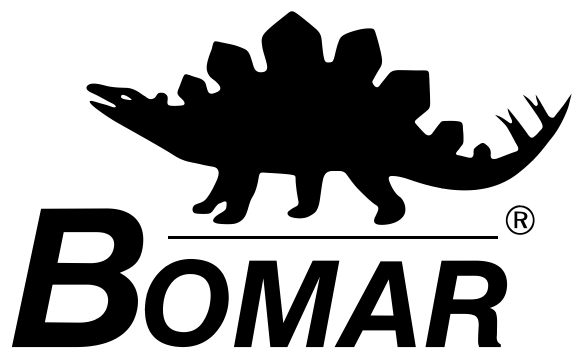




Operating Instructions for Band Saw

SL 520



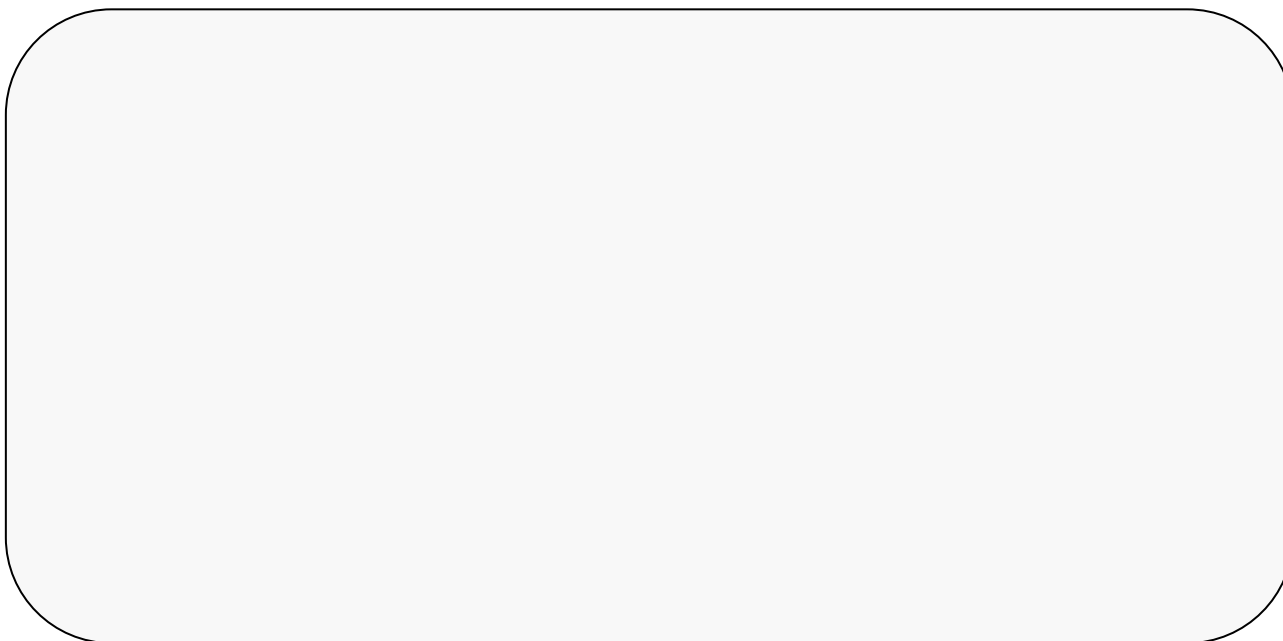
**Before transporting and using the machine, please read
the instructions thoroughly!**

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 7⁰⁰ to 16⁰⁰.

Version 1.02 / August 2002

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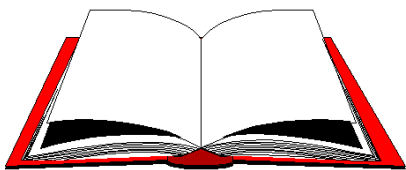
Content

1. INTRODUCTION.....	6
2. BAND SAW USING	6
3. TECHNICAL DATA.....	7
4. SAFETY NOTES.....	8
4.1. GENERAL	8
4.2. PROTECTIVE SUIT AND PERSONAL SAFETY	8
4.3. SAFETY NOTES FOR MACHINE OPERATOR.....	9
4.4. SAFETY NOTES FOR THE SERVICING AND REPAIRS.....	10
4.5. SAFETY MACHINE ACCESSORIES	10
5. TRANSPORTATION AND STOCKING	12
5.1. CONDITIONS FOR TRANSPORTATION AND STOCKING	12
5.2. SAFETY NOTES	12
5.3. TRANSPORT AND STOCKING PREPARATIONS	13
5.4. TRANSPORT AND STOCKING	13
6. ACTIVATION.....	14
6.1. MACHINE WORKING CONDITIONS.....	14
6.2. MACHINE INSTALLING AND LEVELLING.....	14
6.3. ELECTRICAL CONNECTION	15
6.4. FILLING OF THE COOLING SYSTEM.....	16
6.5. CHECK MACHINE FUNCTIONS.....	17
7. CONTROL PANEL – DESCRIPTION.....	18
7.1. CONTROL PANEL	18
7.2. MARKS ON THE DISPLAY	20
8. MATERIAL INSERTION.....	21
8.1. SAFETY NOTES	21
8.2. HANDLING AGENT SELECTION.....	21
8.3. MATERIAL INSERTION.....	21
8.4. BUNDLE MATERIAL CUTTING	22
9. BAND SAW ADJUSTING.....	23
9.1. SAFETY NOTES	23
9.2. SAW FRAME LIFT STOP SETTING	23
9.3. ADJUSTING BAND GUIDES	24
9.4. CUTTING SPEED ADJUSTING	24
9.5. ADJUSTMENT OF PRESSURE IN THE CUT.....	25
9.6. PREPARING OPERATION	26
9.7. SEMI-AUTOMATIC MODE.....	26
10. BLANKS REMOVING FROM THE BAND SAW.....	27
10.1. SAFETY NOTES	27
10.2. HANDLING AGENT SELECTION.....	27
10.3. BLANKS REMOVING	27

11. SELECTION AND REPLACEMENT OF THE SAW BAND	28
11.1. SAFETY NOTES	28
11.2. SAW BAND SIZE	28
11.3. SELECTION OF THE SAW BAND TOOTH SYSTEM:.....	28
11.4. SAW BAND RUNNING - IN.....	30
11.5. SAW BAND STRETCHING AND INSPECTION	31
11.5.1. Saw band stretching.....	31
11.5.2. Saw band inspection	31
12. COOLING AGENTS AND CHIPS DISPOSAL	32
12.1. SAFETY NOTES	32
12.2. COOLING LIQUID PREPARATION	32
12.3. COOLANT DEVICE INSPECTION.....	33
12.4. CHIPS DISPOSAL	34
13. GREASES AND OILS	35
13.1. GEARBOX OILS.....	35
13.2. HYDRAULIC OILS	36
13.3. LUBRICANT GREASES	36
14. SERVICE	37
14.1. MACHINE CLEANING	37
14.2. LUBRICATION	37
14.3. COOLING LIQUID INSPECTION	37
14.4. HYDRAULIC OIL LEVEL CHECK.....	37
15. ADJUSTMENT	39
15.1. HARD METAL GUIDES ADJUSTMENT	39
15.2. SAW BAND RUN ADJUSTMENT ON THE STRETCHING WHEEL	39
15.3. BRUSH ADJUSTMENT.....	40
15.4. ADJUSTING OF THE LIMIT SWITCH OF THE SAW BAND STRETCHING	40
15.5. SAW ARM LOWER POSITION STOP ADJUSTMENT.....	41
15.6. LIMIT SWITCH ADJUSTMENT OF THE SAW FRAME LOWER POSITION	41
15.7. ADJUSTMENT OF THE CUTTING PRESSURE REGULATION	42
15.8. ADJUSTMENT OF A THROTTLE VALVE	44
16. WORN PIECES REPLACEMENT	45
16.1. PUSHING BEARING REPLACEMENT.....	45
16.2. SAW BAND GUIDING PULLEYS REPLACEMENT	47
16.3. HARD METAL GUIDES REPLACEMENT	49
16.4. BRUSH REPLACEMENT.....	50
17. ROZMĚROVÉ SCHÉMA / AUFSTELLZEICHNUNG / INSTALLATION DIAGRAM	51
18. ELEKTRICKÁ SCHÉMATA / ELEKTROSCHEMAS / WIRING DIAGRAMS	53
19. HYDRAULICKÉ SCHÉMA / HYDRAULIKSCHEMA / HYDRAULIC DIAGRAM	58
20. VÝKRESY SESTAV PRO OBJEDNÁNÍ NÁHRADNÍCH DÍLŮ / ZEICHNUNGEN FÜR BESTELLUNG DER ERSATZTEILE / DRAWING ASSEMBLIES FOR SPARE PARTS ORDER	61
20.1. SVĚRÁK / SCHRAUBSTOCK / VICE	62
20.2. VÁLEC SVĚRÁKU / SCHRAUBSTOCKZYLINDER / VICE CYLINDER - 251.136	64
20.3. DRŽÁK VEDENÍ / FÜHRUNGSHALTER / HOLDER OF THE GUIDE	66
20.4. LEVÁ VODÍCÍ KOSTKA / LINKER FÜHRUNGSKLOTZ / LEFT GUIDING CUBE.....	68

20.5.	PRAVÁ VODÍCÍ KOSTKA / RECHTER FÜHRUNGSKLOTZ / RIGHT GUIDING CUBE	70
20.6.	POHON PILOVÉHO PÁSU / ANTRIEB / SAW BAND DRIVE	72
20.7.	NAPÍNÁNÍ PILOVÉHO PÁSU / SÄGEBANDSPANNUNG / SAW BAND STRETCHING	74
20.8.	TLUMENÍ PILOVÉHO PÁSU / BANDDÄMPFUNG / DAMPING BAND	76
20.9.	KARTÁČEK / SPÄNEBÜRSTE / BRUSH	78
20.10.	TŘÍSKOVÝ VYNAŠEČ / SPANEFORDERER / SWARF CONVEYOR	80
20.11.	ZVEDACÍ VÁLEC / HEBEZYLINDER / LIFTING CYLINDER - 251.135.....	82
20.12.	DRŽÁKY OVLADAČE / STELLERHALTER / CONTROLLER HOLDERS	84
20.13.	VÁLEČKOVÁ TRAŤ / ROLLENBAHN / ROLLER CONVEYOR - 251.139	86
20.14.	KRYTY / ABDECKUNGEN / COVERS.....	88
21.	TROUBLESHOOTING TABLE	90
22.	SPECIAL ACCESSORY.....	93
22.1.	VICE PRESSURE REGULATION.....	93
22.2.	MICRONISER.....	93
22.3.	TENZOMAT	93
23.	ROLLER CONVEYORS AND ACCESSORIES.....	94
23.1.	ROLLER CONVEYORS	94
23.2.	ROLLER CONVEYORS PREPARED FOR POWERING	94
23.3.	POWER AND CONTROL UNITS FOR POWERED CONVEYORS	95
23.4.	LENGTH STOPS	95
23.5.	ACCESSORIES OF ROLLER CONVEYORS	96
23.6.	COVERS.....	97
23.7.	CONNECTION SCHEMA OF THE ROLLER CONVEYORS TO THE BAND SAW	98
	DECLARATION OF CONFORMITY	101

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 of 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 SL 520 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

Machine weight:

Weight	1800 kg
--------	---------

Machine size:

Length	3300 mm
Width	1720 mm
Height	2220 mm

Electrical equipment of the machine:

Supply voltage	~3 x 400V, 50Hz, TN-C-S
Total input	7,8 kVA
Max. fuse	16 A
Protection degree	IP 54

Hydraulic equipment of the machine:

Output	1,1 kW
Revolutions	1410 min ⁻¹

Driving engine of the band saw:

Type	1LA7113-4AA60
Output	4 kW
Revolutions	1440 min ⁻¹

Swarf conveyor:

Type	T63B4
Output	0,18 kW
Revolutions	1340 min ⁻¹

Cooling pump:

Type	2COP1-14HP1
Output	0,05 kW
Capacity	40 l

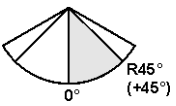
Size of the saw band:

6470 x 41 x 1,3 mm

Cutting speed:

20 - 90 m.min ⁻¹

Cutting angles:

				
0°	Ø520 mm	700 x 520 mm	700 x 520 mm	520 x 520 mm
R 45°	Ø420 mm	420 x 520 mm	420 x 520 mm	420 x 420 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 may be caught with machine parts and cause serious injury.



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



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



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



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



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



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



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



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



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 band stretching and rupturing inspection



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

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

Left cover



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

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

Right cover



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

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

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°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 higher than 1000 metres.

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

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



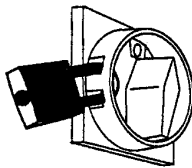
ATTENTION! Only a qualified professional must carry out the servicing and repairs of the electric equipment! Take special care during work with electrical equipment. High voltage shock can have fatal consequences! Always keep notes about work safety!

Electrical parameters of the machine:

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

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

Service voltage must agree with the line voltage!
Crosscut of the supply line must respond with rated current for max. machine load. *Note:* The values of the crosscut of the conductor and the rated current are in the norms.
Connect the service cable of the machine on the clamps of the electric distribution. *Note:* The socket with the fork can be used only at the machines with the rated current less than 16A and total input less than 3 kW.



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



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).

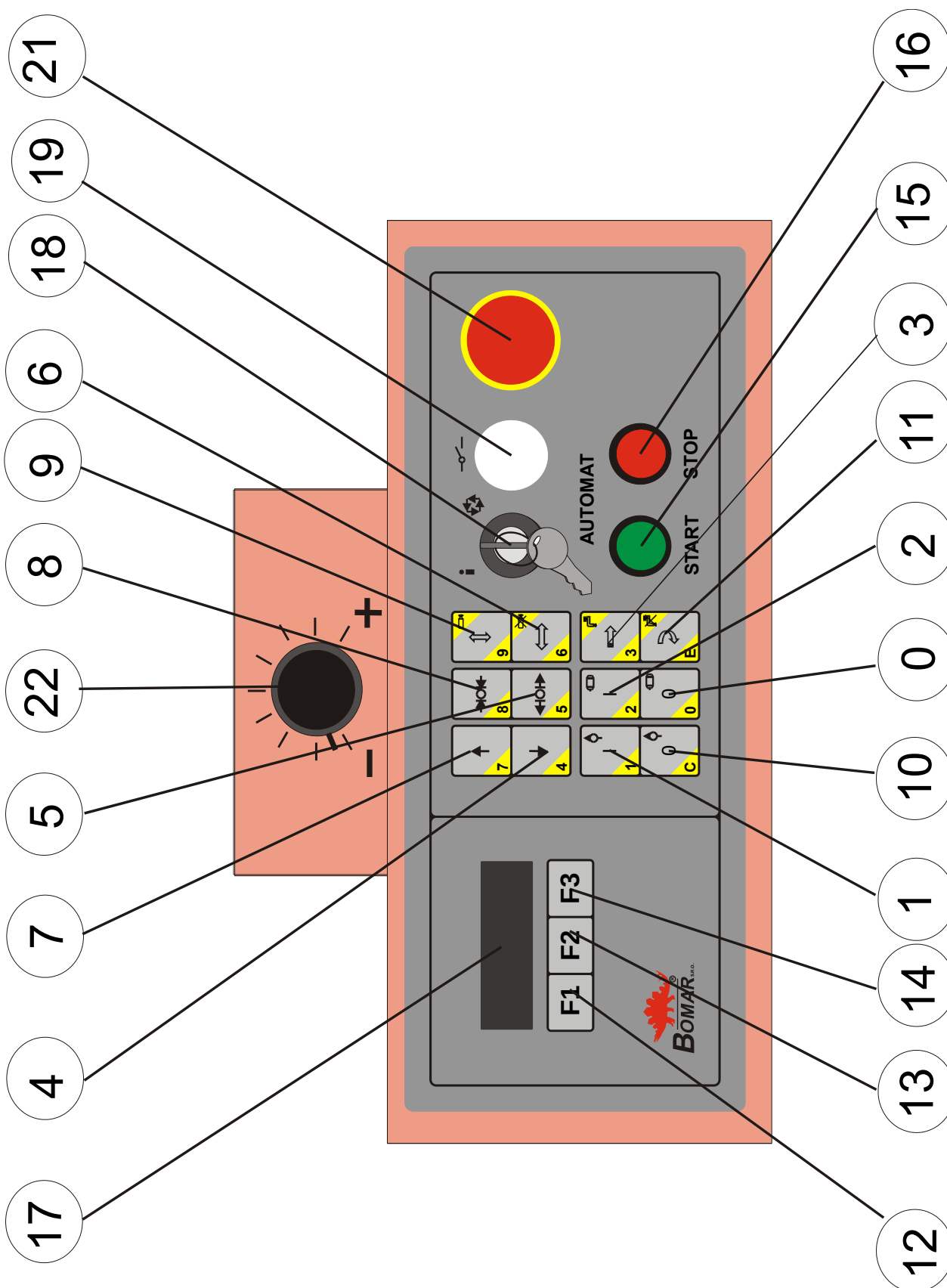
Open and close the main vice and the feeding vice. Drive the front feeder from the front position to the rear position. Turn the saw frame of the band saw from one outer position to other outer position. Raise the saw frame to the top position and drop the saw frame to the lowest position.

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 – description

7.1. Control panel



0	Switch off the engine of the band saw It stops the engine of the machine.
1	Switch on the hydraulic system Hydraulics is working.
2	Switch on the engine of the band saw It starts the engine of the machine.
3	Coolant pump is started Press this button, you can select the cutting with cooling. If cooling is worked, Microniser cannot be started and vice versa. The selection of cutting with cooling stays, when switch with lock is switched off. The selection is deleted after main switch switching off.
4	Lower the saw arm Press this button. The saw arm is starting chute on the lower position. When this button is loosen, the saw arm is stopped. If this button is pressed with F2 button together, the saw arm is starting chute on the cutting material with accelerated shift. ATTENTION! If you will be running with accelerated shift until the cut, the saw band may be damaged.
5	Open vice -Vice is opened after pressing this button. -This button can be used in semi-automatic cycle. By this button may be adjusted length of going vice. Following way: By means of button you can open the vice. The vice with the material you can close. The vice you can open on the demand length and by means of START button is started semi-automatic cycle.
6	Stop the Microniser Only when the band saw is equipped with Microniser. The choice of cutting with Microniser is cancelled.
7	Lift the saw arm
8	Close the vice When this button is pressed, the vice is opened. This button may be used in semi-automatic cycle. According to button 5.
9	Start the Microniser Only when the band saw is equipped with Microniser. Press this button. Microniser is started, when the saw band is started too. If cooling is worked, Microniser is started and vice versa. The choice of cutting with cooling is stayed, when switch with lock is switched off.. The choice is reseted when control switch is stopped.
10	Switch off the hydraulic system
11	Cooling pump is stopped
12	F1 – button Function of this button is described lower in these operating instructions.
13	F2 – button Function of this button is described lower in these operating instructions.
14	F3 – button Function of this button is described lower in these operating instructions.

15 Switch on the semi-automatic cycle

16 Switch off the semi-automatic cycle

When this button is pressed, the semi-automatic cycle is stopped. The saw arm is returned on basic position.

17 Display

Onto display are described all processes.

18

Lockable switch with key

You can choice kind of running.

 Preparative mode

 Semi-automatic mode

19 Pilot light of the line voltage

21 TOTAL – STOP button

In emergency causes the machine must be immediately switched off.

22

Governing valve

Adjust the speed of the arm sinking to the cut by governing valve.

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

7.2. Marks on the display

In lower part of display is depicted situation of single equipment of the saw. If the equipment is started, mark on the display is depicted.

Mark	Equipment	Equipment situation		
		Mark is depicted	Mark is winking	Mark is not depicted
	Hydraulic aggregate	On	XXX	Off
	Water cooling	On	XXX	Off
	Chips conveyor	On	XXX	Off
	Microniser	On	XXX	Off
	Vice	Opened	Opening	XXX
	Vice	Clamped	Clamping	XXX
	Saw arm	Is in upper position	Lifting up	XXX
	Saw arm	Is between upper and lower position	XXX	XXX
	Saw arm	Is in upper position	Falling down	XXX

8. Material insertion

8.1. 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!

8.2. Handling agent selection

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



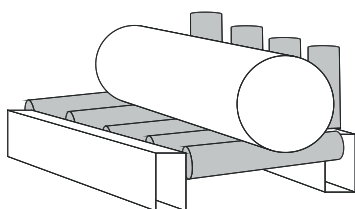
Handle with the material only with the lift truck or use the suspension strands and the crane!
Do not use the lift truck or crane in case that you do not have the licence to handle with it!

8.3. 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**“.

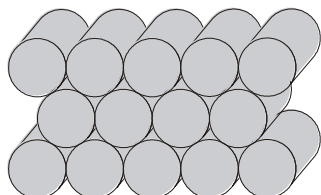
Make sure the conveyor is long enough and the material cannot tip off the conveyor.



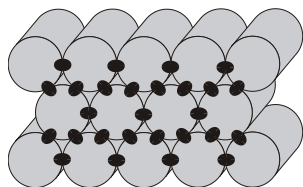
Be especially careful with round materials that it always stays on two vertical rollers and that it cannot fall off the conveyor!

