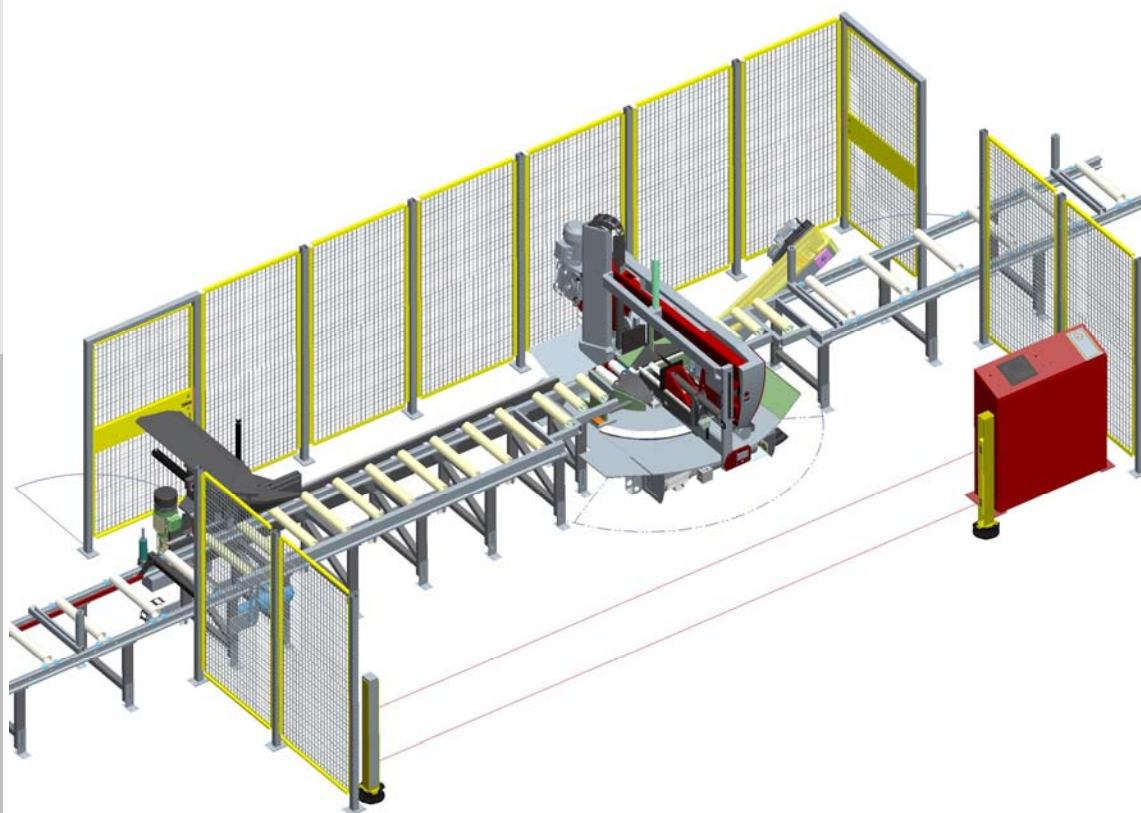




Individual 620.460 DGA

2300

Operating instructions

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

Service and information

Your BOMAR dealer:

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7⁰⁰ – 16⁰⁰

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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 **Individual 620.460 DGA** 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!

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

Attention!

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

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

1.4. Safety notes for the servicing and repairs

Attention!

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

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

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

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

1.5. Safety machine accessories

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

Enhanced risk!

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

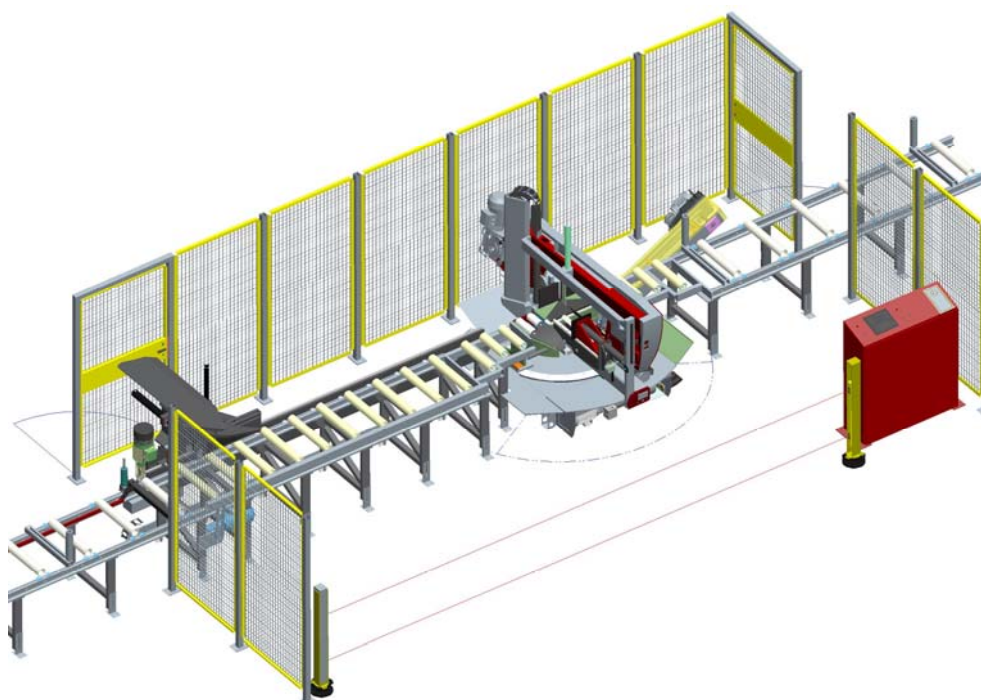
1.5.1. Total Stop

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

If any damages or fault appears, immediately press TOTAL STOP button!

Release the pressing button is possible by twisting of the upper part of the button.

1.5.2. Ochrany prostor okolo řezacího centra



Provozovatel tohoto strojního zařízení má povinnost zabránit vstupu obsluhy do chráněného prostoru při provozu stroje.

Prostor stroje by měl být chráněn plotem do výšky 2000 mm. + laserovou závorou.

1.5.3. Arm covers

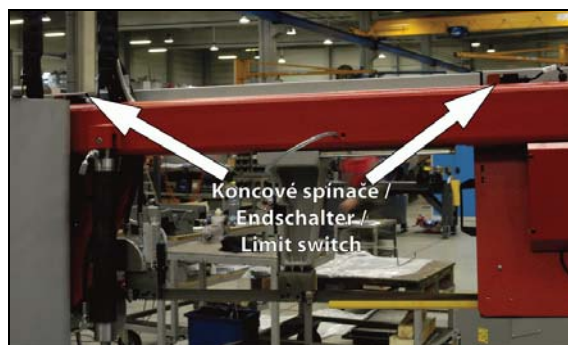
Left cover – It covers tightening wheel. If the cover is opened during operation, the limit switch is opened and the band saw is stopped. The band saw is not possible start in set mode.

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.

Central cover – It covers band saw.



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



Two limit switches on saw arm control if covers are open or not.

1.5.4. Saw band stretching and rupture inspection

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



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

1.5.5. Band saw cover

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



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

1.6. Safety notes for the cooling

Attention!

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

1.6.1. Instructions for first help

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

1.6.2. Safety information for the chip remover

The chip remover is auxiliary equipment, following information applies only for equipment with this conveyor.

Attention!

It is forbidden to enter the swarf conveyor area if the saw is in operation. All maintenance and other works on the swarf conveyor could be done only on equipment which has been switched off.

If the machine is switched on, operate it only using the control panel (see Chapter 3 Machine control).

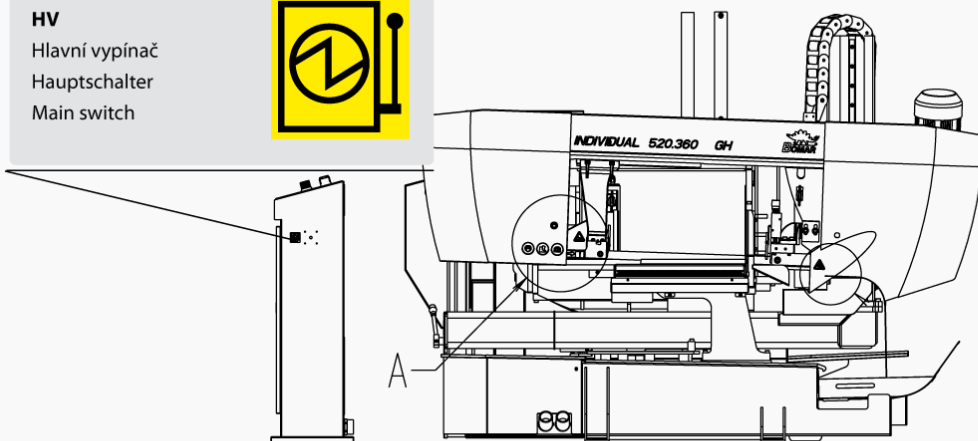
1.7. Umístění štítku stroje / Maschinenschild position / Position of machine label



The machine label is located on the saw frame, between pillar and band drive.

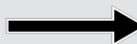
1.8. Umístění bezpečnostních značek / Verteilung der Sicherheitszeichen / Position of safety symbols

HV
Hlavní vypínač
Hauptschalter
Main switch

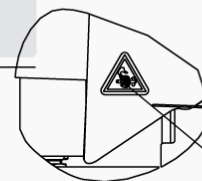
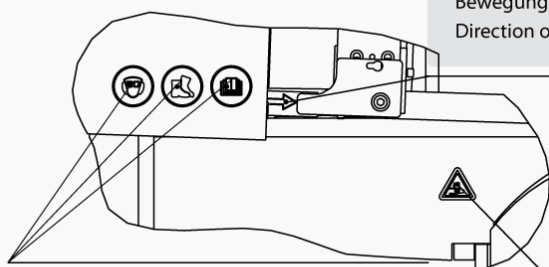


A

SP:
Směr pohybu
Bewegungsrichtung
Direction of motion



B



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



CZ:
Přečíst návod k použití
Bedienungsanleitung lesen
Read the operating instructions



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



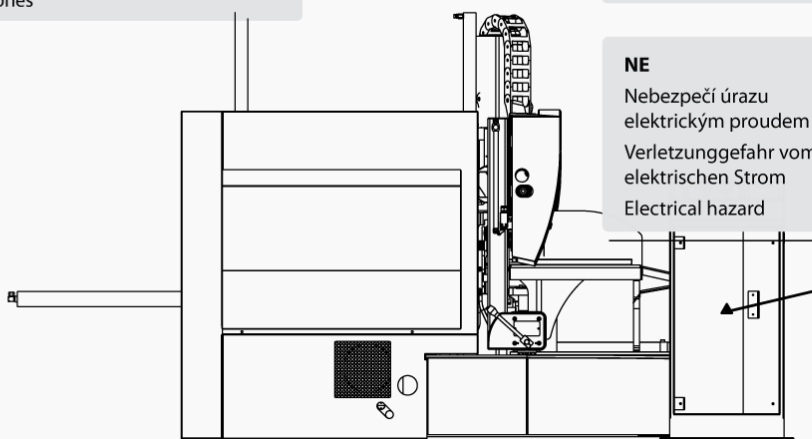
NR:
Nebezpečí zachycení
Erfassungsfahr
Tramping hazard



NS
Nebezpečí stlačení
Pressungsgefahr
Crushing hazard



NE
Nebezpečí úrazu
elektrickým proudem
Verletzungsgefahr vom
elektrischen Strom
Electrical hazard

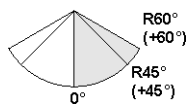


2. **Machine documentation**

2.1. Technická data / Technische Daten / Technical data

Hmotnost stroje / Maschinengewicht / Machine weight:	
• Hmotnost / Gewicht / Weight	3850 kg
Rozměry stroje / Maschinengröße / Machine size :	
• Délka / Länge / Length	5600 mm
• Šířka / Breite / Width	2990 mm
• Výška / Höhe / Height	2350 mm
Elektrické vybavení / Elektrische Ausrüstung / Electical equipment:	
• Napájení / Versorgungsspannung / Supply voltage	~3× 400 V/50 Hz,TN-C-S/TN-C
• Příkon / Gesamtschlusswert / Total Input	14 kW
• Max.jištění / Max. Vorschaltssicherung / Max. Fuse	32 A
• Krytí / Schutzart / Protection	IP 54
Akustický tlak / Schalldruckpegel / Acoustic pressure:	
• Individual 620.460 DGA	$L_{Aeqv} = 76,3$ dB
Pohon / Atrieb / Drive:	
• Typ / Typ / Type	MDERA 100 4P B14
• Napájení / Versorgungsspannung / Supply voltage	~ 3×400 V, 50 Hz
• Výkon / Leistung / Output	4 kW
• Jmenovité otáčky / Motornenndrehzahl / Nominal speed	1420 m.min ⁻¹
Podavač / Vorschub / Feeder:	
• Napájení / Versorgungsspannung / Supply voltage	~ 3×400 V, 50 Hz
• Výkon / Leistung / Output	1,5 + 1,5 kW
• Jmenovité otáčky / Motornenndrehzahl / Nominal speed	1420 m.min ⁻¹
Hydraulické zařízení / Hydraulikeinrichtung / Hydraulic equipment	
Podavač	
• Typ / Typ / Type	205.W316-000
• Výkon / Leistung / Output	0,55/0,37 kW
• Tlak / Druck /Pressure	5 MPa
Pila	
• Typ / Typ / Type	205.Y416-100
• Výkon / Leistung / Output	3 kW
• Tlak / Druck /Pressure	8 MPa
Chladicí zařízení / Kühlmiteleinrichtung / Cooling equipment:	
• Typ / Typ / Type	3COA4-12
• Obsah nádrže / Volumen vom Kühlmittel / Capacity	35 dm ³
• MICRONISER	na přání / möglich / optional
Rozměr pásu / Sägebanddimension / Band size:	
6100×41×1,3 mm	
Řezná rychlost / Schnittgeschwindigkeit / Cutting speed:	
20–120 m/min.	
Jeden Zdvih / Vorschublänge Einfachhub / One Upstroak:	
2300 mm	
Max. Délka podání / Max. Vorschublänge / Max. feeding length:	
9999 mm	
Délka nejkratšího zbytku / Die Länge der kürzesten Rest / Length of shortest rest:	
220 / 0	

Řezné rozsaHy / Schnittbereiche / Cutting size:



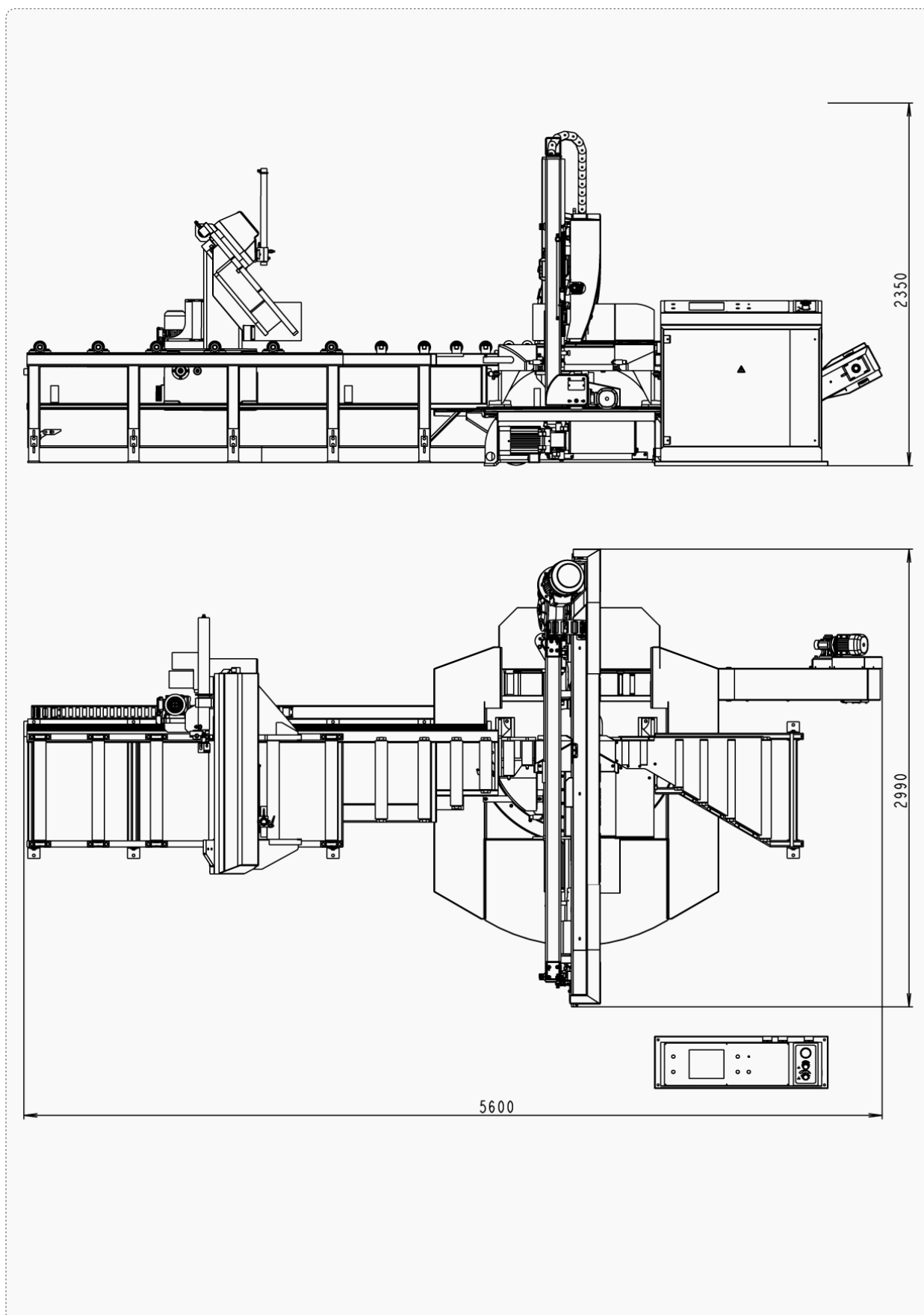
0°	Ø460 mm	620×460 mm	460×620 mm	460×460 mm
45° R	Ø420 mm	420×400 mm	460×400 mm	405×405 mm
45° L	Ø420 mm	440×300 mm	460×410 mm	420×420 mm
60° R	Ø270 mm	280×390 mm	460×265 mm	265×265 mm
60° L	Ø300 mm	300×460 mm	460×300 mm	300×300 mm

Warning:

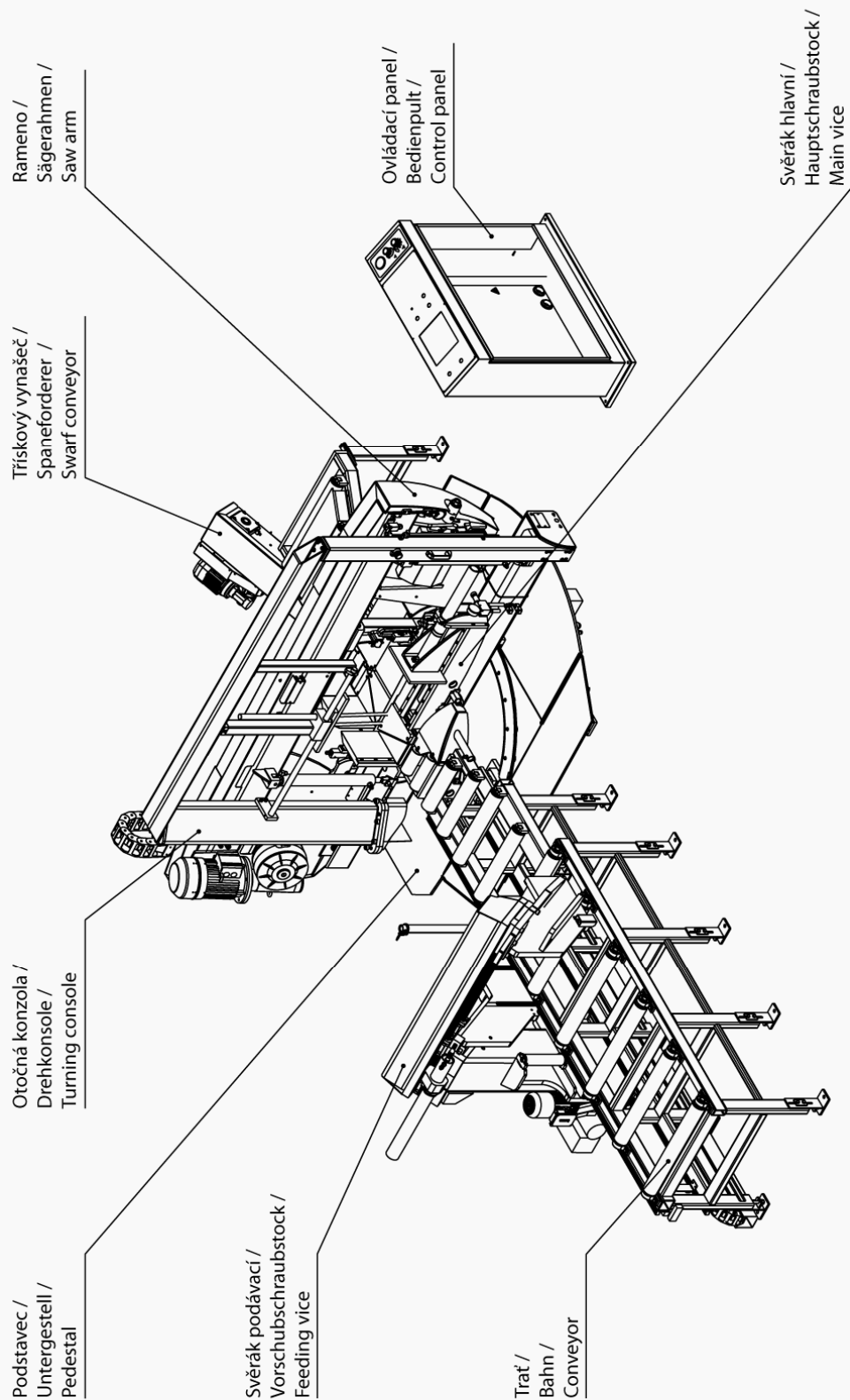
If the material detection device is installed on machine maximal workpiece height is 10 mm shorter.

Acoustic pressure level: The equivalent level of the acoustic pressure A (noise) in the position of the operator is $L_{Aeq} = 76,3$ dB. The values are indicating the emission levels and may not present safety working levels. Among the factors, which influence the real values of the operator exposure, are properties of the workshop room, cut material and used saw bands – which may significantly influence the exposure levels.

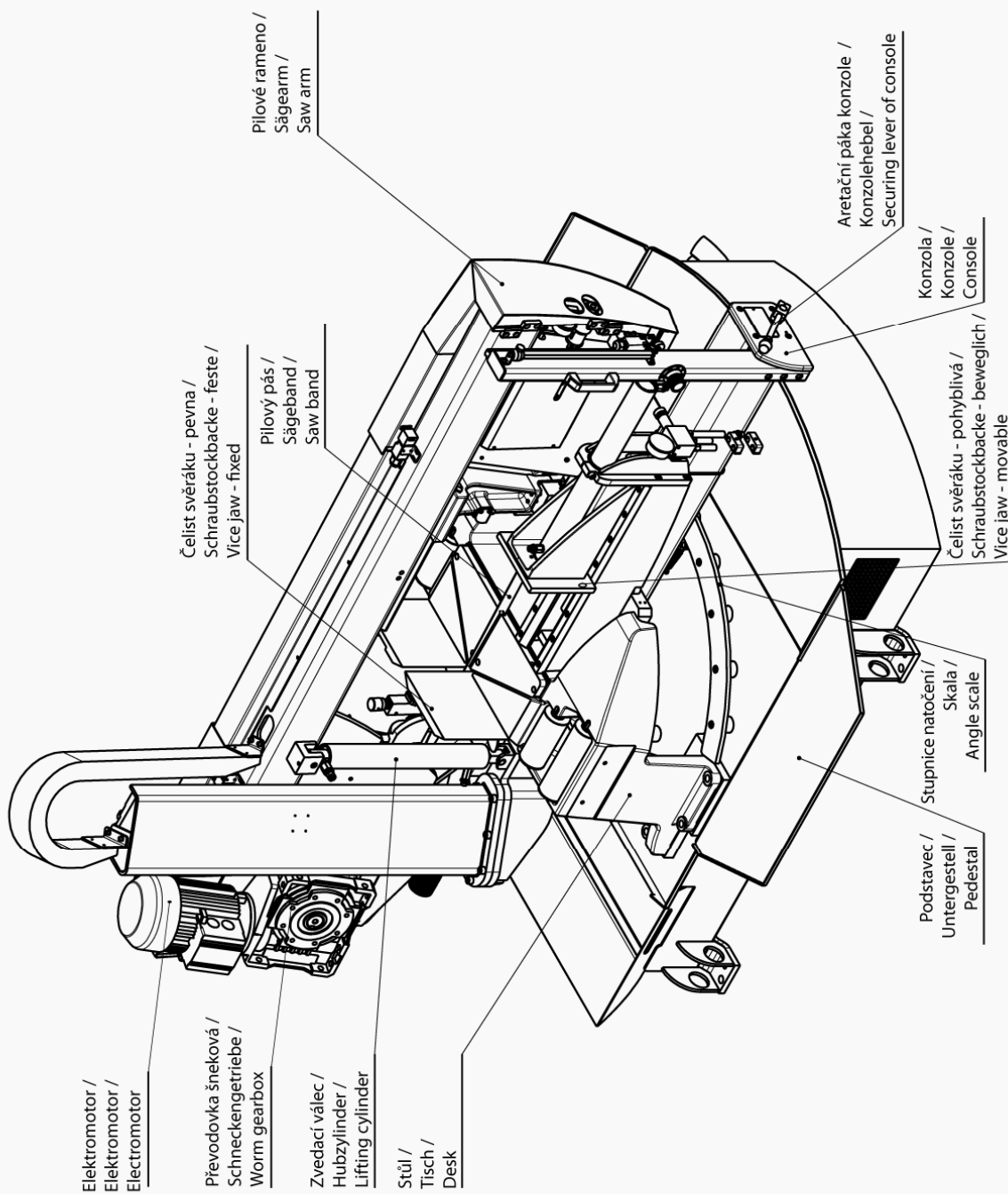
2.2. Rozměrové schéma / Aufstellzeichnung / Installation diagram



2.3. Popis / Beschreibung / Description – 1



2.4. Popis / Beschreibung / Description – 2



2.5. Transportation and stocking

2.5.1. Conditions for transportation and stocking

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

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

2.5.2. Transport and stocking preparations

Close the vice and thoroughly oil all blank surfaces.

Lower the saw frame to the lowest position.

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

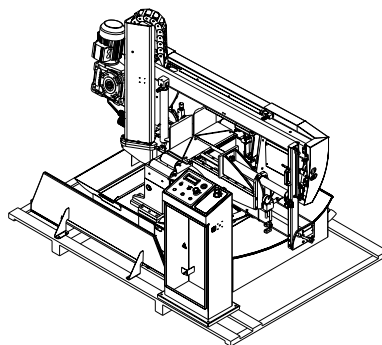
Fasten all loose parts securely to the machine.

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

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

2.5.3. Transport and stocking

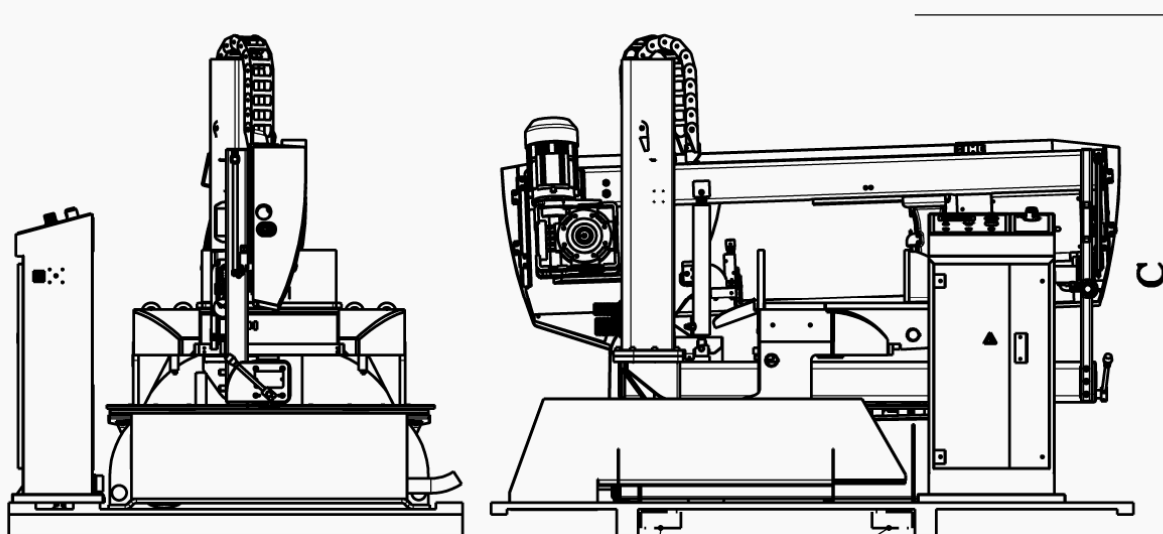
The machine must be secured during transportation. Screw on the palette to the floor of the van or the trailer. Be careful that the machine is not damaged during transportation. Store the machine only under conditions mentioned in the manual, to avoid damage of the machine.



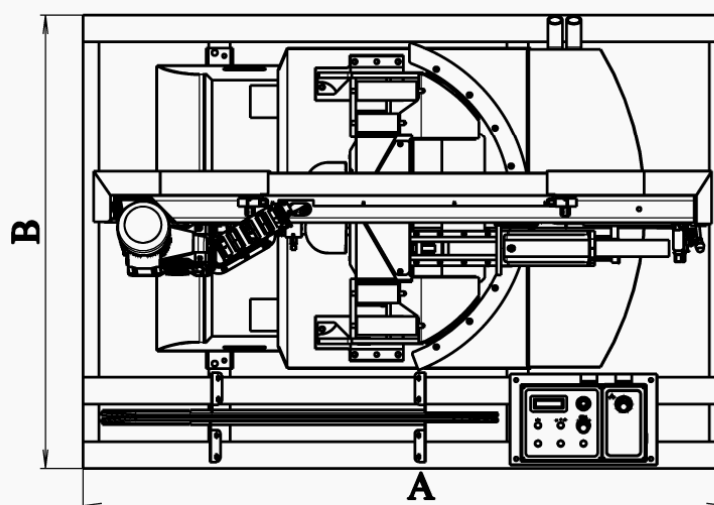
It is forbidden to handle the machine any other way, than it is written in this operating instructions, the machine can be damaged.

2.5.4. Transportní schéma /
Transport schema /
Transport diagram – 1

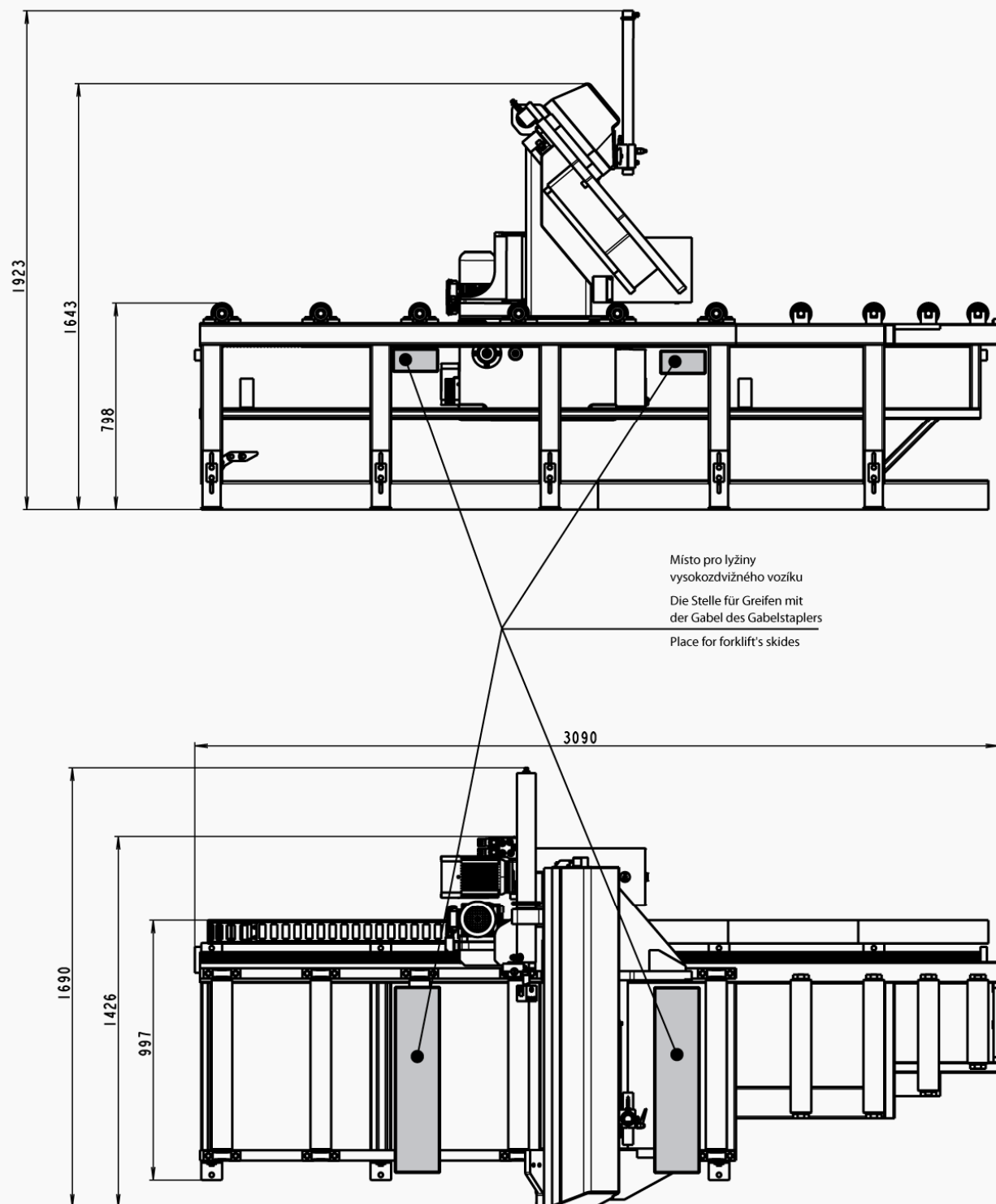
	A	B	C	X
Individual 520.360 (D)GH	2400	1695	1950	1200
Individual 620.460 (D)GH	3100	1695	2260	1200
Individual 720.540 (D)GH	3300	1930	2430	1225
Individual 820.640 (D)GH	3600	1930	2600	1225



Místo pro lyžiny
vysokozdvížného vozíku
Die Stelle für Greifen mit
der Gabel des Gabelstaplers
Place for forklift's skides



2.5.5. Transportní schéma / Transport schema / Transport diagram – 2



2.6. Activation

2.6.1. Machine working conditions

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

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

- At temperature air from **5°C to 40°C**, the temperature average during 24 hours must **not exceed over 35°C**.
- At relative dampness of the air in the 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.

2.7. Band saw unpacking and assembling

Remove the packing from the machine and unpack all parts.

Attention!

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

2.7.1. Machine installing and levelling

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

Minimal requirement:

machine weight – Individual 620.460 DGA – 3850 kg

+ weight of accessories

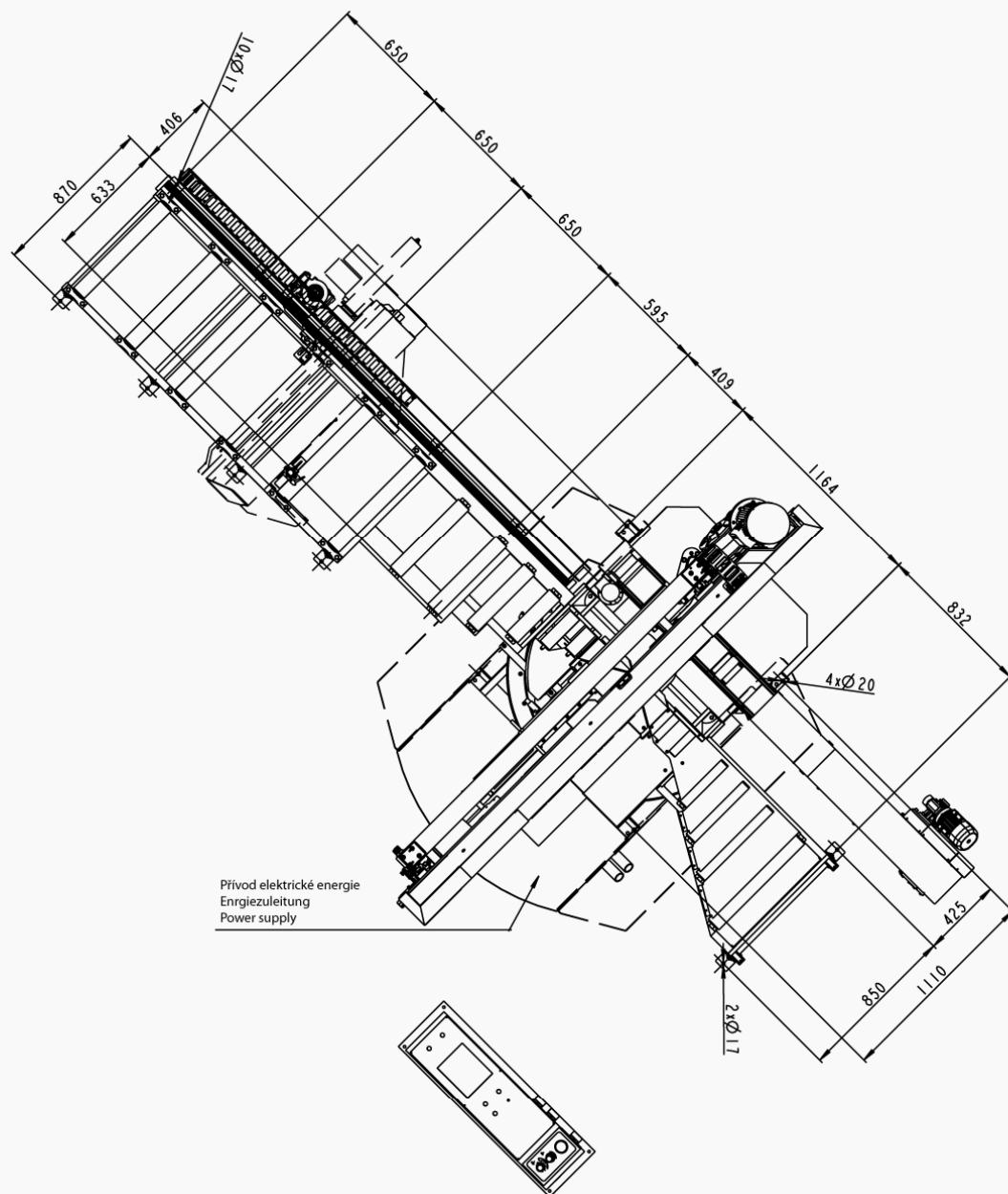
+ maximum weight of material

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

2.7.2. Machine disposal after lifetime

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

2.7.3. Kotevní plan / Verankerungsplan / Grounding plan



Kotvící materiál / Verankerungsmaterial / Grouding material

- 16× Hmoždina / Dübel / Plug – $\varnothing 18$ mm
- Vrtáno do hloubky / In die Tiefe gebohrt / Drilled to – 140 mm
- Šrouby / Schraube / Screws – 16×M16 + 4×M16

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

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

± 10 mm / 1 m

2.8. Electrical connection

Attention!

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

Electrical parameters of the machine:

- Service voltage: $\sim 3 \times 400 \text{ V}$, 50 Hz, TN-C-S
- Total input / Max. fuse: 6,7 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!

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

Note:

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

Note:

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

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

Attention!

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

2.8.1. Check the direction of the saw band



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

2.9. Filling of the cooling system

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.

2.10. Check machine function

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

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

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

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

2.11. Saw band

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

2.11.1. Saw band size

6100×41×1,3 mm



2.11.2. Selection of the saw band tooth system

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

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

BOMAR for recommended Variable tooth system for band saw.

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

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

Footnotes:

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

Examples of the tooth system marking:

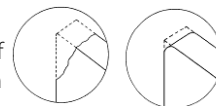
32 S – number „32“ means 32 teeth on one inch (that means constant tooth system), letter „S“ marks teeth with zero angle of the tooth.

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

2.11.3. Saw band running-in

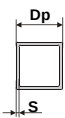
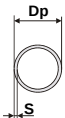
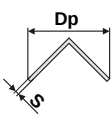
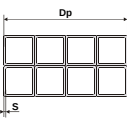
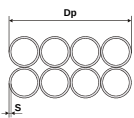
Running-in: Cut the material with the frame lowering reduced to 50% only. When vibrations occur increase or decrease the band speed.

When cutting small pieces run the band until approximately 300 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.

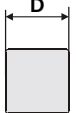
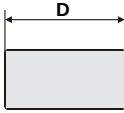
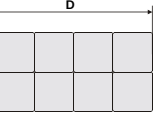
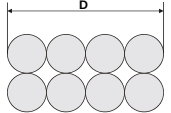


Note: Run regrinding saw bands too.

2.11.4. Tables for teeth selection

SHAPED MATERIAL (D _p , S = mm)						
						
Note: Table shows tooth system selection for cutting one piece of the profile. For cutting of more pieces of the profiles (bundle), you must think of the size of the wall as double size of the wall of one profile (that means, size „S“ equates to 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

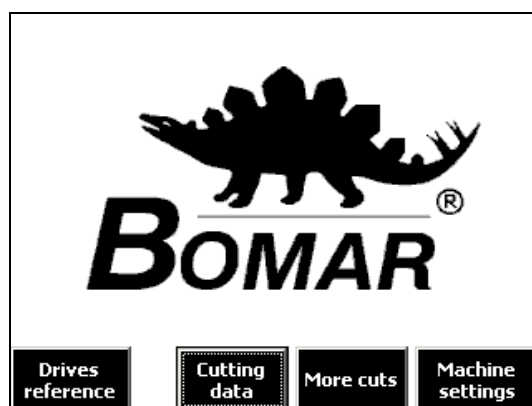
SOLID MATERIAL (D = mm)						
						
Constant tooth system			Variable tooth system			
length of the cut D	tooth system (Z _p Z)		length of the cut D	tooth system (Z _p Z)		
to 3 mm	32		to 30 mm	10–14		
to 6 mm	24		20–50 mm	8–12		
to 10 mm	18		25–60 mm	6–10		
to 15 mm	14		35–80 mm	5–8		
15–30 mm	10		50–100 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



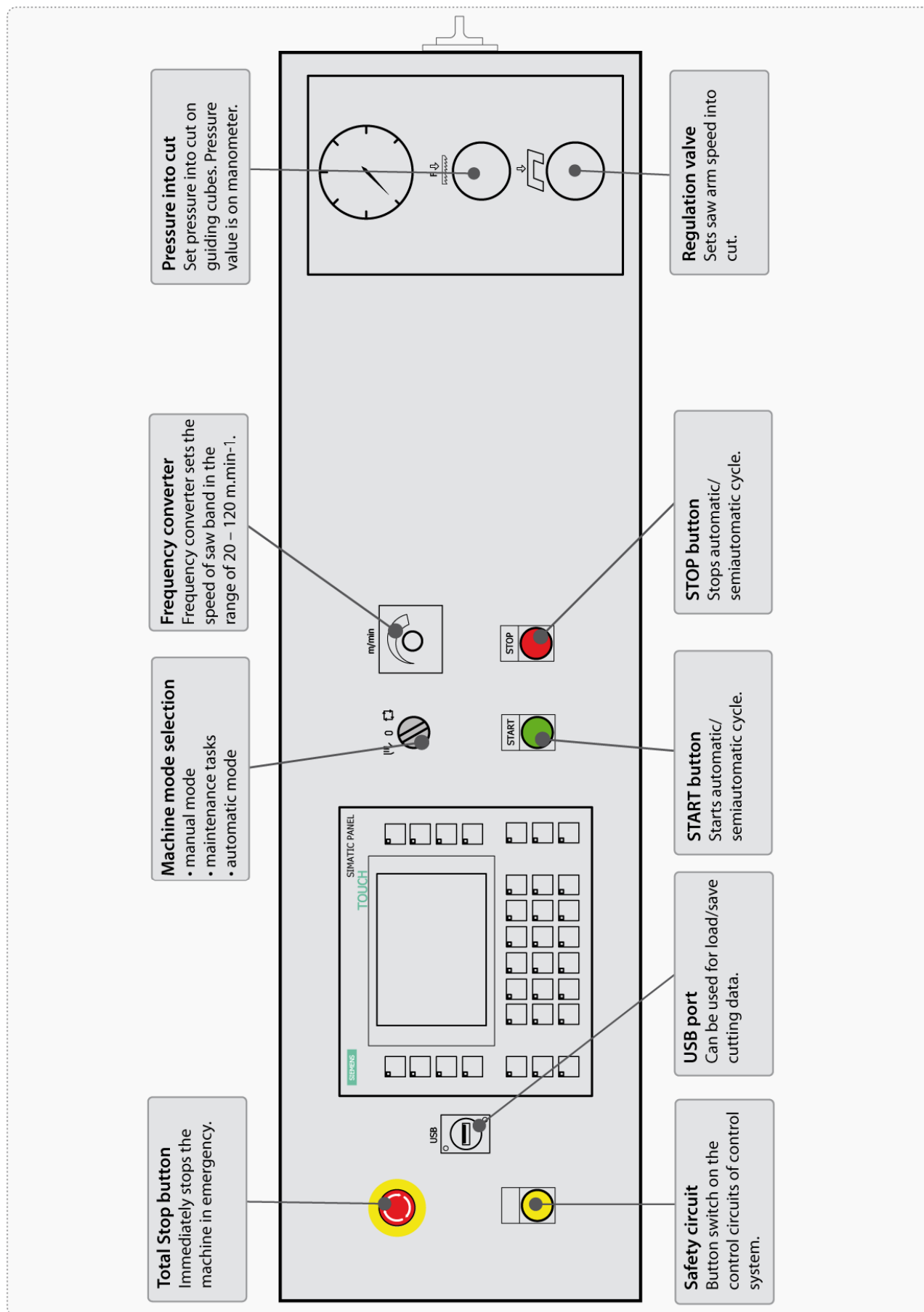
1. Turn the **main switch** to **position 1** – on. The main switch is on the side of the electricity box – on the material entry point side, on the machine's left-hand side when standing in front of the control panel.
2. Switch the saw's safety (control) circuit on. The safety circuit checks all of the safety switches.
3. Turn the regime selection switch to **"0"**.
4. After these steps the display shows the basic offer of three options to choose from:



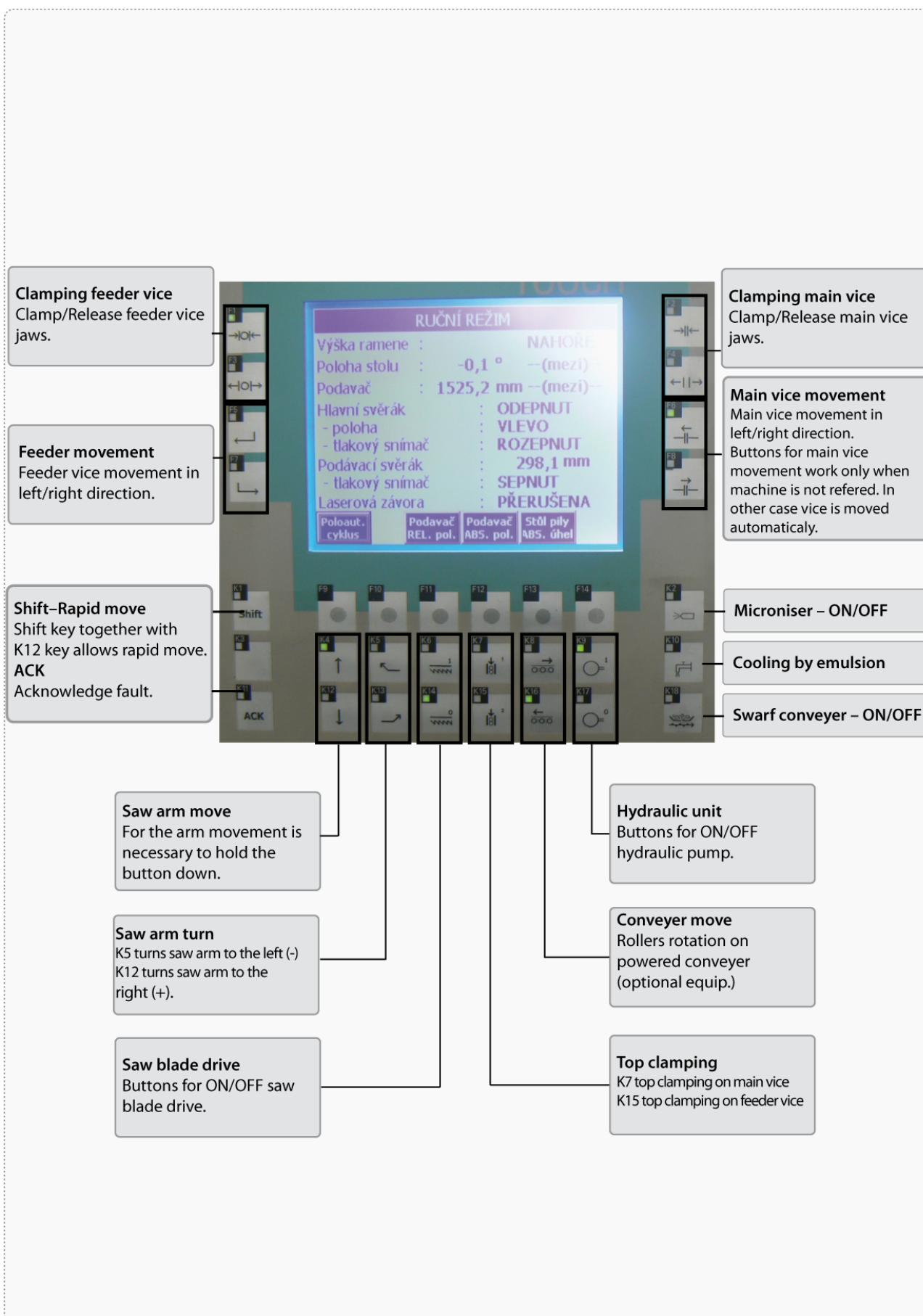
Key	Functions and description
	Machine references – see chapter Referencing Machine
	Cutting data – see chapter Entering Cutting Data
	More cuts – see chapter More cuts
	Machine settings – see chapter Machine Settings

3.2. Control panel

3.2.1. Control board



3.2.2. Touch screen



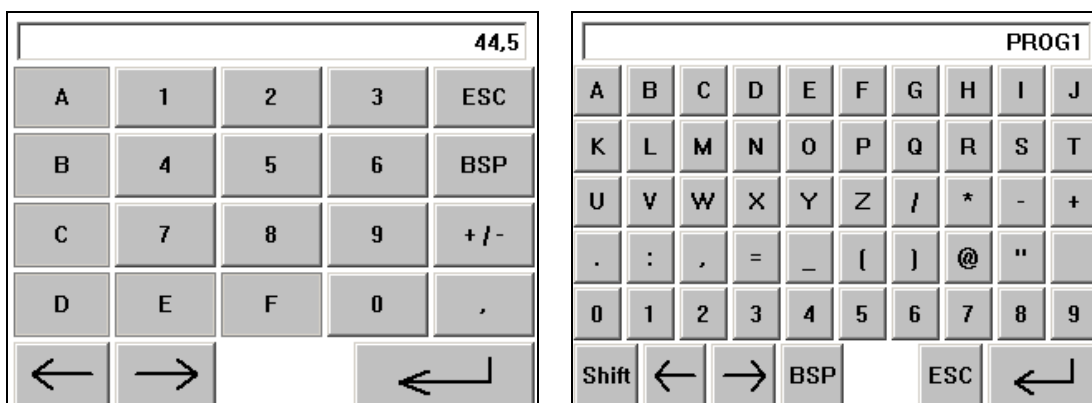
Ovládání stroje
Bedienung der Maschine
Machine control

3.3. Controlling the Machine

3.3.1. Controlling the Touch Display

When working with the machine all of the necessary information the operator needs to control it is shown on the display.

