Schraube / Screws – 20×M27×60 a 20×M30×40

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

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

± 10 mm / 1 m

2.8. 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: ~ 3×400 V, 50 Hz, TN-C-S
- Total input / Max. fuse: 26 kW / 60 A

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

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

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

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

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.

2.8.1. Check the direction of the saw band

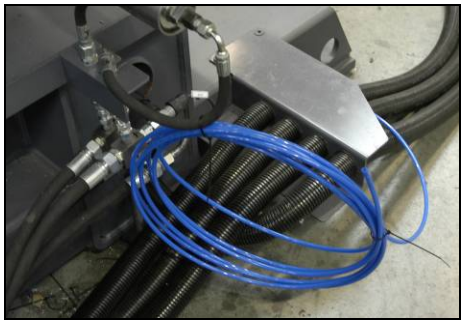
After the machine has been successfully connected, briefly switch on the machine and put the driving engine of the band in the running position. The direction must be in accordance with the arrow direction on the saw band cover. In case the direction of the saw band does not match, two phases at the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

2.8.2. 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!!!

2.9. Filling of the cooling system

Fill the container with the prescribed cooling agent. Microniser is located on the back of the saw arm.



Connect source of compressed air into microniser.

2.10. 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..

2.11. Saw band

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

2.11.1. Saw band size

14870×54 (41)×1,3 mm

2.11.2. Selection of the saw band tooth system

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

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

BOMAR for recommended Variable tooth system for band saw.

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

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

Footnotes:

Z_pZ – teeth number on one inch S – tooth with zero angle of the teeth K – tooth with positive angle of the teeth

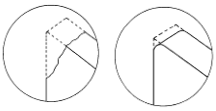
Examples of the tooth system marking:

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

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

2.11.3. 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.

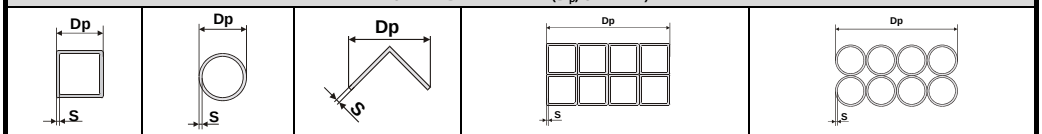


When cutting small pieces run the band until approximately 300 cm^2 of material has been cut. When cutting large pieces run the band for 15 minutes approximately. When the band has been run, increase the lowering-speed to normal speed. The running in of the saw band avoids micro-breaks on the cutting 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.

***Note:** Run regrinding saw bands too.*

2.11.4. Tables for teeth selection

SHAPED MATERIAL (D_p, S = mm)

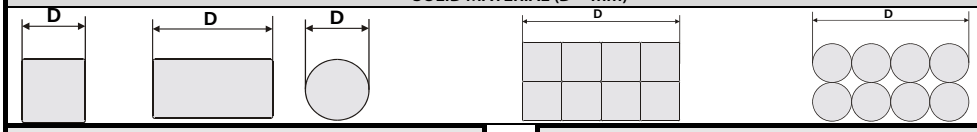


Note: Table shows tooth system selection for cutting one piece of the profile. For cutting of more pieces of the profiles (bundle), you must think of the size of the wall as double size of the wall of one profile (that means, size „S" equates to 2×S). In table, there are tooth systems constant and variable.

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

SOLID MATERIAL (D = mm)



Constant tooth system	
length of the cut D	tooth system (Z_pZ)
to 3 mm	32
to 6 mm	24
to 10 mm	18
to 15 mm	14
15–30 mm	10
30–50 mm	8
50–80 mm	6
80–120 mm	4
120–200 mm	3
200–400 mm	2
300–800 mm	1,25
700–3000 mm	0,75

Variable tooth system	
length of the cut D	tooth system (Z_pZ)
to 30 mm	10 –14
20–50 mm	8–12
25–60 mm	6–10
35–80 mm	5–8
50–100 mm	4–6
70–120 mm	4–5
80–150 mm	3–4
120–350 mm	2–3
250–600 mm	1,4–2
500–3000 mm	0,75–1,25

Manual version: 1.00 / Feb. 2012
Manual rev.: 1

3. Machine control

Manual version: 1.00 / Feb. 2012
Manual rev.: 1

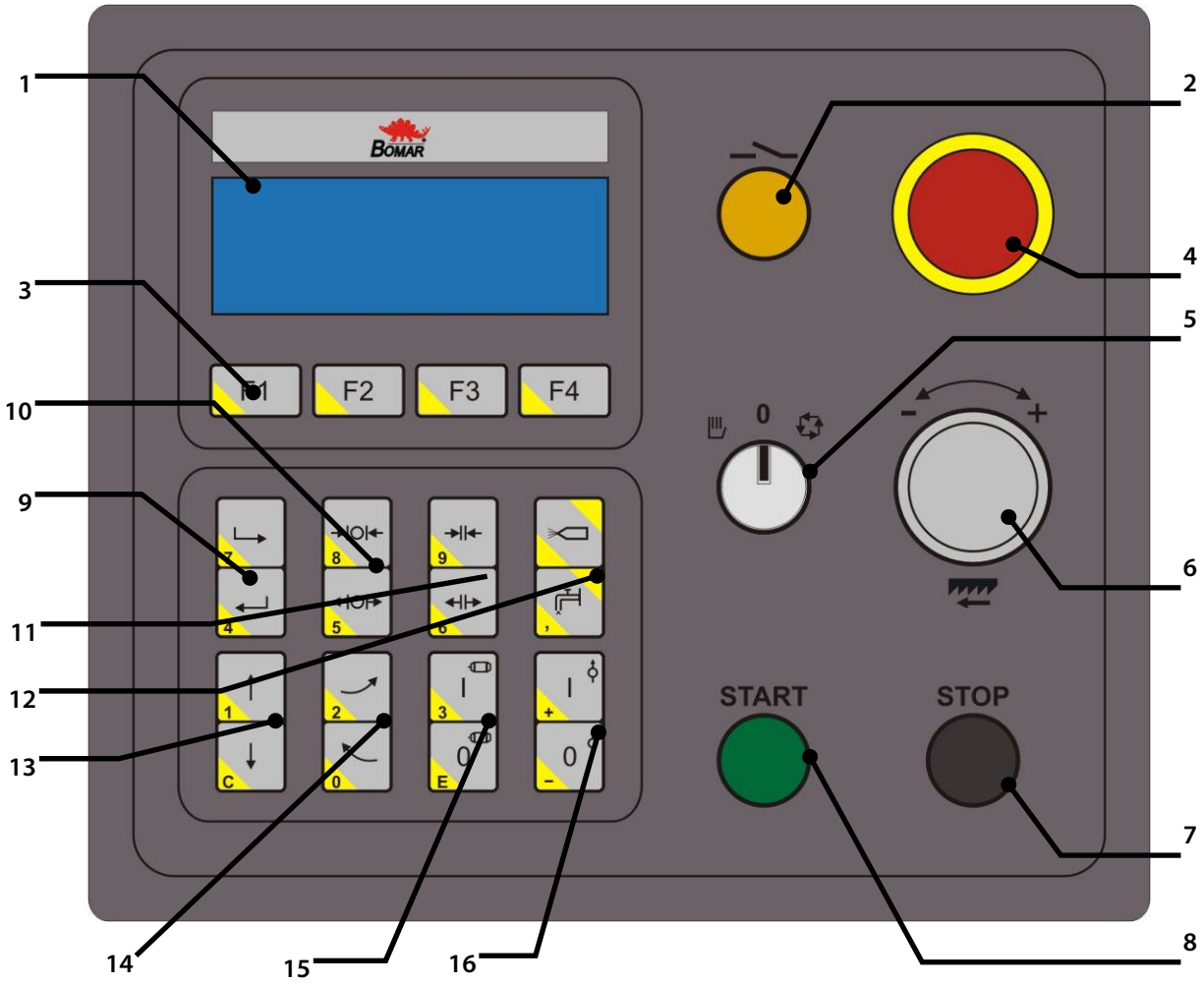
3.1. Starting the band saw

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

2. On LCD is information about safety button. Switch on the safety circuit of the band saw (button **2** – control panel of the band saw).

3. After turning the machine on the LCD displays the following information. ***The machine is needed to reffer before use.***

3.2. Control panel



1	**Display** Onto display are described all processes.
2	**Safety circuit switching on** Switch on the safety circuit by pressing button.
3	**Context buttons F1, F2, F3 and F4**
4	**TOTAL – STOP button** In emergency causes the machine must be immediately switched off.
5	**Saw's operating mode** Switch to the left selects manual mode, switch to the right slects In the middle position "0" can be preformed machine maintenance tasks.
6	**Frequency convertor** Change the speed of the saw band in interval 15 to 90 $m.min^{-1}$..
7	**STOP - Switch off the engine of the band saw**
8	**START - Switch on the working cycle**
9	no function
10	**Close / open left side of vice**

11	**Close / open right side of vice**
12	**Cooling system selection** You can select from possibilities: Cooling by Microniser Cooling by liquid (optional accessories)
13	**Move UP/DOWN with saw arm** The current key press for move down and the F1 key activates the rapid down move.
14	**Turn ON/OFF swarf conveyer** (optional accessories).
15	**Turn ON/OFF saw blade drive**
16	**Turn ON/OFF hydraulic circuit.**

	Cutting pressure manometer
	Cutting pressure regulation Adjust the arm pressure to the cut.
	Governing valve Adjust the speed of the arm sinking to the cut by governing valve. **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.

3.3. Machine control

3.3.1. Machine refering

Warning!
After each machine start-up must be run refering process.

Working cycle of the machine only works if the saw is properly refered.

1. After machine start-up on LCD is not displayed saw arm height (instead value is displayed arrow).
2. Lift saw arm into upper position on referring limit swith. Use button on position 13 on control panel to lift saw arm.

3. After running into the limit switch the LCD displays saw arm height – it indicates that machine is properly refered.
4. Refering is completed and may not be repeated until machine swith off.

3.3.2. Manual mode

If the saw is properly refered the LCD displays the following parameters.

- In manual mode, all movements are controlled by the machine control panel.
- Manual mode is also used for material handling before working cycle.
- In the manual working cycle START button to start the cutting cycle.

3.3.3. Working cycle (semi-automactic mode)

Warning!
The condition for running the working cycle is that machine is properly refered.

Cutting process:

1. Switch machine mode into working cycle –  .

2. Insert material into vice and clampmaterial. Clamped material is indicated on LCD.
3. Lower saw arm above material (at least 10 mm) and save height value by F1 key.
4. Start working cycle by button START.

Working cycle cannot start when actual saw height is lower than saved value.

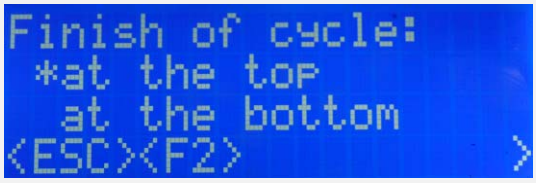
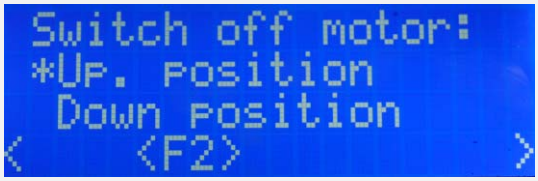
3.4. Machine setup

Machine setup mode is activated by switch on control panel. Switch must be in "0" position. After swiching into position "0" is displayed on LCD this screen:

Sevice parameters are password protected. Setup parameters are common saw parameters and are not password protected.

PASSWORD:	947

3.4.1. SERVIS

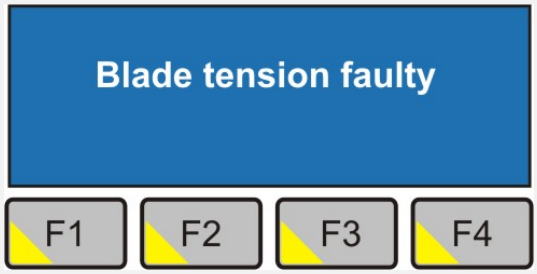
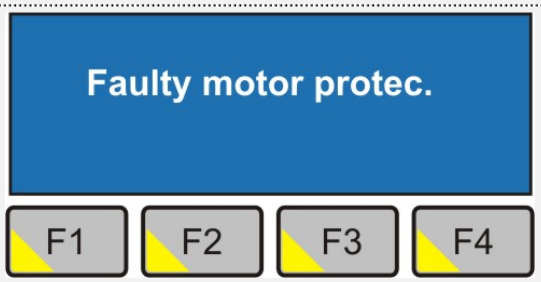
On screen	Description
	**Finish of the working cycle:** • Working cycle is finhed after saw arm lifts from cut. • Working cycle is finished immediately after cut. • **F1** go back, **F2** save value, **F4** next menu screen
	**Switch off motor** after cut: • Up position – saw arm move up after cut and then turn off drive of saw blade. • Down position – drive of saw band turn off immediately after cut. • **F1** go back, **F2** save value, **F4** next menu screen
	**Vice opening time**: • Determine vice bounce after cut • The specified time determine the opening of the vice • **F1** go back, **F2** save value, **F4** next menu screen
	**Switch off time for first hydraulic c.** • Choose time when will be hydraulic on saw turned off • **F1** go back, **F2** save value, **F4** next menu screen
	**Switch off time for second hydraulic c.** • Choose time when will be hydraulic on saw turned off • **F1** go back, **F2** save value, **F4** next menu screen
	**Language:** • Choose menu language • Restart machine to apply change. • **F1** go back, **F2** save value, **F4** next menu screen

3.4.2. SETUP

Menu offer SETUP is password protected. After entering the correct password, you have the following options.

On screen	Description
	• **Vice clamping time –** watch time, after a specified period vices must be clamped • **F1** go back, **F2** save value, **F4** next menu screen
	• **Blade speed correction –** dividing constant for calculation of belt speed, which is displayed on the LCD • Set by Factory. • **F1** go back, **F2** save value, **F4** next menu screen
	• View the number of pulses from the saw arm • For diagnostic purposes • **F1** go back, **F2** save value, **F4** next menu screen

3.5. Error messages

Error	Description
	Saffety button (pos. 2 on kontrol panel) is not ON. Press **F4** to confirm error..
	Total Stop button is active. Turn button **TOTAL STOP** according to the arrows. Press **F4** to confirm error
	Saw blade in properly tensioned. Ttension the belt correctly and press **F4** to confirm error..
	Engine temperature protection is active. **Do not overload saw!** Press **F4** to confirm error.

3.5.1. Cycle breaking

- **STOP button**

  Semi-automatic cycle is interrupted by pressing button **STOP**.

  The arm is lifted to the top position and the saw band drive is stopped..

  By pressing button ***START of the semi-automatic cycle***, you can start the cycle.

- **TOTAL STOP button**

  In case of the risk, press button **TOTAL STOP**

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

- **Reactivation**

  1. Turn button **TOTAL STOP** according to the arrows (on the button).
  2. Switch on the safety circuit by button „2".
  3. Pressing button **START** starts the semi-automatic cycle

3.6. Band saw adjusting

3.6.1. Cutting speed adjusting

Speed of the saw band is possible change from ***15 to 90 m/min***. You can effect to adjusting speed of the saw band following.

Use the frequency convertor 6 to adjust requested speed of the saw band. You can see the speed on display.

Attention!
At least once a week set the saw band speed from the lowest up to the highest speed.

3.6.2. Adjusting band guides

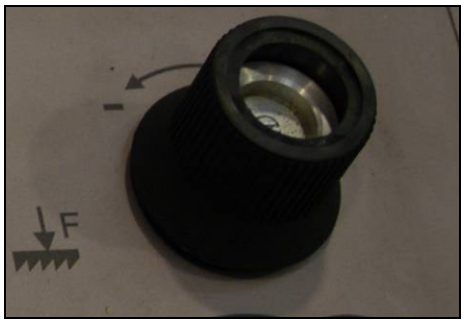
If you want to achieve a smooth and precise cut, it is helpful to position the guide cube as close as possible to the material.

Setting the Optimal range cubes is done automatically.

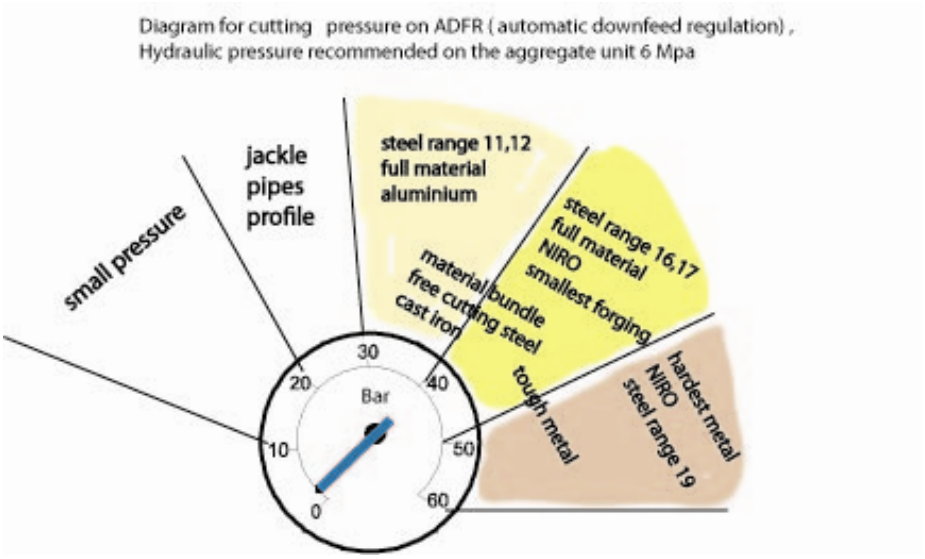
3.6.3. Adjustment of pressure to the cut

The band saw ***Extend 2020.2020*** is equipped with cutting pressure regulation on the both guiding cubes.

Pressure adjusting is performed with regulating wheel on control panel. The pressure to the cut is displayed on the cutting pressure manometer on control panel.

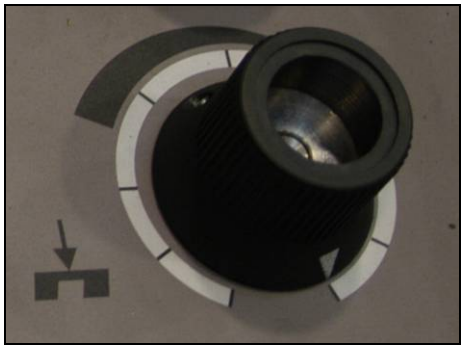


Lower pressure to the cut – turn the wheel against the clock's direction.



Higher pressure to the cut – turn the wheel to the clock's direction.

3.6.4. Speed adjustment of the arm lowering



Set the speed of the arm lowering to the cut by control valve on control panel.

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

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

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

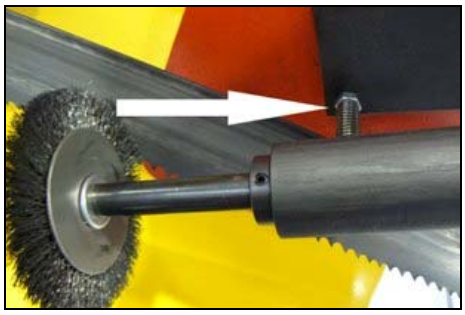
3.6.5. Saw frame lift stop setting

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

1. In working cycle, lift saw arm to desired height. Saw arm should be at least 10 mm above material.
2. Press the key F1.

3.6.6. 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!

3.7. 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!

3.7.1. 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!

3.7.2. 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.

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

For easy handling of material are delivered to the mill auxiliary workpiece holders.

Setting the workpiece holder:

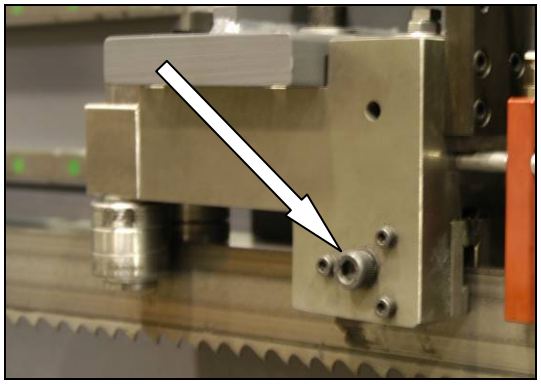
5. Use crane to put material into aux. holders.
6. Loosen the mounting lever and move jaw to the material.
7. Secure the lever assembly.
8. Use handwheel to adjust the position of the jaws to cutted material could not move.

4. Machine service

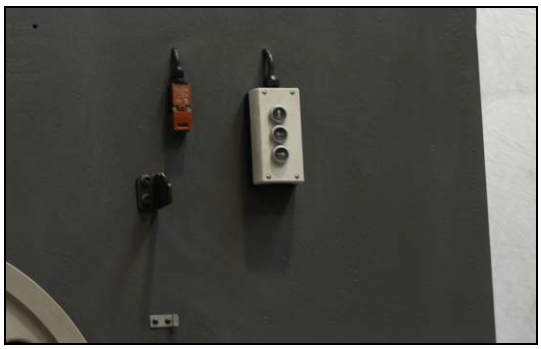
4.1. Saw band dismantling

1. Press TOTAL-STOP button for safety circuit shutdown.

2. Open the covers from the wheels.
3. Dismantle protective covers of the band. Cover is fastened by screws.
4. Release screw tightening brush position. Move brush ou



5. Loosen the belt guide in cubes (center screw)..



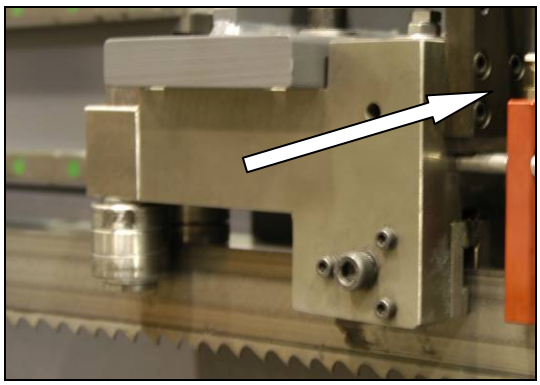
6. Loosen the saw belt by buttons placed on saw arm.
7. Use the platform to pull out the saw belt. First pull out the belt from top saw belt cover (between wheels) and then from top wheels.
8. Pull up the saw band from the guiding cubes.

4.2. Saw band installation

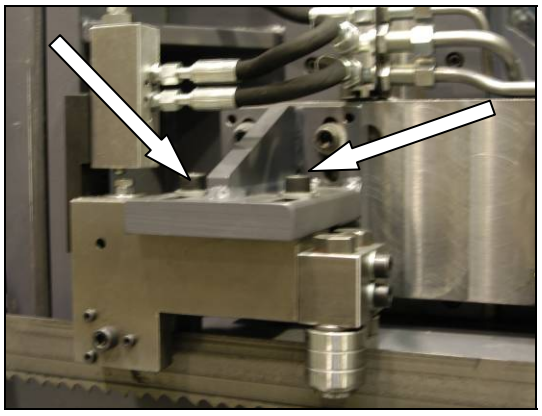
1. Prior to installation, clean all track wheels, guide cubes and inner side of the arm thoroughly of all traces of chips and dirt. *Keep in mind the teeth direction when installing the saw band.*
2. Insert new saw band in the guide cubes. Make sure the saw band runs between both guide rollers and it is pushed all the way to the top.
3. Put the saw band on all 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. Stretch the saw band by by the buttons on saw arm.
5. Tighten the belt in guiding cubes. Do not tighten saw belt too much.
6. Install yellow protective cover of the band.
7. Move the brush to the saw band. Tighten the securing screw.
8. Close the covers of both driving wheels.
9. Saw band installation is finished. Turn on safety circuit.