8.4. Bundle material cutting

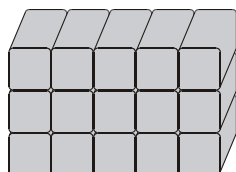
If you want to cut the material in the bundle, there are suggestions for the positioning of bundles



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.

9. Band saw adjusting

9.1. 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.

9.2. Saw frame lift stop setting

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

- 1) By button „The saw arm is up“, you have to go out in the most high position.
- 2) You must insert to the material in the vice and you must sinking with the saw arm on the material.
- 3) You must adjust to the saw arm 10mm above the material.
- 4) You must loosen to screw with plastic head on the stop.



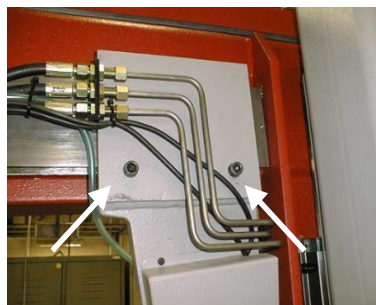
5) You must adjust to the limit stop, in order to the limit switch was closed.

6) You must tighten to the screw of the stop.

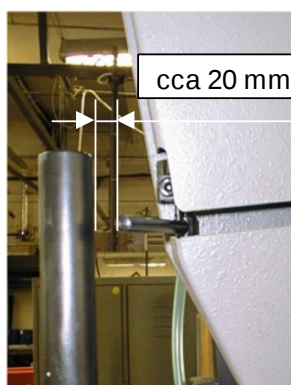
ATTENTION! You must check to the adjusting.

9.3. Adjusting band guides

For securing to perfect the cut is necessary, adjust to guiding.



1) Loosen screws (see picture).

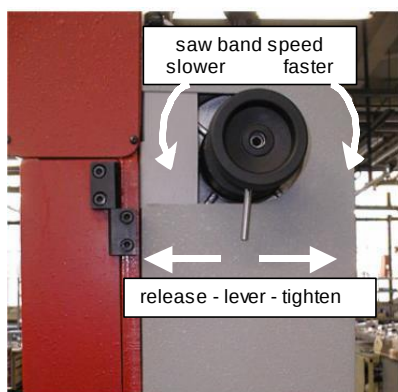


2) Move the guiding to the cutting material according to the picture.

3) Tighten screws again.

9.4. Cutting speed adjusting

Speed of the saw band is possible change from 20 to 90 m/min. You can effect to adjusting speed of the saw band following.



1) Turn the switch with key **18** to the position „“ (semi-automatic mode).

2) Start the saw band drive by button **2**.

3) Loosen the securing lever.

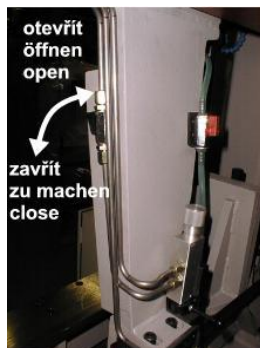
4) Set the desired saw band speed. Saw band speed is depicted on the display (it is placed on the saw frame on the right side).

5) Tighten the securing lever.

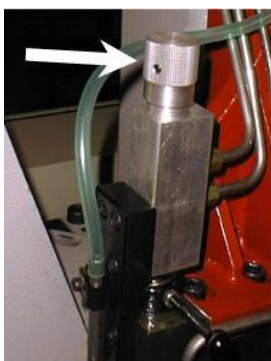
ATTENTION! At least once a week set the saw band speed from the lowest up to the highest speed.

9.5. Adjustment of pressure in the cut

The band saw SL 520 is equipped with cutting pressure regulation on the both guiding cubes. **Note!** The guiding cubes are equipped with taps that must be opened during operating!

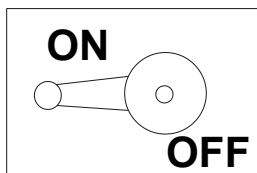
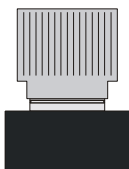


Setting:



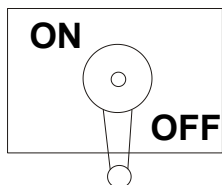
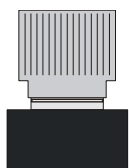
Adjusting the downfeed regulator is performed with regulating wheel on the guiding cube. Screw on the wheel, the pressure is increased. Screw off the wheel, pressure is lowered.

Note: Downfeed regulator is necessary set in the same way on the both cubes!



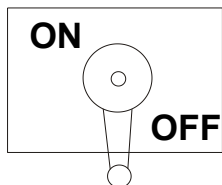
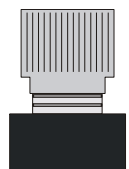
1) Visible 1 neck and the lever is in position started (**ON**)

Full material over $\varnothing 250$ mm.



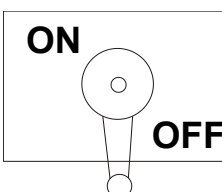
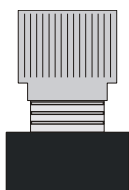
2) Visible 1 neck and the lever is in position closed (**OFF**)

Full material to $\varnothing 250$ mm.



3) Visible 2 necks and the lever is in position closed (**OFF**)

Pipes and profiles, width one side is from 10 to 15 mm.
I-width profile 200 - 500 mm.



4) Visible 3 necks and the lever is in position closed (**OFF**)

Pipes and profiles, width one side is to 10 mm.
I-width profile to 200 mm.

9.6. Preparing operation

Switch - over on preparing operation is effected with turning switch **18** to position **i**.

F1 – pressing this button, you can select the language, in which reports will be depicted.

F3 – 1) pressing this button, you can select the possibility of the saw band stopping.

F1 – switch off the saw band in **lower** position after cutting finishing.

F2 – switch off the saw band in **upper** position after cutting finishing.

2) pressing button **F3**, you can select switching on or switching off the swarf conveyor in the automatic cycle.

F1 – switch on swarf conveyor

F2 – switch off swarf conveyor

3) Press **F3**. The selection is confirmed and you can return to the basic position.

9.7. Semi-automatic mode

Switch – over on preparing operation is effected with turning switch **18** to position **ii**.

1) Press button **5**. The vice is opened.

2) You must insert and clamp the material on the vice by button **8**.

Note: The vice opening in the semi-automatic cycle, you can adjust following:

- Insert and clamp the material in the vice by button **8**.
- By button **5**, the vice is adjusted to the desired distance. Now is adjusted distance, about which is opened the vice after finishing semi-automatic cycle.

3) You can select, if you want to start cooling with the water (button **3**) or cooling with Microniser (button **5**), if the saw is equipped with Microniser.

4) Adjust by governing valve **22** speed of the saw frame falling.

5) Press button **START** („15“). By the machine is automatically fixed the material on the vice. By the machine is effected the cut and after finishing cutting is opened the vice about adjusting the value.

Note: By button **STOP** („16“) is stopped cutting in semi-automatic cycle. After pressing this button, the saw arm is going out in the top position and drive of the saw band is stopped.

6) Remove the cut material. Now is possible to repeat the cutting.

10. Blanks removing from the band saw

10.1. 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!

10.2. 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!

10.3. Blanks removing

Remove the blanks from the band saw.

11. Selection and replacement of the saw band

11.1. 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.

11.2. Saw band size

6470 x 41 x 1,3 mm

11.3. Selection of the saw band tooth system:

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

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

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

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

Footnotes:

ZpZ – teeth number on one inch.

S – tooth with zero angle of the teeth.

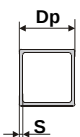
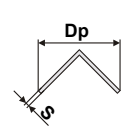
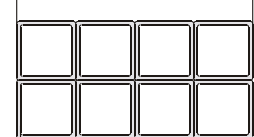
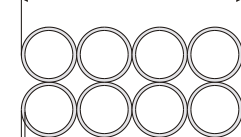
K – tooth with positive angle of the teeth.

Examples of the tooth system marking:

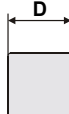
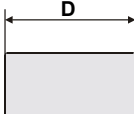
32 S – number „32“ means 32 teeth on one inch (that means constant tooth system), letter „S“ marks teeth with zero angle of the tooth.

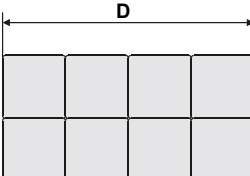
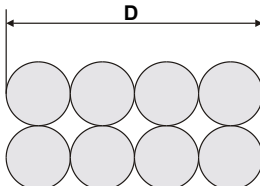
4-6 K – number „4-6“ means 4 till 6 teeth on one inch (that means variable tooth system); letter „K“ marks teeth with positive angle of the teeth.

Tables for teeth selection:

SHAPED MATERIAL (Dp, S = mm)						
						
Note: Table shows tooth system selection for cutting one piece of the profile. For cutting of more pieces of the profiles (bundle), you must think of the size of the wall as double size of the wall of one profile (that means, size „S“ equates to 2 x S). In table, there are tooth systems constant and variable.						
Size of the wall S [mm]	Tooth system (ZpZ) Outer diameter of the profile Dp [mm]					
	20	40	60	80	100	120
2	32 S	24 S	18 S	18 S	14 S	14 S
3	24 S	18 S	14 S	14 S	10 - 14 S	10 - 14 S
4	24 S	14 S	10 - 14 S	10 - 14 S	8 - 12 S	8 - 12 S
5	18 S	10 - 14 S	10 - 14 S	8 - 12 S	6 - 10 S	6 - 10 S
6	18 S	10 - 14 S	8 - 12 S	8 - 12 S	6 - 10 S	6 - 10 S
8	14 S	8 - 12 S	6 - 10 S	6 - 10 S	5 - 8 S	5 - 8 S
10	-	6 - 10 S	6 - 10 S	5 - 8 S	5 - 8 S	5 - 8 S
12	-	6 - 10 S	5 - 8 S	5 - 8 S	4 - 6 K	4 - 6 K
15	-	5 - 8 S	5 - 8 S	4 - 6 K	4 - 6 K	4 - 6 K
20	-	-	4 - 6 K	4 - 6 K	4 - 6 K	3 - 4 K
30	-	-	-	3 - 4 K	3 - 4 K	3 - 4 K
50	-	-	-	-	-	3 - 4 K
Size of the wall S [mm]	Tooth system (ZpZ) Outer diameter of the profile Dp [mm]					
	150	200	300	500	750	1000
2	10 - 14 S	10 - 14 S	8 - 12 S	6 - 10 S	5 - 8 S	5 - 8 S
3	8 - 12 S	8 - 12 S	6 - 10 S	5 - 8 S	4 - 6 K	4 - 6 K
4	6 - 10 S	6 - 10 S	5 - 8 S	4 - 6 K	4 - 6 K	4 - 6 K
5	6 - 10 S	5 - 8 S	4 - 6 K	4 - 6 K	4 - 6 K	3 - 4 K
6	5 - 8 S	5 - 8 S	4 - 6 K	4 - 6 K	3 - 4 K	3 - 4 K
8	5 - 8 S	4 - 6 K	4 - 6 K	3 - 4 K	3 - 4 K	3 - 4 K
10	4 - 6 K	4 - 6 K	4 - 6 K	3 - 4 K	3 - 4 K	2 - 3 K
12	4 - 6 K	4 - 6 K	3 - 4 K	3 - 4 K	2 - 3 K	2 - 3 K
15	4 - 6 K	3 - 4 K	3 - 4 K	2 - 3 K	2 - 3 K	2 - 3 K
20	3 - 4 K	3 - 4 K	2 - 3 K	2 - 3 K	2 - 3 K	2 - 3 K
30	3 - 4 K	2 - 3 K	2 - 3 K	2 - 3 K	1,4 - 2 K	1,4 - 2 K
50	2 - 3 K	2 - 3 K	2 - 3 K	1,4 - 2 K	1,4 - 2 K	1,4 - 2 K
75	-	2 - 3 K	1,4 - 2 K	1,4 - 2 K	1,4 - 2 K	0,75 - 1,25 K
100	-	-	1,4 - 2 K	0,75 - 1,25 K	0,75 - 1,25 K	0,75 - 1,25 K
150	-	-	-	0,75 - 1,25 K	0,75 - 1,25 K	0,75 - 1,25 K
200	-	-	-	0,75 - 1,25 K	0,75 - 1,25 K	0,75 - 1,25 K

SOLID MATERIAL (D = mm)

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

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

11.4. Saw band running - in

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

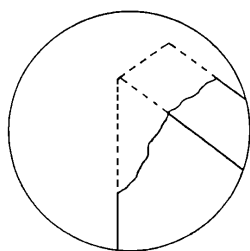
Running in: Cut the material with the frame lowering reduced to 50% only. When vibrations occur increase or decrease the band speed.

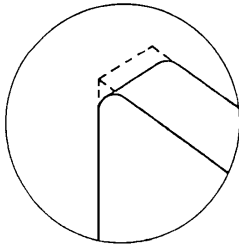
When cutting small pieces run the band until approximately 300 cm² of material has been cut.

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

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

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





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

Note: Run regrinding saw bands too!

11.5. Saw band stretching and inspection

Right saw band stretching is one of the most important criteria's, which influences 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.

11.5.1. 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.

11.5.2. Saw band inspection

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

- 1) Check, if the saw band is right in the guiding cubes.
- 2) Switch on the saw band drive and then after 10 seconds switch off saw band drive. If the saw band drive is not possible to switch on, set the limit switch of the saw band stretching according to the chapter „**Servicing and adjustment**“.
- 3) Switch off the main switch.
- 4) Open cover(s) of the wheels and check position of the saw band on the both wheels.
 - if the distance between backside of the saw band and the offset wheel is **1 mm**, setting is right.
 - if the distance is bigger than **1 mm**, or the saw band is on the offset of the wheel, set the saw band according to chapter „**Servicing and adjustment**“.
- 5) Close cover of the saw band.

12. Cooling agents and chips disposal

12.1. 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.

12.2. 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

12.3. Coolant device inspection

The state of the cooling agent has significant influence on the cutting quality and on the operational life of the machine. Lifetime of the cooling liquid is 1 year, after this time we recommend change the cooling liquid. This time is dependent on the degree of pollution cooling liquid (especially with oils) and on the other factors. Check level of the cooling liquid and function of the pump periodically!

Check the state of the cooling agent according to the following table:

Testing	Interval	Method	Condition	Precaution
Liquid level	daily	visually	too low	after concentration check, refill with water or emulsion
Concentration	daily	refractometer densimeter	too high too low	refill water refill base emulsion
Smell	daily	by sense of smell	unpleasant smell	good ventilation, add biocides or renew coolant
Contamination	daily	by sense of smell	visible oil leaks, sludge fungi	surface cleaning, fix leaks, add biocides or fungicides, or coolant renewal after added system cleanser*
Corrosion-protection	when necessary	visually chip test Herbert-test	insufficient corrosion protection	test stability, if necessary – increase concentration or pH value
Stability	when necessary	refractometer	oiling	add concentrate, enquiries to supplier
Foam reaction	when necessary	shaking test	too much foam, foam disperses too slowly	avoid aeration, increase water hardness, ix with defoamer

* according to manufacturers' instructions.

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

12.4. 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.

13. Greases and oils

13.1. 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
SL 520	Shell Tivela S 320	2,3 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

13.2. 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 (D- 042 -153), replace the filter too.

Use oils with European specification CETOP RP 91 H power class HM and viscosity grade ISO VG 32 in hydraulic aggregates. Hydraulic oils quantity – see chapter **Hydraulic oil level check**.

Note: When replacing, use oils recommended by BOMAR or oils, which has comparable parameters from the other manufacturers. Do not forget, that mineral and synthetic oils may not be mixed!

Comparative table of the hydraulic oils

Manufacturer	Type	Manufacturer	Type
Agip	Oso 32	Ina	Hidraol 32 HD
Aral	Vitam GM32	Klüber	Lamora HLP 32
Avia	Avilub RSL 32	Maďarsko	Hidrokomol P 32
Benzina	OH-HM 32	Mobil	Mobil DTE 24
BP	Energol HLP 32	ÖMV	HLP 32
Bulharsko	MX-M/ 32	Polsko	Hydrol 20
Castrol	Hyspin AXS 32	Rumunsko	H 32 EP
Čepro	Mogul HM 32	Rusko	IGP 18
DEA	Astron HLP 32	Shell	Tellus Oil 32
Elf	Elfolna 32	Sun	Sunvis 832 WR
Esso	Nuto H 32	Texaco	Rando HD A 32
Fam	HD 5030	Valvoline	Ultramax AW 32
Fina	Hydran 32		

13.3. 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	Energrelse 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
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14. Service

14.1. Machine cleaning

Clean the machine from the cooling liquid and impurities after every shift stopping. Conserve the guiding surfaces, mainly:

- Clamping jaws guiding of the vice.
- The guiding of the feeder.
- Loading surface of the vice, and area under them.

14.2. Lubrication

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



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



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

14.3. 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.

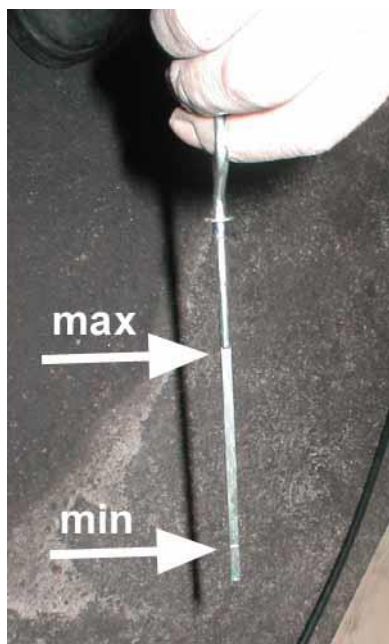
If the cooling liquid is little in the tank, it can cause the damage of the saw band influences insufficient cooling.

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

14.4. Hydraulic oil level check

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

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



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

Fill the hydraulic oil, if it is necessary. Use always the filter (25 μm or better) when you fill the oil. You avoid impurities penetration to the hydraulic system and troubles in hydraulic system.

15. Adjustment

15.1. Hard metal guides adjustment

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

15.2. Saw band run adjustment on the stretching wheel

Saw band run inspection

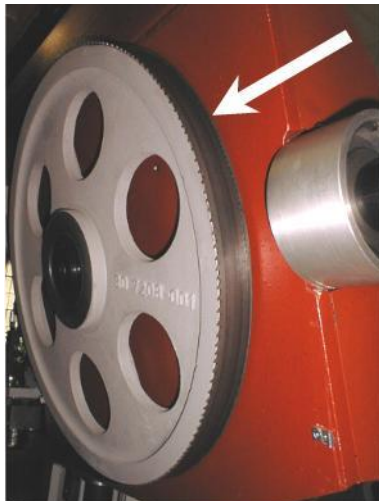
Saw band run on the stretching wheel must be inspected periodically. The inspection has to be proceeded also after every saw band replacement. If the run is not correct, following problems may occur:

The saw band falls down from the wheels

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

The saw band runs on the wheel rim

It can damage the saw band and the wheel rim.



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

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

Saw band run setting



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

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

Check saw band run adjustment again.

15.3. Brush adjustment

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



1) Release the fixative screw of the brush. It is possible to move with the brush.

2) Set the brush to the saw band.

3) Tighten the fixative screw.



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

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

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

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

15.5. Saw arm lower position stop adjustment

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



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

15.6. Limit switch adjustment of the saw frame lower position

If we had adjusted lower stop point of the saw frame, the limit switch must be adjusted again.

Setting inspection

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

Limit switch setting



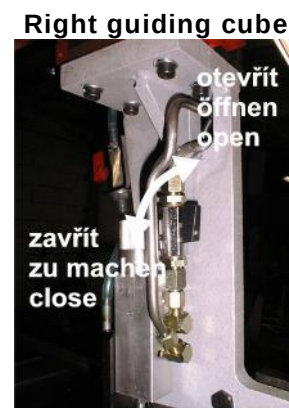
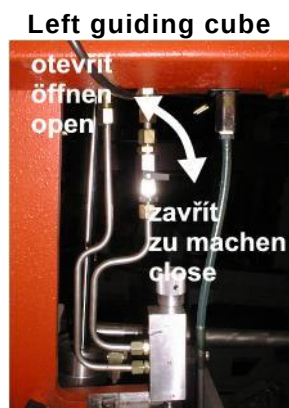
- 1) Screw on the stop screw of the switch of the lower position.
- 2) Start the arm to the lower stop and switch on by button **START** the automatic cycle.
- 3) Screw off the stop screw of the switch, until the arm is not in top position.
- 4) Check the setting of the limit switch again.

