

Serie **Transverse**



Transverse 410.260 DGH

Operating instructions

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

Seriové číslo / Serien Nummer / Serial Number _____

Service and information

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7⁰⁰ – 16⁰⁰

Version:

2.18 / Dec. 2011
rev. 1

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EC Declaration of Conformity

1) We

BOMAR, spol. s r.o.
Těžební 1236/1
627 00 Brno, The Czech Republic
Id.no: 48908827

declare herewith,

that the following designated device based on its conception and construction as well as the design launched by us meets the relevant basic safety requirements of the decrees of the government. In the event of any device modification not approved by us this declaration shall lose its validity.

Name: **Band Saw**
Type range: **Transverse 410.260 DGH**
Serial number:
Manufacturer: **BOMAR, spol. s r.o., Těžební 1236/1, 627 00 Brno**

Product data

Determination: for cross dividing and cutting of rolled and towed bars and profiles made of steel, stainless steel, non-ferrous metals and plastics.

Description: stand, table, cutting unit with the saw band and drive, clamping device, cooling system, el. switch board with control panel.

Hydraulic YES ☒ NO ☐ Control system YES ☒ NO ☐

Technical data: Cutting rate 20–120 m.min⁻¹, cutting angle from - 60° to 60°
Total dimensions in mm (l×w×h) 1950×1388×1209
Supply voltage 3×400 V TN-C-S/3×400 V TN-C/3×230 TN-C/1×230 V TN-C
Total power requirement 3 kVA, weight 493 kg

The applied decrees of governments: **No. 176/2008 Coll.** (Directive 2006/42/EC)
No. 616/2006 Coll. (Directive 2004/108/EC)
No. 17/2003 Coll. (Directive 2006/95/EC)

The applied harmonized standards,

National standards and technical specifications: ČSN EN ISO 12 100-2:2004, ČSN EN 13 898+A1:2009, ČSN EN ISO 13857:2008, ČSN EN 982+A1:2008, ČSN EN 61000-6-2 ed. 2:2007, ČSN EN 61000-6-4:2002 ed.2:2007, ČSN EN 60204-1 ed.2:2007

The product is safe on condition of the common and determined usage.

The conformity judging was performed according to §12, par. 3, let. a), of the Law no. 22/1997 Coll. as amended

2) ²⁾ The declaration of conformity was carried out in the cooperation with the TÜV SÜD Czech s.r.o, Novodvorská 994, 142 21 Prague 4 – Czech Republic, Identification number: 63987121 - Inspection body no. 4002

The inspection certificate no. 01.122.123/09/07/02/0 was issued.

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

Alfred Pichlmann, Managing Director



Point of issue, datum

Name and function
of the responsible subject

Signature

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



If the equipment is installed without safety equipment offered by BOMAR, spol. s r.o or its agents and used by the customer (or buyer) then EC declaration loses validity.
EC Declaration of conformity is valid only if customer (buyer) installed the BOMAR safety equipment with the machine or with some other with equivalent safety device in accordance with current applicable regulations and standards.
All machine elements and components that were built into the device by BOMAR, spol. s r.o have been declared "identical" to a safety device, as offered by BOMAR, spol. s r.o or its agents.

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1. **Safety notes**

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

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

Attention!

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

1.1. Machine determination

The band saw **Transverse 410.260 DGH** is determined for cutting and shortening of rolled bars and drawn bars and profiles from steels, stainless steels, non-ferrous metals and plastics **with cutting angle** from -60° to 60°.

Combustible materials are excepted for cutting! Any other usage and operation outside this range are unauthorized and the manufacturer/supplier does not accept any responsibility for any damages resulting from such misuse. **The operator has full responsibility!**

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

Attention!

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

1.2. Protective suit and personal safety

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

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

Attention!

Gloves you can use only at working material replacement (saw band)! The machine and accessories must be inactive! If the machine is running, you must not wear gloves! It is dangerous, because some parts of the machine can catch gloves!

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

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

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

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

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

1.3. Safety notes for machine operator

Attention!

**Machine can be operated by person older than 18 years!
Machine can be operated only person physically and mentally fit for this activity**

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

Keep instructions and orders about work safety!

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

Attention!

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

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

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

1.4. Safety notes for the servicing and repairs

Attention!

Only a qualified professional can carry out the servicing and repairs of the electric equipment! Take special care during the work with electrical equipment. High voltage shock can have fatal consequences! Always keep notes about work safety! Otherwise, there is possibility of heavy injury!

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

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

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

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

Compliance with the the principles of cleanliness is basic requirement for trouble-free operation of hydraulic equipment. Hydraulic components are products made with high accuracy, and any contamination leads to a reduction lifetime or even malfunction. The consequences are very difficult to remove and expensive.

Always use clean tools. Parts and fasteners, which are part of a hydraulic circuit, never put away the dirty surface. The best cleaning agent is crepe paper, because the fibers of the cleaning cloths can also cause malfunction.

Protective cap from the threaded chamber remove just before the assembly of the unit.

Hoses and pipes before mounting flush with gasoline or other cleaning agent and blow compressed air.

All fittings must be properly tightened. However, do not raw power.

1.6. Safety machine accessories

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

Enhanced risk!

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

1.6.1. Total Stop

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

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



1.6.2. Saw arm cover

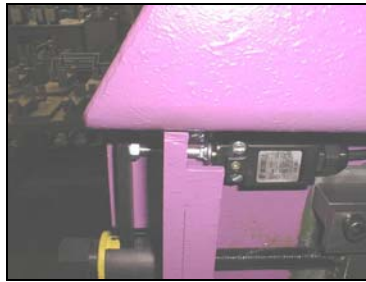
If the cover is opened during operation, the limit switch is opened and the band saw is stopped. The band saw is not possible to start in set mode



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

1.6.3. Saw band stretching and rupture inspection

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



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

1.6.4. Left arm covers

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.



1.6.5. Right arm cover

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.



1.7. Safety notes for the cooling

Attention!

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

1.7.1. Instructions for first help

1. Pull off and safely remove polluted, soaked clothing.
2. For breathing, go out in the fresh air or look for first aid treatment.

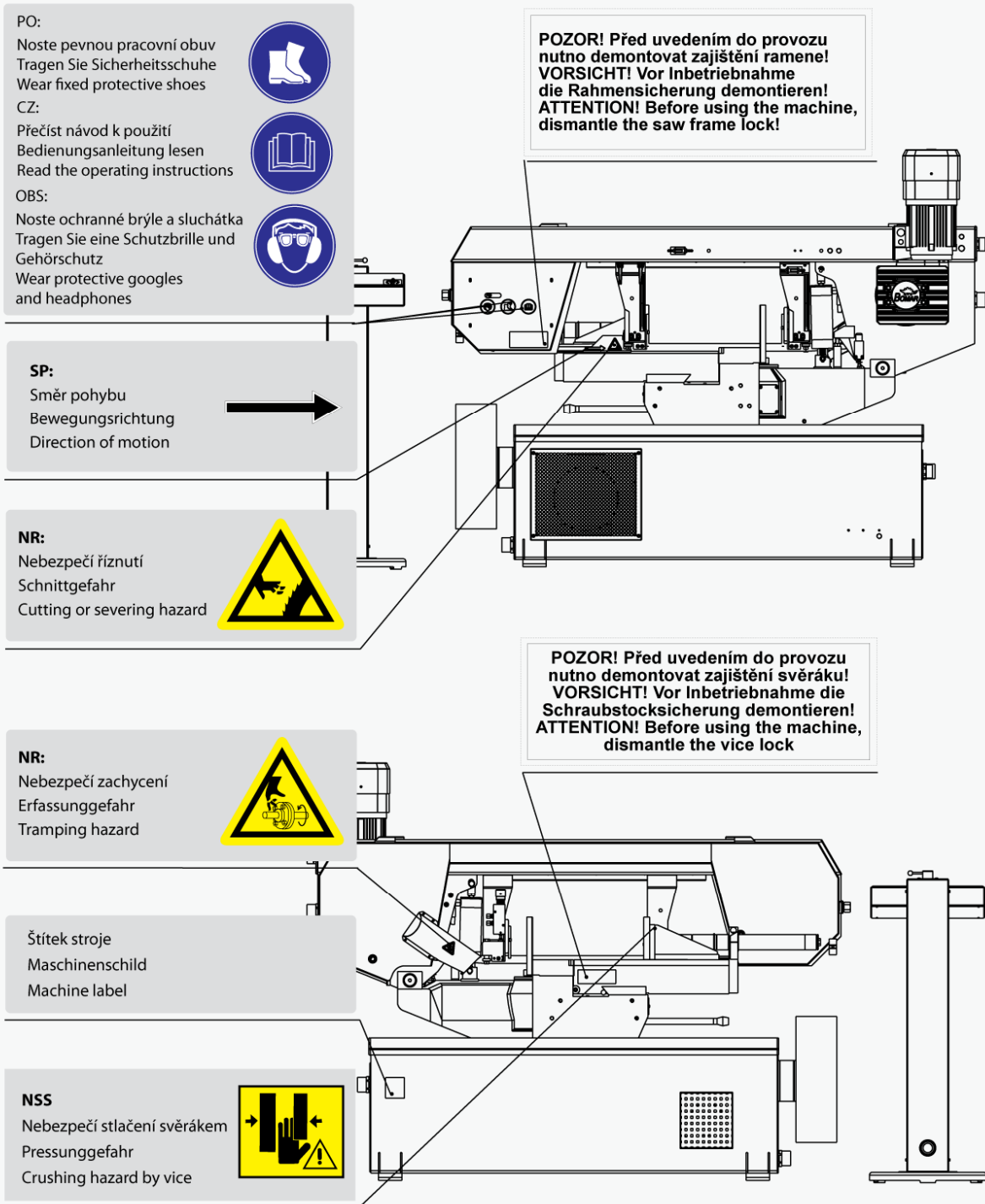
3. Wash with water or use crèmes for contact with the skin.
4. Flush with water for eyes and look for first aid treatment.
5. For swallowing, drink a lot of water and induce vomiting. Look for medical help.

**1.8. Umístění štítku stroje /
Maschinenschild position /
Position of machine label**



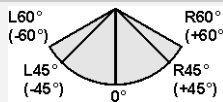
Machine label is placed on saw arm between pile and saw band drive.

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

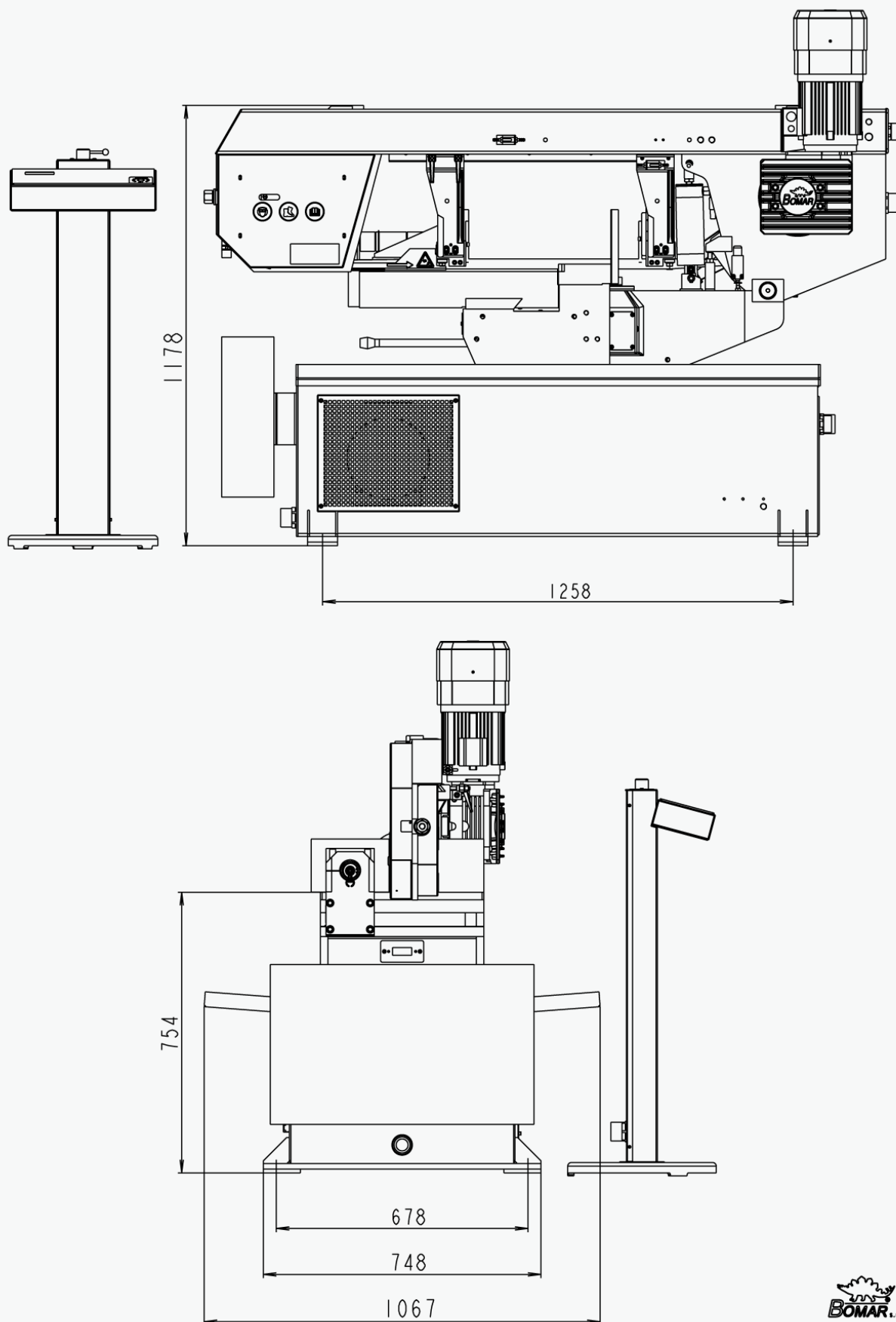


2. **Machine documentation**

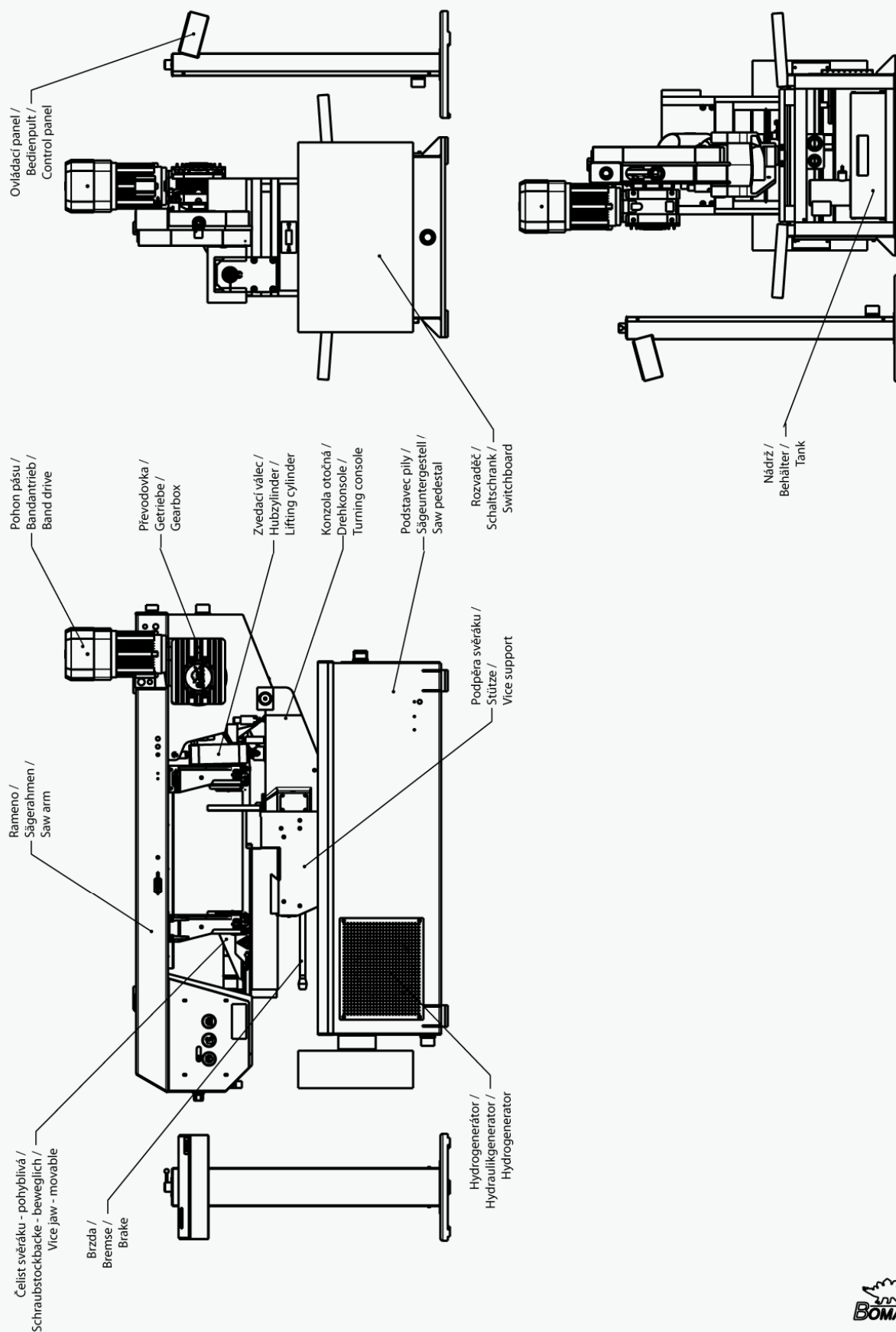
2.1. Technická data / Technische Daten / Technical data

Hmotnost stroje / Maschinengewicht / Machine weight:	
• Hmotnost / Gewicht / Weight	493 kg
Rozměry stroje / Maschinengröße / Machine size :	
• Délka / Länge / Lenght	1950 mm
• Šířka / Breite / Width	1388 mm
• Výška / Höhe / Height	1209 mm
Elektrické vybavení / Elektrische Ausrüstung / Electical equipment:	
• Napájení / Versorgungsspannun / Supply voltage	~3 x 400 V (230 V), 50Hz, TN-C-S/TN-C
• Příkon / Gesamtschlusswert / Total Input	3 kW
• Max.jištění / Max. Vorschaltsicherung / Max. Fuse	16 A
• Krytí / Schutzart / Protection	IP 54
Akustický tlak / Schalldruckpegel / Acoustic pressure:	
• Transverse 410.260 DGH	L _{Aeqv} = 76,3 dB
Pohon / Atrieb / Drive:	
• Typ / Typ / Type	BN100LA4
• Napájení / Versorgungsspannung / Supply voltage	~3 x 400V, 50Hz
• Výkon / Leistung / Output	1,5kW
• Jmenovité otáčky / Motornenndrehzahl / Nominal speed	1420 min ⁻¹
Hydraulické zařízení / Kühlmiteleinrichtung / Hydraulic equipment:	
• Typ / Typ / Type	870-1394
• Výkon / Leistung / Output	0,5 kW/4 MPa
• Jmenovité otáčky / Motornenndrehzahl / Nominal speed	1350 min ⁻¹
Chladicí zařízení / Kühlmiteleinrichtung / Cooling equipment:	
• Typ / Typ / Type	3COP1-12
• Výkon / Leistung / Output	0,05 kW
• Obsah nádrže / Volumen vom Kühlmittel / Capacity	40 l
Rozměr pásu / Sägebanddimension / Band size:	
3800×27(25)×0,9 mm	
Řezná rychlost / Schnittgeschwindigkeit / Cutting speed:	
20–120 m/min.	
Řezné rozsahy / Schnittbereiche / Cutting size:	
	
0°	   
Ø270 mm	410×260 mm
410×260 mm	260×260 mm
45° R	Ø260 mm
310×140 mm	260×270 mm
260×260 mm	
45° L	Ø250 mm
320×120 mm	290×245 mm
245×245 mm	
60° R	Ø210 mm
210×120 mm	130×260 mm
180×180 mm	
60° L	Ø220 mm
220×120 mm	210×120 mm
210×210 mm	
Level of acoustic pressure:	
Equivalent level of acoustic pressure A (noise) at operator position are L _{Aeqv} =76,3 dB. Mentioned values are levels of emission which doesn't have to represent safe levels. Factors which influence real level of acoustic pressure on machine operator are: working place characteristics, cut material, saw band. These factors have significantly influence on acoustic pressure.	

2.2. Rozměrové schéma / Aufstellzeichnung / Installation diagram



2.3. Popis / Beschreibung / Description



2.4. Transportation and stocking

2.4.1. Conditions for transportation and stocking

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

- Don't use a forklift truck for handling the machine, if you do not have license for it!
- Don't move under suspended loads! Fault in lifting device may cause serious injury.
- Keep a safe distance from the machine during the transport.
- Temperature of the air from -25°C to 55°C , for a *short term* (max. 24 hours) temperature of the air until 70°C
- Do not expose the machine to radiation (for example microwave radiation, ultraviolet radiation, laser radiation, x-ray radiation). Radiation can cause problems with the machine function and deteriorating condition of the isolation.
- Take measures, to prevent damage by dampness, by vibrations and by shakes.

2.4.2. Transport and stocking preparations

Close the vice and thoroughly oil all blank surfaces.

Lower the saw frame to the lowest position.

Make sure to empty the machine of all traces of the cooling agent.

Fasten all loose parts securely to the machine.

Pack and wrap the control desk securely to avoid damage during transport.

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

2.4.3. Transport and stocking

Handle the machine only with the hand pallet truck or the forklift truck! Use the lifters of the truck according to the schema (num. 1). If the hand pallet truck or the forklift truck is not available it is possible to use suspension cables and the crane. The machine is equipped with screw threads M20 for fixing the shackles (num. 2). Use only shackles with appropriate capacity.

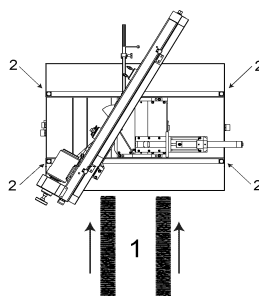
Make sure that the hand pallet truck; the forklift truck or the crane and the suspension cables had sufficient capacity.

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

The machine must be secured during transportation.

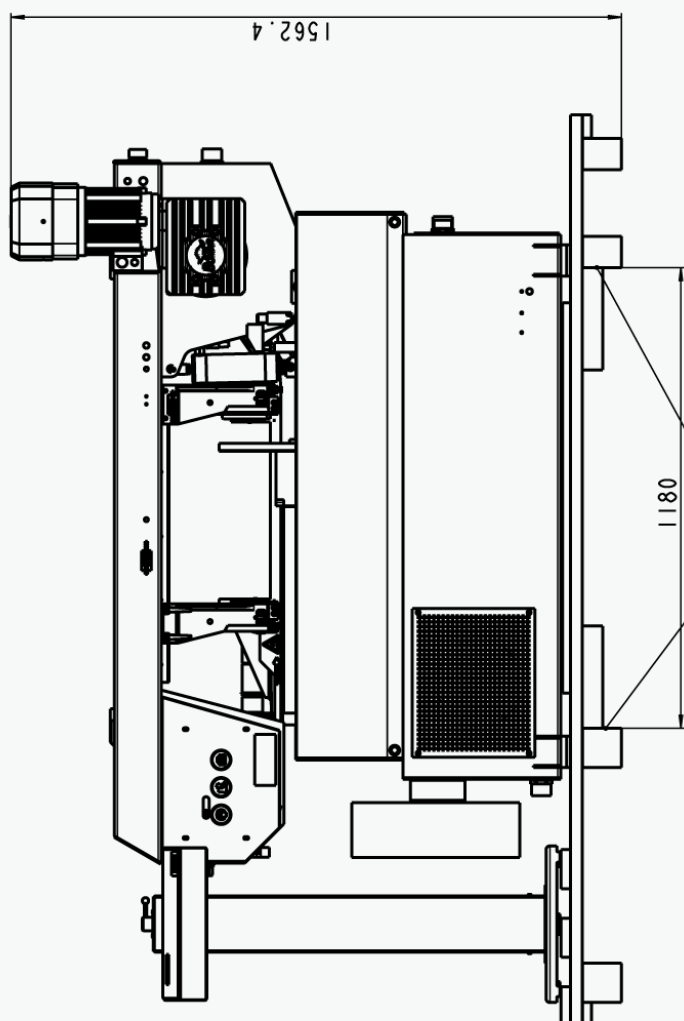
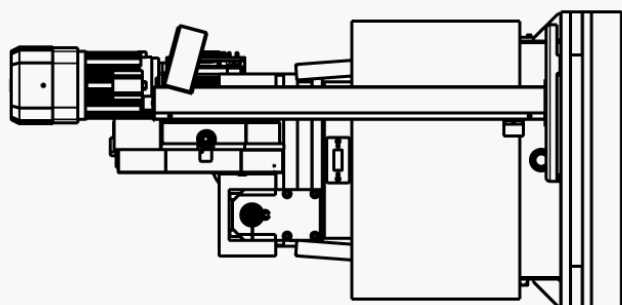
Screw on the palette to the floor of the van or the trailer.

Be careful that the machine is not damaged during transportation. The machine must be secured during transportation...

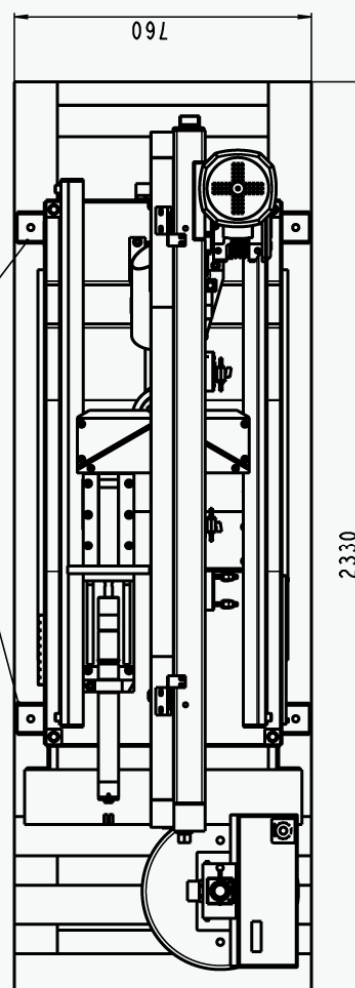


It is forbidden to handle the machine any other way (for example by, lifting by the saw frame of the band saw), than it is written in this operating instructions, the machine can be damaged!

2.4.4. Transportní schéma / Transport schema / Transport scheme



Prostor pro lyžiny vozíku
Die Stelle für Greifen mit den Gabeln des Gabelstaplers
Place for forklift's skides



2.5. Activation

2.5.1. Machine working conditions

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

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

- At temperature air from **5°C to 40°C**, the temperature average during 24 hours must **not exceed over 35°C**.
- At relative dampness of the air in the extend from 30% to 95% (not concentrate)
- Altitude lower than 1000 metres.
- Do not expose the machine to the radiation (for example microwave radiation, ultra-violet radiation, laser radiation, x-ray radiation). Radiation can cause problems with the machine function and deteriorating condition of the isolation.

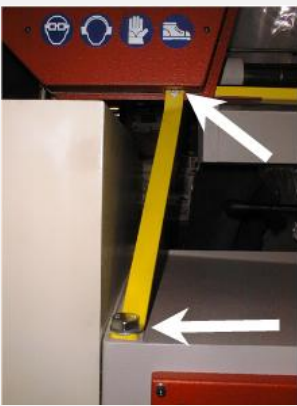
2.6. Band saw unpacking and assembling

Remove the packing from the machine and unpack all parts.

Attention!

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

If the hydraulic unit is outside the machine (the machine only connected hoses and cables), it needs to be placed and mounted on a solid basis (floors, etc.). The mounting holes are used on the bottom (bases) of the tank.

Picture	Description
	Saw frame blocking Dismantle the saw frame blocking from the machine before band saw operation. Remark: Store the holder and screws! Install the saw frame blocking on the machine for band saw displacement! You can avoid the saw frame damage
	Vice blocking Dismantle the vice blocking from the machine before band saw operation. Remark: Store the holder and screw! Install the vice blocking on the machine for band saw displacement! You can avoid the vice damage.

Picture	Description
	Assembly of the draining metal plate Screw on the draining metal plate to the pedestal.

2.6.1. Machine installing and levelling

Check the floor supporting capacity before machine installing. If the floor capacity does not agree with requirements, you must prepare the necessary base for the machine.

Minimal requirement:

machine weight – Transverse 410.260 DGH – 493 kg

+ weight of accessories

+ maximum weight of material

- The machine must be levelled at the horizontal position. All feet of the machine must touch with the floor after levelling
- The machine must be levelled by means of the calibrated spirit level. Spirit level is put on the vice area. Set the roller conveyors according to the spirit level.
- For machine levelling, take care that there is sufficient available space for operation, repair work, servicing of the machine and handling the material..
- The machine including appended parts and accessories must be visible from the place of operation.

2.6.2. Machine disposal after lifetime

Blown out all service fluids (cooling liquid, hydraulic oil) into designated reservoir. Dismantle machine into separate parts and dispose them in accordance with valid directives.

2.6.3. First run of the power pack

Before the first run check:

- The direction of the Pump, while run the power pack for max. 2seconds.
- The cooling fan of the motor has to rotate in the same direction as the arrow on the top of the motor cowling indicates.

- In case of wrong rotational direction, the electrical phase in the connection box is to be changed. This check is required after every disconnection from the power source
- Wiring matches with electrical and hydraulic diagrams
- the electric motors (pump and cooler) are properly connected and have the prescribed rotation
- the hydraulic accumulator with nitrogen gas to the specified value
- aux. elements work right (thermometer, level gauge, heater)

First run (Attention – working pressure on securing valve is set by producer in accoring the hydraulic diagram):

- In the short intervals activate an electric pump
- check for leaks and noise
- Bleed the hydraulic circuit
- if possible, test the circuit function with minimum load
- test the electrical equipment
- during operation monitor measuring equipment, noise, height and temperature of oil in the tank
- During this time a careful bleeding off for the whole hydraulic system is necessary. In case there is no bleeder port, the power pack will bleed itself after a while via the air breather on the tank or the return line filter.

After multiple start-up

2.6.4. Filling the reservoir with hydraulic oil

Oil regulations and recommendations of the manufacturer in the technical documentation (appendix) are to be carefully observed. For standard power packs we recommend the oiltype OH-HM32 (DIN 51524) of all known oil manufacturers.