4.3. Guiding cubes change

1. Before replacing the cubes must be saw belt removed.
2. Remove microniser noozle.



3. Remove the 4 screws from the front of guiding cube.

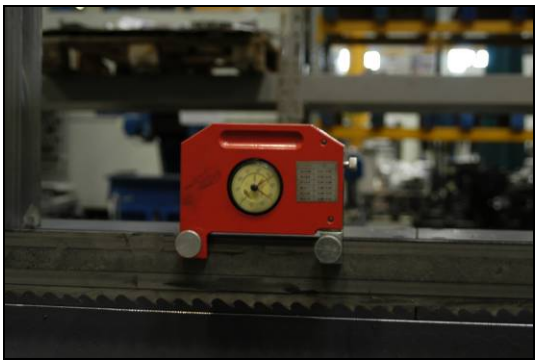


4. Remove the cube from the holder.
5. Mount new guiding cube into holder. Ensure that the distance from the hydraulic regulation is same.
6. Also vertical and horizontal position of guiding cube must be same – saw belt must not be deflected.

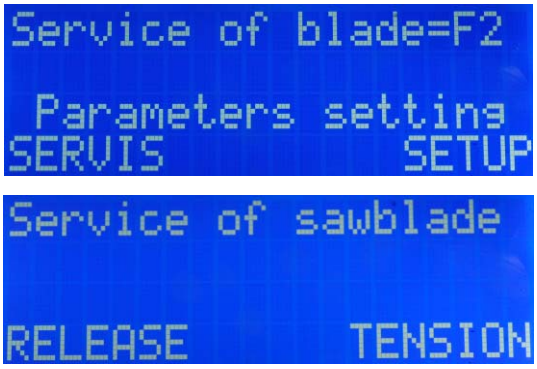
4.4. Saw band stretching and inspection

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.

4.4.1. Saw band stretching



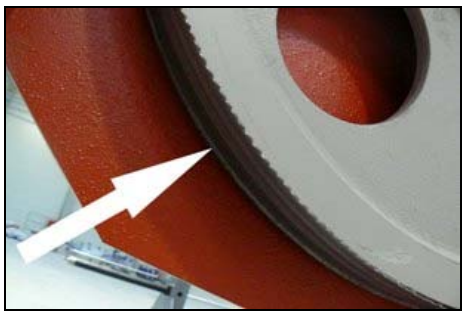
- Switch on the hydraulic aggregate, install on the saw band device for the check saw band stretching – tenzomat.
- Stretch the saw band until it is stretched to the recommended value.



- To adjust the belt tension, use the menu in the control system. Switch the mode to 0, then press F2. Use keys F1 or F4 to tension.

4.4.2. Saw band inspection

Check the saw band in the guiding cubes and on the wheels.



1. Check, if the saw band is right in the guiding cubes..
2. Switch on the saw band drive and then after 10 seconds switch off saw band drive. If the saw band drive is not possible to switch on, set the limit switch of the saw band stretching.
3. Switch off the main switch.
4. Open cover(s) of the wheels and check position of the saw band on the both wheels.

- If the distance between backside of the saw band and the offset wheel is **1 mm**, setting is right.
- If the distance is bigger than **1 mm**, or the saw band is on the offset of the wheel, set the saw band.

5. Close cover of the saw band.

4.4.3. Saw band run setting

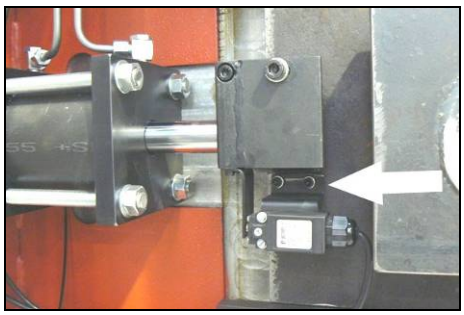
Saw band run is set with screw (arrow) in the stretching cube on the saw arm. Right distance rear part of the saw band from wheel rim is **1 – 3 mm**.

- Turn with the screw to the right, the saw band is closer to the stretching wheel rim.
- Turn with the screw to the left, the saw band is far from the stretching wheel rim

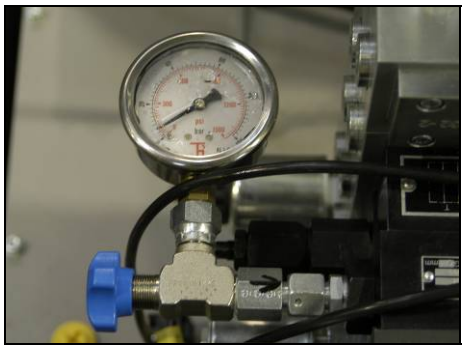
Check saw band run adjustment again.

4.5. Adjusting of the limit switch of the saw band stretching

After the saw band is replaced, the limit switch setting must be checked out. If the limit switch is not set correctly, the band is stretch too much or it is to loose.

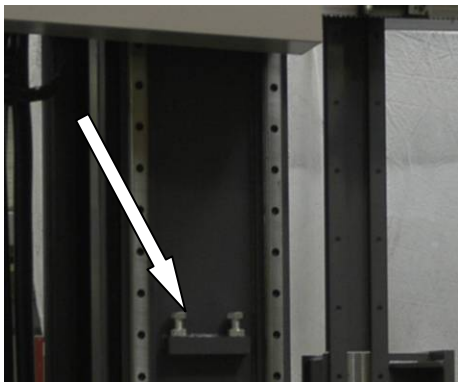


- Release 2 screws and check the limit switch setting -on-state.



- Manometer indicants the pressure at cylinder of band tensing (60 Bar).

4.6. Saw arm lower position stop adjustment



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

1. Lift the saw frame to the top position.
2. Release the nuts of the screws and set it on the desired value.
3. Secure the screw with nut again.
4. Set the limit switch of the saw frame lower position.

4.7. Limit switch adjustment of the saw frame lower positron

If we had adjusted lower stop point of the saw frame, the limit switch adjustment inspection is required.

4.7.1. Setting inspection

Lower the saw frame to the lowest position. If the saw frame is on the lower stop and the limit switch responds, the limit switch adjustment is correct. Make the limit switch adjustment in failing which.

4.7.2. Limit switch setting

1. Limit switch is located on the right saw pillar (with drives). Loosen the bracket.
2. Lower saw arm on the limit switch.
3. Adjust the limit switch bracket until the arm is not rise up.
4. Secure the screw with nut and check limit switch adjustment again.

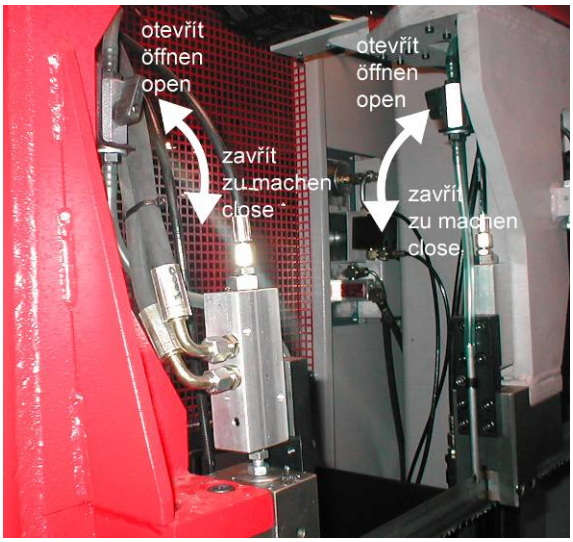
4.8. Adjustment of the cutting pressure regulation

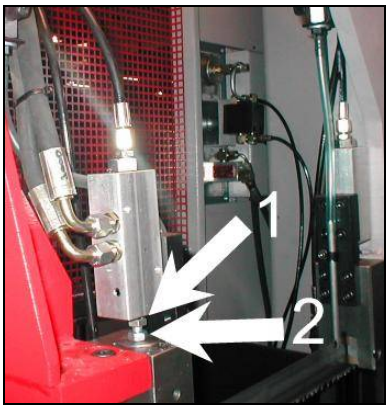
This chapter describes the basic speed setting of arm sinking to the cut for idle run. Saw is equipped with cutting pressure regulation on both guiding cubes. Cutting pressure regulation is set separately on every guiding cube.

4.8.1. Setting on the right guiding cube

1. Close the tap on the left guiding cube. Let the tap opened on the right guiding cube.

Left guiding cube **Right guiding cube**





2. Screw off the set – screw on the right guiding cube to the stop, the valve is blocked (pos1). You can move by arm only up, because the arm movement down is blocked with pressure regulation valve.
3. Press button „Arm down" and slowly screw on the set – screw on the right guiding cube. Screw by set – screw until the optimal speed of the arm sinking is not reached. The optimum speed of the arm sinking to the cut from maximum lift until lower stop is about 55 seconds.
4. Secure the set – screw with nut (pos. 2) for reaching of the optimum speed of the arm sinking.
5. Pressure regulation on the right guiding cube is set.

4.8.2. Setting on the left guiding cube

6. Open the tap on the left guiding cube. Close it on the right guiding cube.
7. Set the cutting pressure regulation on the left guiding cube in the same way.
8. Open taps on both guiding cubes after pressure regulation setting. **ATTENTION!** Both taps must be opened during operation!
9. Setting is ended.

4.9. 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

4.9.1. 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

4.9.2. 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.

4.10. Hydraulic, Greases and oils

4.10.1. 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
Extend 2020.2020	Shell Tivela S 320	0,6–0,8 l (each gearbox)
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

4.10.2. 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.

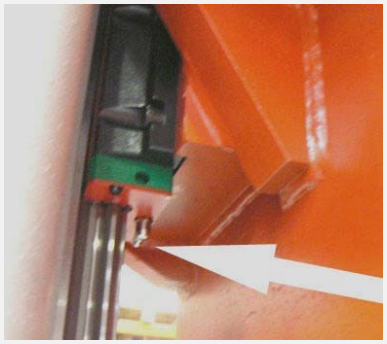
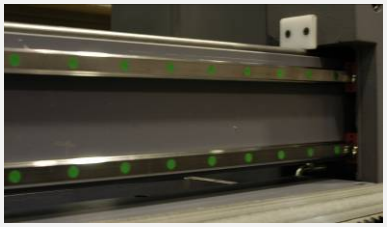
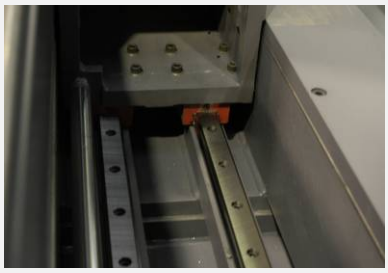
Comparative table of the lubricant greases:

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

Manufacturer	Type of the lubricant grease
Texaco	Multifak EP1

4.10.3. Lubrication

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

Lubrication place	Lubrication
	**The linear guiding of the saw arm** – lubricate with grease once a three months (see chapter Lubricant greases). Use 1–3g grease on the every carriage of the linear guiding. Use the grease gun to the lubrication. Drive 3-5 times whole line of the linear guiding during lubrication.
	**The linear guiding of the vice jaws** 1 – lubricate with grease once a three months (see chapter Lubricant greases). Use 1–3g grease on the every carriage of the linear guiding. Use the grease gun to the lubrication. Drive 3-5 times whole line of the linear guiding during lubrication.
	**The linear guiding of the vice jaws** 2 – lubricate with grease once a three months (see chapter Lubricant greases). Use 1–3g grease on the every carriage of the linear guiding. Use the grease gun to the lubrication. Drive 3-5 times whole line of the linear guiding during lubrication.

4.10.4. Hydraulic oils

Replace the hydraulic oil once in 2 years, because the oil can deteriorate its properties and cause problems the hydraulic equipment. If the hydraulic system is equipped with filter (2SF 56/48-0,063), replace the filter too.

Use oils with specification DIN 51524-HLP, ISO 6743-4 and viscosity grade ISO VG 46 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 46	Ina	Hidraol 46 HD
Aral	Vitam GF 46	Klüber	Lamora HLP 46
Avia	Avilub RSL 46	Hungary	Hidrokomol P 46
Benzina	OH-HM 46	Mobil	Mobil DTE 25
BP	Energol HLP 46	ÖMV	HLP 46

Manufacturer	Type	Manufacturer	Type
Bulgaria	MX-M/46	Poland	Hydrol 30
Castrol	Hyspin AWS 46	Rumania	H 46 EP
Čepro	Mogul HM 46	Russia	IGP 30
DEA	Astron HLP 4hy6	Shell	Tellus Oil 46
Elf	Elfolna 46	Sun	Sunvis 846 WR
Esso	Nuto H 46	Texaco	Rando HD B 46
Fam	HD 5040	Valvoline	Ultramax AW 46
Fina	Hydran 46		

4.10.5. 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:

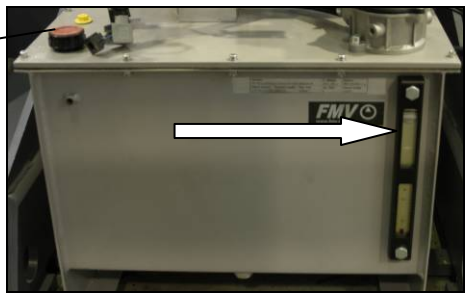
- checking off all screws and connections, fixing points, tubes and hoses for leakage
- Cheb hydraulic oil level
- During time of duty the oil temperature shouldn´t exceed 60-70°C
- check function of signaling components (thermometer, level gauge, dirty filter indicator)
- Check the adjustment of working 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	-	-	•	-	-	-

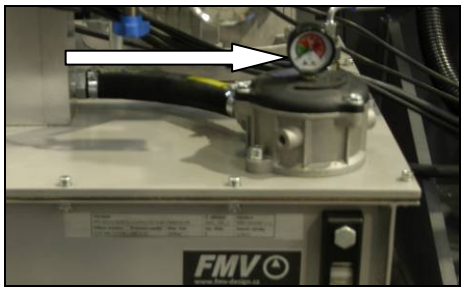
4.10.6. Hydraulic oil level check

The hole for filling hydraulic oil.



Check the state of the oil. The oil level must be situated on top water-glas (with saw arm on bottom position).

Fill the hydraulic oil, if it is necessary. Use always the filter (10 μm or better) when you fill the oil. You avoid impurities penetration to the hydraulic system and troubles in hydraulic system.



Cleanliness of hydraulic oil shows the filter indicator. When is filter indicator on red field filter must be cleaned.

4.11. 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.

Regularly change the filter in the intake air into the electrical cabinet.

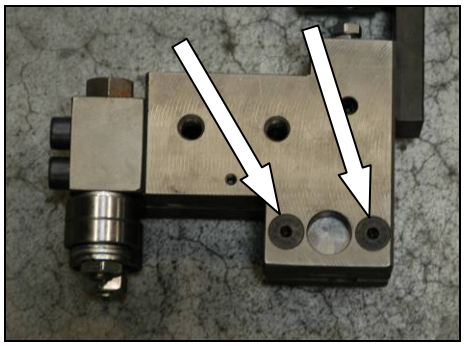
4.12. Worn pieces replacement

4.12.1. Pushing bearing replacement

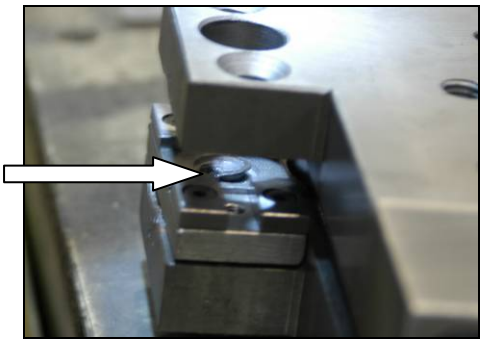
If it is impossible to adjust the bundle gripping assembly and the pushing bearing is worn, it needs to be replaced

1. Dismantle the saw band.
2. Disconnect the hose from the cooling agent eventually unmount microniser.

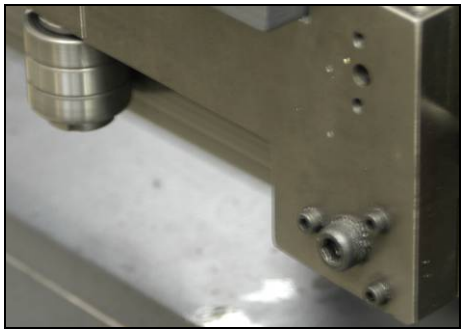
3. Unmount guiding cube from holder on saw.



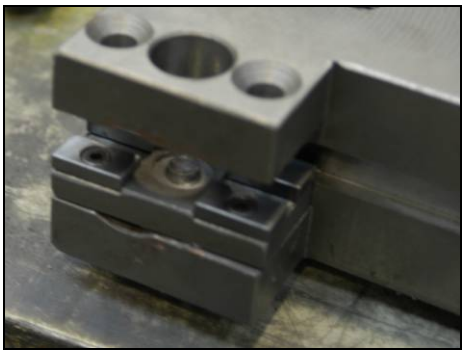
4. Loosen the 2 clamp screws solid carbide guides and remove them..
5. Remove fixed hardmertal.



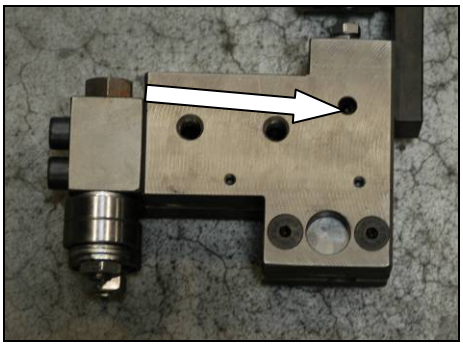
6. Remove retaining ring. Then unmount adjusting screw.



7. Remove other three screws.



8. Carefully remove the hardmetal. Remove disc springs.

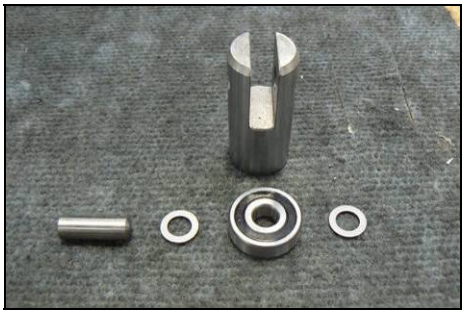


9. Loosen the mounting worm (allen wrench no. 3). Remove the pivot with bearing from the guiding cube.

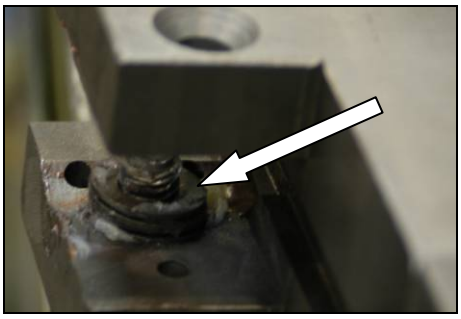
10. Insert the pivot to the vice.

Attention:
The vice has aluminium jaws, eventually, there has to be an aluminium agent to protect the pivot from damage.

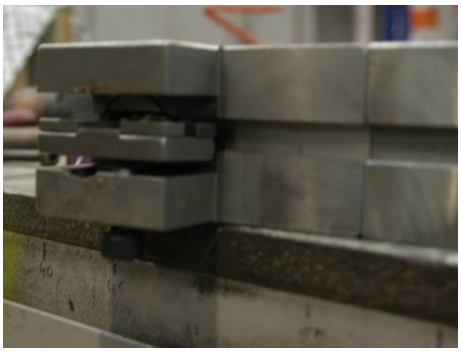
11. Remove the bearing pivot from the bearing holder by means of the swager.

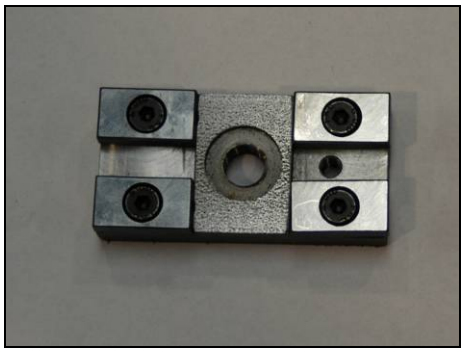


12. Remove the worn bearing and other damaged parts.
13. Fasten the holder to the vice.
14. Insert the bearing and washers and return the pivot to its original place.
15. Place the assembled piston guide cube. Piston must move freely in a guiding cube.
16. Worm screw defines the operation of the piston (piston has a slot in which is the worm). Tighten the worm, but with a minimum clearance to the piston could move.

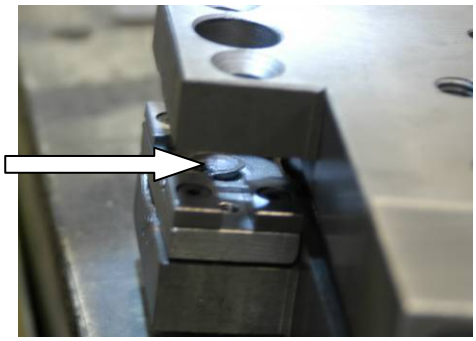


17. Insert the disc springs. The number of disc springs must match the number of dismantled springs. Disc springs are folded against each other 1 to 1 Odd plate spring is near the harmetal carbide.

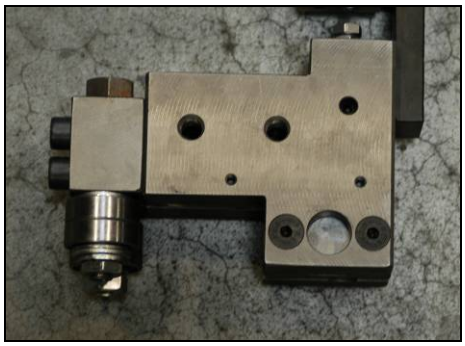




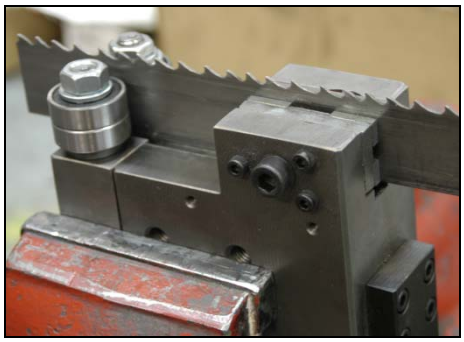
18. Insert the new hard metal guide. ***Attention,Do not lose disc springs.*** Ensure proper position of carbide guides – holes for 3 stop screws must be in the same position as the holes in a guiding cube.
19. Insert and tighten central screw.



20. Insert the retaining ring on central screw.
21. Insert 3 stop screw around central screw.



22. Insert fixed hardmetal guiding and mount hard metal with two screws.

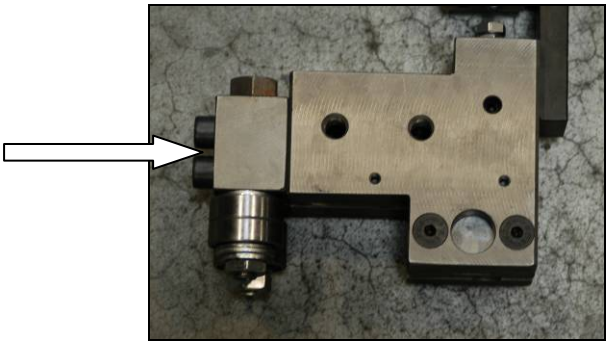


23. Using a short piece of the blade used on the machine, adjust the width of the gap between the guides. Loosen the central screw. Set the gap by central adjusting screw. Belt guides must walk freely without large and will also not scrub.

