

BOMAR[®]

Operating Instructions for Band Saw

Extend 900.720



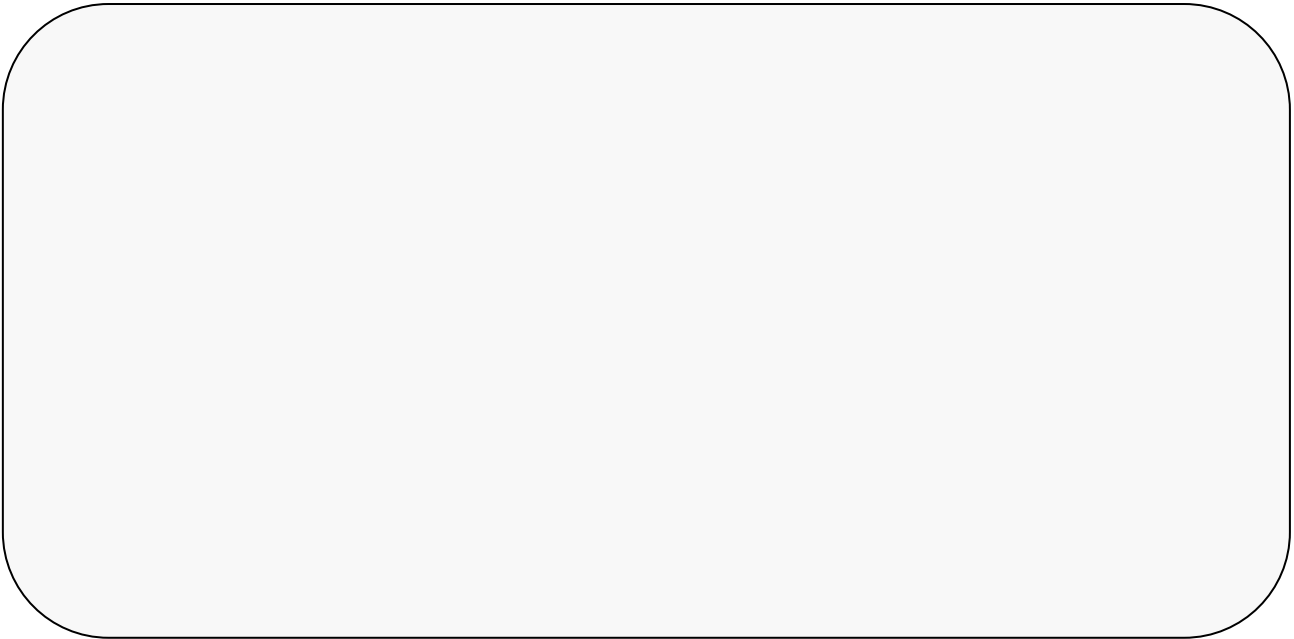
Before transporting and using the machine, please read the instructions thoroughly!

Serial number:



Service and Information

In case of technical difficulties or spare parts order, please contact your dealer:



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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!

4.4. Safety notes for the servicing and repairs

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.

TOTAL STOP button



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.



Enhanced risk!

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

Saw band stretching and rupturing 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.

Left saw band 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!

Left cover



It covers tightening 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.

The band saw is started to the operation, when the cover is closed!

Right cover



It covers driving 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.

The band saw is started to the operation, when the cover is closed!

4.5. 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!

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TOTAL STOP button

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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.

Saw band stretching and rupturing 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. Its setting is described in chapter “Service and Adjusting”. Check the stretching carefully and periodically – eventually adjust. To stretch the saw band press the left button (left arrow). To release the saw band press the right button (right arrow). Stretching value is set by the producer.

Left cover

It covers tightening 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.



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

Right cover

It covers driving 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.

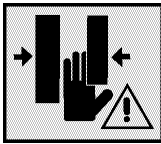


The band saw is stated to the operation, when the cover is closed!

5. Seznam bezpečnostních značek / Liste der Sicherheitszeichen / List of safety symbols

Značka / Zeichen / Symbol

Význam / Bedeutung / Signification
Objednáací číslo / Bestell - Nr. / Reference No.



NS-Nebezpečí stlačení / Pressungsgefahr / Crushing hazard



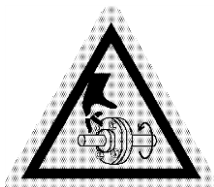
NR-Nebezpečí říznutí / Schnittgefahr / Cutting or severing hazard



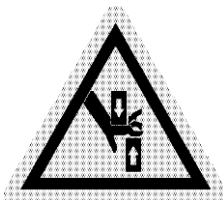
NN-Nebezpečí nárazu / Stoßgefahr / Impact hazard



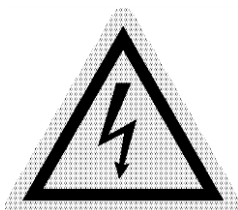
NV-Nebezpečí vtažení / Einzuggefahr / Drawing – in hazard



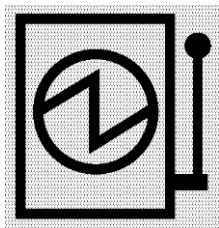
NZ- Nebezpečí zachycení / Erfassunggefahr / Tramping hazard



NT-Nebezpečí stříhu / Schnittgefahr / Shearing hazard



NE-Nebezpečí úrazu elektrickým proudem / Verletzunggefahr vom elektrischen Strom / Electrical hazard



HV-Hlavní vypínač / Hauptschalter / Main switch



SOL-Směr otáčení doleva / Drehrichtung nach links /
direction of rotation left



SOP-Směr otáčení doprava / Drehrichtung nach rechts /
direction of rotation right



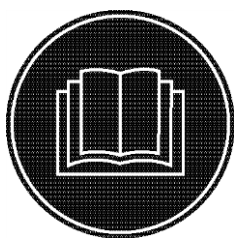
SOO-Směr otáčení oboustranně / Drehrichtung doppelseitig /
direction of rotation double-sided



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



PO-Noste pevnou pracovní obuv / Tragen Sie
Sicherheitsschuhe / Wear fixed protective shoes



CZ-Přečíst návod k použití / Bedienungsanleitung lesen /
Read the operating instructions

6. Transportation and stocking

6.1. 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.

Conditions for transportation and stocking:

- Temperature of the air from -25°C to $+55^{\circ}\text{C}$, for a short term (max. 24 hours) temperature of the air until $+70^{\circ}\text{C}$.
- Do not expose the machine to 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.
- Take measures, to prevent damage by dampness, by vibrations and by shakes.

6.2. Safety notes

Keep safety notes for the transport!



Always wear protective hardhat to avoid hard injuries during loading and transportation!



Wear protective gloves!
Sharp edges of the machine, pallets and means of transport can injure your hands.



Wear safety boots!
Loose parts and packing materials can cause serious injuries.

Do not use a forklift truck for handling the machine, if you do not have licence for it!

Do not move under suspended loads! Fault in lifting device may cause serious injury.

Keep a safe distance from the machine during the transport.

6.3. 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.

The machine has to be screwed to a pallet for the transport!

6.4. Transport and stocking

Handle the machine only with suspension cables and the crane. The pedestal is equipped with slots $\varnothing=70$ mm. Insert the appropriate steel bars to all of these slots (see arrows on the picture). It is possible use two long or four short bars. Fix the suspension cables to the steel bars.

Make sure that the suspension cables and the crane had sufficient capacity.

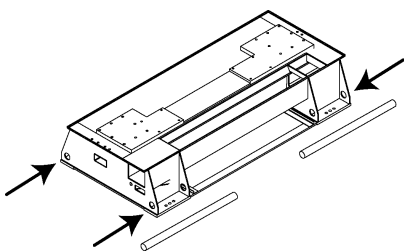
Make sure that the van or the trailer had sufficient capacity.

The machine must be secured during transportation.

Screw on the pallet to the floor of the van or the trailer.

Be careful that the machine is not damaged during transportation.

It is forbidden to handle the machine any other way (for example by, lifting by the saw frame of the band saw), than it is written in this operating instructions, the machine can be damaged!



7. Activation

7.1. 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 extend from 30% to 95% (not concentrate).

Altitude higher 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.

7.2. 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 (chapter **Technical data**)
+ 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.

7.3. Electrical connection



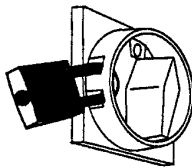
ATTENTION! Only a qualified professional must carry out the servicing and repairs of the electric equipment! Take special care during work with electrical equipment. High voltage shock can have fatal consequences! Always keep notes about work safety!

Electrical parameters of the machine:

| | |
|------------------|----------------------------|
| Service voltage: | ~ 3 x 400 V, 50 Hz, TN-C-S |
| Total input: | see Technical data |
| Max. fuse: | 16 A |

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

Service voltage must agree with the line voltage!
 Crosscut of the supply line must respond with rated current for max. machine load. *Note:* The values of the crosscut of the conductor and the rated current are in the norms.
 Connect the service cable of the machine on the clamps of the electric distribution. *Note:* The socket with the fork can be used only at the machines with the rated current less than 16A 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.

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.

7.4. Filling of the cooling system

If handling cooling liquid, keep the notes about work safety and instructions of the cooling liquid manufacturer!



Wear protective gloves when working with cooling liquids!



Wear protective goggles!
The cooling liquid can get into your eyes and cause serious injury.

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

Fill the mixture of the water and the cooling liquid to the tank of the cooling system. Area of the tank for the cooling liquid is discovered from the chapter „**Technical data**“.

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

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

Note: If the machine is equipped with Microniser (see. **Special accessory**), fill the tank of the Microniser by specified cooling liquid. Microniser is ready for operation.

7.5. Check machine functions

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

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

Check, if covers are installed and functional.

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

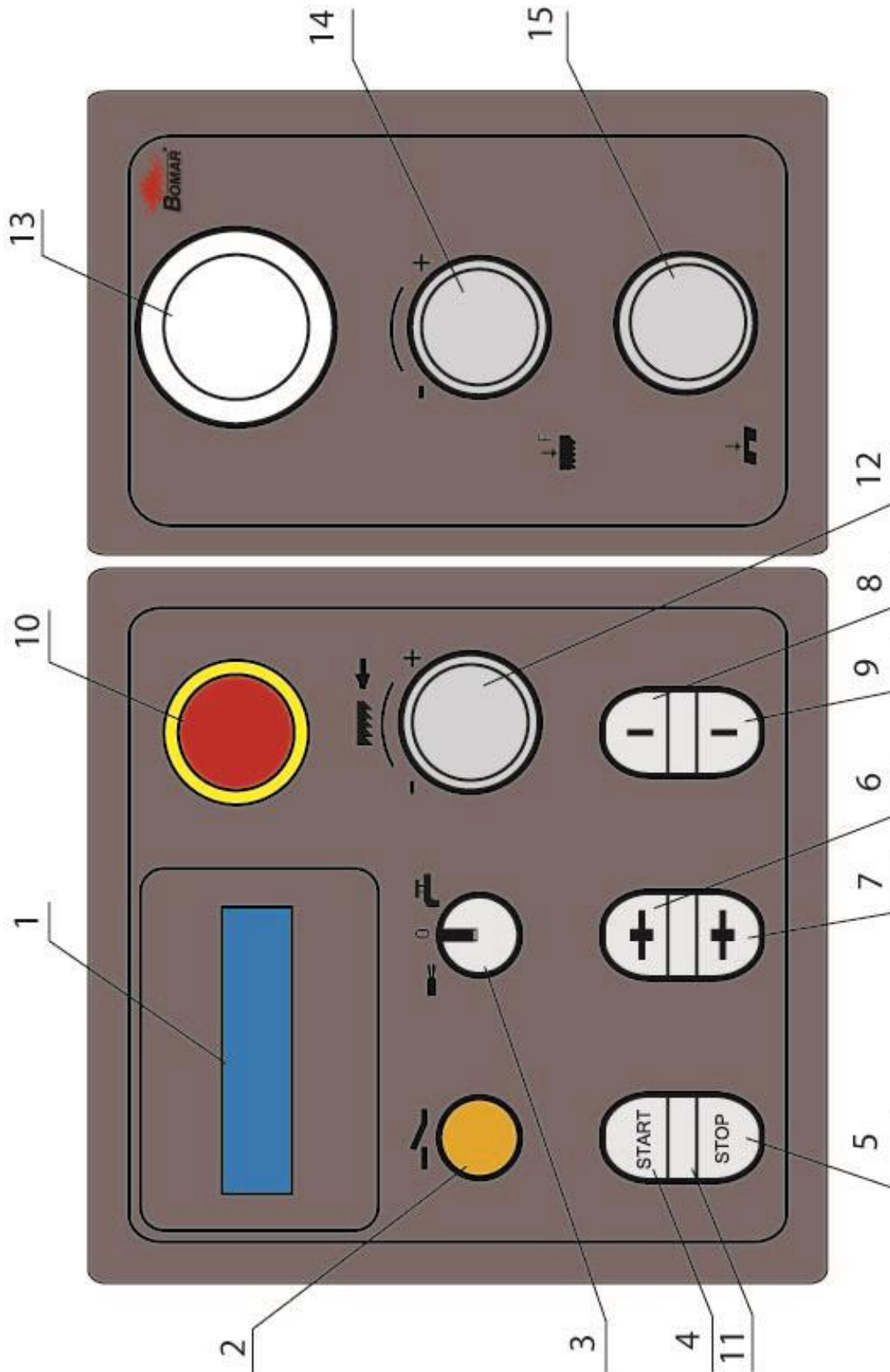
Switch on the main switch and check the motors and systems (saw band drive, hydraulic pump, cooling pump, chips conveyor).

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

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

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



8. Control panel – description



1 Display
There are described all processes on display.

2 Safety circuit switching on
Switch on the safety circuit by pressing button.

3 Cooling system selection
You can select from three possibilities:

-  Cooling with Microniser
- 0** Without cooling
-  Cooling with water

4 START - Switch on the semi-automatic cycle
By pressing **6** and button **4** is starting only the band saw drive. It is stopped with button **5**.

5 STOP - Switch off the engine of the band saw
It stops the engine of the machine. With holding button STOP during the time 2 second is stopped hydraulic engine (if it running). The hydraulic engine is started automatic on switch whatever motion.(Open vice, close, Lift the saw arm, lower) or the cycle is starting with button Start.

6 Close the vice
When this button is pressed, the vice is opened.
This button may be used in semi-automatic cycle.

7 Open vice
Vice is opened after pressing this button.

8 Lift the saw arm

9 Lower the saw arm
If this button is pressed with **8** button together, the saw arm is starting chute on the cutting material with accelerated shift. ATTENTION! If you will be running with accelerated shift until the cut, the saw band may be damaged.

10 TOTAL – STOP button
In emergency causes the machine must be immediately switched off.

11 LED- control lamp blink by cycle.

12 Frequency convertor
Turn to change the speed of the saw band.

13 Cutting pressure manometer

- 14** **Cutting pressure regulation**
Adjust the arm pressure to the cut.

- 15** **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.

- 16** **Deblock**
Use the deblock to replace the saw band.
Position 0 – operating mode. During the running of the machine, the switch must be in position **0**.
Position 1 – saw band replacement. In this position it is possible to run the hydraulics and strain and release the saw band despite of the open covers. The functions activate only by buttons on the arm. Other functions are blocked.



9. 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) Switch on the safety circuit of the band saw (button **2** – control panel of the band saw).

10. Preparative mode

10.1. Entrance to menu

Press button **5+6+7+8+9** together. Hydraulic must be off.

10.2. Cutting parameters

You can select, if you want to stop the saw band drive in upper or lower position of the saw arm, or do not stop the drive.

If you strain button **6**, the saw band drive will be stopped **in the bottom** position of the saw arm or **in the top** position.

10.3. Interrupting the cycle selection

Press button **6** to preselect the cycle interrupt.

Press button **9** to move to the next menu

10.4. Vice parameters (vice opening)

1) Press button **9** to entrance to menu: Vice parameters.

2) By repeated pressing button **6** you select: up – not - down release.

Press button **9** to move to the next menu

10.5. Stop time of the hydraulics

1) Press button **9** to move to this menu.

2) To set the stop time, press button **6: up- down – no loosen**

Press button **9** to move to the next menu

10.6. Swarf conveyor

Swarf conveyor will be automatic stoped and starting with saw band drive.

10.7. Language version selection

By repeated pressing button **6**, select the language.
Press button **9** to ending Preparative mode.

11. Semi-automatic cycle

- 1) Lift the saw arm to the top position by pressing button „8“.
- 2) Open the vice by pressing button „7“.
- 3) Clamp material to the vice by pressing button „6“.

4) Lower the frame about 10 mm above the material by button „9“.

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

5) Select the max. height of the arm with limit switch.

6) Set the saw band speed according to the kind of the cutting material.

7) Set the speed of the arm sinking by adjust governing valve „15“.

8) You can clear the register of the performed cycles by button 5 – 6 second stop on .

9) Press button „4“ (**START** of semi-automatic cycle).

Note: Press button „5“ (**STOP** of semi-automatic cycle). In risk of injury or damage of the band saw, press the emergency button **TOTAL STOP “10”**.

10) The band saw clamps the material to the vice and it makes the cut.

11) Open the vice. If the vice is not opened, you can open it by button „7“. Remove the blank.

12) You can repeat whole process.

11.1. Cycle breaking

11.1.1. STOP button

Semi-automatic cycle is interrupted by pressing button „5“ (**STOP** of the semi-automatic cycle).

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

By pressing button „4“ (**START** of the semi-automatic cycle), you can start the cycle.

11.1.2. TOTAL STOP button

In case of the risk, press button **TOTAL STOP** „10“.

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) By pressing button „4“ (**START** of the semi-automatic cycle), you can start the cycle. The arm is lifted to the top position and the saw band starts the cycle.

12. Material insertion

12.1. Safety notes

Keep safety notes!



Wear protective gloves!
Material may have sharp edges and may cause cuts.



Wear protective boots!
Falling cut pieces can cause serious injuries.



Wear protective hardhat!
Falling work pieces can cause severe head injuries.

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!

12.2. Handling agent selection



Use the strong handling agents to lift and transfer the material!

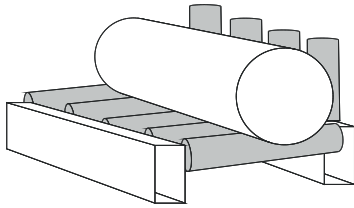
Handle with the material only with the lift truck or use the suspension strands and the crane!
Do not use the lift truck or crane in case that you do not have the licence to handle with it!

12.3. Material 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. The roller conveyors are described in the chapter „**Roller conveyors and accessories**“.

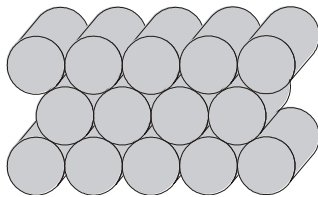
Make sure the conveyor is long enough and the material cannot tip off the conveyor.



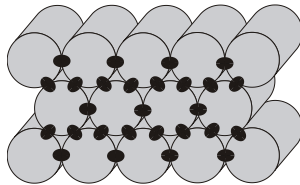
Be especially careful with round materials that it always stays on two vertical rollers and that it cannot fall off the conveyor!

12.4. Bundle material cutting

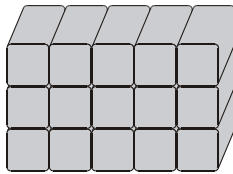
If you want to cut the material in the bundle, there are suggestions for the positioning of bundles



Round material bundle. Take care especially with round material that the bars are put according to the picture. If the bars are put differently, you may have problems with movement.



Always weld the material at the rear end of the bundle to secure it from moving. **ATTENTION! Before welding always, switch the machine off at the main switch! The magnetic fields, which often occur during welding, may damage the controls!**



Square material bundle.



Angled material bundle.

ATTENTION! Not all material shapes are suitable for bundle cuts. Keep the recommendation of your supplier of the saw bands for material insertion to the bundle.

13. Band saw adjusting

13.1. Safety notes



Keep the safety notes! Work the machine with the highest safety!



Wear protective boots!
Falling cut pieces can cause serious injuries.



Wear protective hardhat!
Falling work pieces can cause severe head injuries.

13.2. 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.



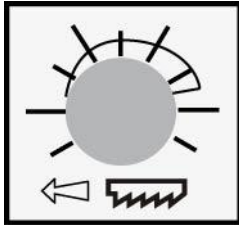
- 1) Saw arm adjusting is sensed by the sensor.
- 2) By button **8** „The saw arm is up“, you have to go out in the most high position.
- 3) Insert the material to the vice and you carefully sink with the saw arm on the material using button **9** “Saw arm down”. Eventually by combination buttons **8** and **9** – fast feed.
- 4) You must adjust the saw arm 10mm above the material.
- 5) Adjust arm stop length just above the sensor – shift stop length by turning arrestment wheel hard upon the sensor.

13.3. Adjusting band guides

Band guides are adjusted automatically together with vice.

13.4. Cutting speed adjusting

Speed of the saw band is possible change from 20 to 120 m/min. You can effect to adjusting speed of the saw band following:



Use the frequency convertor **12** to adjust requested speed of the saw band. You can see the band speed on display **1** during semi automatic cycle.

13.5. Adjustment of pressure in the cut

The band saw Extend 900.720 is equipped with cutting pressure regulation on the both guiding cubes.

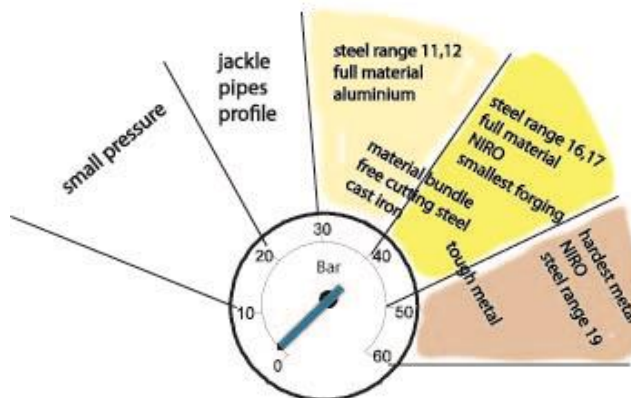
Note! Guiding cubes are equipped with taps which must be open during operation!

Pressure adjusting is performed with regulating wheel (position **14** – control panel). The pressure to the cut is displayed on the cutting pressure manometer **13**.

Lower pressure set up by turning **counter-clockwise**.

Higher pressure set up by turning **clockwise**.

Diagram for cutting pressure on ADFR (automatic downfeed regulation),
Hydraulic pressure recommended on the aggregate unit 6 Mpa



14. Blanks removing from the band saw

14.1. Safety notes

Keep the safety notes! Work the machine with the highest safety!



Wear protective gloves!
Material may have sharp edges and may cause cuts.



Wear protective boots!
Falling cut pieces can cause serious injuries.



Wear protective hardhat!
Falling work pieces can cause severe head injuries.

Take care, that there is nobody in the working area of the band saw! The moving material can cause the serious injuries!

14.2. 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 licence to the handle with it!

14.3. Blanks removing

Remove the blanks from the band saw.

15. Selection and replacement of the saw band

15.1. Safety notes



Wear protective gloves!

The saw band has sharp teeth and can cause serious injuries to your hands.



Wear protective goggles!

The saw band can snap during assembly and seriously injure your eyes.



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

15.2. Saw band size

8560 x 54 x 1,6 mm

15.3. 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.

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:

ZpZ – teeth number on one inch.

S – tooth with zero angle of the teeth.

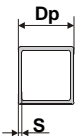


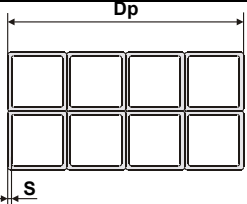
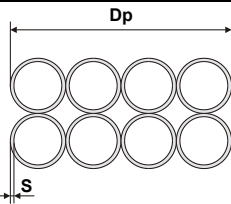
K – tooth with positive angle of the teeth.

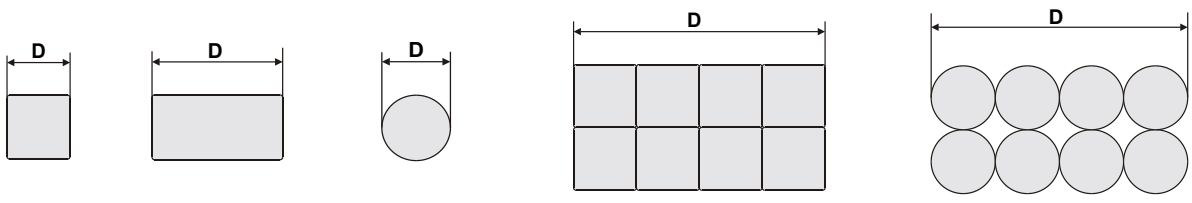
Examples of the tooth system marking:

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.

Tables for teeth selection:

| SHAPED MATERIAL (Dp, 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 x S). In table, there are tooth systems constant and variable. | | | | | | |
| Size of the wall S [mm] | Tooth system (ZpZ) Outer diameter of the profile Dp [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 (ZpZ) Outer diameter of the profile Dp [mm] | | | | | |
| | 150 | 200 | 300 | 500 | 750 | 1000 |
| 2 | 10 - 14 S | 10 - 14 S | 8 - 12 S | 6 - 10 S | 5 - 8 S | 5 - 8 S |
| 3 | 8 - 12 S | 8 - 12 S | 6 - 10 S | 5 - 8 S | 4 - 6 K | 4 - 6 K |
| 4 | 6 - 10 S | 6 - 10 S | 5 - 8 S | 4 - 6 K | 4 - 6 K | 4 - 6 K |
| 5 | 6 - 10 S | 5 - 8 S | 4 - 6 K | 4 - 6 K | 4 - 6 K | 3 - 4 K |
| 6 | 5 - 8 S | 5 - 8 S | 4 - 6 K | 4 - 6 K | 3 - 4 K | 3 - 4 K |
| 8 | 5 - 8 S | 4 - 6 K | 4 - 6 K | 3 - 4 K | 3 - 4 K | 3 - 4 K |
| 10 | 4 - 6 K | 4 - 6 K | 4 - 6 K | 3 - 4 K | 3 - 4 K | 2 - 3 K |
| 12 | 4 - 6 K | 4 - 6 K | 3 - 4 K | 3 - 4 K | 2 - 3 K | 2 - 3 K |
| 15 | 4 - 6 K | 3 - 4 K | 3 - 4 K | 2 - 3 K | 2 - 3 K | 2 - 3 K |
| 20 | 3 - 4 K | 3 - 4 K | 2 - 3 K | 2 - 3 K | 2 - 3 K | 2 - 3 K |
| 30 | 3 - 4 K | 2 - 3 K | 2 - 3 K | 2 - 3 K | 1,4 - 2 K | 1,4 - 2 K |
| 50 | 2 - 3 K | 2 - 3 K | 2 - 3 K | 1,4 - 2 K | 1,4 - 2 K | 1,4 - 2 K |
| 75 | - | 2 - 3 K | 1,4 - 2 K | 1,4 - 2 K | 1,4 - 2 K | 0,75 - 1,25 K |
| 100 | - | - | 1,4 - 2 K | 0,75 - 1,25 K | 0,75 - 1,25 K | 0,75 - 1,25 K |
| 150 | - | - | - | 0,75 - 1,25 K | 0,75 - 1,25 K | 0,75 - 1,25 K |
| 200 | - | - | - | 0,75 - 1,25 K | 0,75 - 1,25 K | 0,75 - 1,25 K |

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

Despite the above recommendations, please follow your supplier's advice!