For the basic options on the display the context keys F1 and F14 or the touch screen can be used if the button for the given option is displayed. To enter numerical values (dimensions or parameters) or alphanumeric values (recipe name, log on data to enter into protected settings) the keyboard on the display must be used if you have chosen an option that requires this. This option can be, for example, pressing editable items, which are, as a rule, in a thin lined box.



Key	Function and description
	ESC – leaving the entry screen without saving the value entered
	BSP (backspace) – deleting the last character to the left of the cursor
	Shift – switches from small letters to capitals and special symbols

**Be particularly careful when working with the touch panel.
The choice is made by gently pressing the display with a
finger or the touch pen used to control the touch displays.
Do not use sharp objects and other devices!**

3.3.2. Moving in the Chosen Menu

The menu name is displayed on the first line. Individual parameters are found in the sections according to their meaning.

Pressing the corresponding entry field with the framed parameter chooses the parameters.

After choosing a field with a numerical value the number pad comes up on the display. The permissible range is displayed in the upper edge of the display when entering. If the value entered is outside of this range it returns to the original value field.



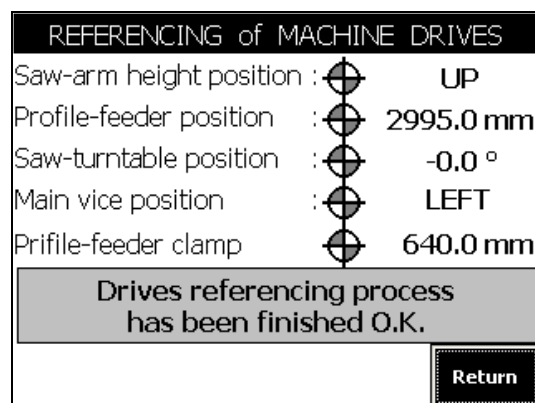
If choosing a box with an arrow on the right hand side the offer opens out and one of the items offered (usually represented by a text description) can be chosen by a single click.

3.4. Referencing the Machine

Attention!

Before machine referencing begin remove all material from conveyer or from any vices Do not reference machine with material in vices.

Before starting work it is necessary to reference the machine.



After pressing the **F9** context key on the basic screen the saw switches to the reference regime.

Pressing Start runs the machine references.

During the references the display shows the progress of referencing the drives and the state of each saw part

Pressing the Stop button halts the references.

To return to the default screen after completing the references press F14 or turn the regime option switch to the required regime.

It is possible to return to the machine references at any time and enter them again.

3.5. Machine Regimes

The machine has two basic regimes. It is possible to see which regime the machine is in from the position of the key control  0 . In addition the state is written in the display's upper part. The regime is chosen by the key controller in the lower part of the control panel.

- **Left position – Manual mode** – all of the equipment's moves can be controlled. Each movement is only made whilst the relevant button is pressed. Releasing the button stops the movement instantly. In the manual regime the buttons for each function are fixed.
- **Central position – no regime** – In this state the saw belt can't be started, but the saw belt can only be changed in this position.
- **Right position – Automatic mode** – After turning the key to this position the machine is ready to start an automatic cycle. The cycle starts by pressing the green START button (see chapter Automatic Regime)

3.6. Manual Regime

Conditions:

- The machine was set up according to the instructions.
- All of the protection elements are installed and working.
- The saw operator is qualified and has read the operating instructions.
- The key switch is in the position for the manual regime.

Attention!

Be careful with movements in manual mode. Feeder movements and saw arm rotation are allowed only a limited speed without referencing of machine and their relative position is not controlled.

After referencing the machine these movements are supervised in the following manner:

- **Closing the main vice** – the vice must be moved to the correct extreme position depending on the frame turning
- **Moving the main vice** – controlled automatically depending on the frame turning (if it is not blocked e.g. clamber cylinder on)
- **Moving feeder forward** – restricted depending on collision with saw frame in the given turning
- **Moving frame down** – the vice must be moved to the correct extreme position depending on the frame turning
- **Frame turning** – checks collision with feeder (position) and feeder vice (how much is opened).

Attention!

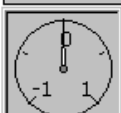
The saw will not work if the safety covers stay open or if laser beams are interrupted.

MANUAL MODE			
Saw-arm height	:	UP	
Saw-table angle	-0.0 °	RIGHT	
Feeder position	2995.0 mm	BACK	
Main vice	:	RELEASED	
- position	:	LEFT	
- pressure switch	:	OPENED	
Feeder vice		640.0 mm	
- pressure switch	:	OPENED	
Laser-Barrier status	:	FREE	
Semiaut. cycle	Feeder REL.pos.	Feeder ABS.pos.	Saw arm angle

Manual regime menu shows the present position and state of all the important components

In the lower part of the display there is a context offer of semi-automatic feeder movements and saw frame turning (with distance and angle being entered absolutely or relatively). Under the button **F9** there is also a choice for **semi-automatic cuts**.

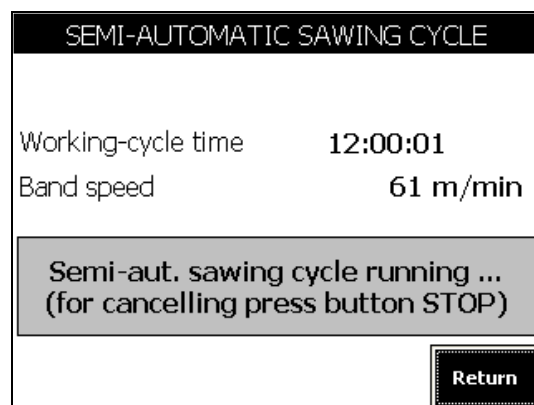
3.6.1. Semi-automatic Cut

SEMI-AUTOMATIC SAWING CYCLE	
Working-cycle time	12:00:00
Band speed	0 m/min
For semi-automatic sawing cycle press button START.	
	Return
-0.4+0.00+0.0	

If the references have been made it is possible to display the semi-automatic screen by pressing **F9** in the manual regime.

By pressing the **START** button, one cut of the material can be made. The main vice automatically moves to the corresponding extreme position, depending on the turning of the frame, and the material is held. The material is cut. Pressing the **STOP** button stops the cut.

The picture above is the active view of the current saw blade deflection. Setup of saw blade deflection is described in *Saw Settings/Machine parameters*.

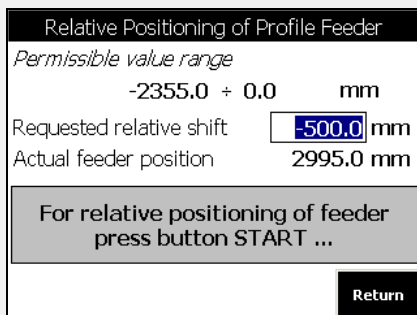


After the cut the machine frame stops below or above the material depending on the parameter settings in the *Machine Settings/Position after Cut*.

After the cut the main vice opens according to the set parameter in the *Machine Settings/Open Vice*, that being above or below.

3.6.2. Automatic Positioning

In the manual control regime the feeder can be moved or the saw turning bench can be rotated either with less precision by pressing **F5, F7 or K5, K13** or by using the context keys to choose one of the options for automatically setting the position.

Key	Function
F10 	F10 – Feeder relative positioning By using these options the position of the selected drive can be set with high precision. Using the <i>relative positioning of the feeder function</i> the feeder can be positioned relatively with regards to its actual position. The actual feeder position comes up on the display along with the limits in which the feeder can be moved in both directions. If, for example, we need to move the feeder 20 mm to the right (to the saw) we enter -20 mm as the entry parameter. To move it back (from the saw) a positive value is entered.  After setting the correct relative distance press START and the feeder automatically moves the value entered. Pressing the STOP button stops this process. Upon completing the positioning you can return to the previous menu with the F14 (Back) button, by pressing the START button you can again move it the same distance (if it is possible with regards to the feeder position) or enter a different distance and position.
F11 	F11 – Feeder absolute positioning By using the <i>absolute positioning of the feeder function</i> the feeder can be positioned absolutely with regards to the start of the track. The entered distance thus corresponds to the required feeder distance (laser barrier) with regards to the notional start of the track (front edge of the saw band at an angle of 0°). The limits

for entering the position are shown on the display. Pressing the entry field enters the required position (framed by a thin line).

Absolute Positioning of Profile Feeder

Permissible value range

640.0 ÷ 2995.0 mm

Requested absolute pos. 640.0 mm

Actual feeder position 2995.0 mm

For absolute positioning of feeder
press button START ...

Return

After setting the correct absolute distance press **START** and the feeder automatically moves to the value entered.

Pressing **STOP** can stop this movement. After completing the positioning you can return to the previous menu with button **F14 (Back)** or enter a new distance and position it again.

F12 – Saw bench absolute angle positioning

The rotation angle serves to automatically turn the frame to the required angle. The rotation moves from -60° to 60° (**0° when using top clamping**). The limits are displayed on the screen just like the field for entering the required angle.



Absolute Positioning of Saw Turntable

Permissible value range

-60.0 ÷ 60.0

Requested turntable angle +45.0 °

Actual turntable angle -0.0 °

For absolute positioning of saw
turntable press button START ...

Return

After setting the right values press **START** and the turning bench automatically rotates with the saw frame to the required angle.

Pressing the **STOP** button stops the movement. After completing the positioning you can return to the previous menu with button **F14 (Back)** or enter a new distance and position it again.

Attention!

Top clamping can be used only with 0° saw arm rotation!

3.7. Automatic Regime

The automatic cycle can be run if the following conditions have been met:

- The machine references were made
- The cutting program was chosen and the cutting commands entered
- The machine's regime selection switch is turned to automatic (to the right)

Before starting on automatic it is also best to remove remnants of materials from the saw space.

3.7.1. Automatic Regime Screen

AUTOMATIC MODE			
Cutting program name:		Deflection ▶	
ABC			
Rec.Nr.: 1/1		55.0	
Entered data	-15	201.9	+25
Actual value	Entered	Actual	
Angle	+0.0	-0.0	
Length	1329.4	1285.6	
Pieces	3	1	
Oper. time: 12:00:00		Band: 0 m/min	
Reset		Start from	
		Pause	

The automatic regime screen displays the name of the chosen cutting program. Underneath it is a table displaying the basic parameters of the current cutting command (angle and length of cut). Under these are the assigned and actual values of the positioned axes and the number of pieces in the given record.

The lower part of the table shows the time it runs automatically in minutes.

Deflection –Press key *F2* displays graphic indicator of saw blade deflection. Setup of deflection measurement is in chapter *Saw Settings/Machine parameters*.

3.7.2. Starting the Automatic Cycle

It is assumed the basic conditions have been met.

Conditions:

- Choice of position in the cutting programme.

Reset	Start from	Pause
-------	------------	-------

If a new cutting program has been chosen or the existing one has finished, the table shows the position of the first record with the actual number of pieces 0. Thus the start of the program begins here.

If the previous program did not finish due to, for example, the automatic cycle is stopped by pressing the STOP button or the regime switch being turned to "0", by a safety shutdown, a power outage or material running out, the position on the last piece to be cut remains.

In both cases the operator can start cutting from either the start of the program or set up a position on any piece of the current cutting program.

- Reset position

The button serves to set the position to the start of the cutting program – 1st record, 0 pieces.

- Start from

Choosing this button shows a screen where the command number can be set and shows the number of pieces that do not need to be cut.

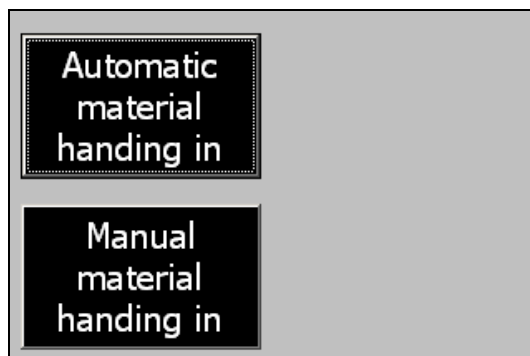
After returning to the basic screen these values are set as the current position and the machine can cut the next piece.

MACHINE SET-UP FUNCTION SELECTION	
Start cycle after interrupt :	
> Start program from rec.:	1
> Start with accomplished	3 pcs
Return	

The machine is ready when the *START* button flashes. Pressing it we get to the options for feeding the material.

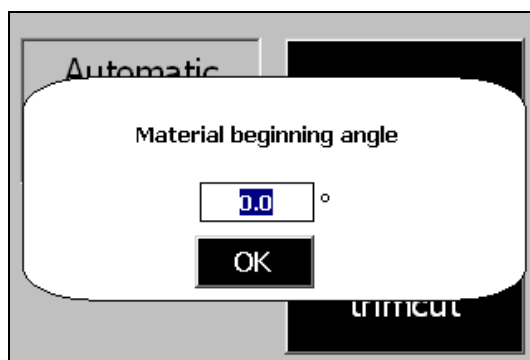
3.7.3. Starting automatic cycle

After pressing the **START** button the manner of feeding material to the machine is displayed

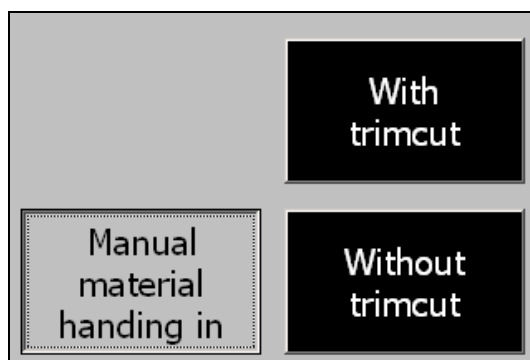


If manual feed is chosen it is assumed that the operator fed the material into the saw so that it can start cutting without positioning the feeder.

Next task is question on the initial angle of the material. Inset 0 if the initial edge is perpendicular to the vice.



Last task is question about trim cut.



After choosing the manner of feeding there is trimming the material

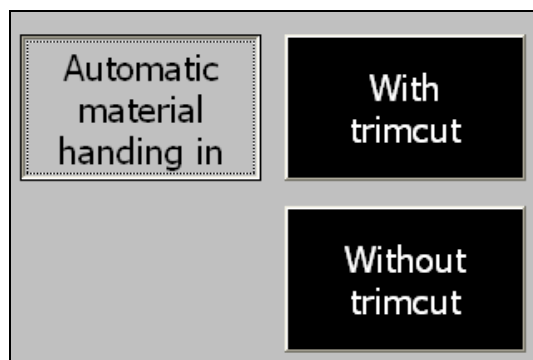
The **YES** option is carried out by cutting off the start of the material according to the first angle of the current cutting record. This ensures that for the positioned length of the first cut the length for trimming the material is added. This value can be set in the **Machine Settings / User Parameters / Trimming Length**.

If trimming is not necessary (e.g. the first angle has been cut or it is the same as the initial angle of the material) select the **NO** option.

Pressing the **START** button again confirms the start of the automatic cycle and it begins according to the choice made. The choice can be stopped by pressing the **STOP** button.

3.7.4. Automatic Material Feed

Before running the automatic cycle with automatic material feed, use the manual control regime to open both vices so that their jaws are further from each other than the width of the material to be cut.



If the automatic material feed was chosen the feeder vice moves to the centre of the feeder and asks the operator to place the material in.

Put the material in so that the **laser barrier is disrupted**, i.e. the material goes between the feeder vice jaws and, at the same time, not to the edge of the feeder, so that it can be directed.

After putting the material between the laser, the green limit button flashes and you can press the **START** button to continue. Pressing the **STOP** button returns you to the basic menu.



After pressing the **START** button the feeder locates the start of the material by slowly moving to the saw until the laser barrier becomes free.

If the start of the material has been located, the feeder moves to the position for holding it, the vice closes and the material is fed into the saw for cutting.

The basic screen is shown on the main screen and the automatic cutting cycle begins. If the material has been moved too close to the saw the feeder cannot find the beginning and displays an error announcement.



In this case it is necessary to put the material into the correct position and repeat the run sequence. It is possible to use the manual control regime to put the material into the correct position.

3.8. Entering Cutting Data

3.8.1. Choosing the Cutting Program

By turning the regime switch to "O" the basic screen is displayed offering the **Cutting Data** option. Selecting it displays the screen for managing cutting programs.

The management system can store 60 cutting programs each with 25 cutting commands. This number can be expanded by a memory medium to 200 cutting programs (optional saw accessory).

In the upper part of the screen there is a field with the name of the chosen program. Pressing the button to the right of this field displays the menu for the saved programs. By selecting one of the items you can read the chosen program.



There are three buttons displayed under the program name for working with cutting programs.

Button	Function
	New – creates a new cutting program. The field with the name empties and clicking on it displays a screen with an alphanumerical keyboard for entering its name. When making a new program a dialogue window will inform you of any unsaved changes in the previous program with the options for saving them.
	Save – saves the currently chosen cutting program with the changes made to it. If it is not saved after editing the cutting program the changes may be lost when choosing another program or turning off the machine.
	Delete – permanently erases the chose cutting program from the memory. The free memory can be used for making a new command.
F9: Entry table	The F9 context key is used to display the entry tables for each cutting command of the currently chosen cutting program.
	Used to display the entry tables for each cutting command of the currently chosen cutting program.
	Backup cutting data into USB (USB port is placed near touch screen)
	Save cutting data from USB memory into machine.

3.8.2. Entry Table for the Current Cutting Program

Cutting program entry table				
Material width		80.0 mm		
Material beginning angle		0.0 °		
Cut optimization method		Minimal rest		
	1	2	3	4
A1	+60.0	+0.0	+0.0	+0.0
A2	-45.0	+0.0	+0.0	+0.0
L1	50.0	0.0	0.0	0.0
L2	268.6	0.0	0.0	0.0
Pieces	20	0	0	0
Prev.		Next		Editor Return

The upper part of the screen shows the properties common to the whole cutting program.

Parameters:

- Material width:**
 It is very important to enter the precise width in the event that non-zero angles are to be cut because some length measurements must be calculated from the angles and width. In extreme cases an incorrectly entered width can lead to a threefold fault in the length.
- Initial angle**
 For the feeding and trimming of the material to work properly it is necessary to enter the initial angle for the start of the material (this is not the first angle of the first piece).
- Optimizations**
Without optimization: The pieces are cut as they are entered in the table
Minim. remnant: Turns the pieces so that the next piece has the same initial angle as the final angle of the last piece. The pieces follow on from one another and there are no remnants.

Material width:

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Optimizations

Without optimization: The pieces are cut as they are entered in the table

Minim. remnant: Turns the pieces so that the next piece has the same initial angle as the final angle of the last piece. The pieces follow on from one another and there are no remnants.

In the middle of the screen there is a table of the cutting commands (a record of the shapes cut). The table displays four shapes at once (on screens 1 to 4).

Button	Function
	F9/ F10 – Left/Right Moving in the menu, the maximum number of shapes in the program is 25.
	F13 – Editor Used for working with all the cutting commands. They can be removed, copied or deleted individually or in sequences.
	F14 – Back Used to get back to the previous menu where it is possible to save the edited program. Turning the switch to the automatic position switches it to the cutting program without saving it. If the changes are not saved they will be lost after changing the program or turning off the machine.

Pressing the relevant column we want to edit enters individual cutting commands.

Workpiece dimensions		
Record number: 1 Delete record		
Angle 2:	Length 1:	Angle 1:
-45.0	1200.0	+45.0
		
Length 2:	Pieces:	
1300.2	100	
Return		

1/0	1	2
A1	+0,0	+0,0
A2	+0,0	+0,0
L1	0,0	0,0
L2	0,0	0,0
Počet ks	0	0

Every cutting command comprises of *two lengths* of opposing sides, *two angles* (turning the saw frame during the cut) and the *number of cuts*. It displays the cross-section of the shape that will arise. *Angle 1* lies on the right as the material enters the machine and is cut from the right from the operator's point of view (the first cut). The numerical values (lengths in mm, angles in degrees) are entered into the relevant bordered editing fields.

After entering the values the remaining length is automatically calculated according to the angles entered (the calculated value is shaded in grey). A check is also made whether the piece with the parameters entered can be cut (the minimum length corresponds).

Button	Function
	F14 – Back Used to go back to the previous menu, where it is possible to save the edited program.
	F2 – Delete command The Delete command button erases one or a whole sequence of commands.

Attention!

After editing the cutting commands table do not forget to save the changes. If not you may lose the changes you made when you turn the machine off or read another cutting program.

3.8.3. Cutting Commands Editor

Functions of Record editor

F1 : Copy data record
F3 : Copy and remove data record
F5 : Insert data record
F1 : Delete data record

> First record of selection 1

> Last record of selection 3

Return

The cutting commands editor is used to work with all the cutting commands. It works with a "box" into which one or more commands can be placed and afterwards they are inserted behind the last command entered into the program. The commands can be transferred to other cutting programs.

It is assigned using the first and last number of the chosen command. The last command in the choice must be greater than or equal to the first command. If the first and last commands in the choice are the same it only works with this one command.

Setting:

- F1 – Copying a cutting program command:**
It loads the commands defined by the range of the first and last commands of the choice into the box. Source data remains unchanged. It displays a verification "Copied"

> First record of selection 1

> Last record of selection 2

Copied Return
- F3 – Removing a cutting program command**
It loads the commands defined by the range of the first and last commands of the choice into the box, whilst source data (commands) will be erased. It displays a verification "Removed"

> First record of selection 3
 > Last record of selection 4

Extracted
Return

- F5 – Inserting a cutting program record**
 It inserts commands saved in the box behind the last command in the currently chosen cutting program (independent of the choice assigned). It only inserts commands that fit, i.e. until the maximum, 25, for the cutting program has been used up.
 It displays a verification "Inserted".

> First record of selection 3
 > Last record of selection 4

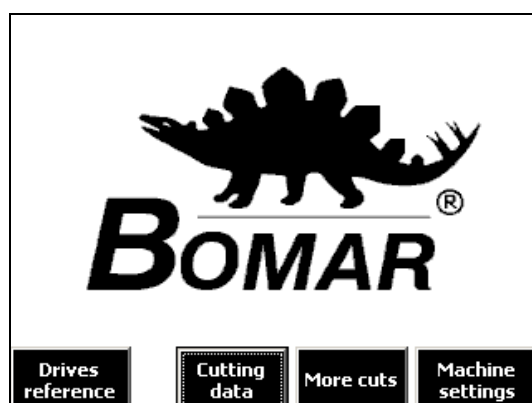
Inserted
Return
- F7 – Deleting a cutting program command**
 It deletes the cutting command of the current program as chosen.
 It displays a verification "Deleted".

> First record of selection 3
 > Last record of selection 4

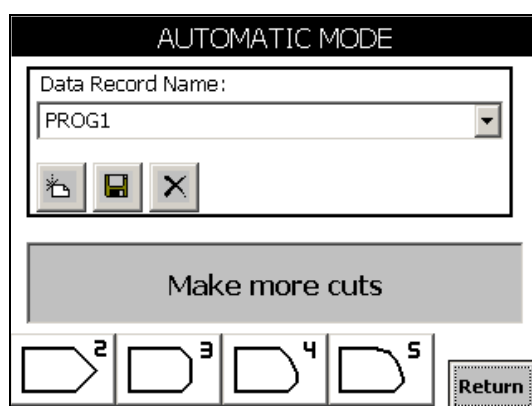
Deleted
Return

3.8.4. More cuts

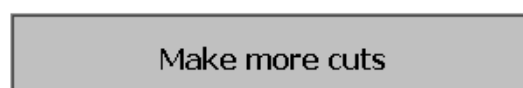
Turn machine mode switch into "0" position. It shows basic screen with offer More cuts.



Press button **F12–More Cuts**. It shows next screen:



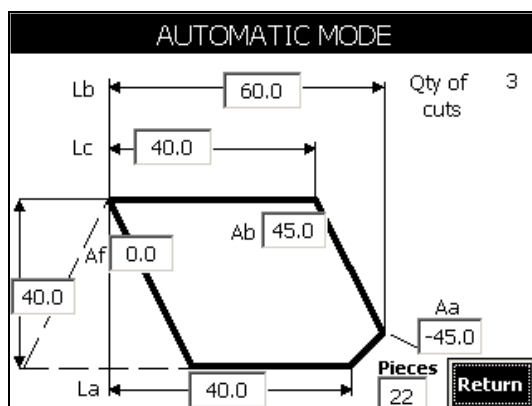
It is possible cut one piece or more pieces – choose by button.



Button	Function
	New – creates a new cutting program. The field with the name empties and clicking on it displays a screen with an alphanumerical keyboard for entering its name. When making a new program a dialogue window will inform you of any unsaved changes in the previous program with the options for saving them.
	Save – saves the currently chosen cutting program with the changes made to it. If it is not saved after editing the cutting program the changes may be lost when choosing another program or turning off the machine.
	Delete – permanently erases the chose cutting program from the memory. The free memory can be used for making a new command. The F9 context key is used to display the entry tables for each cutting command of the currently chosen cutting program.



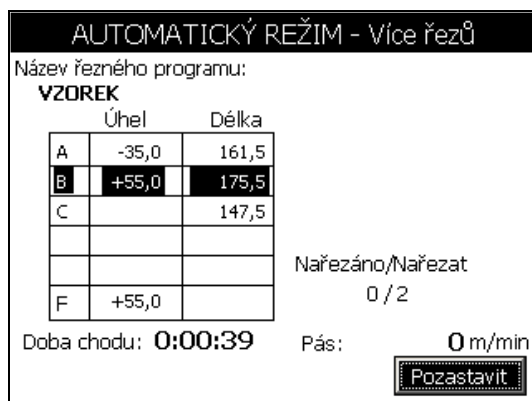
Then choose by buttons on bottom of screen how many cuts will be performed on cutted material. Then You can specify cutting angles and dimensions.



This is screen for two cuts. Shown workpiece picture is only informative and it is not change according to your values. Values must be entered from "a" value to "f" value. It is necessary enter angles from smallest to biggest. First angle could be negative and every angle must be greater than the previous one.

Given the complexity and the number of different values to enter the program is not able to check the correctness of the assignment. Therefore it is necessary to pay attention to the entered values.

Where is entered angle 0 ° so it is also necessary to specify the distance between the two points. This means that at zero angle is necessary to specify two identical lengths. The number of sections (Qty of cuts) indicates how many cuts will be performed. Anticipates that at least two cuts are performed at the beginning of material and one cut on the material end. It is also necessary to specify the number of pieces.



After entering the parameters it is possible to go back a screen and created a formula to save or to switch without saving the automatic cutting cycle.

The automatic mode screen displays cuts what will be made and their lengths. Also screen displays quantity of required and completed cuts.

3.9. Disrupting a Cycle

3.9.1. Pausing the Running

Using the parameter in **Machine Settings / Stop after Cut** it is possible to set up pauses in the automatic run after the material has been cut with the frame down or up over the material. After the cut the main vice opens according to the set parameter in the Machine Settings. If no pause is required after a cut in the automatic run set the parameter **Machine Settings / Stop after Cut – do not stop**.

Before cutting the material during the cut or when raising the frame over the material the **Pause** button can be pressed (**F14** on the screen), this stops the machine even with the parameter setting **Machine Settings / Stop after Cut – do not stop**. The text button changes to **Paused**. Depending on when the **Pause** button was pressed the automatic run temporarily stops in the following manner:

- **Before a cut** – it completes feeder positioning and frame rotation and just before the frame goes into the cut the automatic run stops.
- **During a cut** – it completes cutting the material and then the automatic run stops.
- **When lifting the frame over the material** – the frame is lifted over the material and then the automatic run stops.

To start the automatic cycle again, press the **Paused (F14)** button or the **START** button.

3.9.2. Emergency Stop During an Automatic Cutting Cycle

During an automatic cycle the **STOP** button can be pressed during a cut and all movements end and the automatic cycle ends.

In emergencies in which there is the risk of injury or damage to the health of people, animals or property press the Total Stop safety button immediately.

After pressing **Total Stop** the safety circle is broken and the electric drives are immediately disconnected from the power supply.

Opening the band saw's front or rear doors or the housing has the same effect

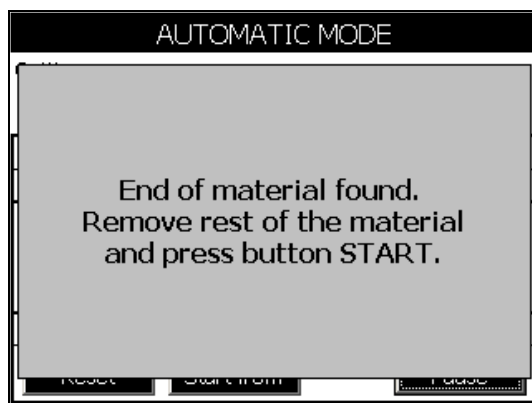
After pressing the **Total Stop** button the automatic cycle ends. After removing the danger it is necessary to return the doors, saw housing and the **Total Stop** button to the original position. Afterwards the safety circle can be turned on again.



After pressing Total Stop it is necessary to reference the machine. Afterwards the automatic cycle can run again.

3.9.3. Out of Material

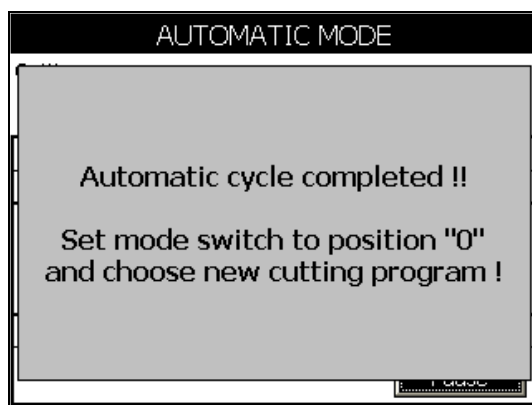
Whilst cutting the material or just before a cut preparations are made for the next entry and a check is made that there is enough material length to cut the next piece. If it is assessed that the material is not long enough to make the given cut a message comes up on the display:



Now switch the *machine regime* selector to the **Manual**, remove the remainder of the material by hand and insert a new piece of material. Run the automatic cutting in the usual manner as described in the chapter **Start Automatic Cycle**. The number of uncut pieces is saved and the cycle will continue from where it was disrupted.

3.9.4. End of the Cutting Program

After completing the entire program of cutting data you will be asked to enter more cutting data.



If it is necessary to start the same cutting program from the start an alternative approach is possible by pressing the **STOP** button and returning to the first automatic run screen. The position stops on the 1st command with 0 pieces (or at another place where the run started) and it can then be started.

3.10. Saw Settings

Turn the Machine Regime switch to "0". The basic menu is displayed offering three possibilities.

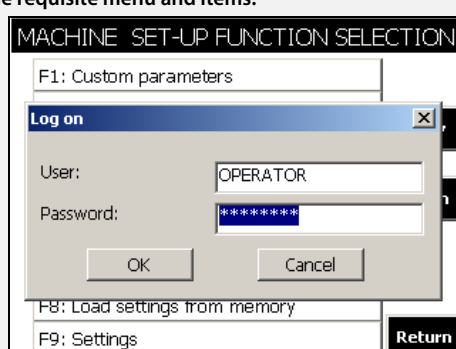


Choose Machine settings.

MACHINE SET-UP FUNCTION SELECTION	
F1: Custom parameters	Česky
F3: Service parameters	English
F5: Feeder parameters	Deutsch
F7: System parameters	Norsk
F2: Arm parameters	Suomi
F4: Feeder length measurement	Swedish
F6: Save settings to memory	Return
F8: Load settings from memory	
F9: Machine parameters	

Each menu, apart from the User Parameters, is protected by a password.

Choosing the requisite menu and items.



The user parameters are available to the operator without restrictions. All the other items contain settings that, if set incorrectly, could cause the machine to work incorrectly.

Therefore these items are protected by a password. If they are chosen a dialogue window appears in which the corresponding user name and password must be entered, which is set by the manufacturer for entry to these menus.

After logging in chose the requisite menu and its screen will be displayed.

User: OPERATOR

Password: 1234

After selecting the menu using the context keys you will be asked for the password.

After leaving the menu Machine Settings the memories of the password entered are erased and it is necessary to enter the corresponding access password again.

3.10.1. User Parameters

These settings parameters are not password protected.

User Parameters	
Stop after cut	NO STOPPING
Type of cooling	NO COOLING
Cooling mode	DOWN Switch-OFF
Saw-belt mode	DOWN Switch-OFF
Swarf-conv. mode	NOT USED
Length for cut-off	20.0 mm
Saw-belt width	1.40 mm
External loading	Without loading
Return	

Parameter	Description
Stop after cut	The saw frame's actions after completing a cut. - Do not stop - Down (bottom limit switch) - Up (above material)
Type of cooling	Selection of band cooling. - No cooling - With water - With a microniser
Cooling mode	Cooling during cycle. - Do not turn off - Turn off above (over material) - Turn of below (bottom limit switch)
Saw-belt mode	Belt motor during cycle. - Do not turn off - Turn off above (over material) - Turn of below (bottom limit switch)
Swarf conveyor regime	Conveyor motor during cycle. - Do not use - Manual control (the operator controls the conveyor manually using the buttons, see chapter Control Panel) - Together with the band (conveyor turns on/off depending on the saw band)
Length for cut off	Length for trimming the start of the material. This length is added to the first cut length.
Saw-belt width	Service parameter, important for compute proper lengths
External loading	Option for external material loader

3.10.2. F3 – Service Parameters

Settings are protected by OPERATOR password.

Service Parameters

Main vice bounce time	0.1 s
Main vice open time	0.5 s
Feeder vice open time	20 mm
Minimum grip length	50.0 mm
Display contrast setting + -	
Return	

Parameter	Description
Main vice bounce time	The time setting, in seconds, for the main vice recoil after cutting the material.
Time for opening the main vice	The time setting, in seconds, for opening the main vice.
Feeder vice open time	The time setting, in seconds, for opening the feeder vice.
Minimum grip length	Minimum grasp with the jaws . Determines the minimum length of material that is to be in the main vice's jaws .
Contrast settings	The ideal values depend on the viewing angle, temperature and the specific piece. Changed by the buttons "+" and "-"

3.10.3. F5 – Feeder Parameters

Settings are protected by Admin password.

Feeder setting		
Begin of feeder path	540.0	mm
End of feeder track	2995.0	mm
Feeder speed	150	%
Feeder landing	0.200	mm
Minimum feeder vice grip	30.0	mm
Laser-barrier offset	349.0	mm
Feeder reference point	2995.000	mm
Feeder acceleration	1	
Feeder low speed	25	%
Feeder speed offset	600	
Return		

Parameter	Description
Begin of feeder path	Determines the distance of the laser beam from the edge of the saw belt adjacent to the feeder side when the feeder is by the saw.
End of feeder track	Determines the distance of the laser beam from the edge of the saw belt adjacent to the feeder side when the feeder is at the end of the track (for material leaving the saw).
Feeder speed	Gives the maximum feeder speed as a percentage relating to the nominal revolutions of the motor (100 % is equal to the revolutions at a frequency of 50 Hz).
Feeder landing	Feeder end. The correction parameter that determines the distance the feeder travels from braking to a complete halt.
Minimum feeder vice grip	Min. grasp of feeder vice. Determines the minimum material length that the feeder vice is able to grasp.
Laser barrier offset	Determines the distance of the laser beam from the front edge of the feeder vice (on the side by the saw).
Feeder reference point	Determines the position of the reference limit switch with regards to the saw belt (distance from the front side of the saw)
Feeder acceleration	A dimensionless constant determining the increase in feeder velocity during its start.
Feeder low speed	Determining the decrease in feeder velocity when braking
Feeder speed offset	Determines the minimum required value for the speed of the frequency converter in the feeder motor during which the feeder starts to move at minimum speed.

3.10.4. F7 – System Parameters

Settings are protected by Admin password.

System Parameters	
Saw arm offset adjustment	0.35 mm
Saw band offset adjustment	0.20 mm
Shutdown hydraulic after	30.0 s
Feeder vice ref. point	640 mm
Adjusting correction during run Control panel Return	

Parameter:

- **Offsetting the saw frame**

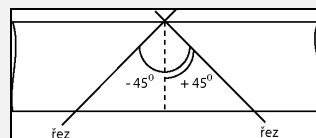
Setting the offset of the frame affects both pieces, thus it is necessary to do this before pre-setting the belt offset.

Offsetting the saw frame means deflecting the frame axis in the direction perpendicular to the material feed.

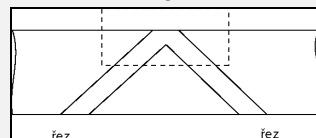
The frame offset value is set and recommended by the manufacturer.

A correction to the frame offset is made in the following manner:

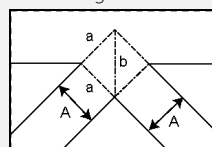
1. Use straight material for setting the correction, at least 1.2 m long, so that there is no collision with the feeder when turning the frame.



2. Fix the end of the material to the feeding vice and whilst keeping hold make cuts at +45° and -45° (see figure).



3. Measure the cut in the following manner



A...band width

a....cut width

b....calculated value

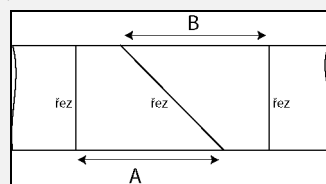
Measure the width of cut **a**. Using Pythagoras Theorem calculate the value of **b** ($b^2 = a^2 + a^2$). Modify the correction parameter by a half of value **b**.

- **Offsetting the band**

Offsetting the band from the frame axis

The value of the band offset is set by the manufacturer.

1. Use straight material for setting the correction.
2. Fix the end of the material to the feeding vice and whilst keeping hold make a perpendicular cut and then cuts at 45° or 60° and again perpendicular.



3. Measure the cut in the following manner:

Length B is longer than length A, it is necessary to increase the correction parameter by half of the difference between lengths A and B

Length B is shorter than length A, it is necessary to decrease the correction parameter by half of the difference between lengths A and B

- Delay in turning off the hydraulics

The parameter determines the time, in seconds, after which the motor for the hydraulic aggregate turns off if the hydraulic valves are not clapsed (e.g. material is not held in the vice)

3.10.5. F2 – Arm Parameters

Settings are protected by Admin password.

Saw arm setting	
Zero-angle adjustment	+58.30 °
Angle of division for vice	-0.5 °
Angle encoder ratio	36272 ppr
Turntable speed	25 %
Saw-belt width	1.70 mm
Turntable acceleration	8
Turntable speed offset	2500 Cut
Turntable landing	33 Return

Parameter	Description
Zero angle adjustment	Zero angle correction. Moving the frame angle against the reference index of the angle detector. A simple procedure can be used to measure the correction: - Setting the correction to "0". - Making a reference. - Setting the frame to the zero position using a protractor - Deducing the angle from the display and recording it in the service menu. - Doing the references again You can also enter the value directly if you know the precise difference from the measurement.
Angle of division for vice	Determines the angle at which the main vice automatically switches to the other extreme position when the saw frame exceeds this angle.
Angle encoder ratio	Determines the number of incremental detector pulses measuring frame rotations per revolution i.e. the transmission ratio of impulses per degree (ppr – pulse per round).
Turnable speed	Determines the maximum frame rotation speed as a percentage relating to the nominal revolutions of the motor (100 % is equal to the revolutions at a frequency of 50 Hz).
Saw-belt width	Determines the width of the cut material, which it is necessary to add to the cut length during positioning so that the cut piece had the requisite length. It is possible to measure this parameter by simply cutting into the material.
Turnable acceleration	A dimensionless constant determining the increase in frame rotation velocity during its start.
Turnable speed offset s	Determines the minimum required value for the speed of the frequency converter in the frame rotation motor during which the frame starts to move at minimum speed.
Turn able landing	Only used for testing purposes. When chosen with the option "Don't cut" enables the cut to be finished when the saw frame gets to the "L" switch (it does not cut into the material).

3.10.6. F4 – Feeder length measurement

Settings are protected by OPERATOR password.

Measure of feeder ref. point crossover
For beginning of measurement press button <<START>>
Laser-Barrier to saw-belt distance 1963.050 mm
Return

This option serves to verify the correctness of the set distance for the start of the feeder track and the feeder reference point.

Measurements are made without material and it is best to set the frame to the zero position or lower it to the down position. This makes it easier to measure the distance of the laser beam from the band.

To start the movement, press the **START** button.

Measure of feeder ref. point crossover
Measuring in progress...
Laser-Barrier to saw-belt distance 1813.525 mm
Return

The feeder moves slowly towards the saw to the place closest to the end limit sensor.

Measure of feeder ref. point crossover
Check laser-barrier to saw band distance. If the value is not corresponding with displayed value, then reference point distance is incorrect.
Laser-Barrier to saw-belt distance 480.400 mm
Return

After the feeder movement ends a report on this is displayed. It is necessary to measure the distance of the laser beam between the jaws of the feeder vice and the saw band. If this value does not correspond to the data on the display the feeder's reference distance is incorrectly set (feeder settings parameter).

3.10.7. F6 – Save settings to memory

Setting is protected by OPERATOR password.

Save machine setting parameters

Press function key F10 for saving actual parameters and setting of the machine to backup memory.

>> WARNING : <<
This choice will lead to overwriting a memory and original data of machine settings will be irretrievably lost !

Save

Return

The actual values are saved in the memory. The function is used for saving the initial factory settings into the backed up memory.

3.10.8. F8 – Load settings from memory

Setting is protected by OPERATOR password.

Load factory setting values

Press function key F12 for loading a default parameters and settings of the machine from backup memory.

>> WARNING : <<
Actual parameters and setting of the machine will be irretrievably lost !

Load

Return

Reads the values saved in the memory. The function is used to renew the initial factory settings (e.g. if the machine has not been used for some months and the back-up batteries for the control system are flat).

3.10.9. F9 – Machine parameters

Settings are protected by OPERATOR password.

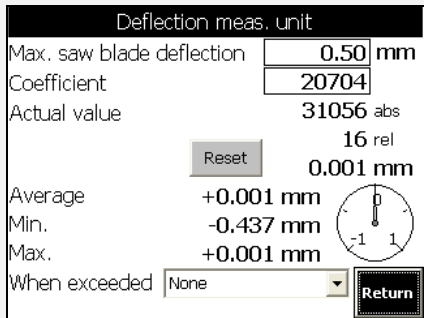
Machine parameters

Saw vertical vice	Installed Only horizontal ▼
Feeder vertical vice	Installed 1. Hor, 2. Ver ▼
Deflection meas. unit	Installed Set-up
Total Cutting counter	353
Cutting counter	0

Reset

Return

Parameters	Description
Saw vertical vice	If it is installed (optional), there is the option of using vertical vice (upper clamping). Attention! Top clamping should be used only with saw arm zero-rotating.

Parameters	Description
Feeder vertical vice	If it is installed (optional), there is the option of using vertical vise feed (upper clamping).
Deflection unit	Button "Set-up" shows next green with setup parameters and informations for deflection of saw blade.  - Maximal possible saw blade deflection - Dimensionless coefficient (DO NOT CHANGE!) - Relative, absolute and length saw blade deflection value - The average, maximum and minimum displacement, the values is reset after pressing the reset button. - If deflection is exceeded Warning Finalize cut Stop

3.11. Error statements



If an error occurs when the machine is in use, one that would cause the machine to work incorrectly, the machine stops and a report appears with a description of the error.

An error is indicated on the display by an icon with an exclamation mark and a number indicating the number of errors. At the same time there is a written description (see following overview). This can be minimized if it is necessary to control the display and displayed again by clicking on the warning icon.

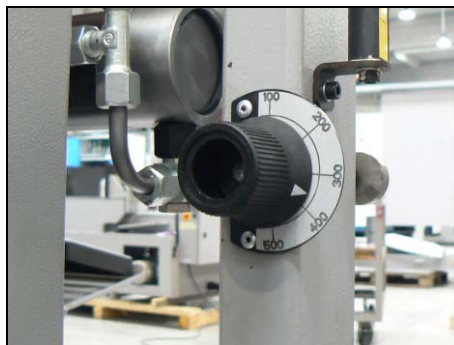
Errors are displayed for the time they occur or until the operator confirms they have been removed by pressing the **ACK** button. If the cause of the error remains, the error remains displayed even after pressing this button.

Error	Description
E02: !! ATTENTION !! Safety circle turned off !!	The Total Stop safety switch was pressed, the front or rear doors are open or the saw band housing is open or the safety circle was not started after starting the machine. Check the doors and housing are closed and the position of the Total Stop and turn the safety circle on.
E01: !! ATTENTION!! The TOTAL STOP button on the control panel was activated !!	The Total Stop button for the central safety stop was pressed. Turning the button to the right returns it to the original position.
E25: !! ROTATION FAILURE !! : Index not found during reference movement !!	Malfunction in the incremental sensor of the saw frame rotation, its feed cable or it is badly attached to the connector and its reference impulse (index) is outside of the saw's working range.
E28: !! FAILURE !! : Error during a main vice movement to left !!	The main vice has not moved to the left in the set time. The cause can be a mechanical obstacle, a breakdown in the hydraulic system or a breakdown in the limit switch on the left frame position.

Error	Description
E29: !! FAILURE !! : Error during a main vice movement to right !!	The main vice has not moved to the right in the set time. The cause can be a mechanical obstacle, a breakdown in the hydraulic system or a breakdown in the limit switch on the right frame position.
E03: !! FAILURE !! : Pressure switch on a main vice did not set !! Perform a set up of this switch in the manual mode !	The main vice pressure sensor may be incorrectly set or the feed cable is not connected. There may also be a pressure drop in the hydraulic system when closing the main vice.
E04: !! FAILURE !! : Pressure switch on a feeder vice did not set !! Perform a set up of this switch in the manual mode !!	The feeder vice pressure sensor may be incorrectly set or the feed cable is not connected. There may also be a pressure drop in the hydraulic system when closing the feeder vice.
E05: !! FAILURE !! : Cooler pump current protection is switched-off !!	There is a current overload for the coolant pump and its thermal protector is off. When it has cooled turn on the thermal protector (button I). If this occurs repeatedly the current value may be incorrectly set or there is a malfunction in the motor or its feed.
E06: !! FAILURE !! : Hydraulic pump current protection is switched-off !!	There is a current overload for the pump to the hydraulic aggregate and its thermal protector is off. When it has cooled turn on the thermal protector (button I). If this occurs repeatedly the current value may be incorrectly set or there is a malfunction in the motor or its feed.
E08: !! FAILURE !! : Swarf conveyor current protection is switched-off !!	There is a current overload for the swarf conveyor motor and its thermal protector is off. When it has cooled turn on the thermal protector (button I). If this occurs repeatedly the current value may be incorrectly set or there is a malfunction in the motor or its feed.
E09: !! FAILURE !! : One or more frequency converters are in failure!!	The frequency converter for moving the feeder, saw frame rotation or the saw band drive is not ready to operate. This warning appears if the safety circle is not on, as the feed to these drives is disconnected. If it does not go away several seconds after turning on the safety circle it is necessary to check the frequency converters.
E11: !! FAILURE !! : Saw belt NOT TIGHT !!	The saw band is not sufficiently tight or it has cracked or slipped off the guiding wheels. There may also be a malfunction in the band tightness limit sensor.
E34: !! FAILURE !! : Entered position is out of range !!	Error in the program, the position parameter settings or the cutting data.
E35: !! FAILURE !! : Machine is not referenced. Perform a reference of drives !!	It is necessary to reference the machine for the given action. Turn the regime switch to "0" and reference the machine.
E38: !! ERROR !! : Saw arm must be UP for a vice movement !!	When moving the vice the saw frame must be in the upper position. This limits the risk of collisions between the frame and the main vice's jaws.
E39: !! ERROR !! : Position of the main vice is controlled automatically when reference is done !!	After referencing the machine the position of the main vice is automatically controlled according to the turning of the saw frame (even in the manual regime).
E43: !! ERROR !! : Main vice not fully open !!	This error arises when using the bundler, where it is necessary for the main vice to be fully open when turning the saw frame (limit switch on). The reason is to limit the risk of collisions between the saw frame or the saw belt with the top clamping cylinder of the bundler.
E42: !! ERROR !! : Entered side length is incorrect.Max. length is 20 mm !!	Check the cutting command. The shortest side must be at least 20 mm (the added value too) to close the main vice.
E36: !! ERROR !! : Wrong position requirement !!	Error in the program, parameter settings for positioning or the cutting data.
E40: !! ERROR !! : Material width is zero. Enter a new width !!	The length of the opposite side cannot be calculated if the entered width is zero. Enter the width of the material.

3.11.1. Frame bottom stop position setting

The bottom stop position of the frame limits the lowest position of the frame. This position must be checked once per month. In case of wrong setting the vice may be cut or the material is not cut completely.



Setting of frame bottom stop position is made by adjustable excenter on the frame beam.

3.11.2. Setting of optimum distance of the guiding cubes

In order to maintain stable cut and sufficient precision, it is necessary to place the left guiding cube as close to the cut material as possible.

1. Switch off the hydraulics.
2. Release guiding listel lever.
3. Move left part of the guiding so the edge of the left guiding cube is as close to the cut material as possible.
4. Tighten the levers and check position of the guiding cube.

3.11.3. Setting of the frame lowering speed

Frame lowering speed is set by valve on the control panel.

- Turn clockwise to decrease frame lowering speed.
- Turn counterclockwise to increase frame lowering speed.

Note:

If the throttle valve is closed too tightly, the valve seat may be damaged and may start to leak. Tighten the valve lightly.

3.11.4. Saw frame lift stop setting

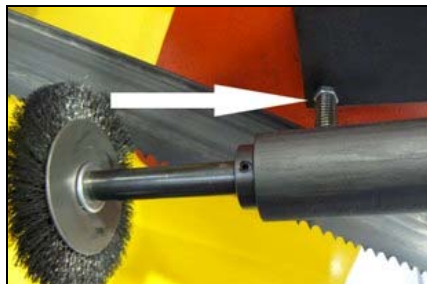
If you want to shorten the time of operations in automatic cycle, you have to adjust the height of the saw arm according to the height of the cutting material.



1. Lift the saw arm to the upper position.
2. Insert a material into the vice. Carefully lower the saw arm to the material.
3. Stop the saw arm 10mm above the material.
4. The lift stop setting is sensed by the limit switch.

3.11.5. Brush setting

The brush influence the cutting power, lifetime of the saw band, circular wheels, hardmetal guides and precision of the cutting. Replace the brush each shift.



5. Release the tightening bolt of the brush (see arrow) so the brush can be moved.
6. Set the brush to the saw band. Ends of the brush bristles should not touch the saw band teeth.
7. Tighten the bolt.
8. If the brush is not rotating properly (brush drive wheel slips on the saw band drive wheel) press down the wheel using the bolt to the saw band drive wheel.

3.11.6. 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!

3.11.7. Handling agent selection

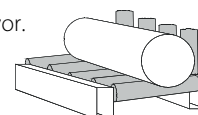
- Use the strong handling agents to lift and transfer the material!
- Handle with the material only with the lift truck or use the suspension strands and the crane!
- Do not use the lift truck or crane in case that you do not have the license to handle with it!

3.11.8. 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.

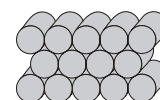
Be especially careful with round materials that it always stays on two vertical rollers and that it cannot fall off the conveyor!



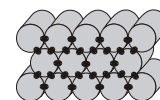
3.11.9. Bundle material cutting

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.

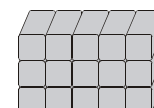


Always weld the material at the rear end of the bundle to secure it from moving.



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:



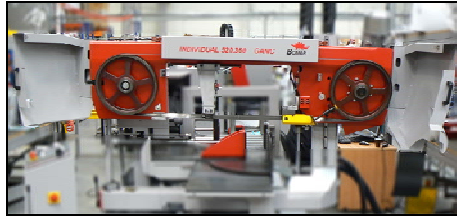
Attention:

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 maintenance

4.1. Saw band dismantling

1. Press button **8** to lift the saw arm to maximum position.
2. **STOP hydraulic** with button **5**.



3. Open all three covers on the saw arm.



4. Dismantle left protective cover of the band (arrow). Cover is fastened by screws..
5. Release the screw holding the brush. Turn the brush to the side



6. Turn by stretching star to the left side, release saw band stretching and pull down the saw band from the wheels.



7. Pull down the band from the wheels.
8. Pull up the saw band from the guiding cubes.

4.2. Saw band installation

1. Prior to installation, clean all track wheels, guide cubes and inner side of the arm thoroughly of all traces of chips and dirt. *Keep in mind the teeth direction when installing the saw band.*
2. Insert new saw band in the guide cubes. Make sure the saw band runs between both guide rollers and it is pushed all the way to the top.

