



Ergonomic 290.250 GANC

Operating instructions

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

Seriové číslo / Serien Nummer / Serial Number _____

Service and information

Your BOMAR dealer:

Direct BOMAR contact:

BOMAR spol. s r.o.
Těžební 1236/1
62700 Brno
Czech Republic, EU

telefon: +420 – 533 426 100
fax: +420 – 533 426 109
e-mail: info@bomar.cz
www: <http://www.bomar.cz>

We are available:

Mondays to Fridays

7⁰⁰ – 16⁰⁰

Version:

1.12 / Nov 2017
rev. 1

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EC Declaration of Conformity

1) 2) We:

BOMAR, spol. s r.o.
Těžební 1236/1
627 00 Brno, Czech Republic
 Id. No: 48908827
declare herewith

that the following designated device based on its conception and construction as well as the design launched by us meets the relevant basic safety requirements of the decrees of the government.

This statement applies exclusively to the machine device in conditions in which it was brought to the market. It does not apply to parts subsequently added by the end user or to modifications performed subsequently by the end user.

In the event of any device modification not approved by us this declaration shall lose its validity

Name: Band Saw
Type : Ergonomic 290.250 GANC
Serial number:
Manufacturer BOMAR, spol. s r.o., Těžební 1236/1, 627 00 Brno
Product data
Determination: for cross dividing and cutting of rolled and towed bars and profiles made of steel, stainless steel, non-ferrous metals and plastics
Description: Stand, table, cutting unit with the saw band and drive, clamping device, cooling system, el. switch board with control panel.
 Pneumatic ☒ YES ☐ NO Hydraulic ☒ YES ☐ NO Control system ☒ YES ☐ NO
Technical data: Cutting rate 40/80 m.min-1 – standard
 20-90 with frequency converter
 Cutting angle 0° up to 60°
 Total dimensions in mm (lxwxh) 1980x1940x1470 mm
 Supply voltage 3x400 V TN-C-S
 Total power requirement 2,9 kW
 Weight 680 kg

Documentation:

Technical documentation for this machine device was elaborated in compliance with Government regulation no. 176/2008, Annex 7, part A.

The device meets relevant requirements of the given directives:

2006/42/EC
2004/108/EC

The applied harmonized standards, National standards and technical specifications:

ČSN EN ISO 12100:2011	ČSN EN 13898+A1:2009	ČSN EN ISO 13857:2008
ČSN EN ISO 4413:2011		ČSN EN 60204 -1 ed.2+A1:2009
ČSN EN 55011 ed.3+A1:2011	ČSN EN 61000-6-2 ed.3:2006	ČSN EN 61000-6-4 ed.2+A1:2011

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

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

The declaration of conformity was carried out in the cooperation with the ³⁾ TÜV SÜD Czech s.r.o, Novodvorská 994, 142 21 Prague 4 – Czech Republic, Identification number: 63987121 - Inspection body no. 4002.

The inspection certificate no **07.801.283** was issued

Brno, 30.4.2015
Point of issue, datum

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


lanaging
Director
Name and function of the responsible subject, signature

1) Name, address and identification number of the subject issuing the conformity declaration (producer of importer)

2) Person authorized to complete the technical documentation

3) The authorized or accredited body co-operating on the conformity judging



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

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1. **Bezpečnostní pokyny/ Sicherheitshinweise/ 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.

The machine operator must be familiar with the installation, operation and maintenance of machines and also with the safety instructions. 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 **Ergonomic 290.250 GANC** 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 0° to 60°**.

Combustible materials are excluded 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.

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.

The person, which is controlling the machine using control equipments of the machine (control panel or another control equipment) mustn't oneself or with help of another persons manipulate with the machine or with the cutted or another way processed material.

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.

Check that the power cables are not damaged.

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

Do not operate with the buttons and the switches on the control panel, when you have gloves!

For machine starting take care, that there is nobody in the working area of the machine (it means in the working area of the vice, the saw band, the saw arm etc.).

In no circumstances touch the rotating elements.

Work on the machine only when the machine is in good condition!

Check at least once in a shift, if the machine is not damaged. If the machine is damaged, you must bring the machine in order and you must inform your superior!

Keep your working area clean!

Ensure sufficient lighting in the working area.

Take off the spilt water or the oil from the floor and dry it.

Do not touch the cooling liquid with bare hands!

Do not set the nozzle of the cooling liquid, when the machine is started on!

Do not remove the chips from the working area of the machine, when the machine is started on!

Do not use the compressed air for the machine cleaning or for the chips removing!

Use the protective instruments for chips removal!

Attention!

Consider the safety signs on the machine. Do not remove or damage them! Keep these labels still readable!

1.4. Safety notes for the servicing and repairs

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

When handling frequency converters caution, because after the machine was switched off, the frequency converters are still 20 min energized!

Keep instructions and orders about work safety!

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!

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!

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

Do not switch the machine on until the covers have not been returned on their places!

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

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

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

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

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

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

1.6. Safety machine accessories

The machine is equipped with safety accessories. It protects the operator from injuries and the machine before damage. The safety accessories are blocking accessories, emergency switches and covers.

Check once in a week the function of the safety accessories. If the safety accessories are functionless, you must stop work and repair or change the safety accessories.

Enhanced risk!

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

1.6.1. Total Stop

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

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

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



TOTAL STOP button is placed at the control panel of the machine.



1.6.2. Saw arm cover

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

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



1.6.3. Kryt pásu

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

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



1.6.4. Feeding vice cover

The cover avoids the service workers in entrance to the feeding vice during operation. The service workers are protected before injury

If the cover is opened during cutting, the limit switch is unfastened (see. arrow), the machine is stopped. The band saw is not possible start in set mode.

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



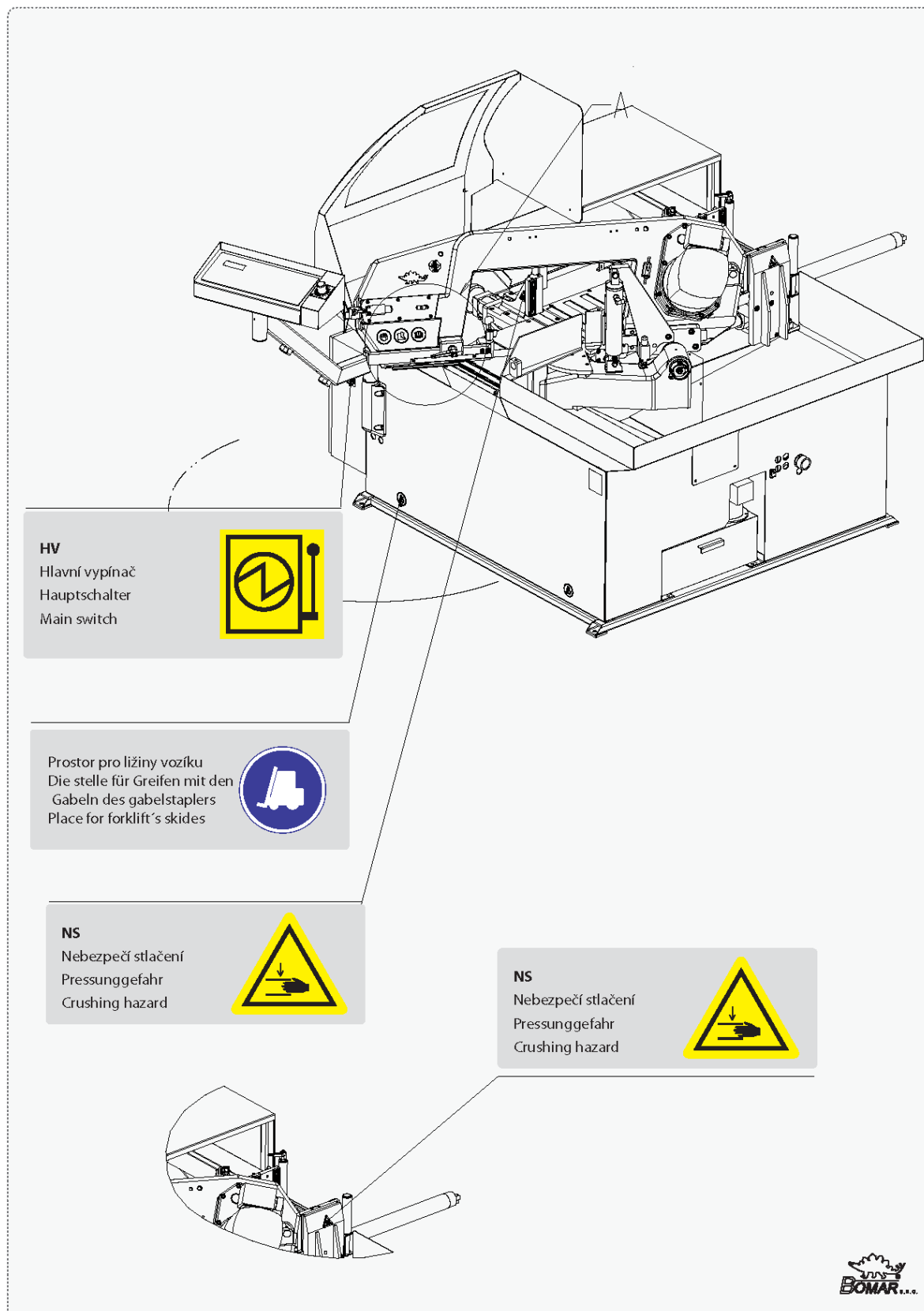
1.6.5. Saw band stretching and rupture inspection

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

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



1.7. Umístění bezpečnostních značek -1/ Verteilung der Sicherheitszeichen -1 / Position of safety symbols - 1



1.8. Umístění bezpečnostních značek -2/ Verteilung der Sicherheitszeichen -2 / Position of safety symbols - 2

PO:

Noste pevnou pracovní obuv
Tragen Sie Sicherheitsschuhe
Wear fixed protective shoes



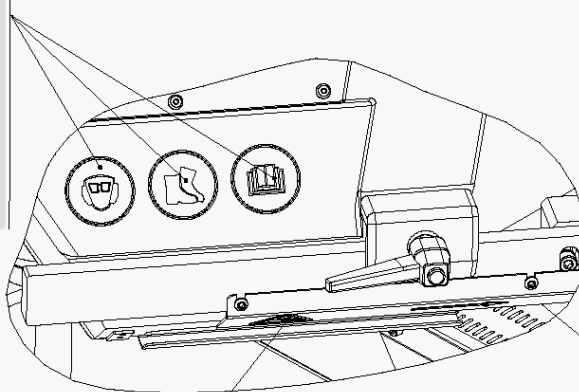
CZ:

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 říznutí
Schnittgefahr
Cutting or severing hazard



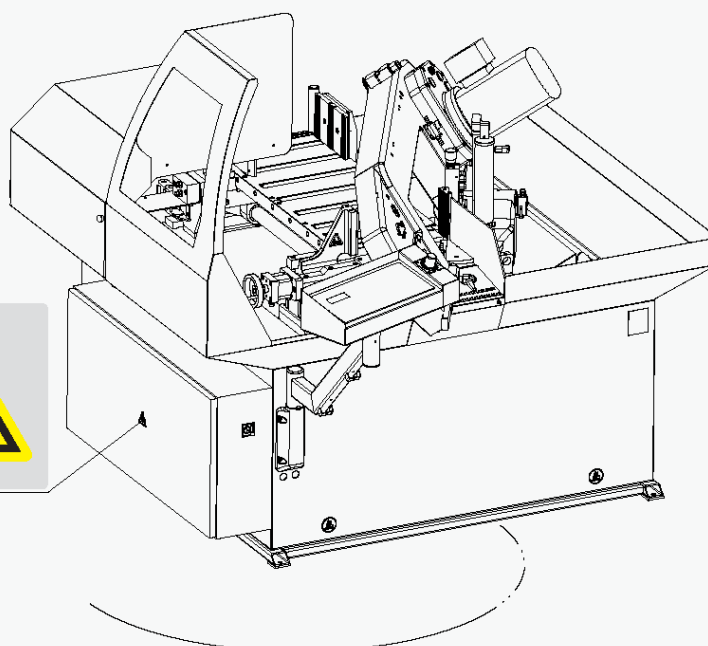
SP:

Směr pohybu
Bewegungsrichtung
Direction of motion



NE

Nebezpečí úrazu
elektrickým proudem
Verletzunggefahr vom
elektrischen Strom
Electrical hazard

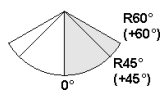


2. **Dokumentace stroje/ Dokumentation der Maschinen/ Machine documentation**

2.1. Technická data / Technische Daten / Technical data

Hmotnost stroje / Maschinengewicht / Machine weight:	
• Hmotnost / Gewicht / Weight	680 kg
Rozměry stroje / Maschinengröße / Machine size :	
• Délka / Länge / Lenght	1980 mm
• Šířka / Breite / Width	1940 mm
• Výška / Höhe / Height	1470 mm
Elektrické vybavení / Elektrische Ausrüstung / Electical equipment:	
• Napájení / Versorgungsspannung / Supply voltage	~3 x 400 V, 50Hz, TN-C-S
• Příkon / Gesamtschlosswert / Total Input	2,9 kW
• Max.jištění / Max. Vorschaltsicherung / Max. Fuse	32 A
• Krytí / Schutzart / Protection	IP 54
Akustický tlak / Schalldruckpegel / Acoustic pressure:	
• Ergonomic 290.250 GANC	$L_{Aeqv} = 79$
Pohon / Atrieb / Drive:	
• Typ / Typ / Type	MSD 90L 2/4
• Napájení / Versorgungsspannung / Supply voltage	~3 x 400V, 50Hz
• Výkon / Leistung / Output	1,5 / 1,1 kW
• Jmenovité otáčky / Motornenndrehzahl / Nominal speed	2810 / 1420 min ⁻¹
Hydraulické zařízení / Hydraulikeinrichtung / Hydraulic equipment:	
• Výkon / Leistung / Output	1,1 kW
• Jmenovité otáčky / Motornenndrehzahl / Nominal speed	1410 min ⁻¹
Chladicí zařízení / Kühlmiteleinrichtung / Cooling equipment:	
• Výkon / Leistung / Output	0,05 kW
• Obsah nádrže / Volumen vom Kühlmittel / Capacity	40 dm ³
Odstraňovač třísek / Spänförderer / Chips disposal	
• Typ / Typ / Type	BN63B4
• Výkon / Leistung / Output	0,18 kW
• Jmenovité otáčky / Motornenndrehzahl / Nominal speed	1320 min ⁻¹
Rozměr pásu / Sägebanddimension / Band size:	
2910 x 25 (27) x 0,9 mm	
Jeden Zdvih / Vorschublänge Einfachhub / One Upstroak:	
Jeden Zdvih –krátký kus /Vorschublänge Einfachhub -/ One Upstroak-short piece	
600 mm	
Max. hmotnost podávaného materiálu / Materialmaximalgewicht / Material max. weight:	
1500 kg	
Řezná rychlost / Schnittgeschwindigkeit / Cutting speed:	
40/80 m/min – without frequency converter	
20-90 m/min – with frequency converter	

Řezné rozsaHy / Schnittbereiche / Cutting size:



0°	Ø250 mm	290 x 250 mm	290 x 250 mm	250 x 250 mm
45° R	Ø200 mm	200 x 240 mm	200 x 240 mm	200 x 200 mm
60° R	Ø110 mm	140 x 100 mm	140 x 110 mm	110 x 110 mm

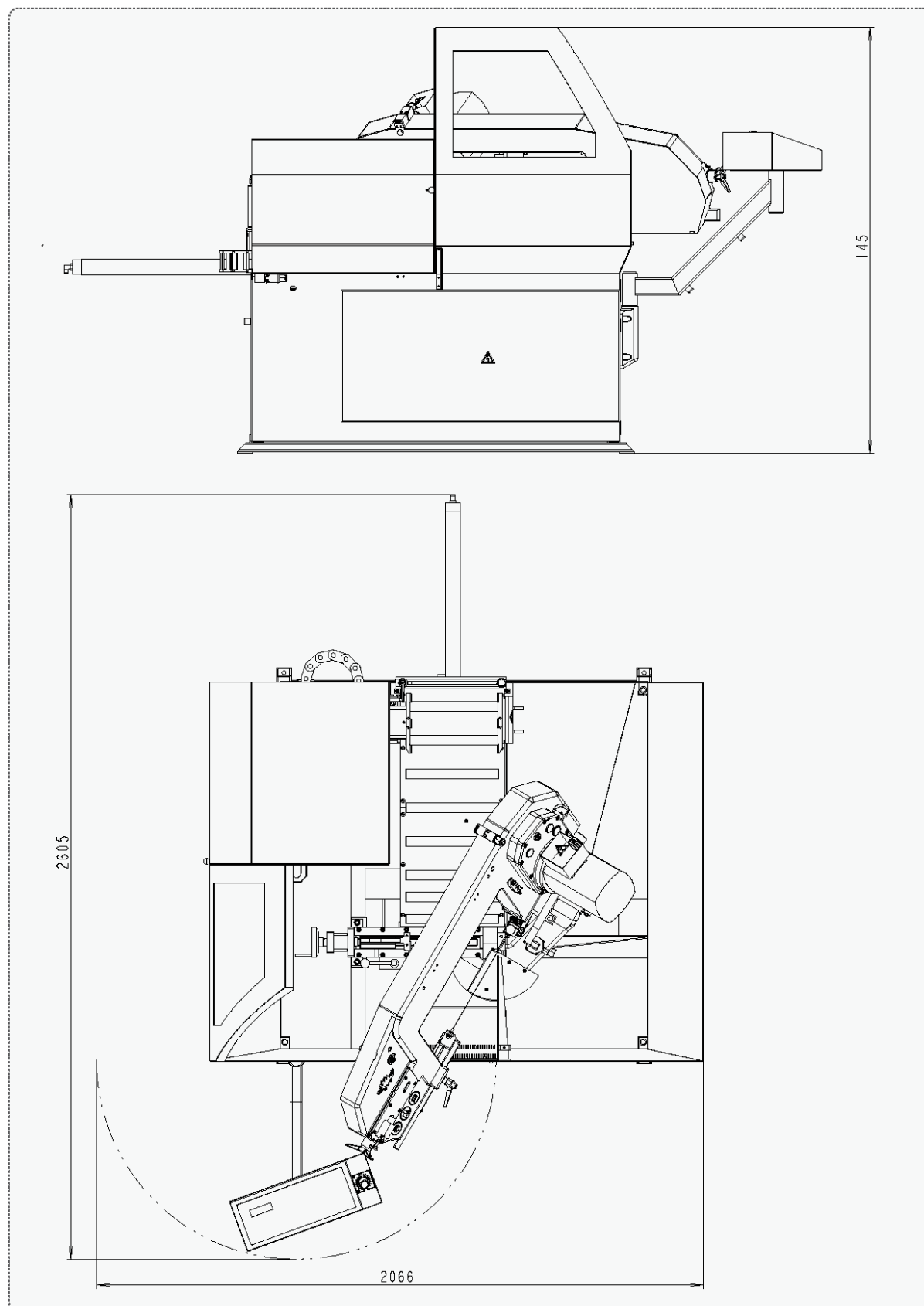
Warning:

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

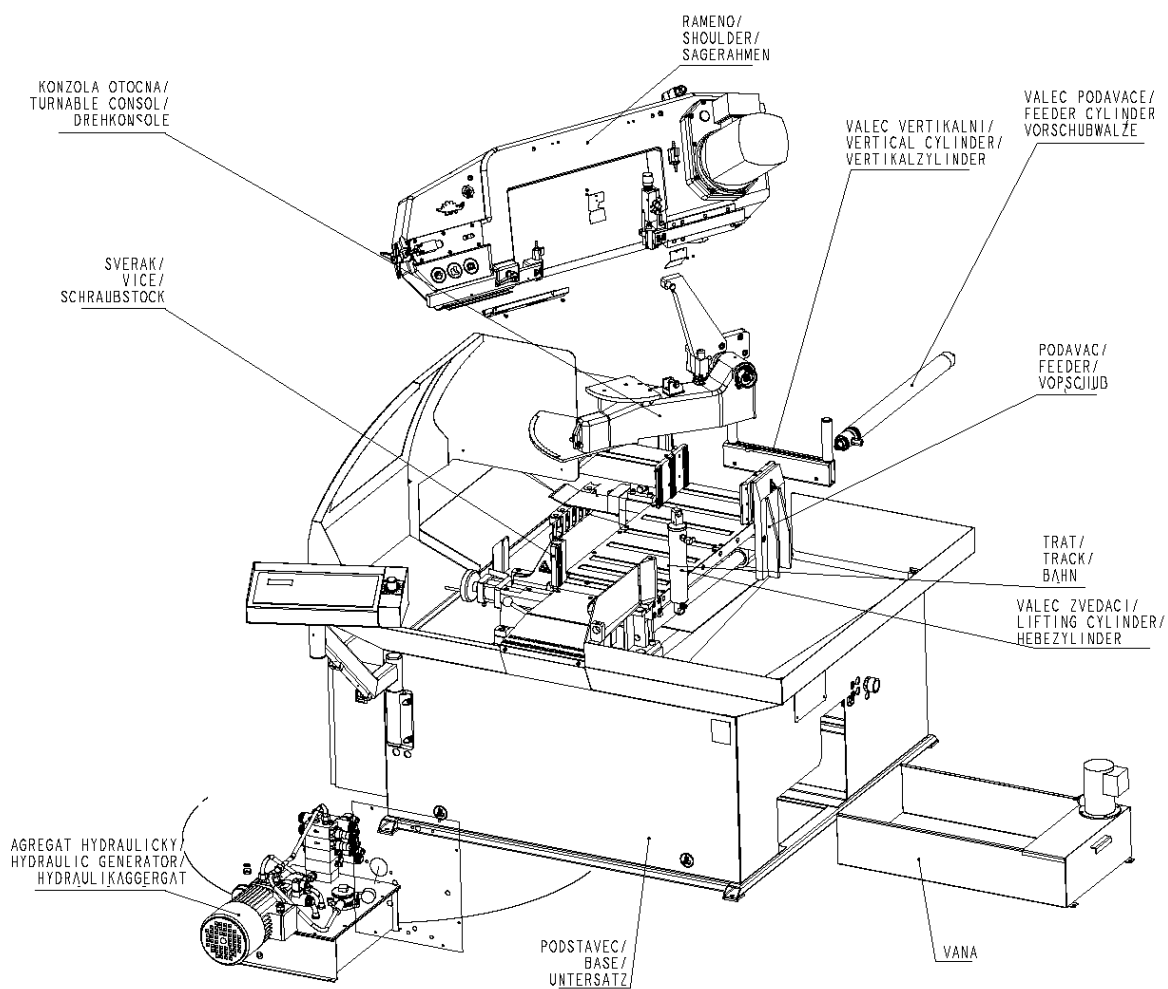
Level of acoustic pressure:

Equivalent level of acoustic pressure A (noise) at operator position are $L_{Aeq}=79$ dB. Mentioned values are levels of emission which doesn't have to represent safe levels. Factors which influence real level of acoustic pressure on machine operator are: working place characteristics, cut material, saw band. These factors have significantly influence on acoustic pressure.

2.2. Rozměrové schéma / Aufstellzeichnung / Installation diagram



2.3. Popis / Beschreibung / Description



2.4. Transportation and stocking

2.4.1. Conditions for transportation and stocking

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

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

2.4.2. Transport and stocking preparations

- Close the vice and thoroughly oil all blank surfaces.
- Lower the saw frame to the lowest position.
- Make sure to empty the machine of all traces of the cooling agent.
- Fasten all loose parts securely to the machine.
- Pack and wrap the control desk securely to avoid damage during transport.
- Fix the stickers stating the minimum approximate machine weight to at least five well visible places.

To transport the machine must be absolutely bolted to a pallet! Ensure that the pallet was strong enough to carry the machine!

2.4.3. Transport and stocking

Handle the machine only with the hand pallet truck or the forklift truck! Use the lifters of the truck according to the Transport schema.

If the hand pallet truck or the forklift truck is not available it is possible to use suspension cables and the crane. The machine is equipped with screw threads M16 for fixing the shackles.

Make sure that the hand pallet truck; the forklift truck or the crane and the suspension cables had sufficient capacity. Use only shackles with appropriate capacity..

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

The machine must be properly secured during transport, to not tip over or fall from the transport vehicle.

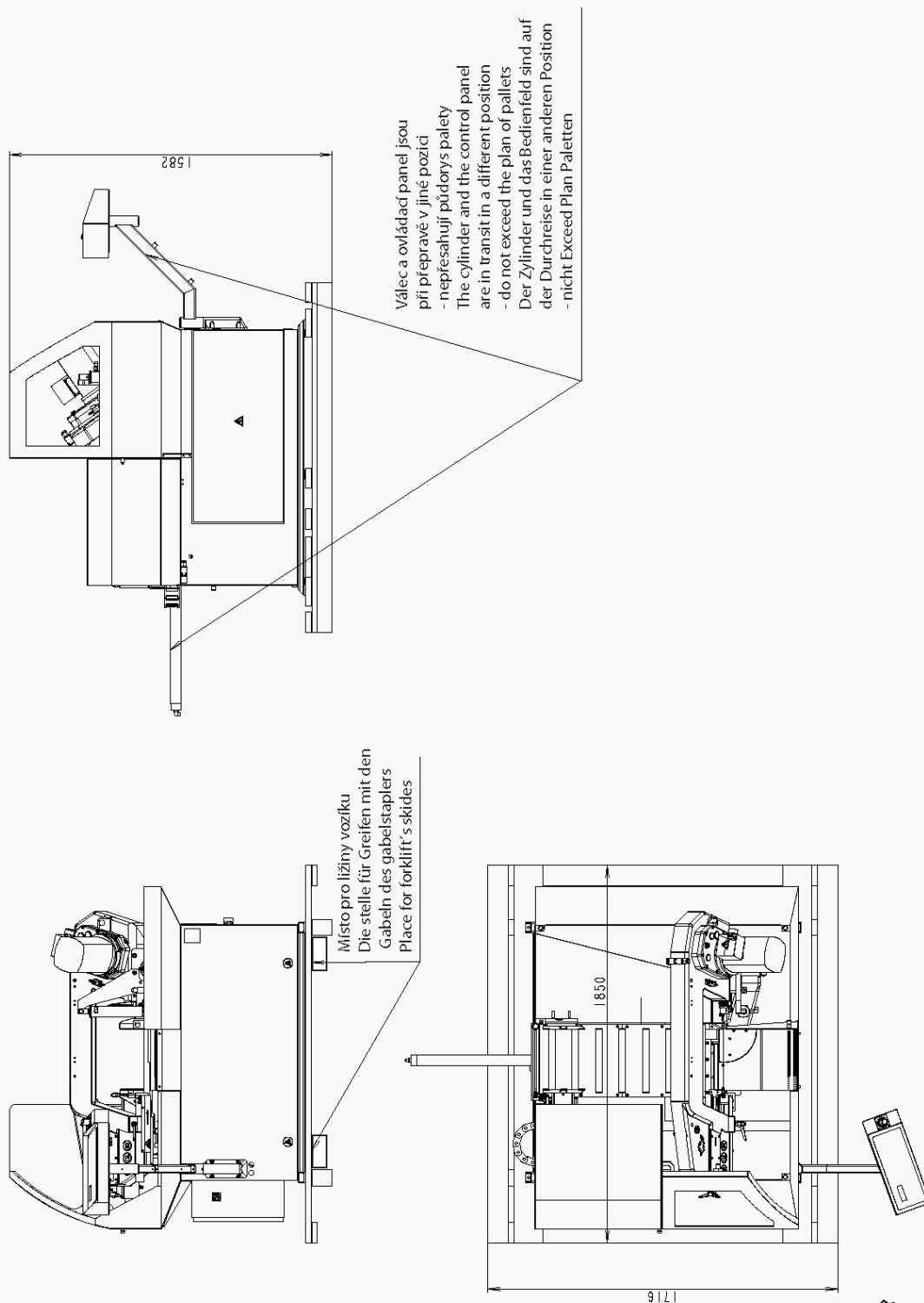
Screw on the pallet to the floor of the van or the trailer.

Be careful that the machine is not damaged during transportation.

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

Store the machine only under the conditions specified in this manual to prevent damage to the machine

2.5. Transportní schéma / Transport schema / Transport schneeme



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 **10°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.

Attention!

If the ambient temperature drops below 15 ° C is required before operating the machine to have switch on hydraulic unit around 10 minutes and then made several motion few times (for example, in manual mode) by all hydraulic cylinders. The reason is to heat hydraulic oil to the operating temperature for proper function of the pressure switches (and choke).

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.

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

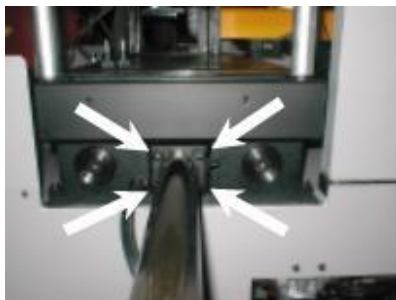
1. Release and remove the securing screw of the feeding vice jaw.



2. Pull out the feeding vice.



3. Screw the feeding vice with screws (the screws are added to the band saw).



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 – Ergonomic 290.250 GANC – 680 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.

2.8. Filling of the cooling system

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

Fill the mixture of the water and the cooling liquid to the tank of the cooling system.

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

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

Note:

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

2.9. Putting into operation of the hydraulic unit

Before the first run check:

- the tank is filled with the prescribed oil to upper limit
- pump is not running in the opposite direction. Hydraulic generator must not be operated in opposite directions of rotation for longer than 5-10 seconds.
- connections are properly tightened, pipes assembled without internal stress
- wiring matches with electrical and hydraulic diagrams
- the electric motors (pump and cooler) are properly connected and have the prescribed rotation
- the hydraulic accumulator with nitrogen gas to the specified value
- aux. elements work right (thermometer, level gauge, heater)

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

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

2.9.1. Filling the reservoir with hydraulic oil

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

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

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

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

Oil type	Kinematic viscosity v in mm^2/s in relationship to the fluid temperatur					Freezing point
	0°C	20°C	40°C	60°C	80°C	°C
OH-HM 32	220	100	32	15	7	-40
OH-HV 32	180	67	32	17	11	-40

2.10. 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 2,9 kW
- Max. fuse: 32 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.

2.10.1. 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

2.10.2. Check machine connection into electrical network



Attention!

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

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



2.11. Check machine function

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

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

Check, if covers are installed and functional.

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

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

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

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

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

2.12. 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.

2.13. Saw band

To reduce the risk of injury, refit the saw band cover only after you have installed and tightened the saw band.



2.13.1. Saw band size

2910 x 25 (27) x 0,9 mm

2.13.2. Selection of the saw band tooth system

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

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

BOMAR recommended Variable tooth system for band saw.

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

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

Footnotes:

Z_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.

2.13.3. Saw band running-in

To achieve the full life of the blade is recommended to carry out its initial run.

Running-in: Cut the material with the frame lowering reduced to 50% only. When vibrations occur increase or decrease the band speed. When cutting large pieces run the band for 15 minutes approximately.

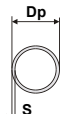
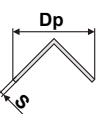
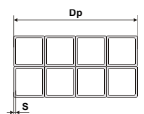
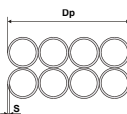
When the band has been run, increase the lowering-speed to normal speed. The running in of the saw band avoids micro-breaks on the cutting edges of new saw band ensuing from first excessive stress. This would decrease service life substantially..



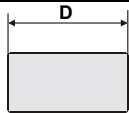
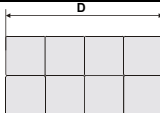
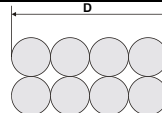
Note: Run regrinding saw bands too.

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

2.13.4. Tables for teeth selection

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

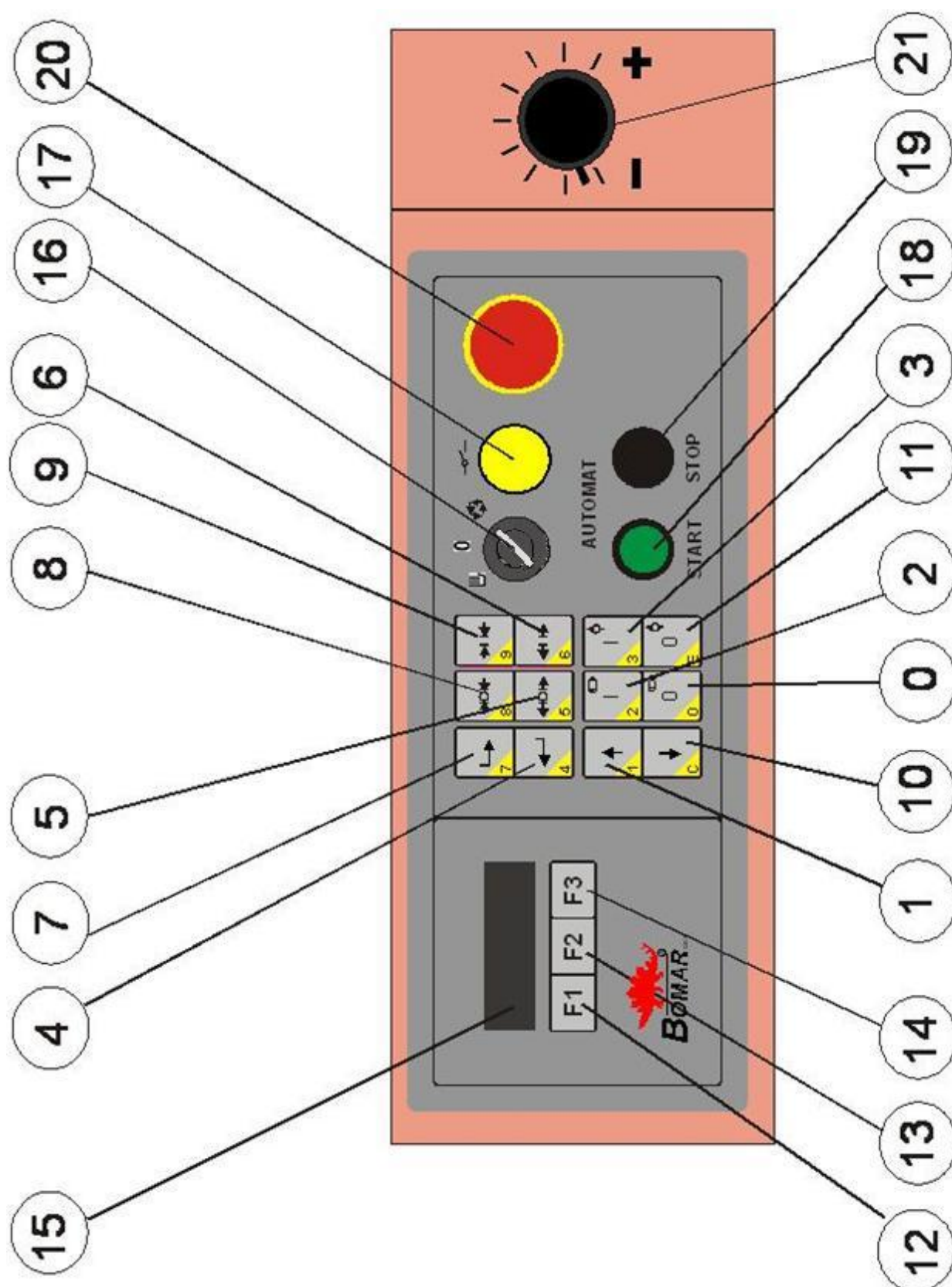
SOLID MATERIAL ($D = \text{mm}$)					
					

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

3. **Ovládání stroje/ Bedienung der Maschine/ Machine control**

3.1. Control panel – description

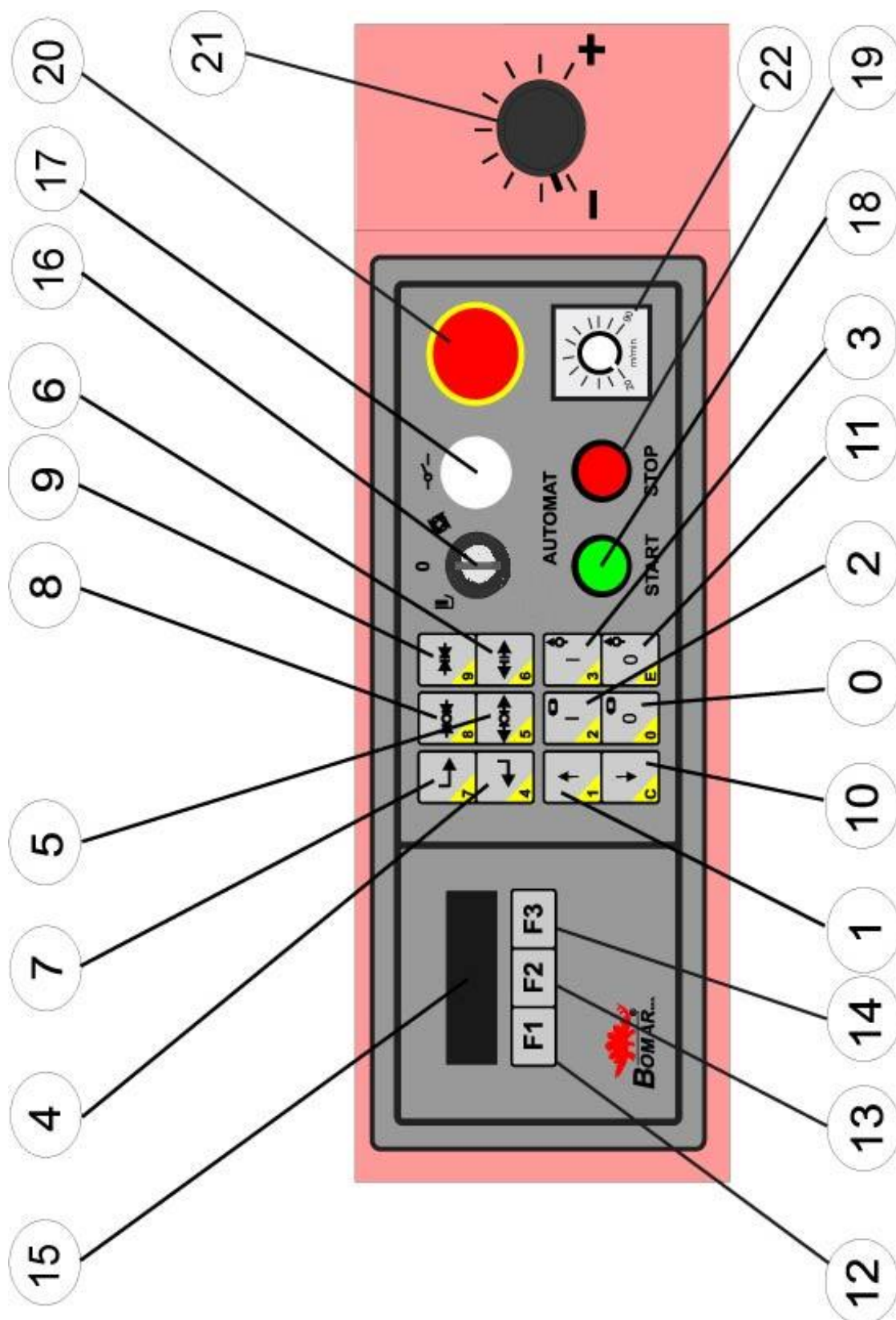
3.1.1. Ergonomic 290.250 GANC without frequency converter



0	Stop the saw band drive
1	Lift the saw frame
2	Start the saw band drive
3	Start the hydraulic aggregate
4	Feeding vice to the back position
5	Open the feeding vice
6	Open the main vice
7	Feeding vice to the forward position
8	Close the feeding vice
9	Close the main vice
10	Saw frame down
11	Close the hydraulic aggregate
12	F1 –Functional button Button function is described in the text.
13	F2 –Functional button Button function is described in the text.
14	F3 –Functional button Button function is described in the text.
15	Display There is depicted operating mode and it allows dialogue with service workers.
16	Switch for selection of operating mode - for selection of the operating mode:  Semi – automatic mode  Automatic mode 0 Set mode
17	Start safety circuit Switch on the safety circuit by pressing the button.
18	START button- automatic cycle Start of the automatic cycle.

19	STOP button- automatic cycle It uses for stopping or breaking of the automatic cycle.
20	TOTAL – STOP button Shutting the machine down in emergency situation!
21	Governing valve Adjust the speed of the arm sinking to the cut by governing valve. Notice: If you keep closing the throttle valve too tightly, the valve seat may wear off which causes its leakage. Therefore, close the valve always gently.
	Switch of the speed selection You can select the speed of the saw band 40m/min or 80 m/min (it is not in the diagram, it is placed on the engine).

3.1.2. Ergonomic 290.250 GANC with frequency converter



0	Stop the saw band drive
1	Lift the saw frame
2	Start the saw band drive
3	Start the hydraulic aggregate
4	Feeding vice to the back position
5	Open the feeding vice
6	Open the main vice
7	Feeding vice to the forward position
8	Close the feeding vice
9	Close the main vice
10	Saw frame down
11	Close the hydraulic aggregate
12	F1 –Functional button Button function is described in the text.
13	F2 –Functional button Button function is described in the text.
14	F3 –Functional button Button function is described in the text.
15	Display There is depicted operating mode and it allows dialogue with service workers.
16	Lockable switch with key Select the operating mode. In "0" position is possible take off the key.  Semi – automatic mode  Automatic mode 0 Set mode
17	Start safety circuit Switch on the safety circuit by pressing the button.
18	START button- automatic cycle Start of the automatic cycle.

19	STOP button- automatic cycle It uses for stopping or breaking of the automatic cycle.
20	TOTAL – STOP button Shutting the machine down in emergency situation!
21	Governing valve Adjust the speed of the arm sinking to the cut by governing valve. Notice: If you keep closing the throttle valve too tightly, the valve seat may wear off which causes its leakage. Therefore, close the valve always gently.
22	Frequency convertor Turn to change the speed of the saw band 20m/min or 90 m/min.

3.2. Starting the band saw

3.2.1. Switch on the band saw

1. Switch on the main switch of the band saw. The main switch is situated on the side of the switchboard.
2. Switch on the safety circuit of the band saw (button 17 – control panel of the band saw)..



3.2.2. Feeder reference position

```
"  MODE SELECTION  "
" Mode select. switch "
" is in position '0' "
"<REFER>    <SERVICE>"
```



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

```
" AUTOMATIC SETUP OF "
" REFERENCE POSITION "
"      FEEDER      "
"      <START>      "
```



2. Press button **F2**. Feeder drives to the reference position.

```
" REFERENCE POSITION "
"      FEEDER      "
" SET CORRECTLY    "
"      <OK>        "
```



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

3.3. Semi-automatic cycle

There is possible to make the individual cuts. The adjusting of the desired length is performed semi-automatically.

1. Turn switch **16** to position .
2. Open the main and feeding vice by means of buttons **6** and **5**.
3. Insert the material to the feeding vice .
4. Clamp the material to the feeding vice by button **8**.
5. Drive the material to the desired length, which you want to cut by buttons **4** and **7**.
6. Clamp the material to the main vice by button **9**.
7. Press button **START**. The band saw cuts the material.
8. When material cutting is finished, the saw arm is lifted up and button START starts to blink. Now you can remove the blank.

3.4. Automatic mode

3.4.1. Cycle preset

Turn switch **16** to position  to pre-set the automatic cycle.