15.7. Adjustment of the cutting pressure regulation

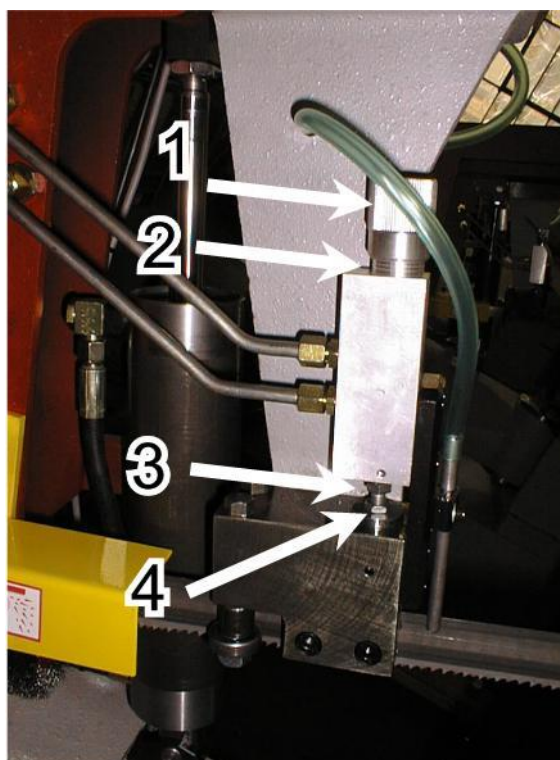
This chapter describes the basic speed setting of arm sinking to the cut for idle run. Pressure setting to the cut during cutting is described in chapter **Machine operation**. SL 450 DGS band saw is equipped with cutting pressure regulation on both guiding cubes. Cutting pressure regulation is set separately on every guiding cube.

Setting on the right guiding cube

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



2) Set the body of the regulation by adjusting handle on the right guiding cube. It is under the handle. Set it on the second groove. There is visible one neck (note 1, 2).



3) Screw off the set – screw on the right guiding cube to the stop, the valve is blocked (pos. 3). You can move by arm only up, because the arm movement down is blocked with pressure regulation valve.

4) Press button „Arm down“ and slowly screw on the set – screw on the right guiding cube. Screw by set – screw until the optimal speed of the arm sinking is not reached. The optimum speed of the arm sinking to the cut from maximum lift until lower stop is about 55 seconds.

5) Secure the set – screw with nut for reaching of the optimum speed of the arm sinking.

6) Cutting pressure regulation on the right guiding cube is set.

Setting on the left guiding cube

7) Open the tap on the left guiding cube. Close it on the right guiding cube.

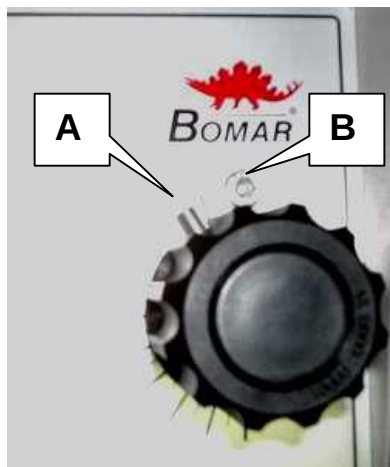
8) Set the cutting pressure regulation on the left guiding cube in the same way.

9) Open taps on both guiding cubes after pressure regulation setting. **ATTENTION!** Both taps must be opened during operation!

10) Setting is ended.

15.8. Adjustment of a throttle valve

- 1) Switch off the machine by its main switch. Let the sawing head down at the bottom. Close the throttle valve gently.
- 2) The worm screw (pos. A) must be next to the stop (pos. B), when the valve is closed.



Pic. 1



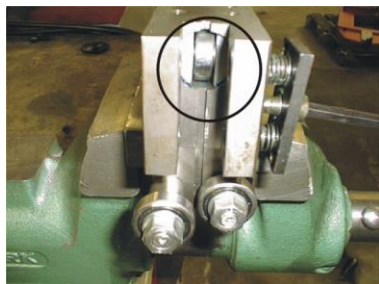
Pic. 2

- 3) Otherwise, you must loosen the worm screw, lift the plastic knob and close the throttle valve to the maximum. Next loosen the worm screw and take off the plastic knob. Put it back so that the worm screw must be next to the stop while the valve is closed. Then tighten the worm screw again.
- 4) Turn the machine on and test the down-feed control.

16. Worn pieces replacement

16.1. Pushing bearing replacement

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

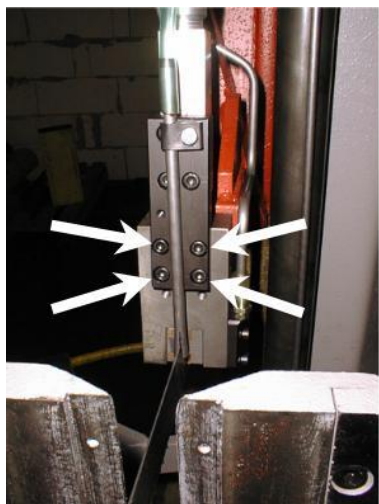


The bearing condition is possible discover, on the cube from the bottom side, for a better inspection is possible to put out the holder of the bearing from the cube.

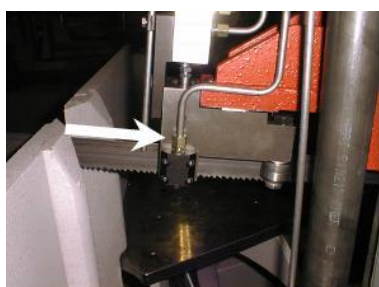
If the bearing is worn, there is a visible channel on it.

Bearing replacement

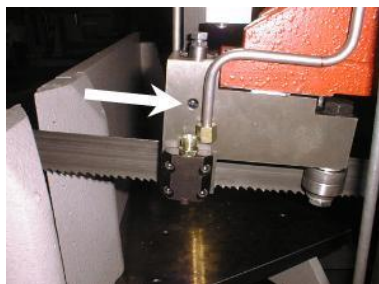
1) Dismantle the saw band.



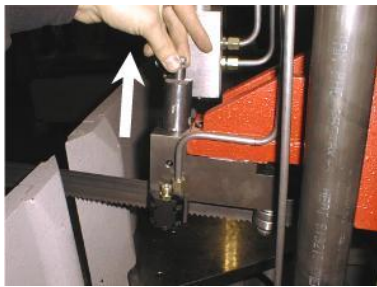
2) Disconnect the cutting pressure regulation. Let cutting pressure regulation connected to the hydraulic system.



3) Release the hydraulic tube connected to the hard metal guide.



4) Release the fixative pin of the bearing holder.



5) Remove the bearing holder from the guiding cube.



6) Insert the pivot to the vice.

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

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



7) Remove the worn bearing.

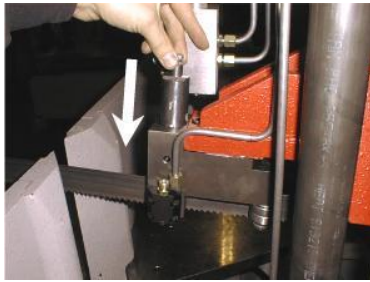


8) Fasten the holder to the vice.

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

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

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



9) Insert the holder to the guiding cubes. Fasten it with pin.

10) Connect the cutting pressure regulation and the hydraulic tube. Bearing replacement is ended.

16.2. Saw band guiding pulleys replacement

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

ATTENTION! Guiding pulleys must be replaced together on both guiding cubes!

1) Dismantle the saw band.

2) Disconnect the hose from the cooling agent, screw off the cutting pressure regulation. Let the cutting pressure regulation connected to the hydraulic system. Dismantle the guiding cube of the saw band.



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

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

4) Screw off nuts from eccentrics.



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



6) Change all bearings and other worn parts.

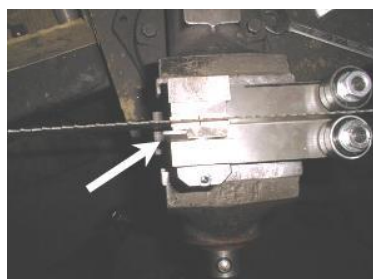


7) Install eccentrics to the cubes. Install components on both eccentrics in given order. Put bearings by means of the preparation on eccentrics.

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



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



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



10) Set the eccentrics by means of the wrenches, the saw band must run in the centre. Guide pulleys must not press too much on the band, but must spin freely during the band run. Optimal distance between the band and the pulley is 0,05 mm.



11) Tighten nuts on both eccentrics.

12) Remove the testing piece of saw band from the cube lead. Install the guiding cube on the machine and connect the cutting pressure regulation and cooling. Install the saw band.

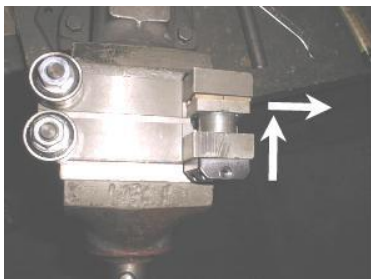
16.3. Hard metal guides replacement

If the hard metal guides cannot be adjusted, they have to be replaced. **ATTENTION!** Hard metal guides must be replaced together on both guiding cubes!

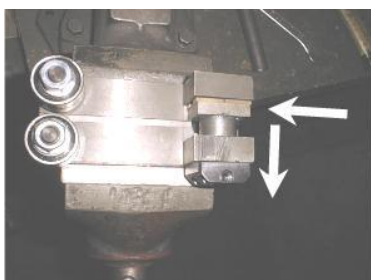
1) Dismantle the saw band.



2) Dismantle the fixed hard metal guide.



3) Remove the movable hard metal guide.



4) Insert the new movable hard metal guide.



5) Screw on the fixed hard metal guide.

6) Deaerate the hydraulic circuit of the hard metal guide.
Switch on the machine, hydraulic unit and saw band drive.

7) Release the screw and let to escape the air from the circuit. Catch the oil to the bath. Close the screw.

ATTENTION! Work with safety, because you can injure about the saw band!

8) Hard metal guides replacement is ended.

16.4. Brush replacement

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

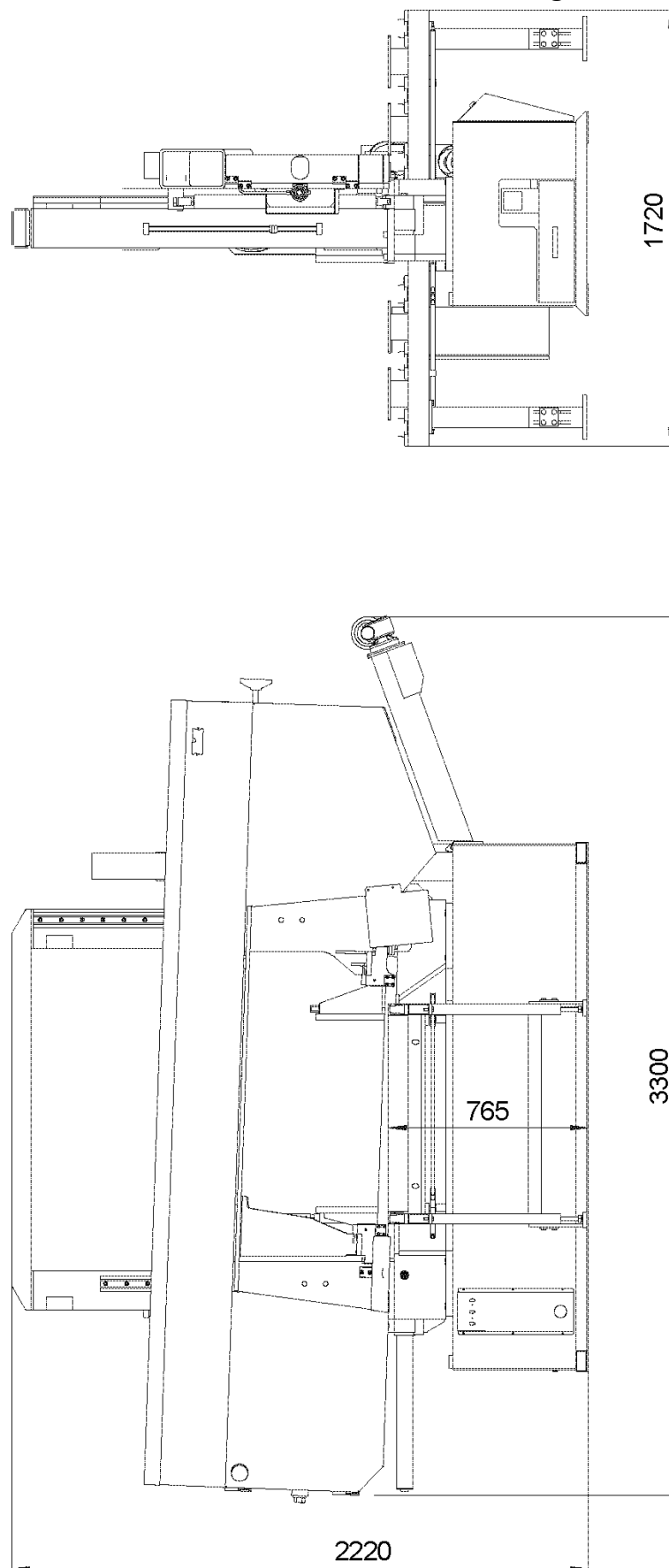


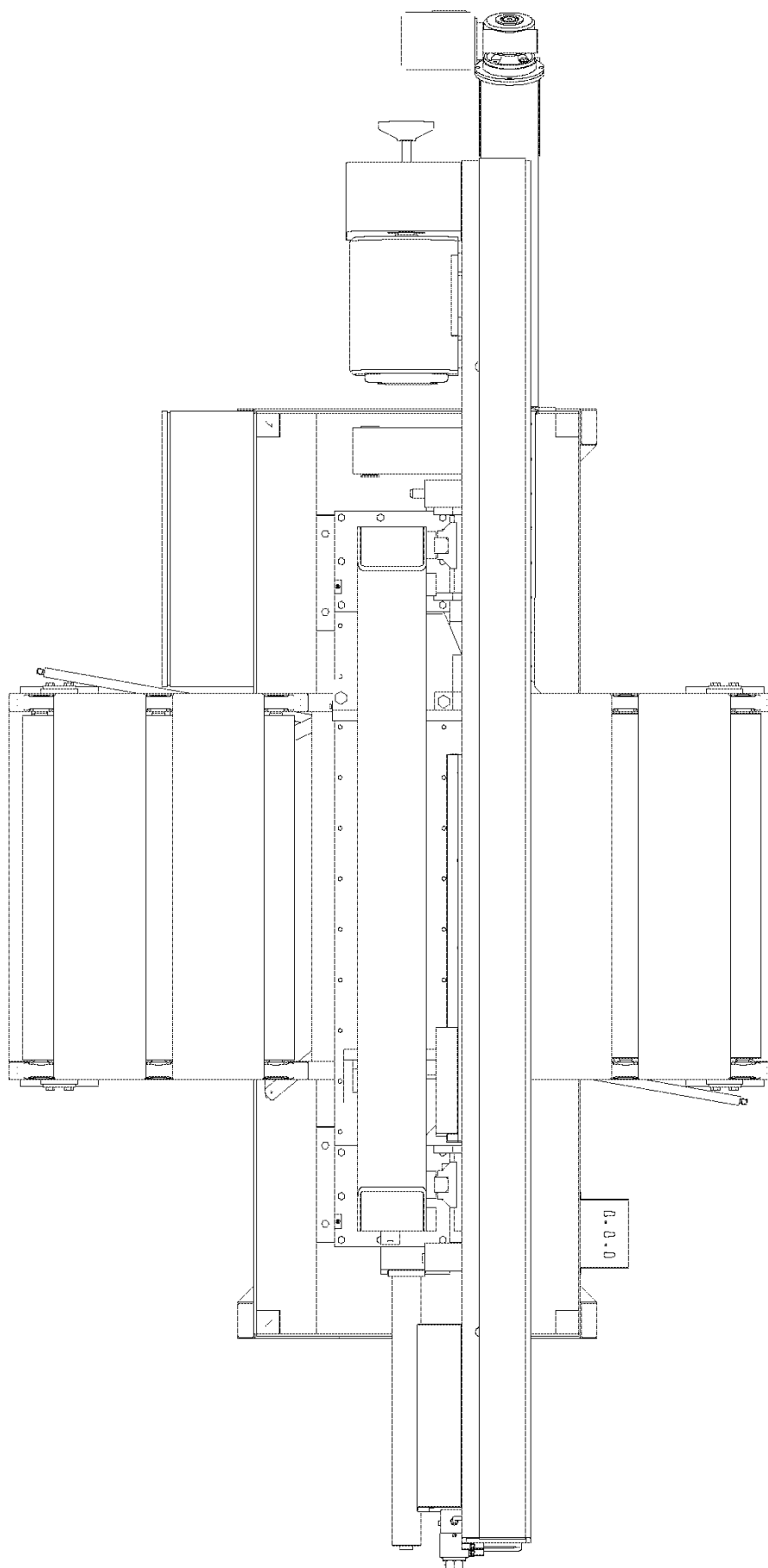
1) Hold shaft of the brush by wrench.



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

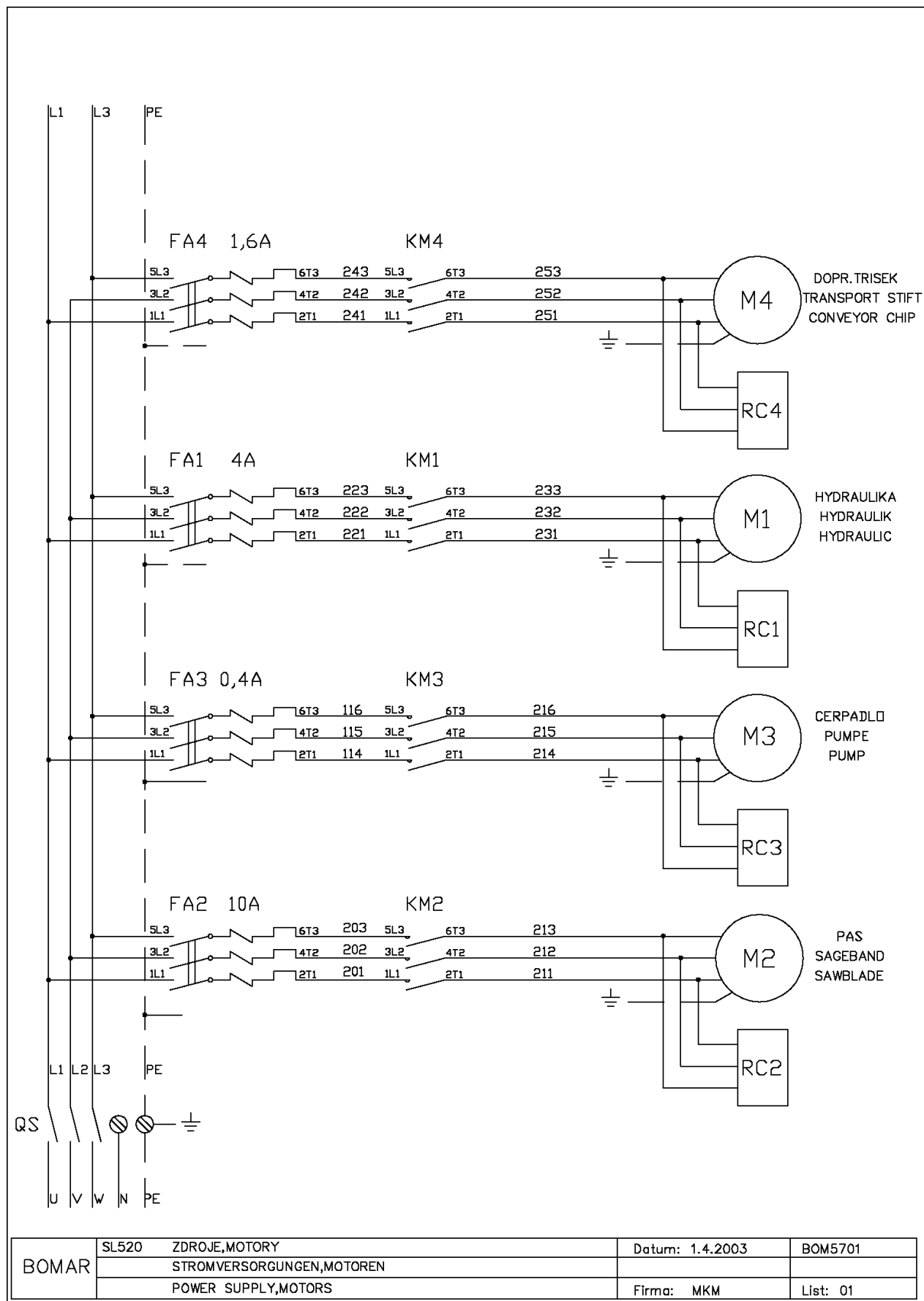
3) Set the brush to the saw band.