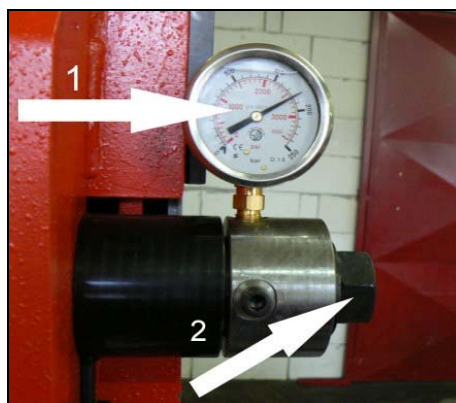
3. Put the saw band on both guide wheels. Make sure that the saw band ridge fits tightly to the wheel rim. Then push the saw band as far back as possible.
4. Stretch the saw band by means of the screw, that the band did not falls from wheels.
5. Install yellow protective cover of the band.
6. Move the brush to the saw band. Tighten the securing screw.
7. Close the covers of both driving wheels.
8. Saw band installation is finished.

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.

4.3.1. Saw band stretching

- 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.

4.3.2. Saw band inspection

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

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

4.3.3. Saw band run setting



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

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

Check saw band run adjustment again.

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

After the saw band is replaced, the saw band stretching must be checked. If the limit switch is not adjusted correctly, the band is stretched too little or too much.



- Tighten the saw band by means of the TENZOMAT on the optimal value (table is on the Tenzomat).



- If the drive engine is switched on, but it is not running, turn with the screw clockwise, until the engine begins run..
- If the drive engine is possible switched on, turn with the screw anticlockwise, until the engine is stopped and then turn with the screw clockwise, until the engine begins run.

4.4. 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

4.4.1. 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

4.4.2. 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.

4.5. Hydraulic, Greases and oils

4.5.1. 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
Individual 620.460 DGA	Shell Tivela S 320	3,3 l
Swarf conveyor	Shell Tivela S 320	0,075 l

Comparative table of the gearbox oils

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

4.5.2. 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.

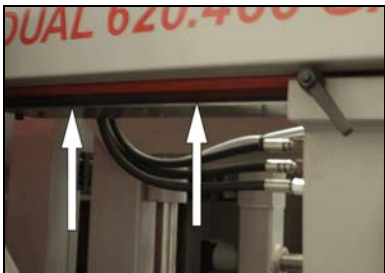
Comparative table of the lubricant greases:

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

Manufacturer	Type of the lubricant grease
Shell Aseol AG	ASEOL Litea EP 806-077
Texaco	Multifak EP1

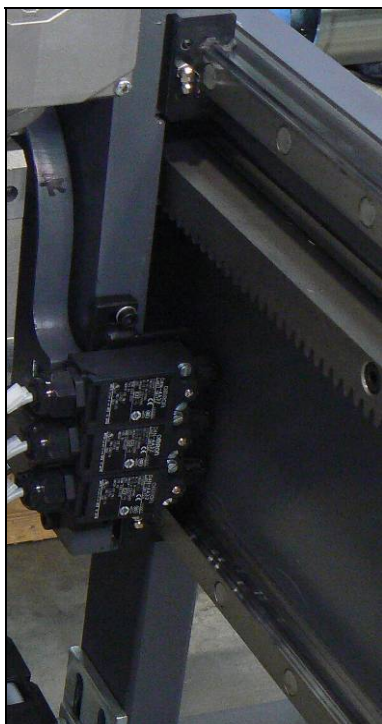
4.5.3. Lubrication

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

Mazací místo	Mazání
	The guiding cubes leading Grease with oil from both sides once a week.
	Feeder top clamping leading Grease with oil from both sides once a three months.
	The linear guiding of the saw arm Lubricate with grease once a three months (see chapter Lubricant greases). Use 3–5g grease on the every carriage of the linear guiding. Use the grease gun to the lubrication. Drive 3–5 times whole line of the linear guiding during lubrication.
	The linear guiding for feeder jaws Lubricate with grease once a three months (see chapter Lubricant greases). Use 3–5g grease on the every carriage of the linear guiding. Use the grease gun to the lubrication. Drive 3–5 times whole line of the linear guiding during lubrication.
	Main vice leading Grease with oil from both sides once a week.

Mazací místo

Mazání



Linear guiding for feeder movement

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



Do not grease! Hydraulic brake will be ineffective.

4.5.4. 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		

4.5.5. Hydraulic oil level check

Check the oil in the hydraulic system:

- Saw
- Feeder

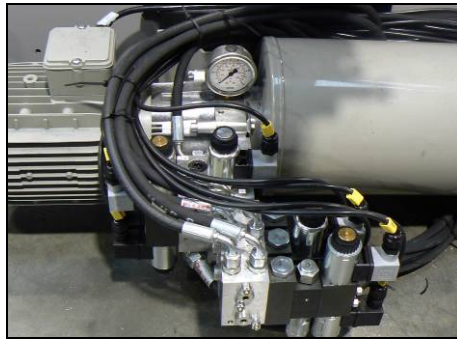


Pull up the gauge and check the state of the oil. The oil level must be situated between water-glas.



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

4.5.6. Manometers



Pressure in saw hydraulic unit



Pressure in main vice – manometer is placed on main vice



Saw blade tensioning – placed on saw arm.

4.6. 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.
- Vice guiding
- Brush

4.7. Worn pieces replacement

4.7.1. Pushing bearing replacement

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

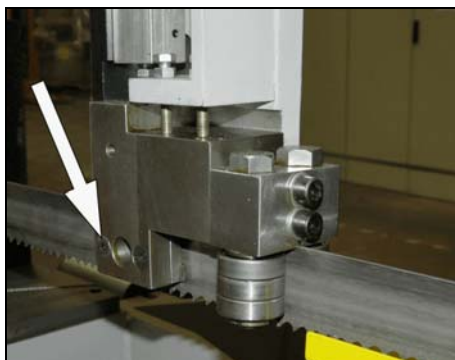


The bearing condition is possible discover, on the cube from the bottom side, for a better inspection is possible to put out the holder of the bearing from the cube.

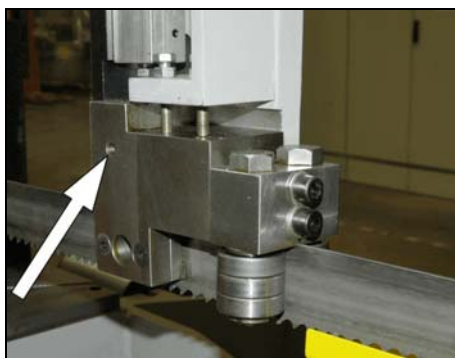
If the bearing is worn, there is a visible channel on it.

Bearing replacement:

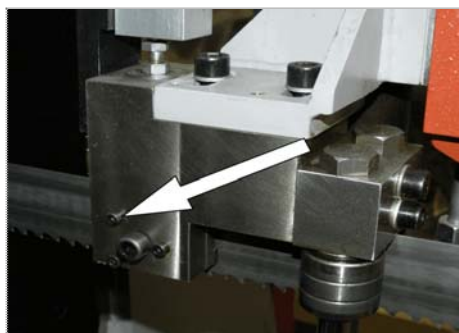
1. Dismantle the saw band.



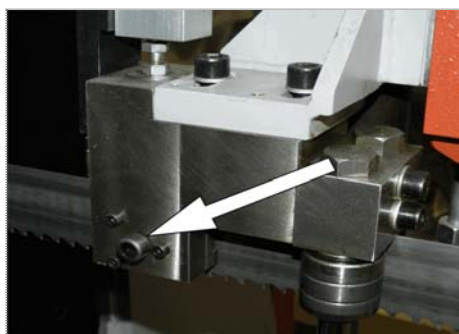
2. Release 2 Screws from hardmetal plate.



3. Release fixing screw with IMBUS (see arrow).



4. Release all 3 screws (see arrow).



5. Release center M10 screw after remove retaining ring. Remove hardmetal holder and bearing from bottom



Attention:

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

6. Insert the pivot to the vice.
7. Remove the bearing pivot from the bearing holder by means of the swager.



8. Remove the worn bearing.

9. 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.

10. Insert the bearing and washers and return the pivot to its original place.
11. The pivot may not extend past the holder; otherwise, the bundle gripping assembly regulator gets worse.

4.7.2. Saw band guiding pulleys replacement

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

Attention:

Guiding pulleys must be replaced together on both guiding cubes!



1. Release rear holder with 2 screws (see arrow). Dismantle the guiding cube of the saw band.



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

Attention:

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

3. Screw off nuts from eccentrics.
4. Remove eccentrics from bearings by means of the swager.



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

Attention:

Do not replace the eccentrics placing in the cube.



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



8. Insert the saw band to the guiding cube (cca 15 – 20 cm). Secure the movable hard metal guide with scotch so, that the saw band is pressed with guides and it is possible to move with saw band.
9. Set the eccentrics by means of the wrenches, the saw band must run in the centre. Guide pulleys must not press too much on the band, but must spin freely during the band run.

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

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

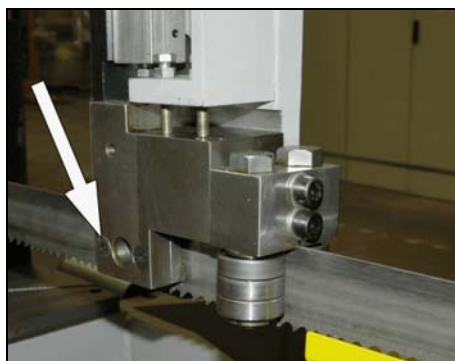
4.7.3. Hard metal guides replacement

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

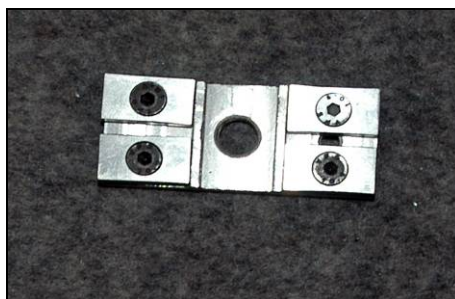
Attention:

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

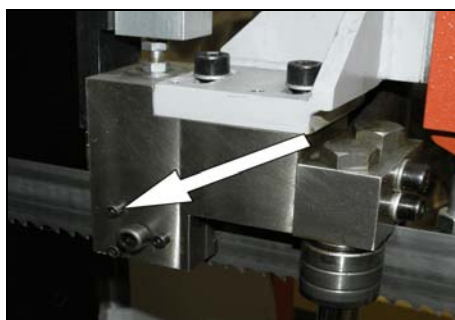
1. Disconnect the hose from the cooling agent.



2. Release 2 screws.



3. Remove fix hardmetal guidepost.



4. Release all 3 screws (see arrow).
5. Release center M10 screw after remove retaining ring.



6. Remove moveable hardmetal guide.

7. From both hardmetal guides screw out worn hardmetals and change them with new ones.
8. Both hardmetals guides incl. press springs mount back. With 3 screws and aux. saw band setup optimal play between guides.

4.7.4. Brush replacement

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

1. Hold shaft of the brush by wrench.



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

5. **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.
2. The cut is not cut upon desired angle	- Unexpected oscillation in material quality.	Set the cut and feeding speed to the relevant material.
	- 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.
3. Short lifetime of the saw band	- Dirt between material and clamping jaw.	Cleanse the material and mating jaw.
	- 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.	

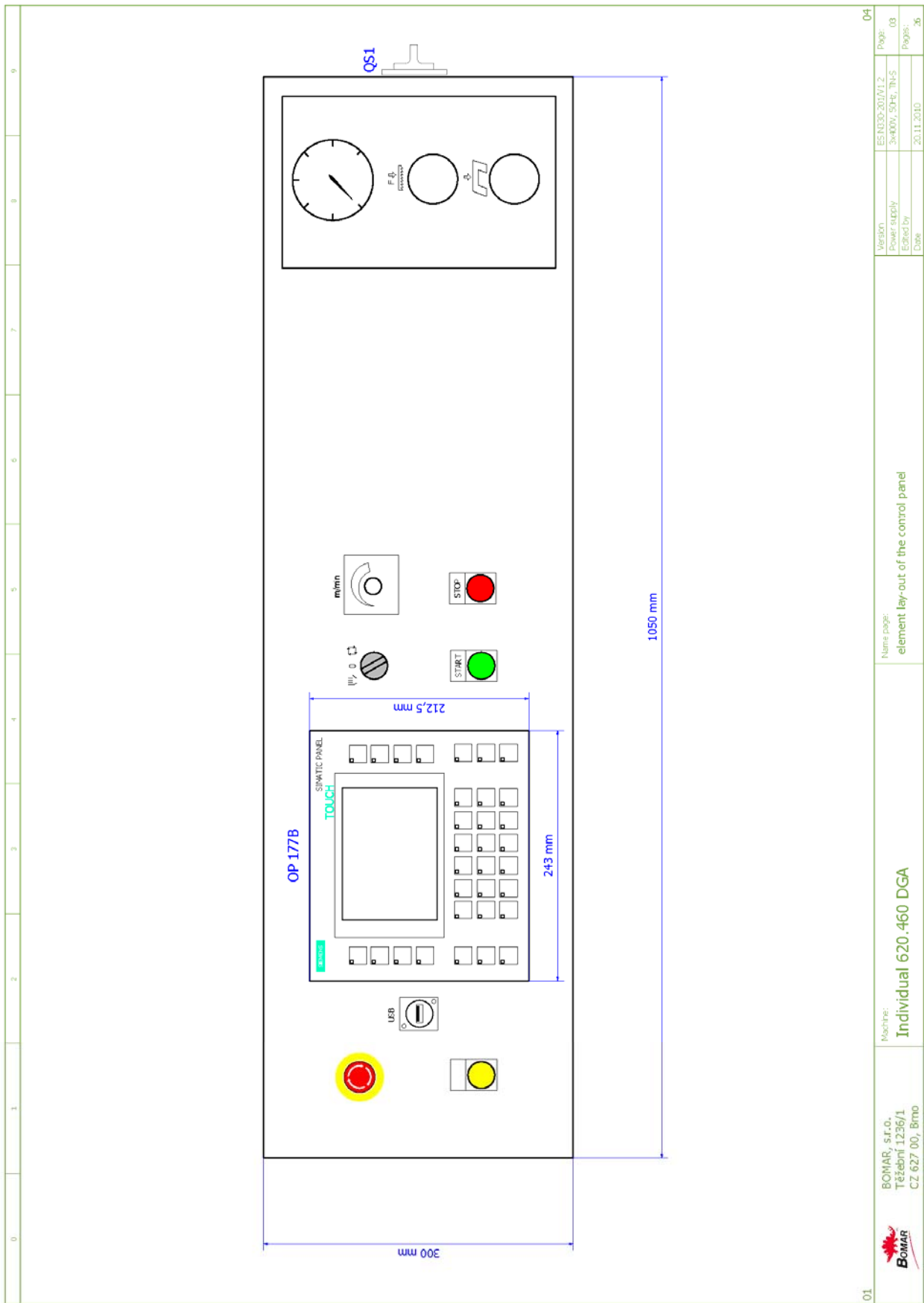
5.2. Electric and hydraulic problems

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.

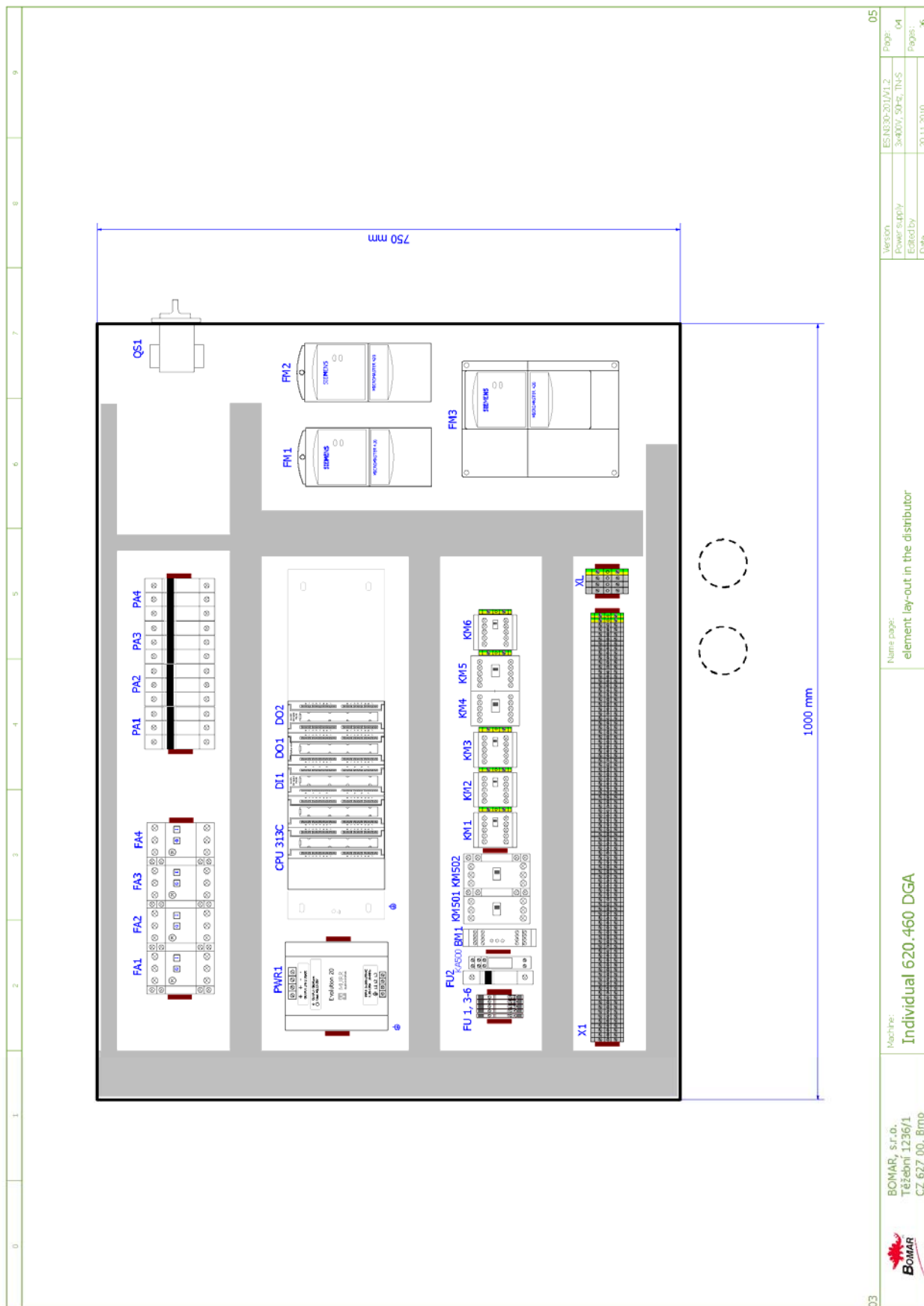
6. **Schémata / Schemas / Schematics**

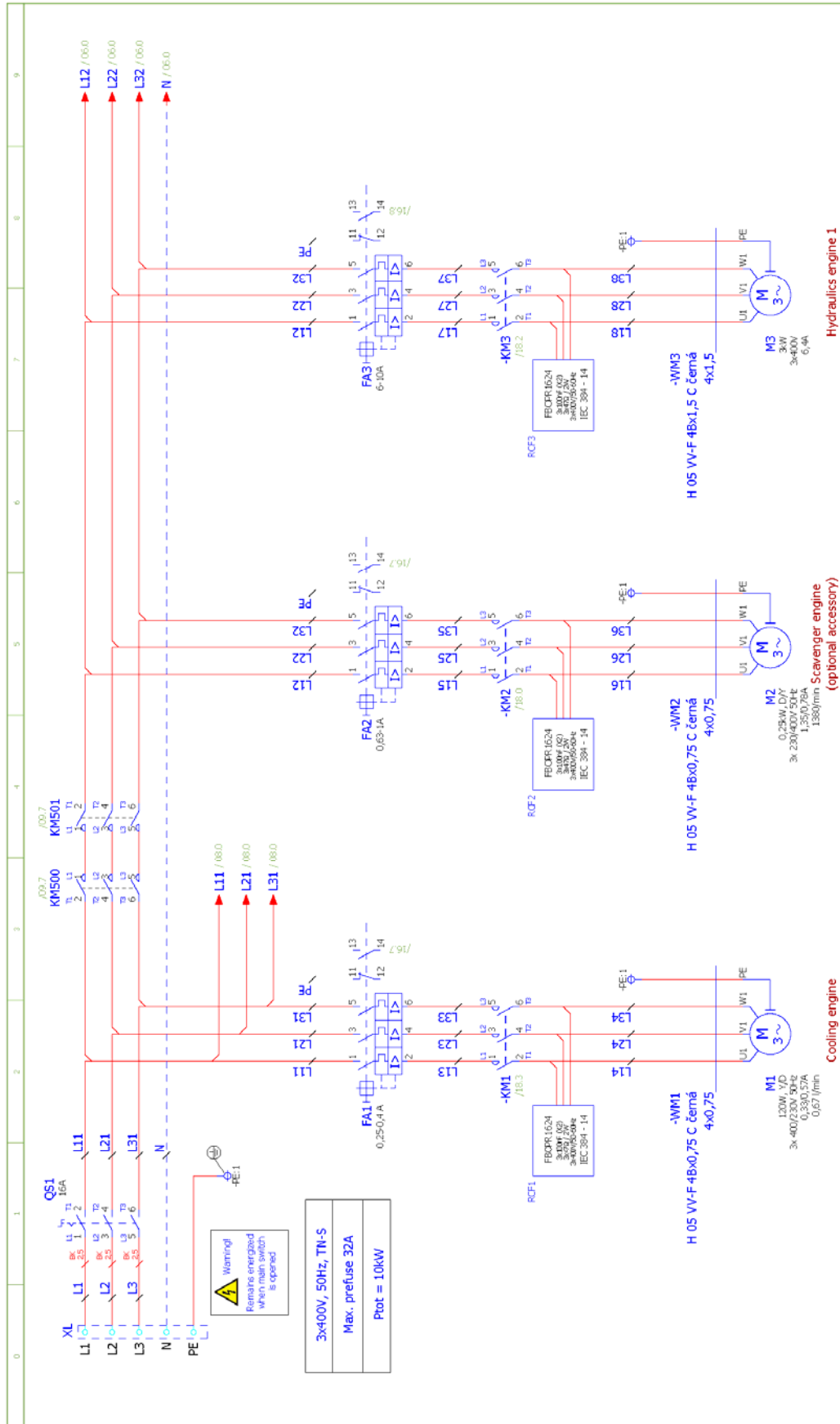
6.1. Elektrické schema /
Elektroschema /
Wiring diagrams – 3×400 V, TN-C-S

Schémata
Schemas
Schematics

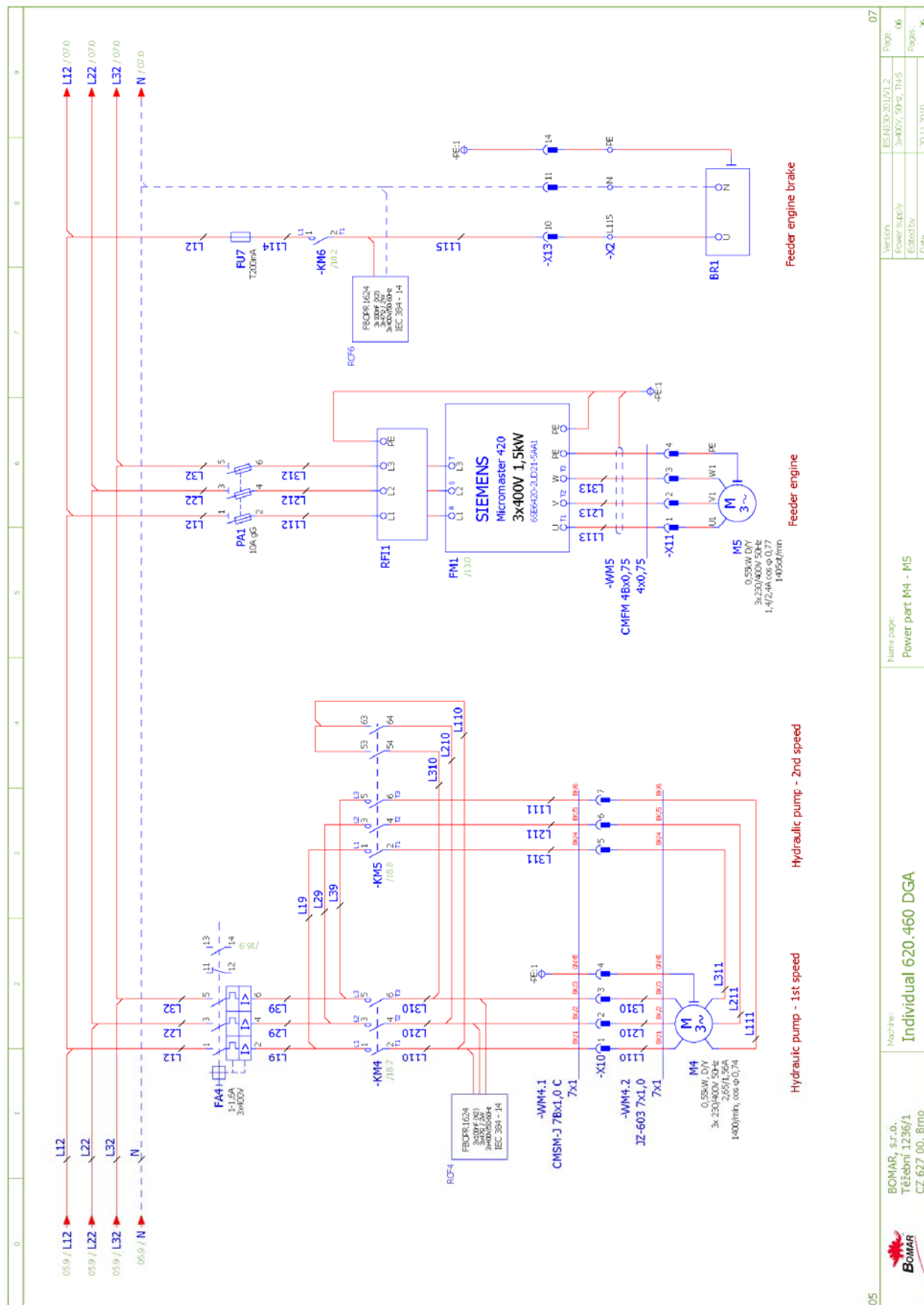


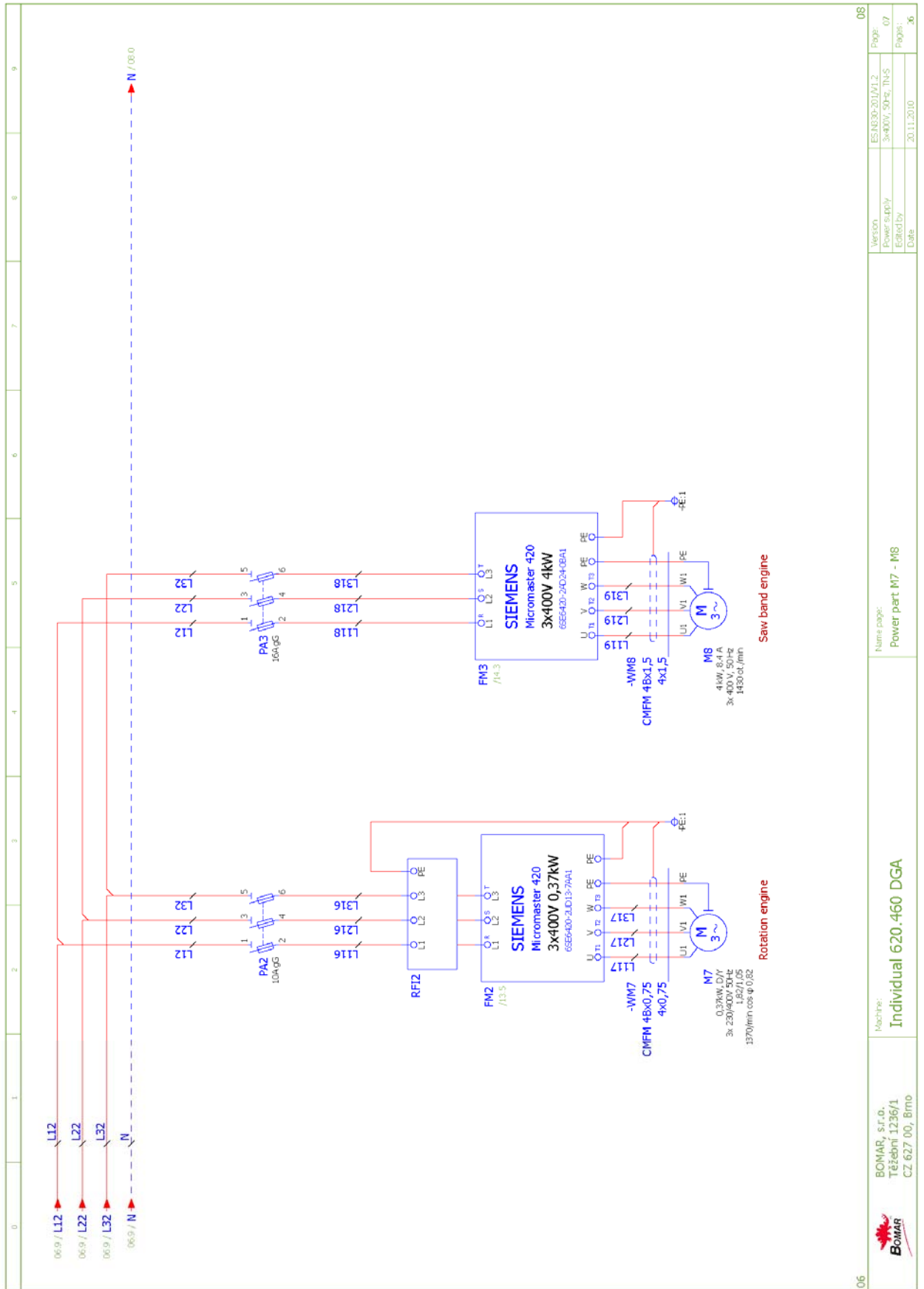
01	BOMAR, s.r.o. Těšební 1236/1 CZ 627 00, Brno	Machine: Individual 620.460 DGA	Name page: element lay-out of the control panel	Version: Power supply Edited by Date	ES N330-2017/1.2 3×400V, 50Hz, TN-C-S 20.11.2010	Page: 03 Pages: 36	04
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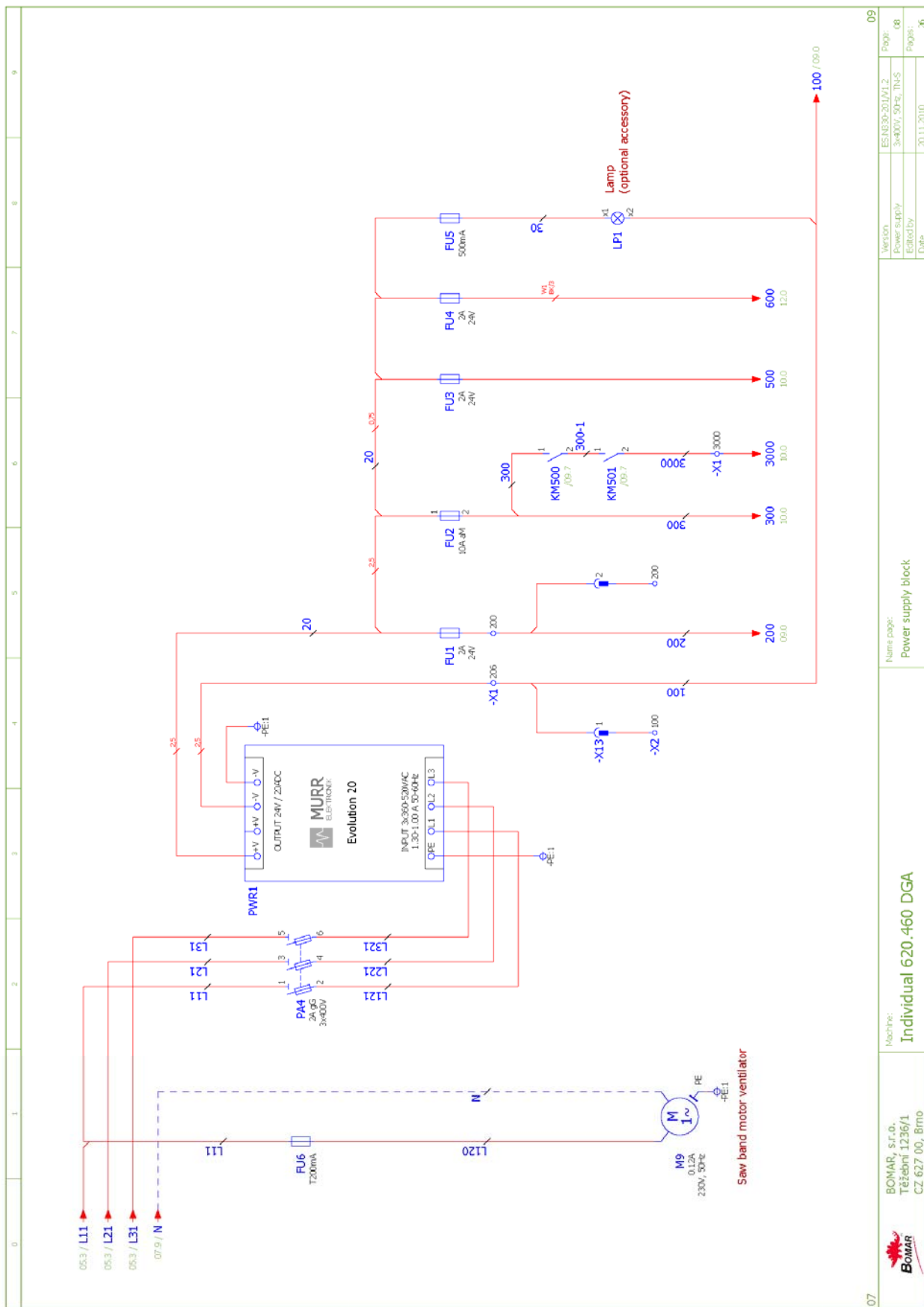




04	BOMAR, s.r.o. Třebízní 1236/1 CZ 627 00, Brno	Machine:	Individual 620.460 DGA	Name page:	Power part M1 - M3	Version:	ESAB30-201/V1.2	Page:	05
06						Power supply:	3x400V, 50Hz, TN-S	Pages:	.x6
						Edited by:			
						Date:	20.11.2010		



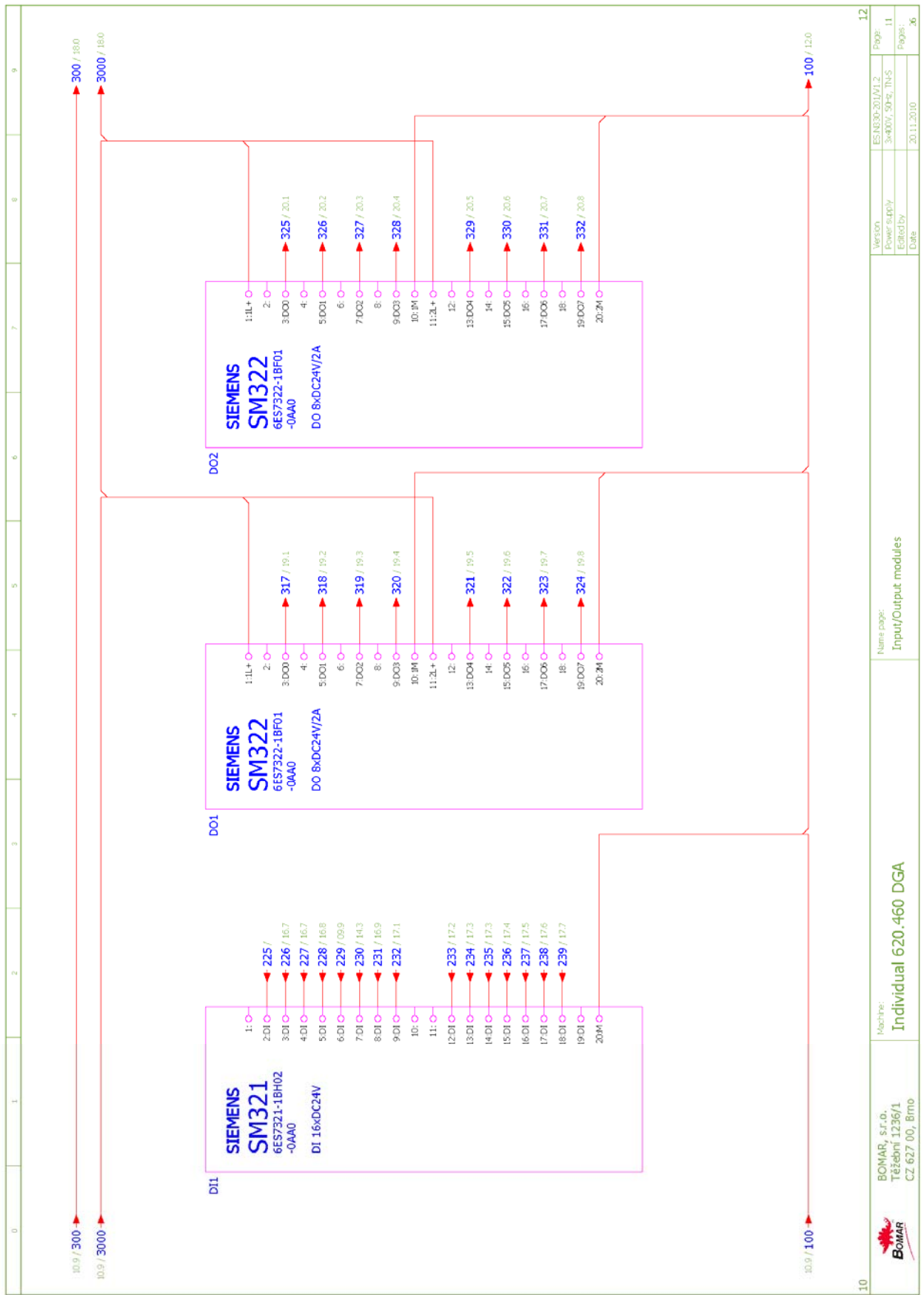




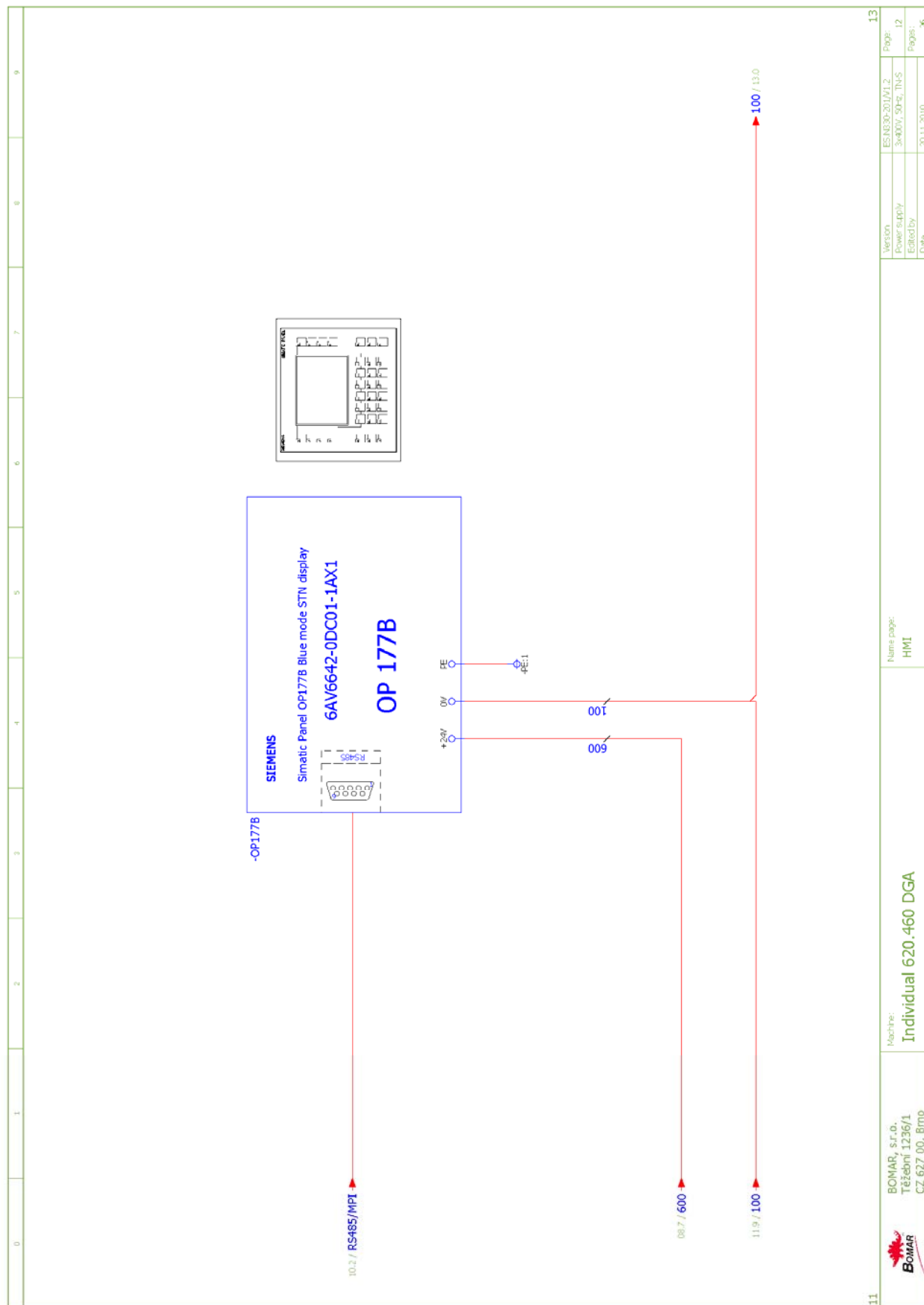
07	 BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Břmo Machine: Individual 620.460 DGA Name page: Power supply block <table> <tr> <td data-bbox="1268 318 1284 660">Version</td><td data-bbox="1284 318 1300 660">ES-NS30-201/01.2</td></tr> <tr> <td data-bbox="1268 459 1284 660">Power supply</td><td data-bbox="1284 459 1300 660">3x400V, 50Hz, TN-S</td></tr> <tr> <td data-bbox="1268 504 1284 660">Edited by</td><td data-bbox="1284 504 1300 660"></td></tr> <tr> <td data-bbox="1268 548 1284 660">Date</td><td data-bbox="1284 548 1300 660">20.11.2010</td></tr> </table> <tr> <td data-bbox="1232 318 1252 369">09</td><td data-bbox="1252 318 1324 369">  Page: 08 Pages: 36 </td></tr>	Version	ES-NS30-201/01.2	Power supply	3x400V, 50Hz, TN-S	Edited by		Date	20.11.2010	09	 Page: 08 Pages: 36
Version	ES-NS30-201/01.2										
Power supply	3x400V, 50Hz, TN-S										
Edited by											
Date	20.11.2010										
09	 Page: 08 Pages: 36										

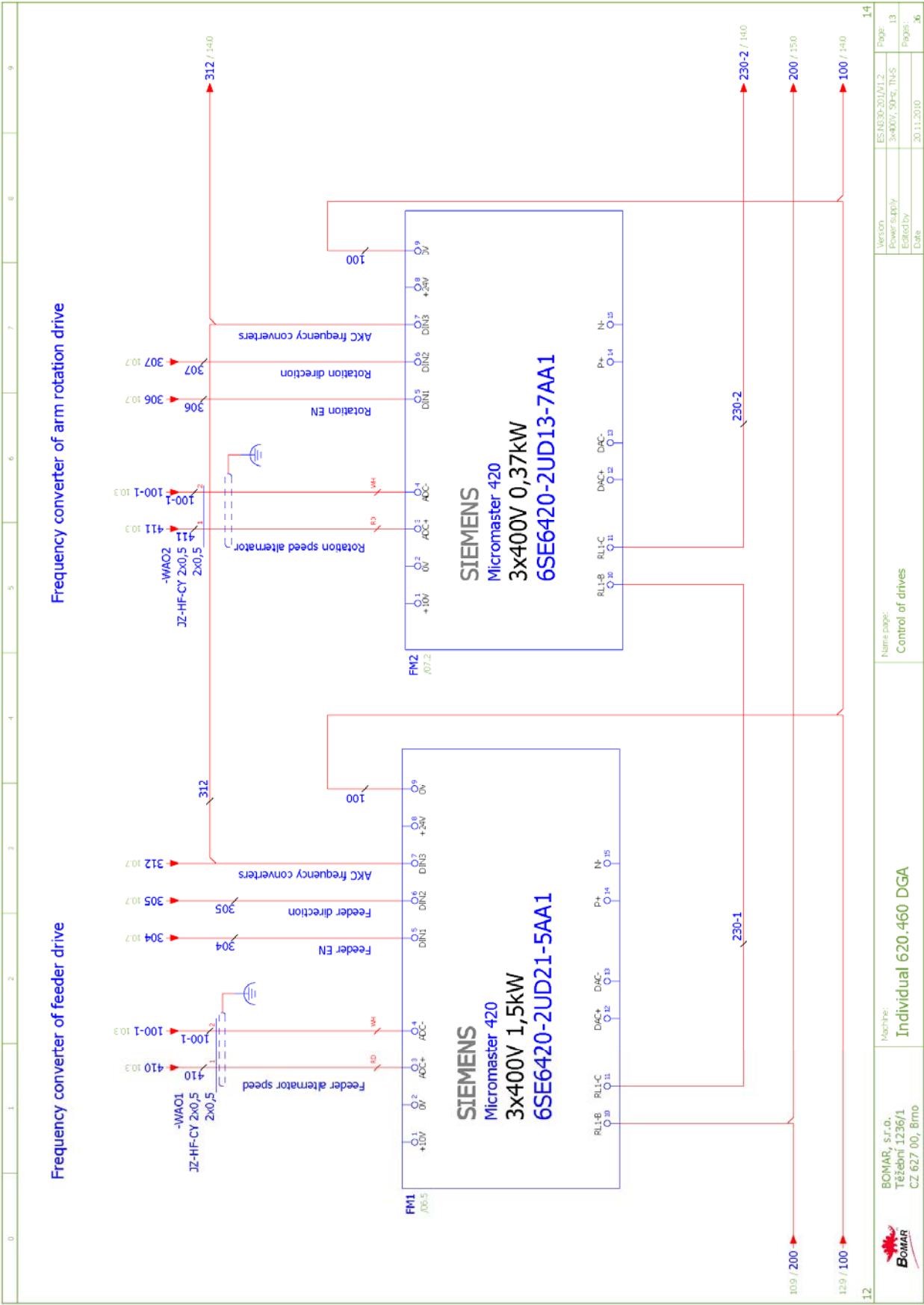






10	BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Břmo	Machine: Individual 620.460 DGA	Name page: Input/Output modules	Version: Power supply Edited by Date	ESN30-2010/1.2 3x400V, 50Hz, TN-S 20.11.2010	Page: 11 Pages: 36	12
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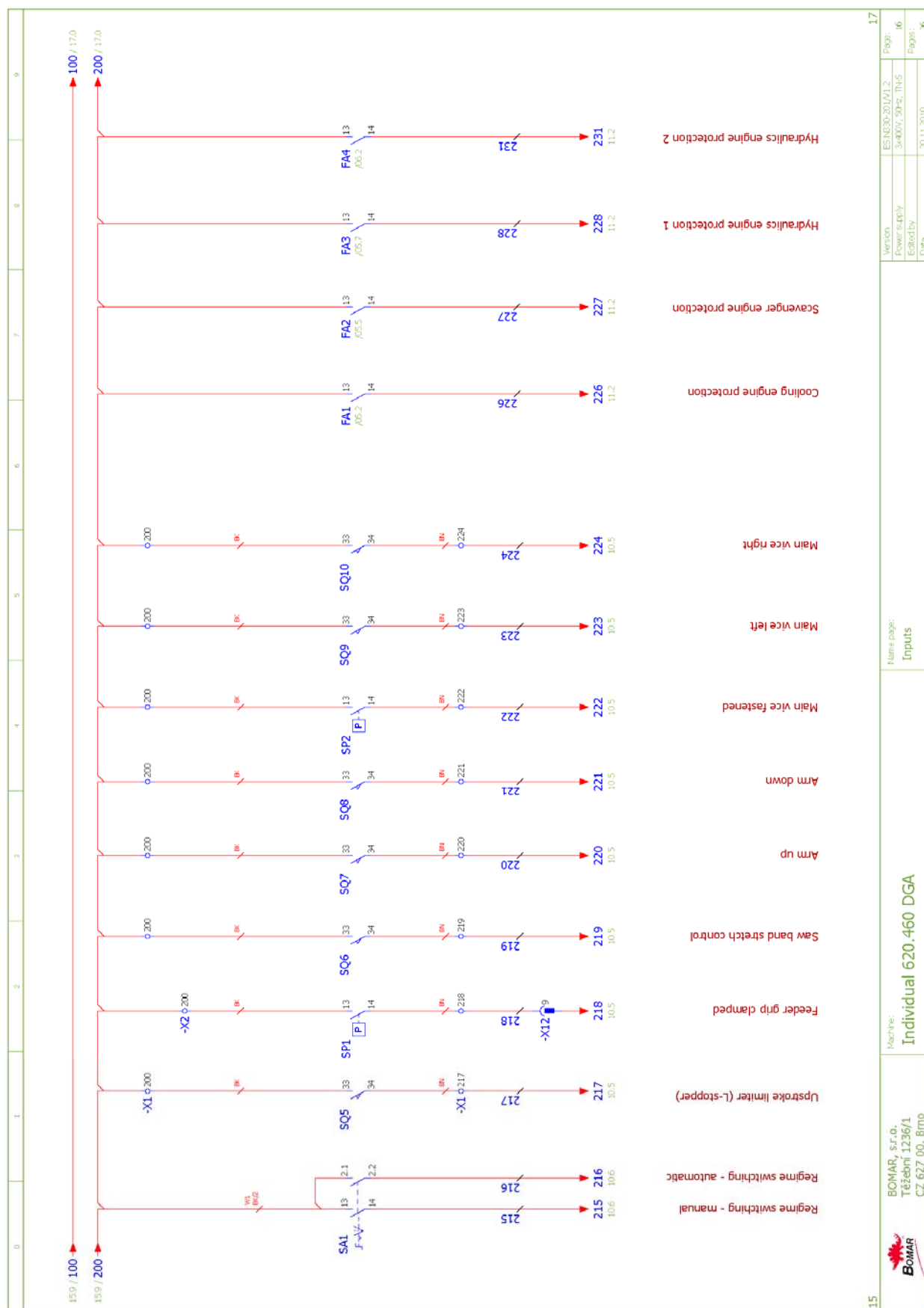






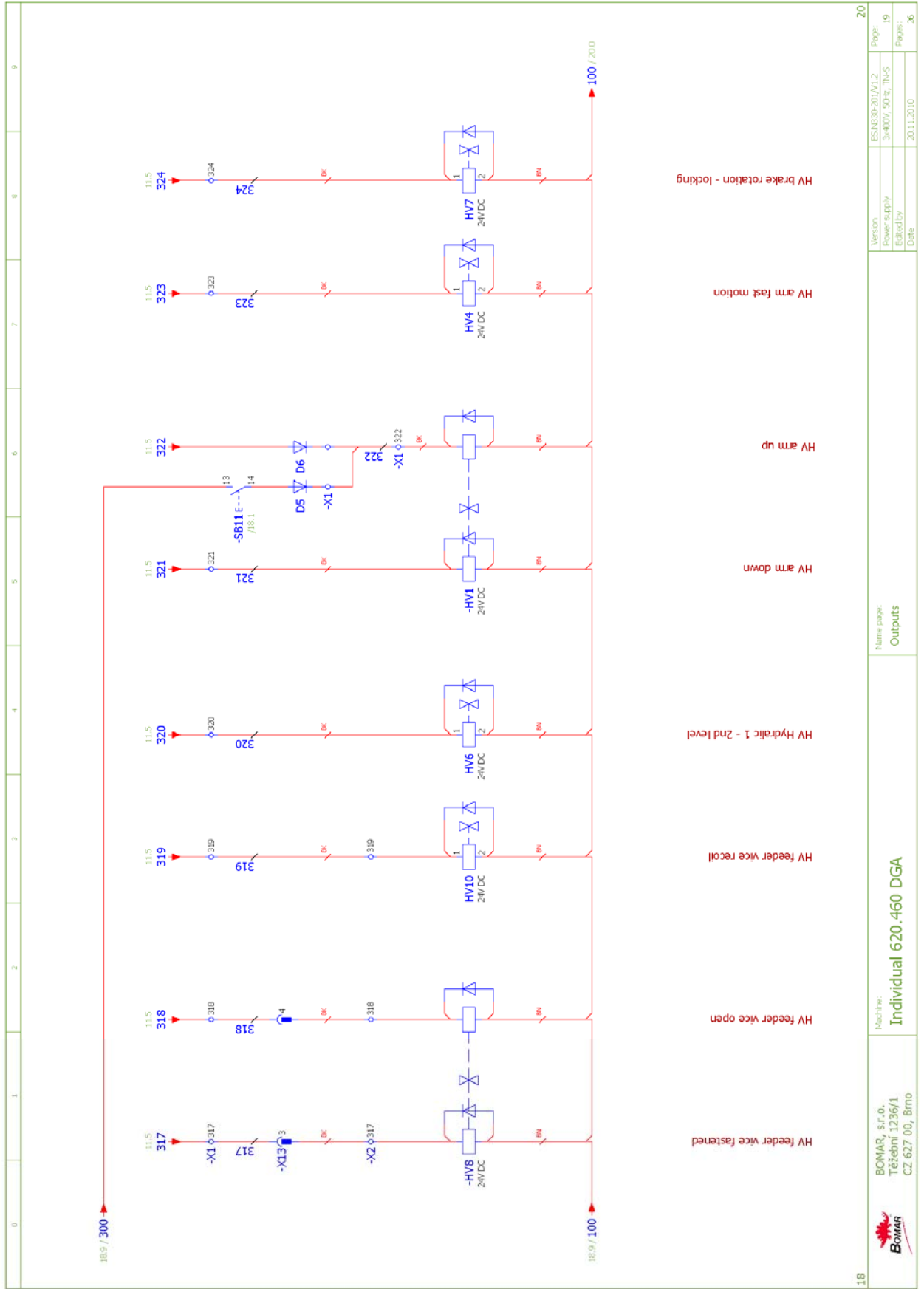


14	 BOMAR, s.r.o. Tešební 1236/1 CZ 627 00, Brno	Machine: Individual 620.460 DGA	Name page: Inputs	Version Power supply Edited by Date	ESN830-20/V1.2 3x400V, 50+ε, TN-S 20.11.2010	Page: 15 Pages: 26
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Parts list

Device tag	Device type	Type number	supplier	part number	Quantity	Location (page.col)
-BM1	Safety relay	SNA4064K	WIELAND	91.051.026	1	/09.5
-CPU1	Simatic S7-300, CPU 313C	6ES7313-5BF03-0AB0	SIEMENS	91.995.622	1	/10.1
-CPU1	SIMATIC S7-300, FRONT CONNECTOR 392 WITH SCREW CONTACTS, 40-PIN	6ES7392-1AM00-0AA0	SIEMENS	91.995.629	2	/10.1
-CPU1-MPI1	SIMATIC DP, BUS CONNECTOR FOR PROFIBUS WITH PC SOCKET	6ES7972-0BB12-0XA0	SIEMENS	91.995.533?	1	/10.2
-D1	Diode 3A	1N5408		91.280.003	1	/18.4
-D2	Diode 3A	1N5408		91.280.003	1	/18.4
-DI1	Simatic SM321, 16xDC 24VDC	6ES7321-1BH02-0AA0	SIEMENS	91.995.624	1	/11.0
-DI1	SIMATIC S7-300, FRONT CONNECTOR WITH SCREW CONTACTS, 20-PIN	6ES7392-1AJ00-0AA0	SIEMENS	91.995.627	1	/11.0
-DO1	Simatic SM322, 8xDC 24VDC/2A	6ES7322-1BF01-0AA0	SIEMENS	91.995.625	1	/11.3
-DO1	SIMATIC S7-300, FRONT CONNECTOR WITH SCREW CONTACTS, 20-PIN	6ES7392-1AJ00-0AA0	SIEMENS	91.995.627	1	/11.3
-DO2	Simatic SM322, 8xDC 24VDC/2A	6ES7322-1BF01-0AA0	SIEMENS	91.995.625	1	/11.6
-DO2	SIMATIC S7-300, FRONT CONNECTOR WITH SCREW CONTACTS, 20-PIN	6ES7392-1AJ00-0AA0	SIEMENS	91.995.627	1	/11.6
-FA1	Motor-overcurrent circuit breaker 0.25-0.4A	GZ1M03	TELEMECANIQUE	91.235.022	1	/05.2
-FA1	Motor-overcurrent circuit breaker auxiliary contacts	GZ1AN11	TELEMECANIQUE	91.046.004	1	/05.2
-FA2	Motor-overcurrent circuit breaker auxiliary contacts	GZ1AN11	TELEMECANIQUE	91.046.004	1	/05.5
-FA2	Motor-overcurrent circuit breaker 0.63-1A	GZ1M05	TELEMECANIQUE	91.235.023	1	/05.5
-FA3	Motor-overcurrent circuit breaker 6-10A	GZ1M14	TELEMECANIQUE	91.235.025	1	/05.7
-FA3	Motor-overcurrent circuit breaker auxiliary contacts	GZ1AN11	TELEMECANIQUE	91.046.004	1	/05.7
-FA4	Motor-overcurrent circuit breaker 1-1.6A	GZ1M06	TELEMECANIQUE	91.235.024	1	/06.2
-FA4	Motor-overcurrent circuit breaker auxiliary contacts	GZ1AN11	TELEMECANIQUE	91.046.004	1	/06.2
-FM1	Frequency converter MICROMASTER 420, 3x400V, 1.5kW	6SE6420-2UD21-5AA1	SIEMENS	91.012.053	1	/06.5
-FM2	Frequency converter MICROMASTER 420, 3x400V, 0.37kW	6SE6420-2UD13-7AA1	SIEMENS	91.012.052	1	/07.2
-FM3	Frequency converter MICROMASTER 420, 4kW, filtered	6SE6420-2AD24-0BA1	SIEMENS		1	/07.4
-FU1	Fuse case	WK4/THS15...U	WIELAND	91.251.102	1	/08.5
-FU1	Tube fuse 5x20 slow, 2A/250V	TZA/250V	ESKA	91.230.001	1	/08.5
-FU2	Fuse case for cylindric fuse 10x38mm, size 10	OPV10/1	OEZ	91.241.001	1	/08.6
-FU2	Cylindric fuse 10A, 10x38 slow	PV10 10A aM	OEZ	91.230.020	1	/08.6
-FU3	Tube fuse 5x20 slow, 2A/250V	TZA/250V	ESKA	91.230.001	1	/08.7

The manufacturer reserves the use of equivalent compensation components.