The band saw allows preset and store 10 programmes. Each of the programs has 20 pre-selections.

Definition explain:

Pre-selection is programme part, which includes the length of blank and pieces number of the set length.

Program consists of 20 pre-selections and it is performed during automatic cycle.

" Preselection No.: 1 of 20 "

" Length: 0.0 mm "

" Pieces: 0 pcs "

"<BACK> <NEXT> <DONE> "

1) Adjust the length of blank. Press button **F2**.



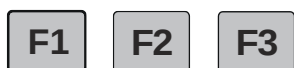
" Preselection No.: 1 of 20 "

" Length: 0.0 mm "

" Pieces: 0 pcs "

"<BACK> <NEXT> <DONE> "

2) Adjust the pieces number. Press button **F2**. Pre-selection number 1 is pre-set.



" Preselection No.: 2 of 20 "
" Length: 0.0 mm "
" Pieces: 0 pcs "
"<BACK> <NEXT> <DONE> "



3) Pre-set the other pre-selections by repeating points 1 and 2. Press button **F3**. Preset is finished.

Note: Finish the cycle preset by button F3 is impossible, if the length or pieces number has null value in set pre-selection. That means the length and pieces number must be bigger than null.

4) Programme will be effected from beginning to the pre-selection, in which will be finished preset by pressing button **F3 <DONE>**. That means, if you pre-set 3 pre-selections and you finish the preset by pressing button F3, pre-selections 1, 2 and 3 will be effected.

3.4.2. Program storing

The band saw allows storing of 10 different programs

" Preselection No.: 3 of 20 "

1) Press button **F3**

" Length: 0.0 mm "

" Pieces: 0 pcs "

"<BACK> <NEXT> <DONE> "



" EXTENDED EDITING: "

2) Press button **2** to enter Memory menu.

" 1 = Preselection "

" 2 = Memory "

"<BACK> <DONE> "



"*** MEMORY ***"

3) Press button **F2** to store the program.

" F1 = Load program "

" F2 = Save program "

" <BACK> "



"*** MEMORY ***"

4) Set the memory number (**0-9**), where you want to store the program. Press button **F2**.

" Rewrite mem. No: X "

" "

"<BACK> <OK> "



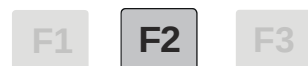
" Cutting program was "

5) Confirm the program storing by pressing button **F2**.

" successfully read "

" to memory No: X "

" <OK> "



3.4.3. Program selection

" Preselection No.: 3 of 20 "

" Length: 0.0 mm "

" Pieces: 0 pcs. "

"<BACK> <NEXT> <-FN-> "



1) Press button **F3** to open the program.

" EXTENDED EDITING: "

" 1 = Preselection "

" 2 = Memory "

"<BACK> <DONE> "



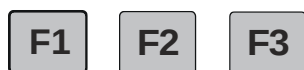
2) Press button **2** to enter Memory menu.

"*** MEMORY ***"

"F1 = Load program "

"F2 = Save program "

" <BACK> "



3) Press button **F1** to open the required program.

"*** MEMORY ***"

" Read memory No: X "

" "

"<BACK> <OK> "



4) Set the memory number (**0-9**), from which you want to open the program. Press button **F2**.

" Cutting program was "

" successfully read "

" from memory No: X "

" <OK> "



5) Confirm the program opening by pressing button **F2**.

3.4.4. Editing

The length of blank or pieces number is possible to change this way:

1) Open the program in which you want to make a change (see chap. Program selection).

2) Adjust the pre-selection, which you want to change, by pressing buttons **F1** and **F2**.

3) Adjust the new length of the blank. Press button **F2**. The length of blank is changed.

4) Adjust the new pieces number. Press button **F2**. The pieces number is changed.

5) You can change the other pre-selections by repeating points 2 - 4. Press button **F3**, editing is finished.

6) Save the program (see chap. Program storing).

" Preselection No.: 2 of 20 "
 " Length: 200.0 mm"
 " Pieces: 2 pcs."
 "<BACK> <NEXT> <-FN-> "



" Preselection No.: 2 of 20 "
 " Length: 250.0 mm"
 " Pieces: 2 pcs."
 "<BACK> <NEXT> <-FN-> "



3.4.5. New Preselection inserting

The new Preselection inserting is performed this way:

1) Open the program, in which you want to perform the change (see chapter Program selection).

```
" Preselection No.: 3 of 20"
" Length:      200.0 mm"
" Pieces:      2 pcs."
"<BACK> <NEXT> <-FN-> "
```



2) Select the preselection, where you want to insert the new preselection by pressing buttons F1 and F2. The new preselection is inserted in front of the old one.

```
" Preselection No.: 3 of 20 "
" Length:      200.0 mm"
" Pieces:      2 pcs."
"<BACK> <NEXT> <-FN-> "
```



3) Press button F3.

```
" EXTENDED EDITING:  "
" 1 = Preselection   "
" 2 = Memory         "
"<BACK>              <DONE> "
```



4) Press button 1 to enter Preselection menu.

```
"*** PRESELECTION ***"
" F1 = Insert Presel. "
" F2 = Delete Presel. "
"                      <BACK> "
```



5) Press button F1 to insert the new Preselection to the program. The other Preselections are shifted.

```
" Preselection No.: 3 of 20 "
" Length:      0.0 mm"
" Pieces:      0 pcs."
"<BACK> <NEXT> <-FN-> "
```



6) Set the new length of the blank. Press button F2.

" Preselection No.: 3 of 20 "
" Length: 100.0 mm "
" Pieces: 0 pcs. "
"<BACK> <NEXT> <-FN-> "



7) Set the new number of the pieces.
Press button F2.

8) Now, you can insert the other
Preselection by repeating points 2 to 7.

9) Store the program according to the
chapter Program storing.

3.4.6. Clearing memory

Clear the adjusted Preselection from the memory is possible this way:

1) Open the program, in which you want
to perform the change (see chapter:
Program selection).

" Preselection No.: 3 of 20 "
" Length: 200.0 mm "
" Pieces: 2 pcs. "
"<BACK> <NEXT> <-FN-> "



2) Select the Preselection, which you
want to clear by pressing buttons **F1** and
F2.

" Preselection No.: 3 of 20 "
" Length: 200.0 mm "
" Pieces: 2 pcs. "
"<BACK> <NEXT> <-FN-> "



3) Press button **F3**.

" EXTENDED EDITING: "
" 1 = Preselection "
" 2 = Memory "
"<BACK> <DONE> "



4) Press button **1** to enter Preselection
menu.

```

"*** PRESELECTION  ***"
" F1 = Insert Presel. "
" F2 = Delete Presel. "
"
"                <BACK> "

```



5) Press button **F2** to clear the selected Preselection from the program. The other Preselections are shifted.

6) Now, you can clear the other Preselections by repeating points 2 to 5.

7) Store the program according to chapter: Program storing.

3.5. Automatic cycle with material cutting

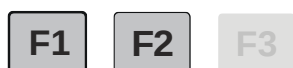
If you want to cut the material end before starting of the automatic cycle pre-set, you must continue this way:

1) Make following after finishing of the automatic cycle pre-set.

```

"SETUP OF THE RETURN  "
"POSITION OF SAW-ARM  "
" (pos. after the cut) "
" <END>  <DONE>      "

```



2) Adjust the arm cca 3 cm above the material by pressing buttons „Saw arm up“ (1) and „Saw arm down“ (C). The saw arm will be returned to this height always.

3) Store the adjusted position by pressing button **F2**.

Note: Return to the pre-set by pressing button **F1**.

```

" AUTOMATIC TRIM CUT  "
"
"
" <YES>                <NO> "

```



4) Press button **F1** <YES> for material trim cut.

```

" AUTOMATIC TRIM CUT  "
"   Press the START   "
"
"

```

5) Press button **START** (18). The saw makes the trim cut.

" AUTOMATIC TRIM CUT "

" Wait until "

" the cut is finished "

6) The report about course of cutting appears on the display during material cutting.

" AUTOMATIC CYCLE "

" Press button "

" START "

" "

7) When the cutting is finished, press button **START** again. The saw makes the pre-set of automatic cycle.

8) Button **START** starts to blink after finishing of the automatic cycle. Now you can remove blanks.

3.6. Automatic cycle without material cutting

If you **do not want** to cut material end before starting of the automatic cycle pre-set, you must continue this way:

1) Make following after finishing of the automatic cycle pre-set.

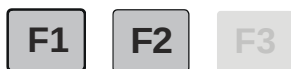
" SETUP OF THE RETURN "

" POSITION OF SAW-ARM "

" (pos. after the cut) "

" <END> <DONE> "

2) Adjust the arm cca 3 cm above the material by pressing buttons „Saw arm up“ (1) and „Saw arm down“ (C). The saw arm will be returned to this height always.



3) Store the adjusted position by pressing button **F2**.

Note: Return to the pre-set by pressing button **F1**.

" AUTOMATIC TRIM CUT "

" "

" <YES> <NO> "

4) Now press button **F3** <NO>, you do not want to make the trim cut.



" AUTOMATIC CYCLE "

" Press button "

" START "

" "

5) Press button **START**. The saw makes the pre-set of automatic cycle.

6) Button START starts to blink after finishing of the automatic cycle. Now you can remove blanks.

3.7. Cycle breaking

The cycle can be stopped by 2 ways

- Press button **STOP** (button 19 – control panel) – the saw interrupts the actual cut, the saw arm lifts to the starting position and it stops.
- Press emergency button TOTAL STOP (button 20 – control panel) in emergency causes! The safety circuit is broken and the saw band drive is stopped too.

3.8. Blanks removing from the band saw

Button START starts to blink after finishing of the cutting cycle. Now you can remove blanks.

3.9. Service menu

Service – adjusting of the cutting parameters. All parameters are possible to find in service menu.

3.9.1. Entrance to service menu

" MODE SELECTION "

" Mode select. Switch "

" is in position '0' "

"<REFER> <SERVICE> "

Turn switch (16) to position „0“ and press button **F3** to enter to service menu.



3.9.2. Vice parameters

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

" 1 = Clamp params. "

" 2 = Cooling params. "

" 3 = Cutting params. "

" <NEXT> <DONE> "

1) Press button **1** to enter to menu: Vice parameters.



" CLAMP OPENING TIME "

" <-] 0 [-> : x.x sec "

" <-] [-> : x.x sec "

" <NEXT> <MENU> "

2) Feeding vice (upper row) – adjust the time, press button **F2**.

The main vice (lower row) – adjust the time, press button **F3** for returning to main menu.



3.9.3. Cooling parameters

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

" 1 = Clamp params. "

" 2 = Cooling params. "

" 3 = Cutting params. "

" <NEXT><DONE> "



Press button **2** to enter to menu:
Cooling parameters.

Cooling type

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

" 1 = Cooling type "

" 2 = Cooling mode "

" "

" <MENU> "



1) Press button **1** to enter to menu:
Cooling type.

" 1= Water cooling [x] "

" 2= Microniser [] "

" 3= No cooling [] "

" <MENU> "



2) Select the desired cooling mode. The selected item is marked „x“.

button **1** – saw band cooling with the water

button **2** – saw band cooling with Microniser

button **3** – without cooling of the saw band

3) Press button **F3**. The selected cooling type is stored and you can return to the previous menu

Cooling mode

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

```
" 1 = Cooling type      "  
" 2 = Cooling mode      "  
"  
"                        "<MENU> "
```



1) Press button **2**, to enter to menu:
Cooling mode.

```
"1=Top pos shutoff [x]"  
"2=Bot.pos shutoff [ ]"  
"3=No shutoff        [ ]"  
"                    <MENU> "
```



2) Select the desired mode of cooling stopping. The selected item is marked „X“.

button **1** – stop the saw band cooling after cutting finishing in **top** position of the saw arm.

Button **2** – stop the saw band cooling after cutting finishing in **down** position of the saw arm.

Button **3** – **do not stop** the saw band cooling after cutting finishing.

3) Press button **F3**. The selected cooling type is stored and you can return to the previous menu. To another pressing button **F3**, you can return to the service menu.

3.9.4. Cutting parameters

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

```
" 1 = Clamp params      "  
" 2 = Cooling params    "  
" 3 = Cutting params    "  
"                        <NEXT><DONE> "
```



1) Press button **3** to enter to menu:
Cutting parameters.

```
"1=Top pos shutoff [x]"  
"2=Bot.pos shutoff [ ]"  
"3=No shutoff        [ ]"  
"                    <MENU> "
```



2) Select the desired mode of the saw band stopping. The selected item is marked „X“.

button **1** – saw band stopping in **top** position after cutting finishing.

Button **2** – saw band stopping in **down** position after cutting finishing.

Button **3** – **do not stop** the saw band after cutting finishing.

3) Press button **F3**. The selected mode of band stopping is stored you can return to the previous menu.

3.9.5. Swarf conveyor operation

Note: The swarf conveyor is added to the band saw only by customer request.

You can select from 3 possibilities of swarf conveyor operation in automatic cycle.

```
" 1 = Clamp params      "
```

```
" 2 = Cooling params    "
```

```
" 3 = Cutting params    "
```

```
"          <NEXT><DONE> "
```



1) Press button **F2** – other. Shift to the next menu.

```
" 1 = Machine params.  "
```

```
" 2 = Language         "
```

```
" 3 = Swarf conve.mode"
```

```
"<BACK> <NEXT> <DONE> "
```



2) Press button **3** to enter to menu: Swarf conveyor operation.

```
" 1=Along with band[ ]"
```

```
" 2=Manual shut-off[ ]"
```

```
" 3=Manual control [x]"
```

```
"          <MENU>    "
```



3) Select the desired swarf conveyor operation. The selected item is marked „X”.

Button **1** – starting and stopping of the swarf conveyor together with saw band.

Button **2** – starting of the swarf conveyor automatically, but stopping of the eliminator is performed manually.

Button **3** – starting and stopping of the swarf conveyor is performed manually.

4) Press button **F3**. The selected mode of swarf conveyor operation is stored, you can return to the previous menu.

3.9.6. Machine parameters

"1 = Machine params. "
"2 = Language "
"3 = Swarf conve.mode "
"<BACK> <NEXT> <DONE> "



1) Press button **1** – Machine parameters to shift to the next menu, where you can set the required parameter.

2) Set the required parameter:

Correct - use numerical keyboard to set the required correction value. This value sets correction of feeding in mm/inch by reason of the width of the saw band.

" Correct. = mm "
" Feeder = mm "
" F1 = PZH used? [] "
" <MENU> "



Feeder - use numerical keyboard to set the required feeding length.

Advice!

Button **F1** – press to use a hydraulic bundling device PZH.

If the machine is equipped with PHZ - display [1] . If the machine is not equipped with PHZ -display [0] .
Button **F3**- back.

3.9.7. Language selection

"1 = Machine params. "
"2 = Language "
"3 = Swarf conve.mode "
"<BACK> <NEXT> <DONE> "



Press button **2** – Language to shift to the next menu, where you can set the required language.

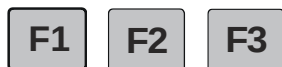
First level password (user) is required to enter this menu:

- password: 947

3.9.8. Length units selection

You can select the length units: millimetres or inches.

"1 = Machine params. "
"2 = Language "
"3 = Swarf conve.mode "
"<BACK> <NEXT> <DONE> "



1) Press button **F2** – other. Shift to the next menu.

"1 = Regulator "
"2 = Length correct "
"F1= mm(1) inch(0) [1] "
" <MENU> "



2) Select the length units: millimetres or inches by repeated pressing button **F1**.

1 = millimetres

0 = inches

3) Press button **F3**. The selected parameters are stored and you can return to the previous menu.

3.9.9. Regulator of position

" 1 = Regulator "
" 2 = Length correct "
" F1= mm(1) inch(0) [1] "
" <MENU> "



Reserved for the service purposes.

Second level password (service) is required to enter this menu.

3.9.10. Length correction

In case of multi-feeding it is possible to set a plus or minus correction value. This value sets correction of each other feeding (except the first) in mm/inch).

" 1 = Regulator "
" 2 = Length correct "
" F1= mm(1) inch(0) [1] "
" <MENU> "



1) Press button **2** – Length correct to shift to the next menu.

First level password (user) is required to enter this menu:

- password: 947

" Korekce = 0,2 mm"
" Korekce = 0,008 inch"
" F1=0=(t) 1=(-) [1]"
" <MENU> "



2) Use numerical keyboard to set the required correction value.

Press button **F1** to change the plus or minus correction value.

3) Press button **F3**. The selected parameters are stored and you can return to the previous menu.

3.9.11. Service menu closing

"1 = Machine params. " Press button **F3**. Service menu is closed.

"2 = Language "

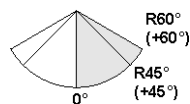
"3 = Swarf conve.mode "

"<BACK> <NEXT> <DONE> "



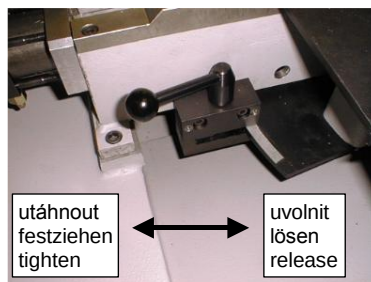
3.10. Band saw adjusting

3.10.1. Nastavení řezného úhlu



The cut angle can be varied from 0° to 60°.

1. Lift the saw frame and release-securing lever of the console.
2. Set the desired angle of the cut according to the scale on the turning console.
3. Tighten the securing lever of the console.



3.10.2. Cutting speed setting Ergonomic 290.250 GANC without frequency converter

Žádanou řeznou rychlost nastavte otočením přepínače.

Poloha **1** – 40 m/min

Poloha **2** – 80 m/min.



3.10.3. Cutting speed setting Ergonomic 290.250 GANC with frequency converter

Speed of the saw band is possible change using the frequency converter. You can effect to adjusting speed of the saw band following.

1. Turn the switch 16 to the position  (semi-automatic mode).
2. Use the frequency converter 22 to adjust requested speed of the saw band



3.10.4. Setting of the bundling system

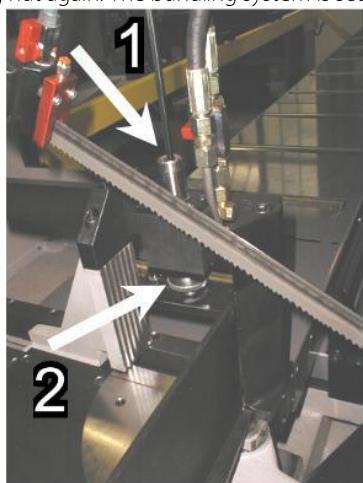
The bundling system allows material clamping to the vice (main and feeding) from the upside. This advantage is exerted for cutting more pieces of the material (for example rods or tubes) together.

Note: The bundling system is added by request and is necessary to book it separately.

ATTENTION! If the bundling system is installed on the main vice, is possible to cut the material with height **max. 110 mm!!**

Setting of the bundling system on the main vice

1. Release the securing nut (see arrow 2).
2. Set the jaw of the bundling system about 3 mm above the material by screw (see arrow 1)
3. Tighten the securing nut again. The bundling system is set.



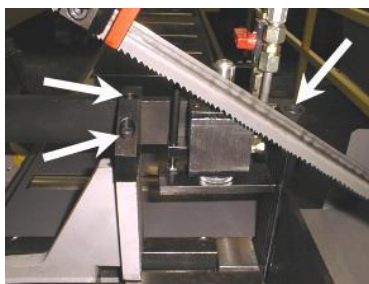
Note: The bundling system on the main vice is possible whenever deactivate by close

Dismantling and assembling of the bundling system on the main vice

If you want to cut material, which is higher than 110 mm, is necessary to dismount the bundling system.

1. Close the valve on the supply line.
2. Screw off (see arrows) on the bundling system.

3. Remove the bundling system from the jaw of the vice. Disconnect the hydraulic hoses!



Note: At assembling, you must proceed from the last point to the first point.

3.10.5. Optimal adjusting of the guide cubes span

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

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



3.10.6. Swarf conveyor operation

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

In semi-automatic cycle

Swarf conveyor ON – press together **F1** and **3** buttons.

Swarf conveyor OFF – press together **F1** and **E** buttons

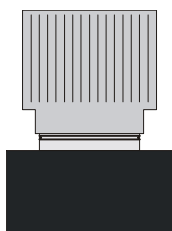
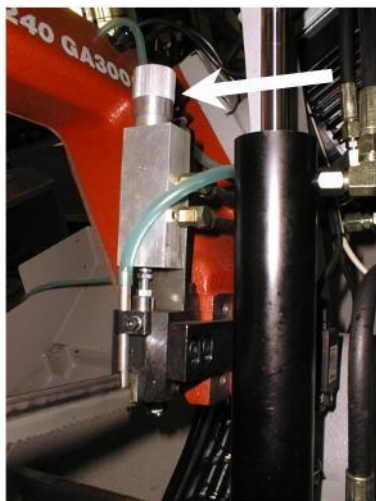
In automatic cycle

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

3.11. Cutting pressure regulation

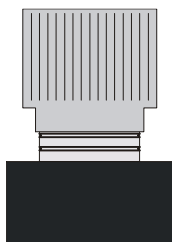
The band saw ergonomic 290.250 GANC is equipped with cutting pressure regulation on the right guiding cube.

Pressure regulation is performed with regulation wheel on the guiding cube. Screw on the wheel – downfeed pressure is bigger. Screw off the wheel – downfeed pressure is smaller.



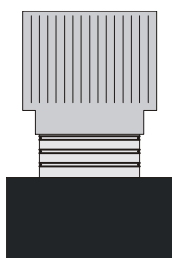
1. One visible neck

Solid material over Ø200 mm..



2. Two visible necks

Solid material from Ø100 to Ø200 mm.

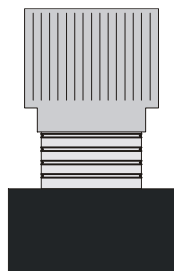


3. Three visible necks

Pipes and shapes material with surface from 10 - 15 mm.

I - shaped material from 200 - 500 mm.

Solid material to Ø100 mm..



4. Four visible necks

Pipes and shapes material with surface to 10 mm.

I - shaped material to 200 mm.

3.11.1. Speed adjusting of the arm lowering

Set the speed of the arm lowering to the cut by control valve (position 21 – control panel).

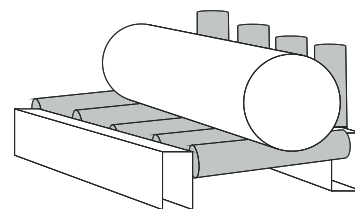
Set the lower speed of the arm lowering to the cut by turning the switch clockwise

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

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

3.12. Material insertion

3.12.1. Safety notes



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!

3.12.2. Handling agent selection

Use the strong handling agents to lift and transfer the material

Handle with the material only with the lift truck or use the suspension strands and the crane!

Do not use the lift truck or crane in case that you do not have the licence to handle with it!

3.12.3. Material insertion

Insert material to the vice and ensure that the material cannot move in the vice or fall from the vice after the clamping.

If you cut long pieces of the material (for example rod, tube), you must use the roller conveyors for material shifting to the band saw. The roller conveyors are described in the chapter „**Roller conveyors and accessories**“.

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

For round material, make sure that it was leaning against at least two vertical rollers of a roller conveyor could not fall!

3.12.4. Bundle material cutting

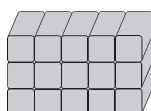
Attention:

Manual bundle clamping device is not standard equipment.

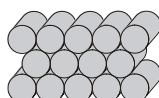
Without this device is a not possible cut bundle.

If a clumper is installed on the machine, the maximum thickness of the materials in half.

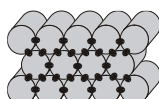
If you want to cut the material in the bundle, there are suggestions for the positioning of bundles



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



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



Attention!: Before welding always, switch the machine off at the main switch! The magnetic fields, which often occur during welding, may damage the controls!

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.

In order to keep the cut material better in a vice, we recommend using **hydraulic bundles material** that does not belong to the standard equipment of the machine, but is an optional accessory. It is particularly suitable when cutting uneven material.

4. **Údržba stroje/ Wartung/ Machine service**

4.1. Saw band adjustment

4.1.1. Saw band dismantling u

1. Zvedněte rameno do nejvyšší polohy a regulačním ventilem rameno v horní poloze zastavte Lift the saw arm to the top position and stop the arm in the up position with control valve
2. Dismantle the yellow protective cover of the saw band. The cover is fastened with two screws



3.) Dismantle rear protective sheet metal of the saw frame. The protective sheet metal is fastened with two screws with plastic head.



4. Release the brush holder. Turn it to the position, where saw band dismantling will be easy.



5. Turn by stretching star to the left, release the saw band stretching and remove the saw band from the wheels.



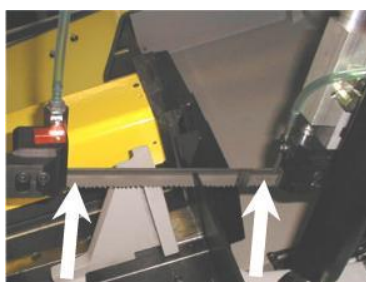
6. Pull up the saw band from guiding cubes after saw band dismantling.



4.1.2. Saw band installation

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

1. Install the saw band to both guiding cubes. Make sure the saw band lies on both track wheels and it is pushed all the way to the top.



2. Insert the saw band on both guiding wheels. Make sure the rear part of the saw band suits to the edge of the wheels. Push the saw band to the recess of the wheel.



3. Turn by star handle to the right, until the saw band will not be stretched. Remove the plastic cover from teeth .
4. Set the brush to the saw band and secure the holder with the screw.



5. Install rear cover of the saw frame.



6. Install yellow protective cover of the saw band. The arrow on the cover must match with arrow direction on the saw band. If they point in the wrong direction, turn the saw blade round.



7. Stretch the saw band until it is stretched to the recommended value in according to chapter about saw band stretching..
8. Check the running of the saw band according to the chapter about monitoring and adjustment of the saw band running.
9. Make the adjustment of the brush according to the chapter on setting brush

4.2. Check and adjustment of saw band stretching

4.2.1. Check of the saw band stretching

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.

Pilový pás Sägeband Saw band	Napětí pilového pásu Sägebandspannung Blade tension	Napětí pilového pásu PSI (pro Tenzomat) Sägebandspannung PSI (für Tenzomat) Blade tension PSI (for Tenzomat)
20 x 0,9 mm	160 N.mm ⁻²	23 500
27 x 0,9 mm	180 N.mm ⁻²	26 500
34 x 1,1 mm	210 N.mm ⁻²	30 500
41 x 1,3 mm	240 N.mm ⁻²	35 000
54 x 1,3 mm	240 N.mm ⁻²	35 000
54 x 1,6 mm	280 N.mm ⁻²	40 600
67 x 1,6 mm	290 N.mm ⁻²	42 000
80 x 1,6 mm	300 N.mm ⁻²	43 500

4.2.2. Saw band stretching

1. Install the Tenzomat on the saw band and secure it with screws.



2. Turn the star-shaped handle to the right until the saw band isn't stretched. Stretch the saw band until it is stretched to the recommended value.

4.3. Check and adjustment of the saw band running on tension wheel

4.3.1. Check of the saw band running

Pravidelně a zvláště při výměně pilového pásu kontrolujte uložení pásu na oběžném kole a ve vodících kostkách. Zejména při výměně pilového pásu je důležité správně nastavit běh pilového pásu.

Periodically and especially after changing of the saw band check position of the saw band on the pension wheel and in the guiding cubes. Especially during saw band changing it is important to set the right running of the saw band.

If the belt is not running properly, you may experience the following problems:

- Saw band falls off wheels – the saw band and/or his protective cover could be damaged
 - Saw band runs along the mount of the tension wheel - the saw band and/or the wheel could be damaged
1. Switch on the saw band drive and then after 10 seconds switch off saw band drive. If the saw band drive is not possible to switch on, set the limit switch of the saw band stretching according to the chapter „Servicing and adjustment.
 2. Switch off the main switch!
 3. Check, if the saw band is properly seated in guide cubes..
 4. Open the cover of the wheels.
 5. 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.

It is possible to adjust the saw band running with an Allen (hexagon socket) screw (see arrow) in a tensioning cube on the arm. The correct distance from the back of the band saw from the wheel mount **is 1-3 mm**

- If you turn the screw to the right, the saw band moves closer to the tensioning wheel mount
- Otáčíme-li šroubem doleva, oddálí se pás od osazení napínacího kola. If you turn the screw to the left, the saw band moves away from the tensioning wheel mount

Check the seating of the saw band again after his adjustment.

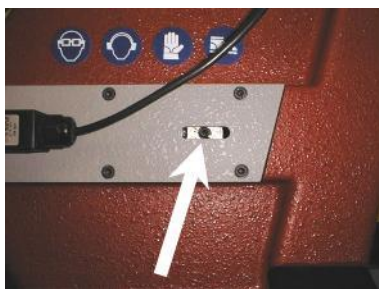
6. Close cover of the saw band.

4.3.2. Adjustment of the saw band running

It is possible to adjust the saw band running with an Allen (hexagon socket) screw (see arrow) in a tensioning cube on the arm. The correct distance from the back of the band saw from the wheel mount **is 1-3 mm**

- If you turn the screw to the right, the saw band moves closer to the tensioning wheel mount
- Otáčíme-li šroubem doleva, oddálí se pás od osazení napínacího kola. If you turn the screw to the left, the saw band moves away from the tensioning wheel mount

Check the seating of the saw band again after his adjustment.



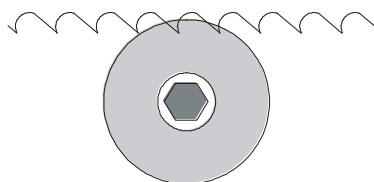
4.4. Check and adjustment of the brush

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

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



2. Set the brush to the saw band. After the brush is set, its ends must not reach the saw band teeth bottoms.



3. Tighten the fixative screws and start of the saw band drive. If the chip removing brush is fastened correctly, the brush moves and turns smoothly.

4.5. Hard metal guides check and adjustment

Hard metal guides adjustment is one of the most important criteria influencing the cutting accuracy and the saw band lifetime. Therefore is essential to correctly adjust and check these hard metal guides condition.

1. Fasten the stopper screw on the backside of the guide cube to prevent saw band to move.



2. Afterward release this screw and simultaneously check the saw band looseness. If it is possible to move the saw band without problems, guides with hard metal are just adjusted.
3. Make sure the guides do not offer resistance against the saw band move or the saw band guide is not too loose fitting. Otherwise the saw band and the band driving engine durability reduce.

4.6. Guiding cubes check and adjustment

Cutting quality and saw band lifetime is dependent on guiding cubes adjustment. Guiding cubes adjustment is necessary checked periodically.

1. Release both fixative screws of the guiding cube and press it on the top edge of the saw band. Make sure the saw band is not bent else this cube will push on the band and damage it.



2. Tighten fixative screws again.
3. If the guide cube is adjusted correctly, top cube edge and the ruler are parallel.

4.7. Angular stops Cheb and setting

Fixed stop with screws is placed on turning console. It is necessary to check the angular stop periodically to prevent incorrect angle cuts.

1. For angular checking, turn with the saw frame to the stop (angle 0°), put the protractor on the saw band and vice jaw.
2. Release the nut of the screw, if angles are not correctly set. Set the smaller angle by screw with the screw. Set bigger angle by screw out the screw.

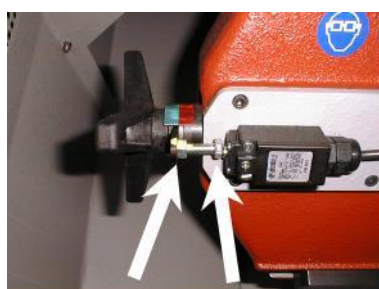


3. Tighten the nut and check angle setting with protractor according to the progress.

4.8. Checking and 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.

1. Tighten the saw band by means of the TENZOMAT on the optimal value (table is on the Tenzomat).
2. Release nut of the stop screw.



3. Switch on the engine of the saw band drive. Two cases can arise:
 - a) If the drive engine is switched on, but it is not running, turn with the screw to the left, until the engine begins run.
 - b) If the drive engine is possible switched on, turn with the screw to the right, until the engine is stopped and then turn with the screw to the left, until the engine begins run
4. Secure the stop screw with nut. Check the limit switch setting again.



ATTENTION! If the saw band is stretched on the value according to the TENZOMAT and the holder of the stop screw is not between red and green colour, it is necessary stick on this label to the correct place.

4.9. Saw frame lower position stop check and adjustment

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

1. Lift the saw frame to the top position.
2. Release the nut of the screw and set it on the desired value.



3. Secure the screw with nut again.
4. Set the limit switch of the saw frame lower position.

4.10. Limit switch of the saw frame lower position Cheb and adjustment

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

4.10.1. Setting inspection

Spustte rameno do nejnížší polohy. Leží-li rameno na dolním dorazu a koncový spínač zareagoval, je nastavení v pořádku. V opačném případě proveďte nastavení spínače.

4.10.2. Limit switch setting

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



4.11. Pressure switch adjustment

Be especially careful during works on hydraulics system !

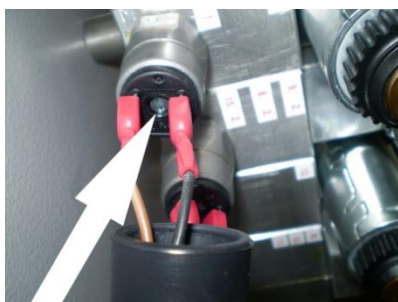
In hydraulic system is residual pressure after hydraulic aggregate stopping!

The pressure switches are in the block of the hydraulic aggregate.

The pressure switch of vice is marked with yellow band **SQ xx** or pressure switch of feeding vice with yellow band **SQ 1** must be adjusted on occasion:



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



2. Set the sensitivity of the pressure switch by means of the screwdriver.

Turn by screwdriver to the left, the sensitivity is bigger.

Turn by screwdriver to the right, the switch will be clip with higher pressure.

Check limit switches adjustment.

The vice is clamped – The pilot light 10.1 of the control system are lighted.

The vice is opened – The pilot light 10.1 of the control system are not lighted.

The vice is on the move – The pilot light are not lighted, they are not winked

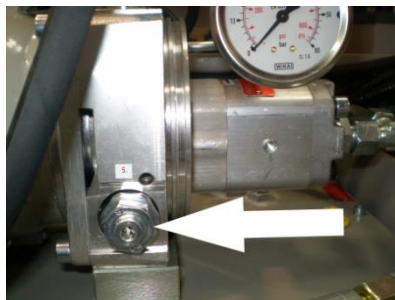
3. Return the cover on the pressure switch after adjustment.

4.12. Pressure adjustment of the hydraulic system

1. Pull off the black cover of the pressure valve.
2. Release the nut of the pressure valve
3. Adjust the pressure using a pressure valve and pressure gauge. When the required pressure is set, tighten the nut of the pressure valve.

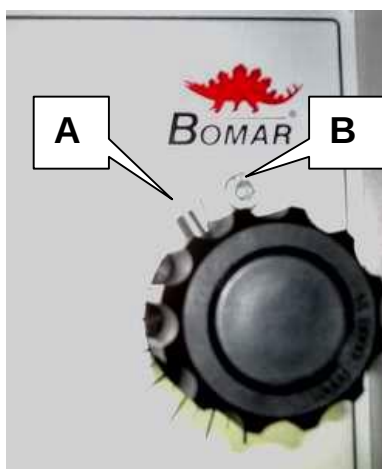
Higher pressure – turn the pressure valve to the clock's direction.

Lower pressure – turn the pressure valve against the clock's direction



4.13. Adjustment of a throttle valve

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



3. Otherwise, you must loosen the worm screw, lift the plastic knob and close the throttle valve to the maximum. Next loosen the worm screw and take off the plastic knob. Put it back so that the worm screw must be next to the stop while the valve is closed. Then tighten the worm screw again.



4. Turn the machine on and test the down-feed control.

4.14. Lubrication

4.14.1. Surfaces and places for lubrication

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



- The upper pivot of the lifting cylinder – drop the oil once a week j.

4.14.2. Lubricant greases

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

Comparative table of the lubricant greases:

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

4.15. Cooling

4.15.1. 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.

Kontrolujte pravidelně hladinu chladicí kapaliny a funkci čerpadla!

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

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

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

* According to manufacturers' instructions

Note:

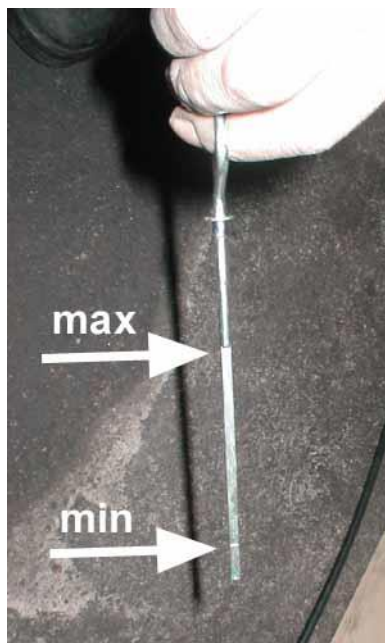
If the state of the cooling liquid is not satisfactory, the cooling liquid must be changed.

4.16. Hydraulics

4.16.1. Check the hydraulic oil

Check the hydraulic oil regularly.

Pull out the dipstick and check the oil level. The oil level must be between the **min** and **max**.



Pokud je potřeba, doplňte hydraulický olej. Při doplňování oleje vždy používejte filtr (25 μ m nebo lepším). Zabráníte tím vniknutí nečistot do hydraulického systému a jeho poruchám.

If it is necessary, add hydraulic oil. When adding of the oil, always use a filter (25 μ m or better). This will prevent dirt from entering the system and its disorders.

4.16.2. 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 32 in hydraulic aggregates. Hydraulic oils quantity – see chapter Hydraulic oil level check.

Note:

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

Comparative table of the hydraulic oils

Manufacturer	Type	Manufacturer	Type
Agip	Oso 32	Ina	Hidraol 32 HD
Aral	Vitam GF 32	Klüber	Lamora HLP 32
Avia	Avilub RSL 32	Hungary	Hidrokomol P 32
Benzina	OH-HM 32	Mobil	Mobil DTE 25
BP	Energol HLP 32	ÖMV	HLP 32
Bulgaria	MX-M/32	Poland	Hydrol 30
Castrol	Hyspin AWS 32	Rumania	H 32 EP
Čepro	Mogul HM 32	Russia	IGP 30
DEA	Astron HLP 4hy6	Shell	Tellus Oil 32
Elf	Elfolna 32	Sun	Sunvis 846 WR
Esso	Nuto H 32	Texaco	Rando HD B 32
Fam	HD 5040	Valvoline	Ultramax AW 32
Fina	Hydran 32		

4.17. 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
Workline 510.350 GANC	Shell Tivela S 320	1,8 l
Swarf conveyor	Shell Tivela S 320	0,075 l

Comparative table of the gearbox oils

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

4.18. Machine clearing

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

Mainly:

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

4.18.1. 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.

4.19. Hard metal guides replacement

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

1. Disconnect the hosepipe of the cooling liquid supply. Dismantle the saw band and the guiding cube of the saw band.



2. Fasten the guiding cube to the vice. Screw out the clamping screws of both hard metal plates.



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



4. Insert new hard metal guides, fasten them tightly and install the guiding cube to the guiding list.
5. Install the saw band, set the hard metal guides and the guiding cube.

4.20. Round brush replacement

If the chip removing brush is so worn, that it does not fulfil its function, the brush must be replaced.

1. Release the nut on the brush, replace the brush and screw on the nut.



2. Set the brush to the saw band.

4.21. Saw band guiding pulleys replacement

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

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

1. Disconnect the hosepipe of the cooling liquid supply, dismantle the saw band and the guiding cube of the saw band.



2. Fasten the guiding cube to the vice and dismantle both fixative screws of the eccentrics.



3. Remove both guiding pulleys from eccentrics.



4. Insert new guiding pulleys on eccentrics and screw on both eccentrics on the guiding cube.



5. Insert the testing pieces of the saw band (about 15 – 20 cm) to the guiding cube and set eccentrics. The saw band must run in the middle of the channel. The channel is between fixation of the eccentrics.

Guide pulleys may not too much press the band, but they have to freely spin. Optimal distance between band and pulley is 0,05 mm.



6. Install the guiding cube on the guiding listel. Install the saw band and set the guiding cubes.

4.22. Stretching wheel replacement

1. Dismantle the saw band.
2. Screw off the screw of the stretching wheel and pull off the washer.



3. Screw on the auxiliary screw to the shaft of the stretching wheel.



4. Put on the three-leg puller on the stretching wheel and pull off it from the shaft.



5. If the lower bearing stays on the shaft, pull of it from the shaft with two-leg puller. Check both bearings; eventually replace them for a new



6. Insert the retaining ring to the hole in the new stretching wheel.



7. Insert the bearing to the hole in the wheel and push it to the retaining ring.



8. Clean the shaft and oil it. Install the new stretching wheel on the shaft.



9. Install the distance ring on the shaft and push it to the lower bearing.



10. Install second bearing on the shaft and push it to the distance ring.



11. Install the washer and screw on the stretching wheel.



12. Install the saw band. Wheel replacement is ready.

4.23. Driving wheel replacement

1. Dismantle the saw band.



2. Screw of the fastening screw of the driving wheel and pull off the washer.
3. Screw on the auxiliary screw to the driving shaft.



4. Install the three-leg puller on the driving wheel and pull off it from the shaft.



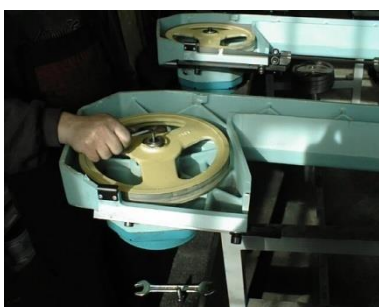
5. Check, if the feather and the driving shaft are not damaged. Contact your supplier for parts replacement.



6. If the shaft and the feather are in good order, clean them, oil them and install them on the driving shaft.



7. Install the washer and screw on the driving wheel.



8. Install the saw band.

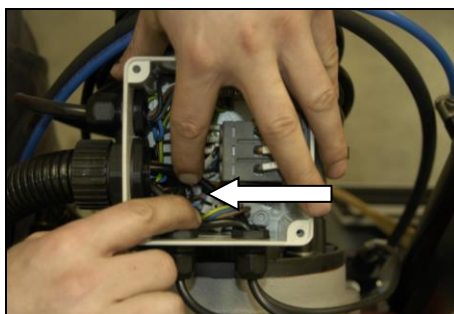
4.24. Cooling pump replacement

Attention!
Only a qualified worker can carry out the connection!
High-voltage shock may have fatal results.

1. Pull the tank with the liquid from the pedestal.



2. Pull up the cooling pump from the tank for coolant and disconnect the hosepipe of the cooling liquid supply from the cooling pump.
3. Remove the cover of the pump terminal switchboard, which is situated on the saw band drive..
4. Disconnect input cables of the cooling pump from the terminal box (see arrow).



5. Pull out the cooling pump input cable from the hosepipe and then push the cable of the new cooling pump through the hosepipe.



