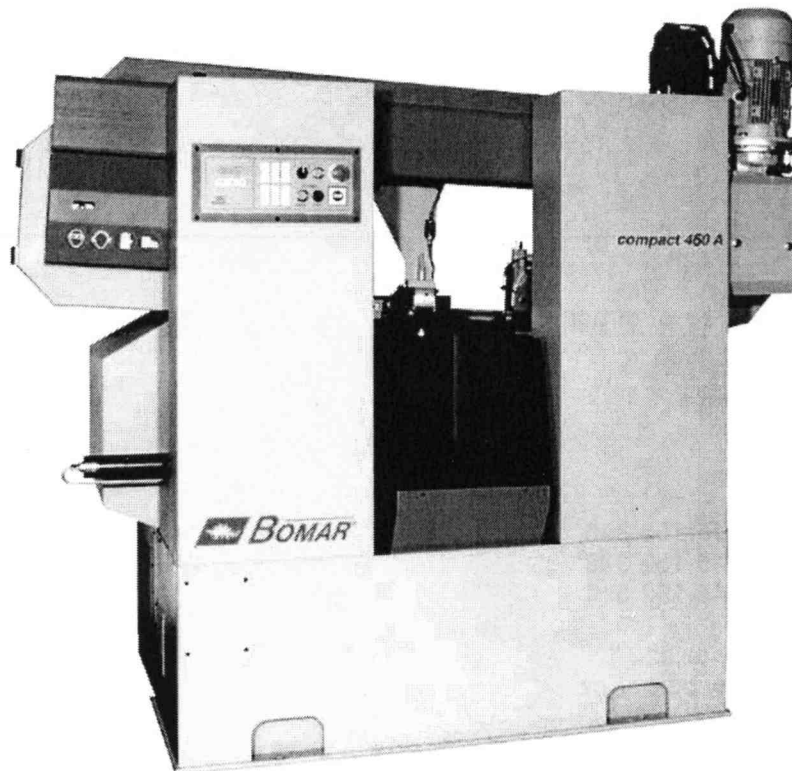


# **BOMAR**<sup>®</sup>

Operating Instructions for Band Saw

## ***compact 460 A***



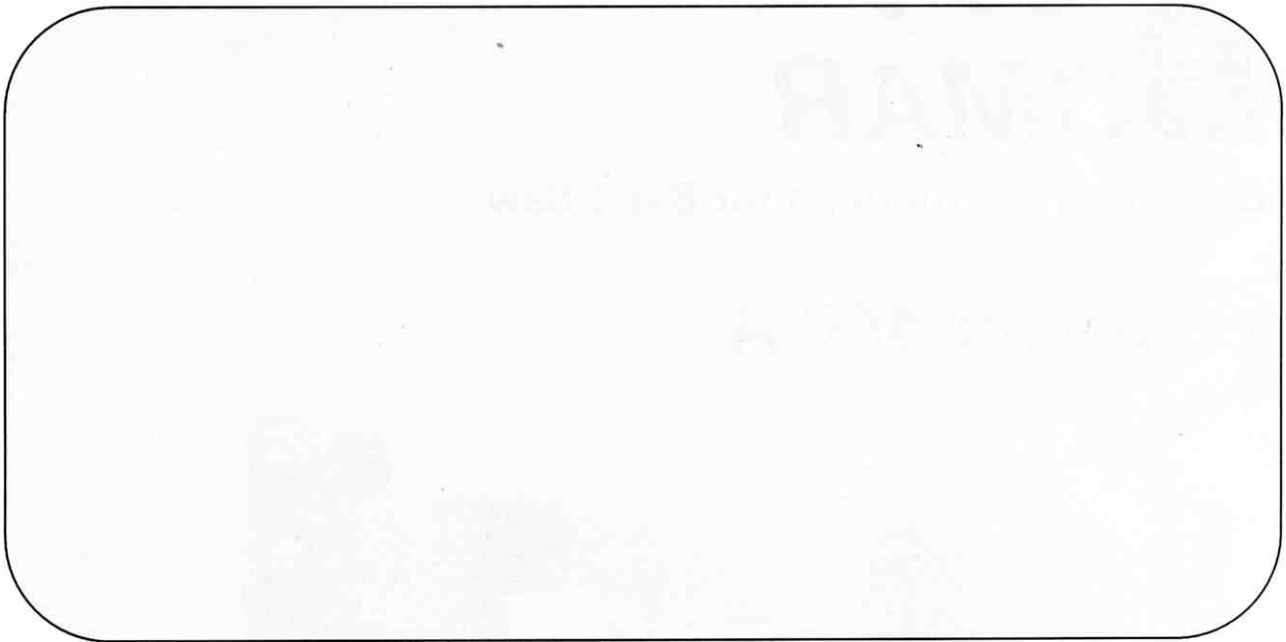
**Before transporting and using the machine, please read the instructions thoroughly!**

Serial number:



## Service and Information

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



Or contact Bomar, spol. s r.o. directly:

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We are available Mondays to Fridays from 7<sup>00</sup> to 16<sup>00</sup>.

# Content

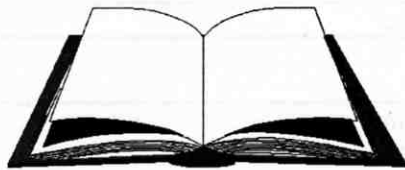
<b>1. INTRODUCTION</b> .....	<b>7</b>
<b>2. BAND SAW USING</b> .....	<b>7</b>
<b>3. TECHNICAL DATA</b> .....	<b>8</b>
<b>4. SAFETY NOTES</b> .....	<b>9</b>
4.1. GENERAL .....	9
4.2. PROTECTIVE SUIT AND PERSONAL SAFETY.....	9
4.3. SAFETY NOTES FOR MACHINE OPERATOR .....	10
4.4. SAFETY NOTES FOR THE SERVICING AND REPAIRS .....	11
4.5. SAFETY MACHINE ACCESSORIES .....	12
<b>5. TRANSPORTATION AND STOCKING</b> .....	<b>13</b>
5.1. CONDITIONS FOR TRANSPORTATION AND STOCKING.....	13
5.2. SAFETY NOTES.....	13
5.3. TRANSPORT AND STOCKING PREPARATIONS .....	14
5.4. TRANSPORT AND STOCKING .....	14
<b>6. ACTIVATION</b> .....	<b>15</b>
6.1. MACHINE WORKING CONDITIONS .....	15
6.2. MACHINE INSTALLING AND LEVELLING .....	15
6.3. ELECTRICAL CONNECTION.....	16
6.4. FILLING OF THE COOLING SYSTEM.....	17
6.5. CHECK MACHINE FUNCTIONS .....	18
<b>7. CONTROL PANEL</b> .....	<b>20</b>
7.1. CONTROL PANEL – PART A.....	22
7.2. CONTROL PANEL – PART B.....	26
7.3. CONTROL PANEL – PART C .....	28
<b>8. STARTING THE BAND SAW</b> .....	<b>30</b>
8.1. SWITCH ON THE BAND SAW .....	30
8.2. FEEDER AND SAW ARM REFERENCE POSITION .....	30
<b>9. MATERIAL INSERTION</b> .....	<b>31</b>
9.1. SAFETY NOTES.....	31
9.2. HANDLING AGENT SELECTION .....	31
9.3. MATERIAL INSERTION .....	31
9.4. BUNDLE MATERIAL CUTTING .....	32
<b>10. BAND SAW ADJUSTING</b> .....	<b>33</b>
10.1. SAFETY NOTES.....	33
10.2. CUTTING SPEED ADJUSTMENT .....	33
10.3. OPTIMAL ADJUSTING OF THE GUIDE CUBES SPAN.....	33
10.4. SPEED ADJUSTMENT OF THE ARM LOWERING .....	33
10.5. CUTTING PRESSURE ADJUSTMENT.....	34
10.6. SWARF CONVEYOR – MANUAL OPERATION.....	34
10.7. SAW BAND COOLING.....	34

<b>11. SERVICE MENU .....</b>	<b>35</b>
11.1. ENTRANCE TO SERVICE MENU.....	35
11.2. SERVICE PARAMETERS ADJUSTMENT .....	35
11.2.1. <i>Vice parameters</i> .....	35
11.2.2. <i>Feeding vice pressure</i> .....	35
11.2.3. <i>Hydraulic regulation deactivate</i> .....	36
11.2.4. <i>Cooling type</i> .....	36
11.2.5. <i>Cooling mode</i> .....	36
11.2.6. <i>Mode of the saw band stopping</i> .....	36
11.2.7. <i>Swarf conveyor operation</i> .....	37
11.2.8. <i>Saw band correction</i> .....	37
11.2.9. <i>Language selection</i> .....	37
11.3. SERVICE MENU CLOSING.....	37
<b>12. CUTTING DATA EDITING.....</b>	<b>38</b>
12.1. PRESET.....	38
12.2. PROGRAM SAVING .....	38
12.3. PROGRAM SELECTION .....	38
12.4. PRESELECTION EDITING.....	39
12.5. NEW PRESELECTION INSERTING.....	39
12.6. PRESELECTION CLEARING.....	40
<b>13. SEMI-AUTOMATIC CYCLE.....</b>	<b>41</b>
13.1. SAFETY NOTES.....	41
13.2. CUT WITHOUT LENGTH ADJUSTMENT.....	41
13.3. CUT WITH AUTOMATIC FEEDING OF THE DESIRED MATERIAL LENGTH .....	42
13.4. CYCLE BREAKING.....	43
13.4.1. <i>STOP button</i> .....	43
13.4.2. <i>TOTAL STOP</i> .....	43
<b>14. AUTOMATIC CYCLE.....</b>	<b>44</b>
14.1. SAFETY NOTES.....	44
14.2. CYCLE PREPARATION .....	44
14.3. AUTOMATIC CYCLE.....	44
14.4. CYCLE BREAKING.....	45
14.4.1. <i>STOP button</i> .....	45
14.4.2. <i>TOTAL STOP</i> .....	45
<b>15. BLANKS REMOVING FROM THE BAND SAW.....</b>	<b>46</b>
15.1. SAFETY NOTES.....	46
15.2. HANDLING AGENT SELECTION .....	46
15.3. BLANKS REMOVING .....	46
<b>16. SELECTION AND REPLACEMENT OF THE SAW BAND .....</b>	<b>47</b>
16.1. SAFETY NOTES.....	47
16.2. SAW BAND SIZE .....	47
16.3. SELECTION OF THE SAW BAND TOOTH SYSTEM:.....	47
16.4. SAW BAND RUNNING - IN.....	49
16.5. SAW BAND DISMANTLING.....	50
16.6. SAW BAND INSTALLATION.....	51
16.7. SAW BAND STRETCHING AND INSPECTION.....	52
16.7.1. <i>Saw band stretching</i> .....	52
16.7.2. <i>Saw band inspection</i> .....	52
<b>17. COOLING AGENTS AND CHIPS DISPOSAL.....</b>	<b>53</b>

17.1.	SAFETY NOTES.....	53
17.2.	COOLING LIQUID PREPARATION.....	53
17.3.	COOLANT DEVICE INSPECTION.....	55
17.4.	CHIPS DISPOSAL.....	55
<b>18.</b>	<b>GREASES AND OILS .....</b>	<b>56</b>
18.1.	GEARBOX OILS.....	56
18.2.	HYDRAULIC OILS.....	57
18.3.	LUBRICANT GREASES .....	58
<b>19.</b>	<b>SERVICE.....</b>	<b>59</b>
19.1.	MACHINE CLEANING .....	59
19.2.	LUBRICATION .....	59
19.3.	COOLING LIQUID INSPECTION .....	59
19.4.	HYDRAULIC OIL LEVEL CHECK.....	60
<b>20.</b>	<b>ROZMĚROVÉ SCHÉMA / AUFSTELLZEICHNUNG / INSTALLATION DIAGRAM .....</b>	<b>61</b>
20.1.	ROZMĚROVÉ SCHÉMA / AUFSTELLZEICHNUNG / INSTALLATION DIAGRAM.....	61
<b>21.</b>	<b>ELEKTRICKÁ SCHÉMATA / ELEKTROSCHEMAS / WIRING DIAGRAMS .....</b>	<b>62</b>
21.1.	ELEKTRICKÉ SCHÉMA / ELEKTROSCHEMA / WIRING DIAGRAM.....	62
21.2.	ELEKTRICKÉ SCHÉMA / ELEKTROSCHEMA / WIRING DIAGRAM.....	63
21.3.	ELEKTRICKÉ SCHÉMA / ELEKTROSCHEMA / WIRING DIAGRAM.....	64
21.4.	ELEKTRICKÉ SCHÉMA / ELEKTROSCHEMA / WIRING DIAGRAM.....	65
21.5.	ELEKTRICKÉ SCHÉMA / ELEKTROSCHEMA / WIRING DIAGRAM.....	66
21.6.	ELEKTRICKÉ SCHÉMA / ELEKTROSCHEMA / WIRING DIAGRAM.....	67
21.7.	ELEKTRICKÉ SCHÉMA / ELEKTROSCHEMA / WIRING DIAGRAM.....	68
21.8.	ELEKTRICKÉ SCHÉMA / ELEKTROSCHEMA / WIRING DIAGRAM.....	69
21.9.	ELEKTRICKÉ SCHÉMA / ELEKTROSCHEMA / WIRING DIAGRAM.....	70
21.10.	ELEKTRICKÉ SCHÉMA / ELEKTROSCHEMA / WIRING DIAGRAM.....	71
21.11.	ELEKTRICKÉ SCHÉMA / ELEKTROSCHEMA / WIRING DIAGRAM.....	72
21.12.	ELEKTRICKÉ SCHÉMA / ELEKTROSCHEMA / WIRING DIAGRAM.....	73
21.13.	ELEKTRICKÉ SCHÉMA / ELEKTROSCHEMA / WIRING DIAGRAM.....	74
21.14.	ELEKTRICKÉ SCHÉMA / ELEKTROSCHEMA / WIRING DIAGRAM.....	75
21.15.	ELEKTRICKÉ SCHÉMA / ELEKTROSCHEMA / WIRING DIAGRAM.....	76
21.16.	ELEKTRICKÉ SCHÉMA / ELEKTROSCHEMA / WIRING DIAGRAM.....	77
<b>22.</b>	<b>HYDRAULICKÉ SCHÉMA / HYDRAULIKSCHEMA / HYDRAULIC DIAGRAM.....</b>	<b>78</b>
<b>23.</b>	<b>VÝKRESY SESTAV PRO OBJEDNÁNÍ NÁHRADNÍCH DÍLŮ / ZEICHNUNGEN FÜR BESTELLUNG DER ERSATZTEILE / DRAWING ASSEMBLIES FOR SPARE PARTS ORDER</b>	<b>81</b>
23.1.	HLAVNÍ SVĚRÁK / HAUPTSCHRAUBSTOCK / MAIN VICE .....	82
23.2.	UPÍNAČÍ VÁLEC SVĚRÁKU / SPANNZYLINDER DES HAUPTSCHRAUBSTOCKES / VICE CLAMPING CYLINDER .....	84
23.3.	HORNÍ UPÍNÁNÍ HLAVNÍHO SVĚRÁKU / OBERE SPANNUNG DES HAUPTSCHRAUBSTOCKES / MAIN VICE UPPER CLAMPING .....	86
23.4.	UPÍNAČÍ VÁLEC HORNÍHO UPÍNÁNÍ / SPANNZYLINDER DER OBEREN SPANNUNG / UPPER CLAMPING CYLINDER .....	88
23.5.	PODAVAČ / VORSCHUB / FEEDER.....	90
23.6.	PODÁVACÍ VÁLEC / VORSCHUBZYLINDER / FEEDING CYLINDER.....	92
23.7.	HORNÍ UPÍNÁNÍ PODAVAČE / OBERE SPANNUNG DES VORSCHUBES / FEEDING VICE UPPER CLAMPING.....	94
23.8.	VEDENÍ PÁSU / SÄGEBANDFÜHRUNG / SAW BAND GUIDING .....	96

23.9.	LEVÁ VODÍCÍ KOSTKA / LINKER BANDFÜHRUNGSKLOTZ / LEFT GUIDING CUBE .....	98
23.10.	PRAVÁ VODÍCÍ KOSTKA / RECHTER BANDFÜHRUNGSKLOTZ / RIGHT GUIDING CUBE.....	100
23.11.	NAPÍNÁNÍ PÁSU / SÄGEBANDSPANNUNG / SAW BAND STRETCHING.....	102
23.12.	KARTÁČEK / SPÄNBÜRSTE / BRUSH.....	104
23.13.	ZVEDACÍ VÁLEC / HUBZYLINDER / LIFTING CYLINDER .....	106
<b>24.</b>	<b>TROUBLESHOOTING TABLE.....</b>	<b>108</b>
	<b>DECLARATION OF CONFORMITY .....</b>	<b>111</b>

## 1. Introduction



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

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



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

## 2. Band saw using

The band saw compact 460 A is used for cutting and shortening of rolled bars and drawn bars and profiles from steels, stainless steels, non-ferrous metals and plastics. **Combustible materials are excepted for cutting!** Any other usage and operation outside this range are unauthorised and the manufacturer/supplier does not accept any responsibility for any damages resulting from such misuse. **The operator has full responsibility!**

The roller conveyors can be connected with the band saw, which facilitates manipulation with the material. Recommended types and style of connecting are described in chapter „**Roller conveyors and accessories**“.

### 3. Technical data

#### Total weight of the machine

Weight	3600 kg
--------	---------

#### Sizes of the machine:

Length	2520 mm
Width	2990 mm
Height	2600 mm

#### Electrical equipment of the machine:

Supply voltage	~3 x 400V, 50Hz, TN-C-S
Total input	7,5 kVA
Protection degree	IP 54

#### Driving engine of the band saw:

Type	1LA7/130-4 AA
Output	5,5 kW

#### Hydraulic equipment:

Type	870 – 1734
Output	1,1 kW

#### Cooling system:

Type	2COP1 – 14H
Cooling-system capacity	160 l

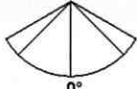

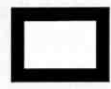
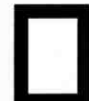
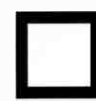
#### Size of the saw band:

<b>6050 x 41 x 1,3 mm</b>
---------------------------

#### Cutting speed:

20 - 100 m/min
----------------

#### Cutting angles:

 0°	 Ø460 mm	 460 x 460 mm	 460 x 460 mm	 460 x 460 mm
0°	Ø460 mm	460 x 460 mm	460 x 460 mm	460 x 460 mm



## 4. Safety notes

### 4.1. General

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

### 4.2. Protective suit and personal safety



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



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



**Attention! Gloves you can use only at working material replacement (saw band)! The machine and accessories must be inactive!**



**If the machine is running, you must not wear gloves! It is dangerous, because some parts of the machine can catch gloves!**



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



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



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



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



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

#### 4.3. Safety notes for machine operator

Keep instructions and orders about work safety!



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

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

Do not hold the material for clamping to the vice and for cutting!

Do not operate with the buttons and the switches on the control panel, if you have gloves!  
For machine starting take care, that there is nobody in the working area of the machine (it means in the working area of the vice, the saw band, the saw arm etc.).  
Work on the machine only when the machine is in good condition!  
Check at least once in a shift, if the machine is not damaged. If the machine is damaged, you must bring the machine in order and you must inform your superior!

Keep your working area clean!  
Ensure sufficient lighting in the working area.  
Take off the spilt water or the oil from the floor and dry it!

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

#### 4.4. Safety notes for the servicing and repairs

Only a qualified professional can carry out servicing and repairs! Always keep notes about work safety!



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



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

For parts changing, use only parts, which are identical with the originals.  
Use only recommended type of the hydraulic oils and oils and lubricants.

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

Do not start the machine, if the covers are not on their places!

#### 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.

##### 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.

##### Saw arm cover

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

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

##### Saw band stretching and rupture inspection

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

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

##### Saw band cover

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

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

## 5. Transportation and stocking

### 5.1. Conditions for transportation and stocking

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

#### Conditions for transportation and stocking:

Temperature of the air from  $-25^{\circ}\text{C}$  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.

### 5.2. 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.

### **5.3. 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!

### **5.4. Transport and stocking**

Handle the machine only with the hand pallet truck or the forklift truck! If the machine is equipped with the shackles in the pedestal, you can use the suspension cable and the crane.  
Make sure that the hand pallet truck; the forklift truck or 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 palette to the floor of the van or the trailer.  
Be careful that the machine is not damaged during transportation.

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

## **6. Activation**

### **6.1. Machine working conditions**

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

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

At temperature air from +5°C to +40°C, the temperature average during 24 hours must not exceed over +35°C.

At relative dampness of the air in the extend from 30% to 95% (not concentrate).

Altitude lower than 1000 metres.

Do not expose the machine to the radiation (for example microwave radiation, ultra-violet radiation, laser radiation, X – ray radiation). Radiation can cause problems with the machine function and deteriorating condition of the isolation.

### **6.2. 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.

### 6.3. Electrical connection



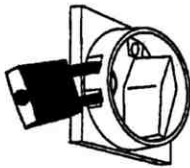
ATTENTION! Only a qualified professional must carry out the servicing and repairs of the electric equipment! Take special care during work with electrical equipment. High voltage shock can have fatal consequences! Always keep notes about work safety!

#### Electrical parameters of the machine:

Service voltage:	~ 3 x 400 V, 50 Hz, TN-C-S
Total input:	see <b>Technical data</b>
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.

#### 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.



#### 6.4. 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.

## 6.5. 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.

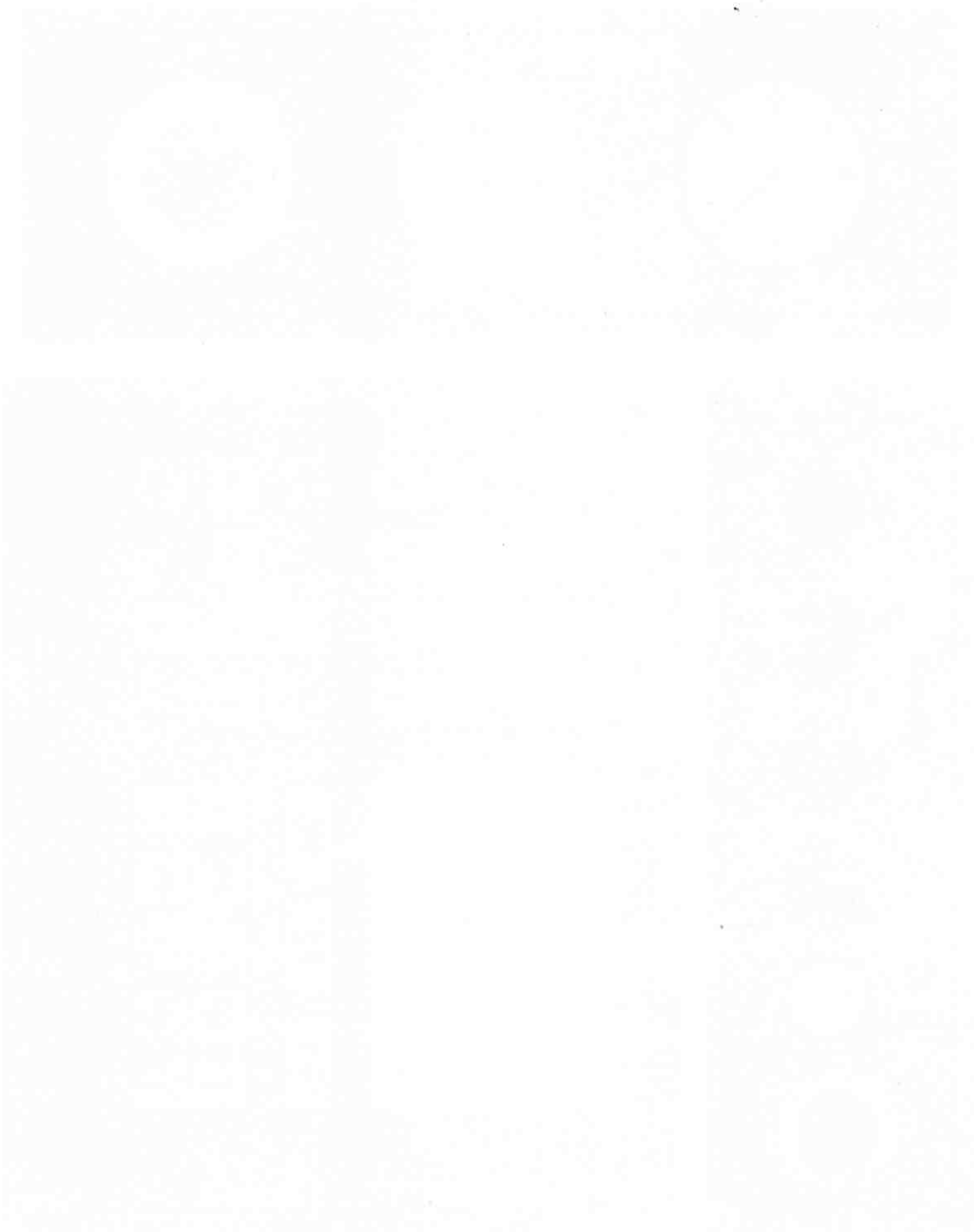
Check by means of the Tenzomat (see **Special accessory**), if the saw band is correctly stretched. If it is necessary, you can stretch the saw band according to chapter „**Selection and replacement of the saw band**“. Values of the saw band stretching are on the Tenzomat.