21	BOMAR, s.r.o. Těšební 1236/1 CZ 627 00, Břmo		Machine: Individual 620.460 DGA		Name page: Parts list		Project number: 819		Page: 22
							Processed by: Date:		Pages: 26



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Parts list

Device tag	Device type	Type number	supplier	part number	Quantity	Location (page.col)
-FU3	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.7
-FU4	Tube fuse 5x20 slow, 2A/250V	TZA/250V	ESKA	91.230.001	1	/08.7
-FU4	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.7
-FU5	Tube fuse 5x20 slow, 500mA/250V	T500mA/250V	ESKA	91.230.011	1	/08.8
-FU5	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.8
-FU6	Tube fuse 5x20 slow, 200mA/250V	T200mA/250V	ESKA	91.230.037	1	/08.1
-FU6	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.1
-FU7	Tube fuse 5x20 slow, 200mA/250V	T200mA/250V	ESKA	91.230.037	1	/06.8
-FU7	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/06.8
-HS1	Linear incremental encoder with magnetic strip 10-30VDC	LMIX2-026-08.0-1-00	ELGO	91.270.011	1	/15.0
-HS2	Linear incremental encoder with magnetic strip 10-30VDC	LMIX2-026-08.0-1-00	ELGO	91.270.011	1	/15.2
-HS3	Linear incremental encoder with magnetic strip 10-30VDC	LMIX2-026-08.0-1-00	ELGO	91.270.011	1	/15.4
-HV4	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.7
-HV6	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.4
-HV7	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.8
-HV10	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.3
-KA1	Relay socket	95.95.3	FINDER	91.051.003	1	/18.3
-KA1	Relay	G2R-2 24VDC	OMRON	91.051.007	1	/18.3
-KM1	Contacteur	DIL EM-10-G	MOELLER	91.040.020	1	/18.3
-KM2	Contacteur	DIL EM-01-G 24V DC	MOELLER	91.040.024	1	/18.0
-KM3	Contacteur	DIL EM-01-G 24V DC	MOELLER	91.040.024	1	/18.2
-KM4	Contacteur 5.5KW 0NC1NO	DILM12-01	MOELLER	91.040.025	1	/18.7
-KM5	Contacteur 5.5KW 0NC1NO	DILM12-01	MOELLER	91.040.025	1	/18.8
-KM5	Auxiliary contact fort Moeller Contactor, 2xNO	DILA-XHI20	MOELLER	91.141.010	1	/18.8
-KM5	Mechanical blocking for contactors	DILM12-XMV	MOELLER	91.041.012	1	/18.8
-KM6	Contacteur	DIL EM-10-G	MOELLER	91.040.020	1	/18.2
-KM500	Contacteur 7.5KW	DILM17-01	MOELLER	91.040.0XX	1	/09.7
-KM500	Auxiliary contact fort Moeller Contactor, 2xNO	DILA-XHI20	MOELLER	91.141.010	1	/09.7

The manufacturer reserves the use of equivalent compensation components.

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Parts list

Device tag	Device type	Type number	supplier	part number	Quantity	Location (page.col)
-FU3	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.7
-FU4	Tube fuse 5x20 slow, 2A/250V	TZA/250V	ESKA	91.230.001	1	/08.7
-FU4	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.7
-FU5	Tube fuse 5x20 slow, 500mA/250V	T500mA/250V	ESKA	91.230.011	1	/08.8
-FU5	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.8
-FU6	Tube fuse 5x20 slow, 200mA/250V	T200mA/250V	ESKA	91.230.037	1	/08.1
-FU6	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.1
-FU7	Tube fuse 5x20 slow, 200mA/250V	T200mA/250V	ESKA	91.230.037	1	/06.8
-FU7	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/06.8
-HS1	Linear incremental encoder with magnetic strip 10-30VDC	LMIX2-026-08.0-1-00	ELGO	91.270.011	1	/15.0
-HS2	Linear incremental encoder with magnetic strip 10-30VDC	LMIX2-026-08.0-1-00	ELGO	91.270.011	1	/15.2
-HS3	Linear incremental encoder with magnetic strip 10-30VDC	LMIX2-026-08.0-1-00	ELGO	91.270.011	1	/15.4
-HV4	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.7
-HV6	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.4
-HV7	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.8
-HV10	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.3
-KA1	Relay socket	95.95.3	FINDER	91.051.003	1	/18.3
-KA1	Relay	G2R-2 24VDC	OMRON	91.051.007	1	/18.3
-KM1	Contacteur	DIL EM-10-G	MOELLER	91.040.020	1	/18.3
-KM2	Contacteur	DIL EM-01-G 24V DC	MOELLER	91.040.024	1	/18.0
-KM3	Contacteur	DIL EM-01-G 24V DC	MOELLER	91.040.024	1	/18.2
-KM4	Contacteur 5.5KW 0NC1NO	DILM12-01	MOELLER	91.040.025	1	/18.7
-KM5	Contacteur 5.5KW 0NC1NO	DILM12-01	MOELLER	91.040.025	1	/18.8
-KM5	Auxiliary contact fort Moeller Contactor, 2xNO	DILA-XHI20	MOELLER	91.141.010	1	/18.8
-KM5	Mechanical blocking for contactors	DILM12-XMV	MOELLER	91.041.012	1	/18.8
-KM6	Contacteur	DIL EM-10-G	MOELLER	91.040.020	1	/18.2
-KM500	Contacteur 7.5KW	DILM17-01	MOELLER	91.040.0XX	1	/09.7
-KM500	Auxiliary contact fort Moeller Contactor, 2xNO	DILA-XHI20	MOELLER	91.141.010	1	/09.7

The manufacturer reserves the use of equivalent compensation components.

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Parts list

Device tag	Device type	Type number	supplier	part number	Quantity	Location (page.col)
-FU3	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.7
-FU4	Tube fuse 5x20 slow, 2A/250V	TZA/250V	ESKA	91.230.001	1	/08.7
-FU4	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.7
-FU5	Tube fuse 5x20 slow, 500mA/250V	T500mA/250V	ESKA	91.230.011	1	/08.8
-FU5	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.8
-FU6	Tube fuse 5x20 slow, 200mA/250V	T200mA/250V	ESKA	91.230.037	1	/08.1
-FU6	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.1
-FU7	Tube fuse 5x20 slow, 200mA/250V	T200mA/250V	ESKA	91.230.037	1	/06.8
-FU7	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/06.8
-HS1	Linear incremental encoder with magnetic strip 10-30VDC	LMIX2-026-08.0-1-00	ELGO	91.270.011	1	/15.0
-HS2	Linear incremental encoder with magnetic strip 10-30VDC	LMIX2-026-08.0-1-00	ELGO	91.270.011	1	/15.2
-HS3	Linear incremental encoder with magnetic strip 10-30VDC	LMIX2-026-08.0-1-00	ELGO	91.270.011	1	/15.4
-HV4	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.7
-HV6	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.4
-HV7	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.8
-HV10	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.3
-KA1	Relay socket	95.95.3	FINDER	91.051.003	1	/18.3
-KA1	Relay	G2R-2 24VDC	OMRON	91.051.007	1	/18.3
-KM1	Contacteur	DIL EM-10-G	MOELLER	91.040.020	1	/18.3
-KM2	Contacteur	DIL EM-01-G 24V DC	MOELLER	91.040.024	1	/18.0
-KM3	Contacteur	DIL EM-01-G 24V DC	MOELLER	91.040.024	1	/18.2
-KM4	Contacteur 5.5KW 0NC1NO	DILM12-01	MOELLER	91.040.025	1	/18.7
-KM5	Contacteur 5.5KW 0NC1NO	DILM12-01	MOELLER	91.040.025	1	/18.8
-KM5	Auxiliary contact fort Moeller Contactor, 2xNO	DILA-XHI20	MOELLER	91.141.010	1	/18.8
-KM5	Mechanical blocking for contactors	DILM12-XMV	MOELLER	91.041.012	1	/18.8
-KM6	Contacteur	DIL EM-10-G	MOELLER	91.040.020	1	/18.2
-KM500	Contacteur 7.5KW	DILM17-01	MOELLER	91.040.0XX	1	/09.7
-KM500	Auxiliary contact fort Moeller Contactor, 2xNO	DILA-XHI20	MOELLER	91.141.010	1	/09.7

The manufacturer reserves the use of equivalent compensation components.

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Parts list

Device tag	Device type	Type number	supplier	part number	Quantity	Location (page.col)
-FU3	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.7
-FU4	Tube fuse 5x20 slow, 2A/250V	TZA/250V	ESKA	91.230.001	1	/08.7
-FU4	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.7
-FU5	Tube fuse 5x20 slow, 500mA/250V	T500mA/250V	ESKA	91.230.011	1	/08.8
-FU5	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.8
-FU6	Tube fuse 5x20 slow, 200mA/250V	T200mA/250V	ESKA	91.230.037	1	/08.1
-FU6	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.1
-FU7	Tube fuse 5x20 slow, 200mA/250V	T200mA/250V	ESKA	91.230.037	1	/06.8
-FU7	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/06.8
-HS1	Linear incremental encoder with magnetic strip 10-30VDC	LMIX2-026-08.0-1-00	ELGO	91.270.011	1	/15.0
-HS2	Linear incremental encoder with magnetic strip 10-30VDC	LMIX2-026-08.0-1-00	ELGO	91.270.011	1	/15.2
-HS3	Linear incremental encoder with magnetic strip 10-30VDC	LMIX2-026-08.0-1-00	ELGO	91.270.011	1	/15.4
-HV4	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.7
-HV6	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.4
-HV7	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.8
-HV10	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.3
-KA1	Relay socket	95.95.3	FINDER	91.051.003	1	/18.3
-KA1	Relay	G2R-2 24VDC	OMRON	91.051.007	1	/18.3
-KM1	Contacteur	DIL EM-10-G	MOELLER	91.040.020	1	/18.3
-KM2	Contacteur	DIL EM-01-G 24V DC	MOELLER	91.040.024	1	/18.0
-KM3	Contacteur	DIL EM-01-G 24V DC	MOELLER	91.040.024	1	/18.2
-KM4	Contacteur 5.5KW 0NC1NO	DILM12-01	MOELLER	91.040.025	1	/18.7
-KM5	Contacteur 5.5KW 0NC1NO	DILM12-01	MOELLER	91.040.025	1	/18.8
-KM5	Auxiliary contact fort Moeller Contactor, 2xNO	DILA-XHI20	MOELLER	91.141.010	1	/18.8
-KM5	Mechanical blocking for contactors	DILM12-XMV	MOELLER	91.041.012	1	/18.8
-KM6	Contacteur	DIL EM-10-G	MOELLER	91.040.020	1	/18.2
-KM500	Contacteur 7.5KW	DILM17-01	MOELLER	91.040.0XX	1	/09.7
-KM500	Auxiliary contact fort Moeller Contactor, 2xNO	DILA-XHI20	MOELLER	91.141.010	1	/09.7

The manufacturer reserves the use of equivalent compensation components.

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Parts list

Device tag	Device type	Type number	supplier	part number	Quantity	Location (page.col)
-FU3	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.7
-FU4	Tube fuse 5x20 slow, 2A/250V	TZA/250V	ESKA	91.230.001	1	/08.7
-FU4	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.7
-FU5	Tube fuse 5x20 slow, 500mA/250V	T500mA/250V	ESKA	91.230.011	1	/08.8
-FU5	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.8
-FU6	Tube fuse 5x20 slow, 200mA/250V	T200mA/250V	ESKA	91.230.037	1	/08.1
-FU6	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.1
-FU7	Tube fuse 5x20 slow, 200mA/250V	T200mA/250V	ESKA	91.230.037	1	/06.8
-FU7	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/06.8
-HS1	Linear incremental encoder with magnetic strip 10-30VDC	LMIX2-026-08.0-1-00	ELGO	91.270.011	1	/15.0
-HS2	Linear incremental encoder with magnetic strip 10-30VDC	LMIX2-026-08.0-1-00	ELGO	91.270.011	1	/15.2
-HS3	Linear incremental encoder with magnetic strip 10-30VDC	LMIX2-026-08.0-1-00	ELGO	91.270.011	1	/15.4
-HV4	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.7
-HV6	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.4
-HV7	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.8
-HV10	Hydraulic valve coil	944-0024 0806/11	ARGO HYTOS		1	/19.3
-KA1	Relay socket	95.95.3	FINDER	91.051.003	1	/18.3
-KA1	Relay	G2R-2 24VDC	OMRON	91.051.007	1	/18.3
-KM1	Contacteur	DIL EM-10-G	MOELLER	91.040.020	1	/18.3
-KM2	Contacteur	DIL EM-01-G 24V DC	MOELLER	91.040.024	1	/18.0
-KM3	Contacteur	DIL EM-01-G 24V DC	MOELLER	91.040.024	1	/18.2
-KM4	Contacteur 5.5KW 0NC1NO	DILM12-01	MOELLER	91.040.025	1	/18.7
-KM5	Contacteur 5.5KW 0NC1NO	DILM12-01	MOELLER	91.040.025	1	/18.8
-KM5	Auxiliary contact fort Moeller Contactor, 2xNO	DILA-XHI20	MOELLER	91.141.010	1	/18.8
-KM5	Mechanical blocking for contactors	DILM12-XMV	MOELLER	91.041.012	1	/18.8
-KM6	Contacteur	DIL EM-10-G	MOELLER	91.040.020	1	/18.2
-KM500	Contacteur 7.5KW	DILM17-01	MOELLER	91.040.0XX	1	/09.7
-KM500	Auxiliary contact fort Moeller Contactor, 2xNO	DILA-XHI20	MOELLER	91.141.010	1	/09.7

The manufacturer reserves the use of equivalent compensation components.

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Parts list

Device tag	Device type	Type number	supplier	part number	Quantity	Location (page.col)
-FU3	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.7
-FU4	Tube fuse 5x20 slow, 2A/250V	TZA/250V	ESKA	91.230.001	1	/08.7
-FU4	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.7
-FU5	Tube fuse 5x20 slow, 500mA/250V	T500mA/250V	ESKA	91.230.011	1	/08.8
-FU5	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.8
-FU6	Tube fuse 5x20 slow, 200mA/250V	T200mA/250V	ESKA	91.230.037	1	/08.1
-FU6	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/08.1
-FU7	Tube fuse 5x20 slow, 200mA/250V	T200mA/250V	ESKA	91.230.037	1	/06.8
-FU7	Fuse case	WK4/THS5...U	WIELAND	91.251.102	1	/06.8
-HS1	Linear incremental encoder with magnetic strip 10-30VDC	LMIX2-026-08.0-1-00	ELGO	91.270.011	1	/15.0
-HS2	Linear incremental encoder with magnetic strip 10-30VDC	LMIX2-026-08.0-1-00	ELGO	91.270.011	1	/15.2
-HS3	Linear incremental encoder with magnetic strip 10-30VDC	LMIX2-026-08.0-1-00	ELGO	91.270.011	1	/15.4
-HV4	Hydraulic valve coil	944-0024 0806/11	ARG			

Parts list

Device tag	Device type	Type number	supplier	part number	Quantity	Location (page.col)
-KM501	Auxiliary contact fort Moeller Contactor, 2xNO	DILA-XHI20	MOELLER	91.141.010	1	/09.7
-KM501	Contactur 7,5kW	DILM17-01	MOELLER	91.040.0XX	1	/09.7
-LP1	Lamp 12V/20W	LBP-B 30 Z	RNDR Zdeněk Martinásek	91.100.103	1	/08.8
-LQ1.1	Laser barrier - receiver	BLE18KF-PA-1LT-S4-C	BALLUFF	91.400.013	1	/15.6
-LQ1.2	Laser barrier - transmitter	BLE18KF-XX-1LT-S4-L	BALLUFF	91.400.012	1	/15.7
-M1	Pump 3x230/400V, 50Hz, 120W	4COM4-14HP1		91.020.016	1	/05.2
-M2	Asynchronous motor 3x230/400V, 50Hz, 0,25kW	BN71A4	BONFIGLIOLI		1	/05.5
-M4	Asynchronous motor 3x230/400V, 50Hz, 0,55kW	BN80A4FA	BONFIGLIOLI	91.001.063	1	/06.2
-M5	Asynchronous motor with gearbox 3x400V, 50Hz, 0,55kW, 1,4A	NDEMABR 071-42 + GKR04-2MHA	REBETEK		1	/06.6
-M7	Asynchronous motor 3x230/400V, 50Hz, 0,37kW	BN71B4	BONFIGLIOLI	91.001.106	1	/07.2
-M8	Asynchronous motor 3x400V, 50Hz, 4kW, 8.4A	BN112M4	BONFIGLIOLI		1	/07.5
-M9	**** chybí překlad ****	RAH1278B1-C	XFAN	91.015.105	1	/08.1
-OP1778	Simatic Panel OP1778 Blue mode STN display	6AV6642-0DC01-1AX1	SIEMENS	91.995.621	1	/12.3
-OP1778	SIMATIC DP,BUS CONNECTOR FOR PROFIBUS	6ES7972-0BA41-0XA0	SIEMENS	91.141.090	1	/12.3
-PA1	Fuse case for cylindric fuse 10x38mm, size 10	OPV10/3	OEZ	91.241.002	1	/06.6
-PA1	Cylindric fuse 10A, 10x38 fast, gG charakteristic	PV10 10A gG	OEZ	91.231.008	3	/06.6
-PA2	Fuse case for cylindric fuse 10x38mm, size 10	OPV10/3	OEZ	91.241.002	1	/07.2
-PA2	Cylindric fuse 10A, 10x38 fast, gG charakteristic	PV10 10A gG	OEZ	91.231.008	3	/07.2
-PA3	Fuse case for cylindric fuse 10x38mm, size 10	OPV10/3	OEZ	91.241.002	1	/07.5
-PA3	Cylindric fuse 16A, 10x38 fast, gG charakteristic	PV10 16A gG	OEZ	91.230.020	3	/07.5
-PA4	Fuse case for cylindric fuse 10x38mm, size 10	OPV10/3	OEZ	91.241.002	1	/08.2
-PA4	Cylindric fuse 2A, 10x38 fast, gG charakteristic	PV10 2A gG	OEZ	91.230.034	3	/08.2
-PR1	head of potentiometer 24mm	S88778LK		91.060.063	1	/14.3
-PR1	Potentiometer 5k	TP195 4x7/N20A		91.283.015	1	/14.3
-PWR1	Power supply 20A, 3x360-520VAC / 24VDC	MURR Evolution 24V/20A	MURR	91.085.020	1	/08.3
-QS1	Main switch 32A	VCF1-32A	TELEMECANIQUE	91.170.012	1	/05.1
-RCF1	RCF filter	FBOPR1624		91.041.015	1	/05.1
-RCF2	RCF filter	FBOPR1624		91.041.015	1	/05.4

The manufacturer reserves the use of equivalent compensation components.



BOMAR, s.r.o.
Těšební 1236/1
CZ 627 00, Břmo

Machine:

Individual 620.460 DGA

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Parts list

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Processed by:

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20.11.2010

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Parts list

Device tag	Device type	Type number	supplier	part number	Quantity	Location (page.col)
-RCF3	RCF filter	FBOPR1624		91.041.015	1	/05.7
-RCF4	RCF filter	FBOPR1624		91.041.015	1	/06.1
-RCF6	RCF filter	FBOPR1624		91.041.015	1	/06.7
-RF11	MICROMASTER - filtr class A	6SE6400-2FA00-6AD0	SIEMENS	91.012.037	1	/06.5
-RF12	MICROMASTER - filtr class A	6SE6400-2FA00-6AD0	SIEMENS	91.012.037	1	/07.2
-SA1	Attaching adapter + NO contact	M22-AK10	MOELLER	91.061.021	1	/16.0
-SA1	NO contact for Moeller adapter	M22-K10	MOELLER	91.061.022	1	/16.0
-SA1	Head of 3 positional switch	M22-WRK3	MOELLER	91.060.051	1	/16.0
-SB1	Attaching adapter + NO contact	M22-AK10	MOELLER	91.061.021	1	/15.8
-SB1	Green translucent switch head	M22-DL-G	MOELLER	91.060.031	1	/15.8
-SB1	Green light for Moeller adapter	M22-LED-G	MOELLER	91.061.023	1	/15.8
-SB2	Attaching adapter + NC contact	M22-AK01	MOELLER	91.061.020	1	/15.8
-SB2	Blackt switch head	M22-D-S	MOELLER	91.060.035	1	/15.8
-SB10	Attaching adapter + NO contact	M22-AK10	MOELLER	91.061.021	2	/18.4
-SB10	Blackt switch head	M22-D-S	MOELLER	91.060.035	2	/18.4
-SB10	NO contact for Moeller adapter	M22-K10	MOELLER	91.061.022	2	/18.1
-SB11	Attaching adapter + NO contact	M22-AK10	MOELLER	91.061.021	2	/18.1
-SB11	Blackt switch head	M22-D-S	MOELLER	91.060.035	2	/18.1
-SB11	NO contact for Moeller adapter	M22-K10	MOELLER	91.061.022	2	/19.6
-SB12	Attaching adapter + NO contact	M22-AK10	MOELLER	91.061.021	2	/18.1
-SB12	Blackt switch head	M22-D-S	MOELLER	91.060.035	2	/18.5
-SB12	NO contact for Moeller adapter	M22-K10	MOELLER	91.061.022	2	/18.1
-SB500	Attaching adapter + NC contact	M22-AK01	MOELLER	91.061.020	1	/09.3
-SB500	NC contact for Moeller adapter	M22-K01	MOELLER	91.061.024	2	/09.3
-SB500	Head of safety switch (Total Stop)	M22-PVT 263467	MOELLER	91.060.030	1	/09.3
-SB510	Attaching adapter + NO contact	M22-AK10	MOELLER	91.061.021	1	/09.5
-SB510	Yellow translucent switch head	M22-DL-Y	MOELLER	91.060.053	1	/09.5
-SB510	White light for Moeller adapter	M22-LED-W	MOELLER	91.061.034	1	/09.8

The manufacturer reserves the use of equivalent compensation components.

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Parts list

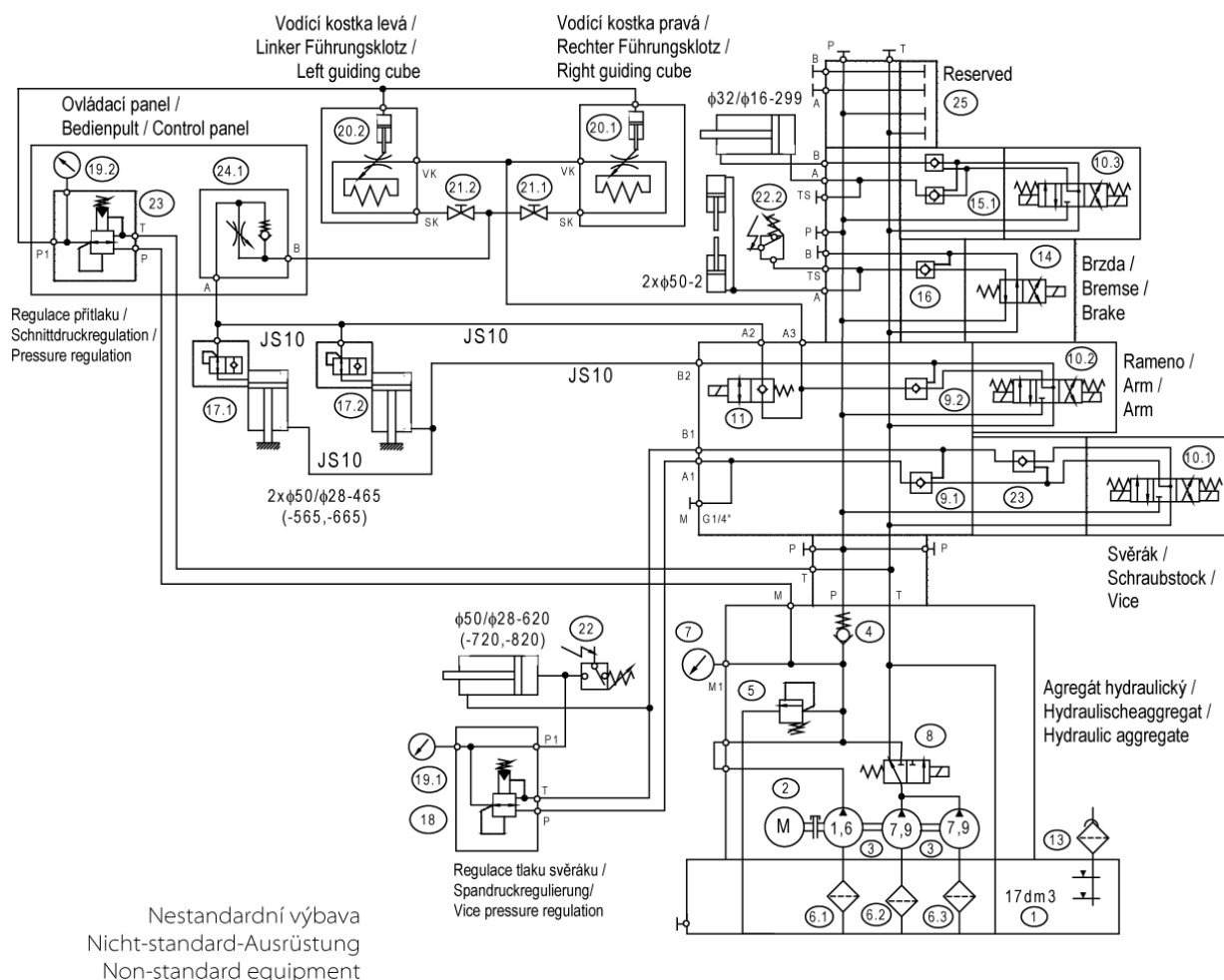
Device tag	Device type	Type number	supplier	part number	Quantity	Location (page.col)
-S12	Hydraulic pressure switch 10-20bar	336450103043		92.201.001	1	/16.4
-S11	Limit switch	D4N-4A32	OMRON	91.173.010	1	/15.2
-S12	The exact limit switch, 1NC, 1NO	BMS 819 - 99 - D - 13	BALLUFF	91.173.016	1	/15.4
-S13	Limit switch	D4N-4A32	OMRON	91.173.010	1	/15.7
-S15	Mechanical limit switch VDE 0660 1xNO/1xNC	PZ-FK3301-M1	PIZZATO	91.173.015	1	/16.1
-S16	Limit switch	D4N-4A32	OMRON	91.173.010	1	/16.2
-S17	Limit switch with roller, 1xNO/1xNC	PZ-FR502-M2	PIZZATO	91.173.020	1	/16.3
-S18	Limit switch with roller, 1xNO/1xNC	PZ-FR555-M2	PIZZATO	91.173.018	1	/16.4
-S19	Limit switch	D4N-4A31	OMRON	91.173.007	1	/16.5
-S110	Limit switch	D4N-4A31	OMRON	91.173.007	1	/16.5
-S111	Limit switch with roller, 1xNO/1xNC	PZ-FR555-M2	PIZZATO	91.173.018	1	/17.1
-S112	Limit switch with roller, 1xNO/1xNC	PZ-FR555-M2	PIZZATO	91.173.018	1	/17.2
-S113	Mechanical limit switch VDE 0660 1xNO/1xNC	PZ-FK3301-M1	PIZZATO	91.173.015	1	/17.3
-S114	Limit switch	D4N-4A32	OMRON	91.173.010	1	/17.3
-S115	Inductivity limit switch	BES M08M1-PSC15B-BV06	BALLUFF	91.172.001	1	/17.5
-S116	Inductivity limit switch	BES M08M1-PSC15B-BV06	BALLUFF	91.172.001	1	/17.7
-S1501	Safety limit switch, 2xNC	QKS8	KEDU	91.173.012	1	/09.3
-S1502	Safety limit switch, 2xNC	QKS8	KEDU	91.173.012	1	/09.3
-XL	DIN clamp, blue, 4mm	WK 4/U BLAU	WIELAND	91.251.104	1	/05.0
-XL	DIN grounding clamp, yellow+green, 4mm	WK 4S/LU	WIELAND	91.251.105	1	/05.0
-XL	DIN clamp, gray, 4mm	WK4/U	WIELAND	91.251.103	3	/05.0

The manufacturer reserves the use of equivalent compensation components.

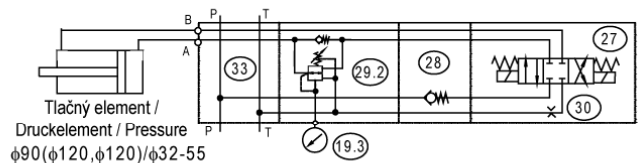
25

 BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Břmo	Machine: Individual 620.460 DGA	Name page: Parts list	Project number:	819	Page:	26
			Processed by:		Pages:	
			Date:	20.11.2010		26

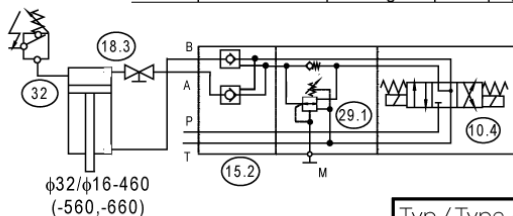
6.2. Hydraulické schéma Hydraulisches Schéma Hydraulic diagram – Individual 620.460 DGA



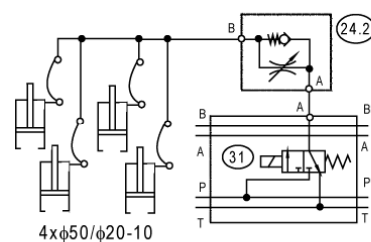
Napínání pásu / Sägebandspannung / Saw band tensing



Horní upínání / Obere Spannung / Top clamping



Zdvih stroje / Reise-Tools / Hydraulic saw lift



Základní technické parametry Technische Spezifikation Technical specification

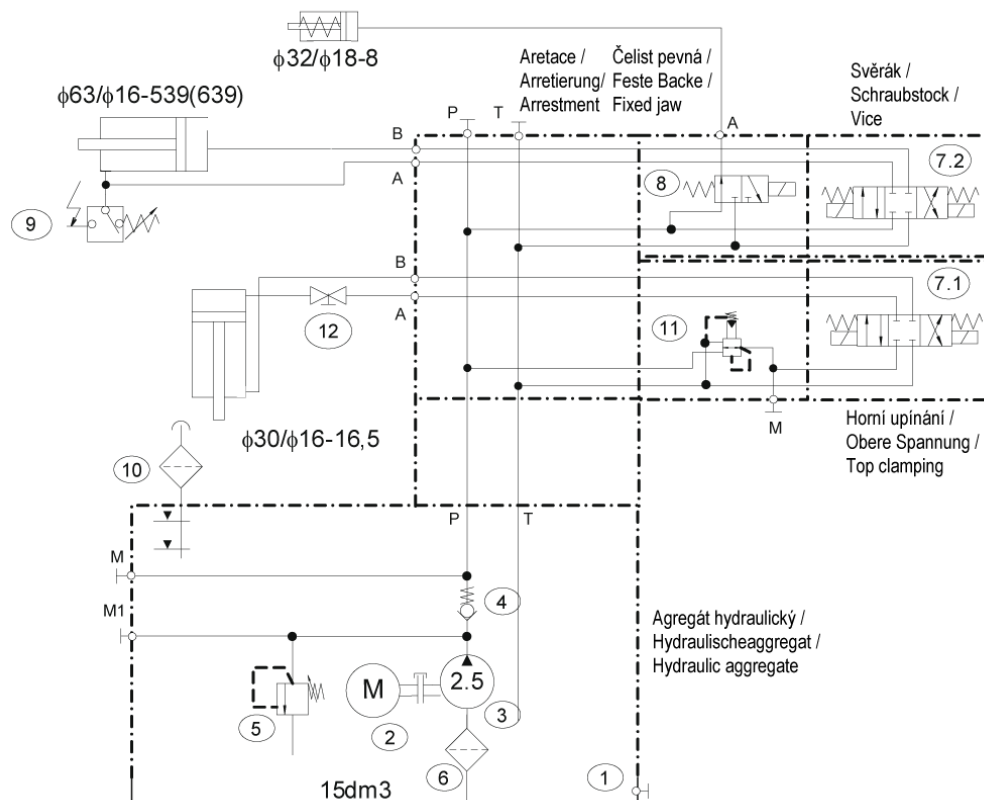
205.Y416-100
TIN7
INDIV. 620.460 DGA
INDIV. 720.540 DGA
INDIV. 820.640 DGA
15.11.2010

Typ / Type / Type	Individual 460, 540, 640 DGA (TIN7)
Hydraulický agregát / Hydroaggregat	SSM-3/79+79+16-1/3-17/02400
Hydro aggregat	92.001.063 (27672000)
Neuvedené světlosti / Unerwähnt Lichtbreite	JS6
Unlisted inside diameters	
Výstupní šroubení / Ausgangsschraubung	G1/4"
Output screewing	
p _{max}	8 Mpa
Q	21,2+2,2 dm ³ /min
n	1425 ot./min
P	3 kW

Poz.	Název položky		ks
Pos.	Bezeichnung		Menge
Pos.	Item		Pcs.
1	Nádrž / Behälter / Tank	Ø220-610mm 17 dm ³	1
2	Elektromotor / Elektromotor / Electromotor	MA-AL100L, 3 kW, 400/230 V/50 Hz, 6,68A	1
3	Hydrogenerátor / Hydraulikgenerator / Hydrogenerator	P23-7,9/7,9/1,6L. 62334 1,6/7,9+7,9 cm ³ /rpm	1
4	Jednosměrný ventil / Einwegventil / One-way valve	VJ01-06/SG-1	1
5	Přepouštěcí ventil / Bypassventil / By pass valve	VPN1-06/S-10S/M 27999700, 6 MPa	1
6	Sací filtr / Filter / Suction filter	2SF56/48-0,063 63 µm	3
7	Manometr / Manometer / Manometer	Ø68 S, 0–10 MPa	1
8	Rozvaděč / Verteilungsventil / Distributor	SD2E-A3/C2D21 408-0328.003	1
9	Hydraulický zámek / Hydraulisches Schloß / Hydraulic lock	RJV1-05-0	2
10	Rozvaděč / Verteilungsventil / Distributor	RPE 3-043Y 11/02400E 1K 1 92.101.005	4(3)
11	Rozvaděč / Verteilungsventil / Distributor	ROE 3-042S2/02400E 1K 1	1
12	-	-	-
13	Nalévací zátka / Einfüllspund / Fill stopper	L1.0406	1
14	Rozvaděč / Verteilungsventil / Distributor	RPE3-042R11/02400E1K1 92.101.001	1
15	Hydraulický zámek / Hydraulisches Schloß / Hydraulic lock	VJR1-04/MC 92.103.003	2(1)
16	Hydraulický zámek / Hydraulisches Schloß / Hydraulic lock	VJR1-04/MA 92.103.002	1
17	Ventil / Ventil / Valve	VPNH 1/4", s=1mm 92.151.001	2
18	Redukční ventil / Reduktionsventil / Control valve	VRN2-06/S-6R 92.154.001	1
19	Manometr / Manometer / Manometer	Ø68 S, 0–6 MPa	3(2)
20	Kostka regulace / Regulationklotz / Regulation cube	201.6816-100	2
21	Kulový ventil / Kugelventil / Globe valve	99.260.004	3(2)
22	Tlakový spínač / Druckschalter / Pressure switch	0166415031059 20–50 bar	1
23	Redukční ventil / Reduktionsventil / Control valve	VRN2-06/S-6R 92.154.001	1
24	Škrticí ventil / Drosselventil / Throttle-valve	VS01-04/R2.5-0 92.152.001	2(1)
25	Deska / Desk / Desk	DK1-04/32-2 92.105.008	1(1)
26	Hydraulický zámek / Hydraulisches Schloß / Hydraulic lock	VRJ1-04/MB 92.103.003	1(0)
27	Rozvaděč / Verteilungsventil / Distributor	RPE3-043Z11/02400E1K1 92.101.010	1(0)
28	Jednosměrný ventil / Einwegventil / One-way valve	VJ01-04/MP-30 92.104.001	1(0)
29	Redukční ventil / Reduktionsventil / Control valve	VRP2-04-AS/6,3 92.154.002	2(0)
30	Clona / Schürze / Shield	Ø0,8 92.153.022	1(0)
31	Rozvaděč / Verteilungsventil / Distributor	SD2E-A3/S2D26 408-0328.003	1(0)

Poz.	Název položky		ks
Pos.	Bezeichnung		Menge
Pos.	Item		Pcs.
32	Tlakový spínač / Druckschalter / Pressure switch	0166411031043 10-20 bar	1(0)
33	Kostka / Klotz / Cube	PD04A1 G1/4-1 92.001.093 / 738-2831	1(0)

6.3. Hydraulické schéma Hydraulisches Schéma Hydraulic diagram – 2



Základní technické parametry
Technische Spezifikation
Technical specification

205.W316-000
PODAVAČ (TIN7)
360 DGANC
460 DGANC
15.11.2010

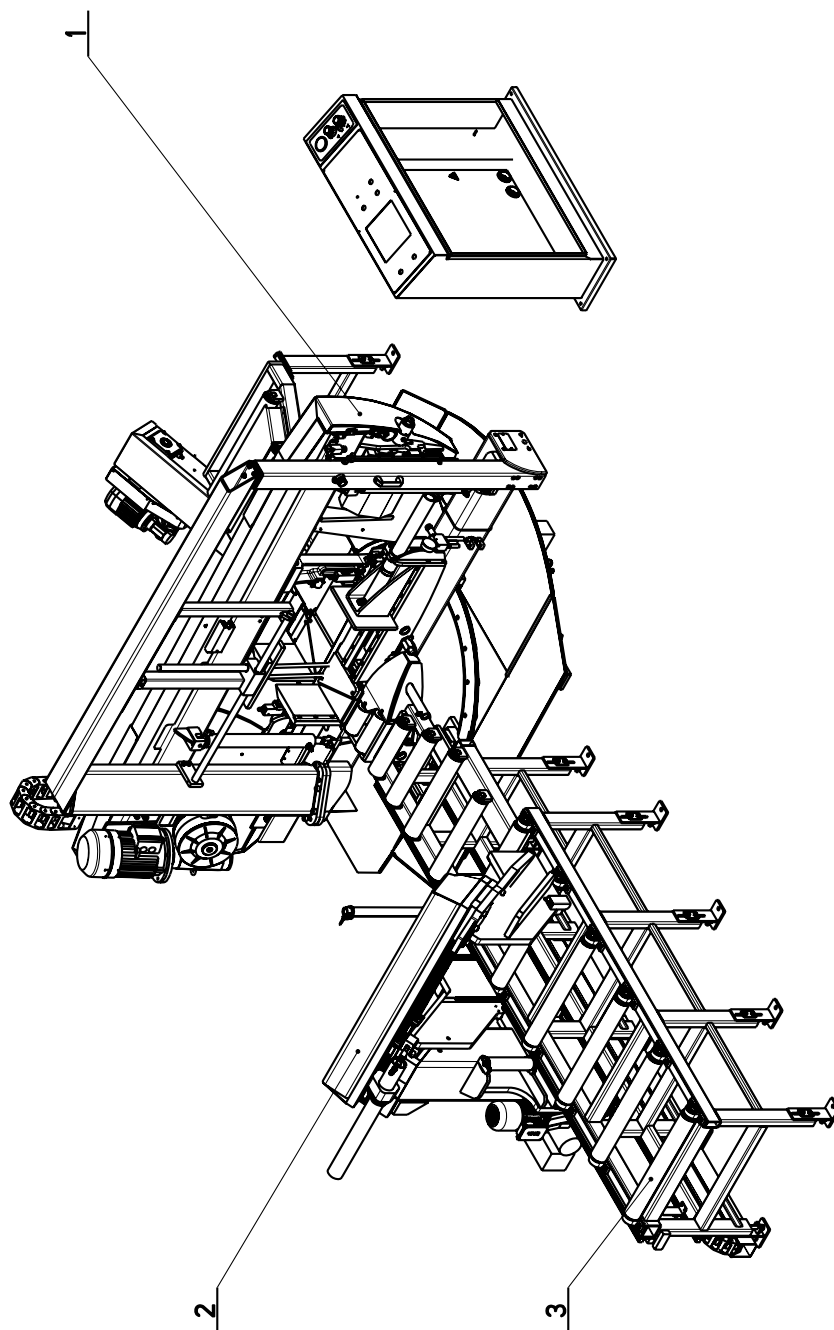
Typ / Type / Type	Podavač / Vorschub / Feeder (TIN7)
Hydraulický agregát / Hydroaggregat	870-1394/731-0504
Hydro aggregat	92.001.071 (28486100)
Neuvedené světlosti / Unerwähnt Lichtbreite	JS6
Unlisted inside diameters	
Výstupní šroubení / Ausgangsschraubung	G1/4"
Output screwing	
P_{max}	5 Mpa
Q	6,6/3,3 dm³/min
n	2800/1400 ot./min
P	0,55/037 kW

Poz.	Název položky		ks
Pos.	Bezeichnung		Menge
Pos.	Item		Pcs.
1	Nádrž / Behälter / Tank	N17 TM, 307507891002 15 dm ³	1
2	Elektromotor / Elektromotor / Electromotor	TM80-2/4S, 0,55/0,37 kW, 400/230 V/50 Hz	1
3	Hydrogenerátor / Hydraulikgenerator / Hydrogenerator	P2-2,5L.66017 2,5 cm ³ /rpm	1
4	Jednosměrný ventil / Einwegventil / One-way valve	VJ01-06/SG-1	1
5	Přepouštěcí ventil / Bypassventil / By pass valve	VPP2-04/S-6 5 MPa	1
6	Sací filtr / Filter / Suction filter	2SF56/48-0,063 63 µm	1
7	Rozvaděč / Verteilungsventil / Distributor	RPE3-043Z11/02400E1K1 92.101.010	2
8	Rozvaděč / Verteilungsventil / Distributor	SD2E-A3/S2D26 408-0328.003	1
9	Tlakový spínač / Druckschalter / Pressure switch	0166415031059 20–50 bar	2
10	Nalévací zátko / Einfüllspund / Fill stopper	L1.0406-51	1
11	Redukční ventil / Reduktionsventil / Control valve	VRP-04-PS/6,3 92.154.003	1
12	Kulový ventil / Kugelventil / Globe valve	99.260.004	1

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 Individual 620.460 DGA) , výrobní číslo (např. 125) a rok výroby (např. 1999).
- In die Bestellung der Ersatzteile führen Sie immer an: Maschinentyp (z. B. Individual 620.460 DGA), Serien Nr. (z. B. 125) und Baujahr (z. B. 1999).
- For spare parts order, you must always to allege: type of machine (for example Individual 620.460 DGA), serial number (for example 125, see cover page) and year of construction (for example 1999).