6. The reverse order of the above (from the point 4) complete the replacement of the cooling pump..

5. **Závady / Störungen/ Troubleshooting**

5.1. Mechanical problems

Problem	Possible causes	Repair
3. 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.
4. The cut is not cut upon desired angle	- Too fast cutting rate.	Lower the material feeding speed.
	- 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“.
5. Short lifetime of the saw band	- Guiding arm and guiding cube are loosened.	Fasten the guiding arm and the cube.
	- Dirt between material and clamping jaw.	Cleanse the material and mating jaw.
	- 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“
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. 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.
14. The saw arm periodically rise and fall during the cut; this cause short lifetime of the saw band.	- Backlash in driving wheel lodgement on the shaft.	Change the driving shaft for a long one, new bearings, distance ring, new driving wheel, spring, two covers on the forehead of the shaft + screws.
	- Worn channel for spring.	

5.2. Electric problems

Problem	Possible causes	Repair
15. 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.
16. 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.
17. Electric motor and pump are without voltage. Between contactor and thermal protector is not voltage.	- Wrong contactor.	Replace contactor of engine.
18. 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.
19. 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.
20. The hydraulic aggregate cannot be started	Auxiliary contact on thermo-relay FA1 is defective.	Replace the defective contact on motor starter FA1.
21. 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.
22. Cooling is not active	Lack of cooling agent.	Fill the tank with cooling agent.
	- Thermal relay is defective	Change the thermal relay
	- Input hosepipe is broken or obstructed.	Check the cooling circuit and perhaps cleanse cooling system.
	- Cooling pump protection is defective	Check the protection of cooling pump if need change it.
	- Cooling pump is defective.	Replace the cooling pump.

5.3. Hydraulic problems

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

Note:*Frequency Inverter*

Do install the bandsaw machine at electrical Installation that corresponds recommended technical standards. We recommend to protect the machine using current protectores by characteristics U, able to compensates interchanges of rising current which escapes from filter of Frequency Inverter, so that additional equipments to the machine will not be required than. We don't recommend to protect a machine by a standard protector current, equipped by a smaller type under 100 mA. Standard used is 30 mA because of current escape in accordance of Frequency Inverters fitted on machine. Alternative solutions should be used current protector (FI) by sensitivity of 100 mA.

6. **Schémata / Schemas / Schematics**

6.1. Elektrické schéma – bez frekvenčního měniče Elektroschema – ohne Frequenzumrichter / Electric scheme – without frequency converter

6.1.1. 3x400V+PE

0	1	2	3	4	5	6	7	8	9
 Bomar, spol. s r.o. Těžební 1236/1 627 00 Brno Czech republic Ergonomic 290.250 GANC ES-2800-201/202-V1.0 Wiring diagram 3x400V + PE / 50Hz									
 BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno			Stroj/Machine/Maschine: Ergonomic 290.250 GANC			Major assembly/Name page/Name section: Úvodní strana/Start page/Startseite			Číslo dok./Doc.No./Zusatzf. der Dokumente: Hauptgeräts/Name nachfolgende Einigung: Zusatzdokument/Notk. verzeichnet: Datum/Date/Datum:
 BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno			Stroj/Machine/Maschine: Ergonomic 290.250 GANC			Major assembly/Name page/Name section: Úvodní strana/Start page/Startseite			Číslo dok./Doc.No./Zusatzf. der Dokumente: Hauptgeräts/Name nachfolgende Einigung: Zusatzdokument/Notk. verzeichnet: Datum/Date/Datum:
 BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno			Stroj/Machine/Maschine: Ergonomic 290.250 GANC			Major assembly/Name page/Name section: Úvodní strana/Start page/Startseite			Číslo dok./Doc.No./Zusatzf. der Dokumente: Hauptgeräts/Name nachfolgende Einigung: Zusatzdokument/Notk. verzeichnet: Datum/Date/Datum:

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8	Ovládání stýkačů pohonů/Control of contractors/Schaltsteuerung	21.9.2016
9	Signály spouštěčů, klávesnice/Signal of shields, keyboard/Schaltersignal, Tastatursignal	21.9.2016
10	Výstupy/Outputs/Ausgänge	21.9.2016
11	Výstupy/Outputs/Ausgänge	21.9.2016
12	Signály koncových spínačů/Signals of limit switches/signale der Endschalter	21.9.2016
13	Připojení modulů/Modules connection/anschluss der Moduln	21.9.2016
14	Bezpečnostní obvod/Safety circuit/Sicherheitsschaltung	21.9.2016
15	Příslušenství / Accessories / Zubehör	21.9.2016
16	Signalizace LED diod	21.9.2016
17	Description of the LED diodes signalization	21.9.2016
18	LED Standardzeige	21.9.2016

Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednávací číslo Part number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-A1.1	Seřazený modul CPU2-E (UNIVERSAL) Assembled module CPU2-E (UNIVERSAL) Montiert Modul CPU2-E (UNIVERSAL)	CPU2-E	Bomar	266.222	1	/13.6
-A1.3	Seřazený modul JDI-2/2 Assembled module JDI-2/2 Montiert Modul JDI-2/2	JDI-2/2	Bomar	266.216	1	/13.3
-A1.5	Seřazený modul JDO-2/0 (plně osazený) Assembled module JDO-2/0 (fully manned) Montiert Modul JDO-2.0 (voll besetzt)	JDO-2/0	Bomar	266.224	1	/13.0
-BM1	Bezpečnostní relé 24VDC, 3NO Safety relay 24VDC, 3NO Sicherheitsrelais 24VDC, 3NO	BT50	ABB	91.051.063	1	/14.115
-C1.1	Kondenzátor 1000uF/50V Capacitor 1000uF/50V Kondensator 1000uF / 50V	1000uF/50V	GM-electronics	91.282.047	1	/7.2
-CS1.1	Total stop - tlačítko + 3xNC Emergency-stop mushroom push - button + 3xNC Not-Aus-Pile - Taster + 3 xNC	YW1B-VAE02R	IDEC	91.060.084	1	/14.114
-CS1.1	Kontakt - 1x NO Contact - 1x NO Kontakt - 1x NO	YW-E10	IDEC	91.061.044	1	/14.114
-DKL	Seřazený modul DKL-F5 (display) Assembled module DKL-F5 (display) Montiert Modul DKL-F5 (Anzeige)	DKL-F5	Bomar	266.219	1	/13.8
-DM1.1	Místkový usměrňovač - 25A Bridge rectifier - 25A Brückengleichrichter - 25A	DB25-06	GM-electronics	91.280.031	1	/7.2
-FA1.1	Motorový spouštěč - 0.4A Motor starter - 0.4A Motorstarter - 0.4A	MSL16-0.4	ABB	91.045.017	1	/6.4
-FA1.1	Pomocné kontakty - 1xNO+1xNC Auxiliary contacts - 1xNO+1xNC Hilfskontakte - 1xNO+1xNC	HKF1-11	ABB	91.046.002	1	/6.4
FA1.2	Motorový spouštěč - 1A Motor starter - 1A Motorstarter - 1A	MSL16-1,00	ABB	91.045.019	1	/6.5

The manufacturer reserves right to use an equivalent replacement device.



BOMAR, s.r.o.
Těšenská 1236/1
CZ 627 00, Brno

Stroj/Machine/Maschine:

Ergonomic 290.250 GANC

Název dílny/Name page/Name section:

Kusovník artiklů/Parts list/Artikelsückliste

Číslo dok./Doc.No./Anzahl der Dokumente.:

ES-2800-231/202-V1.0

Verz.:

3x400V + PE / 50Hz

Typ/Typ/Typ:

Kodex

Verz.:

21.9.2016

Verz.:

22

Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednávací číslo Type number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-FA1.2	Pomocné kontakty - 1xNO+1xNC Auxiliary contacts - 1xNO+1xNC Hilfskontakte - 1xNO+1xNC	HKF1-11	ABB	91.046.002	1	/6.5
-FA1.3	Motorový spouštěč - 4A Motor starter - 4A Motorstarter - 4A	MS116-4,0	ABB	91.045.022	1	/6.7
-FA1.3	Pomocné kontakty - 1xNO+1xNC Auxiliary contacts - 1xNO+1xNC Hilfskontakte - 1xNO+1xNC	HKF1-11	ABB	91.046.002	1	/6.7
-FA1.4	Motorový spouštěč - 4A Motor starter - 4A Motorstarter - 4A	MS116-4,0	ABB	91.045.022	1	/6.8
FA1.4	Pomocné kontakty - 1xNO+1xNC Auxiliary contacts - 1xNO+1xNC Hilfskontakte - 1xNO+1xNC	HKF1-11	ABB	91.046.002	1	/6.8
-FU1.1	Pojistka trubičková - 1A/250V, pomalá, 5x20 Tube fuse - 1A/250V, slow, 5x20 Rohrsicherung - 1A / 250V, langsam, 5x20	T1A/250V	ESKA	91.230.031	1	/7.1
-FU1.1	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/TH5SU	WIELAND	91.251.102	1	/7.1
-FU1.2	Pojistka trubičková - 1A/250V, pomalá, 5x20 Tube fuse - 1A/250V, slow, 5x20 Rohrsicherung - 1A / 250V, langsam, 5x20	T1A/250V	ESKA	91.230.031	1	/7.2
-FU1.2	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/TH5SU	WIELAND	91.251.102	1	/7.2
-FU1.3	Pojistka trubičková - 3,15A/250V, pomalá, 5x20 Tube fuse - 3,15A/250V, slow, 5x20 Rohrsicherung - T3,15A / 250V, langsam, 5x20	T3,15A/250V	ESKA	91.230.012	1	/7.2
-FU1.3	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/TH5SU	WIELAND	91.251.102	1	/7.2
-FU1.4	Pojistka trubičková - 4A/250V, pomalá, 5x20 Tube fuse - 4A/250V, slow, 5x20 Rohrsicherung - 4A / 250V, langsam, 5x20	T4A/250V	ESKA	91.230.015	1	/7.2

The manufacturer reserves right to use an equivalent replacement device.

Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednáací číslo Part number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-F01.4	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/THSSU	WIELAND	91.251.102	1	/7.2
-F01.5	Pojistka trubičková - 250mA/250V, pomalá, 5x20 Tube fuse - 250mA/250V, slow, 5x20 Rohrsicherung - 250mA / 250V, langsam, 5x20	T250mA/250V	ESKA	91.230.033	1	/13.1
-F01.5	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/THSSU	WIELAND	91.251.102	1	/13.1
-KM1.1	Ministýkač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B6S-30-01-1.7-71	ABB	91.040.049	1	/8.2
-KM1.2	Ministýkač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B6S-30-01-1.7-71	ABB	91.040.049	1	/8.3
-KM1.3	Ministýkač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B6S-30-01-1.7-71	ABB	91.040.049	1	/8.4
-KM1.4	Ministýkač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B6S-30-01-1.7-71	ABB	91.040.049	1	/8.5
-KM11	Ministýkač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B6S-30-01-1.7-71	ABB	91.040.049	1	/14.117
-KM11	Pomocné kontakty - 1xNO+1xNC Auxiliary contacts - 1xNO+1xNC Hilfskontakte - 1xNO+1xNC	CAF 6-11M	ABB	91.041.042	1	/14.117
-KM12	Ministýkač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B6S-30-01-1.7-71	ABB	91.040.049	1	/14.118
-KM12	Pomocné kontakty - 1xNO+1xNC Auxiliary contacts - 1xNO+1xNC Hilfskontakte - 1xNO+1xNC	CAF 6-11M	ABB	91.041.042	1	/14.118
M1.5	Ventilátor - 80x80x25, 24 V/73 mA Fan - 80x80x25, 24 V/73 mA Lüfter - 80x80x25, 24V / 73 mA	EE80S2B1 A09	SUNON	91.015.113	1	/13.1

The manufacturer reserves right to use an equivalent replacement device.

3.a	BOMAR, s.r.o. Třeborní 1236/1 CZ 627 00, Brno	Stručná/Machine/Rechnung: Ergonomic 290.250 GANC	Název výrobku/Name page/Name section: Kusovník artiklů/Parts list/Artikelsückliste	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-2900-231/200-V1.0	Úděl/Pages/ Seite: 3.a
				Impulsn/Power supply/Einspeisung: 3x400V + PE / 50Hz	Úděl/Pages/ Seite: 22
				Zpracoval/Processed / Hat verarbeitet: Kodba	
				Datum/Date/Datum: 21.9.2016	

Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednávací číslo Type number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-PA1.1	Pojistkový odpínač pro válcové víčky - 3P Switch fuse for the cylinder inserts - 3P Schalter Sicherung für den Zylinderinsätze - 3P	E 93/32	ABB	91.241.014	1	/7.2
-PA1.1	Pojistka válcová - 500mA, 10x38 ,pomalá Tube fuse - 500mA, 10x38, slow Rohrsicherung - 500mA, 10x38, langsam	PV10 500mA aM	OEZ	91.231.009	3	/7.2
-QS1.1	3 pólový odpínač, 16A Disconnecter - 3P, 16A Trennschalter - 3P, 16A	OT16FT3	ABB	91.170.018	1	/6.0
-RCF0	Síťový filtr 16A/2A Mains filter 16A/2A Netzfilter 16A/2A	FFA 3-16-400/3-2-400	ASTP s.r.o.	91.041.017	1	/6.1
-RCF1.1	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Víček	91.041.015	1	/6.3
-RCF1.2	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Víček	91.041.015	1	/6.4
-RCF1.3	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Víček	91.041.015	1	/6.6
-RCF1.4	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Víček	91.041.015	1	/6.8
-RCF11	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Víček	91.041.015	1	/6.2
-RCF12	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Víček	91.041.015	1	/6.3
-SA1.1	SPÍNAČ ČERNÝ 3 polohy - Harmony Switch black 3 positions - Harmony Schalter schwarz 3 Positionen - Harmony	ZBS-AD3	TELEMECANIQUE	91.060.024	1	/9.5
-SA1.1	Upevňovací adaptér + 1NO Mounting adapter + 1NO Montageadapter + 1NO	ZBSAZ101	TELEMECANIQUE	91.061.007	1	/9.5

The manufacturer reserves right to use an equivalent replacement device.

3.b

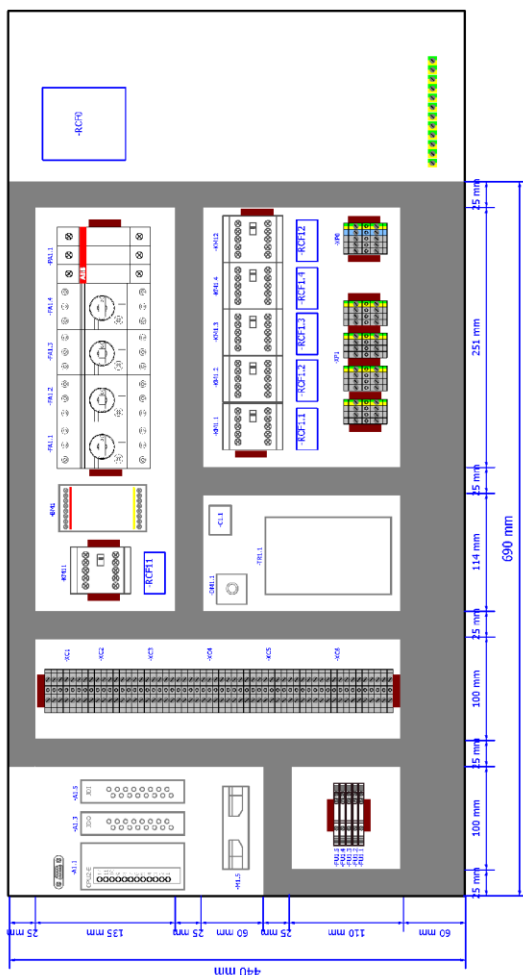
 BOMAR, s.r.o. Třebemí 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: Ergonomic 290.250 GANC	Název souboru/Name page/Name section: Kusovník artiklů/Parts list/Artikellückliste	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-2900-250/202-V1.0 Ingipilni/Power supply/Erspannung: 3x400V + PE / 50Hz Zpracoval/Processed / Hat verarbeitel: Kozla Datum/Date/Datum: 21.9.2016	Účel/Use/ Adres.: 3x List/Pages/ Seiten: 22

Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednávací číslo Type number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-SA1.1	1xNO kontakt 1xNO contact 1xNO Kontakt	ZBE-101	TELEMECANIQUE	91.061.012	1	/9.5
-SQ21	Bezpečnostní koncový spínač - 2xNC Safety Limit Switch - 2x NC Sicherheitsendschalter - 2x NC	QKS8	KEDU	91.173.012	1	/14.114
-SQ22	Bezpečnostní koncový spínač - 2xNC Safety Limit Switch - 2x NC Sicherheitsendschalter - 2x NC	QKS8	KEDU	91.173.012	1	/14.112
-TRL1.1	Transformátor - 3x400V/3x19V, 3,6A Transformer- 3x400V/3x19V, 3,6A Transformator- 3x400V / 3x19V, 3,6A	TBC-32525-019	ELEKTROKOV	91.080.022	1	/7.2
-TSL1.1	Hlavice zelená prosvětlená - Harmony Head green backlit - Harmony Kopf grün Hintergrundbeleuchtung - Harmony	ZBSAW33	TELEMECANIQUE	91.060.019	1	/9.6
-TSL1.1	Upevňovací adaptér + 1NO Mounting adapter + 1NO Montageadapter + 1NO	ZBSAZ101	TELEMECANIQUE	91.061.007	1	/9.6
-TSL1.2	Hlavice tlačítka černá Button black head Taste Milleser	ZBSAA2	TELEMECANIQUE	91.060.013	1	/9.7
-TSL1.2	Upevňovací adaptér + 1NO Mounting adapter + 1NO Montageadapter + 1NO	ZBSAZ101	TELEMECANIQUE	91.061.007	1	/9.7
-TSL1.3	Hlavice prosvětleného tlačítka žlutá The button head backlit yellow Der Knopf Kopf von hinten beleuchtet gelb	ZBSAW35	TELEMECANIQUE	91.060.023	1	/14.116

The manufacturer reserves right to use an equivalent replacement device.

 BOMAR, s.r.o. Těšenská 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: Ergonomic 290.250 GANC	Název stránky/Page page/Name section: Kusovník artiklů/Parts list/Artikelsückliste	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-2800-231/202-V1.0		148/149/
			Napájení/Power supply/Einspeisung: 3x400V + PE / 50Hz		3x4
			Zpracování/Processing / Auf verarbeitet:		1x14/149/
			Datum/Date/Datum:		21.9.2016



BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno

Stroj/Machine/Maschine:

ergonomic 290.250 GANC

Název stránky/Name page/Name seiten:

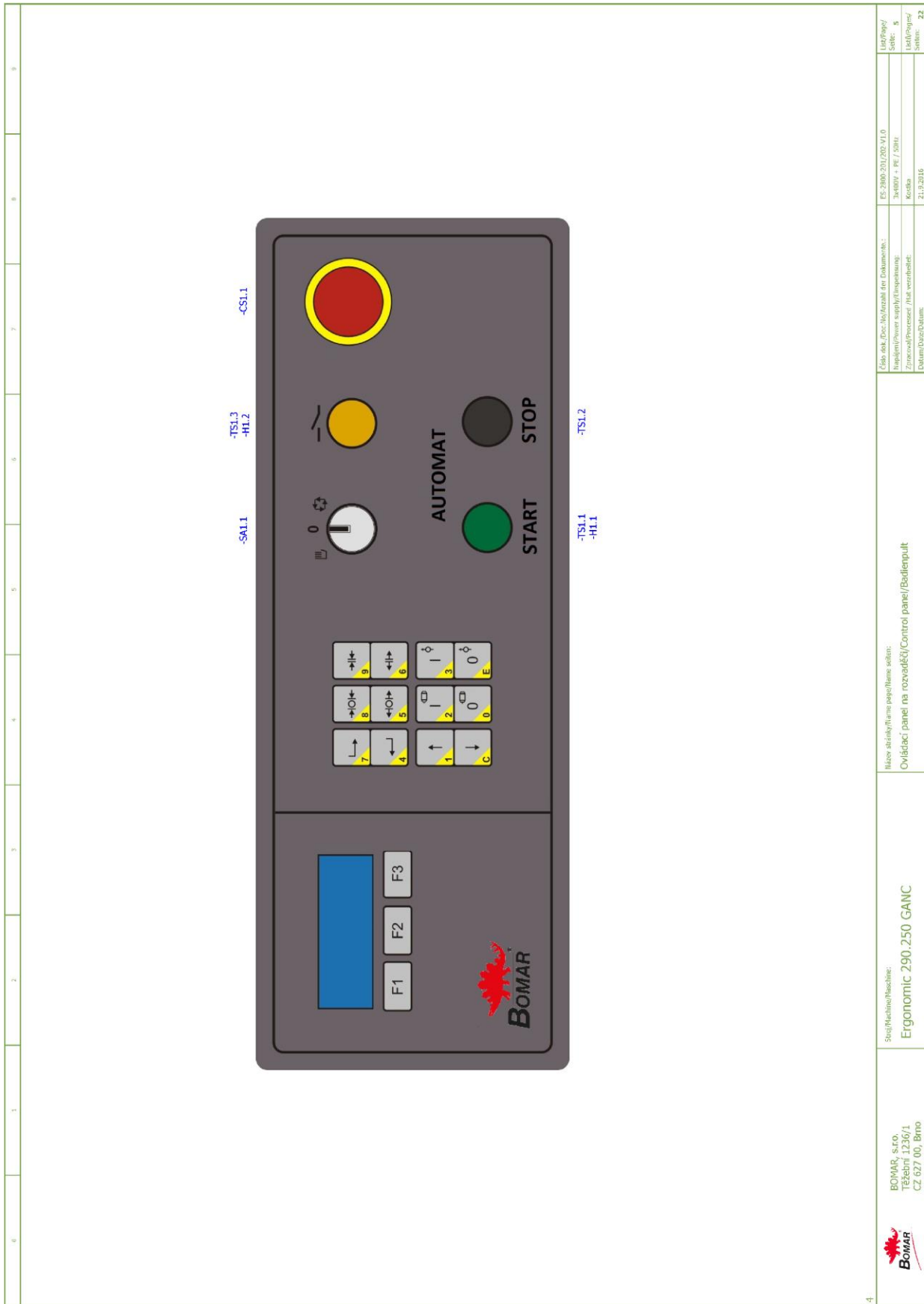
Rozmístění prvků v rozvaděči R1/Placement of elements in enclosure R1/Platzierung der Elemente im Schaltschrank R1

Číslo dok./Doc.No./Anzahl der Dokumente.:

ES-2300-201/202-V1.0

3x400V + PE

21.9.2016





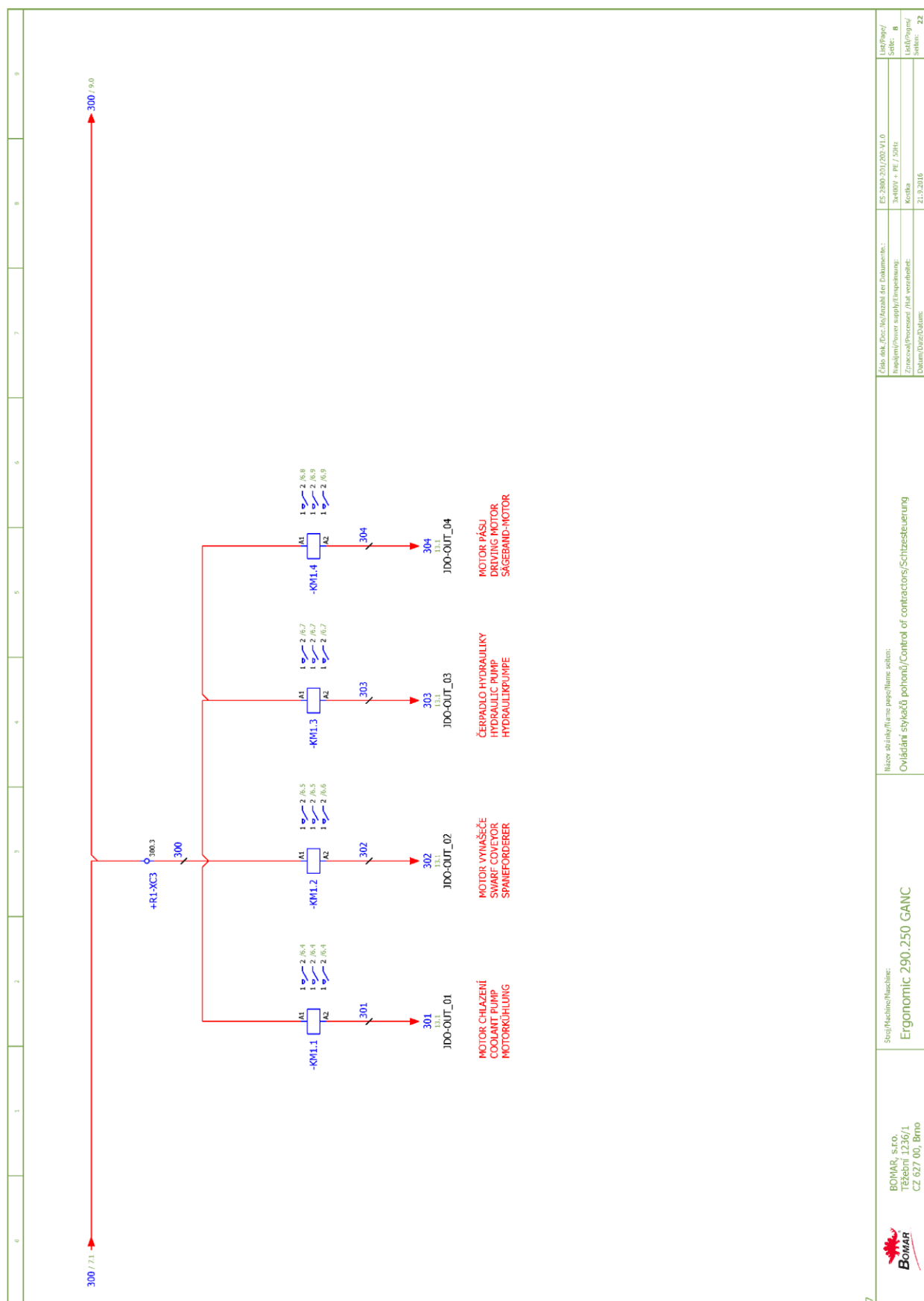


ES-2800-201/201-V1.0	Lib/Pages/ Seite: 7
3x400V + PE / 50Hz	Lib/Pages/ Seite: 22
Grundformel / Power supply / Lineplanung:	
Zugabe / Prozess / Hat verifiziert:	
Datum/Date/Datum:	21.9.2016

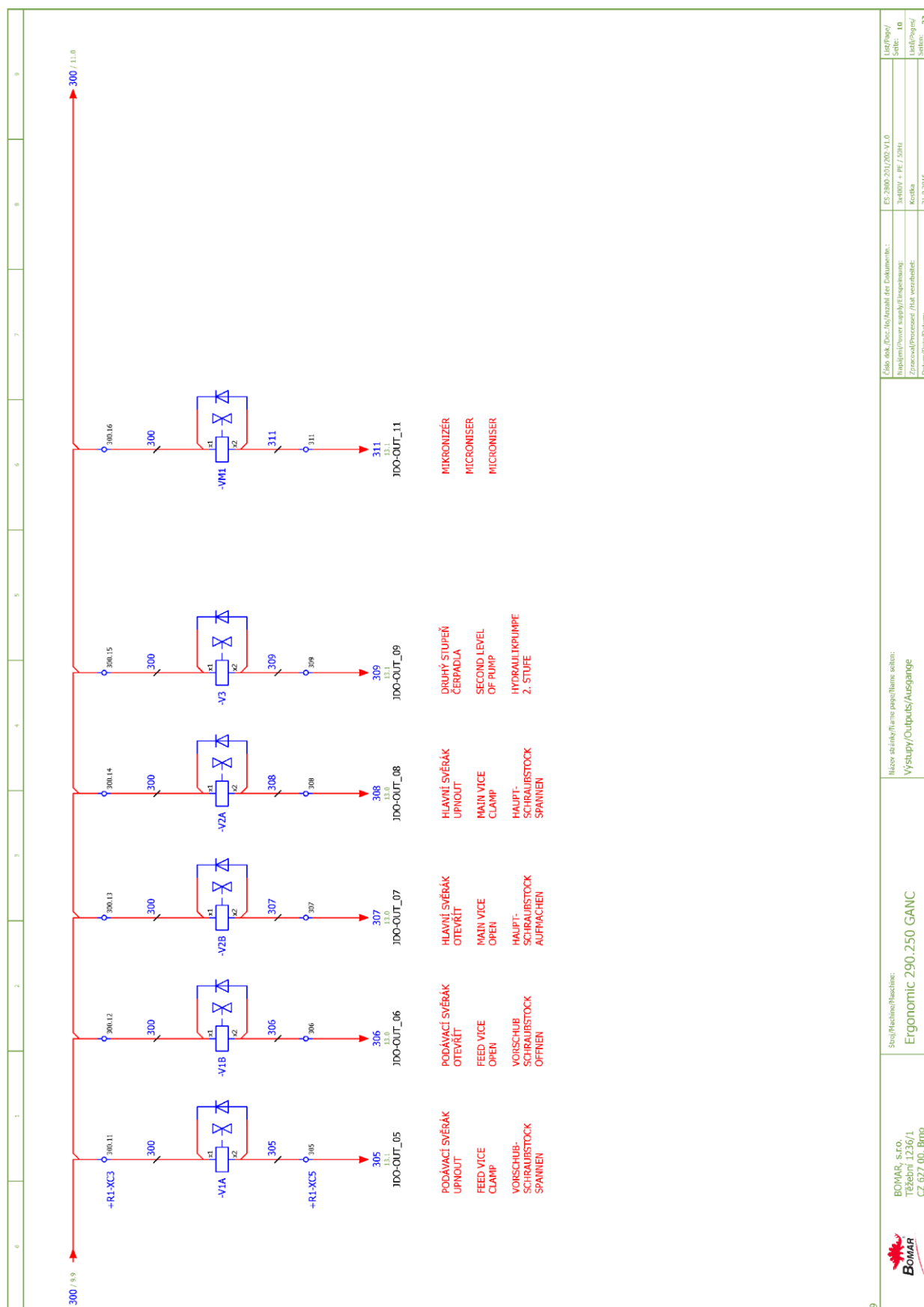
Propojení napájecích obvodů/Fe

Ergonomic 290.250 GANC

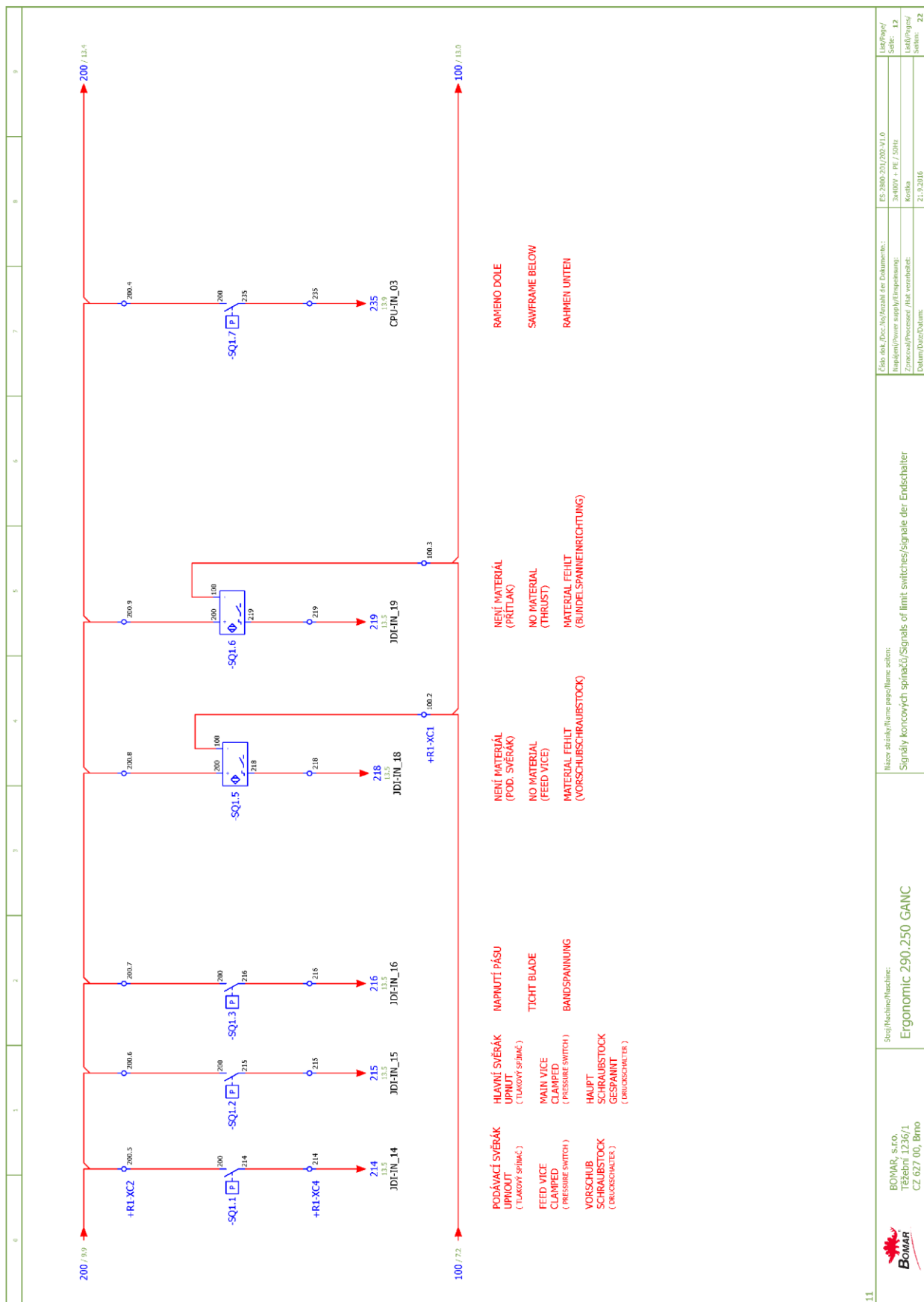
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno















	BOMAR, s.r.o. Těšenská 1236/1 CZ 627 00, Brno	Stroj/Machine/ Maschine: Ergonomic 290, 250 GANC	Název náčrtu/Name paper/draw. schém: Bezpečnostní obvod /Safety circuit/Sicherheitsschaltung	Číslo dok./Doc.No./Inzahl der Dokumente.: ES-2800-201/2002-V1.0	List/Popy/ Seite: 14
			Název (převzetí supply)/Empfehlung: Kordka	List/Popy/ Seite: 22	Datum/Dat./Datum: 21.8.2016



 BOMAR, s.r.o. Těžiště 1236/1 ČZ 627 00, Brno	Scop Machine Machine: Ergonomic 290.250 GANC	Házor ažinky / Házor paper / Házor seřiz: Příslušenství / Accessoires / Zubehör	Číslo dok. / Doc. No. / Anzahl der Dokumente.: ES-2800-202-V1.0 Impedance / Zvlnění / Impedance: 3x400V + PE / 50Hz Zrno / Zrno / Zrno: Zrno / Zrno / Zrno Datum / Datum / Datum: 21.2.2016	Use / Použití / Seite: 15 Use / Použití / Seite: 22
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120

CPU - unit state signalization	
12	Voltage 5V
11	Voltage 5V - KOM
10	Internal CAN - TXD
9	Internal CAN - RXD
8	External CAN - TXD
7	External CAN - RXD
6	Connection with JDO unit OK
5	Connection with JDI unit OK
4	
3	
2	The feeder to the back
1	The feeder to the front

JDI - Input state signalization	
	Button released
16	Button pushed
15	The sawband is tight
14	Main gripper is closed
13	Feeding gripper is closed
12	Total stop activated
11	Automatic mode stopped
10	Automatic mode started
9	Manual control activated
8	Automatic control activated
7	Band motor protection OK
6	Hydraulic pump protection OK
5	Swarf-rem. motor protection is OK
4	Cooling motor protection OK
3	Security circuit is OK
2	Material is present - thrust
1	Material is present - feeding gripper

JDO - Output state signalization	
16	
15	Put the arm up
14	Put the arm down
13	
12	Switch on the automatic cycle indicator
11	Activate the microniser
10	
9	Shift the pump into second stage
8	Open the main gripper
7	Close the main gripper
6	Open the feeding gripper
5	Close the feeding gripper
4	Turn on the band motor
3	Turn on the hydraulic pump
2	Turn on the swarf-removal motor
1	Turn on the cooling motor

 BOMAR, s.r.o. Třebeně 1236/1 CZ 627 00, Brno	Stop/Machine/Rechner: Ergonomic 290.250 GANC	Macro address/frame page/frame section: Description of the LED diodes signalization	Číslo dok./Doc.No/Anzahl der Dokumente.: Injektion/Power supply/Injektierung: Zpracování/Processing / Dat. verarbeitet: Datum/Date/Datum:	ES-2900-231/202-V1.0 3x40W + PE / 50Hz Kordka 21.9.2016	URL/Page/ Adres.: 17 List/Page/ Seiten: 22

	CPU - Ausgabe - Einheitsstand
12	Versorgung 5V
11	Versorgung 5V - KOM
10	Intern CAN - TXD
9	Intern CAN - RXD
8	Extern CAN - TXD
7	Extern CAN - RXD
6	Verbindung mit JDO-Einheit OK
5	Verbindung mit JDI-Einheit OK
4	
3	
2	Vorschub nach hinten
1	Vorschub nach vorne

6.2. Elektrické schéma – s frekvenčním měničem Elektroschema – mit Frequenzumrichter / Electric scheme – with frequency converter

6.2.1. 3x400V+PE

0	1	2	3	4	5	6	7	8	9
 Βιομηχανικός εξοπλισμός Těžební zařízení / 622000 Biřumsko Číslo účtu: 622000 Ergonomic 290.250 GANC FM ES-2810F-201/202-V1.0 Wiring diagram 3x400V + PE / 50Hz Βιομηχανικός εξοπλισμός Těžební zařízení / 622000 Biřumsko Číslo účtu: 622000									
 BOMAR s.r.o. Třeláků 1236/1 CZ 627 00, Brno Stroj/Mechine/Maschine: Ergonomic 290.250 GANC FM Miscel. skříně/Arm. page/Name. skříně: Úvodní strana/Start page/Startseite Číslo dok. Doc./No./Zusatz der Dokumente: Hauptgerätskizze nachfolgende Einzeichnung: Grundriss/Profilansicht /Nicht verzeichnet: Querschnitt/Querschnitt: ES-2810F-201/202-V1.0 3x400V + PE / 50Hz Kabel 2.3.2018 Verfasser/ Autor: 1 Kontrolliert/ geprüft: 24									

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2	Obsah/Content/Inhalt	21.9.2016
3	Kusovník artiklů/Parts list/Artikellist	21.9.2016
3.a	Kusovník artiklů/Parts list/Artikellist	21.9.2016
3.b	Kusovník artiklů/Parts list/Artikellist	21.9.2016
3.c	Kusovník artiklů/Parts list/Artikellist	21.9.2016
3.d	Kusovník artiklů/Parts list/Artikellist	21.9.2016
3.e	Kusovník artiklů/Parts list/Artikellist	21.9.2016
4	Rozmístění prvků v rozvaděči R1/Placement of elements in enclosure R1/Platzierung der Elemente im Schaltschrank R1	21.9.2016
5	Ovládací panel na rozvaděči/Control panel/Badenpult	21.9.2016
6	Připojení pohonů/Drivings connection/Antriebsanschluss	21.9.2016
7	Propojení napájecích obvodů/Feeding circuits/Stromversorgungsgebiete	21.9.2016
8	Ovládání stýkačů pohonů/Control of contractors/Schaltsteuerung	21.9.2016
9	Signály spouštěčů, klávesnice/Signal of shields, keyboard/Schaltersignal, Tastatursignal	21.9.2016
10	Výstupy/Outputs/Ausgänge	21.9.2016
11	Výstupy/Outputs/Ausgänge	21.9.2016
12	Signály koncových spínačů/Signals of limit switches/signale der Endschalter	21.9.2016
13	Ovládání frekvenčních měničů/Speed controllers/Sägebandmotor	21.9.2016
14	Připojení modulů/Modules connection/anschluss der Moduln	21.9.2016
15	Bezpečnostní obvod/Safety circuit/Sicherheitsschaltung	21.9.2016
16	Příslušenství / Accessories / Zubehör	21.9.2016
17	Signalizace LED diod	21.9.2016
18	Description of the LED diodes signalization	21.9.2016
19	LED Standardzeile	21.9.2016

Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednávací číslo Part number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-A1.1	Seřazený modul CPU2-E (UNIVERSAL) Assembled module CPU2-E (UNIVERSAL) Montiert Modul CPU2-E (UNIVERSAL)	CPU2-E	Bomar	266.222	1	/14.6
-A3.1	Seřazený modul JDI-2/2 Assembled module JDI-2/2 Montiert Modul JDI-2/2	JDI-2/2	Bomar	266.216	1	/14.3
-A5.1	Seřazený modul JDO-2/0 (plně osazený) Assembled module JDO-2/0 (fully manned) Montiert Modul JDO-2.0 (voll besetzt)	JDO-2/0	Bomar	266.224	1	/14.0
-BM1	Bezpečnostní relé 24VDC, 3NO Safety relay 24VDC, 3NO Sicherheitsrelais 24VDC, 3NO	BT50	ABB	91.051.063	1	/15.115
-C1.1	Kondenzátor 1000uF/50V Capacitor 1000uF/50V Kondensator 1000uF / 50V	1000uF/50V	GM-electronics	91.282.047	1	/7.2
-CS1.1	Total stop - tlačítko + 3xNC Emergency-stop mushroom push - button + 3xNC Not-Aus-Pile - Taster + 3 xNC	YW1B-VAE02R	IDEC	91.060.084	1	/15.114
-CS1.1	Kontakt - 1x NO Contact - 1x NO Kontakt - 1x NO	YW-E10	IDEC	91.061.044	1	/15.114
-DKL	Seřazený modul DKL-F5 (display) Assembled module DKL-F5 (display) Montiert Modul DKL-F5 (Anzeige)	DKL-F5	Bomar	266.219	1	/14.8
-DM1.1	Místkový usměrňovač - 25A Bridge rectifier - 25A Brückengleichrichter - 25A	DB25-06	GM-electronics	91.280.031	1	/7.2
-FA1.1	Motorový spouštěč - 0.25A Motor starter - 0.25A Motorstarter - 0.25A	MS116-0.25	ABB	91.045.016	1	/6.4
-FA1.1	Pomocné kontakty - 1xNO+1xNC Auxiliary contacts - 1xNO+1xNC Hilfskontakte - 1xNO+1xNC	HKF1-11	ABB	91.046.002	1	/6.4
FA1.2	Motorový spouštěč - 1A Motor starter - 1A Motorstarter - 1A	MS116-1.00	ABB	91.045.019	1	/6.5

The manufacturer reserves right to use an equivalent replacement device.