17. Rozměrové schéma / Aufstellzeichnung / Installation diagram**Rozměrové schéma 1 / Aufstellzeichnung 1 / Installation diagram 1**

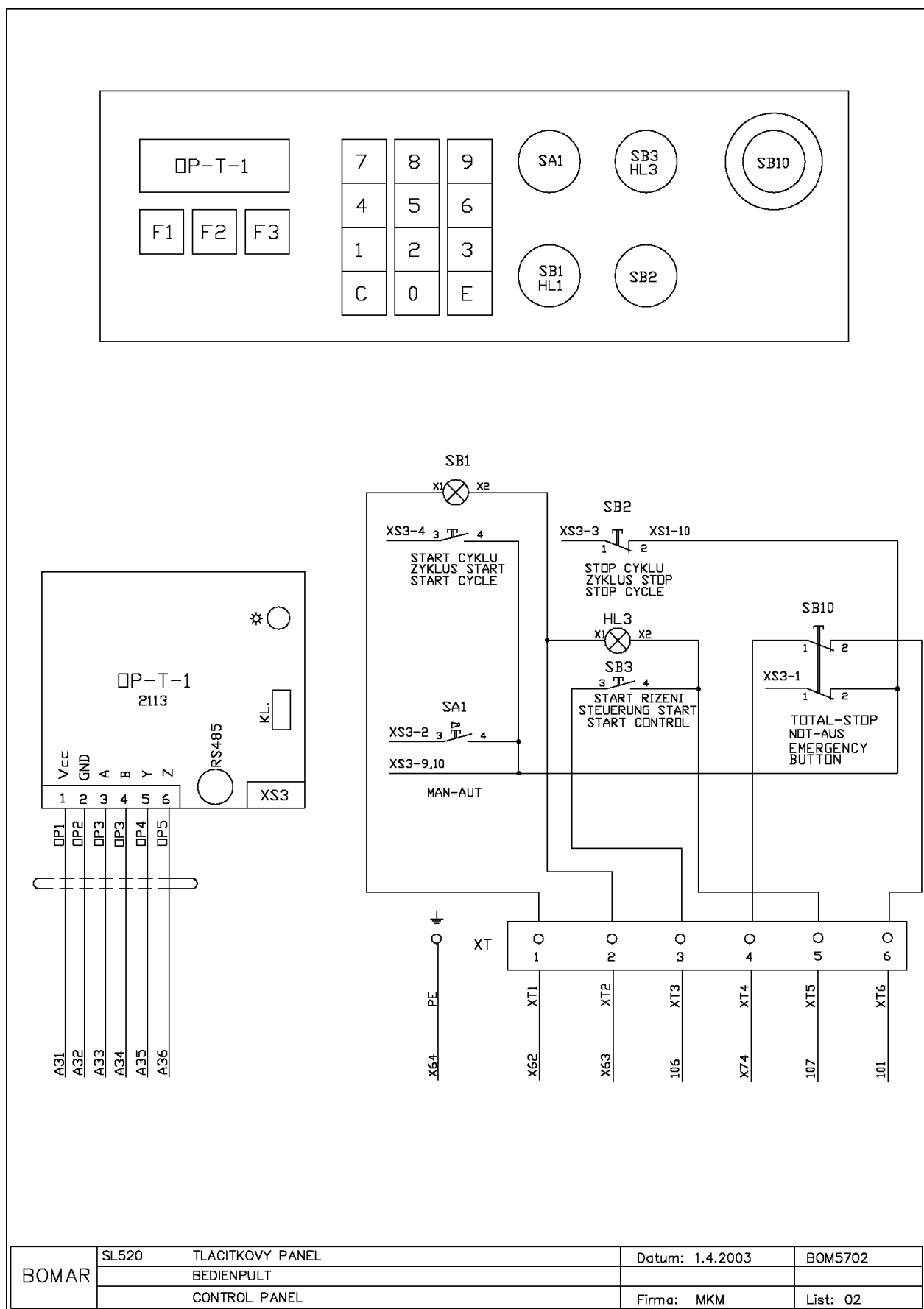


Rozměrové schéma 2 / Aufstellzeichnung 2 / Installation diagram 2

18. Elektrická schémata / Elektroschemas / Wiring diagrams

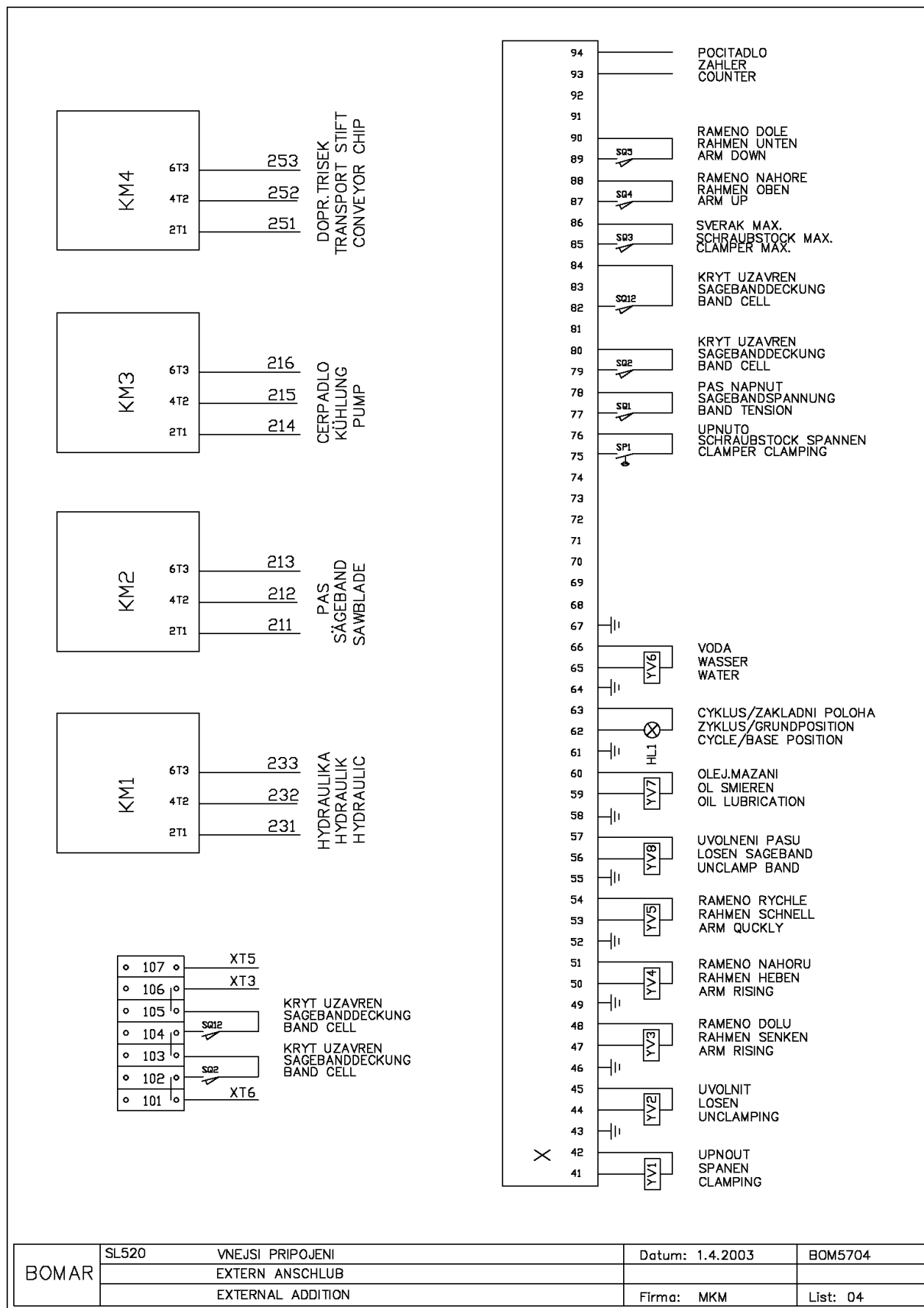


Elektrické schéma / Elektroschema / Wiring diagram 1

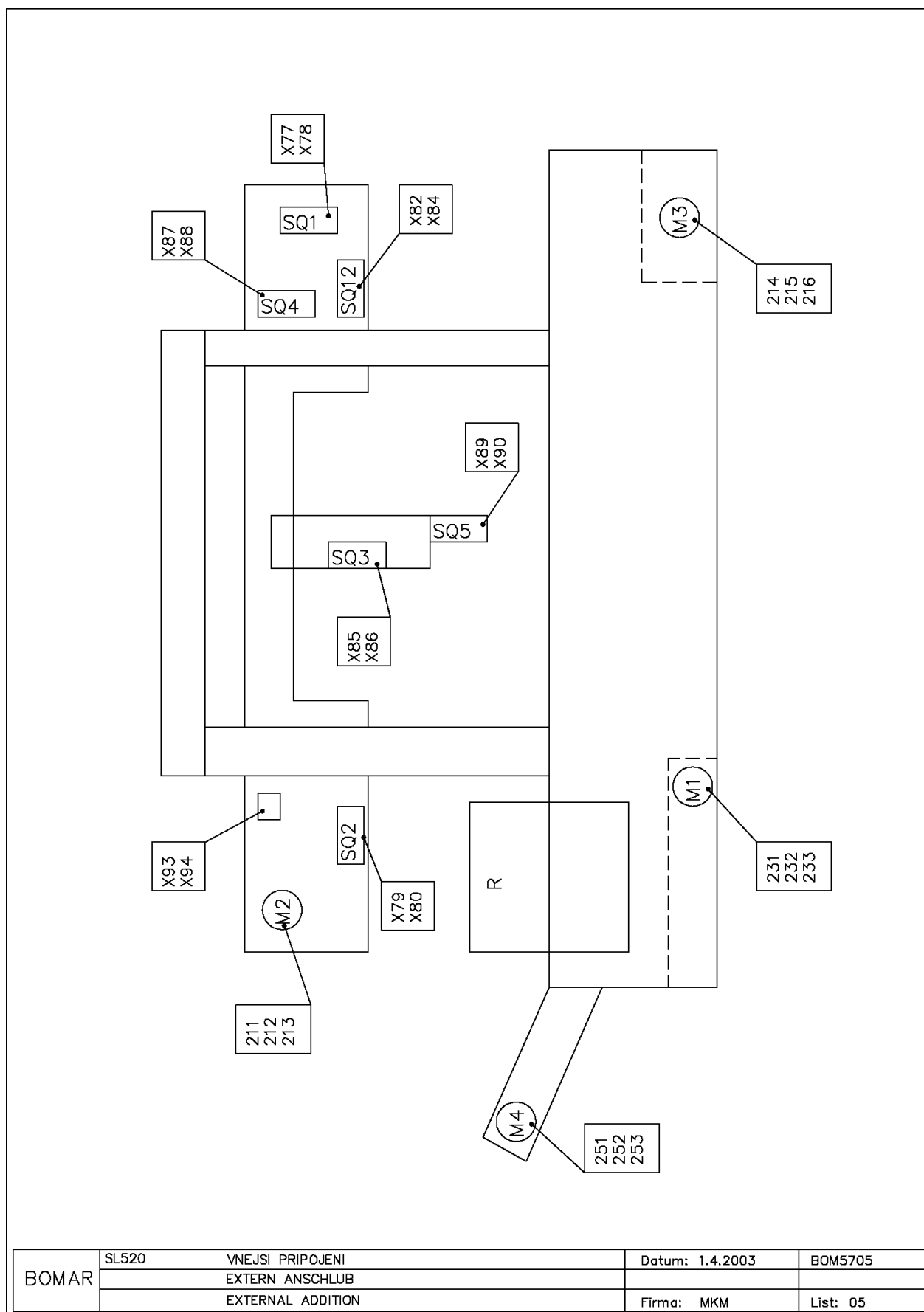


Elektrické schéma / Elektroschema / Wiring diagram 2



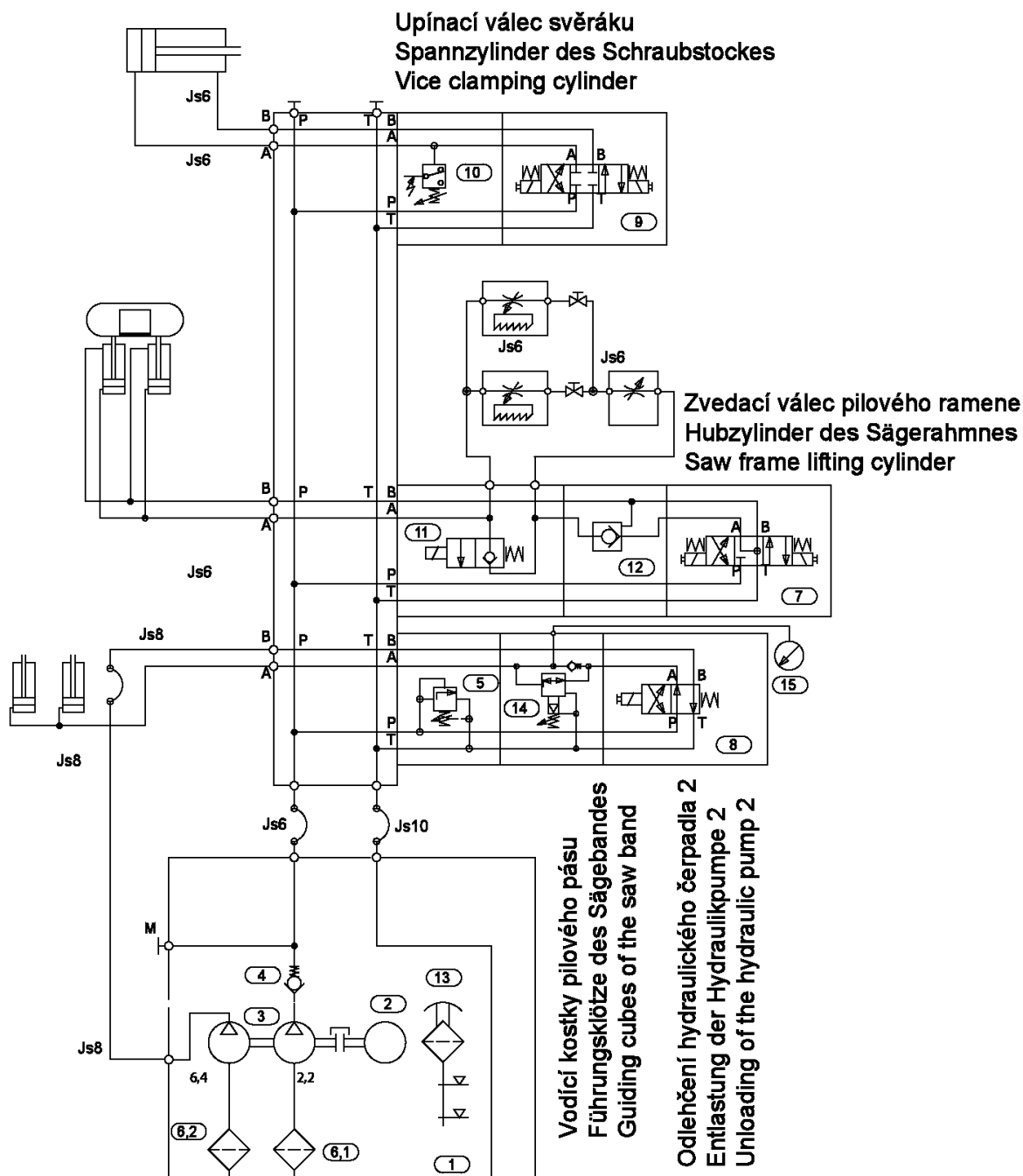


Elektrické schéma / Elektroschema / Wiring diagram 4



Elektrické schéma / Elektroschema / Wiring diagram 5

19. Hydraulické schéma / Hydraulikschema / Hydraulic diagram



Základní technické parametry:
Technische Spezifikation:
Technical specification:

Q	2,2 + 6,4	dm ³ .min ⁻¹	ot.	1410	min ⁻¹
p _{max}	6	MPa	P	1,1	kW

Hydraulické schéma:
Hydraulikschema:
Hydraulic diagram:

870-0934

Schéma / Schema / Diagram:
Datum / Datum / Date:

8700934E.DWG
18. 06. 2003

Hydraulické schéma / Hydraulikschema / Hydraulic diagram

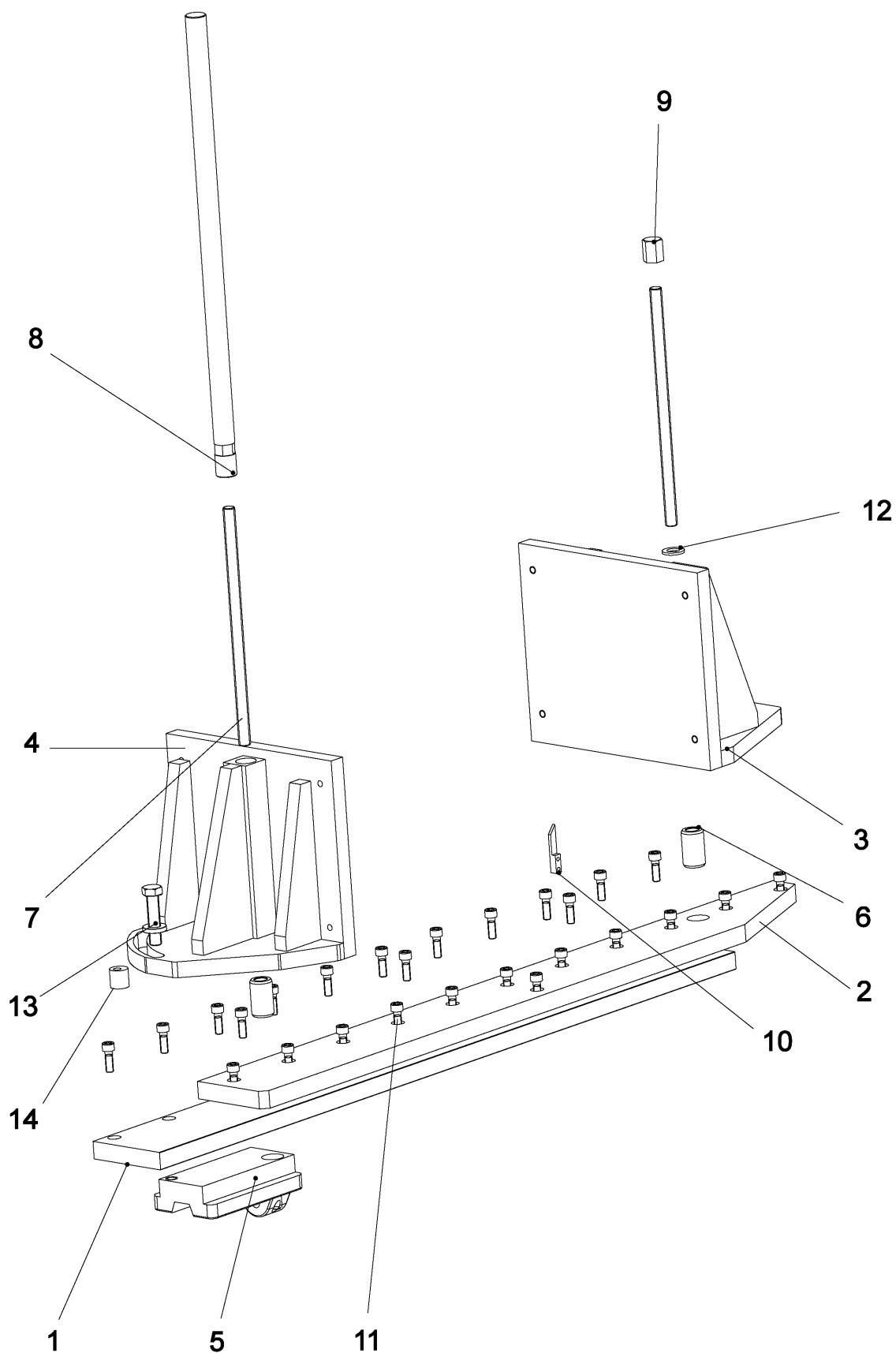
Poz.	Název položky	ks
Pos.	Bezeichnung	Menge
Pos.	Item	Pcs.
1	Nádrž / Behälter / Tank	1
2	Elektromotor / Elektromotor / Electromotor 1LA7090-4AA	1
3	Hydrogenerátor / Hydraulikaggregat / Hydrogenerator P2-1,6/4,8L66313	1
4	Jednosměrný ventil / Einwegventil / One-way valve VJ01-06/SG-1	1
5	Přepouštěcí ventil / Bypassventil / By pass valve VPP2-04/MP04-10	1
6	Sací filtr / Filter / Filter 2SF 56/48-0,063	2
7	Rozváděč / Verteilungsventil / Distributor RPE3-043Y11/02400E1K5	1
8	Rozváděč / Verteilungsventil / Distributor RPE3-042R21/02400E1K5	1
9	Rozváděč / Verteilungsventil / Distributor RPE3-043Z11/02400E1K5	1
10	Tlakový spínač / Druckschalter / Pressure switch SUCO 0166 411 03 043	1
11	Blok rychloposuvu / Eilgangsblok / Speed shift block 729-0084	1
12	Hydraulický zámek / Hydraulisches Schloß / Hydraulic lock VJR1-04/MA	1
13	Zátka / Stopfen / Stopper L1.0406-51	1
14	Redukční ventil / Reduktionsventil / Control valve VRP2-04-AS/6,3	1
15	Manometr / Manometer / Manometer 0-6 MPa	1

20. 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).