7.1. Individual 620.460 DGA



NAZEV SESTAVY PILA PASOVA	CÍSLO SESTAVY 201.W400-000	STROJ IN460DGA-2300
Konstruoval: MUSIL		
Datum: 13. 10.2010		
Meritko: 1:20		

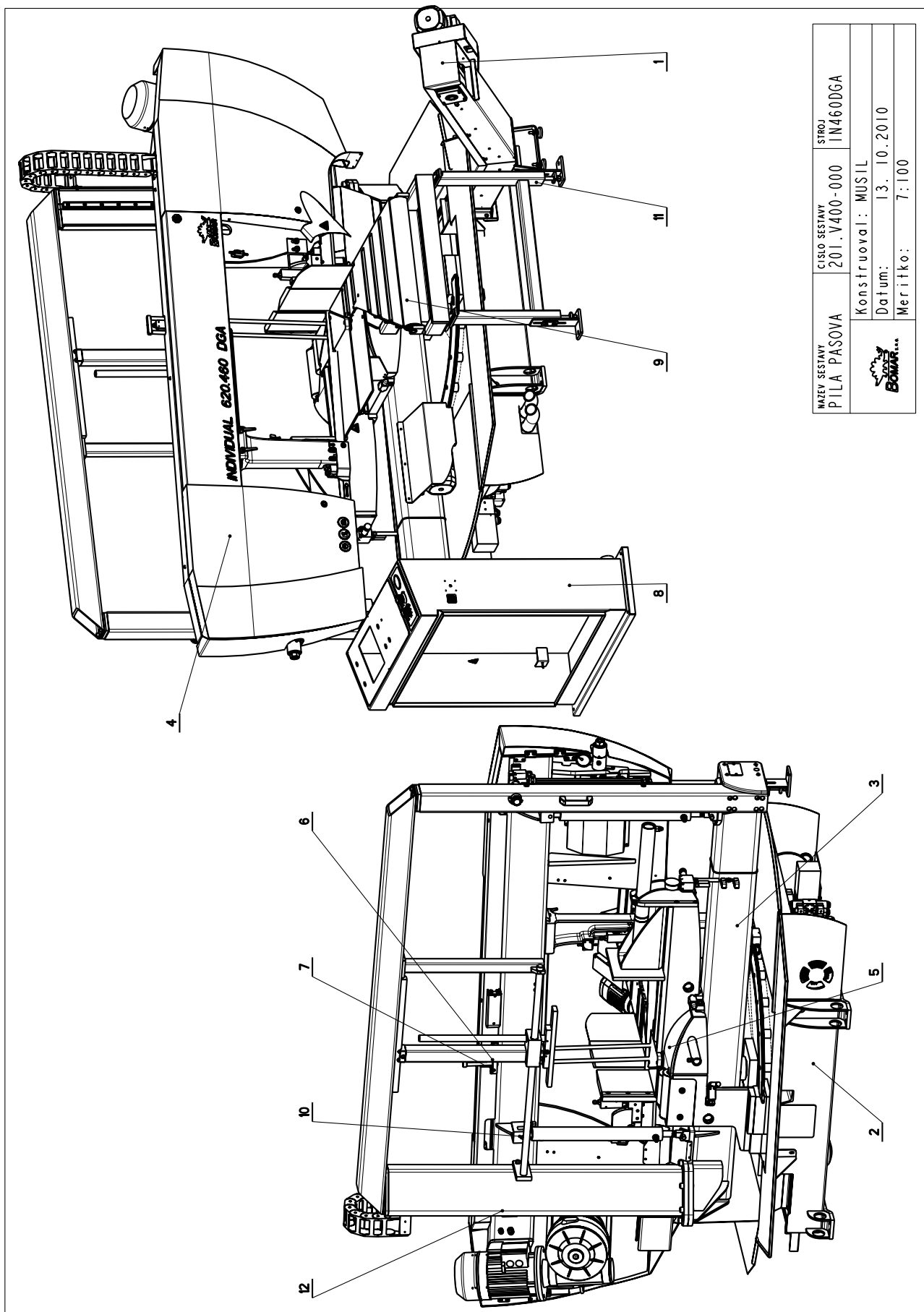
7.2. Kusovník / Stückliste / Piece list – Individual 620.460 DGA

Cislo Sestavy 201.W400-000		Ver. 0	Nazev sestavy PILA PASOVA/BAND SAW/BANDSÄGE	
Poz.	Objednací číslo	Ver.	Nazev položky	Ks
1	201.W400-000	0	PILA PASOVA / BAND SAW / BANDSÄGE	1
2	201.W450-000	0	PODAVAC / FEEDER / VORSCHUB	1
3	201.W460-000	0	TRAT / TRACK / BAHN	1

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

Pila pásová /
Bandsäge /
Band saw

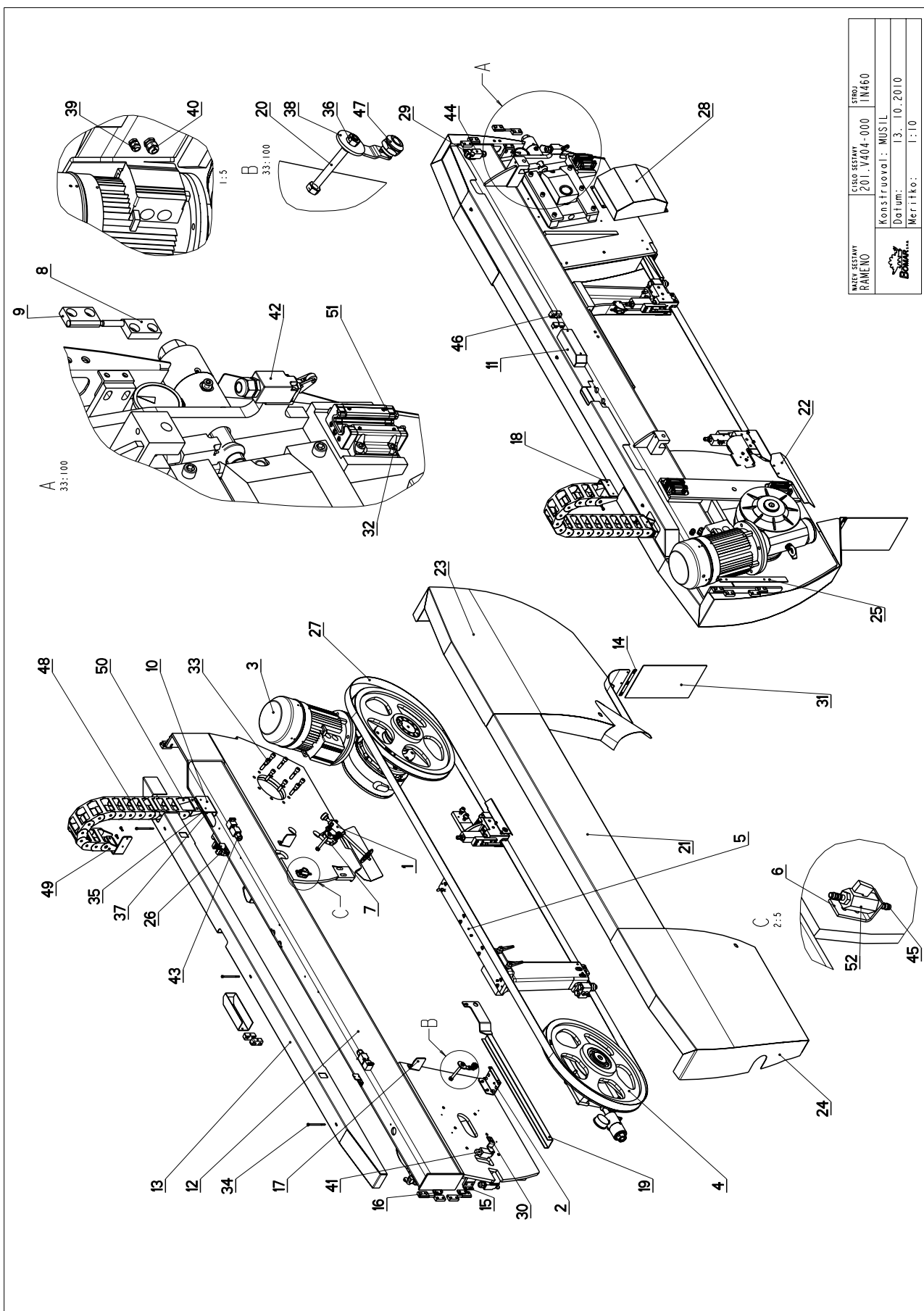
7.3. Pila / Säge / Saw



7.4. Kusovník / Stückliste / Piece list – Pila / Säge / Saw

Císlo Sestavy 201.V400-000		Ver. 0	Název sestavy PILA PASOVA/BAND SAW/BANDSÄGE	
Poz.	Objednací číslo	Ver.	Název položky	Ks
1	201.V317-000	0	VYNASEC TRISKOVY / CHIP EXTRACTOR / SPANABFÜHRUNG	1
2	201.V401-000	0	PODSTAVEC / BASE / UNTERSATZ	1
3	201.V402-000	0	KONZOLA OTOCNA / TURNABLE CONSOL / DREHKONSOLE	1
4	201.V404-000	0	RAMENO / SHOULDER / SÄGERAHMEN	1
5	201.V409-000	0	SVERAK / VICE / SCHRAUBSTOCK	1
6	201.V414-100	0	UPINANI HORNÍ / TOP CLAM / SPANNVORRICHTUNG OBEN	1
7	201.V414-200	0	DORAZ / STOP PIECE / ANSCHLAG	1
8	201.W430-000	0	ROZVADEC / DISTRIBUTOR / VERTEILER	1
9	201.W480-000	0	DIL. PROPOJOVACÍ / CONNECTING PART / VERBINDUNGSTEIL	1
10	201.Y407-210	1	VALEC / ROLLER / ZYLINDER	2
11	203.X106-100	0	NOHA DOPRAVNÍKU / FEEDER LEG / STÄNDER DES FÖRDERERS	1
12	30.V499-001	0	STÍTEK / LABEL / SCHILD	1
13	31.0899-004	0	SAMOLEPKA / STICKER / AUFKLEBER	1
14	99.900.039	0	SAMOLEPKA / STICKER / AUFKLEBER	1
15	99.900.043	0	SAMOLEPKA / STICKER / AUFKLEBER	1
16	99.900.045	0	SAMOLEPKA / STICKER / AUFKLEBER	1
17	99.900.046	0	SAMOLEPKA / STICKER / AUFKLEBER	1
18	99.900.047	0	SAMOLEPKA / STICKER / AUFKLEBER	1
19	99.900.048	0	SAMOLEPKA / STICKER / AUFKLEBER	1
20	99.900.049	0	SAMOLEPKA / STICKER / AUFKLEBER	1
21	99.900.053	0	SAMOLEPKA / STICKER / AUFKLEBER	1
22	99.901.032	0	SAMOLEPKA / STICKER / AUFKLEBER	1
23	99.901.034	0	SAMOLEPKA / STICKER / AUFKLEBER	1
			CETIFIKACNÍ SAMOLEPKA	1
			IN 460 GANC	1

7.5. Rameno / Sägerahmen / Saw arm

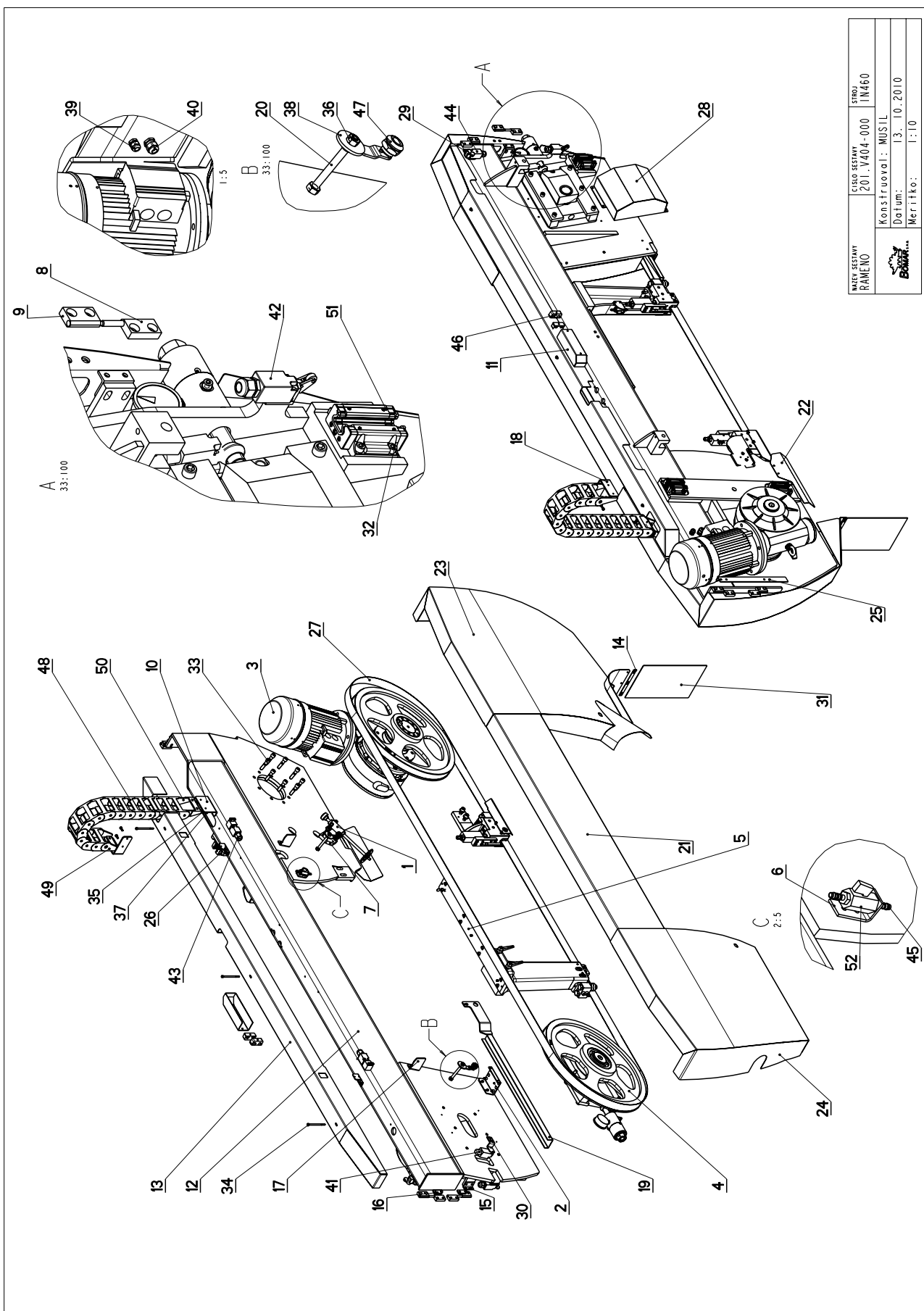


NAZEV SESTAVY RAMEÑO	CÍSLO SESTAVY 201.V404-000	STROJ IN460
Konstruktor: Datum:	MUSIL 13. 10. 2010	Meritko: 1:10

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

Cislo Sestavy 201.V404-000		Ver. 0	Název sestavy RAMENO/SHOULDER/SÄGERAHMEN		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	201.9214-300	0	KARTAC / BRUSH / BÜRSTE		1
2	201.Y404-070	0	DRŽAK / HOLDER / HALTER		1
3	201.Y405-100	1	POHON / DRIVE / ANTRIEB		1
4	201.Y408-000	0	NAPINÁNÍ / TENSIONING / SPANNUNG		1
5	201.Y410-000	1	VEDENÍ PASU / BELT GUIDE / SÄGEBANDFÜHRUNG		1
6	30.1814-011	0	DRŽAK / HOLDER / HALTER	P 3- 76	1
7	30.4814-701	0	ZAKLADNA / BASE / GRUNDLAGE	TYC 70x15	1
8	30.6014-109	1	PANT / HINGE / TÜRBAND		4
9	30.6014-110	1	PANT / HINGE / TÜRBAND	HR 30x12	4
10	30.7114-142	1	DRŽAK / HOLDER / HALTER	P 4 - 100	1
11	30.8914-220	1	KRYT / COVER / ABDECKUNG	P 1.5 - 153	1
12	30.V404-001	0	RAMENO / SHOULDER / SÄGERAHMEN	SVARENÉ	1
13	30.V404-005	0	KRYT / COVER / ABDECKUNG	P2 - 238	1
14	30.Y304-030	0	PLECH / PLATE / BLECH	P 1-15	1
15	30.Y304-034	1	DRŽAK / HOLDER / HALTER	L 20x30	1
16	30.Y304-035	0	DESKA / BOARD / PLATTE	HR 20x5	4
17	30.Y304-038	0	ZAMEK / LOCK / SCHLOSS	P4 - 67	2
18	30.Y404-005	0	DRŽAK / HOLDER / HALTER	HR 50x5	1
19	30.Y404-009	1	KRYT PASU / BELT COVER / BANDABDECKUNG		1
20	30.Y404-018	0	TYC ZAVITOVÁ / THREADED POLE / GEWINDESTANGE	M10	2
21	30.Y404-022	0	KRYT PASU / BELT COVER / BANDABDECKUNG		1
22	30.Y404-028	0	SKLIZ / SLIDE / RUTSCH	P1-136	1
23	30.Y404-031	2	KRYT RAMENE / SHOULDER COVER / RAHMENABDECKUNG		1
24	30.Y404-032	1	KRYT RAMENE / SHOULDER COVER / RAHMENABDECKUNG		1
25	30.Y404-033	1	DRŽAK / HOLDER / HALTER	L 30x20x3	1
26	30.Y404-039	0	DRŽAK / HOLDER / HALTER	P3 - 35	2
27	30.Y404-046	0	PAS PÍLOVÝ / SAW BELT / SÄGEBAND	41x1,3	1
28	30.Y404-103	0	KRYT NAPINÁNÍ / TENSIONING COVER / BANDSPANNUNGSABDECKUNG		1
29	30.Y404-107	0	DRŽAK / HOLDER / HALTER	HR 40x5	1
30	30.Y504-003	0	DRŽAK / HOLDER / HALTER	P3-30	1
31	31.PK02-054	0	GUMA / RUBBER / GUMMI	G2 - 206	1
32	90.001.25.033	0	SROUB IMBUS ČERNÝ / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x25	12
33	90.001.25.062	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x50	8
34	90.001.25.070	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x90	3
35	90.001.25.092	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x14	4

7.7. Rameno / Sägerahmen / Saw arm

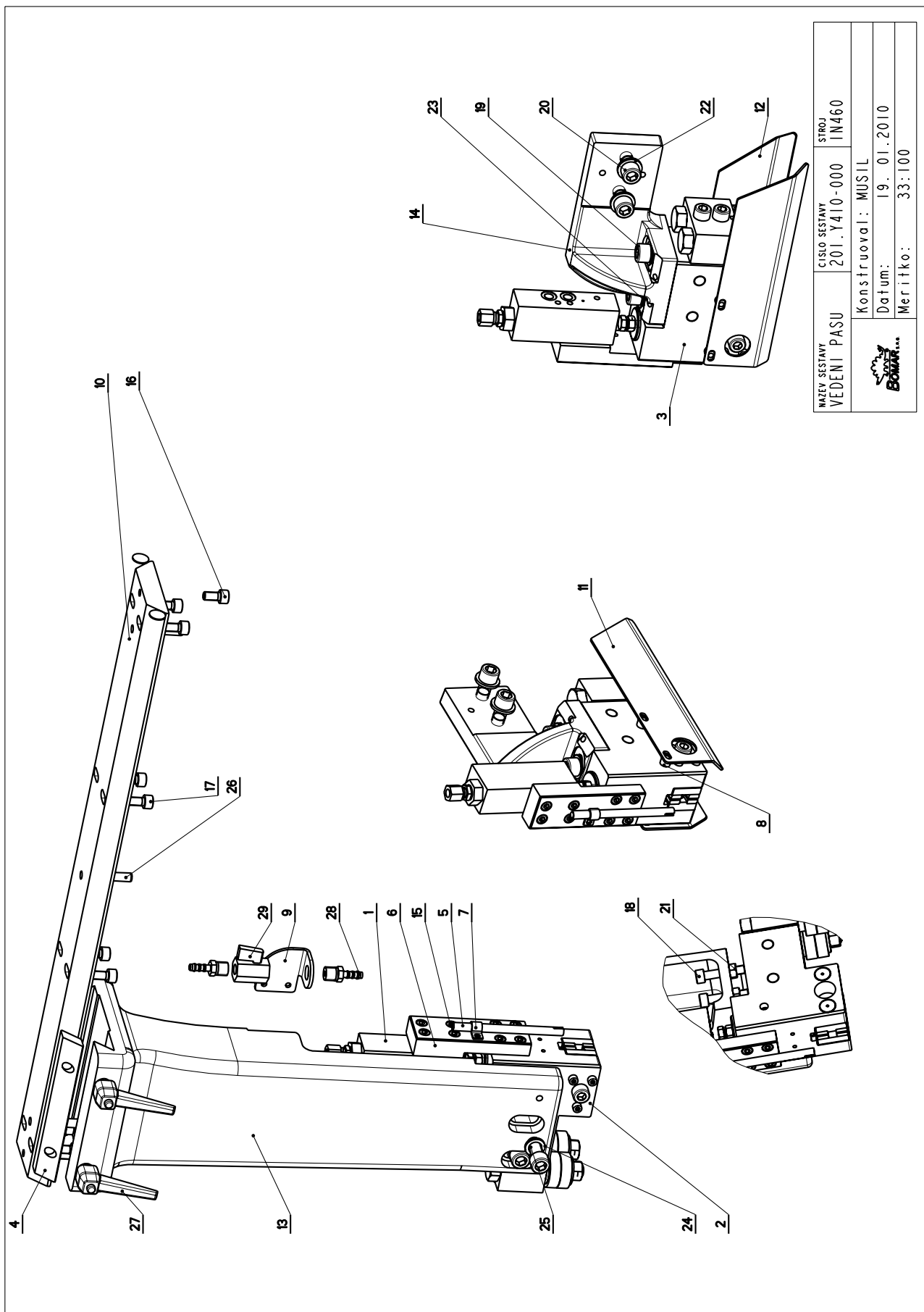


NAZEV SESTAVY RAMENO	CÍSLO SESTAVY 201.V404-000	STROJ IN460
Konstruktor: Datum:	MUSIL 13. 10. 2010	Meritko: 1:10

7.8. Kusovník / Stückliste / Piece list – Rameno / Sägerahmen / Saw arm

[illegible]

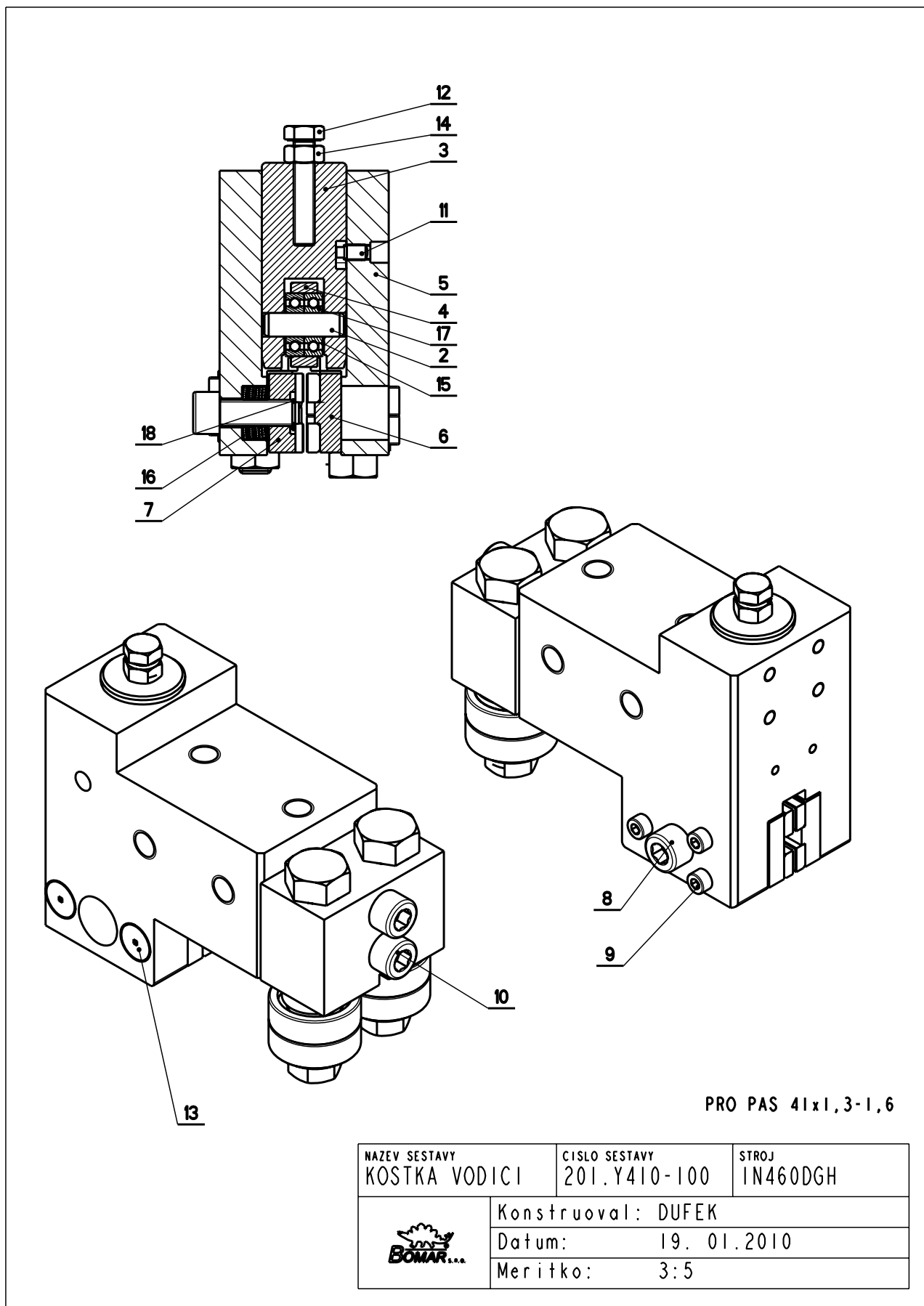
7.9. Vedení pásu / Sägebandführung / Belt guide



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

Císlo Sestavy 201.Y410-000		Ver. I	Název sestavy VEDENÍ PASU/BELT GUIDE / SÄGEBANDFÜHRUNG		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	201.6816-100	0	KOSTKA REGULACE / REGULATION CUBE / REGULINGSWÜRFEL		2
2	201.Y410-100	0	KOSTKA VODICI / LEAD CUBE / FÜHRUNGSKLOTZ		1
3	201.Y410-200	0	KOSTKA VODICI / LEAD CUBE / FÜHRUNGSKLOTZ		1
4	30.0810-011	0	LISTA TRECI / FRICTION TRIM / FRIKTIONSLEISTE	HR 30x10	1
5	30.3510-004	0	TRUBKA / TUBE / ROHR	TR 8x 1	2
6	30.6016-002	0	DESKA / BOARD / PLATTE	HR 40x20	2
7	30.9010-003	0	DRŽAK / HOLDER / HALTER	PI 5x10	2
8	30.Y310-007	0	KROUZEK / RING / RING	TR 10x2,5	4
9	30.Y310-008	0	DRŽAK / HOLDER / HALTER	P3-50	1
10	30.Y410-003	0	LISTA VODICI / LEAD TRIM / FÜHRUNGSLISTE	HR 90x20	1
11	30.Y410-006	0	KRYT PASU / BELT COVER / BANDABDECKUNG	P2-70	1
12	30.Y410-008	0	KRYT PASU / BELT COVER / BANDABDECKUNG	P2-70	1
13	30.Y410-104	0	KONZOLA / CONSOLE / KONSOLE		1
14	30.Y410-105	0	DRŽAK / HOLDER / HALTER		1
15	90.001.25.016	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x12	16
16	90.001.25.031	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x16	2
17	90.001.25.032	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x20	8
18	90.001.25.036	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x40	2
19	90.001.25.058	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x30	4
20	90.001.25.061	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x45	2
21	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE - M8	2
22	90.150.50.007	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	PODLOŽKA 13	2
23	90.150.50.XXX	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	PODLOŽKA B13	2
24	90.163.00.003	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	NORD-LOCK	2
25	90.300.02.007	0	KOLÍK VALCOVÝ KALENÝ / CYLINDRICAL PIN TEMPERED / ZYLINDERSTIFT GEHÄRTET	KOLÍK 6x36	2
26	90.302.02.002	0	KOLÍK KUŽELOVÝ / TAPER PIN / KEGELBOLZEN	KOLÍK 8x30	3
27	94.008.003	0	PAKA UPÍNACÍ / ATTACHMENT LEVER / SPANNHEBEL	M8x40	2
28	94.202.002	0	REDUKCE / REDUCTION / ADAPTOR / REDUKTION	REDUKCE 6/R1/4"	2
29	99.260.003	0	VENTIL / VALVE / VENTIL	1/4"	1

7.11. Kostka vodící / Führungsklotz / Lead cube – 1



7.12. Kusovník / Stückliste / Piece list –
Kostka vodící / Führungsklotz / Lead cube – 1

Cislo Sestavy 201.Y410-100		Ver. 0	Nazev sestavy KOSTKA VODICI/LEAD CUBE/FÜHRUNGSKLOTZ		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.6110-510	0	VEDENI / GUIDE / BACKENFÜHRUNG		1
2	30.6710-108	1	KOLIK / PIN / BOLZEN	TYC 10	1
3	30.6710-109	0	PIST / PISTON / KOLBEN	d 32	1
4	30.6710-110	1	KROUZEK / RING / RING	LH 2403210	1
5	30.Y410-101	1	KOSTKA VODICI / LEAD CUBE / FÜHRUNGSKLOTZ	HR 110x70	1
6	30.Y410-110	0	DRZAK TVRDOKOVU / POA HOLDER / HW-HALTER		1
7	30.Y410-120	0	DRZAK TVRDOKOVU / POA HOLDER / HW-HALTER		1
8	30.Y610-503	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10X30	1
9	90.001.25.011	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5X25	3
10	90.001.25.054	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10X60	2
11	90.004.20.002	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M6X12	1
12	90.005.55.019	0	SROUB 6HRANNY / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M8X40	1
13	90.011.27.016	0	SROUB ZAPUSTNY / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M8X25	2
14	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE _ M8	1
15	90.154.50.003	0	PODLOZKA / WASHER / UNTERLEGSCHIEBE	10x16x0.50	2
16	90.350.02.005	0	PRUZHINA TALIROVA / DISC SPRING / TELLERFEDER	20X10.2X1.1	8
17	95.001.044	0	LOZISKO / BEARING / LAGER	609 2RS	2
18	95.800.002	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNY KROUZEK 8	1

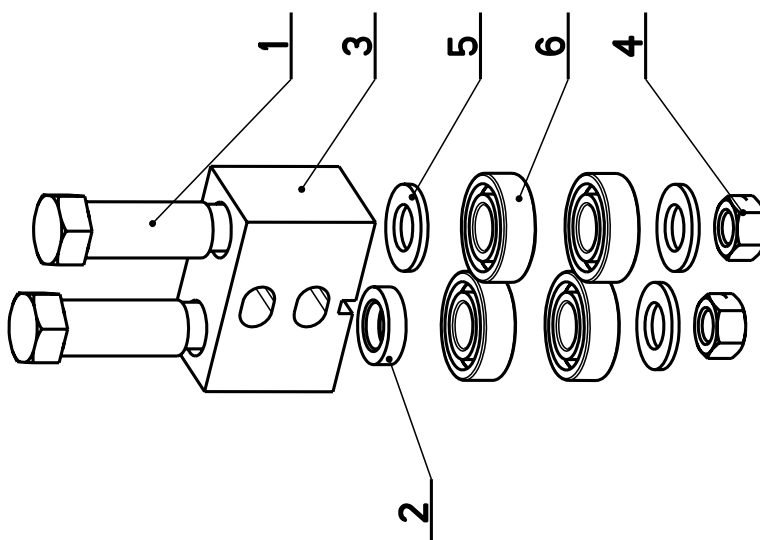
7.14. Kusovník / Stückliste / Piece list –
Kostka vodící / Führungsklotz / Lead cube – 2

Císlo Sestavy 201.Y410-200		Ver. 0	Název sestavy KOSTKA VODICÍ/LEAD CUBE/FÜHRUNGSKLOTZ		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	201.6110-510	0	VEDENÍ / GUIDE / BACKENFÜHRUNG		1
2	30.6710-108	1	KOLÍK / PIN / BOLZEN	TYC 10	1
3	30.6710-109	0	PIST / PISTON / KOLBEN	d 32	1
4	30.6710-110	1	KROUZEK / RING / RING	LH 2403210	1
5	30.Y410-110	0	DRŽÁK TVRDOKOVU / POA HOLDER / HM-HALTER		1
6	30.Y410-120	0	DRŽÁK TVRDOKOVU / POA HOLDER / HM-HALTER		1
7	30.Y410-201	1	KOSTKA VODICÍ LEVA / LEAD CUBE / FÜHRUNGSKLOTZ	HR 110x70	1
8	30.Y610-503	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x30	1
9	90.001.25.011	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5x25	3
10	90.001.25.053	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x55	2
11	90.004.20.002	0	SROUB STAVECÍ / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M6x12	1
12	90.005.55.019	0	SROUB 6HRANNÝ / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M8x40	1
13	90.011.27.016	0	SROUB ZAPUSTNÝ / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M8x25	2
14	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE - M8	1
15	90.154.50.003	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	10x16x0.50	2
16	90.350.02.005	0	PRŮŽINA TALIROVÁ / DISC SPRING / TELLERFEDER	20x10.2x1.1	8
17	95.001.044	0	LOŽISKO / BEARING / LAGER	609 2RS	2
18	95.800.002	0	KROUZEK POJIST.VNĚJSÍ / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNÝ KROUZEK 8	1

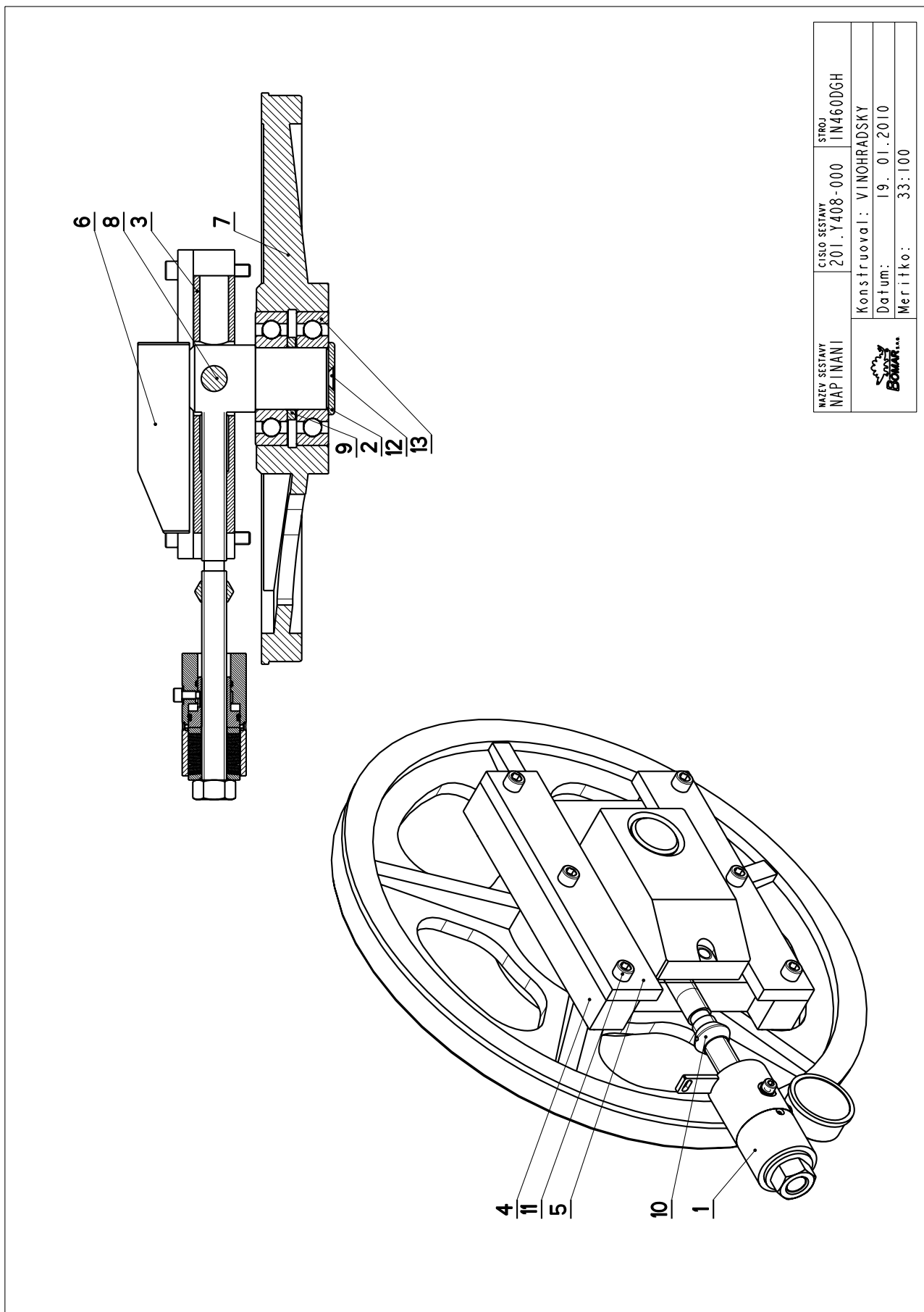
7.15. Vedení / Backenführung / Guide

Cislo Sestavy 201.6110-510		Ver. 0	Název sestavy VEDENÍ/GUIDE/BACKENFÜHRUNG		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.6010-104	1	EXCENTR / CAM / EXZENTER	SK 22	2
2	30.6010-108	0	KROUZEK DISTANČNÍ / DISTANCE RING / DISTANZRING	Tr 25x5	1
3	30.6110-502	0	KOSTKA VODICÍ / LEAD CUBE / FÜHRUNGSKLOTZ	HR 80x50	1
4	90.100.55.007	0	MATICE / NUT / MUTTER	MATICE - M12	2
5	90.150.50.008	0	PODLOŽKA / WASHER / UNTERLEGSCHLEIBE	PODLOŽKA 15	3
6	95.001.015	0	LOŽISKO / BEARING / LAGER	6202 2RS	4

The diagram shows an exploded view of a mechanical assembly. At the top, two vertical shafts (1) are shown. Below them is a rectangular block (3) with two circular holes. To the right of the block are three washers (5) and three bearings (6). At the bottom are four nuts (4). The assembly is shown in a disassembled state, with the components arranged in a way that suggests their relative positions and how they fit together.



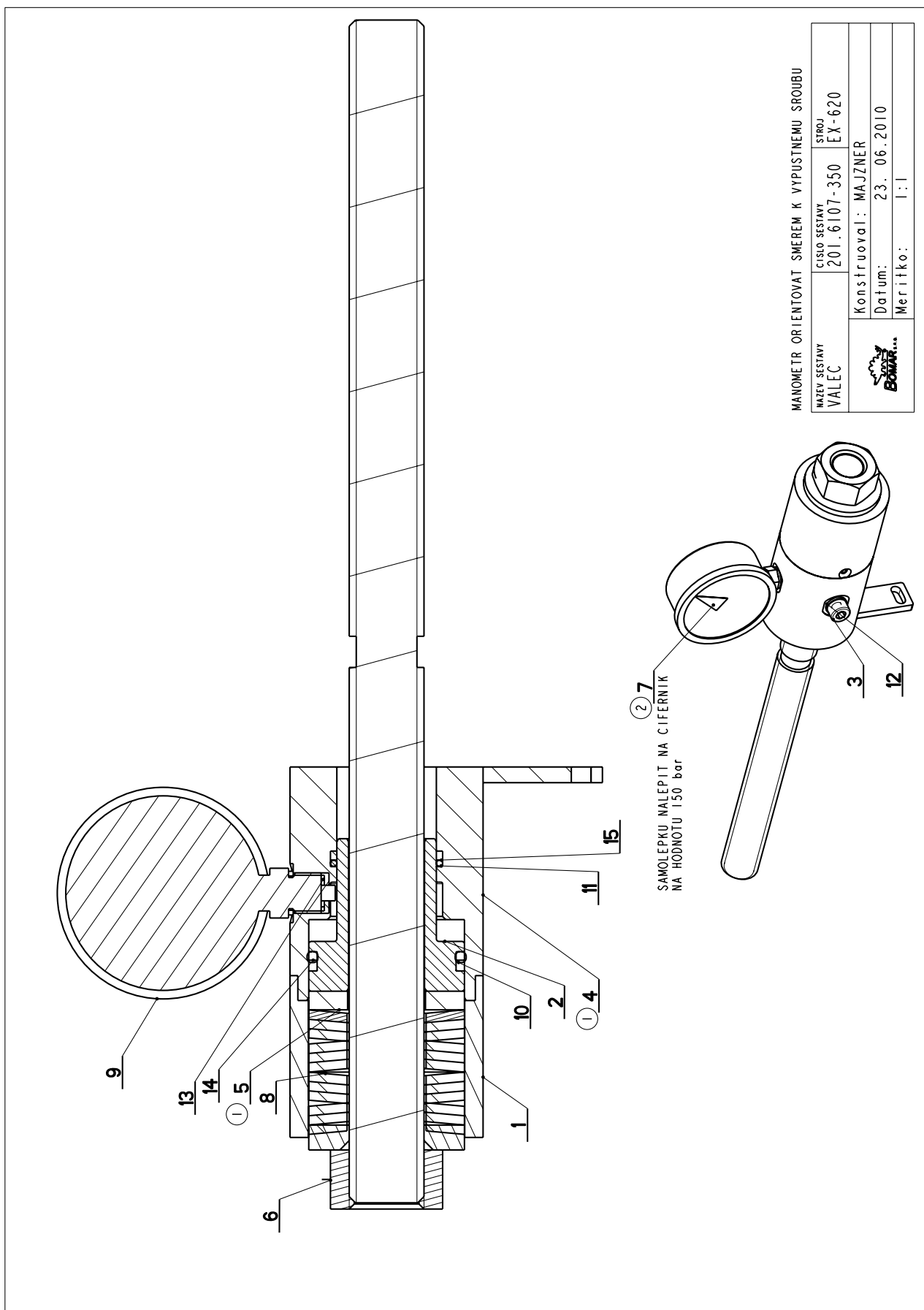
7.16. Napínání / Spannung / Tensioning



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

Císlo Sestavy 201.Y408-000		Ver. 0	Název sestavy NAPÍNÁNÍ / TENSIONING / SPANNUNG	
Poz.	Objednací číslo	Ver.	Název položky	Ks
1	201.6107-350	2	VALEC / ROLLER / ZYLINDER	1
2	30.1804-010	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	1
3	30.6008-001	0	KOSTKA NAPÍNÁNÍ / TENSIONING CUBE / BANDSPANNUNGSWÜRFEL	1
4	30.6008-002	0	LISTA VODICÍ / LEAD TRIM / FÜHRUNGSLISTE	2
5	30.6008-003	0	LISTA VODICÍ / LEAD TRIM / FÜHRUNGSLISTE	2
6	30.6008-004	1	NAPÍNÁNÍ / TENSIONING / SPANNUNG	1
7	30.6008-006	5	KOLO NAPÍNÁNÍ / TENSIONING WHEEL / UMLENKRAD	1
8	30.6008-014	1	CEP NAPÍNÁNÍ / TENSIONING LUG / SPANNUNGSBOLZEN	1
9	30.6708-002	1	KROUZEK DISTANČNÍ / DISTANCE RING / DISTANZRING	1
10	30.7208-006	0	DORAZ / STOP PIECE / ANSCHLAG	1
11	90.001.25.064	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	6
12	90.011.27.009	0	SROUB ZAPUSTNÝ / COUNTERSINK BOLT / SENKSCHRAUBE	1
13	95.001.041	0	LOŽISKO / BEARING / LAGER	2

7.18. Válec / Zylinder / Roller



1:2

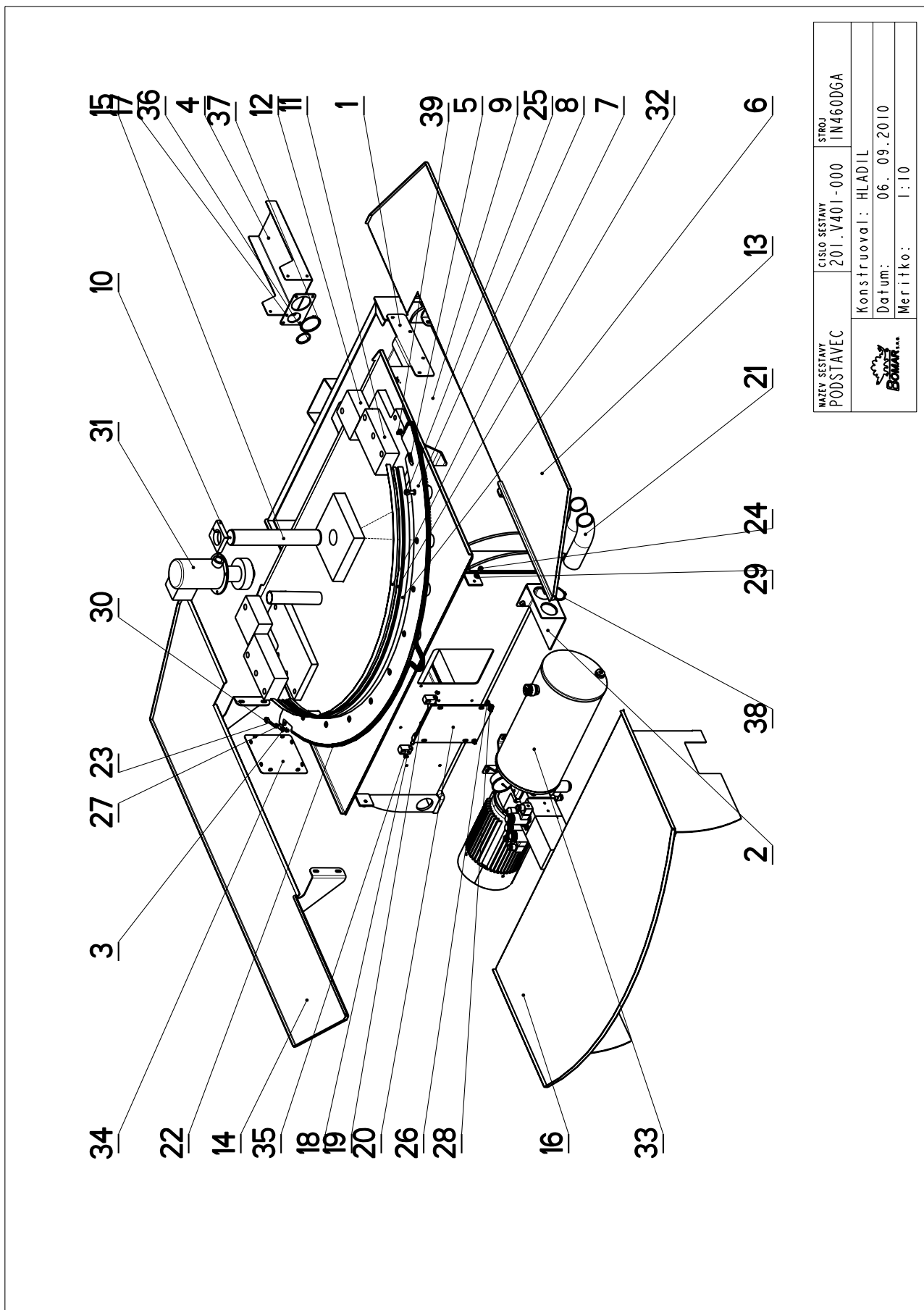
7.19. Kusovník / Stückliste / Piece list – Válec / Zylinder / Roller

Cislo Sestavy 201.6107-350		Ver. 2	Nazev sestavy VALEC/ROLLER/ZYLINDER		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.6008-013	0	TRUBKA / TUBE / ROHR	TR 62x10	1
2	30.6107-352	0	PIST / PISTON / KOLBEN	d 55	1
3	30.6107-354	1	SROUB / BOLT / SCHRAUBE	M8x20	1
4	30.6107-358 (1)	0	VALEC / ROLLER / ZYLINDER		1
5	30.6107-359 (1)	1	DISTANC / DISTANCE / DISTANZ	d 50	1
6	30.6108-008	1	SROUB / BOLT / SCHRAUBE		1
7	31.0899-004 (2)	0	SAMOLEPKA / STICKER / AUFKLEBER		1
8	90.350.07.004	0	PRUZINA TALIROVA / DISC SPRING / TELLERFEDER	50x25.4x3	12
9	92.080.004	0	MANOMETR / MANOMETER / MANOMETER	d 63 - 250bar	1
10	96.001.033	0	KROUZEK O STATICKY / STATIC O RING / O-RING STATISCH	ORAR00224-N70	1
11	96.002.063	0	KROUZEK O STATICKY / STATIC O RING / O-RING STATISCH	ORAR00125-N70	1
12	96.082.001	0	TESNENI / SEALING / DICHTUNG	KROUZEK CU 10/14	2
13	96.082.005	0	KROUZEK TESNICI / SEAL RING / DICHTUNGSRING	5x8.8x1	1
14	96.083.010	0	KROUZEK / RING / RING	BG2700446-PT00	1
15	96.083.011	0	KROUZEK / RING / RING	BU2000320-PT00	1

I.ZRUSENY SOUCASTI 30.6008-355,30.6008-351, 95.750.003, 30.6008-352, 90100.55.010, NOVA SOUCAST 30.6107-358, 30.6107-359.29.3.2007 RYSAVY ZM 133

2.PRIDANA SAMOLEPKA SIPKA 31.0899-004. 101/ZM131 29.5.2009 SLEZACKOVA

7.20. Podstavec / Untersatz / Base



NAZEV SESTAVY PODSTAVEC	CÍSLO SESTAVY 201.V401-000	STROJ IN460DGA
Konstruoval: HLADIL		
Datum: 06. 09.2010		
Meritko: 1:10		

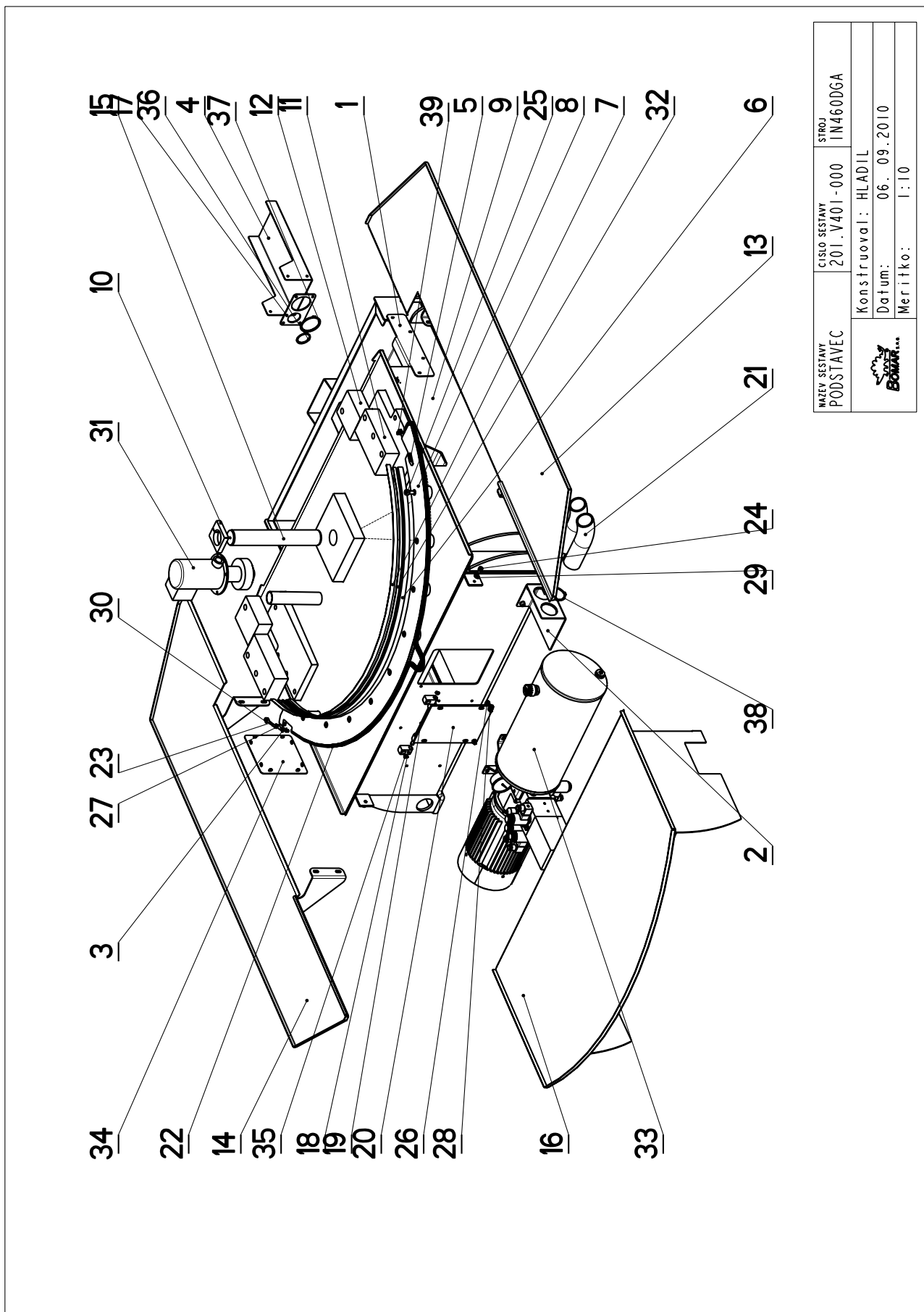
7.21. Kusovník / Stückliste / Piece list – Podstavec / Untersatz / Base