4.12.2. Saw band guiding pulleys replacement

If the saw band is not sufficiently guided by guiding pulleys or if the pulleys are obviously worn, the pulleys should be replaced.

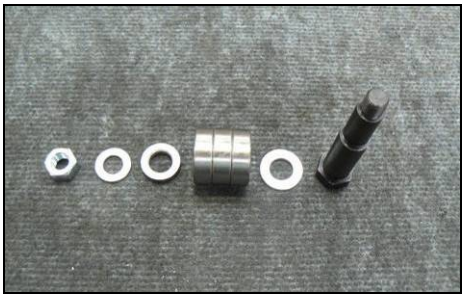
Attention:
Guiding pulleys must be replaced together on both guiding cubes!



1. Release 2 screws. 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!

2. Tighten the guiding cube to the vice and dismantle both eccentrics with bearings following way.
3. Screw off nuts from eccentrics.
4. Remove eccentrics from bearings by means of the swager.



5. Change all bearings and other worn parts.
6. Install eccentrics to the cubes. Install components on both eccentrics in given order. Put bearings by means of the preparation on eccentrics.

Attention:
Do not replace the eccentrics placing in the cube.

7. Screw on nuts on both eccentrics and tighten them.

8. Insert the saw band to the guiding cube (cca 15 – 20 cm). Secure the movable hard metal guide with scotch so, that the saw band is pressed with guides and it is possible to move with saw band

9. 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

Optimal distance between the band and the pulley is 0,05 mm.

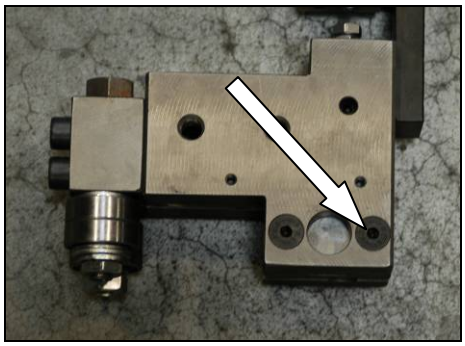
10. Tighten nuts on both eccentrics.
11. Remove the testing piece of saw band from the cube lead. Install the guiding cube on the machine.

4.12.3. Hard metal guides replacement

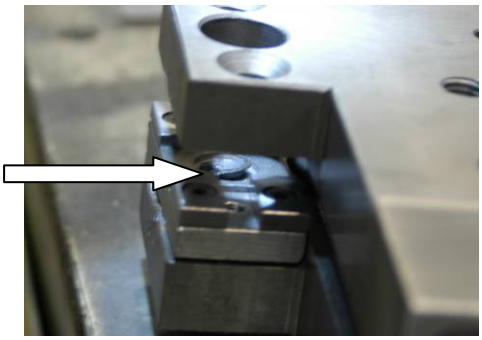
If the hard metal guides cannot be adjusted, they have to be replaced

ATTENTION!
Hard metal guides must be replaced together on both guiding cubes!!

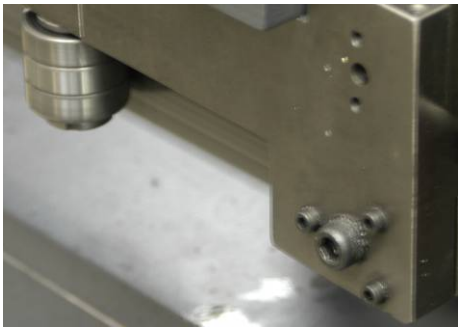
12. Dismantle the saw band.
13. Disconnect the hose from the cooling agent eventually unmount microniser.
14. Unmount guiding cube from holder on saw.



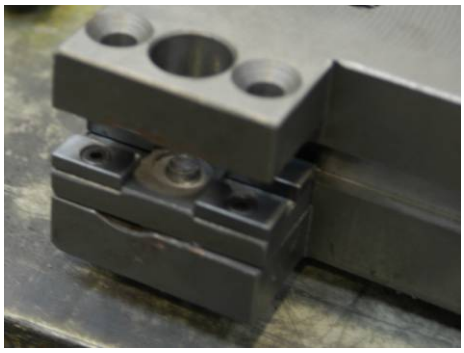
15. Loosen the 2 clamp screws solid carbide guides and remove them..
16. Remove fixed hardmertal.



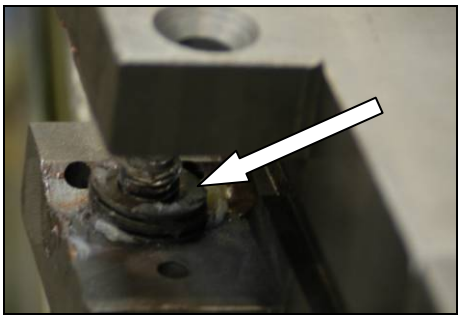
17. Remove retaining ring. Then unmount adjusting screw.



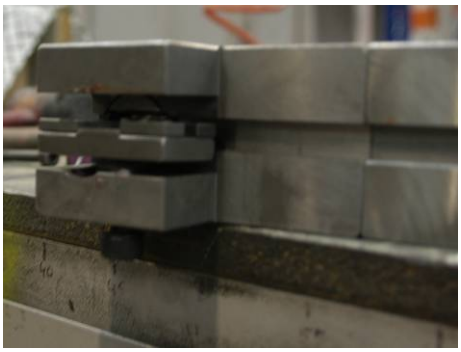
18. Remove other three screws. .

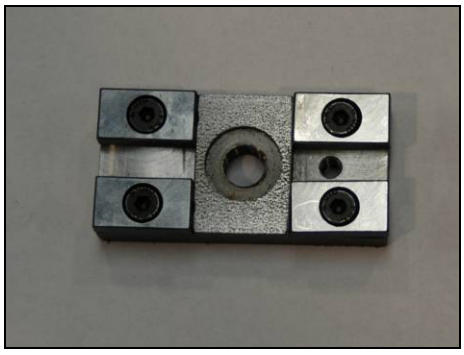


19. Carefully remove the hardmetal. ***Pozor, nesmí dojít ke ztrátě talířových pružin.***



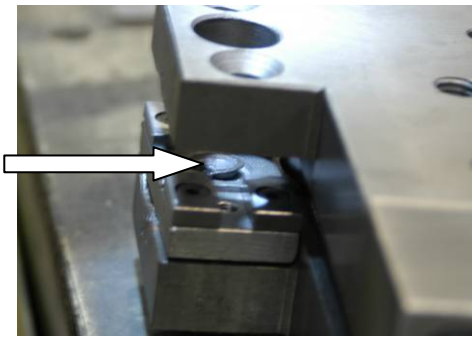
20. The number of disc springs must match the number of dismantled springs. Disc springs are folded against each other 1 to 1 Odd plate spring is near the harmetal carbide.



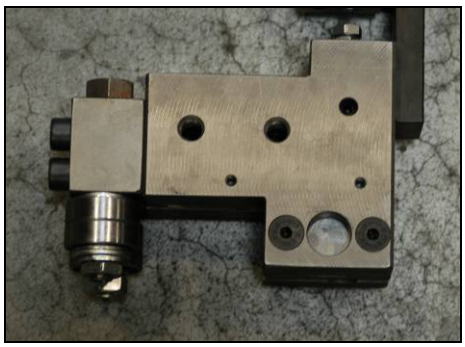


21. Insert the new hard metal guide. ***Attention,Do not lose disc springs.*** Ensure proper position of carbide guides – holes for 3 stop screws must be in the same position as the holes in a guiding cube.

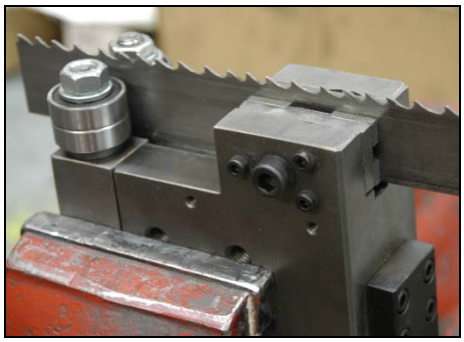
22. Insert and tighten central screw.



23. Insert the retaining ring on central screw.
24. Insert three stop screw around central screw.



25. Insert fixed hardmetal guiding and mount hard metal with two screws.



26. Using a short piece of the blade used on the machine, adjust the width of the gap between the guides. Loosen the central screw. Set the gap by central adjusting screw. Belt guides must walk freely without large and will also not scrub.

4.12.4. Brush replacement

If the chip removing brush is not able to fulfil its function, it has to be replaced.

1. Hold shaft of the brush by wrench.

2. Release the nut on the brush, replace worn brush on the new brush, screw on the nut.
3. Set the brush to the saw band.

Manual version: 1.00 / Feb. 2012
Manual rev.: 1

5. Závady / Troubleshooting

5.1. Mechanical problems

Problem		Possible causes	Repair
4.	Slanting cut	- Wrongly adjusted hard metal guides.	Set according to the chapter „Servicing and adjustment“
		- Worn hard metal guides.	Replace to the chapter „Worn pieces replacement“
		- Wrongly adjusted cubes of the saw band guiding.	Set according to the chapter „Servicing and adjustment“
		- Worn bearings of the saw band guiding.	Replace according to the chapter „Worn pieces replacement“
		- Wrongly adjusted swarf brush.	Set according to the chapter „Servicing and adjustment“
		- Worn swarf brush.	Replace according to the chapter „Worn pieces replacement“
		- Insufficient saw band stretching.	Rise the saw band stretching and set the limit switch.
		- Wrongly chosen tooth system of the saw band.	Replace the saw band and keep the instructions of manufacturer on new saw band choice.
		- Worn saw band.	Replace the saw band.
		- Wrongly balanced roller conveyor.	Set the roller conveyor.
		- Dirty feeding board.	Cleanse the feeding board from debris, chip and residue material.
		- Guiding arm and guiding cube are loosened.	Clamp the guiding arm.
		- Guiding arm and cube are too far from the material.	Set the guiding cube to the material.
		- Too fast cutting rate.	Lower the material feeding speed.
		- Unexpected oscillation in material quality.	Set the cut and feeding speed to the relevant material.
5.	The cut is not cut upon desired angle	- Securing lever is loosened.	Check the securing lever efficiency and carry out its adjustment according to chapter „Servicing and adjustment“.
		- Set angle does not match the cut angle.	Check the angle adjustment with a protractor and possibly set it according to chapter „Servicing and adjustment“.
		- Insufficient saw band stretching.	Stretch the saw band and set the limit switch according to chapter „Servicing and adjustment“.
		- Guiding arm and guiding cube are loosened.	Fasten the guiding arm and the cube.
		- Dirt between material and clamping jaw.	Cleanse the material and mating jaw.
6.	Short lifetime of the saw band	- Insufficient saw band stretching.	Raise the tightening of the saw band set the scanner of saw band tightening according to chapter „Servicing and adjustment“.
		- Worn swarf brush.	Check the swarf brush condition and replace it in case of excessive use as described in chapter „Worn pieces replacement“
		- Wrongly adjusted swarf brush.	Check swarf brush adjustment, set it according to chapter „Servicing and adjustment“
		- Over stretched saw band	Lower stretching of the saw band and set the limit switch of the saw band stretching according to chapter „Servicing and adjustment“
		- Wrongly adjusted hard metal guides.	Check the adjustment of the hard metal guides and carry out adjustment as described in chapter „Servicing and adjustment“
		- Worn hard metal guides of the saw band.	Check the condition of the hard metal guide and if it is too worn, replace hard metal guides according to chapter „Worn pieces replacement“

Problem	Possible causes	Repair
	- Worn saw band guide bearings.	Check guiding bearings and if you notice some sort of excessive damage, replace them according to chapter„Worn pieces replacement“
	- Wrongly adjusted guiding cubes of the saw band.	Set guiding cube according to chapter „Servicing and adjustment“
	- Wrongly adjusted down feed and saw band speed.	Adjust the feeding and speed of a saw band according to values published by saw band manufacturer.
	- Different material quality.	Adjust feeding and speed of a saw band according to desired material (try cut-test).
	- Low-class saw band	Replace the saw band (contact your local accessory supplier for more information)
	- Wrongly chosen saw band tooth system.	Replace the saw band and keep instructions of the manufacturer on the choice.
	- Wrongly adjusted tracking.	Check the space between top of a saw band and driving wheel. Perhaps adjust the tracking as described in chapter „Servicing and adjustment“
7. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. 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.
14. Cleansing of the saw band is not functional.	- Elastic wheel of the brush drive is worn-down.	Elastic wheel of the brush must be changed.
	- Knurling of the driving wheel is worn-down.	Driving wheel must be changed.
	- The shaft of the brush drive is rusted.	The shaft of the brush must be cleaned and oiled.

Problem		Possible causes	Repair
	-	The brush position and the brush cover is adjusted wrong – with the brush cannot be turned.	The brush cover must be posed, in order to the brush can be turned.
15. The saw arm periodically rise and fall during the cut; this cause short lifetime of the saw band.	-	Backslash in driving wheel lodgement on the shaft.	Change the driving shaft for a long one, new bearings, distance ring, new driving wheel, spring, two covers on the forehead of the shaft + screws.
	-	Worn channel for spring.	

5.2. Electric problems

Problem		Possible causes	Repair
16. 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.
17. 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.
18. Electric motor and pump are without voltage. Between contactor and thermal protector is not voltage.	-	Wrong contactor.	Replace contactor of engine.
19. 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.
20. 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.
21. The hydraulic aggregate cannot be started		Auxiliary contact on thermo-relay FA1 is defective.	Replace the defective contact on motor starter FA1.
22. 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.
23. Cooling is not active		Lack of cooling agent.	Fill the tank with cooling agent.
	-	Thermal relay is defective	Change the thermal relay
	-	Input hosepipe is broken or obstructed.	Check the cooling circuit and perhaps cleanse cooling system.
	-	Cooling pump protection is defective	Check the protection of cooling pump if need change it.
	-	Cooling pump is defective.	Replace the cooling pump.

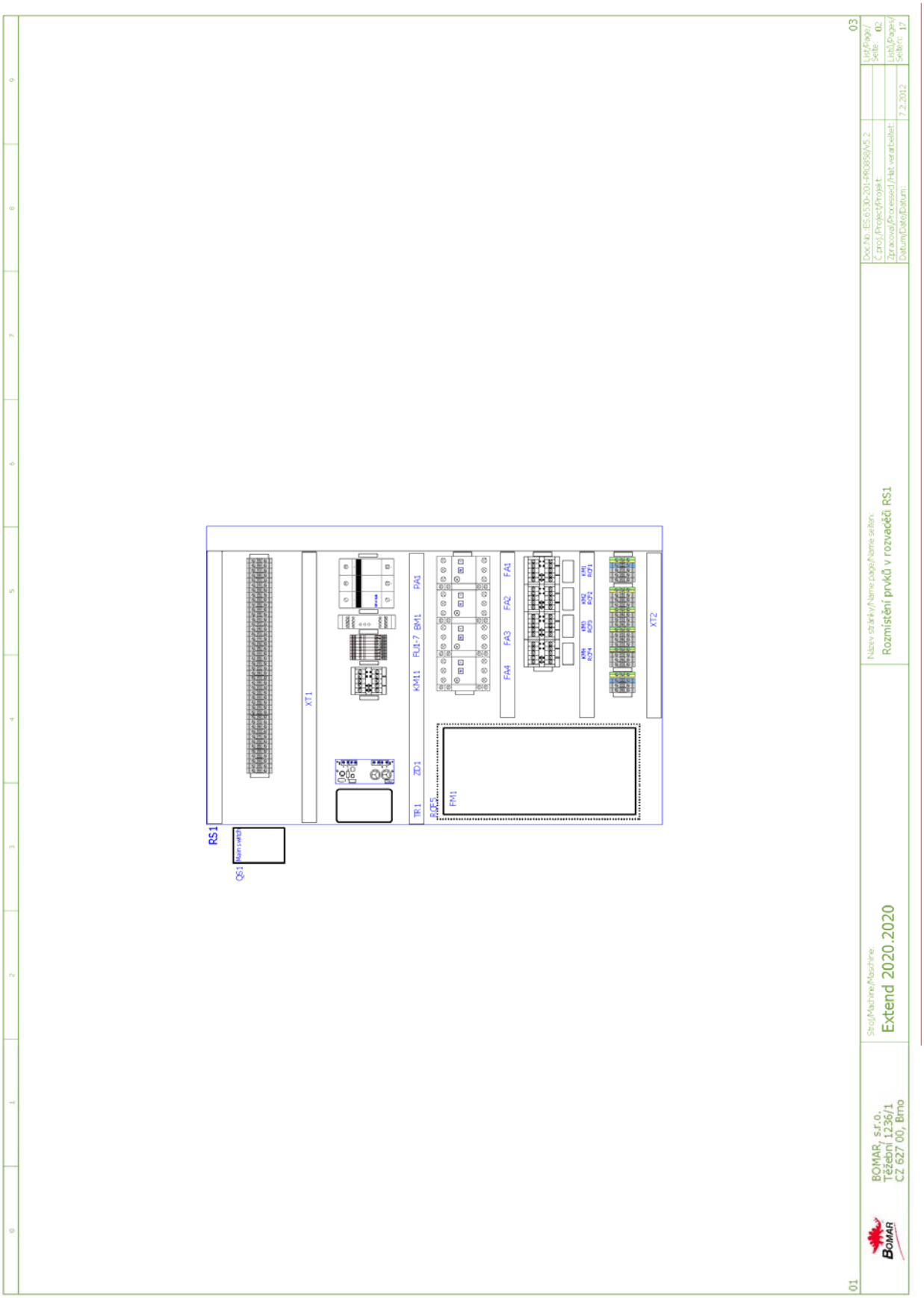
5.3. Hydraulic problems

Problem	Possible causes	Repair
24. 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.
25. 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
26. Increased mechanical noise	• damaged joint drive	Call service
	• damaged or destroyed motor bearings	Call service
	• air intake	Check for leaks.
27. 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
28. 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
29. Overheating oil	• cooler malfunction	Check the cooler function or call service.
	• wear the pump, the energy is converted into heat	Call service
30. 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

Manual version: 1.00 / Feb. 2012
Manual rev.: 1

6. Schémata / Schemas / Schematics

6.1. Elektrické schema / Elektroschema / Wiring diagrams – 3×400 V, TN-C-S



Manual version: 1.00 / Feb. 2012
Manual rev.: 1

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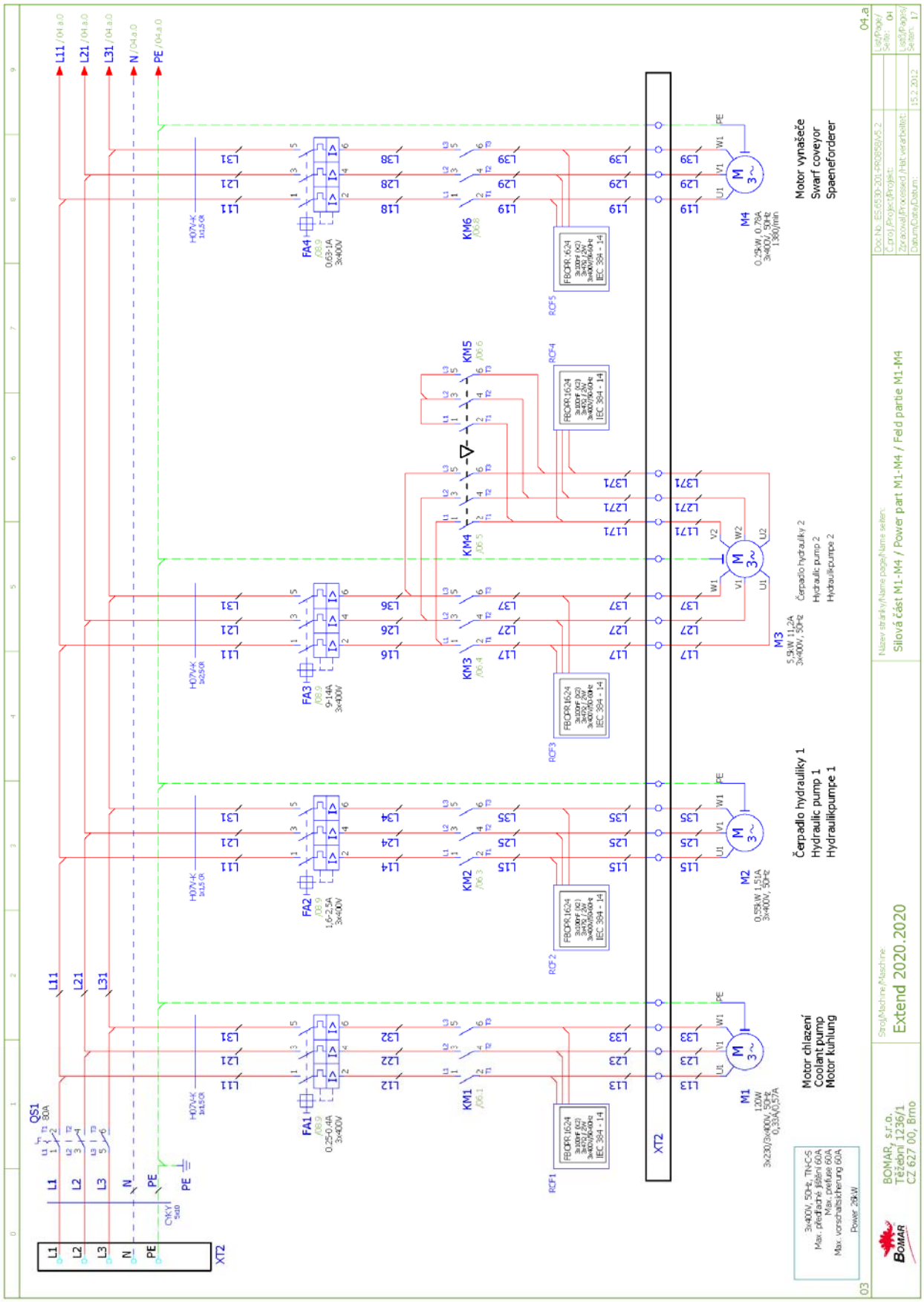
BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: Extend 2020.2020	Název stránky/Name page/Name seiten: Ovládací panel na rozvaděči/Control panel/Bedienpult	Doc.No.:ES.6530-201-PR0858/v5.2 Č.proj./Project/Projekt: Zpracoval/Processed /Hat verarbeitet: Datum/Date/Datum: 7.2.2012		List/Page/Seite: 03 Listů/Pages/Seiten: 17