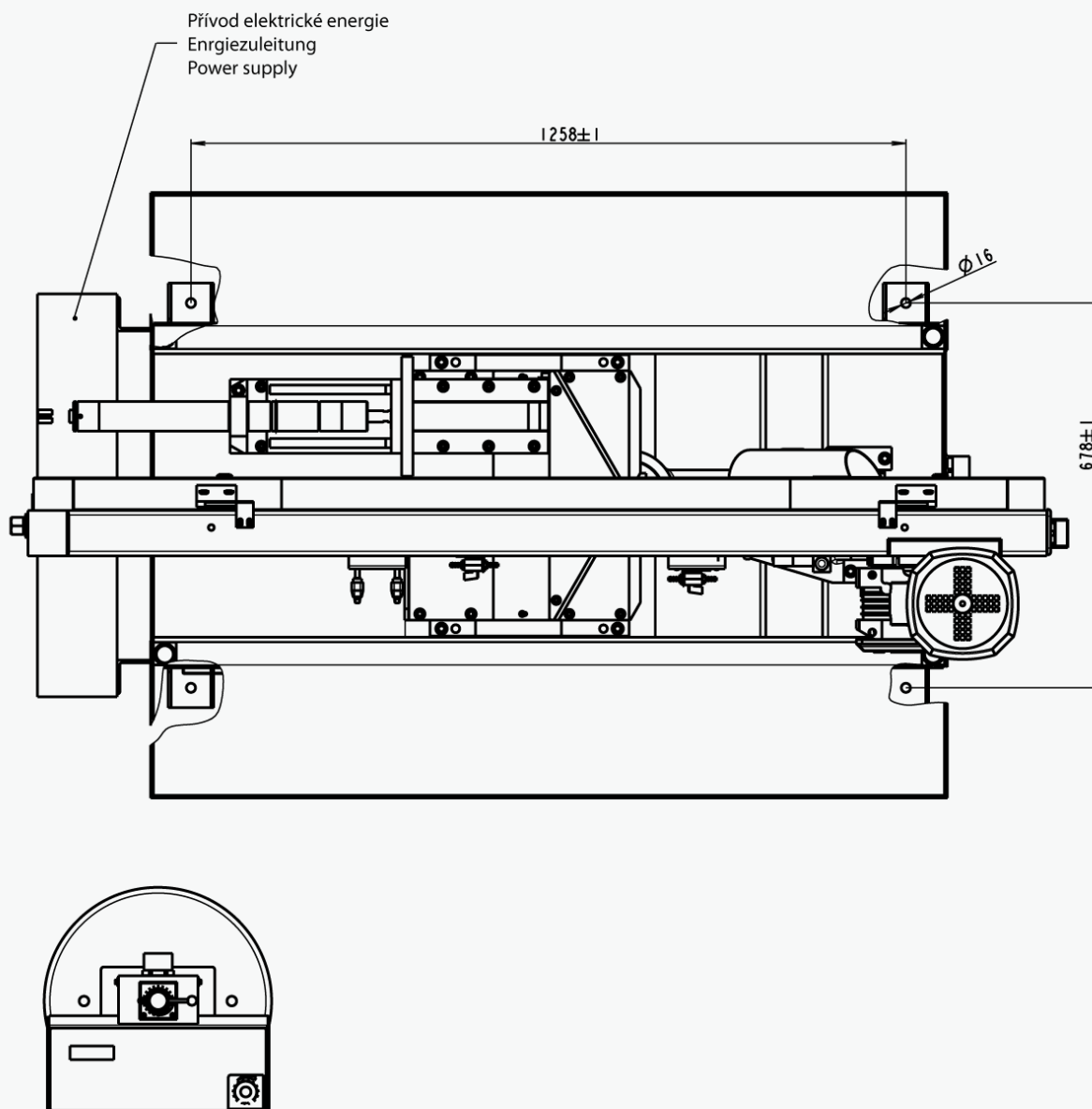
Power packs have to be filled up with clean, pre-filtered oil! The purity of the hydraulic fluid must correspond to the class 10 NAS 1638 (reachable with filter $\beta = 75$)!

Filling from container, such as barrels, buckets, etc. is not recommended or permitted!

The maximum oil level will be shown on the upper marking at the dipstick or the sight level glass. Overfilling has to be prevent. The maximum filling rate of 15 l/min shouldn't be exceed.

Oil type	Kinematic viscosity ν in mm^2/s in relationship to the fluid temperatur					Freezing point
	0°C	20°C	40°C	60°C	80°C	°C
OH-HM 32	220	100	32	15	7	-40
OH-HM 46	400	170	46	18	11	-30
OH-HM 68	700	170	68	26	14	-28
OH-HV 32	180	67	32	17	11	-40
OH-HV 46	350	110	46	25	14	-36

2.6.5. Kotevní plan / Verankerungsplan / Grounding plan



Kotvicí materiál / Verankerungsmaterial / Grouding material

- 4x Hmoždina / Dübel / Plug – $\varnothing 12$ mm
- Vrtáno do hloubky / In die Tiefe gebohrt / Drilled to – 100 mm
- Šrouby / Schraube / Screws – 4x M10

Šrouby podložit deskami o min. rozměrech P10x100-100
Die Schrauben mit Platten mit Minimaldimensionen P10x100-100 unterlegen
Screw must be bottomed with plates (min. dimensions P10x100-100)

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

± 10 mm / 1 m

2.7. 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: ~ 3x400 V, 50 Hz, TN-C-S
- Total input / Max. fuse: 3 kW / 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!

Note:

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

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

Note:

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

Attention!

In this case the extra main switch becomes primary and the main switch on the machine has only secondary function.

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

2.7.1. Check the direction of the saw band



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

2.8. Filling of the cooling system

Note:

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

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

Let the drainage hole opened and with the sieve during operation, because it secures the right work of the cooling system. Filling the tank with the cooling liquid, take care that the liquid does not drip out of the tank and the tank does not overflowed.

2.9. Check machine function

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

Check, if covers are installed and functional. Check by means of the Tenzomat if the saw band is correctly stretched. If it is necessary, you can stretch the saw band according to chapter *Selection and replacement of the saw band*. Values of the saw band stretching are on the Tenzomat. Switch on the main switch and check the motors and systems (saw band drive, hydraulic pump, cooling pump, chips conveyor).

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

Start the machine with the cooling pump and let it run without load until the cooling system will be filled with cooling liquid. As soon as the cooling liquid starts to escape from the nozzles of the cooling system, the cooling system is ready for the operation. Carry one cycle of cutting without material. Check, if the machine runs with no irregularities. If all machine functions are right, the machine is ready for operation..

2.10. Saw band

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

2.10.1. Saw band size

3800×27(25)×0,9 mm

2.10.2. Selection of the saw band tooth system

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

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

BOMAR recommended Variable tooth system for band saw.

Attention!

When you connect the machine to the electrical network observe correct connection of all phases!

ENGINE IN IN HYDRAULIC AGGREGATE CANNOT BE OPERATED WITH REVERSE TURNING MORE THEN 10 SECONDS!!!



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

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

Footnotes:

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

Examples of the tooth system marking:

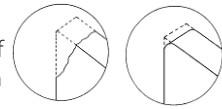
32 S – number „32“ means 32 teeth on one inch (that means constant tooth system), letter „S“ marks teeth with zero angle of the tooth.

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

2.10.3. Saw band running-in

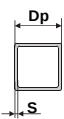
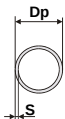
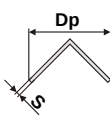
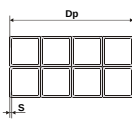
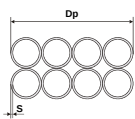
Running-in: Cut the material with the frame lowering reduced to 50% only. When vibrations occur increase or decrease the band speed.

When cutting small pieces run the band until approximately 300 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.

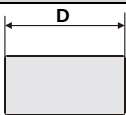
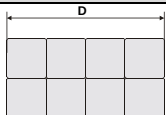
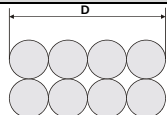


Note: Run regrinding saw bands too.

Tables for teeth selection

SHAPED MATERIAL ($D_p, S = \text{mm}$)						
						
Note: Table shows tooth system selection for cutting one piece of the profile. For cutting of more pieces of the profiles (bundle), you must think of the size of the wall as double size of the wall of one profile (that means, size „S“ equates to 2xS). In table, there are tooth systems constant and variable.						
Size of the wall S [mm]	Tooth system (Z_p, Z) Outer diameter of the profile D_p [mm]					
	20	40	60	80	100	120
2	32 S	24 S	18 S	18 S	14 S	14 S
3	24 S	18 S	14 S	14 S	10–14 S	10–14 S
4	24 S	14 S	10–14 S	10–14 S	8–12 S	8–12 S
5	18 S	10–14 S	10–14 S	8–12 S	6–10 S	6–10 S
6	18 S	10–14 S	8–12 S	8–12 S	6–10 S	6–10 S
8	14 S	8–12 S	6–10 S	6–10 S	5–8 S	5–8 S
10	-	6–10 S	6–10 S	5–8 S	5–8 S	5–8 S
12	-	6–10 S	5–8 S	5–8 S	4–6 K	4–6 K
15	-	5–8 S	5–8 S	4–6 K	4–6 K	4–6 K
20	-	-	4–6 K	4–6 K	4–6 K	3–4 K
30	-	-	-	3–4 K	3–4 K	3–4 K
50	-	-	-	-	-	3–4 K

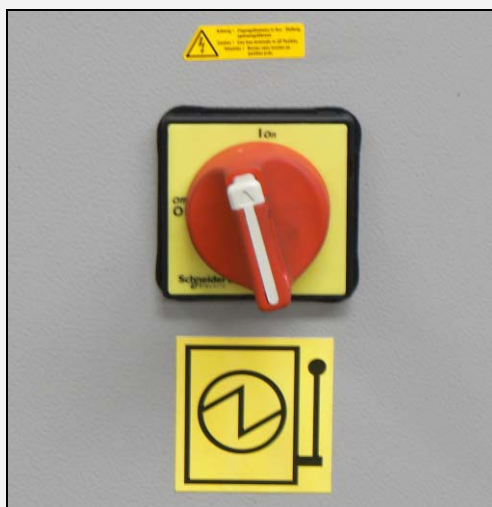
Size of the wall S [mm]	Tooth system (Z_p, Z) Outer diameter of the profile D_p [mm]					
	150	200	300	500	750	1000
2	10–14 S	10–14 S	8–12 S	6–10 S	5–8 S	5–8 S
3	8–12 S	8–12 S	6–10 S	5–8 S	4–6 K	4–6 K
4	6–10 S	6–10 S	5–8 S	4–6 K	4–6 K	4–6 K
5	6–10 S	5–8 S	4–6 K	4–6 K	4–6 K	3–4 K
6	5–8 S	5–8 S	4–6 K	4–6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

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

3. **Machine control**

3.1. Starting the band saw

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

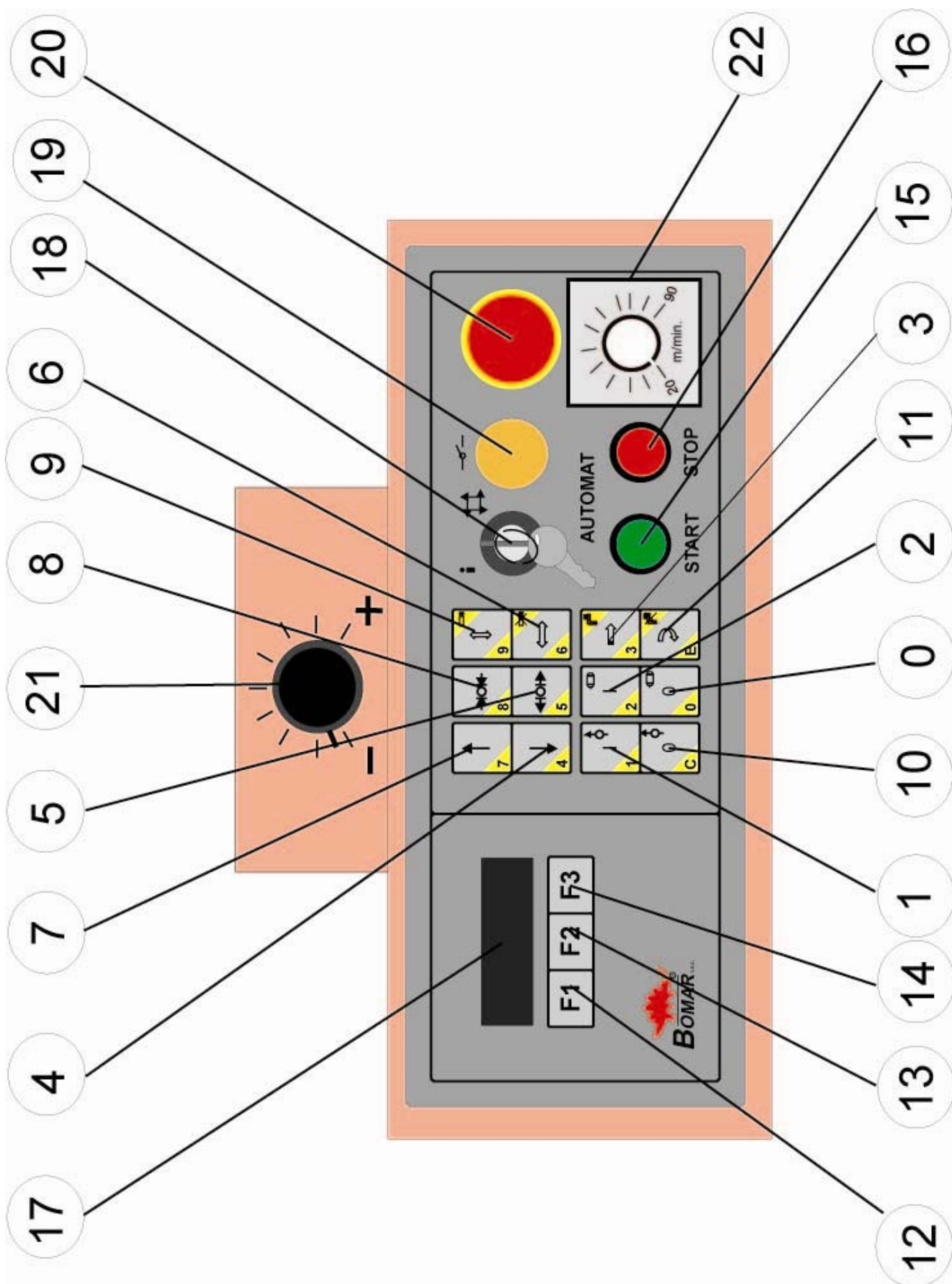


2. Switch on the safety circuit of the band saw (button **2** – control panel of the band saw).



3.2. Control panel

Ovládání stroje
Bedienung der Maschine
Machine control



Control panel – description

0	Saw band driving OFF
1	Hydraulic aggregate ON
2	Saw band driving ON
3	Coolant pump ON
4	Lower the saw frame Press the button. The saw frame begins ride down with operating shift. When the button is loosened, the saw frame is stopped. If you press at the same time button F2 , the saw frame begins ride down with accelerated shift to the material. POZOR! If you will be running with accelerated shift until the cut, the saw band may be damaged.
5	Vice open
6	Microniser OFF Only when the band saw is equipped with Microniser.
7	Lift the saw frame
8	Clamp the vice
9	Microniser ON Only when the band saw is equipped with Microniser.
10	Hydraulic aggregate OFF
11	Coolant pump OFF
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	START of the semi-automatic cycle
16	STOP of the semi-automatic cycle
17	Display Onto display are described all processes.
18	Operating mode switch I preparative mode  semi-automatic mode
19	Safety circuit starting.
20	TOTAL STOP In emergency causes the machine must be immediately switched off.
21	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.
22	Frequency converter - setting the drive speed of the blade from 20 min ⁻¹ to 90 min ⁻¹ .

3.3. Marks on the display

In lower part of display is depicted situation of single equipment of the saw.

Mark	Equipment	Equipment situation		
		Mark is depicted	Mark is winking	Mark is not depicted
	Hydraulic aggregate	On	XXX	Off
	Water cooling	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

3.4. Set mode

3.4.1. Entrance to menu

Turn the switch. "18" to the position „i“.

3.4.2. Cutting parameters

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

1. If you press button **F1**, the saw band drive will be stopped **in the bottom** position of the saw arm.

```
" Band stopping select "
```

```
" >F1 = down          "
```

```
"   F2 = up           "
```

```
"   F3 = next function "
```

F1

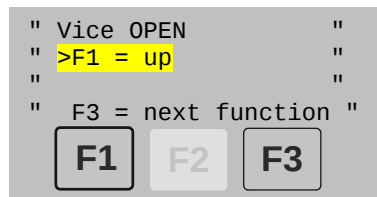
F2

F3

2. If you press button **F2**, the saw band drive will be stopped **in the top** position of the saw arm.

3.4.3. Vice parameters (vice opening)

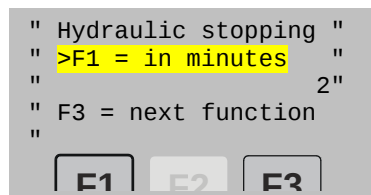
1. Press button **F3** to entrance to menu: Vice parameters.



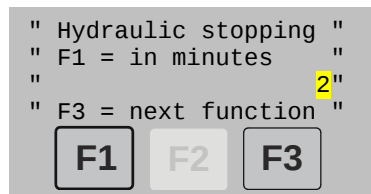
2. By repeated pressing button **F1**, you select: up – not release – down.

3.4.4. Stop time of the hydraulics

1. Press button **F3**.



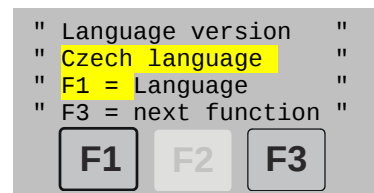
2. To set the stop time, press button **F1**.



3. Select the minutes number on the keyboard (0 – 10). Confirm by pressing button „E”.

3.4.5. Language vision selection

1. Press button **F3**.



2. By repeated pressing button **F1**, select the language.

3.4.6. Menu closing

Switch the key to position .

3.5. Semi-automatic cycle

3.5.1. Cutting

- Switch on the main switch. Start of the safety circuit by button **19**.
 - Turn the switch with key to the position .
1. Switch on the hydraulic aggregate by button „**1**”.
 2. Lift the frame of the saw by button „**7**”.
 3. Set the desired cutting angle. Move the vice according to the desired cutting angle.
 4. Open the vice by button „**5**”.
 5. Insert the material to the vice and move it on the desired length of the cut.

6. Clamp the material to the vice by button „8“.
7. Open the vice by button „5“. Set the position of the vice jaws from the material. The vice opens on this position after semi-automatic cycle stopping.
8. Lower the frame about 10 mm above the material by button „4“.

Attention!

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

You can select, if:

- you want to set the height of the frame – press button **F1**, set the position, the frame lifts to this position after semi-automatic cycle stopping.
 - you do not want to set the height of the frame – press button **F2**, the frame lifts to the preset height.
9. Set the guiding cubes to the cutting material.
 10. Set the saw band speed according to the kind of the cutting material.
 11. Select, if you want to cut with water-cooling (press the button „3“) or not (press the button „11“).
 12. Select, if you want to cut with Microniser (press the button „9“) or not (press the button „6“).
 13. Set the speed of the saw frame sinking.
 14. You can clear the register of the performed cycles by button **F3**
 15. Press button „15“ (**START** of semi-automatic cycle)..

Notice:

Press button „16“ (Stop of the semi-automatic cycle). In risk of injury or damage of the band saw, press the emergency button – TOTAL STOP.

16. Cut the material, lift the frame to the top position, switch off the saw band drive and open the vice.
17. Open the vice. If the vice is not opened, you can open it by button „5“. Remove the cut.
18. You can repeat all process

3.6. Semi-automatic cycle breaking

- »
- **STOP button**
Semi-automatic cycle is interrupted by button „16“ (**STOP** of the semi-automatic cycle).
The frame is lifted to the top position and the saw band drive is stopped.
By pressing button „15“ (**START** of the semi-automatic cycle), you can lower the cycle.
TOTAL STOP emergency button
In case of the risk, press button **TOTAL STOP**.
After pressing button **TOTAL STOP**, saw band drive is immediately broken and the frame sinking is stopped.
 - **Activation**
 1. Turn the button TOTAL STOP according to the arrows.
 2. Switch on the safety circuit by button **19**.
 3. Switch on the hydraulic aggregate by button **1**

4. Press button „15“ (START of the semi-automatic cycle). The frame is lifted to the top position and the saw performs the cycle.

3.7. Band saw adjusting

3.7.1. Cutting speed adjustment

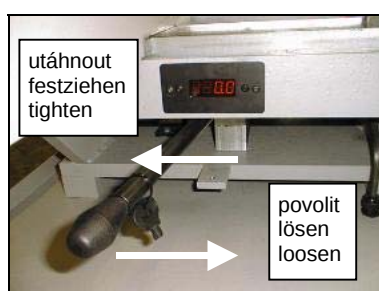
The saw band speed is possible to change smoothly. Cutting speed adjustment to provide as follows:

Picture	Sequence
	1. Turn the switch with key 18 to the position „“ (semi-automatic mode). 2. Set the desired saw band speed with Frequency converter. Saw band speed is depicted on the display

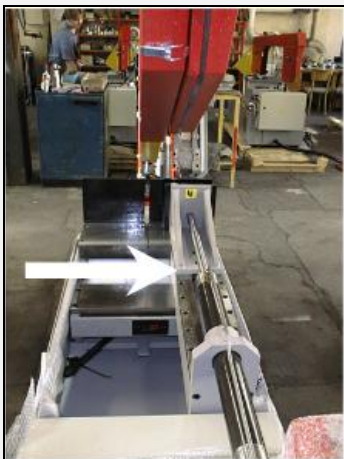
3.7.2. Angular cut setting

The cut angle is possible set from -60° to $+60^\circ$

1. Lift the saw frame.



2. Loosen the securing lever of the console and set the desired cut angle. Setting cut angle is depicted on the display over the securing lever.
3. Tighten the securing lever of the console.
4. Shift the vice according to setting angle of the cutting. Shift the vice to the right for angle of the cut, which is less than 0° , shift the vice to the left for angle of the cut 0° or for angle of the cut, which is bigger than 0° ..

Angle $< 0^\circ$	Angle $\geq 0^\circ$
	



Set the saw frame to the position 0° and press button zeroizing of the angle (on the distribution box under the main switch) after main switch starting of the machine. Angles admeasurement is secured.

3.7.3. Adjusting of the guide cubes span

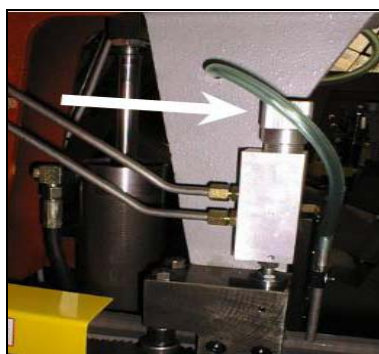
If you want to achieve a smooth and precise cut, it is helpful to position the guide cube as close as possible to the material.



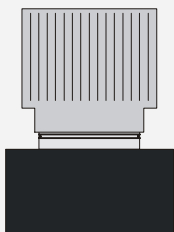
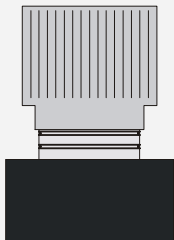
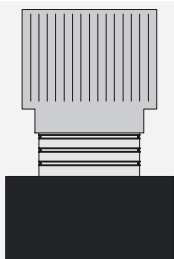
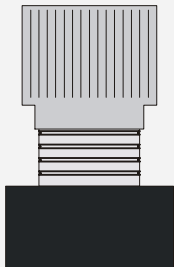
1. Release the lever of the left listel and move left part of the guide apparatus so that the left guide cube edge is as close to the cut material as possible.
2. Lower the frame to the lower position and check the position of the guide cube towards vice loading area. The guide cube must be a distance of at least 10 mm from the vice loading area.
3. Tighten the lever of the gib and check the guide cube setting once more for possible collision with binding table or vice jaw.

3.7.4. Pressure adjusting to the cut

The band saw **transverse 410.260 DGH** is equipped with automatic down-feed regulator on the right guiding cube. The band saw can be equipped with down-feed regulator on the left guiding cube for requirement of the customer.



Adjusting the down-feed 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.

Picture	Sequence
	One visible neck Solid material over Ø300 mm.
	Two visible necks Solid material to Ø100 - Ø300 mm.
	Three visible necks • Pipes and shapes material with surface from 10 – 15 mm. • I-shaped material from 200 – 500 mm. • Solid material to Ø100 mm.
	Four visible necks • Pipes and shapes material with surface to 10 mm. • I-shaped material to 200 mm.

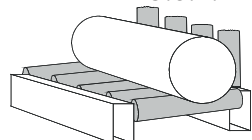
3.8. Material insertion

- Never walk under a suspended load!
- Never climb onto the gravity-roller conveyor!
- Do not hold the material for clamping material to the vice! The vice can cause injury!

3.8.1. Handling agent selection

- Use the strong handling agents to lift and transfer the material!
- Handle with the material only with the lift truck or use the suspension strands and the crane!
- Do not use the lift truck or crane in case that you do not have the license to handle with it!

3.8.2. Insertion



Insert material to the vice and ensure that the material cannot move in the vice or fall from the vice after the clamping. If you cut long pieces of the material (for example rod, tube), you must use the roller conveyors for material shifting to the band saw. Contact Bomar for more information about roller conveyors

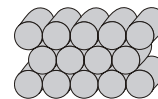
Make sure the conveyor is long enough and the material cannot tip off the conveyor.

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

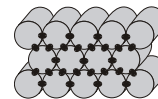
3.8.3. Bundle material cutting

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.

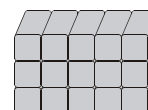


Always weld the material at the rear end of the bundle to secure it from moving.



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:



Attention:

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

4. Machine service

4.1. Saw band dismantling

1. Lift the saw frame by button „Lift the saw frame“ to the top position. If the saw band is breaking, press buttons „Lift the saw frame“ and „Start of aggregate hydraulics“.
2. Release the securing lever of the left holder of the guiding cube and move whole part of the guiding including left cover to the right side.



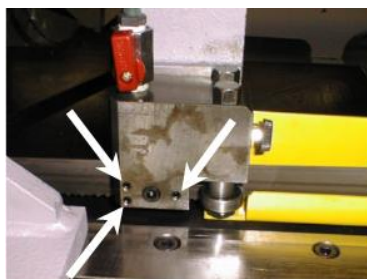
3. Dismantle left protective cover of the band. Cover is fastened by screw with plastic head.



4. Release 3 clasps on rear cover of the frame and move the frame up.



5. Release the adjusting screws of the hard metal guides, that the band was loose.



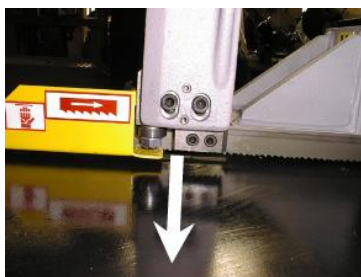
6. Release the saw band stretching by means of screw, until it is possible to remove the band off the wheel.



7. Pull down the band from the wheels.

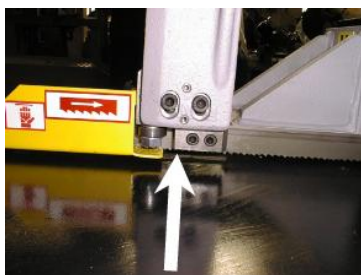


8. Carefully to remove the saw band from the guide cubes.



4.2. Saw band installation

1. Prior to installation clean all track wheels and guide shoes thoroughly, removing all traces of chips and dirt
2. Put the saw band to both guiding cubes. Make sure the saw band runs between both guide pulleys and it is pushed all the way to the top.



3. Insert the saw band on both guiding wheels. Make sure, that saw band rear part fit tightly to the wheel rim.



4. Stretch the saw band by means of the screw, that the band did not falls from wheels.
5. Close the rear cover of the frame.
6. Install yellow protective cover of the band.

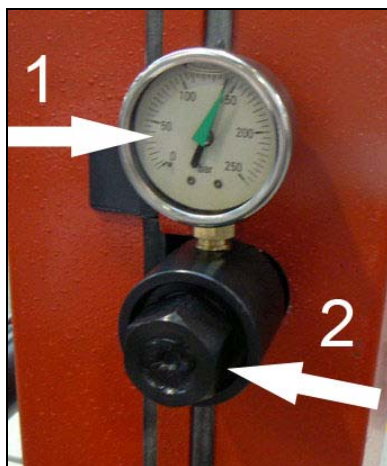


7. Make the hard metal guides setting according to chapter.



4.3. Saw band stretching and inspection

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



- Switch on the hydraulic aggregate after the saw band installation check the saw band stretching on the manometer (arrow 1).
- Use the screw (arrow 2) to stretch the saw band until it is stretched to the recommended value.

4.3.1. Saw band stretching

For saw band stretching use Tenzomat – Special accessories

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

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

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

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

4.4. Saw band run adjustment on stretching wheel

Saw band run on the stretching wheel must be regularly inspected. The inspection has to follow every saw band replacement.

4.4.1. Saw band run inspection

If the run is not correct, the following problems may occur:

- **The saw band falls off the wheel** – The saw band and protective cover can be damaged.
- **The saw band runs on the wheel rim** – The saw band and wheel rim can be damaged



1. Start and stop saw band drive.
2. Stop the main switch!.

3. Open rear cover of the saw frame.



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

4.4.2. Saw band setting

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



- Turn by screw to the right, the saw band approximates to the stretching wheel rim.
- Turn by screw to the left, the saw band departs from the stretching wheel rim.

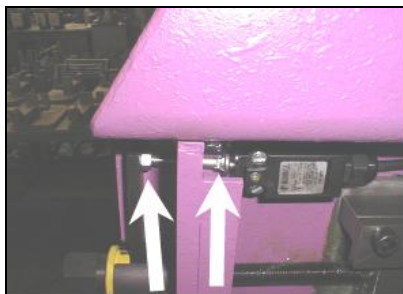
Check saw band run again after setting.

4.5. Limit switch setting of the saw band stretching

When the saw band is replaced, the saw band stretching must be checked by means of the TENZOMAT. Set the limit switch of the saw band stretching.



1. Screw off the cover of the saw band stretching.



2. Release nut and screw the limit switch screw, until the screw is unfastened
3. Screw the screw towards the switch, until the switch is not clamped. Secure the screw with nut. The limit switch is set.

4.6. Guide cubes adjustment

The guiding cubes are set from the manufacturer. Cubes are secured with two pins. It is not necessary to set the guiding cubes all the while of the lifetime.

4.7. Hard metal guides adjustment

Hard metal guides adjustment is one of the most important criterions which influences cutting accuracy and saw band life. Therefore, it is essential to check regularly that hard metal guides adjustment is correct.

1. Release the screw. The screw holds the guide in the guiding cube. Make sure, that the guide of the hard metal does not falls



2. Press the guide on the saw band by tighten three screws. Check, if the hard metal guide does not put up to much resistance against the movement of the band. As soon as it is possible to move the band without resistance (and between saw band and the guide is not width) the hard metal guides are adjusted.



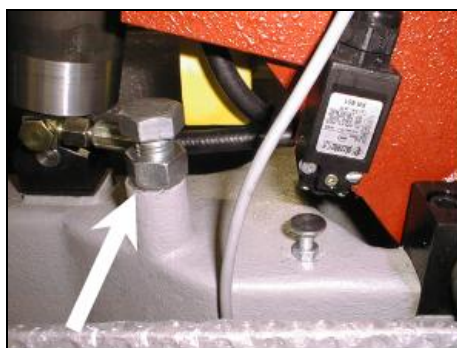
3. Tighten the screw. The screw holds the guide in the guiding cube. Make sure, that the guide is not damaged



Make sure that the hard metal guides do not put up to much resistance otherwise the lifetime of the saw band and drive decreases.

4.8. Saw frame lower stop position adjustment

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

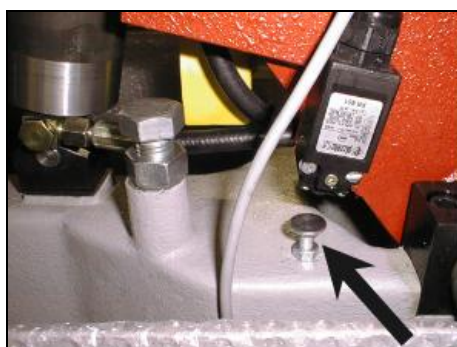


1. Lift the saw frame to the top position.
2. Release the nut of the screw and set it to the desired value.
3. Secure the screw with nut.
4. Set the limit switch of the saw frame lower position

4.9. Limit switch of the saw frame lower position adjustment

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

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



Limit switch setting

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

4.10. Adjustment of the securing cube of the turning lever

The securing cube is adjusted right from the manufacture, but if the saw frame is not secured, the securing cube must be adjusted. Check the functionality of this cube regularly; if the console is not fastened correctly, inaccuracy may occur.