15.4. Saw band running - in

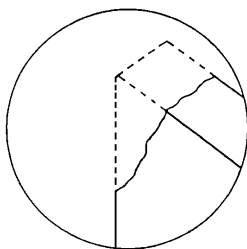
To ensure a full service life of the saw bands, we strongly recommend that you carry out the „RUN-IN“ process.

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

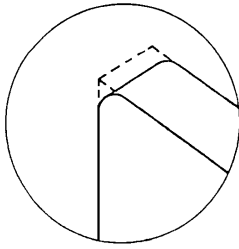
When cutting small pieces run the band until approximately 300 cm² of material has been cut.

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

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



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



The optimal running in of the saw band produces ideal rounded cutting edges and therefore the conditions for an optimal service life.

Note: Run regrinding saw bands too!

15.5. Saw band dismantling

- 1) Press the button **8** to lift the saw arm to maximum position.
- 2) Switch off hydraulic by button **Stop 5**.
- 3) Switch **Deblock 16** to position 1.



- 4) Open covers of both drive wheels.



- 5) Dismantle yellow band cover.
- 6) Release screw tightening brush position.

- 7) Release the saw band by pressing left button.



- 8) Draw the saw band down from driving wheels.
- 9) After carefully take the saw band out of guiding cubes.

15.6. 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 both guide wheels. Make sure that the saw band ridge fits tightly to the wheel rim. Then push the saw band as far back as possible.
- 4) Press the right button to stretch the saw band.
- 5) Close the covers.
- 6) Turn the deblock **16** to position **0**.
- 7) Saw band installation is finished.

15.7. 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.

15.7.1. Saw band stretching

- 1) The saw band must not fall from the wheels after setting.
- 2) Install the Tenzomat on the saw band and secure it with screws.
- 3) Stretch the saw band until it is stretched to the recommended value.

15.7.2. 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 according to the chapter „**Servicing and adjustment**“.
- 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 according to chapter „**Servicing and adjustment**“.
- 5) Close cover of the saw band.

16. Cooling agents and chips disposal

16.1. Safety notes

Keep notes about work safety for handling cooling liquid!



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.

Instructions for first help

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

16.2. Cooling liquid preparation

Prepare the mix of the water and cooling liquid. Conform the notes of the manufacturer and keep manufacturer-approved concentration.

All instructions are stated on the tank of the cooling liquid or in documents of the cooling liquid. For cooling liquid using and liquidation reads date of cooling liquid manufacturer, which it is necessary to keep.

Fill the mix of water and cooling liquid to the tank of the cooling system. The capacity of the tank for the cooling liquid is stated in chapter „**Technical data**“.

When filling tank with the cooling liquid take care that the liquid will not drip out of the tank and the tank will not overflow.

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

Note: If the machine is equipped with Microniser (see. **Special accessory**), fill the tank of the Microniser by specified cooling liquid. Microniser is ready for the operation.

The quality of the cooling agent will deteriorate due to:

- use of contaminated water
- impurity
- outside oil contamination (hydraulics, gears)
- high operating temperatures
- lack of air circulation
- wrong concentration

If the solution is too weak:

- corrosion protection is diminished
- lubrication decreases
- microbial attack is more likely

If the solution is too strong:

- the cooling ability is decreased
- foam behaviour increases
- emulsions stability deteriorates
- sticky residue develops

16.3. 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!

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.

Note: If the state of the cooling liquid is not satisfactory, the cooling liquid must be changed.

16.4. 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.

17. Greases and oils

17.1. 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.

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 must not be mixed!

Recommended oils and quantity according to the type of the band saw

| The band saw | Gearbox oil | Capacity |
|----------------|--------------------|------------|
| Extend 900.720 | Shell Tivela S 320 | 6,7l+1,1 l |
| Swarf conveyor | Shell Tivela S 320 | 0,075 l |

Comparative table of the gearbox oils

| Manufacturer | Viscosity grade | | |
|--------------|------------------------------|--|---------------------------------------|
| | ISO VG 100 | ISO VG 220 | ISO VG 320 |
| BP | Energol GR-XP 100 | Energol GR-XP 220 | Energol GR-XP 320 |
| Castrol | Alpha SP 100 Alpha MW 100 | Alpha SP 220 Alpha MW 220 | |
| Elf | Reductelf SP 100 | Reductelf SP 220 Reductelf Synthese 220 | Reductelf SP 320 |
| Esso | Spartan EP 100 | Spartan EP 220 | Spartan EP 320 |
| Mobil | Mobilgear 627 | Mobilgear SHC 220 Mobilgear 630 | Mobilgear 632 |
| ÖMV | | PG 220 | |
| Paramo | PP 7 | Paramo CLP 220 | Paramo CLP 320 |
| Shell | Shell Omala 100 | Shell Omala 220 Shell Tivela S 220 | Shell Omala 320 Shell Tivela S 320 |
| Total | Carter EP 100 | Carter EP 220 | Carter EP 320 |

17.2. Hydraulic oils

Note: This chapter is only for the band saws, which has hydraulic equipment.

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 |
| 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 46 | 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 | | |

17.3. Lubricant greases

We recommend using lithium based saponified grease, class NGLI-2 for lubrication. Different greases are mixable, if their oil bases and consistence type are identical.

Comparative table of the lubricant greases

| Manufacturer | Type of the lubricant grease |
|----------------|---------------------------------|
| BP | Energrease LS - EP |
| DEA | Paragon EP1 |
| Esso | FETT EGL 3144 |
| | Beacon EP 1 |
| | Beacon EP 2 |
| FINA | FINA LICAL M12 |
| Klüber | Microlube GB0 |
| | Staburags NBU8EP |
| | Isoflex Spezial |
| Optimol | Optimol Longtime PD 0, PD1, PD2 |
| Shell Aseol AG | ASEOL Litea EP 806-077 |
| Texaco | Multifak EP1 |

18. Service

18.1. 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.
- Loading surface of the vice, and area under them.

18.2. Lubrication

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



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



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

18.3. Cooling liquid inspection

Check the state of the cooling liquid periodically. Keep notes in chapter **Cooling agents and chips removal** for state checking and cooling liquid filling.

If the cooling liquid is little in the tank, it can cause the damage of the saw band influences insufficient cooling.

The excess liquid can overflow from the tank on the floor, the service worker can slide and he can injure.

18.4. Hydraulic oil level check

Note: This chapter is only for the band saws, which has hydraulic equipment.

Recommended type of the hydraulic oil is placed in chapter **Hydraulic oils**.



Pull up the gauge and check the state of the oil. The oil level must be situated between water-glas.

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.

19. Adjustment

19.1. Hard metal guides adjustment

Hard metal guides in guiding cubes are set hydraulically, but hard metal guides are not adjusted.

19.2. Saw band run adjustment on the stretching wheel

Saw band run inspection

Saw band run on the stretching wheel must be inspected periodically. The inspection has to be proceeded also after every saw band replacement. If the run is not correct, following problems may occur:

The saw band falls down from the wheels

It can damage the saw band and band cover as well.

The saw band runs on the wheel rim

It can damage the saw band and the wheel rim.



- 1) Switch on and switch off the saw band drive.
- 2) Switch off the main switch!
- 3) Open the rear arm cover and check saw band placing on the wheels.

- 4) Check emplacement of the saw band on driving wheels.
 - If the distance rear part of the saw band from wheel rim is **1 – 3 mm**, setting is right.
 - If the distance is bigger than **3 mm**, or if the saw band runs on the wheel rim, saw band run must be set.

Saw band run setting

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

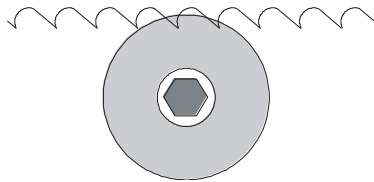


- Turn with the screw to the right, the saw band is closer to the stretching wheel rim.
- Turn with the screw to the left, the saw band is far from the stretching wheel rim.

Check saw band run adjustment again.

19.3. 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 nut of the brush. It is possible to move with the brush. Replace the worn brush for the new one. Tighten the nut.

- 2) Set the brush to the saw band. End of brush bristles must not reach to the bottom of the saw band teeth.

- 3) Tighten fixing screw again.

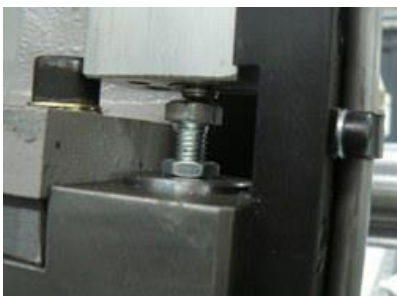
- 4) In case the brush does not turn in the right way (driving wheel of the brush skids on driving wheel of the saw band), fasten driving wheel of the brush by means of screw (see arrow) to the driving wheel of the saw band.

Attention! Do not fasten screw overmuch to avoid damage of driving wheel of the brush. Eventually to avoid lifetime reduction of bearings of the band drive wheel.

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

The limit switch of the saw band stretching is set from the manufacturer. Is not necessary to set it.

19.5. 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 nut of the screw 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.

19.6. Limit switch adjustment of the saw frame lower position

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

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.

Limit switch setting



- 1) Release the nut of the stop screw of the limit switch and screw the screw.
- 2) Lower the saw frame to the lower stop and switch by button **4 (START)** semi-automatic cycle.
- 3) Screw out the stop screw of the limit switch, until the saw band drive is not stopped.
- 4) Secure the screw with nut and check limit switch adjustment again.

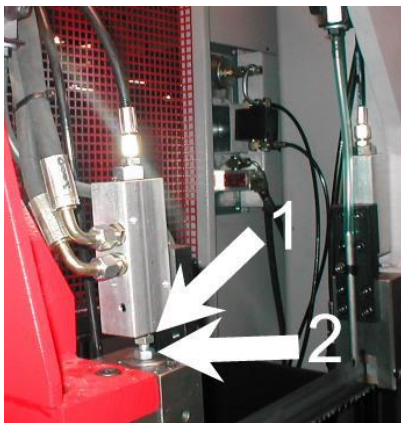
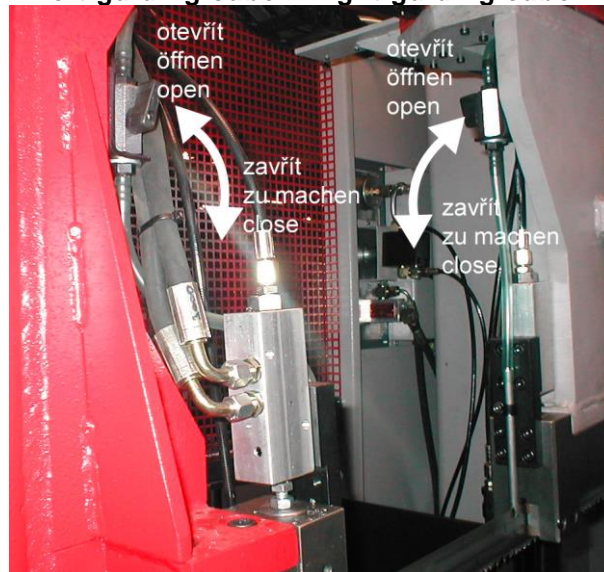
19.7. Adjustment of the cutting pressure regulation

This chapter describes the basic speed setting of arm sinking to the cut for idle run. Pressure setting to the cut during cutting is described in chapter **Machine operation**. and saw is equipped with cutting pressure regulation on both guiding cubes. Cutting pressure regulation is set separately on every guiding cube.

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.

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!

10) Setting is ended.

20. Worn pieces replacement

20.1. Pushing bearing replacement

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



The bearing condition is possible discover, on the cube from the bottom side, for a better inspection is possible to put out the holder of the bearing from the cube.

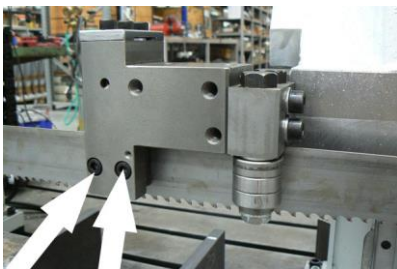
If the bearing is worn, there is a visible channel on it.

Bearing replacement

- 1) Dismantle the saw band.
- 2) Disconnect the hose from the cooling agent.

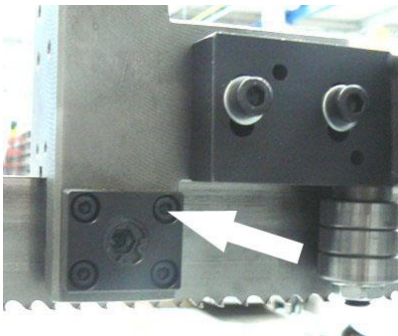


- 3) Release 2 Screws.

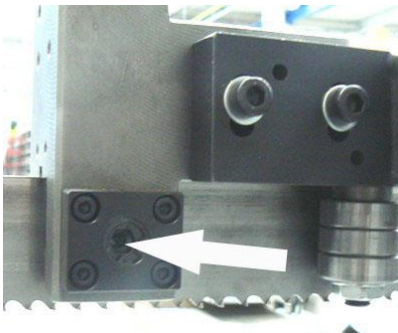


- 4) Release the fixative pin of the bearing holder.





5) Release 4 screws.



5) Release centric screws M10..



6) 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.

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



7) Remove the worn bearing.

8) Fasten the holder to the vice.

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

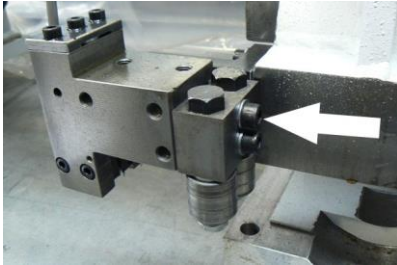
Insert the bearing and washers and return the pivot to its original place.

The pivot may not extend past the holder; otherwise, the bundle gripping assembly regulator gets worse.

20.2. 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.

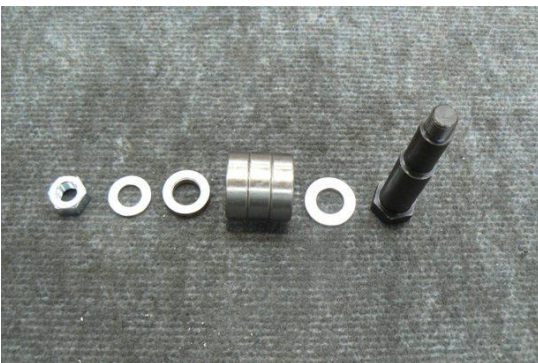


2) Tighten the guiding cube to the vice and dismantle both eccentrics with bearings following way.

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

4) Screw off nuts from eccentrics.

5) Remove eccentrics from bearings by means of the swager.



6) Change all bearings and other worn parts.

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

ATTENTION! Do not replace the eccentrics placing in the cube.



8) Screw on nuts on both eccentrics and tighten them.



9) Insert the saw band to the guiding cube (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.

10) 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.

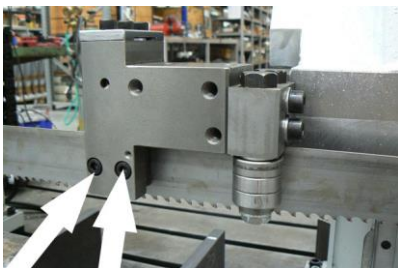
11) Tighten nuts on both eccentrics.

12) Remove the testing piece of saw band from the cube lead. Install the guiding cube on the machine.

20.3. 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!

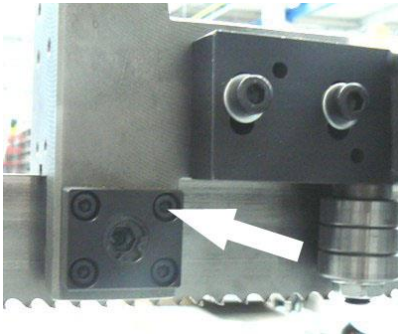
1) Disconnect the hose from the cooling agent.



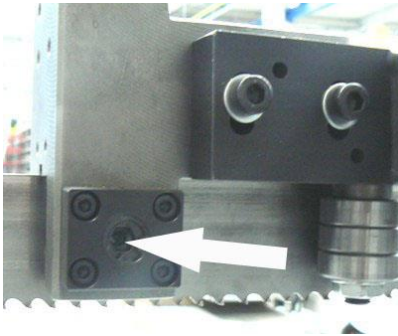
2) Release 2 screws.



3) Release the fixative pin of the bearing holder.



4) Release 4 screws.



5) Release centric screws M10..



6) Dismantle the fixed hard metal guide.



7) Remove the movable hard metal guide and 8 disk springs.

8) Insert the new movable hard metal guide.

9) Screw on the fixed hard metal guide.

10) Hard metal guides replacement is ended.

20.4. Round brush replacement

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

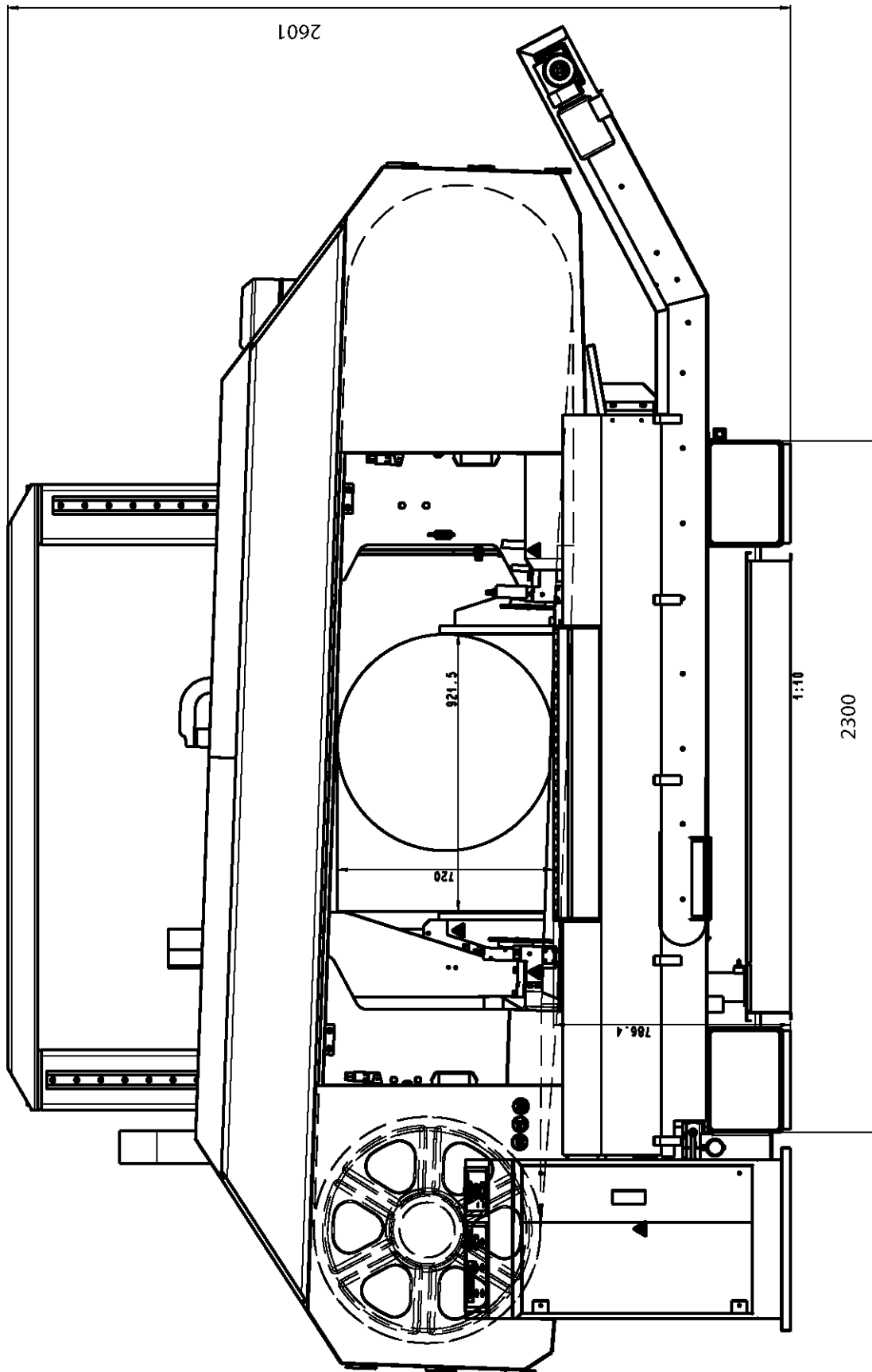
1) Hold shaft of the brush by wrench.

2) Release the nut on the brush, replace worn brush on the new brush, screw on the nut.

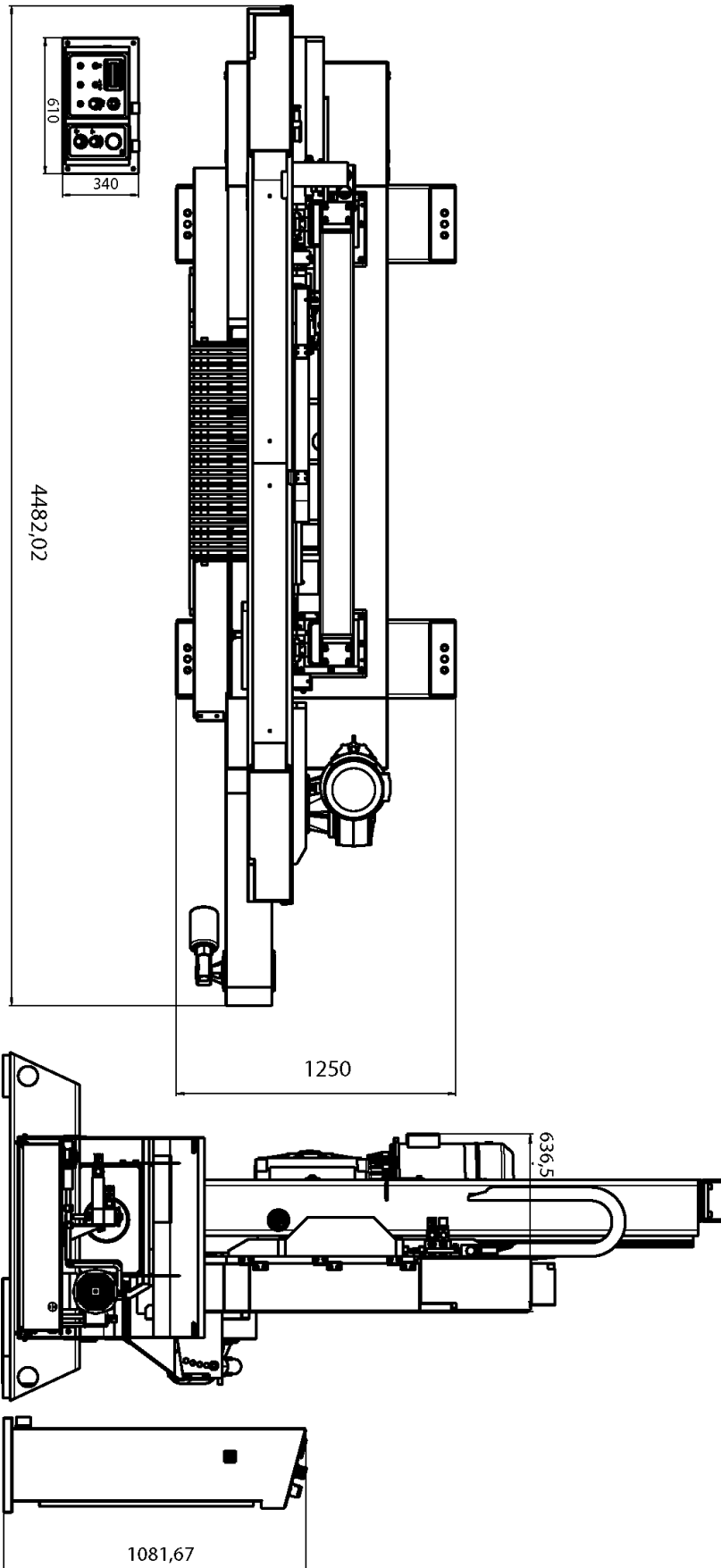
3) Set the brush to the saw band.