Cislo Sestavy 201.V401-000		Ver. 0	Název sestavy PODSTAVEC/BASE/UNTERSATZ		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.D314-130	0	KRYT / COVER / ABDECKUNG	P3-104	1
2	30.N301-010	0	DRŽAK / HOLDER / HALTER	P3 - 234	1
3	30.V301-021	0	KOSTKA NAPÍNAČI / TENSIONING CUBE / BANDSPANNUNGSWÜRFEL	HR 10x10	1
4	30.V301-118	0	KORYTO / CHANNEL / RINNE	P2 x 357	1
5	30.V301-127	0	DORAZ / STOP PIECE / ANSCHLAG	HR 12x5	1
6	30.V301-131	0	LISTA / TRIM / LEISTE	17x6	1
7	30.V301-202	0	PLECH / PLATE / BLECH	P 0,3 - 15	1
8	30.V301-215	0	SEGMENT / SEGMENT / SEGMENT	P 12- 567	1
9	30.Y301-001	9	PODSTAVEC / BASE / UNTERSATZ		1
10	30.Y301-013	0	POUZDRO UPÍNAČI / FIXING SLEEVE / SPANNHÜLSE	HR 70x15	1
11	30.Y401-010	2	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	HR 100x50	2
12	30.Y401-011	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	HR 100x50	2
13	30.Y401-016	0	OKAP / GUTTER CHANNEL / BLECH		1
14	30.Y401-017	0	OKAP / GUTTER CHANNEL / BLECH		1
15	30.Y401-103	0	CEP / LUG / BOLZEN	d 50 h6	1
16	30.Y401-105	0	KRYT HYDRAULIKY / HYDRAULIC COVER / HYDRAULIKABDECKUNG		1
17	30.Y502-162	0	UCHYTKA / CLIP / HALTER	P3-80	1
18	30.Y601-111	0	DRŽAK / HOLDER / HALTER	HR 20x20	2
19	30.Y601-112	0	OSA / AXLE / ACHSE	d 10	1
20	30.Y601-113	0	DRŽAK / HOLDER / HALTER		1
21	41.001.006	0	HADICE / HOSE / SCHLAUCH	55/46	2
22	49.200.042	0	RETÍZEK / CHAIN / KETTE	081 146cl.	1
23	90.001.25.026	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x65	1
24	90.001.25.029	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x12	4
25	90.001.25.046	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x20	9
26	90.005.55.018	0	SROUB 6HRANNÝ / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M8x35	2
27	90.100.55.004	0	MATICE / NUT / MUTTER	MATICE - M6	1
28	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE - M8	4
29	90.150.50.005	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	A 8	4
30	90.350.02.001	0	TALÍROVÁ PRUŽINA / DISC SPRING / TELLERFEDER	12.5x6,2x0.5x0.85	10
31	91.020.015	0	CERPADLO / PUMP / PUMPE	3C04-12	1
32	91.271.002	0	PASKA MAGNETICKÁ / MAGNETIC TAPE / MAGNETBAND	ELGO MB20.50	1
33	92.001.063	0	AGREGÁT HYDRAULICKÝ / HYDRAULIC GENERATOR / HYDRAULIKAGGREGAT	27672000	1

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

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

7.22. Podstavec / Untersatz / Base

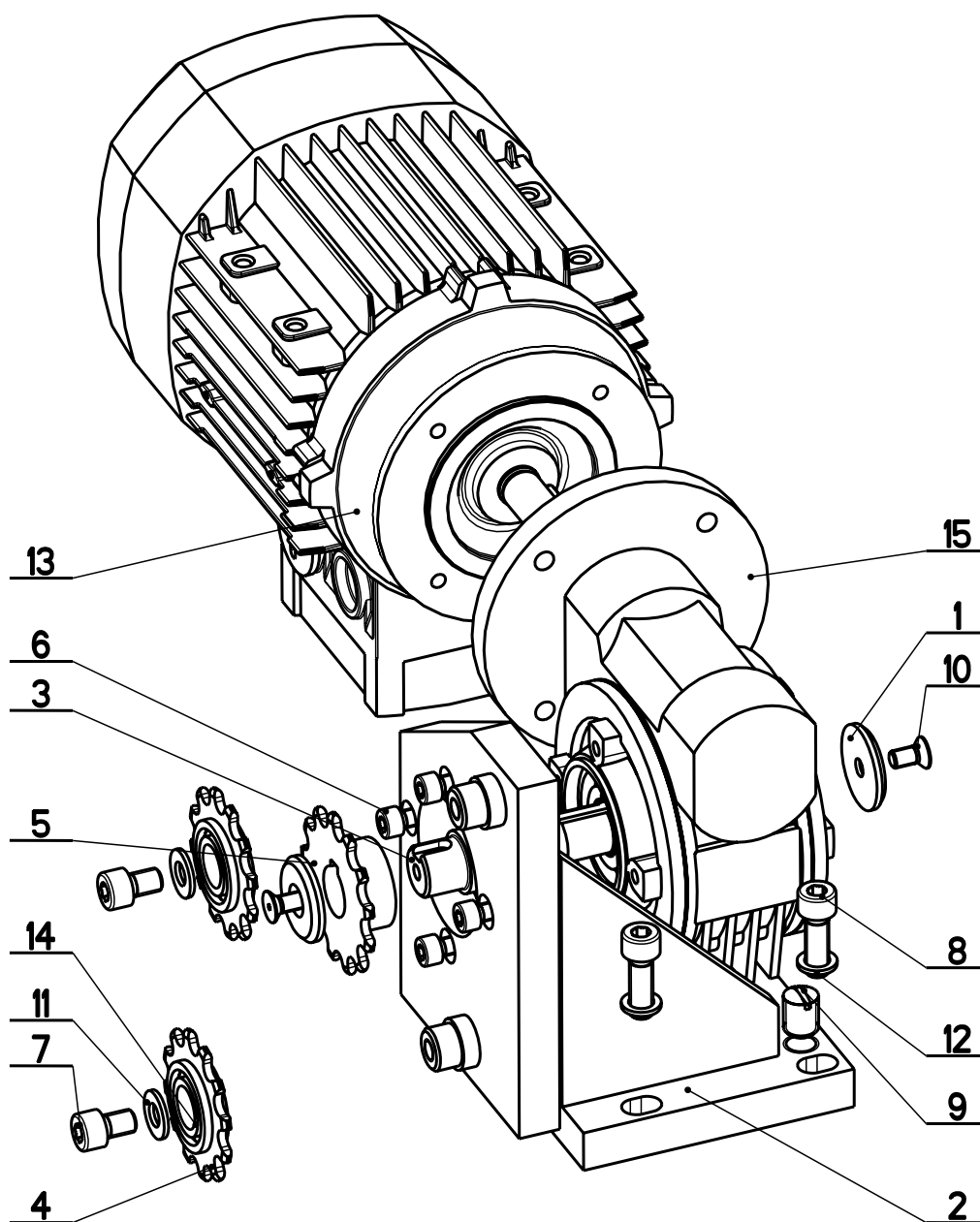


NAZEV SESTAVY PODSTAVEC	CÍSLO SESTAVY 201.V401-000	STROJ IN460DGA
Konstruoval: HLADIL		
Datum: 06. 09.2010		
Měřítko: 1:10		

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

[illegible]

7.24. Pohon / Antrieb / Drive



NAZEV SESTAVY POHON	CISLO SESTAVY 201.V302-180	STROJ IN360
	Konstruoval: MUSIL	
	Datum: 27. 01.2010	
	Meritko: 1:2	

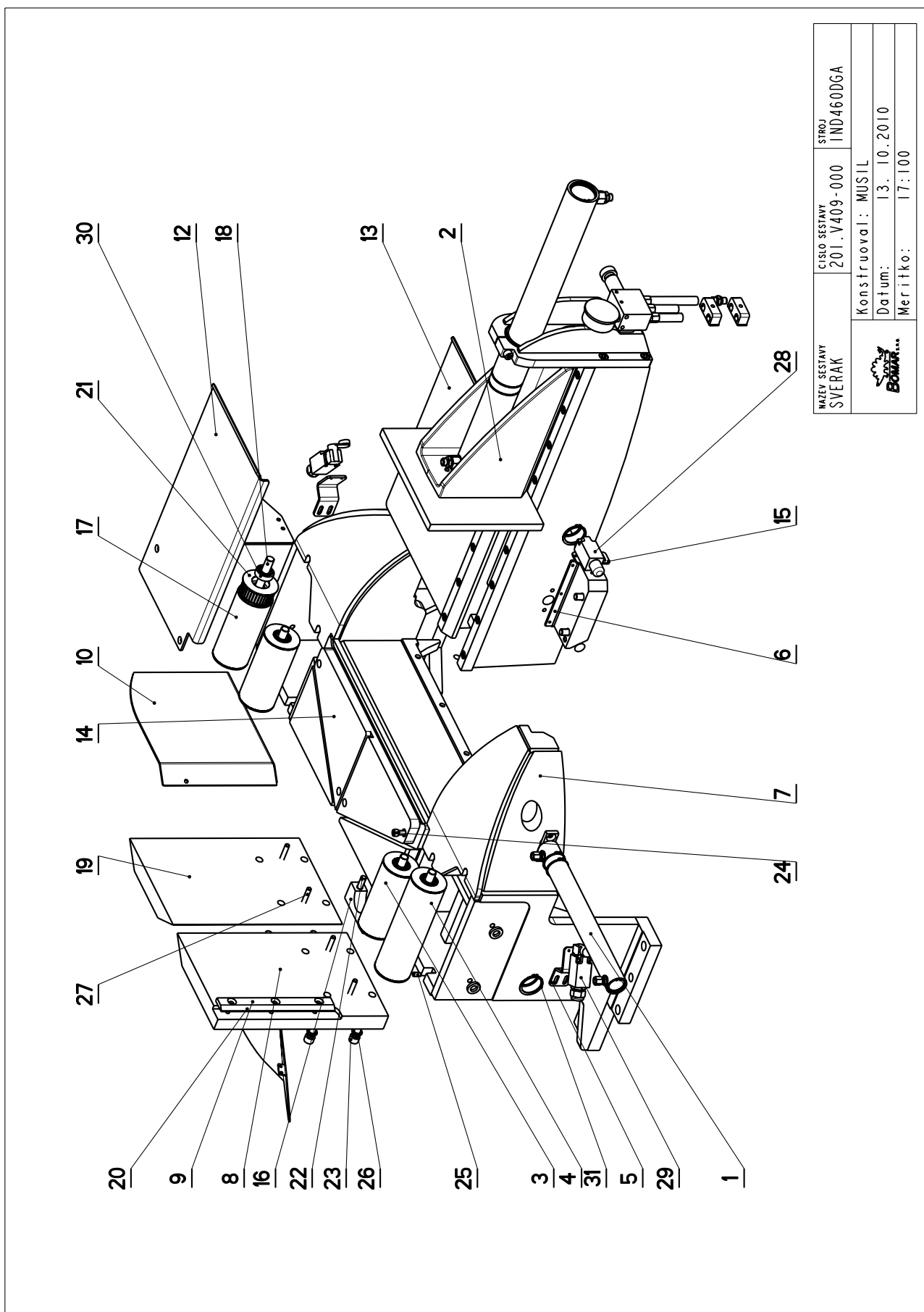
7.25. Kusovník / Stückliste / Piece list – Pohon / Antrieb / Drive

Cislo Sestavy 201.V302-180		Ver. 0	Nazev sestavy POHON/DRIVE /ANTRIEB		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.1514-503	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	d 30	2
2	30.V302-081	0	KONZOLA / CONSOLE / KONSOLE		1
3	30.V302-083	0	HRDEL / SHAFT / WELLE	d 22	1
4	30.V302-085	0	KOLO RETEZOVE / CHAIN WHEEL / KETTENRAD	081-12z DISK	2
5	30.V302-086	0	KOLO RETEZOVE / CHAIN WHEEL / KETTENRAD	081-13z HABOJ	1
6	90.001.25.017	0	SROUB IMBUS CERNY / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6X16	4
7	90.001.25.029	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8X12	2
8	90.001.25.033	0	SROUB IMBUS CERNY / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x25	4
9	90.002.20.017	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M12X16	2
10	90.011.27.005	0	SROUB ZAPUSTNY / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M6X12	2
11	90.150.50.005	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	PODLOZKA 8,4	2
12	90.163.00.002	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	PODLOZKA 8	4
13	91.001.106	0	ELEKTROMOTOR / ELECTRIC MOTOR / ELEKTROMOTOR	0,37 kW	1
14	95.001.006	0	LOZISKO / BEARING / LAGER	6002 2RS	2
15	99.001.119	0	PREVODOVKA / TRANSMISSION / GETRIEBE	VF44 P1	1

Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Nazev sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednaci cislo/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

7.26. Svěrák / Schraubstock / Vice

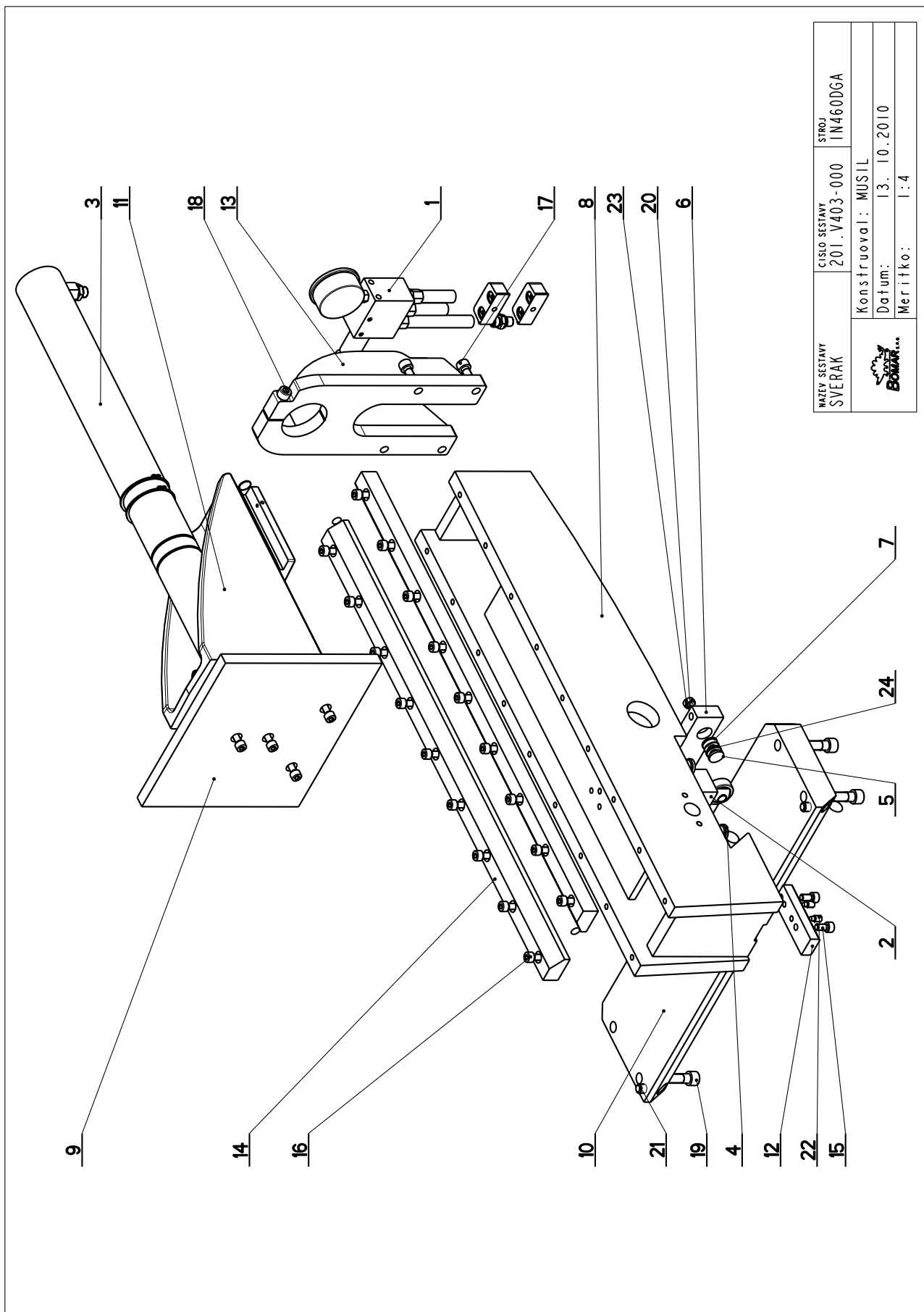


7.27. Kusovník / Stückliste / Piece list – Svěrák / Schraubstock / Vice

Cislo Sestavy 201.V409-000		Ver. 0	Název sestavy SVERAK/VICE/SCHRAUBSTOCK			
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks	
1	201.V307-150	0	VALEC POMOČNY / AUXILIARY CYLINDER / HILFSZYLINDER		1	
2	201.V403-000	0	SVERAK / VICE / SCHRAUBSTOCK		1	
3	201.Y317-010	0	VALECEK / CYLINDER / ROLLE		2	
4	201.Y317-020	0	VALECEK / CYLINDER / ROLLE		1	
5	30.V309-009	0	DRZAK / HOLDER / HALTER	P4 - 40	2	
6	30.V309-011	0	STERAC / WIPER / ABSTREIFER	BA18	2	
7	30.V309-101	0	PODSTAVEC SVERAKU / VICE BASE / SCHRAUBSTOCKUNTERSATZ		1	
8	30.V409-002	0	CELIST PEVNA / SOLID JAW / FESTE BACKE	P35x234	1	
9	30.V409-013	0	LISTA CELISTI / JAW TRIM / BACKENLEISTE	HR 30x10	1	
10	30.V409-015	0	KORYTO / CHANNEL / RINNE	P3-259	1	
11	30.V409-017	0	DISTANC / DISTANCE / DISTANZ	TR 25x5.5	4	
12	30.V409-021	0	KRYT SVERAKU / VICE COVER / SCHRAUBSTOCKABDECKUNG		1	
13	30.V409-022	0	PLECH / PLATE / BLECH	P4 - 352	1	
14	30.Y309-004	0	DESKA / BOARD / PLATTE	ODLITEK	1	
15	30.Y309-006	0	DRZAK / HOLDER / HALTER	P3x30	2	
16	30.Y309-008	0	PRÍLOŽKA / STRAP / LASCHE	HR 40x25	1	
17	30.Y317-011	0	TRUBKA / TUBE / ROHR	Tr 70x3	1	
18	30.Y317-022	0	CEP / LUG / BOLZEN	d 15	1	
19	30.Y409-002	0	CELIST PEVNA / SOLID JAW / FESTE BACKE	P35x242	1	
20	30.Y414-002	1	SKLUZ / SLIDE / RUTSCH	P2-218	1	
21	31.1313-502	0	VÍKO / COVER / DECKEL	d 60	2	
22	90.001.25.053	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x55	2	
23	90.001.25.058	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x30	8	
24	90.001.25.105	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x18	4	
25	90.002.20.012	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M8x16	8	
26	90.163.00.003	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	NORD-LOCK	8	
27	90.300.02.011	0	KOLÍK VALCOVÝ KALENÝ / CYLINDRICAL PIN TEMPERED / ZYLINDERSTIFT GEHÄRTET	KOLÍK 8x40	4	
28	91.173.007	0	SPÍNAC KONCOVÝ / END SWITCH / ENDSCHALTER		2	
29	91.173.017	0	SPÍNAC KONČ. S KŁADK. / END SWITCH WITH PULLEY / ENDSCHALTER MIT ROLLE	FR 630	2	
30	95.001.015	0	LOŽISKO / BEARING / LAGER	6202 2RS	2	
31	95.800.016	0	KROUZEK POJIST. VNEJŠ. / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTINÝ KROUZEK 42	4	

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

7.28. Svěrák / Schraubstock / Vice – 2



 NÁZEV SESTAVY SVĚRÁK	ČÍSLO SESTAVY 201.V403-000	STROJ IN460DGA
	Konstruoval: MUSIL	
	Datum: 13. 10. 2010	
	Meritko: 1:4	

7.29. Kusovník / Stückliste / Piece list – Svěrák / Schraubstock / Vice – 2

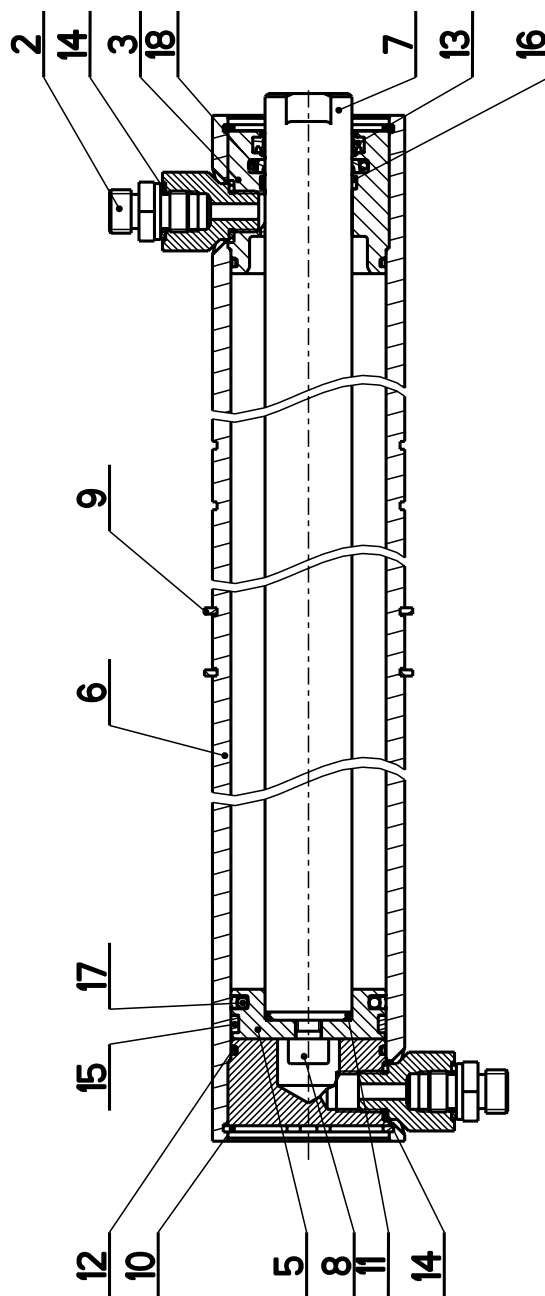
Cislo Sestavy 201.V403-000		Ver. 0	Název sestavy SVERAK/VICE/SCHRAUBSTOCK		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	201.2115-200	1	REGULACE TL. SVERAKU / VICE PRESSURE REGULATION / SCHRAUBSTOCK-DRUCKREGELUNG		1
2	201.Y403-010	0	KLADKA / PULLEY / ROLLE		1
3	201.Y407-030	0	VALEC SVERAKU / VICE CYLINDER / SCHRAUBSTOCKZYLINDER		1
4	30.0509-608	0	LISTA TRECI / FRICTION TRIM / FRIKTIONSLEISTE	d20	4
5	30.0803-005	0	DESKA / BOARD / PLATTE		2
6	30.V303-006	0	LISTA SVERAKU / VICE TRIM / SCHRAUBSTOCKLEISTE	HR 40x20	1
7	30.V303-010	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	d 20	2
8	30.V403-003	0	TELESO SVERAKU / VICE BODY / SCHRAUBSTOCKKÖRPER		1
9	30.V403-007	0	CELIST / JAW / BACKE	P16 - 239	1
10	30.Y303-001	0	VEDENI / GUIDE / BACKENFÜHRUNG	HR 160x40	1
11	30.Y303-005	2	CELIST / JAW / BACKE		1
12	30.Y303-010	0	PRILOZKA / STRAP / LASCHE	HR 30x15	1
13	30.Y303-104	1	DRZAK / HOLDER / HALTER		1
14	30.Y403-002	0	LISTA SVERAKU / VICE TRIM / SCHRAUBSTOCKLEISTE	HR 40x25	2
15	90.001.25.031	0	SROUB IMBUS CERNENY / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x16	2
16	90.001.25.032	0	SROUB IMBUS CERNENY / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x20	22
17	90.001.25.047	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x25	4
18	90.001.25.054	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x60	1
19	90.001.25.060	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x40	4
20	90.002.2D.013	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M8x25	2
21	90.002.2D.018	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M12x20	2
22	90.004.2D.008	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M8x16	2
23	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE - M8	2
24	90.350.02.005	0	PRUZINA TALIROVA / DISC SPRING / TELLERFEDER	20x10.2x1	6

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/Order number/Basisleummr; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

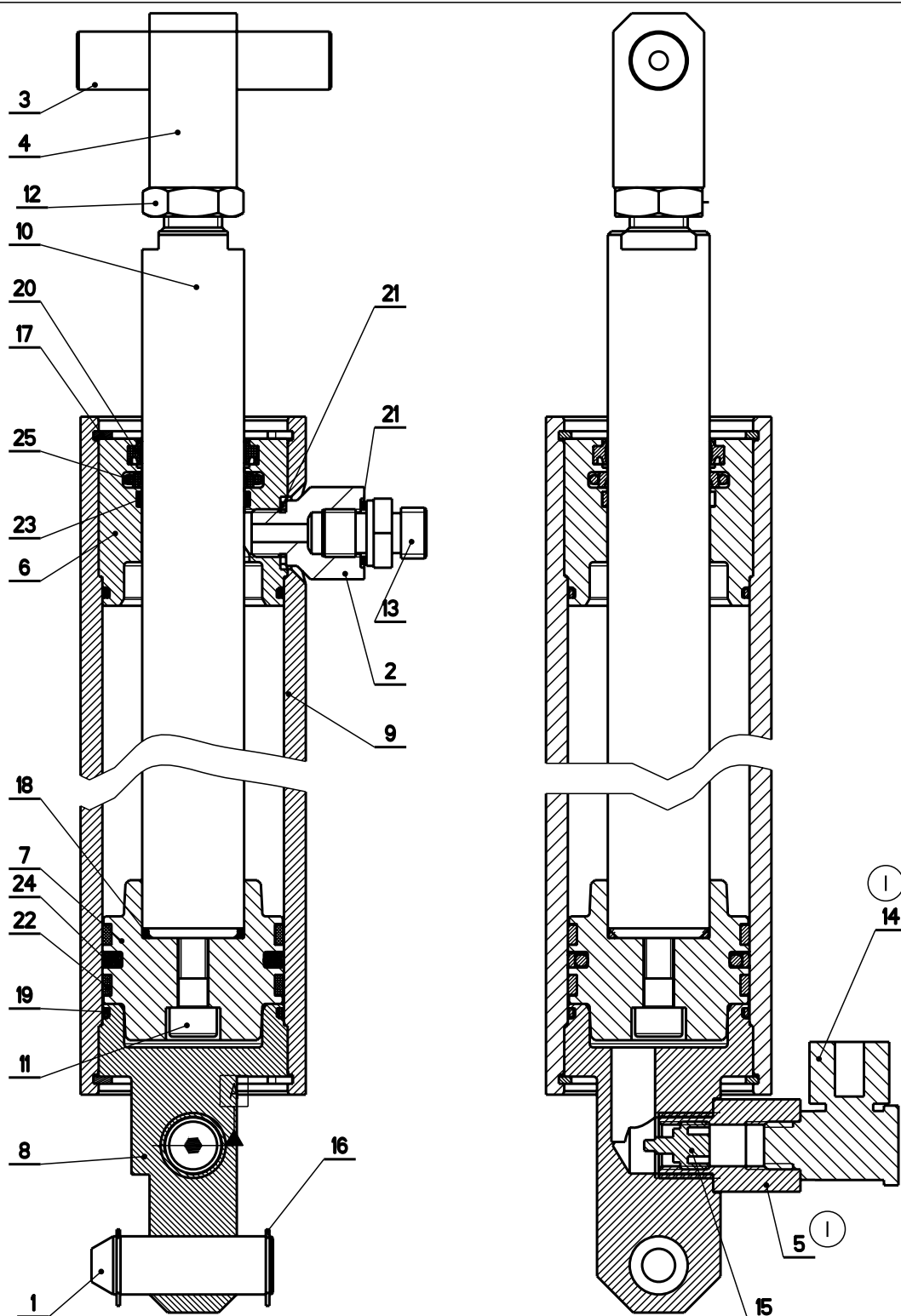
Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.30. Válec svěráku / Schraubstockzylinder / Vice cylinder

Cislo sestavy 201.Y407-030		Ver. 0	Název sestavy VALEC SVĚRÁKU/VICE CYLINDER/SCHRAUBSTOCKZYLINDER	
Poz.	Objednací číslo	Ver.	Název položky	Ks
1	30.1807-005	3	SROUBENÍ / BOLTING / VERSCHRAUBUNG	2
2	30.2807-109	0	SROUBENÍ PRÍME / DIRECT BOLTING / GERADE VERSCHRAUBUNG	2
3	30.C407-012	1	VÍKO / COVER / DECKEL	1
4	30.C407-111	0	VÍKO / COVER / DECKEL	1
5	30.Y307-035	0	PIST / PISTON / KOLBEN	1
6	30.Y407-033	1	VALEC / ROLLER / ZYLINDER	1
7	30.Y407-034	0	PISTNICE / PISTON ROD / KOLBENSTANGE	1
8	90.001.25.032	0	SROUB IMBUS ČERNÝ / ALLEN HEAD BOLT / IMBUSSCHRAUBE	1
9	95.800.021	0	KROUZEK POJIST.VNEJŠÍ / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	2
10	95.801.009	0	KROUZEK POJIST.VNITŘÍ / INSIDE SAFETY RING / SICHERUNGSRING INNEN	2
11	96.002.011	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	1
12	96.002.019	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	2
13	96.061.009	0	KROUZEK STÍRAČÍ / SCRAPER RING / ABSTREIFRING	1
14	96.082.002	0	TESNĚNÍ / SEALING / DICHTUNG	4
15	96.084.001	0	KROUZEK VODICÍ / LEAD RING / FÜHRUNGSRING	1
16	96.084.006	0	KROUZEK VODICÍ / LEAD RING / FÜHRUNGSRING	1
17	96.900.001	0	TESNĚNÍ KOMBINOVANÉ / COMBINATION SEALING / KOMBIDICHTUNG	1
18	96.900.021	0	TESNĚNÍ KOMBINOVANÉ / COMBINATION SEALING / KOMBIDICHTUNG	1



7.31. Válec zvedací / Hebezyylinder / Lifting cylinder



NAZEV SESTAVY VALEC	CISLO SESTAVY 201.Y407-210	STROJ 1460DGH/A
	Konstruoval: MUSIL	
	Datum: 15. 04. 2010	
	Meritko: 7:10	

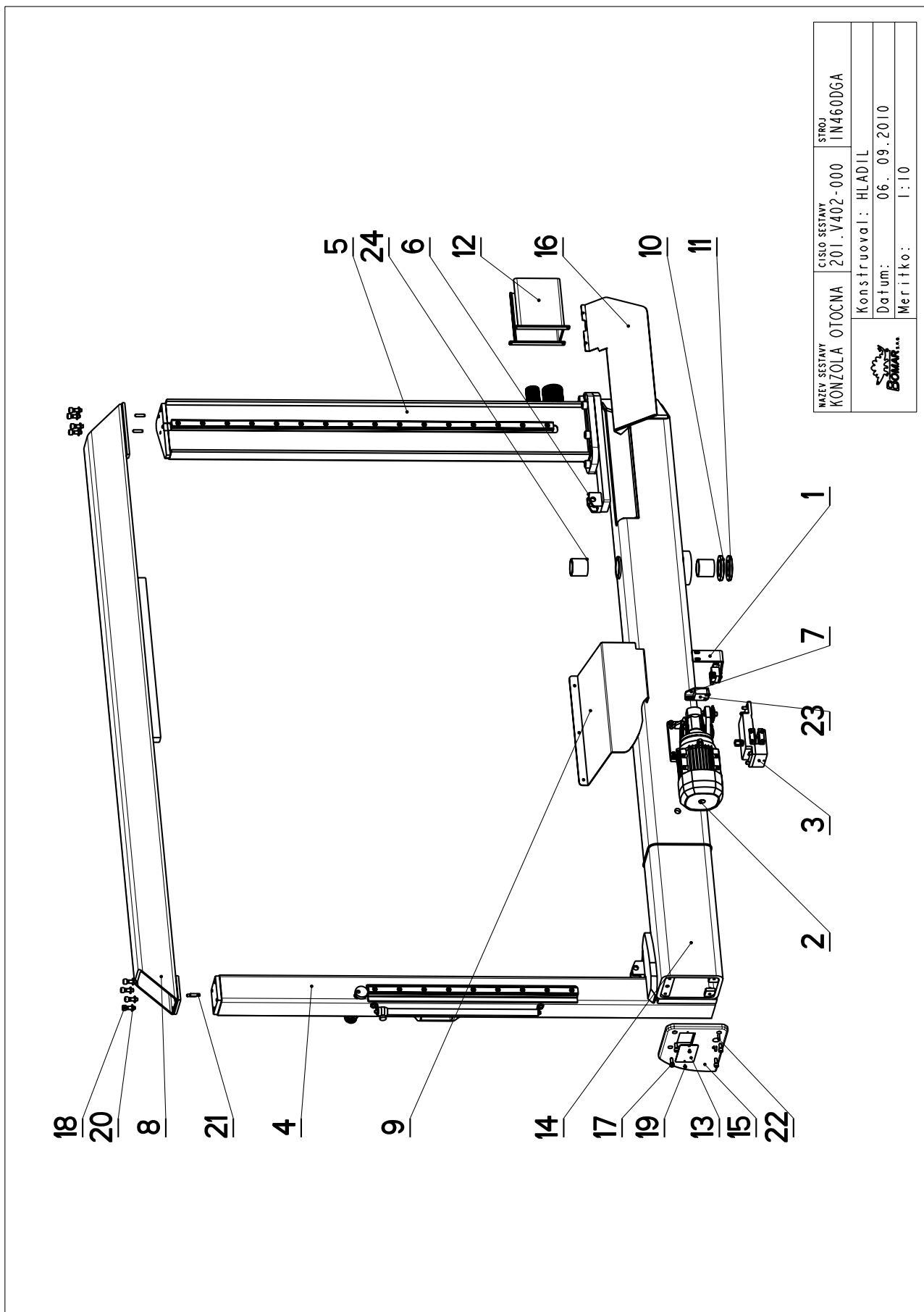
7.32. Kusovník / Stückliste / Piece list –
Válec zvedací / Hebezyylinder / Lifting cylinder

Číslo Sestavy 201.Y407-210		Ver. I	Název sestavy VALEC/ROLLER/ZYLINDER		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.0807-009	1	CEP / LUG / BOLZEN	d 16h9	1
2	30.1807-005	3	SROUBENÍ / BOLTING / VERSCHRAUBUNG	6-HR 22	1
3	30.8307-205	0	CEP / LUG / BOLZEN	d 16h9	1
4	30.8607-001	0	DRŽÁK / HOLDER / HALTER	HR 25x25	1
5	30.9107-509	0	SROUBENÍ / BOLTING / VERSCHRAUBUNG	6HR 22	1
6	30.C407-012	1	VÍKO / COVER / DECKEL	d 55	1
7	30.LM07-504	0	PIST / PISTON / KOLBEN	d 55	1
8	30.Y307-005	3	VÍKO / COVER / DECKEL	d 55	1
9	30.Y407-011	0	VALEC / ROLLER / ZYLINDER	TR 62/50H8	1
10	30.Y407-202	0	PISTNICE / PISTON ROD / KOLBENSTANGE	d 28 I8	1
11	90.001.25.034	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x30	1
12	90.101.55.003	0	MATICE / NUT / MUTTER	MATICE M16	1
13	92.002.001	0	SROUBENÍ PRÍME / DIRECT BOLTING / GERADE VERSCHRAUBUNG	GES 08LR	1
14	92.003.001	0	SROUBENÍ UHLOVE / ANGLE BOLTING / WINKELVERSCHRAUBUNG	P-RWS-08LR	1
15	92.151.001	0	VENTIL POJISTNÝ / SAFETY VALVE / SICHERUNGSVENTIL	VPN-H 1/4"	1
16	95.800.007	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUBEN	POJISTNÝ KROUZEK 16	2
17	95.801.009	0	KROUZEK POJIST.VNITR / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNÝ KROUZEK 52	2
18	96.002.011	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	24x2	1
19	96.002.019	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	46x2	2
20	96.061.009	0	KROUZEK STIRACI / SCRAPER RING / ABSTREIFRING	WD2200280	1
21	96.082.002	0	TESNENÍ / SEALING / DICHTUNG	KROUZEK CU 13/17	2
22	96.084.001	0	KROUZEK VODICI / LEAD RING / FÜHRUNGSRING	GP6500500-T47	2
23	96.084.006	0	KROUZEK VODICI / LEAD RING / FÜHRUNGSRING	GR4300280-T47	1
24	96.900.001	0	TESNENÍ KOMBINOVA NE / COMBINATION SEALING / KOMBIDICHTUNG		1
25	96.900.021	0	TESNENÍ KOMBINOVA NE / COMBINATION SEALING / KOMBIDICHTUNG	RSK200280	1

I.ZRUS.SROUBENI 92.002.005 A NAHR.92.003.001,ZRUS.SROUBENI 30.6107-510 A NAHR.30.9107-509,ZRUS.IxTESNENI 96.082.002 (ZUSTAVAJI 2ks).071/ZM063 15.4.2010 SLEZACKOVA

I.ZRUS.SROUBENÍ 92.002.005 A NAHR.92.003.001,ZRUS.SROUBENÍ 30.6107-510 A NAHR.30.9107-509,ZRUS.I x TESNENÍ 96.082.002
(ZUSTAVAJÍ 2ks).071/ZM063 15.4.2010 SLEZACKOVA

7.33. Konzola otočná



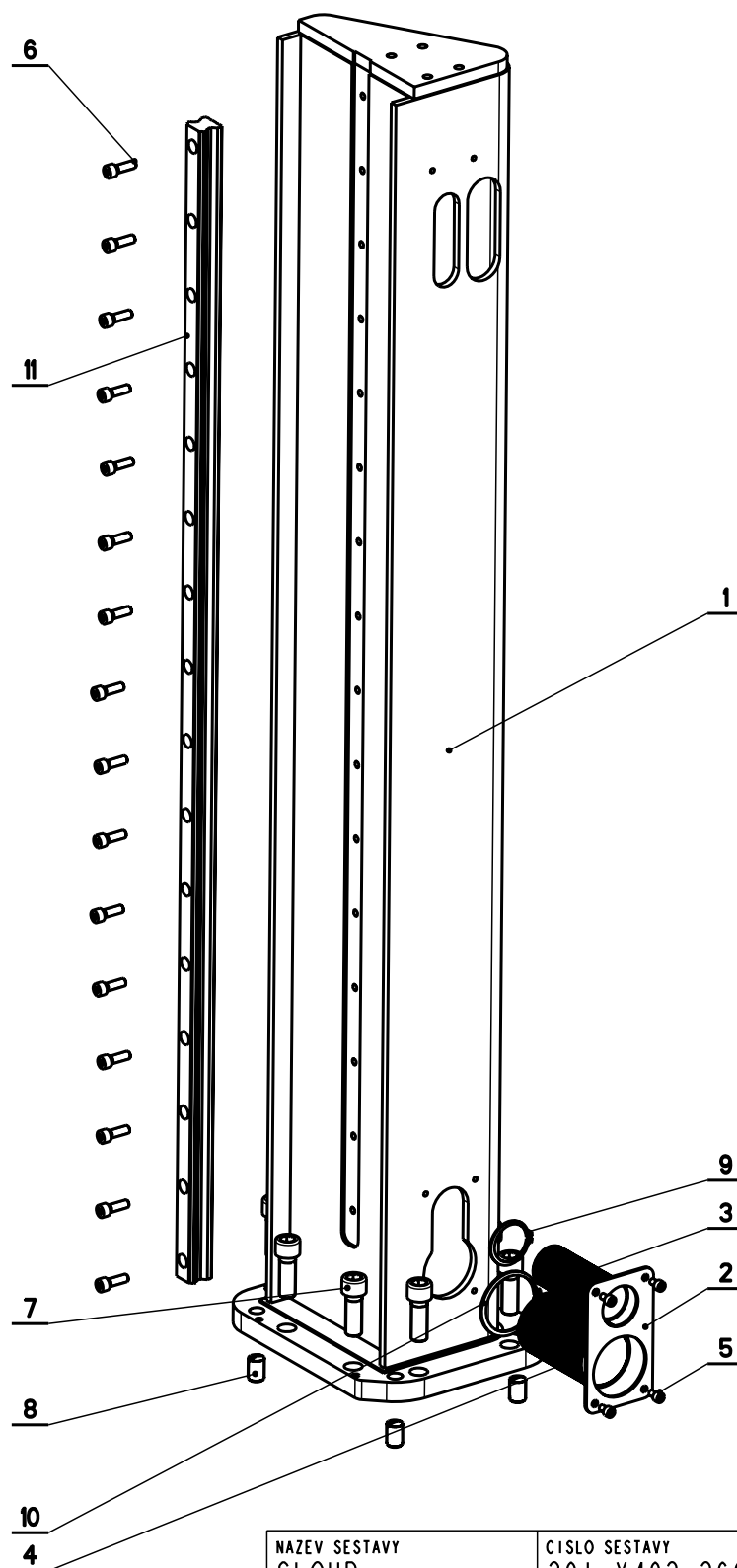
7.34. Kusovník / Stückliste / Piece list – Konzola otočná

Cislo Sestavy 201.V402-000		Ver. 0	Nazev sestavy KONZOLA OTOCNA/TURNABLE CONSOL/DREHKONSOLE		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.V302-130	0	SNIMAC MAGNET. / MAGNETIC SENSOR / MAGNETSENSOR		1
2	201.V302-180	0	POHON / DRIVE / ANTRIEB		1
3	201.V307-250	0	BRZDA / BRAKE / BREMSE		1
4	201.Y402-250	1	SLOUP / POLE / SÄULE	SESTAVA	1
5	201.Y402-260	1	SLOUP / POLE / SÄULE	SESTAVA	1
6	30.0807-008	1	DRZAK / HOLDER / HALTER	HR 40x40	2
7	30.V302-021	0	DRZAK / HOLDER / HALTER	P3 - 59	1
8	30.V402-002	0	VYZTUHA / REINFORCEMENT / VERSTEIFUNG		1
9	30.V402-011	0	KRYT MOTORU / MOTOR COVER / MOTORABDECKUNG	P2 - 413	1
10	30.V302-006	0	PODLOZKA / WASHER / UNTERLEGSCHIEBE	d 80	1
11	30.V302-007	0	PODLOZKA / WASHER / UNTERLEGSCHIEBE	d 85	1
12	30.V302-016	0	DRZAK / HOLDER / HALTER		1
13	30.V302-205	0	ZASLEPKA / PLUG / BLINDFLANSCH	P 1,5x60	1
14	30.Y402-101	1	KONZOLA OTOCNA / TURNABLE CONSOL / DREHKONSOLE	SVARENO	1
15	30.Y402-203	0	VÍKO / COVER / DECKEL	P15x200	1
16	30.Y414-301	0	OKAP / GUTTER CHANNEL / BLECH	P1-264	1
17	90.001.25.032	0	SROUB IMBUS CERNÝ / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x20	4
18	90.001.25.048	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x30	8
19	90.013.27.002	0	SROUB PULKULATY / HALF ROUND BOLT / HALBRUNDSCHRAUBE	M5x6	2
20	90.150.50.006	0	PODLOZKA / WASHER / UNTERLEGSCHIEBE	PODLOZKA 10,5	8
21	90.300.07.010	0	KOLIK VALCOVY KALENY / CYLINDRICAL PIN TEMPERED / ZYLINDERSTIFT GEHÄRTET	KOLIK 8x32	4
22	90.301.07.013	0	KOLIK VALCOVY / CYLINDRICAL PIN SOFT / ZYLINDERSTIFT WEICH	KOLIK 6x30	2
23	91.173.016	0	SPINAC KONCOVY / END SWITCH / ENDSCHALTER	KONČAK	1
24	95.720.002	0	POUZDRO / SLEEVE / BÜCHSE	50x50x55	2

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

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

7.35. Sloup / Saule / Pole – 1



NAZEV SESTAVY SLOUP	CISLO SESTAVY 201.Y402-260	STROJ IN460DGH
	Konstruoval: MUSIL	
	Datum: 19. 01. 2010	
	Meritko: 17:100	

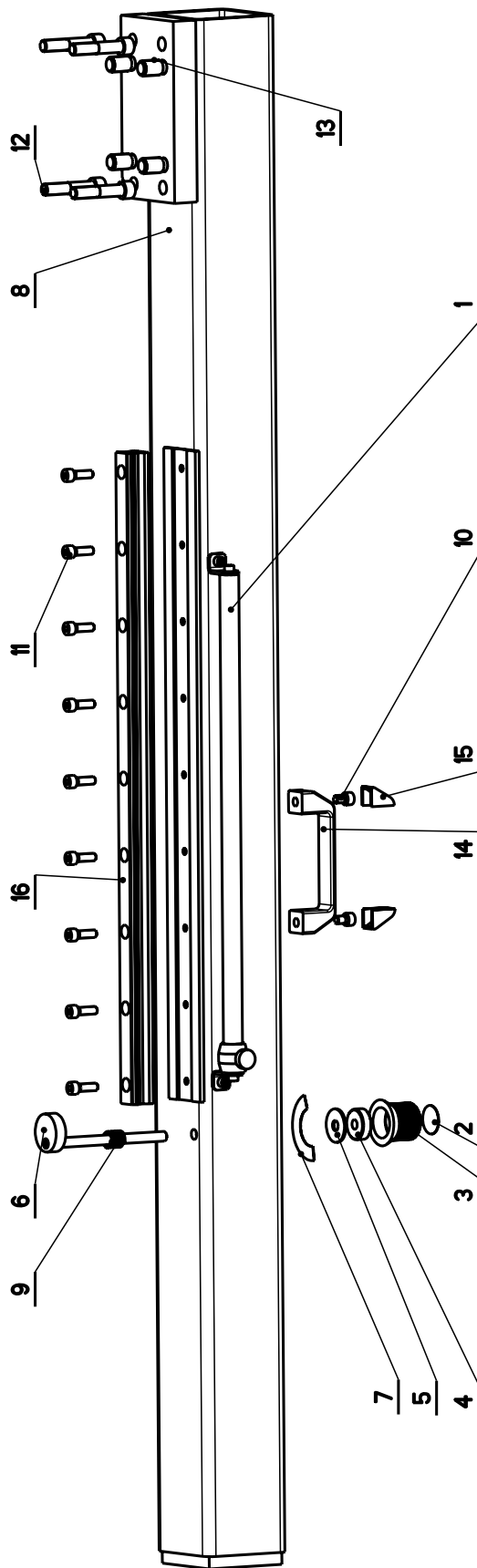
7.36. Kusovník / Stückliste / Piece list – Sloup / Saule / Pole – 1

Císlo Sestavy 201.Y402-260		Ver. 1	Název sestavy SLOUP/POLE / SAULE	
Poz.	Objednací číslo	Ver.	Název položky	Ks
1	30.Y402-261	2	SLOUP / POLE / SAULE	1
2	30.Y502-162	0	UCHYTKA / CLIP / HALTER	1
3	41.001.005		HADICE / HOSE / SCHLAUCH	1
4	41.001.006	0	HADICE / HOSE / SCHLAUCH	1
5	90.001.25.015	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	4
6	90.001.25.033	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	16
7	90.001.25.074	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	7
8	90.002.2D.028	0	SROUB STAVEC / ADJUSTMENT BOLT / STELLSCHRAUBE	4
9	95.800.016	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	1
10	95.800.021	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	1
11	99.200.140		VEDENÍ LINEARNÍ / LINEAR GUIDE / LINEARE FÜHRUNG	1

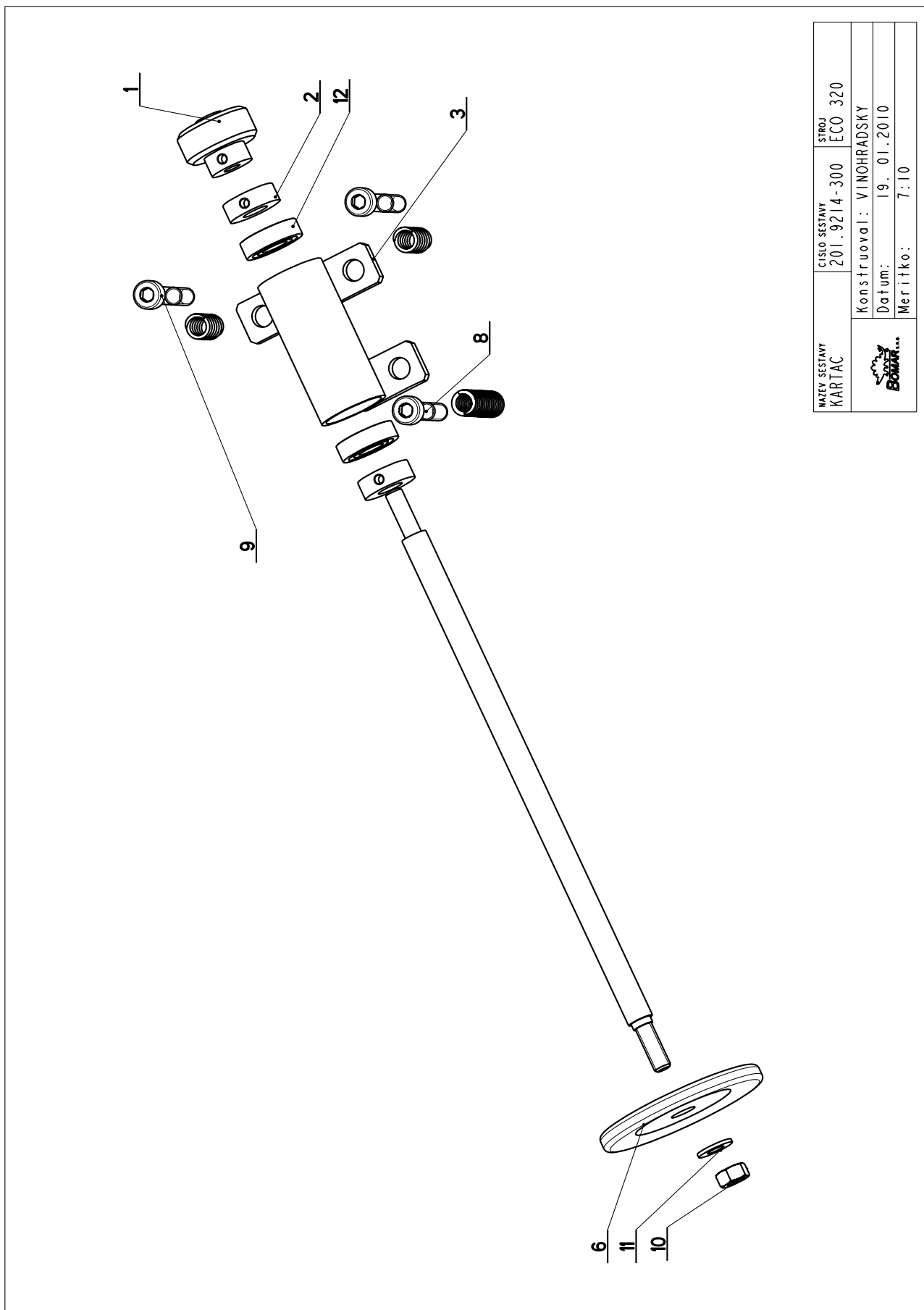
Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.37. Sloup / Saule / Pole – 2

Cislo Sestavy 201.Y402-250		Ver. I	Název sestavy SLOUP/POLE/SÄULE		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	201.Y402-070	0	ODMEROVANI / MEASURING / GEHRUNGSMESSUNG	SESTAVA	1
2	30.6130-012	0	VÍKO / COVER / DECKEL	P 0.5x 30x30	1
3	30.6130-020	0	OVLADANI / CONTROLS / STEUERUNG	VYLÍSEK	1
4	30.Y302-058	0	VLOŽKA / INSERT / EINLAGE	d 32	1
5	30.Y302-157	0	GUMA / RUBBER / GUMMI	TL 2-35	1
6	30.Y402-055	0	OSA / AXLE / Achse	SVARENO	1
7	30.Y402-154	0	STUPNICE / SCALE / SKALA	P0.5-70	1
8	30.Y402-251	1	SLOUP / POLE / SÄULE	SVARENO	1
9	31.T302-054	0	PRUŽINA / SPRING / FEDER	d 2.24	1
10	90.001.25.029	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x12	2
11	90.001.25.033	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x25	9
12	90.001.25.063	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x60	4
13	90.002.20.028	0	SROUB STAVECI / ADJUSTMENT BOLT / STELSCHRAUBE	SROUB M16x1,5x25	4
14	94.012.001	0	RUKOJET / HANDLE / GRIF		1
15	94.012.002	0	ZATKA / PLUG / STOPFEN		2
16	99.200.139	0	VEDENÍ LINEARNÍ / LINEAR GUIDE / LINEARE FÜHRUNG	G=20	1