1. Release the fixative screw of the securing lever. By lever is possible to move
2. Turn by lever to the left side to the stop and fasten the fixative screw again.



3. Secure the console by lever and carry out the inspection

If the adjustment is correct, the saw frame cannot be turned around

4.11. Pressure switch adjustment

If you want to set the pressure switch, you must screw off the hydraulic aggregate from the pedestal and pull up if from the pedestal.

Be careful for working on the hydraulic system!

In hydraulic system stays residual pressure after hydraulic aggregate stopping!



- The pressure switch is in the block of the hydraulic aggregate.



- Pull off the elastic cover of the pressure switch (carefully – outlets must not be broken).



- Set the sensitivity of the pressure switch by means of the screwdriver.
- Turn by screwdriver to the left, the sensitivity is bigger Turn by screwdriver to the right, the switch will be clip with higher pressure

Check limit switches adjustment:



- **The vice is clamped** – The pilot lights of the control system are lighted
- **The vice is opened** – The pilot lights of the control system are not lighted
- **The vice is on the move** – The pilot lights are not lighted, they are not winked

Return the cover on the pressure switch after adjustment

4.12. Pressure adjustment of the hydraulic system

Be careful for working on the hydraulic system!

In hydraulic system stays residual pressure after hydraulic aggregate stopping!

- Remove the screw on the block of the pump. Screw on the manometer in place of the screw (thread G1/4") with range 0 – 60 bar.



Switch on the machine; turn the switch with the key to the position „set mode“.

!!!Work extremely carefully now!!!



- Release the nut of the adjusting screw.



- Set the pressure by means of the adjusting screw and manometer. If the pressure is adjusted, tighten the nut
- Dismantle the manometer and screw on the stopper to the slot.

4.13. 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.

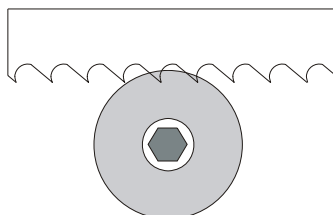
1. Lift the cover of the saw frame.



2. Release screws on the brush holder.



3. The brush must touch with teeth of the saw band.



Notice!

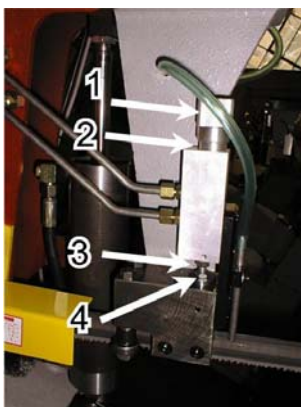
The brush must not touch the bottom of the saw teeth!!

4. Tighten the screws on brush holder after brush adjustment.

4.13.1. Adjustment of the regulating pressure to the cut

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

Screw the stopper screw to the maximum, or the valve will be blocked (pos. 3)



Now the frame can be freely moved up only, because the saw frame movement is blocked with the governing valve

Press button „ saw frame down „ screw on the setscrew

Screw in the stop screw as long as you reach the optimal speed of the frame sinking

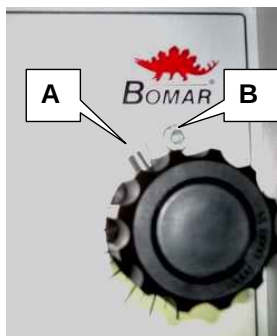
Optimal speed of the frame sinking is between 35 sec

Secure the adjusting screw by means of the nut after reaching of the sinking speed

Switch on the engine of the drive and check speed of the saw frame sinking again

4.13.2. 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



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

4.14. Cooling agents and chips disposal

The quality of the cooling agent will deteriorate due to:	If the solution is too weak:	If the solution is too strong:
• use of contaminated water • impurity • outside oil contamination (hydraulics, gears) • high operating temperatures • lack of air circulation • wrong concentration	• corrosion protection is diminished • lubrication decreases • microbial attack is more likely	• the cooling ability is decreased • foam behaviour increases • emulsions stability deteriorates • sticky residue develops

4.14.1. Coolant device inspection

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

Check level of the cooling liquid and function of the pump periodically!

Note:

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

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

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

* According to manufacturers' instructions

4.14.2. Chips disposal

Chips resulting from cutting operations must be disposed of in accordance with the relevant regulations.

- Let the chips drip excess fluid!
- Fill a watertight container with the chips! Be careful that the container does not leak, because even after a long dripping time, they still contain coolant residue.
- Place the container into the care of a disposal company equipped for the disposal of chips contaminated with cooling liquid. In case the machine is equipped with micro-spray installation, the chips must also be handed over to a disposal company.

4.15. Hydraulic, Greases and oils

4.15.1. Gearbox oils

In gearboxes, oil is used for the whole lifetime of the gearbox. We recommend replacing of the filling oil in case of repair.

Use oils with specification DIN 51517 in the gearboxes. Select the viscosity grade ISO VG according to the original oil fill.

Attention:

When replacing, use oils recommended by BOMAR or oils, which has comparable parameters from the other manufacturers.

Do not forget, that mineral and synthetic oils must not be mixed!

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

Band saw	Gearbox oil	Capacity
Transverse 410.260 DGH	Shell Tivela S 320	1,8 l
Swarf conveyor	Shell Tivela S 320	0,075 l

Comparative table of the gearbox oils

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

4.15.2. Lubricant greases

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

Comparative table of the lubricant greases:

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

4.15.3. Lubrication

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

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

4.15.4. Hydraulic oils

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

Use oils with specification DIN 51524-HLP, ISO 6743-4 and viscosity grade ISO VG 46 in hydraulic aggregates. Hydraulic oils quantity – see chapter **Hydraulic oil level check**.

Note:

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

Comparative table of the hydraulic oils

Manufacturer	Type	Manufacturer	Type
Agip	Oso 46	Ina	Hidraol 46 HD
Aral	Vitam GF 46	Klüber	Lamora HLP 46
Avia	Avilub RSL 46	Hungary	Hidrokomol P 46
Benzina	OH-HM 46	Mobil	Mobil DTE 25
BP	Energol HLP 46	ÖMV	HLP 46
Bulgaria	MX-M/46	Poland	Hydrol 30
Castrol	Hyspin AWS 46	Rumania	H 46 EP
Čepro	Mogul HM 46	Russia	IGP 30
DEA	Astron HLP 4hy6	Shell	Tellus Oil 46
Elf	Elfolna 46	Sun	Sunvis 846 WR
Esso	Nuto H 46	Texaco	Rando HD B 46
Fam	HD 5040	Valvoline	Ultramax AW 46
Fina	Hydran 46		

4.16. Hydraulic unit service

After 50 hours working time, or the latest 3 month after the first run, the first service should be carried out. This includes:



- checking off all screws and connections, fixing points, tubes and hoses for leakage
- Check hydraulic oil level
- During time of duty the oil temperature shouldn't exceed 60-70°C
- check function of signaling components (thermometer, level gauge, dirty filter indicator)
- Check the adjustment of working pressure

To realise a high reliability of the power pack, the manufacturer lays down following inspection intervals

Interval	daily	weekly	monthly	three monthly	six monthly	annually
Hydraulic fluid						
Level	-	•	-	-	-	-
Temperature	-	•	-	-	-	-
Condition	-	-	•	-	-	-
Change interval	-	-	-	-	-	•
Filter						
Change interval	-	-	-	-	-	-
Other checks						
External Leakages	•	-	-	-	-	-
Contamination	•	-	-	-	-	-
Damages	•	•	-	-	-	-
Noise-(level)	•	-	-	-	-	-
Gauges	-	-	•	-	-	-

4.17. Hydraulic oil level check



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

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

4.18. Machine cleaning

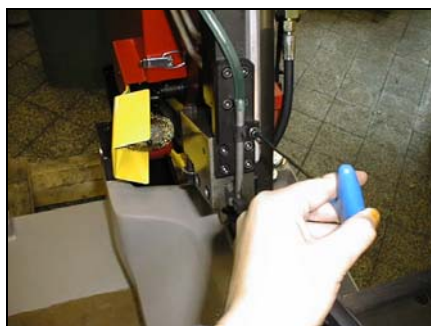
Clean the machine from the cooling liquid and impurities after every shift stopping. Conserve the guiding surfaces, mainly.

- Clamping jaws guiding of the vice.
- The guiding of the feeder.
- Loading surface of the vice.

4.19. Worn pieces replacement

4.19.1. Hard metal guides replacement

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



1. Remove the hosepipe leading to the cooling agent and dismantle saw band and saw band guiding cube.



2. Fasten the guiding cube to the vice. Release clamping screws of both hard metal guides and remove them.



3. Screw out the adjusting screw of the adjustable hard metal guide.



4. Screw out the adjusting screw of the adjustable guide as far from the guiding cube so that it is not possible to see it from the inner side.



5. Remove the adjustable guide.



6. Insert new hard metal guides and screw on them.



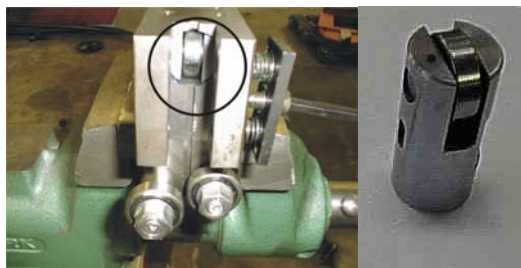
7. Install the cube on the holder and connect the cooling.



8. Adjust hard metal guides.

4.19.2. 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:

Disconnect the hosepipe from the cooling agent supply, screw off the cutting pressure regulation. The gripping assembly regulation should stay connected to the hydraulic system. Dismantle the guiding cube of the saw band



Fasten the guiding cube to the vice by means of the wrench no.3, release fixative screw of the bearing holder



Take out the bearing holder from the guiding cube



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 swanger



Check all parts and remove the worn ones



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.



Insert the holder to the guiding cube and fasten it by means of the screw and wrench.

Install the cube on the holder of the guiding cube, fasten cutting pressure regulation and connect cooling distribution



Set the guiding cube, hard metal guides and cutting pressure regulation

4.19.3. Fixed bearing replacement of the saw band guiding

If the fixed bearing is worn, replace it

Dismantle hard metal guide



Remove the screw by means of the wrench. It secure pivot of the bearing



Put the guide cube on the vice with its hole pointing up. The pivot of the bearing can release from the cube

Remove the bearing pivot by means of the hammer

Remove the bearing and washers from the cube



Check all parts and damaged parts and replace bearing



Insert bearing with washers to the groove in the cube and beat pivot

Complete the guiding cube according to the previous chapters. Install the guiding cube on the machine and set it

4.19.4. 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 hosepipe from the cooling agent input, screw off the cutting pressure regulation
3. The gripping assembly regulation should stay connected to the hydraulic system
4. Dismantle the guiding cube of the saw band



5. Tighten the guiding cube to the vice and dismantle both eccentrics with bearings following way
6. Remove the washers from the eccentrics



7. Remove eccentrics from the bearings by means of the swager



8. Pull up the eccentrics from the cube



9. Change both bearings and other worn parts



10. Install eccentrics to the cubes



11. Insert washer on the shorter eccentric and insert ring on the longer eccentric.
12. Further add both eccentrics of bearings and attach them to the eccentrics with the help of a pipe

ATTENTION!! Do not forget the eccentrics' position in the cube

13. Shorter eccentric is located on the side of binding screws of the guide cube



14. Put the washers on the bearings



15. Screw on the securing nuts on the eccentrics by means of the two wrenches



16. Insert piece of the saw band to the guiding cube (c. 15 – 20cm)
17. 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
18. Optimal distance between the band and the pulley is 0,05 mm.
19. Remove the testing piece of saw band from the guide cube and attach the guide cube on the machine; adjust it

4.19.5. Round brush replacement

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

1. Hold shaft of the brush by wrench



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



4.19.6. Variator band replacement

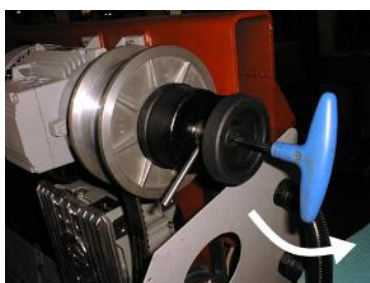
1. Dismantle lid of the variator and cover of the variator



2. Release securing nut of the top disk of the variator by lever



3. Release the screw of the variator



4. Dismantle hand wheel with the shaft and disk of the variator



5. Take down the strap of the brush drive (white arrow) and pull through old band by interstice between wheels (black arrow)



6. Put new band on the bottom disks of the variator and pull on the band. Print band between disks of the bottom variator



7. Stretch the band on the top disk of the variator and secure top part of the variator with second disk



Attention!!

8. The pivot prohibiting the variator regulation spinning has to fit into the frame channel.



9. Install the strap of the brush drive

Install variator cover and front lid of the variator

Switch on the machine and check functionality of the machine.

Set the speed



4.19.7. Stretching wheel replacement

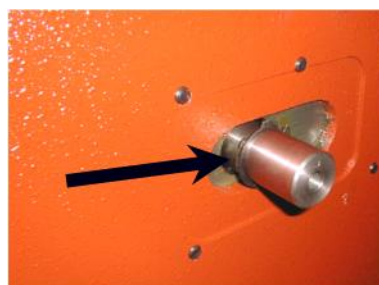
1. Dismantle the saw band.



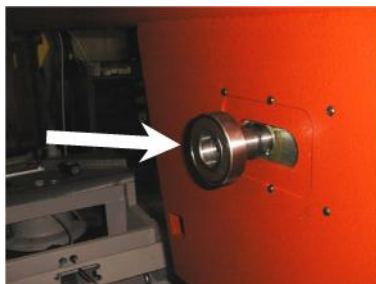
2. Screw off the screw and take down the washer.



3. Pull off the wheel from the shaft by means of the three-armed puller. If bearing stayed on the shaft, pull off it too
4. Check score of the bearings of the stretching wheel and replace them for new.



5. Clean the shaft and grease it with oil. Insert retaining ring to the groove.



6. Install bearing on the shaft and move it to the retaining ring. Insert the distance ring on the shaft and move it to the bearing.



7. Insert the retaining ring to the hole in the wheel.



8. Insert the bearing to the hole in the wheel and press it to the retaining ring.



9. Put the wheel on the shaft and screw on the preparation to the wheel stretching to the hole in the shaft.



10. Pull on the wheel on the shaft.



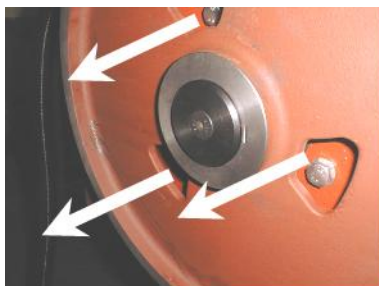
11. Screw on washer and screw back..
12. Install the saw band. Wheel replacement is ready.

4.19.8. Driving wheel replacement

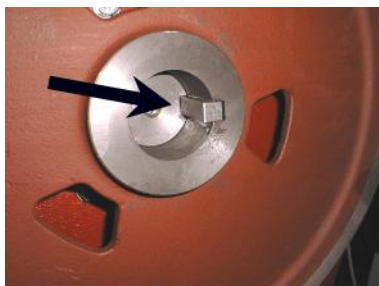
1. Dismantle the saw band



2. Screw off the screw and remove the washer.



3. Pull off the wheel from the shaft by means of the three-armed puller.



4. Install the wheel on the shaft. Insert the feather to the groove.



5. Screw on the preparation to the wheel stretching to the hole in the shaft. Pull on the wheel on the shaft.



6. Screw on washer and screw back.
7. Install the saw band. Wheel replacement is ready

Attention:

*Only a qualified worker can carry out the connection!!
High-voltage shock may have fatal results.
Further instructions are needed for qualified personnel!
Do not do the work yourself!!!*

4.19.9. Cooling pump replacement



- The tank with cooling agent is fastened to the pedestal by screws
- Screw off the screws and remove the tank from the pedestal
- Remove the hosepipe leading to the cooling agent from the plug on the pump
- Unscrew four screws on the cooling pump flange and pull out the pump from the sheet metal holder
- Remove the pump clamp box cover. Disconnect 4 clamps of the input cables
- Loosen the bushing and pull the cable out of the pump
- Dismantle new pump clamp box cover
- Push the cable through the bushing and fasten it
- Connect the cable clamps on the pump clamps as is described in the previous case
- Install again the clamp box cover; do not forget the rubber gasket
- Seal the hosepipe leading to the cooling agent connection
- Put the pump on the sheet metal holder and secure it to the pedestal with the four screws

5. **Závady / Troubleshooting**

5.1. Mechanical problems

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

Problem	Possible causes	Repair
	- Worn saw band guide bearings.	Check guiding bearings and if you notice some sort of excessive damage, replace them according to chapter „Worn pieces replacement“
	- Wrongly adjusted guiding cubes of the saw band.	Set guiding cube according to chapter „Servicing and adjustment“
	- Wrongly adjusted down feed and saw band speed.	Adjust the feeding and speed of a saw band according to values published by saw band manufacturer.
	- Different material quality.	Adjust feeding and speed of a saw band according to desired material (try cut-test).
	- Low-class saw band	Replace the saw band (contact your local accessory supplier for more information)
	- Wrongly chosen saw band tooth system.	Replace the saw band and keep instructions of the manufacturer on the choice.
	- Wrongly adjusted tracking.	Check the space between top of a saw band and driving wheel. Perhaps adjust the tracking as described in chapter „Servicing and adjustment“
4. Insufficient cut output.	- Worn saw band.	Replace the saw band and keep instructions of the manufacturer on the choice.
	- Wrong saw band tooth system.	Replace the saw band and keep instructions of the manufacturer on the choice.
	- Wrongly set down feed and speed of a saw band.	Set feed and speed of a saw band according to values published by saw band manufacturer.
5. The cut is not finished.	- Wrongly adjusted lower stop point of the saw frame.	Check lower limit switch and screw.
	- Stop point surface is messed-up.	Cleanse stop point surface of the limit switch from debris and residue material.
6. By choke is not possible turn	- Metal clamps between valve and panel.	Clamps must be removed and put on the shaft O-Ring about 10x2 mm.
	- Metal clams are in body of valve.	Valve must be cleared or changed.
7. Saw band drive cannot be started.	- Pressure switch is adjusted wrong.	Set the pressure switch according to chapter „Servicing and adjustment“
	- Pressure switch is defective.	Replace defective parts of the pressure switch.
8. The saw bands are cracked.	- In stretching wheel is wrong adjusting geometry.	Adjust distance band from recess wheel c.2 mm according to operating instructions.
	- Hard metal plates of circuit saw band are not adjusting.	Hard metal plates of circuit saw band must be adjusting according to operating instructions.
	- Guiding cubes are not adjusting (bearings + hard metal circuit)	Guiding cubes must be adjusting (bearings + hard metal circuit) according to operating instructions.
	- Bearings of guiding cubes are used (rolling elements are damaged or outside ring of bearing has conical form).	Bearings of guiding cubes must be replaced. Bearings must be adjusting according to operating instructions.
9. Damage tooth system of the saw band	- In gripping the lifting cylinder is backlash.	
	- Squeezed pin upper or downer holder of the lifting cylinder.	Exchange complete upper or downer holder of lifting cylinder.
10. The saw is cut downing.	- Geometry of hardmetal guiding cubes is wrong adjusted.	Hardmetal guiding cubes must be adjusted.
	- Bearings of guiding cubes are used.	Bearings of guiding cubes must be replaced.
11. Cleansing of the saw band is not functional.	- Elastic wheel of the brush drive is worn-down.	Elastic wheel of the brush must be changed.
	- Knurling of the driving wheel is worn-down.	Driving wheel must be changed.
	- The shaft of the brush drive is rusted.	The shaft of the brush must be cleaned and oiled.

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

5.2. Electric problems

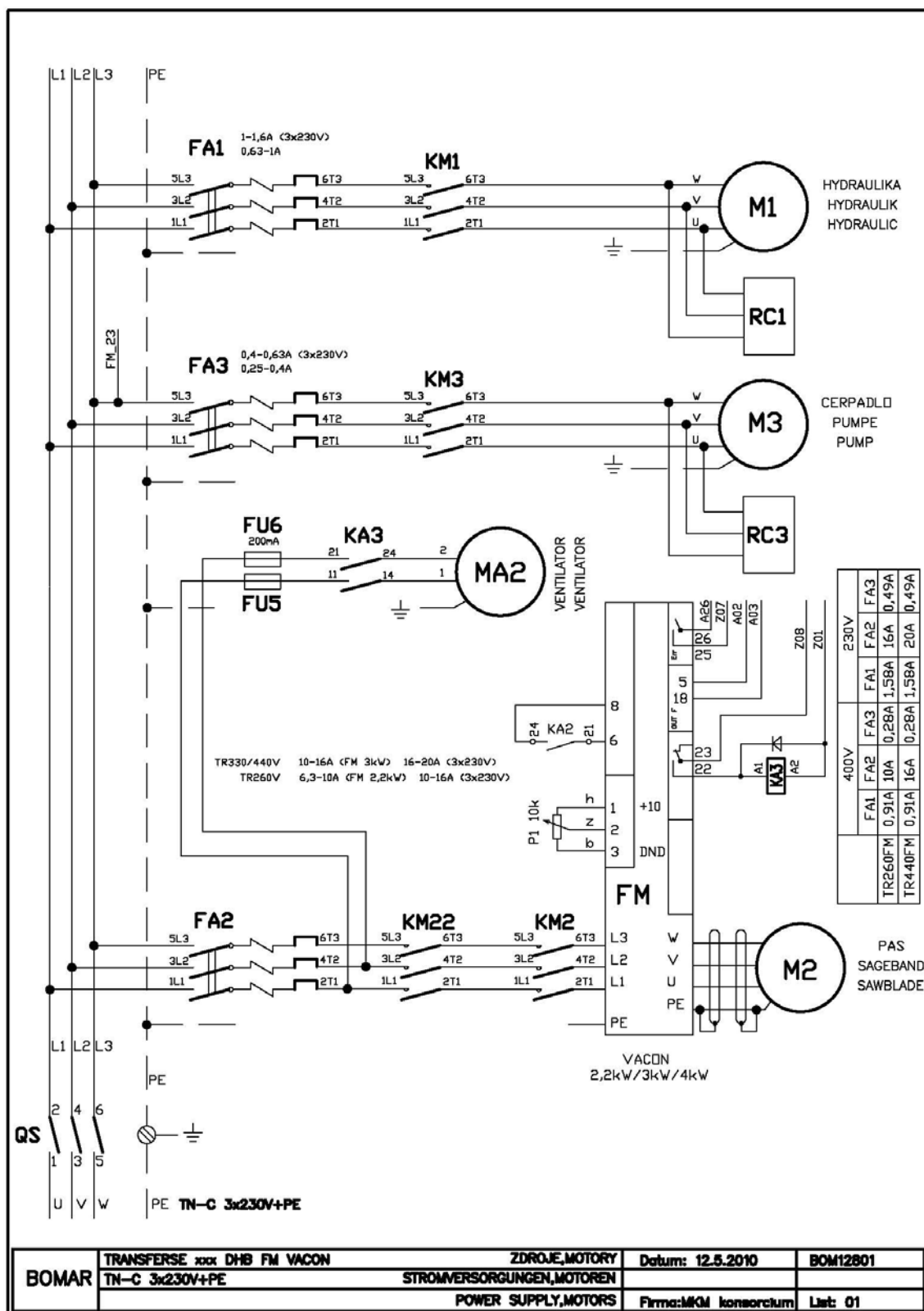
Problem	Possible causes	Repair
1. Machine is not possible start.	- In socket is not voltage	Line voltage must be checked.
	- Transfer relay is closed (thermal protector)	Each FA relay must be checked.
	- Limit switch of saw band stretching, cover of frame or cover of saw band is not started.	Check of saw band stretching and covers closing.
2. When cut is finished, the frame is not raising.	- Bottom limit switch is adjusted wrong.	Bottom limit switch must be adjusted according to chapter ADJUSTING.
	- In hydraulic (pneumatic) ring is error. HYTOS (BOSCH) is not acting to frame uplift.	Function of magnetic valve must be checked, valve must be closed, voltage of clamps and inductor must be checked.
3. Electric motor and pump are without voltage. Between contactor and thermal protector is not voltage.	- Wrong contactor.	Replace contactor of engine.
4. The indicator of speed saw band is not functional.	- Sensor of speed is not adjusted.	Sensor of speed must be adjusted.
	- Defective display	The display must be changed.
	- Wrong sensor – diode of indicator speed is not light.	Sensor must be changed and adjusted.
5. Protector is switched off from engine hydraulic aggregate MA3 sometimes.	- Into hydraulic system is high working pressure.	Service engineer must reduce the pressure in hydraulic system.
6. The hydraulic aggregate cannot be started	Auxiliary contact on thermo-relay FA1 is defective.	Replace the defective contact on motor starter FA1.
7. Hydraulic aggregate is switched on but the saw arm or the main vice is not functional	- Wrong connection of electrical supply. The electrical phases are connected conversely.	The phases must be switched. Only service engineer can do this.
8. Cooling is not active	Lack of cooling agent.	Fill the tank with cooling agent.
	- Thermal relay is defective	Change the thermal relay
	- Input hosepipe is broken or obstructed.	Check the cooling circuit and perhaps cleanse cooling system.
	- Cooling pump protection is defective	Check the protection of cooling pump if need change it.
	- Cooling pump is defective.	Replace the cooling pump.

5.3. Hydraulic problems

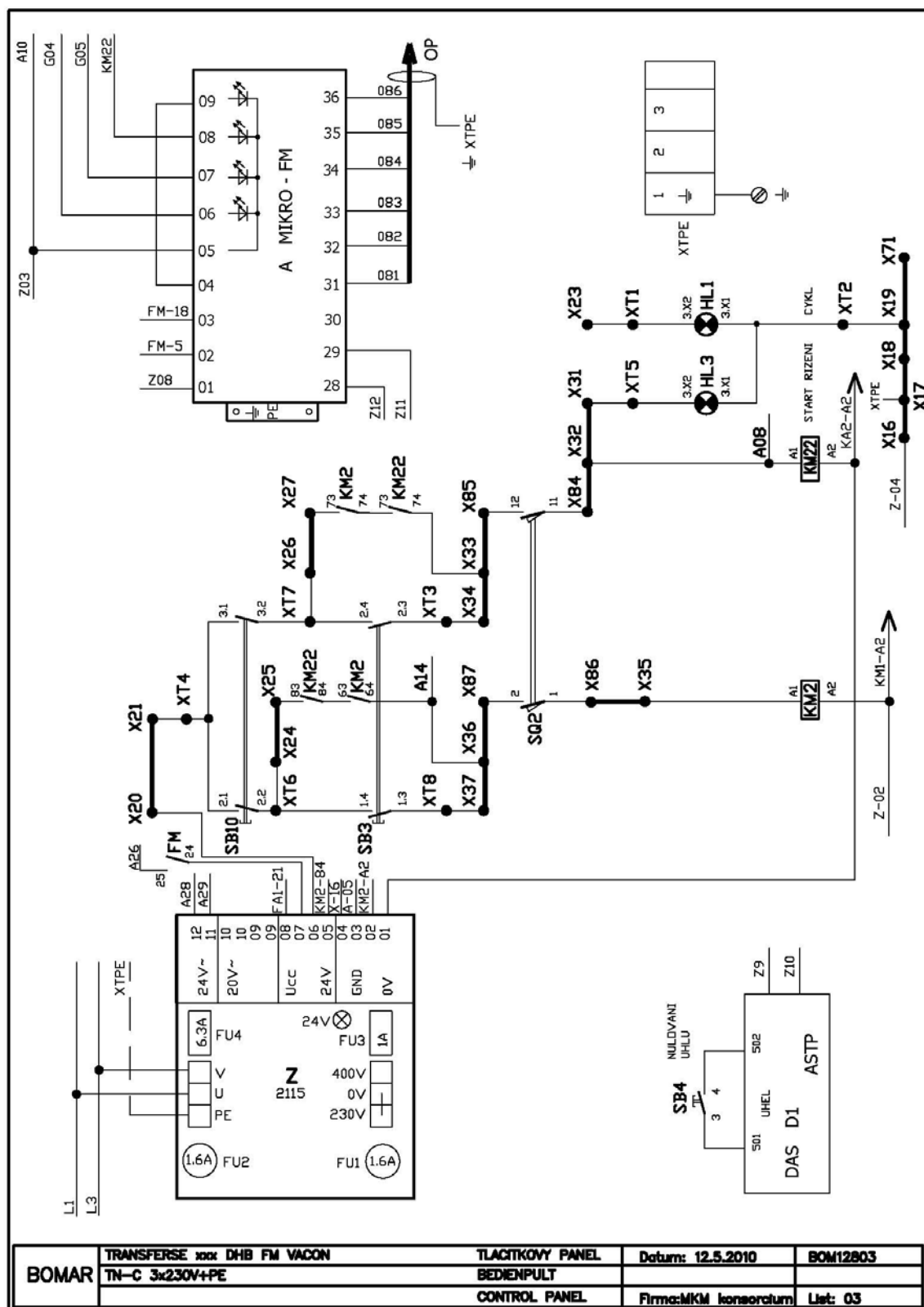
Problem	Possible causes	Repair
1. Hydrogenerator not supplying oil	• reverse rotation	Check the connections of each phase. Reconnect properly connection of the electrical phases.
	• shortage of oil in the tank	Add hydraulic oil
	• Oil viscosity does not correspond prescribed viscosity value	Change hydraulic oil.
	• Hydrogenerator malfunction	Call service
	• Wrong power supply connection.	Check the connections of each phase. Reconnect properly connection of the electrical phases.
2. Hydraulic oil contains bubbles	• Hydraulic circuit is not adequately deaerated	Make deaeration of hydraulic circuit.
	• Low oil level	Add hydraulic oil
	• the pump shaft seals damaged	Call service
3. Increased mechanical noise	• damaged joint drive	Call service
	• damaged or destroyed motor bearings	Call service
	• air intake	Check for leaks.
4. Low pressure, pump supplies oil	• problem in the safety valve	Wrong settings. Check the settings and adjust the safety valve.
	• pump wear	Call service
	• external or internal leakage	Call service
5. Hydrogenerator is seized	• damage by solid particles in oil	Make oil filtration, or call the service.
	• non-prescribed oil	Change hydraulic oil.
	• wrong type of oil	Change hydraulic oil.
	• exceeding the life of the pump	Call service
6. Overheating oil	• cooler malfunction	Check the cooler function or call service.
	• wear the pump, the energy is converted into heat	Call service
7. Hydraulic valve can not be readjusted	• electromagnet has no signal (voltage) - interrupted supply lines	Check again.
	• Electromagnet coil burnt	Replace coil – Call service.
	• spool valve sticking	Replace valve – Call service