21. Rozměrové schéma / Aufstellzeichnung / Installation diagram

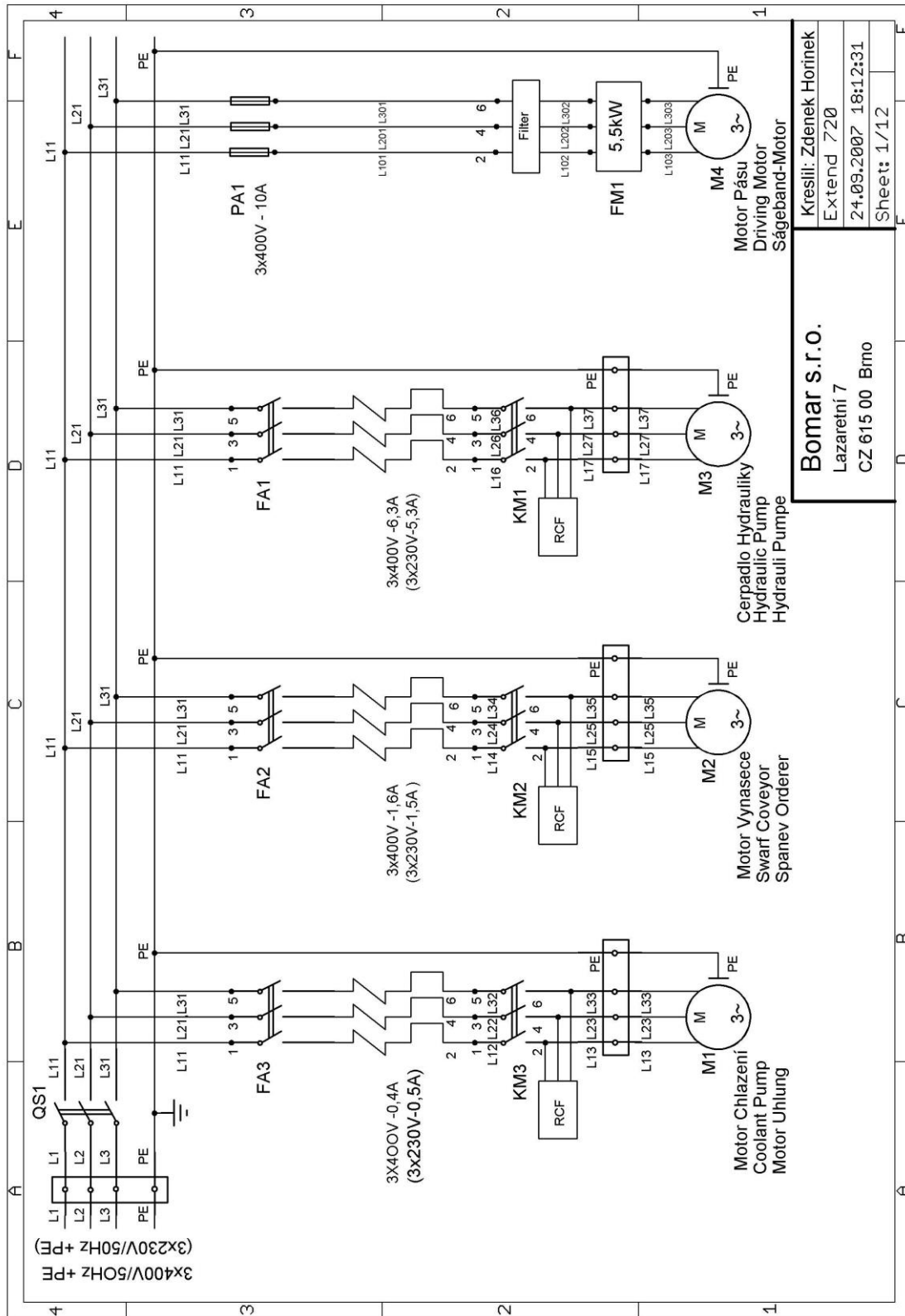


Rozměrové schéma 1 / Aufstellzeichnung 1 / Installation diagram 1

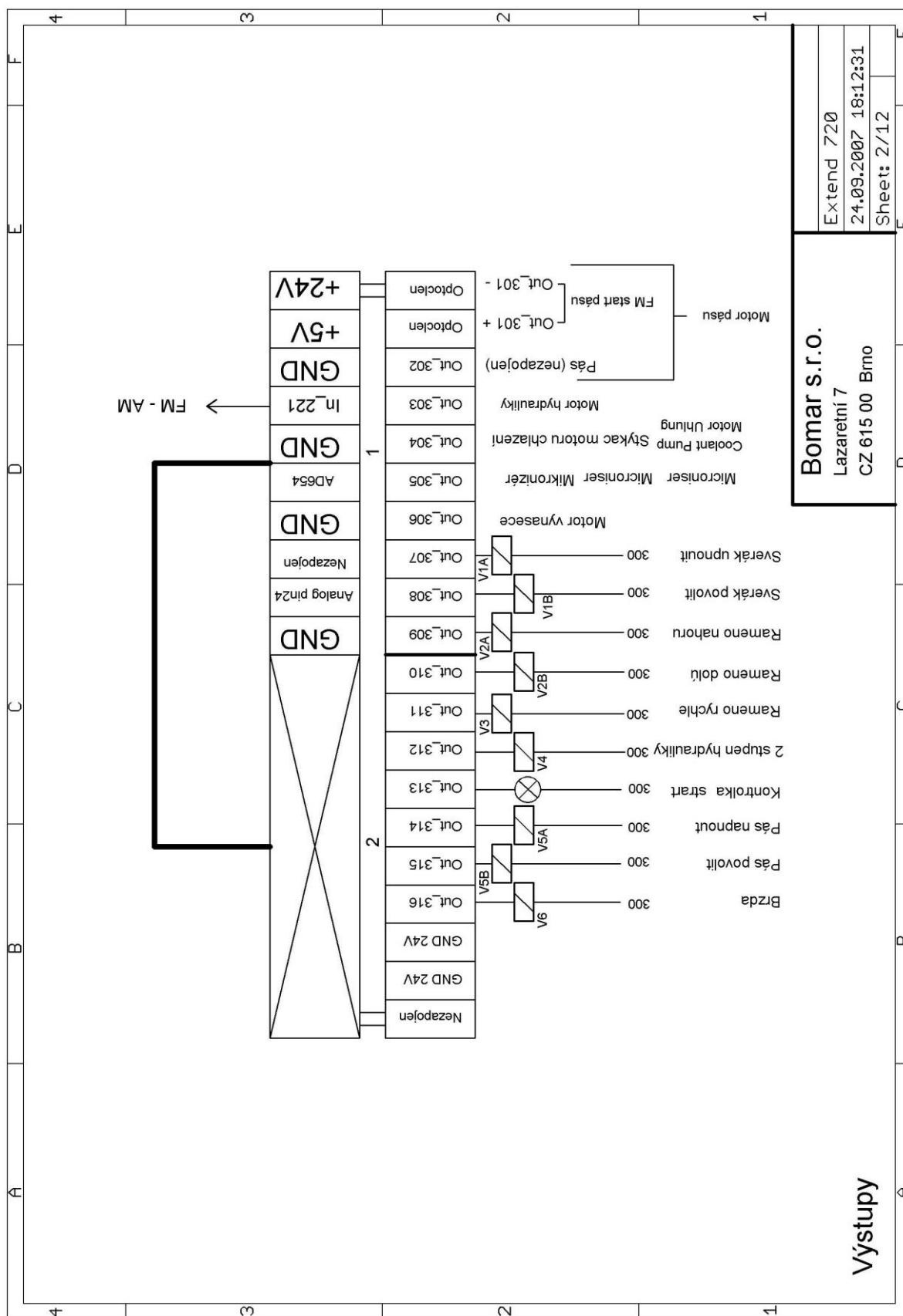


Rozměrové schéma 2 / Aufstellzeichnung 2 / Installation diagram 2

22. Elektrická schémata / Elektroschemas / Wiring diagrams



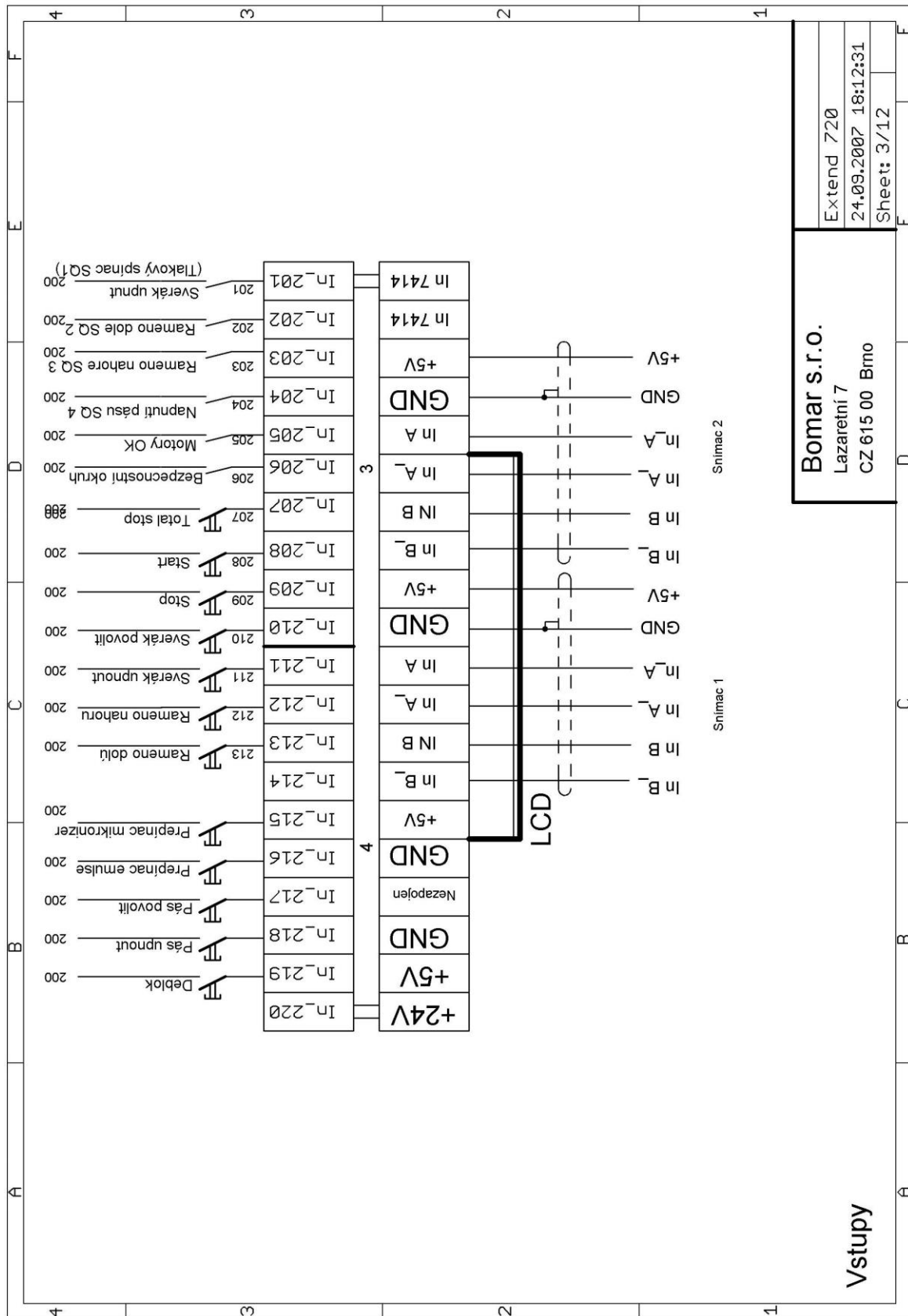
Elektrické schéma / Elektroschema / Wiring diagram 1



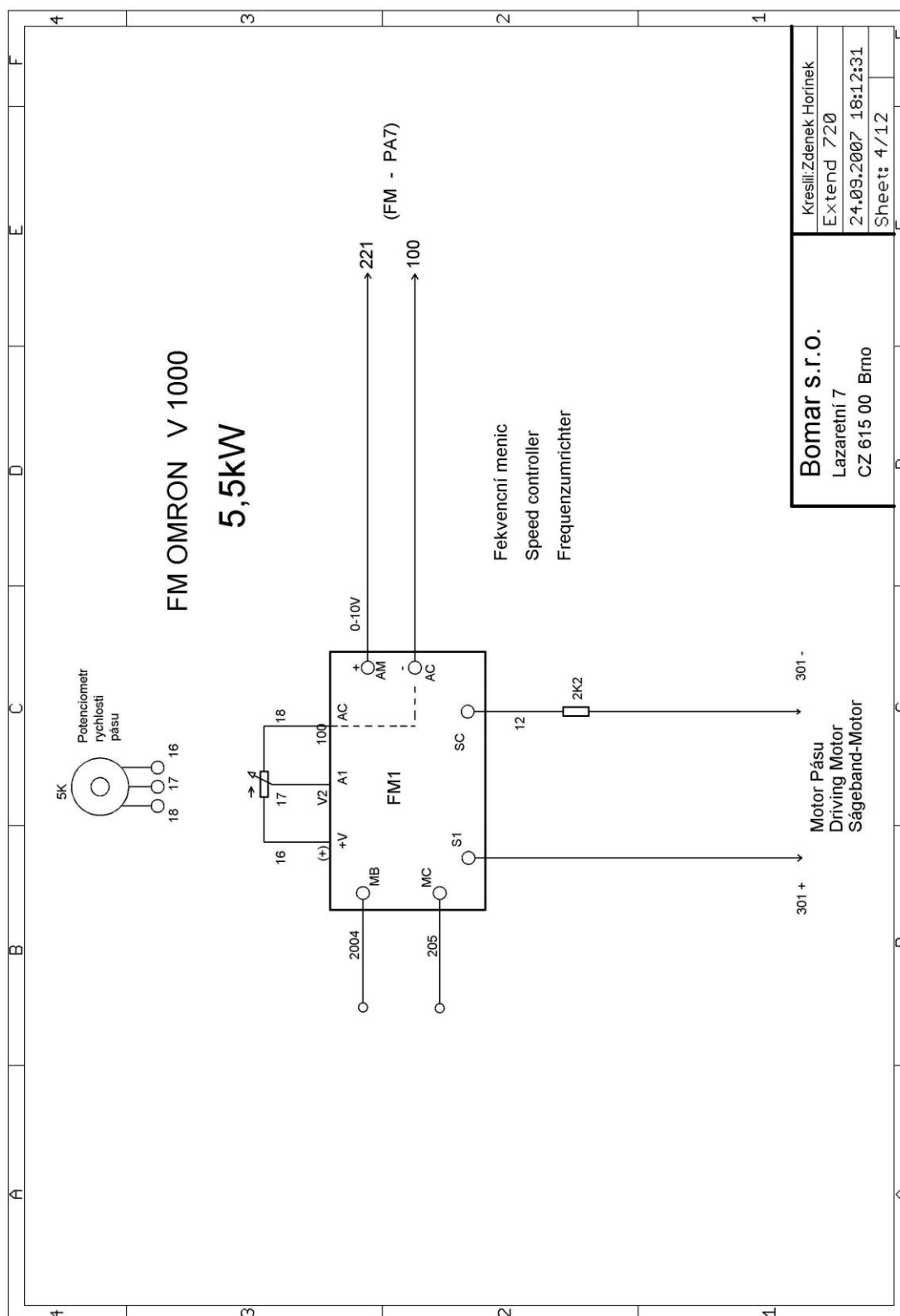
Bomar s.r.o.
 Lazaretní 7
 CZ 615 00 Brno

Extend 720
 24.09.2007 18:12:31
 Sheet: 2/12

Elektrické schéma / Elektroschema / Wiring diagram 2



Elektrické schéma / Elektroschema / Wiring diagram 3


Bomar s.r.o.

Lazaretní 7

CZ 615 00 Bimo

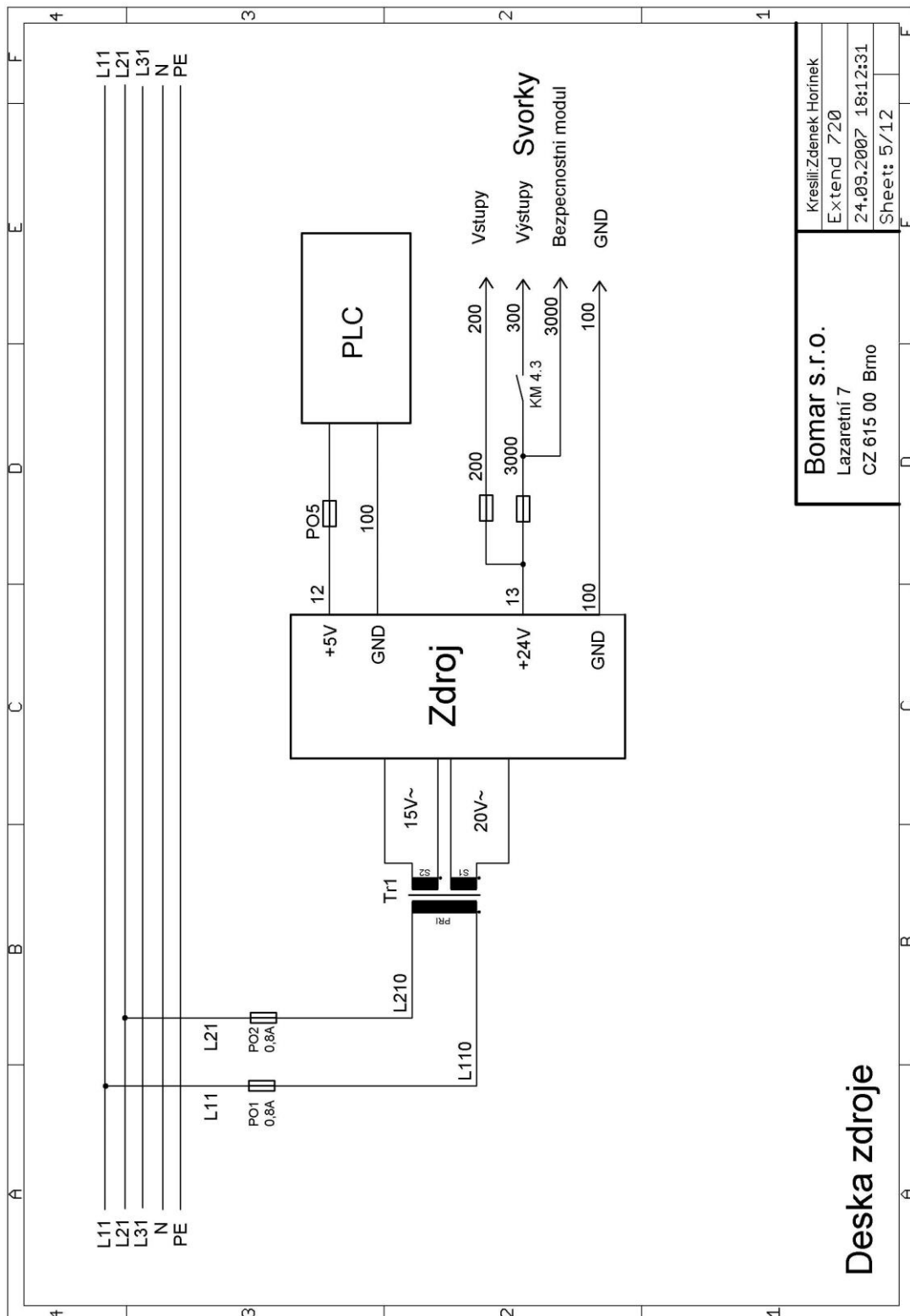
Kreslil: Zdeněk Horánek

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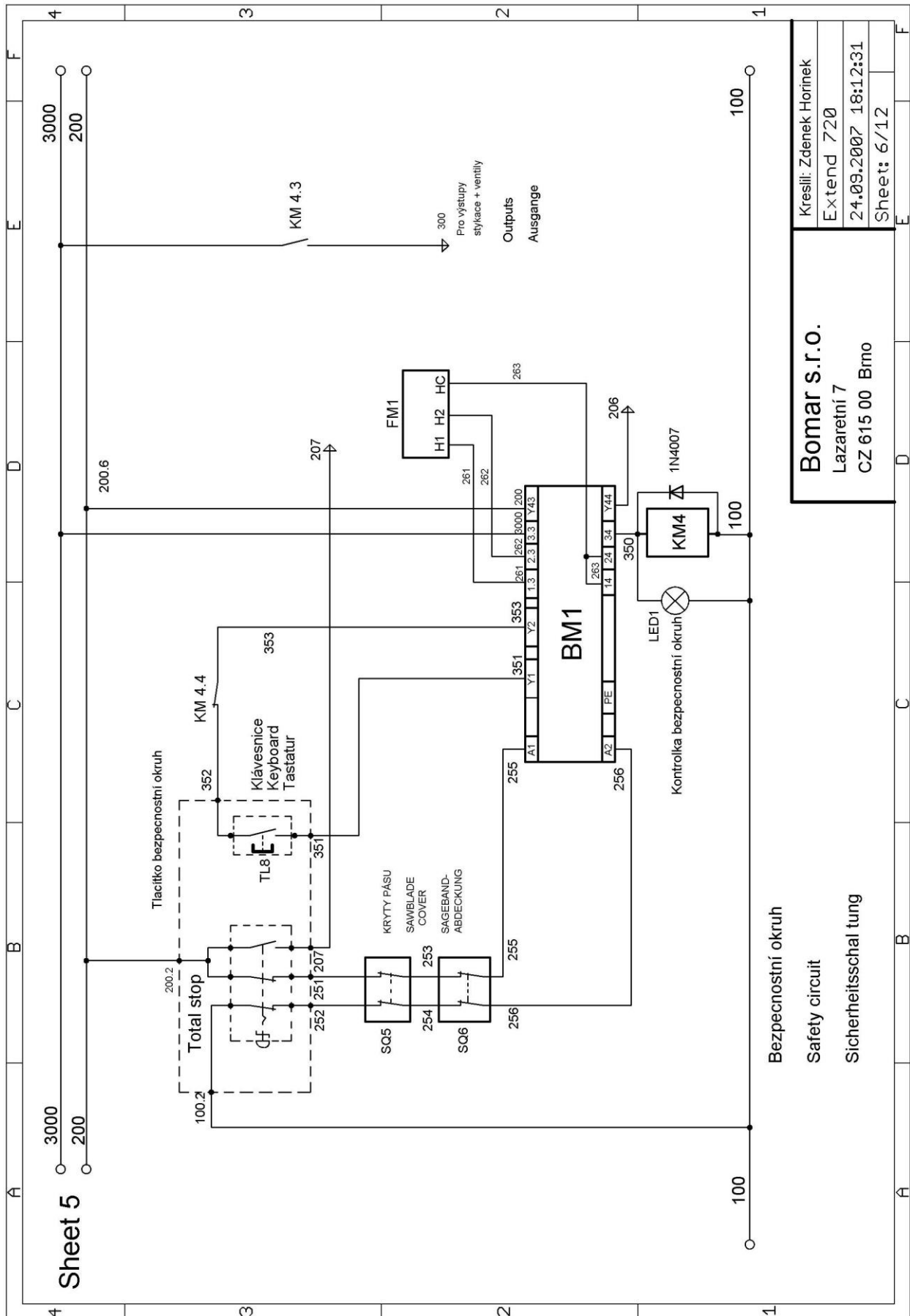
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Sheet: 4/12

Elektrické schéma / Elektroschema / Wiring diagram 4



Elektrické schéma / Elektroschema / Wiring diagram 5

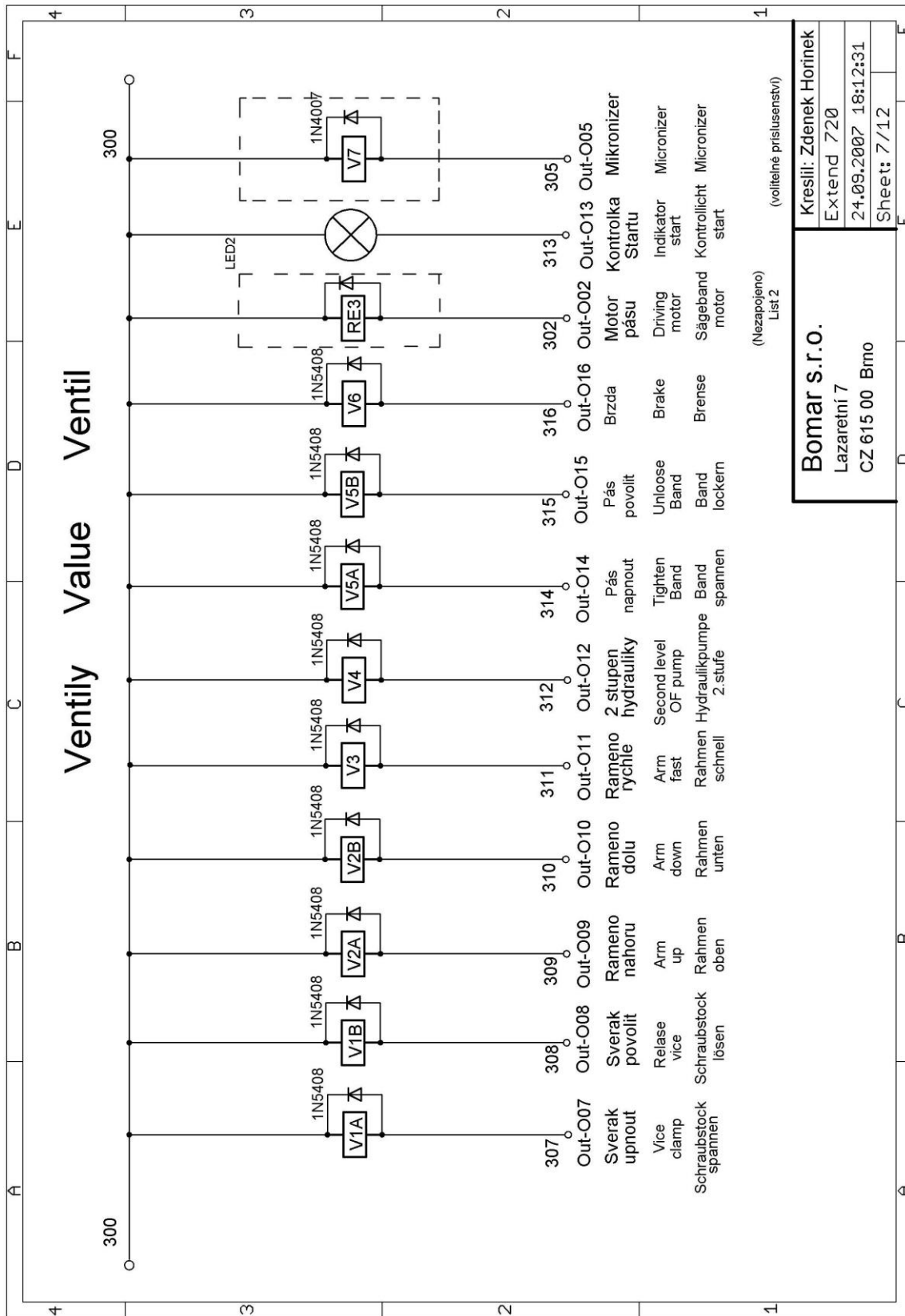


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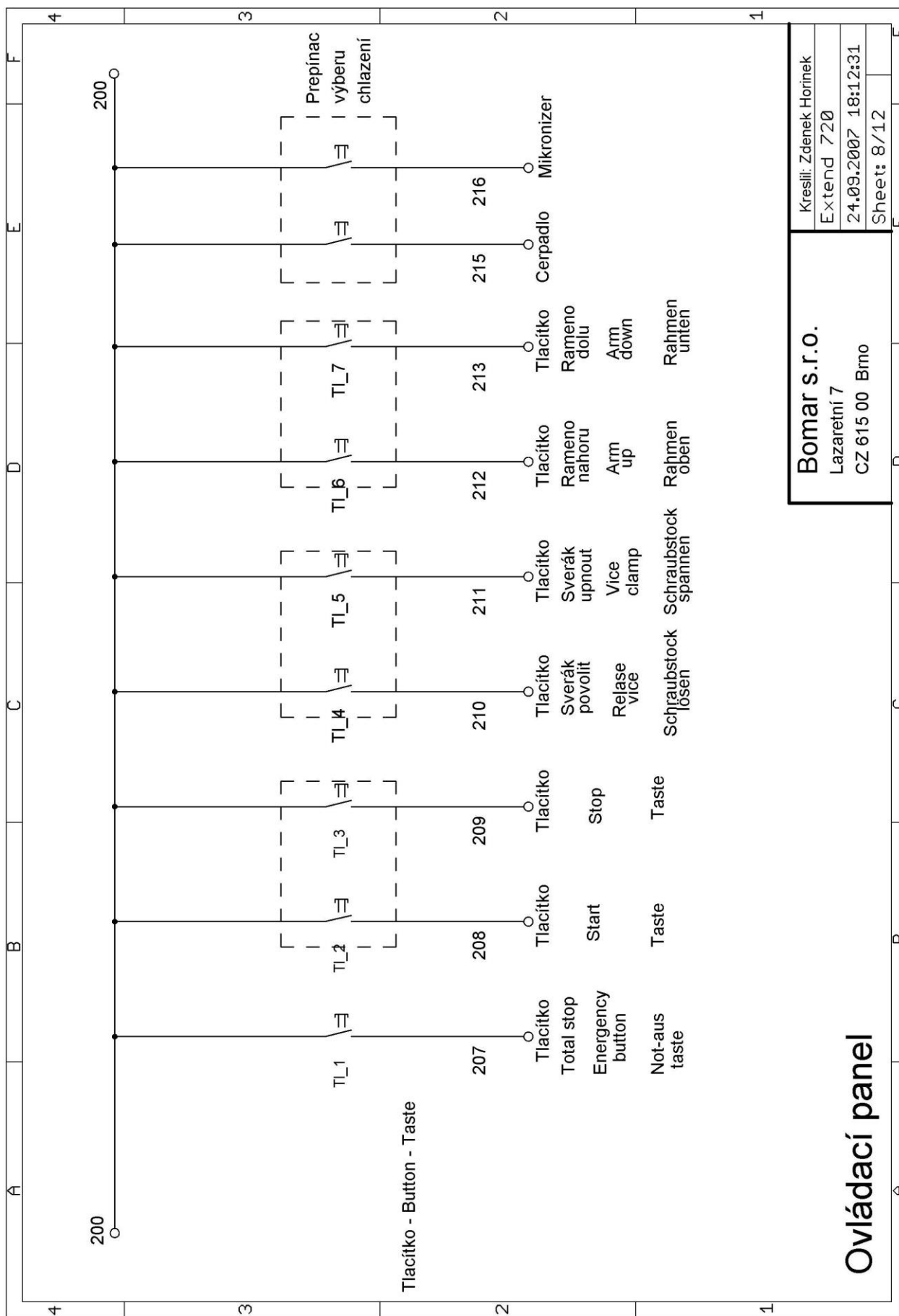
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Sheet: 6/12