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

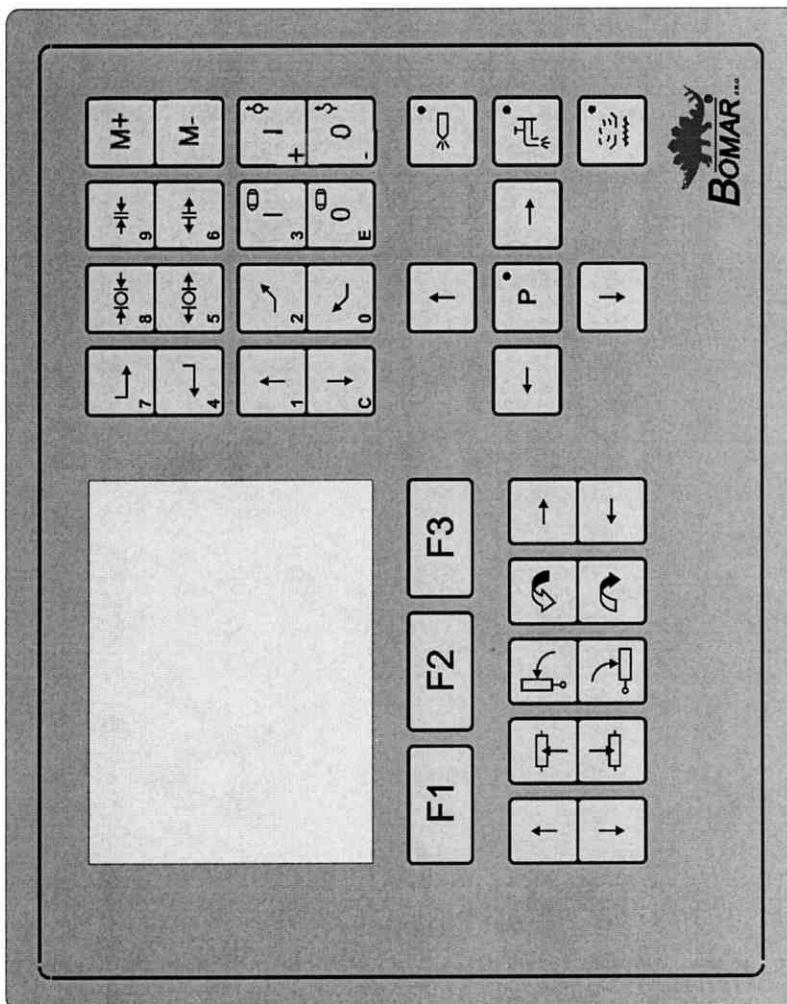
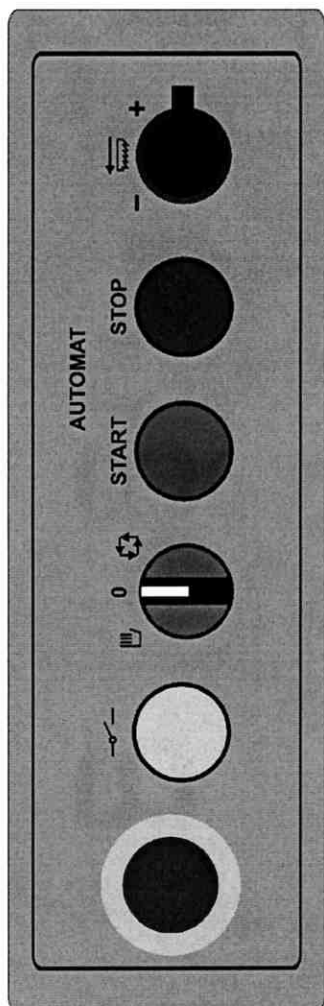
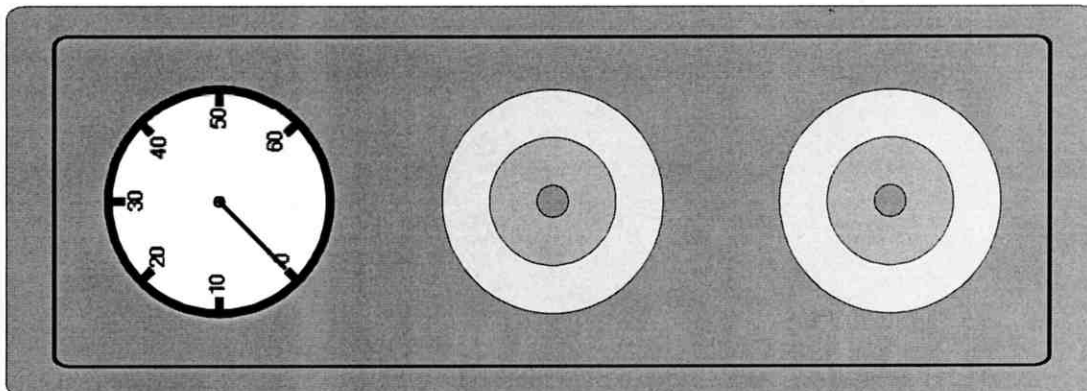
Open and close the main vice and the feeding vice. Drive the front feeder from the front position – GA model only – to the rear position. Turn the saw frame of the band saw from one outer position to other outer position. Raise the saw frame to the top position and drop the saw frame to the lowest position.

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.



### 7. Control panel



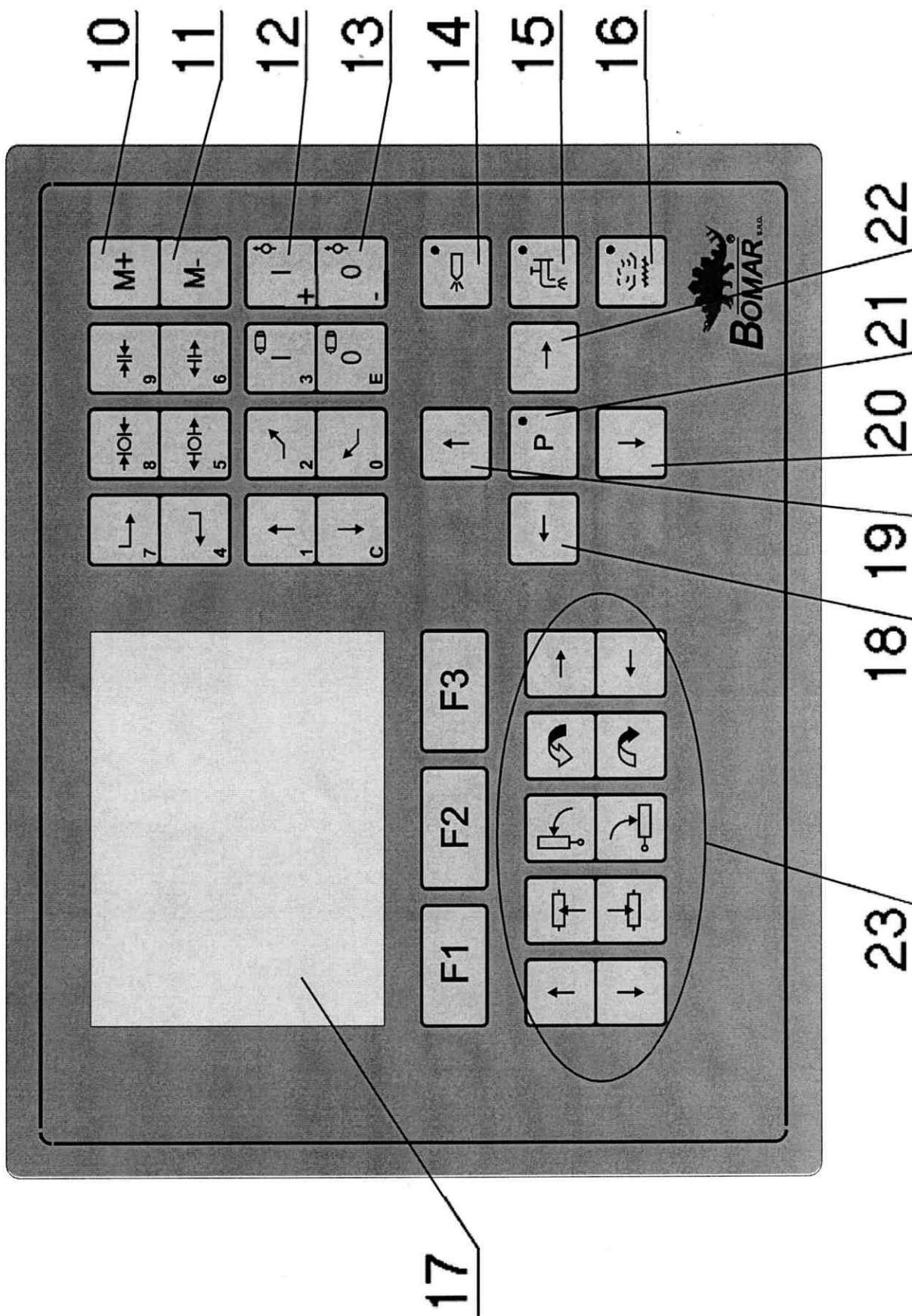
**A** Control panel – part A

**B** Control panel – part B

**C** Control panel – part C

**Note:** The detailed description of control is described in following chapters.

7.1. Control panel – part A



**C Lower the saw arm down**  
If you press together buttons **C + F3**, saw arm sinks quickly.  
**ATTENTION!** It is prohibited to drive with accelerated shift until the cut, because the saw band can be damaged.

**E Switch off the saw band drive**

**F1 F1 – Functional button**  
Button function – see below.

**F2 F2 – Functional button**  
Button function – see below.

**F3 F3 – Functional button**  
Button function – see below.

**0 Without function**

**1 Lift the saw arm**

**2 Without function**

**3 Switch on the saw band drive**

**4 Feeder to the left**

**5 Open the feeding vice**

**6 Open the main vice**

**7 Feeder to the right**

**8 Close the feeding vice**

**9 Close the main vice**

**10 Without function**

**11 Without function**

**12 Switch on the hydraulic aggregate**

**13 Switch off the hydraulic aggregate**

**14 Microniser**  
Press button, the cooling of the saw band with Microniser is started and stopped.  
Microniser is active, red diode is lighting.  
**Note:** Microniser is active only when the saw band is started.

**15** **Saw band cooling with water**  
Press button, the cooling of the saw band with water is started and stopped. Cooling of the saw band is active, red diode is lighting.  
**Note:** Saw band cooling with water is active only when the saw band is started.

**16** **Swarf conveyor**  
Press button, swarf conveyor is started and stopped. The swarf conveyor is active, red diode is lighting.

**17** **Display**  
It appears the operating mode and it allows dialogue with service workers.

**18** **Indicator – left**

**19** **Indicator - up**

**20** **Indicator - down**

**21** **Without function**

**22** **Indicator – right**

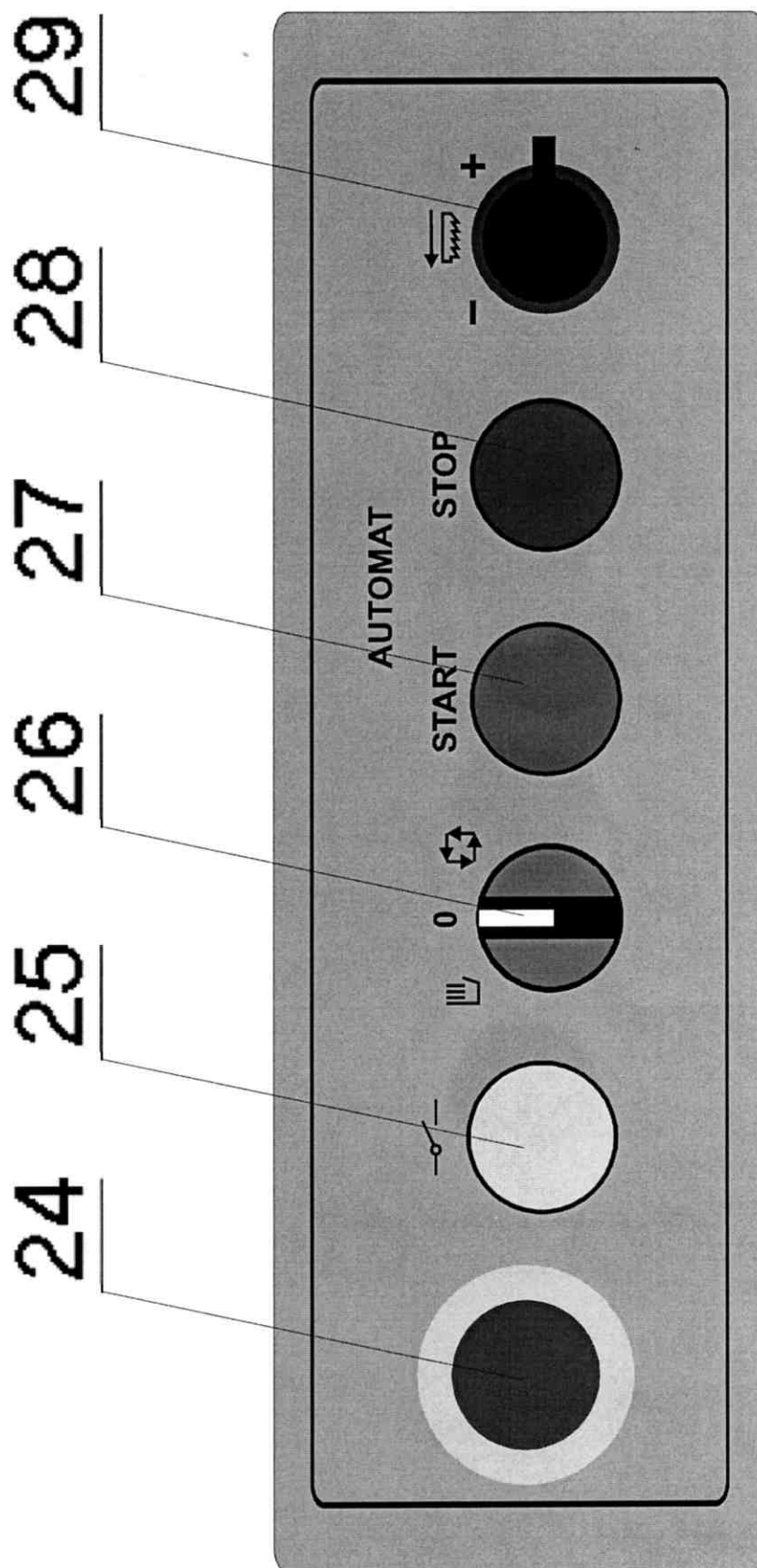
**23** **Without function**





05  
05  
12  
05  
05  
45



### 7.2. Control panel – part B



**24 TOTAL STOP**  
Shutting the machine down in emergency!

**25 Safety circuit switching on**  
Switch on the safety circuit by pressing the button.

**26 Switch**  
Operating mode pre-selection.

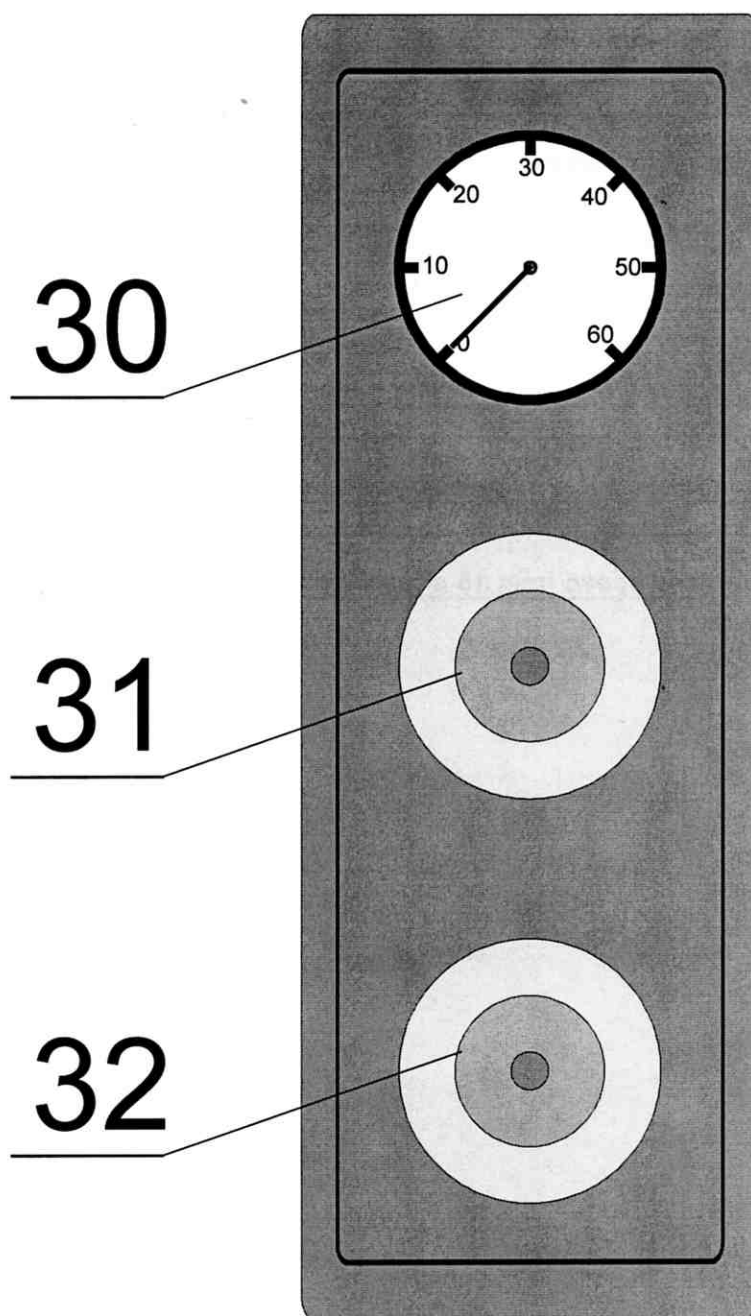
	Manual mode.
	Semi-automatic mode.
0	Adjust mode.

**27 START button**  
It **starts** the automatic cycle by pressing button.

**28 STOP button**  
It **stops** the automatic cycle by pressing button.

**29 Saw band speed**  
Adjust the saw band speed from 15 m\*min<sup>-1</sup> to 150 m\*min<sup>-1</sup>.

### 7.3. Control panel – part C



**30** Manometer of cutting pressure

**31** Regulation of the cutting pressure

**32** Governing valve  
Set the speed of saw arm lowering to the cut by governing valve.

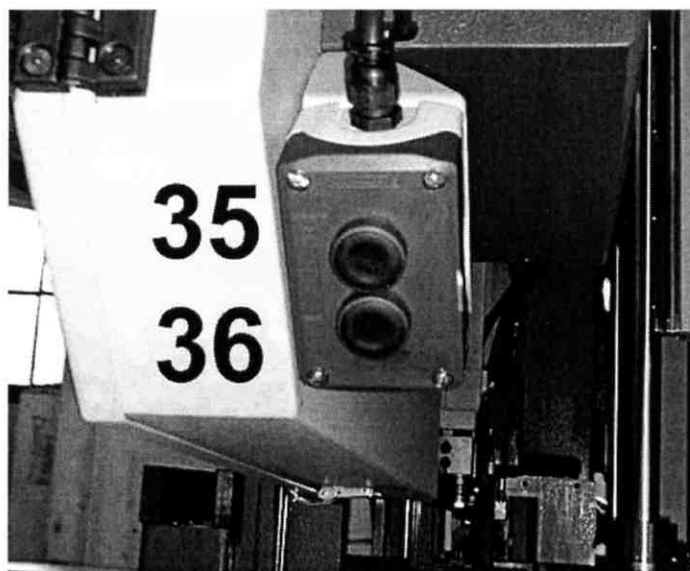


**33** Main switch

**Deblock**

At the saw band replacement.

- 34** **0 position** – operating mode. The switch must be in 0 position at current operation.  
**1 position** – saw band replacement. Start the hydraulic aggregate and release the saw band tension, the covers can be opened. The other functions are blocked.



- 35** **Saw band tension**  
 At saw band replacement. It **stretches** the saw band.  
**Note:** This button is functional only when the switch of deblock **34** is in position **1**.

- 36** **Saw band releasing**  
 At saw band replacement. It releases the saw band.  
**Note:** This button is functional only when the switch of deblock **34** is in position **1**.

## 8. Starting the band saw

### 8.1. Switch on 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 15 – control panel of the band saw).

### 8.2. Feeder and saw arm reference position

1) Press button **F1**, enter to menu: Reference.

2) Press button **START**. Feeder and saw arm drives to the reference position.

3) As soon as the notice "Feeder reference position is set correctly" appears on the display, press button **F2**. Reference position is set.

## 9. Material insertion

### 9.1. 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!

### 9.2. Handling agent selection

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



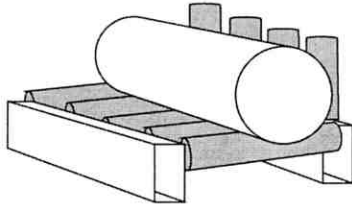
Handle with the material only with the lift truck or use the suspension strands and the crane!  
Do not use the lift truck or crane in case that you do not have the licence to handle with it!

### 9.3. 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**“.

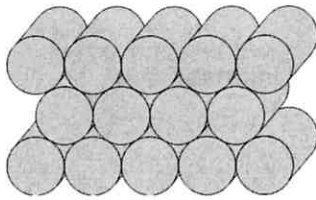
Make sure the conveyor is long enough and the material cannot tip off the conveyor.



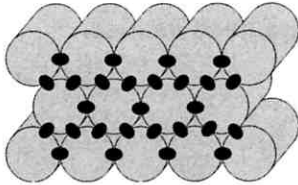
Be especially careful with round materials that it always stays on two vertical rollers and that it cannot fall off the conveyor!

#### 9.4. Bundle material cutting

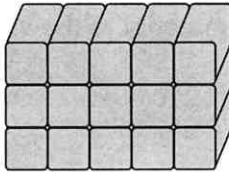
If you want to cut the material in the bundle, there are suggestions for the positioning of bundles



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.**



## 10. Band saw adjusting

### 10.1. 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.

### 10.2. Cutting speed adjustment

The saw band speed is possible to change from 15 to 115 m·min<sup>-1</sup>. See following:

- 1) Turn switch **26** to position „“.
- 2) Start the saw band drive by pressing button **3**.
- 3) Adjust the desired speed of the saw band by turned knob **29**.

Speeds of turned knob are only orientation! The saw band speed appears on display (position 17 – control panel).

### 10.3. Optimal adjusting of the guide cubes span

Optimal adjusting of the guiding cubes span is adjusted by automatically without service workers. The guiding cubes span depends on the vice jaw position. Optimal guide cubes span is adjusted at material clamping to the vice.

### 10.4. Speed adjustment of the arm lowering

Set the speed of the arm lowering to the cut by control valve (position **32** – control panel).

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

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

### 10.5. Cutting pressure adjustment

Set the cutting pressure by means of control valve (position **31** – control panel).

Manometer appears the adjusted cutting pressure (position **30** – control panel)

Set the **lower** cutting pressure by turning the switch **anti-clockwise**.

Set the **higher** cutting pressure by turning the switch **clockwise**.

### 10.6. Swarf conveyor – manual operation

**Note:** The swarf conveyor is supplied to the band saw only by request.

#### In semi-automatic cycle

The swarf conveyor starts and stops by pressing button **16**.

#### In automatic cycle

The swarf conveyor operation is adjusted according to chapter Service menu.

### 10.7. Saw band cooling

#### In semi-automatic cycle

**Water cooling** – start and stop it by pressing button **15**.

**Microniser cooling** – start and stop it by pressing button **14**.

#### In automatic cycle

The operation of the cooling with Microniser or water is adjusted according to chapter Service menu.

## **11. Service menu**

**Service menu** – adjust the cutting parameters.

### **11.1. Entrance to service menu**

Press button **F3** to enter to service menu.

Service menu has two parts:

- 1) Service parameters
- 2) Manufacturing parameters – parameters are adjusted of manufacturer, is impossible to change them.

### **11.2. Service parameters adjustment**

Service parameters are adjusted according to display's reports.

Entrance to menu "Service parameters" by pressing button **1**.

Select the parameters of adjustment by pressing buttons **19** and **20**.

Adjust selected parameters by pressing buttons **18** and **22**.

Confirm selected parameters by pressing button **E**.

#### **11.2.1. Vice parameters**

By setting the time opening of both vices you can set, distance of the movable jaw vices opening, it means, the vice is opened any more, when the time is set longer. This function is used in case of the cutting of the rough materials. Is necessary to set longer vice opening, that the material will be released. Smooth materials has set shorter vice opening. Shorten the time of the cycle. Time of the vices opening is 1 second.

- 1) Select row "Time of main vice opening" by pressing buttons **19** and **20**.
- 2) Adjust the time, press button **E**.
- 3) Select row "Time of feeding vice opening" by pressing buttons **19** and **20**.
- 4) Adjust the time, press button **E**.

#### **11.2.2. Feeding vice pressure**

Adjust, if you want to use the upper pressure on the feeding vice.

**YES** – upper pressure of the feeding vice is active.  
**NO** – upper pressure of the feeding vice is not active.

### 11.2.3. Hydraulic regulation deactivate

Adjust, if you want to regulate the cutting pressure on the guiding cubes.

**YES** – pressure regulation to the cut is deactivated and the saw arm sinks to the cut by adjusted speed.

**NO** – pressure regulation to the cut is active and the saw arm sinks to the cut according to the cutting conditions.

### 11.2.4. Cooling type

You can select the cooling with the water, Microniser or without cooling.

1) Select parameter: Cooling type by pressing buttons **19** and **20**.

2) Select the desired cooling type by pressing buttons **18** and **22**.

- a) saw band cooling with the water.
- b) saw band cooling with Microniser.
- c) without cooling of the saw band.

### 11.2.5. Cooling mode

You can select, if you want to stop the cooling in upper or lower position or do not stop the cooling.

1) Select parameter: Cooling mode by pressing buttons **19** and **20**.

2) Select the desired cooling mode by pressing buttons **18** and **22**.

- Without stopping
- Stop the cooling in the upper position
- Stop the cooling in the lower position
- Stop the cooling together with saw band
- Manual control

### 11.2.6. Mode of the saw band stopping

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

1) Select parameter: Mode of the saw band stopping by pressing buttons **19** and **20**.

2) Select the desired mode of the saw band stopping by pressing buttons **18** and **22**.

- Without stopping
- Stop the saw band in the upper position
- Stop the saw band in the lower position
- Stop the drive together with the saw band
- Manual control

### **11.2.7. Swarf conveyor operation**

You can select from five possibilities of swarf conveyor operation in automatic cycle.

**1) Select parameter: Swarf conveyor operation by pressing buttons 19 and 20.**

**2) Select the desired way of swarf conveyor operation by pressing buttons 18 and 22.**

- Without stopping
- Stop the conveyor in the upper position
- Stop the conveyor in the lower position
- Stop it together with the saw band
- Manual control

### **11.2.8. Saw band correction**

The cut width is possible to adjust according to the selected saw band.

**1) Select parameter: Saw band correction by pressing buttons 19 and 20.**

**2) Adjust the cut width by means of numerical buttons.**

### **11.2.9. Language selection**

You can adjust the language.

**1) Select parameter: Language selection by pressing buttons 19 and 20.**

**2) Select the desired language by pressing buttons 18 and 22.**

### **11.3. Service menu closing**

Press button **F3**. Service menu is closed.

## 12. Cutting data editing

Adjust the cutting data for cutting in automatic cycle.

1) Turn switch **26** to position „0“, to pre-set and perform the automatic cycle.

2) Press **F2** button.

Definition explain:

*Preselection* is the part of program, includes the length of blank and pieces number of the set length.