6. **Schémata / Schemas / Schematics**

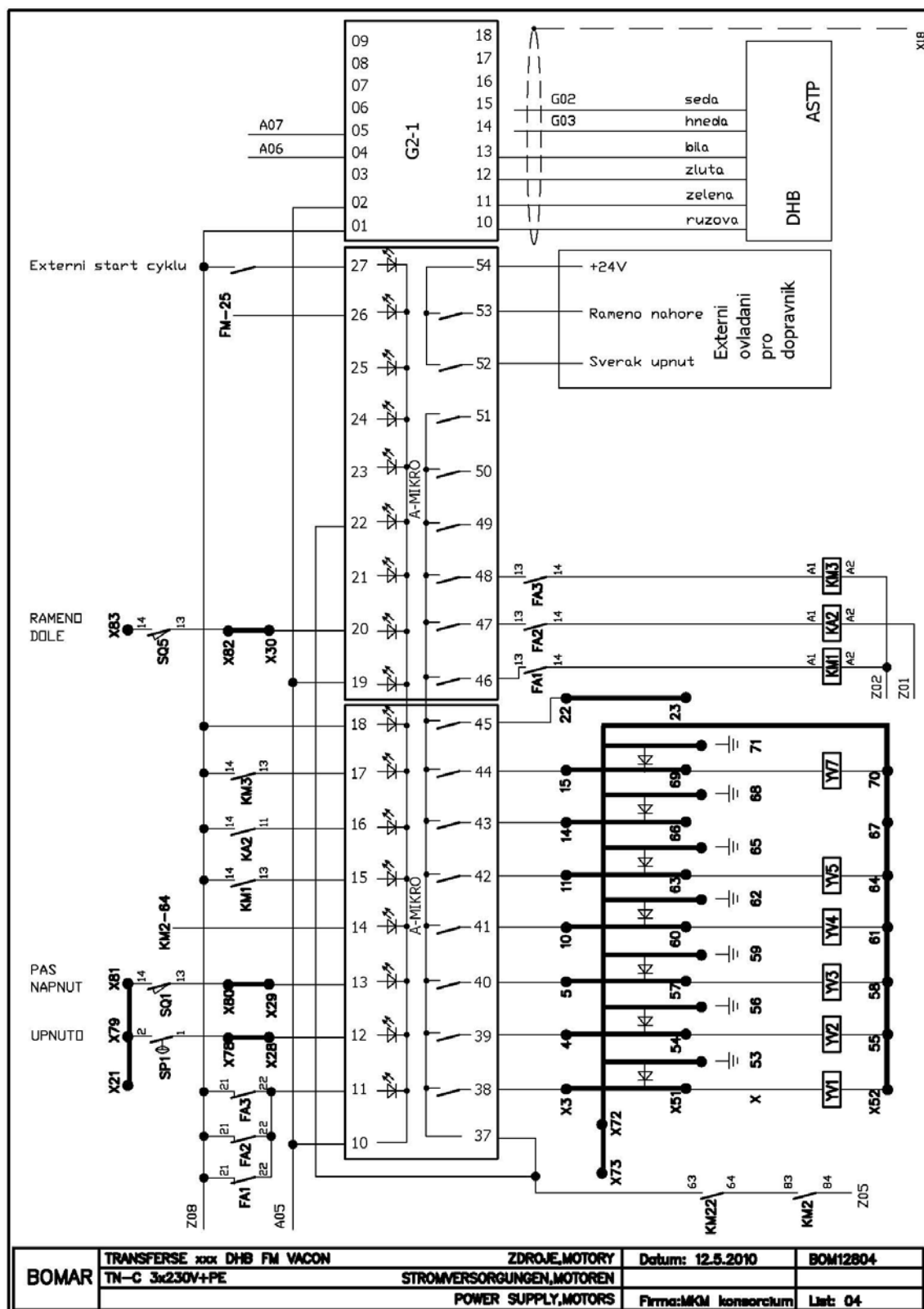
6.1. Elektrické schema 3x230V+PE VACON1 /
Elektroschema 3x230V+PE VACON 1 /
Wiring diagrams 3x230V+PE VACON 1



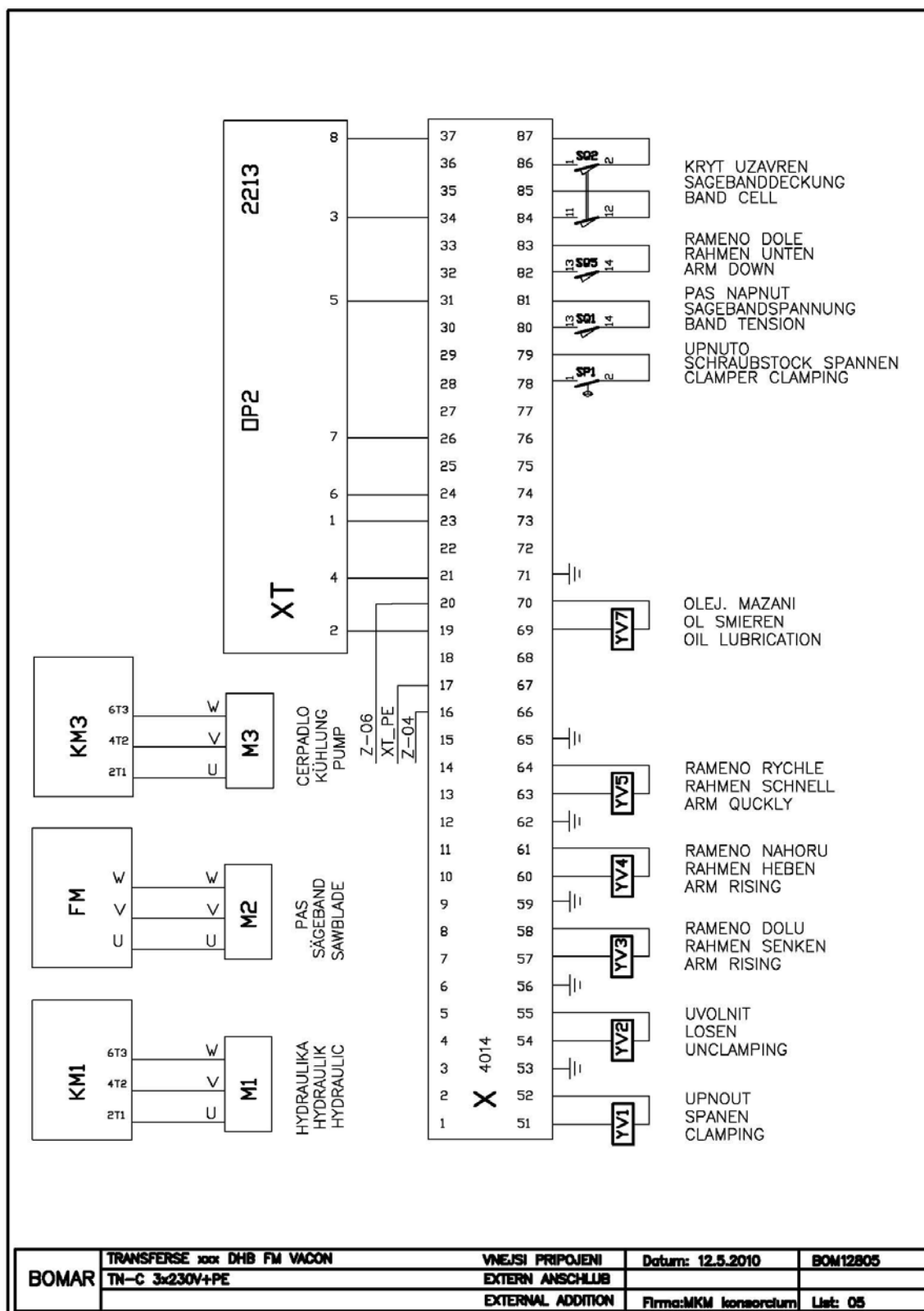
**Elektrické schema 3x230V+PE VACON 3 /
Elektroschema 3x230V+PE VACON 3 /
Wiring diagrams 3x230V+PE VACON 3**



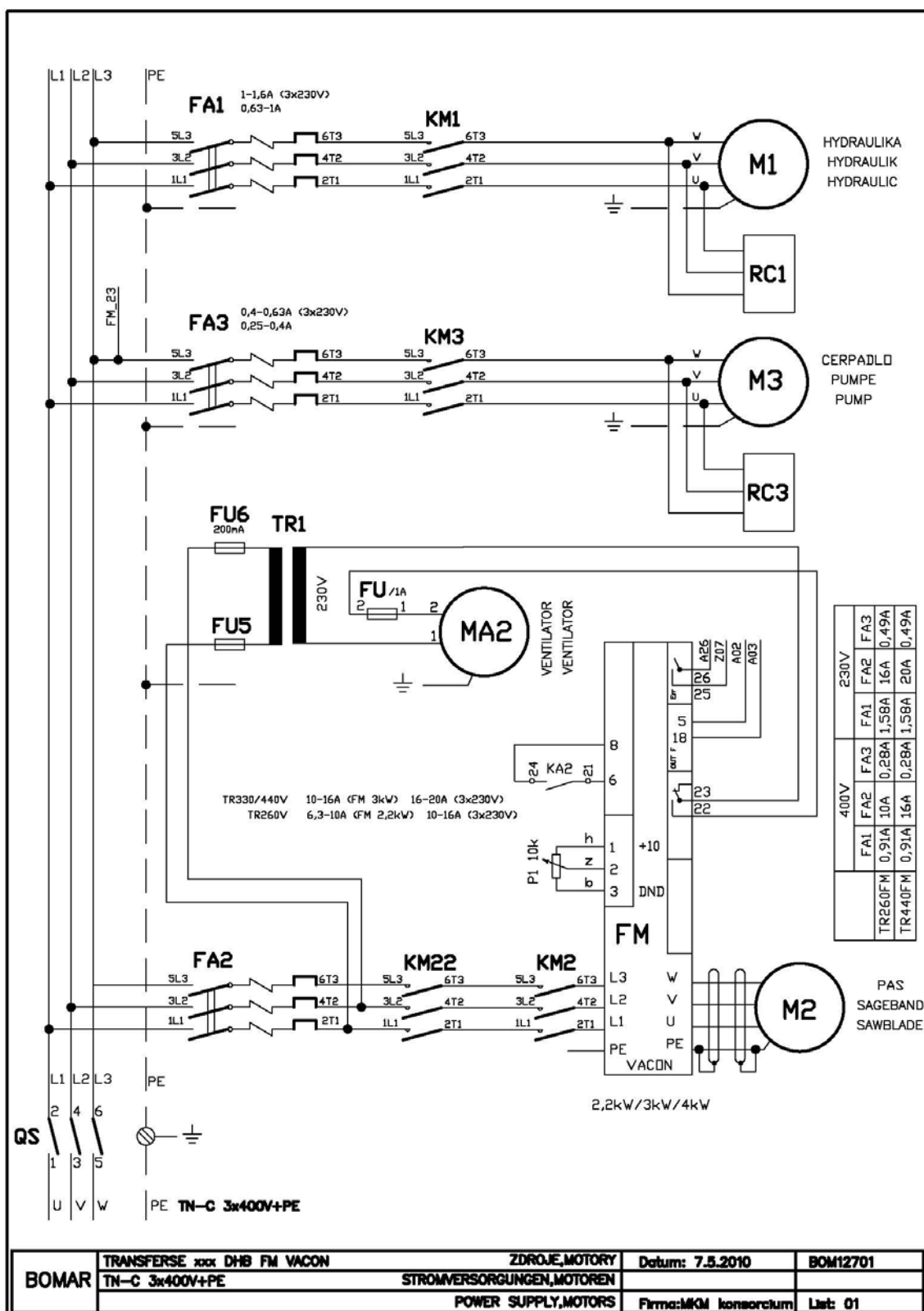
Elektrické schema 3x230V+PE VACON 4 /
 Elektroschema 3x230V+PE VACON 4 /
 Wiring diagrams 3x230V+PE VACON 4



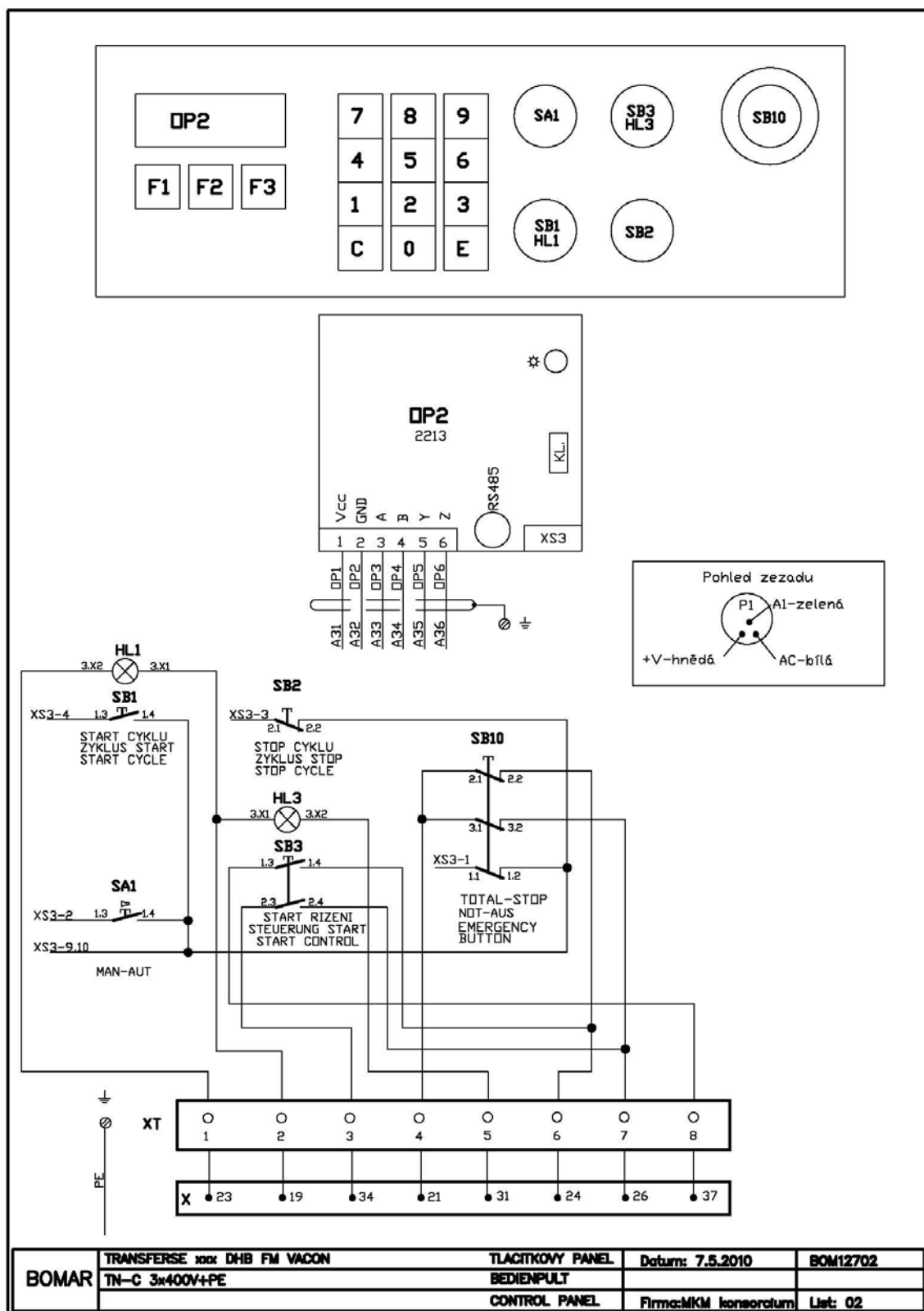
Elektrické schema 3x230V+PE VACON 5 /
Elektroschema 3x230V+PE VACON 5 /
Wiring diagrams 3x230V+PE VACON 5



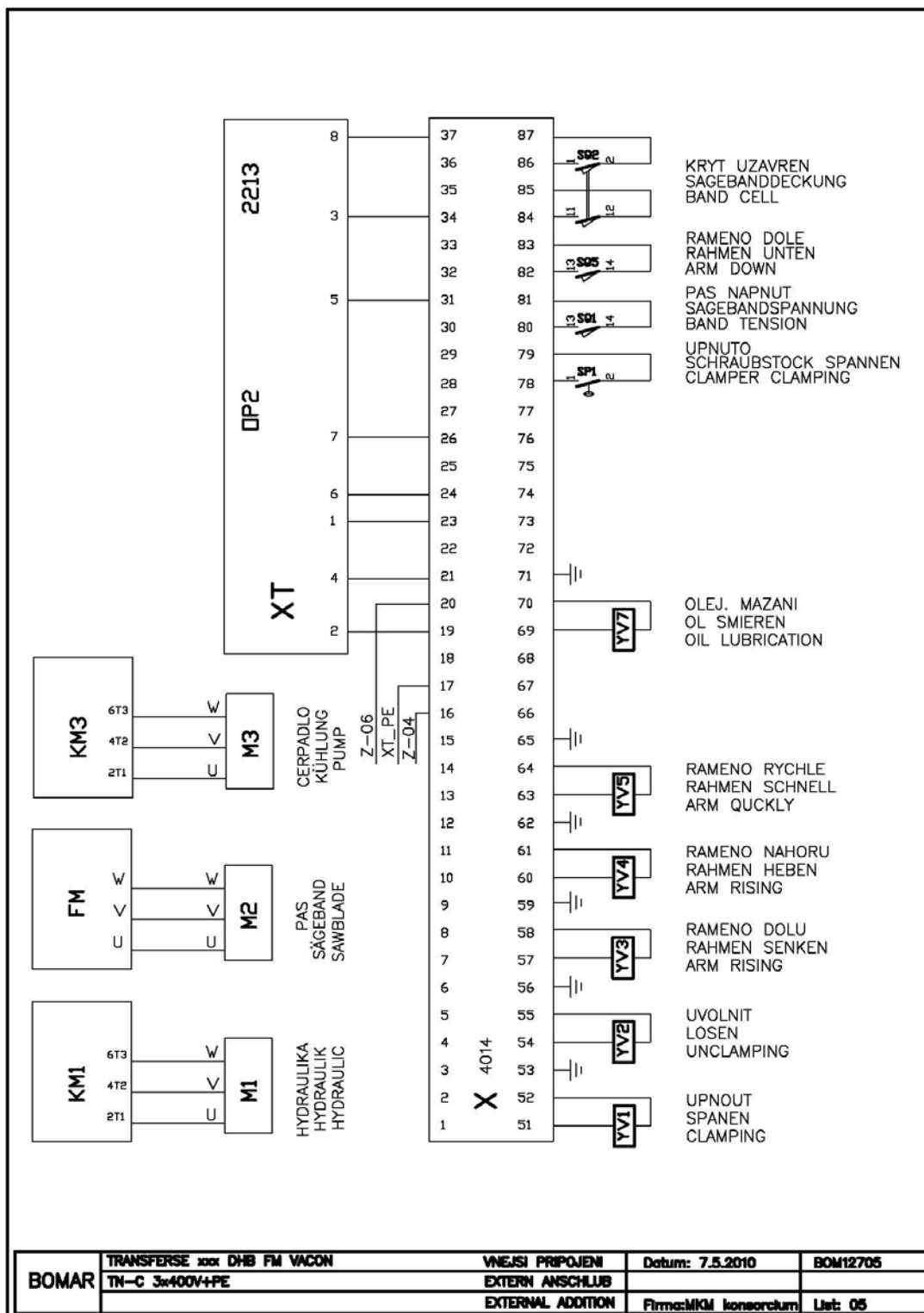
6.2. Elektrické schéma 3x400V+PE s FM VACON 1 /
 Elektroschema 3x400V+PE mit FM VACON 1 /
 Wiring diagrams 3x400V+PE with FM VACON 1



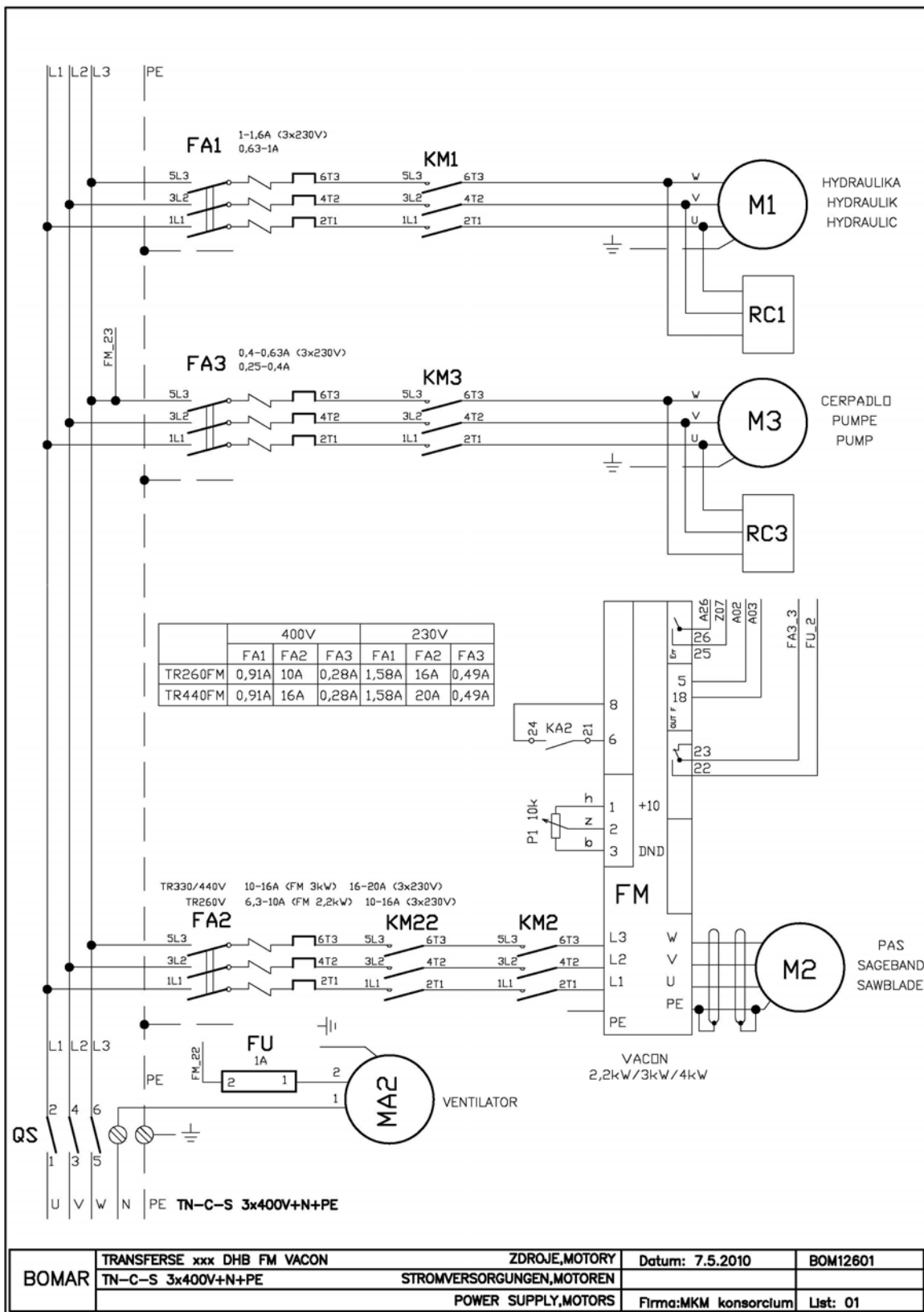
Elektrické schéma 3x400V+PE s FM VACON 2 /
Elektroschema 3x400V+PE mit FM VACON 2 /
Wiring diagrams 3x400V+PE with FM VACON 2



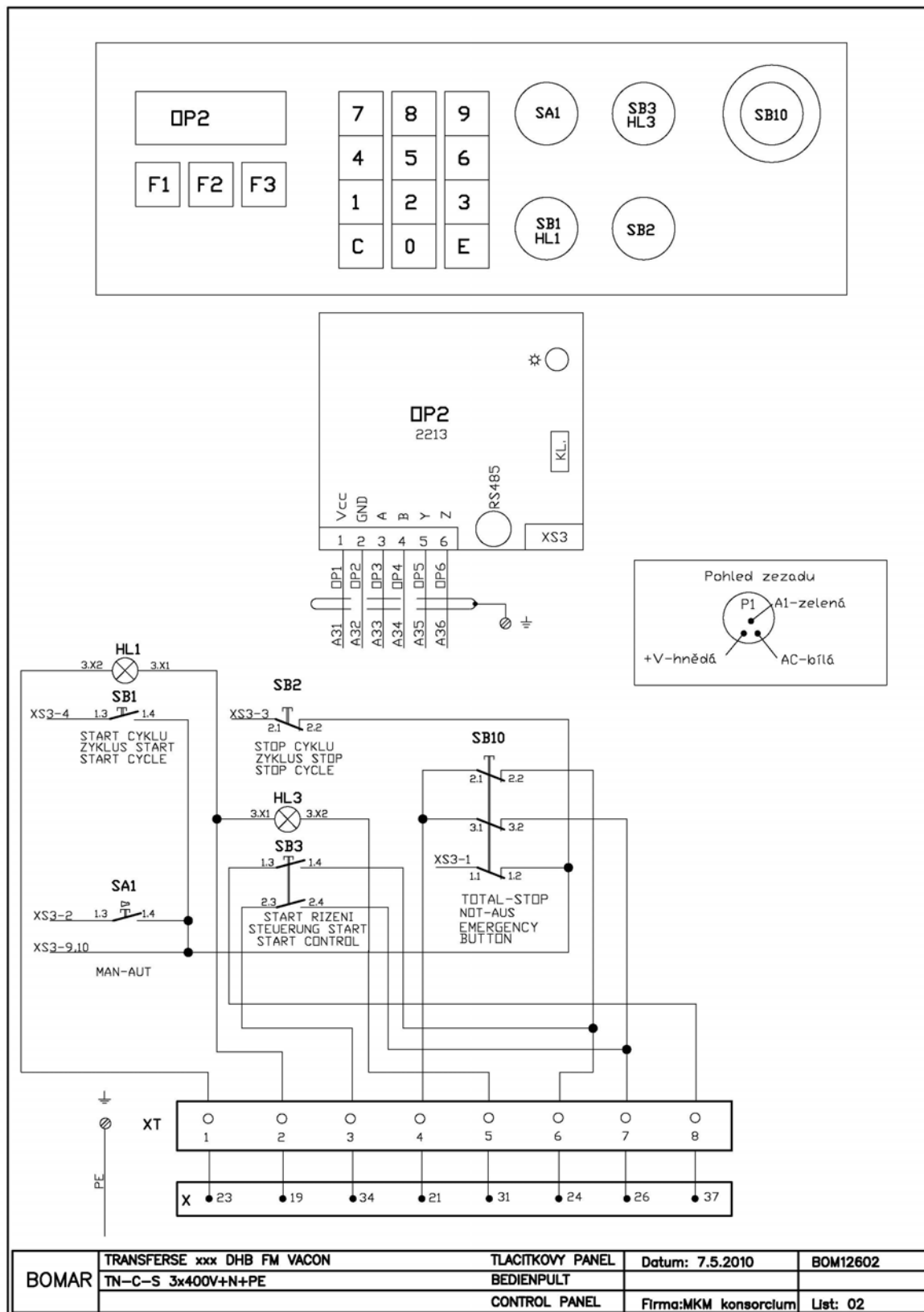
Elektrické schema 3x400V+PE s FM VACON 5 /
 Elektroschema 3x400V+PE mit FM VACON 5 /
 Wiring diagrams 3x400V+PE with FM VACON 5



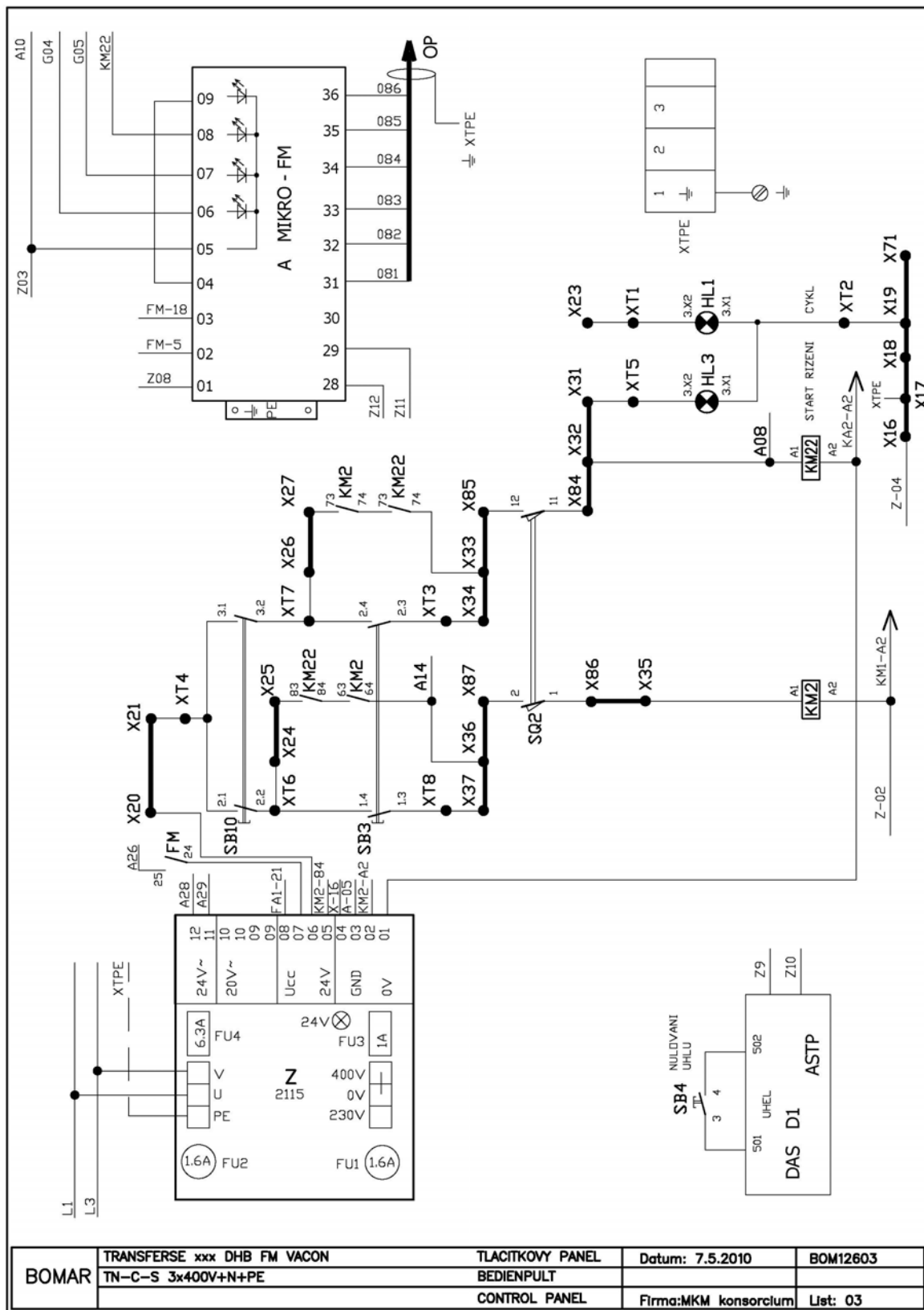
6.3. Elektrické schéma 3x400V+PEN s FM VACON 1 / Elektroschema 3x400V+PEN mit FM VACON 1 / Wiring diagrams 3x400V+PEN with FM VACON 1