Bezpečnostní okruh
Safety circuit
Sicherheitsschaltung

Elektrické schéma / Elektroschema / Wiring diagram 6



Elektrické schéma / Elektroschema / Wiring diagram 7

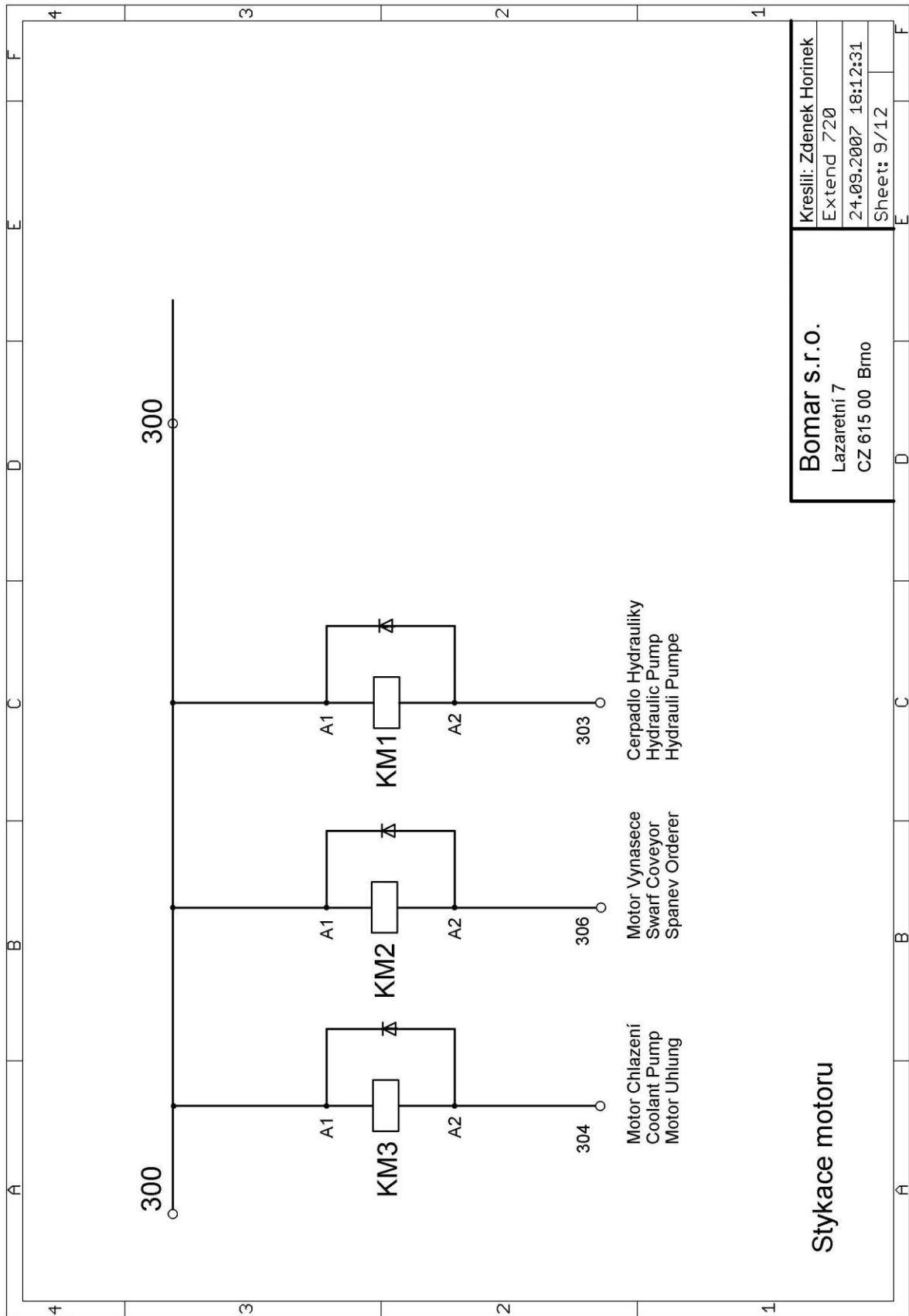


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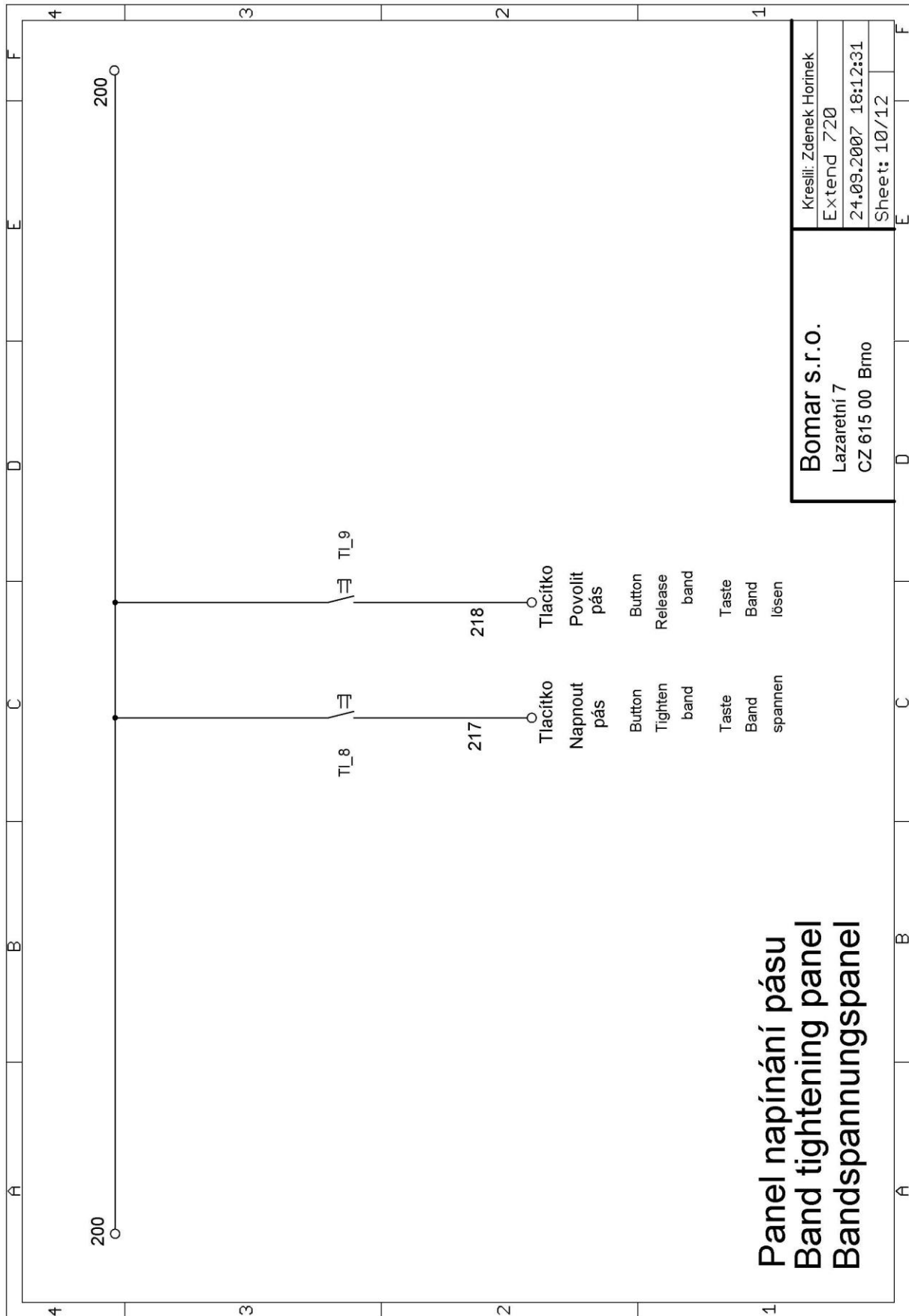
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 Sheet: 8/12

Ovládací panel

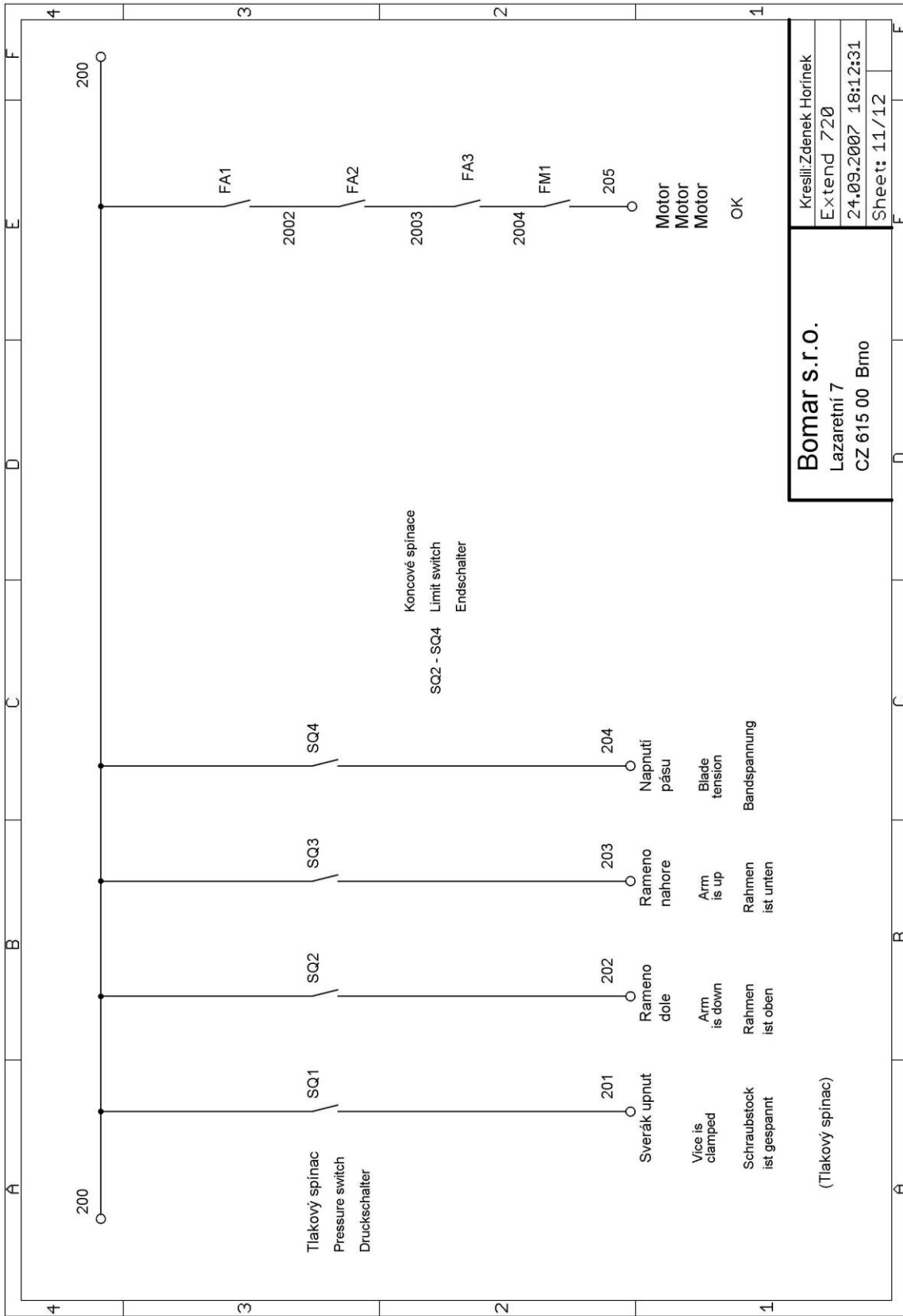
Elektrické schéma / Elektroschema / Wiring diagram 8



Elektrické schéma / Elektroschema / Wiring diagram 9

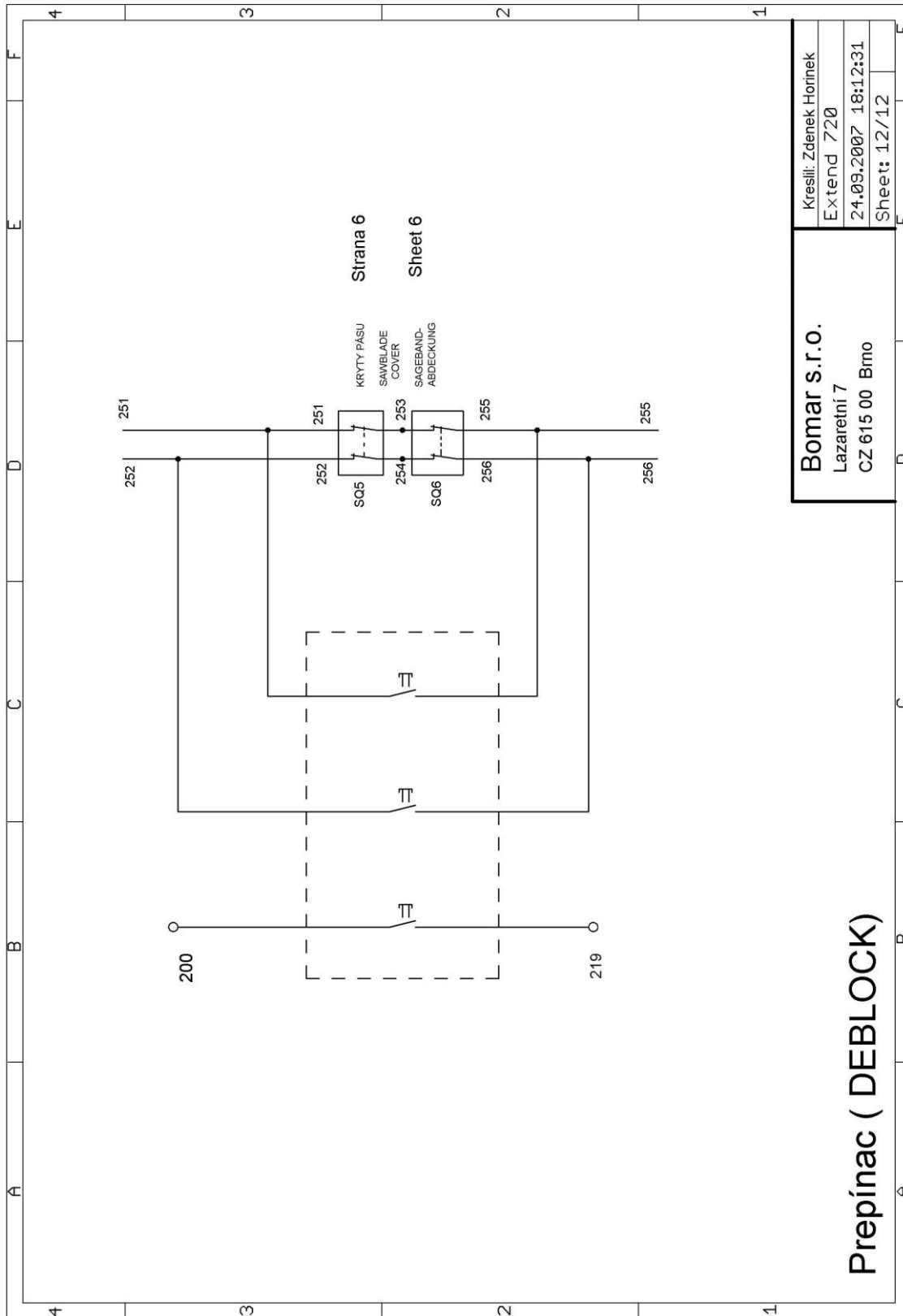


Elektrické schéma / Elektroschema / Wiring diagram 10



| | |
|------------------------|--------------|
| Bomar s.r.o. | |
| Lazaretní 7 | |
| CZ 615 00 Brno | |
| Kreslí: Zdeněk Horánek | Extend 720 |
| 24.09.2007 18:12:31 | Sheet: 11/12 |

Elektrické schéma / Elektroschema / Wiring diagram 11



Elektrické schéma / Elektroschema / Wiring diagram 12

23. Kusovník elektrosoučástí / Stückliste der Elektroteilen / Piece list of electroparts

ATTENTION! Only qualified person can do the servicing and repairs. For parts changing, use only parts, which are identical with the originals.

| Objednáací číslo | Název položky | | Ozn. | Ks |
|------------------|--|-----------------------------|-------|-------|
| Bestell – Nr. | Bezeichnung | | Sign. | Menge |
| Reference No. | Item | | Sign. | Pcs. |
| *91.001.104 | Motor / Motor / Motor | 5,5kW 5,5kW MDERA 112-X2 | 1 | M4 |
| 91.001.070 | Elektromotor / Elektromotor / Electromotor | 7,5kW 1LA7133- 4AA61 | 1 | M4 |
| 91.012.023 | Frekvenční měnič / Frequenzwandler / Frequency convertor | OMRON 5,5kW | 1 | FM |
| 91.012.024 | Filtr / Filter / Filter | A-1000-FIV3030 | 1 | RCF |
| 91.040.024 | Stykač / Schütz / Contactor | 24 VDC | 1 | KM4 |
| 91.040.020 | Stykač / Schütz / Contactor | 24 VDC | 3 | KM1-3 |
| 262.002 | Zástrčka vynašeče / Stecker / Plug | | 1 | KON2 |
| 262.007 | Zásuvka vynašeče / Dose / outlet | | 1 | KON1 |
| 91.041.004 | Filtr / Filter / Filter | FZ72460 | 3 | RCF |
| 91.045.017 | Motorový spouštěč / Motor Starter / Motor Starter | 0,25-0,4A | 1 | FA3 |
| 91.045.005 | Motorový spouštěč / Motor Starter / Motor Starter | 0,63-1A | 1 | FA2 |
| 91.045.010 | Motorový spouštěč / Motor Starter / Motor Starter | 6,3A-10A | 1 | FA1 |
| 91.046.003 | Pomocný kontakt / Hilfskontakt / auxiliary contact | | 3 | FA1-3 |
| 91.052.001 | Bezpeč. modul / Sicher.Modul / Modul | Preventa XPS- AC | 1 | BM1 |
| 91.060.030 | Hlavice TOTAL STOP / NOT-AUS Taste / TOTAL STOP button | M22-PVT 263467 | 1 | TL1 |
| 91.060.034 | Hlavice Start Stop / Start stop/ Taste / button | Moeller | 1 | TL2-3 |
| 91.060.051 | Hlavice 3 polohy/ Knopf 3Lage / Head 3 position | M22-WRK3 | 1 | SB2 |
| 91.060.037 | Hlavice 2 polohy Deblock / Knopf 2Lage / Head 2 position | Moeller | 1 | |
| 91.060.053 | Tlačítko žluté / Taste gelb / yellow button | Moeller | 1 | |
| 91.060.054 | Hlavice šipka nahoru dolů / Knopf Pfeile oben unten / head-down – arrow,up.arrow | M22-DDL-WS | 1 | |
| 91.060.055 | Hlavice svěrák otevřít-zavřít / Knopf- Schraubstock auf-zu / head- vice on -off | M22-DDL-W-S | 1 | |
| 91.061.023 | Kontrolka zelená / Kontrollampe- grün / controll lamp-green | M22-LED-G | 1 | .LED2 |
| 91.061.034 | Kontrolka bílá / Kontrollampe- weiß / controll lamp-white | | 1 | .LED1 |
| 91.080.026 | Transformator / Transformator / Transformator | 400V/20V/15V | 1 | TR1 |
| 91.170.020 | Hl.vypínač+ovladač / Hauptschalter+ Steller/Control switch+driver | VCF1 | 1 | QS1 |
| 91.173.007 | Koncový spínač / Endschalter / Limit switch | FR 601-MO2 | 1 | SQ2 |

| | | | | |
|-------------|--|-------------------|---|-------------|
| 91.173.008 | Koncový spínač / Endschalter / Limit switch | FR-602-MO2 | 2 | SQ3,S Q4 |
| 91.173.012 | Koncový spínač / Endschalter / Limit switch | QKS8-KEDU | 2 | SQ5,S Q6 |
| 91.173.018 | Koncový spínač / Endschalter / Limit switch | FR 555-MO2 | 1 | SQ7 |
| 91.231.004 | Pojistka keramická/ Sicherung / fuse | 10x38,16A/500V | 3 | |
| 91.241.002 | Pojistkový odpínač / Lasttrennschalter / switch- disconnecter-fuse | OPV 10/3 | 1 | PA1 |
| 91.251.102 | Pojistkové pouzdro /Sicherungsbüchse / fuse bush | | 6 | PO1-6 |
| 91.283.002* | Potenciometr / Potentiometer / Potentiometer | 10k/N | 1 | Pot1 |
| 91.020.009 | Čerpadlo chlazení / Kühlmittelpumpe / Coolant pump | 2COP1-14 (POM) | 1 | M1 |
| 91.061.021 | Adapter / Adapter / Adapter | | 7 | |
| 91.061.022 | Spínací kontakt / Schaltkontakt / Switching contact | Moeller-M22-K10 | 5 | |
| 91.280.003 | Dioda / Diode / diode | 3A | 6 | |
| 91.280.004 | Dioda / Diode / diode | 1A | 5 | |

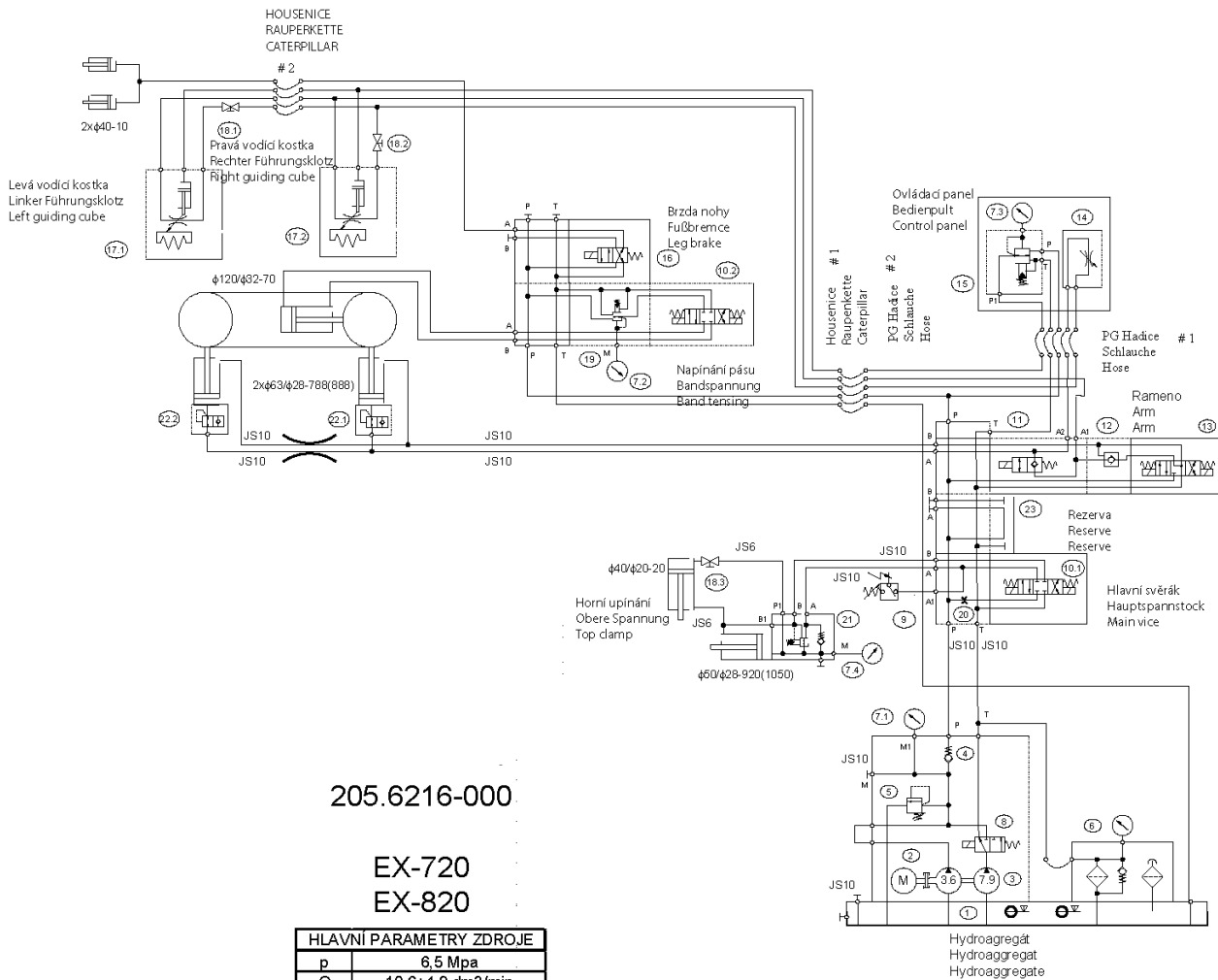
*Change:

| | | | | |
|-------------|---|--|--|--|
| *91.001.104 | Motor / Motor / Motor - since serial number 18 | | | |
|-------------|---|--|--|--|