Schémata
Schemas
Schematics



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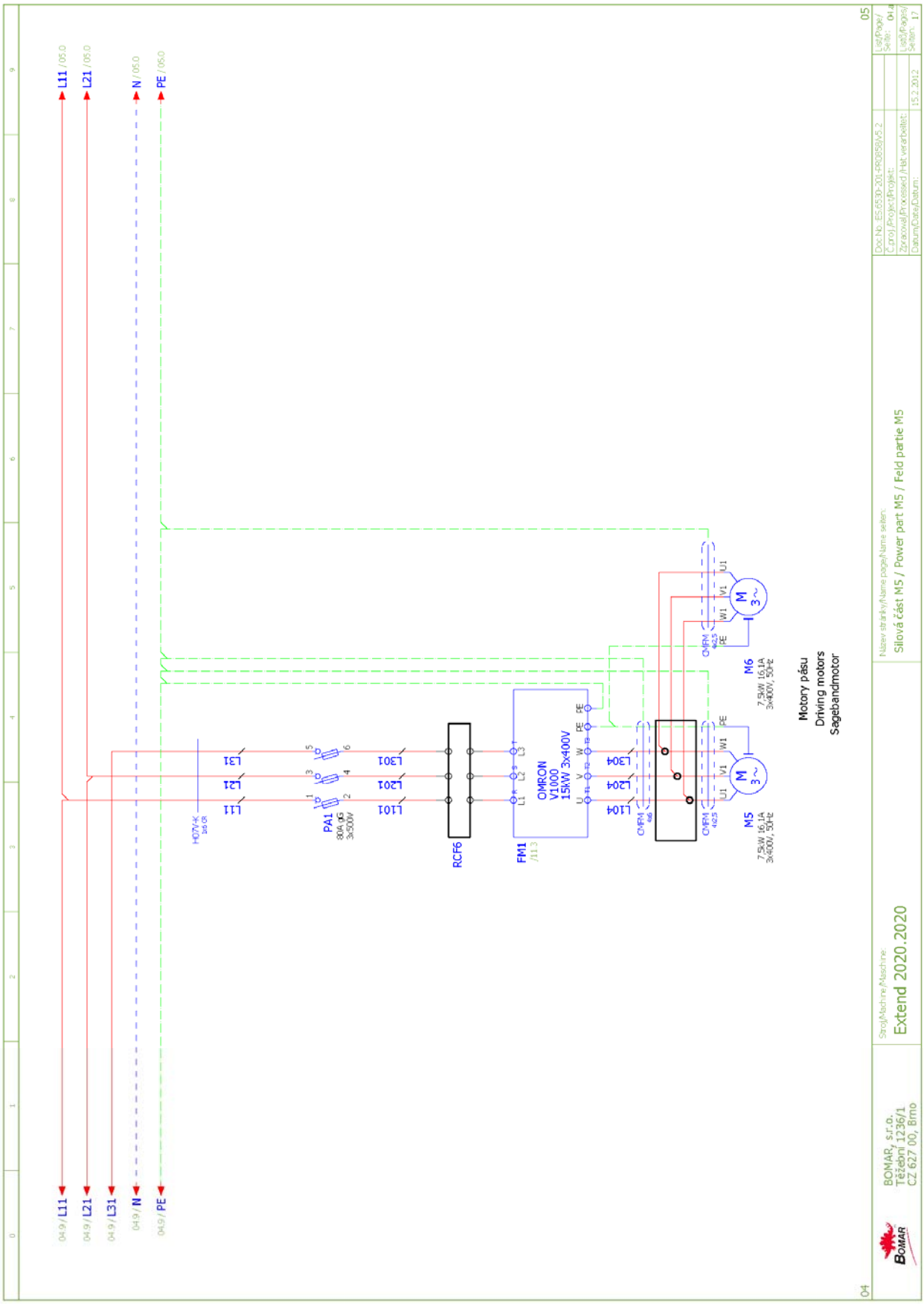
L11 / 05.0
L21 / 05.0
N / 05.0
PE / 05.0
04.9 / L11
04.9 / L21
04.9 / L31
04.9 / N
04.9 / PE
HZ7/-K
PA1
804.0/5
3x500V
RCF6
FM1
/11.3
OMRON
V1000
15kW 3x400V
M5
7.5kW; 16.1A
3x400V, 50Hz
M6
7.5kW; 16.1A
3x400V, 50Hz
Motory pásu
Driving motors
Segebandmotor
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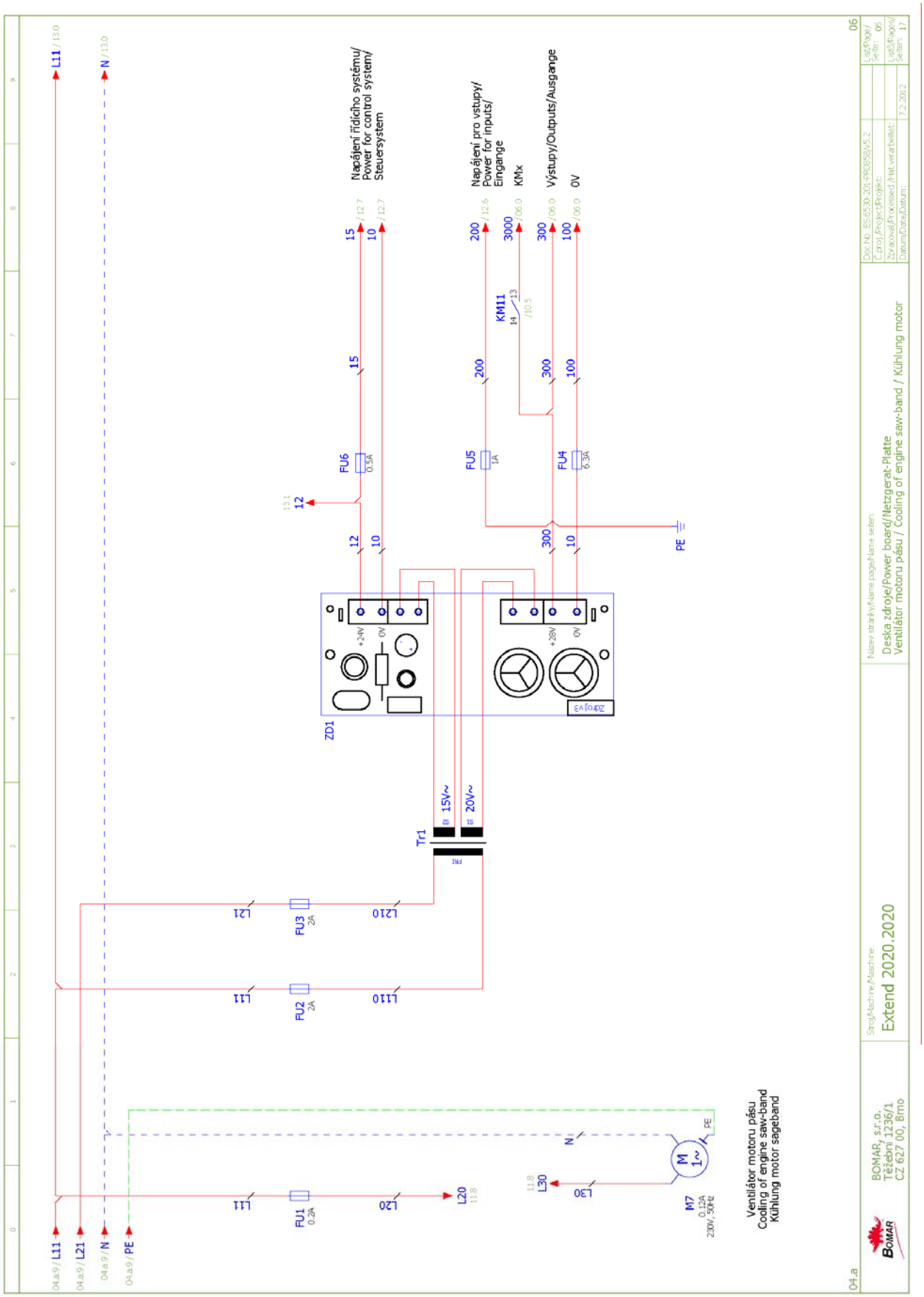
CZ 627 00, Brno
Extend 2020.2020
Silová část M5 / Power part M5 / Feld partie M5



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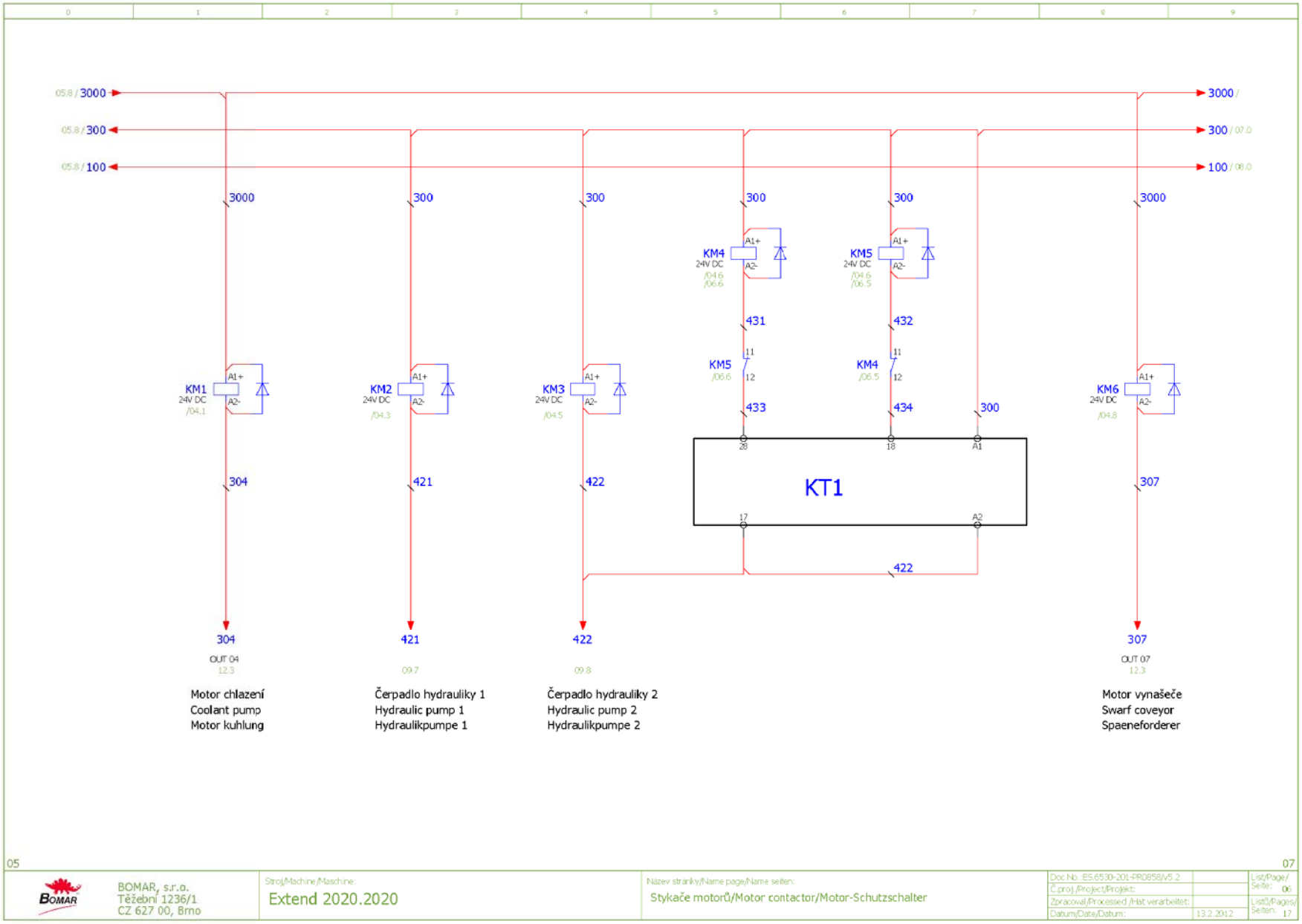
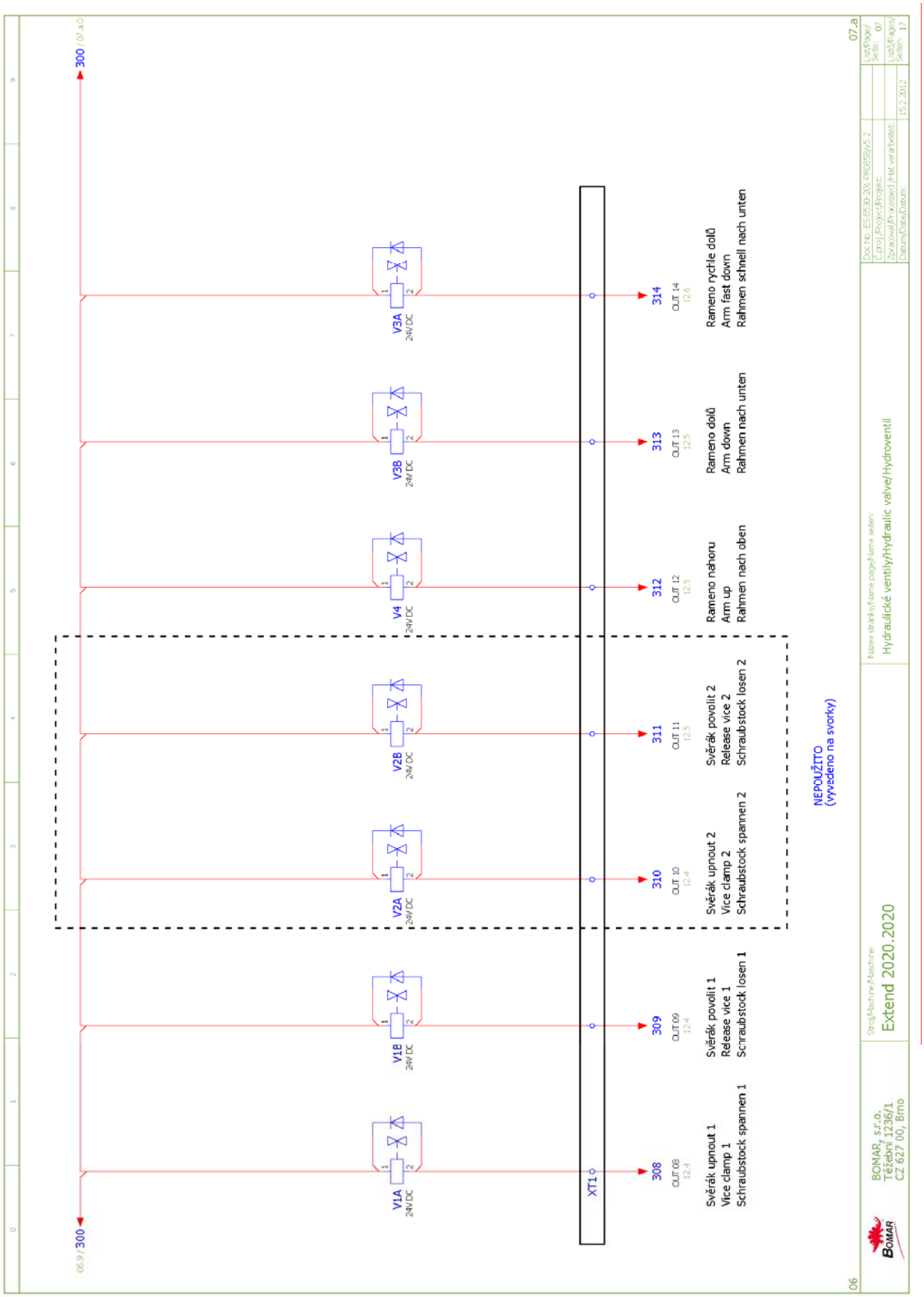


Schémata
Schemas
Schematics


07.a
300 / 07.a.0
06.9 / 300
V1A 24V DC
V1B 24V DC
V2A 24V DC
V2B 24V DC
V4 24V DC
V3B 24V DC
V3A 24V DC
XT1
308 OUT 08 12.4
309 OUT 09 12.4
310 OUT 10 12.5
311 OUT 11 12.5
312 OUT 12 12.5
313 OUT 13 12.5
314 OUT 14 12.6
Svěrák upnout 1
Vice clamp 1
Schraubstock spannen 1
Svěrák povolit 1
Release vice 1
Schraubstock losen 1
Svěrák upnout 2
Vice clamp 2
Schraubstock spannen 2
Svěrák povolit 2
Release vice 2
Schraubstock losen 2
Rameno nahoru
Arm up
Rahmen nach oben
Rameno dolů
Arm down
Rahmen nach unten
Rameno rychle dolů
Arm fast down
Rahmen schnell nach unten
NEPOUŽITO
(vyvedeno na svorky)
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
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Extend 2020.2020
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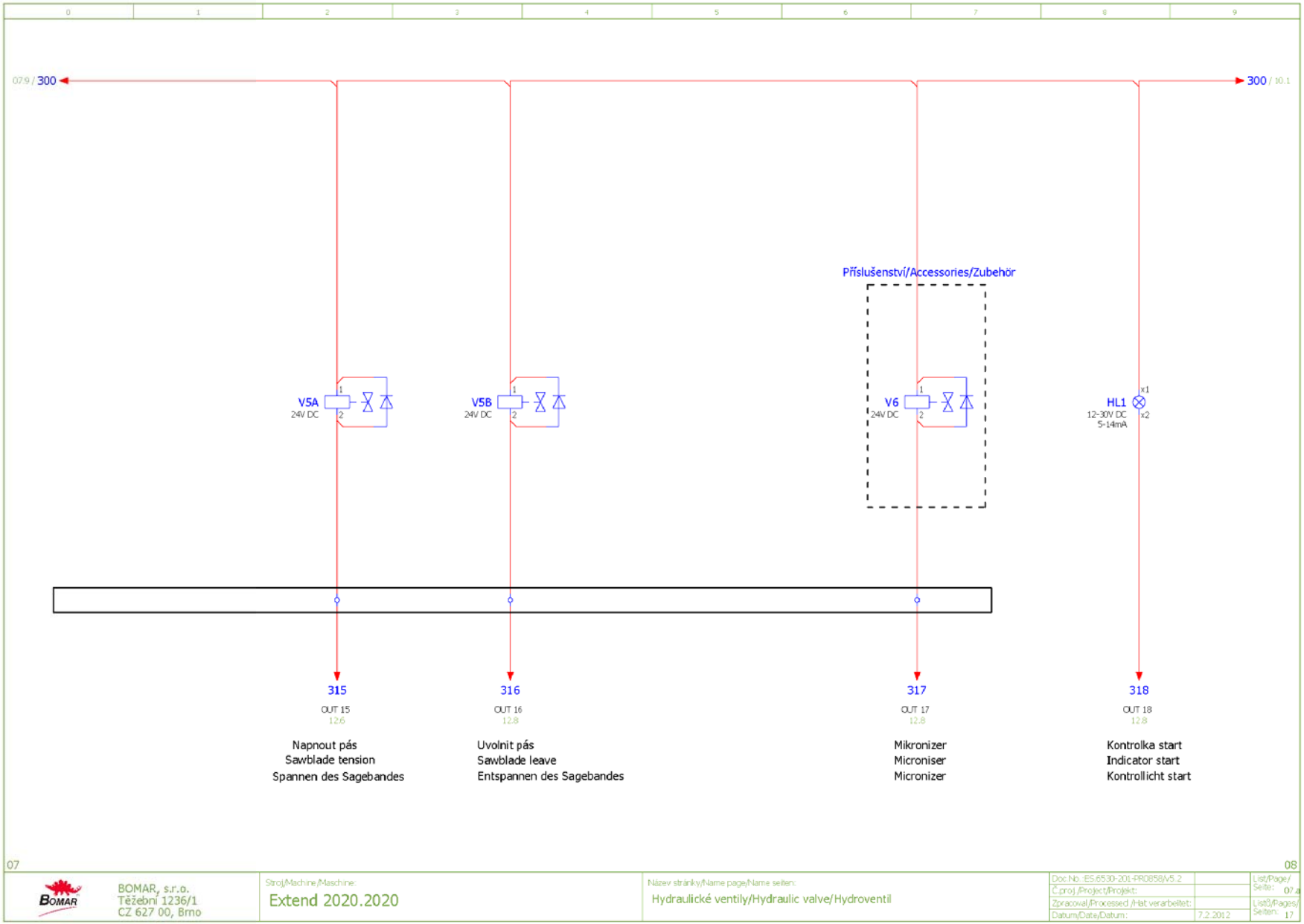
07.9 / 300
300 / 10.1
Příslušenství/Accessories/Zubehör
V5A
24V DC
V5B
24V DC
V6
24V DC
HL1
12-30V DC
5-14mA
315
OUT 15
12.6
316
OUT 16
12.8
317
OUT 17
12.8
318
OUT 18
12.8
Napnout pás
Sawblade tension
Spannen des Sagebandes
Uvolnit pás
Sawblade leave
Entspannen des Sagebandes
Mikronizer
Micronizer
Micronizer
Kontrolka start
Indicator start
Kontrollicht start
07
08
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
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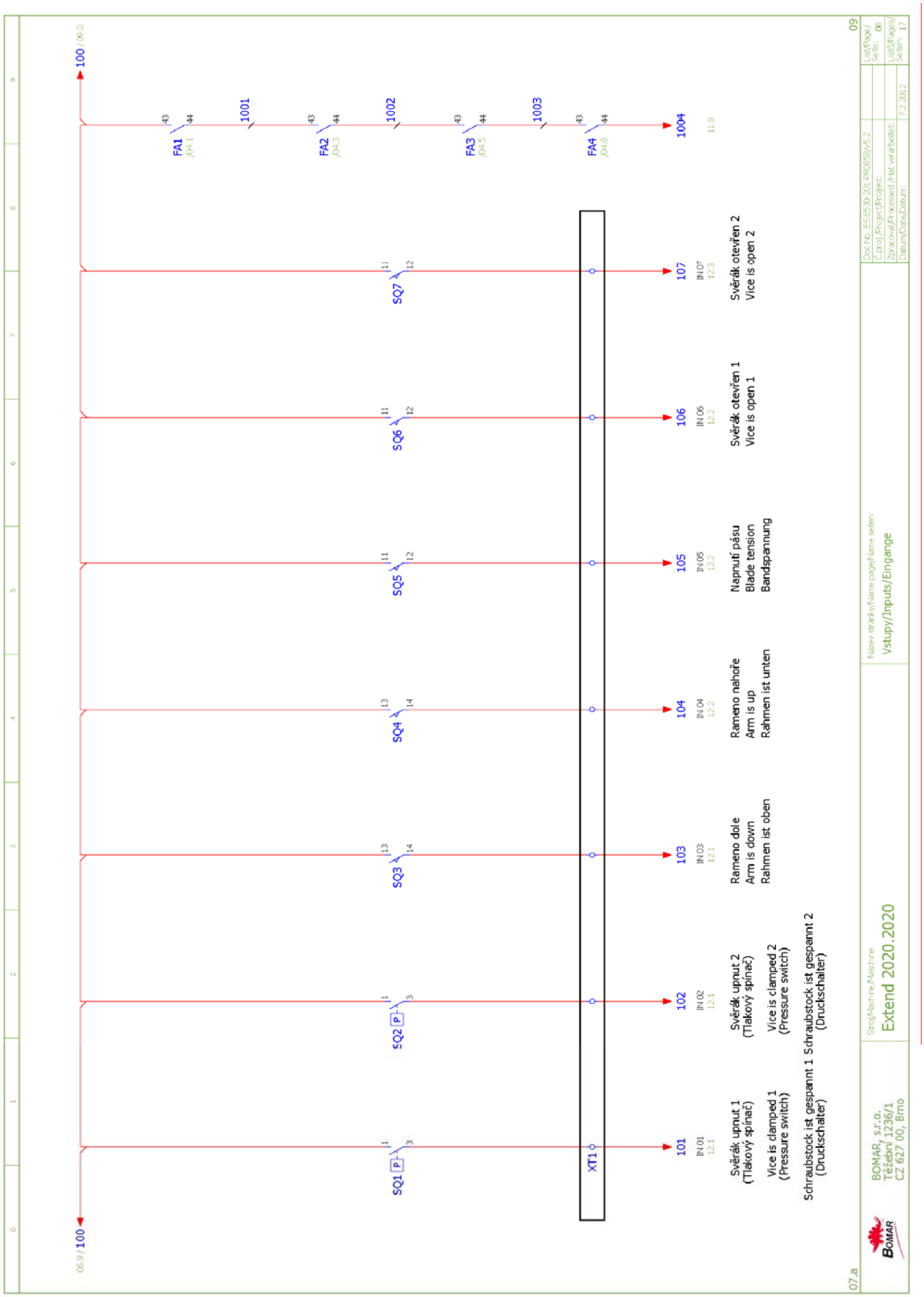