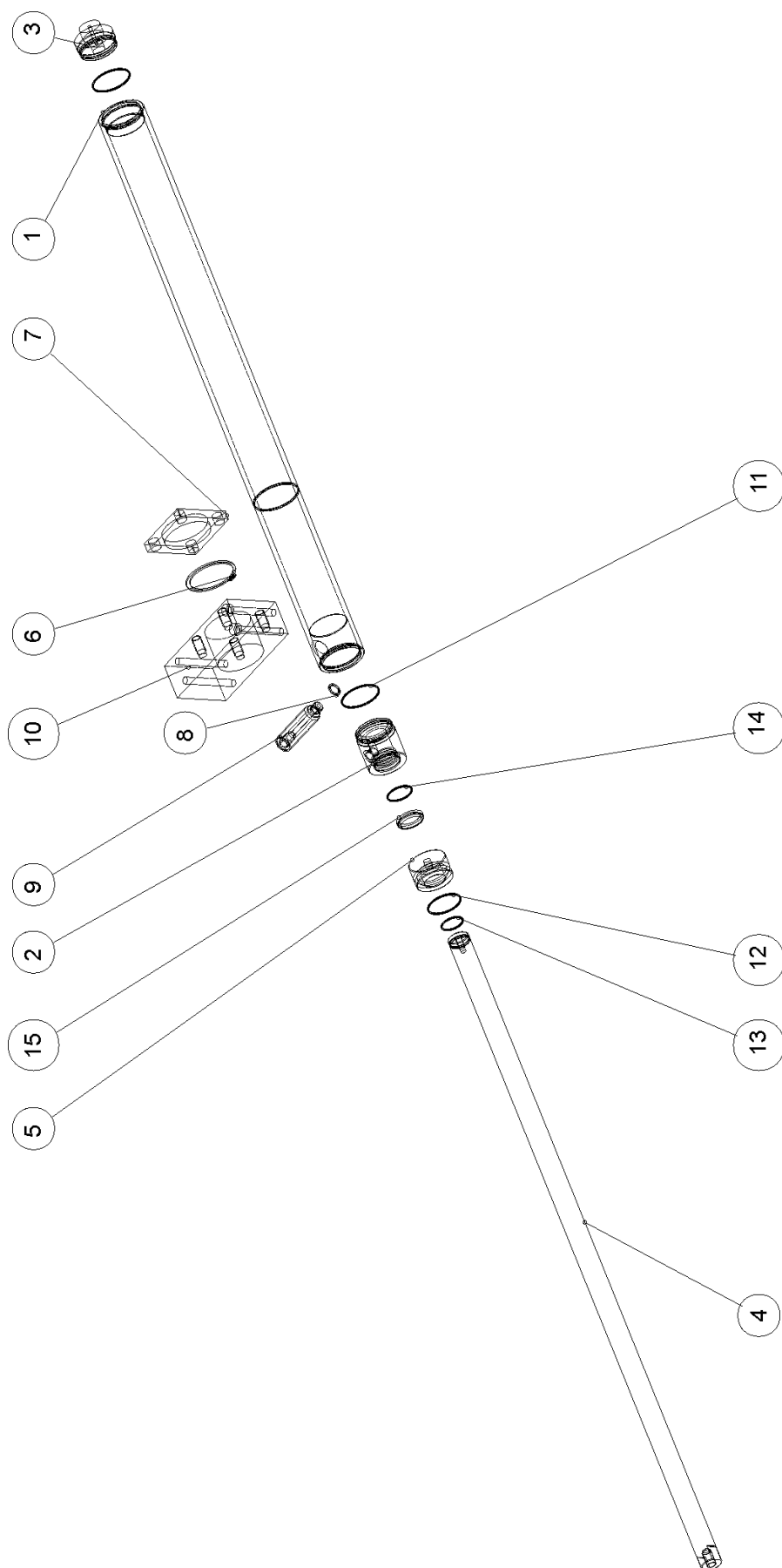
In die Bestellung der Ersatzteile führen Sie immer an:
Maschinentyp (z. B. STG 120), Serien Nr. (z. B. 125) und
Baujahr (z. B. 1999).

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).



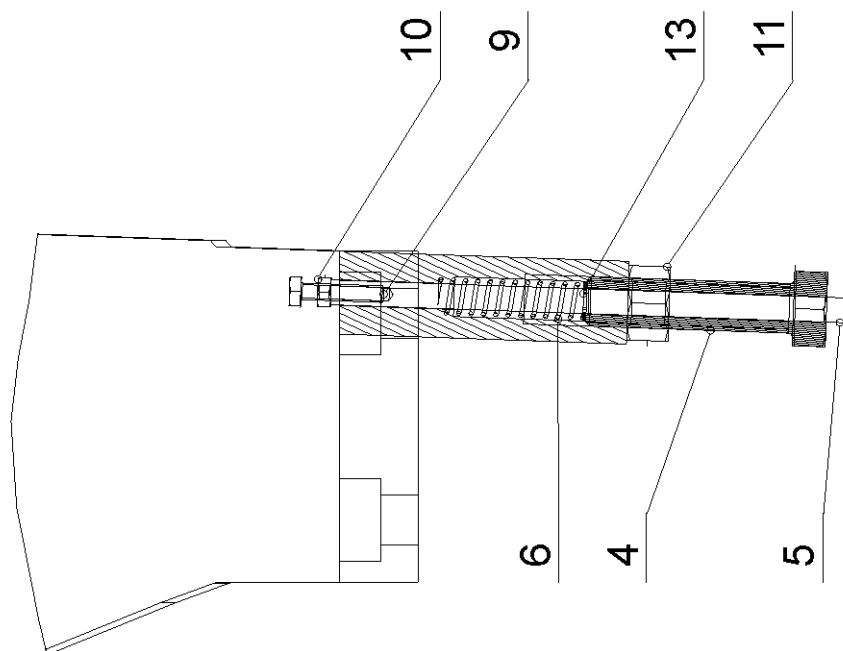
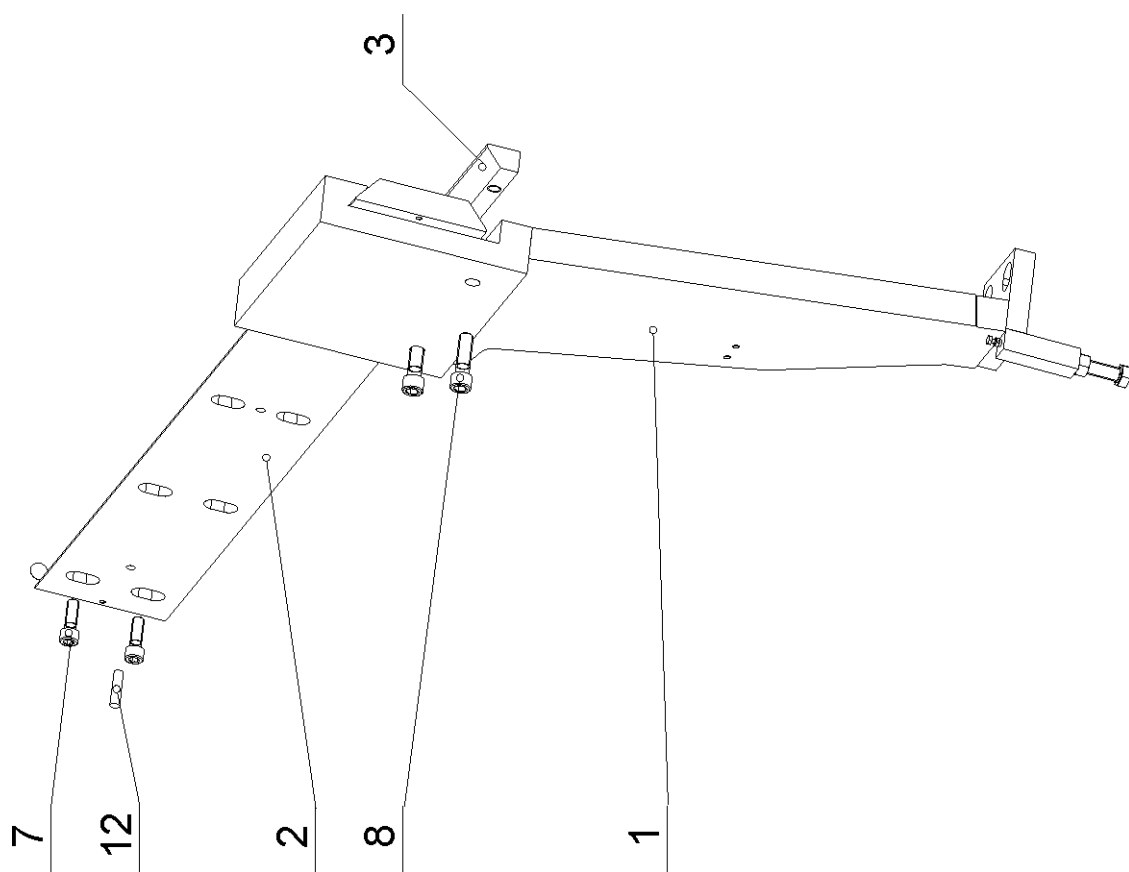
20.1. Svěrák / Schraubstock / Vice

Poz.	Objednací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	30.6003-003	Lišta levá / Leiste / Left listel	1
2	30.6003-004	Lišta pravá / Leiste / Right listel	1
3	30.6003-001	Pevná čelist / Feste Backe / Fixed jaw	1
4	30.6003-002	Pohyblivá čelist / Bewegliche Backe / Movable jaw	1
5	30.6003-005	Matice svěráku / Mutter / Vice nut	1
6	30.6003-006	Pouzdro / Buchse / Bush Ø32	2
7	30.6003-007	Závitová tyč / Gewindestange / Screwed bar M16	2
8	30.6003-008	Matice dorazová / Mutter / Nut Ø28	1
9	30.6003-009	Matice / Mutter / Nut SK24	1
10	30.6003-015	Ukazatel / Zeiger / Indicator	1
11	90.001.25.047	Šroub / Schraube / Screw M10x25 DIN 912	26
12	90.150.50.009	Podložka / Scheibe / Washer Ø17 DIN 125	3
13	90.005.55.046	Šroub / Schraube / Screw M16x70 DIN 933	2
14	30.6014-209	Exenter / Exzenter / Excenter	1



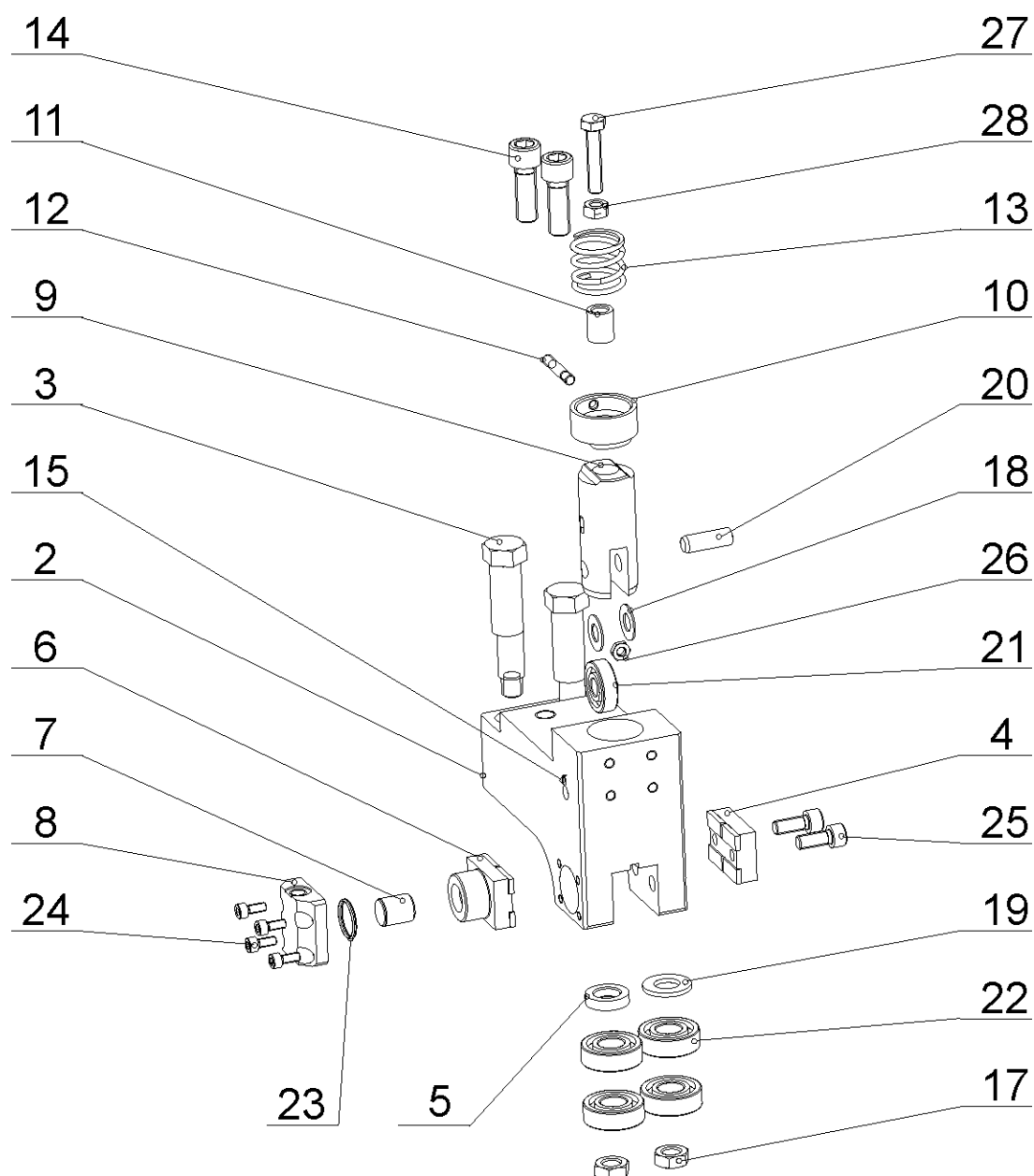
20.2. Válec svěráku / Schraubstockzylinder / Vice cylinder - 251.136

Poz.	Objednací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	30.6007-101	Válec svěráku / Schraubstockzylinder / Vice cylinder	1
2	30.1807-104	Přívod / Zufuhr / Inflow	1
3	30.2007-304	Víko / Deckel / Cover	1
4	30.6007-105	Pístnice / Kolbenstange / Piston rod	1
5	30.2007-302	Píst / Kolben / Piston	1
6	95.800.021	Pojistný kroužek / Sicherungsring / Retaining ring Ø62 DIN 471	1
7	30.6007-107	Příložka / Beilage / Splice plate	1
8	96.082.002	Těsnicí kroužek / Dichtungsring / Sealing ring Cu 13/17	1
9	30.6007-108	Prodloužení / Verlängerung / Extension	1
10	30.6007-109	Kostka / Würfel / Cube	1
11	96.001.013	O-kroužek / O Ring / O Ring 45x2	2
12	96.002.018	O-kroužek / O Ring / O Ring 39,2x5,7	1
13	96.002.011	O-kroužek / O Ring / O Ring 24x2	1
14	96.002.014	O-kroužek / O Ring / O Ring 28x3	1
15	96.060.003	Stírací kroužek / Abstreifring / Wiping ring 28x36	1



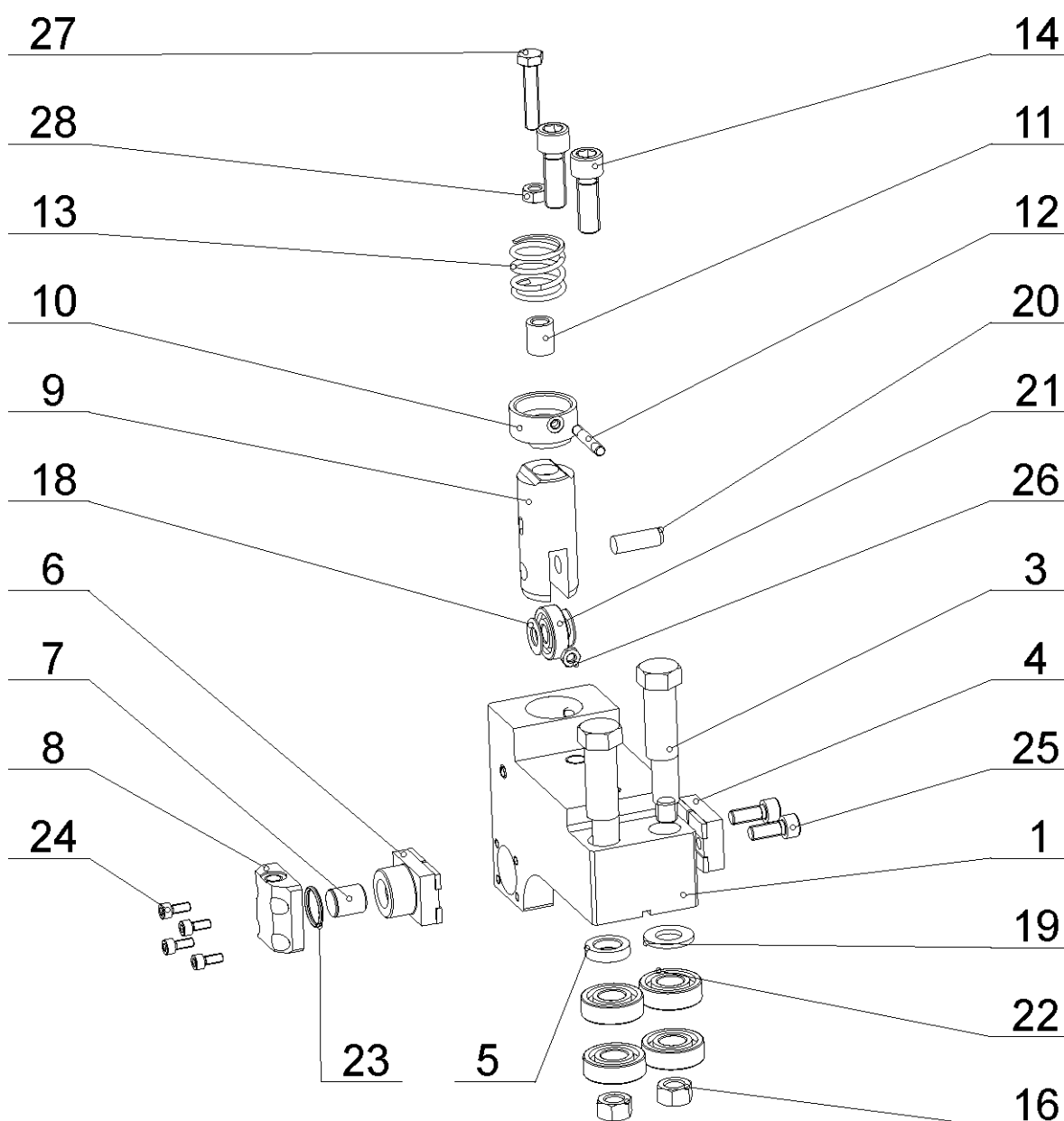
20.3. Držák vedení / Führungshalter / Holder of the guide

Poz.	Objednací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	30.6010-001	Držák / Halterung / Holder	1
2	30.6010-002	Lišta / Leiste / Listel	1
3	30.6010-003	Lišta / Leiste / Listel	1
4	30.6010-004	Šroub / Schraube / Screw M12x50	1
5	30.6010-005	Dorazové táhlo / Zugstange / Draw-bar	1
6	31.6010-006	Pružina / Feder / Spring 1x9x34x12+1	1
7	90.001.25.047	Šroub / Schraube / Screw M10x30 DIN 912	2
8	90.001.25.060	Šroub / Schraube / Screw M12x40 DIN 912	2
9	90.005.55.047	Šroub / Schraube / Screw M4x20 DIN 933	1
10	90.100.55.002	Matice / Mutter / Nut M4 DIN 934	1
11	90.100.55.007	Matice / Mutter / Nut M12 DIN 934	1
12	90.302.0Z.003	Kuželový kolík / Kegelstift / Taper pin 8x36 DIN 7978	1
13	95.802.002	Pojistný kroužek / Sicherungsring / Retaining ring Ø4 DIN 471	1