BOMAR, s.r.o.
Těšenská 1236/1
CZ 627 00, Brno

Stroj/Machine/Maschine:

Ergonomic 290.250 GANC FM

Kusovník artiklů/Parts list/Artikelsückliste

Kusovník artiklů/Parts list/Artikelsückliste

Číslo dok./Doc.No./Anzahl der Dokumente :
3x400V + PE / 50Hz
Zpracoval/Processed / Hat verarbeitet:
Datum/Date/Datum:

ES-2810P-201/202-V1.0

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Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednávací číslo Type number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-FA1.2	Pomocné kontakty - 1xNO+1xNC Auxiliary contacts - 1xNO+1xNC Hilfskontakte - 1xNO+1xNC	HKF1-11	ABB	91.046.002	1	/6.5
-FA1.3	Motorový spouštěč - 4A Motor starter - 4A Motorsarter - 4A	MS116-4,0	ABB	91.045.022	1	/6.7
-FA1.3	Pomocné kontakty - 1xNO+1xNC Auxiliary contacts - 1xNO+1xNC Hilfskontakte - 1xNO+1xNC	HKF1-11	ABB	91.046.002	1	/6.7
-FM1.1	Frekvenční měnič - 1,5kW, 3x400VAC Frequency converter - 1,5kW, 3x400VAC Frequenzumrichter - 1,5kW, 3x400VAC	VFD015EL43A	DELTA ELECTRONICS, INC.	91.012.122	1	/13.1
-FU1.1	Pojistka trubičková - 1A/250V, pomalá, 5x20 Tube fuse - 1A/250V, slow, 5x20 Rohrsicherung - 1A / 250V, langsam, 5x20	T1A/250V	ESKA	91.230.031	1	/7.1
-FU1.1	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/TH5SU	WIELAND	91.251.102	1	/7.1
-FU1.2	Pojistka trubičková - 1A/250V, pomalá, 5x20 Tube fuse - 1A/250V, slow, 5x20 Rohrsicherung - 1A / 250V, langsam, 5x20	T1A/250V	ESKA	91.230.031	1	/7.2
-FU1.2	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/TH5SU	WIELAND	91.251.102	1	/7.2
-FU1.3	Pojistka trubičková - 3,15A/250V, pomalá, 5x20 Tube fuse - 3,15A/250V, slow, 5x20 Rohrsicherung - T3,15A / 250V, langsam, 5x20	T3,15A/250V	ESKA	91.230.012	1	/7.2
-FU1.3	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/TH5SU	WIELAND	91.251.102	1	/7.2
-FU1.4	Pojistka trubičková - 4A/250V, pomalá, 5x20 Tube fuse - 4A/250V, slow, 5x20 Rohrsicherung - 4A / 250V, langsam, 5x20	T4A/250V	ESKA	91.230.015	1	/7.3
-FU1.4	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/TH5SU	WIELAND	91.251.102	1	/7.3

The manufacturer reserves right to use an equivalent replacement device.

Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednávací číslo Part number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-F01.5	Pojistka trubicová - 250mA/250V, pomalá, 5x20 Tube fuse - 250mA/250V, slow, 5x20 Rohrsicherung - 250mA / 250V, langsam, 5x20	T250mA/250V	ESKA	91.230.033	1	/14.1
-F01.5	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/TH5SU	WIELAND	91.251.102	1	/14.1
-KM1.1	Ministýkač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B65-30-01-1-7-71	ABB	91.040.049	1	/8.2
-KM1.2	Ministýkač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B65-30-01-1-7-71	ABB	91.040.049	1	/8.3
-KM1.3	Ministýkač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B65-30-01-1-7-71	ABB	91.040.049	1	/8.4
-KM11	Ministýkač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B65-30-01-1-7-71	ABB	91.040.049	1	/15.117
-KM11	Pomocné kontakty - 1xNO+1xNC Auxiliary contacts - 1xNO+1xNC Hilfskontakte - 1xNO+1xNC	CAF 6-11M	ABB	91.041.042	1	/15.117
-KM12	Ministýkač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B65-30-01-1-7-71	ABB	91.040.049	1	/15.118
-KM12	Pomocné kontakty - 1xNO+1xNC Auxiliary contacts - 1xNO+1xNC Hilfskontakte - 1xNO+1xNC	CAF 6-11M	ABB	91.041.042	1	/15.118
-M1.4	Ventilátor - 80x80x25, 24 V/73 mA Fan - 80x80x25, 24 V/73 mA Lüfter - 80x80x25, 24V / 73 mA	EE80252B1-A99	SUNON	91.015.113	1	/14.1
-PAL.1	Pojistka válcová - 6A, 10x38, pomalá Tube fuse - 6A, 10x38, slow Rohrsicherung - 6A, 10x38, langsam	PV10 6A aM	OEZ	91.230.045	3	/6.8
-PAL.1	Pojistkový odpínač pro válcové víčky - 3P Switch fuse for the cylinder inserts - 3P Schalter-Sicherung für den Zylinderinsätze - 3P	E93/32	ABB	91.241.014	1	/6.8

The manufacturer reserves right to use an equivalent replacement device.

3.a	BOMAR, s.r.o. Třeborní 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: Ergonomic 290.250 GANC FM	Název stránky/Page page/Name section: Kusovník artiklů/Parts list/Artikelsückliste	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-2810P-201/202-V1.0	Údaj/Page/ data: 3.b
				Impulsem/Power supply/Einspeisung: 3x400V + PE / 50Hz	Údaj/Page/ data: 3.b
				Zpracoval/Processed / Hat verarbeitet: Kodba	Údaj/Page/ data: 3.b
				Datum/Date/Datum: 21.9.2016	Údaj/Page/ data: 3.b
					Stránka: 24

Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednávací číslo Type number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-PA1.2	Polistkový odřezáček pro válčkové víčky - 3P Switch fuse for the cylinder inserts - 3P Schalter Sicherung für den Zylinderinsätze - 3P	E 93/32	ABB	91.241.014	1	/7.2
-PA1.2	Pojistka válcová - 500mA, 10x38 ,pomalá Tube fuse - 500mA, 10x38, slow Rohrsicherung - 500mA, 10x38, langsam	PV10 500mA aM	OEZ	91.231.009	3	/7.2
-POT1.1	Potenciometr 4k7 Potentiometer 4k7	TP195 4k7/N20A	Elektronické součástky CZ, a.s	91.283.015	1	/13.5
-POT1.1	Hlavice potenciometru - 24mm Head of potentiometer 24mm Leiter Potentiometer 24mm	S8877 BLK	GES-ELECTRONICS, a.s.	91.060.063	1	/13.5
-QS1.1	3 pólový odřezáček, 16A Disconnect - 3P, 16A Trennschalter - 3P, 16A	OT16FT3	ABB	91.170.018	1	/6.0
-RCF0	Síťový filtr 16A/2A Mains filter 16A/2A Netzfilter 16A/2A	FFA 3-16-400/3-2-400	ASTP s.r.o.	91.041.017	1	/6.1
-RCF1.1	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Víček	91.041.015	1	/6.3
-RCF1.2	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Víček	91.041.015	1	/6.5
-RCF1.3	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Víček	91.041.015	1	/6.6
-RCF11	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Víček	91.041.015	1	/6.2
-RCF12	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Víček	91.041.015	1	/6.3
RE1.1	Palice pro relé Relay socket Relaissocket	CR PSS	ABB	91.051.048	1	/8.6

The manufacturer reserves right to use an equivalent replacement device.

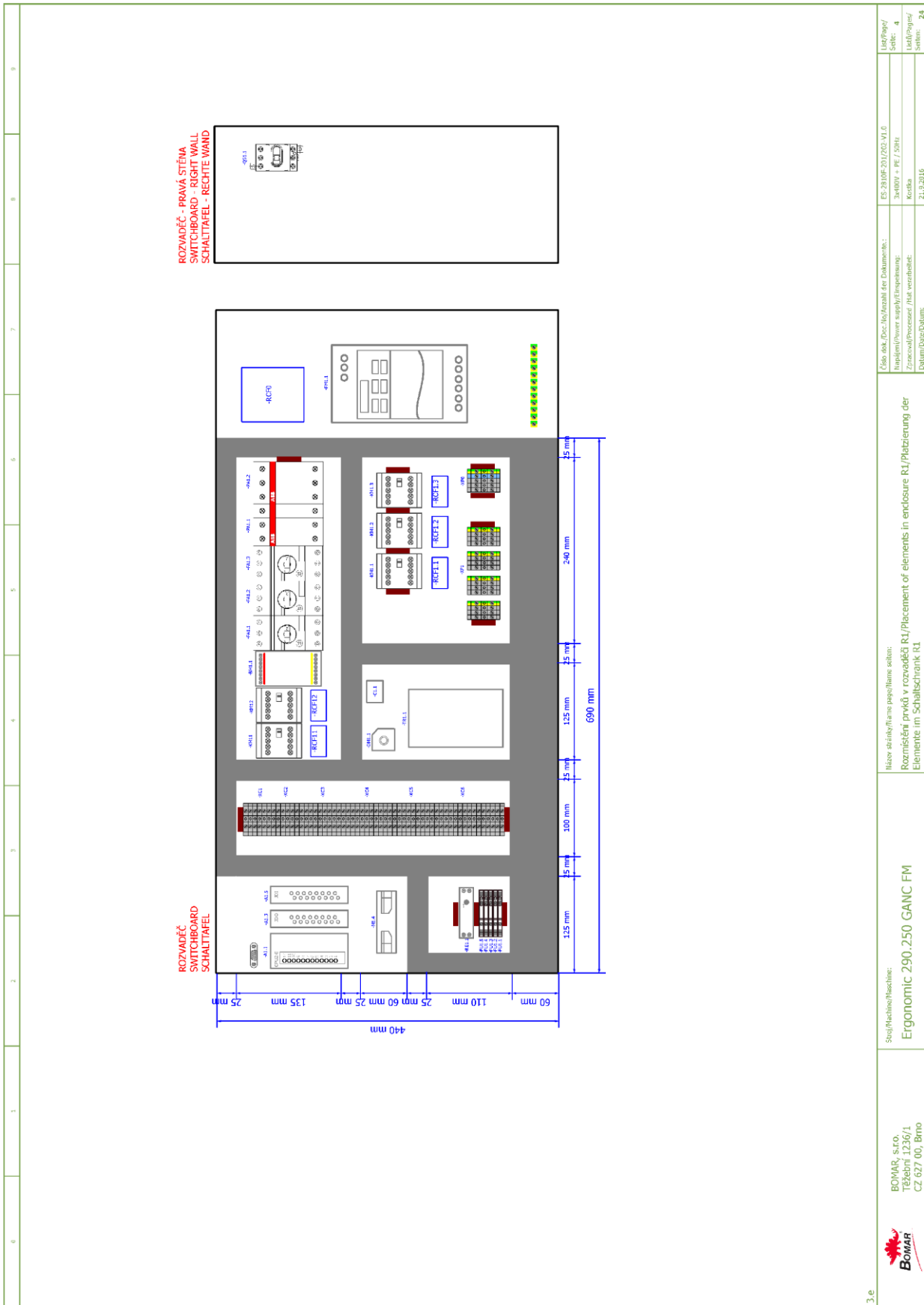
Kusovník artiklů / Parts list / Stückliste

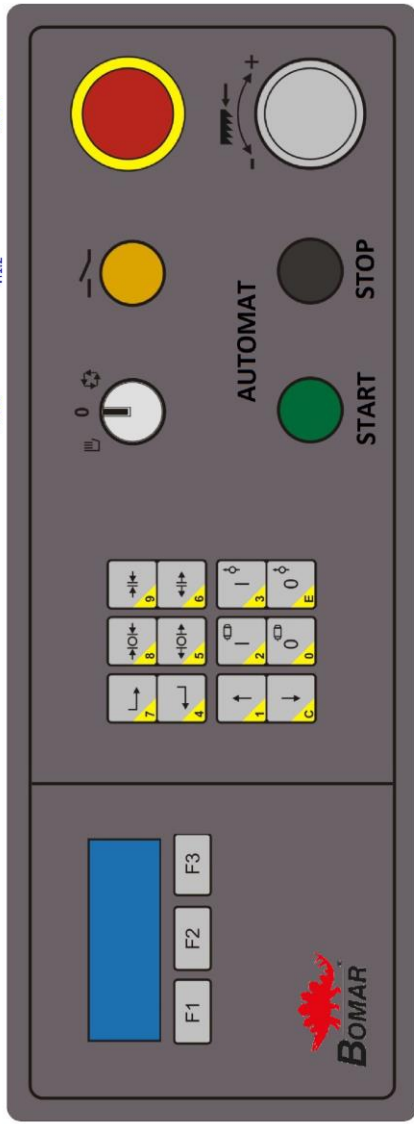
Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednávací číslo Part number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-RE1.1	Patkové relé CR-P Plug-in relay CR-P Stecken Sie In Relais CR-P	CR-P0240C2	ABB	91.051.049	1	/8.6
-SA1.1	SPÍNAČ ČERNÝ 3 polohy - Harmony Switch black 3 positions - Harmony Schalter schwarz 3 Positionen - Harmony	ZB5-A03	TELEMECANIQUE	91.060.024	1	/9.4
-SA1.1	Upevňovací adaptér + 1NO Mounting adapter + 1NO Montageadapter + 1NO	ZB5AZ101	TELEMECANIQUE	91.061.007	1	/9.4
-SA1.1	1xNO kontakt 1xNO contact 1xNO Kontakt	ZBE-101	TELEMECANIQUE	91.061.012	1	/9.4
-SQ21	Bezpečnostní koncový spínač - 2xNC Safety Limit Switch - 2x NC Sicherheitsendschalter - 2x NC	QKS8	KEDU	91.173.012	1	/15.114
-SQ22	Bezpečnostní koncový spínač - 2xNC Safety Limit Switch - 2x NC Sicherheitsendschalter - 2x NC	QKS8	KEDU	91.173.012	1	/15.112
-TR1.1	Transformátor - 3x400V/3x19V, 3.6A Transformer- 3x400V/3x19V, 3.6A Transformator- 3x400V / 3x19V, 3.6A	TBC-32525-019	ELEKTROKOV	91.080.022	1	/7.2
-TSL1	Hlavice zelená prosvětlená - Harmony Head green backlit - Harmony Kopf grün Hintergrundbeleuchtung - Harmony	ZB5AV33	TELEMECANIQUE	91.060.019	1	/9.6
-TSL1	Upevňovací adaptér + 1NO Mounting adapter + 1NO Montageadapter + 1NO	ZB5AZ101	TELEMECANIQUE	91.061.007	1	/9.6
-TSL2	Hlavice tlačítka černá Button black head Taste Milasser	ZB5AA2	TELEMECANIQUE	91.060.013	1	/9.7
-TSL2	Upevňovací adaptér + 1NO Mounting adapter + 1NO Montageadapter + 1NO	ZB5AZ101	TELEMECANIQUE	91.061.007	1	/9.7

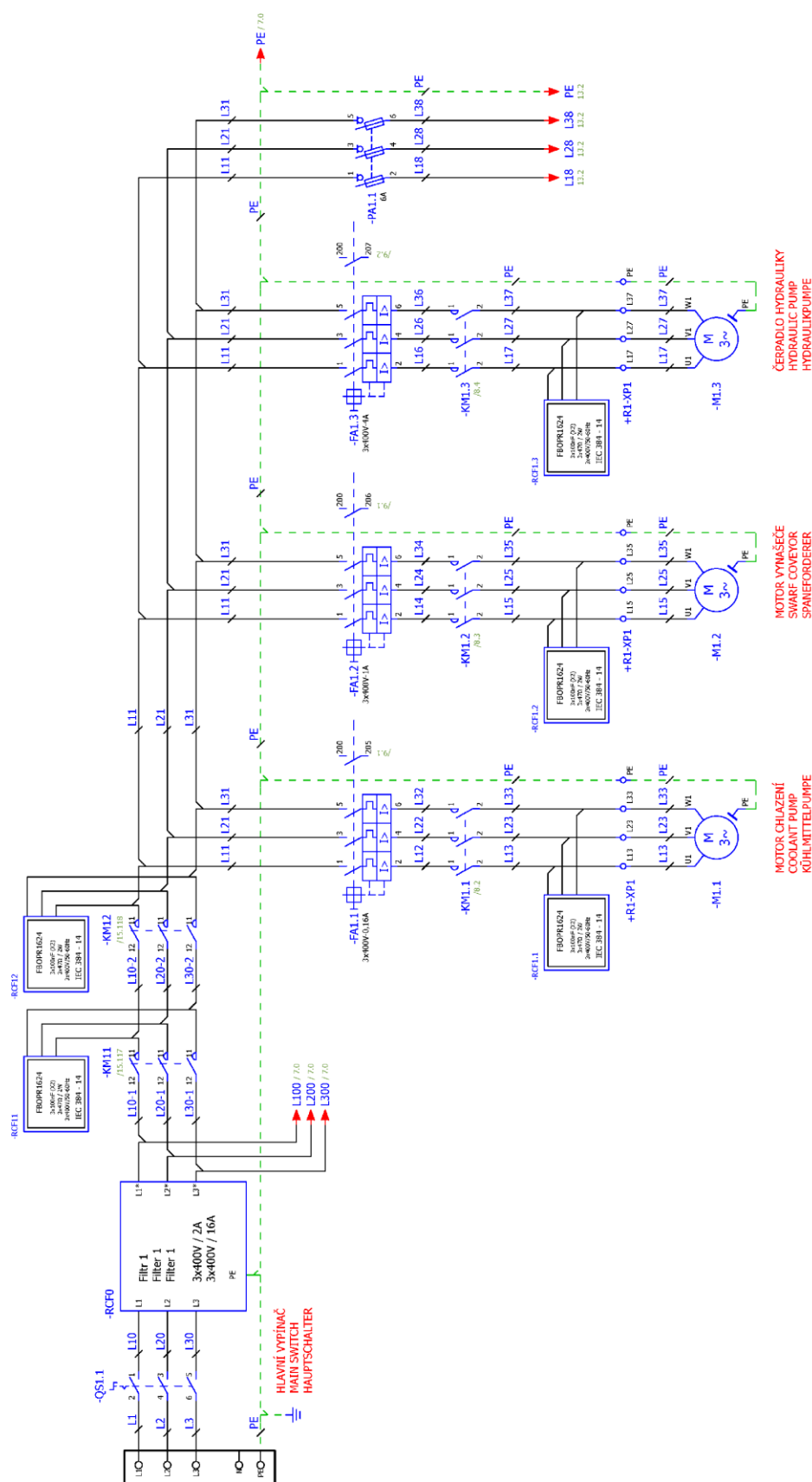
The manufacturer reserves right to use an equivalent replacement device.

 BOMAR, s.r.o. Těšenská 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: Ergonomic 290.250 GANC FM	Název souboru/Name page/Name section: Kusovník artiklů/Parts list/Articlesückliste	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-2810P-201/202-V1.0		Údaj/Page/ data: 3x4
			Napájení/Power supply/Einspeisung: 3x400V + PE / 50Hz		Údaj/Page/ data: 3x4
			Zpracování/Processing / Dat verarbeitet:		Údaj/Page/ data: 24
			Datum/Dat/Date:		Údaj/Page/ data: 24

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6	1	2	3	4	5	6	7	8	9
 The control panel is a rectangular unit with a grey faceplate. It features a blue rectangular display on the left. To the right of the display are three buttons labeled F1, F2, and F3. Below the display is a 3x3 grid of buttons with various symbols: arrows, a square, and numbers. To the right of the grid is a vertical column of buttons labeled 1, 2, 3, 4, 5, 6, 7, 8, 9, 0, and a button with a square symbol. Further right is a large green button labeled 'START' and a black button labeled 'STOP'. Above the 'START' button is a yellow button with a square symbol. To the right of the 'STOP' button is a large red button with a square symbol. At the bottom right is a rotary switch with a '+' and '-' symbol. The word 'AUTOMAT' is printed in the center. The BOMAR logo is at the bottom right. Labels around the panel: - SA1.1 (above the grid) - TS1.3 -HL2 (above the yellow button) - CS1.1 (above the red button) - TS1.1 -HL1 (below the 'START' button) - TS1.2 (below the 'STOP' button)									
Stroj/Machine/Maschine: Ergonomic 290.250 GANC FM						Název střížky/Name page/Name section: Ovládací panel na rozvaděči/Control panel/Bedienpult			Číslo dok. Doc. No./Anzahl der Dokumente.: ES-290F-201705-V1.0
BOMAR, s.r.o. Třeborní 1236/1 CZ 627 00, Brno						Typ/Typ/Typ: 3x400V + PE / 50Hz			Verze/Version: Kodba
						Datum/Date/Date: 21.9.2016			Stránka/Page/ Seite: 5
									Stránka/Page/ Seite: 24



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BOMAR, s.r.o.
Třebíz 1236/1
CZ 627 00, Brno

Stroj/Machine/Maschine:

Ergonomic 290.250 GANC FM

Motor wiring/Frame page/frame section:

Připojení pohonů/Drivings connection/Antriebsanschluß

Číslo dok./Doc.No./Anzahl der Dokumente.:

ES-2810P-201/202-V1.0

Typ/Typ/Typ supply/Ernährung:

3x400V + PE / 50Hz

Zpracování/Processing / Not verarbeit.

Kódka

Datum/Date/Datum:

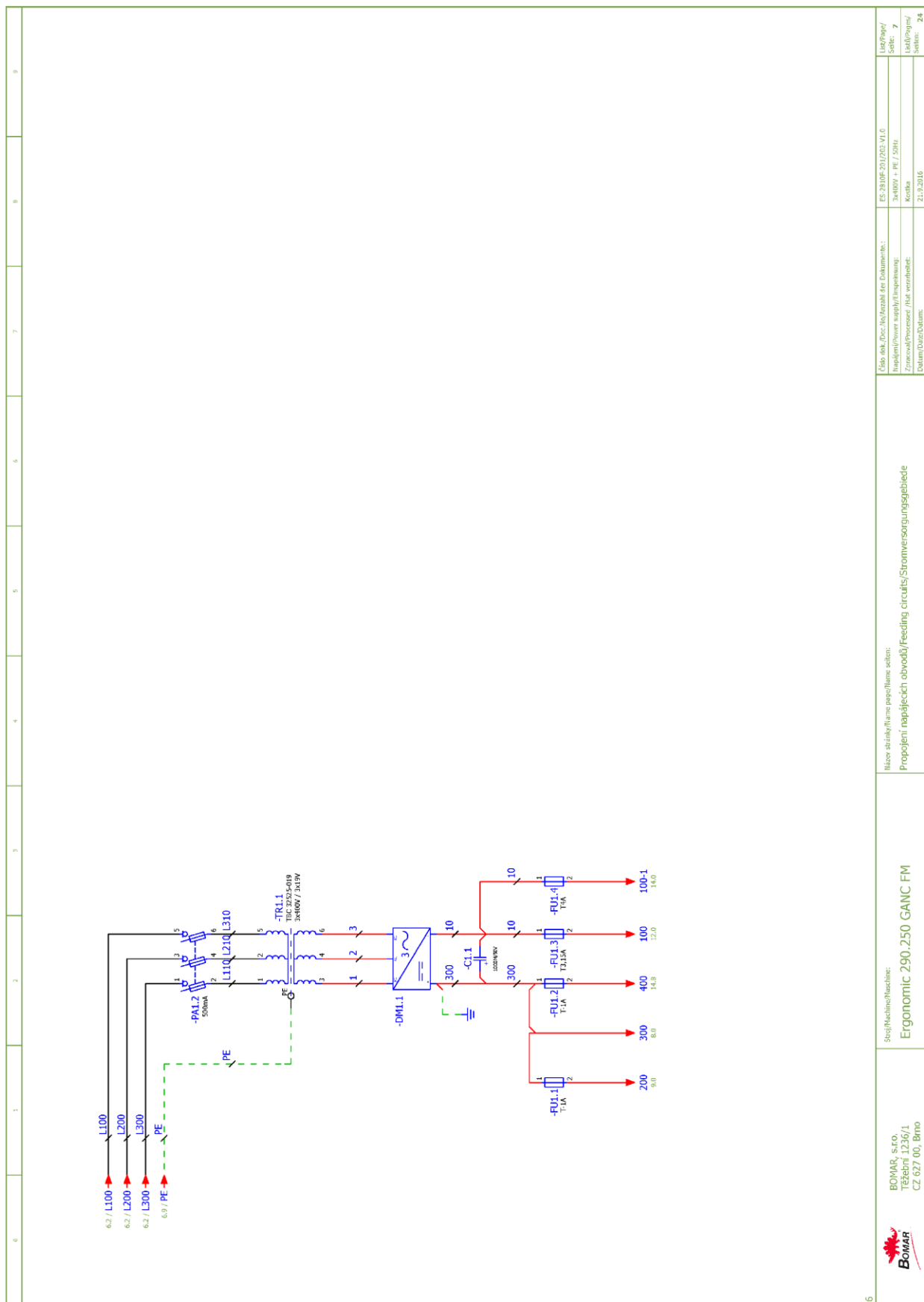
21.9.2016

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ES-2810P-201705-V1.0 3x400V + PE / 50Hz Kodika 21.9.2016	Číslo dok. / Doc. No. / Anzahl der Dokumente: : Verf. / Verf. / Tržba / Tržba / Zpracování / Zpracování / Datum / Datum /	Název zařízení / Name of the device: : Propojení napájecího obvodu / Feeding circuit / Stromversorgungsgebiets	Stroj / Machine / Maschine: Ergonomic 290.250 GANC FM	BOMAR, s.r.o. Třezemí 1236/1 CZ 627 00, Brno 
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Číslo dok./Doc.No/Anzahl der Dokumente:	ES 2310F 2012/02-V1.0	Lib/Page/ Seite: 8
Realizator/Owner supply/Umsetzungs:	3x400V + PE / 50Hz	Lib/Page/ Seite: 24
Zpracovatel/Processor / Hat verzehlet:	Kordka	
Datum/Dat/Datum:	21.9.2016	

Číslo dok./Doc.No/Anzahl der Dokumente.:
Napájení/Power supply/Einspeisung:
Zpracoval/Processed /Hat verarbeitet:
Datum/Date/Datum:

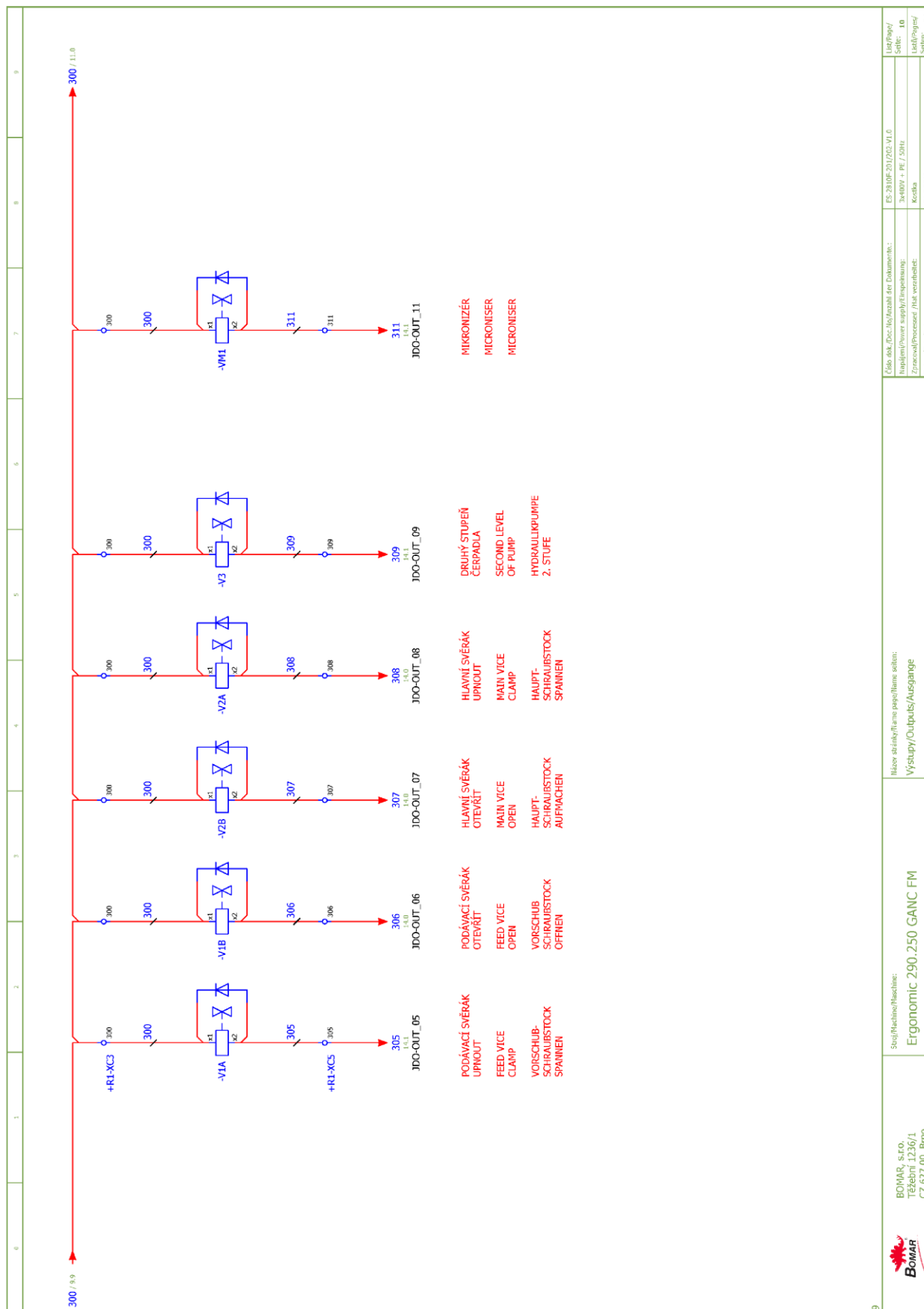
Ovädání stykačů pohonů/Control of contractors/Schaltsteuerung

Strøj/Machine/Maschine:
Ergonomic 290.250 GANC FM

BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno



 BOMAR, s.r.o. Těšeno 1236/1 CZ 627 00, Brno	Stroj/Machine/Rechner: Ergonomic 290, 250 GANC FM	Název zařízení/Name of the device: Signály spoštětí, klávesnice/Signal of shields, keyboard/Schaltersignal, Tastatursignal	Číslo dok./Doc.No./Zahl der Dokumente.: ES-2810P-20/202-V1.0 Stránky/Sheet/Seite: 0 Typ/Typus/Typ: 304000 + PE / 250Hz Prostředí/Environment/Umgebung: Korka Procesor/Processor / Not verified: 2020 Datum/Date/Datum: 21.8.2016	Účel/Use/Verwendung: 24
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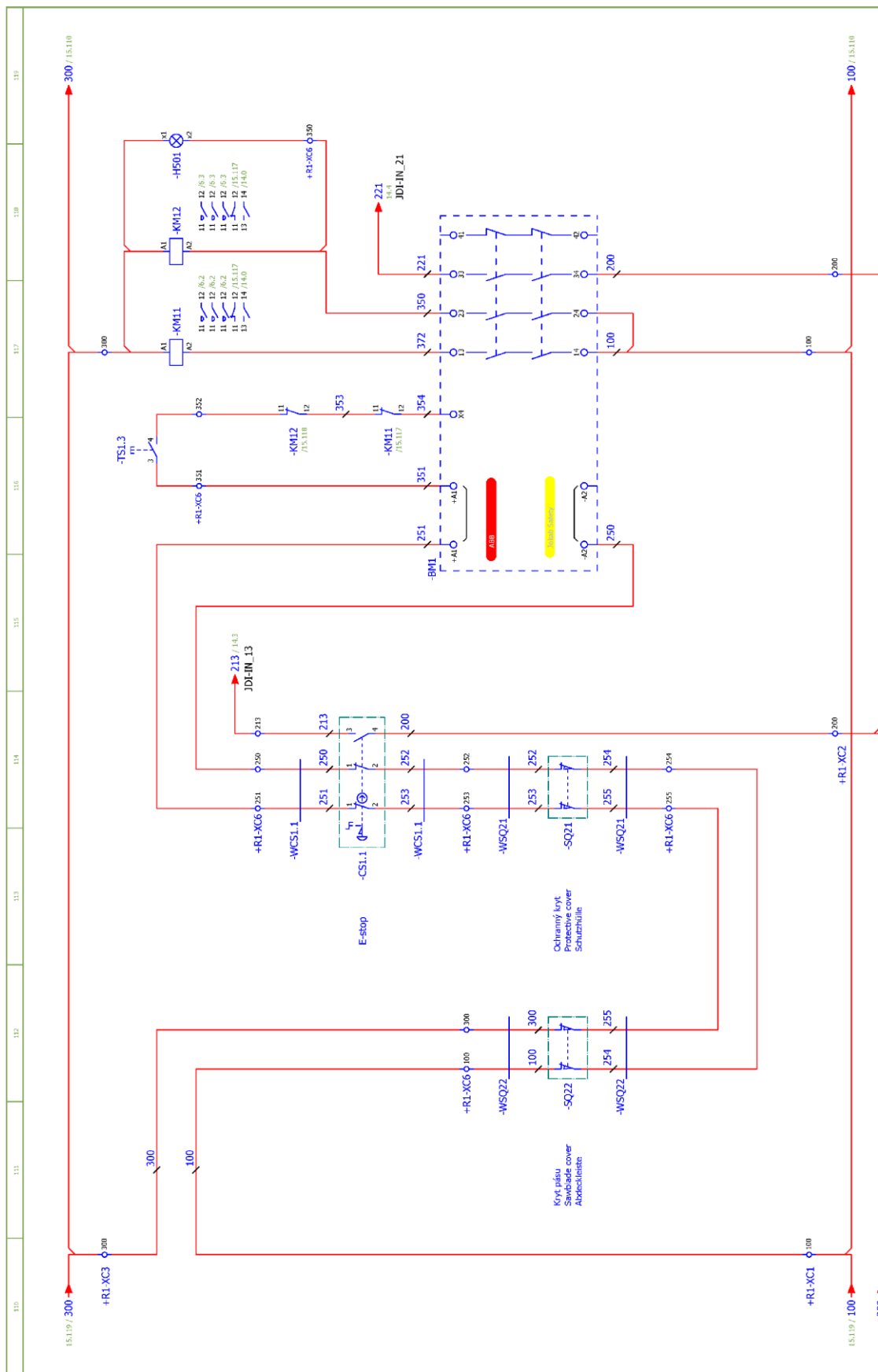




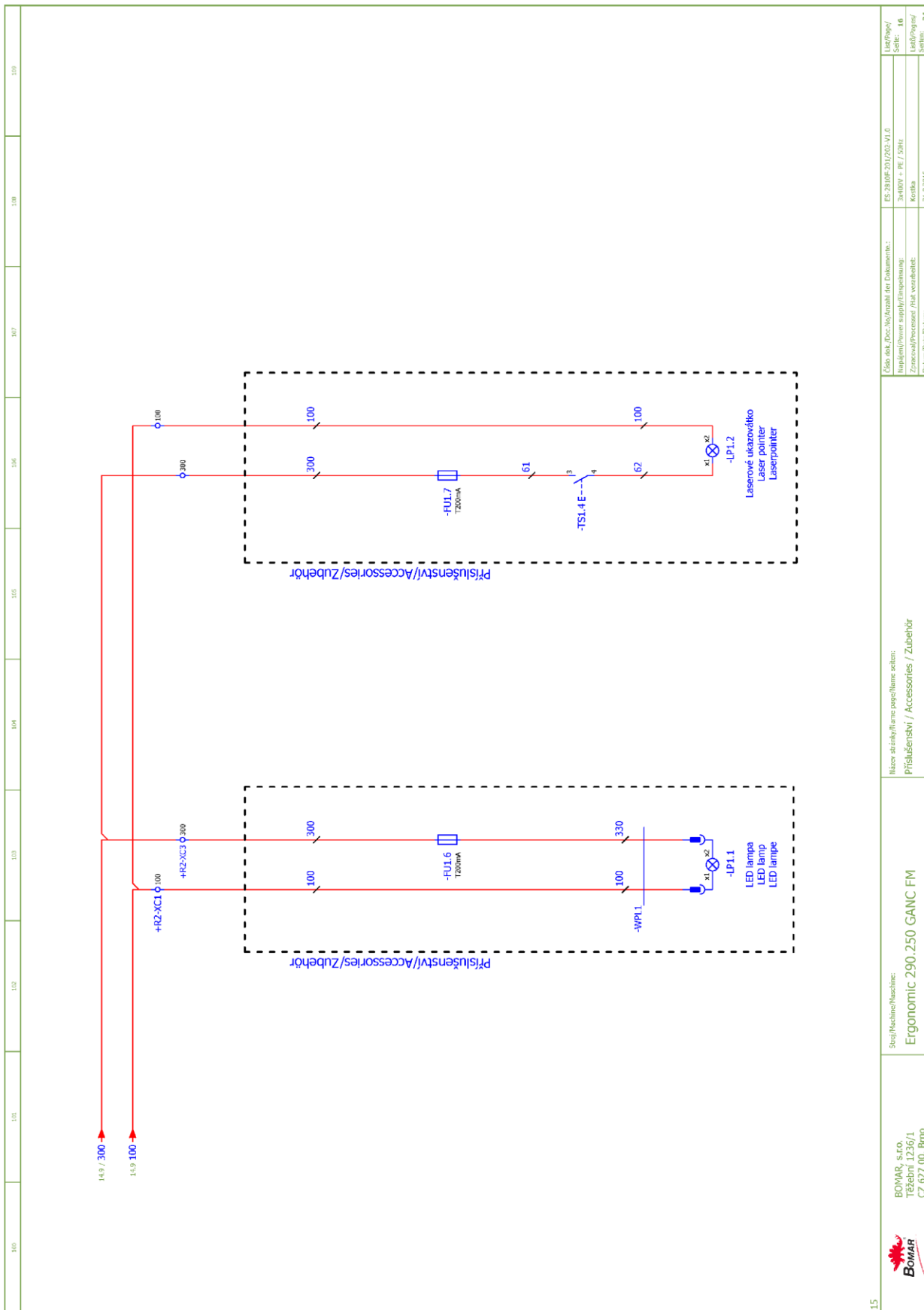








14	BOMAR, s.r.o. Třetní 1236/1 CZ 627 00, Brno	Stop/Machine/Machine: Ergonomic 290.250 GANC FM	Major safety/Name page/Name section: Bezpečnostní obvod/Safety circuit/Sicherheitsschaltung	Číslo dok./Doc./No./Anzahl der Dokumente.: ES-290F-20/205-V1.0 Jmenovitý/Power supply/Leistungsbereich: 3x400V + PE / 50Hz Kódová Zpracoval/Prepared / Hat vorbereitet: Kodla Datum/Date/Datum: 21.9.2016	Ver./Page/ Verf.: 15 Verf./Page/ Verf.: 24
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CPU - unit state signalization	
12	Voltage 5V
11	Voltage 5V - KOM
10	Internal CAN - TXD
9	Internal CAN - RXD
8	External CAN - TXD
7	External CAN - RXD
6	Connection with JDO unit OK
5	Connection with JDI unit OK
4	
3	
2	Feeder to the back
1	Feeder to the front

JDI - Input state signalization	
	Button released
16	Button pushed
15	The sawband is tight
14	Main gripper is closed
13	Feeding gripper is closed
12	Total stop activated
11	Automatic mode stopped
10	Automatic mode started
9	Manual control activated
8	Automatic control activated
7	Speed control, FM1 failure relay on state
6	Hydraulic pump protection is OK
5	Swarf-removal motor protection is OK
4	Cooling motor protection is OK
3	Security circuit is ON
2	Material is present - thrust
1	Material is present - feeding gripper

JDO - Output state signalization	
16	
15	Put the arm up
14	Put the arm down
13	Start up speed controller FM1
12	Switch the automatic cycle indicator
11	Activate the microniser
10	
9	Shift the pump into second stage
8	Close the main gripper
7	Open the main gripper
6	Open the feeding gripper
5	Close the feeding gripper
4	
3	Turn on the hydraulic pump
2	Turn on the swarf-removal motor
1	Turn on the cooling motor

 BOMAR, s.r.o. Třelom 1236/1 CZ 627 00, Brno	Step/Machine/Headsheet: Ergonomic 290.250 GANC FM	Macro address/frame page/frame section: Description of the LED diodes signalization	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-2810P-201/202-V1.0 Injektion/Power supply/Injektierung: 3x400V + PE / 50Hz Zpracování/Processing / Dat. verarbeit.: Kordka Datum/Date/Datum: 21.9.2016	URL/Page/ addic.: 1.0 add/Page/ addic.: 2.4

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Ergonomic 290.250 GANC FM

ES-2810F-203-V1.0

Wiring diagram

3x230V + PE / 50Hz

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3	Kusovník artiklů/Parts list/Artikellistliste	21.9.2016
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3.e	Kusovník artiklů/Parts list/Artikellistliste	21.9.2016
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5	Ovládací panel na rozvaděči/Control panel/Badenpult	21.9.2016
6	Připojení pohonů/Drivings connection/Antriebsanschluss	21.9.2016
7	Propojení napájecích obvodů/Feeding circuits/Stromversorgungsgebiete	21.9.2016
8	Ovládání stykačů pohonů/Control of contractors/Schaltsteuerung	21.9.2016
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11	Výstupy/Outputs/Ausgänge	21.9.2016
12	Signály koncových spínačů/Signals of limit switches/signale der Endschalter	21.9.2016
13	Ovládání frekvenčních měničů/Speed controllers/Sägebandmotor	21.9.2016
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16	Příslušenství / Accessories / Zubehör	21.9.2016
17	Signalizace LED diod	21.9.2016
18	Description of the LED diodes signalization	21.9.2016
19	LED Standardzeile	21.9.2016

Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednávací číslo Part number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-A1.1	Seřazený modul CPU2-E (UNIVERSAL) Assembled module CPU2-E (UNIVERSAL) Montiert Modul CPU2-E (UNIVERSAL)	CPU2-E	Bomar	266.222	1	/14.6
-A3.1	Seřazený modul JDI-2/2 Assembled module JDI-2/2 Montiert Modul JDI-2/2	JDI-2/2	Bomar	266.216	1	/14.3
-A5.1	Seřazený modul JDO-2/0 (plně osazený) Assembled module JDO-2/0 (fully manned) Montiert Modul JDO-2.0 (voll besetzt)	JDO-2/0	Bomar	266.224	1	/14.0
-BM1	Bezpečnostní relé 24VDC, 3NO Safety relay 24VDC, 3NO Sicherheitsrelais 24VDC, 3NO	BT50	ABB	91.051.063	1	/15.115
-C1.1	Kondenzátor 1000uF/50V Capacitor 1000uF/50V Kondensator 1000uF / 50V	1000uF/50V	GM-electronics	91.282.047	1	/7.2
-CS1.1	Total stop - tlačítko + 3xNC Emergency-stop mushroom push - button + 3xNC Not-Aus-Pile - Taster + 3 xNC	YW1B-VAE02R	IDEC	91.060.084	1	/15.114
-CS1.1	Kontakt - 1x NO Contact - 1x NO Kontakt - 1x NO	YW-E10	IDEC	91.061.044	1	/15.114
-DKL	Seřazený modul DKL-F5 (display) Assembled module DKL-F5 (display) Montiert Modul DKL-F5 (Anzeige)	DKL-F5	Bomar	266.219	1	/14.8
-DM1.1	Místkový usměrňovač - 25A Bridge rectifier - 25A Brückengleichrichter - 25A	DB25-06	GM-electronics	91.280.031	1	/7.2
-FA1.1	Motorový spouštěč - 0.4A Motor starter - 0.4A Motorstarter - 0.4A	MSL16-0.4	ABB	91.045.017	1	/6.4
-FA1.1	Pomocné kontakty - 1xNO+1xNC Auxiliary contacts - 1xNO+1xNC Hilfskontakte - 1xNO+1xNC	HKF1-11	ABB	91.046.002	1	/6.4
FA1.2	Motorový spouštěč - 1.6A Motor starter - 1.6A Motorstarter - 1.6A	MSL16-1,6	ABB	91.045.020	1	/6.5

The manufacturer reserves right to use an equivalent replacement device.