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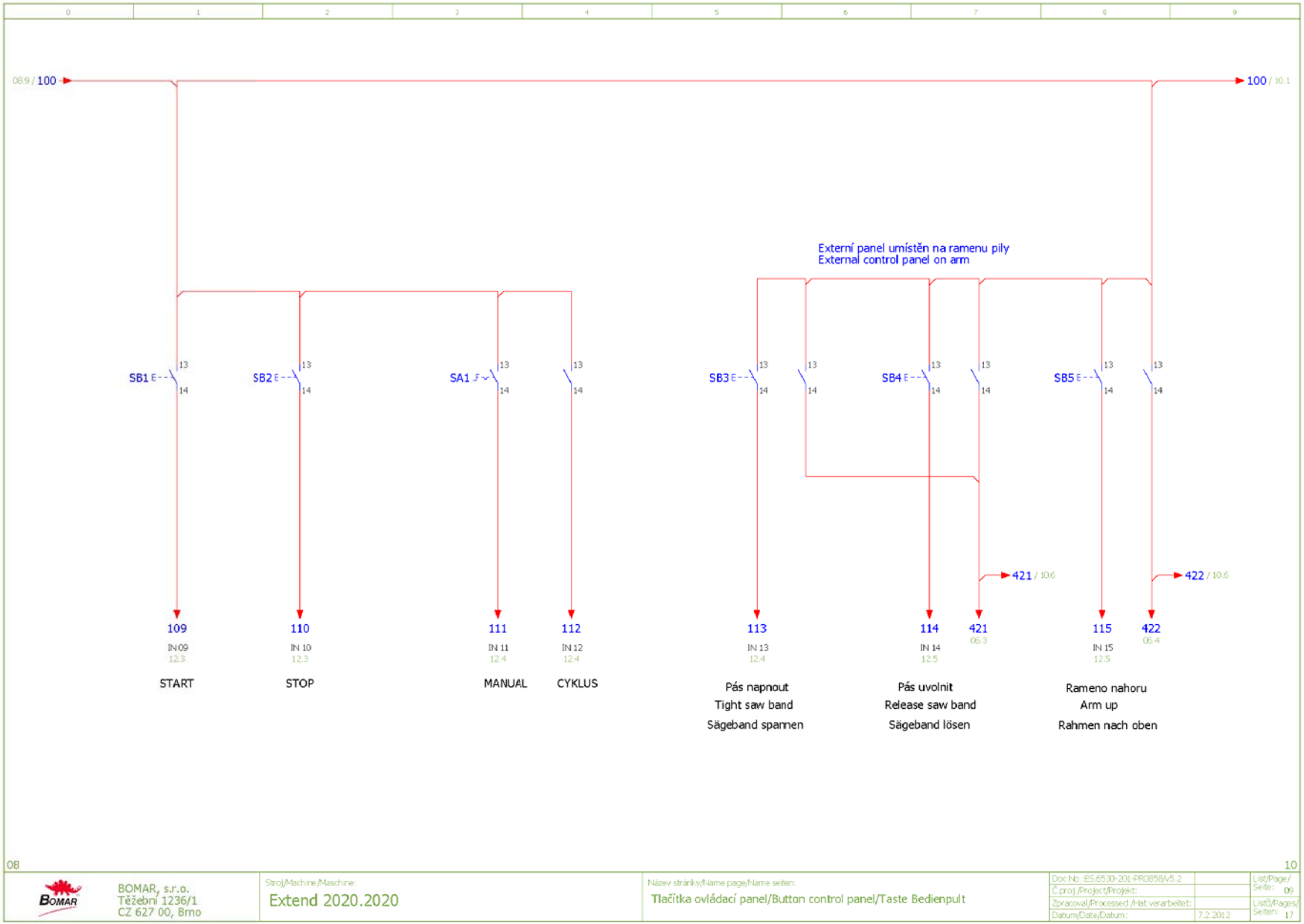
Manual rev.: 1


08.9 / 100
100 / 10.1
Externí panel umístěn na ramenu pily
External control panel on arm
SB1
SB2
SA1
SB3
SB4
SB5
13
14
109
IN 09
12.3
110
IN 10
12.3
111
IN 11
12.4
112
IN 12
12.4
113
IN 13
12.4
114
IN 14
12.5
421
06.3
115
IN 15
12.5
422
06.4
421 / 10.6
422 / 10.6
START
STOP
MANUAL
CYKLUS
Pás napnout
Tight saw band
Sägeband spannen
Pás uvolnit
Release saw band
Sägeband lösen
Rameno nahoru
Arm up
Rahmen nach oben
08
10
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
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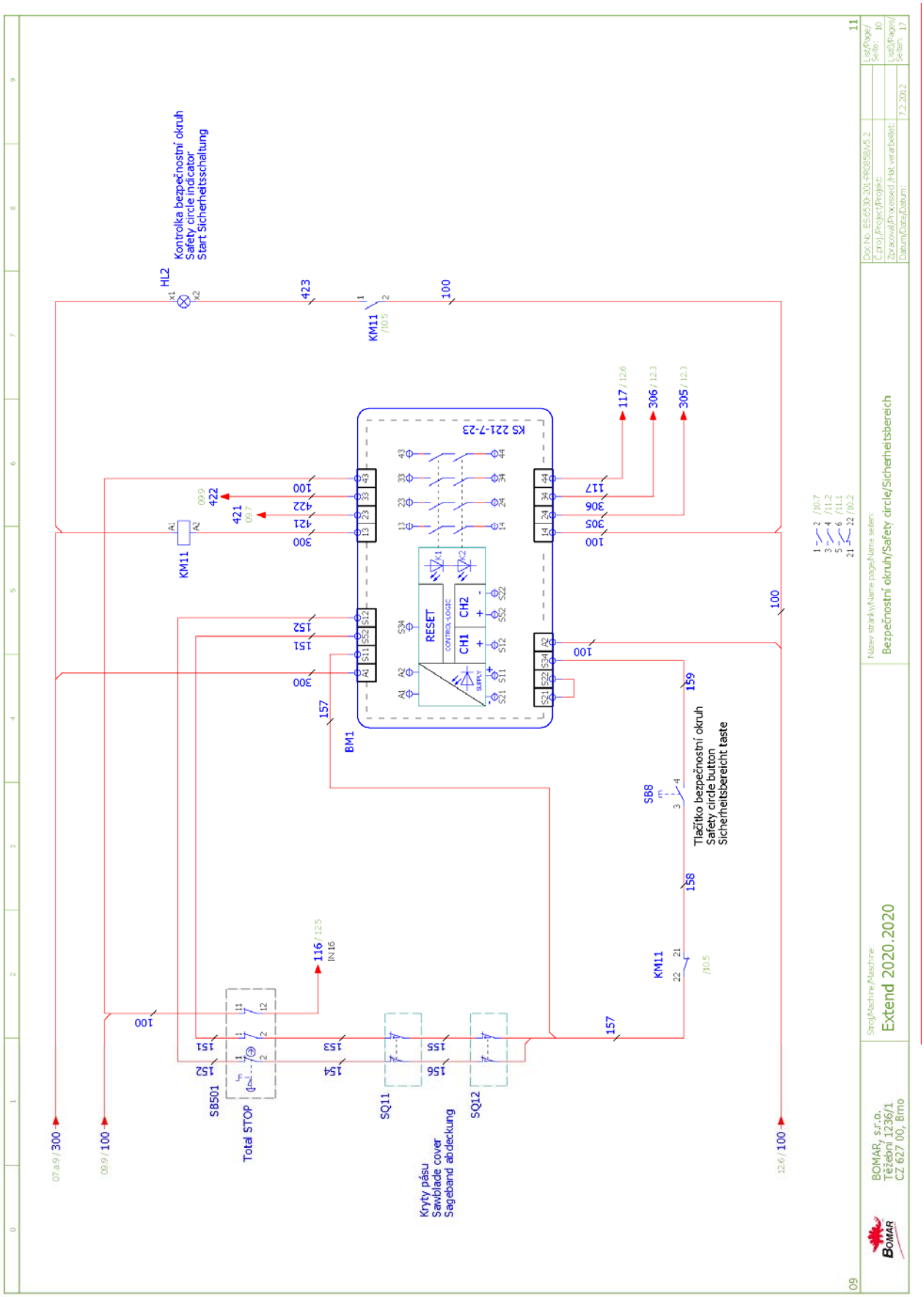

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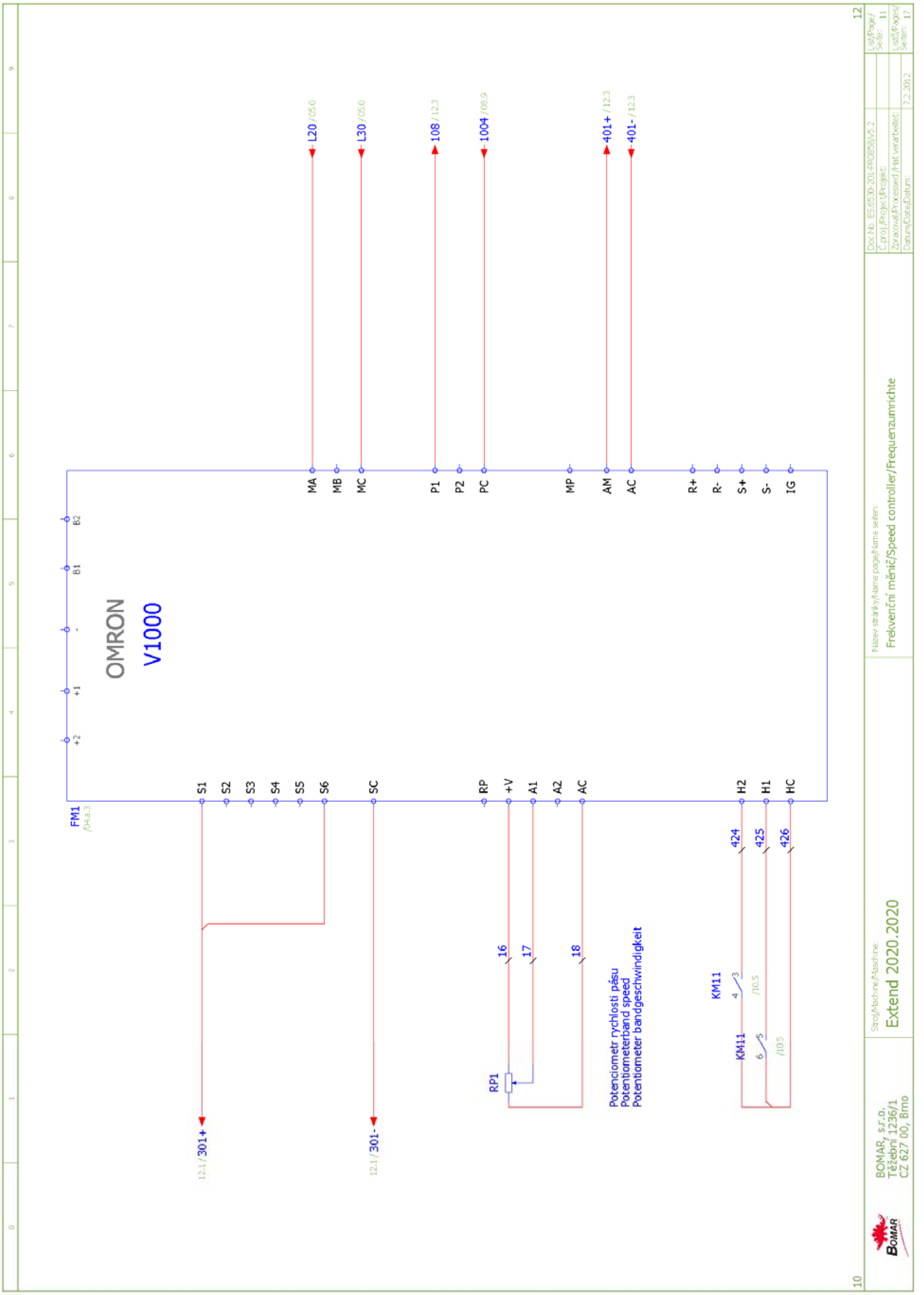
OMRON
V1000
FM1
S1
S2
S3
S4
S5
S6
SC
RP
+V
A1
A2
AC
H2
H1
HC
+2
+1
-
B1
B2
MA
MB
MC
P1
P2
PC
MP
AM
AC
R+
R-
S+
S-
IG
L20
L30
108
1004
401+
401-
301+
301-
16
17
18
RP1
424
425
426
KM11
Potenciometr rychlosti pásu
Potentiometerband speed
Potentiometer bandgeschwindigkeit
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Těžební 1236/1
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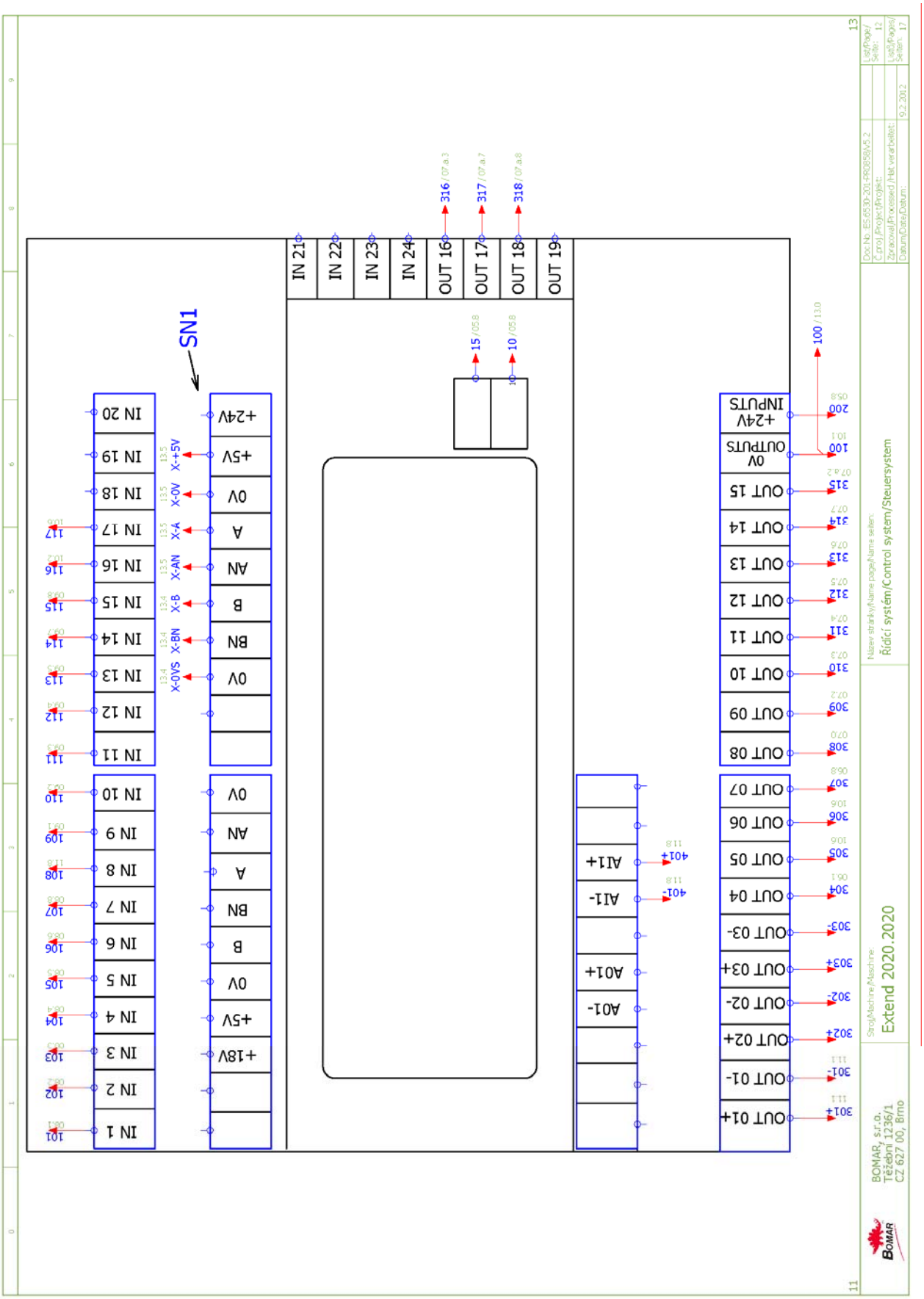
Extend 2020.2020
Frekvenční měnič/Speed controller/Frequenzumrichte



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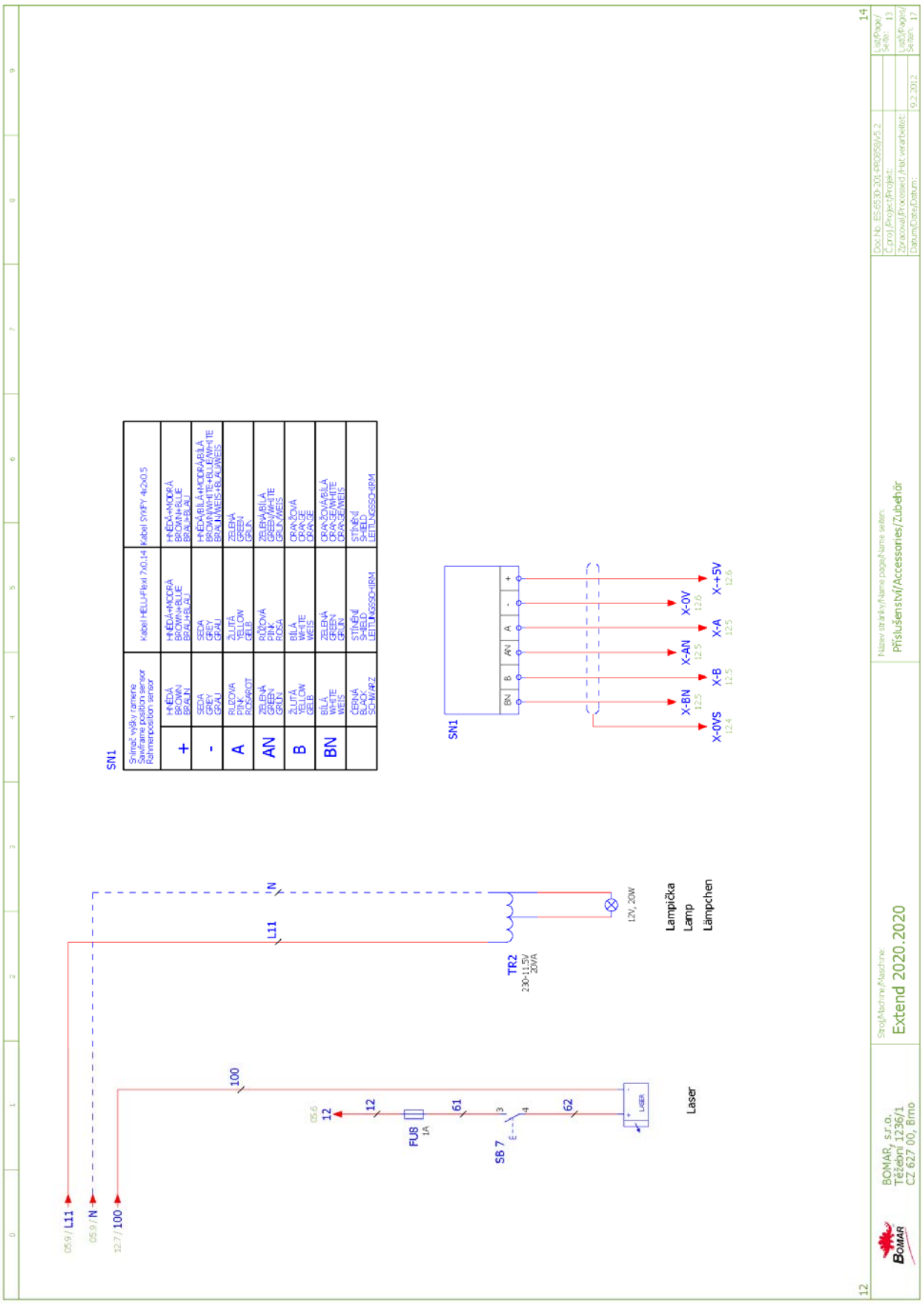
SN1
Snímač výšky rámene
Sawframe position sensor
Rahmenposition sensor
Kabel HELU-Flexi 7x0,14
Kabel SYKFY 4x2x0,5
+ HNĚDÁ BROWN BRAUN
HNĚDÁ+MODRÁ BROWN+BLUE BRAUN+BLAU
- SEDÁ GREY GRAU
HNĚDÁ/BÍLÁ+MODRÁ/BÍLÁ BROWN/WHITE+BLUE/WHITE BRAUN/WEISS+BLAU/WEISS
A RUDOVÁ PINK ROSAROT
ŽLUTÁ YELLOW GELB
ZELENÁ GREEN GRÜN
AN ZELENÁ GREEN GRÜN
RŮŽOVÁ PINK ROSA
ZELENÁ/BÍLÁ GREEN/WHITE GRÜN/WEIS
B ŽLUTÁ YELLOW GELB
BÍLÁ WHITE WEIS
ORANŽOVÁ ORANGE ORANGE
BN BÍLÁ WHITE WEIS
ZELENÁ GREEN GRÜN
ORANŽOVÁ/BÍLÁ ORANGE/WHITE ORANGE/WEIS
ČERNÁ BLACK SCHWARZ
STÍNĚNÍ SHIELD LEITUNGSSCHIRM
SN1
BN
B
AN
A
-
+
X-0VS 12.4
X-BN 12.5
X-B 12.5
X-AN 12.5
X-A 12.5
X-0V 12.6
X-+5V 12.6
TR2
230-11.5V
20VA
12V, 20W
Lampička
Lamp
Lämpchen
Laser
FU8
1A
SB 7
100
12
61
62
05.6
05.9 / L11
05.9 / N
12.7 / 100
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Extend 2020.2020
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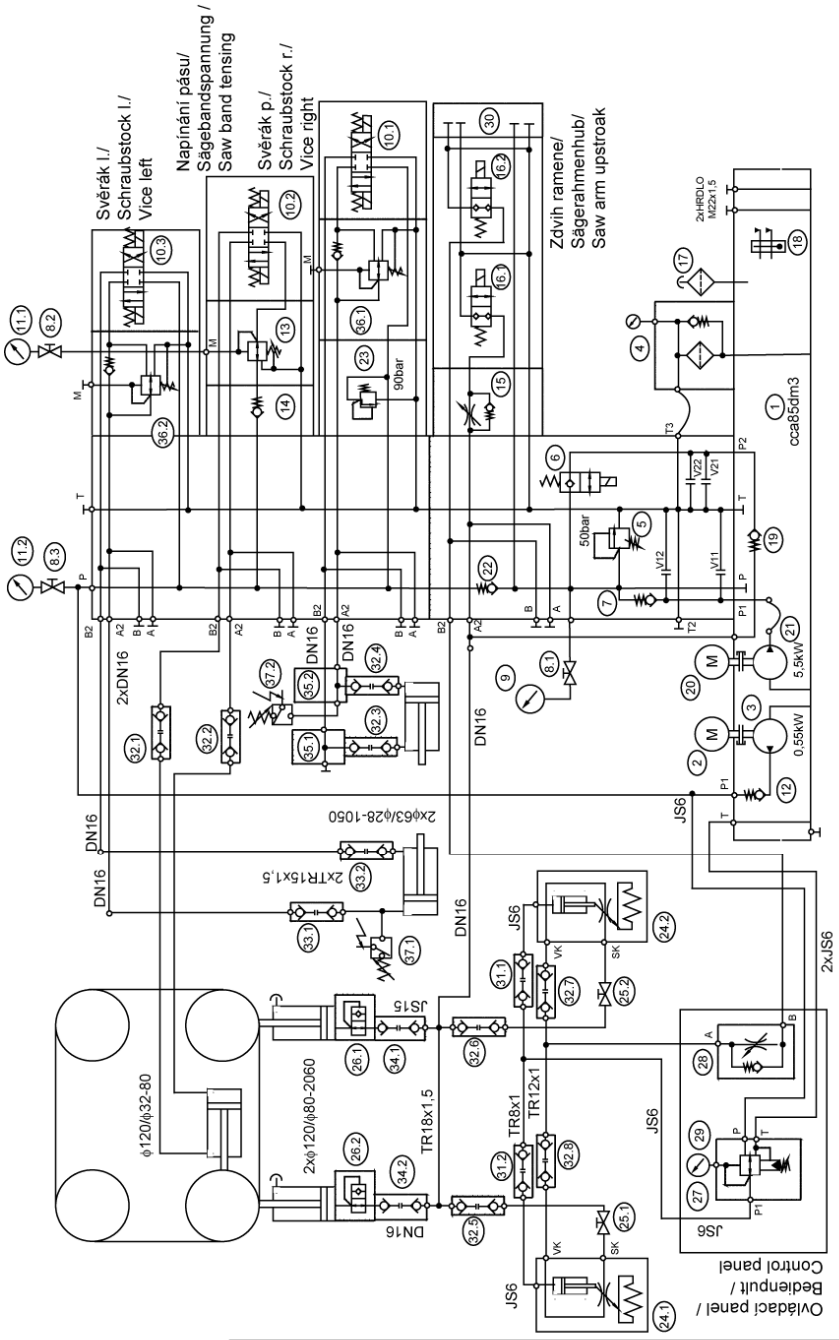
Zpracoval/Processed/Hat verarbeitet:
Datum/Date/Datum:
6.2.2012
List/Page/Seite: 13
Last/Pages/Seiten: 17
12
14