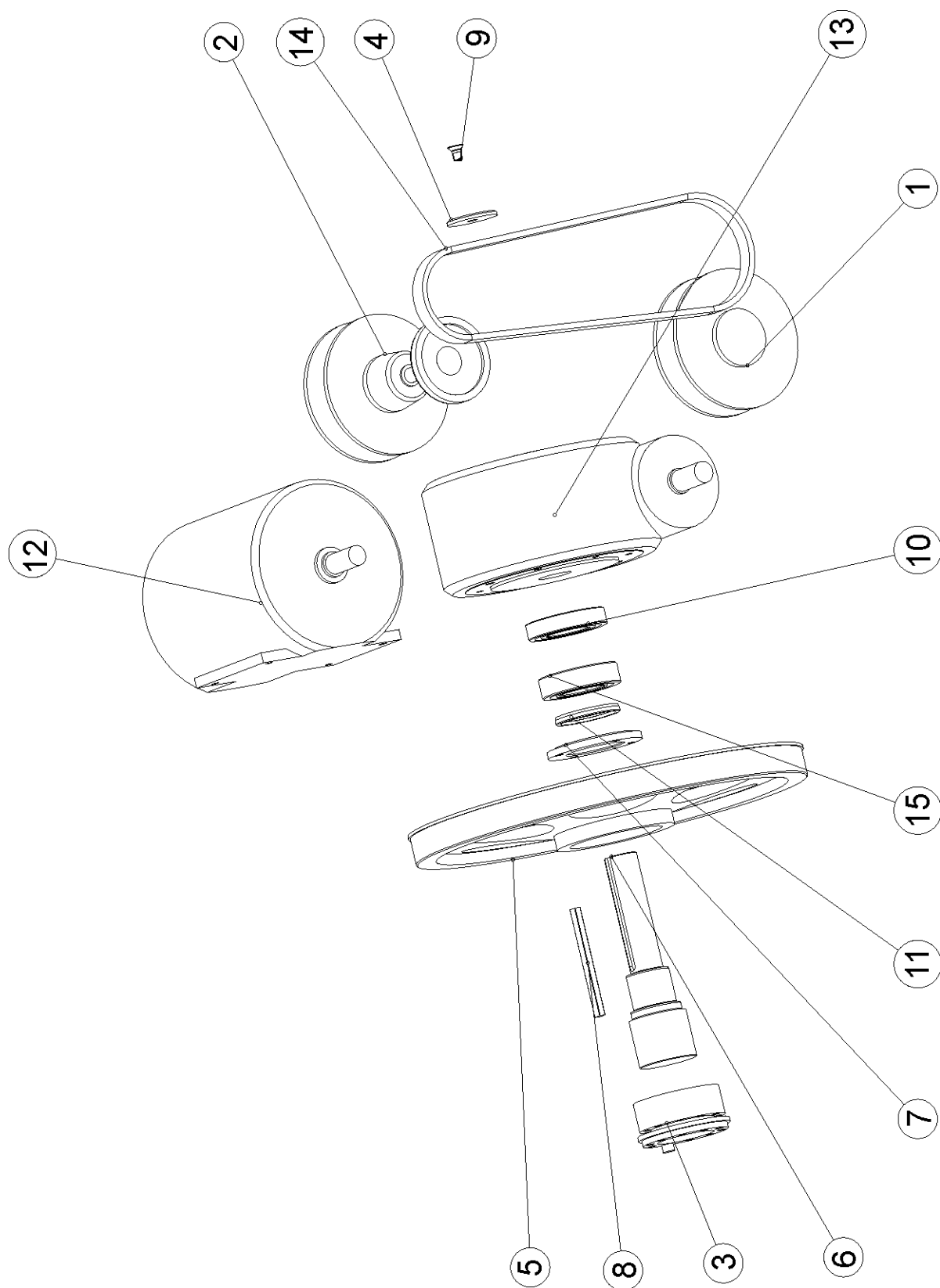
20.4. Levá vodící kostka / Linker Führungsklotz / Left guiding cube

Poz.	Objednáací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
2	30.6010-102	Levá vodící kostka / Linker Führungsklotz / Left guiding cube	1
3	30.6010-104	Excentr / Exzenter / Eccentric	2
4	30.6010-105	Vodící destička / Führungsplatte / Guiding plate	1
5	30.6010-108	Distanční trubka / Distanzrohr / Distance tube	1
6	30.6010-114	Vodící destička / Führungsplatte / Guiding plate	1
7	30.6010-117	Píst / Kolben / Piston	1
8	30.6010-118	Příložka / Lasche / Splice plate	1
9	30.6010-119	Držák ložiska / Lagerhalter / Bearing holder	1
10	30.6010-121	Držák / Halterung / Holder	1
11	30.6010-122	Distanční trubka / Distanzrohr / Distance tube Ø15x28	1
12	30.6014-203	Páka / Hebel / Lever	1
13	31.6010-125	Pružina / Feder / Spring 3x31x30x2.5	1
14	90.001.25.059	Šroub / Schraube / Screw M12x35 DIN 912	2
15	90.004.2D.002	Šroub / Schraube / Screw M6x12 DIN 915 45H	1
17	90.101.55.006	Matice / Mutter / Nut M12 DIN 439 8.8	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	90.301.0Z.001	Válcový kolík / Zylinderstift / Cylindrical pin 10x28 DIN 7	1
21	95.001.014	Ložisko / Lager / Bearing 6200 2RS	1
22	95.001.015	Ložisko / Lager / Bearing 6202 2RS	4
23	96.002.008	O-kroužek / O Ring / O Ring 16x2,5	1
24	90.001.25.008	Šroub / Schraube / Screw M5x12 DIN 912 8.8	4
25	90.001.25.032	Šroub / Schraube / Screw M8x20 DIN 912 8.9	2
26	90.100.55.004	Matice / Mutter / Nut M6 DIN 934 8.8	1
27	90.005.55.019	Šroub / Schraube / Screw M8x40 DIN 933 8.8	1
28	90.100.55.005	Matice / Mutter / Nut M8 DIN 934 8.8	1



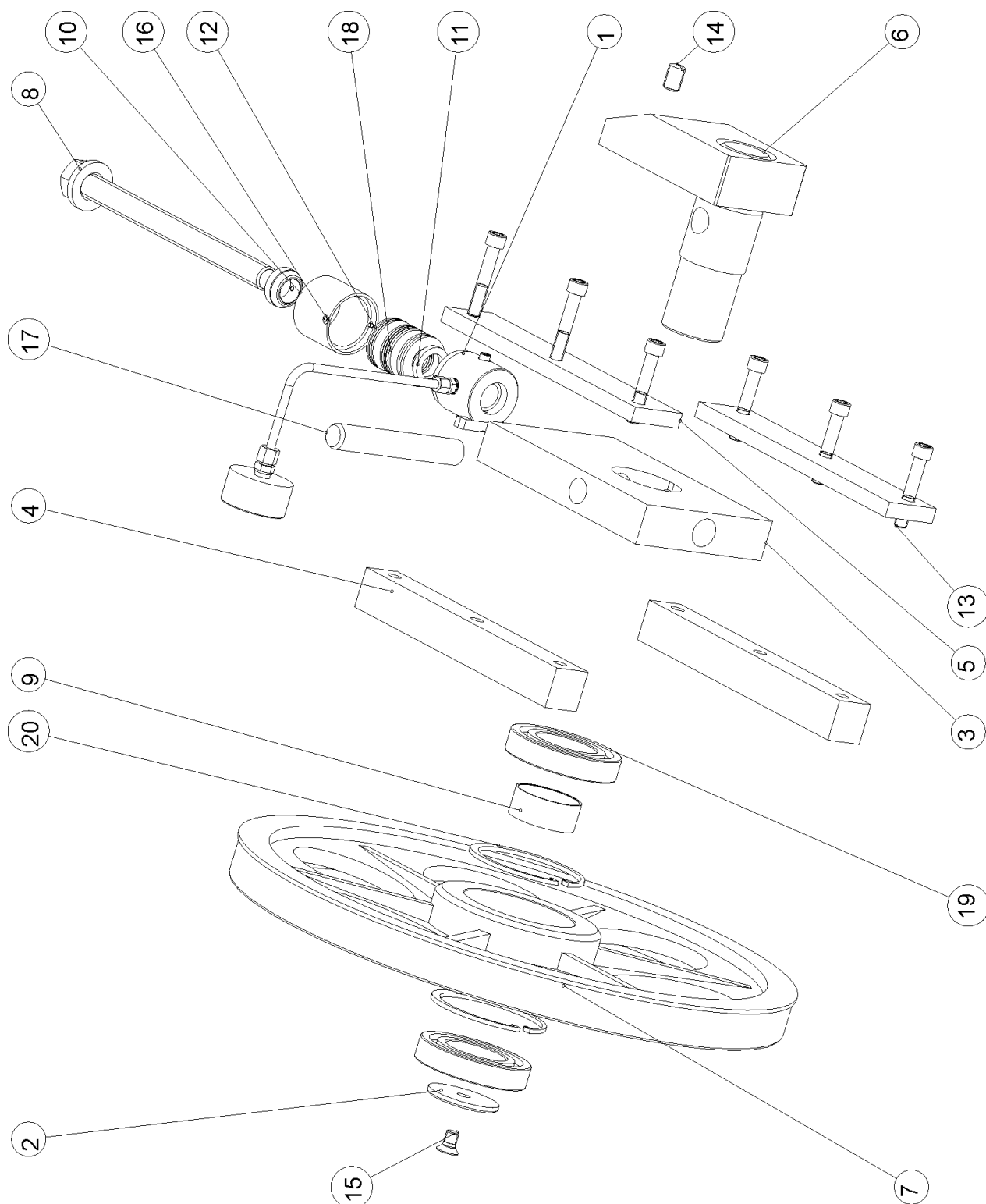
20.5. Pravá vodící kostka / Rechter Führungsklotz / Right guiding cube

Poz.	Objednací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	30.6010-101	Pravá vodící kostka / Rechter Führungsklotz / Right guiding cube	1
3	30.6010-104	Excentr / Exzenter / Eccentric	2
4	30.6010-105	Vodící destička / Führungsplatte / Guiding plate	1
5	30.6010-108	Distanční trubka / Distanzrohr / Distance tube	1
6	30.6010-114	Vodící destička / Führungsplatte / Guiding plate	1
7	30.6010-117	Píst / Kolben / Piston	1
8	30.6010-118	Příložka / Lasche / Splice plate	1
9	30.6010-119	Držák ložiska / Lagerhalter / Bearing holder	1
10	30.6010-121	Držák / Halterung / Holder	1
11	30.6010-122	Distanční trubka / Distanzrohr / Distance tube Ø15x28	1
12	30.6014-203	Pružinová páka / Federhebel / Spring lever	1
13	31.6010-125	Pružina / Feder / Spring 3x31x30x2.5	1
14	90.001.25.059	Šroub / Schraube / Screw M12x35 DIN 912	2
16	90.100.55.007	Matice / Mutter / Nut M12 DIN 934 8.8	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	90.301.0Z.001	Válcový kolík / Zylinderstift / Cylindrical pin 10x28 DIN 7	1
21	95.001.014	Ložisko / Lager / Bearing 6200 2RS	1
22	95.001.015	Ložisko / Lager / Bearing 6202 2RS	4
23	96.002.008	O-kroužek / O Ring / O Ring 16x2,5	1
24	90.001.25.008	Šroub / Schraube / Screw M5x12 DIN 912 8.8	4
25	90.001.25.032	Šroub / Schraube / Screw M8x20 DIN 912 8.9	2
26	90.100.55.004	Matice / Mutter / Nut M6 DIN 934 8.8	1
27	90.005.55.019	Šroub / Schraube / Screw M8x40 DIN 933 8.8	1
28	90.100.55.005	Matice / Mutter / Nut M8 DIN 934 8.8	1



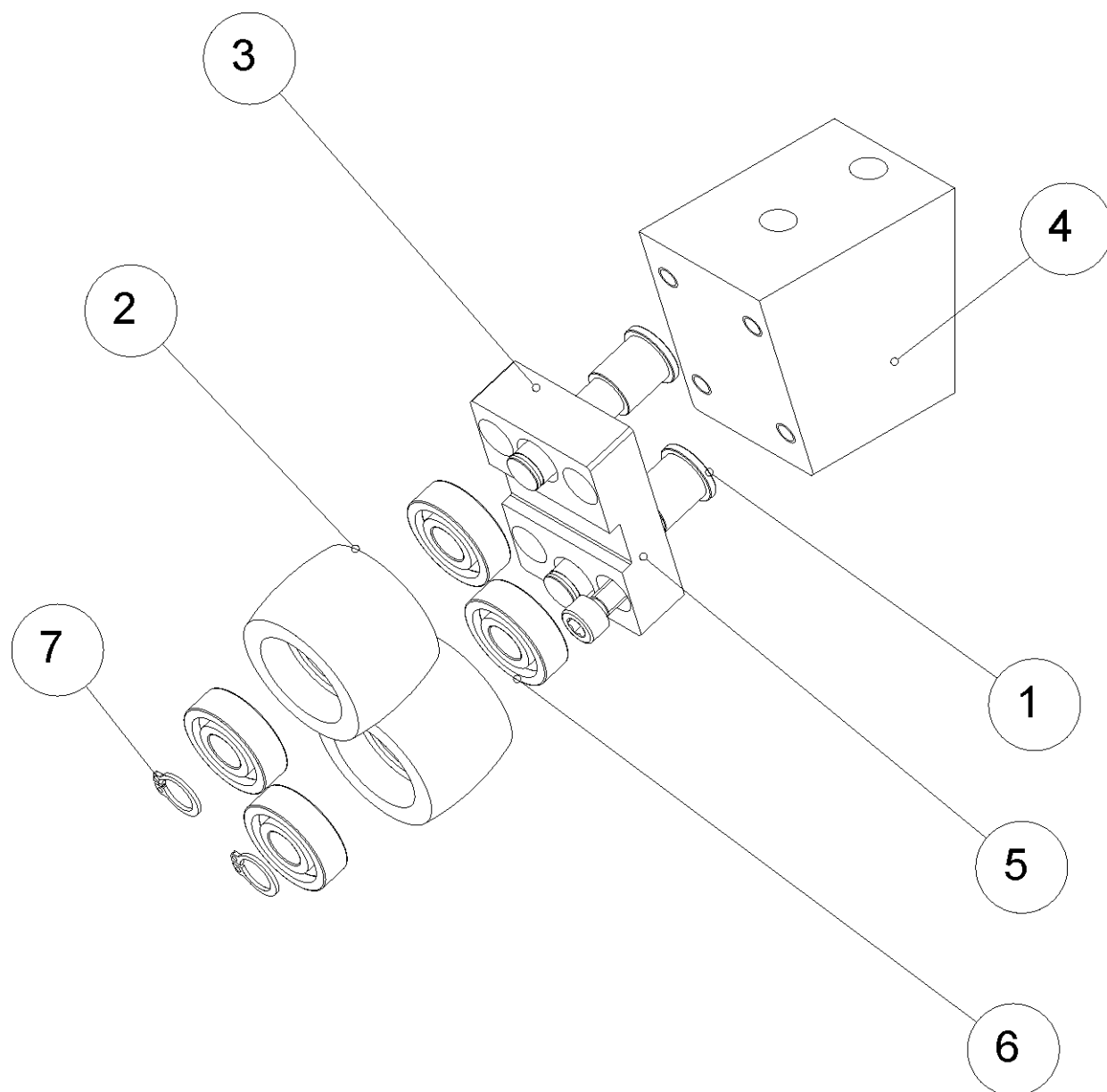
20.6. Pohon pilového pásu / Antrieb / Saw band drive

Poz.	Objednací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	30.3005-017	Kolo variátoru / Variatorsrad / Variator wheel	1
2	30.3005-016	Kolo variátoru / Variatorsrad / Variator wheel	1
3	95.825.001	Pouzdro / Büchse / Bush	1
4	30.1804-010	Podložka / Sicherungsscheibe / Washer	1
5	30.6005-001	Hnací kolo / Antriebsrad / Driving wheel	1
6	30.6005-003	Hřídel / Welle / Shaft	1
7	30.6005-006	Víko těsnění / Deckel / Cover	1
8	30.1804-008	Pero / Feder / Feather	1
9	90.011.27.009	Šroub / Schraube / Screw M12x20 DIN 7991	1
10	95.001.031	Ložisko / Lager / Bearing 6212 2RS	1
11	95.830.006	Hřídelové těsnění / Wellendichtung / Shaft seal 70x90x10	1
12	91.001.021	Elektromotor / Elektromotor / Electromotor	1
13	99.001.010	Převodovka / Getriebe / Gearbox i=46	1
14	99.020.007	Klínový řemen / Keilriemen / V-belt 28 x 8 x1300	1
15	95.201.003	Ložisko / Lager / Bearing NU 2212	1



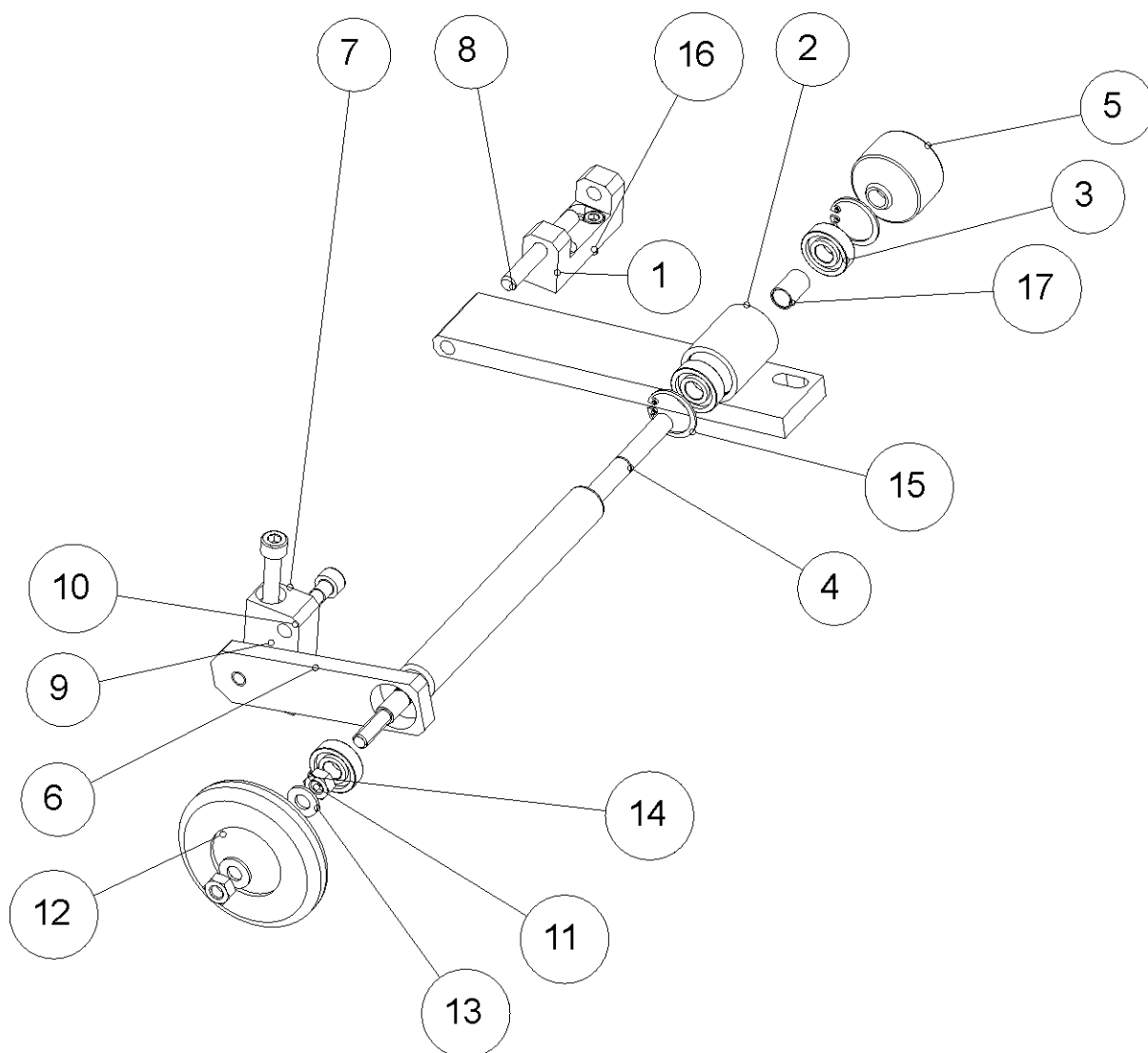
20.7. Napínání pilového pásu / Sägebandspannung / Saw band stretching

Poz.	Objednáací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	Viz. Výkres / Siehe Zeichnung / See drawing	Válec snímání napnutí / Zylinder der Sägebandspannung / Cylinder of tension sensing	1
2	30.1804-010	Podložka / Scheibe / Washer	1
3	30.6008-001	Kostka napínání / Sägebandspannungswürfel / Stretching cube	1
4	30.6008-002	Vodící lišta / Führungsleiste / Guiding listel	2
5	30.6008-003	Vodící lišta / Führungsleiste / Guiding listel	2
6	30.6008-004	Napínání / Sägebandspannung / Stretching	1
7	30.6008-006	Napínací kolo / Umlenkrad / Stretching wheel	1
8	30.6008-008	Šroub napínání / Schraube Sägebandspannung / Stretching screw	1
9	30.6008-009	Distanční trubka / Distanzrohr / Distance tube	1
10	30.6008-011	Stavěcí kroužek / Distanzring / Distance ring	1
11	30.6008-012	Distanc / Distanz / Distance	1
12	30.6008-013	Trubka / Rohr / Tube	1
13	90.001.25.064	Šroub / Schraube / Screw M12x70 DIN 912	6
14	90.002.2D.XXX	Šroub / Schraube / Screw DIN 913 45H	1
15	90.011.27.009	Šroub / Schraube / Screw M12x20 DIN 7991	1
16	90.011.27.018	Šroub / Schraube / Screw M4x6 DIN 7991	2
17	90.300.0Z.XXX	Válcový kolík / Zylinderstift / Cylindrical pin 25x160 DIN 6325	1
18	90.350.0Z.004	Talířová pružina / Tellerfeder / Belleville spring 50x25.4x3 DIN 2093	12
19	95.001.041	Ložisko / Lager / Bearing 6312 2RS	2
20	95.801.022	Pojistný kroužek / Sicherungsring / Retaining ring Ø110 DIN 472	2