BOMAR, s.r.o.
Těšenská 1236/1
CZ 627 00, Brno

Stroj/Machine/Maschine:

Ergonomic 290.250 GANC FM

Název dílny/Name page/Name section:

Kusovník artiklů/Parts list/Artikelsückliste

Číslo dok./Doc.No./Anzahl der Dokumente.:

ES-2810P-203-V1.0

Typ/dok./Typ:

3x230V + PE / 50Hz

Typ/dok./Typ:

Kódka

Datum/Date/Datum:

21.9.2016

Úděl/Pages/

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Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednávací číslo Type number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-FA1.2	Pomocné kontakty - 1xNO+1xNC Auxiliary contacts - 1xNO+1xNC Hilfskontakte - 1xNO+1xNC	HKF1-11	ABB	91.046.002	1	/6.5
-FA1.3	Motorový spouštěč - 6.3A Motor starter - 6.3A Motorstarter - 6.3A	MS116-6,3	ABB	91.045.023	1	/6.7
-FA1.3	Pomocné kontakty - 1xNO+1xNC Auxiliary contacts - 1xNO+1xNC Hilfskontakte - 1xNO+1xNC	HKF1-11	ABB	91.046.002	1	/6.7
-FM1.1	Frekvenční měnič - 1.5kW, 3x230VAC Frequency converter - 1.5kW, 3x230VAC Frequenzumrichter - 1.5kW, 3x230VAC	VFD015E23A	DELTA ELECTRONICS, INC.	91.012.141	1	/13.1
-FU1.1	Pojistka trubičková - 1A/250V, pomalá, 5x20 Tube fuse - 1A/250V, slow, 5x20 Rohrsicherung - 1A / 250V, langsam, 5x20	T1A/250V	ESKA	91.230.031	1	/7.1
-FU1.1	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/TH5SU	WIELAND	91.251.102	1	/7.1
-FU1.2	Pojistka trubičková - 1A/250V, pomalá, 5x20 Tube fuse - 1A/250V, slow, 5x20 Rohrsicherung - 1A / 250V, langsam, 5x20	T1A/250V	ESKA	91.230.031	1	/7.2
-FU1.2	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/TH5SU	WIELAND	91.251.102	1	/7.2
-FU1.3	Pojistka trubičková - 3,15A/250V, pomalá, 5x20 Tube fuse - 3,15A/250V, slow, 5x20 Rohrsicherung - T3,15A / 250V, langsam, 5x20	T3,15A/250V	ESKA	91.230.012	1	/7.2
-FU1.3	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/TH5SU	WIELAND	91.251.102	1	/7.2
-FU1.4	Pojistka trubičková - 4A/250V, pomalá, 5x20 Tube fuse - 4A/250V, slow, 5x20 Rohrsicherung - 4A / 250V, langsam, 5x20	T4A/250V	ESKA	91.230.015	1	/7.3
-FU1.4	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/TH5SU	WIELAND	91.251.102	1	/7.3

The manufacturer reserves right to use an equivalent replacement device.

Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednáací číslo Part number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-F01.5	Pojistka trubicová - 250mA/250V, pomalá, 5x20 Tube fuse - 250mA/250V, slow, 5x20 Rohrsicherung - 250mA / 250V, langsam, 5x20	T250mA/250V	ESKA	91.230.033	1	/14.1
-F01.5	Svorka pojistková Fuse terminal Sicherungsklemme	WK4/TH5SU	WIELAND	91.251.102	1	/14.1
-KM1.1	Ministýkač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B65-30-01-1-7-71	ABB	91.040.049	1	/8.2
-KM1.2	Ministýkač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B65-30-01-1-7-71	ABB	91.040.049	1	/8.3
-KM1.3	Ministýkač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B65-30-01-1-7-71	ABB	91.040.049	1	/8.4
-KM11	Ministýkač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B65-30-01-1-7-71	ABB	91.040.049	1	/15.117
-KM11	Pomocné kontakty - 1xNO+1xNC Auxiliary contacts - 1xNO+1xNC Hilfskontakte - 1xNO+1xNC	CAF 6-11M	ABB	91.041.042	1	/15.117
-KM12	Ministýkač 4kW/400V Minicontactor 4kW/400V Minischutz 4kW/400V	B65-30-01-1-7-71	ABB	91.040.049	1	/15.118
-KM12	Pomocné kontakty - 1xNO+1xNC Auxiliary contacts - 1xNO+1xNC Hilfskontakte - 1xNO+1xNC	CAF 6-11M	ABB	91.041.042	1	/15.118
-M1.4	Ventilátor - 80x80x25, 24 V/73 mA Fan - 80x80x25, 24 V/73 mA Lüfter - 80x80x25, 24V / 73 mA	EE80252B1-A99	SUNON	91.015.113	1	/14.1
-PAL.1	Pojistka válcová - 10A, 10x38, pomalá Tube fuse - 10A, 10x38, slow Rohrsicherung - 10A, 10x38, langsam	PV10 10A aM	OEZ	91.230.041	3	/6.8
-PAL.1	Pojistkový odpínač pro válcové víčky - 3P Switch fuse for the cylinder inserts - 3P Schalter-Sicherung für den Zylinderinsätze - 3P	E93/32	ABB	91.241.014	1	/6.8

The manufacturer reserves right to use an equivalent replacement device.

3.a	BOMAR, s.r.o. Třeborní 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: Ergonomic 290.250 GANC FM	Název artiklů/Parts list/Artikelsückliste Kusovník artiklů/Parts list/Artikelsückliste	Číslo dok./Doc.No./Anzahl der Dokumente : ES-2810P-203-V1.0 Impulsem/Power supply/Einspeisung: 3x230V + PE / 50Hz Zpracování/Processing / Hat verarbeitet: Kodba Datum/Date/Datum: 21.9.2016	Údaj/Page/ Seite: 3.a List/Page/ Seite: 24
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Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednávací číslo Type number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-PA1.2	Pojistkový odjímač pro válcové víčky - 3P Switch fuse for the cylinder inserts - 3P Schalter Sicherung für den Zylinderinsätze - 3P	E 93/32	ABB	91.241.014	1	/7.2
-PA1.2	Pojistka válcová - 1A, 10x38, pomalá Tube fuse - 1A, 10x38, slow Rohrsicherung - 1A, 10x38, langsam	PV10 1A aM	OEZ	91.231.001	3	/7.2
-POT1.1	Potenciometr 4k7 Potentiometer 4k7	TP195 4k7/N20A	Elektronické součástky CZ, a.s	91.283.015	1	/13.5
-POT1.1	Hlavice potenciometru - 24mm Head of potentiometer 24mm Leiter Potentiometer 24mm	S8877 BLK	GES-ELECTRONICS, a.s.	91.060.063	1	/13.5
-QSI.1	3 pólový odjímač, 16A Disconnect - 3P, 16A Trennschalter - 3P, 16A	OT16FT3	ABB	91.170.018	1	/6.0
-RCF0	Síťový filtr 16A/2A Mains filter 16A/2A Netzfilter 16A/2A	FFA 3-16-400/3-2-400	ASTP s.r.o.	91.041.017	1	/6.1
-RCF1.1	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Víček	91.041.015	1	/6.3
-RCF1.2	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Víček	91.041.015	1	/6.5
-RCF1.3	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Víček	91.041.015	1	/6.6
-RCF11	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Víček	91.041.015	1	/6.2
-RCF12	Filtr RFC vývodový Effluent RFC filter Ableitenden RFC Filter	FBOPR1624	Ing. Miroslav Víček	91.041.015	1	/6.3
RE1.1	Patice pro relé Relay socket Relaissocket	CR-PSS	ABB	91.051.048	1	/8.6

The manufacturer reserves right to use an equivalent replacement device.

3.b

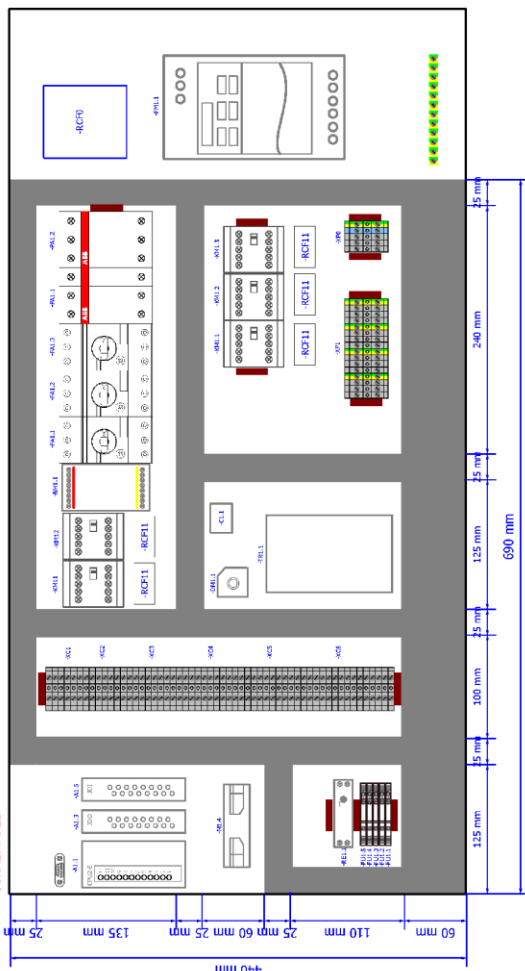
 BOMAR, s.r.o. Řežimní 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: Ergonomic 290.250 GANC FM	Název stránky/Name page/Name section: Kusovník artiklů/Parts list/Artikelstückliste	Číslo dok./Doc.No./Anzahl der Dokumente.: Injektion/Piston supply/Injektionsangabe: Zrnekova/Processor / Rat verarbeitel: Datum/Date/Datum:	ES-280P-203 V1.0 3x270W + PE / 50Hz Kódka 21.9.2016	Účel/Purpose/ Seite: 3x List/Pages/ Blatt: 24

Kusovník artiklů / Parts list / Stückliste

Označení přístroje Device identification Geräteidentifikation	Typ přístroje Device description Gerätebeschreibung	Objednávací číslo Part number Typennummer	Výrobce Manufacturer Hersteller	Skladové číslo Part number Lagernummer	Množství Quantity Menge	Umístění Location Stelle
-RE1.1	Patčové relé CR-P Plug-in relay CR-P Stecken Sie In Relais CR-P	CR-P0240C2	ABB	91.051.049	1	/8.6
-SA1.1	SPÍNAČ ČERNÝ 3 polohy - Harmony Switch black 3 positions - Harmony Schalter schwarz 3 Positionen - Harmony	ZB5-A03	TELEMECANIQUE	91.060.024	1	/9.4
-SA1.1	Upevňovací adaptér + 1NO Mounting adapter + 1NO Montageadapter + 1NO	ZB5AZ101	TELEMECANIQUE	91.061.007	1	/9.4
-SA1.1	1xNO kontakt 1xNO contact 1xNO Kontakt	ZBE-101	TELEMECANIQUE	91.061.012	1	/9.4
-SQ21	Bezpečnostní koncový spínač - 2xNC Safety Limit Switch - 2x NC Sicherheitsendschalter - 2x NC	QKS8	KEDU	91.173.012	1	/15.114
-SQ22	Bezpečnostní koncový spínač - 2xNC Safety Limit Switch - 2x NC Sicherheitsendschalter - 2x NC	QKS8	KEDU	91.173.012	1	/15.112
-TR1.1	Transformátor 3x230V/3x19V/3,6A Transformator 3x230V/3x19V/3,6A Transformier 3x230V/3x19V/3,6A	TBC-32525-020	ELEKTROKOV a.s. ZNOJMO	91.080.034	1	/7.2
-TSL1	Hlavice zelená prosvětlená - Harmony Head green backlit - Harmony Kopf grün Hintergrundbeleuchtung - Harmony	ZB5AV33	TELEMECANIQUE	91.060.019	1	/9.6
-TSL1	Upevňovací adaptér + 1NO Mounting adapter + 1NO Montageadapter + 1NO	ZB5AZ101	TELEMECANIQUE	91.061.007	1	/9.6
-TSL2	Hlavice tlačítka černá Button black head Taste Milasser	ZB5AA2	TELEMECANIQUE	91.060.013	1	/9.7
-TSL2	Upevňovací adaptér + 1NO Mounting adapter + 1NO Montageadapter + 1NO	ZB5AZ101	TELEMECANIQUE	91.061.007	1	/9.7

The manufacturer reserves right to use an equivalent replacement device.

 BOMAR, s.r.o. Třeborní 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: Ergonomic 290.250 GANC FM	Házec artiklů/Parts page/Name section: Kusovník artiklů/Parts list/Articlesückliste	Číslo dok./Doc.No./Anzahl der Dokumente.: ES-2810P-203-V1.0	URL/Page/ Adress: 3x230V + PE / 50Hz
				Číslo/Pages/ Kodex: Zpracoval/Processed / Hat verarbeitet:
				Datum/Date/Datum: 21.9.2016
				Stránka / Seite: 24



 BOMAR , s.r.o. Těšební 1236/1 CZ 637 00 Brno	Stroj/Machine/Plachina: Ergonomic 290,250 GANC FM	Název/desiny/Name pages/Name sctin: Rozmístění prvků v rozvaděči R1/Placement of elements in enclosure R1/Platzierung der Elemente im Schaltschrank R1	Číslo dok./Doc./No./Anzahl der Dokumente.: ES-2810F-203-V1.0	List/Page/ Seite: 4
				Instalce/Instor supply/Elingsorgung: Korkša
				Zpracoval/Processed /Not verarbeitete:
				Uklád/Paper/ Střílke:

BOMAR, s.r.o.
Těžeční 1236/1
CZ 627 00, Brno

Stroj/Machine/Maschine:

Ergonomic 290.250 GANC FM

Místo sdělování na papír/Name address:

Ovládací panel na rozvaděči/Control panel/Bedienpult

Číslo dok./Doc. No./Anzahl der Dokumente:

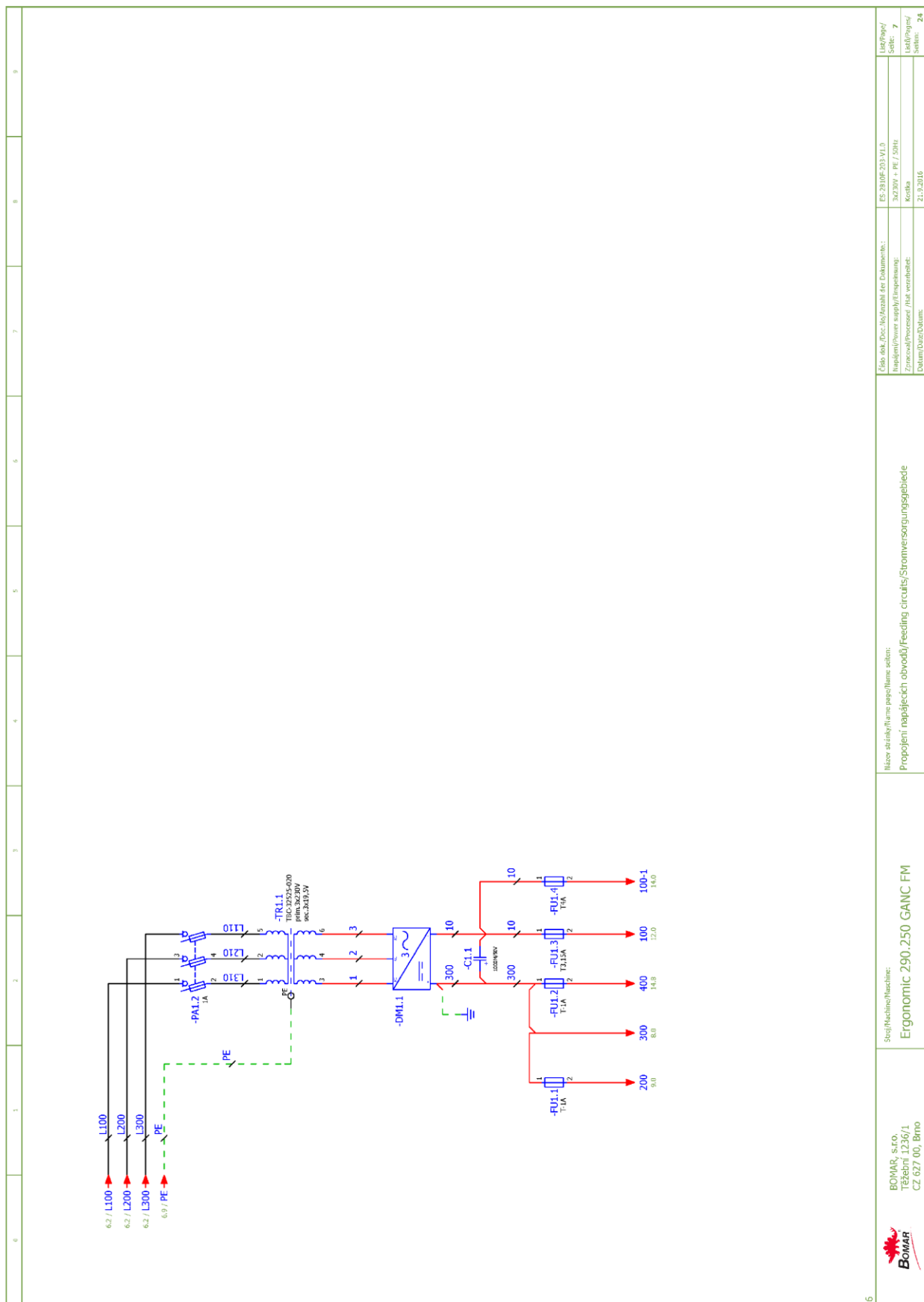
ES-2810F-201.V1.3	Typ/Typ/Typ:	3x230V + PE / 50Hz	Stránka/Page/Seite:	5
Kódka	Zpracování/Processing/ Dat. verarbeit.:		Verze/Version/Version:	21.9.2016
21.9.2016	Datum/Date/Date:		Stránka/Page/Seite:	24

4

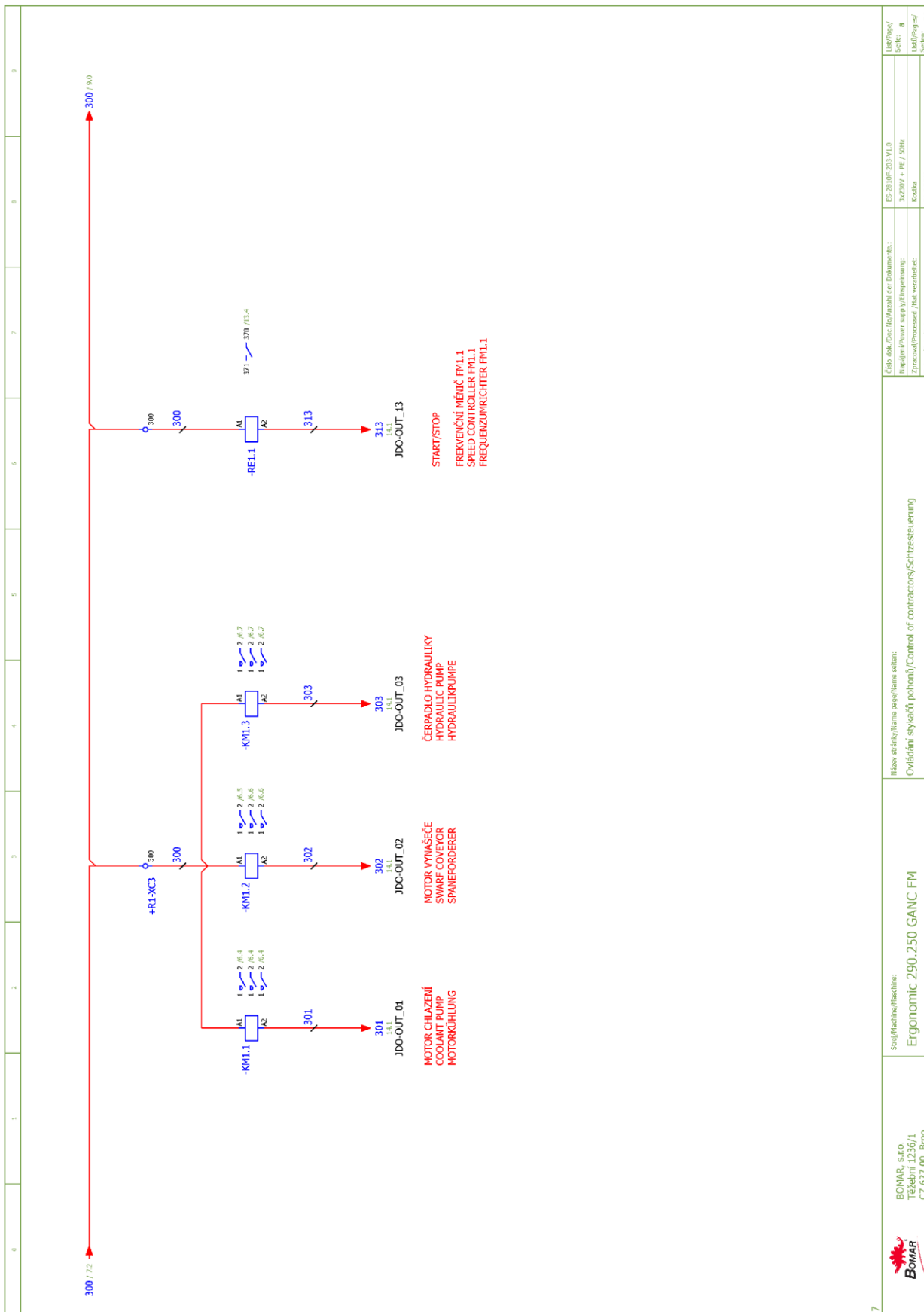


**MOTOR VYNAŠEČE
SWARF COVEYOR
SPANEFORDERER**

**MOTOR CHLAZENÍ
COOLANT PUMP
KÜHLMITTELpumpe**



ES-2810F-201-V1.0 3x230V + PE / 50Hz Kodex 21.9.2016	Číslo dok. / Doc. No. / Anzahl der Dokumente: : Typ / Typ / Power supply / Einsparung: Změna / Prozes / / Hat verändert: Datum / Date / Datum:	Název schémky / Name page / Name section: Propojení napájecího obvodu / Feeding circuits / Stromversorgungsgebiete	Stroj / Machine / Maschine: Ergonomic 290.250 GANC FM	BOMAR, s.r.o. Třeborní 1236/1 CZ 627 00, Brno
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BOMAR, s.r.o.
Těšenská 1236/1
CZ 627 00, Brno

Stroj/Machine/Maschine:

Ergonomic 290.250 GANC FM

Název schéma/Name page/Name section:

Ovládání stýkačů pohonů/Control of contractors/Schleussteuerung

Číslo dok./Doc.No./Anzahl der Dokumente.:

ES-2810P-201-V1.0

Typ/Typ/Typ:

3x230V + PE / 50Hz

Zpracoval/Processed /hat verarbeitet:

Kodex

Datum/Date/Datum:

21.9.2016

Úroveň/Level/Level:

II

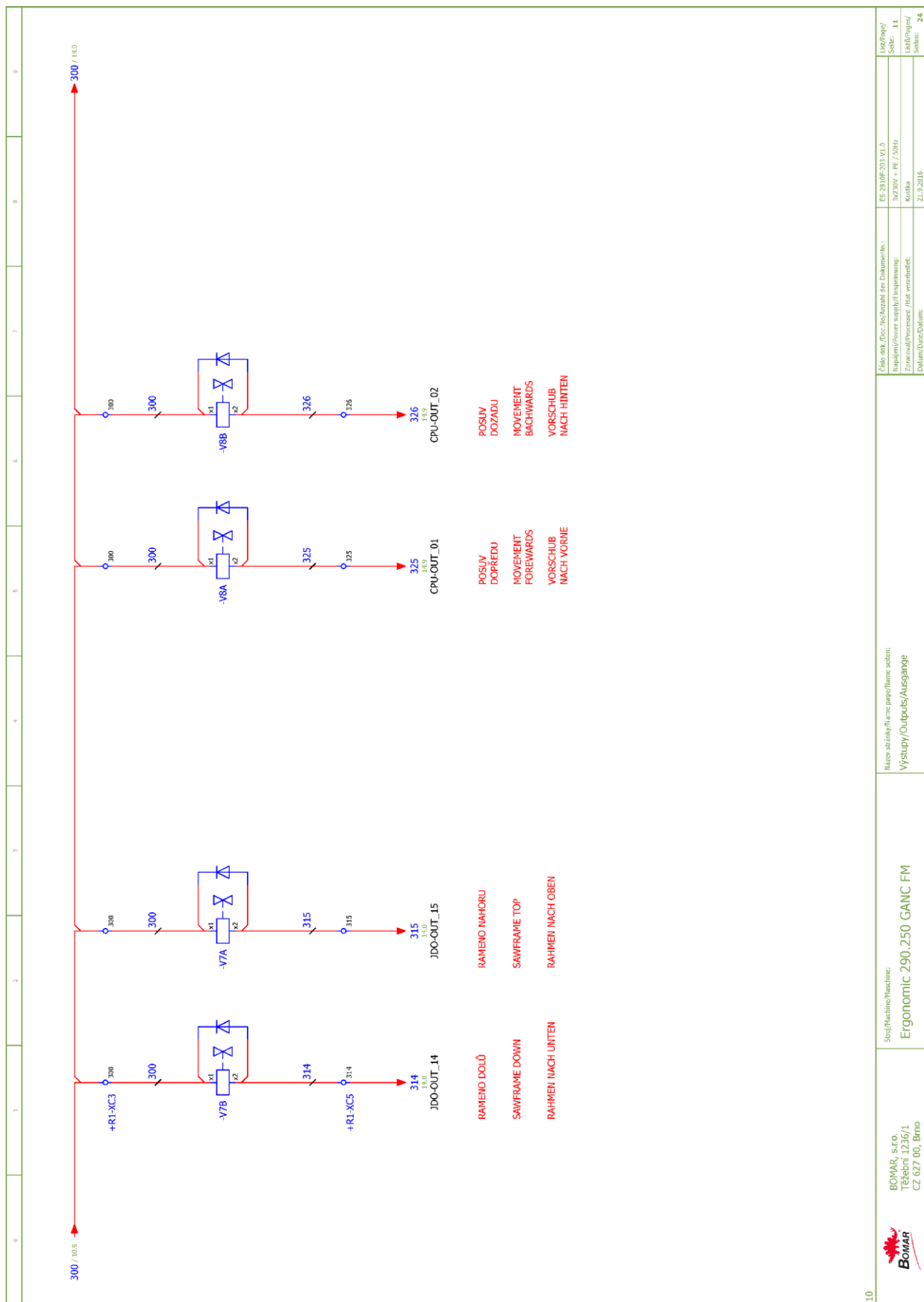
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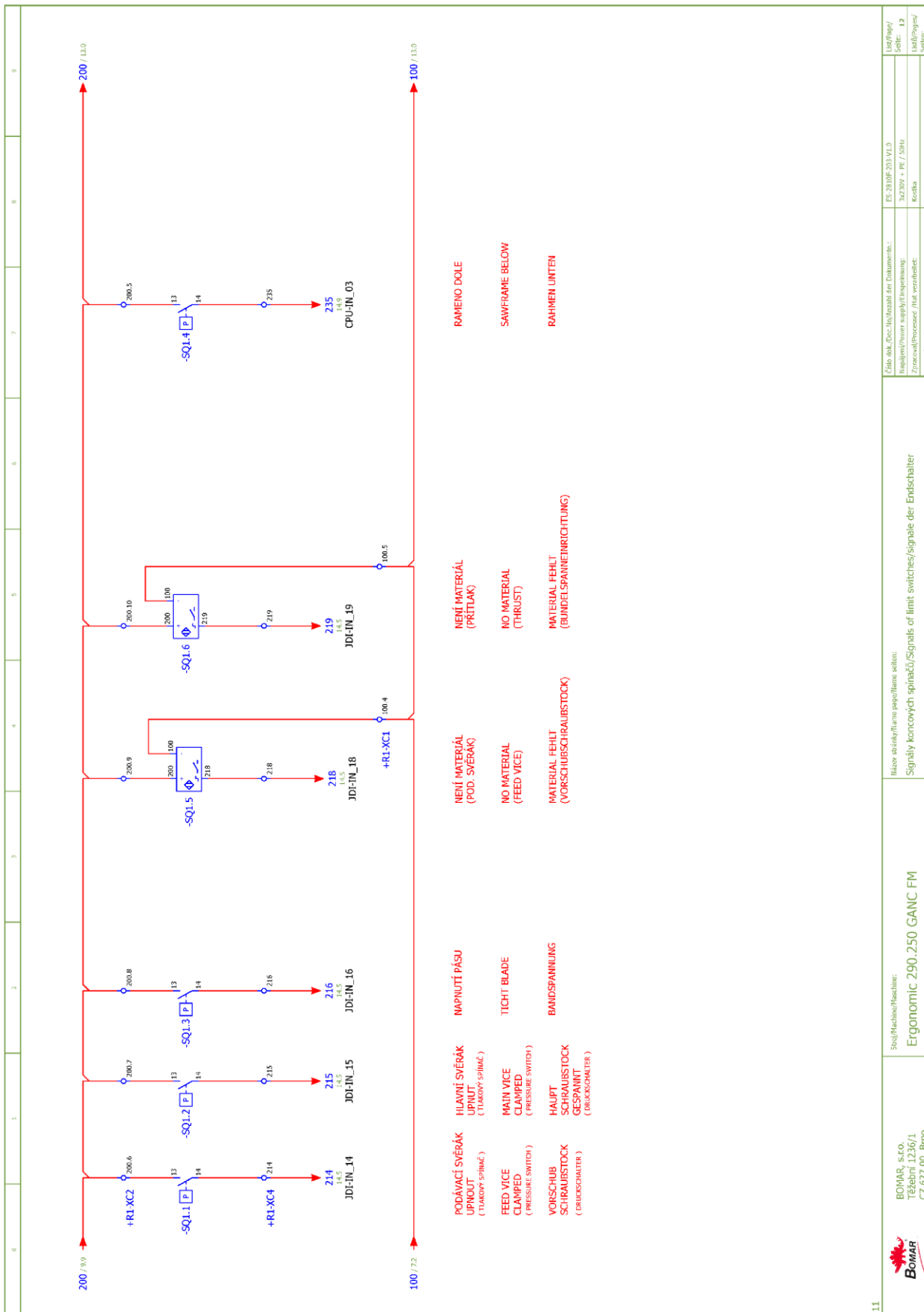
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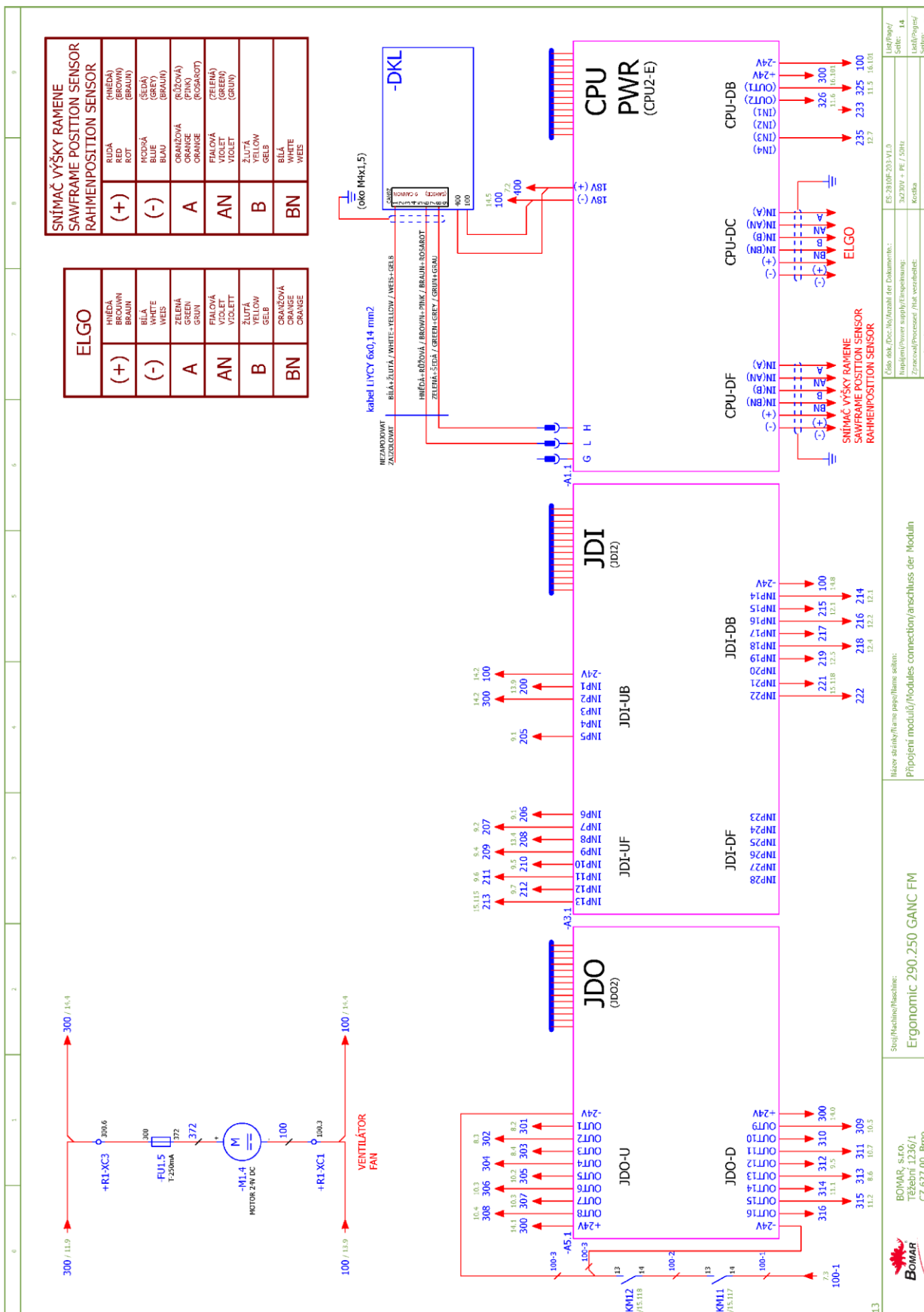
Manual version: 1.12 / Nov 2017
Manual rev.: 1



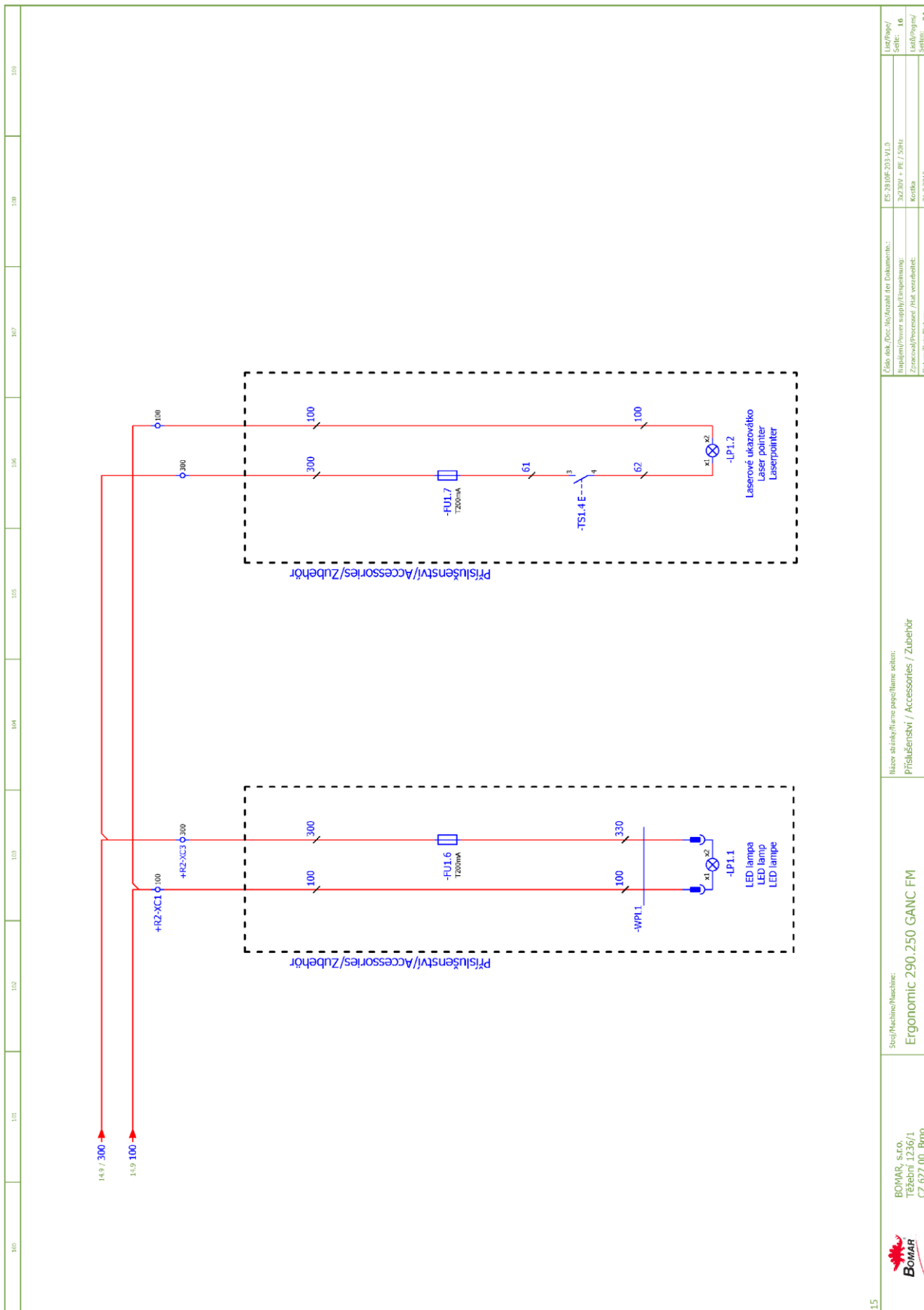












BOMAR, s.r.o.
Těšenská 1236/1
CZ 627 00, Brno

Stroj/Machine/Rechner:

Ergonomic 290.250 GANC FM

Název zařízení/Name page/Name section:

Příslušenství / Accessories / Zubehör

Číslo dok. Doc.No/Anzahl der Dokumente.:

Impulsn/Power supply/Impulsung:

Zpracoval/Processed / Hat verarbeitet:

Datum/Date/Date:

Účel/Type/

16

Účel/Type/

24

168

CPU - unit state signalization	
12	Voltage 5V
11	Voltage 5V - KOM
10	Internal CAN - TXD
9	Internal CAN - RXD
8	External CAN - TXD
7	External CAN - RXD
6	Connection with JDO unit OK
5	Connection with JDI unit OK
4	
3	
2	Feeder to the back
1	Feeder to the front

JDI - Input state signalization	
	Button released
16	Button pushed
15	The sawband is tight
14	Main gripper is closed
13	Feeding gripper is closed
12	Total stop activated
11	Automatic mode stopped
10	Automatic mode started
9	Manual control activated
8	Automatic control activated
7	Speed control, FM1 failure relay on state
6	Hydraulic pump protection is OK
5	Swarf-removal motor protection is OK
4	Cooling motor protection is OK
3	Security circuit is ON
2	Material is present - thrust
1	Material is present - feeding gripper

JDO - Output state signalization	
16	
15	Put the arm up
14	Put the arm down
13	Start up speed controller FM1
12	Switch the automatic cycle indicator
11	Activate the microniser
10	
9	Shift the pump into second stage
8	Close the main gripper
7	Open the main gripper
6	Open the feeding gripper
5	Close the feeding gripper
4	
3	Turn on the hydraulic pump
2	Turn on the swarf-removal motor
1	Turn on the cooling motor

 BOMAR, s.r.o. Třelom 1236/1 CZ 627 00, Brno	Stop/Machina/Rechnen: Ergonomic 290.250 GANC FM	Macro address/frame page/frame section: Description of the LED diodes signalization	Číslo dok./Doc.No./Anzahl der Dokumente.: Freigabe/Power supply/Erhaltung: Zpracování/Processing / Dat. verarbeitet: Datum/Date/Datum:	ES-2810P-201-V1.0 3x230V + PE / 50Hz Kódka 21.9.2016	URL/Path/ Adres.: Uzel/Node/ Seiten:

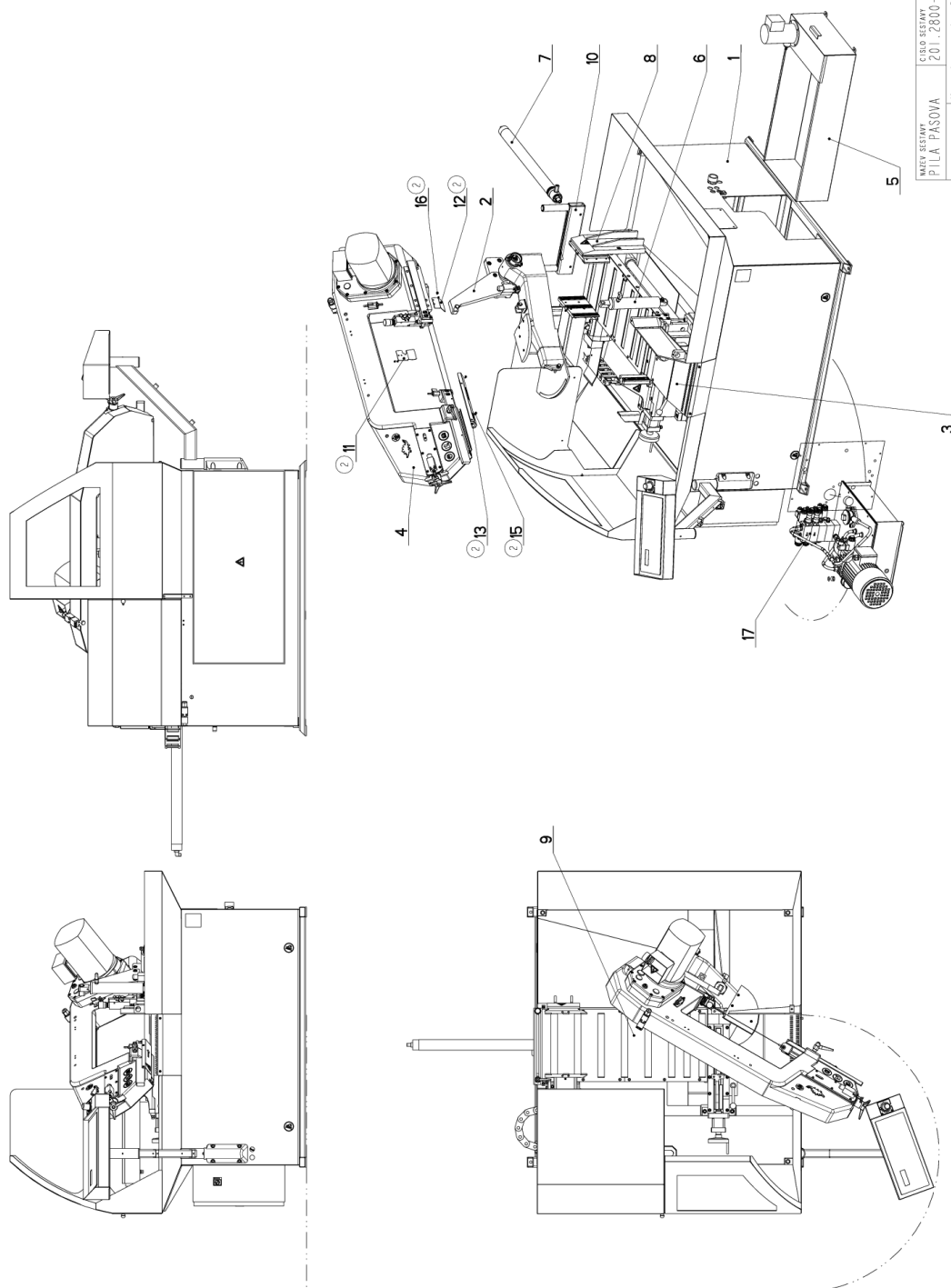
Poz.	Název položky		ks
Pos.	Bezeichnung		Menge
Pos.	Item		Pcs.
1	Nádrž / Behälter / Tank	N20C -BO	1
2	Elektromotor / Elektromotor / Electromotor	MA-AL90S-4, 1,1kW 400/230 V, 50 Hz	1
3	Hydrogenerátor / Hydraulikgenerator / Hydrogenerator	P 2-6, 2/1, 6L.66313, 6,2+1,6 cm³/rpm	1
4	Jednosměrný ventil / Einwegventil / One-way valve	VJ01-06/S G-1	1
5	Přepouštěcí ventil / Bypašventil / By pass valve	VPP 2-04/S-6S	1
6	Zpětný filtr / Filter / Filter	FR043-166 (10µm), + vložka/ einfügen / insert V3.0510-56	1
7	Manometr / Manometer / Manometer	D68, s glycerinem., 0-10 Mpa	2(1)
8	Rozvaděč / Verteilungsventil / Distributor	SD2E-A3/H2D21 nebo/ohne/or ROX-042D21/02400E1K1	1
9	Rozvaděč / Schaltschrank / Switchboard	RPE3-043Z11/02400E1K1	2
10	Rozvaděč / Schaltschrank / Switchboard	RPE3-043Y11/02400E1K1	1
11	Hydraulický zámek / Hydraulisches Schloß / Hydraulic lock	V JR1-04/MA	1
12	Rozvaděč / Schaltschrank / Switchboard	PRM2-043Z11/04-24 MIKRO	1
13	Zátka v otvoru M6/ Stopfen in das loch M6 / Stoper in the hole M6	Zaslepeno vždy / blend immer /always plugged	2
14	Tryska / Düse / Nozzle	D 1mm, 406-9006	2
15	Tlakový spínač / Druckschalter / Pressure switch	Code 166415031059 PL:20-50 bar	1
16	Tlakový filtr / Druckfilter / Pressure filter	D 042-153 (3µm)	1
17	Regulace na pásu / Kontrolle auf dem Band / Control on the strip	Kostka / Würfel / Cube: 251.218	1
18	Škrťací ventil / Drosselventil / Throttle-valve	VS01-04/R2,5-O	1
19	Akumulátor / Battery / Batterie	OLM 0,16-250/00 (0,16 dm³)	1
20	Jednosměrný ventil / Einwegventil / One-way valve	VJ3-06-005-G1	1
21	Redukční ventil / Reduktionventil /Reduction ventil	VRN2-06/S-6R	1 (0)

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

- Při objednávání náhradních dílů vždy uvádějte: typ stroje (např. Ergonomic 290.250 GANC) , výrobní číslo (např. 125) a rok výroby (např. 1999).
- In die Bestellung der Ersatzteile führen Sie immer an: Maschinentyp (z. B. Ergonomic 290.250 GANC), Serien Nr. (z. B. 125) und Baujahr (z. B. 1999).
- For spare parts order, you must always to allege: type of machine (for example Ergonomic 290.250 GANC), serial number (for example 125, see cover page) and year of construction (for example 1999).