*Program* is table of the cutting date (preselections).

### 12.1. Preset

1) Adjust the blank length. Press button **E**.

2) Adjust pieces number. Press button **E**, to preset preselection number 1.

3) Preset other preselections by repeating points 1 and 2.

### 12.2. Program saving

1) Press button **F2** after preset stopping.

2) Press button **F2** – Work with memory.

3) Press button **F2** – Save table of cutting date to the memory.

4) Adjust the number of memory, where you want to save the program. Press button **E**. Program is saved.

### 12.3. Program selection

1) Press button **F2**.

2) Press button **F2** – Work with memory.

3) Press button **F1** – Open table of cutting date from the memory.

4) Adjust the number of memory, from which you want to select the program. Press button **E**. Program is opened.

#### **12.4. Preselection editing**

You can change the length of blank or pieces number in single preselections.

- 1) Open the number of program from memory, which you want to edit.
- 2) Select preselection, which you want to change by pressing buttons **19** and **20**.
- 3) Adjust cursor on the position: length of blank by pressing buttons **18** and **22**.
- 4) Adjust the new length of the blank. Press button **E**, to change the length of the blank.
- 5) Select the new pieces number. Press button **E**, to change pieces number.
- 6) You can change the other preselections by repeating points 2, 3 and 4.
- 7) You can save the program.

#### **12.5. New preselection inserting**

- 1) Open the number of program from memory, to insert new preselection.
- 2) Select preselection before which you want to insert new preselection by pressing buttons **19** and **20**.
- 3) Press button **F2 - MENU**.
- 4) Press button **F1 - Work with preselection**.
- 5) Press button **F1 - Insert preselection**.
- 6) Adjust new length of the blank. Press button **E**, to change length of the blank.
- 7) Adjust new pieces number. Press button **E**, to change pieces number.
- 8) You can change, insert the other preselections by repeating points 2, 3, 4, 5, 6 and 7.
- 9) You can save the program.

## 12.6. Preselection clearing

- 1) Open the number of program from memory, to clear the preselection.
- 2) Select preselection, which you want to clear by pressing buttons **19** and **20**.
- 3) Press button **F2 - MENU**.
- 4) Press button **F1** – Work with preselection.
- 5) Press button **F2** – Clear preselection.
- 6) Preselection is cleared.



### 13. Semi-automatic cycle

In semi-automatic cycle is possible to perform single cuts directly without next length adjustment or with automatic feeding to the desired material length.

Turn switch **26** to position „“ for working in semi-automatic cycle.

#### 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. Cut without length adjustment

- 1) Insert material on the loading surface of the main vice to the position, in which you want to cut the material.
- 2) Turn switch **26** to position „“.
- 3) Press button START. The saw performs the cut.
- 4) The saw arm lifts up and button START starts to blink after cutting stopping. Now, you can open the vices and remove the blank.

### 13.3. Cut with automatic feeding of the desired material length

- 1) Turn switch **26** to position „“.
- 2) Open main and feeding vice by pressing buttons **6** and **5**.
- 3) Lift saw arm up – button **1**.
- 4) Insert the material to the feeding vice.
- 5) Press button **F2**.
- 6) Adjust the length of the blank. Press button **E**.
- 7) Adjust tubes number, which will be cut. Press button **E**.
- 8) If the tubes number is bigger than 1, adjust the difference between the shortest and the longest tube. Press button **E**.
- 9) Adjust the saw arm over the cutting material by pressing buttons **C** and **1**. Press button **F2**.
- 10) Select, if you want to drive the material automatically.  
**YES** – press button **F1** and feeder drives the material on the desired length.  
**NO** – press button **F3** and material stays in the momentary position.
- 11) Select, if you want to cut the end of the material.  
**YES** – adjust the length of the cut (3 – 50 mm) and press button **F1**.  
**NO** – press button **F3**.
- 12) Press button **START (27)**. The saw performs the cut.
- 13) The saw arm lifts up and button **START** starts to blink after cutting stopping. Now, you can open the vices and remove the blank.

## **13.4. Cycle breaking**

### **13.4.1. STOP button**

Press button **STOP** (button **28** – control panel) or button **1** (lift saw arm up) – saw interrupts the cut, arm lifts to the starting position.

Start the cycle by pressing button „**27**“ (**START** of semi-automatic cycle). You can start the cycle again.

### **13.4.2. TOTAL STOP**

Press emergency button **TOTAL STOP** (button **24** – control panel) in emergency causes! Safety circuit is broken and the saw band drive is stopped too.

#### **Reactivation:**

- 1)** Turn button **TOTAL STOP** according to the arrows (on the button).
- 2)** Switch on the safety circuit by button **25**.
- 3)** Press button **F2 <OK>**.
- 4)** Lift the saw arm up by pressing button **1**.
- 5)** Press button „**27**“ (**START** of semi-automatic cycle).

## 14. Automatic cycle

### 14.1. 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.

### 14.2. Cycle preparation

- 1) Turn switch **26** to position „“.
- 2) Open the main and feeding vice by means of buttons **6** and **5**.
- 3) Lift the saw arm up – button **1**.
- 4) Insert material to the feeding vice.

### 14.3. Automatic cycle

- 1) Turn switch **26** to position „“, to perform the automatic cycle.
- 2) Open program from memory or pre-set new program, according to which you want to perform the automatic cycle.
- 3) Press button **F3**.
- 4) Adjust tubes number, which will be cut. Press button **E**.
- 5) If the tubes number is bigger than 1, adjust the difference between the shortest and the longest tube. Press button **E**.
- 6) Adjust the saw arm over the cutting material by pressing buttons **C** and **1**. Press button **F2**.
- 7) Select, if you want to drive the material automatically.  
**YES** – press button **F1** and feeder drives the material on the desired length.  
**NO** – press button **F3** and material stays in the momentary position.

8) Select, if you want to cut the end of the material.

**YES** – adjust the length of the cut (3 – 50 mm) and press button **F1**.

**NO** – press button **F3**.

9) Press button **START (27)**. The saw performs the cut.

10) The saw arm lifts up and button **START** starts to blink after cutting stopping. Now, you can open the vices and remove the blank.

#### 14.4. Cycle breaking

##### 14.4.1. STOP button

Press button **STOP** (button **28** – control panel) or button **1** (lift saw arm up) – saw interrupts the cut, arm lifts to the starting position.

Start the cycle by pressing button „**27**“ (**START** of semi-automatic cycle). You can start the cycle again.

##### 14.4.2. TOTAL STOP

Press emergency button **TOTAL STOP** (button **24** – control panel) in emergency causes! Safety circuit is broken and the saw band drive is stopped too.

##### Reactivation:

6) Turn button **TOTAL STOP** according to the arrows (on the button).

7) Switch on the safety circuit by button **25**.

8) Press button **F2 <OK>**.

9) Lift the saw arm up by pressing button **1**.

10) Press button „**27**“ (**START** of semi-automatic cycle).

## 15. Blanks removing from the band saw

### 15.1. 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!

### 15.2. 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!

### 15.3. Blanks removing

Remove the blanks from the band saw.

## 16. Selection and replacement of the saw band

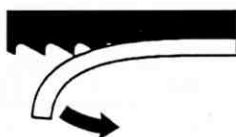
### 16.1. Safety notes



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.

### 16.2. Saw band size

**6050 x 41 x 1,3 mm**

### 16.3. 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 saw band 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.

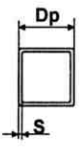

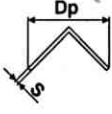
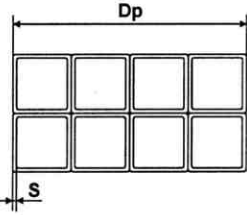
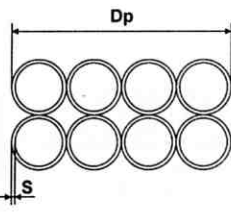
K – tooth with positive angle of the teeth.

#### Examples of the tooth system marking:

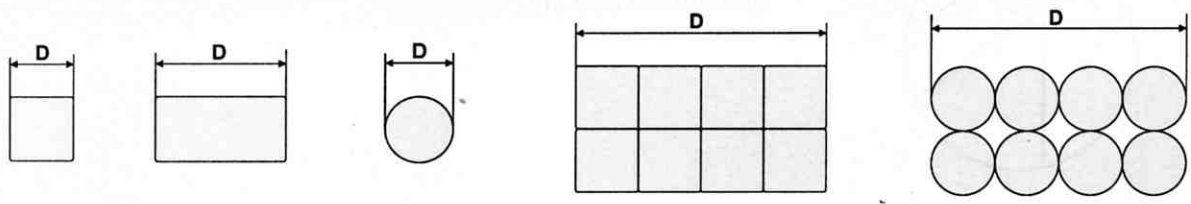
32 S – number „32“ means 32 teeth on one inch (that means constant tooth system), letter „S“ marks teeth with zero angle of the tooth.

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)						
						
<b>Note:</b> 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!

#### 16.4. 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.

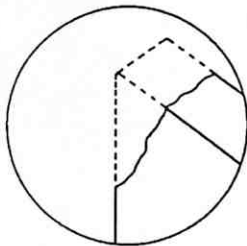
**Running in:** Cut the material with the frame lowering reduced to 50% only. When vibrations occur increase or decrease the band speed.

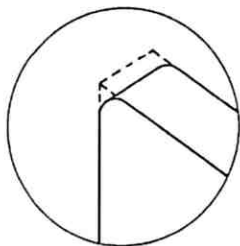
When cutting small pieces run the band until approximately 300 cm<sup>2</sup> of material has been cut.

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.

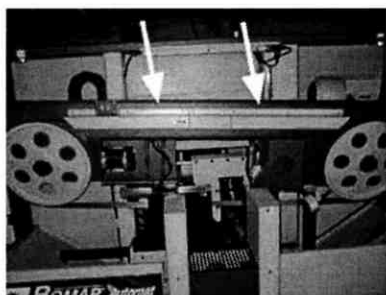




The optimal running in of the saw band produces ideal rounded cutting edges and therefore the conditions for an optimal service life.

### 16.5. Saw band dismantling

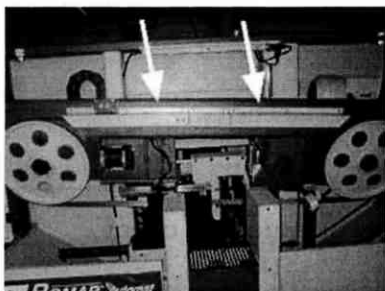
- 1) Turn switch **26** to position "III".
- 2) Lift the saw arm by pressing button **1** to the top position.
- 3) Turn switch of deblock **34** to position **1**.
- 4) Open covers of the arm and saw band.
- 5) Dismantle yellow cover of the saw band.



- 6) Release the saw band by pressing button **36**.
- 7) Pull the saw band from blade wheels.
- 8) Pull up the saw band from the guiding cubes.

## 16.6. 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) Stretch the saw band by pressing button **35**.
- 5) Install yellow cover of the saw band.



- 6) Close covers of the saw arm and saw band.
- 7) Turn switch of deblock **34** to position **0**.
- 8) The saw band installation is ended.

## 16.7. 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.

### 16.7.1. 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.

### 16.7.2. 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 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 **5 – 8 mm**, setting is right.
  - - if the distance is bigger than **8 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.

## 17. Cooling agents and chips disposal

### 17.1. 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.

### 17.2. 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

### 17.3. 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 to 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.

### 17.4. 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.

## 18. Greases and oils

### 18.1. 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
compact 460 A	Shell Tivela S 320	11,1 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



## 18.2. 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		

### 18.3. 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

## 19. Service

### 19.1. 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 main and feeding vice.
- The feeder guiding
- Loading surface of the main, feeding vice, and area under them

### 19.2. Lubrication

There are several places 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.

### 19.3. 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.

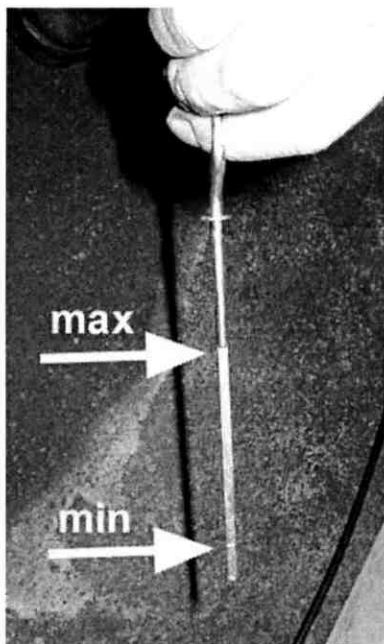
The excess liquid can overflow from the tank on the floor, the service worker can slide and he can injure.

#### 19.4. Hydraulic oil level check

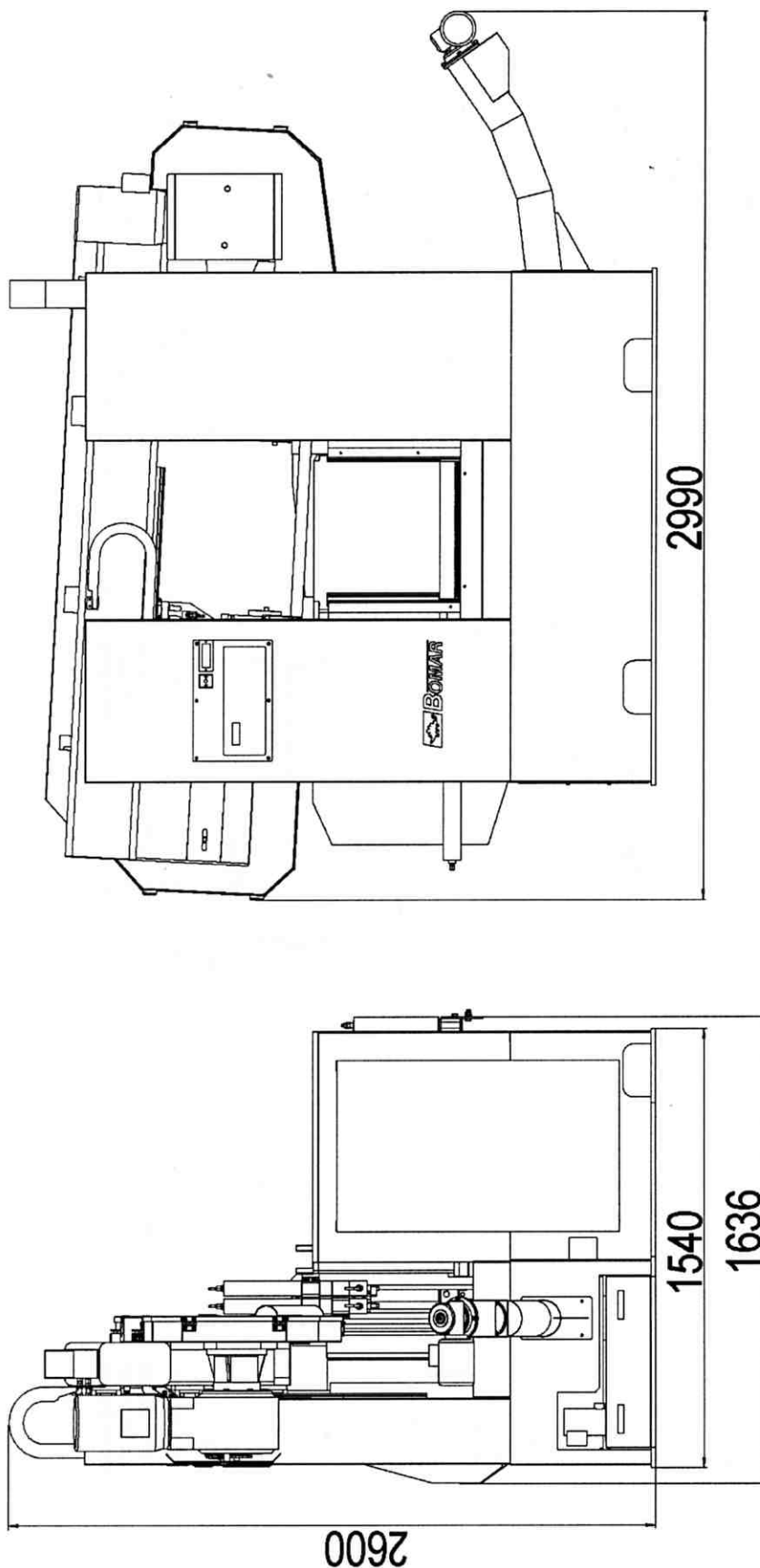
Recommended type of the hydraulic oil is placed in chapter **Hydraulic oils**.

Pull up the gauge and check the state of the oil. The oil level must be situated between marks **min** and **max**.

Fill the hydraulic oil, if it is necessary. Use always the filter (25  $\mu\text{m}$  or better) when you fill the oil. You avoid impurities penetration to the hydraulic system and troubles in hydraulic system.

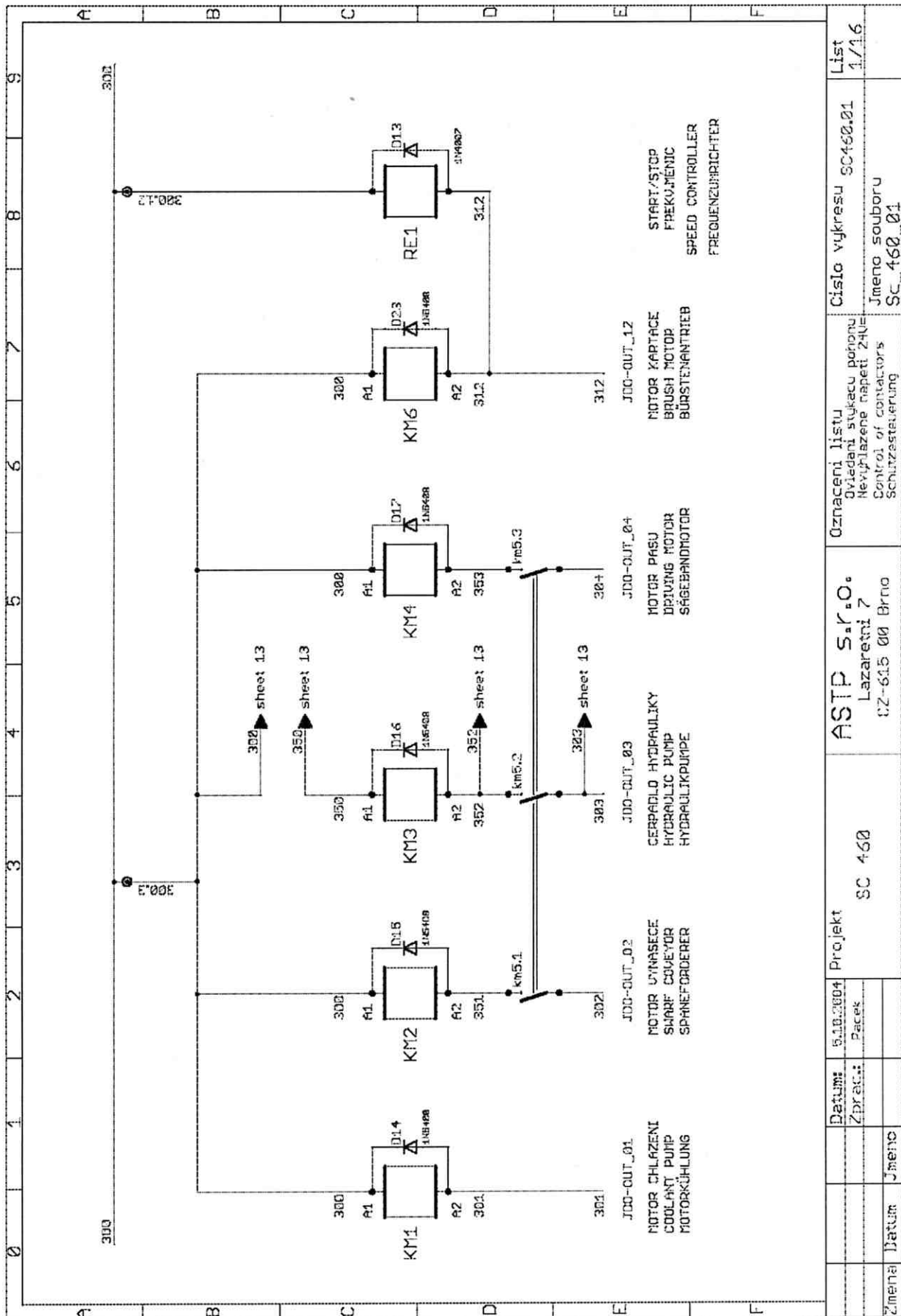


## 20. Rozměrové schéma / Aufstellzeichnung / Installation diagram



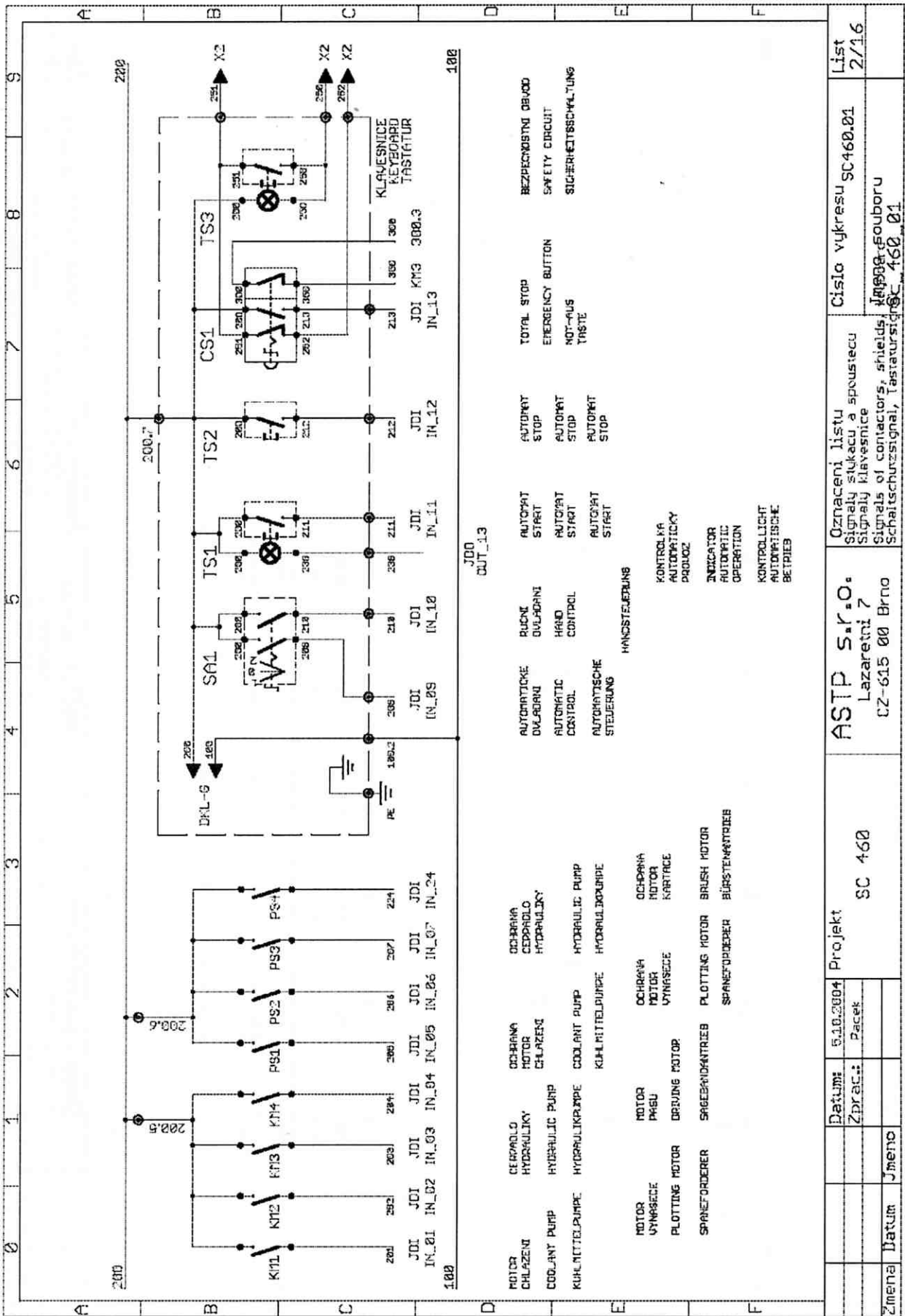
### 20.1. Rozměrové schéma / Aufstellzeichnung / Installation diagram