6.2. Hydraulické schéma / Hydraulikschema / Hydraulic diagram



Typ / Type / Type	
	Extend 2020.2020
Hydraulický agregát / Hydroaggregat / Hydro aggregat	
	92.001.078 (f.FMV:S001_185_1)
Neuvedené světlosti / Unerwähnt Lichtbreite / Unlisted inside diameters	
	JS10
Výstupní šroubení / Ausgangschraubung / Output screewing	
	G3/8“

Pmax	9;5 MPa
Q	3,3;56 dm³/min
n	1350;2870 rpm
P	0,5;5,5 kW

Manual version: 1.00 / Feb. 2012
Manual rev.: 1

Poz.	Název položky		ks
Pos.	Bezeichnung		Menge
Pos.	Item		Pcs.
1	Nádrž / Behälter / Tank	TL-60/60 dm^3	1
2	Elektromotor / Elektromotor / Electromotor	Y3-80A4 400/230V/ 50 Hz, 0,55 kW	1
3	Hydrogenerátor / Hydraulikgenerator / Hydrogenerator	G1-2,5	1
4	Zpětný filtr / Filter / Filter	MPF0301AG1+ P10NBP01	1
5	Přepouštěcí ventil / Bypaßventil / By pass valve	SR1A-B2/H16S	1
6	Rozváděč sedlový / Schaltschrank / Switchboard	SV10-20-0-N-24EG	1
7	Jednosměrný ventil / Einwegventil / One-way valve	CV10-20-0-N-5	1
8	Uzavírací kohout		3
9	Manometr / Manometer / Manometer	Ø68 0–100 bar	2
10	Rozváděč / Schaltschrank / Switchboard	RH06011-024/00	3
11	Manometr / Manometer / Manometer	Ø68 0–160 bar	2
12	Jednosměrný ventil / Einwegventil / One-way valve	VJ3-06-005-G1	1
13	Redukční ventil / Reduktionsventil / Control valve	KRT6M/10P	1
14	Jednosměrný ventil / Einwegventil / One-way valve	KO6M/32P	1
15	Škrtící ventil / Drosselventil / Throttle-valve	DROK6M/32A	1
16	Rozváděč sedlový / Schaltschrank / Switchboard	SV10-28-0-N-24EG	2
17	Zátka / Stopfen / Stopper		1
18	Stavoznak		1
19	Jednosměrný ventil / Einwegventil / One-way valve	VJ3-10-005-G1	1
20	Elektromotor / Elektromotor / Electromotor	MS-132SA2B5 400 / 690V/50 Hz, 5,5 kW	1
21	Hydrogenerátor / Hydraulikgenerator / Hydrogenerator	HPZPA220SMLG6G4B ST	1
22	Jednosměrný ventil / Einwegventil / One-way valve	VUI 3/8	1
23	Přepouštěcí ventil / Bypaßventil / By pass valve	KP 6M/20-P, 9MPa	1
24	Kostka regulace / Regulationklotz / Regulation cube	201.6816-100	2
25	Kulový ventil / Kugelventil / Globe valve		2
26	Ventil pojistný / Sicherungsventil / Retaining valve	VPNH 3/8	2
27	Redukční ventil / Reduktionsventil / Control valve	VRN2-06/S-6R	1
28	Škrtící ventil / Drosselventil / Throttle-valve	FMV k6/j32	1
29	Manometr / Manometer / Manometer	Ø68 0–60 bar	1
30	Krycí deska / Schutzplatte / Cover platte		1
31	Rychlospojka / Schnellkupplung / Gladhand	8	2
32	Rychlospojka / Schnellkupplung / Gladhand	12	8
33	Rychlospojka / Schnellkupplung / Gladhand	15	2
34	Rychlospojka / Schnellkupplung / Gladhand	18	2
35	Kostka / Klotz / Cube	30.6516-001 T	2
36	Redukční ventil / Reduktionsventil / Control valve	VRN2-06/MA-10S	2
37	Tlakový spínač / Druckschalter / Pressure switch	0166415031059 20–50 bar	2

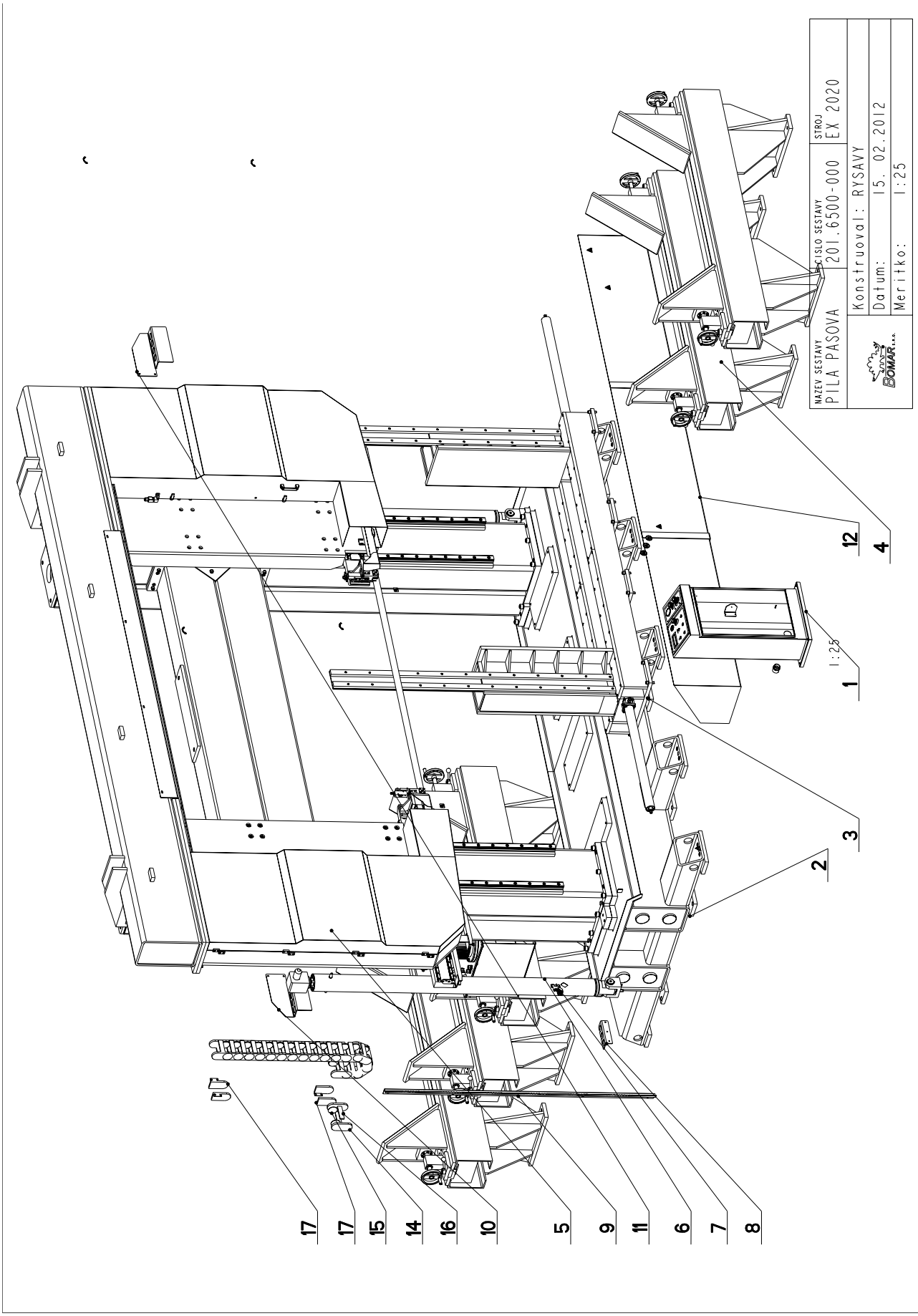
7. Výkresy sestav pro objednání náhradních dílů / Zeichnungen für Bestellung der Ersatzteile / Drawing assemblies for spare parts order

- Při objednávání náhradních dílů vždy uvádějte: typ stroje (např. Extend 2020.2020) , výrobní číslo (např. 125) a rok výroby (např. 1999).

- In die Bestellung der Ersatzteile führen Sie immer an: Maschinentyp (z. B. Extend 2020.2020), Serien Nr. (z. B. 125) und Baujahr (z. B. 1999).

- For spare parts order, you must always to allege: type of machine (for example Extend 2020.2020), serial number (for example 125, see cover page) and year of construction (for example 1999).

7.1. Extend 2020.2020



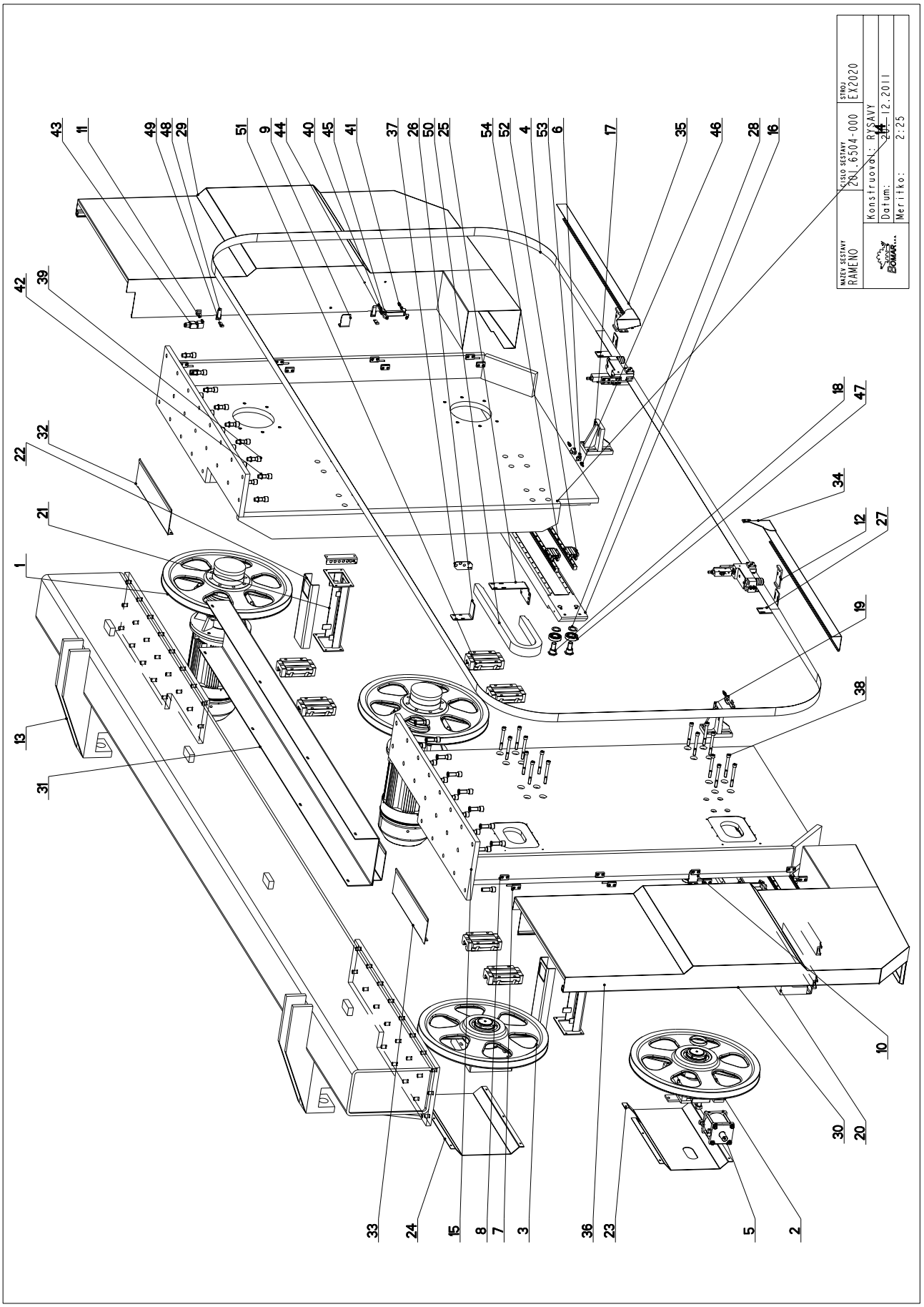
Manual version: 1.00 / Feb. 2012
Manual rev.: 1

Cislo Sestavy	Ver.	Nazev sestavy
201.6500-000	0	PILA PASOVA/BAND SAW/BANDSAGE

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.6430-000	0	ROZVADEC / DISTRIBUTOR / VERTEILER		1
2	201.6501-000	0	PODSTAVEC / BASE / UNTERSATZ		1
3	201.6503-000	0	SVERAK / VICE / SCHRAUBSTOCK		1
4	201.6503-100	0	SVERAK / VICE / SCHRAUBSTOCK		5
5	201.6504-000	0	RAMENO / SAW ARM / SAGERAHMEN		1
6	201.6507-000	0	VALEC ZVEDACI / LIFTING CYLINDER / HEBEZYLINDER		2
7	201.6702-200	2	SNIMAC / SENSOR / SENSOR		1
8	30.6414-020	0	DRZAK / HOLDER / HALTER	P5x130	2
9	30.6501-010	0	HREBEN / COMB / KAMM	P 3x109x1250	1
10	30.6514-017	0	DRZAK / HOLDER / HALTER	P 5x370	1
11	30.6514-018	0	DRZAK / HOLDER / HALTER	P5x206	1
12	30.6514-019	0	KORYTO / CHANNEL / RINNE		1
13	31.0599-005	0	SAMOLEPKA / STICKER / AUFKLEBER		4
14	99.170.022	0	RETEZ ENERGII / ENERGY BELT / ENERGIEKETTE		76
15	99.170.023	0	RETEZ ENERGII / ENERGY BELT / ENERGIEKETTE		76
16	99.170.024	0	RETEZ ENERGII / ENERGY BELT / ENERGIEKETTE		76
17	99.171.030	0	KONCOVKA / END / ENDSTÜCK		4
18	99.900.040	0	SAMOLEPKA / STICKER / AUFKLEBER		2
19	99.900.043	0	SAMOLEPKA / STICKER / AUFKLEBER		1
20	99.900.045	0	SAMOLEPKA / STICKER / AUFKLEBER		1
21	99.900.046	0	SAMOLEPKA / STICKER / AUFKLEBER		1
22	99.900.047	0	SAMOLEPKA / STICKER / AUFKLEBER		1
23	99.900.048	0	SAMOLEPKA / STICKER / AUFKLEBER		1
24	99.900.049	0	SAMOLEPKA / STICKER / AUFKLEBER		1
25	99.900.050	0	SAMOLEPKA / STICKER / AUFKLEBER		4
26	99.900.053	0	SAMOLEPKA / STICKER / AUFKLEBER		2

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

7.3. Rameno / Sägerahmen / Saw arm



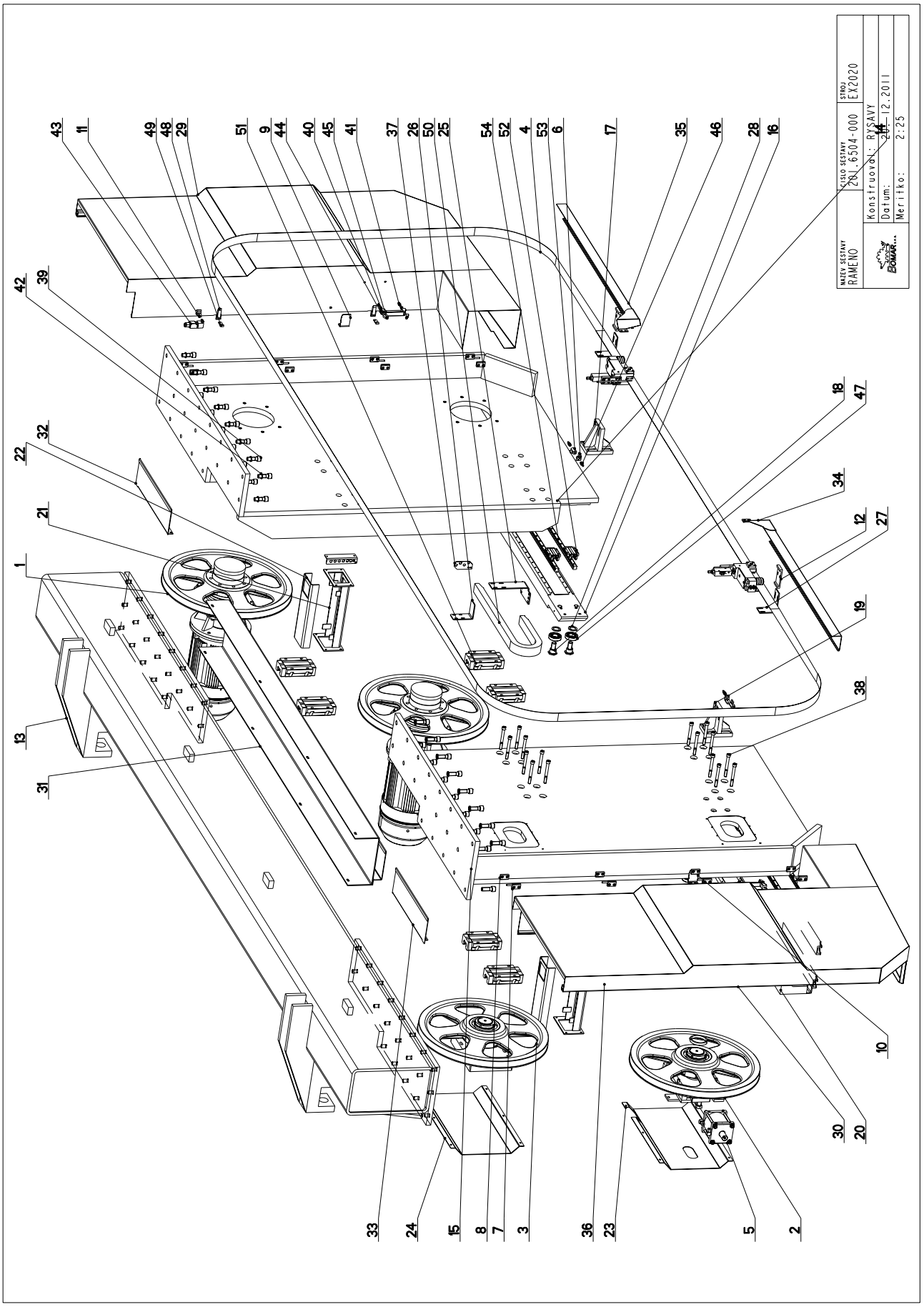
Manual version: 1.00 / Feb. 2012
Manual rev.: 1

Cislo Sestavy	Ver.	Nazev sestavy
201.6504-000	0	RAMENO/SAW ARM/SAGERAHMEN

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.6505-000	0	POHON / DRIVE / ANTRIEB		2
2	201.6508-000	0	NAPINANI / TENSIONING / SPANNUNG		1
3	201.6508-050	0	KOLO / WHEEL / UMLENKRAD		1
4	201.6510-000	0	VEDENI PASU / BELT GUIDE / SAGEBANDFUHRUNG		1
5	201.6707-400	3	VALEC NAPINACI / TENSIONING CYLINDER / SPANNZYLINDER		1
6	30.1814-011	1	DRZAK / HOLDER / HALTER	P 3- 76	2
7	30.6014-109	1	PANT / HINGE / TÜRBAND		8
8	30.6014-110	1	PANT / HINGE / TÜRBAND	HR 30x12	8
9	30.6014-124	1	DRZAK / HOLDER / HALTER	P 4 - 55	1
10	30.6014-125	1	DRZAK / HOLDER / HALTER	P 4 - 55	1
11	30.6114-147	0	DRZAK / HOLDER / HALTER	P 3x30x60	2
12	30.6414-145	0	KLUZAK / GLIDER / GLEITER	TYC 60x15	2
13	30.6504-001	0	RAMENO / SAW ARM / SAGERAHMEN		1
14	30.6504-002	0	BOCNICE / SIDE PLATE / SEITENTEIL		1
15	30.6504-003	0	RAMENO / SAW ARM / SAGERAHMEN		1
16	30.6504-007	0	VEDENI / GUIDE / BACKENFUHRUNG	P 70x160	1
17	30.6504-008	0	DRZAK / HOLDER / HALTER		1
18	30.6504-009	0	EXCENTR / CAM / EXZENTER	6HR 46	4
19	30.6504-010	0	DRZAK / HOLDER / HALTER		1
20	30.6504-011	0	VEDENI / GUIDE / BACKENFUHRUNG	P 70x160	1
21	30.6504-012	0	DRZAK / HOLDER / HALTER		2
22	30.6504-013	0	KRYT / COVER / ABDECKUNG	P 5x222	2
23	30.6504-014	0	KRYT NAPINANI / TENSIONING COVER / BANDSPANNUNGSABDECKUNG	P3-480	1
24	30.6504-015	0	KRYT NAPINANI / TENSIONING COVER / BANDSPANNUNGSABDECKUNG	P3x480	1
25	30.6504-016	0	DRZAK / HOLDER / HALTER	P 5x150	2
26	30.6504-017	0	DRZAK / HOLDER / HALTER	P 5x60	2
27	30.6504-018	0	DRZAK / HOLDER / HALTER	P 5x60	2
28	30.6510-013	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	D 50	4
29	30.6514-002	0	DVERE / DOOR / TUR		1
30	30.6514-003	0	DVERE / DOOR / TUR		1
31	30.6514-005	0	KRYT / COVER / ABDECKUNG		1