*compensation

| | | | | |
|------------|---|-----|---|------|
| 91.283.015 | Potenciometr / Potentiometer Potentiometer | 4k7 | 1 | Pot1 |
|------------|---|-----|---|------|

24. Hydraulické schéma / Hydraulikschema / Hydraulic diagram



Hydraulické schéma / Hydraulikschema / Hydraulic diagram

| Poz. | Název položky | | ks |
|------|--|--------------------------------------|-------|
| Pos. | Bezeichnung | | Menge |
| Pos. | Item | | Pcs. |
| 1 | Nádrž / Behälter / Tank | N30-B0 30dm3 | 1 |
| 2 | Elektromotor / Elektromotor / Electromotor | MA-AL100L 2,2kW 400/230V 50Hz | 1 |
| 3 | Hydrogenerátor / Hydraulikgenerator / Hydrogenerator | P23-7,9/3,6L.65334 7,9/3,6 cm3/ot | 1 |
| 4 | Jednosměrný ventil / Einwegventil / One-way valve | VJ01-06/SG-1 | 1 |
| 5 | Přepouštěcí ventil / Bypašventil / By pass valve | VPP2-04/S-10 | 1 |
| 6 | Zpětný filtr / Filter / Filter | FR 043-166/0 | 1 |
| 7 | Manometr / Manometer / Manometer | Ø68 0-10 MPa | 4(3) |
| 8 | Rozváděč / Schaltschrank / Switchboard | R0X1- 042D21/02400E1K1 | 1 |
| 9 | Tlakový spínač / Druckschalter / Pressure switch 92.201.001 | SUCO 166 411 031 043 | 1 |
| 10 | Rozváděč / Schaltschrank / Switchboard | RPE3- 043Y11/02400E1K1 | 2 |
| 11 | Blok rychloposuvu / Eilgangsblock / Speed shift block | 729-0084 | 1 |
| 12 | Hydraulický zámek / Hydraulisches Schloß / Hydraulic lock | VJR1-04/MA | 1 |
| 13 | Rozváděč / Schaltschrank / Switchboard | RPE3- 43Y11/02400E1K1 | 1 |
| 14 | Škrťací ventil / Reduktionsventil / Control valve | VSO1-04/R2,5 | 1 |
| 15 | Redukční ventil / Reduktionsventil / Control valve | VRN2-06/S-6R | 1 |
| 16 | Rozváděč / Schaltschrank / Switchboard | RPE3- 042R11/02400E1K1 | 1 |
| 17 | Kostka regulace / Regulationsklotz / Regulation cube | 201.6816-100 | 2 |
| 18 | Kulový ventil / Kugelventil / Globe valve | 99.260.004 | 3(2) |
| 19 | Redukční ventil / Reduktionsventil / Control valve | VRN2-06/MP- 10R | 1 |
| 20 | Clona / Blende / Shade | | 1(0) |
| 21 | Redukční ventil / Reduktionsventil / Control valve | VPNH 1/4 | 1(0) |
| 22 | Pojistný ventil / Schutzventil / Safety - valve | | 2 |
| 23 | Krycí deska / Abdeckplatte / cover plate | DK1-06/32-3 | 1 |

Označení hydraulických hadiček / Bezeichnung der hydraulischen Schlauche /Indication of hydraulic hose:

| Hydr. hadice | Hadice | Kování | Konc. A | Konc. B | Konc. C | Konc. D | Konc. E | Konc. F | Konc. G | Ks |
|-----------------|------------|------------|----------------|------------|---------|------------|---------|---------|---------|-------|
| Hydr. Schlauche | Schlauche | Schmieden | Schlauchtüle A | B | C | D | E | F | G | Menge |
| Hydr. Hose | hose | forging | terminal A | B | C | D | E | F | G | piece |
| 10AD2700 | 42.003.001 | 92.051.003 | 92.052.002 | - | - | 92.053.003 | - | - | - | 2 |
| 10AA2600 | 42.003.001 | 92.051.003 | 92.052.002 | - | - | - | - | - | - | 2 |
| 10AD500 | 42.003.001 | 92.051.003 | 92.052.002 | - | - | 92.053.003 | - | - | - | 2 |
| 10BB350 | 42.003.001 | 92.051.003 | - | 92.053.002 | - | - | - | - | - | 1 |
| 10BB500 | 42.003.001 | 92.051.003 | - | 92.053.002 | - | - | - | - | - | 1 |
| 10BB700 | 42.003.001 | 92.051.003 | - | 92.053.002 | - | - | - | - | - | 1 |
| 6BD6400 | 42.001.001 | 92.051.001 | - | 92.053.001 | - | 92.053.004 | - | - | - | 1 |
| 6BD6250 | 42.001.001 | 92.051.001 | - | 92.053.001 | - | 92.053.004 | - | - | - | 2 |
| 6BA760 | 42.001.001 | 92.051.001 | 92.052.001 | 92.053.001 | - | - | - | - | - | 1 |
| 6AA9350 | 42.001.001 | 92.051.001 | 92.052.001 | - | - | - | - | - | - | 1 |
| 6AD3900 | 42.001.001 | 92.051.001 | 92.052.001 | - | - | 92.053.004 | - | - | - | 1 |

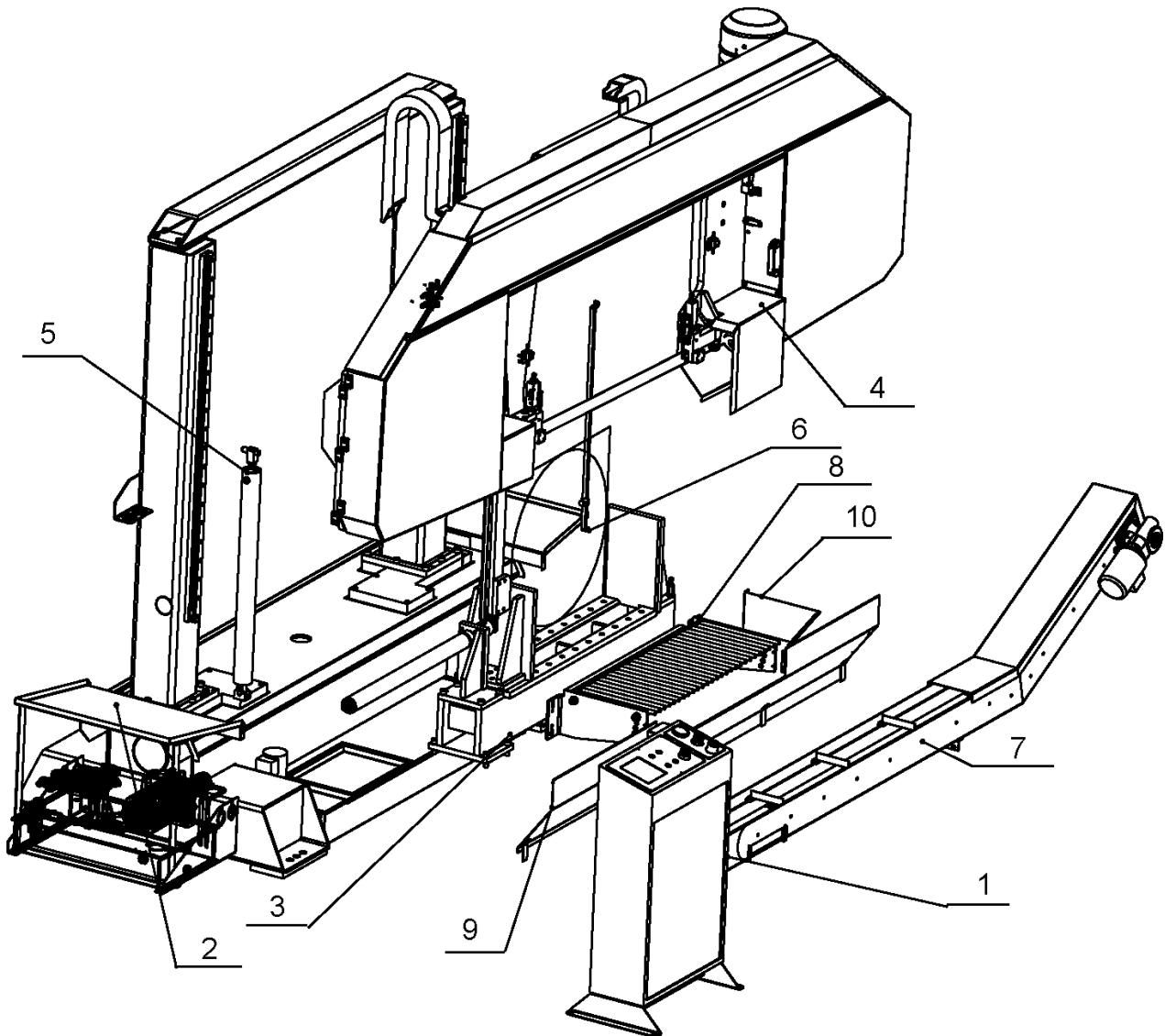
| | | | | | | | | | | |
|---------|------------|------------|------------|------------|---|---|---|---|---|---|
| 6AB4000 | 42.001.001 | 92.051.001 | 92.052.001 | 92.053.001 | - | - | - | - | - | 1 |
| 6AB5850 | 42.001.001 | 92.051.001 | 92.052.001 | 92.053.001 | - | - | - | - | - | 1 |
| 6AA1950 | 42.001.001 | 92.051.001 | 92.052.001 | - | - | - | - | - | - | 3 |
| 6AA300 | 42.001.001 | 92.051.001 | 92.052.001 | - | - | - | - | - | - | 1 |
| 3AA2100 | 42.004.001 | 92.051.004 | 92.052.003 | - | - | - | - | - | - | 1 |
| 3AA6050 | 42.004.001 | 92.051.004 | 92.052.003 | - | - | - | - | - | - | 1 |
| 3AA6250 | 42.004.001 | 92.051.004 | 92.052.003 | - | - | - | - | - | - | 1 |
| 3AA9350 | 42.004.001 | 92.051.004 | 92.052.003 | - | - | - | - | - | - | 1 |

25. 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. STG 120), výrobní číslo (např. 125) a rok výroby (např. 1999).

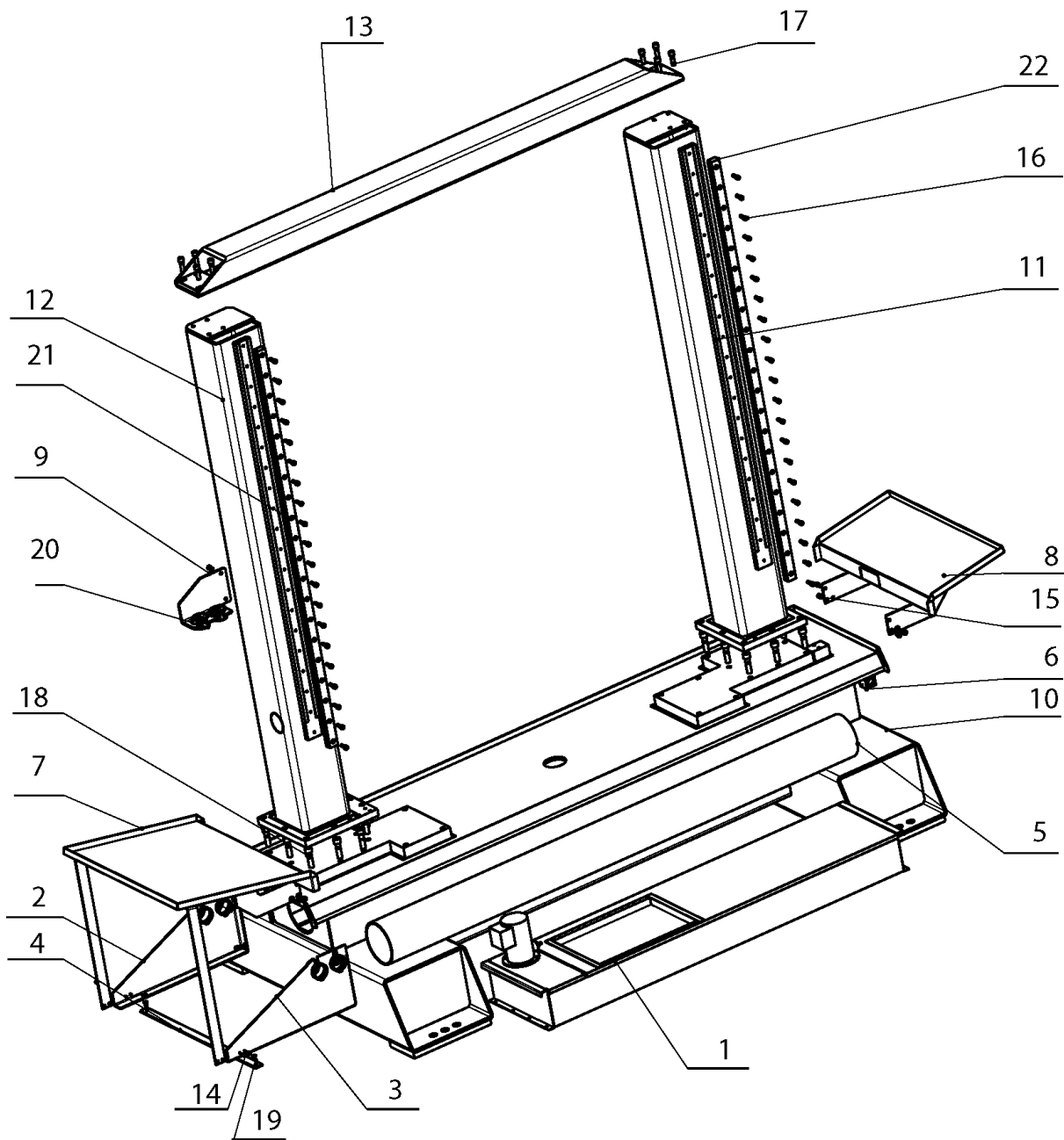
In die Bestellung der Ersatzteile führen Sie immer an:
Maschinentyp (z. B. STG 120), Serien Nr. (z. B. 125) und
Baujahr (z. B. 1999).

For spare parts order, you must always to allege: type of
machine (for example STG 120), serial number (for example 125)
and year of construction (for example 1999).



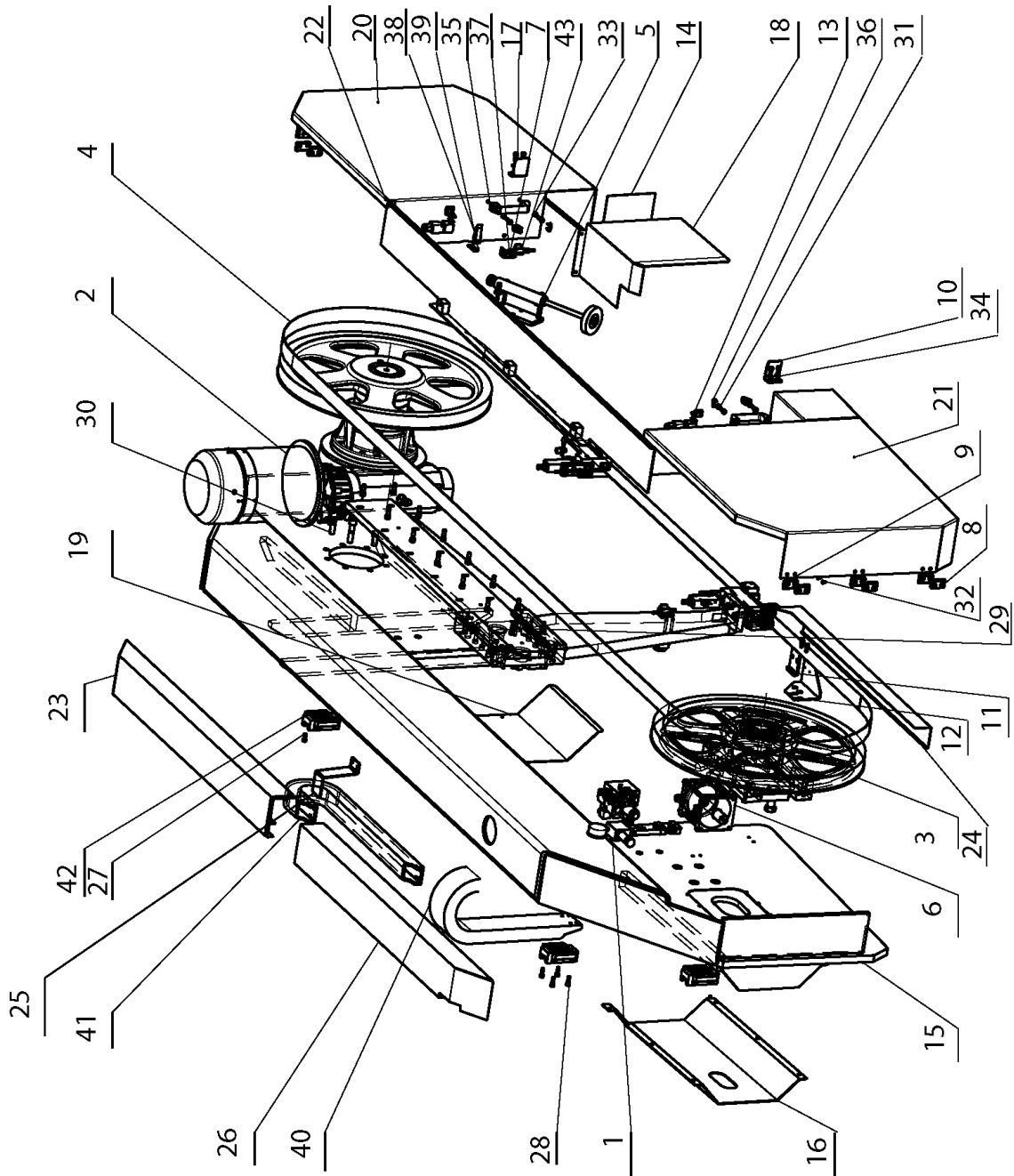
25.1. Pásová pila / Bandsäge / Band saw

| Poz. | Objednací číslo | Název položky | ks |
|------|-----------------|---|-------|
| Pos. | Bestell - Nr. | Bezeichnung | Menge |
| Pos. | Reference No. | Item | Pcs. |
| 1 | 201.6130-100 | Rozvaděč / Schaltschrank / Switchboard | 1 |
| 2 | 201.6201-100 | Podstavec / Untergestell / Pedestal | 1 |
| 3 | 201.6203-100 | Svěrák / Schraubstock / Vice | 1 |
| 4 | 201.6204-100 | Rameno / Arm / Arm | 1 |
| 5 | 201.6207-500 | Válec zvedací / Hebezyylinder / Lifting cylinder | 2 |
| 6 | 201.6214-020 | Odměrování ramene / Rahmenabmesung / Admeasurement of arm | 1 |
| 7 | 201.6217-100 | Třískový vynašeč / Spanaustrager / Swarf conveyor | 1 |
| 8 | 201.6218-100 | Rošt / Gitter / Hake | 1 |
| 9 | 30.6114-154 | Kryt / Deckel / Cover | 1 |
| 10 | 30.6214-156 | Kryt / Deckel / Cover | 1 |



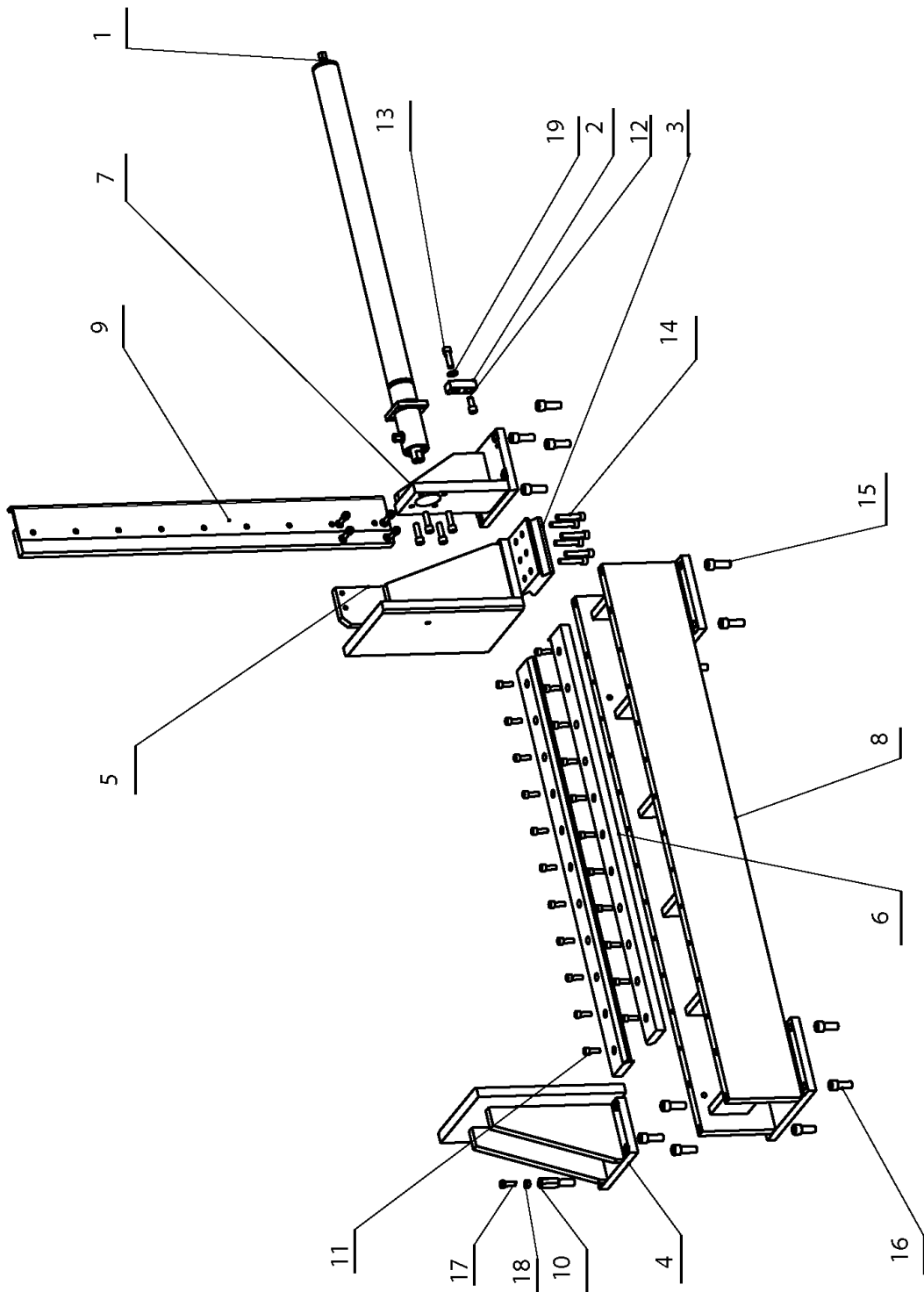
25.2. Podstavec / Untergestell / Pedestal

| Poz. | Objednací číslo | Název položky | | ks |
|------|-----------------|---|---------------------|-------|
| Pos. | Bestell - Nr. | Bezeichnung | | Menge |
| Pos. | Reference No. | Item | | Pcs. |
| 1 | 201.6206-100 | Chlazení / Kühlung / Cooling | | 1 |
| 2 | 30.6101-105 | Držák / Halter / Holder | | 1 |
| 3 | 30.6101-106 | Držák / Halter / Holder | | 1 |
| 4 | 30.6101-108 | Vzpěra | | 1 |
| 5 | 30.6101-109 | Trubka | | 1 |
| 6 | 30.6110-111 | Držák / Halter / Holder | | 1 |
| 7 | 30.6114-131 | Kryt / Deckel / Cover | | 1 |
| 8 | 30.6114-134 | Kryt / Deckel / Cover | | 1 |
| 9 | 30.6114-136 | Držák / Halter / Holder | | 1 |
| 10 | 30.6201-101 | Podstavec / Untergestell / Pedestal | | 1 |
| 11 | 30.6201-102 | Sloup / Säule / Pillar | | 1 |
| 12 | 30.6201-103 | Sloup / Säule / Pillar | | 1 |
| 13 | 30.6201-104 | Nosník / Stütze / Support | | 1 |
| 14 | 90.001.25.016 | Šroub / Schraube / Screw | 6x12 DIN 912 8,8 | 4 |
| 15 | 90.001.25.031 | Šroub / Schraube / Screw | 8x25 DIN 912 | 10 |
| 16 | 90.001.25.033 | Šroub / Schraube / Screw | 8x25 DIN 912 8,8 | 41 |
| 17 | 90.001.25.060 | Šroub / Schraube / Screw | M12x40 DIN 912 | 8 |
| 18 | 90.001.25.092 | Šroub / Schraube / Screw | M16x60 DIN 912 | 18 |
| 19 | 90.011.27.012 | Šroub zápusťný/ Countersunk screw / Senkschraube | M8x16 | 6 |
| 20 | 95.800.019 | Pojistný kroužek / Sicherungsring / Retaining ring | | 12 |
| 21 | 99.200.070 | Vedení lineární / Führung / Linear guiding | HGR35R-1560 | 1 |
| 22 | 99.200.072 | Vedení lineární / Führung / Linear guiding | HGR35R-1650 | 1 |