## 21. Elektrická schémata / Elektroschemas / Wiring diagrams

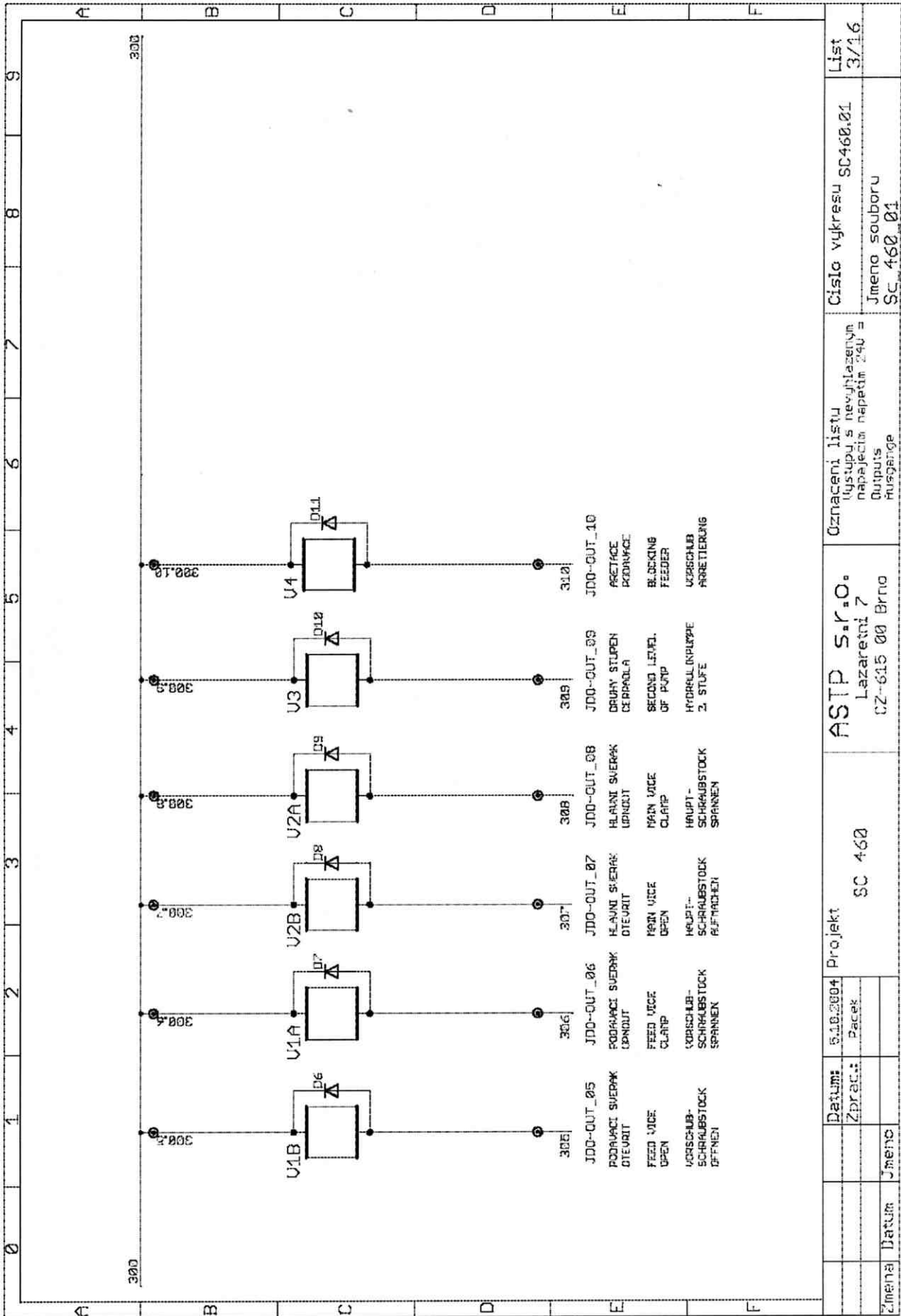


21.1. Elektrické schéma / Elektroschema / Wiring diagram

Změna	Datum	Jméno	
Datum: 5.10.2004		Projekt	
Zpracovatel: _____		SC 460	
ASTP s.r.o. Lazaretní 7 615 00 Brno			
Označení listu Divadelní stúkacu pářonu Nevýřlazene napeti 24V		Císlo vykřasu SC460.01	
Control of contactors Schutzsteuerung		Jméno souboru SC_460_01	
		List 1/16	

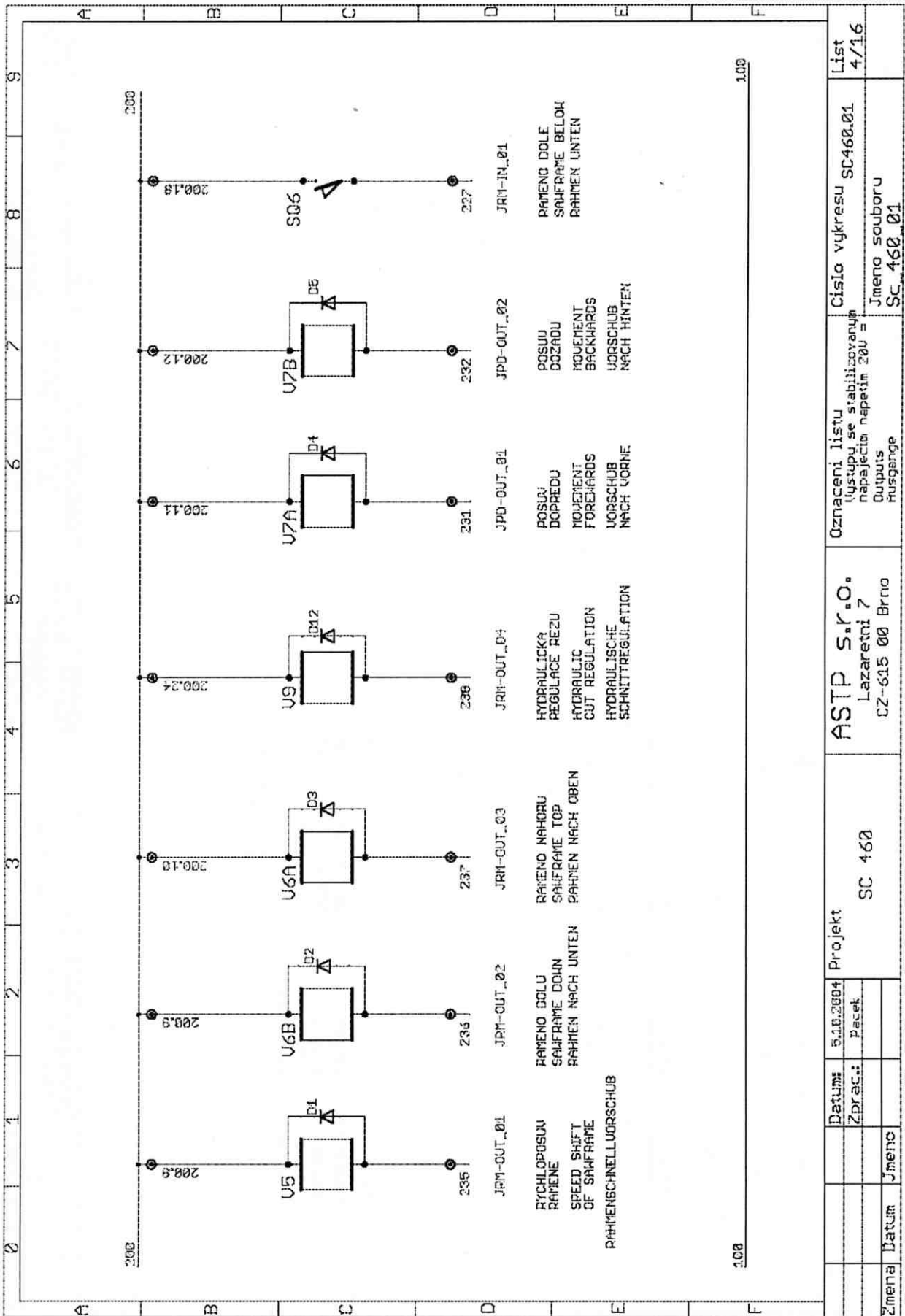


21.2. Elektrické schéma / Elektroschema / Wiring diagram

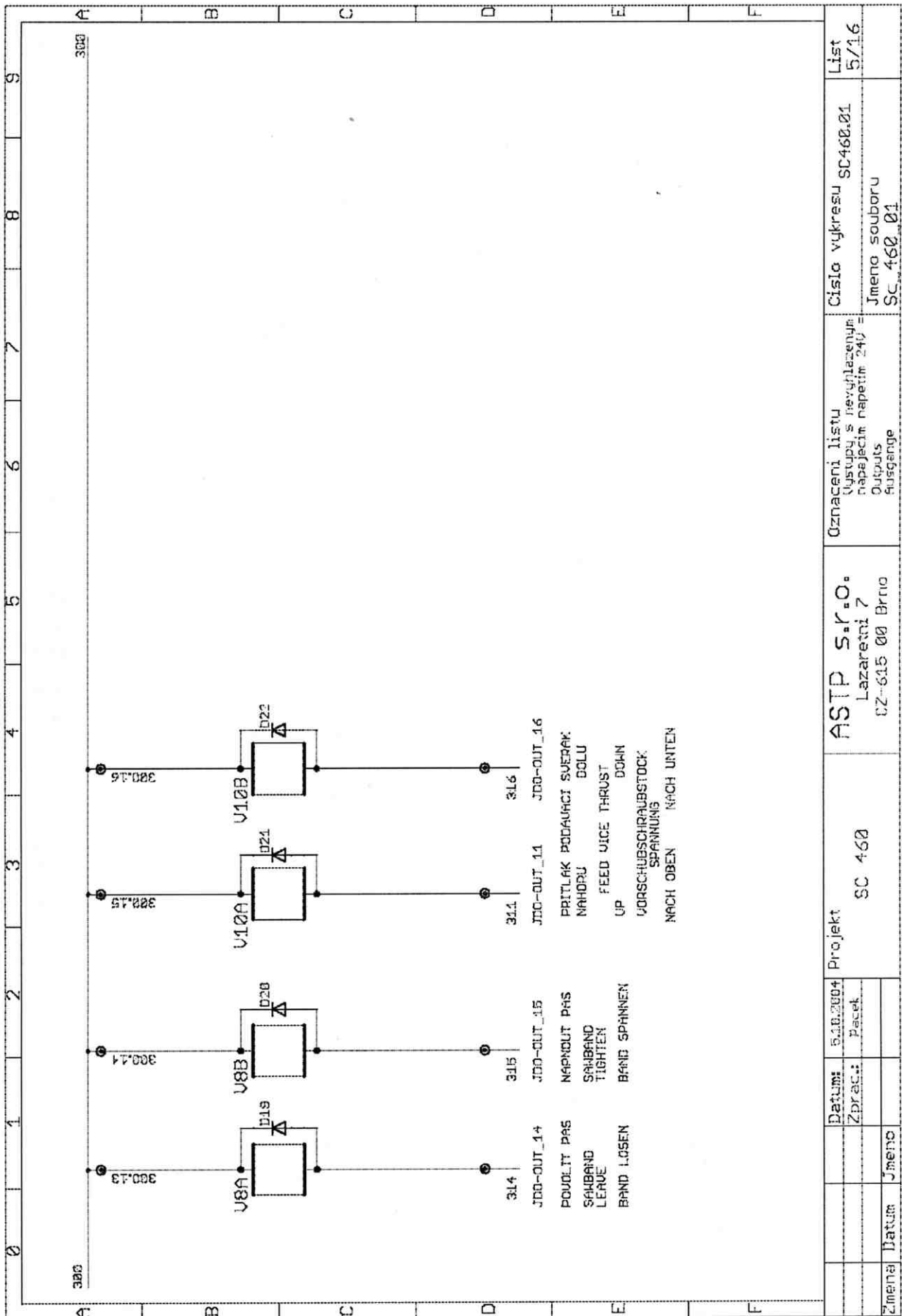


## 21.3. Elektrické schéma / Elektroschema / Wiring diagram



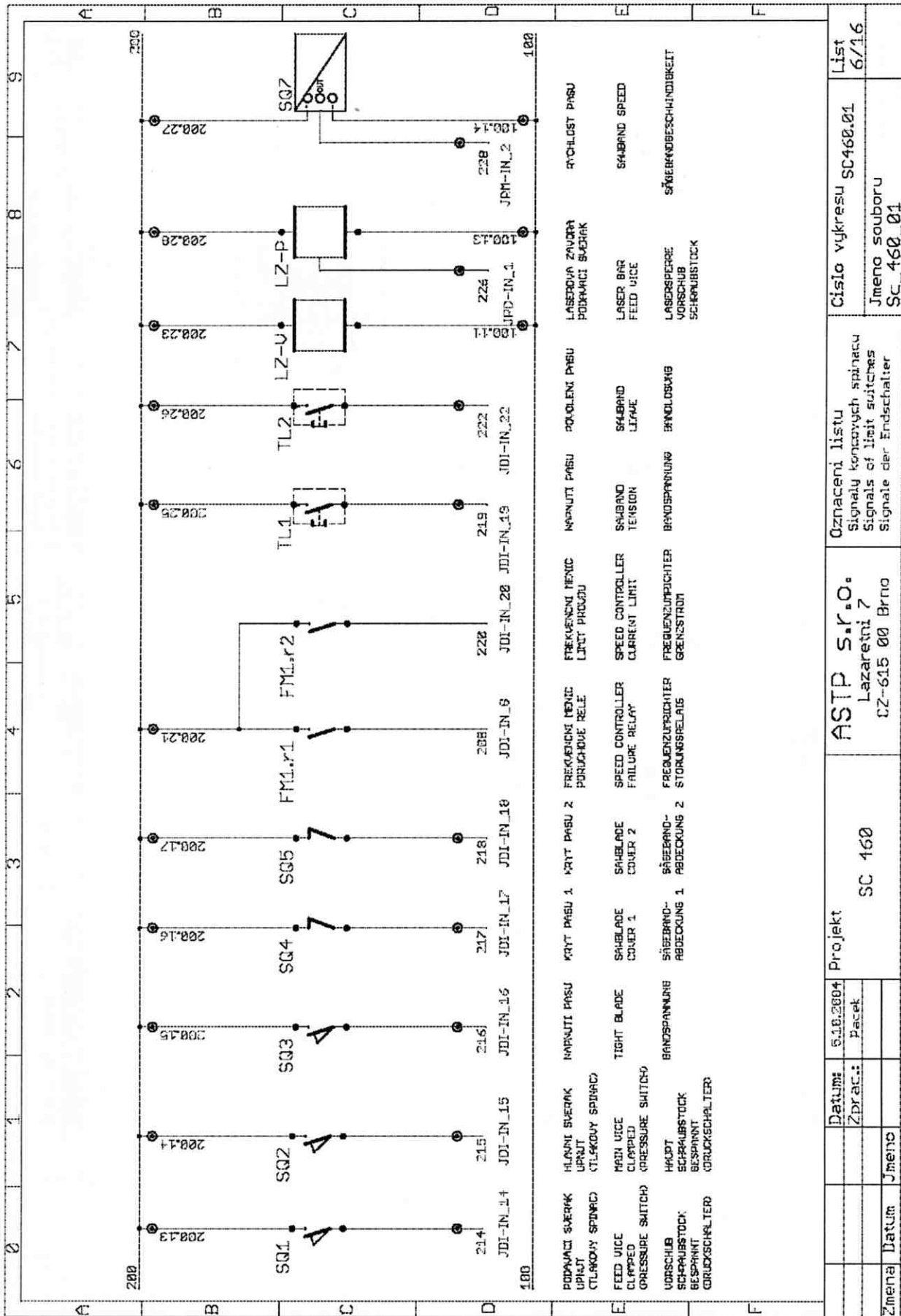


21.4. Elektrické schéma / Elektroschema / Wiring diagram

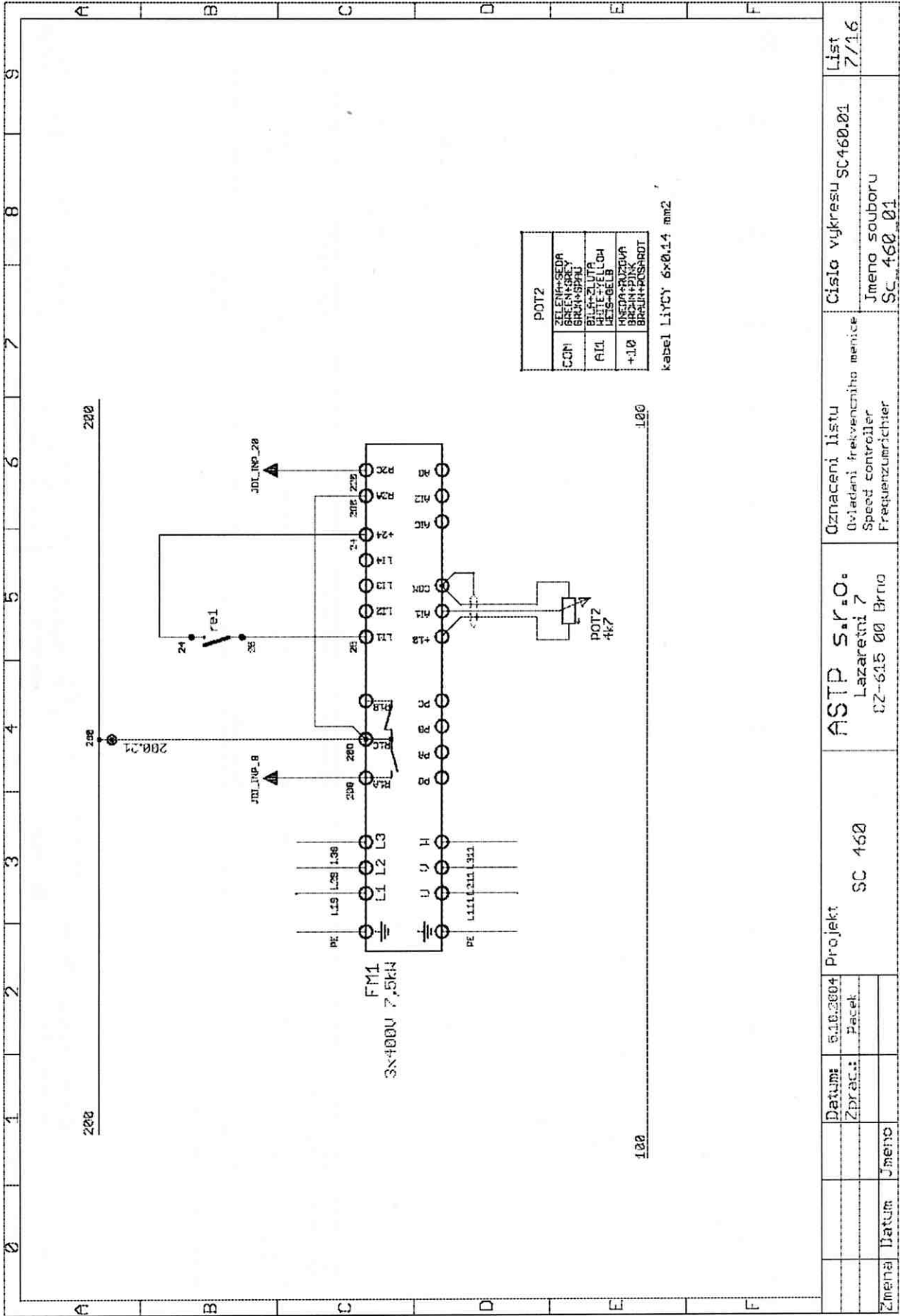


21.5. Elektrické schéma / Elektroschema / Wiring diagram

Změna	Datum	Jméno	Datum	Zprac.	Paket	Datum: 5.10.2004	Projekt: SC 460	ASTP S.r.o. Lazaretní 7 62-615 00 Brno	Označení listu (výstup, s nevyplacenými napětím napětím 24V) Outputs Ausgänge	Císlo výkresu SC 460.01	Imeno souboru SC_460_01	List 5/16
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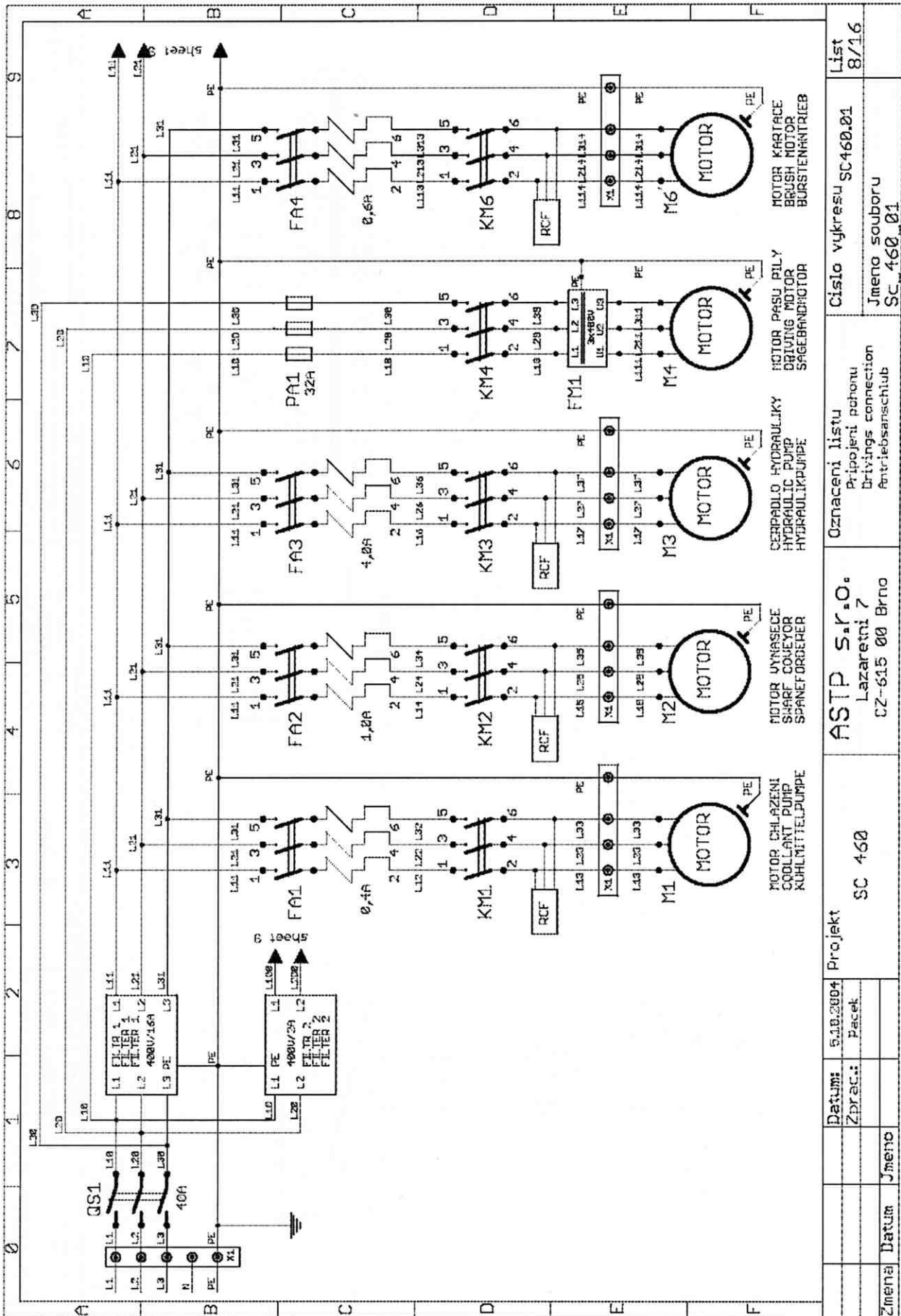


21.6. Elektrické schéma / Elektroschema / Wiring diagram

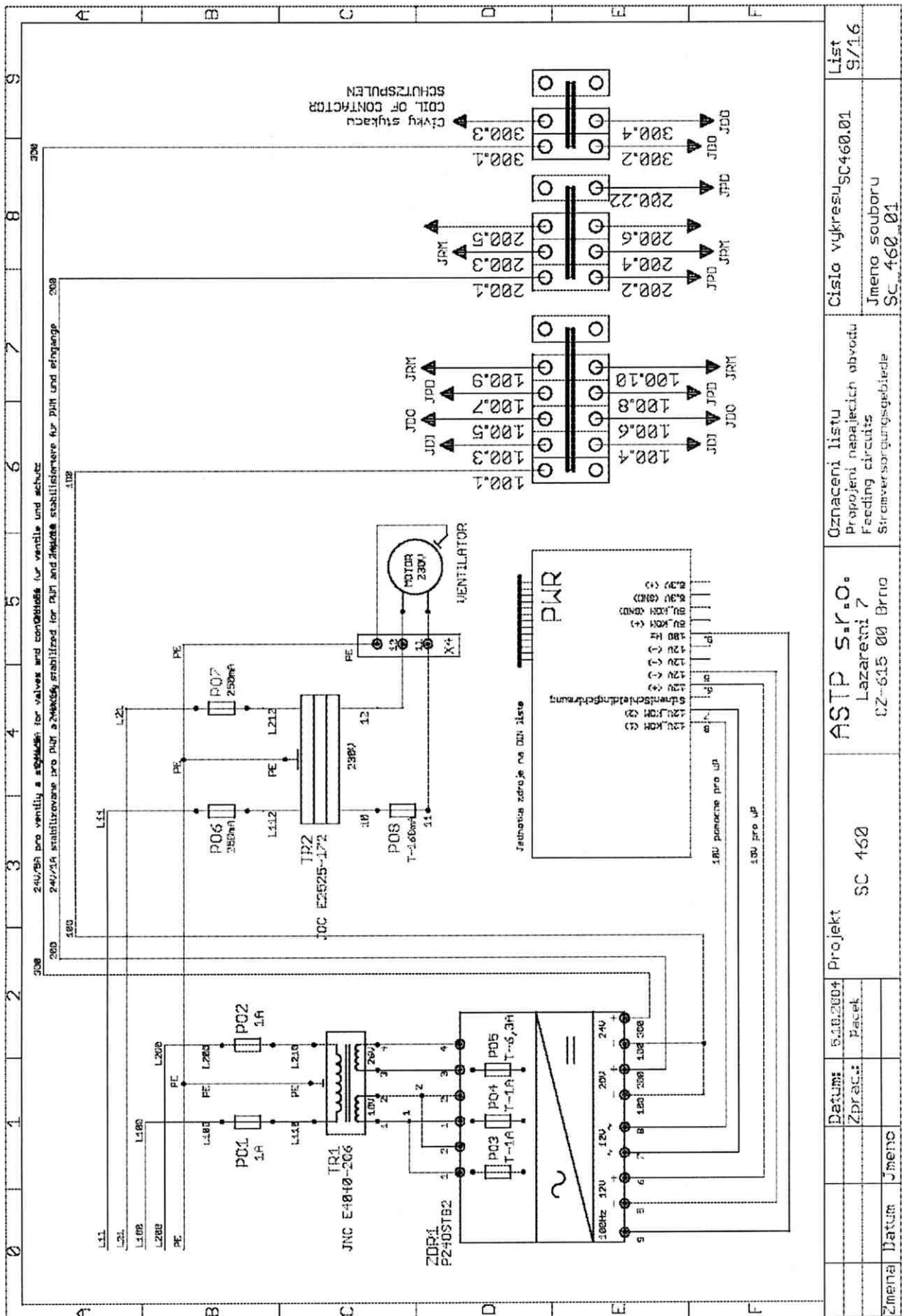


21.7. Elektrické schéma / Elektroschema / Wiring diagram

Změna	Datum	Jméno
	Datum: 6.10.2004	Projekt: SC 460
	Zprac.: Pacak	
ASTP S.r.o. Lazaretní 7 62-615 00 Brno		
Označení listu Ovládací frekvenčního měniče Speed controller Frekvenzurichter		
Číslo výkresu SC 460.01		List 7/16
Jméno souboru SC_460_01		