7.1. Ergonomic 290.250 GANC

Schéma
Schemas
Scheme



WATY SESTAVY	ČÍSLO SESTAVY	STUPEŇ
PILA PASOVA	201.2800-100	ERG0250GANC
Konštruoval: STASTNY		
Datum: 17. 06. 2014		
Merilko: 2:25		

7.2. Kusovník / Piece list / Stückliste – Ergonomic 290.250 GANC

Císlo Sestavy		Ver.	Nazev sestavy	
201.2800-100		2	PILA PASOVA/BAND SAW/BANDSÄGE	
Poz.	Objednací číslo	Ver.	Nazev položky	Rozmer
1	201.2801-100	1	PODSTAVEC / BASE / UNTERSATZ	
2	201.2802-100	2	KONZOLA OTOCNA / TURNABLE CONSOL / DREHKONSOLE	
3	201.2803-100	3	SVERAK / VICE / SCHRAUBSTOCK	
4	201.2804-000	7	RAMENO / SHOULDER / SÄGERAHMEN	
5	201.2806-000	1	CHLAZENÍ / COOLING / KÜHLUNG	
6	201.2807-000	1	VALEC ZVEDACÍ / LIFTING CYLINDER / HEBEZYLINDER	
7	201.2807-200	1	VALEC PODAVACE / FEEDER CYLINDER / VORSCHUBWALZE	
8	201.2811-100	2	PODAVAC / FEEDER / VORSCHUB	
9	201.2811-300	1	TRAT / TRACK / BAHN	
10	201.2814-000	0	VALEC VERTIKÁLNÍ / VERTICAL CYLINDER / VERTIKALZYLINDER	
11	30.0704-035 (2)	0	KRYT PASU / BELT COVER / BANDABDECKUNG	P 1.5x56
12	30.0704-038 (2)	0	KRYT PASU / BELT COVER / BANDABDECKUNG	P 1.5x60
13	30.0704-321 (2)	0	KRYT PASU / BELT COVER / BANDABDECKUNG	P 1.5x98
14	31.2899-002	2	STÍTEK / LABEL / SCHILD	P 0.5x65
15	90.013.27.003 (2)	0	SROUB / BOLT / SCHRAUBE	M5x10
16	90.013.27.017 (2)	0	SROUB PULKULATÝ / HALF ROUND BOLT / HALBRUNDSCHRAUBE	M4x6
17	92.001.011	0	AGREGAT HYDRAULICKÝ / HYDRAULIC GENERATOR / HYDRAULIKAGREGAT	870-1185
18	99.900.039	0	SAMOLEPKA / STICKER / AUFLEBER	NEBEZP.STLACENI
19	99.900.040	0	SAMOLEPKA / STICKER / AUFLEBER	
20	99.900.045	0	SAMOLEPKA / STICKER / AUFLEBER	
21	99.900.046	0	SAMOLEPKA / STICKER / AUFLEBER	
22	99.900.047	0	SAMOLEPKA / STICKER / AUFLEBER	
23	99.900.048	0	SAMOLEPKA / STICKER / AUFLEBER	
24	99.900.049	0	SAMOLEPKA / STICKER / AUFLEBER	
25	99.900.053	0	SAMOLEPKA / STICKER / AUFLEBER	
26	99.900.068 (2)	0	SAMOLEPKA / STICKER / AUFLEBER	použití vysokozvýšeného vozíku
27	99.901.032 (1)	0	SAMOLEPKA / STICKER / AUFLEBER	CETIFIKACNI SAMOLEPKA

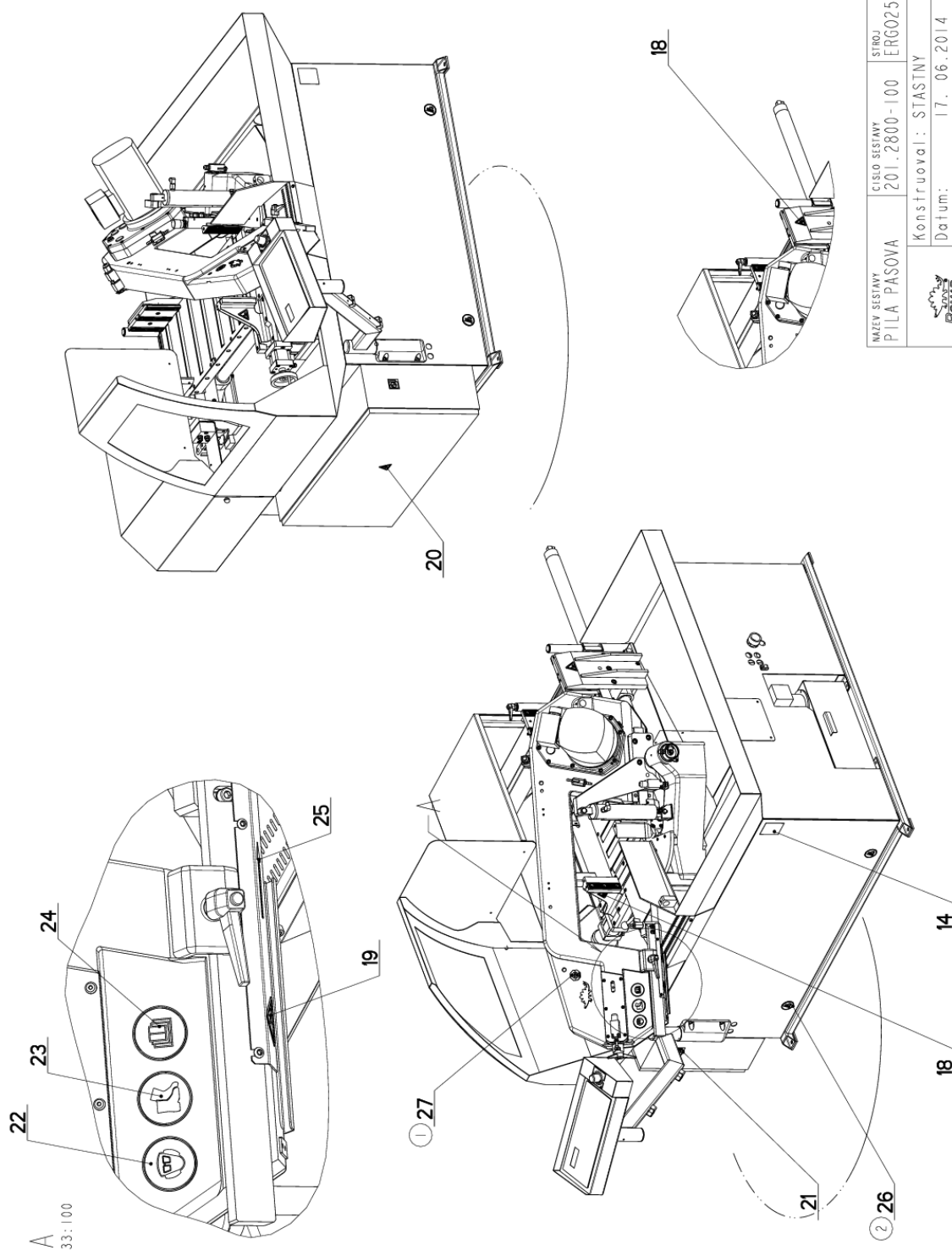
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2. PRI D.4xSAMOLEPKA 99.900.068, KRYT PASU 30.0704-321, 30.0704-038, 30.0704-035, 4xSROUB M4x6(90.013.27.017),
2xSROUB M5x10(90.013.27.003). 2937ZM098 17.6.2014 SLEZACKOVA

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

Schéma
Schemas
Scheme

7.3. Ergonomic 290.250 GANC

Schéma
Schemas
Scheme



NAZEV STAVBY PILA PASOVA	CÍSLO STAVBY 201.2800-100	STROJ ERG0250GANC
Konstruoval: STASTNY	Datum: 17. 06.2014	Meritko: 2:25
		

7.4. Kusovník / Piece list / Stückliste - Ergonomic 290.250 GANC

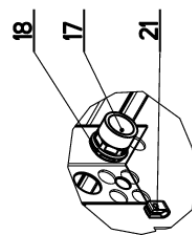
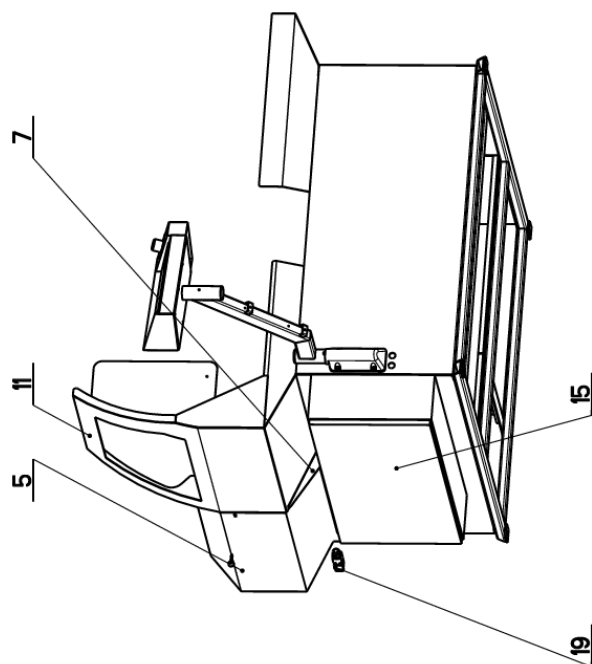
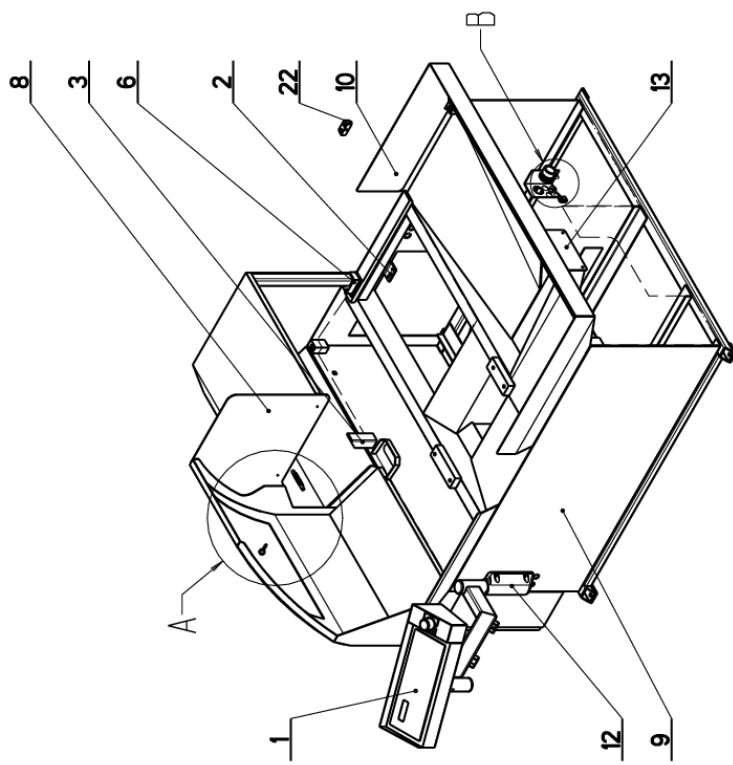
Císlo Sestavy		Ver.	Nazev sestavy		
201.2800-100		2	PILA PASOVA/BAND SAW/BANDSÄGE		
Poz.	Objednací číslo	Ver.	Nazev položky	Rozmer	Ks
1	201.2801-100	1	PODSTAVEC / BASE / UNTERSATZ		1
2	201.2802-100	2	KONZOLA OTOCNA / TURNABLE CONSOL / DREHKONSOLE		1
3	201.2803-100	3	SVERAK / VICE / SCHRAUBSTOCK		1
4	201.2804-000	7	RAMENO / SHOULDER / SÄGERAHMEN		1
5	201.2806-000	1	CHLAZENÍ / COOLING / KÜHLUNG		1
6	201.2807-000	1	VALEC ZVEDACÍ / LIFTING CYLINDER / HEBEZYLINDER		1
7	201.2807-200	1	VALEC PODAVACE / FEEDER CYLINDER / VORSCHUBWALZE		1
8	201.2811-100	2	PODAVAC / FEEDER / VORSCHUB		1
9	201.2811-300	1	TRAT / TRACK / BAHN		1
10	201.2814-000	0	VALEC VERTIKÁLNÍ / VERTICAL CYLINDER / VERTIKALZYLINDER		1
11	30.0704-035	2	KRYT PASU / BELT COVER / BANDABDECKUNG	P 1.5x56	1
12	30.0704-038	2	KRYT PASU / BELT COVER / BANDABDECKUNG	P 1.5x60	1
13	30.0704-321	2	KRYT PASU / BELT COVER / BANDABDECKUNG	P 1.5x98	1
14	31.2899-002	2	STÍTEK / LABEL / SCHILD	P 0.5x65	1
15	90.013.27.003	2	SROUB / BOLT / SCHRAUBE	M5x10	2
16	90.013.27.017	2	SROUB PULKULATÝ / HALF ROUND BOLT / HALBRUNDSCHRAUBE	M4x6	4
17	92.001.011	0	AGREGAT HYDRAULICKÝ / HYDRAULIC GENERATOR / HYDRAULIKAGREGAT	870-1185	1
18	99.900.039	0	SAMOLEPKA / STICKER / AUFLEBER	NEBEZP. STLACENÍ	2
19	99.900.040	0	SAMOLEPKA / STICKER / AUFLEBER		1
20	99.900.045	0	SAMOLEPKA / STICKER / AUFLEBER		2
21	99.900.046	0	SAMOLEPKA / STICKER / AUFLEBER		1
22	99.900.047	0	SAMOLEPKA / STICKER / AUFLEBER		1
23	99.900.048	0	SAMOLEPKA / STICKER / AUFLEBER		1
24	99.900.049	0	SAMOLEPKA / STICKER / AUFLEBER		1
25	99.900.053	0	SAMOLEPKA / STICKER / AUFLEBER		1
26	99.900.068	2	SAMOLEPKA / STICKER / AUFLEBER	použiti vysokozvýšeného vozíku	4
27	99.901.032	1	SAMOLEPKA / STICKER / AUFLEBER	CETIFIKACNÍ SAMOLEPKA	1

1. PRI DANO CERTIFIKACNÍ ZNACKA 99.901.032 . 0407ZM226-3 6.8.2010 SLEZACKOVA
2. PRI D. 4xSAMOLEPKA 99.900.068, KRYT PASU 30.0704-321, 30.0704-038, 30.0704-035, 4xSROUB M4x6(90.013.27.017),
2xSROUB M5x10(90.013.27.003). 2937ZM098 17.6.2014 SLEZACKOVA

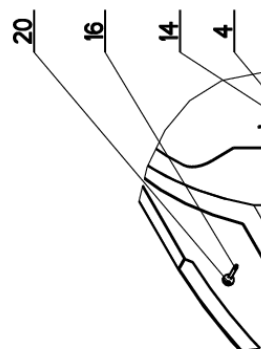
Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position;
Objednáací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

Schéma
Schemas
Schem

7.5. Podstavec / Base / Untersatz



B
1:5



A
7:50

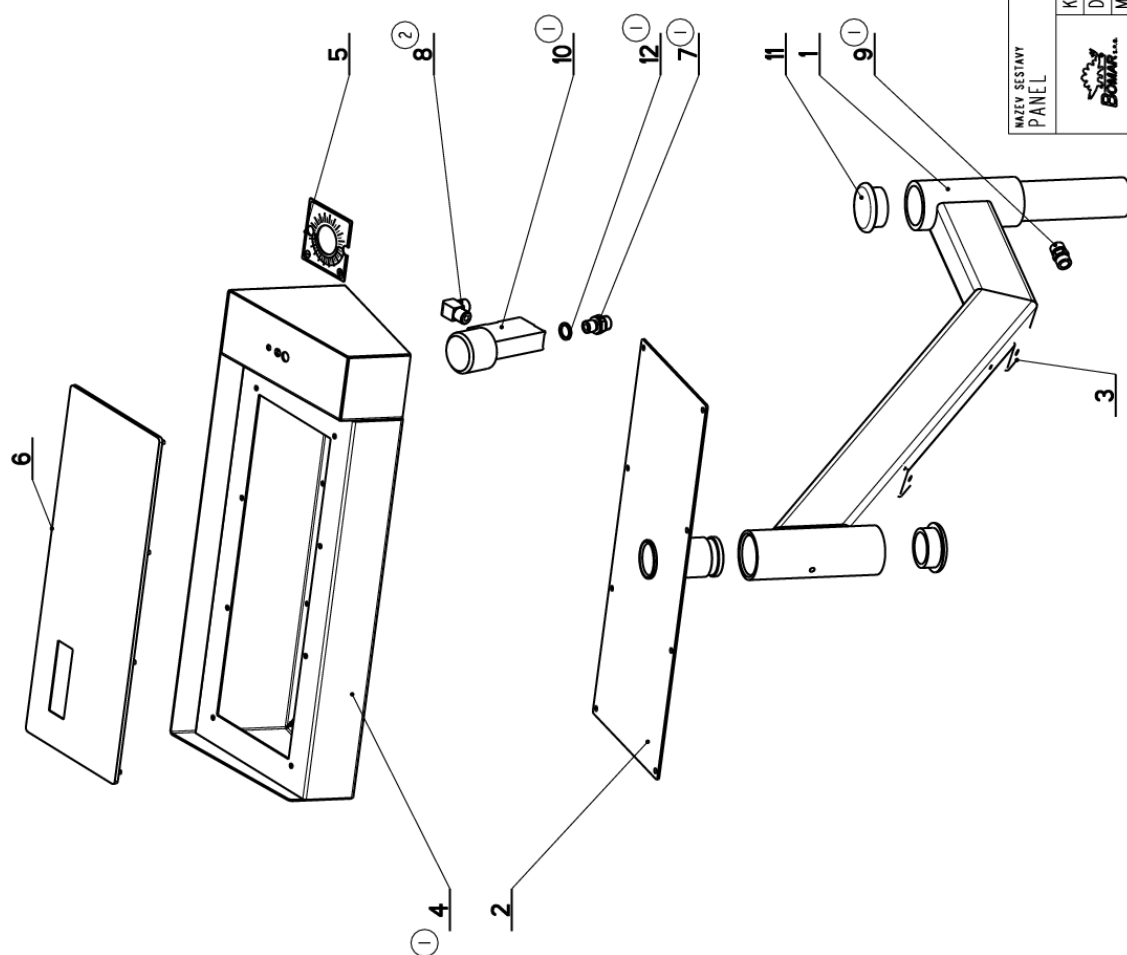
NAZEV SESTAVY PODSTAVEC	CÍSLO SESTAVY 201.2801-100	STROJ STG 250GA
Konstruoval: STASTNY		
Datum: 17. 06.2011		
Meritko: 7:100		

7.6. Kusovník / Piece list / Stückliste - Podstavec / Base / Untersatz

Císlo Sestavy 201.2801-100		Ver. I	Název sestavy PODSTAVEC/BASE/UNTERSATZ		
Poz	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	201.2814-900	I	PANEL / PANEL		I
2	30.1816-211	I	DRŽAK / HOLDER / HALTER	TYC 60x5	I
3	30.2801-003	0	DRŽAK / HOLDER / HALTER	J 40x40x2	I
4	30.2801-008	0	TYC / POLE / STANGE	d 10	I
5	30.2801-010	0	KRYT PODAVACE / FEEDER COVER / VORSCHUBABDECKUNG		I
6	30.2801-011	0	CEP / LUG / BOLZEN		I
7	30.2801-013	0	VZPERA / PROP / STREBE	PI. 5-66	I
8	30.2801-016	0	KRYT / COVER / ABDECKUNG	PI. 5x522	I
9	30.2801-101	I	PODSTAVEC / BASE / UNTERSATZ		I
10	30.2801-102	0	VANA / TANK / WANNE		I
11	30.2801-104	0	KRYT / COVER / ABDECKUNG		I
12	30.2814-307	0	LOŽISKO / BEARING / LAGER	ODLITEK	I
13	30.2914-115	0	VÍKO / COVER / DECKEL	P2 - 175	I
14	31.2801-014	0	PRUŽINA / SPRING / FEDER	1x12.5x60x12	I
15	31.2830-001	0	ROZVADEC / DISTRIBUTOR / VERTEILER		I
16	90.004.20.005	0	SROUB STAVECÍ / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M6x35	I
17	91.071.004	0	VÝVODKA / BUSHING / TÜLLE	VÝVODKA	2
18	91.072.007	0	MATICE / NUT / MUTTER	MATICE	2
19	91.173.012	0	SPINAC KONCOVÝ / END SWITCH / ENDSCHALTER		I
20	94.001.001	0	MADLO / HANDLE / RAIL / HANDGRIFF	M6	I
21	94.204.002	0	DRŽAK / HOLDER / HALTER		I
22	94.204.005	0	DRŽAK / HOLDER / HALTER	LBG 14/14-PP	I

7.7. Panel / Panel / Panel

Schéma
Schemas
Scheme

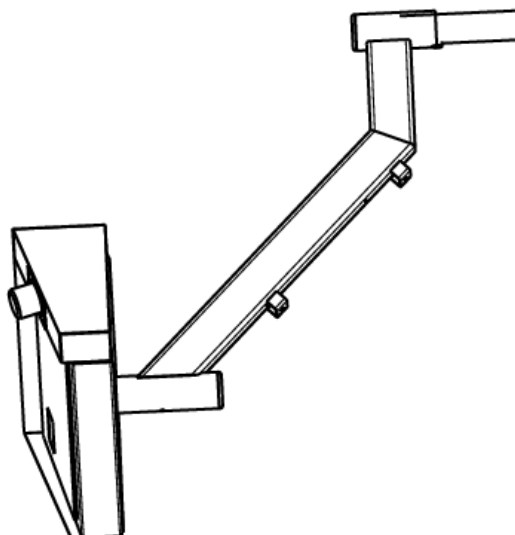


NAZEV SESTAVY PANEL	CÍSLO SESTAVY 201.2814-900	STROJ STG 240A
Konstruoval: STASTNY		
Datum: 10. 02.2011		
Meritko: 1:4		

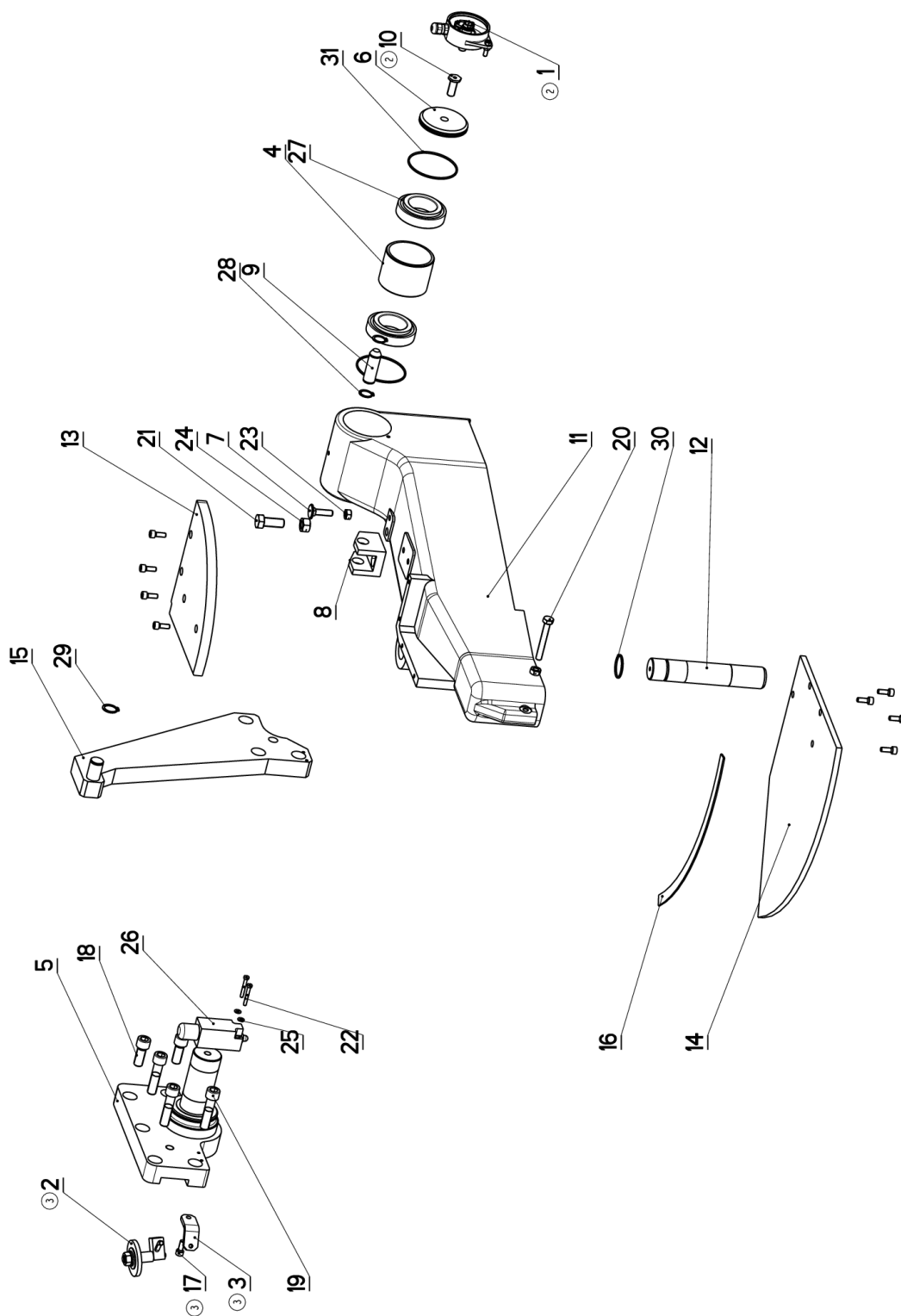
7.8. Kusovník / Piece list / Stückliste - Panel / Panel / Panel

Číslo Sestavy 201.2814-900		Ver. 2	Název sestavy PANEL/PANEL /PANEL		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.2814-901	1	DRŽAK / HOLDER / HALTER		1
2	30.2914-902	0	ZAKLADNA / BASE / GRUNDLAGE		1
3	30.2914-914	0	DRŽAK / HOLDER / HALTER	JACKL 40x40x2	2
4	30.2914-916 (1)	1	KRABICE / BOX / DOSE		1
5	31.0699-003	0	STÍTEK / LABEL / SCHILD	P 1-66	1
6	31.2131-103	0	PANEL / PANEL / PANEL		1
7	92.002.001 (1)	0	SROUBENÍ PRÍME / DIRECT BOLTING / GERADE VERSCHRAUBUNG	G 1/4"	1
8	92.004.001 (2)	0	SROUBENÍ UHLÖVE / ANGLE BOLTING / WINKELVERSCHRAUBUNG	37701	1
9	92.007.101 (1)	0	SROUBENÍ PRÍME / DIRECT BOLTING / GERADE VERSCHRAUBUNG		1
10	92.152.001 (1)	0	VENTIL SKRTICI / CHOKE VALVE / DROSSELVENTIL	VS01-04/R 2.5-0	1
11	94.102.005	0	ZATKA / PLUG / STOPFEN	50x5	2
12	96.082.002 (1)	0	TESNENÍ / SEALING / DICHTUNG	KROUZEK CU 13/17	1

I.DIL 30.2914-916 MAHAZUJE DIL 30.2914-906, NOVE SROUBENÍ, TESNÍCI KROUZEK A SKRTICI VENTIL 22.10.2002 ROZKOSNY
2.7RUS.SROUBENÍ 92.003.001 A NAHR.92.004.001. 026/ZM025 10.2.2011 SLEZACKOVA



7.9. Konzola otočná / Turnable consol / Drehkonsole



WZRY SESTAVY	CÍLOVÁ SESTAVY	STROJ
KONZOLA OTOČNÁ	201.2802-100	ERG02506ANC
Konstruoval: STASTNY		
Datum: 02. 09. 2010		
Meritko: 3:10		

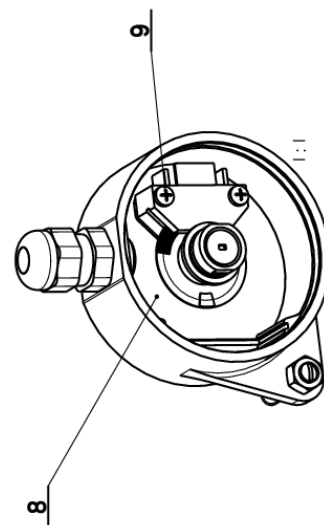
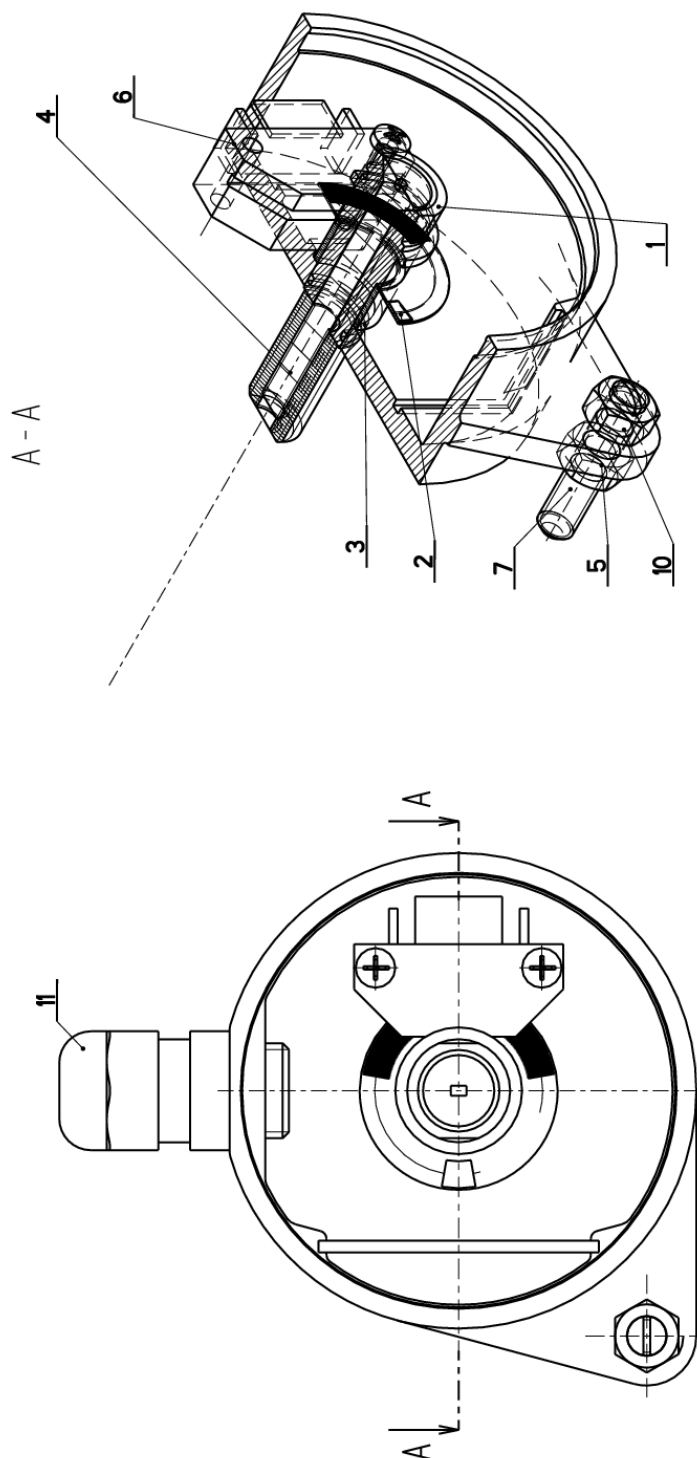
7.10. Kusovník / Piece list / Stückliste -
Konzola otočná / Turnable consol / Drehkonsole

Císlo Sestavy 201.2802-100		Ver. 2	Název sestavy KONZOLA OTOČNÁ/TURNABLE CONSOL/DREHKONSOLE		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	201.0614-200 (2)	0	ODMEROVANI / MEASURING / GEHRUNGSMESSUNG		1
2	201.0704-100 (3)	0	KARTAC / BRUSH / BÜRSTE		1
3	30.0514-603 (3)	0	DRŽAK / HOLDER / HALTER	HR20x5	1
4	30.0702-008	0	POUZDRO / SLEEVE / BÜCHSE	TR 70x5	1
5	30.0702-010	1	DRŽAK / HOLDER / HALTER		1
6	30.0702-012	0	VÍKO / COVER / DECKEL	d 70	1
7	30.0702-013	0	SROUB / BOLT / SCHRAUBE	M8	1
8	30.0807-008	1	DRŽAK / HOLDER / HALTER	HR 40x40	1
9	30.0807-009	1	CEP / LUG / BOLZEN	d 16x9	1
10	30.2802-003 (2)	0	SROUB / BOLT / SCHRAUBE	M10x25	1
11	30.2802-101	0	KONZOLA OTOČNÁ / TURNABLE CONSOL / DREHKONSOLE		1
12	30.2802-102	0	CEP / LUG / BOLZEN	d32	1
13	30.2802-103	0	DESKA / BOARD / PLATTE	P 15-165	1
14	30.2802-104	0	KOTOUČ / DISC / SCHEIBE	P 8-254	1
15	30.2802-105	0	DRŽAK / HOLDER / HALTER		1
16	30.2802-106	0	MÉRITKO / MEASURE / SKALA	P 0.8-208	1
17	90.001.25.017 (3)	0	SROUB IMBUS CERNÝ / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x16	9
18	90.001.25.058	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x30	2
19	90.001.25.062	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x50	3
20	90.005.55.021	0	SROUB 6HRANNÝ / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M8x60	1
21	90.005.55.032	0	SROUB 6HRANNÝ / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M12x30	1
22	90.012.50.007	0	SROUB / BOLT / SCHRAUBE	SROUB M4x30	2
23	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE - M8	2
24	90.100.55.007	0	MATICE / NUT / MUTTER	MATICE - M12	1
25	90.150.50.002	0	PODLOŽKA / WASHER / UNTERLEGSCHLEIBE	PODLOŽKA 4,3	2
26	91.173.007	0	SPINAC KONCOVÝ / END SWITCH / ENDSCHALTER	-R1WK	1
27	95.300.002	0	LOŽISKO KUŽELIK / BEARING / LAGER	32008AX	2
28	95.800.007	0	KROUZEK POJIST.VNEJŠÍ / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTINÝ KROUZEK 16	2
29	95.800.008	0	KROUZEK POJIST.VNEJŠÍ / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTINÝ KROUZEK 18	1
30	96.001.008	0	KROUZEK O STATICKY / STATIC O RING / O-RING STATISCH	26x2	1
31	96.001.018	0	KROUZEK O STATICKY / STATIC O RING / O-RING STATISCH	63x2	2

1. ZRUSENO ODMEROVANI UHLU 201.0614-200, NAHRAZENO 201.2802-300, ZRUSENA SOUCAST 30.2802-003 30.8.2002 ROZKOSNY
2. ZRUSENA PREDCHAZEJICI ZMENA 22.10.2002 ROZKOSNY
3. PRIDANO - KARTACEK 201.0704-100, DRŽAK 30.0514-603, SROUB M6x16 (90.001.25.017). 183/ZM211 2.11.2009 SLEZACKOVA

7.11. Odměrování / Measuring / Gehrungsmessung

Schéma
Schemas
Scheme



NAZEV SESTAVY ODMĚROVÁNÍ	CÍSLO SESTAVY 201.0614-200	STROJ
Konstruoval: &konstruoval		
Datum: 19. 02.2010		
Meritko: 2:1		

7.12. Kusovník / Piece list / Stückliste - Odměrování / Measuring / Gehrungsmessung

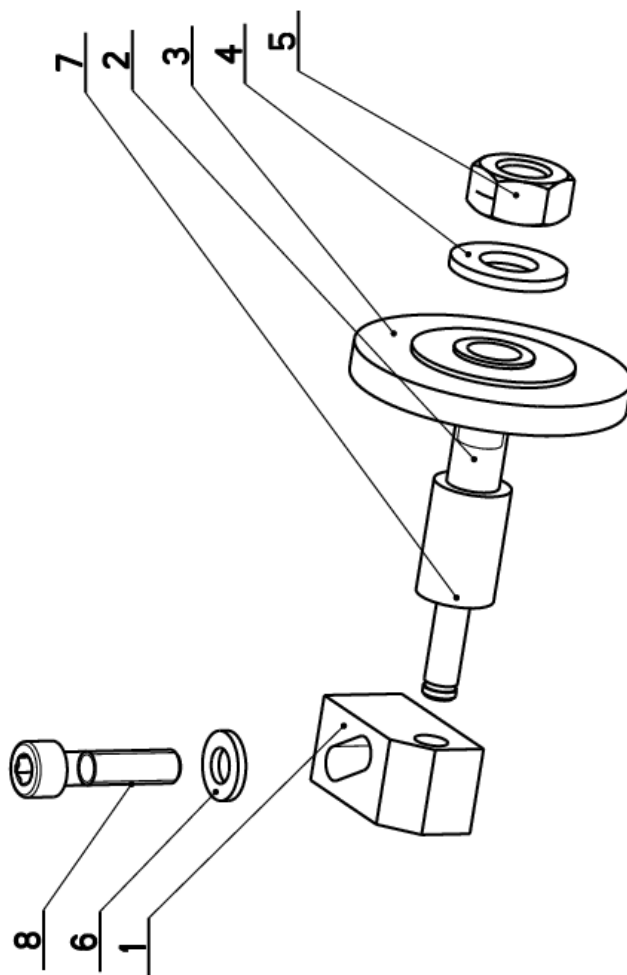
Císlo Sestavy 201.0614-200		Ver. 0	Název sestavy ODMĚROVÁNÍ / MEASURING / GEHRUNGSMESSUNG		
Pos.	Objednací číslo	Ver.	Název položky	Rozebr	Rs
1	30.0614-201	0	CEP / LUG / BOLZEN	d 16	1
2	30.0614-203	0	CLONA / CURTAIN / SCHÜRZE	FOLIE 0,3	1
3	30.0614-204	0	POUZÍTO / SLEEVE / BÜCHSE	TR 13x1	1
4	30.0614-208	0	SRUB / BOLT / SCHRAUBE	TYC M10	1
5	31.0614-202	0	KRAVICE / BOX / POSE	VYLISEK-PLAST	1
6	31.0631-201	0	SRIMAC / SENSOR / SENSOR		1
7	90.002.20.027	0	SRUB STAVEČI / ADJUSTMENT BOLT / STELSCHRAUBE	SRUB M5x25	1
8	90.011.27.019	0	SRUB ZAPUSTITÝ / COUNTERSINK BOLT / SENKSCHRAUBE	SRUB M5x40	1
9	90.014.50.004	0	SRUB / BOLT / SCHRAUBE	M2,5x14	2
10	90.100.55.003	0	MATICE / NUT / MUTTER	MATICE - M5	2
11	91.070.010	0	PRŮCHOVNA / LEADTHROUGH / DURCHFÜHRUNG	M12x1,5 ČERNA	1