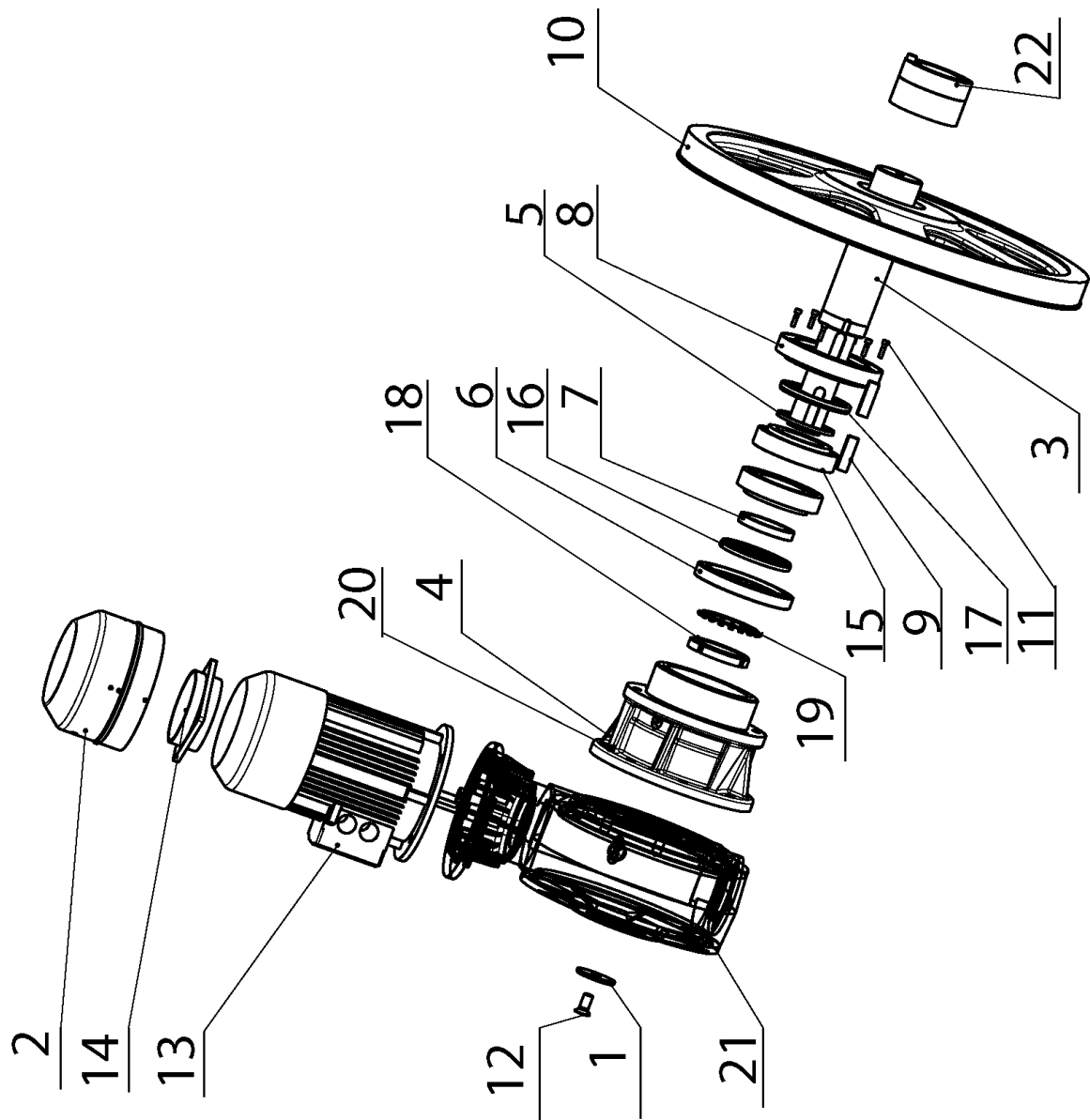
25.3. Rameno / Arm / Arm

| Poz. | Objednací číslo | Název položky | | ks |
|------|-----------------|---|-----------------------|-------|
| Pos. | Bestell - Nr. | Bezeichnung | | Menge |
| Pos. | Reference No. | Item | | Pcs. |
| 1 | 201.2115-200 | Regulace tlaku svěráku /Spandruckregulierung/Vice pressure regulation | | 1 |
| 2 | 201.6205-100 | Pohon / Antrieb / Drive | | 1 |
| 3 | 201.6208-100 | Napínání / Spannung / Stretching | | 1 |
| 4 | 201.6210-050 | Vedení pásu / Bandführung / Band guiding | | 1 |
| 5 | 201.6214-250 | Kartáček / Bürste / Brush | | 1 |
| 6 | 201.6707-400 | Válec napínání / Zylinder / Cylinder | | 1 |
| 7 | 30.1814-011 | Držák ventilu / Ventilhalter / Valve holder | | 1 |
| 8 | 30.6014-109 | Pant / Türband / Hinge | | 6 |
| 9 | 30.6014-110 | Deska / Platte / Plate | | 6 |
| 10 | 30.6114-123 | Podpěra / Stütze / Support | | 1 |
| 11 | 30.6114-124 | Podpěra / Stütze / Support | | 1 |
| 12 | 30.6114-146 | Držák kluzáku / Prismahalter /Glider holder/ | | 1 |
| 13 | 30.6114-147 | Držák / Halter / Holder | | 2 |
| 14 | 30.6114-160 | Clona / Schürze / Shield | | 1 |
| 15 | 30.6204-101 | Rameno / Arm / Arm | | 1 |
| 16 | 30.6214-119 | Kryt / Deckel / Cover | | 1 |
| 17 | 30.6214-124 | Kluzák / Prisma / Glider | | 1 |
| 18 | 30.6214-125 | Kryt / Deckel / Cover | | 1 |
| 19 | 30.6214-128 | Kryt / Deckel / Cover | | 1 |
| 20 | 30.6214-131 | Dveře 1 / Tür / Door | | 1 |
| 21 | 30.6214-132 | Dveře / Tür / Door | | 1 |
| 22 | 30.6214-133 | Kryt / Deckel / Cover | | 1 |
| 23 | 30.6214-135 | Kryt energií 1/ Energiedeckel / Cover leading | | 1 |
| 24 | 30.6214-136 | Kryt pásu / Banddeckel / Band cover | | 1 |
| 25 | 30.6214-139 | Držák / Halter / Holder | | 1 |
| 26 | 30.6214-140 | Plech krytu 2/ Deckelblech / Metal plate cover | | 1 |
| 27 | 90.001.25.032 | Šroub / Schraube / Screw | 8x20 DIN 912 8,8 | 22 |
| 28 | 90.001.25.033 | Šroub / Schraube / Screw | 8x25 DIN 912 8,8 | 4 |
| 29 | 90.001.25.048 | Šroub / Schraube / Screw | M10x30 DIN 912 8,8 | 14 |
| 30 | 90.001.25.093 | Šroub / Schraube / Screw | | 8 |
| 31 | 90.005.55.007 | šroub se šestihrannou hlavou / Sechskantschraube / Hex head screw | M8x28 | 4 |
| 32 | 90.011.27.005 | Šroub zápuštný/ Countersunk screw / Senkschraube | M6x12 | 2 |
| 33 | 90.100.55.005 | Matice / Mutter / Nut | M8 DIN 934 | 4 |
| 34 | 90.150.50.005 | Podložka / Scheibe / Washer | d8,4 DIN 125 | 10 |
| 35 | 94.012.001 | Rukojeť / Griff / Handle | | 2 |
| 36 | 94.012.002 | Kryt / Deckel / Cover | | 4 |
| 37 | 94.202.002 | Redukce / Reduktion / Reduction | G1/4-6 | 2 |
| 38 | 99.100.003 | Pant / Türband / Hinge | | 2 |
| 39 | 99.100.004 | Pant / Türband / Hinge | D13-00 | 2 |
| 40 | 99.170.001 | Řetěz energii / Kabelschlepper / Cable tug | 36x75/R-100 | 1 |
| 41 | 99.170.021 | Řetěz energii / Kabelschlepper / Cable tug | 6204 | 1 |
| 42 | 99.201.011 | Vozík / Wagen / Carriage | HGW35CC | 4 |
| 43 | 99.260.003 | Ventil kulovy / Kugelventil / Ball valve | .1/4 | 1 |



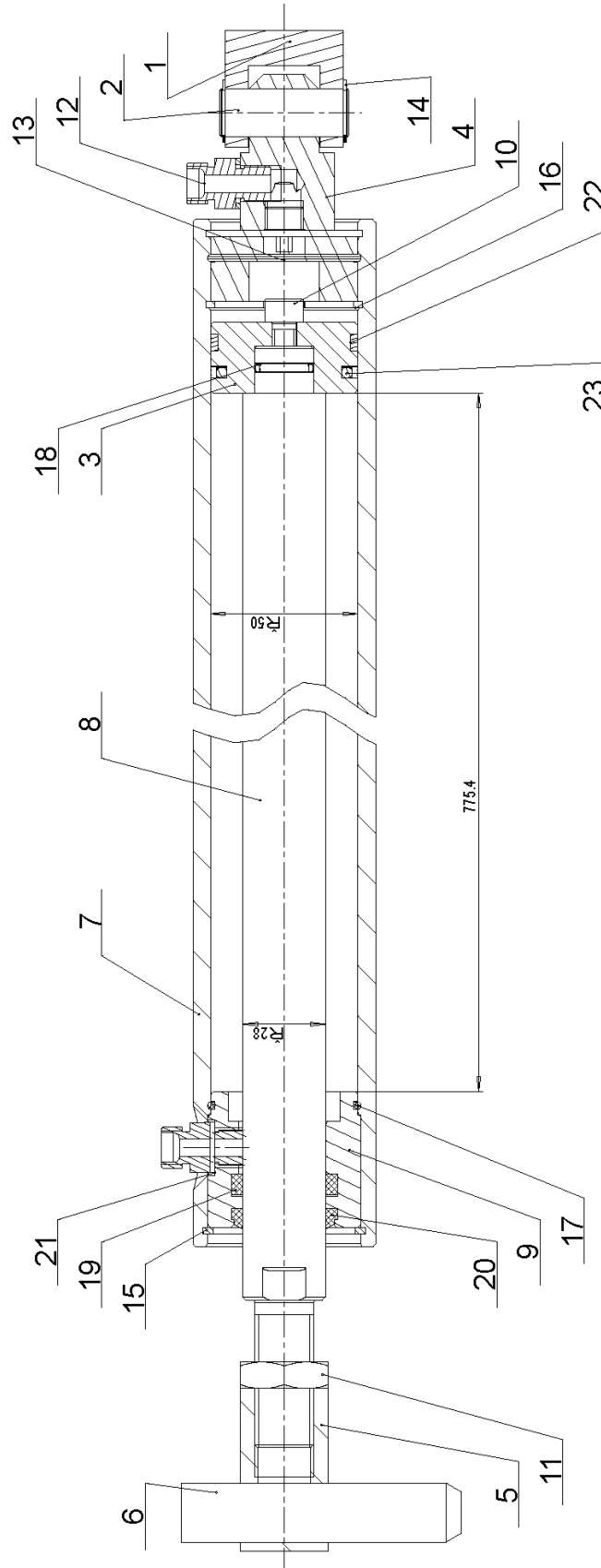
25.4. Svěrák / Schraubstock / Vice

| Poz. | Objednáací číslo | Název položky | | ks |
|------|------------------|--|-----------------------|-------|
| Pos. | Bestell - Nr. | Bezeichnung | | Menge |
| Pos. | Reference No. | Item | | Pcs. |
| 1 | 201.6207-100 | Válec / Zylinder / Cylinder | | 1 |
| 2 | 30.6103-005 | Držák / Halter / Holder | | 1 |
| 3 | 30.6103-105 | Kostka / Würfel / Cube | | 1 |
| 4 | 30.6203-001 | Čelist pevná / Feste Backe / Fixed jaw | | 1 |
| 5 | 30.6203-102 | Čelist pohyblivá / Bewegliche Backe / Movable jaw | | 1 |
| 6 | 30.6203-104 | Lišta / Leiste / Listel | | 2 |
| 7 | 30.6203-108 | Konzola / Konsole / Console | | 1 |
| 8 | 30.6203-109 | Podstavec / Untergestell / Pedestal | | 1 |
| 9 | 30.6203-110 | Lišta / Leiste / Listel | | 1 |
| 10 | 30.6203-111 | Doraz / Anschlag / Length stop | | 1 |
| 11 | 90.001.25.048 | Šroub / Schraube / Screw | M10x30 DIN 912 | 26 |
| 12 | 90.001.25.057 | Šroub / Schraube / Screw | M12x25 DIN 912 | 1 |
| 13 | 90.001.25.060 | Šroub / Schraube / Screw | M12x40 DIN 912 | 5 |
| 14 | 90.001.25.063 | Šroub / Schraube / Screw | M12x60 DIN 912 8,8 | 6 |
| 15 | 90.001.25.074 | Šroub / Schraube / Screw | M16x45DIN 912 8,8 | 12 |
| 16 | 90.001.25.086 | Šroub / Schraube / Screw | M16x40 DIN 912 | 4 |
| 17 | 90.005.55.025 | šroub se šestihrannou hlavou / Sechskantschraube / Hex head screw | M10x30 | 1 |
| 18 | 90.100.55.006 | Matice / Mutter / Nut | M10 DIN 934 | 1 |
| 19 | 90.150.50.007 | Podložka / Scheibe / Washer | d13 DIN 125 | 1 |



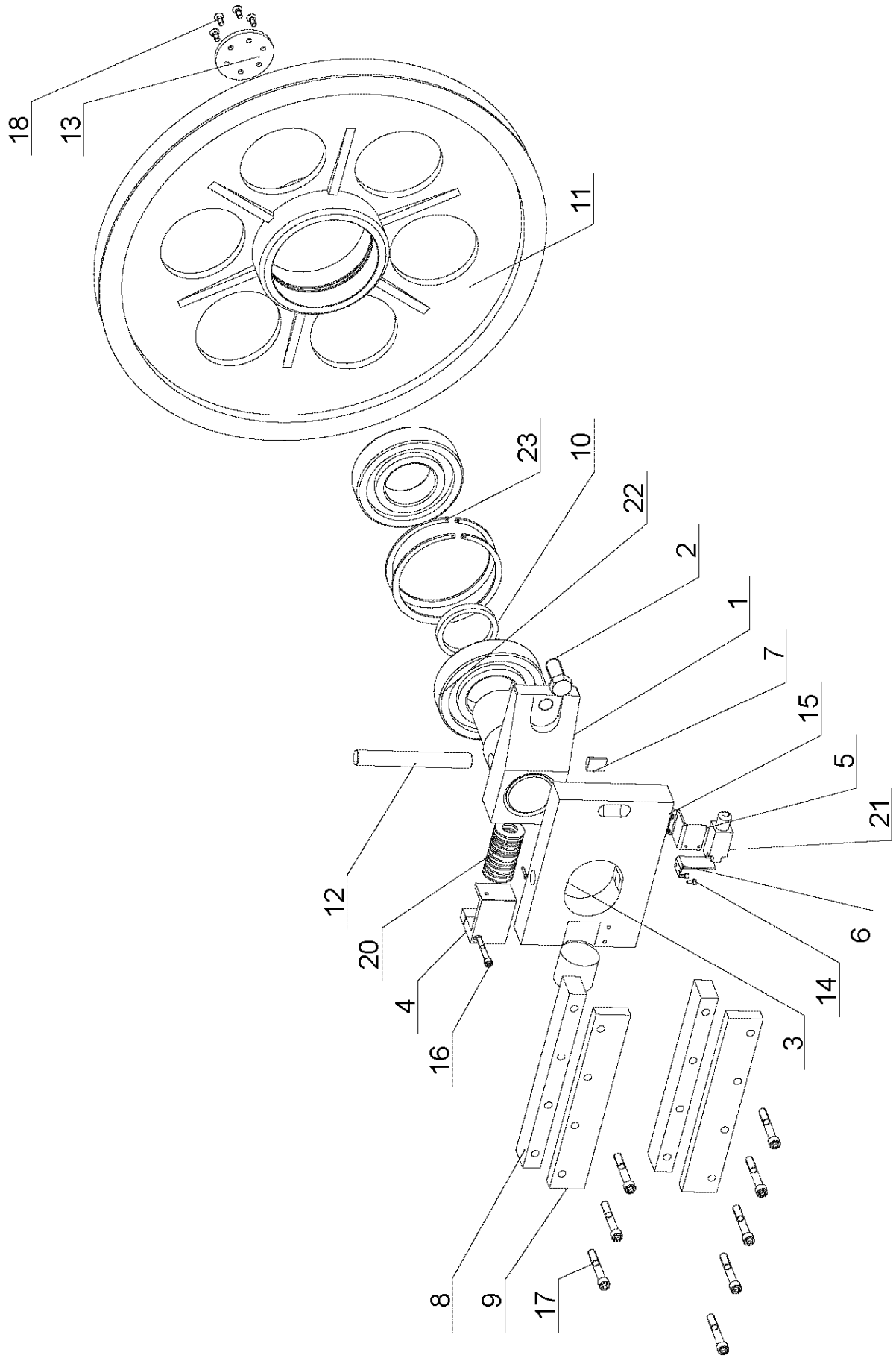
25.5. Pohon / Antrieb / Drive

| Poz. | Objednací číslo | Název položky | | ks |
|------|-----------------|---|-----------------------|-------|
| Pos. | Bestell - Nr. | Bezeichnung | | Menge |
| Pos. | Reference No. | Item | | Pcs. |
| 1 | 30.1804-005 | Podložka / Scheibe / Washer | | 1 |
| 2 | 30.4304-018 | Ventilátor / Ventilator / Ventilator | | 1 |
| 3 | 30.6205-101 | Hřídel / Welle / Shaft | | 1 |
| 4 | 30.6205-102 | Příruba / Flansche / Flange | | 1 |
| 5 | 30.6205-103 | Kroužek / Ring / Ring | | 1 |
| 6 | 30.6205-105 | Víko / Deckel / Cover | | 1 |
| 7 | 30.6205-106 | Kroužek distanční / Distanzring / Distance ring | | 1 |
| 8 | 30.6205-107 | Víko / Deckel / Cover | | 1 |
| 9 | 30.6305-109 | Pero / Feder / Feather | | 2 |
| 10 | 30.7504-007 | Kolo / Umlenkrad / Wheel | | 1 |
| 11 | 90.001.25.019 | Šroub / Schraube / Screw | M6x25 DIN 912 8,8 | 6 |
| 12 | 90.011.27.040 | Šroub / Schraube / Screw | M16x35 | 1 |
| 13 | 91.001.104 | Elektromotor / Elektromotor / Electromotor | 5,5kW 1LA 7130-4AA-B5 | 1 |
| 13 | 91.001.070 | Elektromotor / Elektromotor / Electromotor | 7,5kW 1LA7133-4AA61 | 1 |
| 14 | 91.015.100 | Ventilátor / Ventilator / Ventilator | | 1 |
| 15 | 95.300.018 | Ložisko / Lager / Bearing | 32217A | 2 |
| 16 | 95.830.037 | Gufero / Dichtung / Sealing | 100x120x12 | 1 |
| 17 | 95.830.039 | Gufero / Dichtung / Sealing | | 1 |
| 18 | 95.850.012 | Maticice / Mutter / Nut | d17 | 1 |
| 19 | 95.855.011 | Podložka / Scheibe / Washer | d17 | 1 |
| 20 | 95.860.001 | Hlavice mazací/Schmierkopf/Nipple | | 1 |
| 21 | 99.001.050 | Převodovka / Getriebe / Gearbox | VFR185 | 1 |
| 22 | 99.710.013 | Spojka / Konjunktion / Conjunction | 85x125 | 1 |



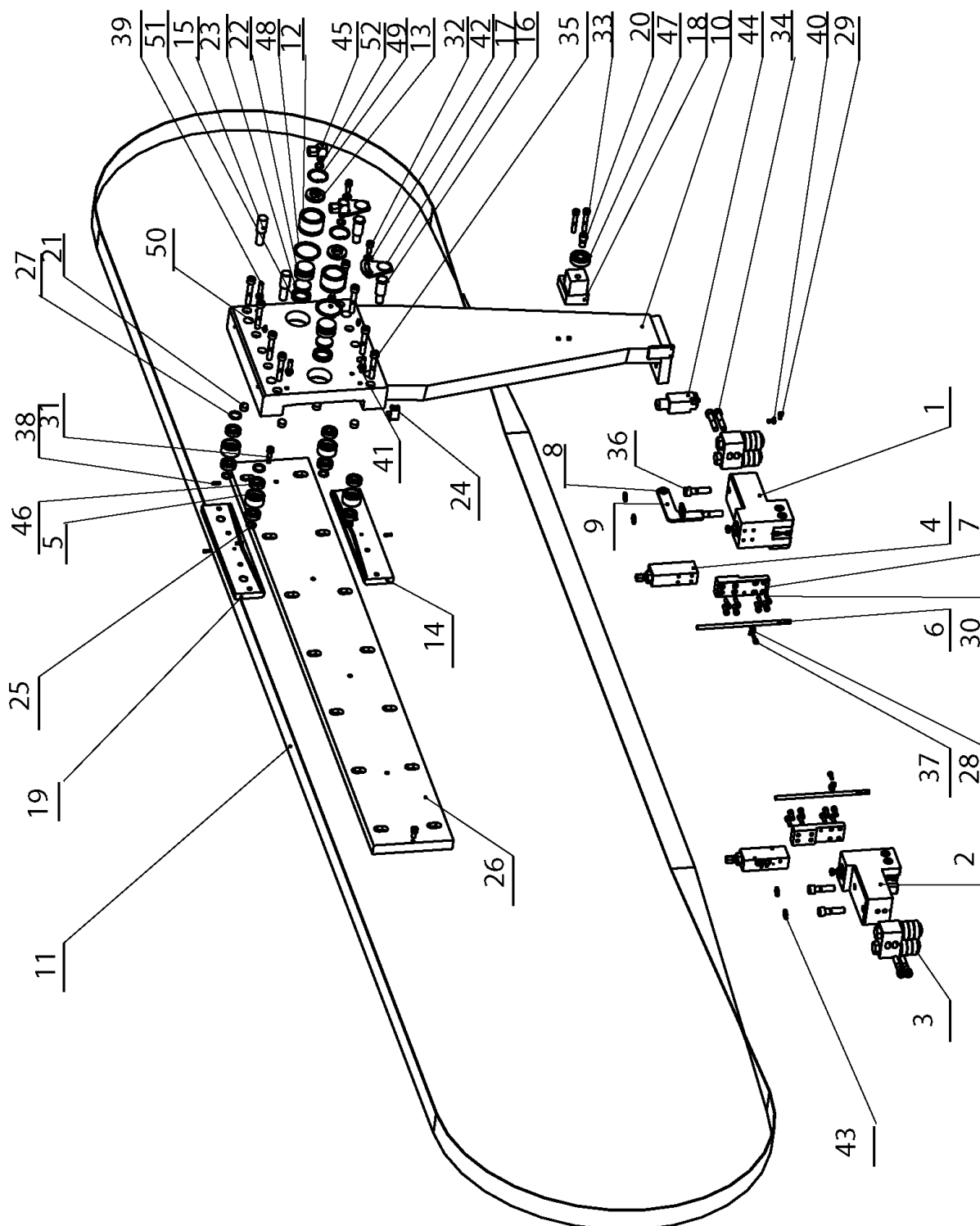
25.6. Válec zvedací / Hebezyylinder / Lifting cylinder

| Poz. | Objednací číslo | Název položky | ks | |
|------|-----------------|--|----------------|---|
| Pos. | Bestell - Nr. | Bezeichnung | Menge | |
| Pos. | Reference No. | Item | Pcs. | |
| 1 | 30.0807-008 | Držák / Halter / Holder | 1 | |
| 2 | 30.0807-009 | Čep / Bolzen / Pivot | 1 | |
| 3 | 30.2807-004 | Píst / Kolben / Piston | 1 | |
| 4 | 30.4107-003 | Víko / Deckel / Cover | 1 | |
| 5 | 30.4707-206 | Držák / Halter / Holder | 1 | |
| 6 | 30.6007-007 | Čep / Bolzen / Pivot | 1 | |
| 7 | 30.6207-001 | Válec zvedací / Hubzylinder / Lift cylinder | 1 | |
| 8 | 30.6207-002 | Pístnice / Kolbenstange / Piston rod | 1 | |
| 9 | 30.6707-103 | Přívod / Zufuhr / Inflow | 1 | |
| 10 | 90.001.25.032 | Šroub / Schraube / Screw | 8x20 DIN 912 | 1 |
| 11 | 90.101.55.007 | Matice / Mutter / Nut | M20x1,5 | 1 |
| 12 | 92.002.001 | Šroubení / Schraubung / Screwing | G 1/4" | 2 |
| 13 | 92.151.001 | Ventil pojistný / Sicherungsventil / Retaining valve | VPNH1_4 | 1 |
| 14 | 95.800.007 | Pojistný kroužek / Sicherungsring / Retaining ring | d16 | 2 |
| 15 | 95.801.009 | Pojistný kroužek / Sicherungsring / Retaining ring | d52 | 1 |
| 16 | 95.801.018 | Pojistný kroužek / Sicherungsring / Retaining ring | d50 | 2 |
| 17 | 96.001.013 | O-kroužek / O Ring / O Ring | 45x2 | 2 |
| 18 | 96.002.007 | O-kroužek / O Ring / O Ring | 16x2 | 1 |
| 19 | 96.041.003 | Manžeta / Manschette / Sleeve | 601-28x36x7.1 | 1 |
| 20 | 96.060.003 | Kroužek stírací / Abstreifring / Wiping ring | d28 | 1 |
| 21 | 96.082.002 | Kroužek těsnící / Dichtungsring / Sealing ring | 13/17 | 2 |
| 22 | 96.084.001 | Kroužek vodící / Führungsring / Guiding ring | 50x5.5x2.5x146 | 1 |
| 23 | 96.900.001 | Těsnění kombinované / Dichtung / Sealing combined | 50x39x4 | 1 |