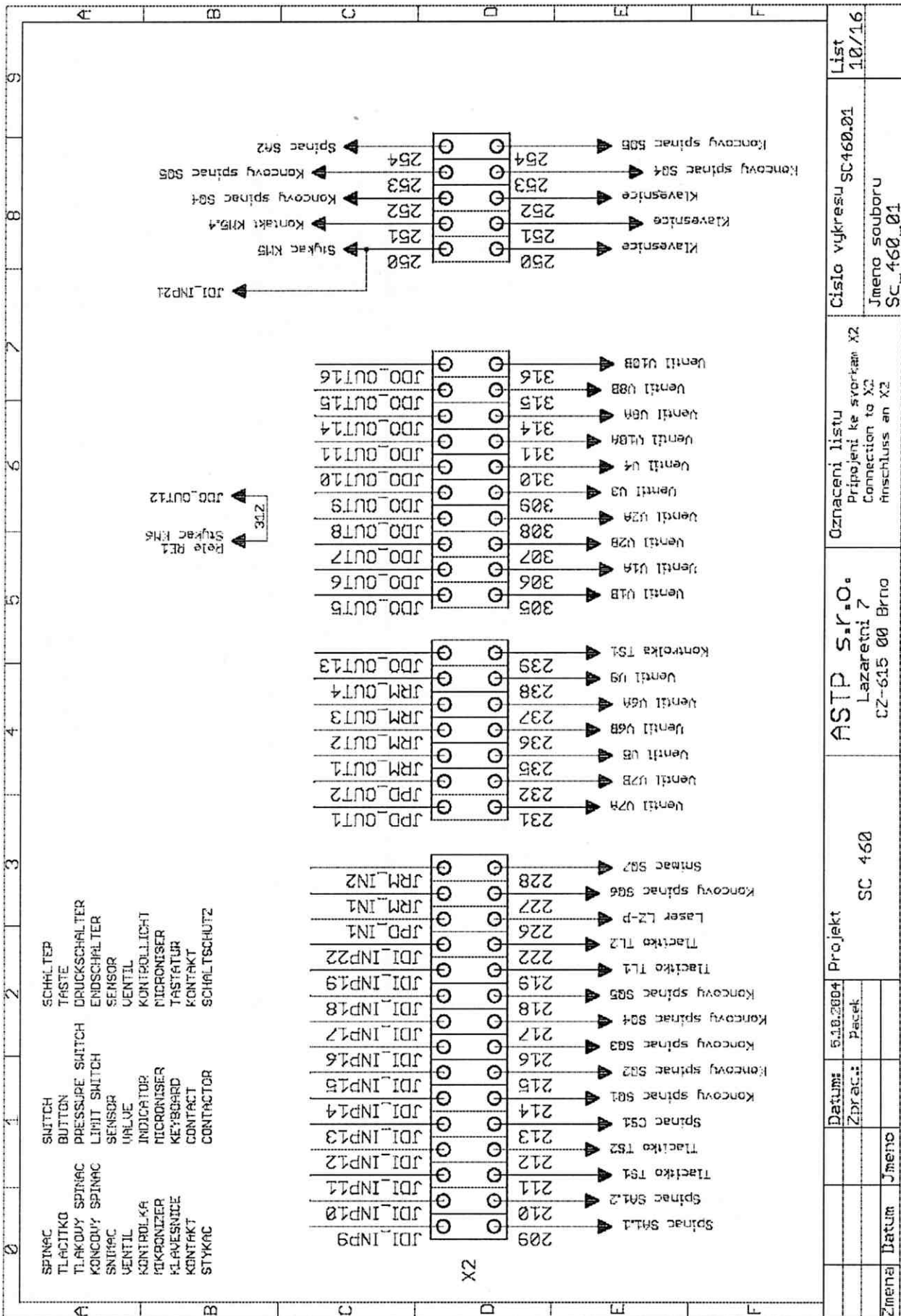


21.8. Elektrické schéma / Elektroschema / Wiring diagram

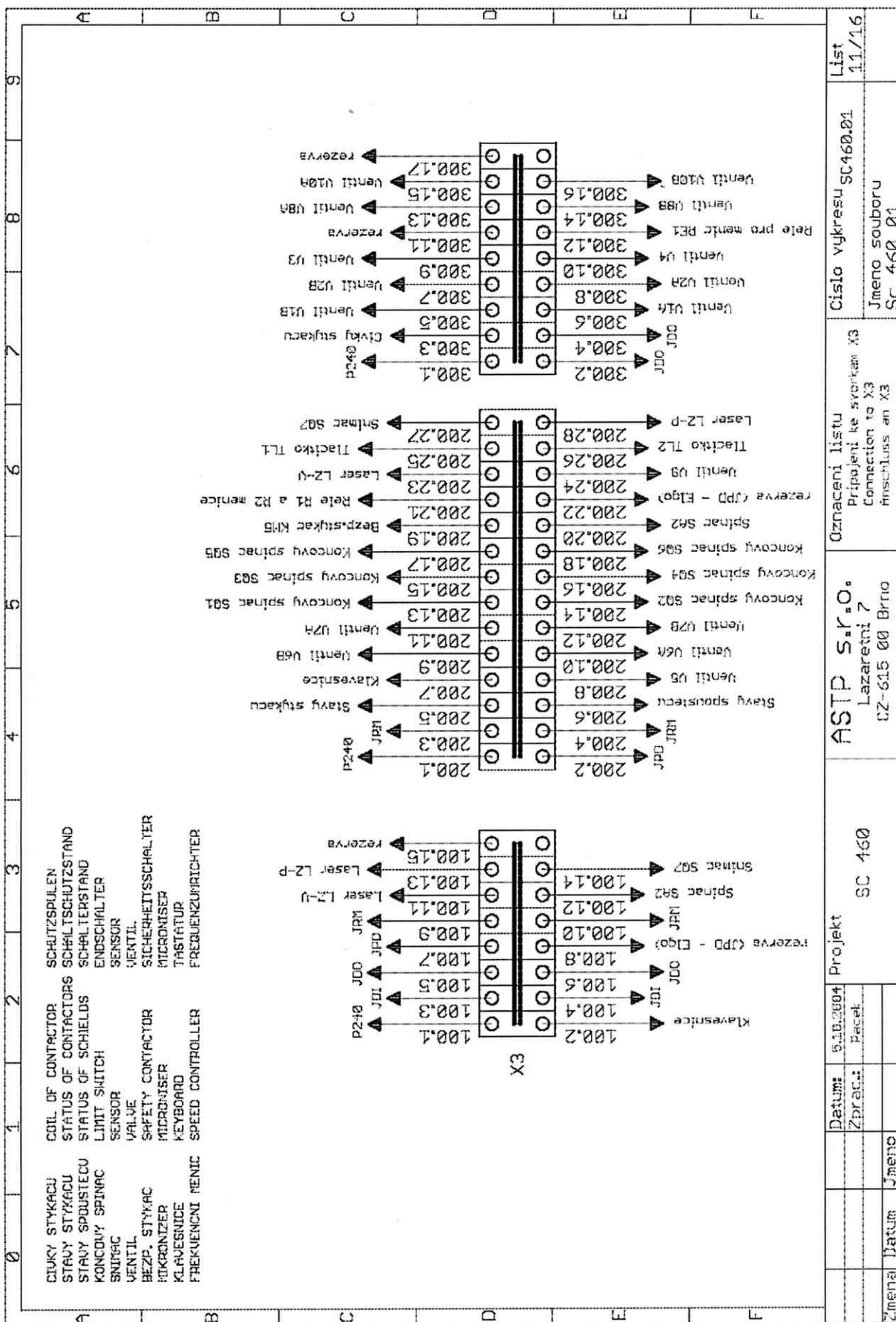


21.9. Elektrické schéma / Elektroschema / Wiring diagram

Změna	Datum	Jméno	Projekt SC 460	ASTP S.r.l.o. Lazaretní 7 62-615 00 Brno	Označení listu Projekční napájecích obvodů Feeding circuits Stromversorgungsgebiete	Číslo výkresu SC460.01 Jméno souboru SC_460_01	List 9/16



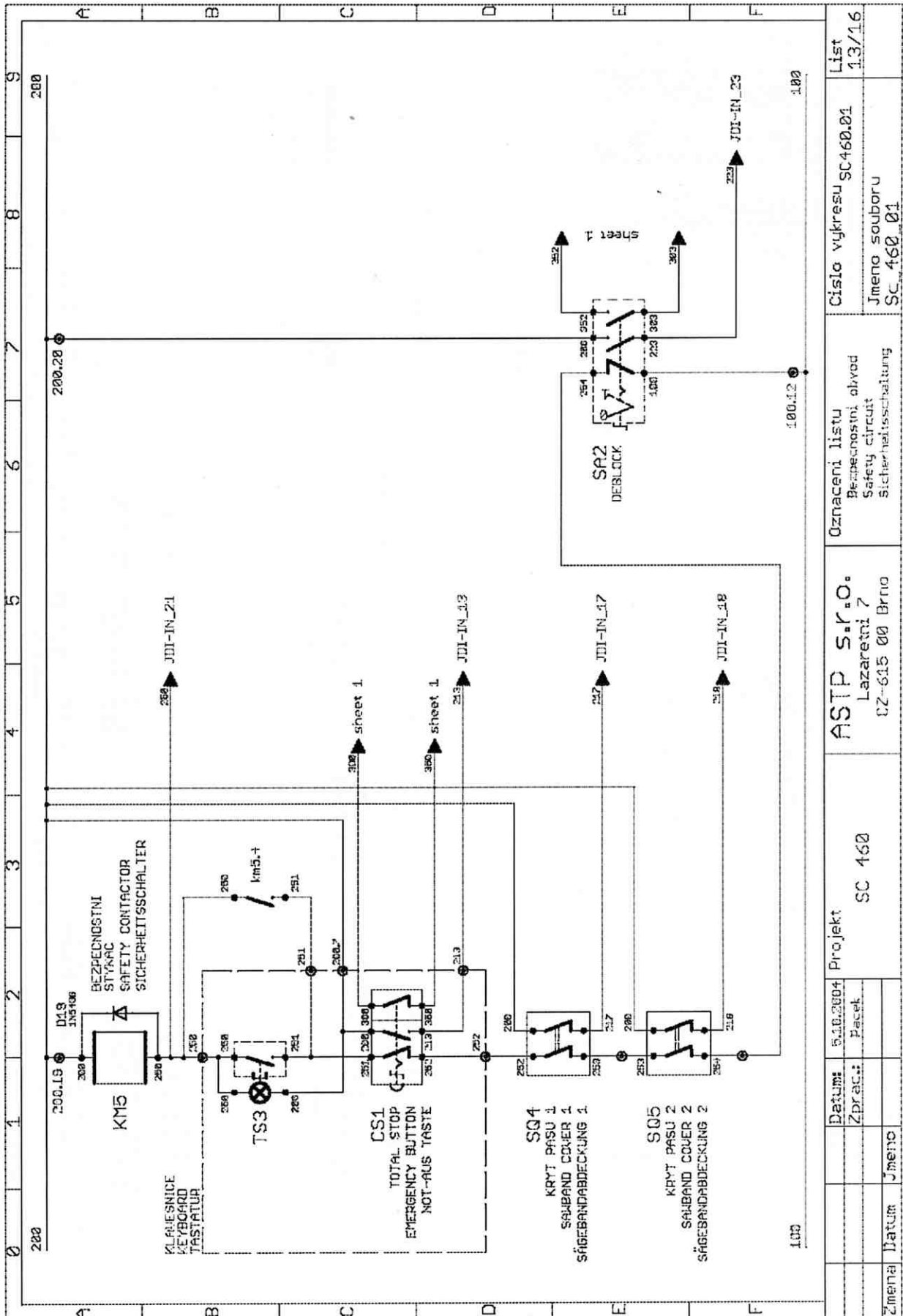
21.10. Elektrické schéma / Elektroschema / Wiring diagram



21.11. Elektrické schéma / Elektroschema / Wiring diagram







21.13. Elektrické schéma / Elektroschema / Wiring diagram

0	1	2	3	4	5	6	7	8	9	
	JDC - Signalizace stavu vjetřupu	JDI - Signalizace stavu vstupu					JPH - Signalizace stavu ramene			
	1 Zapnout motor chlazení	tlacitko uvolněno	tlacitko sblíz				Rameno dolu			
	2 Zapnout motor vlnasece	1 Motor chlazení zapnut	Krýt pásu 1 je uzavřen				Rameno nahoru			
	3 Zapnout motor vlnasece	2 Motor vlnasece zapnut	Krýt pásu 2 je uzavřen				Rychloposuv ramene			
	4 Zapnout motor pásu	3 Cerpadlo hydrauliky zapnuto	Aktivovano napnutí pásu				Deaktivace hydraulické regulace			
	5 Otevírat podavací sverak	4 Motor pásu zapnut	Pečetímatspomudu frekv. 5z							
	6 Upnout podavací sverak	5 Ochrana motoru chlazení OK	Bezpečnostní obvod rozpřk				Rameno je nad materiálem			
	7 Otevírat hlavní sverak	6 Ochrana motoru vlnasece OK	Aktivovano povolení pásu				Rameno bylo pri rezu dole			
	8 Upnout hlavní sverak	7 Ochrana cerpadla hydrauliky OK	Aktivovano DEBLOCK				Rameno je dole			
	9 Aktivovat druhý stupeň cerpadla	8 Poruch, male frekv. menice sepnuto	Ochrana motoru kartace S				Rameno je v klišu			
	10 firetovat podavac	9 Aktivovano automaticke ovladani	10 Ochrana motoru kartace S				10			
	11 Aktiv. přítlak podav. sveraku nahoru	10 Aktivovano rucni ovladani					11 Signal ze snimatec vyšky ramene			
	12 Spustit frekvencní menic + motor křepřk	11 Start automatickeho režimu					12 Komunikace s CPU			
	13 Aktivovat kontrolku aut. režimu	12 Stop automatickeho režimu					JPD - Signalizace stavu podavace			
	14 Povolit pas	13 Total stop aktivovan					1 Podavac vzad			
	15 Napnout pas	14 Podavaci sverak upnut					2 Podavac vpřed			
	16 Aktiv. přítlak podav. sveraku dolu	15 Hlavní sverak upnut					3 Regulace podavace aktivni			
	CPU - Signalizace stavu jednotky	16 Pas plij je napnuty					4 Castecne uchopeni			
	1 Spojeni se vsemi jednotkami OK						5 Konc materiálu nalezen			
	2						6 Zcatek materiálu nalezen			
	3						7 Zadana poloha dosazena			
	4						8 Laser-zavoraepodavac je zaclonena			
	5						9 Podavac je v klišu			
	6 Chyba komunikace s LCD						10 Reference podavace nastavena			
	7 Externí CAN - RXD						11 Signal ze snimatec vzdalenessi			
	8 Externí CAN - TXD						12 Komunikace s CPU			
	9 Interní CAN - RXD									
	10 Interní CAN - TXD									
	11 Napajeni 5V-KOH									
	12 Napajeni 5V									
	PJR - Signalizace stavu napajeni									
	1 Napajeni 5V-KOH									
	2 Napajeni 5V									
	Projekt		SC 460	ASTP S1.15.20+ Lazaralni 7 CZ-615 00 Brno		Oznace	Cislo vykresu	SC460.01	List	14/16
Zmena	Datum	Jmeno				diod	Jmeno souboru	SC_460_01		

## 21.14. Elektrické schéma / Elektroschema / Wiring diagram

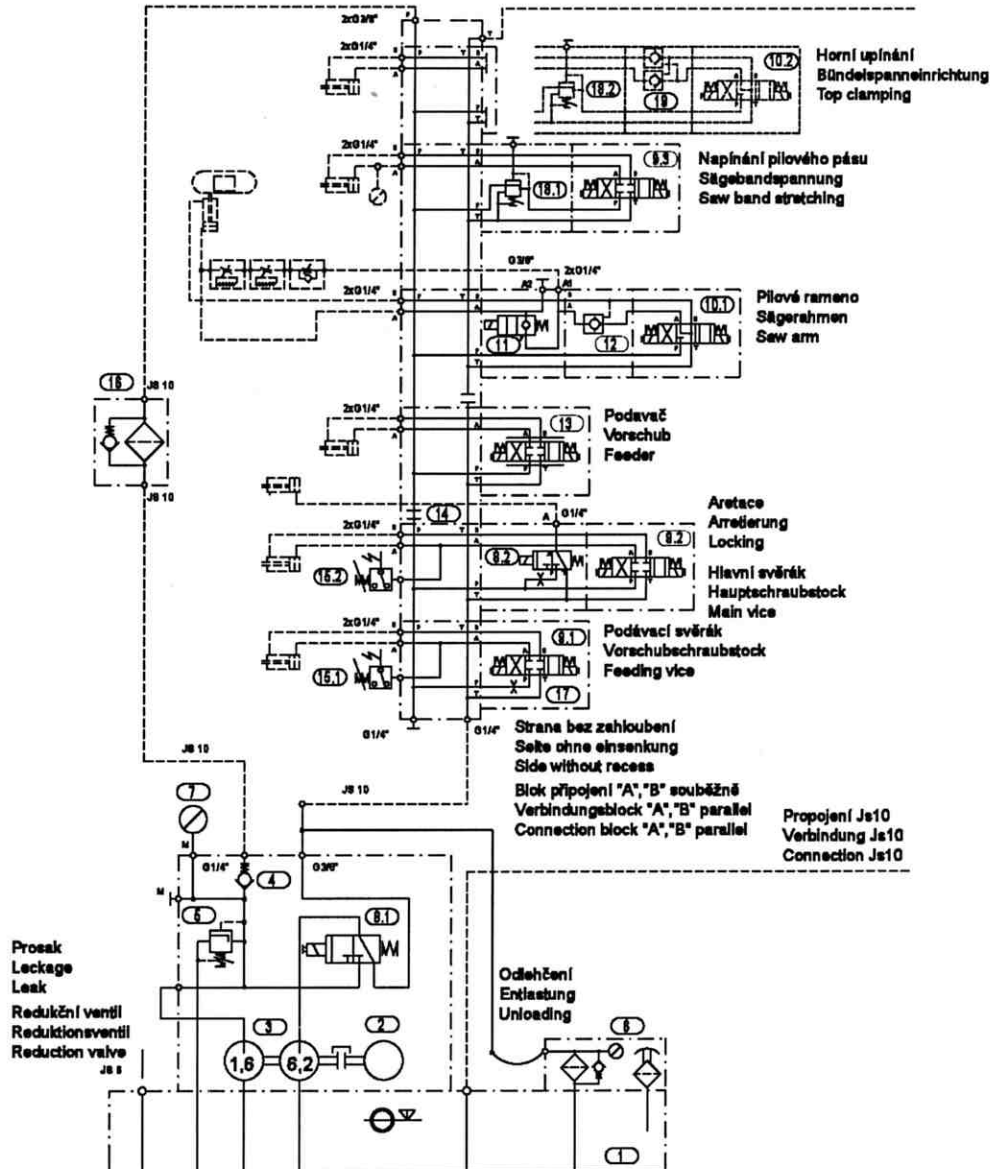
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<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;"></td> <td style="width:20%; text-align:center;"><b>J00 - Ausgabe - Standardanzeige</b></td> <td style="width:20%; text-align:center;"><b>J01 - Eingabe - Standardanzeige</b></td> <td style="width:20%; text-align:center;"><b>J02 - Sägerahmen - Standardanzeige</b></td> </tr> <tr> <td>1</td> <td>Kühlmittelpumpe einschalten</td> <td>Taste gelöst</td> <td>1</td> <td>Sägerahmen senken</td> </tr> <tr> <td>2</td> <td>Spänpförderer einschalten</td> <td>Kühlmittelpumpe eingeschaltet</td> <td>2</td> <td>Sägerahmen heben</td> </tr> <tr> <td>3</td> <td>Hydraulikpumpe einschalten</td> <td>Spänpförderer eingeschaltet</td> <td>3</td> <td>Eilgang des Sägerahmens</td> </tr> <tr> <td>4</td> <td>Sägebandantrieb einschalten</td> <td>Hydraulikpumpe eingeschaltet</td> <td>4</td> <td>Deaktivierung der Hydraulikregulation</td> </tr> <tr> <td>5</td> <td>Vorschubschraubstock öffnen</td> <td>Sägebandantrieb eingeschaltet</td> <td>5</td> <td></td> </tr> <tr> <td>6</td> <td>Vorschubschraubstock spannen</td> <td>Grenzstromrelais des Frequenzesch.</td> <td>6</td> <td>Sägerahmen befindet sich über Mater.</td> </tr> <tr> <td>7</td> <td>Hauptschraubstock öffnen</td> <td>Schutz der Kühlmittelpumpe OK</td> <td>7</td> <td>Sägerahmen war während des Schnittes unten</td> </tr> <tr> <td>8</td> <td>Hauptschraubstock spannen</td> <td>Schutz des Spänpförderers OK</td> <td>8</td> <td>Sägerahmen befindet sich unten</td> </tr> <tr> <td>9</td> <td>Zweite Stufe der Hydraulikp. aktiv.</td> <td>Schutz der Hydraulikpumpe OK</td> <td>9</td> <td>Sägerahmen steht still</td> </tr> <tr> <td>10</td> <td>Vorschub arretieren</td> <td>Störungsrelais des Freq. eingesch.</td> <td>10</td> <td></td> </tr> <tr> <td>11</td> <td>Vorschubschraub. 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Spannung unten aktiv.</td> <td>Vorschubschraubstock gespannt</td> <td colspan="2"></td> </tr> <tr> <td colspan="2"></td> <td>Hauptschraubstock gespannt</td> <td colspan="2"></td> </tr> <tr> <td colspan="2"></td> <td>Sägeband gespannt</td> <td colspan="2"></td> </tr> <tr> <td colspan="2"></td> <td></td> <td colspan="2"></td> </tr> <tr> <td colspan="2"></td> <td><b>CPU - Ausgabe - Einheitsstand</b></td> <td colspan="2"></td> </tr> <tr> <td colspan="2"></td> <td>1. Verbindung mit allen Einheiten OK</td> <td colspan="2">J02 - Vorschub - Standardanzeige</td> </tr> <tr> <td colspan="2"></td> <td>2</td> <td colspan="2">1. Vorschub nach hinten</td> </tr> <tr> <td colspan="2"></td> <td>3</td> <td colspan="2">2. Vorschub nach vorne</td> </tr> <tr> <td colspan="2"></td> <td>4</td> <td colspan="2">3. Vorschubrequirung aktiv</td> </tr> <tr> <td colspan="2"></td> <td>5</td> <td colspan="2">4. Teilweises Anfassen</td> </tr> <tr> <td colspan="2"></td> <td>6</td> <td colspan="2">5. Materialende gefunden</td> </tr> <tr> <td colspan="2"></td> <td>7</td> <td colspan="2">6. Materialanfang gefunden</td> </tr> <tr> <td colspan="2"></td> <td>8</td> <td colspan="2">7. Vorschub in der gewünschten Position</td> </tr> <tr> <td colspan="2"></td> <td>9</td> <td colspan="2">8. Laserstrahl (Vorschub) unterbrochen</td> </tr> <tr> <td colspan="2"></td> <td>10</td> <td colspan="2">9. Vorschub steht still</td> </tr> <tr> <td colspan="2"></td> <td>11</td> <td colspan="2">10. Referenzposition des Vorschubes eingestellt</td> </tr> <tr> <td colspan="2"></td> <td>12</td> <td colspan="2">11. Signal des Abstandsensors</td> </tr> <tr> <td colspan="2"></td> <td></td> <td colspan="2">12. Kommunikation mit CPU</td> </tr> </table>											<b>J00 - Ausgabe - Standardanzeige</b>	<b>J01 - Eingabe - Standardanzeige</b>	<b>J02 - Sägerahmen - Standardanzeige</b>	1	Kühlmittelpumpe einschalten	Taste gelöst	1	Sägerahmen senken	2	Spänpförderer einschalten	Kühlmittelpumpe eingeschaltet	2	Sägerahmen heben	3	Hydraulikpumpe einschalten	Spänpförderer eingeschaltet	3	Eilgang des Sägerahmens	4	Sägebandantrieb einschalten	Hydraulikpumpe eingeschaltet	4	Deaktivierung der Hydraulikregulation	5	Vorschubschraubstock öffnen	Sägebandantrieb eingeschaltet	5		6	Vorschubschraubstock spannen	Grenzstromrelais des Frequenzesch.	6	Sägerahmen befindet sich über Mater.	7	Hauptschraubstock öffnen	Schutz der Kühlmittelpumpe OK	7	Sägerahmen war während des Schnittes unten	8	Hauptschraubstock spannen	Schutz des Spänpförderers OK	8	Sägerahmen befindet sich unten	9	Zweite Stufe der Hydraulikp. aktiv.	Schutz der Hydraulikpumpe OK	9	Sägerahmen steht still	10	Vorschub arretieren	Störungsrelais des Freq. eingesch.	10		11	Vorschubschraub. Spannung oben aktiv.	Automatisches Bedienen aktiviert	11	Signal des Sägerahmenhubhöhesensors	12	Frequenzrichter + Bürstenmotor einschalten	Manuelles Bedienen aktiviert	12	Kommunikation mit CPU	13	Kontrollleuchte (aut.Betrieb) aktiv.	START des automatischen Zyklus			14	Sägeband lösen	STOP des automatischen Zyklus			15	Sägeband spannen	NOT-AUS Taste aktiviert			16	Vorschubschraub. Spannung unten aktiv.	Vorschubschraubstock gespannt					Hauptschraubstock gespannt					Sägeband gespannt										<b>CPU - Ausgabe - Einheitsstand</b>					1. Verbindung mit allen Einheiten OK	J02 - Vorschub - Standardanzeige				2	1. Vorschub nach hinten				3	2. Vorschub nach vorne				4	3. Vorschubrequirung aktiv				5	4. Teilweises Anfassen				6	5. Materialende gefunden				7	6. Materialanfang gefunden				8	7. Vorschub in der gewünschten Position				9	8. Laserstrahl (Vorschub) unterbrochen				10	9. Vorschub steht still				11	10. Referenzposition des Vorschubes eingestellt				12	11. Signal des Abstandsensors					12. Kommunikation mit CPU	
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21.16. Elektrické schéma / Elektroschema / Wiring diagram

## 22. Hydraulické schéma / Hydraulikschemata / Hydraulic diagram



Základní technické parametry :  
 Technische Spezifikation:  
 Technical specification:

Q	8+2,1	dm <sup>3</sup> min <sup>-1</sup>	ot.	1410	min <sup>-1</sup>
P <sub>max</sub>	4,0	MPa	P	1,1	kW

Hydraulické schéma:  
 Hydraulikschemata:  
 Hydraulic diagram:

# 870-1734

Schéma / Schema / Diagram: N0407334 H0.DWG  
 Datum / Datum / Date: 08. 07. 2004

Hydraulické schéma / Hydraulikschemata / Hydraulic diagram

Poz.	Název položky	ks
Pos.	Bezeichnung	Menge
Pos.	Item	Pcs.
1	Nádrž / Behälter / Tank N20 - Bomar	1
2	Elektromotor / Elektromotor / Electromotor MA-AL90S-4 400/230V 50Hz	1
3	Hydrogenerátor / Hydraulikgenerator / Hydrogenerator P2-6,2/1,6L.66313	1
4	Jednosměrný ventil / Einwegventil / One-way valve VJO1-06/SG-1	1
5	Přepouštěcí ventil / Bypassventil / By pass valve VPP2-04/S-6S	1
6	Zpětný filtr / Filter / Filter FR 043-166/0 + DG200-06	1
	Vložka filtru / Filtereinsatz / Filter inset V3.0510-56	1
7	Manometr / Manometer / Manometer	1
8	Rozváděč / Verteilung / Distributor ROX1-042D21/02400E1K1	2
9	Rozváděč / Verteilung / Distributor RPE3-043Z11/02400E1K1	3
10	Rozváděč / Verteilung / Distributor 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	Proporcionální rozváděč / Wege-Proportionalventil / Proportional distributor PRM2-043Z11/04-24 MIKRO	1
14	Zátka / Stopfen / Stopper M6	1
15	Tlakový spínač / Druckschalter / Pressure switch SUCO 0166 411 031 043	2
16	Tlakový filtr / Filter / Filter D 042-153	1
	Vložka filtru / Filtereinsatz / Filter inset V3.0510-03	1
17	Tryska / Düse / Nozzle	1
18	Redukční ventil / Regelventil / Control valve VRP2-04-PS/6,3	2
19	Hydraulický zámek / Hydraulisches Schloß / Hydraulic lock VJR1-04/MC	1

Technické údaje	
Typ	č. 460 A
Průměr	460 mm
Výška	100 mm
hmotnost	1,2 kg
Max. rychlost	1000 ot./min
Max. výkon	100 W
Max. moment	0,2 Nm
Max. proud	2,5 A
Max. napětí	230 V
Max. teplota	40 °C
Max. vlhkost	90 %
Max. tlak	100 kPa
Max. rychlost	1000 ot./min
Max. výkon	100 W
Max. moment	0,2 Nm
Max. proud	2,5 A
Max. napětí	230 V
Max. teplota	40 °C
Max. vlhkost	90 %
Max. tlak	100 kPa

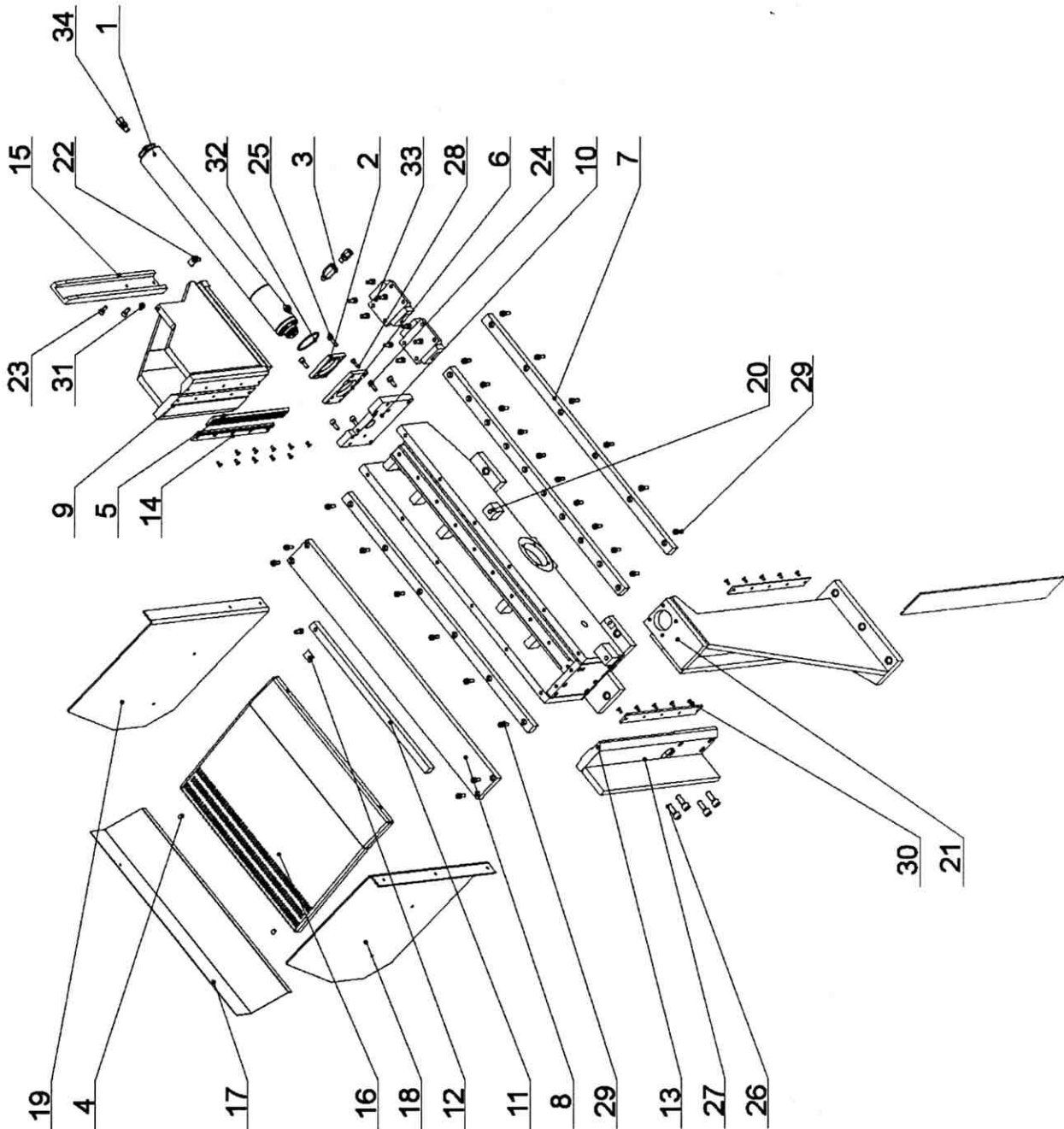


### **23. Výkresy sestav pro objednání náhradních dílů / Zeichnungen für Bestellung der Ersatzteile / Drawing assemblies for spare parts order**

Při objednávání náhradních dílů vždy uvádějte: typ stroje (např. STG 120), výrobní číslo (např. 125) a rok výroby (např. 1999).

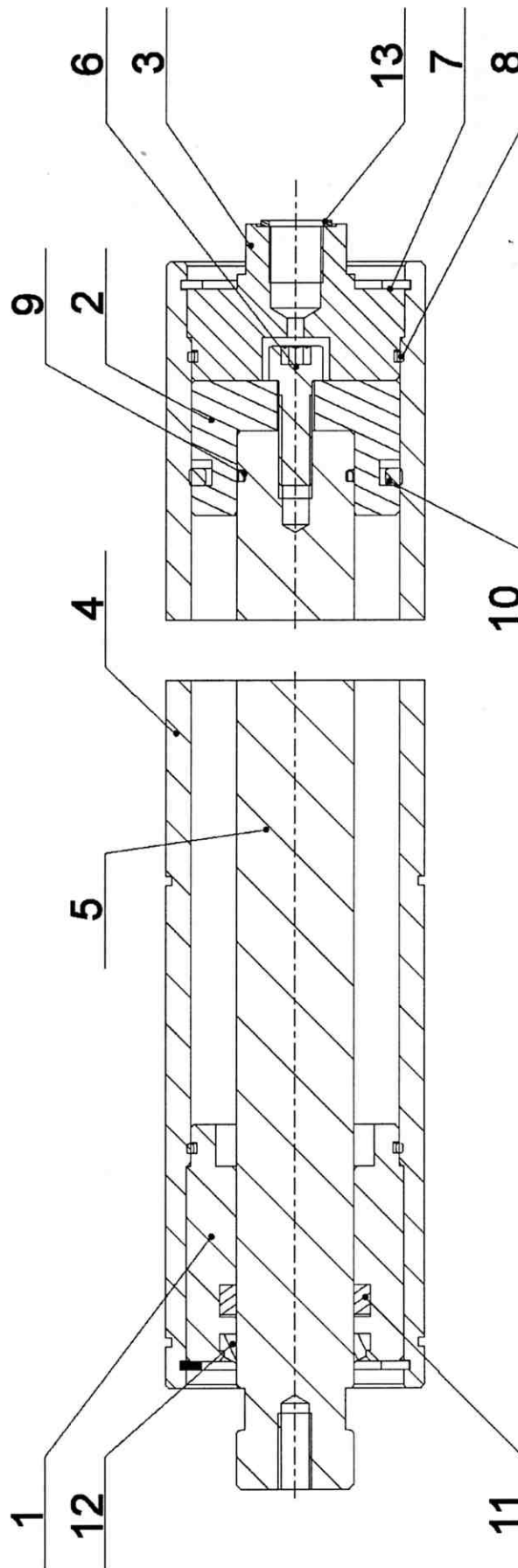
In die Bestellung der Ersatzteile führen Sie immer an:  
Maschinentyp (z. B. STG 120), Serien Nr. (z. B. 125) und  
Baujahr (z. B. 1999).

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).



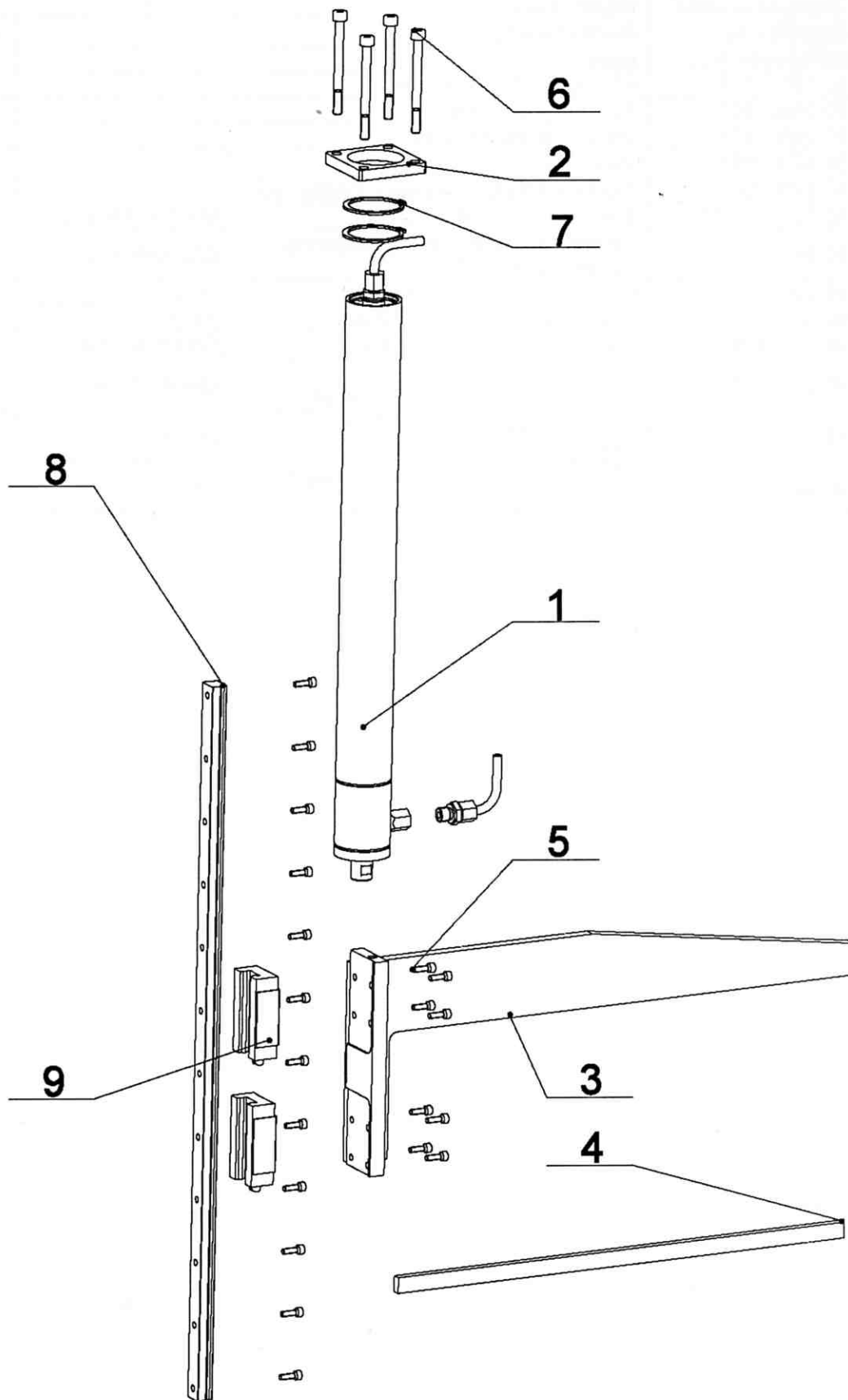
**23.1. Hlavní svěrák / Hauptschraubstock / Main vice**

Poz.	Objednáací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	201.6707-000	Válec svěráku / Spannzyylinder des Hauptschraubstockes / Vice cylinder	1
2	30.2011-010	Příložka / Lasche / Splice plate	1
3	30.2011-011	Šroubení / Schraubung / Screwing	1
4	30.3509-015	Distanční trubka / Distanzrohr / Distance tube	2
5	30.4803-011	Lišta čelisti / Leiste / Listel	2
6	30.6603-007	Podložka / Scheibe / Washer	1
7	30.6703-002	Lišta / Leiste / Listel	2
8	30.6703-003	Lišta / Leiste / Listel	1
9	30.6703-004	Čelist svěráku / Backe / Vice jaw	1
10	30.6703-006	Deska / Platte / Plate	1
11	30.6703-008	Lišta / Leiste / Listel	1
12	30.6703-009	Podložka / Scheibe / Washer	1
13	30.6703-013	Čelist svěráku / Backe / Vice jaw	1
14	30.6703-018	Lišta čelisti / Leiste / Listel	2
15	30.6703-019	Vodící lišta / Führungsleiste / Guiding listel	1
16	30.6703-028	Rošt / Gitter / Hake	1
17	30.6703-029	Skluz / Rutsch / Glide	1
18	30.6703-030	Bočnice / Seitenteil / Side plate	1
19	30.6703-031	Bočnice / Seitenteil / Side plate	1
20	30.6703-301	Svěrák / Schraubstock / Vice	1
21	30.6703-303	Čelist / Backe / Jaw	1
22	30.6712-016	Doraz / Anschlag / Length stop	1
23	90.001.25.031	Šroub / Schraube / Screw M8x16 DIN 912	2
24	90.001.25.032	Šroub / Schraube / Screw M8x20 DIN 912	9
25	90.001.25.033	Šroub / Schraube / Screw M8x25 DIN 912	24
26	90.001.25.058	Šroub / Schraube / Screw M12x30 DIN 912	4
27	90.001.25.063	Šroub / Schraube / Screw M12x60 DIN 912	3
28	90.001.25.076	Šroub / Schraube / Screw M6x18 DIN 912	4
29	90.001.55.083	Šroub / Schraube / Screw M8x30 DIN 912	12
30	90.011.27.005	Šroub / Schraube / Screw M6x12 DIN 7991	20
31	90.100.55.005	Matice / Mutter / Nut M8 DIN 934	1
32	95.800.021	Pojistný kroužek / Sicherungsring / Retaining ring Ø62 DIN 471	1
33		Lineární vedení / Führung / Linear guiding BMA 30	1
34		Propojka / Verbindungsstück / Jumper GEV1-4	1



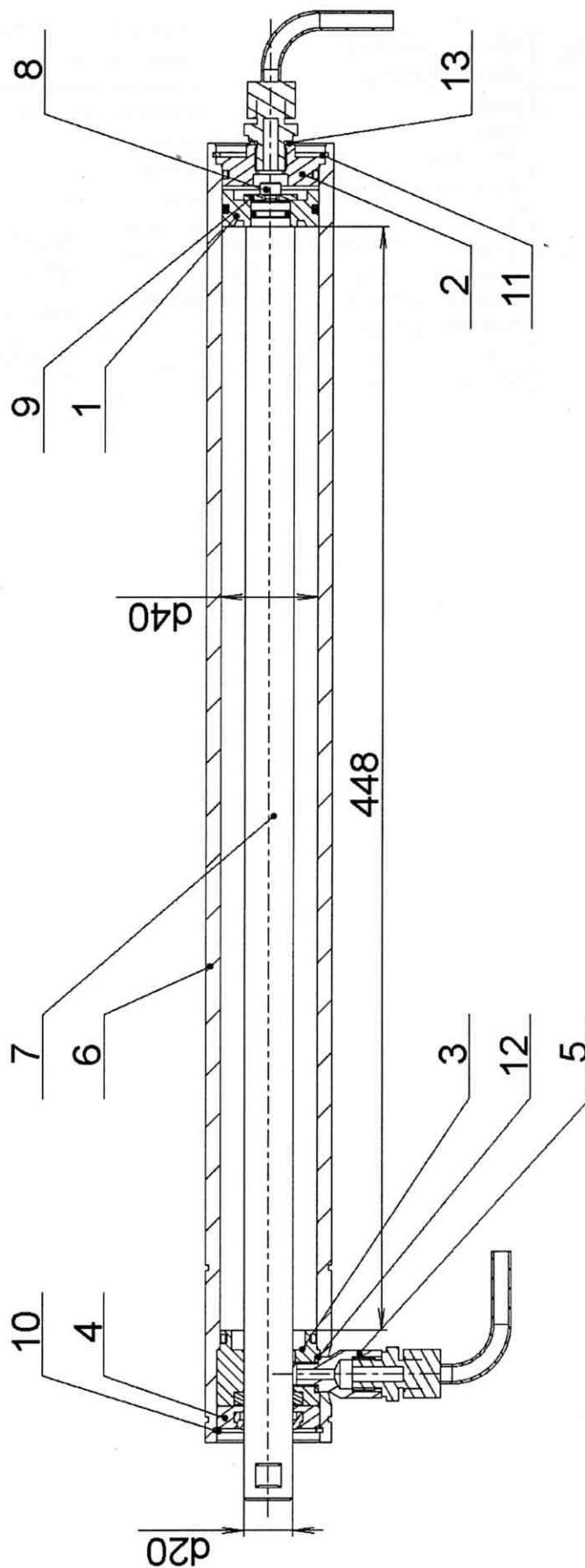
23.2. Upínací válec svěráku / Spannzyylinder des Hauptschraubstockes / Vice clamping cylinder

Poz.	Objednáací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	30.1807-104	Přívod / Zufuhr / Inflow	1
2	30.2007-302	Píst / Kolben / Piston	1
3	30.2007-304	Víko / Deckel / Cover	1
4	30.6707-001	Válec / Zylinder / Cylinder	1
5	30.6707-002	Pístnice / Kolbenstange / Piston rod	1
6	90.001.25.033	Šroub / Schraube / Screw	M8x25 DIN 912 1
7	95.801.009	Pojistný kroužek / Sicherungsring / Retaining ring	Ø52 DIN 472 2
8	96.001.013	O kroužek / O Ring / O Ring	45x2 2
9	96.002.011	O kroužek / O Ring / O Ring	24x2 1
10	96.020.005	Q kroužek / Q Ring / Q Ring	QRAR N7004 1
11	96.041.003	Těsnící manžeta / Dichtungsmanschette / Gasket	28x36x7 UN 1
12	96.060.003	Stírací kroužek / Abstreifring / Wiping ring	28x36 1
13	96.082.002	Těsnící kroužek / Dichtungsring / Sealing ring Cu	13/17 2



**23.3. Horní upínání hlavního svěráku / Obere Spannung des Hauptschraubstockes / Main vice upper clamping**

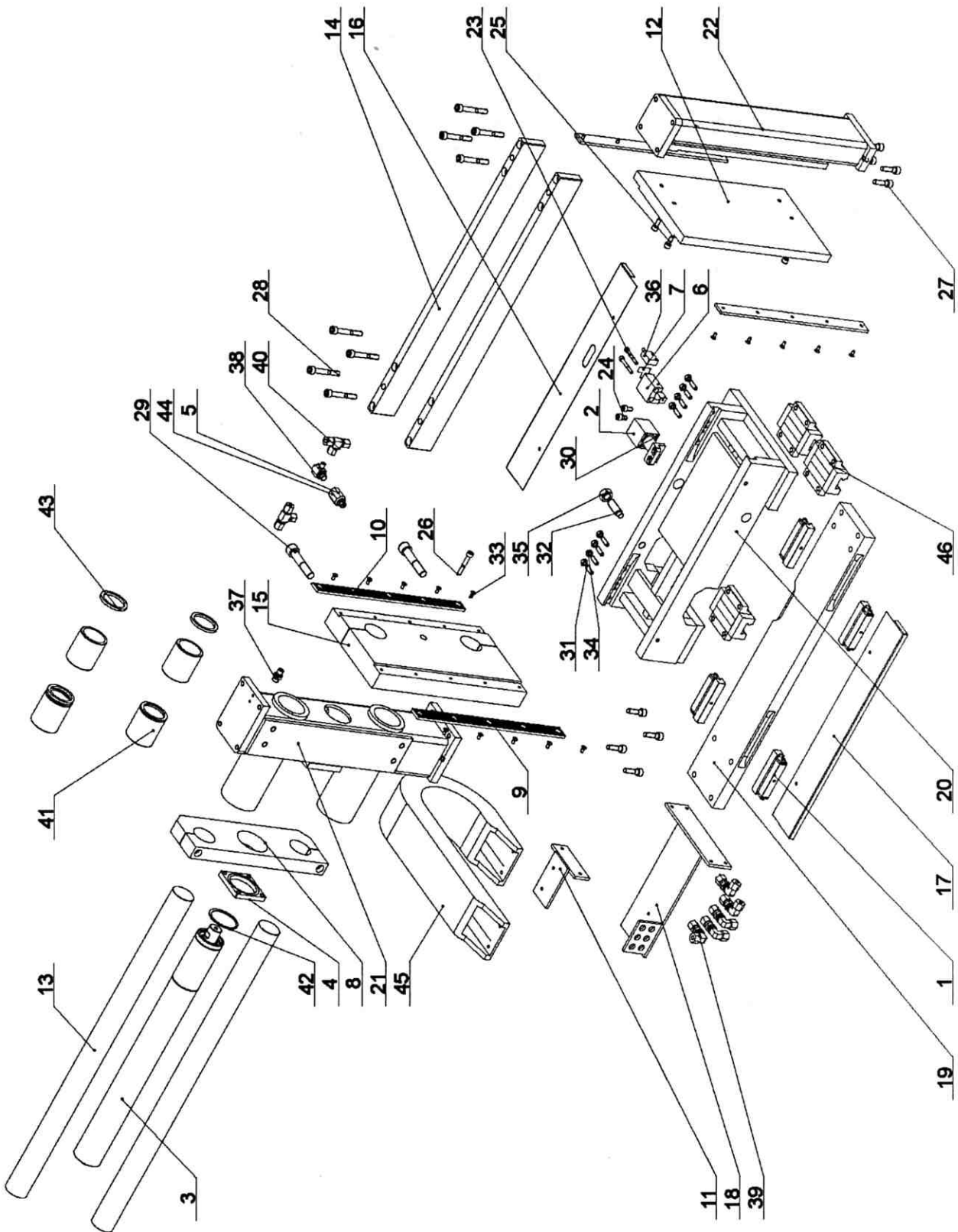
<b>Poz.</b>	<b>Objednací číslo</b>	<b>Název položky</b>	<b>ks</b>	
<b>Pos.</b>	<b>Bestell - Nr.</b>	<b>Bezeichnung</b>	<b>Menge</b>	
<b>Pos.</b>	<b>Reference No.</b>	<b>Item</b>	<b>Pcs.</b>	
1	201.6707-350	Válec / Zylinder / Cylinder	1	
2	30.3511-009	Příložka / Lasche / Splice plate	1	
3	30.6712-201	Konzola / Konsole / Console	1	
4	30.6712-202	Lišta / Leiste / Listel	1	
5	90.001.25.009	Šroub / Schraube / Screw	M5x16 DIN 912	20
6	90.001.25.078	Šroub / Schraube / Screw	M8x90 DIN 912	4
7	95.800.019	Pojistný kroužek / Sicherungsring / Retaining ring	Ø52 DIN 471	2
8	99.200.042	Lišta / Leiste / Listel	LGR20-680	1
9	99.201.010	Vozík / Wagen / Trolley	LGH20CA-Hiwin	2



23.4. Upínací válec horního upínání / Spannzylinder der oberen Spannung / Upper clamping cylinder

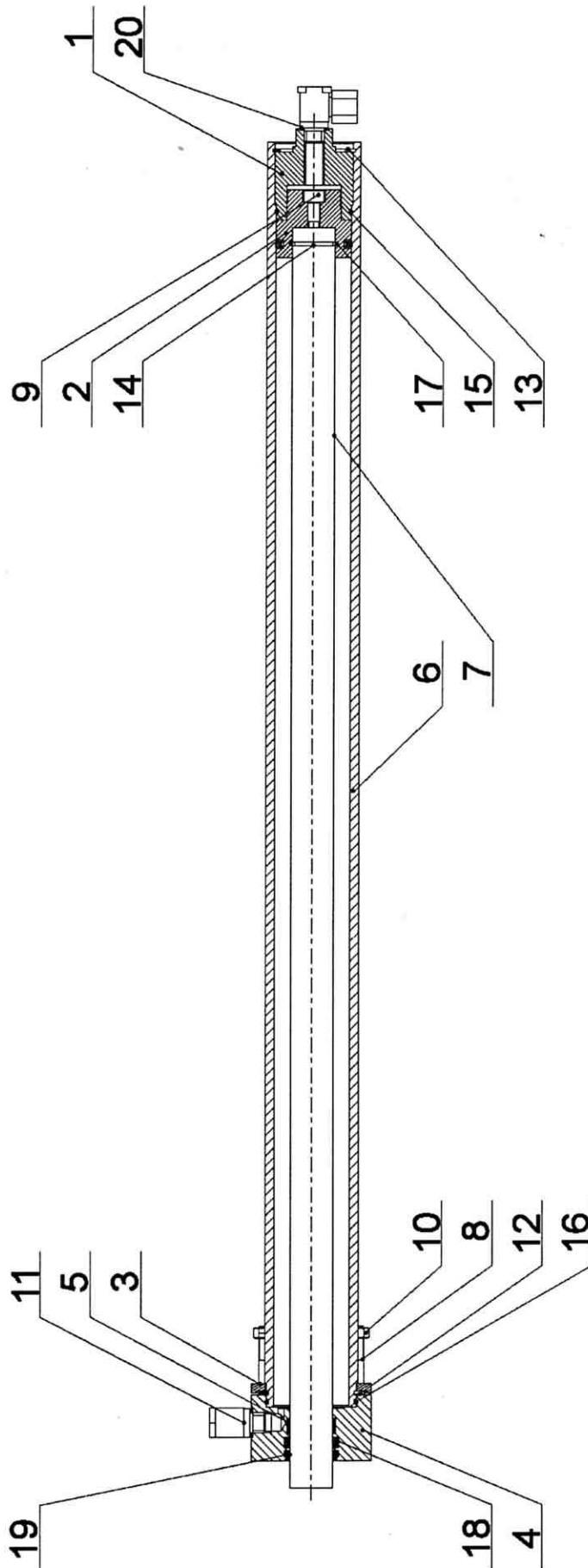


Poz.	Objednací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	30.0305-202	Píst / Kolben / Piston	1
2	30.1707-104	Víko / Deckel / Cover	1
3	30.2107-002	Přívod / Zuleitung / Supply	1
4	30.2107-003	Víko / Deckel / Cover	1
5	30.3407-103	Redukce / Reduktion / Reduction	1
6	30.6707-351	Válec / Zylinder / Cylinder	1
7	30.6707-352	Pístnice / Kolbenstange / Piston rod	1
8	90.001.25.087	Šroub / Schraube / Screw	M5x14 DIN 912
9	90.151.50.004	Podložka / Scheibe / Washer	Ø6,6 DIN 440
10	95.801.006	Pojistný kroužek / Sicherungsring / Retaining ring	Ø42 DIN 472
11	95.801.007	Pojistný kroužek / Sicherungsring / Retaining ring	Ø45 DIN 472
12	96.082.001	Těsnící kroužek / Dichtungsring / Sealing ring	41913
13	96.082.002	Těsnící kroužek / Dichtungsring / Sealing ring	13/17