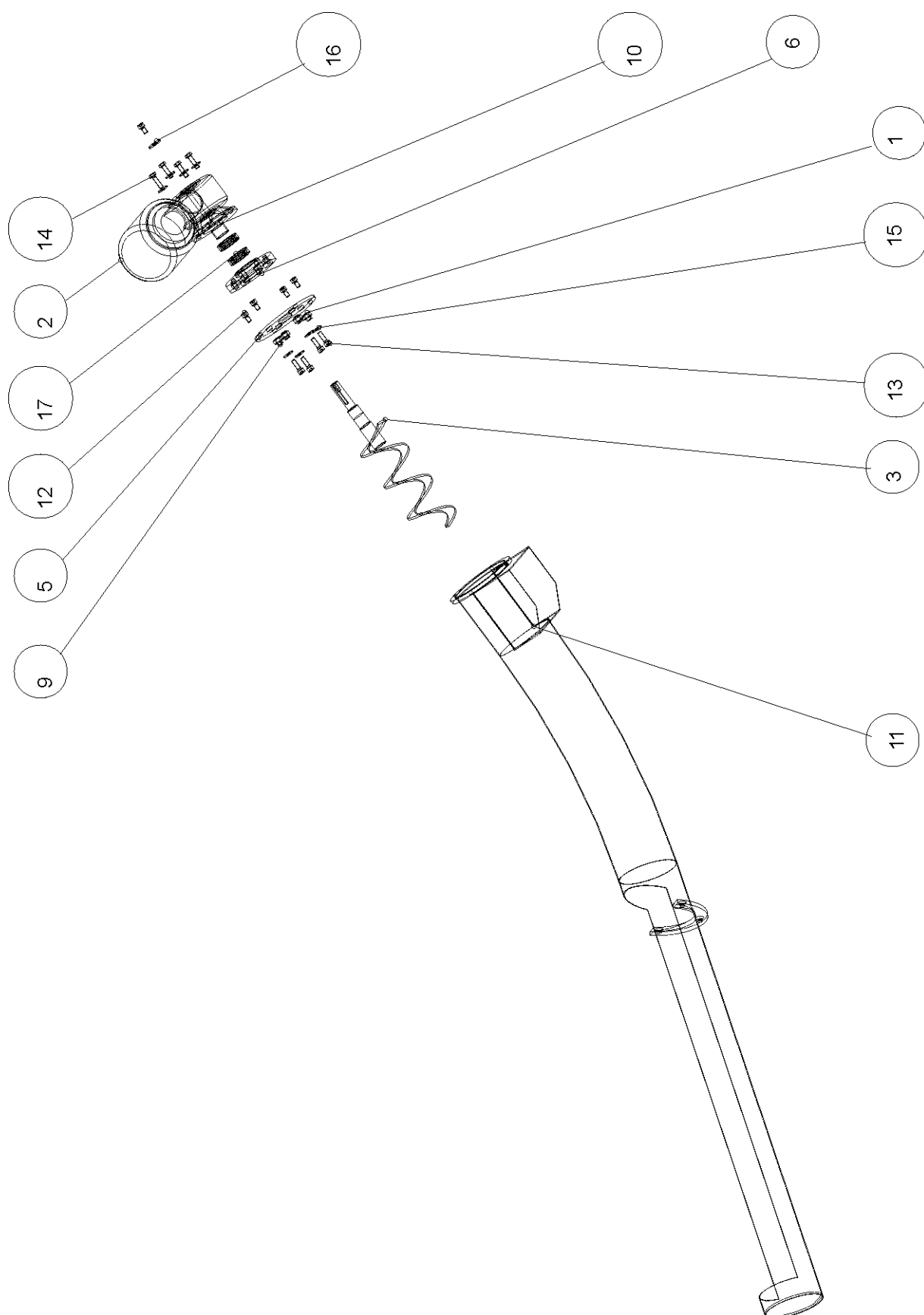
20.8. Tlumení pilového pásu / Banddämpfung / Damping band

Poz.	Objednací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	30.4310-202	Čep / Bolzen / Pivot Ø16x48	2
2	30.4310-203	Kladka / Rolle / Pulley Ø40x32	2
3	30.6010-201	Základna / Grundlage / Base HR 40x15x60	1
4	30.6010-202	Kostka připevnění / Würfel / Cube HR 60x40x65	1
5	90.001.25.076	Šroub / Schraube / Screw M6x18 DIN 912 8.8	1
6	95.001.004	Ložisko / Lager / Bearing 6000 2RS	4
7	95.800.003	Pojistný kroužek / Sicherungsring / Retaining ring Ø10 DIN 471	2



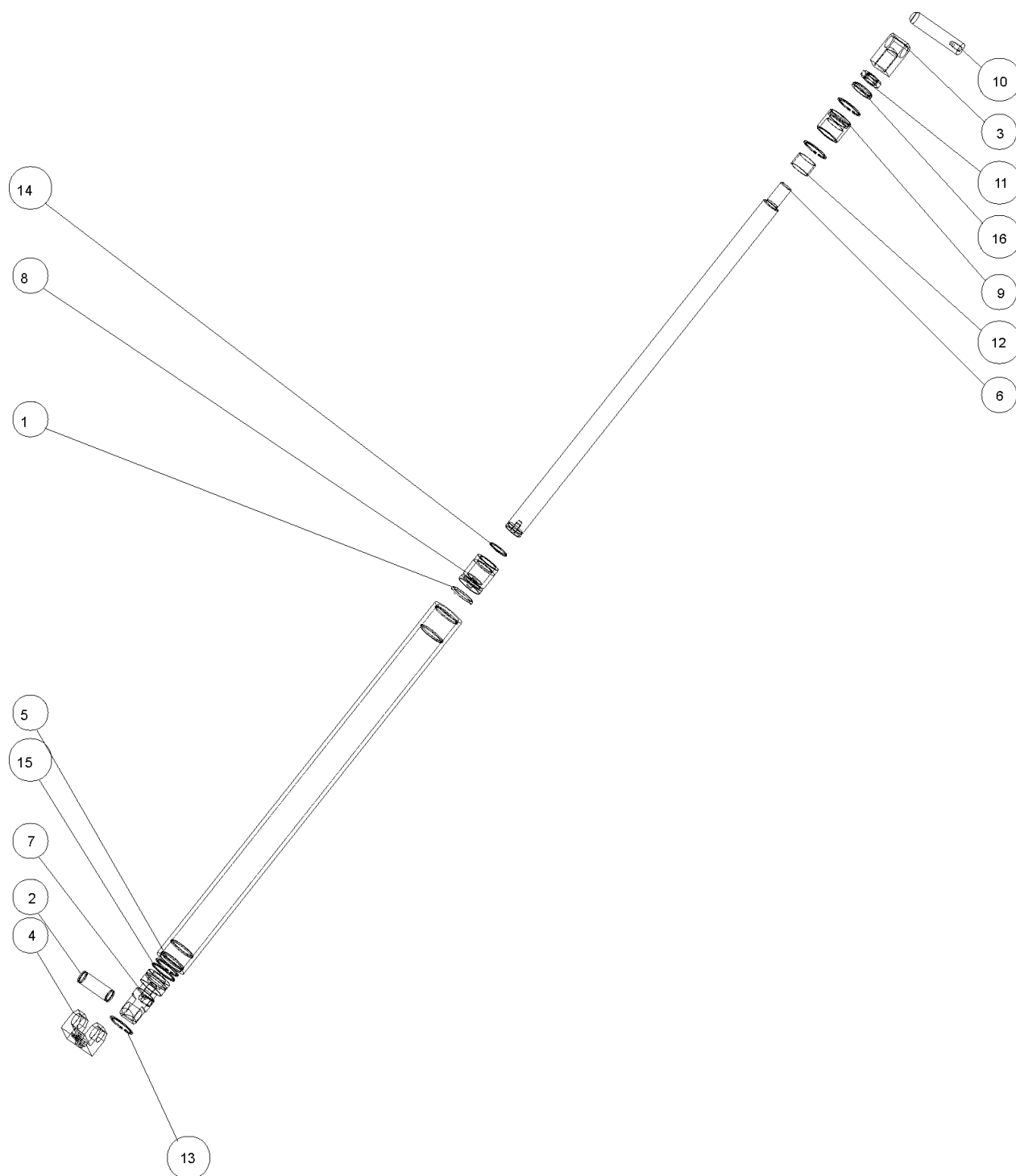
20.9. Kartáček / Spänebürste / Brush

Poz.	Objednací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	30.6014-412	Deska / Platte / Plate HR 30x20x65	1
2	30.6014-401	Páka kladky / Nockenhebel / Lever	1
3	95.001.004	Ložisko / Lager / Bearing 6000 2RS	3
4	30.6014-403	Pružný hřídel / Welle / Shaft	1
5	30.6014-404	Kolečko / Rad / Wheel	1
6	30.6014-409	Páka / Hebel / Lever HR 30x10x120	1
7	30.6014-111	Deska / Platte / Plate HR 30x20x60	1
8	90.301.0Z.012	Válcový kolík / Zylinderstift / Cylindrical pin 8x65	1
9	90.001.25.040	Šroub / Schraube / Screw M8x60 DIN 912	1
10	90.001.25.034	Šroub / Schraube / Screw M8x30 DIN 912	1
11	90.100.55.005	Matice / Mutter / Nut M8 DIN 934	2
12	31.0814-208	Kartáč / Bürste / Brush	1
13	90.150.50.005	Podložka / Scheibe / Washer Ø8,4 DIN 125	2
14	95.800.003	Pojistný kroužek / Sicherungsring / Retaining ring Ø10 DIN 471	1
15	95.801.020	Pojistný kroužek / Sicherungsring / Retaining ring Ø26 DIN 472	2
16	90.001.25.017	Šroub / Schraube / Screw M6x16 DIN 912	2
17	30.6014-411	Distanční trubka / Distanzrohr / Distance tube TR 12x1x19	1



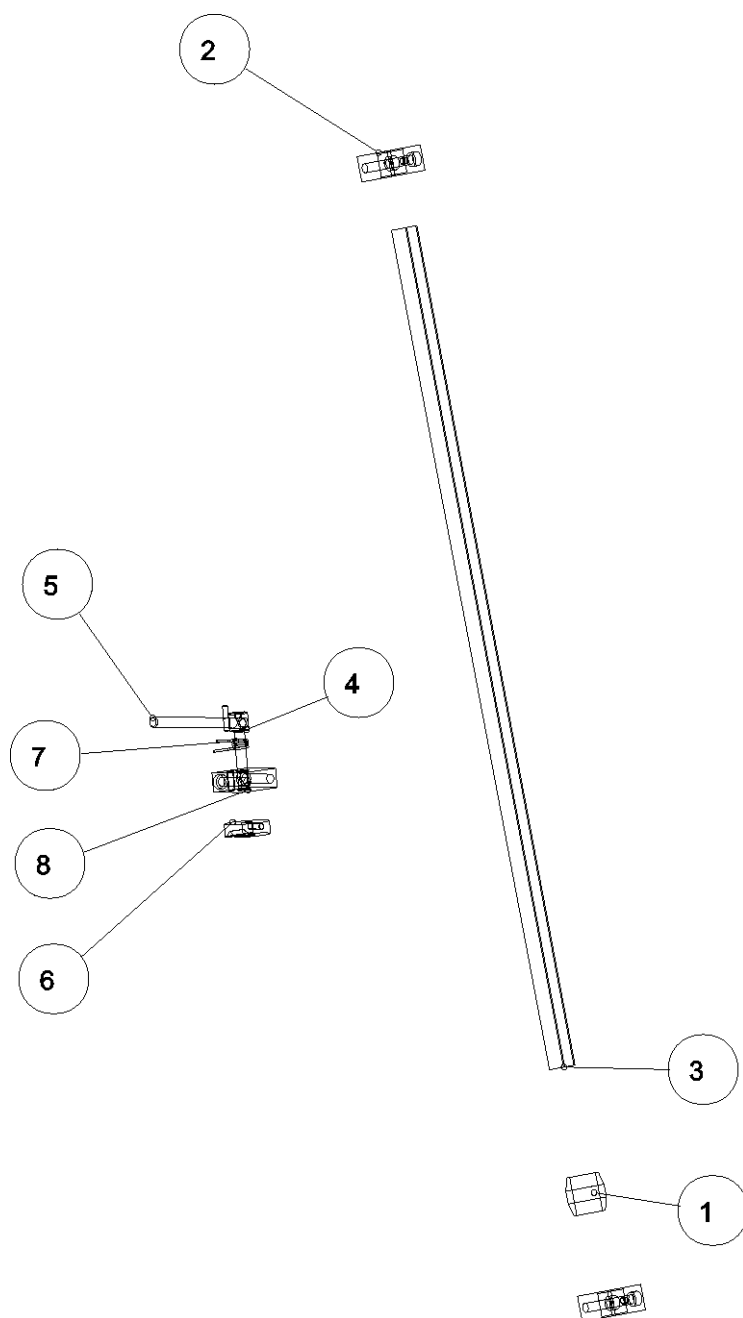
20.10. Třískový vynašeč / Spaneforderer / Swarf conveyor

Poz.	Objednací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
2	99.001.011	Šneková převodovka / Getriebe / Worn gearbox MVF 44P	1
3	30.6001-150	Závit šneku s hřídelí / Welle / Endless screw	1
5	30.6001-103	Víko šneku / Deckel / Cover	1
6	30.6001-104	Příruba / Flansche / Flange	1
9	30.6001-108	Distanční trubka / Distanzrohr / Distance tube	4
10	30.6001-110	Distanční trubka / Distanzrohr / Distance tube	1
11	30.6001-101	Roura vynašeče / Rohr / Eliminator	1
12	90.001.25.030	Šroub / Schraube / Screw M8x14 DIN 912	5
13	90.001.25.033	Šroub / Schraube / Screw M8x25 DIN 912	4
14	90.005.55.017	Šroub / Schraube / Screw M8x30 DIN 933	4
15	90.151.50.004	Podložka / Scheibe / Washer Ø6,6 DIN 440	8
16	90.151.50.005	Podložka / Scheibe / Washer Ø9 DIN 440	1
17	95.001.008	Ložisko / Lager / Bearing 6005 2RS	2



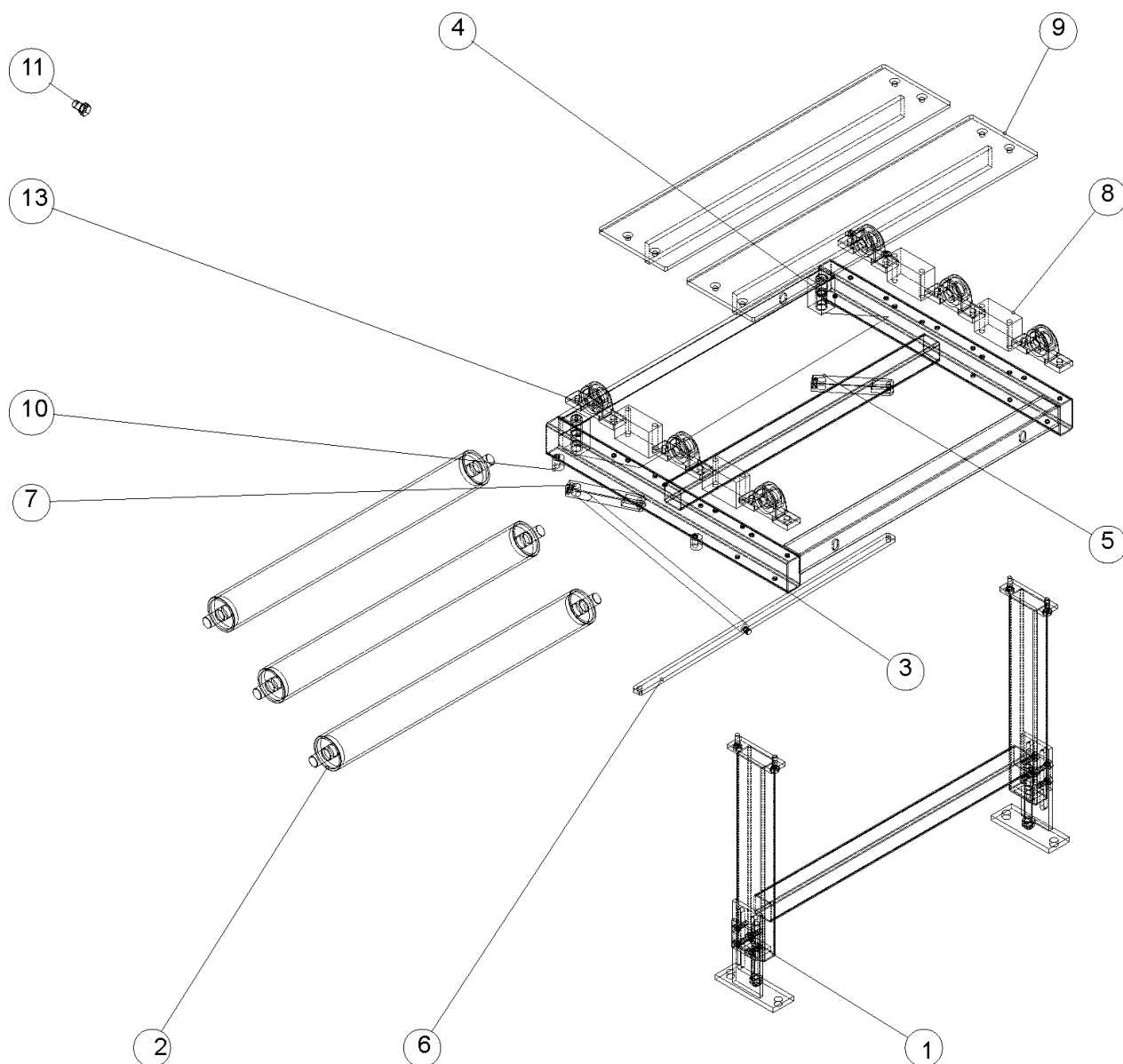
20.11. Zvedací válec / Hebezyylinder / Lifting cylinder - 251.135

Poz.	Objednací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	96.900.002	Těsnění / Dichtung / Sealing 40x29x4	1
2	30.4707-203	Čep / Bolzen / Pivot	1
3	30.4707-206	Držák pístnice / Kolbenstangehalter / Piston rod holder	1
4	30.4707-207	Držák spodní / Unterer Halter / Bottom holder	1
5	30.6007-001	Válec / Zylinder / Cylinder	1
6	30.6007-002	Pístnice / Kolbenstange / Piston rod	1
7	30.6007-004	Víko spodní / Unterer Deckel / Bottom cover	1
8	30.6007-005	Píst / Kolben / Piston	1
9	30.6007-006	Víko horní / Oberer Deckel / Upper cover	1
10	30.6007-007	Čep / Bolzen / Pivot	1
11	90.101.55.007	Matice / Mutter / Nut M20x1,5 DIN 439	1
12	95.700.005	Pouzdro / Buchse / Bush KU 28x20	1
13	95.801.005	Pojistný kroužek / Sicherungsring / Retaining ring Ø40 DIN 472	4
14	96.001.007	Pojistný kroužek / Sicherungsring / Retaining ring Ø25x2	1
15	96.001.010	Pojistný kroužek / Sicherungsring / Retaining ring Ø36x2	1
16	96.060.003	Stírací kroužek / Abstreifring / Wiping ring Ø28x36 ČSN 02 9295	1



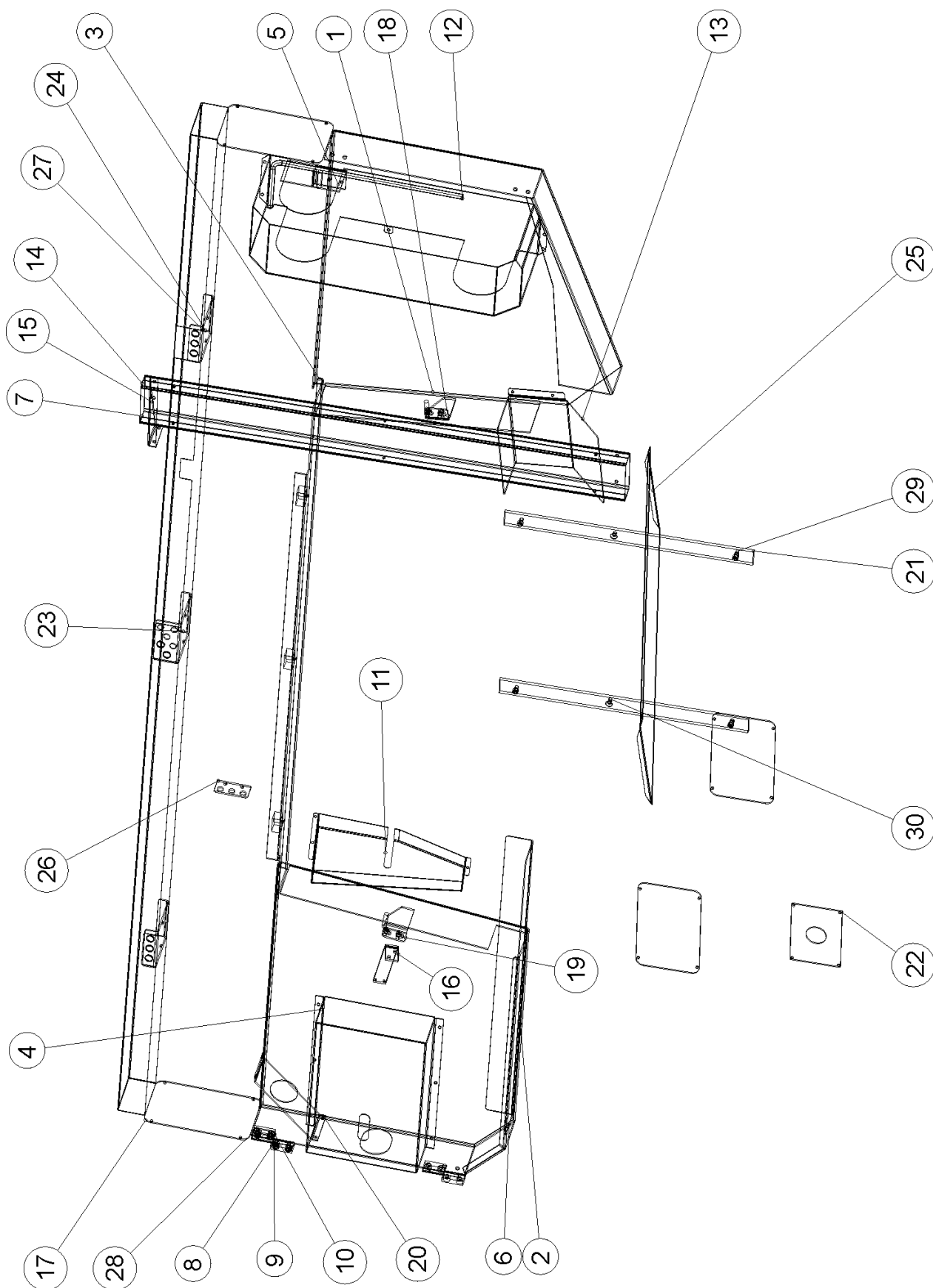
20.12. Držáky ovladače / Stellerhalter / Controller holders