25.7. Napínání pilového pásu / Sägebandspannung / Saw band stretching

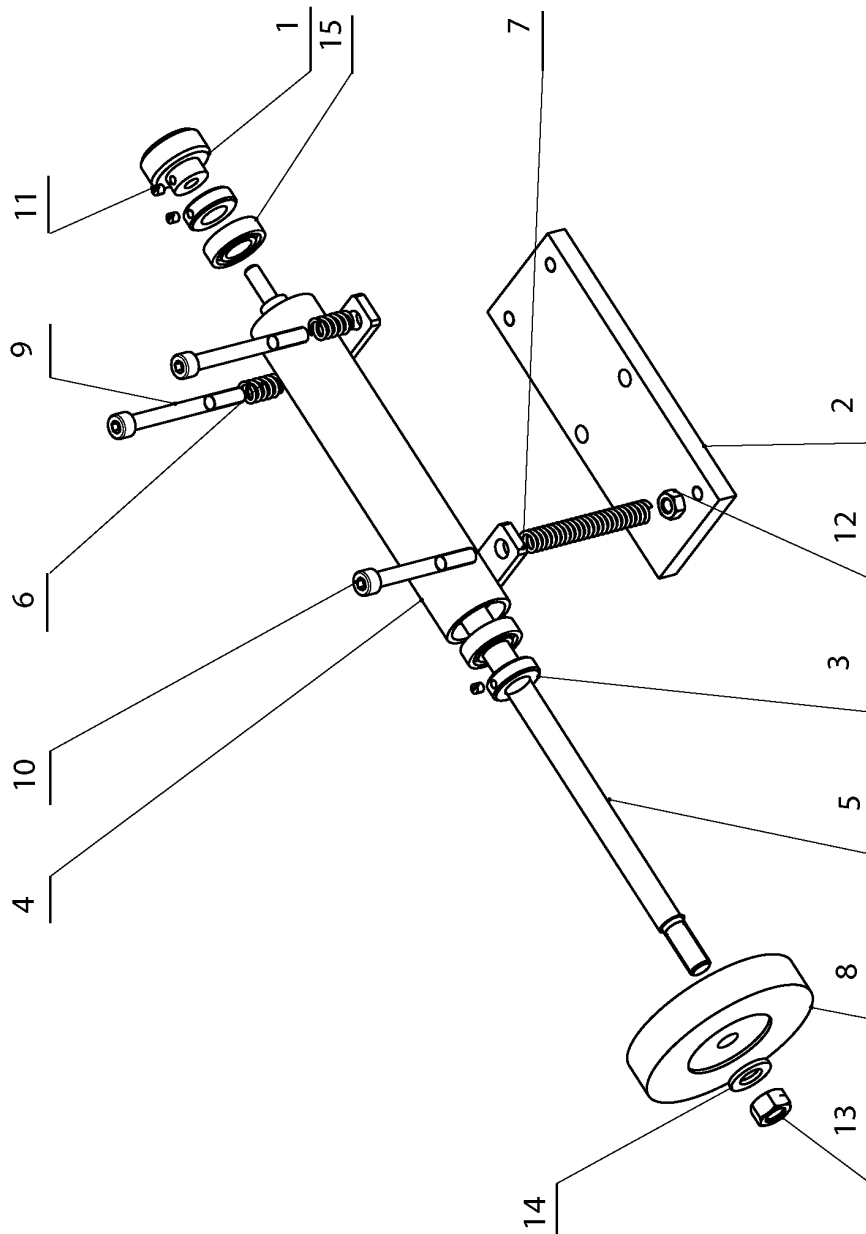
| Poz. | Objednáací číslo | Název položky | ks | |
|------|------------------|--|----------------------|----|
| Pos. | Bestell - Nr. | Bezeichnung | Menge | |
| Pos. | Reference No. | Item | Pcs. | |
| 1 | 30.6208-003 | Čep / Bolzen / Pivot | 1 | |
| 2 | 30.6208-004 | Šroub / Schraube / Screw | 1 | |
| 3 | 30.6208-102 | Kostka / Würfel / Cube | 1 | |
| 4 | 30.6708-301 | Třmen / Steigbügel / Stirrup | 1 | |
| 5 | 30.6708-303 | Držák / Halter / Holder | 1 | |
| 6 | 30.6708-304 | Doraz / Anschlag / Length stop | 1 | |
| 7 | 30.7508-001 | Napínání / Spannung / Stretching | 1 | |
| 8 | 30.7508-003 | Lišta / Leiste / Listel | 2 | |
| 9 | 30.7508-004 | Lišta / Leiste / Listel | 2 | |
| 10 | 30.7508-005 | Kroužek / Ring / Ring | 1 | |
| 11 | 30.7508-006 | Kolo / Umlenkrad / Wheel | 1 | |
| 12 | 30.7508-007 | Čep / Bolzen / Pivot | 1 | |
| 13 | 30.7508-011 | Víčko / Deckel / Cover | 1 | |
| 14 | 90.001.25.007 | Šroub / Schraube / Screw | M5x10 DIN 912 | 2 |
| 15 | 90.001.25.009 | Šroub / Schraube / Screw | M5x16 DIN 912 | 2 |
| 16 | 90.001.25.040 | Šroub / Schraube / Screw | M8x60 DIN 912 | 1 |
| 17 | 90.001.25.065 | Šroub / Schraube / Screw | M12x80 DIN 912 | 8 |
| 18 | 90.011.27.027 | Šroub / Schraube / Screw | M8x20 DIN 7991 | 6 |
| 19 | 90.012.50.006 | Šroub / Schraube / Screw | M4x25 DIN 84 | 2 |
| 20 | 90.350.0Z.004 | Pružina / Feder / Spring | 50x25,4x3 DIN 2093 A | 12 |
| 21 | 91.173.007 | Koncový spínač / Endschalter / Limit switch | RIWK | 1 |
| 22 | 95.001.053 | Kuličkové ložisko / Kugellager / Ball bearing | 6317A | 2 |
| 23 | 95.801.033 | Pojistný kroužek / Sicherungsring / Retaining ring | d180 DIN 472 | 2 |



25.8. Vedení pásu / Sägebandführung / Saw band guiding

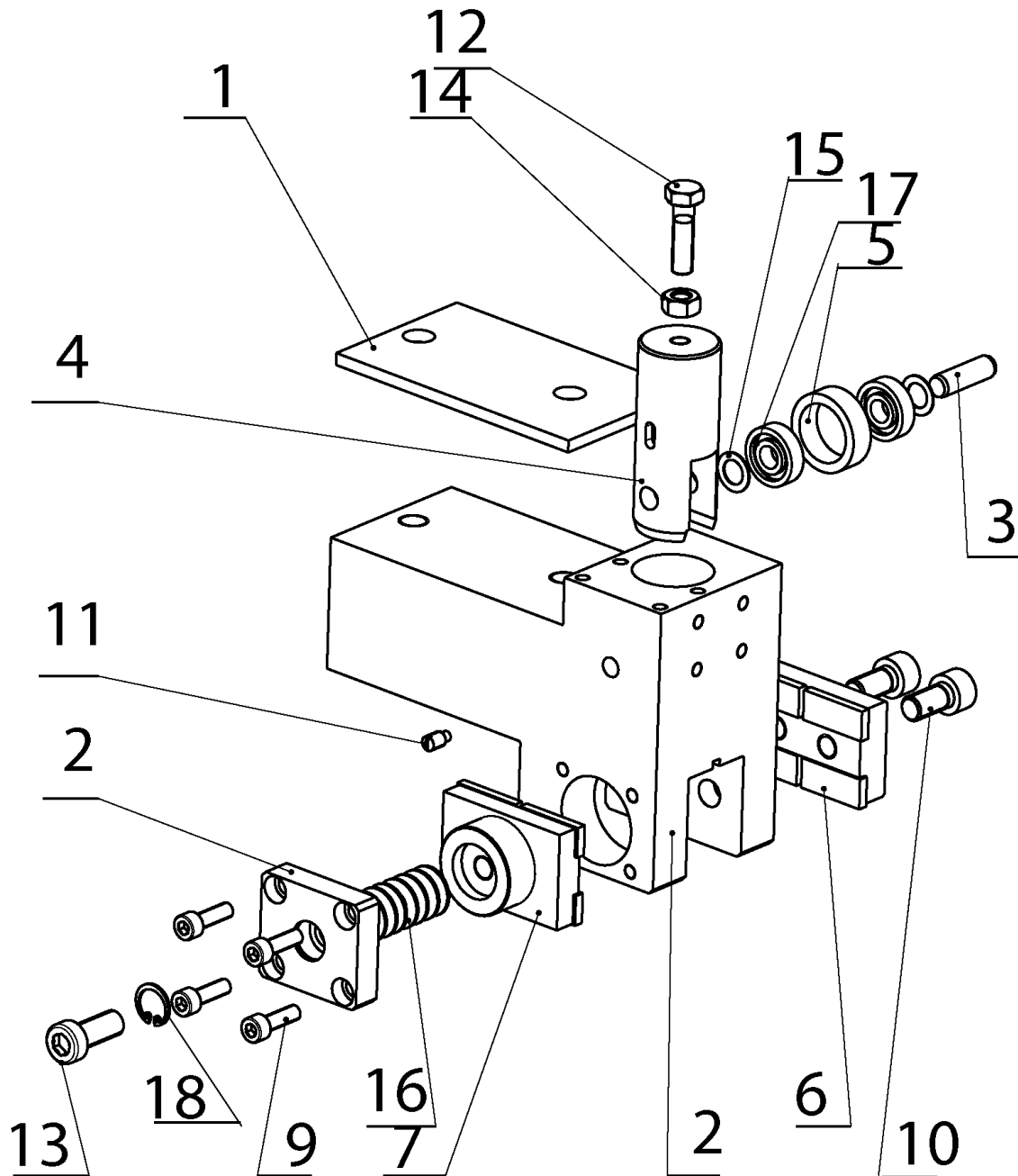
| Poz. | Objednáací číslo | Název položky | | ks |
|------|------------------|--|----------------|-------|
| Pos. | Bestell - Nr. | Bezeichnung | | Menge |
| Pos. | Reference No. | Item | | Pcs. |
| 1 | 201.6210-100 | Kostka vodící L/ Führungsklotz / Guiding Cube | | 1 |
| 2 | 201.6210-200 | Kostka vodící P/ Führungsklotz / Guiding Cube | | 1 |
| 3 | 201.6210-300 | Kostka / Würfel / Cube | | 2 |
| 4 | 201.6816-100 | Regulace řezu / Schnittdruckregulation / Pressure regulation | | 2 |
| 5 | 30.1503-006 | Kladka / Rolle / Pulley | | 4 |
| 6 | 30.6010-315 | Trubička / Rohr / Tube | | 2 |
| 7 | 30.6016-002 | Deska / Platte / Plate | | 2 |
| 8 | 30.6110-110 | Šroub / Schraube / Screw | | 1 |
| 9 | 30.6110-115 | Doraz / Anschlag / Length stop | | 1 |
| 10 | 30.6210-051 | Držák / Halter / Holder | | 1 |
| 11 | 30.6210-052 | Pás pilový / Band / Band | | 1 |
| 12 | 30.6210-053 | Trubka / Rohr / Tube | | 2 |
| 13 | 30.6210-054 | Víko / Deckel / Cover | | 2 |
| 14 | 30.6210-055 | Vodící lišta / Führungsleiste / Guiding listel | | 1 |
| 15 | 30.6210-056 | Čep / Bolzen / Pivot | | 2 |
| 16 | 30.6210-057 | Čep / Bolzen / Pivot | | 2 |
| 17 | 30.6210-058 | Podložka / Scheibe / Washer | | 2 |
| 18 | 30.6210-059 | Kostka / Würfel / Cube | | 1 |
| 19 | 30.6210-060 | Vodící lišta / Führungsleiste / Guiding listel | | 1 |
| 20 | 30.6210-061 | Šroub / Schraube / Screw | | 1 |
| 21 | 30.6210-062 | Podložka / Scheibe / Washer | | 4 |
| 22 | 30.6210-063 | Píst / Kolben / Piston | | 2 |
| 23 | 30.6210-064 | Třecí deska / Bremsklotz / Frictional plate | | 2 |
| 24 | 30.6210-065 | Držák / Halter / Holder | | 1 |
| 25 | 30.6210-068 | Podložka / Scheibe / Washer | | 4 |
| 26 | 30.6310-002 | Lišta / Leiste / Listel | | 1 |
| 27 | 30.6310-052 | Podložka / Scheibe / Washer | | 2 |
| 28 | 30.9010-003 | Držák / Halter / Holder | | 2 |
| 29 | 90.001.25.007 | Šroub / Schraube / Screw | M5x10 DIN 912 | 1 |
| 30 | 90.001.25.018 | Šroub / Schraube / Screw | M6x20 DIN 912 | 16 |
| 31 | 90.001.25.031 | Šroub / Schraube / Screw | 8x16 DIN 912 | 2 |
| 32 | 90.001.25.032 | Šroub / Schraube / Screw | 8x20 DIN 912 | 2 |
| 33 | 90.001.25.038 | Šroub / Schraube / Screw | M8x50 DIN 912 | 2 |
| 34 | 90.001.25.052 | Šroub / Schraube / Screw | M10x50 DIN 912 | 4 |
| 35 | 90.001.25.054 | Šroub / Schraube / Screw | M10x60 DIN 912 | 8 |
| 36 | 90.001.25.061 | Šroub / Schraube / Screw | M12x45 DIN 912 | 4 |
| 37 | 90.001.25.087 | Šroub / Schraube / Screw | M5x14 DIN 912 | 2 |
| 38 | 90.002.2D.007 | Šroub / Schraube / Screw | M5x16 DIN 913 | 4 |
| 39 | 90.002.2D.036 | Šroub / Schraube / Screw | 8x40 DIN 913 | 4 |
| 40 | 90.005.55.006 | Šroub / Schraube / Screw | M6x12 DIN 933 | 1 |
| 41 | 90.100.55.005 | Matice / Mutter / Nut | M8 DIN 934 | 4 |
| 42 | 90.150.50.005 | Podložka / Scheibe / Washer | d8,4 | 2 |
| 43 | 90.163.00.003 | Podložka / Scheibe / Washer | M12 D19,5 | 4 |
| 44 | 91.173.007 | Koncový spínač / Endschalter / Limit switch | | 1 |
| 45 | 92.003.001 | Šroubení / Schraubung / Screwing | RSW-08LR | 2 |

| | | | | |
|----|------------|--|--------------|---|
| 46 | 95.001.006 | Kuličkové ložisko / Kugellager / Ball bearing | 6002 2RS | 8 |
| 47 | 95.001.023 | Kuličkové ložisko / Kugellager / Ball bearing | 6302 2RS | 1 |
| 48 | 95.800.019 | Pojistný kroužek / Sicherungsring / Retaining ring | d52 | 2 |
| 49 | 95.801.005 | Pojistný kroužek / Sicherungsring / Retaining ring | d40 | 2 |
| 50 | 95.860.001 | Hlavice mazací/Schmierkopf/Nipple | KM5 | 2 |
| 51 | 96.042.001 | Manžeta těsnící / Afschlag / Cuf | 40x30x8 K606 | 2 |
| 52 | 96.082.002 | Kroužek těsnící / Dichtungsring / Sealing ring | 13/17 | 2 |



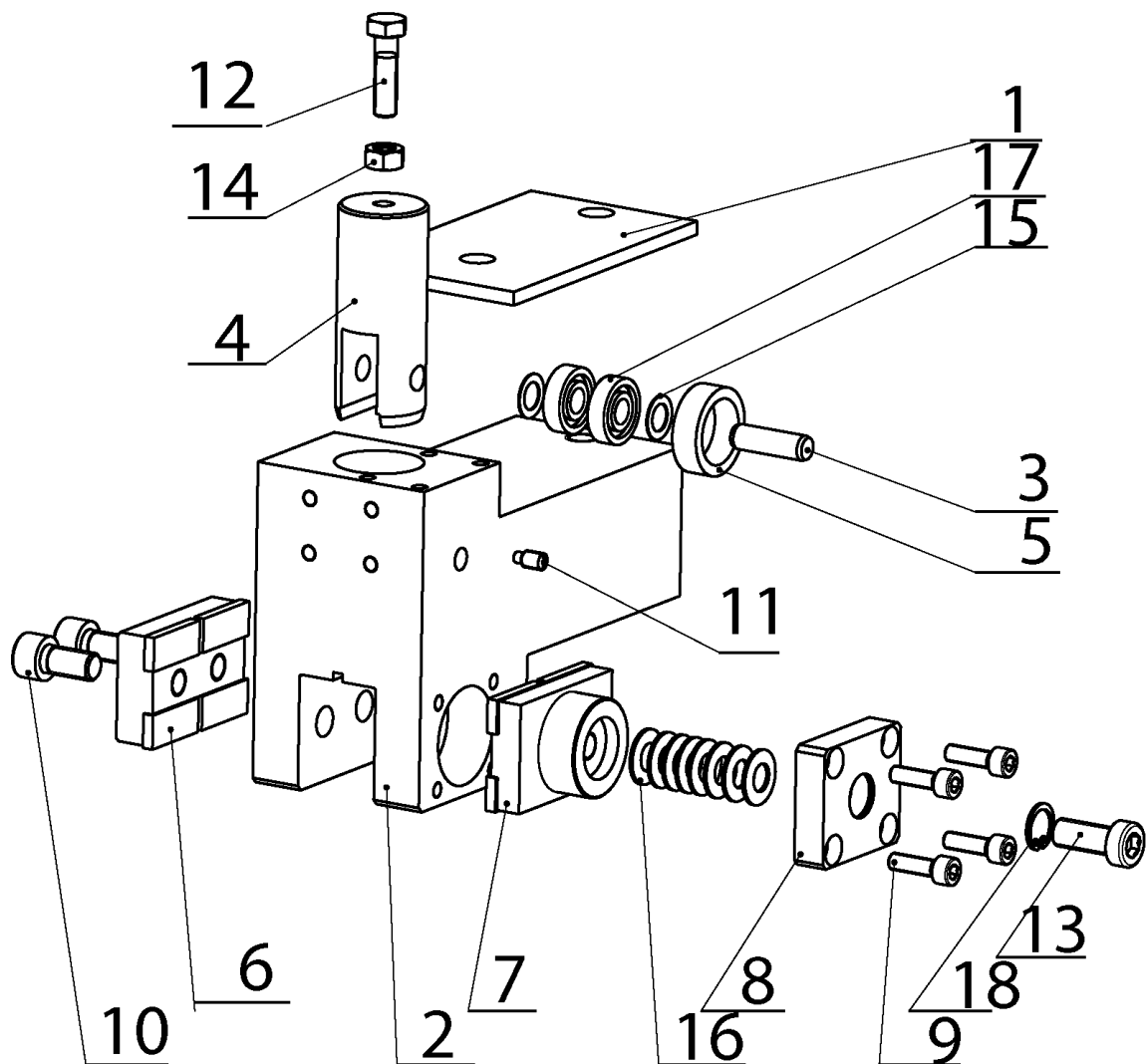
25.9. Kartáček / Bürste / Brush

| Poz. | Objednací číslo | Název položky | | ks |
|------|-----------------|---|----------------------|-------|
| Pos. | Bestell - Nr. | Bezeichnung | | Menge |
| Pos. | Reference No. | Item | | Pcs. |
| 1 | 30.0814-204 | Kolečko / Rolle / Wheel | | 1 |
| 2 | 30.6114-105 | Deska / Platte / Plate | | 1 |
| 3 | 30.6114-119 | Kroužek / Ring / Ring | | 2 |
| 4 | 30.6114-128 | Držák / Halter / Holder | | 1 |
| 5 | 30.6214-251 | Hřídel / Welle / Shaft | | 1 |
| 6 | 31.1506-115 | Pružina / Feder / Spring | | 1 |
| 7 | 31.2107-206 | Pružina / Feder / Spring | | 2 |
| 8 | 49.250.017 | Kartáček / Bürste / Brush | | 1 |
| 9 | 90.001.25.067 | Šroub / Schraube / Screw | M8x80 DIN 912 8,8 | 2 |
| 10 | 90.001.25.095 | Šroub / Schraube / Screw | M8x70 DIN 912 8,8 | 1 |
| 11 | 90.002.2D.003 | Šroub / Schraube / Screw | M5x6 | 3 |
| 12 | 90.100.55.005 | Matice / Mutter / Nut | M8 DIN934 | 1 |
| 13 | 90.100.55.007 | Matice / Mutter / Nut | M12 DIN 934 | 1 |
| 14 | 90.150.50.007 | Podložka / Scheibe / Washer | d13 DIN 125 | 1 |
| 15 | 95.001.006 | Kuličkové ložisko / Kugellager / Ball bearing | 6000 2RS | 2 |



25.10. Levá vodící kostka / Linker Führungsklotz / Left guiding cube

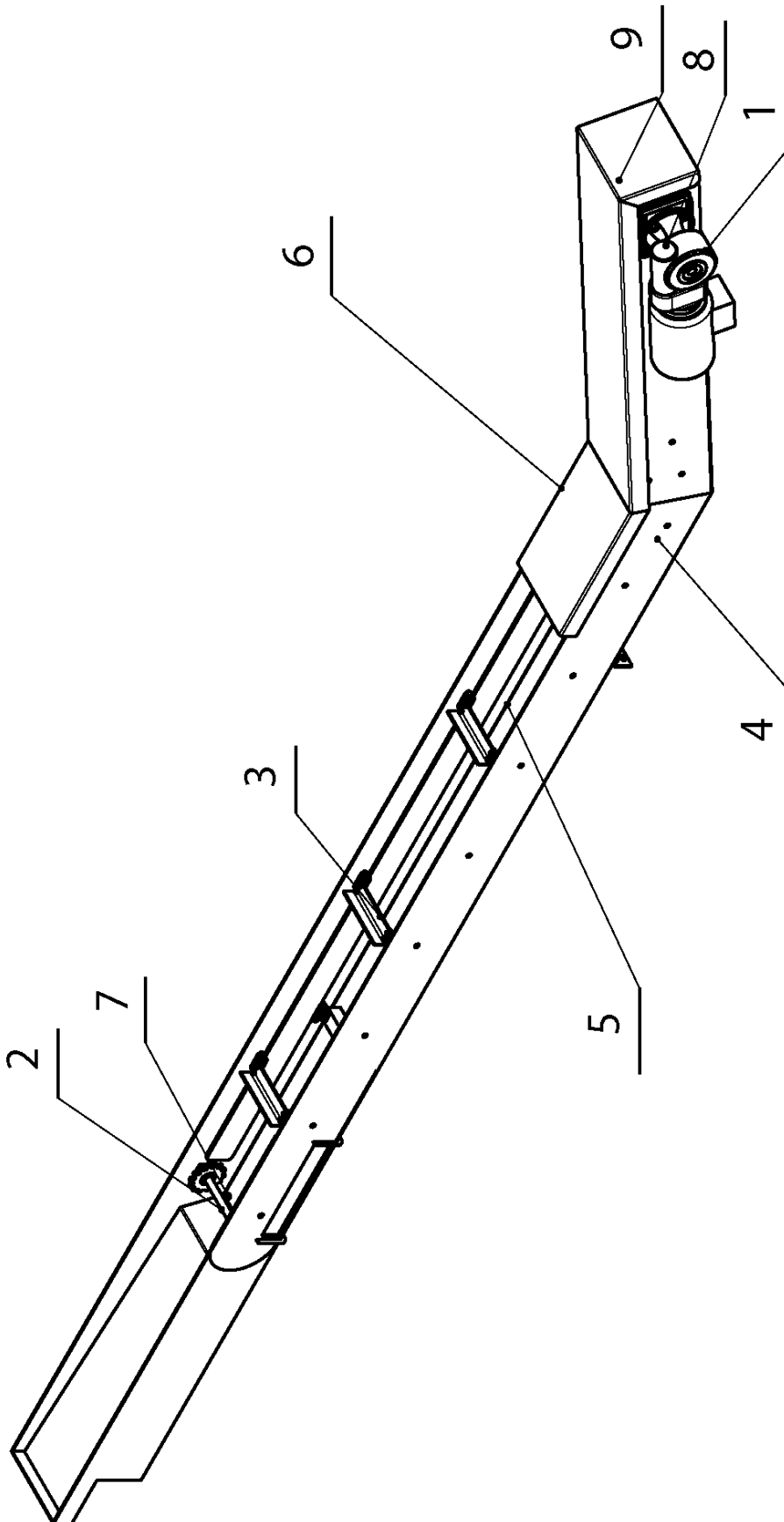
| Poz. | Objednací číslo | Název položky | | ks |
|------|-----------------|---|----------------------|-----------|
| Pos. | Bestell - Nr. | Bezeichnung | | Men ge |
| Pos. | Reference No. | Item | | Pcs. |
| 1 | 30.6210-103 | Deska / Platte / Plate | | 1 |
| 2 | 30.6210-101 | Kostka L / Würfel / Cube | | 1 |
| 3 | 30.6710-108 | Kolík / Bolzen / Pin | | 1 |
| 4 | 30.6710-109 | Píst / Kolben / Piston | | 1 |
| 5 | 30.6710-110 | Kroužek / Ring / Ring | | 1 |
| 6 | 30.7510-104 | Držák / Halter / Holder | | 1 |
| 7 | 30.7510-114 | Držák / Halter / Holder | | 1 |
| 8 | 30.7510-118 | Kostka / Würfel / Cube | | 1 |
| 9 | 90.001.25.018 | Šroub / Schraube / Screw | 8x30 | 4 |
| 10 | 90.001.25.046 | Šroub / Schraube / Screw | 10x20 DIN 912 8,8 | 2 |
| 11 | 90.004.2D.002 | Šroub / Schraube / Screw | 6x12 DIN 915 | 1 |
| 12 | 90.005.55.007 | šroub se šestihrannou hlavou / Sechskantschraube / Hex head screw | M8x30 | 1 |
| 13 | 90.015.30.003 | Šroub / Schraube / Screw | M10x25 | 1 |
| 14 | 90.100.55.005 | Maticice / Mutter / Nut | M8 DIN 934 | 1 |
| 15 | 90.154.50.003 | Podložka / Scheibe / Washer | 10x16x0,5 DIN 988 | 2 |
| 16 | 90.350.OZ.005 | Talířová pružina / Tellerfeder / Belleville spring | 20x10,2x1,1 | 8 |
| 17 | 95.001.044 | Kuličkové ložisko / Kugellager / Ball bearing | 609 2RS | 2 |
| 18 | 95.801.035 | Pojistný kroužek / Sicherungsring / Retaining ring | d16 | 1 |



25.11. Pravá vodící kostka / Rechter Führungsklotz / Right guiding cube

| Poz. | Objednací číslo | Název položky | | ks |
|------|-----------------|---|----------------------|-------|
| Pos. | Bestell - Nr. | Bezeichnung | | Menge |
| Pos. | Reference No. | Item | | Pcs. |
| 1 | 30.6210-103 | Deska / Platte / Plate | | 1 |
| 2 | 30.6210-201 | Kostka P / Würfel / Cube | | 1 |
| 3 | 30.6710-108 | Kolík / Bolzen / Pin | | 1 |
| 4 | 30.6710-109 | Píst / Kolben / Piston | | 1 |
| 5 | 30.6710-110 | Kroužek / Ring / Ring | | 1 |
| 6 | 30.7510-104 | Držák / Halter / Holder | | 1 |
| 7 | 30.7510-114 | Držák / Halter / Holder | | 1 |
| 8 | 30.7510-118 | Kostka / Würfel / Cube | | 1 |
| 9 | 90.001.25.018 | Šroub / Schraube / Screw | 8x30 | 4 |
| 10 | 90.001.25.046 | Šroub / Schraube / Screw | 10x20 DIN 912 8,8 | 2 |
| 11 | 90.004.2D.002 | Šroub / Schraube / Screw | 6x12 DIN 915 | 1 |
| 12 | 90.005.55.007 | šroub se šestihrannou hlavou / Sechskantschraube / Hex head screw | M8x30 | 1 |
| 13 | 90.015.30.003 | Šroub / Schraube / Screw | M10x25 | 1 |
| 14 | 90.100.55.005 | Matice / Mutter / Nut | M8 DIN 934 | 1 |
| 15 | 90.154.50.003 | Podložka / Scheibe / Washer | 10x16x0,5 DIN 988 | 2 |
| 16 | 90.350.OZ.005 | Talířová pružina / Tellerfeder / Belleville spring | 20x10,2x1,1 | 8 |
| 17 | 95.001.044 | Kuličkové ložisko / Kugellager / Ball bearing | 609 2RS | 2 |
| 18 | 95.801.035 | Pojistný kroužek / Sicherungsring / Retaining ring | d16 | 1 |

Je dodán na přání. Ist nach dem Wunsch geliefert. Is delivered by request.