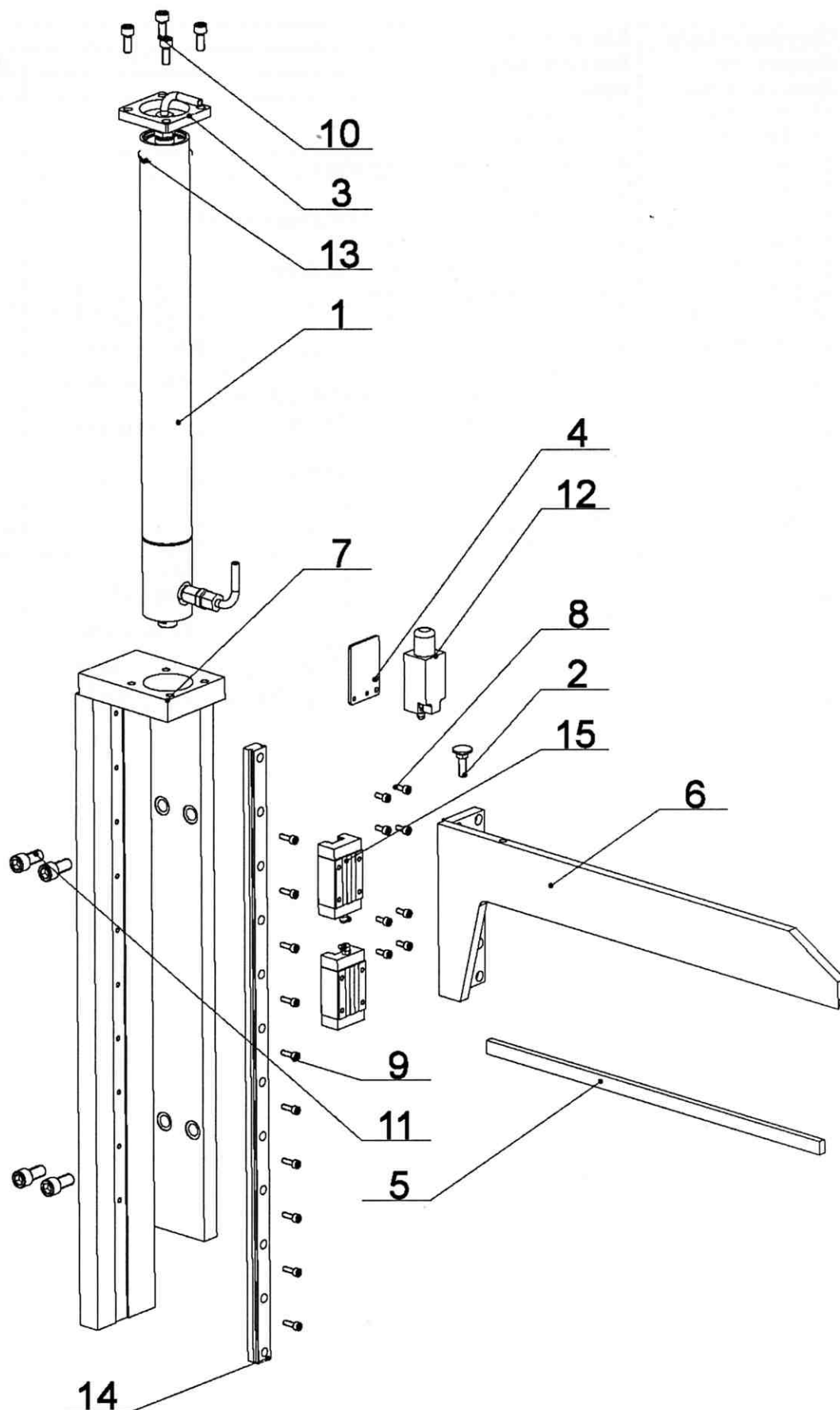
**23.5. Podavač / Vorschub / Feeder**

Poz.	Objednáací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	201.2911-200	Válečkový element / Zylinderelement / Roller element	4
2	201.4307-500	Fixační válec / Fixierzylinder / Fixation cylinder	1
3	201.6707-000	Válec svěráku / Schraubstockzylinder / Vice cylinder	1
4	30.2011-010	Příložka / Lasche / Splice plate	1
5	30.2011-011	Šroubení / Schraubung / Screwing	1
6	30.2911-029	Držák snímače / Halter / Sensor holder	1
7	30.2911-030	Stěrač / Abstreifer / Scraper	1
8	30.4009-011	Brýle / Brillen / Glasses	1
9	30.4803-010	Lišta čelisti / Leiste / Listel	2
10	30.4803-011	Lišta čelisti / Leiste / Listel	2
11	30.6611-026	Konzola / Konsole / Console	1
12	30.6711-004	Bočnice / Seitenteil / Side plate	1
13	30.6711-005	Vodící tyč / Führungsstange / Guiding bar	2
14	30.6711-010	Lišta / Leiste / Listel	2
15	30.6711-022	Bočnice / Seitenteil / Side plate	1
16	30.6711-023	Kryt / Deckel / Cover	1
17	30.6711-024	Kryt / Deckel / Cover	1
18	30.6711-027	Konzola / Konsole / Console	1
19	30.6711-203	Základna / Grundlage / Base	1
20	30.6711-301	Základna / Grundlage / Base	1
21	30.6711-302	Sloup / Säule / Pillar	1
22	30.6711-307	Sloup / Säule / Pillar	1
23	90.001.25.023	Šroub / Schraube / Screw M6x50 DIN 912	2
24	90.001.25.031	Šroub / Schraube / Screw M8x16 DIN 912	2
25	90.001.25.032	Šroub / Schraube / Screw M8x20 DIN 912	4
26	90.001.25.038	Šroub / Schraube / Screw M8x50 DIN 912	1
27	90.001.25.049	Šroub / Schraube / Screw M10x35 DIN 912	8
28	90.001.25.055	Šroub / Schraube / Screw M10x70 DIN 912	8
29	90.001.25.098	Šroub / Schraube / Screw M16x80 DIN 912	2
30	90.001.25.108	Šroub / Schraube / Screw M5x45 DIN 912	4
31	90.002.2D.013	Šroub / Schraube / Screw M8x25 DIN 913	8
32	90.004.2D.OXX	Šroub / Schraube / Screw M? DIN 915	1
33	90.011.27.005	Šroub / Schraube / Screw M6x12 DIN 7991	20
34	90.100.55.005	Matice / Mutter / Nut M8 DIN 934	8
35	90.100.55.008	Matice / Mutter / Nut M16 DIN 934	1
36	91.270.006	Magnetický sensor / Magnet. Sensor / Magnetic sensor LMIX2-000-08.0-1-01	1
37	92.002.001	Šroubení přímé / Gerade Verschraubung / Straight screwing GES 08LR	1
38	92.003.001	Šroubení natáčecí / Winkelverschraubung / swivelling screw RSWS 08LR	1
39	92.009.101	Průchodka úhlová / Tülle / Angle grommet P-WSV 08L	5
40	92.011.001	Propojka / Verbindungsstück / Jumper T P-ETVD 08L	2
41	95.710.002	Pouzdro / Buchse / Bush 50x70 KH	4
42	95.800.021	Pojistný kroužek / Sicherungsring / Retaining ring Ø62 DIN 471	1
43	96.040.004	Stírací manžeta / Manschette / Sleeve 50x62x5	4
44	96.082.002	Těsnící kroužek / Dichtungsring / Sealing ring 13/17	1
45	99.170.001	Řetěz energií / Energiekette / Hydr. pipes leading EFK0555.030.075.100	1
46	99.201.007	Vozík / Wagen / Trolley LGW30CC-Hiwin	3



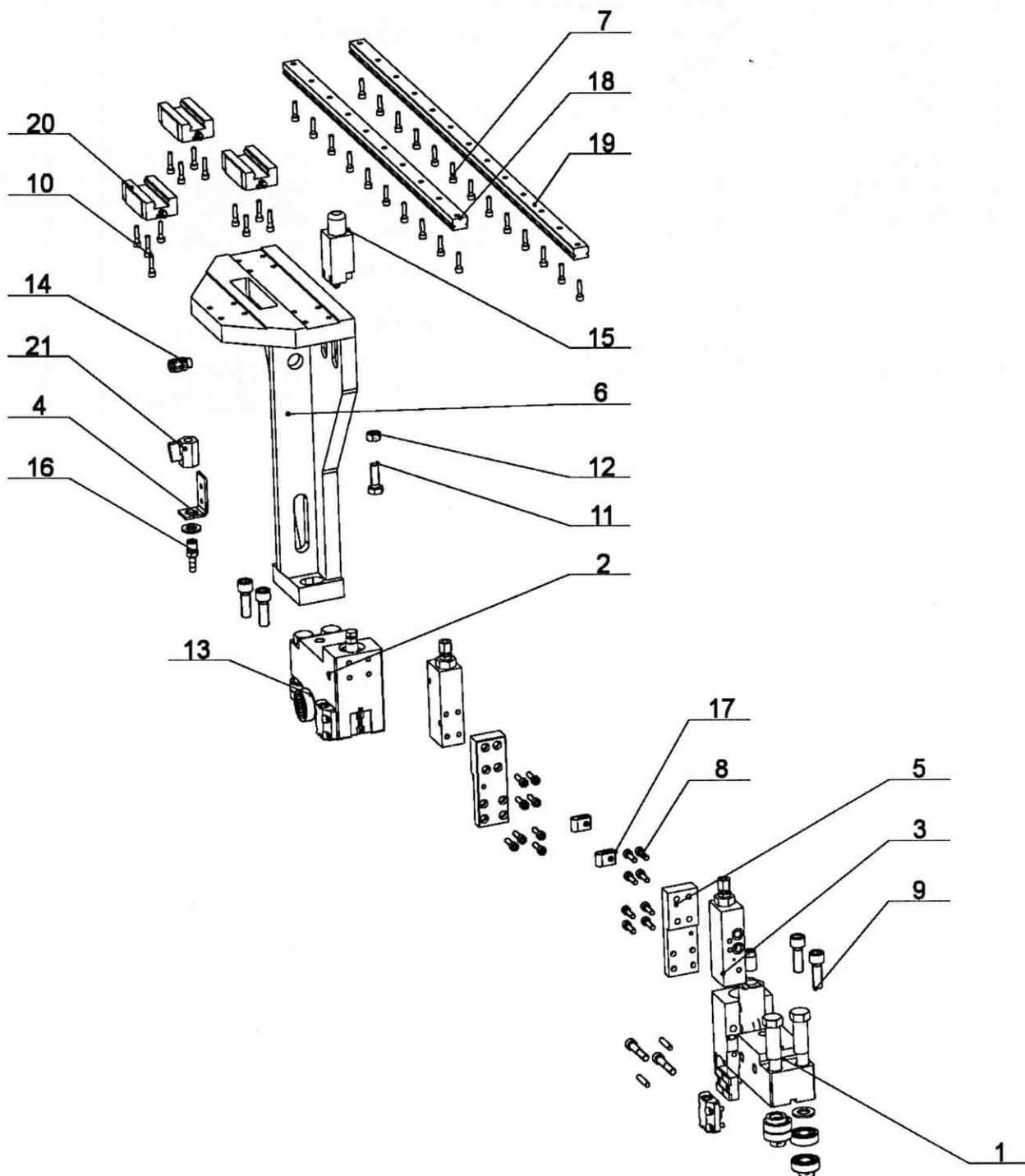
23.6. Podávací válec / Vorschubzylinder / Feeding cylinder

Poz.	Objednáací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	30.1807-103	Víko / Deckel / Cover	1
2	30.1807-105	Píst / Kolben / Piston	1
3	30.2007-103	Příložka / Lasche / Splice plate	1
4	30.3507-103	Víko / Deckel / Cover	1
5	30.3507-104	Vodící pásek / Führungsband / Guiding band	1
6	30.6607-651	Válec / Zylinder / Cylinder	1
7	30.6607-652	Pístnice / Kolbenstange / Piston rod	1
8	90.001.25.041	Šroub / Schraube / Screw M8x65 DIN 912	4
9	90.001.55.084	Šroub / Schraube / Screw M8x35 DIN 912	1
10	90.100.55.005	Maticice / Mutter / Nut M8 DIN 934	4
11	92.003.001	Šroubení natáčecí / Winkelverschraubung / Swivelling screw RSWS 08LR	2
12	95.800.020	Pojistný kroužek / Sicherungsring / Retaining ring Ø60 DIN 471	1
13	95.801.009	Pojistný kroužek / Sicherungsring / Retaining ring Ø52 DIN 472	1
14	96.001.007	O kroužek / O Ring / O Ring 25x2	1
15	96.001.013	O kroužek / O Ring / O Ring 45x2	1
16	96.001.014	O kroužek / O Ring / O Ring 55x2	1
17	96.020.005	Q kroužek / Q Ring / Q Ring 4326A 39.2x5.33	1
18	96.041.003	Těsnící manžeta / Dichtungsmanschette / Gasket 28x36x7 UN	1
19	96.060.003	Stírací kroužek / Abstreifring / Wiping ring 28x36	1
20	96.082.002	Těsnící kroužek / Dichtungsring / Sealing ring 13/17	2



23.7. Horní upínání podavače / Obere Spannung des Vorschubes / Feeding vice upper clamping

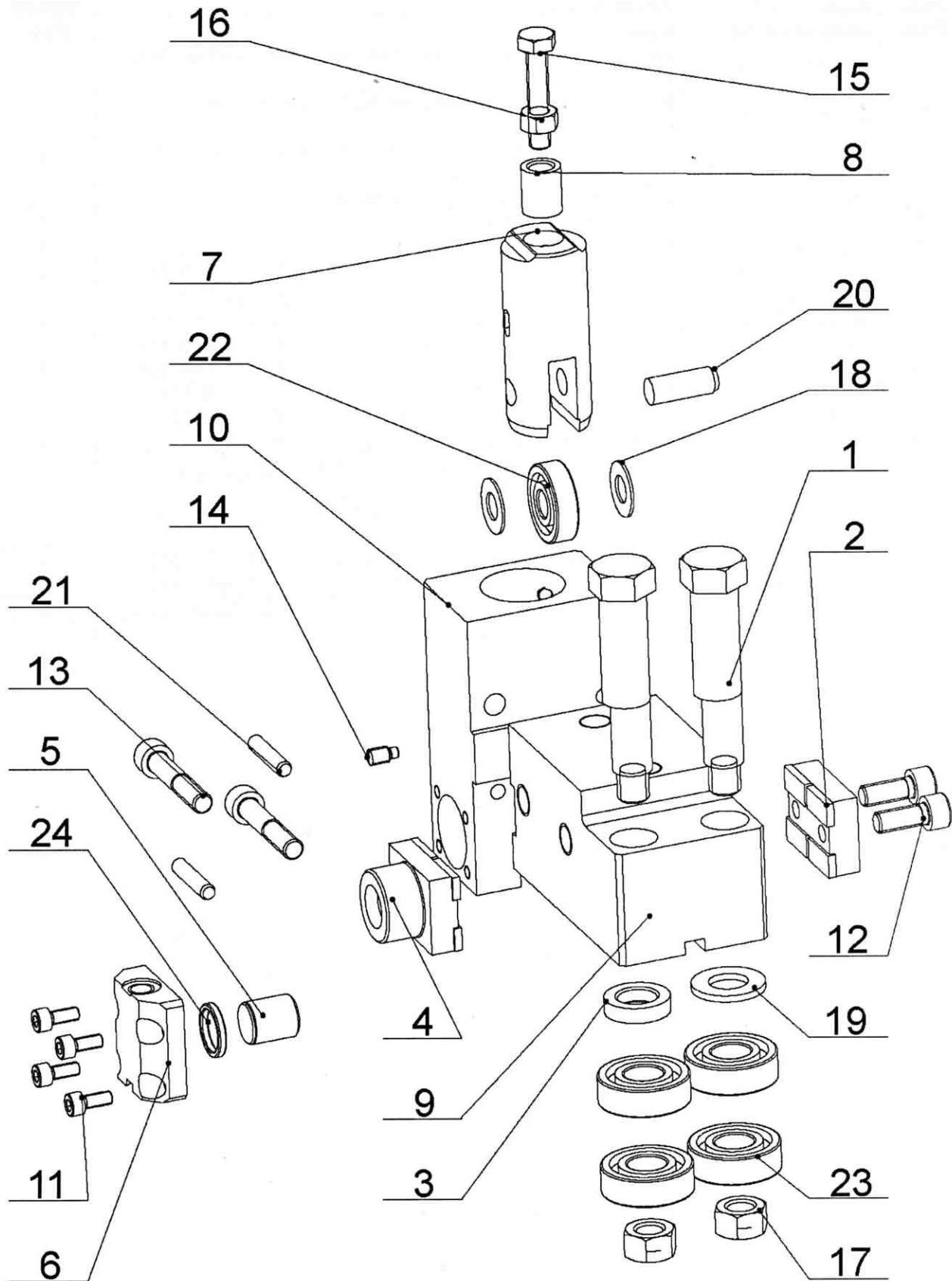
Poz.	Objednáací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	201.6707-350	Válec / Zylinder / Cylinder upinací	1
2	30.0702-013	Šroub / Schraube / Screw M8x30 DIN 605	1
3	30.3511-009	Příložka / Lasche / Lath	1
4	30.6612-454	Držák koncového spínače / Endschalterhalter / Limit switch holder	1
5	30.6712-202	Lišta / Leiste / Listel	1
6	30.6712-251	Konzola / Konsole / Console	1
7	30.6712-252	Konzola / Konsole / Console	1
8	90.001.25.008	Šroub / Schraube / Screw M5x12 DIN 912	8
9	90.001.25.009	Šroub / Schraube / Screw M5x16 DIN 912	10
10	90.001.25.032	Šroub / Schraube / Screw M8x20 DIN 912	4
11	90.001.25.057	Šroub / Schraube / Screw M12x25 DIN 912	4
12	91.173.007	Koncový spínač / Endschalter / Limit switch FR 601-M2	1
13	95.800.019	Pojistný kroužek / Sicherungsring / Retaining ring Ø52 DIN 471	1
14	99.200.042	Lišta / Leiste / Listel LGR20-680	1
15	99.201.010	Vozík / Wagen / Trolley LGH20CA-Hiwin	2



### 23.8. Vedení pásu / Sägebåndführung / Saw band guiding

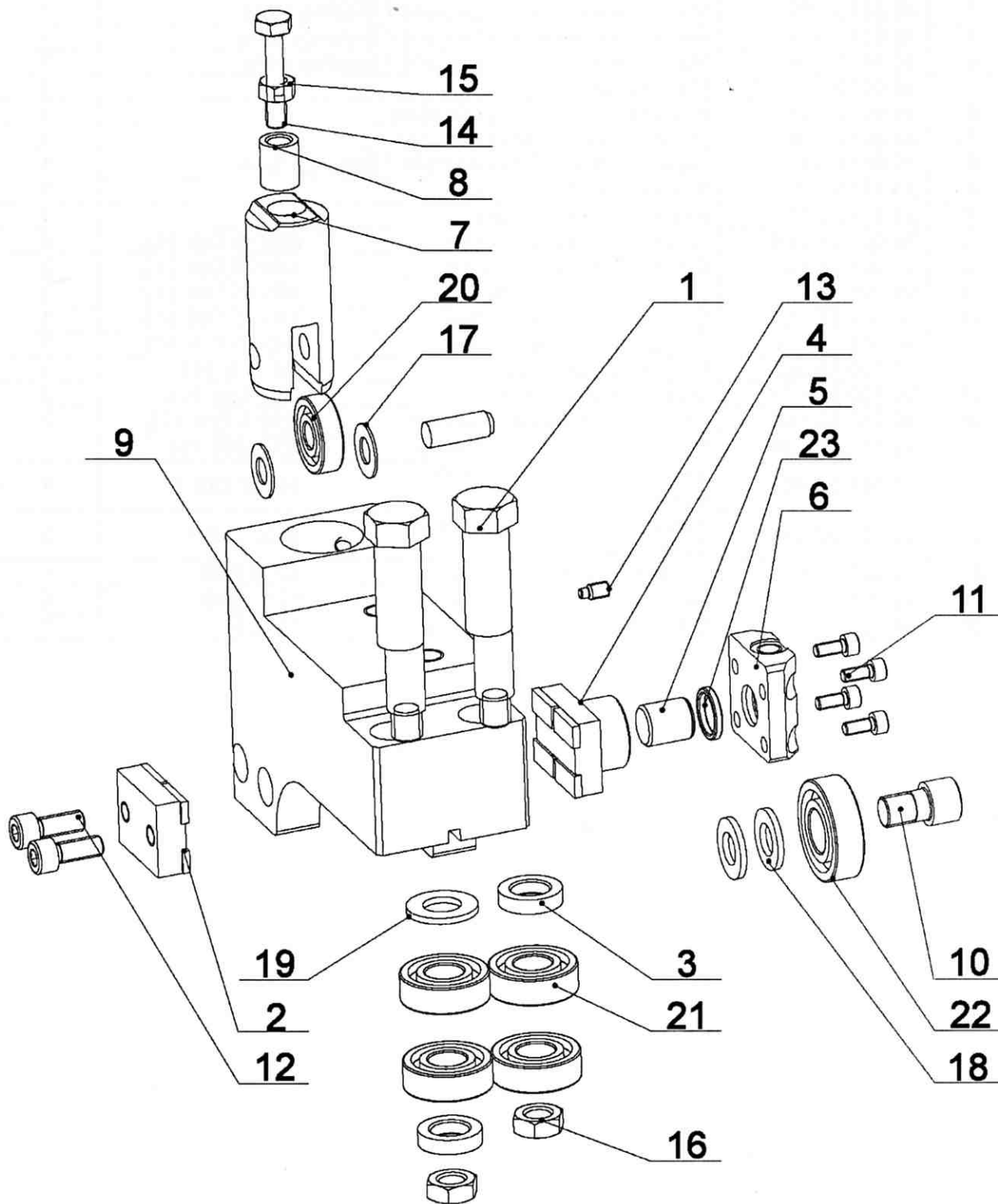


Poz.	Objednáací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	201.6710-200	Levá vodící kostka / Linker Führungsklotz / Left guiding cube	1
2	201.6710-300	Pravá vodící kostka / Rechter Führungsklotz / Right guiding cube	1
3	201.6816-100	Regulace přitlaku / Schnittdruckregulation / Pressure regulation	2
4	30.1814-011	Držák ventilu / Halter / Valve holder	1
5	30.6016-002	Deska / Platte / Plate	2
6	30.6704-009	Konzola / Konsole / Console	1
7	90.001.25.010	Šroub / Schraube / Screw M5x20 DIN 912	23
8	90.001.25.018	Šroub / Schraube / Screw M6x20 DIN 912	16
9	90.001.25.059	Šroub / Schraube / Screw M12x35 DIN 912	4
10	90.001.25.089	Šroub / Schraube / Screw M5x22 DIN 912	12
11	90.005.55.007	Šroub / Schraube / Screw M6x16 DIN 933	1
12	90.100.55.006	Maticice / Mutter / Nut M10 DIN 934	1
13	90.150.50.007	Podložka / Scheibe / Washer Ø13 DIN 125	3
14	91.070.010	Vývodka / Ausführung / Bushing M 12x1.5	1
15	91.173.007	Koncový spínač / Endschalter / Limit switch FR 601-M2	1
16	94.202.002	Redukce / Reduktion / Reduction GES 6 / R 1/4"	1
17	94.204.001	Držák / Halter / Holder	2
18	99.200.030	Lineární vedení / Führung / Guiding LGR20R-0560	1
19	99.200.044	Lineární vedení / Führung / Guiding LGR20R-0740	1
20	99.201.010	Vozík / Wagen / Trolley LGH20CA-Hiwin	3
21	99.260.003	Kulový ventil / Kugelventil / Spherical valve 1/4"	1