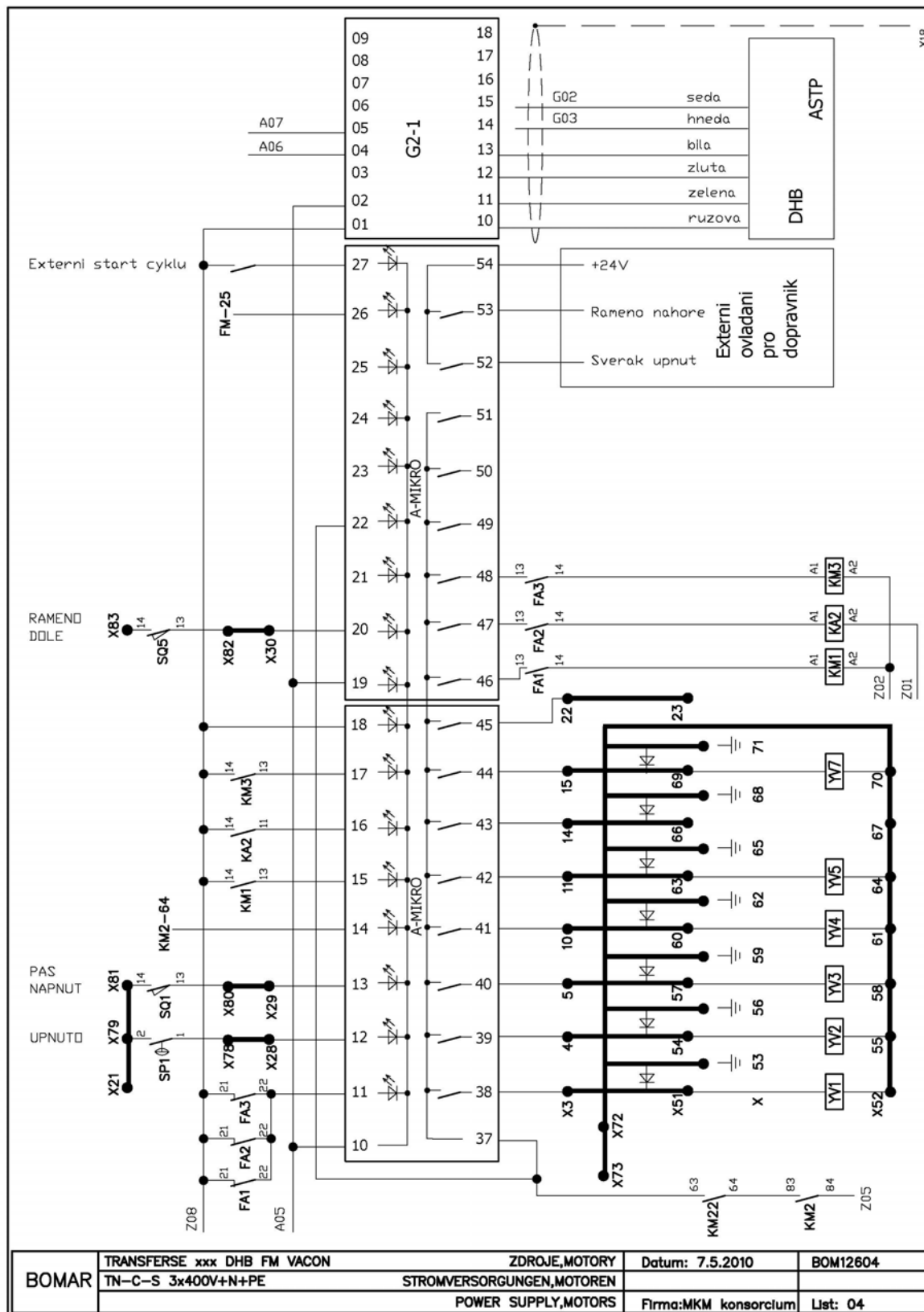
Elektrické schéma 3x400V+PEN s FM VACON 2 /
 Elektroschema 3x400V+PEN mit FM VACON 2 /
 Wiring diagrams 3x400V+PEN with FM VACON 2



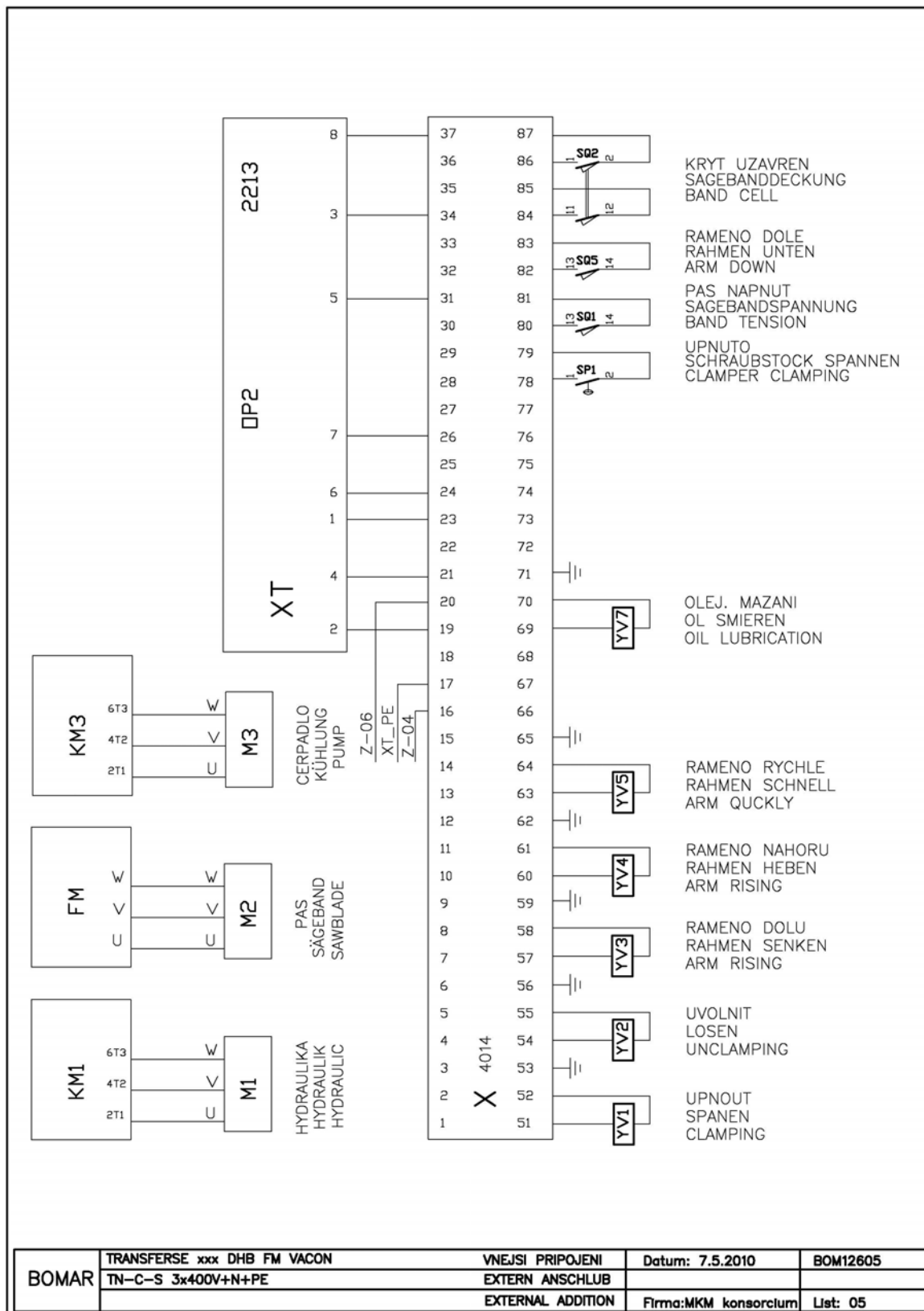
**Elektrické schéma 3x400V+PEN s FM VACON 3 /
Elektroschema 3x400V+PEN mit FM VACON 3 /
Wiring diagrams 3x400V+PEN with FM VACON 3**



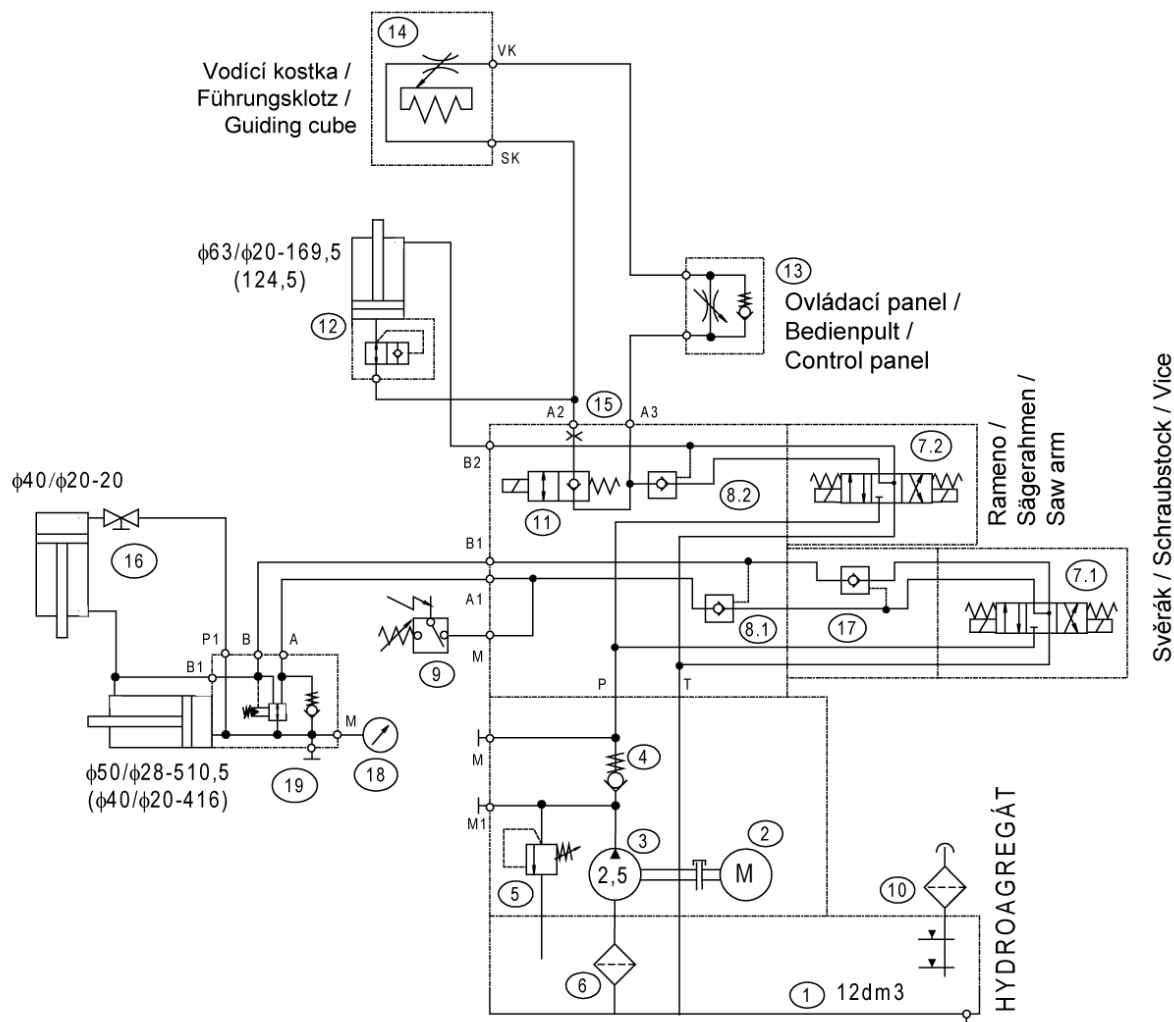
Elektrické schema 3x400V+PEN s FM VACON 4 /
 Elektroschema 3x400V+PEN mit FM VACON 4 /
 Wiring diagrams 3x400V+PEN with FM VACON 4



Elektrické schema 3x400V+PEN s FM VACON 5 /
Elektroschema 3x400V+PEN mit FM VACON 5 /
Wiring diagrams 3x400V+PEN with FM VACON 5



6.4. Hydraulické schéma / Hydraulikschema / Hydraulic diagram



Typ / Type / Type

Transverse 260, 330 DGH

Hydraulický agregát / Hydroaggregat / Hydro aggregat

92.001.001, SMA03-25/11-S11.0-H12S.F-0434/02400

Neuvedené světlosti / Unerwähnt Lichtbreite / Unlisted inside diameters

JS6

Výstupní šroubení / Ausgangschraubung / Output screwing

G1/4"

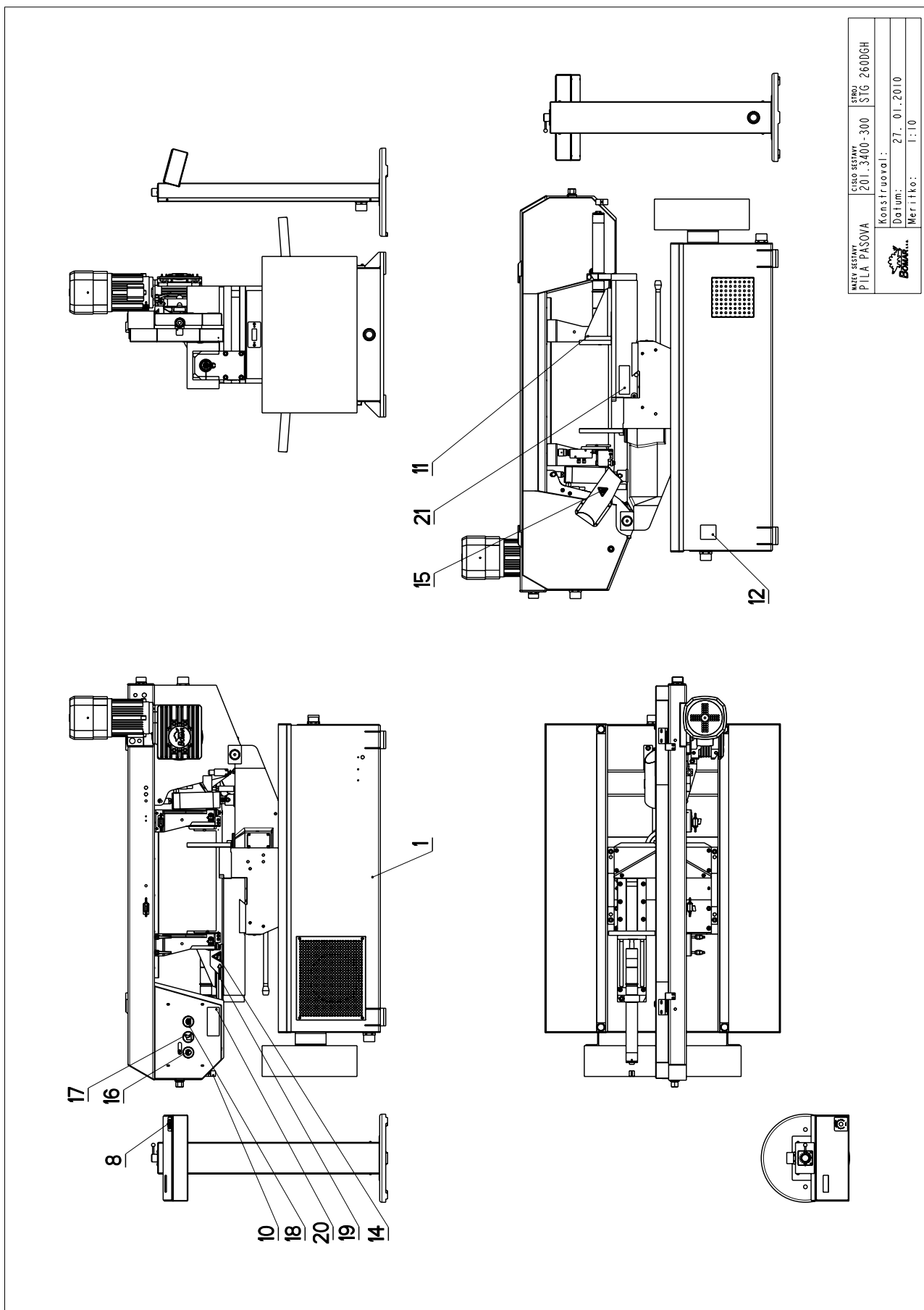
P _{max}	4 MPa
Q	3,3 dm ³ /min
n	1395 rpm
P	0,25 kW

Poz.	Název položky		ks
Pos.	Bezeichnung		Menge
Pos.	Item		Pcs.
	Nádrž / Behälter / Tank	N12 cm ³	1
2	Elektromotor / Elektromotor / Electromotor	MA-AL71-4	1
3	Hydrogenerátor / Hydraulikaggregat / Hydrogenerator	P2-2,5L.66017	1
4	Jednosměrný ventil / Einwegventil / One-way valve	VJ01-06/SG-1	1
5	Přepouštěcí ventil / Bypassventil / By pass valve	VPP2-04/S-6	1
6	Sací filtr / Filter / Filter	2SF56/48-0,063	1
7	Rozváděč / Verteilungsventil / Distributor	RPE 3-043Y11/02400E1K1	2
8	Hydraulický zámek / Hydraulisches Schloß / Hydraulic lock	RJV1-05-0	2
9	Tlakový spínač / Druckschalter / Pressure switch	SUCO 0166 411 031 043	1
10	Nálevací zátka / Stopfen / Plug	L1.0406-51	1
11	Rozváděč / Verteilung / Distributor	ROE3-042S2/02400E1K1	1
12	Ventil pojistný / Sicherungsventil / Retaining valve	VPNH 1/4	1
13	Ventil škrtící / Drosselventil / Choke	VS01-04/R2-OS	1
14	Kostka regulace / Regulationklotz / Regulation cube	251.077	1
15	Clona / Schürze / Shield		
16	Kulový ventil / Kugelventil / Globe valve	99.260.004	1(0)
17	Hydraulický zámek / Hydraulisches Schloß / Hydraulic lock	VJR1-04/MB 92.103.003	1(0)
18	Manometr / Manometer / Manometer	0-6 MPa	1(0)
19	Redukční ventil / Reduktionsventil / Control valve	VRN2-06/S-6R	1(0)

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

- Při objednávání náhradních dílů vždy uvádějte: typ stroje (např. practix Transverse 410.260 DGH) , výrobní číslo (např. 125) a rok výroby (např. 1999).
- In die Bestellung der Ersatzteile führen Sie immer an: Maschinentyp (z. B. Transverse 410.260 DGH), Serien Nr. (z. B. 125) und Baujahr (z. B. 1999).
- For spare parts order, you must always to allege: type of machine (for example Transverse 410.260 DGH), serial number (for example 125, see cover page) and year of construction (for example 1999).

7.1. Transverse 410.260 DGH

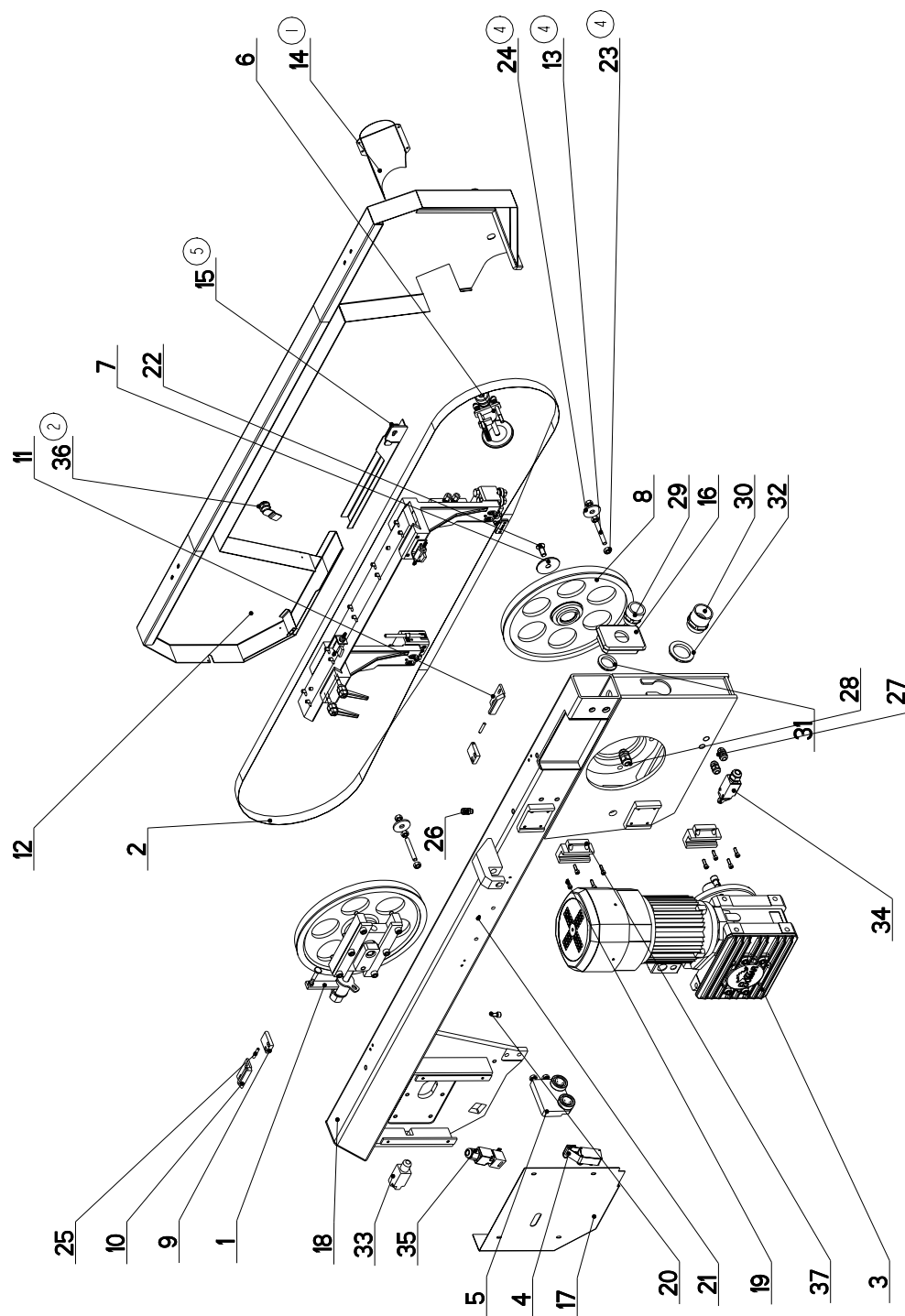


7.2. Kusovník / Stückliste / Piece list – Transverse 410.260 DGH

Cislo sestavy 201.3400-300		Ver. 0	Název sestavy PILA PASOVA/BAND SAW/BANDSÄGE	
Poz.	Objednací číslo	Ver.	Název položky	Rs
1	201.1806-000	1	CHLAZENÍ / COOLING / KÜHLUNG	1
2	201.3401-000		PODSTAVEC / BASE / UNTERSATZ	1
3	201.3402-000	0	KONZOLA OTOCNA / TURNABLE CONSOL / DREHMONSOLE	1
4	201.3403-000	0	SVĚRANÍ / VICE / SCHRAUBSTOCK	1
5	201.3404-050	0	RAMENO / SHOULDER / SÄGERAHMEN	1
6	201.3405-000		PODSTAVEC SVĚRANÍ / VICE BASE / SCHRAUBSTOCKUNTERSATZ	1
7	201.3414-900		PANEL / PANEL / PANEL	1
8	30.0599-008	0	STÍTEK / LABEL / SCHILD	1
9	30.3407-000	0	VALEC ZVEDACÍ / LIFTING CYLINDER / HEBEZYLINDER	1
10	30.9307-109		DRŽÁK / HOLDER / HALTER	2
11	31.3199-005	0	SMOLEPNA / STICKER / AUFLEBER	1
12	31.3499-001	0	STÍTEK / LABEL / SCHILD	1
13	92.001.001	0	AGREGÁT HYDRAULICKÝ / HYDRAULIC GENERATOR / HYDRAULIKAGGREGAT	1
14	99.900.040	0	SMOLEPNA / STICKER / AUFLEBER	1
15	99.900.043	0	SMOLEPNA / STICKER / AUFLEBER	1
16	99.900.047	0	SMOLEPNA / STICKER / AUFLEBER	1
17	99.900.048	0	SMOLEPNA / STICKER / AUFLEBER	1
18	99.900.049	0	SMOLEPNA / STICKER / AUFLEBER	1
19	99.900.053		SMOLEPNA / STICKER / AUFLEBER	1
20	99.900.055		SMOLEPNA / STICKER / AUFLEBER	1
21	99.900.056		SMOLEPNA / STICKER / AUFLEBER	1

Poz. - Pozice/Position/Position; Cislo vykresu/Drawing number/Zeichnungsnummer

7.3. Rameno / Sägerahmen / Saw arm - 1

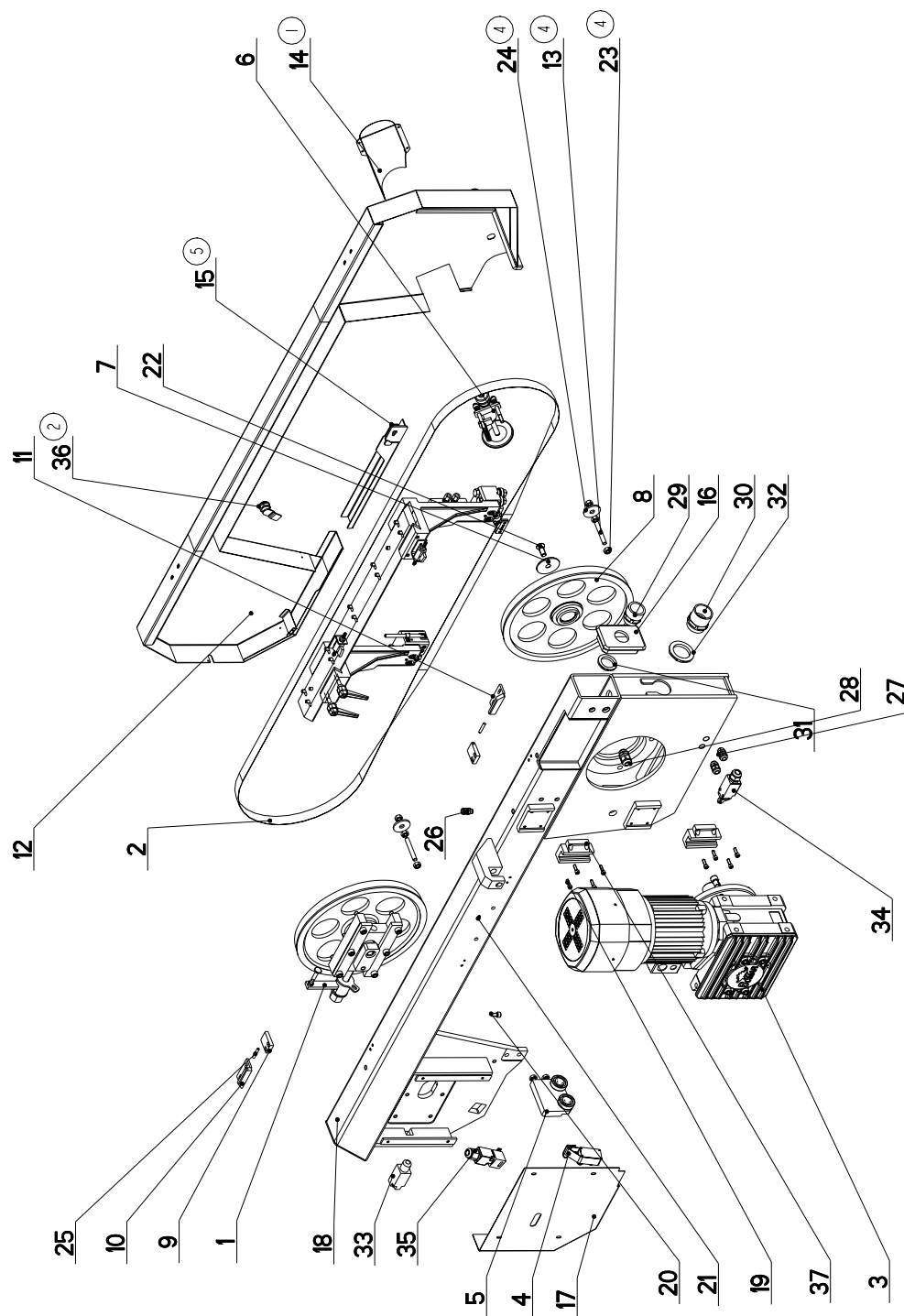


NÁZEV SESTAVY RAMENO	ČÍSLO SESTAVY 201.8304-050	STROJ IND260GA
	Konstruoval: VINOHRADSKÝ	
	Datum: 22. 07. 2010	
	Meritko: 1:10	

7.4. Kusovník / Stückliste / Piece list – Rameno / Sägerahmen / Saw arm - 1

Císlo Sestavy 201.8304-050		Ver. 5	Název sestavy RAMENO/SHOULDER/SÄGERAHMEN		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	201.1708-000	1	NAPINANI / TENSIONING / SPANNUNG		1
2	201.3410-000	2	VEDENÍ PASU / BELT GUIDE / SÄGEBANDFÜHRUNG		1
3	201.4905-050	2	PREVODOVKA / TRANSMISSION / GETRIEBE		1
4	201.6702-200	2	SNÍMAC / SENSOR / SENSOR		1
5	201.8304-106	0	KOSTKA VODICÍ / LEAD CUBE / FÜHRUNGSKLOTTZ		1
6	201.9114-300	0	KARTAC / BRUSH / BÜRSTE		1
7	30.0804-009	2	PODLOŽKA / WASHER / UNTERLEGSCHIEBE	d 60	1
8	30.1704-005	3	KOLO HNACÍ / DRIVE WHEEL / ANTRIEBSRAD	ODLITEK	1
9	30.1714-103	2	KOSTKA / CUBE / WÜRFEL	HR 30 x 10	2
10	30.2914-206	0	KONZOLA / CONSOLE / KONSOLE		1
11	30.2914-210	0	KONZOLA / CONSOLE / KONSOLE		1
12	30.3404-053	0	KRYT RAMENE / SHOULDER COVER / RAHMENABDECKUNG		1
13	30.3404-056 (4)	0	TYC ZAVITOVÁ / THREADED POLE / GEWINDESTANGE	M10	2
14	30.3414-056 (1)	1	KRYT KARTACKU / BRUSH COVER / BÜRSTENABDECKUNG		1
15	30.3514-213 (5)	0	KRYT PASU / BELT COVER / BANDABDECKUNG		1
16	30.5214-004	0	ZATKA / PLUG / STOPFEN	120x80x5-8	1
17	30.8304-007	1	KRYT NAPINANI / TENSIONING COVER / BANDSPANNUNGSABDECKUNG	P 1.5-352	1
18	30.8304-051	2	RAMENO / SHOULDER / SÄGERAHMEN		1
19	90.001.25.018	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x20	8
20	90.001.25.031	0	SROUB IMBUS CERNÝ / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x16	1
21	90.002.20.023	0	SROUB STAVECÍ / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M6x10	1
22	90.011.27.014	0	SROUB ZAPUSTNÝ / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M12x30	1
23	90.100.55.006 (4)	0	MATICE / NUT / MUTTER	MATICE _ M10	6
24	90.151.50.002 (4)	0	PODLOŽKA / WASHER / UNTERLEGSCHIEBE	PODLOŽKA 12	2
25	90.301.07.005	0	KOLÍK VALCOVÝ / CYLINDRICAL PIN SOFT / ZYLINDERSTIFT WEICH	KOLÍK 6x35	2
26	91.070.010	0	VÝVODKA / BUSHING / TÜLLE	M12x1.5	1
27	91.070.011	0	VÝVODKA / BUSHING / TÜLLE	M16x1.5	2
28	91.070.012	0	VÝVODKA / BUSHING / TÜLLE	M20x1.5	1
29	91.071.004	0	VÝVODKA / BUSHING / TÜLLE	VÝVODKA	1
30	91.071.005	0	PRŮCHODKA / LEADTHROUGH / DURCHFÜHRUNG		1
31	91.072.007	0	MATICE / NUT / MUTTER	MATICE	1
32	91.072.008	0	MATICE / NUT / MUTTER		1
33	91.173.007	0	SPINAC KONCOVÝ / END SWITCH / ENDSCHALTER	-R1WK	1
34	91.173.009	0	SPINAC KONCOVÝ / END SWITCH / ENDSCHALTER		1
35	91.173.012	0	SPINAC KONCOVÝ / END SWITCH / ENDSCHALTER		1