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

7.5. Rameno / Sägerahmen / Saw arm

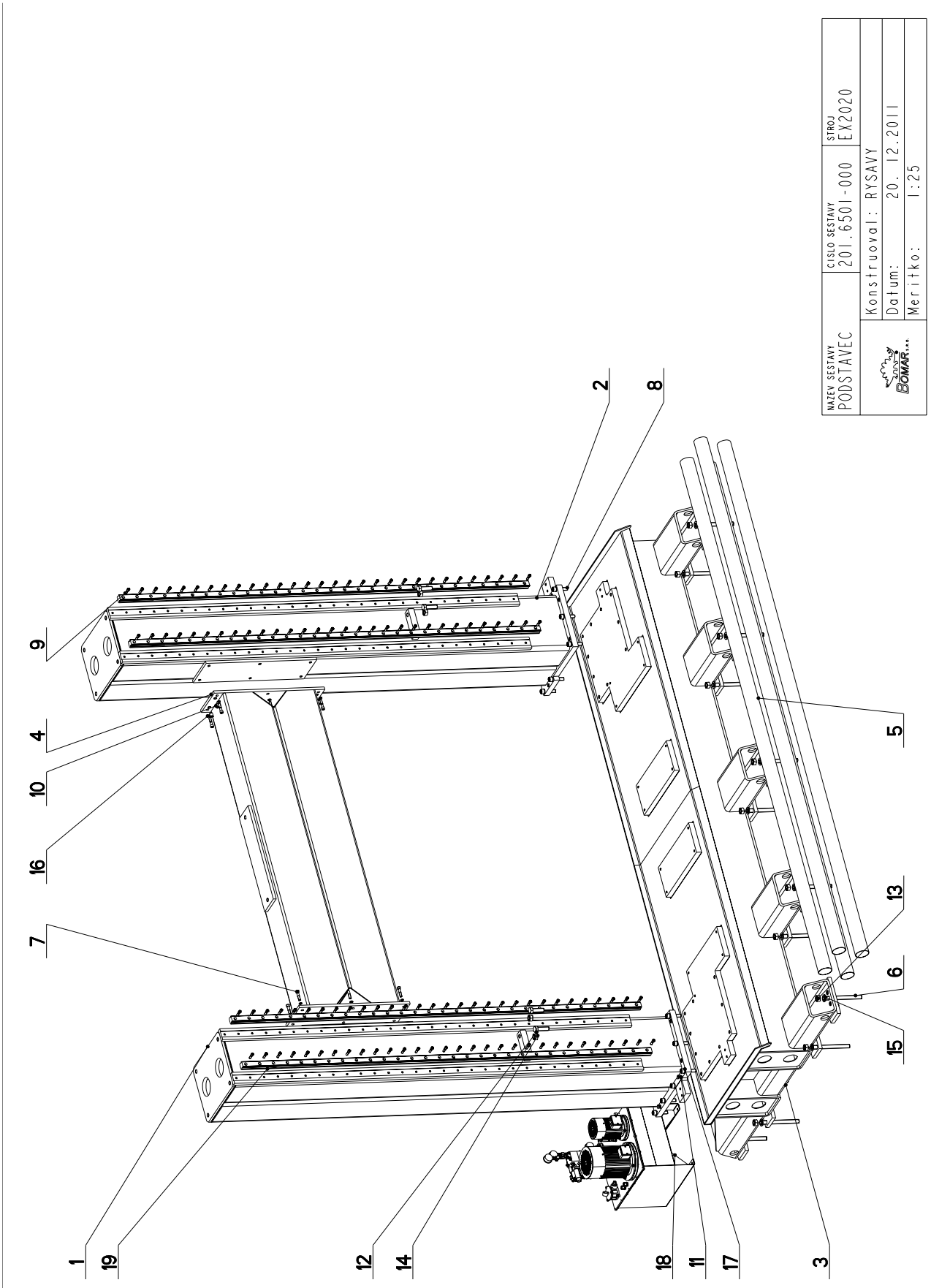


Manual version: 1.00 / Feb. 2012
Manual rev.: 1

32	30.6514-012	0	PLECH / PLATE / BLECH	P 3x210	1
33	30.6514-013	0	PLECH / PLATE / BLECH	P 3x210	1
34	30.6514-014	0	KRYT PASU / BELT COVER / BANDABDECKUNG		1
35	30.6514-015	0	KRYT PASU / BELT COVER / BANDABDECKUNG		1
36	30.7214-221	2	UCHYTKA / CLIP / HALTER	P3 - 79	2
37	30.8910-004	1	DRZAK / HOLDER / HALTER	P3 - 50	2
38	90.001.25.XXX	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M14X130	16
39	90.001.25.XXX	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M20X60	40
40	90.005.55.016	0	SROUB 6HRANNY / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M8X25	4
41	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE _ M8	4
42	90.163.00.XXX	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE		40
43	91.173.012	0	SPINAC KONCOVY / END SWITCH / ENDSCHALTER	QKS8-2xNC	2
44	94.012.001	0	RUKOJET / HANDLE / GRIFF		2
45	94.012.002	0	KRYT / COVER / ABDECKUNG		4
46	94.202.002	0	REDUKCE / REDUCTION / ADAPTOR / REDUKTION	GES 6/R1/4"	4
47	95.001.020	0	LOZISKO / BEARING / LAGER	6207 2RS	4
48	99.100.003	0	ZAMEK / LOCK / SCHLOSS		4
49	99.100.004	0	ZAMEK / LOCK / SCHLOSS	D13-00	4
50	99.170.015	0	RETEZ ENERGII / ENERGY BELT / ENERGIEKETTE	26x37 R-95	2
51	99.201.052	0	VOZIK LINEARNIHO VEDENI / LINEAR GUIDE CART / LINEARFUHRUNGSWAGEN	HGW55HC	8
52	99.201.053	0	VOZIK LINEARNIHO VEDENI / LINEAR GUIDE CART / LINEARFUHRUNGSWAGEN	HGW25HC	8
53	99.260.003	0	VENTIL / VALVE / VENTIL	1/4"	2
54	99.200.243	0	VEDENI LINEARNI / LINEAR GUIDE / LINEARE FÜHRUNG	HGR25R-1600 E=25	4

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

7.7. Podstavec / Untersatz / Base



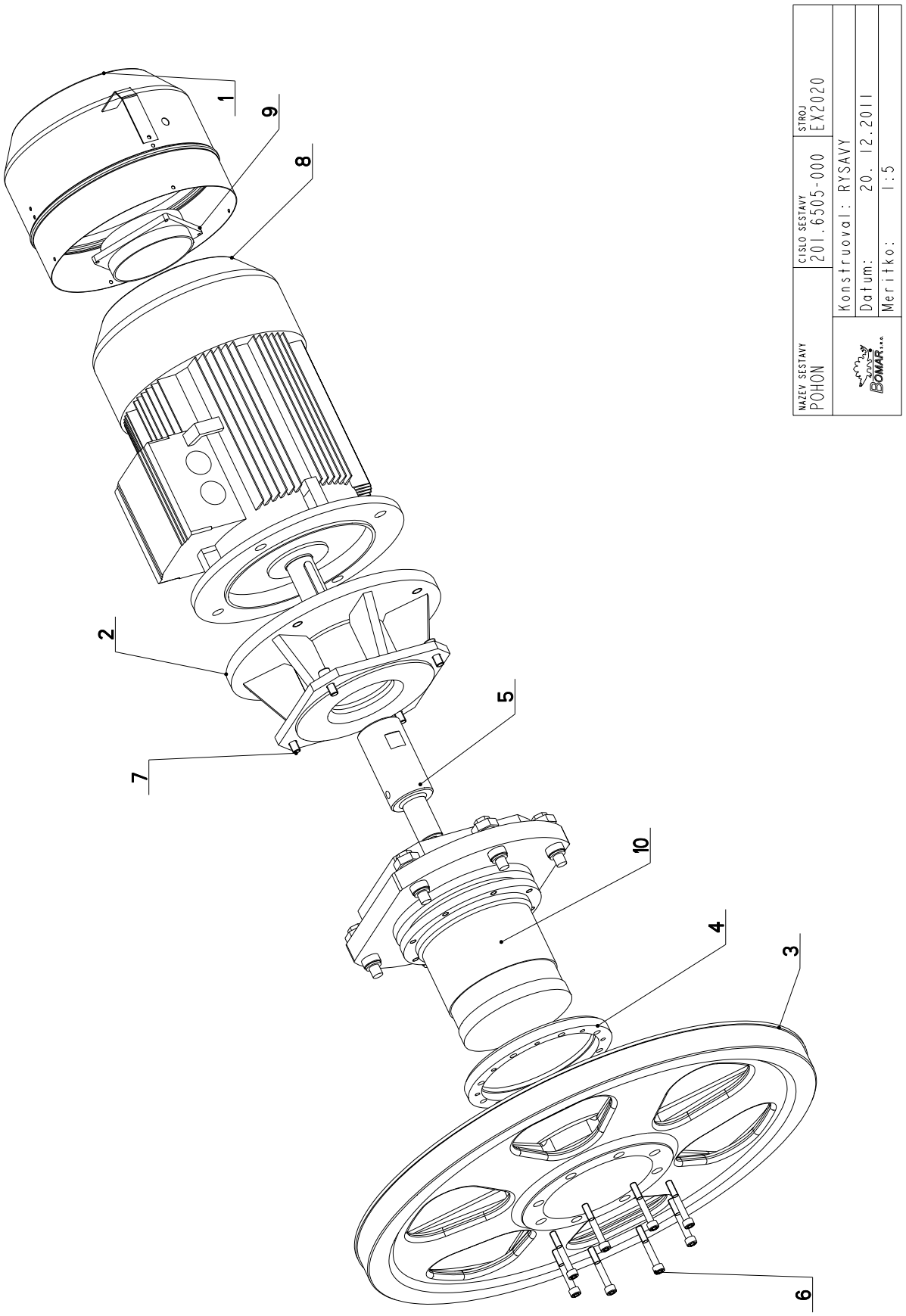
Manual version: 1.00 / Feb. 2012
Manual rev.: 1

Cislo Sestavy	Ver.	Nazev sestavy
201.6501-000	0	PODSTAVEC/BASE/UNTERSATZ

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.6501-002	0	SLOUP / POLE / SAULE		1
2	30.6501-003	0	SLOUP / POLE / SAULE		1
3	30.6501-005	0	PODSTAVEC / BASE / UNTERSATZ		1
4	30.6501-006	0	VZPERA / PROP / STREBE		1
5	30.6501-009	0	TRUBKA / TUBE / ROHR	TR 110x2.5	4
6	30.6501-012	0	SROUB / BOLT / SCHRAUBE	M 30	30
7	90.001.25.093	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M16X70	12
8	90.001.25.153	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M24X100	20
9	90.001.25.167	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M14X50	120
10	90.002.2D.054		SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	M24x30	4
11	90.002.2D.XXX		SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	M 30X50	34
12	90.005.55.078	0	SROUB 6HRANNY / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M30X100	4
13	90.100.25.001	0	MATICE / NUT / MUTTER	MATICE _ M30	30
14	90.100.55.014	0	MATICE / NUT / MUTTER	MATICE _ M30X2	4
15	90.151.50.XXX	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	PODLOZKA 30	30
16	90.163.00.005	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	NORDLOCK 16	12
17	90.163.00.XXX		PODLOZKA / WASHER / UNTERLEGSCHEIBE		20
18	92.001.078		AGREGAT HYDRAULICKY / HYDRAULIC GENERATOR / HYDRAULIKAGGREGAT	S001 185 1	1
19	99.200.242		VEDENI LINEARNI / LINEAR GUIDE / LINEARE FUHRUNG	HGR 55R	4

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

7.9. Pohon / Antrieb / Drive



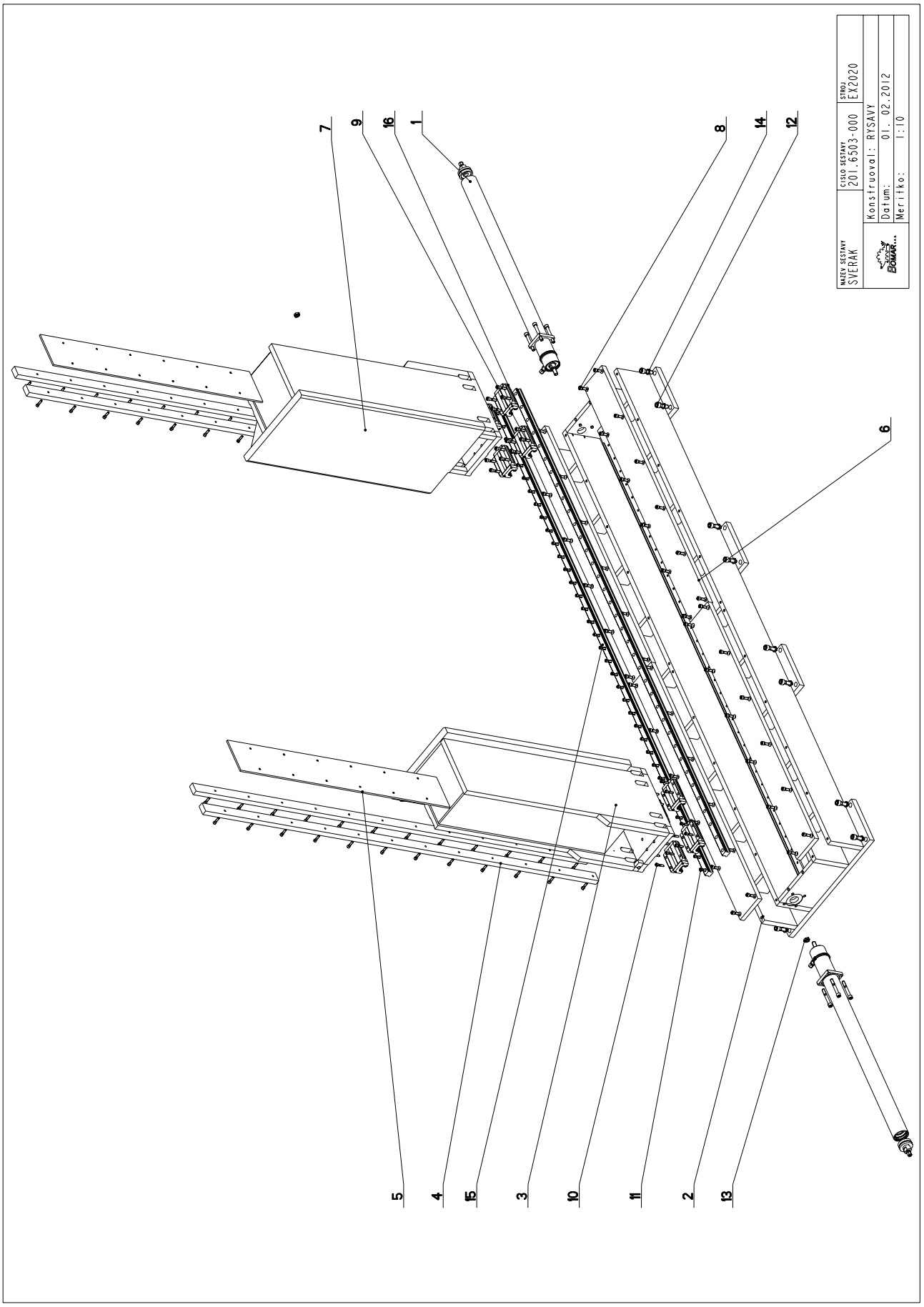
Manual version: 1.00 / Feb. 2012
Manual rev.: 1

Cislo Sestavy	Ver.	Nazev sestavy
201.6505-000	0	POHON/DRIVE /ANTRIEB

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.6405-030	0	VENTILATOR / VENTILATOR / VENTILATOR		1
2	30.6505-001	0	PRIRUBA / FLANGE / FLANSCHE		1
3	30.6505-003	0	KOLO / WHEEL / UMLENKRAD	KOLO	1
4	30.6505-004	0	KROUZEK DISTANCNI / DISTANCE RING / DISTANZRING	P 25x250	1
5	30.6505-005	0	SPOJKA / JOINT / KUPPLUNG	D 70	1
6	90.001.25.055	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10X70	8
7	90.001.25.058	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12X30	4
8	91.001.164	0	ELEKTROMOTOR / ELECTRIC MOTOR / ELEKTROMOTOR	9,2 kW, 6P, P160, B5, 3X400V	1
9	91.015.100	0	VENTILATOR / VENTILATOR / VENTILATOR		1
10	99.004.001	0	PREVODOVKA PLANETOVA / PLANETARY TRANSMISSION / PLANETENGETRIEBE		1

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

7.11. Svěrák / Schraubstock / Vice



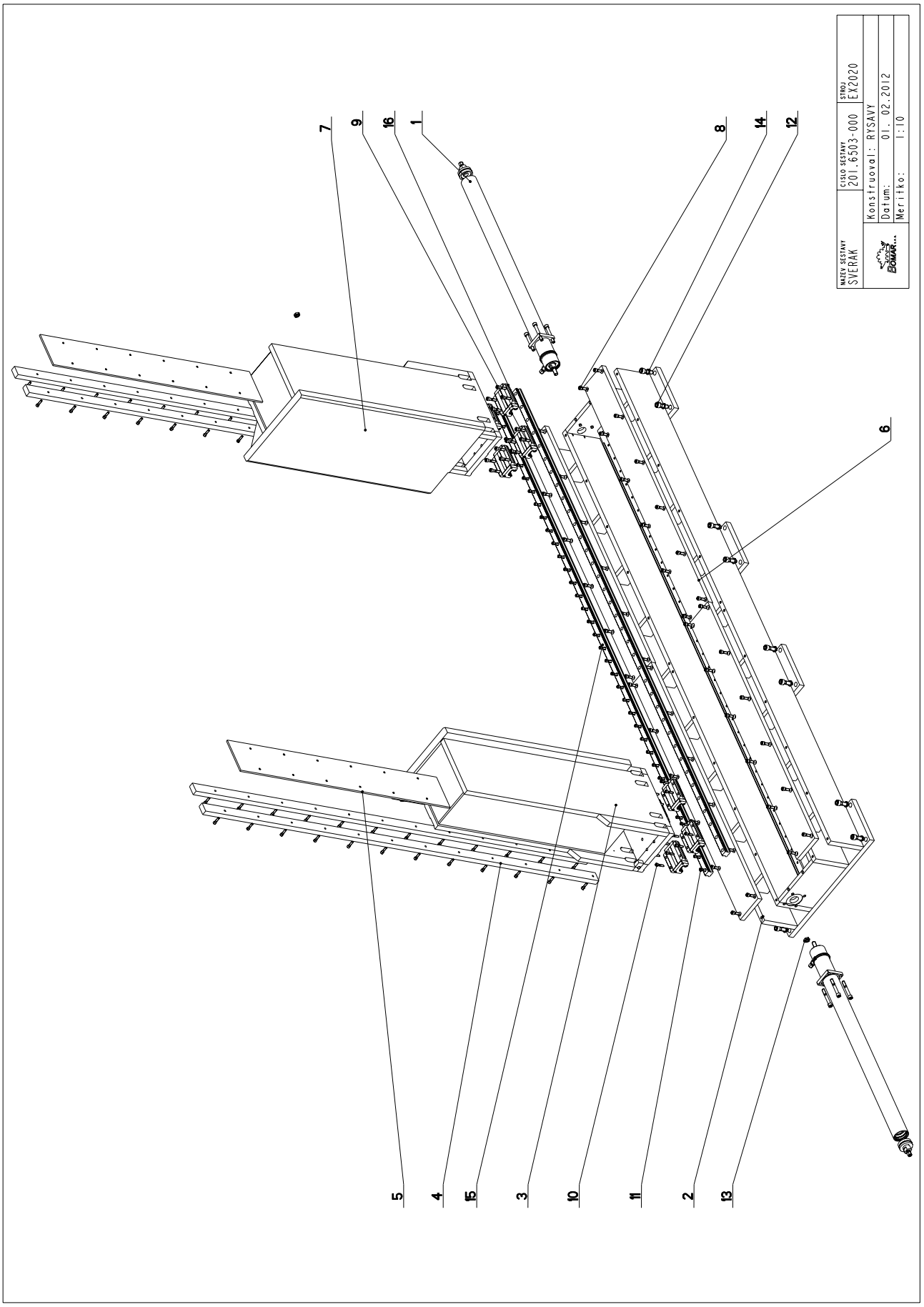
Manual version: 1.00 / Feb. 2012
Manual rev.: 1

Cislo Sestavy	Ver.	Nazev sestavy
201.6503-000	0	SVERAK/VICE/SCHRAUBSTOCK

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.6507-100	0	VALEC SVERAKU / VICE CYLINDER / SCHRAUBSTOCKZYLINDER		2
2	30.6503-002	0	PODSTAVEC SVERAKU / VICE BASE / SCHRAUBSTOCKUNTERSATZ		1
3	30.6503-005	0	CELIST POHYBLIVA / MOVING JAW / BEWEGLICHE BACKE		1
4	30.6503-006	0	LISTA / TRIM / LEISTE	HR 50x25	4
5	30.6503-007	0	DESKA / BOARD / PLATTE	P 8x185	2
6	30.6503-009	0	LISTA / TRIM / LEISTE	HR 150x25	4
7	30.6503-010	0	CELIST POHYBLIVA / MOVING JAW / BEWEGLICHE BACKE		1
8	90.001.25.048	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10X30	48
9	90.001.25.051	0	SROUB IMBUS CERNENY / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10X45	16
10	90.001.55.035	0	SROUB IMBUS CERNENY / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8X35	16
11	90.001.55.083	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8X30	120
12	90.001.25.XXX	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M16X50	16
13	90.101.55.003	0	MATICE / NUT / MUTTER	MATICE M16	2
14	90.163.00.005	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	NORDLOCK 16	16
15	99.200.195	0	VEDENI LINEARNI / LINEAR GUIDE / LINEARE FÜHRUNG	HGR35R	2
16	99.201.002	0	VOZIK LINEARNIHO VEDENI / LINEAR GUIDE CART / LINEARFÜHRUNGSWAGEN	HGV	8