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

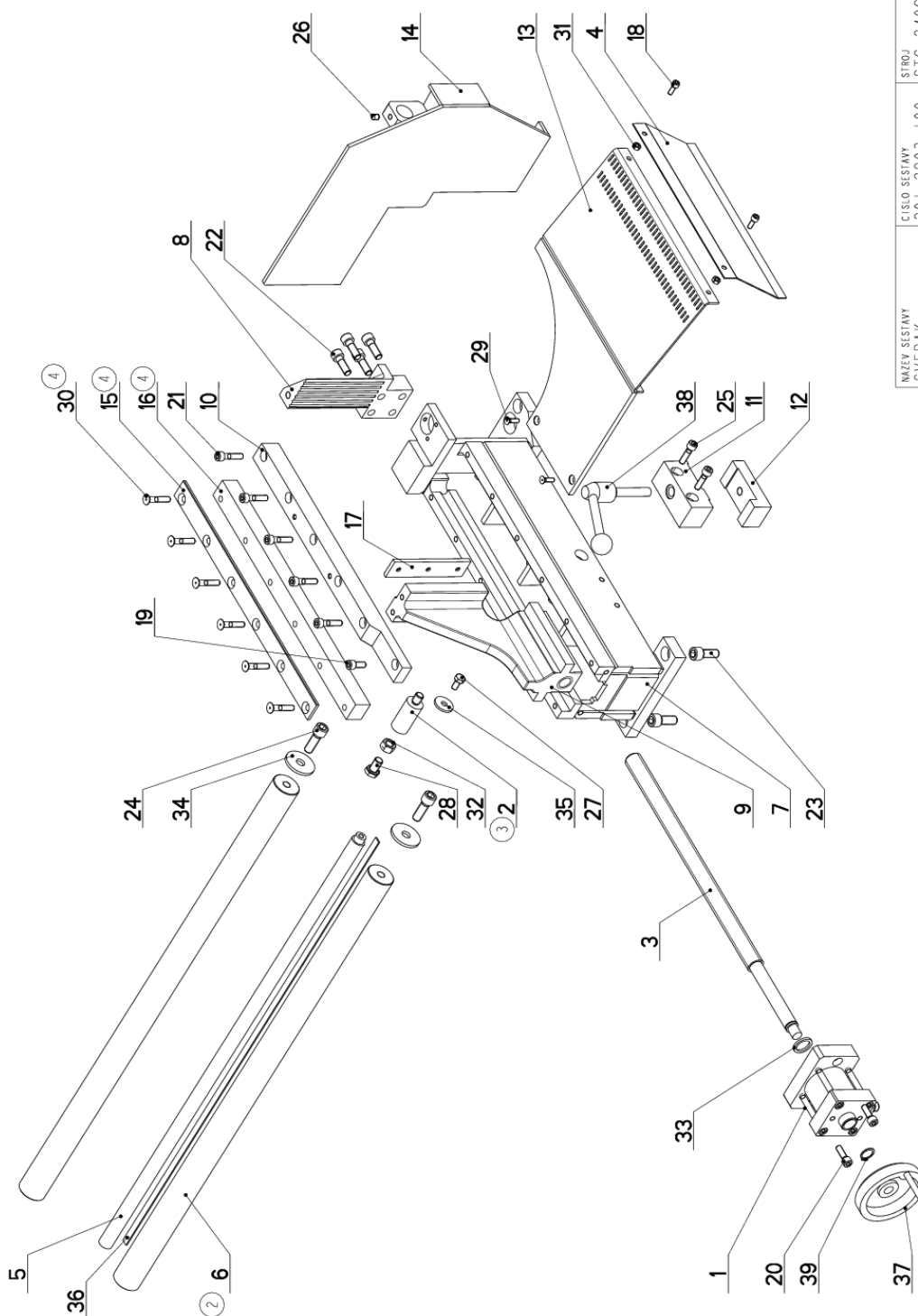
7.13. Kartáč / Brush / Bürste

Schéma
Schemas
Scheme

Číslo Sestavy 201.0704-100		Ver. 0	Název sestavy KARTAC/BRUSH/BÜRSTE		
Poz.	Objednací číslo	Ver.	Název položky	Rožmer	Ks
1	30.0104-022	0	DRŽAK / HOLDER / HALTER	HR 16x16	1
2	30.0704-029	0	HRDEL / SHAFT / WELLE	d 14	1
3	31.0704-031	0	KARTAC / BRUSH / BÜRSTE		1
4	90.150.50.006	0	PODLOŽKA DIN125 / WASHER / UNTERLEGSCHIBE	PODLOŽKA 10,5	1
5	90.100.55.006	0	MATICE / NUT / MUTTER	MATICE - M10	1
6	90.150.50.004	0	PODLOŽKA / WASHER / UNTERLEGSCHIBE	PODLOŽKA 6,4	1
7	95.800.001	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTVY KROUZEK 6	1
8	90.001.25.019	0	SROUB IMBUS ČERNÝ / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x25	1



7.14. Svěrák / Vice / Schraubstock



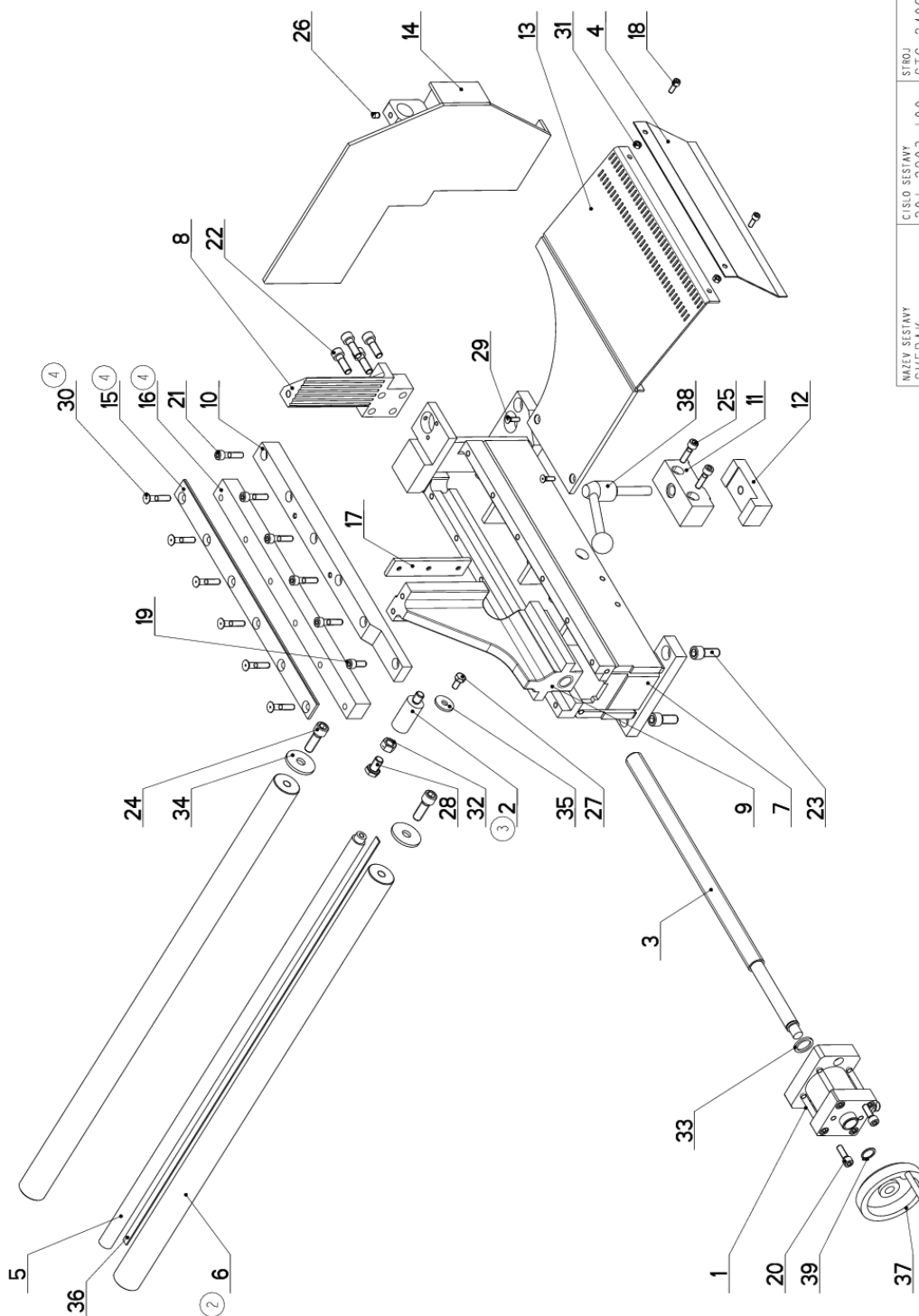
NAZEV SESTAVY SVĚRÁK	CÍSLO SESTAVY 201.2803-100	STROJ STG 240GA
Konstruoval: STASTNY		
Datum: 20. 04.2015		
Měřítko: 1:5		

7.15. Kusovník / Piece list / Stückliste - Svěrák / Vice / Schraubstock

Císlo Sestavy 201.2803-100		Ver. 4	Název sestavy SVĚRÁK/VICE/SCHRAUBSTOCK		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	201.2807-300	0	VALEC SVĚRÁKU / VICE CYLINDER / SCHRAUBSTOCKZYLINDER		1
2	30.2803-008 (3)	0	DORAZ / STOP PIECE / ANSCHLAG	d 25	1
3	30.2803-018	0	SROUB / BOLT / SCHRAUBE	Tr24x5L	1
4	30.2803-019	0	SKLIZ / SLIDE / RUTSCH	P 1.5-139.8	1
5	30.2803-022	1	TYC / POLE / STANGE	d 20	1
6	30.2803-023 (2)	1	TYC VODICI / LEAD POLE / FÜHRUNGSTANGE	TYC 40h6-822	2
7	30.2803-101	4	SVĚRÁK / VICE / SCHRAUBSTOCK		1
8	30.2803-102	0	CELIST PEVNÁ / SOLID JAW / FESTE BACKE	HR 80x30	1
9	30.2803-103	0	CELIST / JAW / BACKE	ODLITEK	1
10	30.2803-104	3	LISTA / TRIM / LEISTE	HR 35x35	1
11	30.2803-106	0	BRZDA / BRAKE / BREMSE	HR 40x40	1
12	30.2803-107	0	DESKA / BOARD / PLATTE	HR 40x30	1
13	30.2803-108	1	ROST / GRILL / GITTER		1
14	30.2803-109	1	CELIST / JAW / BACKE		1
15	30.2803-111 (4)	0	LISTA / TRIM / LEISTE	P 4x30	1
16	30.2803-112 (4)	0	LISTA / TRIM / LEISTE	HR 30x30	1
17	30.2811-011	3	LISTA CELISTI / JAW TRIM / BACKENLEISTE	HR 30x10	1
18	90.001.25.017	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x16	2
19	90.001.25.032	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x20	1
20	90.001.25.033	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x25	2
21	90.001.25.035	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x35	5
22	90.001.25.048	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x30	4
23	90.001.25.058	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x30	3
24	90.001.25.059	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x35	3
25	90.001.25.083	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x30	2
26	90.002.20.011	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M8x10	1
27	90.005.55.014	0	SROUB 6HRANNÝ / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M8x16	1
28	90.005.55.030	0	DORAZ / STOP PIECE / ANSCHLAG	SROUB M12x20	1
29	90.011.27.006	0	ZAPUŠTNÝ IMBUS / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M6x20	2
30	90.011.27.045 (4)	0	SROUB ZAPUŠTNÝ / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M8x40	6
31	90.100.55.004	0	MATICE / NUT / MÜTTER	MATICE - M6	2
32	90.100.55.007	0	MATICE / NUT / MÜTTER	MATICE - M12	1
33	90.150.50.011	0	PODLOŽKA / WASHER / UNTERLEGSCHLEIBE	PODLOŽKA 21	1
34	90.151.50.002	0	PODLOŽKA / WASHER / UNTERLEGSCHLEIBE	PODLOŽKA 12	2

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

7.16. Svěrák / Vice / Schraubstock



NAZEV SESTAVY SVĚRÁK	CÍSLO SESTAVY 201.2803-100	STROJ STG 240GA
Konstruoval: STASTNY		
Datum: 20. 04.2015		
Měřítko: 1:5		

7.17. Kusovník / Piece list / Stückliste - Svěrák / Vice / Schraubstock

35	90.151.50.005	0	PODLOŽKA / WASHER / UNTERLESCHEIBE	PODLOŽKA 8	I
36	91.271.001	0	PASKA MAGNETICKÁ / MAGNETIC TAPE / MAGNETBAND	S 10	I
37	94.010.004	0	KOLO / WHEEL / UMLENKRAD	d 100 / 14H7	I
38	94.011.002	0	PAKA UPIŇACÍ / ATTACHMENT LEVER / SPANNHEBEL	M12x63 d28	I
39	95.800.008	0	SEGR HRÍDEL. / OUTSIDE SAFETY RING / SICHERUNGSRING AUSSEN	POJISTNÝ KROUŽEK 18	I

1. 90.302.0Z.004 KOLIK KUZEL 8x50 ZRUSEN 24.5.02 STASTNY

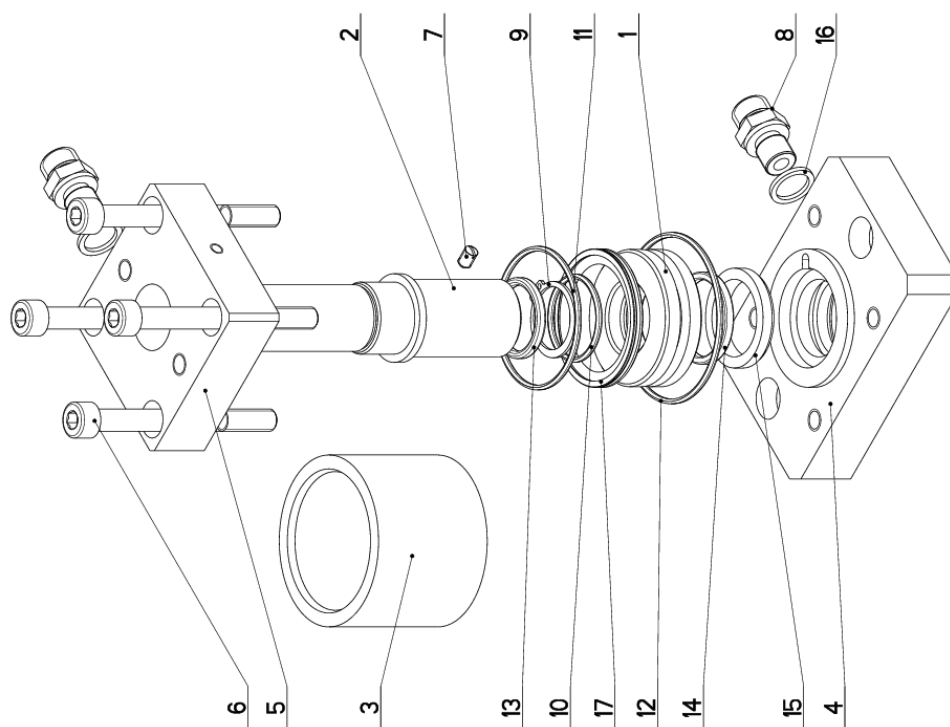
2. VODICI TYCE 30.2803-021 NAHRAZENÝ TYCEMI 30.2803-023 7.4.2003 ROZKOSNY

3. ZRUSENA SOUCAST 30.0802-008 A NAHRAZENA NOVOU SOUCASTI 30.2803-008. 22.4.2005 SLEZACKOVA

4. ZRUS.LISTA 30.2803-103 A NAHR. 30.2803-111, 30.1803-112, ZRUS. 6xSROUB M8x35(90.001.25.035) A NAHRAZEN 6xSROUB ZAPUSTNY M8x40(90.011.27.045). 113/ZM083 20.4.2015 SLEZACKOVA

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

7.18. Válec svěráku / Vice cylinder / Schraubstockzylinder



NAZEV SESTAVY VÁLEC SVĚRÁKU	ČÍSLO SESTAVY 201.2807-300	STROJ STG 240GA
Konstruoval: &konstruoval		
Datum: 06. 05.2015		
Měřítko: 7:10		

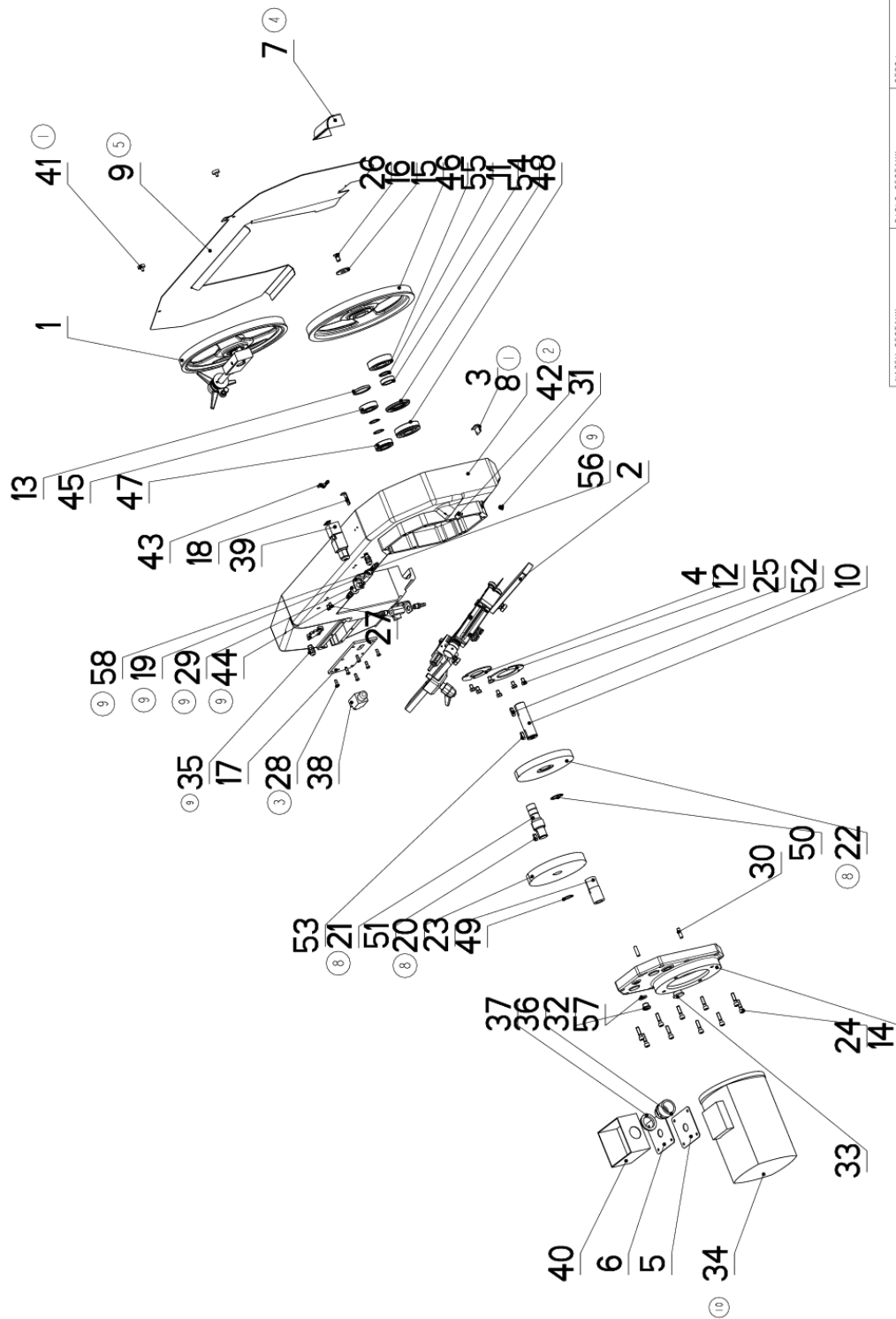
7.19. Kusovník / Piece list / Stückliste - Válec svěráku / Vice cylinder / Schraubstockzylinder

Císlo Sestavy 201.2807-300		Ver. 0	Název sestavy VALEC SVĚRAKU/V ICE CYLINDER/SCHRAUBSTOCKZYLINDER		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.2807-301	1	PIST / PISTON / KOLBEN	D 50	1
2	30.2807-302	1	PISTNICE / PISTON ROD / KOLBENSTANGE	TYC 32	1
3	30.2807-303	0	VALEC / ROLLER / ZYLINDER	TR62/50H8	1
4	30.2807-304	1	VÍKO / COVER / DECKEL	HR 70x25	1
5	30.3307-005	0	VÍKO / COVER / DECKEL	HR 70x70	1
6	90.001.25.067	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x80	4
7	90.002.20.004	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M5x8	1
8	92.002.001	0	SROUBENÍ PRÍME / DIRECT BOLTING / GERADE VERSCHRAUBUNG	G 1/4"	2
9	95.800.011	0	SEGR HRÍDEL. / OUTSIDE SAFETY RING / SICHERUNGSRING AUSSEN	POJISTNÝ KROUZEK 24	1
10	96.001.007	0	O-KROUZEK STATIC / STATIC O RING / O-RING STATISCH	25x2 NBR 70SH	1
11	96.001.013	0	O-KROUZEK STATIC / STATIC O RING / O-RING STATISCH	45x2	1
12	96.001.014	0	O-KROUZEK STATIC / STATIC O RING / O-RING STATISCH	55x2	1
13	96.002.012	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	24x3	1
14	96.002.014	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	28x3	1
15	96.060.003	0	KROUZEK STÍRAČI / SCRAPER RING / ABSTREIFRING	KROUZEK STÍRAČI 28	1
16	96.082.002	0	TESNENÍ / SEAL RING / DICHTUNGSRING	13/17x1.5 CU	2
17	96.900.001	0	TESNENÍ KOMBINOVANÉ / COMBINATION SEALING / KOMBIDICHTUNG	PW200500-Z20N	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

7.20. Rameno / Shoulder / Sägerahmen

Schéma
Schemas
Scheme



NAZEV ŠESTAVY RAMENO	CÍSLO ŠESTAVY 201.2804-000	STROJ ERG0250DGH
Konstruoval: STASTNY		
Datum: 27. 01. 2017		
Meritko: 1:10		

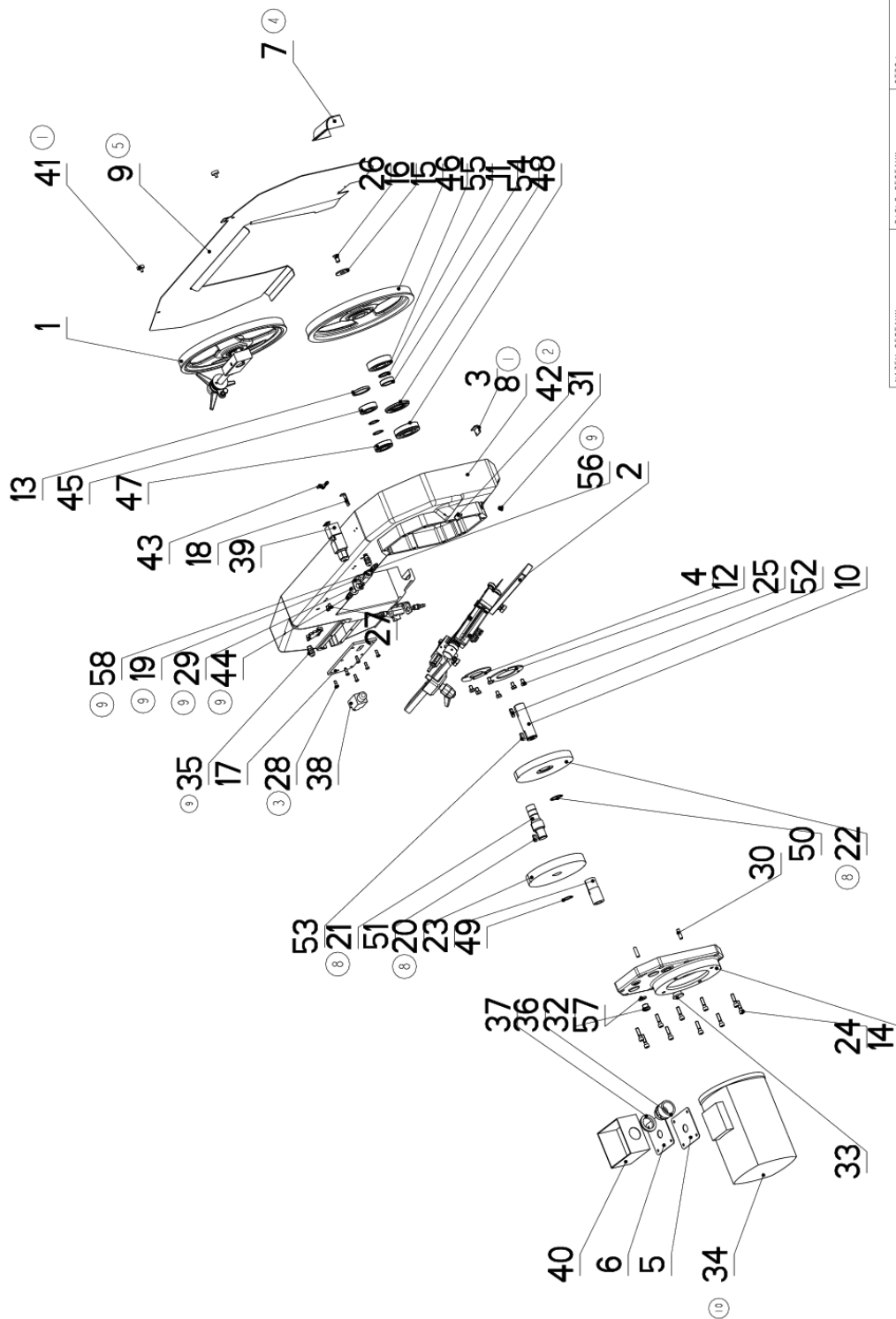
7.21. Kusovník / Piece list / Stückliste - Rameno / Shoulder / Sägerahmen

Císlo Sestavy 201.2804-000		Ver. 10	Název sestavy RAMENO/SHOULDER/SÄGERAHMEN		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	201.0508-000	0	NAPINANI / TENSIONING / SPANNUNG		1
2	201.2810-000	0	VEDENÍ PASU / BELT GUIDE / SÄGEBANDFÜHRUNG		1
3	30.0104-029	0	UCHYTKA / CLIP / HALTER	P 2- 36	1
4	30.0105-007	0	PRÍLOŽKA / STRAP / LASCHE	P 2.5x90	1
5	30.0504-010	1	DESKA ELEKTRO / ELECTRIC BOARD / PLATINE	P 1.5 - 95	1
6	30.0504-011	0	GUMA / RUBBER / GUMMI	TL 2-95	1
7	30.0504-604 (4)	2	KRYT / COVER / ABDECKUNG	P 1.5x84	1
8	30.0504-751 (1)	8	RAMENO / SHOULDER / SÄGERAHMEN	80.0504-701	1
9	30.0504-753 (5)	1	KRYT NAPINANI / TENSIONING COVER / BANDSPANNUNGSABDECKUNG	P 1.5x492	1
10	30.0505-007	2	HRÍDEL / SHAFT / WELLE	TYC 35	1
11	30.0505-009	1	KROUZEK / RING / RING	TR 42x8	1
12	30.0505-010	0	PRÍLOŽKA / STRAP / LASCHE	P 2.5x108	1
13	30.0505-013	0	ZATKA / PLUG / STOPFEN	d 55	1
14	30.0505-201	1	VÍKO / COVER / DECKEL	C.M.80.0705-001	1
15	30.0505-701	0	KOLO HNACÍ / DRIVE WHEEL / ANTRIEBSRAD		1
16	30.0508-002	0	PODLOŽKA / WASHER / UNTERLESCHEIBE	d 40	1
17	30.0704-007	5	VÍKO / COVER / DECKEL	P 6x80	1
18	30.0704-032	2	PRÍLOŽKA / STRAP / LASCHE	P 2 - 15	1
19	30.11814-011 (9)	2	DRŽÁK / HOLDER / HALTER	P 3x76	2
20	31.0505-003	1	KOLO OZUBENÉ / COG WHEEL / ZAHNRAD	D 176	1
21	31.0505-004 (8)	1	PŘEDLOHA / SHAFT / WELLE	d40	1
22	31.0505-005 (8)	0	KOLO OZUBENÉ / COG WHEEL / ZAHNRAD	D 180	1
23	31.0505-202 (8)	1	PASTOREK / PINION / RITZEL	d 32	1
24	90.001.25.083	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x30	10
25	90.005.55.013	0	SROUB 6HRANNÝ / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M8x12	6
26	90.011.27.008	0	ZAPUSTNÝ IMBUS / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M10x20	1
27	90.013.27.007 (9)	0	SROUB PULKULATÝ / HALF ROUND BOLT / HALBRUNDSCHRAUBE	M8x10	4
28	90.013.27.008 (3)	0	SROUB PULKULATÝ / HALF ROUND BOLT / HALBRUNDSCHRAUBE	M8x16	6
29	90.150.30.007 (9)	0	PODLOŽKA / WASHER / UNTERLESCHEIBE	PODLOŽKA B13	1
30	90.302.07.002	0	KUŽEL. KOLÍK S ZAV. / TAPER PIN + THREAD / KEGELBOLZEN + GEWINDE	KOLÍK 8x30	2
31	90.400.52.001 (2)	0	ZATKA / PLUG / STOPFEN	M10x1	1
32	90.400.52.002	0	ZATKA / PLUG / STOPFEN	M16x1.5	1
33	90.400.52.003	0	ZATKA / PLUG / STOPFEN	M 24x1.5	1
34	91.001.338 (10)	0	ELEKTROMOTOR / ELECTRIC MOTOR / ELEKTROMOTOR		1

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

7.22. Rameno / Shoulder / Sägerahmen

Schéma
Schemas
Scheme



NAZEV SYSTAVY RAMENO	CISLO SYSTAVY 201.2804-000	STROJ ERG0250DGH
Konstruoval: STASTNY		
Datum: 27. 01.2017		
Meritko: 1:10		

7.23. Kusovník / Piece list / Stückliste - Rameno / Shoulder / Sägerahmen

35	91.070.010	0	VYVODKA / /	M12x1.5	2
36	91.071.004	0	VYVODKA / BUSHING / TÜLLE	VYVODKA	1
37	91.072.007	0	MATICE / NUT / MUTTER	MATICE	1
38	91.173.007	0	SPINAC KONCOVÝ / END SWITCH / ENDSCHALTER	-RIWK	1
39	91.173.012	0	SPINAC KONCOVÝ / END SWITCH / ENDSCHALTER		1
40	91.190.004	0	KRABICE ELEKTRO / ELECTRO BOX / ELEKTRODOSE		1
41	94.007.002	0	SROUB / BOLT / SCHRAUBE		2
42	94.102.002	9	UCPAVKA / PLUG / STOPFEN	22	1
43	94.200.001	0	REDUCE / REDUCTION / ADAPTOR / REDUKTION	6	1
44	94.202.002	0	REDUCE / REDUCTION / ADAPTOR / REDUKTION	GES 6/R1/4"	4
45	95.001.018	0	LOZISKO / BEARING / LAGER	6205 2RS	1
46	95.001.025	0	LOZISKO / BEARING / LAGER	6306 2RS	1
47	95.003.002	0	LOZISKO / BEARING / LAGER	6205AN	1
48	95.003.003	0	LOZISKO / BEARING / LAGER	6306AN	1
49	95.800.012	0	SEGR HRIDEL. / OUTSIDE SAFETY RING / SICHERUNGSRING AUSSEN	POJISTNY KROUZEK 25	3
50	95.800.013	0	SEGR HRIDEL. / OUTSIDE SAFETY RING / SICHERUNGSRING AUSSEN	POJISTNY KROUZEK 30	1
51	95.810.006	0	PERO TESNE / TIGHT SPRING / PASSFEDER	PERO 8X7X20	1
52	95.810.007	0	PERO TESNE / TIGHT SPRING / PASSFEDER	PERO 8X7X25	1
53	95.810.023	0	PERO TESNE / TIGHT SPRING / PASSFEDER	PERO 8X7X22	1
54	95.830.005	0	GUFERO / GIT SEAL / DICHTUNG	GUFERO 40X7X7	1
55	96.002.024	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	30X2	1
56	96.080.001	9	TESNEVÍ / SEALING / DICHTUNG	17.8x13.5x2	1
57	96.081.001	0	KROUZEK TESNIVCI / SEAL RING / DICHTUNGSRING	23x15x3	1
58	99.260.003	9	VENTIL / VALVE / VENTIL	1/4"	2

1. VYMENA RAMENE A KRYTU RAMENE - ZRUSENA SOUCAST 30.0504-701 A NAHR. 30.0504-751, ZRUSENA SOUC. 30.0504-702 A NAHR. 30.0504-752. 558/ZM281 19.10.2006 SLEZACKOVA
2. PRIDAN OLEJOVNÁK 90.400.52.003. 633/ZM021 12.2.2007 SLEZACKOVA
3. ZRUS KARTACEK 201.0704.100. PRID. KRYT 30.0504-603. ZRUS. SROUB MBUS MEX16 (90.001.25.017) A NAHRAZEN SROUBEM S PULKULATOU HLAVOU M6x16 (90.013.27.008). 183/ZM211 26.11.2009 SLEZACKOVA
4. ZRUSEN KRYT KARTACKU 30.0504-603 A NAHRAZEN 30.0504-604. 052/ZM050 22.2.2010 SLEZACKOVA
5. ZRUSEN KRYT 30.0504-732 A NAHRAZEN 30.0504-753. 036/ZM095 12.4.2010 SLEZACKOVA
7. ZRUS KRYT 30.0704-021. 077/ZM098 22.4.2014 SLEZACKOVA
8. ZRUS. SOUC. 30.0505-004 A NAHR. 31.0505-004, ZRUS. 30.0505-002 A NAHR. 31.0505-005. 003/ZM005 16.1.2015 SLEZACKOVA
9. PRID. 2xVYVODKA M2x1.5 (91.070.010). PRID. 1x30.1814-011. 1x90.150.30.007, 4x90.013.27.007, 2x94.202.002, 1x96.080.001, 1x99.260.003. 020/ZM029 27.1.2017 SLEZACKOVA
10. ZRUS. MOTOR 91.001.007 A NAHR. 91.001.338 046/ZM340 20.10.2017 SCERBA

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

7.25. Kusovník / Piece list / Stückliste - Napínání / Tensioning / Spannung

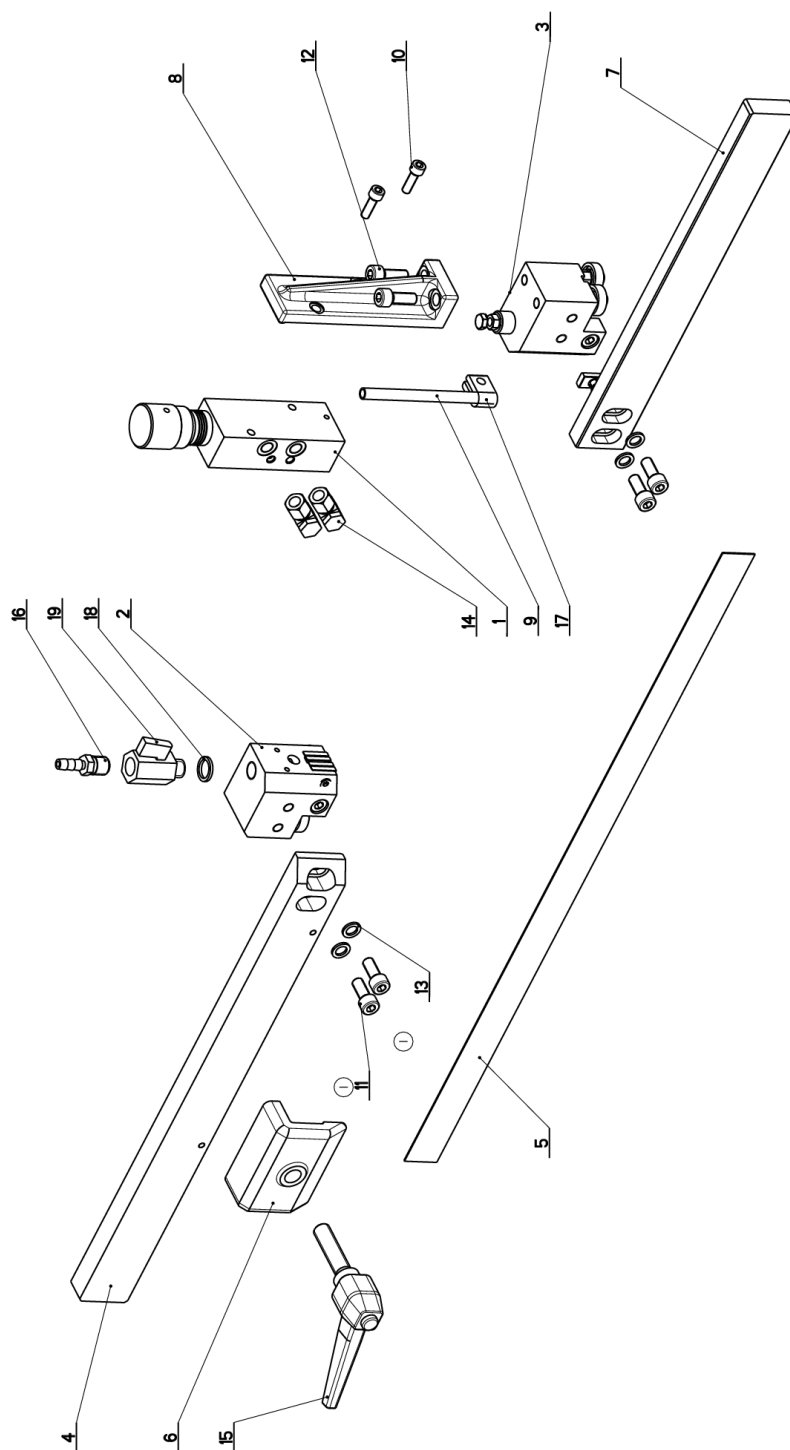
Císlo Sešitový 201.0508-000		Ver. 0	Název sešitový NAPÍNÁNÍ / TENSIONING / SPANNUNG	
Poz.	Objednací číslo	Ver.	Název položky	Rozev Ks
1	30.0104-002	0	HRANOL / BLOCK / PRISMA	HR 50x 30
2	30.0104-004	2	DRŽAK / HOLDER / HALTER	
3	30.0303-005	0	SROUB / BOLT / SCHRAUBE	M16
4	30.0505-011	2	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	TYC 40
5	30.0508-004	0	CEP NAPÍNÁNÍ / TENSIONING LUG / SPANNUNGSBOLZEN	
6	30.0508-701	4	KOLO NAPÍNÁNÍ / TENSIONING WHEEL / UMLENNRAD	
7	30.0702-023	2	KROUZEK DISTANČNÍ / DISTANCE RING / DISTANZRING	
8	30.0704-025	3	DRŽAK / HOLDER / HALTER	P 4x 36
9	31.0104-006	0	HVEZDICE / STAR WHEEL / STERN	PLAST
10	90.004.20.008	2	STAV SR S CIP / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M8X16
11	90.005.55.017	0	6 HR SROUB ZIN / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M8X30
12	90.005.55.023	0	6 HR SROUB ZIN / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M10X20
13	90.100.55.005	0	MATICE DIN 934 / NUT / MUTTER	MATICE - M8
14	90.100.55.008	0	MATICE DIN 934 / NUT / MUTTER	MATICE - M16
15	90.300.02.012	0	KOLIK VALC. KAL. / PIN / BOLZEN	KOLIK 8x50
16	90.303.02.008	0	KOLIK PRUŽNÝ / PIN / BOLZEN	KOLIK 5x20
17	90.350.02.002	0	PRUŽINA TALIROVA / DISC SPRING / TELLERFEDER	35.5x18.3x2.0x2.8
18	95.001.018	2	LOŽISKO / BEARING / LAGER	6205 2RS
19	95.750.001	0	KROUZEK KU / KU RING / KU-RING	16x1
20	95.800.012	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNÝ KROUZEK 25
21	95.801.009	2	SEGR DIRA / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNÝ KROUZEK 52

① ZMENA 30.0702-023 NA 30.0508-006, 0508-701 NA 0508-102, 0508-004 NA 0508-007, 0104-002 NA 0508-008, 95.001.018 NA 95.001.036
0505-011 NA 0508-002, 95.801.009 NA 95.801.010 14.5.2004 URICAR

2. ZRUŠENA ZMENA 1. NEBYLA REALIZOVANA. 266/ZM255 28.7.2008 SLEZACKOVA

7.26. Vedení pásu / Belt guide / Sägebandführung

Schéma
Schemas
Scheme



WATY SYSTEMY	CISLO SESTAVY	STUJ
VEDENÍ PÁSU	201.2810-000	STG 240A/GA
Konstruoval:		
Datum: 27. 11. 2009		
Meritko: 1:2		

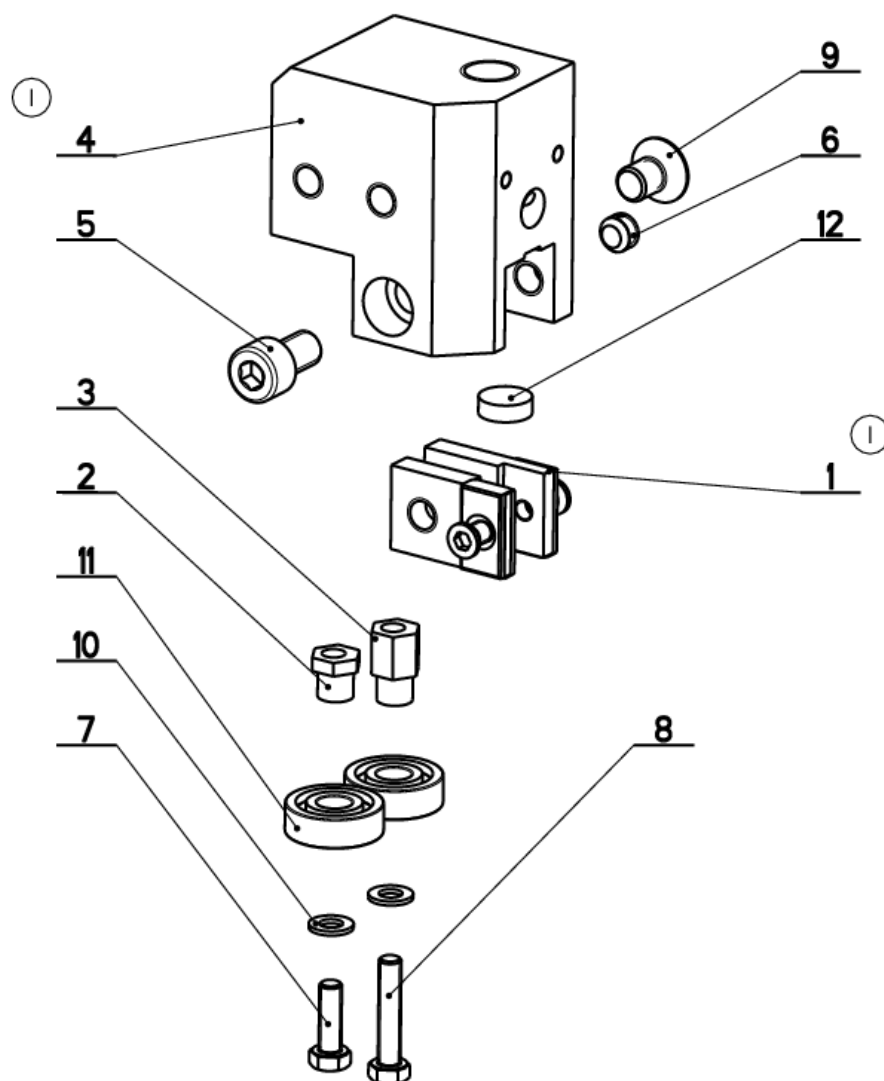
7.27. Kusovník / Piece list / Stückliste -
Vedení pásu / Belt guide / Sägebandführung