7.5. Rameno / Sägerahmen / Saw arm - 2



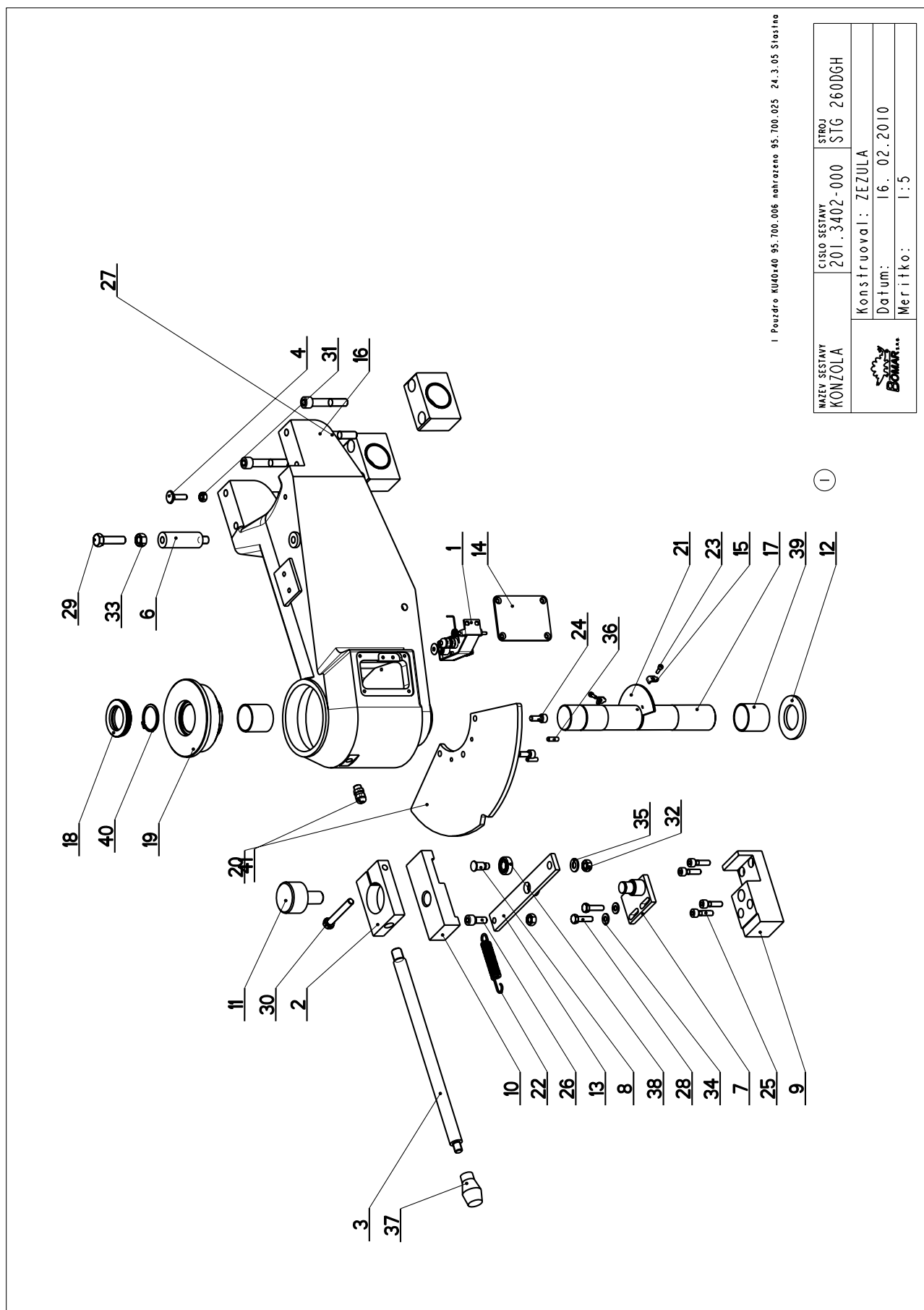
NAZEV SESTAVY RAMENO	CÍSLO SESTAVY 201.8304-050	STROJ IND260GA
Konstruoval: VINOHRADSKÝ		
Datum: 22. 07. 2010		
Meritko: 1:10		

7.6. Kusovník / Stückliste / Piece list – Rameno / Sägerahmen / Saw arm – 2

36	99.104.002 (2)	0	ZAMEK / LOCK / SCHLOSS		ZAMEK CINSKY	2
37	99.201.008	0	VOZÍK LINEÁRNÍHO VEDENÍ / LINEAR GUIDE CART / LINEARFÜHRUNGSWAGEN			2

1. ZRUSEN KRYT KARTACKU 30.3414-059 A NAHR. 30.3414-056. 013/ZM057 5.3.2008 SLEZACKOVA
2. PRIDAN 2xZAMEK 99.104.002, 1xDRZAK 30.8407-098, 1xDRZAK 30.8407-099. 02/ZM093 3.4.2008 SLEZACKOVA
3. ZRUSEN DRZAK 30.8407-099 A NAHRAZEN DRZAKEM 30.8407-098, 30.8407-092. 175/ZM244 24.7.2008 SLEZACKOVA
4. ZRUS. DRZAK 30.8407-098, 30.8407-092, PRID. 2xTYC ZAVITOVA 30.3404-056, 2xPODLOZKA 12 (90.151.002), 6xMATICE M10 (90.100.55.006). 077/ZM108 23.4.2009 SLEZACKOVA
5. ZRUS. KRYT PASU 30.3514-203 A NAHR. 30.3514-213. ZRUS. SROUB PLASTOVY M6x10(94.007.002), KOLIK 5x12(90.303.0Z.006). 207/ZM224 22.7.2010 SLEZACKOVA

7.7. Konzola otočná / Drehkonsole / Turnable console



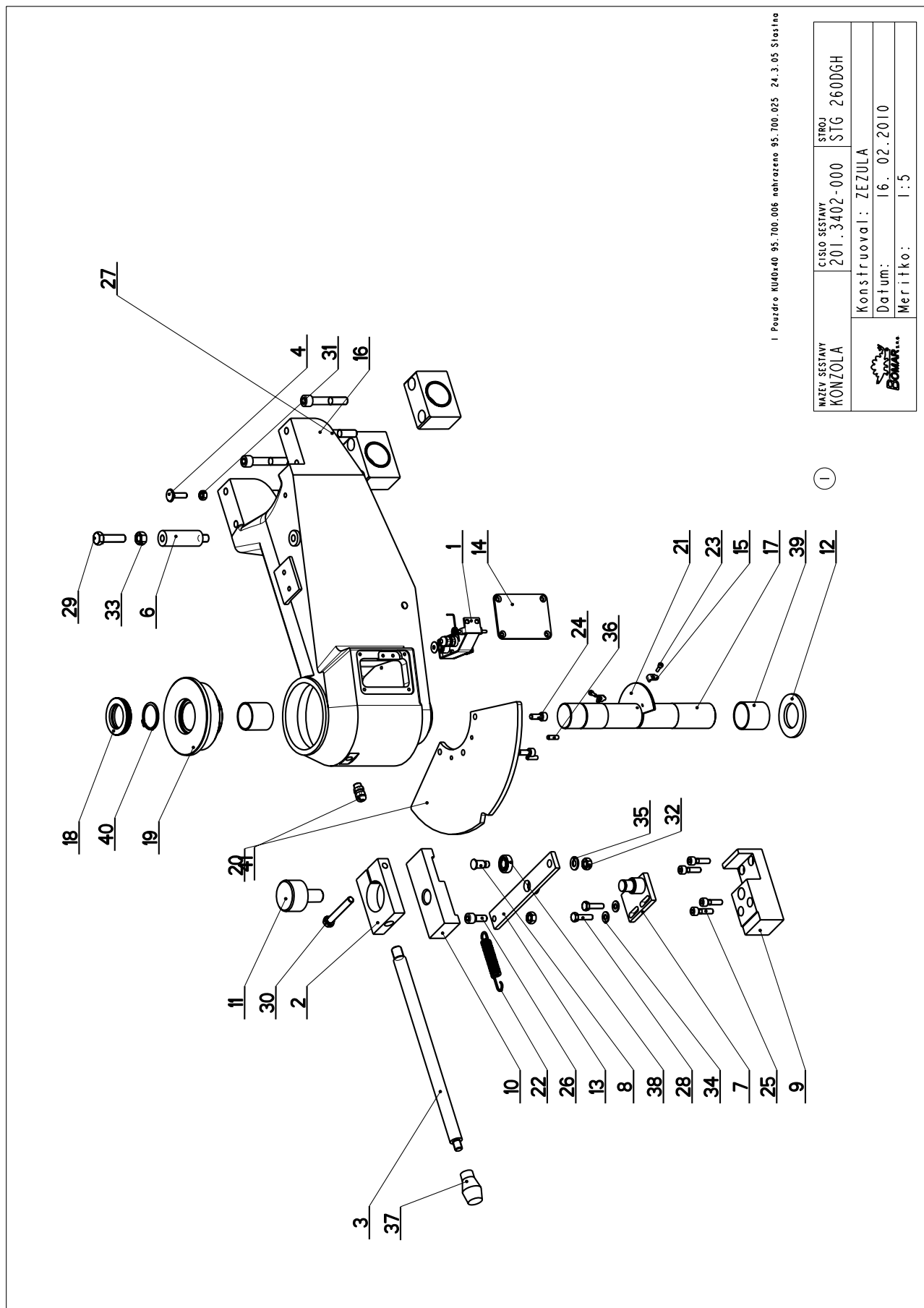
I Pouzdro KU40x40 95.700.006 nahrazeno 95.700.025 24.3.05 Stasino

NAZEV SESTAVY KONZOLA	CISLO SESTAVY 201.3402-000	STROJ STG 260DGH
	Konstruoval: ZEŽULA	
	Datum: 16. 02.2010	
	Meritko: 1:5	
		

7.8. Kusovník / Stückliste / Piece list –
Konzola otočná / Drehkonsole / Turnable console

Císlo Sestavy 201.3402-000		Ver. 0	Název sestavy KONZOLA/CONSOLE/KONSOLE		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	201.2902-200	0	SNIMAC / SENSOR / SENSOR		1
2	30.0702-004	0	DRŽAK / HOLDER / HALTER	HR 70x 20	1
3	30.0702-005	0	PAKA / LEVER / HEBEL	d20	1
4	30.0702-013	0	SROUB / BOLT / SCHRAUBE	M8	1
5	30.0802-002	1	LOŽISKO / BEARING / LAGER		2
6	30.0802-008	0	DORAZ / STOP PIECE / ANSCHLAG	d 25	1
7	30.0802-010	1	CEP / LUG / BOLZEN		1
8	30.0802-011	0	CEP / LUG / BOLZEN	d16	1
9	30.0809-007	0	KOSTKA / CUBE / WÜRFEL	HR 50 x 50	1
10	30.0809-008	0	UPÍNKA / FASTENER / SPANNEISEN	HR 50 x 30	1
11	30.0809-009	0	SROUB / BOLT / SCHRAUBE		1
12	30.1702-006	0	PODLOŽKA / WASHER / UNTERLEGSCHIEBE	d 70	1
13	30.1709-003	0	PAKA / LEVER / HEBEL		1
14	30.2902-111	0	KRYT / COVER / ABDECKUNG	P 3 - 74	1
15	30.2902-112	0	DRŽAK / HOLDER / HALTER	P2 - 10	2
16	30.4902-001	2	KONZOLA / CONSOLE / KONSOLE	ODLITEK	1
17	30.4902-002	1	CEP / LUG / BOLZEN	d 42	1
18	30.4902-005	1	KROUZEK / RING / RING	TR 60x10	1
19	30.4902-006	0	VÍKO / COVER / DECKEL	ODLITEK	1
20	30.4902-007	0	DESKA / BOARD / PLATTE	P8 - 169.2	1
21	30.4902-008	0	SEGMENT / SEGMENT / SEGMENT	P 3 - 110	1
22	31.0206-005	0	PRŮŽINA / SPRING / FEDER	2.50x16x90x27	1
23	90.001.25.003	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M4x12	2
24	90.001.25.032	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x20	3
25	90.001.25.034	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x30	4
26	90.001.25.047	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x25	1
27	90.001.25.064	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x70	4
28	90.005.55.017	0	SROUB 6HRANNY / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M8x30	2
29	90.005.55.035	0	SROUB 6HRANNY / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M12x45	1
30	90.005.55.XXX	0	SROUB 6HRANNY / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M10x70	1
31	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE - M8	1
32	90.100.55.006	0	MATICE / NUT / MUTTER	MATICE - M10	2
33	90.100.55.007	0	MATICE / NUT / MUTTER	MATICE - M12	1
34	90.150.50.005	0	PODLOŽKA / WASHER / UNTERLEGSCHIEBE	PODLOŽKA 8,4	2
35	90.150.50.006	0	PODLOŽKA / WASHER / UNTERLEGSCHIEBE	PODLOŽKA 10,5	1
36	90.300.02.005	0	KOLÍK VALCOVÝ KALENÝ / CYLINDRICAL PIN TEMPERED / ZYLINDERSTIFT GEHÄRTET	KOLÍK 6x20	2

7.9. Konzola otočná / Drehkonsole / Turnable console



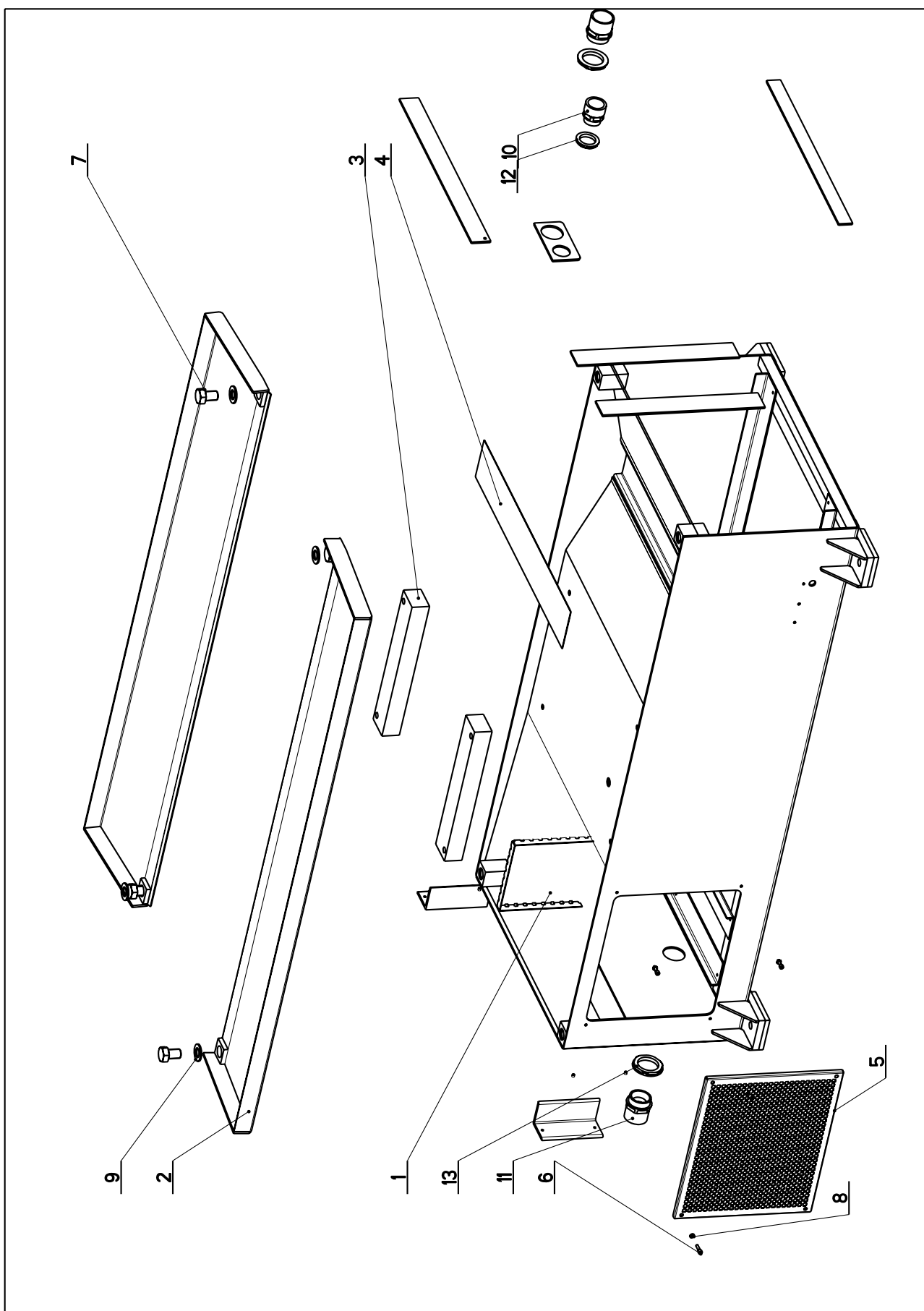
I Pouzdro KU40x40 95.700.006 nahrazeno 95.700.025 24.3.05 Stasino

NAZEV SESTAVY KONZOLA	CISLO SESTAVY 201.3402-000	STROJ STG 260DGH
	Konstruoval: ZEŽULA	
	Datum: 16. 02.2010	
	Meritko: 1:5	
		

7.10. Kusovník / Stückliste / Piece list –
Konzola otočná / Drehkonsole / Turnable console

37	94.002.001	0	RUKOJET / HANDLE / GRIFF		1
38	95.001.005	0	LOŽISKO / BEARING / LAGER	6001 2RS	1
39	95.700.025	0	POUZDRO / SLEEVE / BÜCHSE	40x40	2
40	95.800.015	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNY KROUZEK 40	1
41	M 12	0	VYVODKA / BUSHING / TÜLLE		1

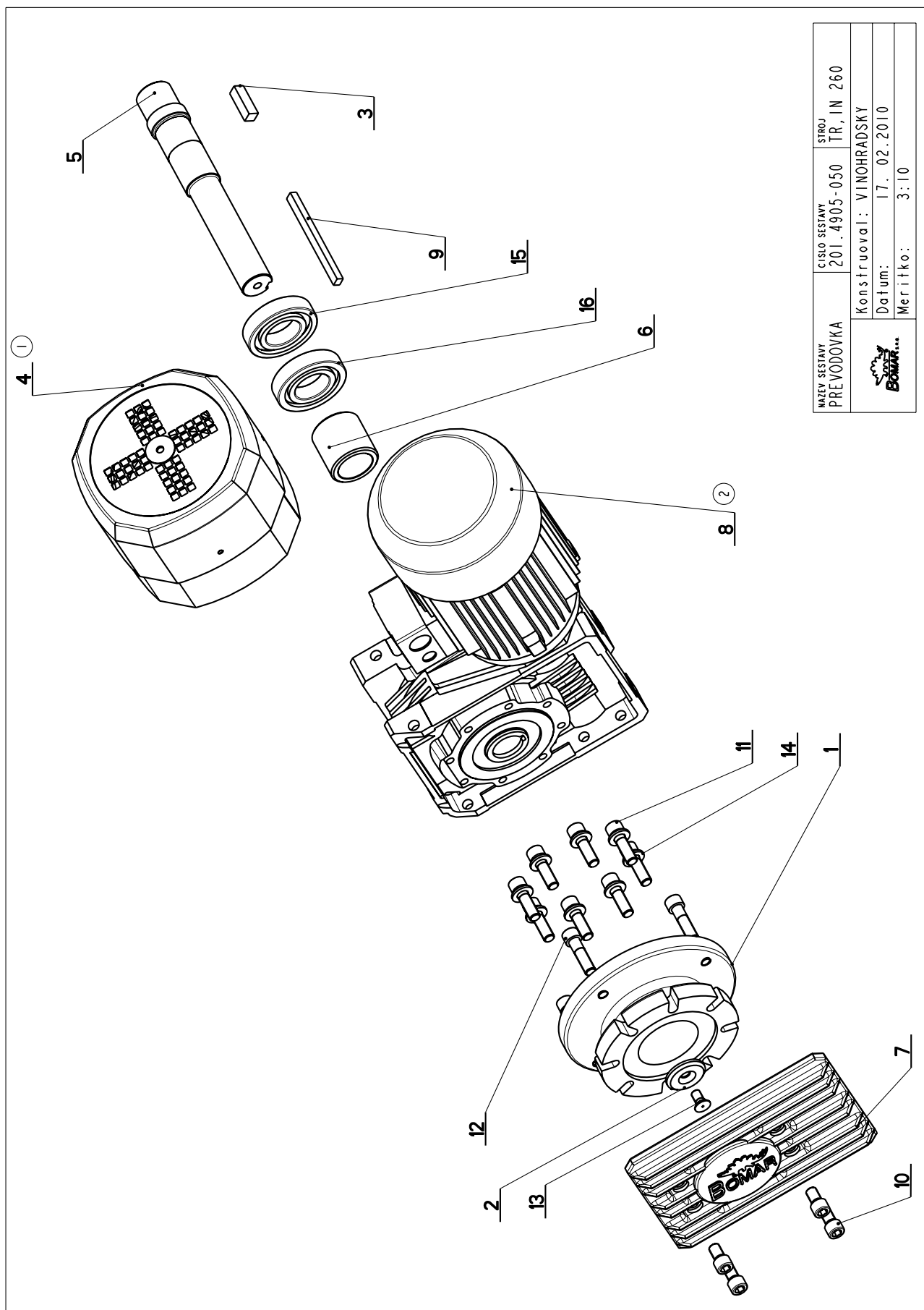
7.11. Podstavec / Untersatz / Base



7.12. Kusovník / Stückliste / Piece list – Podstavec / Untersatz / Base

Císlo Sestavy 201.3401-000		Ver. 0	Název sestavy PODSTAVEC / BASE / UNTERSATZ	
Poz.	Objednací číslo	Ver.	Název položky	Ks
1	30.3401-001	5	PODSTAVEC / BASE / UNTERSATZ	1
2	30.3401-002	0	SKLUZ / SLIDE / RUTSCH	2
3	30.3401-003	0	LISTA / TRIM / LEISTE	2
4	30.3401-004	0	SITO / SIEVE / GITTERWERK	1
5	31.1801-004	1	KRYT / COVER / ABDECKUNG	1
6	90.001.25.010	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	4
7	90.005.55.040	0	SROUB ŠHRANNÝ / 6 SIDED BOLT / SECHSKANTSCHRAUBE	4
8	90.150.50.003	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	4
9	90.150.50.011	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	4
10	91.071.004	0	VÝVODKA / BUSHING / TÜLLE	1
11	91.071.005	0	PRUCHODKA / LEADTHROUGH / DURCHFÜHRUNG	2
12	91.072.007	0	MATICE / NUT / MUTTER	1
13	91.072.008	0	MATICE / NUT / MUTTER	2

7.13. Pohon / Antrieb / Drive



NAZEV SESTAVY PREVODOVKA	CÍSLO SESTAVY 201.4905-050	STROJ TR, IN 260
Konstruoval: VINOHRADSKÝ		
Datum: 17. 02.2010		
Meritko: 3:10		

7.14. Kusovník / Stückliste / Piece list – Svěrák / Schraubstock / Vice

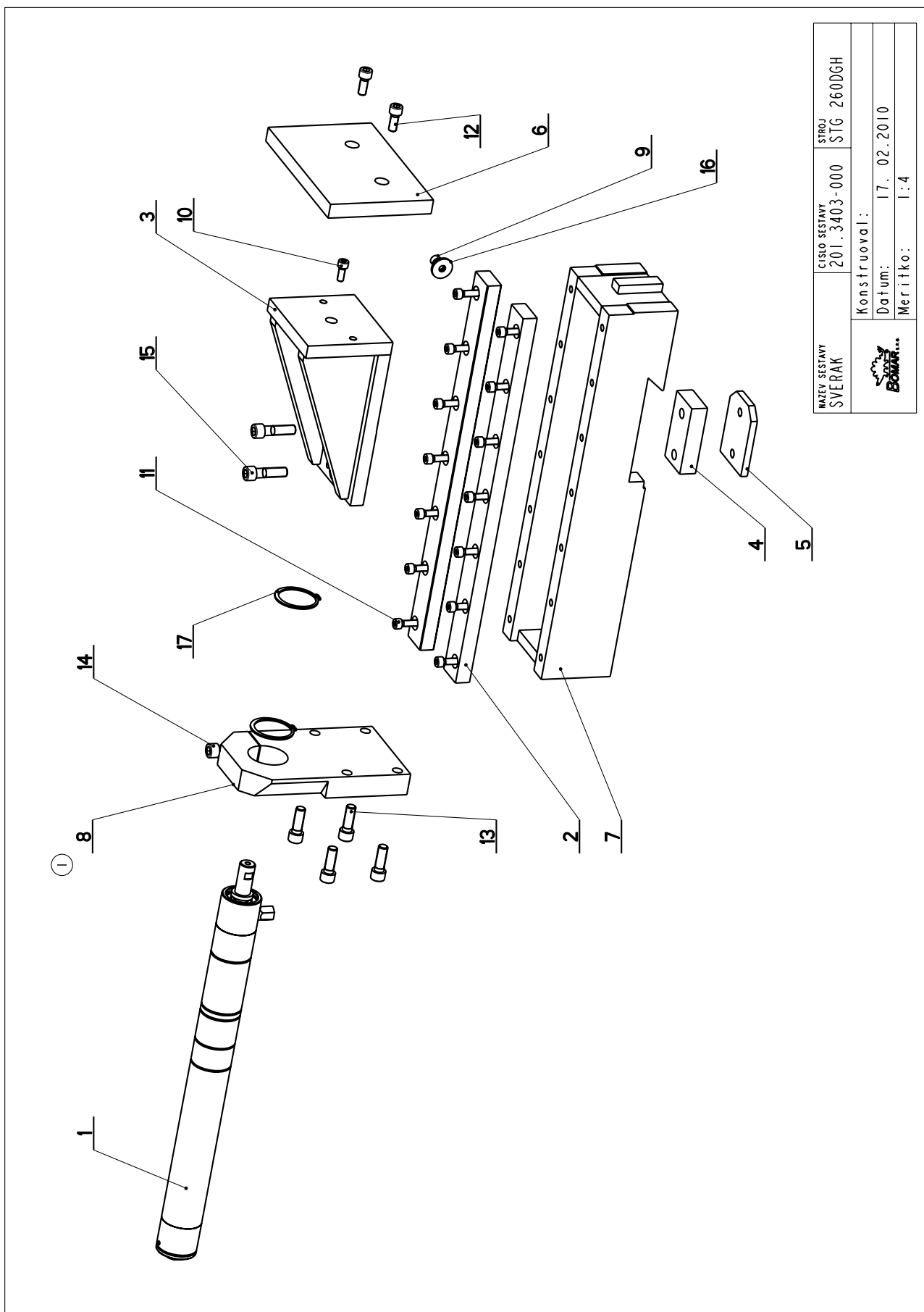
Číslo Sestavy 201.4905-050		Ver. 2	Název sestavy PŘEVODOVKA/TRANSMISSION /GETRIEBE		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.0804-002	0	PŘÍRUBA / FLANGE / FLANSCH	ODLITEK	1
2	30.1704-008	0	PODLOŽKA / WASHER / UNTERLEGSCHIEBE	d 45	1
3	30.1704-012	0	PERO / SPRING / FEDER		1
4	30.3404-060	0	VENTILATOR / VENTILATOR / VENTILATOR		1
5	30.4904-003	2	HRDEL / SHAFT / WELLE	d 45	1
6	30.4904-004	0	KROUZEK DISTANČNÍ / DISTANCE RING / DISTANZRING	TR 55x8	1
7	30.4904-057	0	VÍKO / COVER / DECKEL	200x21	1
8	30.4905-052	0	PŘEVODOVKA SNEKOVÁ / WORM GEAR TRANSMISSION / SCHNECKENGETRIEBE	W86 2.2kw V6 P100	1
9	30.9205-004	0	PERO / SPRING / FEDER	HR 10x8	1
10	90.001.25.056	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x20	4
11	90.001.25.060	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x40	8
12	90.001.25.061	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x45	4
13	90.011.27.008	0	SROUB ZAPUSTNÝ / COUNTERSINK BOLT / SENKSCRAUBE	SROUB M10x20	1
14	90.150.50.007	0	PODLOŽKA / WASHER / UNTERLEGSCHIEBE	PODLOŽKA 13	8
15	95.001.021	0	LOŽISKO / BEARING / LAGER	6208 2RS	1
16	95.200.001	0	VALEČKOVÉ LOŽISKO / BEARING / LAGER	VALEČKOVÁ L. IRADA	1

I. PRIDAN VENTILATOR 30.3404-060,VÝMENA PŘEVODOVKY 99.001.066 NAHR. UPRAVOU PŘEVODOVKY 30.4905-051. 007,008/ZM008 SLEZACKOVA

2. ZRUS. PŘEVODOVKA 30.4905-051 A NAHR. PŘEVODOVKU 30.4905-052. 429/ZM028 22.1.2008 SLEZACKOVA

1. PRIDAN VENTILATOR 30.3404-060, VÝMENA PŘEVODOVKY 99.001.066 NAHR. UPRAVOU PŘEVODOVKY 30.4905-051. 007,008/ZM008 SLEZACKOVA
2. ZRUS. PŘEVODOVKA 30.4905-051 A NAHR. PŘEVODOVKU 30.4905-052. 429/ZM028 22.1.2008 SLEZACKOVA