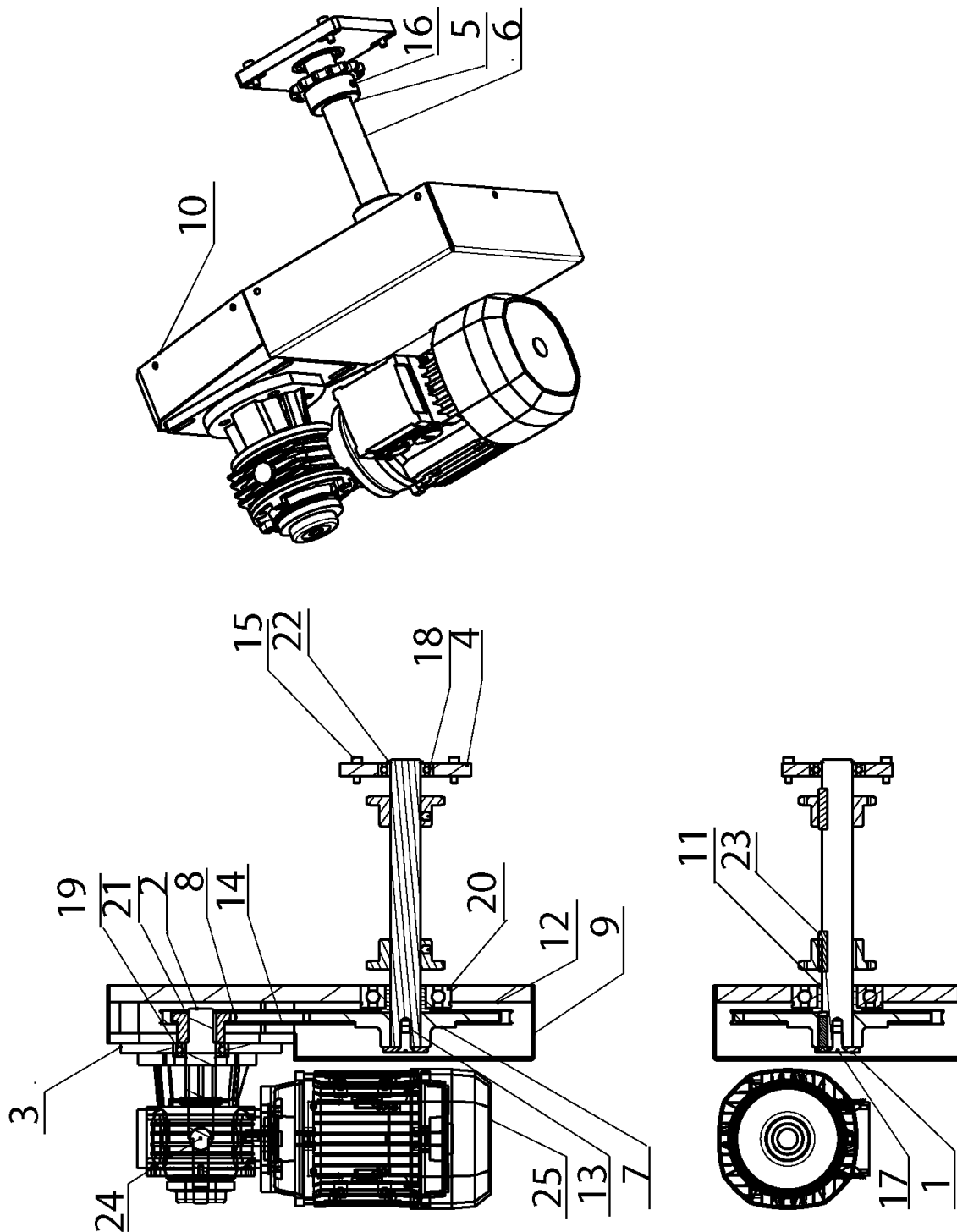


25.12. Třískový vynašeč / Späneförderer / Swarf conveyor

| Poz. | Objednací číslo | Název položky | | ks |
|------|-----------------|---|------------|-------|
| Pos. | Bestell - Nr. | Bezeichnung | | Menge |
| Pos. | Reference No. | Item | | Pcs. |
| 1 | 201.6017-150 | Pohon / Antrieb / Drive | | 1 |
| 2 | 201.6017-103 | Vratné soukolí / returne gear / Umschaltgetriebe | | 1 |
| 3 | 201.6717-304 | Řetěz / Kette / Chain | | 8 |
| 4 | 30.6217-101 | Koryto / Rinne / Trough | | 1 |
| 6 | 30.6217-205 | Kryt / Deckel / Cover | | 1 |
| 8 | 90.005.55.012 | Šroub / Schraube / Screw | M6x40 | 2 |
| 9 | 90.100.55.004 | Matice / Mutter / Nut | M6 DIN 934 | 4 |

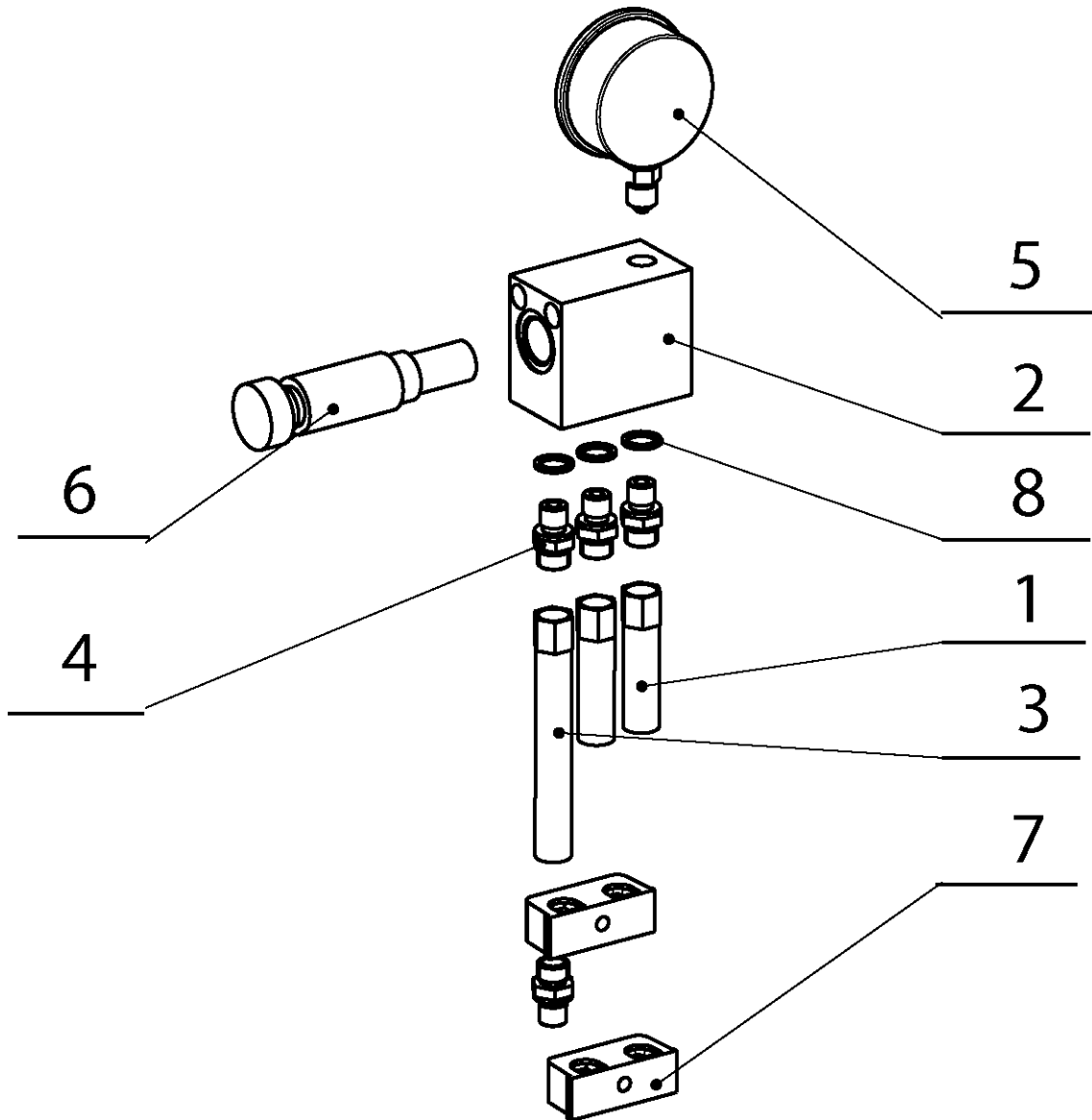
Change from june 2008:

| | | | | |
|---|--------------|-------------------------|--|---|
| 1 | 201.6017-250 | Pohon / Antrieb / Drive | | 1 |
|---|--------------|-------------------------|--|---|



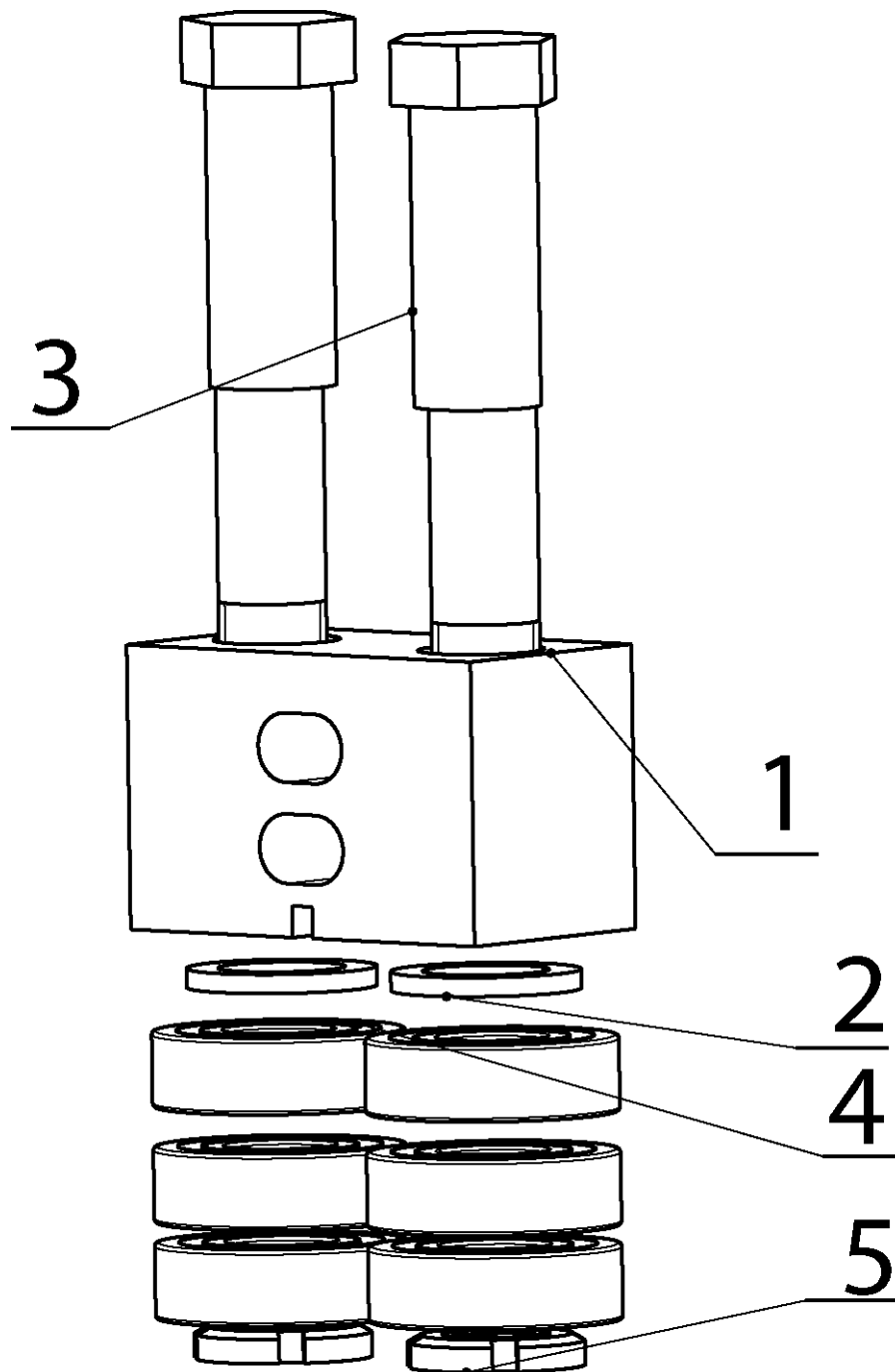
25.13. Pohon třískového vynašeče / Antrieb von Späneförderer / Drive

| Poz. | Objednací číslo | Název položky | | ks |
|------|------------------|--|--------------------------|-------|
| Pos. | Bestell - Nr. | Bezeichnung | | Menge |
| Pos. | Reference No. | Item | | Pcs. |
| 1 | 30.1502-465 | Podložka / Scheibe / Washer | | 1 |
| 2 | 30.6017-203(220) | Hřídel / Welle / Shaft | | 1 |
| 3 | 30.6017-206 | Deska / Platte / Plate | | 1 |
| 4 | 30.6017-207 | Deska / Platte / Plate | | 1 |
| 5 | 30.6017-208 | Řetěz / Kette / Chain | | 2 |
| 6 | 30.6017-209 | Hřídel / Welle / Shaft | | 1 |
| 7 | 30.6017-211 | Kolo / Umlenkrad / Wheel | | 1 |
| 8 | 30.6017-212 | Kolo / Umlenkrad / Wheel | | 1 |
| 9 | 30.6017-213 | Kryt / Deckel / Cover | | 1 |
| 10 | 30.6017-214 | Kryt / Deckel / Cover | | 1 |
| 11 | 30.6017-215 | Kroužek distanční / Distanzring / Distance ring | | 1 |
| 12 | 30.6017-216 | Skříň převodovky/ Schrank / Case | | 1 |
| 13 | 30.6017-218 | Pero / Feder / Feather | | 1 |
| 14 | 49.200.027 | Řetěz / Kette / Chain | | 1 |
| 15 | 90.001.25.018 | Šroub / Schraube / Screw | M6x20 DN 912 8,8 | 4 |
| 16 | 90.003.2D.010 | Šroub stavěcí / Stellschraube / Setscrew | M8x10 | 2 |
| 17 | 90.011.27.008 | Šroub zápusťný/ Countersunk screw / Senkschraube | 10x20 | 1 |
| 18 | 95.001.009 | Kuličkové ložisko / Kugellager / Ball bearing | 6006 2RS | 1 |
| 19 | 95.003.005 | Ložisko / Lager / Bearing | 6006AN | 1 |
| 20 | 95.003.006 | Ložisko / Lager / Bearing | 6308AN | 1 |
| 21 | 95.800.012 | Pojistný kroužek / Sicherungsring / Retaining ring | d25 | 1 |
| 22 | 95.800.013 | Pojistný kroužek / Sicherungsring / Retaining ring | d30 | 1 |
| 23 | 95.810.010 | Pero těsné / Passfeder / Feather | 10x8x40 | 3 |
| 24 | 95.810.016 | Pero těsné / Passfeder / Feather | 8x7x40 | 1 |
| 25 | 99.001.073(78) | Převodovka / Getriebe / Gearbox | VF49 L2 F2 60 P71 B14 B8 | 1 |



25.14. Regulace tlaku svěráku /Spandruckregulierung/Vice pressure regulation

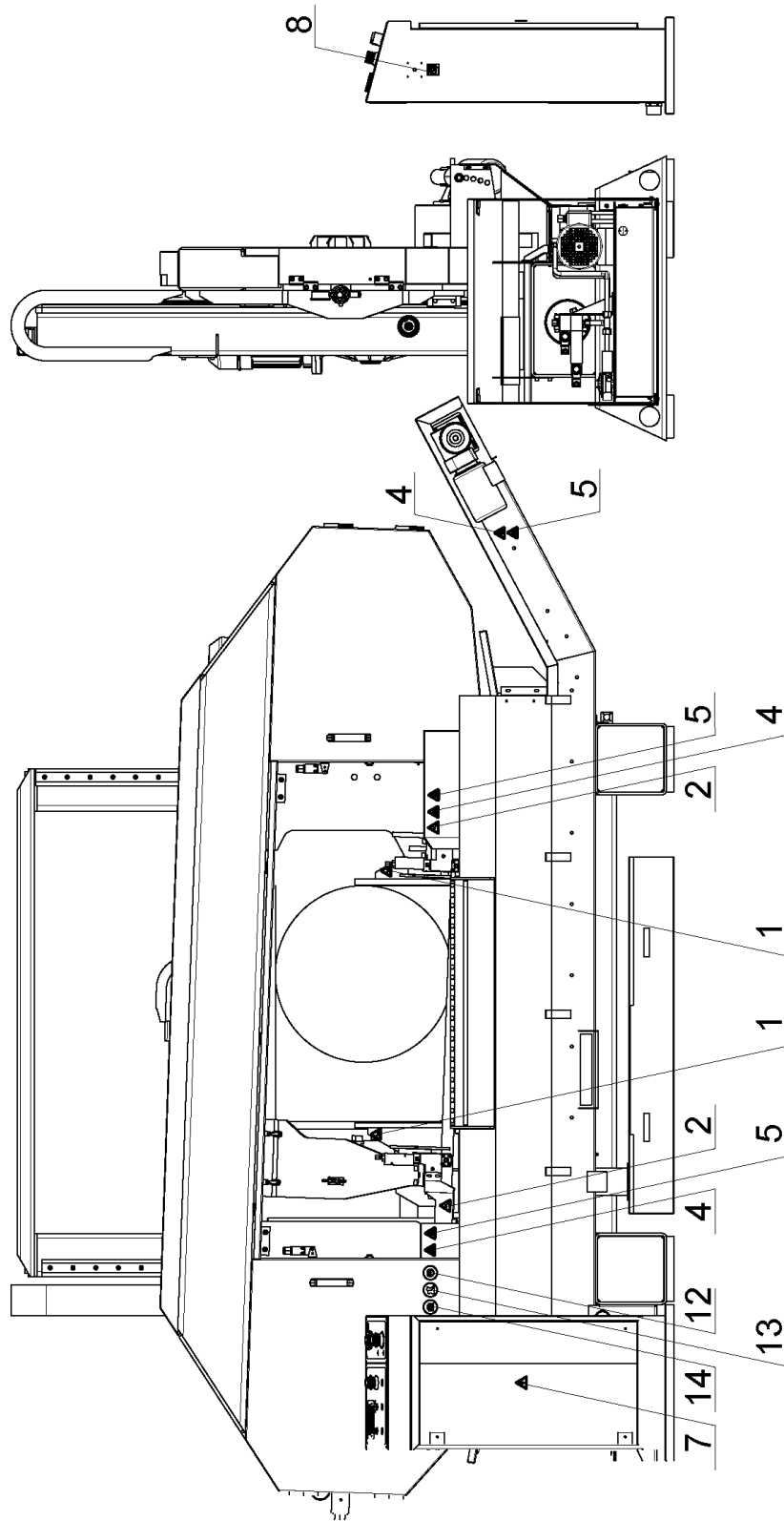
| Poz. | Objednací číslo | Název položky | | ks |
|------|-----------------|--|--------------|-------|
| Pos. | Bestell - Nr. | Bezeichnung | | Menge |
| Pos. | Reference No. | Item | | Pcs. |
| 1 | 30.1816-102 | Hadice / Schlauch / Hose | | 2 |
| 2 | 30.2115-101 | Kostka / Würfel / Cube | | 1 |
| 3 | 30.2116-008 | Hadice / Schlauch / Hose | | 1 |
| 4 | 92.002.001 | Šroubení / Schraubung / Screwing | G1/4* | 4 |
| 5 | 92.080.001 | Manometr / Manometer / Manometer | | 1 |
| 6 | 92.154.001 | Ventil / Ventil / Valve | | 1 |
| 7 | 94.204.005 | Držák hadice / Schlauchhalter / Hose holder | LBG 14/14-PP | 2 |
| 8 | 96.082.002 | Kroužek těsnící / Dichtungsring / Sealing ring | CU 13/17 | 3 |



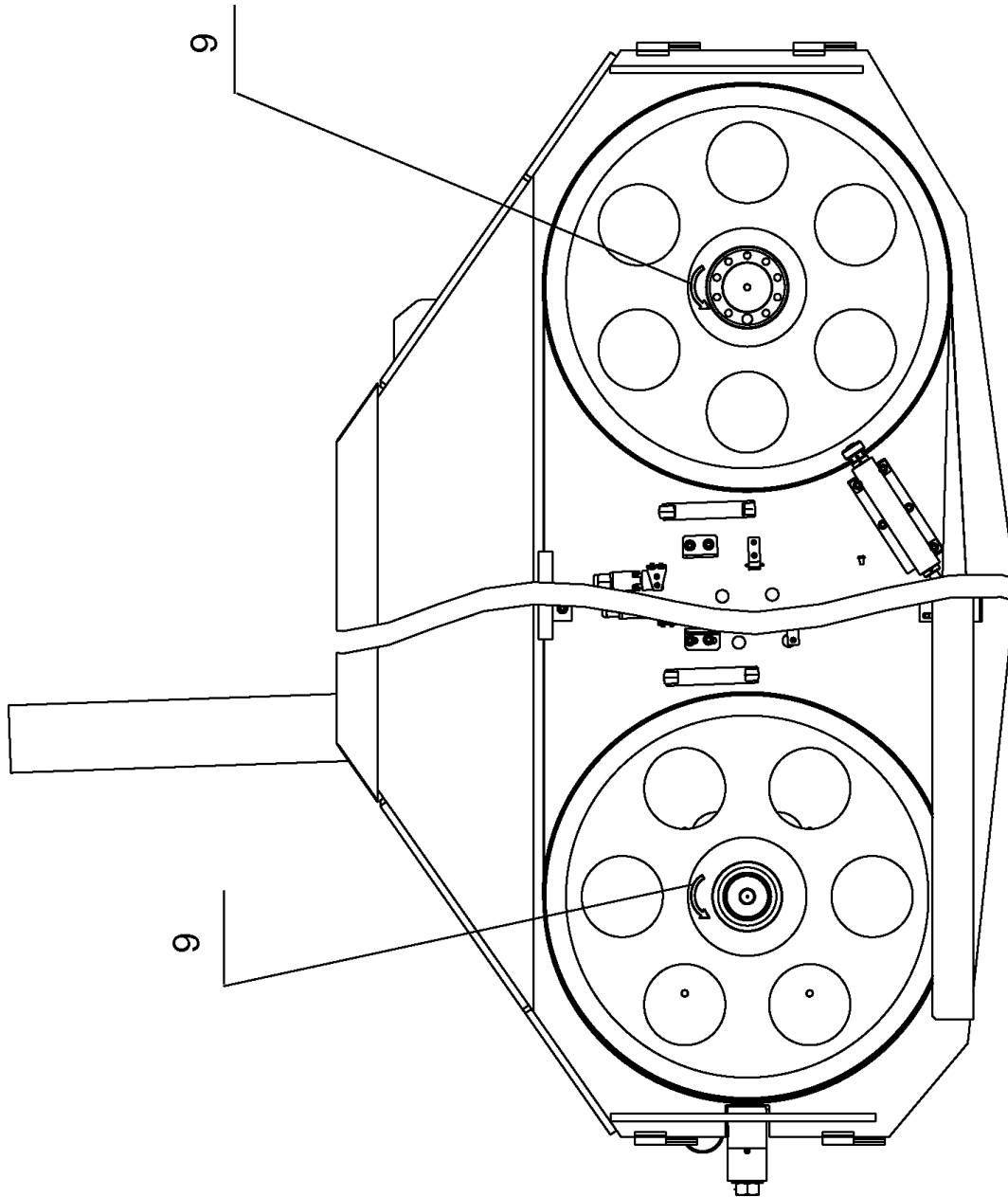
25.15. Kostka / Klotz / Cube

| Poz. | Objednací číslo | Název položky | | ks |
|------|-----------------|---|----------|-------|
| Pos. | Bestell - Nr. | Bezeichnung | | Menge |
| Pos. | Reference No. | Item | | Pcs. |
| 1 | 30.5910-106 | Kostka / Klotz / Cube | | 1 |
| 2 | 30.6210-301 | Podložka / Scheibe / Washer | | 2 |
| 3 | 30.7510-103 | Čep dlouhý / | | 2 |
| 4 | 95.001.016 | Kuličkové ložisko / Kugellager / Ball bearing | 6203 2RS | 6 |
| 5 | 95.850.004 | Matice / Mutter / Nut | KM3 | 2 |

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



26.1. Pila / Bandsäge / Band saw



26.2. Napínací a hnací kolo / Umlenkrad und Antriebsrad / Tightening wheel and driving wheel

| Poz. | Objednací číslo | Název položky | | ks |
|------|-----------------|---|--|-------|
| Pos. | Bestell - Nr. | Bezeichnung | | Menge |
| Pos. | Reference No. | Item | | Pcs. |
| 1 | 31.0599-005 | Samolepka / Aufkleber / self-adhesive label | NS-Nebezpečí stlačení / Pressunggefahr / Danger of pressing | 2 |
| 2 | 99.900.040 | Samolepka / Aufkleber / self-adhesive label | NR-Nebezpečí říznutí / Schnittgefahr / Danger of cutting | 2 |
| 4 | 99.900.042 | Samolepka / Aufkleber / self-adhesive label | NV-Nebezpečí vtažení / Einzuggefahr / Danger of pulling | 3 |
| 5 | 99.900.043 | Samolepka / Aufkleber / self-adhesive label | NZ- Nebezpečí zachycení / Erfassunggefahr / Danger of interception | 3 |
| 7 | 99.900.045 | Samolepka / Aufkleber / self-adhesive label | NE-Nebezpečí úrazu elektrickým proudem / Verletzunggefahr vom elektrischen Strom / Danger of electric shock | 1 |
| 8 | 99.900.046 | Samolepka / Aufkleber / self-adhesive label | HV-Hlavní vypínač / Hauptschalter / Main switch | 1 |
| 9 | 99.900.050 | Samolepka / Aufkleber / self-adhesive label | SOL-Směr otáčení doleva / Drehrichtung nach links / direction of rotation left | 2 |
| 12 | 99.900.047 | Samolepka / Aufkleber / self-adhesive label | OBS-Noste ochranné brýle a sluchátka / Tragen Sie eine Schutzbrille und Gehörschutz / Wear protective goggles and headphones | 1 |
| 13 | 99.900.048 | Samolepka / Aufkleber / self-adhesive label | PO-Noste pevnou pracovní obuv / Tragen Sie Sicherheitsschuhe / Wear fixed protective shoes | 1 |
| 14 | 99.900.049 | Samolepka / Aufkleber / self-adhesive label | CZ-Přečíst návod k použití / Bedienungsanleitung lesen / read the operating instructions | 1 |