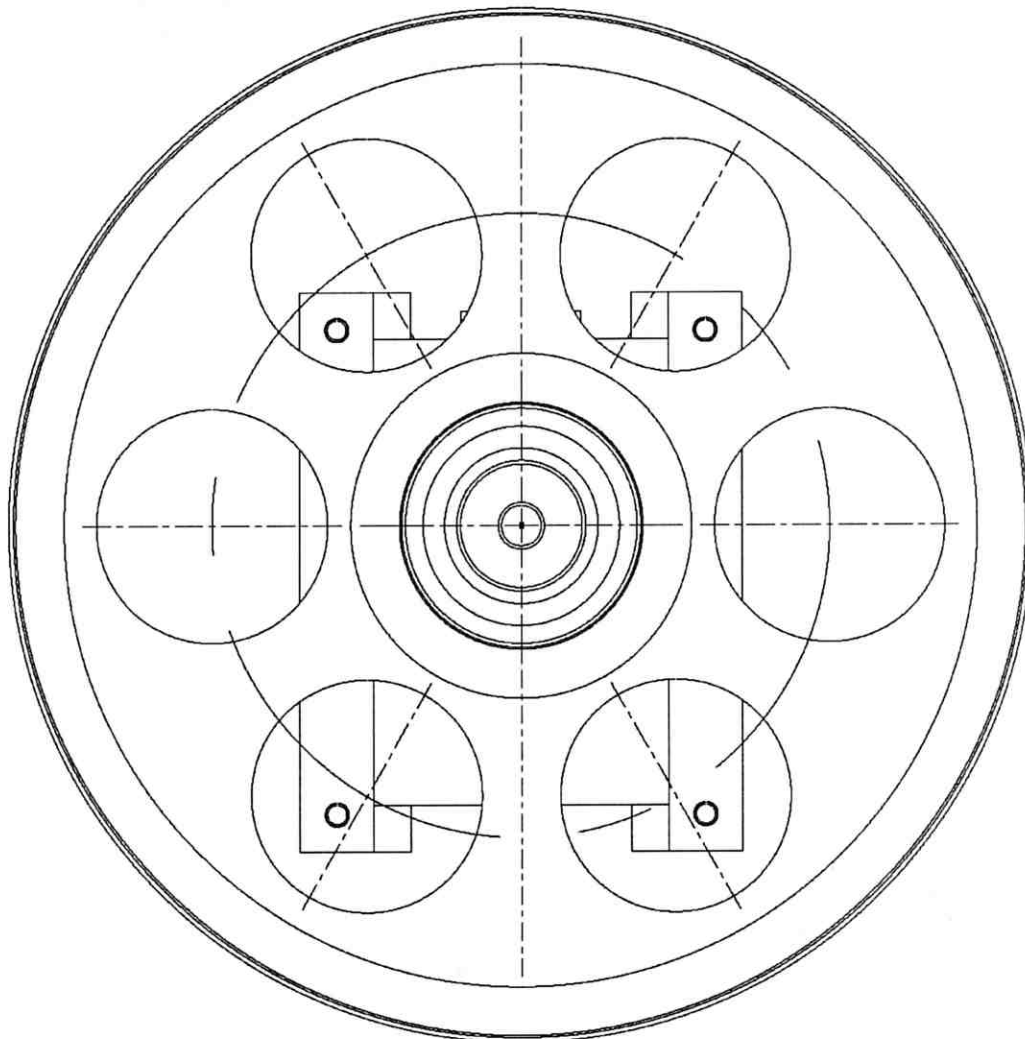
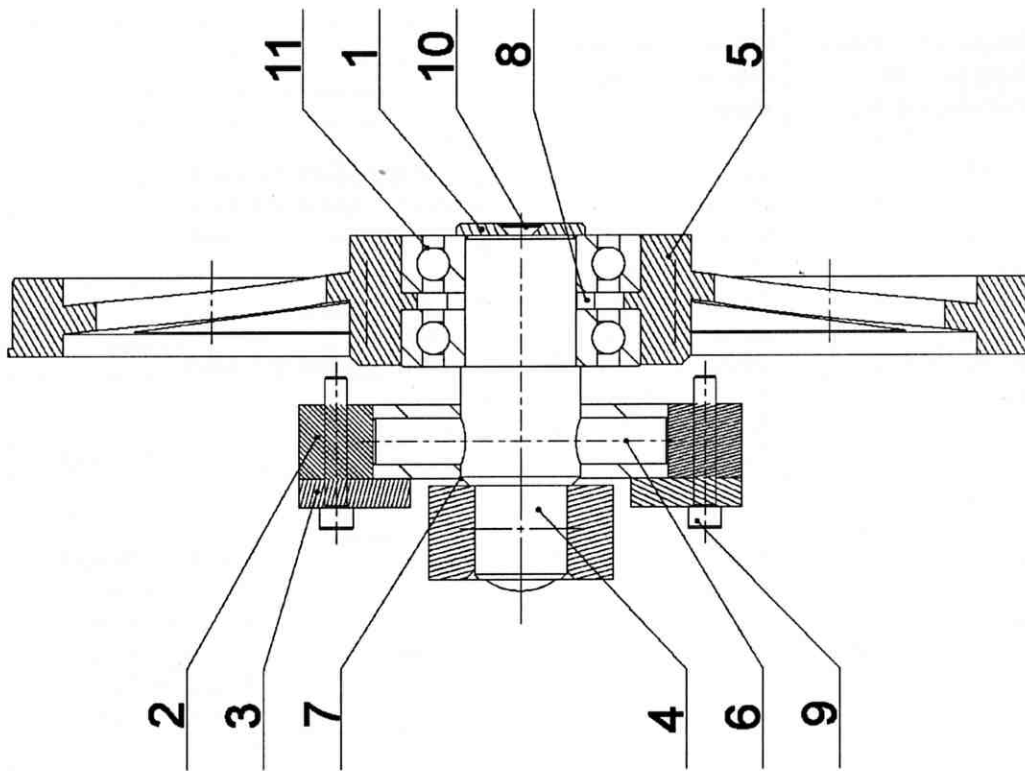
**23.9. Levá vodící kostka / Linker Bandführungsklotz / Left guiding cube**

Poz.	Objednací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	30.6010-104	Excentr / Exzenter / Excenter	2
2	30.6010-105	Vodící deska / Führungsplatte / Guiding plate	1
3	30.6010-108	Distanční trubka / Distanzrohr / Distance tube	1
4	30.6010-114	Vodící deska / Führungsplatte / Guiding plate	1
5	30.6010-117	Píst / Kolben / Piston	1
6	30.6010-118	Příložka / Lasche / Splice plate	1
7	30.6010-119	Držák ložiska / Halter / Holder	1
8	30.6010-122	Distanční trubka / Distanzrohr / Distance tube	1
9	30.6710-206	Kostka / Würfel / Cube	1
10	30.6710-207	Kostka / Würfel / Cube	1
11	90.001.25.008	Šroub / Schraube / Screw M5x12 DIN 912	4
12	90.001.25.032	Šroub / Schraube / Screw M8x20 DIN 912	2
13	90.001.25.037	Šroub / Schraube / Screw M8x45 DIN 912	2
14	90.004.2D.002	Šroub / Schraube / Screw M6x12 DIN 915	1
15	90.005.55.019	Šroub / Schraube / Screw M8x40 DIN 933	1
16	90.100.55.005	Maticice / Mutter / Nut M8 DIN 934	1
17	90.100.55.007	Maticice / Mutter / Nut M12 DIN 934	2
18	90.150.50.006	Podložka / Scheibe / Washer Ø10,5 DIN 125	2
19	90.150.50.008	Podložka / Scheibe / Washer Ø15 DIN 125	1
20	90.301.OZ.001	Válcový kolík / Zylinderstift / Cylindrical pin 10x28 DIN 7	1
21	90.301.OZ.013	Válcový kolík / Zylinderstift / Cylindrical pin 6x30 DIN 7	2
22	95.001.014	Ložisko / Lager / Bearing 6200 2RS	1
23	95.001.015	Ložisko / Lager / Bearing 6202 2RS	4
24	96.002.008	O kroužek / O Ring / O Ring 16x2.5	1



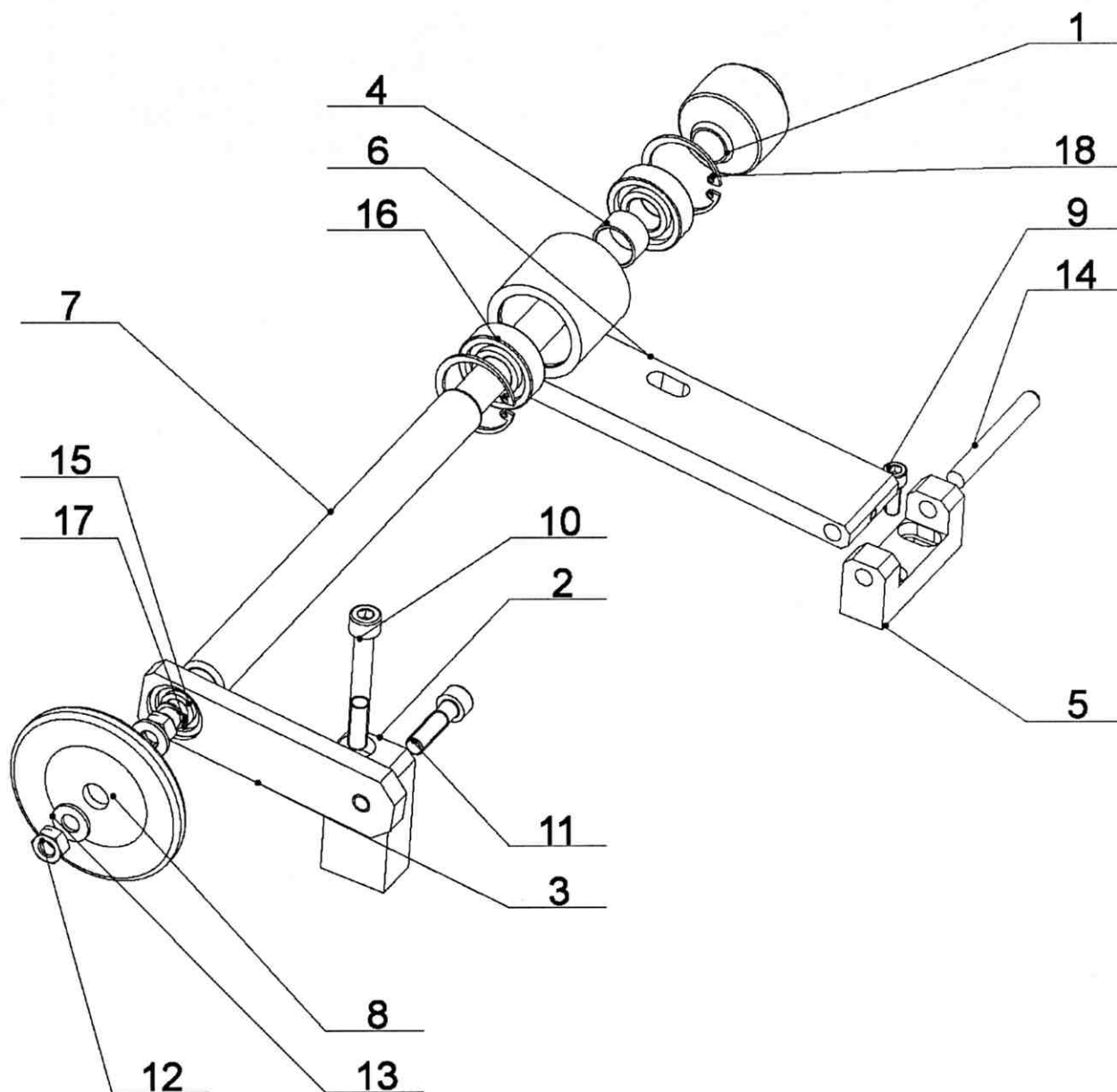
**23.10. Pravá vodící kostka / Rechter Bandführungsklotz / Right guiding cube**

Poz.	Objednací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	30.6010-104	Excentr / Exzenter / Excenter	2
2	30.6010-105	Vodící deska / Führungsplatte / Guiding plate	1
3	30.6010-108	Distanční trubka / Distanzrohr / Distance tube	2
4	30.6010-114	Vodící deska / Führungsplatte / Guiding plate	1
5	30.6010-117	Píst / Kolben / Piston	1
6	30.6010-118	Příložka / Lasche / Splice plate	1
7	30.6010-119	Držák ložiska / Halter / Holder	1
8	30.6010-122	Distanční trubka / Distanzrohr / Distance tube	1
9	30.6710-102	Kostka / Würfel / Cube	1
10	30.6710-103	Šroub / Schraube / Screw	1
11	90.001.25.008	Šroub / Schraube / Screw M5x12 DIN 912	4
12	90.001.25.032	Šroub / Schraube / Screw M8x20 DIN 912	2
13	90.004.2D.002	Šroub / Schraube / Screw M6x12 DIN 915	1
14	90.005.55.019	Šroub / Schraube / Screw M8x40 DIN 933	1
15	90.100.55.005	Matice / Mutter / Nut M8 DIN 934	1
16	90.101.55.006	Matice / Mutter / Nut M12 DIN 439	2
17	90.150.50.006	Podložka / Scheibe / Washer Ø10.5 DIN 125	2
18	90.150.50.007	Podložka / Scheibe / Washer Ø13 DIN 125	2
19	90.150.50.008	Podložka / Scheibe / Washer Ø15 DIN 125	1
20	95.001.014	Ložisko / Lager / Bearing 6200 2RS	1
21	95.001.015	Ložisko / Lager / Bearing 6202 2RS	4
22	95.001.016	Ložisko / Lager / Bearing 6203 2RS	1
23	96.002.008	O kroužek / O Ring / O Ring 16x2.5	1



**23.11. Napínání pásu / Sägebandspannung / Saw band stretching**

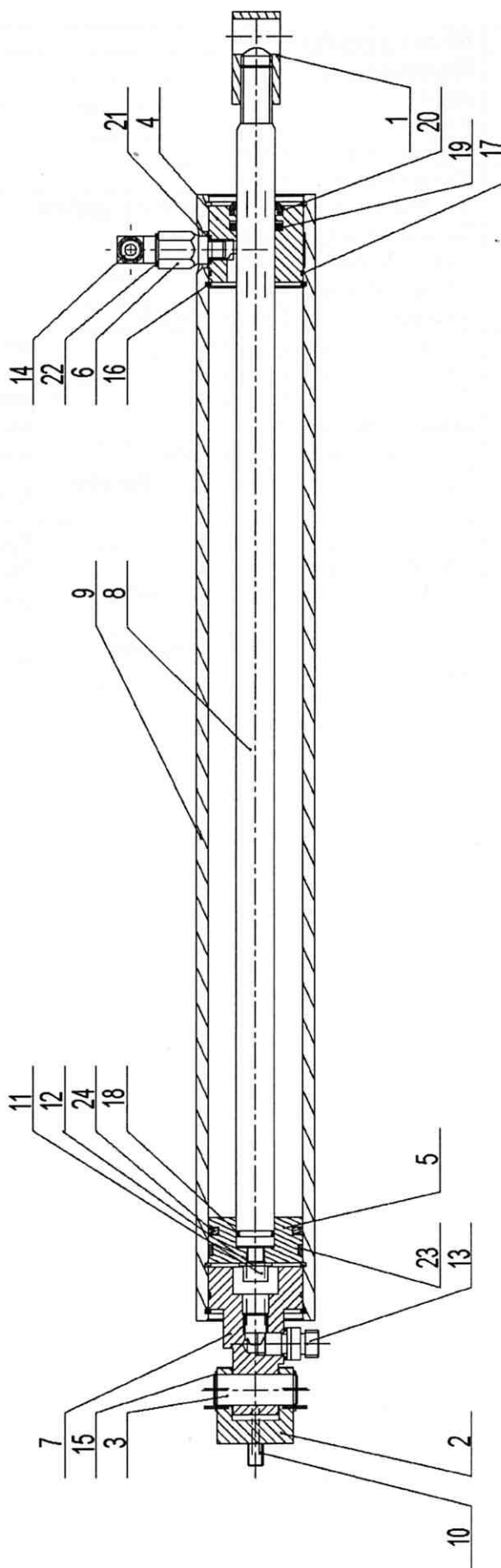
Poz.	Objednací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	30.1804-010	Podložka / Scheibe / Washer	1
2	30.6008-002	Vodící lišta / Führungsleiste / Guiding listel	2
3	30.6008-003	Vodící lišta / Führungsleiste / Guiding listel	2
4	30.6008-004	Napínání / Spannung / Stretching	1
5	30.6008-006	Napínací kolo / Umlenkrad / Stretching wheel	1
6	30.6008-014	Čep / Bolzen / Pivot	1
7	30.6708-001	Napínání / Spannung / Stretching	1
8	30.6708-002	Distanční trubka / Distanzrohr / Distance tube	1
9	90.001.25.064	Šroub / Schraube / Screw M12x70 DIN 912	6
10	90.011.27.009	Šroub / Schraube / Screw M12x20 DIN 7991	1
11	95.001.041	Ložisko / Lager / Bearing 6312 2RS	2



23.12. Kartáček / Spänbürste / Brush



Poz.	Objednací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	30.6014-404	Kolečko / Rad / Wheel	1
2	30.6014-408	Deska / Platte / Plate	1
3	30.6014-409	Páka / Hebel / Lever	1
4	30.6014-411	Trubka distancni / Distanzrohr / Distance tube	1
5	30.6014-412	Deska / Platte / Plate	1
6	30.6614-401	Páka / Hebel / Lever	1
7	30.6714-403	Hřídel / Welle / Shaft	1
8	31.0814-208	Kartáček / Spänbürste / Brush	1
9	90.001.25.017	Šroub / Schraube / Screw M6x16 DIN 912	2
10	90.001.25.040	Šroub / Schraube / Screw M8x60 DIN 912	1
11	90.001.55.083	Šroub / Schraube / Screw M8x30 DIN 912	1
12	90.100.55.005	Maticice / Mutter / Nut M8 DIN 934	2
13	90.150.50.005	Podložka / Scheibe / Washer 8,4 DIN 125	2
14	90.301.0Z.012	Válcový kolík / Zylinderstift / Parallel pin 8x65 DIN 7	1
15	95.001.004	Ložisko / Lager / Bearing 6000 2RS	1
16	95.001.015	Ložisko / Lager / Bearing 6202 2RS	2
17	95.800.003	Pojistný kroužek / Sicherungsring / Retaining ring Ø10 DIN 471	1
18	95.801.004	Pojistný kroužek / Sicherungsring / Retaining ring Ø35 DIN 472	2



23.13. Zvedací válec / Hubzylinder / Lifting cylinder

Poz.	Objednáací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	30.0807-006	Držák pístnice / Kolbenstangehalter / Piston rod holder	1
2	30.0807-008	Držák válce / Zylinderhalter / Cylinder holder	1
3	30.0807-009	Čep / Bolzen / Pivot	1
4	30.2807-002	Víko / Deckel / Cover	1
5	30.2807-004	Píst / Kolben / Piston	1
6	30.3407-103	Redukce / Reduktion / Reduction	1
7	30.4107-003	Víko / Deckel / Cover	1
8	30.6607-203	Pístnice / Kolbenstange / Piston rod	1
9	30.6707-101	Válec / Zylinder / Cylinder	1
10	90.001.25.031	Šroub / Schraube / Screw M8x16 DIN 912	2
11	90.001.25.032	Šroub / Schraube / Screw M8x20 DIN 912	1
12	90.150.50.005	Podložka / Scheibe / Washer Ø8,4 DIN 125	1
13	92.002.001	Šroubení / Schraubung / Screwing GES 08LR	1
14	92.004.001	Šroubení / Schraubung / Screwing WES 08LRK	1
15	95.800.007	Pojistný kroužek / Sicherungsring / Retaining ring Ø16 DIN 471	2
16	95.801.018	Pojistný kroužek / Sicherungsring / Retaining ring Ø50 DIN 472	4
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	96.041.002	Těsnící manžeta / Dichtungsmanschette / Gasket 20x28x5 UN	1
20	96.060.002	Stírací kroužek / Abstreifring / Scraper ring 20x28	1
21	96.082.001	Těsnící kroužek / Dichtungsring / Sealing ring 10/14	1
22	96.082.002	Těsnící kroužek / Dichtungsring / Sealing ring 13/17	2
23	96.084.001	Vodící kroužek / Führungsring / Guiding ring 50x5.5x2.5x146.9	1
24	96.900.001	Těsnění / Dichtung / Packing 50x39x4	1

## 24. Troubleshooting table

Problem	Possible causes	Repair
Slanting cut	<ul style="list-style-type: none"> <li>- Wrongly adjusted hard metal guides.</li> <li>- Worn hard metal guides.</li> <li>- Wrongly adjusted cubes of the saw band guiding.</li> <li>- Worn bearings of the saw band guiding.</li> <li>- Wrongly adjusted swarf brush.</li> <li>- Worn swarf brush.</li> <li>- Insufficient saw band stretching.</li> <li>- Wrongly chosen tooth system of the saw band.</li> <li>- Worn saw band.</li> <li>- Wrongly balanced roller conveyor.</li> <li>- Dirty feeding board.</li> <li>- Guiding arm and guiding cube are loosened.</li> <li>- Guiding arm and cube are too far from the material.</li> <li>- Too fast cutting rate.</li> <li>- Unexpected oscillation in material quality.</li> </ul>	<p>Set according to the chapter „Servicing and adjustment“</p> <p>Replace to the chapter „Worn pieces replacement“</p> <p>Set according to the chapter „Servicing and adjustment“</p> <p>Replace according to the chapter „Worn pieces replacement“</p> <p>Set according to the chapter „Servicing and adjustment“</p> <p>Replace according to the chapter „Worn pieces replacement“</p> <p>Rise the saw band stretching and set the limit switch.</p> <p>Replace the saw band and keep the instructions of manufacturer on new saw band choice.</p> <p>Replace the saw band.</p> <p>Set the roller conveyor.</p> <p>Cleanse the feeding board from debris, chip and residue material.</p> <p>Clamp the guiding arm.</p> <p>Set the guiding cube to the material.</p> <p>Lower the material feeding speed.</p> <p>Set the cut and feeding speed to the relevant material.</p>
The cut is not cut upon desired angle	<ul style="list-style-type: none"> <li>- Securing lever is loosened.</li> <li>- Set angle does not match the cut angle.</li> <li>- Insufficient saw band stretching.</li> <li>- Guiding arm and guiding cube are loosened.</li> <li>- Dirt between material and clamping jaw.</li> </ul>	<p>Check the securing lever efficiency and carry out its adjustment according to chapter „Servicing and adjustment“.</p> <p>Check the angle adjustment with a protractor and possibly set it according to chapter „Servicing and adjustment“.</p> <p>Stretch the saw band and set the limit switch according to chapter „Servicing and adjustment“.</p> <p>Fasten the guiding arm and the cube.</p> <p>Cleanse the material and mating jaw.</p>
Short lifetime of the saw band	<ul style="list-style-type: none"> <li>- Insufficient saw band stretching.</li> <li>- Worn swarf brush.</li> </ul>	<p>Raise the tightening of the saw band set the scanner of saw band tightening according to chapter „Servicing and adjustment“.</p> <p>Check the swarf brush condition and replace it in case of excessive use as described in chapter „Worn pieces replacement“</p>

	<ul style="list-style-type: none"> <li>- Wrongly adjusted swarf brush.</li> <li>- Over stretched saw band</li> <li>- Wrongly adjusted hard metal guides.</li> <li>- Worn hard metal guides of the saw band.</li> <li>- Worn saw band guide bearings.</li> <li>- Wrongly adjusted guiding cubes of the saw band.</li> <li>- Wrongly adjusted down feed and saw band speed.</li> <li>- Different material quality.</li> <li>- Low-class saw band</li> <li>- Wrongly chosen saw band tooth system.</li> <li>- Wrongly adjusted tracking.</li> </ul>	<p>Check swarf brush adjustment, set it according to chapter „Servicing and adjustment“</p> <p>Lower stretching of the saw band and set the limit switch of the saw band stretching according to chapter „Servicing and adjustment“</p> <p>Check the adjustment of the hard metal guides and carry out adjustment as described in chapter „Servicing and adjustment“</p> <p>Check the condition of the hard metal guide and if it is too worn, replace hard metal guides according to chapter „Worn pieces replacement“</p> <p>Check guiding bearings and if you notice some sort of excessive damage, replace them according to chapter „Worn pieces replacement“</p> <p>Set guiding cube according to chapter „Servicing and adjustment“</p> <p>Adjust the feeding and speed of a saw band according to values published by saw band manufacturer.</p> <p>Adjust feeding and speed of a saw band according to desired material (try cut-test).</p> <p>Replace the saw band (contact your local accessory supplier for more information)</p> <p>Replace the saw band and keep instructions of the manufacturer on the choice.</p> <p>Check the space between top of a saw band and driving wheel. Perhaps adjust the tracking as described in chapter „Servicing and adjustment“</p>
Insufficient cut output.	<ul style="list-style-type: none"> <li>- Worn saw band.</li> <li>- Wrong saw band tooth system.</li> <li>- Wrongly set down feed and speed of a saw band.</li> </ul>	<p>Replace the saw band and keep instructions of the manufacturer on the choice.</p> <p>Replace the saw band and keep instructions of the manufacturer on the choice.</p> <p>Set feed and speed of a saw band according to values published by saw band manufacturer.</p>
Saw band drive cannot be started.	<p>Pressure switch is adjusted wrong.</p> <p>Pressure switch is defective.</p>	<p>Set the pressure switch according to chapter „Servicing and adjustment“</p> <p>Replace defective parts of the pressure switch.</p>

	Material is deformed.	Use pressure control of the vices SDRA. SDRA is possible buy as additional load, parameters of the SDRA are in chapter „ <b>Special accessories</b> “
Cooling is not active	Lack of cooling agent. Input hosepipe is broken or obstructed. Cooling pump is defective.	Fill the tank with cooling agent. Check the cooling circuit and perhaps cleanse cooling system. Replace the cooling pump.
The cut is not finished.	Wrongly adjusted lower stop point of the saw frame. Stop point surface is messed-up.	Check lower limit switch and screw. Cleanse stop point surface of the limit switch from debris and residue material.

# Declaration of Conformity

according to

- the Directive 73/23/EEC relating to electrical equipment designed for use within certain voltage limits.
- the Directive 89/336/EEC relating to electromagnetic compatibility.
- the Directive 98/37/EC relating to machinery.

Manufacturer:

**BOMAR, spol. s r.o.**  
**Lazaretní 7**  
**615 00 Brno**  
**Czech Republic**

we hereby **d e c l a r e** that the machinery

## **band saw compact 460 A**

**satisfy** all the **requirements** stated in the above Directives and that the **machinery is safe** for defined usage. Measures, which ensure conformity with all machinery on the market, were adopted and practised.

To ensure the conformity, the following harmonized standards as well as national standards and directives were applied:

DIN EN 292 part 1  
DIN EN 292 part 2  
DIN EN 60204-1  
DIN EN 61029-1  
DIN EN 55014  
DIN EN 61000-3-2  
DIN EN 61000-3-3  
DIN EN 55104

Place and date of issue:

**Brno, 19<sup>th</sup> June 2004**

**BOMAR, spol. s r.o.**  
Lazaretní 7, 615 00 Brno  
IČO: 489 08 827  
DIČ: 288-48908827

Company seal

Alfred Pichlmann,  
Managing Director



.....  
name, office, signature