7.15. Svěrák / Schraubstock / Vice



7.16. Kusovník / Stückliste / Piece list – Svěrák / Schraubstock / Vice

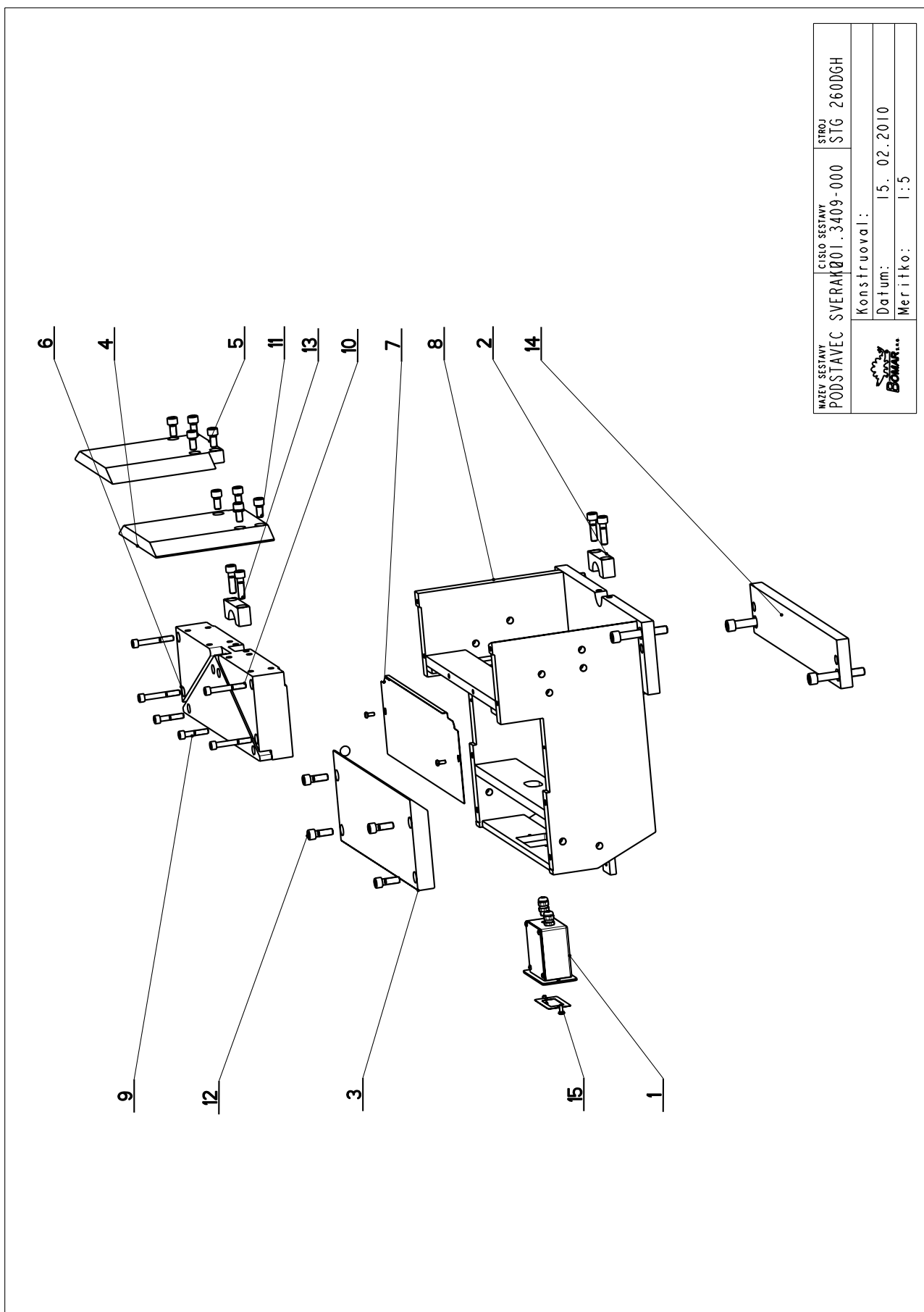
Cislo Sestavy 201.3403-000		Ver. 2	Nazev sestavy SVERAK/VICE/SCHRAUBSTOCK		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.3407-100	0	VALEC / ROLLER / ZYLINDER		1
2	30.3403-002	1	LISTA / TRIM / LEISTE	HR 40x20	2
3	30.3403-003	1	CELIST / JAW / BACKE		1
4	30.3403-004	1	KOSTKA / CUBE / WÜRFEL	HR 25x50	1
5	30.3403-005	1	DESKA / BOARD / PLATTE	HR 70 - 10	1
6	30.3403-006	0	CELIST POHYBLIVA / MOVING JAW / BEWEGLICHE BACKE		1
7	30.3403-007	4	SVERAK / VICE / SCHRAUBSTOCK		1
8	30.9611-014	3	CELO / HEAD / STIRN	HR 130x 30	1
9	90.001.25.029	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x12	1
10	90.001.25.032	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x20	1
11	90.001.25.033	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x25	14
12	90.001.25.047	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x25	2
13	90.001.25.059	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x35	4
14	90.001.25.060	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x40	1
15	90.001.25.061	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x45	2
16	90.151.50.005	0	PODLOZKA / WASHER / UNTERLEGSCHLEIBE	PODLOZKA 8	1
17	95.800.019	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTINY KROUZEK 52	2

I. ZRUSENA SOUCAST 30.3403-008 A NAHRAZENA 30.9611-014. 17.5.2006 SLEZACKOVA

</

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.17. Svěrák / Schraubstock / Vice



NAZEV SESTAVY PODSTAVEC	CÍSLO SESTAVY SVERAK 001.3409-000	STROJ STG 260DGH
Konstruoval:		
Datum: 15. 02.2010		
Měřítko: 1:5		

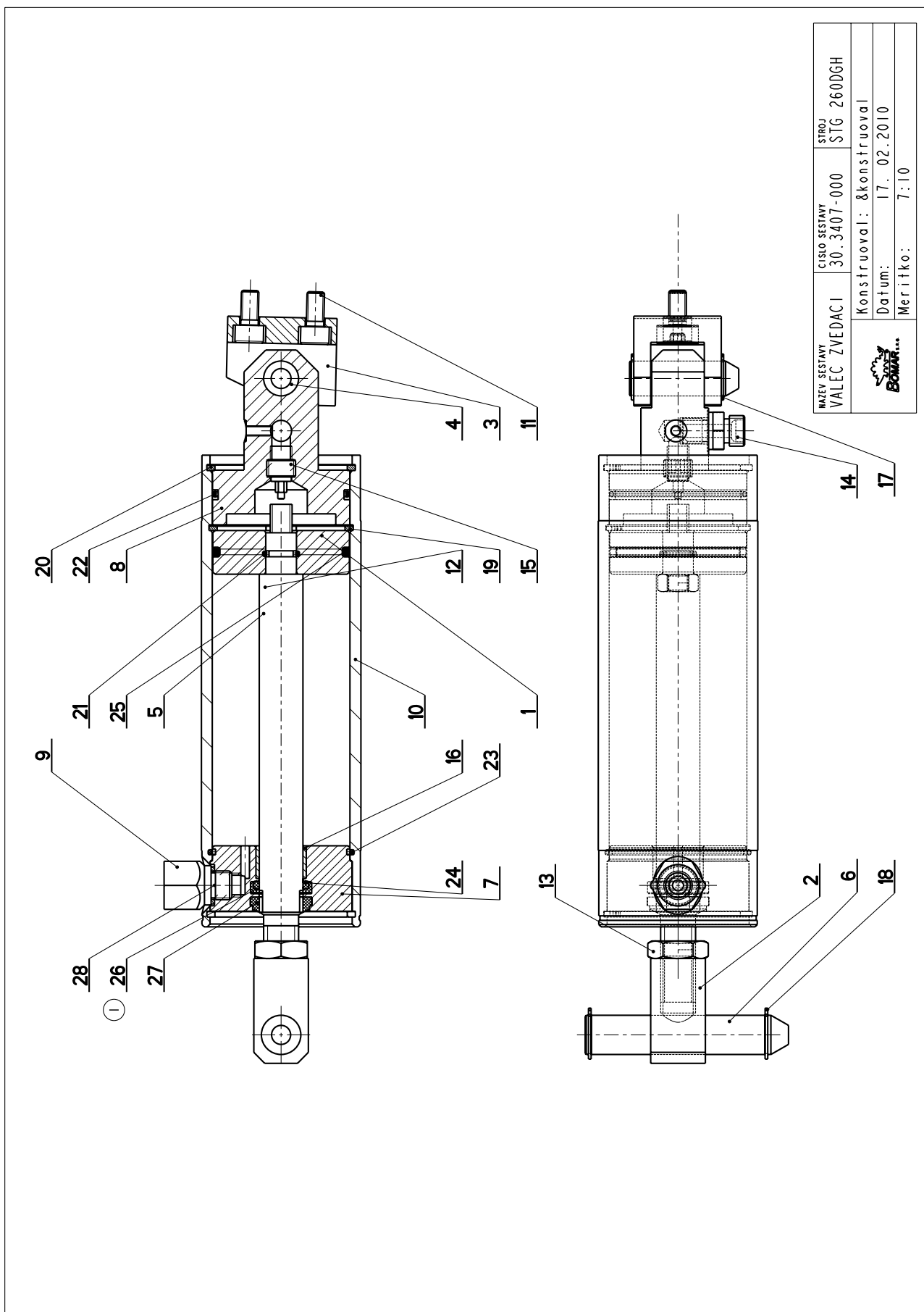
7.18. Kusovník / Stückliste / Piece list – Svěrák / Schraubstock / Vice

Cislo Sestavy 201.3409-000		Ver. 0	Nazev sestavy PODSTAVEC SVERAKU/VICE BASE /SCHRAUBSTOCKUNTERSATZ		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.2903-100	0	DISPLEJ / DISPLAY / DISPLAY		1
2	30.1709-002	0	PRILOZKA / STRAP / LASCHE	HR 30 x 20	2
3	30.1709-004	1	DESKA / BOARD / PLATTE	HR 150 x 30	1
4	30.1709-007	0	CELIST / JAW / BACKE	HR 200 x 20	1
5	30.1709-008	0	CELIST / JAW / BACKE		1
6	30.1709-009	0	DESKA / BOARD / PLATTE		1
7	30.1714-106	2	KRYT / COVER / ABDECKUNG	P 0.5-147	1
8	30.3409-101	2	PODSTAVEC SVERAKU / VICE BASE / SCHRAUBSTOCKUNTERSATZ		1
9	90.001.25.036	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x40	2
10	90.001.25.040	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x60	4
11	90.001.25.046	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x20	8
12	90.001.25.048	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x30	4
13	90.001.25.049	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x35	4
14	90.001.25.065	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x80	4
15	90.013.27.004	0	SROUB PULKULATY / HALF ROUND BOLT / HALBRUNDSCHRAUBE	M5x12	4

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

Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.19. Válec zvedací / Hebezyylinder / Lifting cylinder



7.20. Kusovník / Stückliste / Piece list –
Válec zvedací / Hebezyylinder / Lifting cylinder

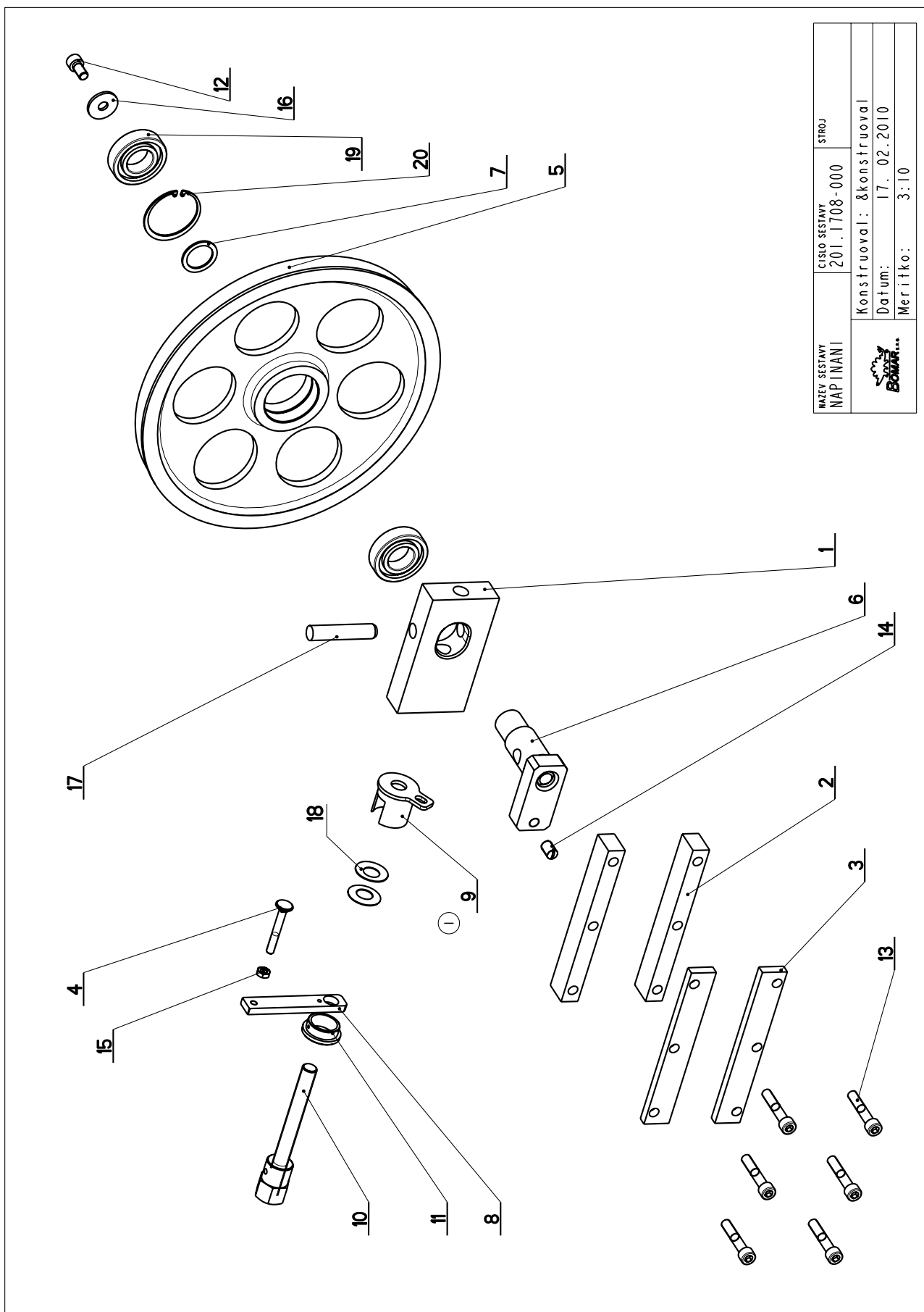
Číslo Sestavy 30.3407-000		Ver. I	Název sestavy VALEC ZVEDACÍ/LIFTING CYLINDER/HEBEZYLINDER		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.0807-004	0	PIST / PISTON / KOLBEN	d 70	1
2	30.0807-006	0	DRŽAK / HOLDER / HALTER	TYC 25x25	1
3	30.0807-008	1	DRŽAK / HOLDER / HALTER	HR 40x40	1
4	30.0807-009	1	CEP / LUG / BOLZEN	d 16h9	1
5	30.1707-002	0	PISTNICE / PISTON ROD / KOLBENSTANGE	d 20	1
6	30.1707-003	1	CEP / LUG / BOLZEN	d 18	1
7	30.1807-001	1	VÍKO / COVER / DECKEL	TYC 70	1
8	30.1807-004	2	VÍKO / COVER / DECKEL	d 65	1
9	30.1807-005	3	SROUBENÍ / BOLTING / VERSCHRAUBUNG	6-HR 22	1
10	30.3407-001	1	VALEC / ROLLER / ZYLINDER	TR 73/ 63H8	1
11	90.001.25.031	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x16	2
12	90.100.55.006	0	MATICE / NUT / MUTTER	MATICE - M10	1
13	90.101.55.003	0	MATICE / NUT / MUTTER	MATICE M16	1
14	92.002.001	0	SROUBENÍ PRIME / DIRECT BOLTING / GERADE VERSCHRAUBUNG	G 1/4"	1
15	92.151.001	0	VENTIL POJISTNÝ / SAFETY VALVE / SICHERUNGSVENTIL	VPNH1-4	1
16	95.700.003	0	POUZDRO / SLEEVE / BÜCHSE	20x15	1
17	95.800.007	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUBEN	POJISTNÝ KROUZEK 16	2
18	95.800.008	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUBEN	POJISTNÝ KROUZEK 18	2
19	95.801.011	0	KROUZEK POJIST.VNITR / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNÝ KROUZEK 63	1
20	95.801.012	0	KROUZEK POJIST.VNITR / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNÝ KROUZEK 65	2
21	96.001.004	0	KROUZEK O STATICKY / STATIC O RING / O-RING STATISCH	10x2	1
22	96.001.015	0	KROUZEK O STATICKY / STATIC O RING / O-RING STATISCH	56x3,55	1
23	96.001.016	0	KROUZEK O STATICKY / STATIC O RING / O-RING STATISCH	60x2	1
24	96.002.010	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	20x3	1
25	96.002.020	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	56x3,5	1
26	96.041.002 (1)	0	TESNENÍ / SEALING / DICHTUNG	601-20x28x5	1
27	96.060.002	0	KROUZEK STIRACÍ / SCRAPER RING / ABSTREIFRING	KROUZEK STIRACÍ 20	1
28	96.082.002	0	TESNENÍ / SEALING / DICHTUNG	KROUZEK CU 13/17	1

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O-KROUZEK 96.002.010 NAHRAZEN MANŽETOU 96.041.002 25.4.2003 ROZHOSNY

(1) O-KROUZEK 96.002.010 NAHRAZEN MANŽETOU 96.041.002 25.4.2003 ROZKOSNY

7.21. Napínání / Spannung / Tensioning



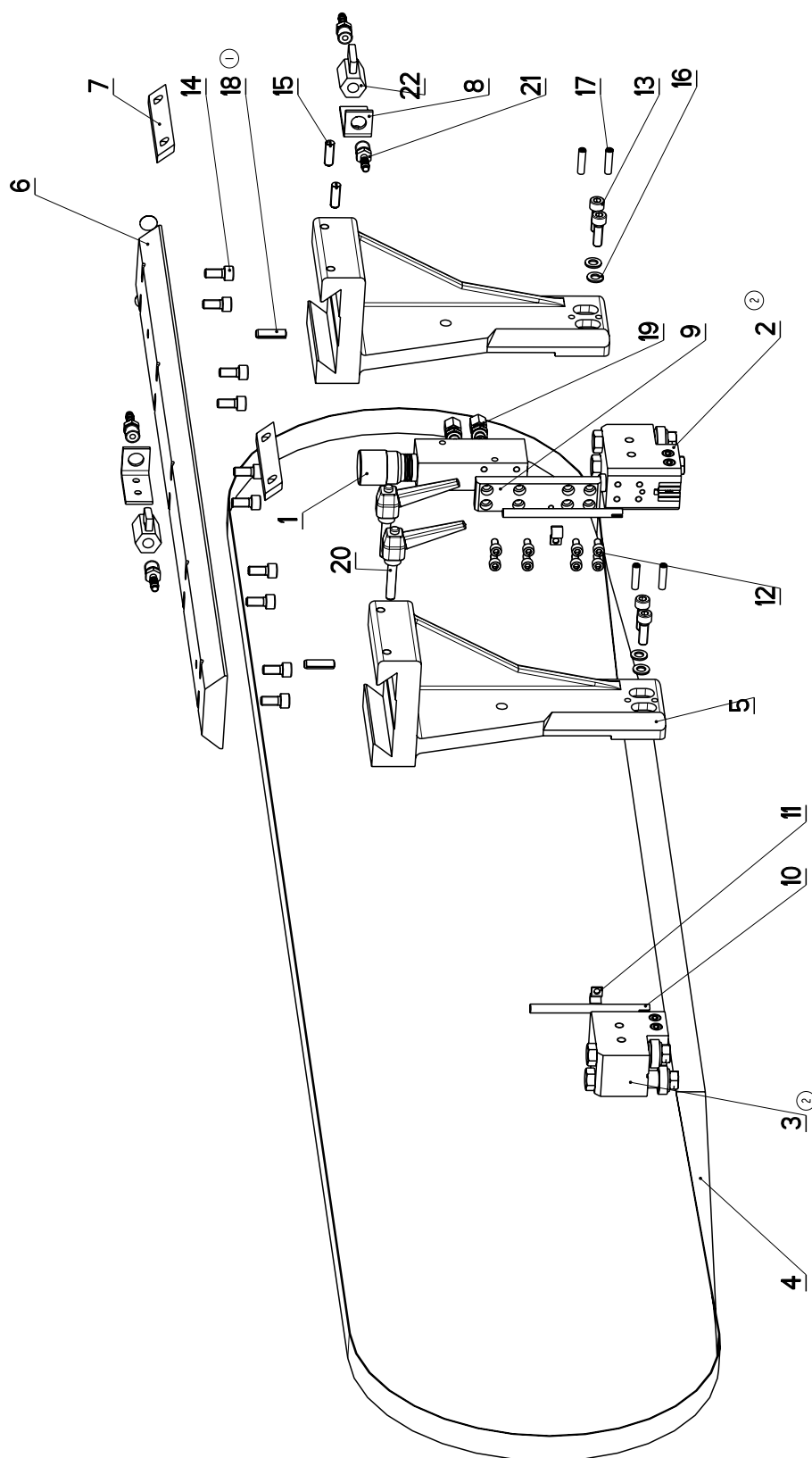
7.22. Kusovník / Stückliste / Piece list – Napínání / Spannung / Tensioning

Číslo Sestavy 201.1708-000		Ver. I	Název sestavy NAPINANI / TENSIONING / SPANNUNG		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.0808-001	I	KOSTKA NAPINANI / TENSIONING CUBE / BANDSPANNUNGSWÜRFEL	80x30	1
2	30.0808-002	I	LISTA VODICI / LEAD TRIM / FÜHRUNGSLEISTE	30x20	2
3	30.0808-006	I	LISTA / TRIM / LEISTE	HR 30x10	2
4	30.0808-007	0	SROUB / BOLT / SCHRAUBE	M8x60	1
5	30.1708-001	I	KOLO / WHEEL / UMLENKRAD	ODLITEK	1
6	30.1708-002	I	CEP NAPINANI / TENSIONING LUG / SPANNUNGSBOLZEN		1
7	30.1708-003	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	d 40	1
8	30.1708-004	3	DRŽAK / HOLDER / HALTER	HR 20x8	1
9	30.2908-102	I	DRŽAK / HOLDER / HALTER		1
10	30.3508-001	0	SROUB NAPINACI / TENSION BOLT / SCHRAUBE BANDSPANNUNG		1
11	30.3508-004	0	KROUZEK / RING / RING	d42	1
12	90.001.25.046	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x20	1
13	90.001.25.053	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x55	6
14	90.002.20.018	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M12x20	1
15	90.101.55.001	0	MATICE / NUT / MUTTER	MATICE M8	1
16	90.151.50.001	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	PODLOŽKA 10	1
17	90.300.02.003	0	KOLIK VALCOVY KALENY / CYLINDRICAL PIN TEMPERED / ZYLINDERSTIFT GEHÄRTET	KOLIK 16x80	1
18	90.350.02.002	0	PRUŽINA TALIROVA / DISC SPRING / TELLERFEDER		2
19	95.001.019	0	LOŽISKO / BEARING / LAGER	6206 2RS	2
20	95.801.010	0	KROUZEK POJIST.VNITR / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNY KROUZEK 62	1

I.ZRUSEN KALISEK 30.3508-002 A NAHRAZEN 30.2908-102. 076/ZM140 5.5.2008 SLEZACKOVA

I. ZRUSEN KALISEK 30.3508-002 A NAHRAZEN 30.2908-102. 076/ZMI40 5.5.2008 SLEZACKOVA

7.23. Vedení pásu / Sägebandführung / Belt guide



NAZEV ZESTAVY	CÍSLO ZESTAVY	STUJ
VEDENÍ PÁSU	201.3410-000	STG 260DGH
Konstruoval: ROZKOSNY		
Datum: 17. 02.2010		
Merítko: 2:5		

7.24. Kusovník / Stückliste / Piece list – Vedení pásu / Sägebandführung / Belt guide

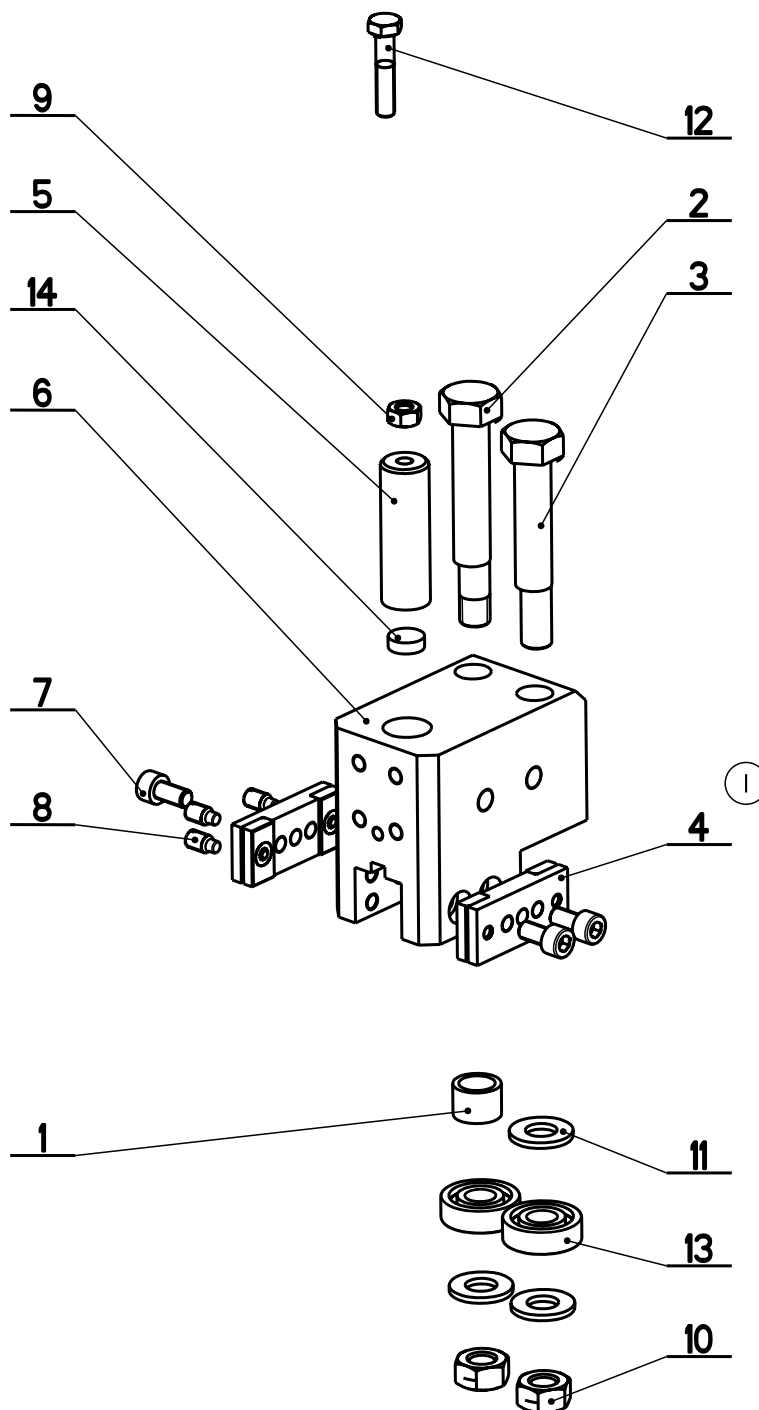
Číslo Sestavy 201.3410-000		Ver. 2	Název sestavy VEDENÍ PASU/BELT GUIDE / SÄGEBANDFÜHRUNG		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	251.077	0	REGULACE PRÍTLAKU / PRESSURE REGULATION / SCHNITTDRUCKREGULATION		1
2	201.3510-110 2	0	KOSTKA VODICI / LEAD CUBE / FÜHRUNGSKLOTZ		1
3	201.4110-110 2	0	KOSTKA VODICI / LEAD CUBE / FÜHRUNGSKLOTZ		1
4	30.1704-901	0	PAS PÍLOVY 260 / SAW BELT / SÄGEBAND	3800x25(7)x0.90	1
5	30.1710-001	0	DRŽAK / HOLDER / HALTER		2
6	30.1710-002	1	LISTA / TRIM / LEISTE	HR 80x20	1
7	30.1710-008	1	LISTA / TRIM / LEISTE	HR 25x6	2
8	30.1814-011	0	DRŽAK / HOLDER / HALTER	P 3- 16	2
9	30.3510-003	0	DESKA / BOARD / PLATTE	HR 30x12	1
10	30.3510-004	0	TRUBKA / TUBE / ROHR	TR 8x 1	2
11	30.9010-003	0	DRŽAK / HOLDER / HALTER	PI.5x10	2
12	90.001.25.016	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x12	8
13	90.001.25.033	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x25	4
14	90.001.25.105	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x18	10
15	90.002.20.013	0	SROUB STAVECI / ADJUSTMENT BOLT / STELSCHRAUBE	SROUB M8x25	2
16	90.153.50.001	0	PODLOŽKA / WASHER / UNTERLEGSCHIEBE	PODLOŽKA 8.4	4
17	90.302.02.XXX	0	KOLÍK KUZELOVÝ / TAPER PIN / KEGBOLZEN	KOLÍK 6x26	4
18	90.303.02.021 1	0	KOLÍK / PIN / BOLZEN	KOLÍK 8x28	2
19	92.002.102	0	SROUBENÍ PRÍME / DIRECT BOLTING / GERADE VERSCHRAUBUNG	S-GEV-8LLR	2
20	94.008.003	0	PAKA UPÍNAČÍ / ATTACHMENT LEVER / SPANNHEBEL	M8x40	2
21	94.202.002	0	REDUKCE / REDUCTION / ADAPTOR / REDUKTION	REDUKCE 6/R1/4"	4
22	99.260.003	0	VENTIL / VALVE / VENTIL	1/4"	2

I. VÝMENA KOLÍKU - ZRUS.2xKOLÍK VALCOVÝ 90.302.02.002 A NAHR. 2xKOLÍK PRUZNÝ 8x28 90.303.02.021. 344/ZM362 24.9.2007 SLEZACKOVA

2.ZRUS.KOSTKA 201.4110-100 A NAHR.KOSTKOU 201.4110-110,ZRUS.KOSTKA 201.3510-100 A NAHR.KOSTKOU 201.3510-110. 142/ZM170 18.8.2009 SLEZACKOVA

1. VÝMENA KOLÍKU - ZRUS.2xKOLÍK VALCOVÝ 90.302.02.002 A NAHR. 2xKOLÍK PRUŽNÝ 8x28 90.303.02.021. 344/ZM362 24.9.2007 SLEZACKOVA
2. ZRUS. KOSTKA 201.4110-100 A NAHR. KOSTKOU 201.4110-110, ZRUS. KOSTKA 201.3510-100 A NAHR. KOSTKOU 201.3510-110.
142/ZM170 18.8.2009 SLEZACKOVA

7.25. Vodící kostka / Führungsklotz / Guiding cube



NAZEV SESTAVY KOSTKA VODICI	CISLO SESTAVY 201.3510-110	STROJ STG 260GA
	Konstruoval:	
	Datum: 02. 04.2010	
	Meritko: 1:2	

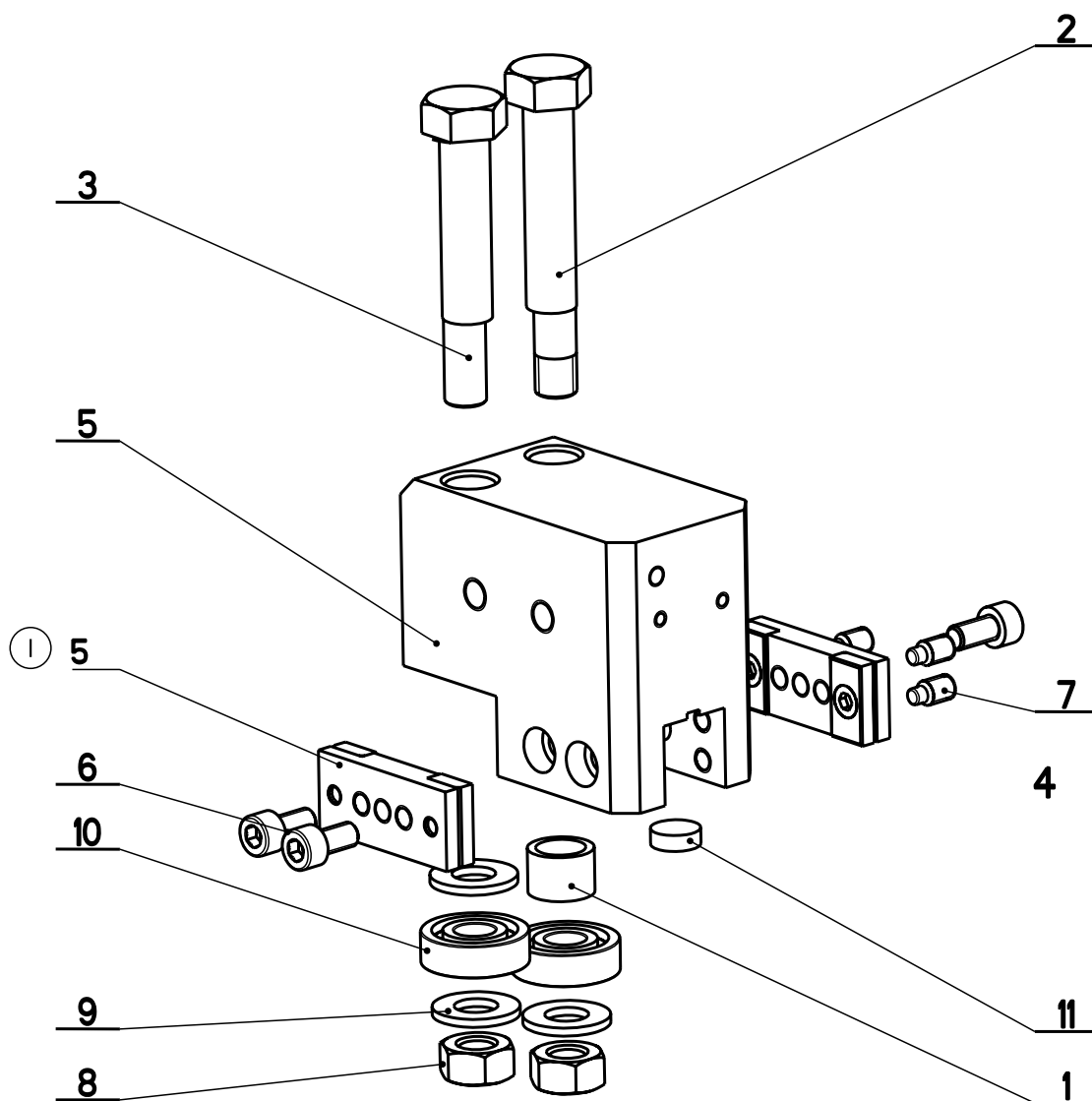
7.26. Kusovník / Stückliste / Piece list –
Vodící kostka / Führungsklotz / Guiding cube