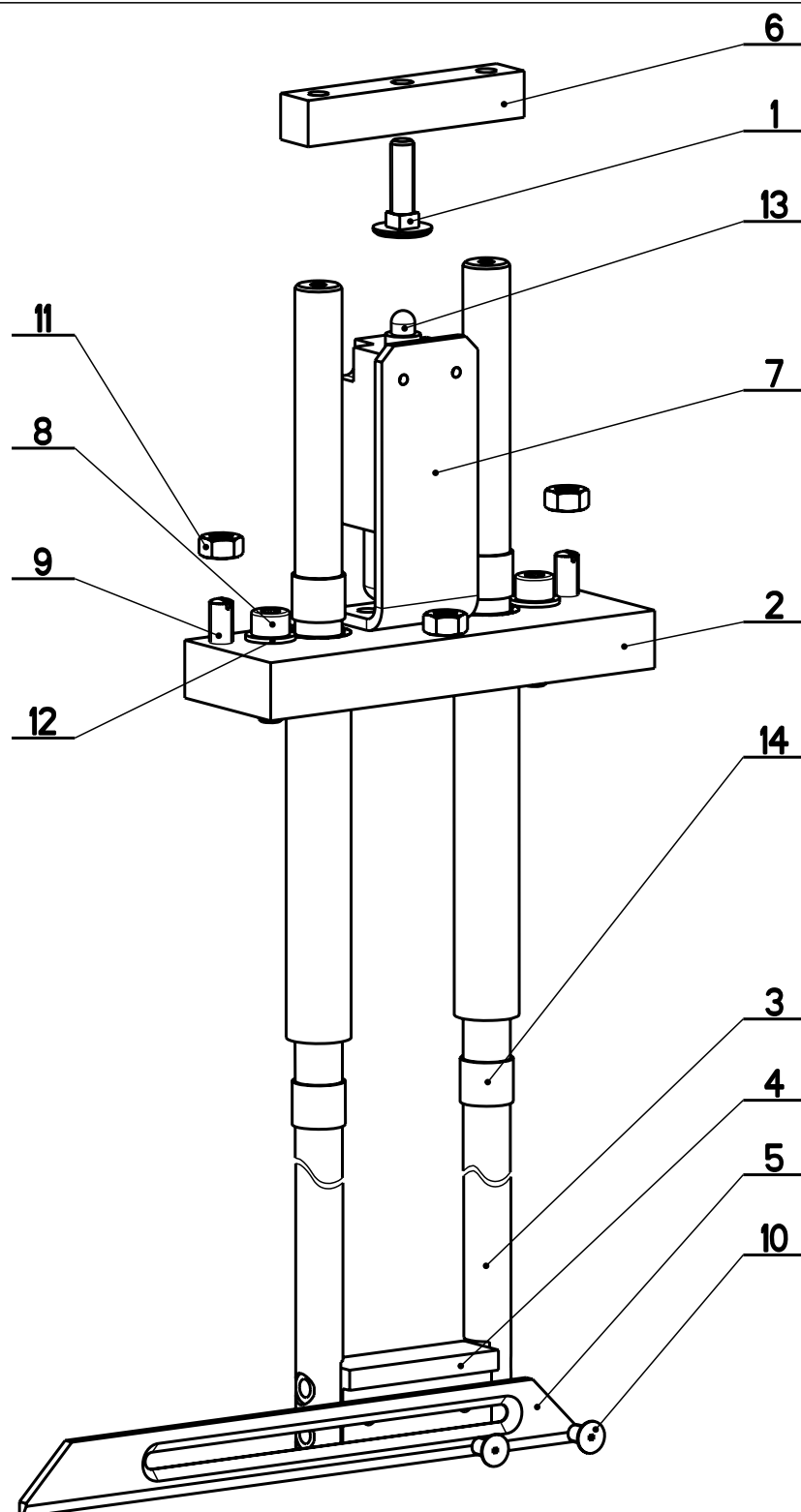
7.38. Kartáč / Bürste / Brush



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

Číslo Sestavy 201.9214-300		Ver. 0	Název sestavy KARTAC/BRUSH/BÜRSTE		
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	d 25	2
3	30.9214-301	1	DRŽÁK / HOLDER / HALTER		1
4	30.9214-302	1	HRDEL / SHAFT / WELLE	D 12	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	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x50	1
9	90.001.25.040	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x60	2
10	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE - M8	1
11	90.150.50.005	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	PODLOŽKA 8,4	1
12	95.001.005	0	LOŽISKO / BEARING / LAGER	6001 2RS	2

7.40. Doraz / Anschlag / Stop piece



NAZEV SESTAVY DORAZ	CISLO SESTAVY 201.V414-200	STROJ IN460
	Konstruoval: HLADIL	
	Datum: 13. 10. 2010	
	Meritko: 1:2	

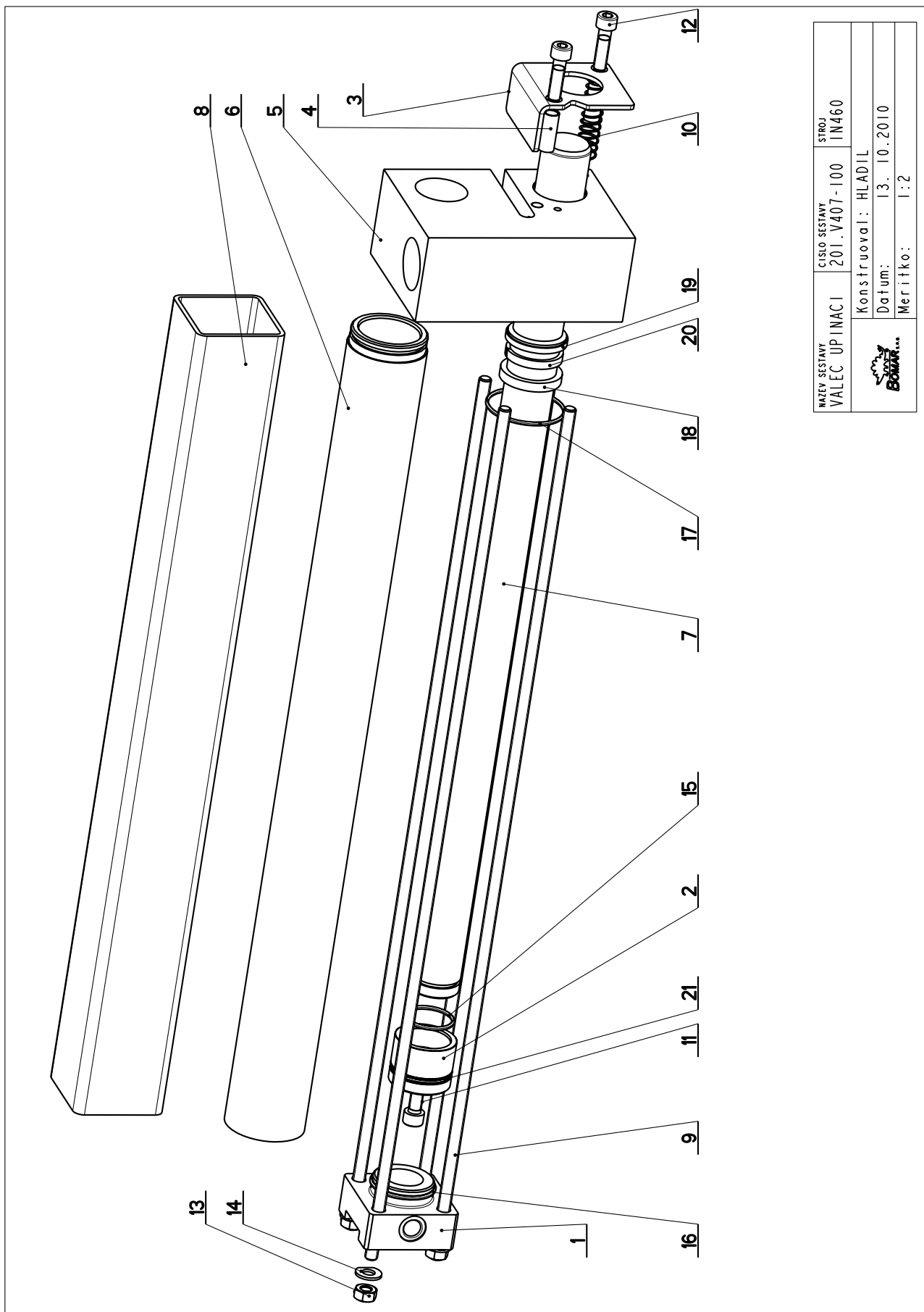
7.41. Kusovník / Stückliste / Piece list – Doraz / Anschlag / Stop piece

Cislo Sestavy 201.V414-200		Ver. 0	Nazev sestavy DORAZ/STOP PIECE/ANSCHLAG		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.0702-013	0	SROUB / BOLT / SCHRAUBE	M8	1
2	30.V414-201	0	DRZAK / HOLDER / HALTER		1
3	30.V414-202	0	TYC VODICI / LEAD POLE / FÜHRUNGSSTANGE	d 16	2
4	30.V414-203	0	HRANOL / BLOCK / PRISMA	HR 30x20	1
5	30.V414-204	0	LISTA CELISTI / JAW TRIM / BACKENLEISTE	P4 - 24	1
6	30.V414-205	0	HRANOL / BLOCK / PRISMA	HR 16x16	1
7	30.V414-206	0	DRZAK / HOLDER / HALTER	P4 - 40	1
8	90.001.55.083	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x30	2
9	90.002.20.013	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M8x25	3
10	90.011.27.004	0	SROUB ZAPUSTNY / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M6x10	2
11	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE - M8	3
12	90.150.50.005	0	PODLOZKA / WASHER / UNTERLEGSCHLEIBE	PODLOZKA 8,4	2
13	91.173.007	0	SPINAC KONCOVY / END SWITCH / ENDSCHALTER	-R1WK	1
14	95.700.013	0	POUZDRO / SLEEVE / BÜCHSE	16x15	4

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

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

7.42. Válec upínací / Spannzyylinder / Fixing cylinder



NAZEV SESTAVY VALEC UPÍNAČI	CÍSLO SESTAVY 201.V407-100	STROJ IN460
Konstruoval: HLADIL		
Datum: 13. 10.2010		
Meritko: 1:2		

7.43. Kusovník / Stückliste / Piece list –
Válec upínací / Spannzyylinder / Fixing cylinder

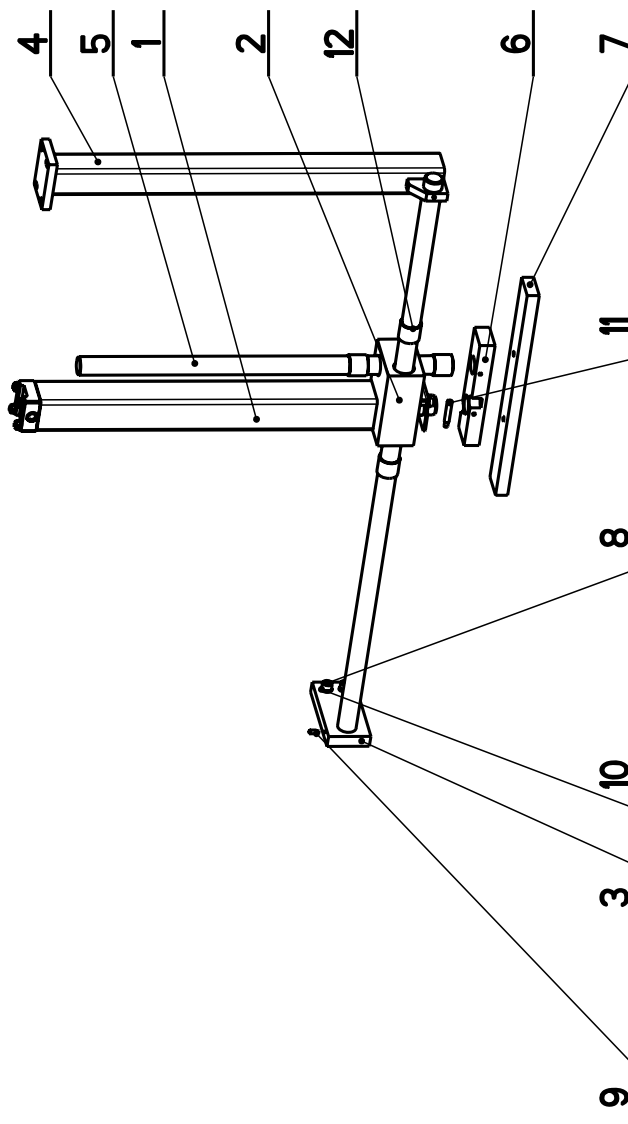
Cislo Sestavy 201.V407-100		Ver. 0	Nazev sestavy VALEC UPINACI/FIXING CYLINDER/SPANNZYLINDER		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.7207-701	0	VIKO / COVER / DECKEL	HR 60x60	1
2	30.7207-707	0	PIST / PISTON / KOLBEN	d 45	1
3	30.7207-709	1	DORAZ / STOP PIECE / ANSCHLAG	P 3 - 62	1
4	30.7207-710	0	KROUZEK DISTANCI / DISTANCE RING / DISTANZRING	TR 10x1	2
5	30.V407-101	0	VIKO / COVER / DECKEL	HR 120x60	1
6	30.V407-102	0	VALEC UPINACI / FIXING CYLINDER / SPANNZYLINDER	TR 52/40H8	1
7	30.V407-103	0	PISTNICE / PISTON ROD / KOLBENSTANGE	d 32	1
8	30.V407-105	0	KRYT / COVER / ABDECKUNG	J 60x60x3	1
9	30.V407-106	0	SVORNIK / HINGE PIN / KLENNE	M 8	4
10	31.2801-014	0	PRUZINA / SPRING / FEDER	1x12.5x60x12	1
11	90.001.25.032	0	SROUB IMBUS CERNY / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x20	1
12	90.001.55.083	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x30	2
13	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE - M8	4
14	90.150.50.005	0	PODLOZKA / WASHER / UNTERLEGSCHLEIBE	PODLOZKA 8.4	4
15	96.001.008	0	KROUZEK O STATICKY / STATIC O RING / O-RING STATISCH	26X2	1
16	96.001.010	0	KROUZEK O STATICKY / STATIC O RING / O-RING STATISCH	36X2	1
17	96.001.013	0	KROUZEK O STATICKY / STATIC O RING / O-RING STATISCH	45X2	1
18	96.042.007	0	TESNENI / SEALING / DICHTUNG	32x40x6.3	1
19	96.060.009	0	KROUZEK STIRACI / SCRAPER RING / ABSTREIFRING	32x40x5x6	1
20	96.084.003	0	KROUZEK VODICI / LEAD RING / FÜHRUNGSRING	GR 6500320	1
21	96.900.002	0	TESNENI KOMBINOVAE / COMBINATION SEALING / KOMBIDICHTUNG		1

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

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

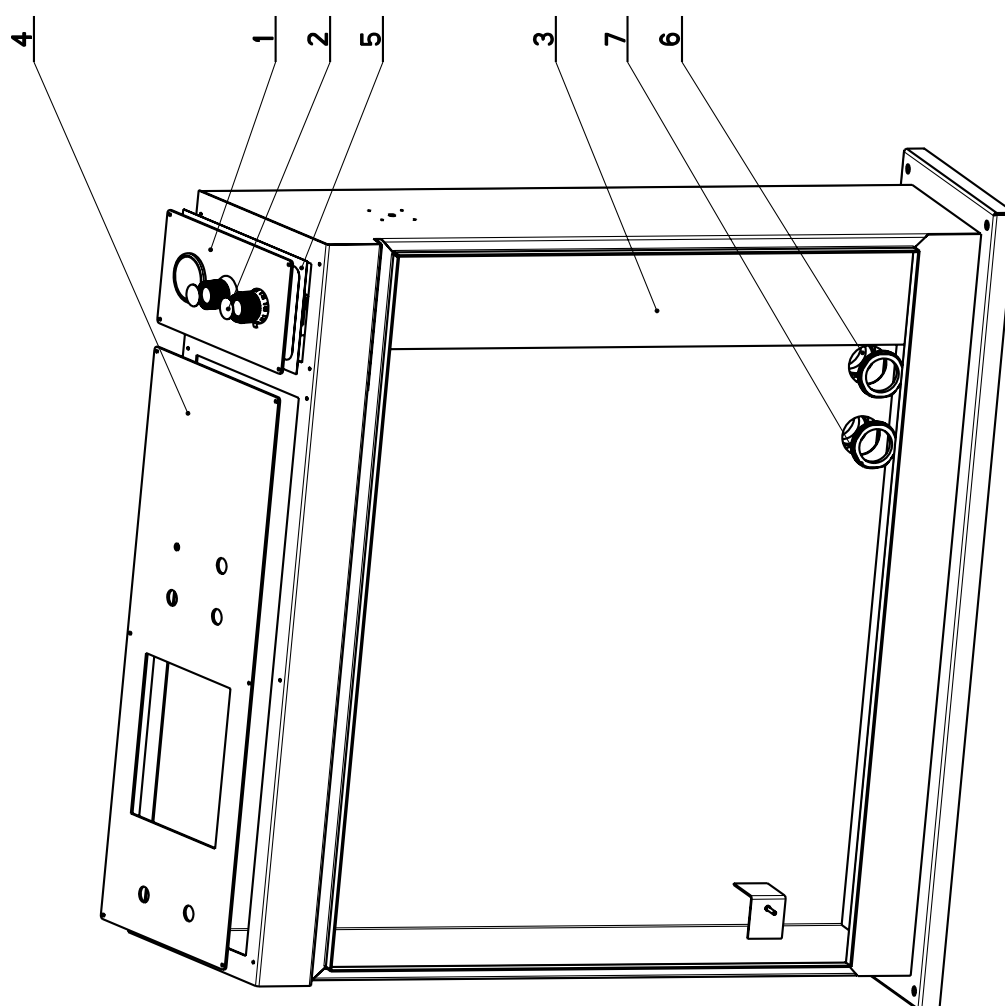
7.44. Upínání horní

Císlo Sestavy 201.V414-100		Ver. 0	Název sestavy UPÍNÁNÍ HORNÍ/TOP CLAM/SPANNVORRICHTUNG OBEN	
Poz.	Objednací číslo	Ver.	Název položky	Ks
1	201.V407-100	0	VALEC UPÍNACÍ / FIXING CYLINDER / SPANNZYLINDER	1
2	30.V414-101	0	TYC VODICÍ / LEAD POLE / FÜHRUNGSSTANGE	1
3	30.V414-102	0	KOSTKA / CUBE / WÜRFEL	1
4	30.V414-104	0	NOHA / LEG / STÄNDER	1
5	30.V414-105	0	TYC VODICÍ / LEAD POLE / FÜHRUNGSSTANGE	1
6	30.V414-106	0	CELIST / JAW / BACKE	1
7	30.V414-107	0	LISTA CELISTI / JAW TRIM / BACKENLEISTE	1
8	90.001.25.049	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	2
9	90.004.20.003	0	SROUB STAVECÍ / ADJUSTMENT BOLT / STELLSCHRAUBE	1
10	90.163.00.004	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	2
11	91.172.001	0	SPINAC / SWITCH / SCHALTER	1
12	95.700.012	0	POUZDRO / SLEEVE / BÜCHSE	4



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

7.45. Rozvaděč / Verteiler / Distributor



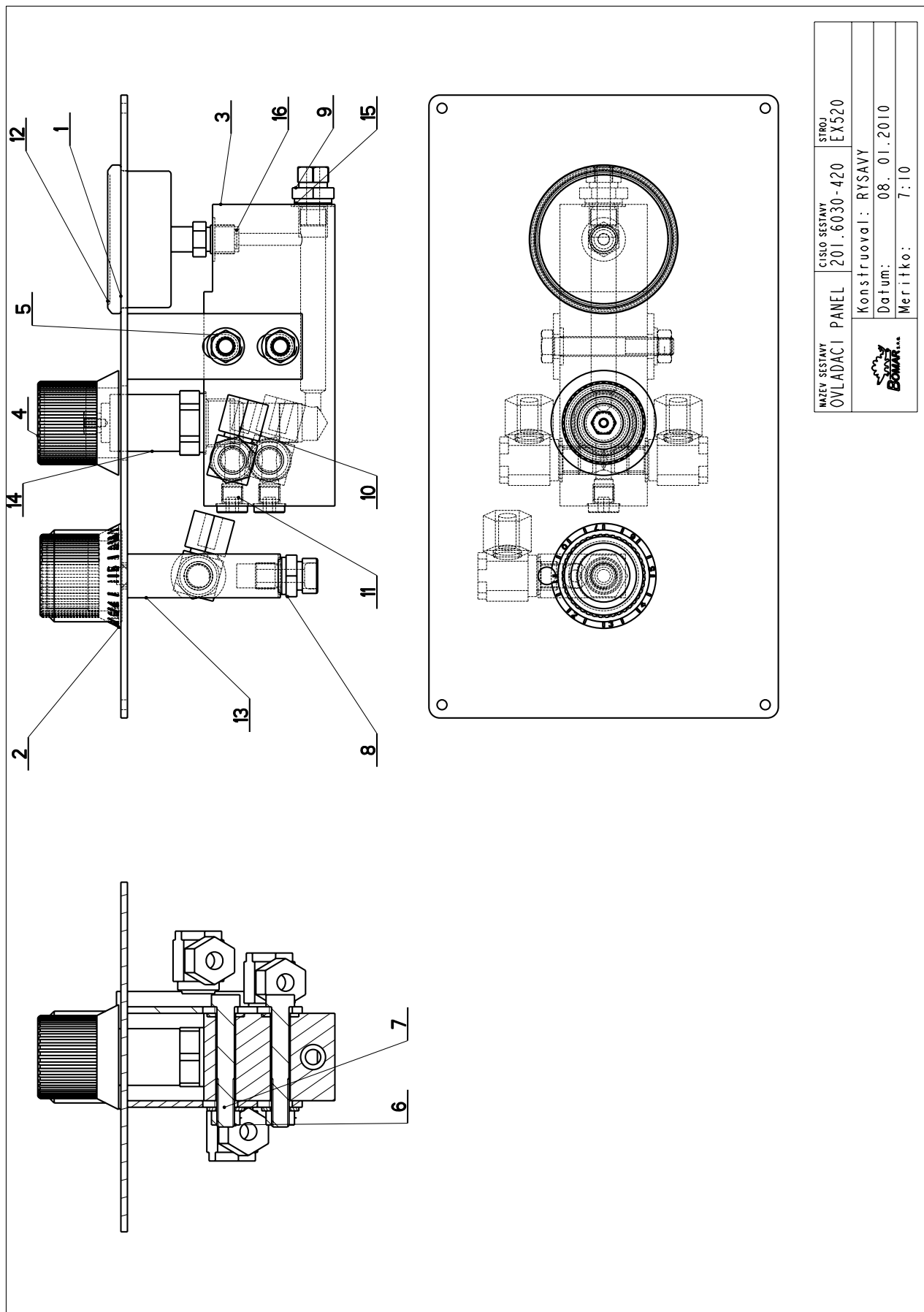
NAZEV SESTAVY ROZVADEC	CISLO SESTAVY 201.W430-000	STROJ IN360DGA
Konstruoval: HLADIL		
Datum: 13. 10. 2010		
Meritko: 17:100		

7.46. Kusovník / Stückliste / Piece list – Rozvaděč / Verteiler / Distributor

Cislo Sestavy 201.W430-000		Ver. 0	Nazev sestavy ROZVADEC/DISTRIBUTOR/VERTEILER		
Poz.	Objednací číslo	Ver.	Nazev položky	Rozměr	Ks
1	201.6030-420	1	OVLADACÍ PANEL / CONTROL PANEL / BEDIENPULT		1
2	30.6130-012	0	VÍKO / COVER / DECKEL	P 0.5x 30x30	2
3	30.W330-101	0	ROZVADEC / DISTRIBUTOR / VERTEILER		1
4	30.W330-102	0	PANEL / PANEL / PANEL	P3 - 285	1
5	31.6030-410	1	PANEL / PANEL / PANEL	FOLIE	1
6	91.071.022	0	VÝVODKA / BUSHING / TÜLE		3
7	91.072.016	0	MATICE / NUT / MUTTER		3

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

7.47. Ovládací panel / Bedienpult / Control panel

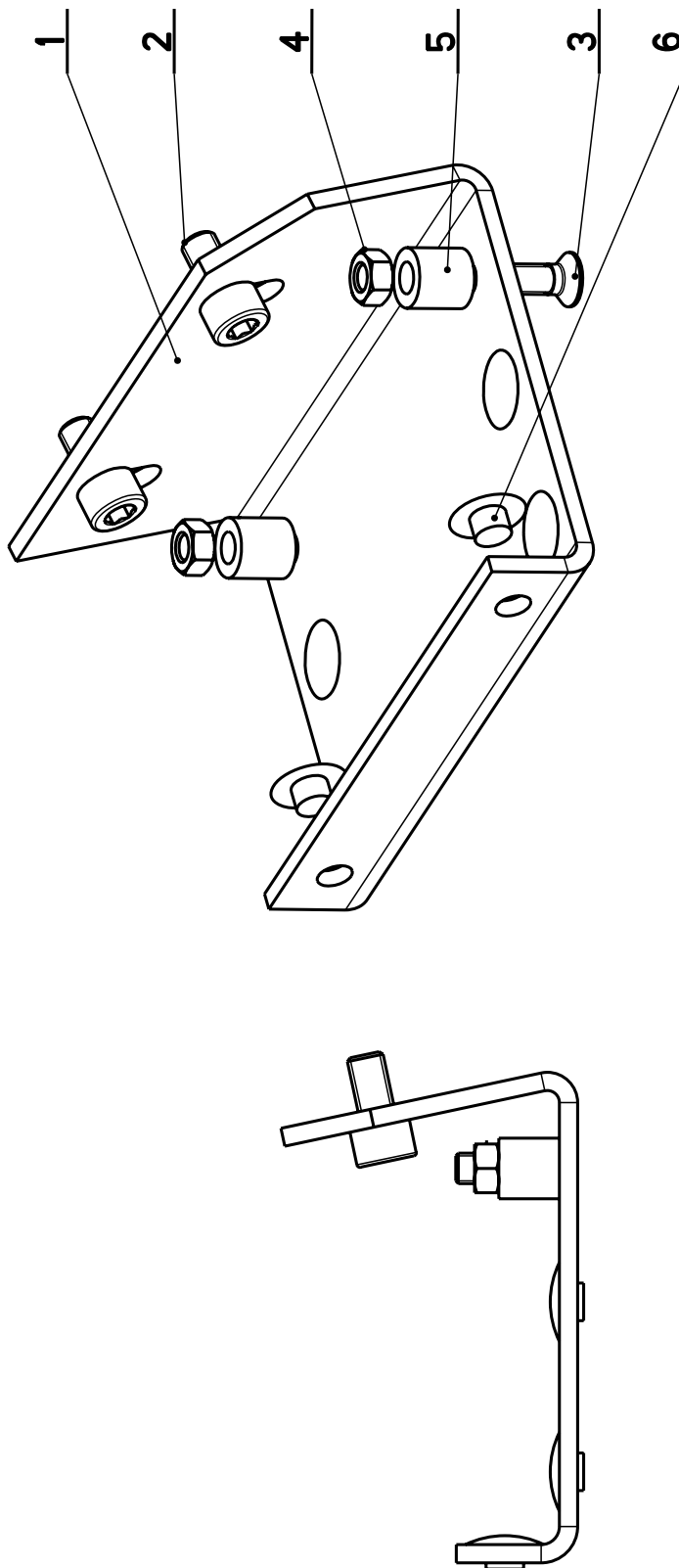


7.48. Kusovník / Stückliste / Piece list –
Ovládací panel / Bedienpult / Control panel

Císlo Sestavy 201.6030-420		Ver. I	Název sestavy OVLADACÍ PANEL/CONTROL PANEL/BEDIENPULT		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.6030-411	1	PANEL / PANEL		1
2	30.6130-021	0	HLAVICE / HEAD / KOPF	VYLISEK	1
3	30.6130-103	2	KOSTKA REGULACE / REGULATION CUBE / REGULUNGSWÜRFEL	TYC 60x40	1
4	31.6130-008	0	HLAVICE / HEAD / KOPF		1
5	90.005.55.064	0	SROUB 6HRANNÝ / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M8x55	2
6	90.100.55.005	0	MATICE DIN 934 / NUT / MUTTER	MATICE - M8	2
7	90.150.50.005	0	PODLOŽKA DIN125 / WASHER / UNTERLEGSCHLEIBE	PODLOŽKA 8,4	4
8	92.002.103	0	SROUBENÍ PRÍME / DIRECT BOLTING / GERADE VERSCHRAUBUNG	G 1/4" 1r12	1
9	92.002.107	0	SROUBENÍ PRÍME / DIRECT BOLTING / GERADE VERSCHRAUBUNG	G 1/4" 6	1
10	92.003.001	0	SROUBENÍ UHLOVE / ANGLE BOLTING / WINKELVERSCHRAUBUNG	P-RSWS-08LR	3
11	92.019.003	0	ZATKA / PLUG / STOPFEN	G1/4" VNÍTRNÍ IMBUS	2
12	92.080.002	0	MANOMETR / MANOMETER / MANOMETER	d 63 - 60bar	1
13	92.152.001	0	VENTIL SKRTICÍ / CHOKE VALVE / DROSSELVENTIL	VS01-04/R 2.5-0	1
14	92.154.001	0	VENTIL REDUKČNÍ / REDUCTION VALVE / DRUCKMINDERUNGSVENTIL		1
15	96.082.002	0	KROUZEK TESNÍCÍ / SEAL RING / DICHTUNGSRING	KROUZEK CU 13/17	5
16	96.082.005	0	KROUZEK TESNÍCÍ / SEAL RING / DICHTUNGSRING	5x8.8x1	2

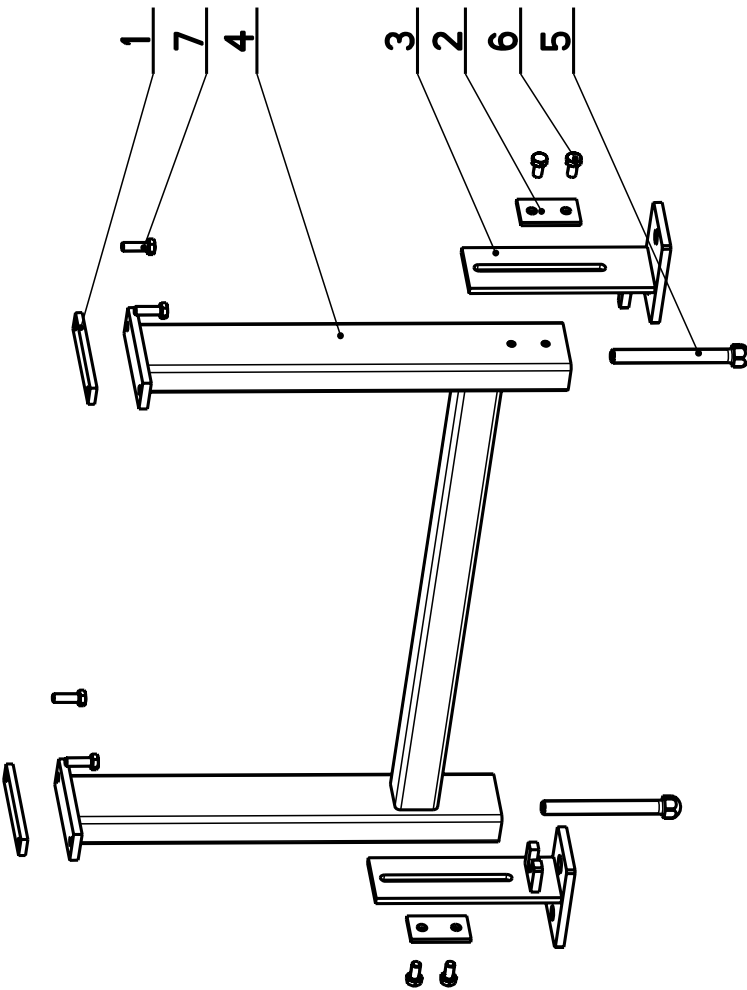
7.49. Držák / Halter / Holder

Císlo Sestavy 201.Y404-070		Ver. 0	Název sestavy DRŽÁK / HOLDER / HALTER	
Poz.	Objednací číslo	Ver.	Název položky	Ks
1	30.Y404-071	0	DRŽÁK / HOLDER / HALTER	1
2	90.001.25.016	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	2
3	90.011.27.024	0	SROUB ZAPUSTNÝ / COUNTERSINK BOLT / SENKSCHRAUBE	2
4	90.100.55.003	0	MATICE / NUT / MUTTER	2
5	90.163.00.006	0	DISTANC / DISTANCE / DISTANZ	2
6	94.101.029	0	ZATKA / PLUG / STOPFEN	6



7.50. Noha dopravníku /Ständer des Förderers / Feeder Leg

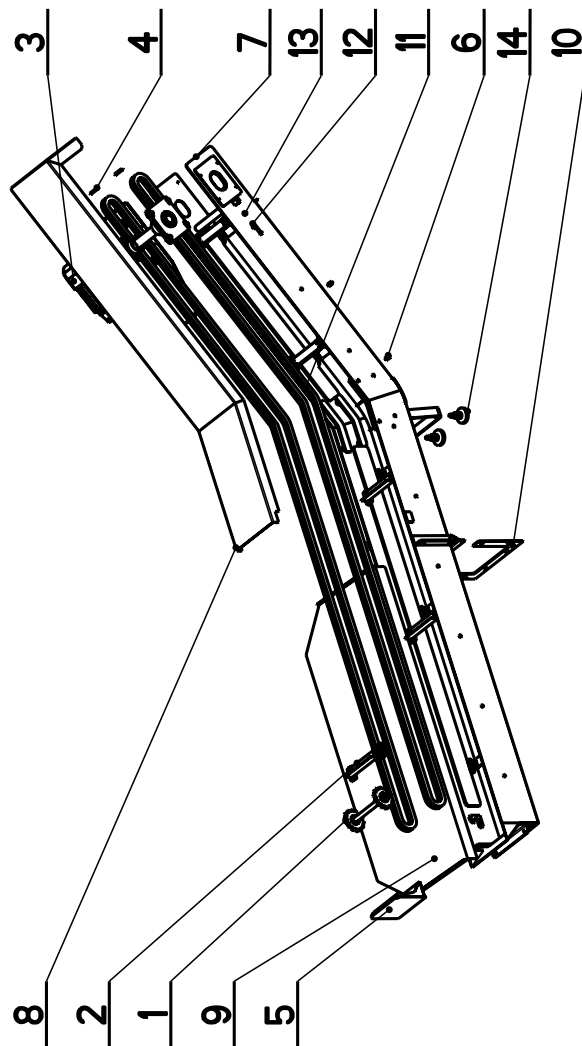
Cislo Sestavy 203.XI06-100		Ver. 0	Název sestavy NOHA DOPRAVNÍKU/FEEDER LEG/STÄNDER DES FÖRDERERS	
Poz.	Objednací číslo	Ver.	Název položky	Ks
1	30.1315-701	0	PRÍLOŽKA / STRAP / LASCHE	2
2	30.1515-681	0	PRÍLOŽKA / STRAP / LASCHE	2
3	30.1515-690	0	NOHA / LEG / STÄNDER	2
4	30.XI06-101	0	RAM / FRAME / RAHMEN	1
5	31.1514-102	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	2
6	90.005.55.023	0	SROUB 6HRANNY / 6 SIDED BOLT / SECHSKANTSCHRAUBE	4
7	90.005.55.025	0	SROUB 6HRANNY / 6 SIDED BOLT / SECHSKANTSCHRAUBE	4



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

7.51. Třískový vynašeč / Spanabführung / Chip extractor

Císlo Sestavy 201.V317-000		Ver. 0	Název sestavy VYNAŠEČ TRÍSKOVÝ/CHIP EXTRACTOR/SPANABFÜHRUNG			
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks	
1	201.6017-103	0	KOLO NAPINACÍ / TENSIONING WHEEL / UMLENNRAD		1	
2	201.6017-104	1	RETEZ PŮHOVÝ / DRIVE BELT / ANTRIEBSKETTE		10	
3	201.V317-050	0	POHON / DRIVE / ANTRIEB		1	
4	30.6017-105	0	PERO / SPRING / FEDER	PERO 6x6	2	
5	30.6017-121	0	SÍTO / SIEVE / GITTERWERK		1	
6	30.9010-003	0	DRŽÁK / HOLDER / HALTER	PI.5x10	2	
7	30.V317-001	0	KORYTO / CHANNEL / RINNE		1	
8	30.V317-003	0	KRYT / COVER / ABDECKUNG		1	
9	30.V317-008	0	KRYT / COVER / ABDECKUNG	P 1,5 - 614	1	
10	31.7217-032	0	TESNĚNÍ / SEALING / DICHTUNG	TL4	1	
11	49.200.018	0	RETEZ / CHAIN / KETTE	210BK3 (1/4x3/8)	2	
12	90.005.55.012	0	SROUB 6HRANNÝ / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M6x40	2	
13	90.100.55.004	0	MATICE / NUT / MUTTER	MATICE - M6	2	
14	94.015.002	0	NOHA / LEG / STÄNDER	M10x40	2	

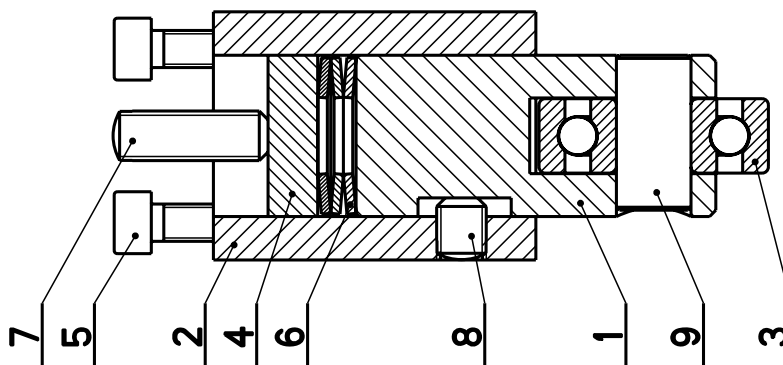


Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.52. Kladka /Rolle / Pulley

Cislo Sestavy 201.Y403-010		Ver. 0	Nazev sestavy KLADKA/PULLEY/ROLLE		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.Y403-011	0	DRZAK / HOLDER / HALTER	D 26	1
2	30.Y403-012	0	POUZDRO / SLEEVE / BÜCHSE	HR 40x40	1
3	95.001.042	0	LOZISKO / BEARING / LAGER	6301 2RS	1
4	30.Y403-013	0	DESKA / BOARD / PLATTE	D 26	1
5	90.001.25.018	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x20	4
6	90.350.02.018	0	PRUZINA TALIROVA / DISC SPRING / TELLERFEDER	DexD1xTxL	3
7	90.002.20.013	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M8x25	1
8	90.002.20.011	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M8x10	1
9	30.Y403-014	0	CEP / LUG / BOLZEN	D 12	1

The diagram is a technical cross-section of a pulley assembly. It shows a central shaft (1) passing through a pulley body (2). The pulley body is supported by a base plate (4). A bearing (3) is located between the pulley body and the base plate. A disc spring (6) is positioned between the pulley body and the base plate. An adjustment bolt (7) is used to adjust the tension of the disc spring. A set screw (5) is used to secure the pulley body to the shaft. A lug (9) is used to secure the base plate to the shaft. A bolt (8) is used to secure the lug to the shaft. The assembly is shown in a cross-section view, with hatching used to indicate different materials.



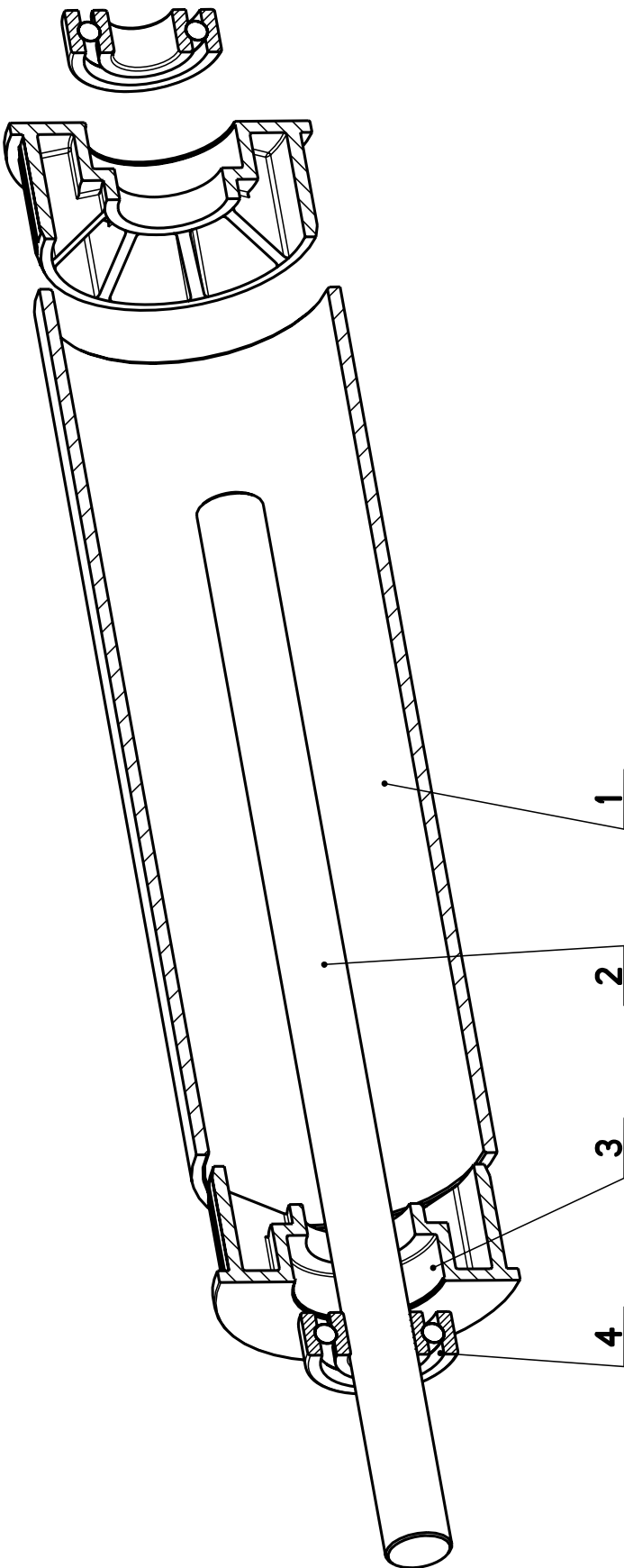
7.53. Váleček / Rolle / Cylinder – 1

Cislo Sestavy 201.Y317-010		Ver. 0	Nazev sestavy VALECEK/CYLINDER/ROLLE		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.Y317-011	0	TRUBKA / TUBE / ROHR	Tr 70x3	1
2	30.Y317-012	0	CEP / LUG / BOLZEN	d 15	1
3	31.1313-502	0	VÍKO / COVER / DECKEL	d 60	2
4	95.001.015	0	LOŽISKO / BEARING / LAGER	6202 2RS	2

The drawing is a technical cross-section of a roller assembly. It features a central shaft (1) passing through a roller body. The roller body is supported by two bearings (4) at its ends. A cover (3) is shown on top of the roller body. A lug (2) is attached to the side of the roller body. The entire assembly is mounted on a frame (1).

7.54. Váleček / Rolle / Cylinder – 2

Cislo Sestavy 201.Y317-020		Ver. 0	Nazev sestavy VALECEK/CYLINDER/ROLLE		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.Y317-021	0	TRUBKA / TUBE / ROHR	Tr 70x3	1
2	30.Y317-022	0	CEP / LUG / BOLZEN	d 15	1
3	31.1313-502	0	VÍKO / COVER / DECKEL	d 60	2
4	95.001.015	0	LOŽISKO / BEARING / LAGER	6202 2RS	2



7.55. Snimač magnet. / Magnetsensor / Magnetic sensor

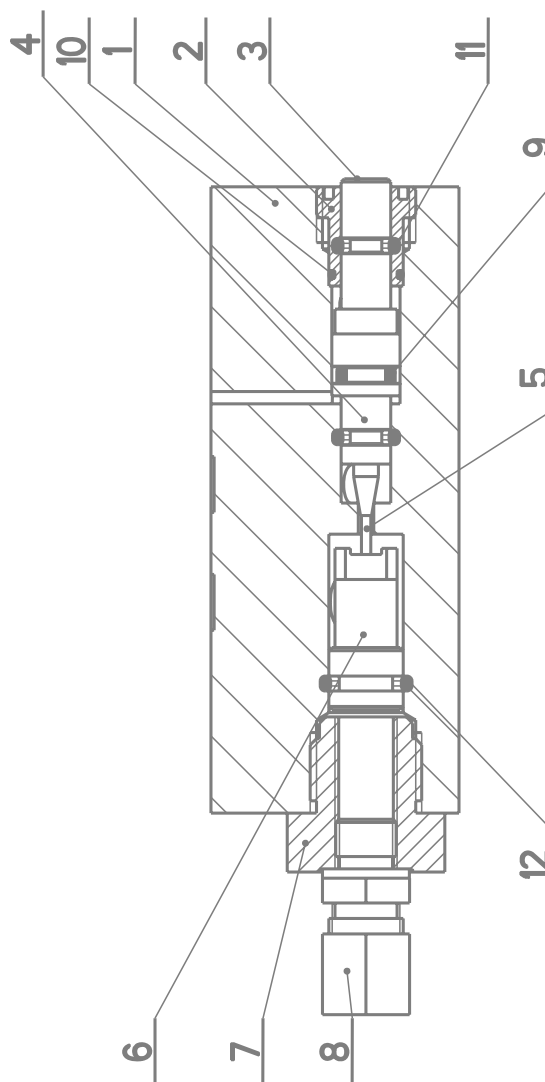
Cislo Sestavy 201.V302-130		Ver. 0	Nazev sestavy SNIMAC MAGNET./MAGNETIC SENSOR/MAGNETSENSOR		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.1504-017	0	STERAC / WIPER / ABSTREIFER	P 0.3 - 11	2
2	30.V302-131	0	DRZAK / HOLDER / HALTER	HR 25x35	1
3	30.V302-132	0	DRZAK / HOLDER / HALTER	P5 - 62	1
4	30.V302-133	0	PERO / SPRING / FEDER	HR 10x6	1
5	31.1605-121	0	PRUZINA / SPRING / FEDER	1x9.5x12x4.0(0.8x9x10x6)	1
6	90.001.25.004	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M4x16	2
7	90.001.25.092	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x14	1
8	90.150.50.002	0	PODLOZKA / WASHER / UNTERLEGSCHIEBE	PODLOZKA 4,3	2
9	91.270.018	0	SNIMAC MAGNET. / MAGNETIC SENSOR / MAGNETSENSOR	ELGO	1

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

7.56. Horní upínání

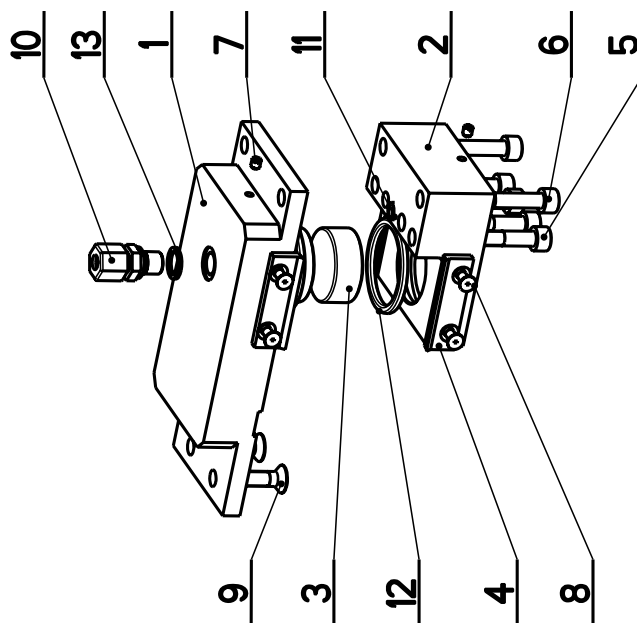
Císlo Sestavy 201.6816-100		Ver. 0	Název sestavy KOSTKA REGULACE/REGULATION CUBE/REGELUNGSWÜRFEL		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.6816-101	1	KOSTKA REGULACE / REGULATION CUBE / REGELUNGSWÜRFEL	TYC 40x40	1
2	30.6816-104	1	VÍKO / COVER / DECKEL	TYC 16	1
3	30.6816-103	0	PIST / PISTON / KOLBEN	TYC 12	1
4	30.6816-108	0	JEHLA / NEEDLE / NADEL	TYC 8	1
5	95.690.001	0	JEHLA / NEEDLE / NADEL	1.5x11.8	1
6	30.6816-106	2	PIST / PISTON / KOLBEN	TYC 12	1
7	30.6816-107	0	VÍKO / COVER / DECKEL	TYC 22	1
8	92.002.102	0	SROUBENÍ / BOLTING / VERSCHRAUBUNG	S-GEV-8LLR	1
9	96.002.003	0	O-KROUZEK DYNAMIC / DYNAMIC O RING / O-RING DYNAMISCH	6x2	1
10	96.002.041	0	O-KROUZEK DYNAMIC / DYNAMIC O RING / O-RING DYNAMISCH	10x1	1
11	96.001.001	0	O-KROUZEK STATIC / STATIC O RING / O-RING STATISCH	4x1.8	2
12	96.001.003	0	O-KROUZEK STATIC / STATIC O RING / O-RING STATISCH	8x2	1

The diagram is a technical cross-section of a mechanical assembly, likely a regulation cube. It shows a central horizontal shaft with various components. Callout 1 points to a small circular feature on the shaft. Callout 2 points to a larger circular component. Callout 3 points to a small rectangular feature. Callout 4 points to a small circular feature. Callout 5 points to a large rectangular block. Callout 6 points to a small circular feature. Callout 7 points to a small rectangular feature. Callout 8 points to a small circular feature. Callout 9 points to a small rectangular feature. Callout 10 points to a small circular feature. Callout 11 points to a small rectangular feature. Callout 12 points to a small circular feature.