Poz.	Objednací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	30.2014-001	Doraz / Anschlag / Length stop	1
2	30.6014-302	Kostka / Würfel / Cube	2
3	30.6014-303	Odměřovací tyč / Abmessungsstange / Measuring bar	1
4	30.6014-305	Čep / Bolzen / Pivot	1
5	30.6014-306	Narážka / Anschlag / Stop	1
6	30.6014-307	Vačka / Würfel / Block	1
7	31.6014-308	Pružina / Feder / Spring	1
8	30.6014-309	Kostka / Würfel / Cube	1



20.13. Válečková trať / Rollenbahn / Roller conveyor - 251.139

Poz.	Objednací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	251.139	Noha / Fuß / Leg	1
2	30.1518-501	Válec / Zylinder / Cylinder	3
3	30.6014-201	Rám trati / Rahmen / Frame	1
4	30.6014-202	Šroub stavěcí / Schraube / Screw TR 24x5x65	2
5	30.6014-203	Páka / Hebel / Lever HR 25x10x170	1
6	30.6014-205	Táhlo / Zugstange / Draw-bar HR 25x10x770	1
7	30.6014-206	Páka / Hebel / Lever	1
8	30.6014-207	Kostka / Würfel / Cube HR 100x40x68	4
9	30.6014-208	Deska / Platte / Plate	2
10	30.6014-209	Excentr / Exzenter / Eccentric Ø25x20	2
11	90.015.25.001	Šroub / Schraube / Screw M16x40 DIN 7984	1
13	95.160.001	Ložisko / Lager / Bearing UCP 205	6



20.14. Kryty / Abdeckungen / Covers

Poz.	Objednací číslo	Název položky	ks
Pos.	Bestell - Nr.	Bezeichnung	Menge
Pos.	Reference No.	Item	Pcs.
1	30.6014-101	Kryt přední / Vorderer Deckel / Front cover	1
2	30.6014-102	Kryt zadní / Hinterer Deckel / Rear cover	1
3	30.6014-103	Kryt střední / Mittlerer Deckel / Central cover	1
4	30.6014-104	Kryt napínání / Deckel der Sägebandspannung / Stretching cover	1
5	30.6014-105	Kryt variátoru / Variatorsdeckel / Variator cover	1
6	30.6014-106	Kryt pásu přední / Vordere Sägebandabdeckung / Front saw band cover	1
7	30.6014-108	Stojka / Ständer / Handstand	1
8	30.6014-109	Pant / Türband / Hinge	2
9	30.6014-110	Deska / Platte / Plate	2
10	30.6014-111	Deska / Platte / Plate	1
11	30.6014-112	Kryt dorazu / Anschlagsdeckel / Length stop cover	1
12	30.6014-115	Vedení kabelu / Kabelführung / Guide	1
13	30.6014-119	Kryt kartáčku / Bürsteabdeckung / Brush cover	1
14	30.6014-120	Stojka / Ständer / Handstand	1
15	30.6014-121	Držák / Halter / Holder	1
16	30.6014-122	Držák koncového spínače / Endschalterhalter / Limit switch holder	4
17	30.6014-123	Kryt nosníku / Deckel / Cover	1
18	30.6014-124	Podpěra krytu / Stütze / Support	1
19	30.6014-125	Podpěra krytu / Stütze / Support	1
20	30.6014-126	Kryt manometru / Deckel / Cover	2
21	30.6014-127	Lišta rozvaděče / Leiste / Listel	1
22	30.6014-128	Kryt podstavce / Gestellabdeckung / Pedestal cover	1
23	30.6014-130	Držák hadic / Schlauchhalter / Hose holder	2
24	30.6014-131	Držák kabelu / Kabelhalter / Cable holder	1
25	30.6014-133	Skluz / Traufblech / Glide	1
26	30.6014-135	Držák trubek / Rohrhalter / Tubes holder	1
27	30.6014-136	Kryt šneku / Schneckenwelledeckel / Endless screw cover	1
28	30.6014-150	Kryt energií / Deckel / Cover	1
29	90.001.25.029	Šroub / Schraube / Screw M8x12 DIN 912 8.8	10
30	90.001.25.031	Šroub / Schraube / Screw M8x16 DIN 912 8.8	2

21. Troubleshooting table

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

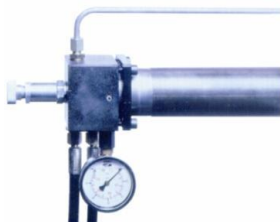
	- Wrongly adjusted swarf brush.	Check swarf brush adjustment, set it according to chapter „Servicing and adjustment“
	- Over stretched saw band	Lower stretching of the saw band and set the limit switch of the saw band stretching according to chapter „Servicing and adjustment“
	- Wrongly adjusted hard metal guides.	Check the adjustment of the hard metal guides and carry out adjustment as described in chapter „Servicing and adjustment“
	- Worn hard metal guides of the saw band.	Check the condition of the hard metal guide and if it is too worn, replace hard metal guides according to chapter „Worn pieces replacement“
	- Worn saw band guide bearings.	Check guiding bearings and if you notice some sort of excessive damage, replace them according to chapter „Worn pieces replacement“
	- Wrongly adjusted guiding cubes of the saw band.	Set guiding cube according to chapter „Servicing and adjustment“
	- Wrongly adjusted down feed and saw band speed.	Adjust the feeding and speed of a saw band according to values published by saw band manufacturer.
	- Different material quality.	Adjust feeding and speed of a saw band according to desired material (try cut-test).
	- Low-class saw band	Replace the saw band (contact your local accessory supplier for more information)
	- Wrongly chosen saw band tooth system.	Replace the saw band and keep instructions of the manufacturer on the choice.
	- Wrongly adjusted tracking.	Check the space between top of a saw band and driving wheel. Perhaps adjust the tracking as described in chapter „Servicing and adjustment“
Insufficient cut output.	- Worn saw band.	Replace the saw band and keep instructions of the manufacturer on the choice.
	- Wrong saw band tooth system.	Replace the saw band and keep instructions of the manufacturer on the choice.
	- Wrongly set down feed and speed of a saw band.	Set feed and speed of a saw band according to values published by saw band manufacturer.
Saw band drive cannot be started.	Pressure switch is adjusted wrong.	Set the pressure switch according to chapter „Servicing and adjustment“
	Pressure switch is defective.	Replace defective parts of the pressure switch.
	Material is deformed.	Use pressure control of the vices SDRA. SDRA is possible buy as additional load, parameters of the SDRA are in chapter „ Special accessories “.
Cooling is not active	Lack of cooling agent.	Fill the tank with cooling agent.

	Input hosepipe is broken or obstructed. Cooling pump is defective.	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.
The hydraulic aggregate cannot be started	Auxiliary contact on thermo-relay FA1 is defective.	Replace the defective contact on motor starter FA1.

22. Special accessory

Accessories, which are stated in this appendage, is not standard accessories of the band saw, it is necessary to order it separately.

22.1. Vice pressure regulation



SDR-S

Vice pressure regulation for one hydraulic clamping cylinder. Adjustable pressure range.

22.2. Microniser



MICRONISER Standard

Micro-spray-equipment including a full assembly set. Standard version with ball valve and anodized nozzle.

MICRONISER 24V

Micro-spray-equipment including a full assembly set. 24V Version with connected pneumatic valve and anodized nozzle, assembling manual and electric plan are included.

22.3. Tenzomat



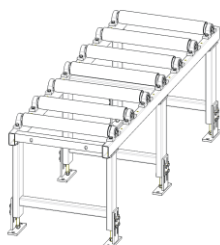
TENZOMAT

Sensitive tensionmeter for correct adjustment of the blade tension, including manual.

23. Roller conveyors and accessories

The rollers conveyors and accessories in this appendage are not standard accessories of the band saw and it is necessary to order them separately.

23.1. Roller conveyors



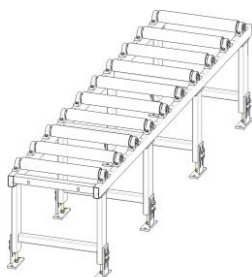
H 750 - 2

Conveyor with steel rolls
max. Load 1200 kg/m
7 Rolls Ø 80x750mm
Dimension 840x2000mm
Without legs



H 750 - 3W

Conveyor with steel rolls
max. Load 1200 kg/m
7 Rolls Ø 80x750mm
Dimension 840x3000mm
Without legs



H 750 - 3K

Conveyor with steel rolls
max. Load 1200 kg/m
10 Rolls Ø 80x750mm
Dimension 840x3000mm
Without legs

23.2. Roller conveyors prepared for powering

HP 750 - 2

Conveyor prepared for powering with chains and chain wheels
max. load 1200 kg/m
7 Rolls Ø 80x750mm
Dimension 840x2000mm
Without legs

HP 750 - 3W

Conveyor prepared for powering with chains and chain wheels
max. load 1200 kg/m
7 Rolls Ø 80x750mm
Dimension 840x3000mm
Without legs

HP 750 - 3K

Conveyor prepared for powering with chains and chain wheels
max. load 1200 kg/m
10 Rolls Ø 80x750mm
Dimension 840x3000mm
Without legs

23.3. Power and control units for powered conveyors



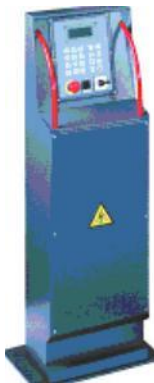
ARH – M

Power unit for powered conveyors of series HP, including motor, worm gear and manual clutch
Max. load 2500 kg / 1 drive



ARH – P

Power unit for powered conveyors of series HP, including motor, worm gear and pneumatic clutch
Max. load 2500 kg / 1 drive



RSP 1/1

Control unit for powered conveyors of series HP with one – phase frequency converter for one unit ARH

RSP 1/3

Control unit for powered conveyors of series HP with three – phase frequency converter for one unit ARH

RSP 2/1

Control unit for powered conveyors of series HP with one – phase frequency converter for two unit ARH

RSP 2/3

Control unit for powered conveyors of series HP with three – phase frequency converter for one unit ARH



EBS

End-stop unit for combination with powered conveyors of series HP and length stops HDA and HNCA



EMG-STOP

Additional emergency-stop unit for powered conveyors of series HP

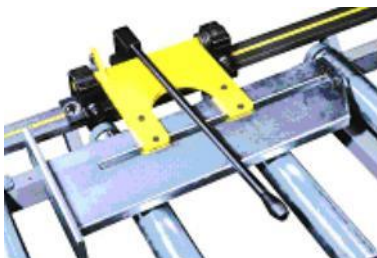
23.4. Length stops

HA – 2

Manual length stop of series H for 2m

HA – 3

Manual length stop of series H for 3m



For Special lengthens of the length stop HA the price can be set together from the following components:

Trolley HA

Trolley with length stop

Guide way HA

Guide way with connection material for 1m



HDA – 3

Digital Length stop with hand wheel suitable for all conveyors of series H and HP
(Attention! Only mounted on the conveyor and with protective guide ASL-H)

HDA – 6

Digital Length stop with hand wheel suitable for all conveyors of series H and HP
(Attention! Only mounted on the conveyor and with protective guide ASL-H)

Lengthens HDA

For special lengthens of the length stop HDA, use price of 3m or 6m as basic number and add the costs for 1 m



HNCA – 3

NC-controlled length stop suitable for all conveyors of series H and HP
(Attention! Only mounted on the conveyor and with protective guide ASL-H)

HNCA – 6

NC-controlled length stop suitable for all conveyors of series H and HP
(Attention! Only mounted on the conveyor and with protective guide ASL-H)

Lengthens HNCA

For special lengthens of the length stop HNCA, use the price of 3m or 6m as basic number and add the costs for 1 m



H – VL

NC-controlled Incremental infeed machine

Lengthens Arm

Special order for double side band saws (DG, DGH)

23.5. Accessories of roller conveyors



VR – H750

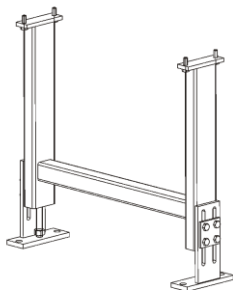
Vertical roller suitable for all conveyors of series H and HP.

BVR – H

Movable vertical, suitable for conveyors H750 and HP750.

**VBF – H**

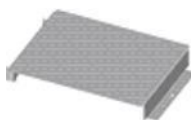
Preparative leg suitable for all conveyors of series H and HP.
(Attention! At least two pieces have to be used)

**ZA-H750**

Additional leg suitable for conveyors H750 and HP750,
adjusted height 700-800 mm.

23.6. Covers**ADB – H750 – 2**

Set cover plates between rolls suitable for H750–2 and
HP750–2. (Attention, only suitable for named conveyor)

**ADB – H750 – 3W**

Set cover plates between rolls suitable for H750–3W and
HP750–3W. (Attention, only suitable for named conveyor)

ADB – H750 – 3K

Set cover plates between rolls suitable for H750–3K and
HP750–3K. (Attention, only suitable for named conveyor)

ASL-H – 2

Cover for rollers placing from left and right side, it is suitable
for conveyors H750–2.

**ASL-H – 3W**

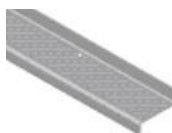
Cover for rollers placing from left and right side, it is suitable
for conveyors H750–3W.

ASL-H – 3K

Cover for rollers placing from left and right side, it is suitable
for conveyors H750–3K.

ASL-HP – 2

Cover for rollers placing from left and right side, it is suitable
for conveyors HP750–2.

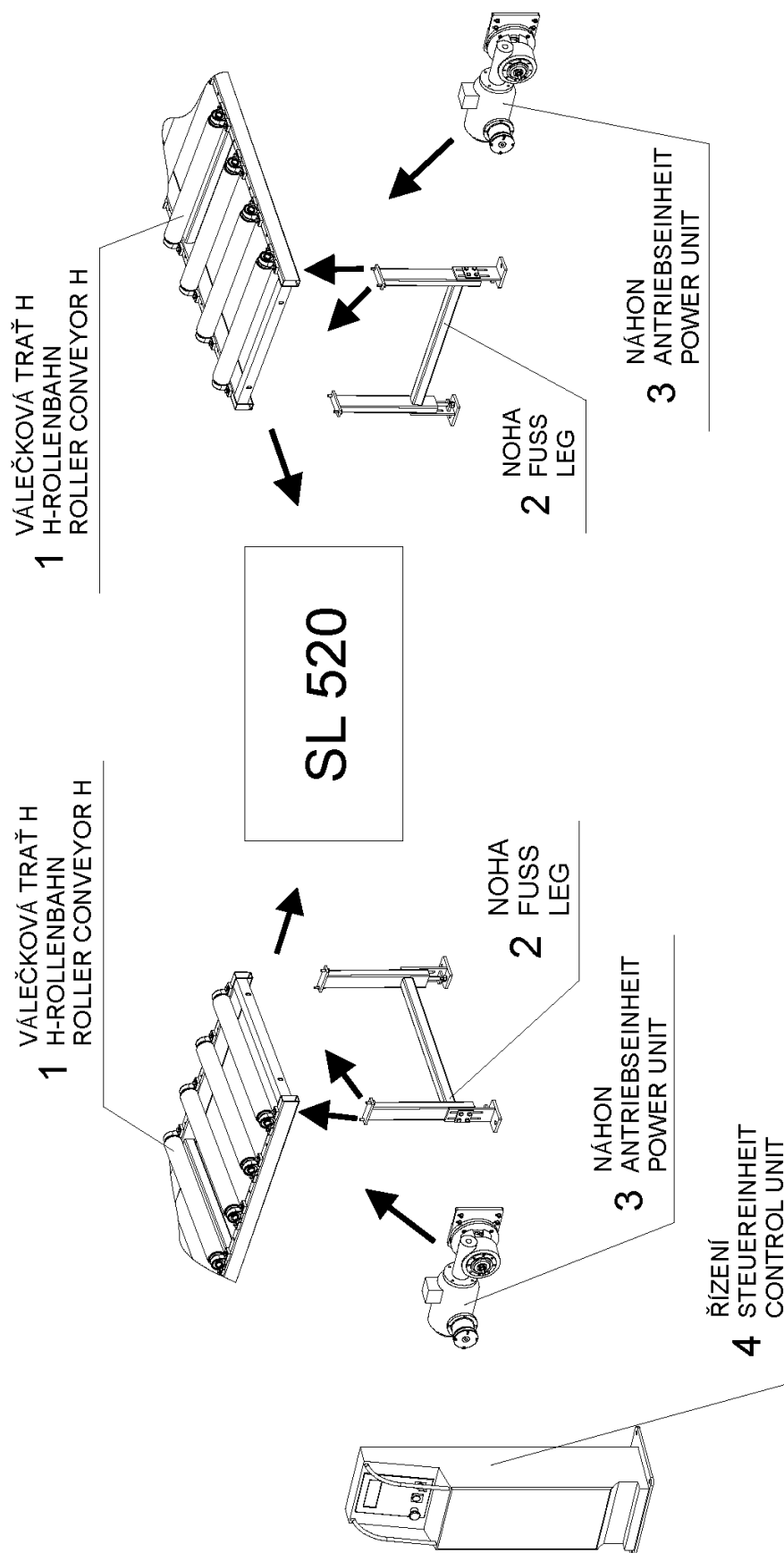
**ASL-HP – 3W**

Cover for rollers placing from left and right side, it is suitable
for conveyors HP750–3W.

ASL-HP – 3K

Cover for rollers placing from left and right side, it is suitable
for conveyors HP750–3K.

23.7. Connection schema of the roller conveyors to the band saw



Roller conveyor H 750

Pos.	Number	Sign.	Name
1	253.055	H 750 - 2	Roller conveyor H width 750mm, length 2m
	253.056	H 750 - 3W	Roller conveyor H width 750mm, length 3m
	253.054	H 750 - 3K	Roller conveyor H width 750mm, length 3m
2	253.053	ZA - H 750	Additional leg width 750mm

Powered roller conveyor HP 750

Pos.	Number	Sign.	Name
1	253.064	HP 750 - 2	Roller conveyor H width 750mm, length 2m
	253.066	HP 750 - 3W	Roller conveyor H width 750mm, length 3m
	253.065	HP 750 - 3K	Roller conveyor H width 750mm, length 3m
2	253.053	ZA - H 750	Additional leg width 750mm
3		ARH - M	Power unit with manual clutch
		ARH - P	Power unit with pneumatic clutch
4		RSP	Control unit with frequency converter

For **SL 520** band saw we advise, height presented groups.
 The roller conveyors are solved like modules, from which is possible to set together roller conveyor from desired length. In case of your questions, please contact your dealer.

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.
Těžební 1236/1
627 00 Brno
Czech Republic

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

**band saw machines SL 520, transverse 820.450 DGS and
transverse 615.340 DGS**

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.

Conformity was tested by:

Strojírenský zkušební ústav, s.p.
Hudcova 56b
621 00 Brno
Czech Republic,

which issued 11th September 2002

- **Certificate No. E-31-01072-02** according to the Directive 73/23/EHS (certain voltage limits).
- **Certificate No. E-31-01073-02** according to the Directive 89/336/EHS (electromagnetic compatibility).
- **Certificate No. E-31-01074-02** according to the Directive 98/37/ES (machinery).

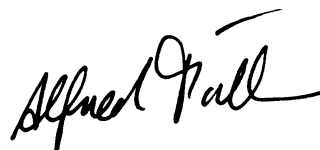
Place and date of issue:

Brno, 11th September 2002

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

Company seal

Alfred Pichlmann,
Managing Director



.....
name, office, signature