Cislo Sestavy 201.3510-110		Ver. 1	Nazev sestavy KOSTKA VODICI/LEAD CUBE/FÜHRUNGSKLOTZ		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.1710.006	0	KROUZEK DISTANČNÍ / DISTANCE RING / DISTANZRING	TR 16x2	1
2	30.0810-009	1	EXCENTR / CAM / EXZENTER	SK 15 (14)	1
3	30.1710-007	0	EXCENTR / CAM / EXZENTER	SROUB M12X50	1
4	30.1710-015	0	DESKA / BOARD / PLATTE		2
5	30.3510-002	1	DRŽAK TVRDOKOVU / /	TYC 16	1
6	30.3510-011	0	KOSTKA VODICI / LEAD CUBE / FÜHRUNGSKLOTZ	TYC 80x50	1
7	90.001.25.016	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6X12	3
8	90.004.20.002	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M6X12	3
9	90.100.55.004	0	MATICE / NUT / MUTTER	MATICE - M6	1
10	90.100.55.006	0	MATICE / NUT / MUTTER	MATICE - M10	2
11	90.150.50.006	0	PODLOŽKA / WASHER / UNTERLEGSCHIEBE	PODLOŽKA 10,5	3
12	90.401.02.002	0	SROUB 6HRANNÝ / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M6X30	1
13	95.001.004	0	LOŽISKO / BEARING / LAGER	6000 2RS	2
14	99.040.002	0	TVRDOKOV / HARD METAL / HM-SEGMENT	d 12	1

I.ZRUS.SOUCAST 30.1710-010 A NAHRAZENA 30.1710-015. 080/ZM086 2.4.2010 SLEZACKOVA

1. ZRUS.SOUCAST 30.1710-010 A NAHRAZENA 30.1710-015. 080/ZM086 2.4.2010 SLEZACKOVA

7.27. Vodící kostka / Führungsklotz / Guiding cube



NAZEV SESTAVY KOSTKA VODICI	CISLO SESTAVY 201.4110-110	STROJ STG 260
	Konstruoval:	
	Datum: 17. 07.2002	
	Meritko: 7:10	

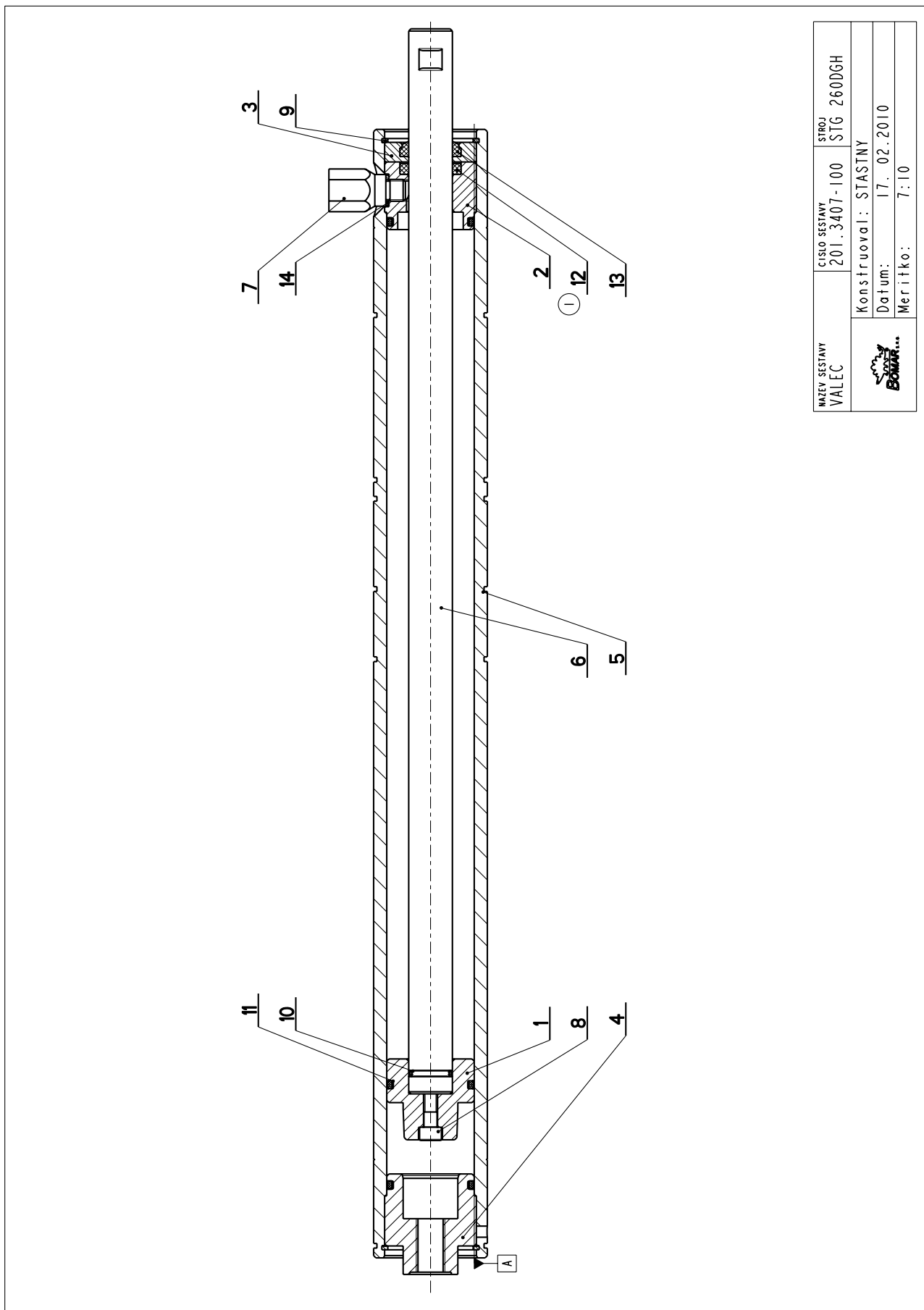
7.28. Kusovník / Stückliste / Piece list –
Vodící kostka / Führungsklotz / Guiding cube

Cislo Sestavy 201.4110-110		Ver. 1	Název sestavy KOSTKA VODICI/LEAD CUBE/FÜHRUNGSKLOTZ		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.1710.006	0	KROUZEK DISTANČNÍ / DISTANCE RING / DISTANZRING	TR 16x2	1
2	30.0810-009	1	EXCENTR / CAM / EXZENTER	SK 15 (14)	1
3	30.1710-007	0	EXCENTR / CAM / EXZENTER	SROUB M12x50	1
4	30.1710-015	0	DESKA / BOARD / PLATTE		2
5	30.4110-111	1	KOSTKA VODICI / LEAD CUBE / FÜHRUNGSKLOTZ	HR 80x50	1
6	90.001.25.016	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x12	3
7	90.004.20.002	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M6x12	3
8	90.100.55.006	0	MATICE / NUT / MUTTER	MATICE - M10	2
9	90.150.50.006	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	PODLOŽKA 10,5	3
10	95.001.004	0	LOŽISKO / BEARING / LAGER	6000 2RS	2
11	99.040.002	0	TVRDOKOV / HARD METAL / HM-SEGMENT	12x4	1

I.ZRUS.SOUCAST 30.1710-010 A NAHR.30.1710-015. 080/ZM086 2.4.2010 SLEZACKOVA

Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.29. Válec / Zylinder / Cylinder



7.30. Kusovník / Stückliste / Piece list – Válec / Zylinder / Cylinder

Cislo Sestavy 201.3407-100		Ver. 0	Nazev sestavy VALEC/ROLLER/ZYLINDER		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.2107-001	0	PIST / PISTON / KOLBEN	d 45	1
2	30.2107-002	0	PRIRUBA / FLANGE / FLANSCH	TYC 45	1
3	30.2107-003	0	VIKO / COVER / DECKEL	d 45	1
4	30.2107-004	0	VIKO / COVER / DECKEL	d45	1
5	30.3407-101	1	VALEC SVERAKU / VICE CYLINDER / SCHRAUBSTOCKZYLINDER	TR 52/40H8	1
6	30.3407-102	0	PISTNICE / PISTON ROD / KOLBENSTANGE	d 2017	1
7	30.3407-103	1	REDUKCE / REDUCTION / ADAPTOR / REDUKTION	TYC 17	1
8	90.001.25.019	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x25	1
9	95.801.006	0	KROUZEK POJIST.VNITR / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNY KROUZEK 42	2
10	96.002.007	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	16x2	1
11	96.002.017	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	34x3	3
12	96.041.002(1)	0	TESNENI / SEALING / DICHTUNG	601-20x28x5	1
13	96.060.002	0	KROUZEK STIRACI / SCRAPER RING / ABSTREIFRING	KROUZEK STIRACI 20	1
14	96.082.001	0	TESNENI / SEALING / DICHTUNG	KROUZEK CU 10/14	1

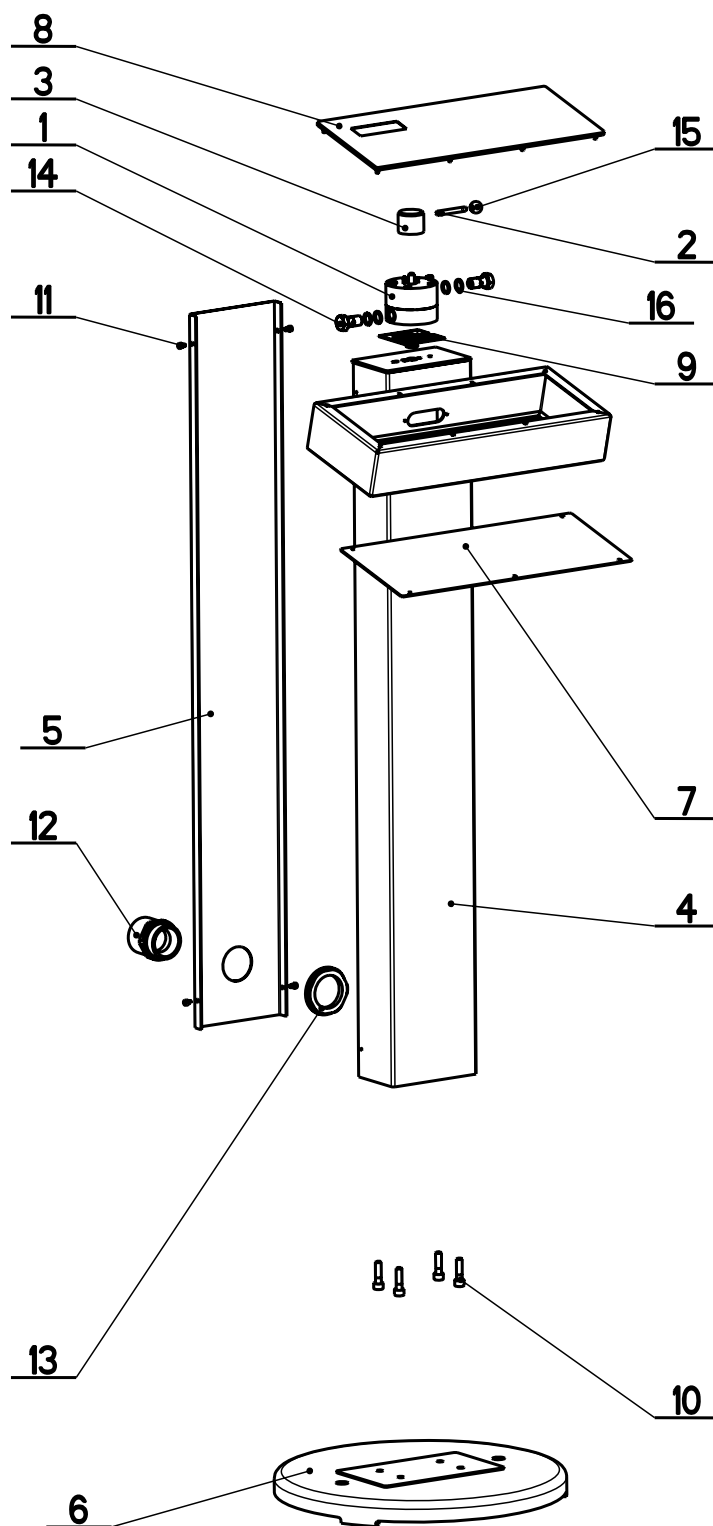
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0-KROUZEK 96.002.010 NAHRAZEN MANŽETOU 96.041.002 29.4.2003 ROZKOSNY

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

Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.31. Ovládací panel / Bedienpult / Control panel



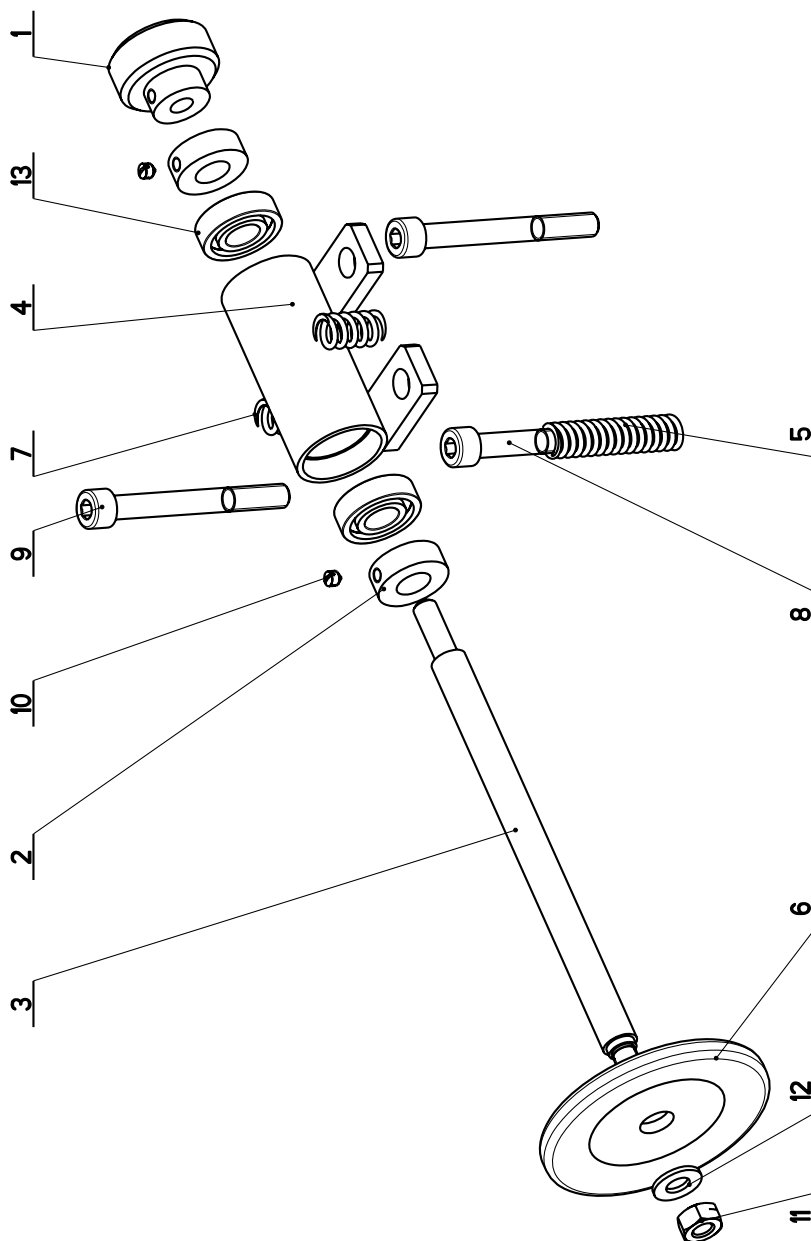
NAZEV SESTAVY OVLADACÍ PANEL	CÍSLO SESTAVY 201.3414-900	STROJ STG 400DGH
	Konstruoval:	
	Datum: 17. 02.2010	
	Meritko: 3:25	

7.32. Kusovník / Stückliste / Piece list – Ovládací panel / Bedienpult / Control panel

Cislo Sestavy 201.3414-900		Ver. I	Nazev sestavy OVLADACI PANEL/CONTROL PANEL/BEDIENPULT		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.0916-000	0	VENTIL REGULACNI / REGULATION VALVE / REGELVENTIL		1
2	30.0707-016	0	SVORNIK / HINGE PIN / KLEMME	M6	1
3	30.1814-008	0	OVLADANI SKRT.VENT. / CHOKE VALVE CONTROL / DROSSELVENTILSTEUERUNG	d 35	1
4	30.1814-012	0	PANEL / PANEL / PANEL		1
5	30.1814-013	1	VIKO / COVER / DECKEL	P 1.5 - 170	1
6	30.1814-014	2	DESKA / BOARD / PLATTE		1
7	30.1814-015	0	VIKO / COVER / DECKEL	P 1.5-154	1
8	31.0631-001	0	PANEL / PANEL / PANEL		1
9	31.0699-003	0	STITEK / LABEL / SCHILD	P 1-66	1
10	90.001.25.034	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8X30	4
11	90.001.55.086	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M4X6	4
12	91.071.005	0	PRUCHODKA / LEADTHROUGH / DURCHFÜHRUNG		1
13	91.072.008	0	MATICE / NUT / MUTTER		1
14	93.010.002	0	SROUB / BOLT / SCHRAUBE	G1/4"	2
15	94.001.001	0	RUKOJET / HANDLE / GRIFF	M6 PRUMER 16	1
16	96.082.002	0	TESNENI / SEALING / DICHTUNG	KROUZEK CU 13/17	4

Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednávací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.33. Kartáč / Bürste / Brush



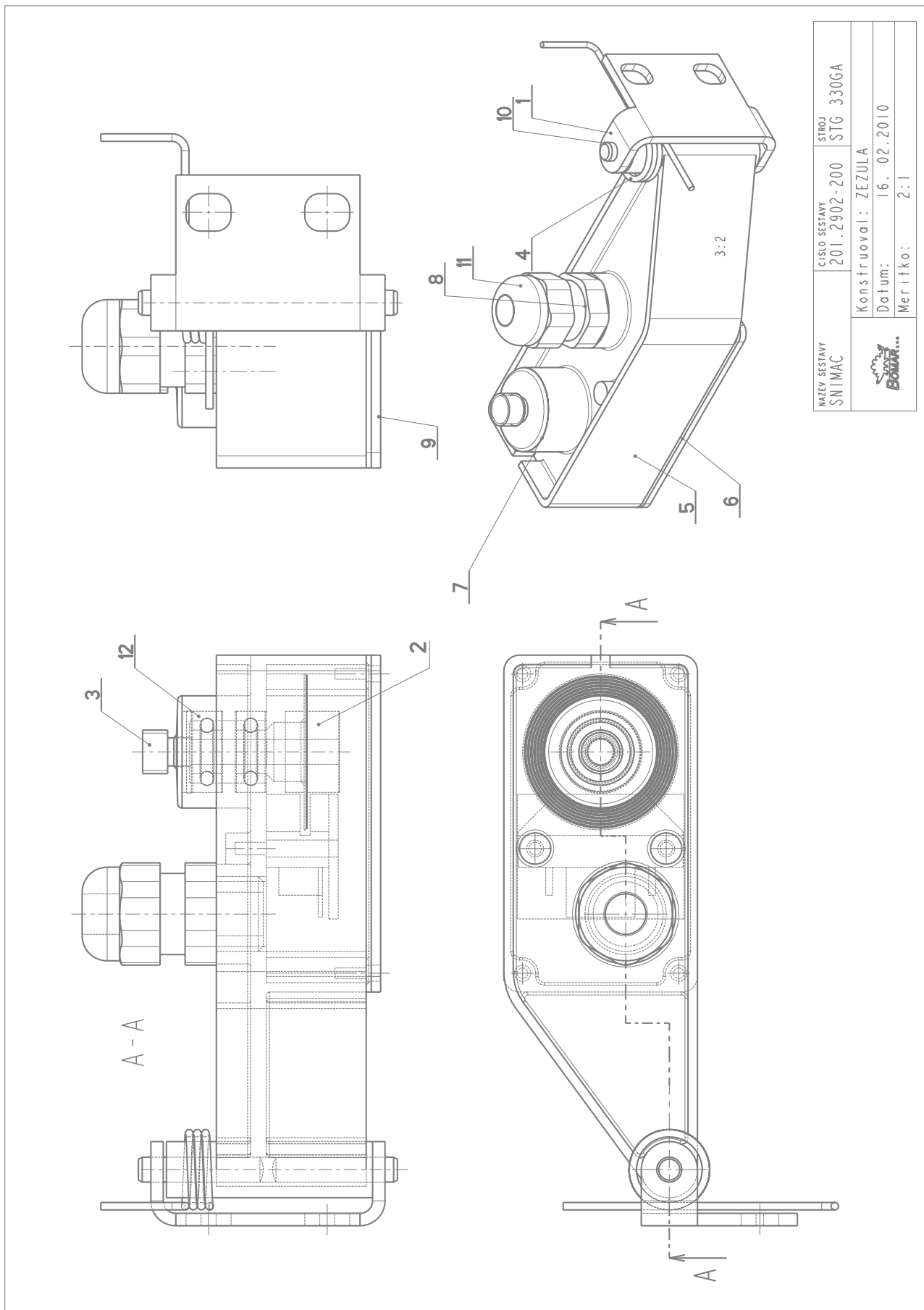
 NÁZEV SESTAVY KARTÁČ	ČÍSLO SESTAVY 201.9114-300	STROJ EC0260
	Konstruoval: STASTNA	
	Datum: 18. 11.2009	
	Meritko: 7:10	

7.34. Kusovník / Stückliste / Piece list – Kartáč / Bürste / Brush

Cislo Sestavy 201.9114-300		Ver. 0	Název sestavy KARTAC/8NAZEV_EN/8NAZEV_DE		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.0814-204	0	KOLEČKO / WHEEL / ROLLE	SESTAVA	1
2	30.0814-207	0	KROUZEK / RING / RING	ø 25	2
3	30.9114-301	0	HRDEL / SHAFT / WELLE	ø 12	1
4	30.9214-301	1	DRŽAK / HOLDER / HALTER		1
5	31.0305-211	0	PRUŽINA / SPRING / FEDER	2x12x50x15,5	1
6	31.0814-208	0	KARTAC / BRUSH / BÜRSTE		1
7	31.1506-115	0	PRUŽINA / SPRING / FEDER	1.6x12x25x7.5	2
8	90.001.25.038	0	ŠROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x50	1
9	90.001.25.095	0	ŠROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x70	2
10	90.003.20.001	0	ŠROUB STAVEČI / ADJUSTMENT BOLT / STELLSCHRAUBE	ŠROUB M5x6	3
11	90.100.55.005	0	MATICE DIN 934 / NUT / MUTTER	MATICE . M8	1
12	90.150.50.005	0	PODLOŽKA DIN125 / WASHER / UNTERLEGSCHEIBE	PODLOŽKA 8.4	1
13	95.001.005	0	LOŽISKO / BEARING / LAGER	6001 2RS	2

I POZ. 30.9114-301 NAHRAYUJE 30.0814-206 23.1.03 STASTNA

7.35. Snímač / Sensor / Sensor

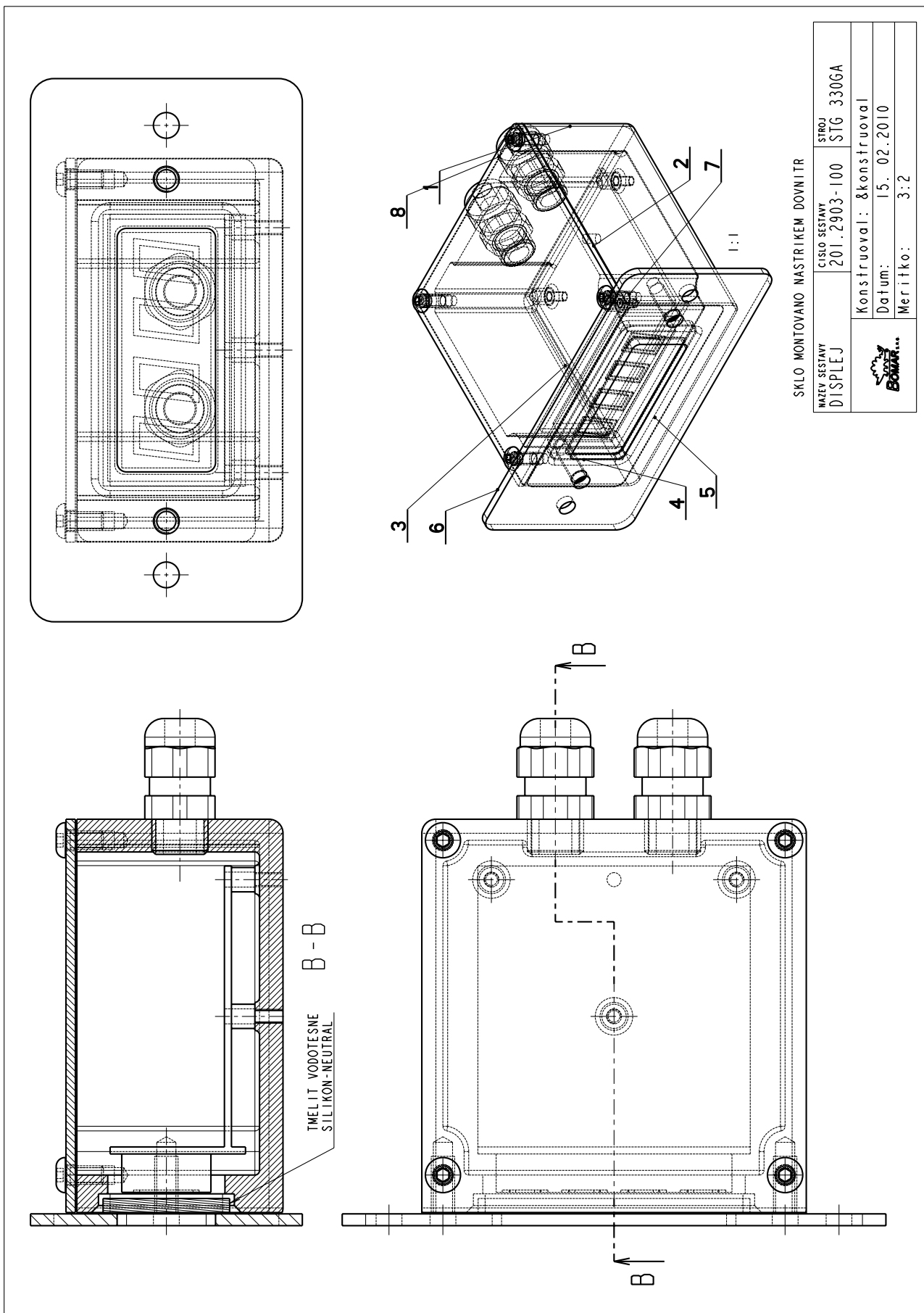


7.36. Kusovník / Stückliste / Piece list – Snímač / Sensor / Sensor

Císlo Sestavy 201.2902-200		Ver. 0	Název sestavy SNIMAC/SENSOR/SENSOR			
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks	
1	30.2902-205	1	KONZOLA / CONSOLE / KONSOLE	P2 - 25.5	1	
2	30.2902-209	0	CLONA / CURTAIN / SCHÜRZE		1	
3	30.2902-212	0	PASTOREK / PINION / RITZEL	d 7	1	
4	31.2902-113	0	PRUŽINA / SPRING / FEDER	d 1.2	1	
5	31.2902-201	0	RAMENO / SHOULDER / SÄGERAHMEN	VYLISEK-PLAST	1	
6	31.2902-204	0	TESNENÍ / SEALING / DICHTUNG	TL 1 - 32.3	1	
7	31.2902-207	0	VÍKO / COVER / DECKEL	VYLISEK- PLAST	1	
8	31.2930-001	0	SNIMAC / SENSOR / SENSOR		1	
9	81.2902-203	0	KRYT / COVER / ABDECKUNG	P 1.5 - 31.8	1	
10	90.300.02.XXX	0	KOLÍK VALCOVÝ KALENÝ / CYLINDRICAL PIN TEMPERED / ZYLINDERSTIFT GEHÄRTET	KOLÍK 4X20	2	
11	91.070.010	0	PRUCHODKA / LEADTHROUGH / DURCHFÜHRUNG	M12x1.5 ČERNA	1	
12	95.001.002	0	LOŽISKO / BEARING / LAGER	624 2RS	2	

Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.37. Displej / Display / Display



7.38. Kusovník / Stückliste / Piece list – Snímač / Sensor / Sensor

Cislo Sestavy 201.2903-100		Ver. 0	Název sestavy DISPLEJ/DISPLAY/DISPLAY	
Poz.	Objednací číslo	Ver.	Název položky	Ks
1	30.2903-101	0	KRABICE / BOX / DOSE	1
2	30.2903-103	0	VIKO / COVER / DECKEL	1
3	31.0631-212	0	DISPLEJ / DISPLAY / DISPLAY	1
4	31.2903-102	0	SKLO ORGANICKE / PLEXIGLASS / PLEXIGLAS	1
5	31.2903-106	0	TESNENÍ / SEALING / DICHTUNG	1
6	81.2903-104	0	CELO / HEAD / STIRN	1
7	90.013.27.001	0	SROUB / BOLT / SCHRAUBE	4
8	91.070.010	0	PRUCHODKA / LEADTHROUGH / DURCHFÜHRUNG	2

Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.39. Chlazení / Kühlung / Cooling

Císlo Sestavy 201.1806-000	Ver. 1	Název sestavy CHLAZENÍ/COOLING/KÜHLUNG			
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.1806-001	3	NADRŽ / CONTAINER / BEHÄLTER		1
2	30.1806-002	2	VÍKO / COVER / DECKEL	P 1.5x330x500	1
3	30.1806-003	0	VÍKO / COVER / DECKEL	P 1.5-330	1
4	91.020.004	0	CERPADLO CHLAZENÍ / COOLING PUMP / KÜHLMITTELPUMPE	230/400V	1
5	94.202.005	0	REDUKCE / REDUCTION / ADAPTOR / REDUKTION	3/4" - 6	1

The diagram shows an exploded view of a cooling unit assembly. The components are numbered as follows: 1. The main rectangular container (NADRŽ). 2. The top cover (VÍKO) with a circular opening. 3. A side panel or lid. 4. A cylindrical cooling pump (CERPADLO CHLAZENÍ) with a mounting bracket. 5. A small circular component, likely a filter or adapter, positioned between the pump and the container.