7.57. Brzda / Bremse / Brake

Cislo Sestavy 201.V307-250		Ver. 0	Název sestavy BRZDA/BRAKE/BREMSE			
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks	
1	30.V307-251	0	DESKA / BOARD / PLATTE	HR 80x30	1	
2	30.V307-252	0	CELIST POHYBLIVÁ / MOVING JAW / BEWEGLICHE BACKE	HR 80x40	1	
3	30.V307-253	0	PIST / PISTON / KOLBEN	d 40	2	
4	30.V307-254	0	STERAC / WIPER / ABSTREIFER	BA18	4	
5	90.001.25.036	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x40	4	
6	90.001.25.038	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x50	2	
7	90.002.2D.003	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M5x6	2	
8	90.011.27.003	0	SROUB ZAPUSTNY / COUNTERSINK BOLT / SENKRSCHRAUBE	SROUB M5x10	8	
9	90.011.27.016	0	SROUB ZAPUSTNY / COUNTERSINK BOLT / SENKRSCHRAUBE	SROUB M8x25	2	
10	92.002.101	0	SROUBENI PRIME / DIRECT BOLTING / GERADE VERSCHRAUBUNG		1	
11	96.002.003	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	6x2	1	
12	96.020.005	0	KROUZEK TESNICI / SEAL RING / DICHTUNGSRING	39.2x5.33	2	
13	96.082.002	0	TESNENI / SEALING / DICHTUNG	KROUZEK CU 13/17	1	



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

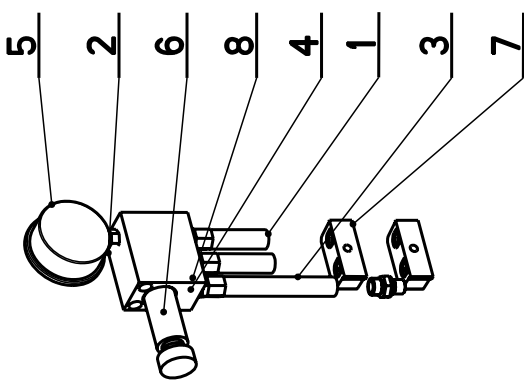
7.58. Regulace tl. svěráku / Schraubstock druckregelung / Vice pressure regulation

Cislo Sestavy 201.2115-200		Ver. 1	Nazev sestavy REGULACE TL. SVĚRÁKU/VICE PRESSURE REGULATION/SCHRAUBSTOCK-DRUCKREGELUNG	
Poz.	Objednací číslo	Ver.	Nazev položky	Ks
1	30.1816-102	0	HADICE / HOSE / SCHLAUCH	2
2	30.2115-101	0	KOSTKA REGULACE / REGULATION CUBE / REGULUNGSWÜRFEL	1
3	30.2116-008	0	HADICE / HOSE / SCHLAUCH	1
4	92.002.001	0	SROUBENÍ / BOLTING / VERSCHRAUBUNG	4
5	92.080.001	0	MANOMETR / MANOMETER / MANOMETER	1
6	92.154.001	0	VENTIL REDUKČNÍ / REDUCTION VALVE / DRUCKMINDERUNGSVENTIL	1
7	94.204.005	0	DRŽÁK / HOLDER / HALTER	2
8	96.082.002	0	KROUZEK TESNICÍ / SEAL RING / DICHTUNGSRING	3

I.PRID. 2xSAMOLEPKA SIPKA 31.0899.004 . 101/ZM131 29.5.2009 SLEZACKOVA

(1)

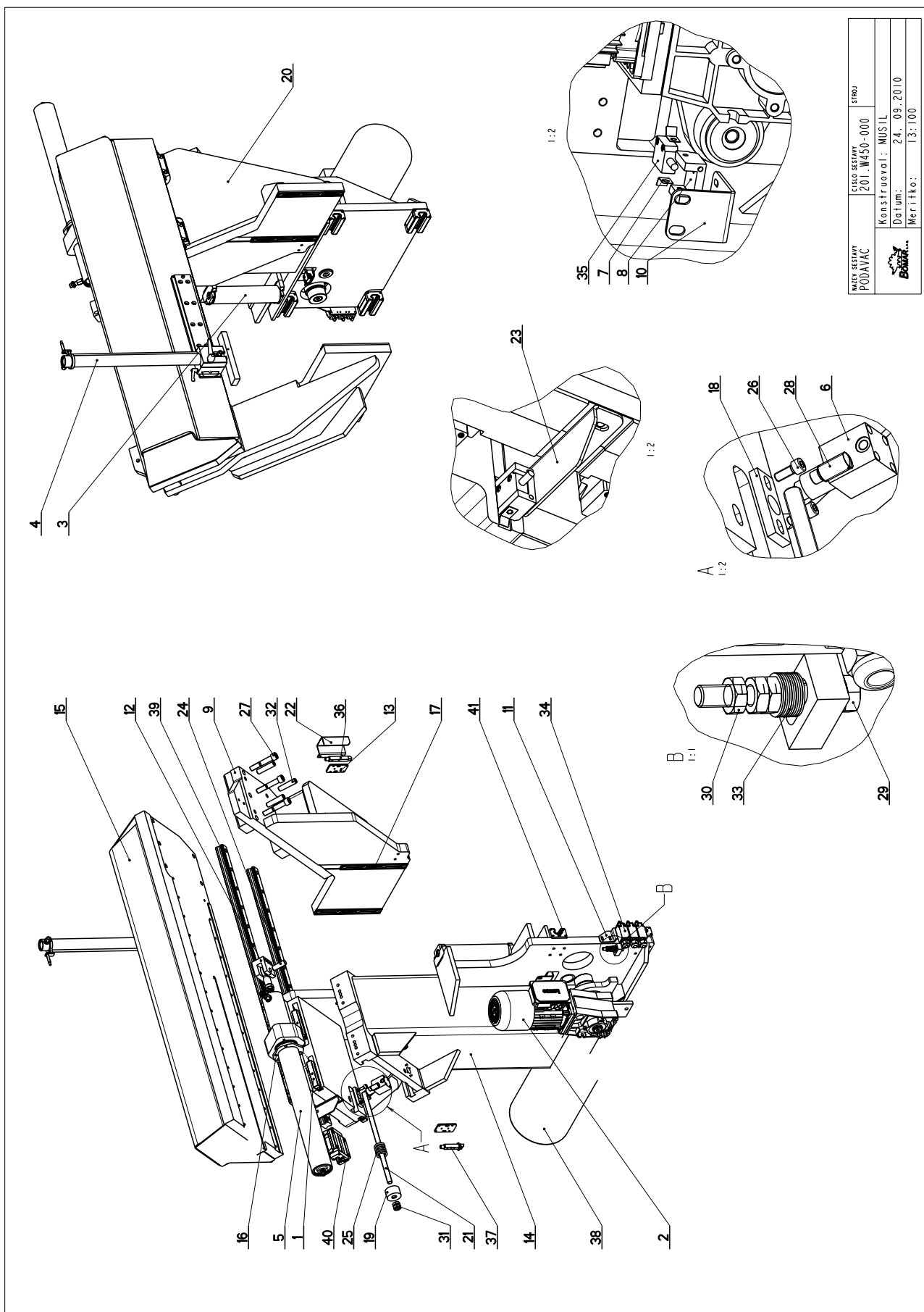
SAMOLEPKU NALEPIT NA CIFERNÍK MANOMETRU
JEDNU NA 20 bar A DRUHOU NA 40bar



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

Podavač /
Vorschub /
Feeder

7.59. Podavač / Vorschub / Feeder



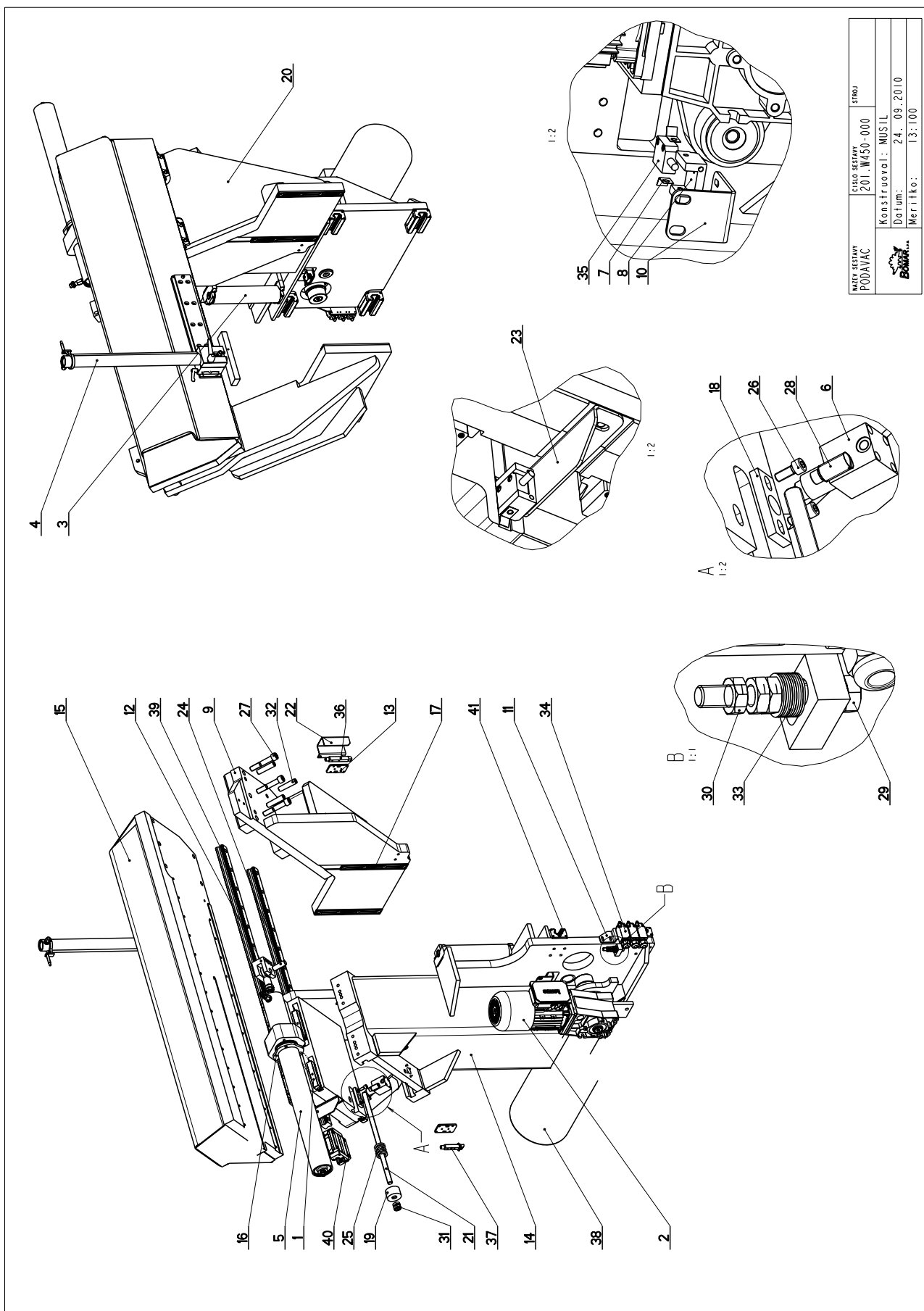
7.60. Kusovník / Stückliste / Piece list –
Podavač / Vorschub / Feeder

Cislo Sestavy 201.W450-000		Ver. 0	Název sestavy PODAVAC/FEEDER/VORSCHUB		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	201.2911-200	0	VEDENÍ LINEARNÍ / LINEAR GUIDE / LINEARE FÜHRUNG		4
2	201.W450-010	0	POHON / DRIVE / ANTRIEB		1
3	201.W450-020	0	VALEČEK / ROLLER / ROLLE		1
4	201.W450-130	0	UPÍNANÍ HORNÍ / TOP CLAM / SPANNVORRICHTUNG OBEN		1
5	201.W457-010	0	VALEC UPÍNACÍ / FIXING CYLINDER / SPANNZYLINDER		1
6	201.W457-020	0	VALEC POMOCNÝ / AUXILIARY CYLINDER / HILFSZYLINDER		1
7	30.1504-017	0	STERAC / WIPER / ABSTREIFER	P 0.3 -11	4
8	30.1504-024	0	DRŽÁK / HOLDER / HALTER	HR 40x20	2
9	30.W350-003	0	CELISTÝ POHYBLIVÁ / MOVING JAW / BEWEGLICHE BACKE		1
10	30.W350-006	0	DRŽÁK / HOLDER / HALTER	P2-48	1
11	30.W350-007	0	DRŽÁK / HOLDER / HALTER	P3-45	1
12	30.W350-008	0	DRŽÁK / HOLDER / HALTER	HR 60x60	1
13	30.W354-001	0	DESKA / BOARD / PLATTE	P 5-44	2
14	30.W450-001	0	VOZÍK / CART / WAGEN		1
15	30.W450-002	0	NOSNÍK / CARRIER / TRÄGER		1
16	30.W450-005	0	PŘÍLOŽKA / STRAP / LASCHE	P8x110	1
17	30.W450-006	0	LISTA / TRIM / LEISTE	HR 30x10	4
18	30.W450-007	0	DESKA / BOARD / PLATTE	TYC30x10	1
19	30.W450-008	0	VÍKO / COVER / DECKEL	D50	1
20	30.W450-031	0	CELISTÝ PEVNÁ / SOLID JAW / FESTE BACKE		1
21	30.W450-032	0	SROUB / BOLT / SCHRAUBE	M16	1
22	30.W454-004	0	KRYT / COVER / ABDECKUNG	P 2-100	1
23	30.W454-005	0	DRŽÁK / HOLDER / HALTER	P3-82	1
24	30.W454-006	0	ČEP / LUG / BOLZEN	D 17	1
25	31.7207-404	0	PRŮŽINA / SPRING / FEDER	D 38	1
26	90.001.25.032	0	SROUB IMBUS ČERNÝ / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x20	2
27	90.001.25.101	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M16x90	5
28	90.004.20.019	0	SROUB STAVEČÍ / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M16x40	1
29	90.005.55.XXX	0	SROUB 6HRANNÝ / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M10x70	1
30	90.101.55.002	0	MATICE / NUT / MUTTER	MATICE M10	3
31	90.101.55.003	0	MATICE / NUT / MUTTER	MATICE M16	2
32	90.302.02.012	0	KUZEL. KOLÍK S ZÁV. / TAPER PIN / KEGBOLZEN	KOLÍK 16x70	3
33	90.350.02.005	0	PRŮŽINA TALÍŘOVÁ / DISC SPRING / TELLERFEDER	20x10.2x1	8
34	91.173.010	0	SPÍNACÍ KONTAKT / END SWITCH / ENDSCHALTER		3

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

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

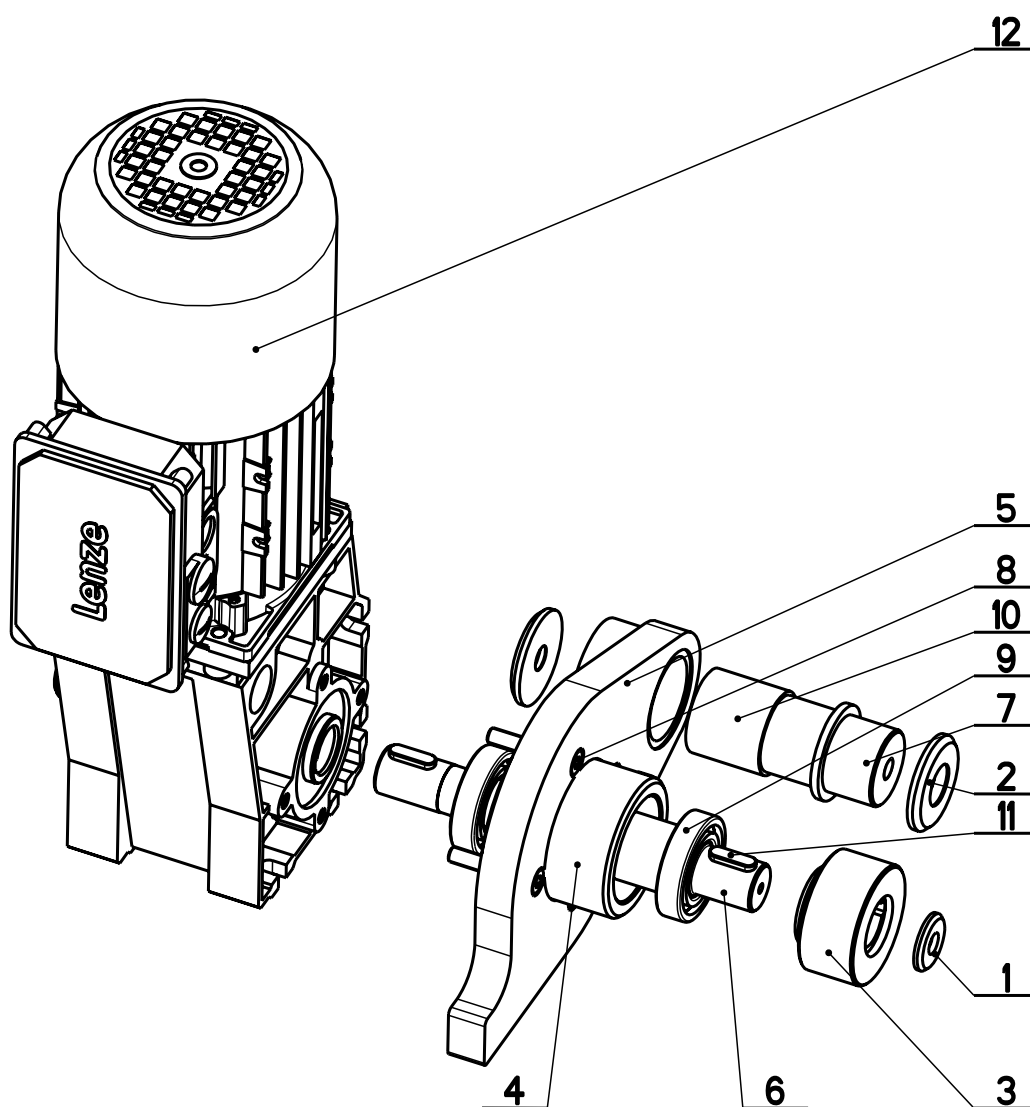
7.61. Podavač / Vorschub / Feeder



7.62. Kusovník / Stückliste / Piece list – Podavač / Vorschub / Feeder

[illegible]

7.63. Pohon / Antrieb / Drive



NAZEV SESTAVY POHON	CISLO SESTAVY 201.W450-010	STROJ H-BV460
	Konstruoval: MUSIL	
	Datum: 20. 09.2010	
	Meritko: 33:100	

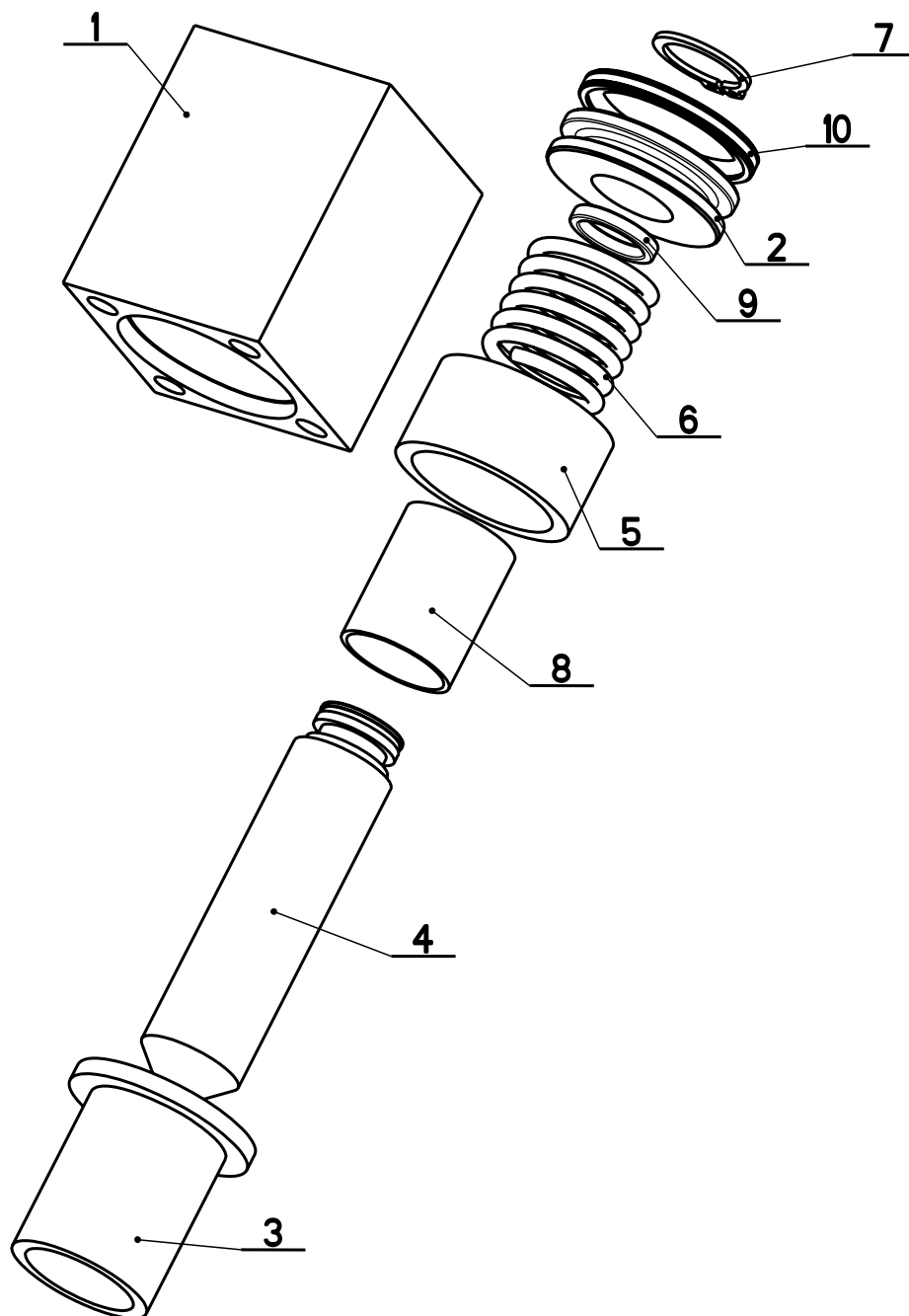
7.64. Kusovník / Stückliste / Piece list – Pohon / Antrieb / Drive

Cislo Sestavy 201.W450-010		Ver. 0	Nazev sestavy POHON/DRIVE /ANTRIEB		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.1514-503	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	d 30	2
2	30.2908-001	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	d 50	2
3	30.W350-014	0	KOLO OZUBENE / COG WHEEL / ZAHNRAD		1
4	30.W450-011	0	PRIRUBA / FLANGE / FLANSCH	d 100	1
5	30.W450-012	0	PRIRUBA / FLANGE / FLANSCH		1
6	30.W450-013	0	HRDEL / SHAFT / WELLE	d 35	1
7	30.W450-015	0	CEP / LUG / BOLZEN	d 50	1
8	90.001.25.036	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x40	4
9	95.001.009	0	LOZISKO / BEARING / LAGER	6006 2RS	2
10	95.700.025	0	POUZDRO / SLEEVE / BÜCHSE	40x40	1
11	95.810.007	0	PERO TESNE / SPRING / FEDER	PERO 8x7x25	3
12	99.001.122	0	PREVODOVKA S MOTOREM / TRANSMISSION WITH MOTOR / GETRIEBE MIT MOTOR		1

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

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

7.65. Válec pomocný / Hylfszylinder / Aux. cylinder

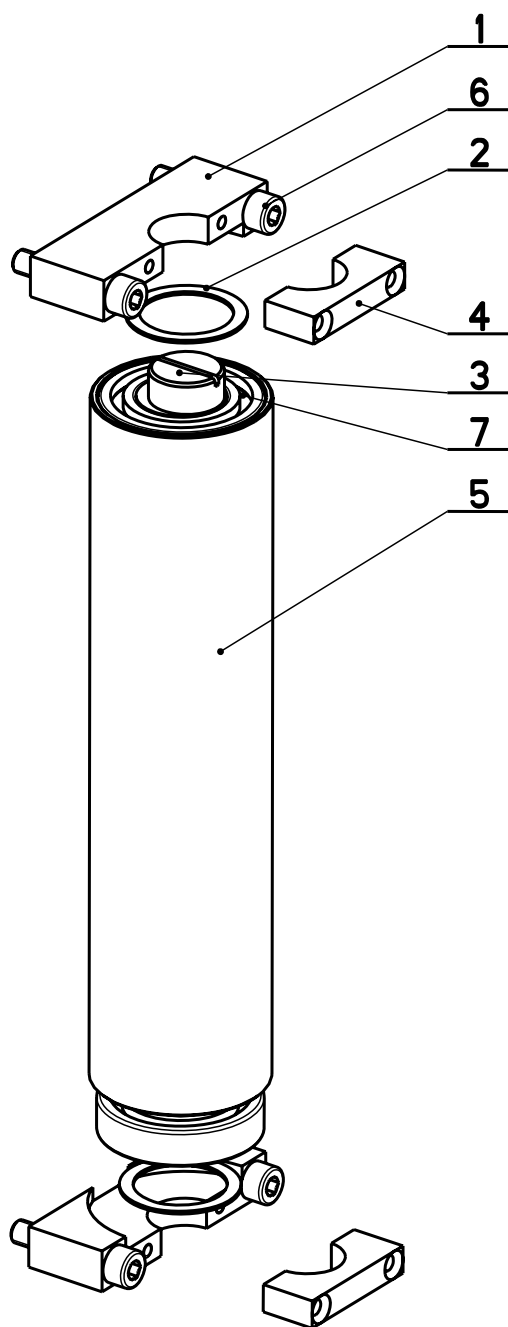


NAZEV SESTAVY VALEC POMOCNY	CISLO SESTAVY 201.W457-020	STROJ H-BV
	Konstruoval: &konstruoval	
	Datum: 17. 09.2010	
	Meritko: 1:1	

7.66. Kusovník / Stückliste / Piece list –
Válec pomocný / Hylfszylinder / Aux. cylinder

Cislo Sestavy 201.W457-020		Ver. 0	Nazev sestavy VALEC POMOCNY/AUXILIARY CYLINDER/HILFSZYLINDER		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.4307-501	1	KOSTKA / CUBE / WÜRFEL	HR 40 x 40	1
2	30.4307-503	1	PIST / PISTON / KOLBEN	TYC 35	1
3	30.4307-504	1	ZATKA / PLUG / STOPFEN	TYC 35	1
4	30.4307-506	0	PISTNICE / PISTON ROD / KOLBENSTANGE	ø 18	1
5	30.4307-507	0	KROUZEK / RING / RING	TR 32 x 3	1
6	30.4307-508	0	PRUŽINA / SPRING / FEDER	2.5x23x38x6.5	1
7	95.800.006	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUSEN	POJISTNY KROUZEK 15	1
8	95.700.019	0	POUZDRO / SLEEVE / BÜCHSE	18x25	1
9	96.002.006	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	12x2	1
10	96.900.004	0	TESNENI KOMBINOVAE / COMBINATION SEALING / KOMBIDICHTUNG		1

7.67. Váleček / Rolle / Cylinder



NAZEV SESTAVY VALECEK	CISLO SESTAVY 201.W450-020	STROJ H-BV460
	Konstruoval: MUSIL	
	Datum: 16. 09.2010	
	Meritko: 1:2	

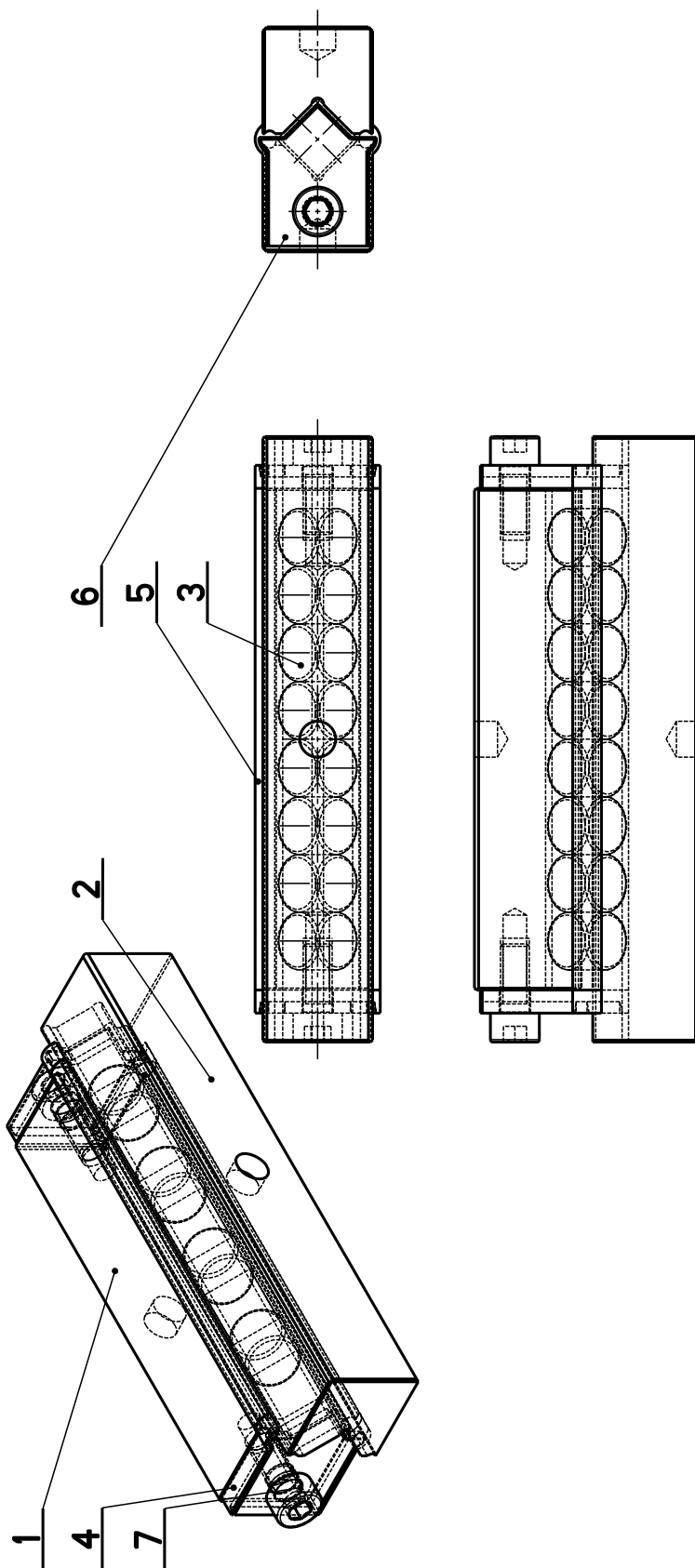
7.68. Kusovník / Stückliste / Piece list – Váleček / Rolle / Cylinder

Cislo Sestavy 201.W450-020		Ver. 0	Název sestavy VALEČEK/ROLLER/ROLLE		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.W350-021	0	DESKA / BOARD / PLATTE	HR 30x15	2
2	30.W350-022	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	TR 40x5	2
3	30.W350-023	0	HRIDEL / SHAFT / WELLE	D30	1
4	30.W350-025	0	DESKA / BOARD / PLATTE		2
5	30.W450-024	0	VALEČ / ROLLER / ZYLINDER	TR 60x6	1
6	90.001.25.036	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSHSCRAUBE	M8x40	4
7	95.001.009	0	LOŽISKO / BEARING / LAGER	6006 2RS	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

7.69. Vedení lineární / Lineare führung / Linear Guide

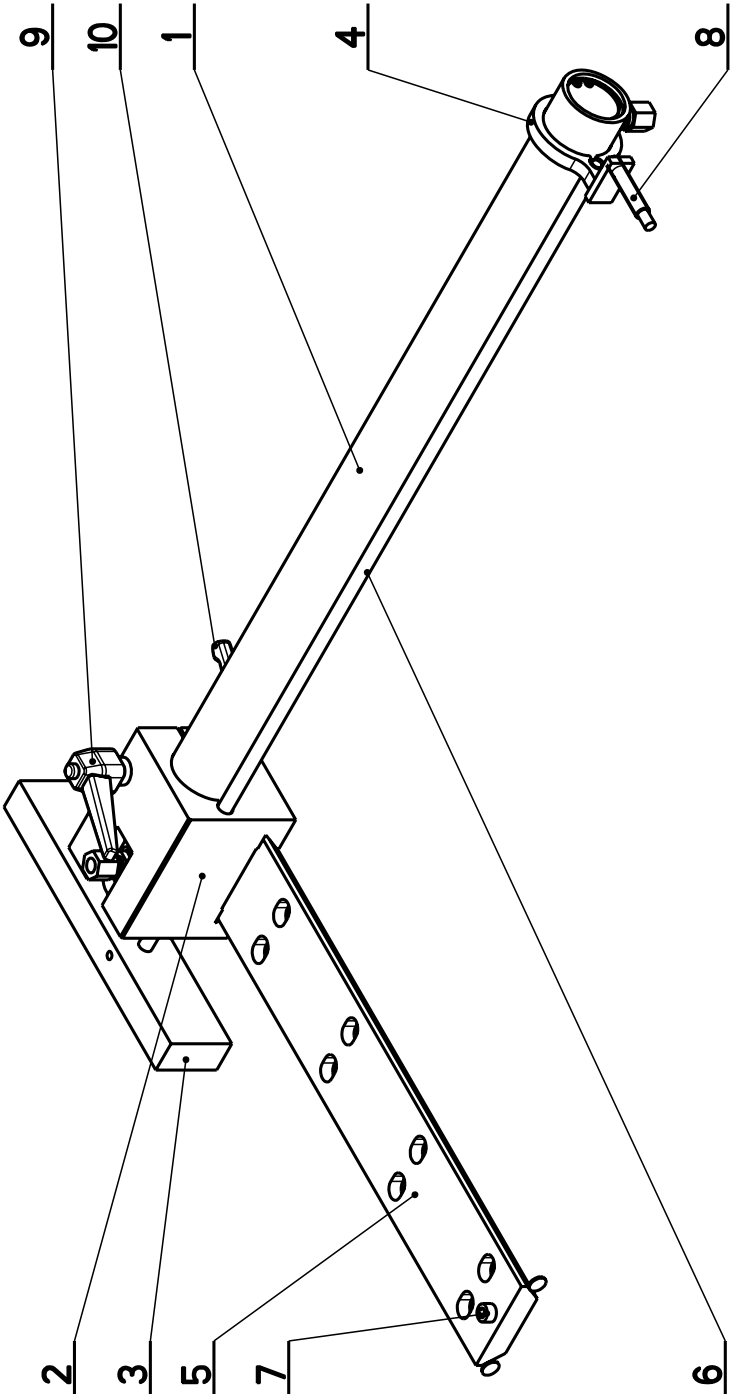
Cislo Sestavy 201.2911-200		Ver. 0	Název sestavy VEDENÍ LINEÁRNÍ / LINEAR GUIDE / LINEARE FÜHRUNG	
Poz.	Objednací číslo	Ver.	Název položky	Ks
1	30.2911-201	0	LISTA / TRIM / LEISTE	1
2	30.2911-202	0	LISTA / TRIM / LEISTE	1
3	30.4311-203	0	VALEČEK / CYLINDER / ROLLE	8
4	31.2911-204	0	STERAC / WIPER / ABSTREIFER	2
5	31.2911-205	0	PRACHOVKA / DUST COVER / STAUBSCHUTZ	2
6	81.2911-206	0	PŘILOŽKA / STRAP / LASCHE	2
7	90.001.25.008	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	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

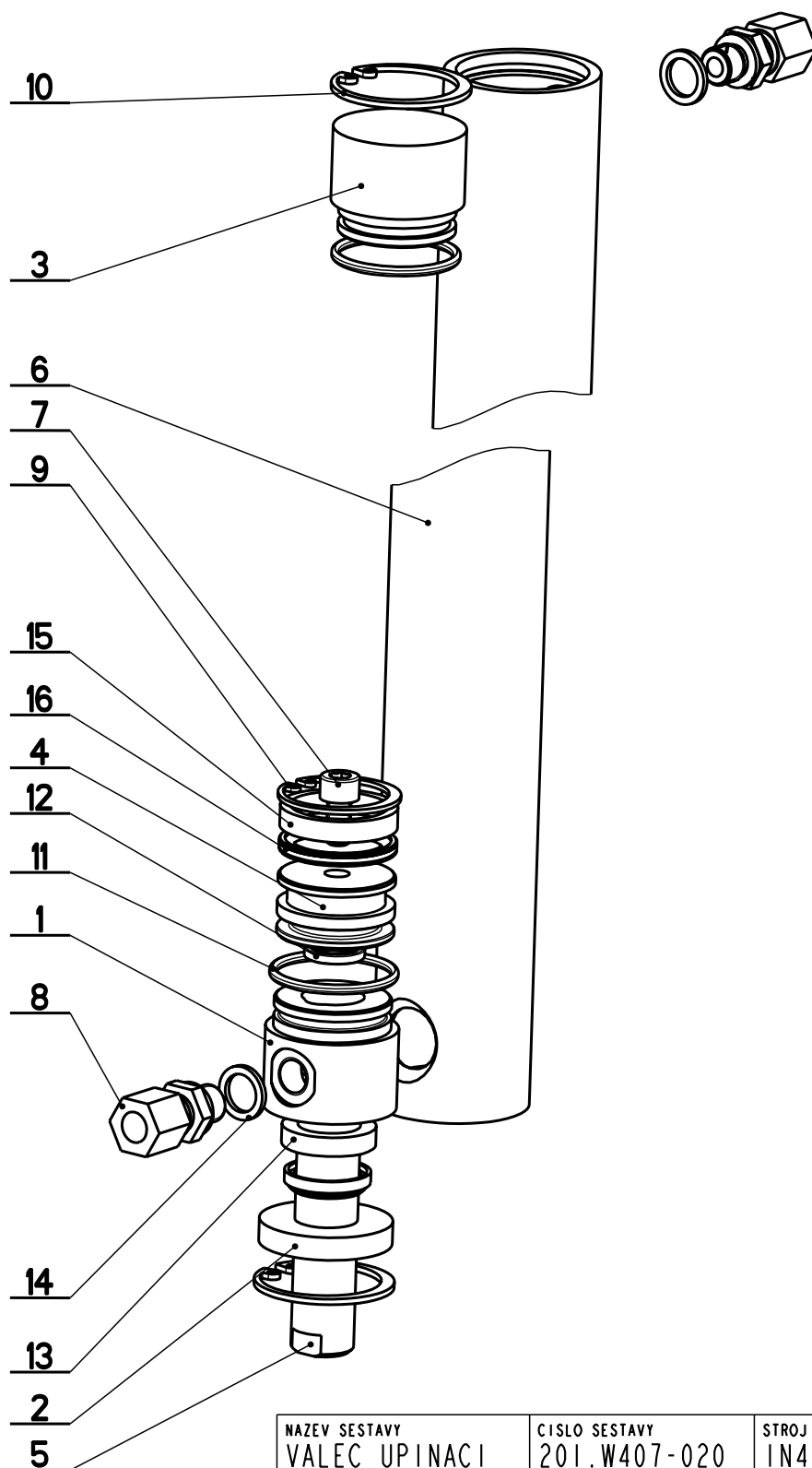
7.70. Upínání horní / Spannvorrichtung Oben / Top clamp

Císlo Sestavy 201.W450-130		Ver. 0	Název sestavy UPÍNÁNÍ HORNÍ / TOP CLAM/SPANNVORRICHTUNG OBEN	
Poz.	Objednací číslo	Ver.	Název položky	Ks
1	201.W407-020	0	VALEC UPÍNACÍ / FIXING CYLINDER / SPANNZYLINDER	1
2	30.W350-132	0	KLUZÁK / GLIDER / GLEITER	1
3	30.W350-133	0	DESKA / BOARD / PLATTE	1
4	30.W350-136	0	DRŽÁK / HOLDER / HALTER	1
5	30.W450-131	0	LISTA / TRIM / LEISTE	1
6	30.W450-134	0	TYC VODÍCÍ / LEAD POLE / FÜHRUNGSSTANGE	1
7	90.001.25.015	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	2
8	91.172.001	0	SPINAC / SWITCH / SCHALTER	1
9	94.008.006	0	PAKA UPÍNACÍ / ATTACHMENT LEVER / SPANNHEBEL	1
10	94.008.015	0	PAKA UPÍNACÍ / ATTACHMENT LEVER / SPANNHEBEL	1



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

7.71. Válec upínací / Spannzyylinder / Fixing cylinder



NAZEV SESTAVY VALEC UPINACI	CISLO SESTAVY 201.W407-020	STROJ IN460
	Konstruoval: MUSIL	
	Datum: 17. 09.2010	
	Meritko: 7:10	

7.72. Kusovník / Stückliste / Piece list – Válec upínací / Spannzyylinder / Fixing cylinder

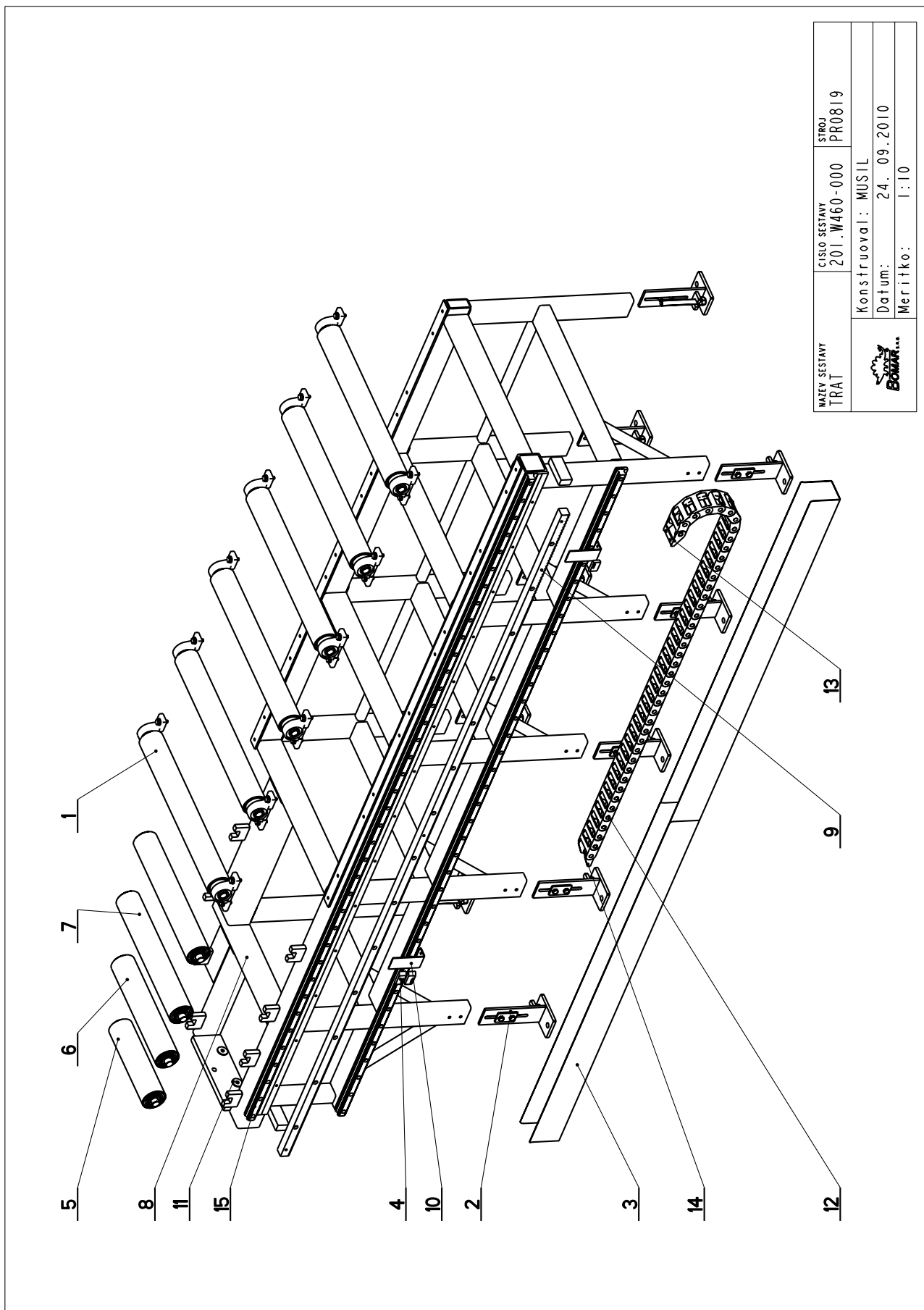
Cislo Sestavy 201.W407-020		Ver. 0	Název sestavy VALEC UPÍNACÍ/FIXING CYLINDER/SPANNZYLINDER		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.6807-103	0	VIKO / COVER / DECKEL	TYC 35	1
2	30.6807-104	1	VIKO / COVER / DECKEL	TYC 35	1
3	30.6807-105	0	VIKO / COVER / DECKEL	TYC 35	1
4	30.6807-106	0	PIST / PISTON / KOLBEN	TYC 32	1
5	30.W307-022	0	PISTNICE / PISTON ROD / KOLBENSTANGE	ø 16 f8	1
6	30.W407-021	0	VALEC UPÍNACÍ / FIXING CYLINDER / SPANNZYLINDER	TR 40/30	1
7	90.001.25.016	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6X12	1
8	92.002.102	0	SROUBENÍ PRÍME / DIRECT BOLTING / GERADE VERSCHRAUBUNG	S-GEV-8LLR	2
9	95.801.002	0	KROUZEK POJIST.VNITR / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNÝ KROUZEK 30	1
10	95.801.026	0	KROUZEK POJIST.VNITR / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNÝ KROUZEK 34	2
11	96.001.008	0	KROUZEK O STATICKÝ / STATIC O RING / O-RING STATISCH	26X2	2
12	96.002.006	0	KROUZEK O DYNAMICKÝ / DYNAMIC O RING / O-RING DYNAMISCH	12X2	1
13	96.041.001	0	TESNENÍ / SEALING / DICHTUNG	ø16	1
14	96.082.001	0	TESNENÍ / SEALING / DICHTUNG	KROUZEK CU 10/14	2
15	96.084.002	0	KROUZEK VODICÍ / LEAD RING / FÜHRUNGSRING	D 30	1
16	96.900.007	0	TESNENÍ KOMBINOVANÉ / COMBINATION SEALING / KOMBIDICHTUNG		1
17		0	/ /		1

Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Versión; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednací číslo/Order number/Basisleitzahl; Název položky/Volume title/Name der Position; Rozměr/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

Trat' /
Bahn /
Track

7.73. Trať / Bahn / Track



NAZEV SESTAVY TRAT	CÍSLO SESTAVY 201.W460-000	STROJ PR0819
Konstruoval: MUSIL		
Datum: 24. 09.2010		
Meritko: 1:10		

7.74. Kusovník / Stückliste / Piece list – Trať / Bahn / Track

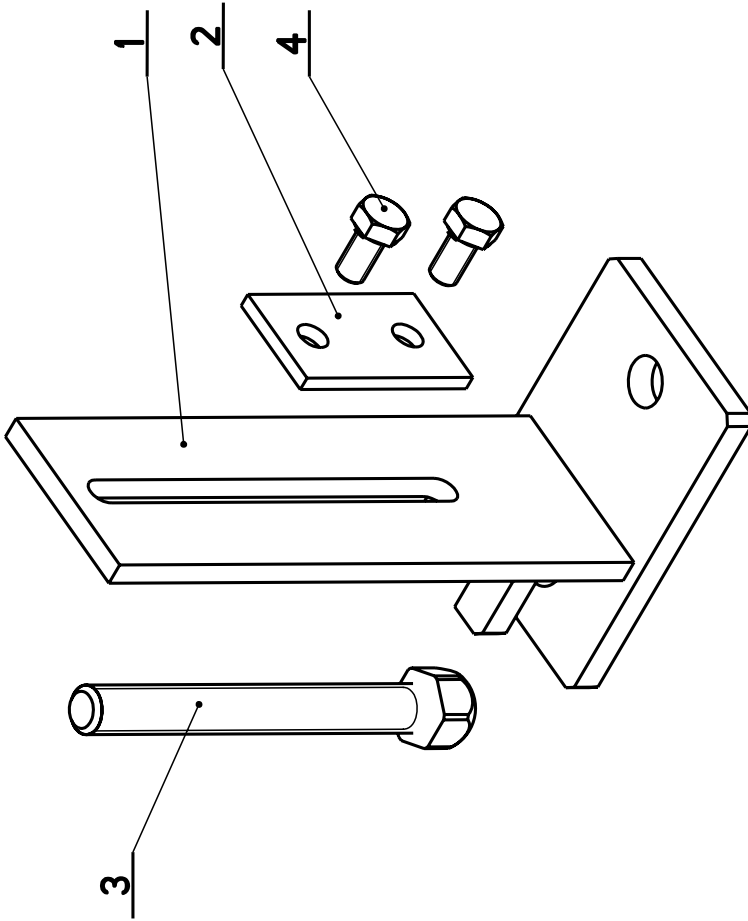
Cislo Sestavy 201.W460-000		Ver. 0	Nazev sestavy TRAT/TRACK/BAHN		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.1517-520	0	VALEC / ROLLER / ZYLINDER		6
2	201.460-005	0	NOHA / LEG / STÄNDER		10
3	30.1503-511	1	KORYTO / CHANNEL / RINNE	P 2 - 297	2
4	30.E462-006	0	DORAZ / STOP PIECE / ANSCHLAG	TYC25x10	3
5	30.W370-010	0	VALECEK / CYLINDER / ROLLE		1
6	30.W370-020	0	VALECEK / CYLINDER / ROLLE		1
7	30.W370-030	0	VALECEK / CYLINDER / ROLLE		2
8	30.W460-001	0	TRAT / TRACK / BAHN		1
9	30.W460-002	0	HREBEN / COMB / KAMM	OZ.TYC30x30_3000	1
10	30.W460-013	0	DORAZ / STOP PIECE / ANSCHLAG	HR 50x5	2
11	90.151.50.001	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	PODLOZKA 10	2
12	99.170.012	0	RETEZ ENERGII / ENERGY BELT / ENERGIEKETTE	MP 3002	41
13	99.171.013	0	KONCOVKA / END / ENDSTÜCK		1
14	99.171.014	0	KONCOVKA / END / ENDSTÜCK		1
15	99.200.062	0	VEDENI LINEARNI / LINEAR GUIDE / LINEARE FÜHRUNG	HGR30R-3000 e=2	2

Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Nazev sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position;
Objednaci cislo/Purchase order number/Basis Nummer; 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

7.75. Noha / Ständer / Leg

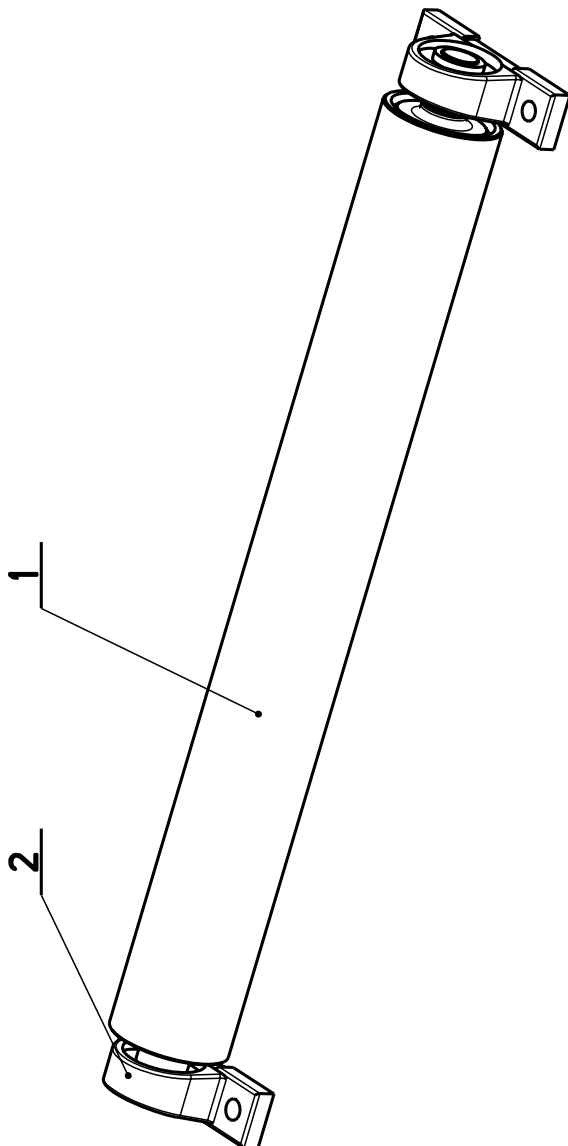
Cislo Sestavy 201.W460-005		Ver. 0	Nazev sestavy NOHA/LEG/STÄNDER		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.1515-690	0	NOHA / LEG / STÄNDER		1
2	30.1515-681	0	PRÍLOŽKA / STRAP / LASCHE	HR 40x5	1
3	31.1514-102	0	SROUB / BOLT / SCHRAUBE	M 16	1
4	90.005.55.023	0	SROUB 6HRANNÝ / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M10X20	2



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

7.76. Válec / Zylinder / Roller

Cislo Sestavy 201.1517-520		Ver. 0	Nazev sestavy VALEC/ROLLER/ZYLINDER		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.1517-502	0	VALEC / ROLLER / ZYLINDER		1
2	95.160.001	0	LOZISKO / BEARING / LAGER	UCP 205	2



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

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