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

7.13. Svěrák / Schraubstock / Vice



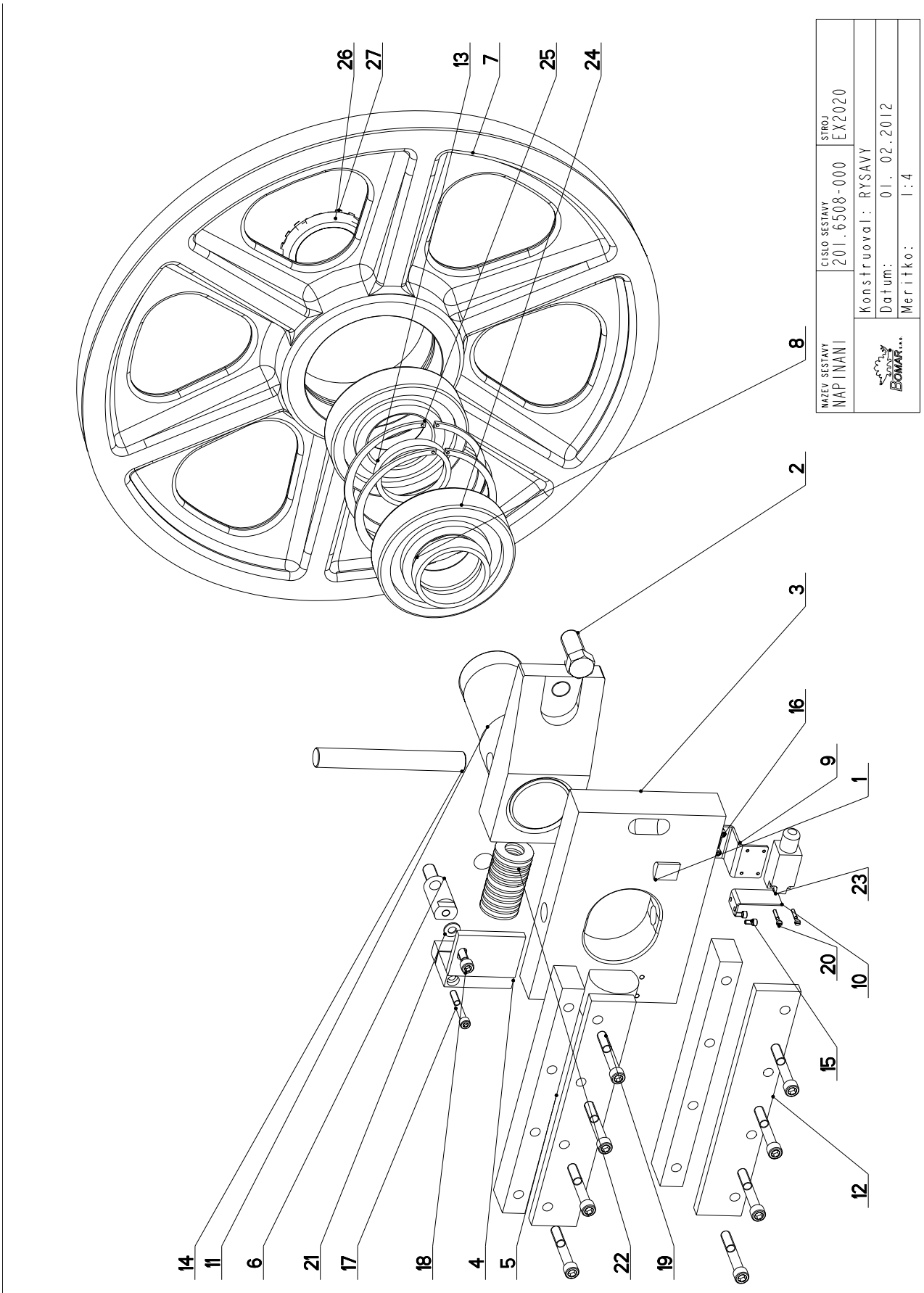
Manual version: 1.00 / Feb. 2012
Manual rev.: 1

Cislo Sestavy	Ver.	Nazev sestavy
201.6503-100	0	SVERAK/VICE/SCHRAUBSTOCK

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.6503-041	0	PODSTAVEC / BASE / UNTERSATZ		1
2	30.6503-045	0	KOSTKA / CUBE / WURFEL	HR 80x30	2
3	30.6503-046	0	KOSTKA / CUBE / WURFEL	HR 120x25	2
4	30.6503-047	0	KOSTKA / CUBE / WURFEL	165x110	4
5	30.6503-048	0	MATICE / NUT / MUTTER	D 90	2
6	30.6503-053	0	CELIST POHYBLIVA / MOVING JAW / BEWEGLICHE BACKE		2
7	30.6503-058	0	SROUB / BOLT / SCHRAUBE	TR 36x6	2
8	30.6503-064	0	DRZAK / CUBE / WURFEL		2
9	30.6503-071	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE		2
10	30.6503-072	0	SROUB 6HRANNY / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M12X120	2
11	90.001.25.050	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10X40	12
12	90.001.25.058	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12X30	12
13	90.001.25.064	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12X70	24
14	90.151.50.XXX	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	PODLOZKA 27	2
15	90.300.0Z.027	0	KOLIK VALC. KAL. / CYLINDRICAL PIN TEMPERED / ZYLINDERSTIFT GEHÄRTET	KOLIK 12X50	4
16	94.010.001	0	KOLECKO / WHEEL / ROLLE		2
17	94.010.002	0	RUKOJET / HANDLE / GRIFF		2
18	94.011.003	0	PAKA UPINACI / ATTACHMENT LEVER / SPANNHEBEL		2
19	95.800.004	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUSSEN	POJISTNY KROUZEK 12	1
20	95.800.013	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUSSEN	POJISTNY KROUZEK 30	2

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

7.15. Napínání / Spannung / Tensioning



Manual version: 1.00 / Feb. 2012
Manual rev.: 1

Cislo Sestavy	Ver.	Nazev sestavy
201.6508-000	0	NAPINANI/TENSIONING/SPANNUNG

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.6208-003	0	CEP / LUG / BOLZEN	d 25	1
2	30.6208-004	0	SROUB / BOLT / SCHRAUBE	TYC 32	1
3	30.6208-102	0	KOSTKA NAPINANI / TENSIONING CUBE / BANDSPANNUNGSWÜRFEL		1
4	30.6208-104	1	TRMEN / BINDER / BÜGEL		1
5	30.6208-105	2	LISTA / TRIM / LEISTE	TYC 50x30	2
6	30.6208-109	0	DORAZ / STOP PIECE / ANSCHLAG	D 30	1
7	30.6508-001	0	KOLO / WHEEL / UMLENKRAD	KOLO	1
8	30.6508-005	0	KROUZEK / RING / RING	TR 102x10	1
9	30.6708-303	1	DRZAK / HOLDER / HALTER	P3x50	1
10	30.6708-304	0	DORAZ / STOP PIECE / ANSCHLAG	P 2x20x76	1
11	30.7508-001	2	CEP NAPINANI / TENSIONING LUG / SPANNUNGSBOLZEN		1
12	30.7508-004	2	LISTA / TRIM / LEISTE	TYC 60x15	2
13	30.7508-005	3	KROUZEK / RING / RING	TR 102x10	1
14	30.7508-007	0	CEP / LUG / BOLZEN	TYC 25j6	1
15	90.001.25.007	0	SROUB IMBUS CERNENY / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5X10	2
16	90.001.25.009	0	SROUB IMBUS CERNENY / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5X16	2
17	90.001.25.040	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8X60	1
18	90.001.25.048	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10X30	1
19	90.001.25.065	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12X80	8
20	90.012.50.006	0	SR. S VALC. HLAV. / ROLLER BOLT / ZYLINDERSCHRAUBE	SROUB M4X25	2
21	90.150.50.006	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	PODLOZKA 10,5	1
22	90.350.0Z.004	0	PRUZINA TALIROVA / DISC SPRING / TELLERFEDER	50X25.4X3	12
23	91.173.007	0	SPINAC KONCOVY / END SWITCH / ENDSCHALTER	-RIWK	1
24	95.001.053	0	LOZISKO / BEARING / LAGER	6317A	2
25	95.801.033	0	KROUZEK POJIST.VNITR / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNY KROUZEK 180	2
26	95.850.017	0	MATICE KM / KM NUT / KM-MUTTER	MATICE KM17	1
27	95.855.011	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	MB 17	1

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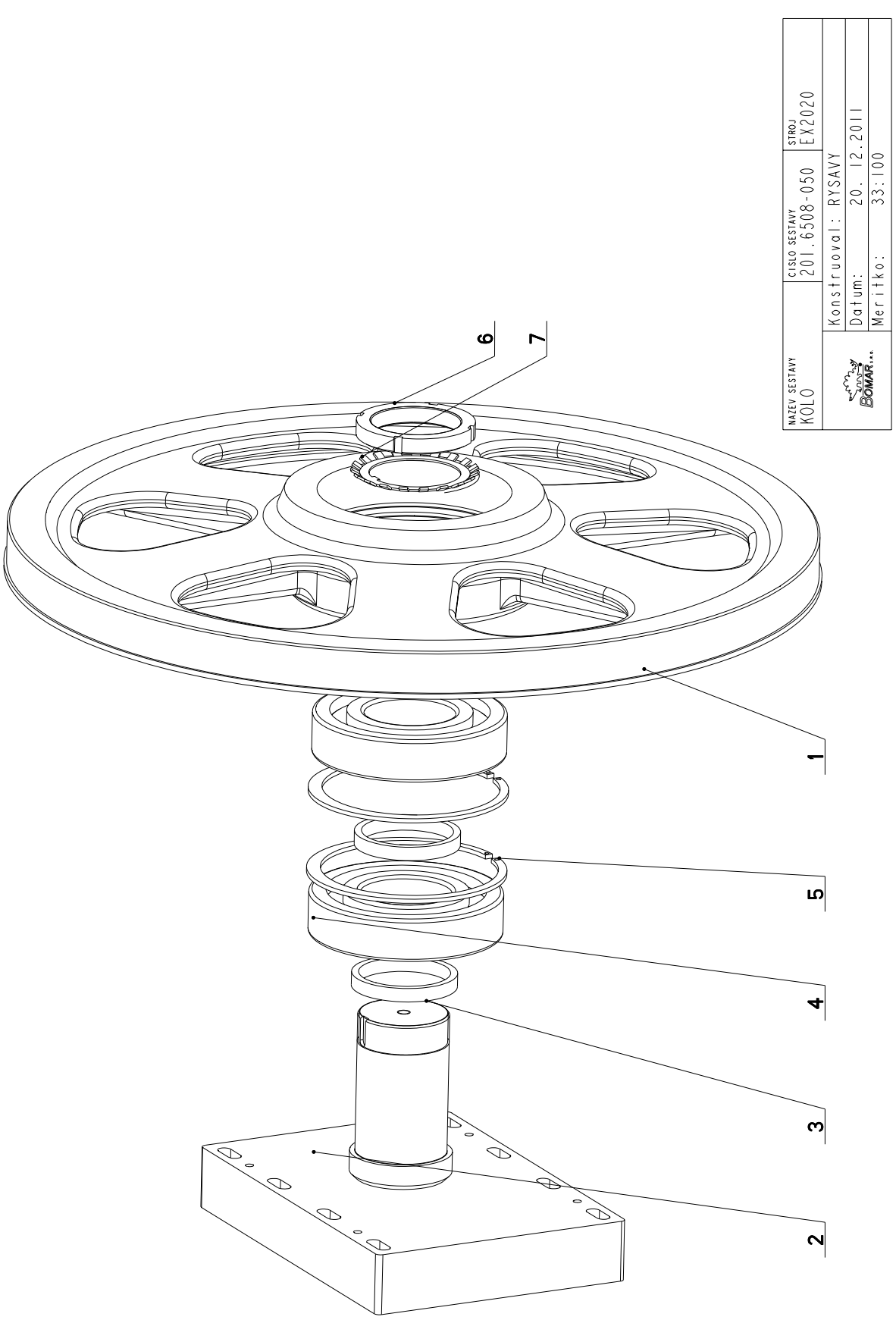
Objednaci cislo/Purchase order number/Bestellnummer; Nazev polozky/Volume title/Name der Position; Rozmer/Stock size/Abmessung

7.17. Kolo / Umlenkrad / Wheel



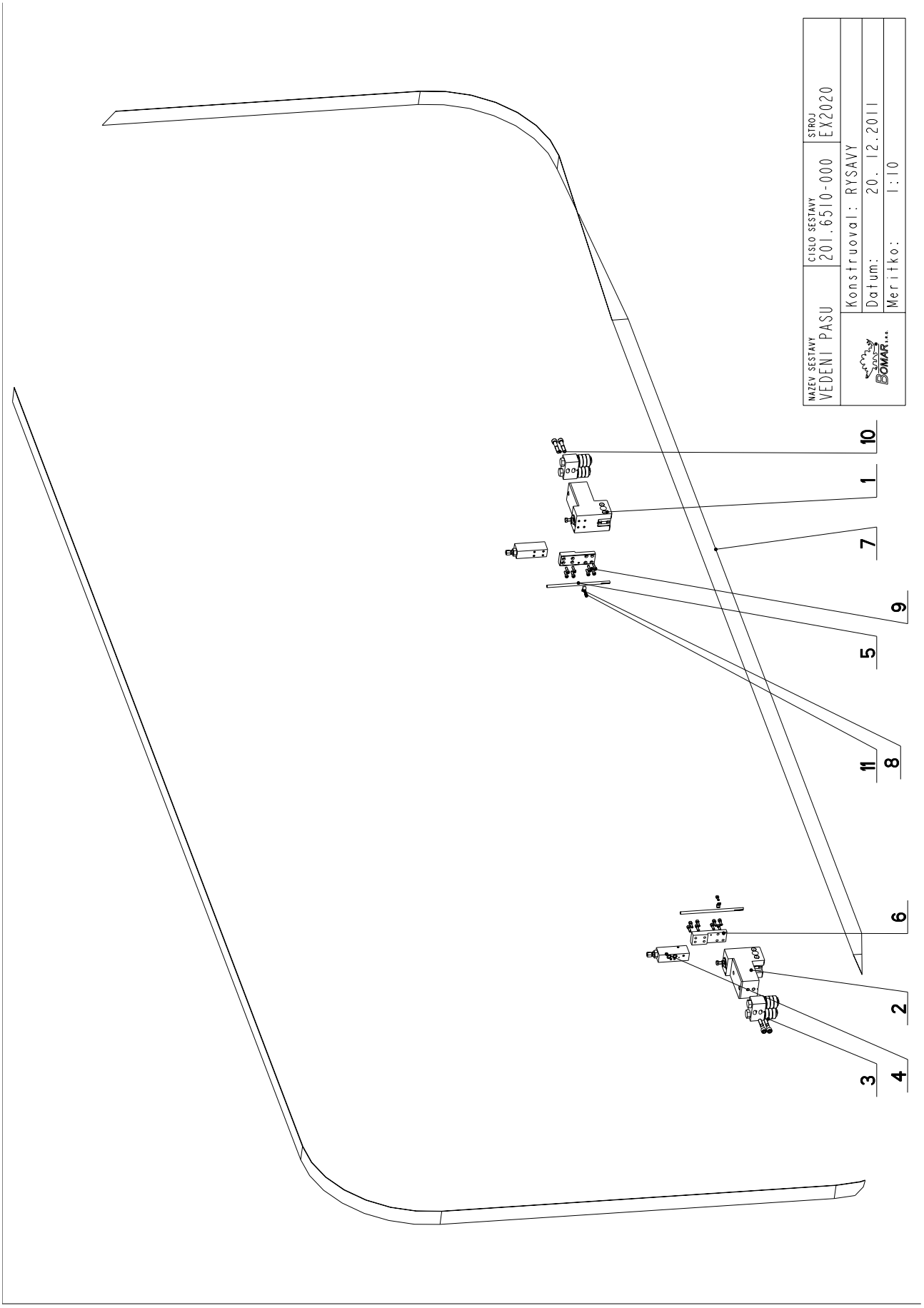
Manual version: 1.00 / Feb. 2012
Manual rev.: 1

Cislo Sestavy	Ver.	Nazev sestavy
201.6508-050	0	KOLO/WHEEL/UMLENKRAD

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.6508-001	0	KOLO / WHEEL / UMLENKRAD	KOLO	1
2	30.6508-002	0	CEP / LUG / BOLZEN		1
3	30.7508-005	3	KROUZEK / RING / RING	TR 102x10	2
4	95.001.053	0	LOZISKO / BEARING / LAGER	6317A	2
5	95.801.033	0	KROUZEK POJISTNY / SAFETY RING / SICHERUNGSRING	POJISTNY KROUZEK 180	2
6	95.850.017	0	MATICE KM / KM NUT / KM-MUTTER	MATICE KM17	1
7	95.855.011	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	MB 17	1

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

7.19. Vedení pásu / Sägebandführung / Belt guide



Manual version: 1.00 / Feb. 2012
Manual rev.: 1

Cislo Sestavy	Ver.	Nazev sestavy
201.6510-000	0	VEDENI PASU/BELT GUIDE/SAGEBANDFUHRUNG

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.6210-100	3	KOSTKA VODICI / LEAD CUBE / FÜHRUNGSKLOTZ		1
2	201.6210-200	3	KOSTKA VODICI / LEAD CUBE / FÜHRUNGSKLOTZ		1
3	201.6210-300	3	VEDENI PASU / BELT GUIDE / SÄGEBANDFÜHRUNG		2
4	201.6816-100	0	KOSTKA REGULACE / REGULATION CUBE / REGELUNGSWÜRFEL		2
5	30.6010-315	0	TRUBKA / TUBE / ROHR	TR 8x 1	2
6	30.6016-002	0	DESKA / BOARD / PLATTE	HR 40x20	2
7	30.6510-001	0	PAS PILOVY / SAW BELT / SAGEBAND	PAS 54x1,6	1
8	30.9010-003	0	DRZAK / HOLDER / HALTER	P1.5x10	2
9	90.001.25.018	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6X20	16
10	90.001.25.052	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10X50	4
11	90.001.25.087	0	SROUB IMBUS CERNENY / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5X14	2

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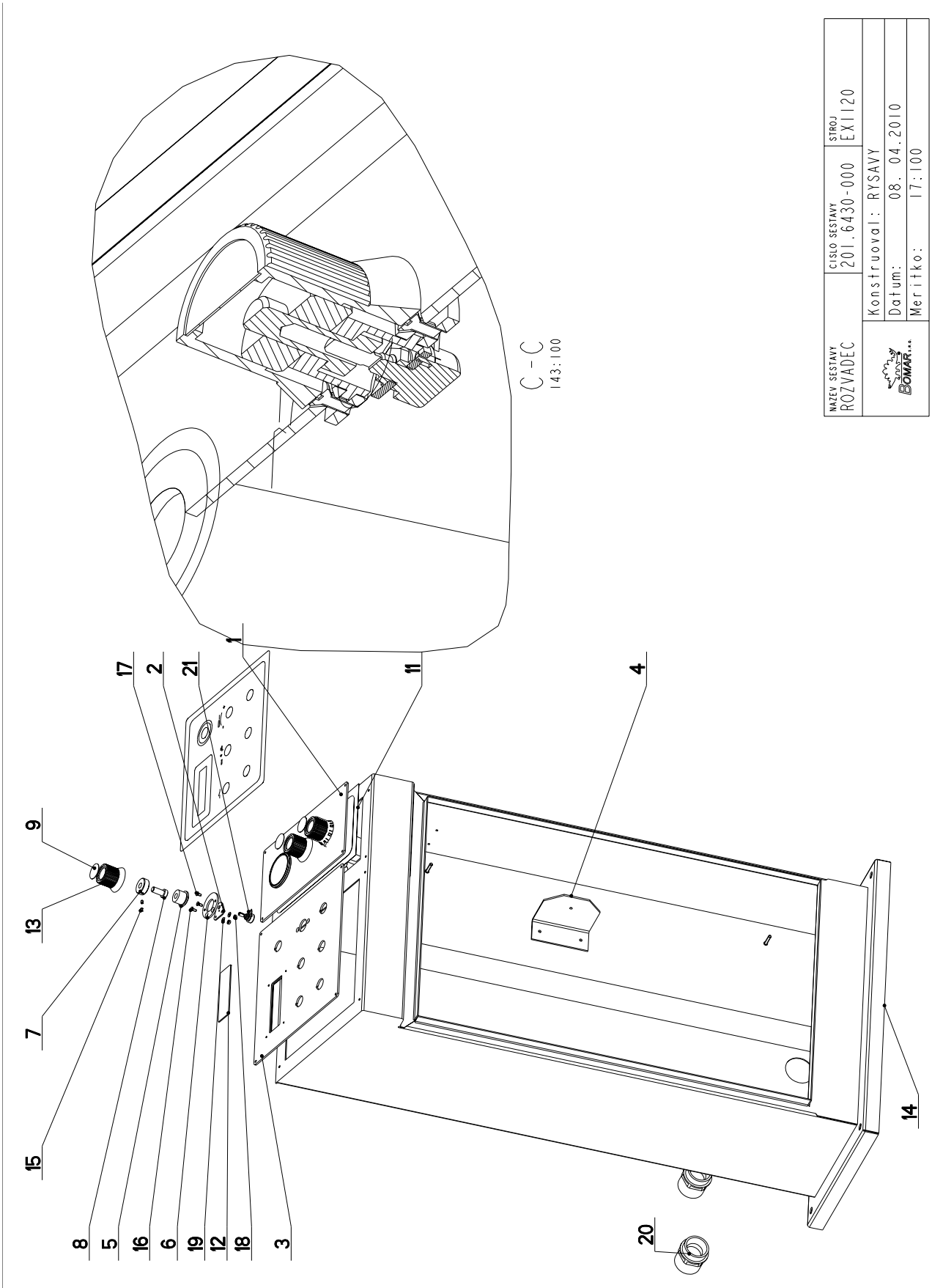
Objednaci cislo/Purchase order number/Bestellnummer; Nazev polozky/Volume title/Name der Position; Rozmer/Stock size/Abmessung

7.21. Rozvaděč / Verteiler / Distributor



Manual version: 1.00 / Feb. 2012
Manual rev.: 1

Cislo Sestavy	Ver.	Nazev sestavy
201.6430-000	0	ROZVADEC/DISTRIBUTOR/VERTEILER

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.6030-420	1	OVLADACI PANEL / CONTROL PANEL / BEDIENPULT		1
2	30.5002-003	0	DRZAK / HOLDER / HALTER		1
3	30.6030-406	3	PANEL ELEKTRO / ELECTRO PANEL / PANEL	P 3x297x285	1
4	30.6030-413	1	DRZAK / HOLDER / HALTER	P3x110x140	1
5	30.6130-007	0	ULOZENI / MOUNTING / LAGERUNG	d 30	1
6	30.6130-009	0	PRILOZKA / STRAP / LASCHE	P 3 - 50	1
7	30.6130-010	0	VLOZKA / INSERT / EINLAGE	d 30	1
8	30.6130-011	0	VEDENI / GUIDE / BACKENFÜHRUNG	d 16	1
9	30.6130-012	0	VIKO / COVER / DECKEL	P 0.5x 30x30	3
10	31.6030-409	0	PANEL / PANEL / PANEL		1
11	31.6030-410	1	PANEL / PANEL / PANEL	FOLIE	1
12	31.6030-414	0	SKLO ORGANICKE / PLEXIGLASS / PLEXIGLAS	3x30x150	1
13	31.6130-008	0	HLAVICE / HEAD / KOPF		1
14	31.6230-501	0	ROZVADEC / DISTRIBUTOR / VERTEILER		1
15	90.002.2D.001	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M4X6	2
16	90.008.50.003	0	SROUB ZAPUSTNY / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M4X10	2
17	90.011.27.001	0	SROUB ZAPUSTNY / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M4X8	2
18	90.100.55.002	0	MATICE / NUT / MUTTER	MATICE _ M4	2
19	90.150.50.002	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	PODLOZKA 4,3	2
20	91.071.005	0	PRUCHODKA / LEADTHROUGH / DURCHFÜHRUNG		3
21	91.283.001	0	POTENCIOMETR / POTENTIOMETER / POTENTIOMETER		1