Císlo Sestavy 201.2810-000		Ver. 0	Název sestavy VEDENÍ PASU/BELT GUIDE/SÄGEBANDFÜHRUNG		
Poz.	Objednací číslo	Ver.	Název položky	Rozmer	Ks
1	251.218	0	REGULACE PŘÍTLAKU / PRESSURE REGULATION / SCHNITTDRUCKREGULATION		1
2	201.0110-100	0	KOSTKA VODICÍ / LEAD CUBE / FÜHRUNGSKLOTZ		1
3	201.2810-200	0	KOSTKA VODICÍ / LEAD CUBE / FÜHRUNGSKLOTZ		1
4	30.0104-015	0	LISTA / TRIM / LEISTE	TYC 40x20	1
5	30.0504-961	0	PAS PÍLOVÝ / SAW BELT / SÄGEBAND	2910x25(71)x0.90	1
6	30.0704-010	0	UPÍNKA / FASTENER / SPANNEISEN	ODLITEK	1
7	30.0704-014	0	LISTA / TRIM / LEISTE	TYC 40x15	1
8	30.2804-001	0	DRŽAK / HOLDER / HALTER		1
9	30.3510-004	0	TRUBKA / TUBE / ROHR	TR 8x 1	1
10	90.001.25.018	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x20	2
11	90.001.25.032	0	SROUB IMBUS ČERNÝ / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x20	4
12	90.001.25.104	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x22	2
13	90.163.00.002	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	PODLOŽKA 8	4
14	92.003.104	0	SROUBENÍ / BOLTING / VERSCHRAUBUNG	607002	2
15	94.008.009	0	PAKA UPÍNACÍ / ATTACHMENT LEVER / SPANNHEBEL	M12x50	1
16	94.202.002	0	REDUKCE / REDUCTION / ADAPTOR / REDUKTION	GES 6/R1/4"	1
17	94.204.001	0	DRŽAK / HOLDER / HALTER		1
18	96.080.001	0	KROUZEK / RING / RING	17.8x13.5x2	1
19	99.260.001	0	VENTIL / VALVE / VENTIL		1

I.PRID.4xPODLOŽKA NORD LOCK M8 90.163.00.002,ZRUS.4xSROUB M8x16 A NAHRZEN SROUBEM M8x20 . 161/ZM148 13.5.2008 SLEZACKOVA

7.28. Kostka vodící / Lead cube / Führungsklotz

Schéma
Schemas
Scheme



NAZEV SESTAVY KOSTKA VODICI	CISLO SESTAVY 201.0110-100	STROJ STG-240
	Konstruoval:	
	Datum:	06. 11. 2009
	Meritko:	4:5

7.29. Kusovník / Piece list / Stückliste - Kostka vodící / Lead cube / Führungsklotz

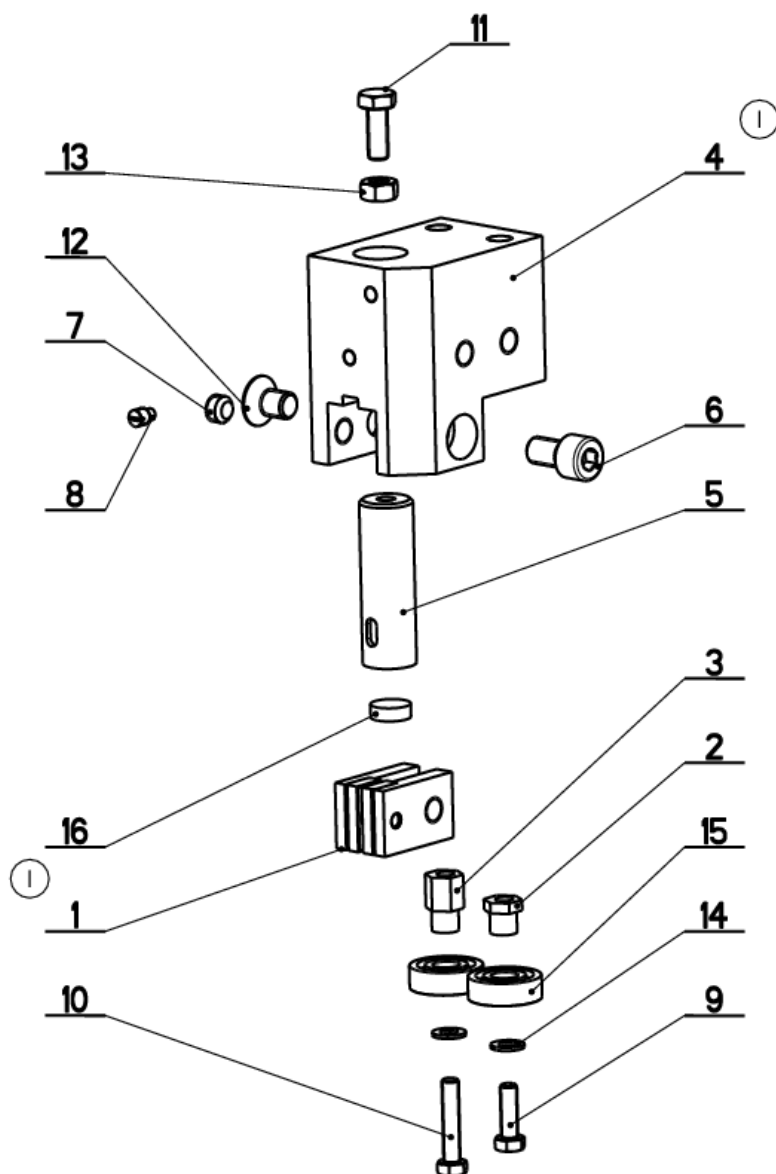
Císlo Sestavy 201.0110-100		Ver. 0	Název sestavy KOSTKA VODICÍ / LEAD CUBE / FÜHRUNGSKLOTZ		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.0104-018	0	EXCENTR / CAM / EXCENTER	SK10	1
2	30.0104-019	0	EXCENTR / CAM / EXCENTER	SK10	1
3	30.0104-021	0	DRŽÁK / HOLDER / HALTER		2
4	30.0104-032	2	KOSTKA VODICÍ / LEAD CUBE / FÜHRUNGSKLOTZ	TYC 60x40	1
5	90.001.25.030	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x14	1
6	90.002.20.009	0	SROUB STAVEČÍ / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M8x6	1
7	90.005.55.003	0	SROUB 6HRANNÝ / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M5x16	1
8	90.005.55.005	0	SROUB 6HRANNÝ / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M5x25	1
9	90.011.27.007	0	ZAPUSTNÝ IMBUS / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M8x12	1
10	90.150.50.003	0	PODLOŽKA / WASHER / UNTERLEGSCHEIBE	PODLOŽKA 5,3	2
11	95.001.001	0	LOŽISKO / BEARING / LAGER	608 2RS	2
12	99.040.002	0	TVRDOKOV / HARD METAL / HM-SEGMENT	d 12	1

1. ZRUS. KOSTKA 30.0104-017 A NAHR. 30.0104-032, ZRUS. DRŽÁK 30.0104-020 A NAHR. 30.0104-021. 297/272 12.8.2008 KRPEC

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

7.30. Kostka vodící / Lead cube / Führungsklotz

Schéma
Schemas
Scheme



NAZEV SESTAVY KOSTKA VODICI	CISLO SESTAVY 201.2810-200	STROJ STG 240A/GA
	Konstruoval:	
	Datum:	06. 11. 2009
	Meritko:	3:5

7.31. Kusovník / Piece list / Stückliste - Kostka vodící / Lead cube / Führungsklotz

Císlo Sestavy 201.2810-200		Ver. 0	Název sestavy KOSTKA VODICI / LEAD CUBE / FÜHRUNGSKLOTZ		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.0104-018	0	EXCENTR / CAM / EXZENTER	SK10	1
2	30.0104-019	0	EXCENTR / CAM / EXZENTER	SK10	1
3	30.0104-021	0	DRŽAK / HOLDER / HALTER		2
4	30.2804-012	2	KOSTKA VODICI / /	HR 60x40	1
5	30.3510-002	1	DRŽAK TVRDOKOVU / POA HOLDER / HM-HALTER	TYC 16	1
6	90.001.25.030	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x14	1
7	90.002.20.009	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M8x6	1
8	90.004.20.017	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M5x8	1
9	90.005.55.003	0	SROUB 6HRANNY / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M5x16	1
10	90.005.55.005	0	SROUB 6HRANNY / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M5x25	1
11	90.005.55.007	0	SROUB 6HRANNY / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M6x16	1
12	90.011.27.007	0	ZAPŮSTNÝ IMBUS / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M8x12	1
13	90.100.55.004	0	MATICE / NUT / MÜTTER	MATICE - M6	1
14	90.150.50.003	0	PODLOŽKA / WASHER / UNTERLEGSCHIEBE	PODLOŽKA 5,3	2
15	95.001.001	0	LOŽISKO / BEARING / LAGER	608 2RS	2
16	99.040.002	0	TVRDOKOV / HARD METAL / HM-SEGMENT	d 12	1

1. ZRUS.KOSTKA 30.2804-002 A NAHR.30.2804-012.ZRUS.DRŽAK 30.0104-020 A NAHR.201.0104-021. 340/ZM343 16.10.2008 SLEZACKOVA

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

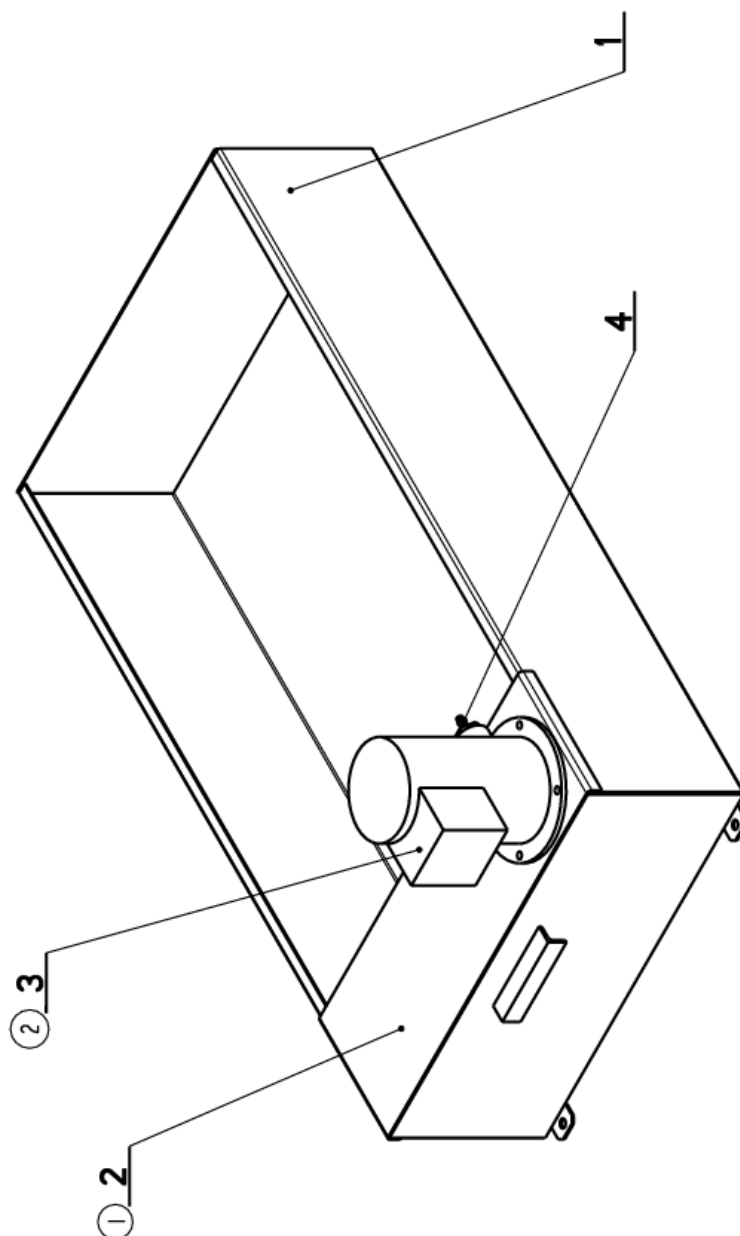
7.32. Chlazení / Cooling / Kühlung

Schéma
Schemas
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Cislo Sestavy 201.2806-000		Ver. I	Název sestavy CHLAZENÍ / COOLING / KÜHLUNG		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.2806-001	3	NADŘÍZ / CONTAINER / BEHÄLTER		I
2	30.6006-003	0	PLECH / PLATE / BLECH	PI, 5 - 150	I
3	91.020.009	0	CERPADLO / PUMP / PUMPE	3COA 2-14	I
4	94.202.005	0	REDUCE / REDUCTION / REDUKTION	3/4"-6	I

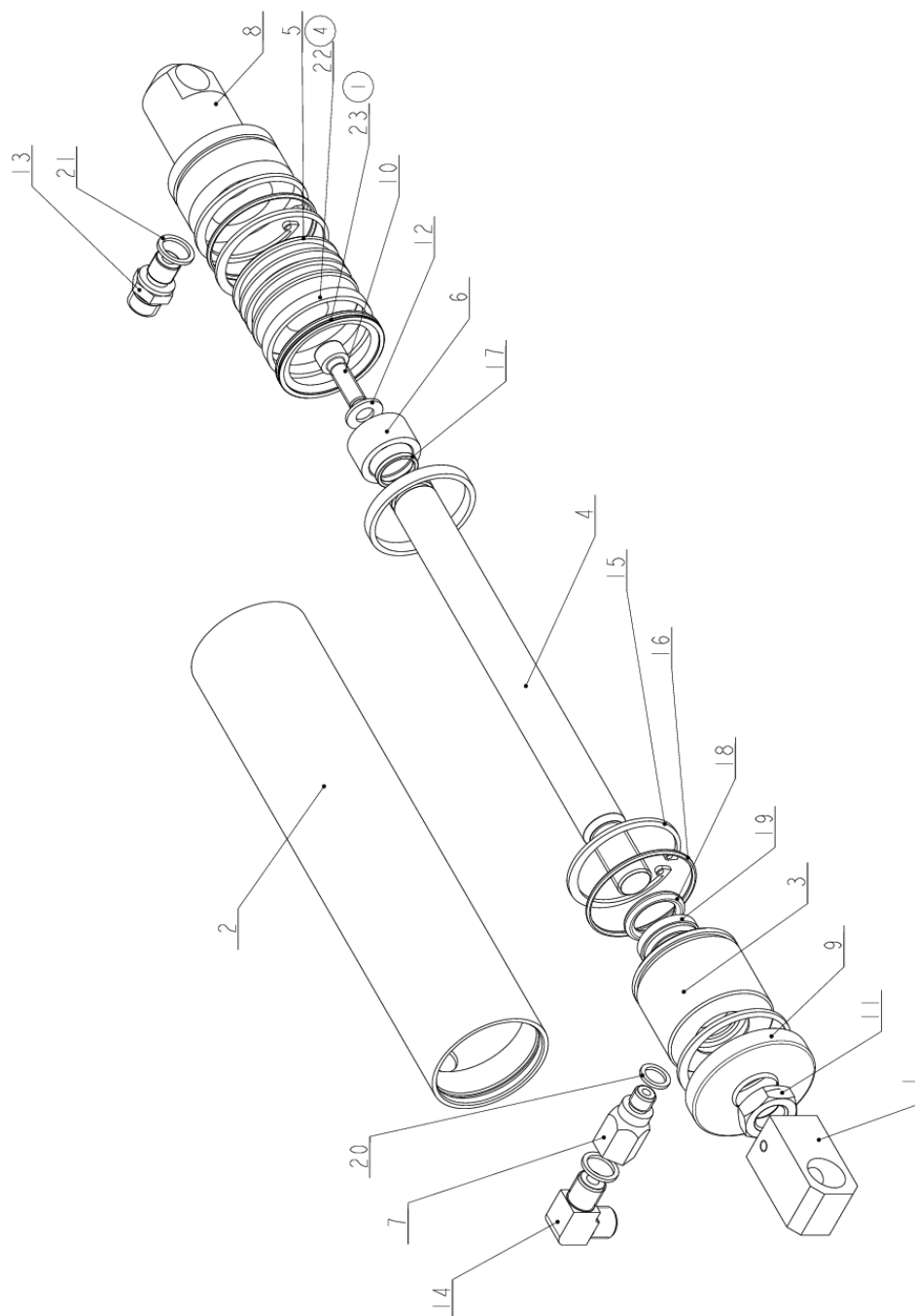
I ZM. 2806-002 NA 6006-003, 22.8.02 STASTNY

2. VÝMENA CERPADLA 91.020.005 3COA217 NAHR. 91.020.009 3COA2-14. 470/ZM462 19.12.2007 SLEZACKOVA



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

7.33. Válec zvedací / Lifting cylinder / Hebezyylinder



NAZEV SOUSTAVY VÁLEC ZVEDACÍ	ČÍSLO SOUSTAVY 201.2807-000	STROJ ERG0250GANC
Konstruoval: &konstruoval		
Datum: 06. 05.2015		
Meritko: 1:1		

7.34. Kusovník / Piece list / Stückliste - Válec zvedací / Lifting cylinder / Hebezyylinder

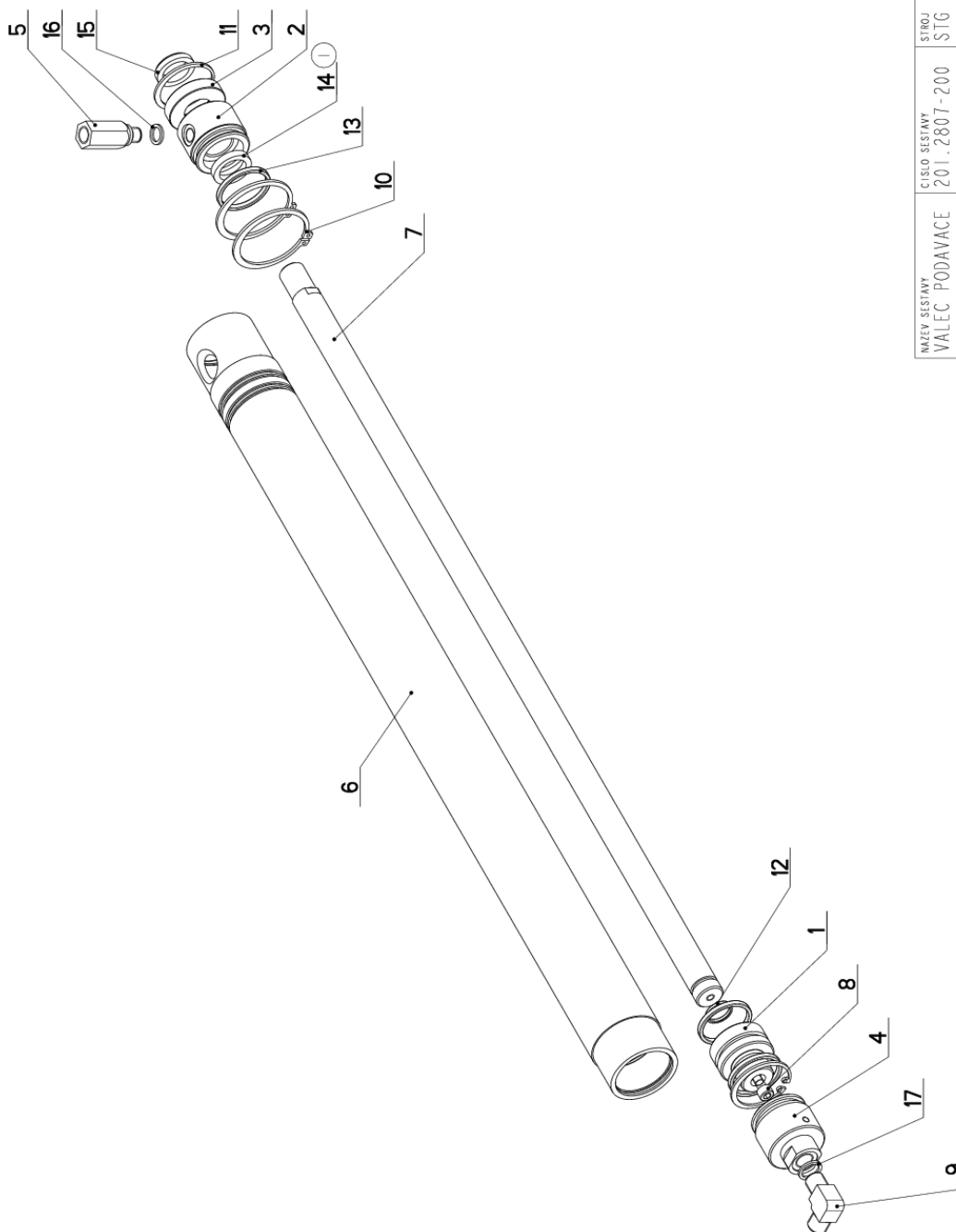
Císlo Sestavy 201.2807-000		Ver. 4	Název sestavy VALEC ZVEDACÍ / LIFTING CYLINDER / HEBEZYLYNDER		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.0807-006	2	DRŽÁK / HOLDER / HALTER	TYC 25x25	1
2	30.2807-001	2	VALEC / ROLLER / ZYLINDER	TR 55/50H8	1
3	30.2807-002	6	VÍKO / COVER / DECKEL	TYC 55	1
4	30.2807-003	0	PISTNICE / PISTON ROD / KOLBENSTANGE	d20	1
5	30.2807-004	1	PIST / PISTON / KOLBEN	d 55	1
6	30.2807-005	0	KROUZEK DISTANČNÍ / DISTANCE RING / DISTANZRING	TR 28x4	1
7	30.3407-103	1	REDUCE / REDUCTION / ADAPTOR / REDUKTION	TYC 17	1
8	30.4107-003	4	VÍKO / COVER / DECKEL	TYC 55	1
9	31.2807-006	0	VÍKO / COVER / DECKEL		1
10	90.001.25.033	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x25	1
11	90.101.55.003	0	MATICE / NUT / MUTTER	MATICE M16	1
12	90.150.50.005	0	PODLOŽKA / WASHER / UNTERLEGSCHLEIBE	PODLOŽKA 8, 4	1
13	92.002.001	0	SROUBENÍ PRÍME / DIRECT BOLTING / GERADE VERSCHRAUBUNG	G 1/4"	1
14	92.004.001	0	SROUBENÍ UHLÍVE / ANGLE BOLTING / WINKELVERSCHRAUBUNG	37701	1
15	95.801.018	0	KROUZEK POJIST.VNITR / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNÝ KROUZEK 50	4
16	96.001.013	0	O-KROUZEK STATIC / STATIC O RING / O-RING STATISCH	45x2	2
17	96.002.007	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	16x2 NBR 70SH	1
18	96.041.002	0	TESNENÍ / SEALING / DICHTUNG	20/28x4	1
19	96.060.002	0	KROUZEK STÍRAČÍ / SCRAPER RING / ABSTREIFRING	20x28	1
20	96.082.001	0	KROUZEK TESNÍCÍ / SEAL RING / DICHTUNGSRING	10/14	1
21	96.082.002	0	TESNENÍ / SEAL RING / DICHTUNGSRING	13/17x1.5 CU	2
22	96.084.001	0	KROUZEK VODICÍ / LEAD RING / FÜHRUNGSRING	GP6500500-T47	2
23	96.900.013	0	TESNENÍ KOMBINOVANÉ / COMBINATION SEALING / KOMBIDICHTUNG	PT0200500	1

1.ZRUSENO TESNENÍ 96.900.001 A NAHAZENO 96.900.013. 336/ZM006 11.1.2011 SLEZACKOVA

4.PRIDAN 1xKROUZEK VODICÍ 96.084.001. 252/ZM334 13.10.2016 SLEZACKOVA

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

7.35. Válec podavače / Feeder cylinder / Vorschubwalze



NAZEV SESTAVY VÁLEC PODAVACE	CÍSLO SESTAVY 201.2807-200	STROJ STG 240A
Konstruoval: STASTNY		
Datum: 06. 05.2015		
Meritko: 1:1		

7.36. Kusovník / Piece list / Stückliste - Válec podavače / Feeder cylinder / Vorschubwalze

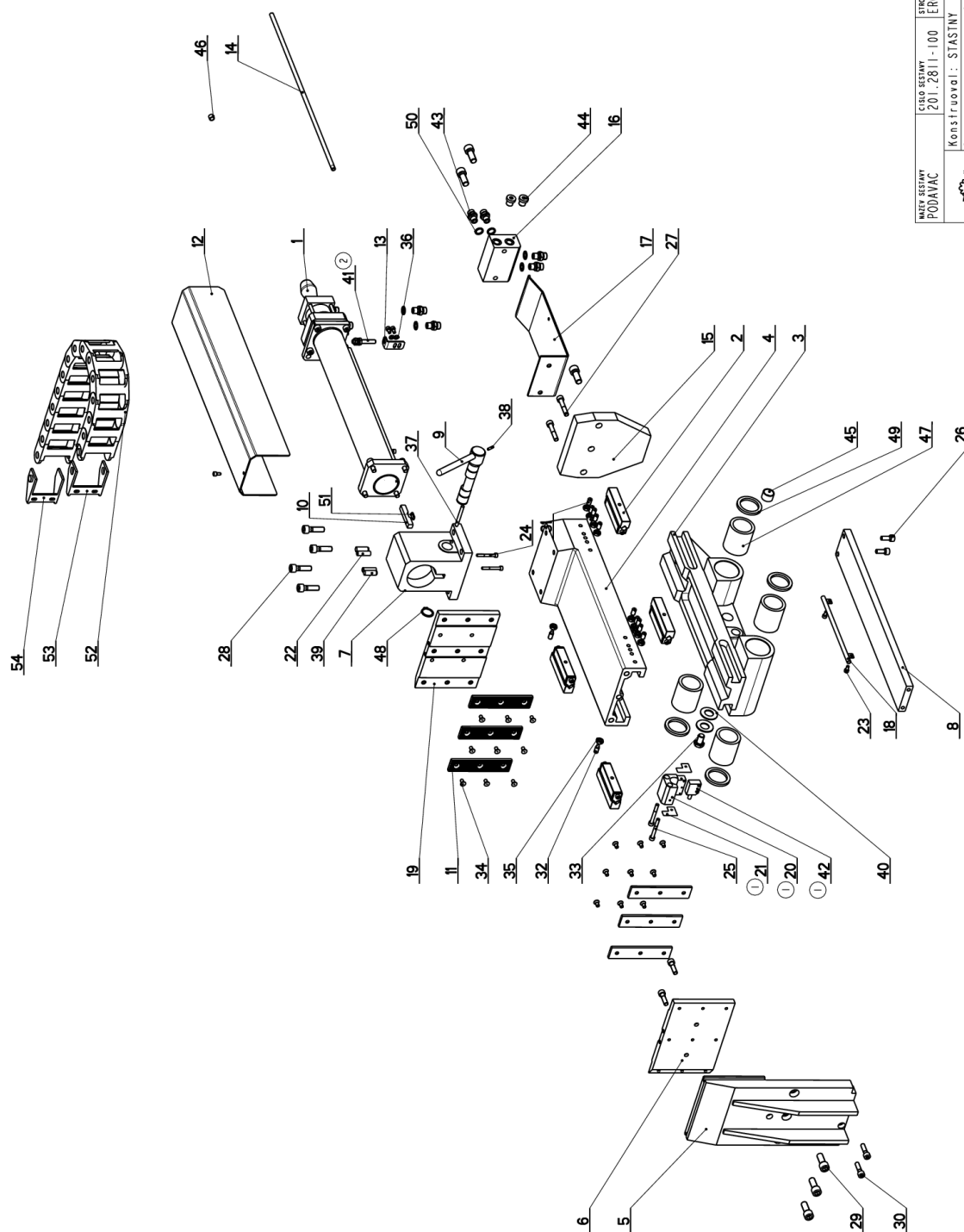
Císlo Sestavy 201.2807-200		Ver. 0	Název sestavy VALEC PODAVACE/FEEDER CYLINDER/VORSCHUBWALZE		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.2107-001	0	PIST / PISTON / KOLBEN	d 45	1
2	30.2107-002	0	PŘÍRUBA / FLANGE / FLANSCH	TYC 45	1
3	30.2107-003	0	VÍKO / COVER / DECKEL	d 45	1
4	30.2107-004	0	VÍKO / COVER / DECKEL	d45	1
5	30.2111-011	1	REDUCE / REDUCTION / ADAPTOR / REDUKTION	TYC 17	1
6	30.2807-201	0	VALEC / ROLLER / ZYLINDER	TR52/40H8	1
7	30.2807-202	0	PISTNICE / PISTON ROD / KOLBENSTANGE	d 20	1
8	90.001.25.019	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x25	1
9	92.004.001	0	SROUBENÍ UHLOVÉ / ANGLE BOLTING / WINKELVERSCHRAUBUNG	37701	1
10	95.800.019	0	SEGR HRÍDEL. / OUTSIDE SAFETY RING / SICHERUNGSRING AUSSEN	POJISTNÝ KROUZEK 52	2
11	95.801.006	0	SEGR DÍRA / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNÝ KROUZEK 42	2
12	96.002.007	0	KROUZEK O DYNAMICKÝ / DYNAMIC O RING / O-RING DYNAMISCH	16x2 NBR 70SH	1
13	96.002.017	0	KROUZEK O DYNAMICKÝ / DYNAMIC O RING / O-RING DYNAMISCH	34x3 NBR 70SH	3
14	96.041.002 (1)	0	TESNĚNÍ / SEALING / DICHTUNG	601-20x28x5	1
15	96.060.002	0	KROUZEK STÍRACÍ / SCRAPER RING / ABSTREIFRING	KROUZEK STÍRACÍ 20	1
16	96.082.001	0	KROUZEK TESNÍCÍ / SEAL RING / DICHTUNGSRING	10/14x1.5 CU	1
17	96.082.002	0	TESNĚNÍ / SEAL RING / DICHTUNGSRING	13/17x1.5 CU	1

(1) 0-KROUZEK 96.002.010 NAHRAZEN MANZETOU 96.041.002 29.4.2003 ROZKOSNY

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. Podavač / Feeder / Vorschub

Schéma
Schemas
Scheme



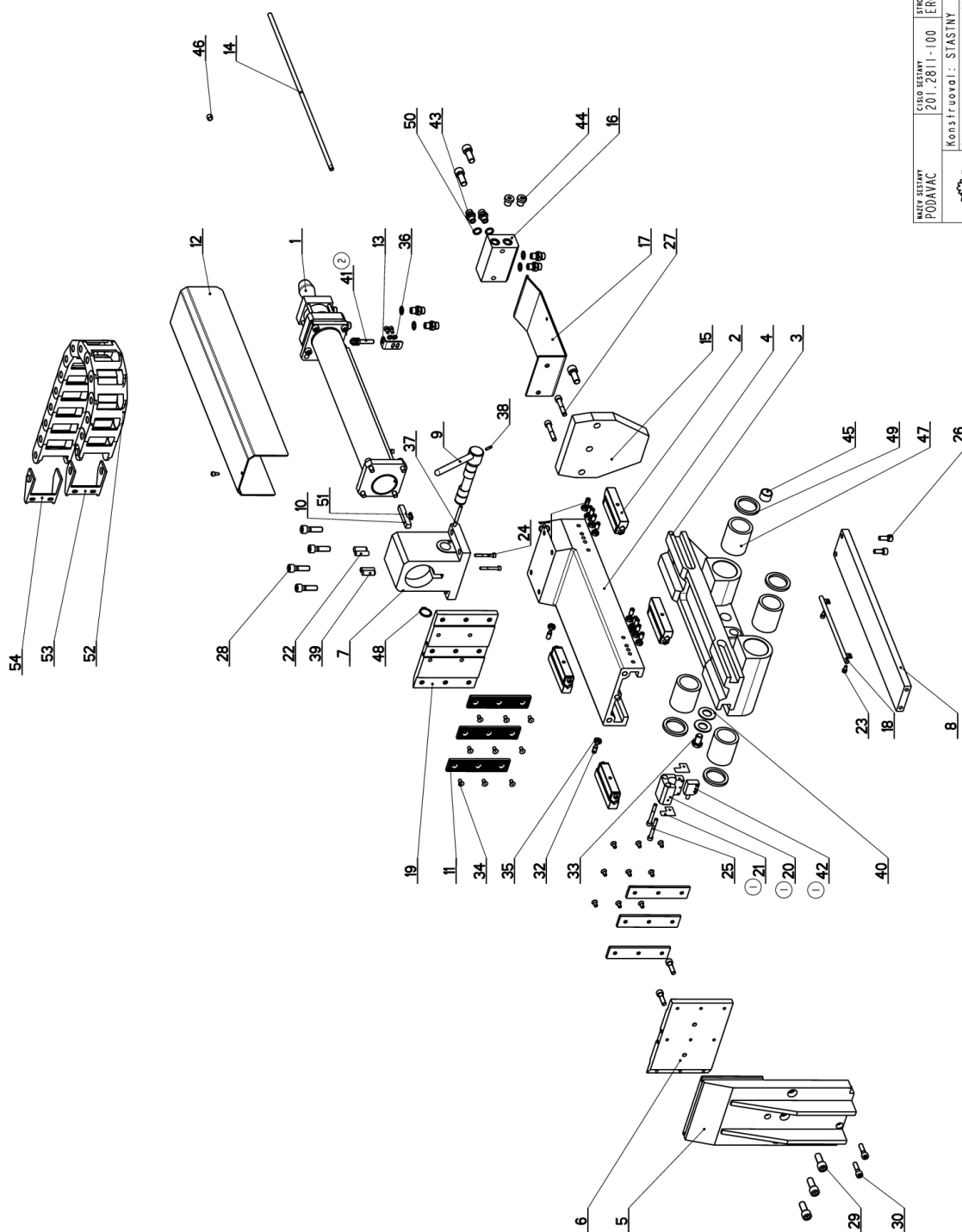
WZRY SESTAVY PODAVAC	ČÍSLO SESTAVY 201.2811-100	STROJ ERG02506ANC
Konstruoval: STASTNY	Datum: 16. 09. 2011	Meritko: 1:5

7.38. Kusovník / Piece list / Stückliste - Podavač / Feeder / Vorschub

Číslo Sestavy 201.2811-100		Ver. 2	Název sestavy PODAVAC/FEEDER/VORSCHUB		
Poz.	Objednací číslo	Ver.	Název položky	Rožmer	Ks
1	201.2807-100	2	VALEC PODAVACE / FEEDER CYLINDER / VORSCHUBWALZE		1
2	201.2911-200	0	VEDENÍ LINEARNÍ / LINEAR GUIDE / LINEARE FÜHRUNG		4
3	30.2811-001	0	TELESO / BODY / KÖRPER	ODLITEK	1
4	30.2811-002	1	DESKA / BOARD / PLATTE	ODLITEK	1
5	30.2811-003	1	CELIST / JAW / BACKE		1
6	30.2811-005	2	CELIST / JAW / BACKE	TYC 140x20	1
7	30.2811-007	1	KOSTKA / CUBE / WÜRFEL	90x130	1
8	30.2811-008	0	VYZTUHA / REINFORCEMENT / VERSTEIFUNG	HR70x15	1
9	30.2811-009	0	EXCENTR / CAM / EXZENTER		1
10	30.2811-010	2	TYC OZUBENA / LUG POLE / ZAHNSTANGE	TYC OZUBENA 10	1
11	30.2811-011	3	LISTA CELISTI / JAW TRIM / BACKENLEISTE	HR 30x10	6
12	30.2811-013	0	KRYT / COVER / ABDECKUNG	P2-268	1
13	30.2811-014	0	DRŽAK / HOLDER / HALTER	P 2-20	1
14	30.2811-015	0	TYC / POLE / STANGE	d 8	1
15	30.2811-017	0	VYZTUHA / REINFORCEMENT / VERSTEIFUNG	P25-160	1
16	30.2811-020	0	KOSTKA ROZVADEČI / DISTRIBUTION CUBE / VERTEILUNGSWÜRFEL	HR 100x40	1
17	30.2811-021	1	PODPERA / SUPPORT / STÜTZE	P 3-110	1
18	30.2811-025	0	VEDENÍ / GUIDE / BACKENFÜHRUNG		1
19	30.2811-106	2	DESKA / BOARD / PLATTE	TYC 140x20	1
20	30.2911-029 (1)	0	DRŽAK / HOLDER / HALTER	HR 50x50	1
21	30.2911-030 (1)	0	STERAC / WIPER / ABSTREIFER	P 0.2-26.5	2
22	31.0907-106	0	PRUŽINA / /	d 1.25	2
23	90.001.25.007	0	SROUB IMBUS CERNÝ / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5x10	5
24	90.001.25.014	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5x40	2
25	90.001.25.023	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x50	2
26	90.001.25.032	0	SROUB IMBUS CERNÝ / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x20	2
27	90.001.25.037	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x45	2
28	90.001.25.049	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x35	4
29	90.001.25.058	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x30	6
30	90.001.55.083	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x30	4
31	90.002.20.012	0	SROUB STAVEČI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M8x16	8
32	90.004.20.009	0	SROUB STAVEČI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M8x20	4
33	90.005.55.030	0	DORAZ / STOP PIECE / ANSCHLAG	SROUB M12x20	1
34	90.011.27.005	0	SROUB ZAPUSTNÝ / COUNTERSINK BOLT / SENKWSCHRAUBE	SROUB M6x12	18
35	90.101.55.001	0	MATICE / NUT / MUTTER	MATICE M8	12

7.39. Podavač / Feeder / Vorschub

Schéma
Schemas
Scheme



WZRY SESTAVY PODAVAC	ČÍSLO SESTAVY 201.2811-100	STROJ ERG02506ANC
Konstruoval: STASTNY	Datum: 16. 09. 2011	Meritko: 1:5

7.40. Kusovník / Piece list / Stückliste - Podavač / Feeder / Vorschub

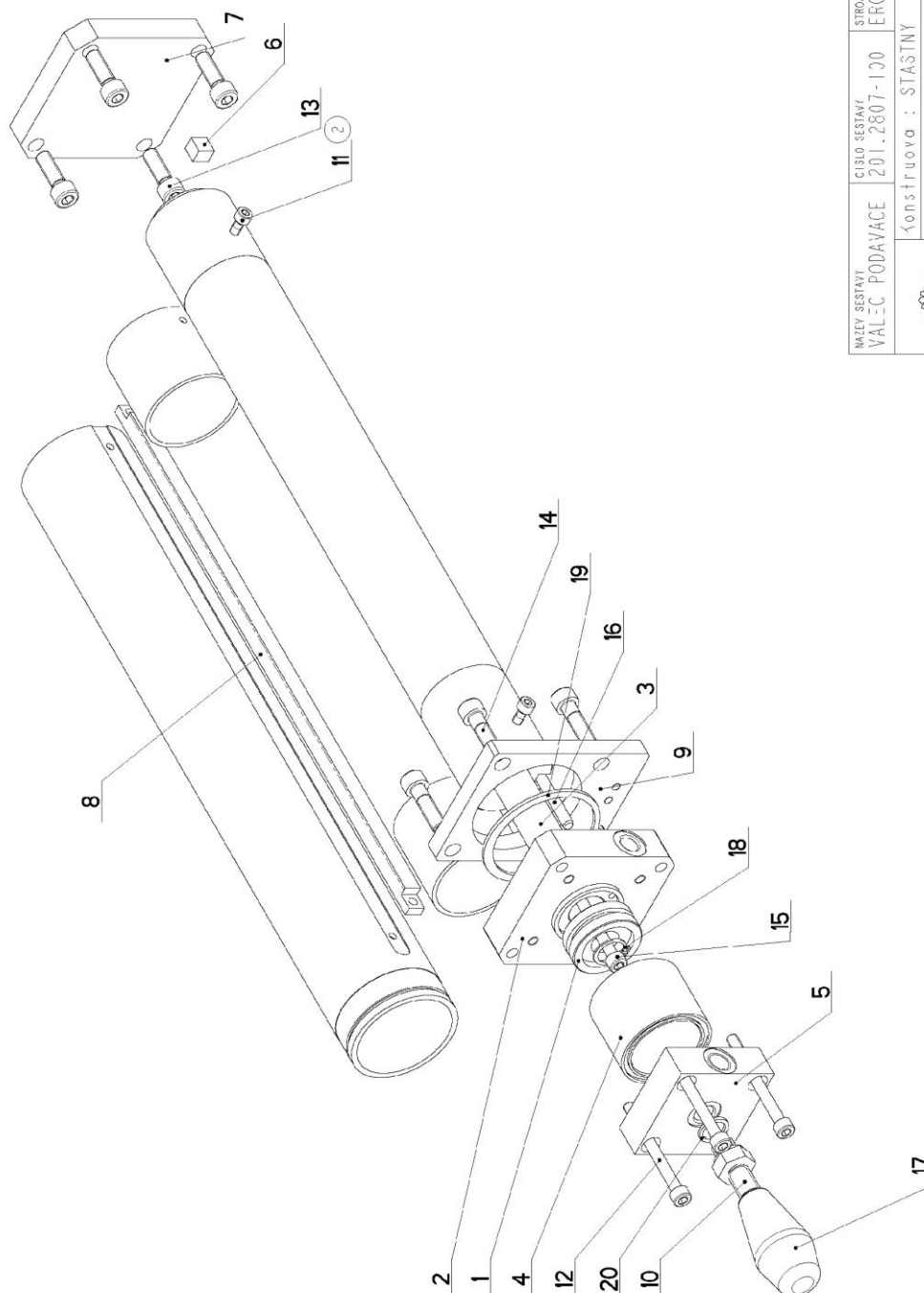
36	90.150.50.003	0	PODLOŽKA / WASHER / UNTERLEGSCHIEBE	PODLOŽKA 5,3	2
37	90.301.02.014	0	KOLIK VALCOVÝ / CYLINDRICAL PIN SOFT / ZYLINDERSTIFT WEICH	KOLIK 6X55	1
38	90.303.02.003	0	KOLIK / PIN / BOLZEN	KOLIK 4X16	1
39	90.305.02.001	0	KOLIK / PIN / BOLZEN	KOLIK SE ZAV.10X28	2
40	90.350.02.002	0	TALIROVA PRUŽINA / DISC SPRING / TELLERFEDER	35.5X18.3X2.0X2.8	2
41	91.172.009 (2)	0	SPINAC INDUKTIVNÍ / /	JPS30D081.5PNOFC	1
42	91.270.006 (1)	0	SNIMAC MAGNET. / MAGNETIC SENSOR / MAGNETSENSOR		1
43	92.002.001	0	SROUBENÍ PRÍME / DIRECT BOLTING / GERADE VERSCHRAUBUNG		6
44	92.019.001	0	ZATKA / PLUG / STOPFEN	G 1/4"	2
45	95.700.003	0	POUZDRO / SLEEVE / BÜCHSE	VS-R1/4-WD	1
46	95.700.017	0	POUZDRO / SLEEVE / BÜCHSE	20X15	1
47	95.710.001	0	POUZDRO / SLEEVE / BÜCHSE	8X8	1
48	95.800.010	0	SEGR HRIDEL. / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	40x60	4
49	96.040.003	0	KROUZEK STIRACÍ / SCRAPER RING / ABSTREIFRING	POJISTNÝ KROUZEK 22	1
50	96.082.002	0	TESNENÍ / SEALING / DICHTUNG	42x52x5	4
51	99.040.006	0	TVRDOKOV / HARD METAL / HM-SEGMENT	KROUZEK CU 13/17	6
52	99.170.012	0	RETEZ ENERGII / ENERGY BELT / ENERGIEKETTE	7x3	1
53	99.171.013	0	KONCOVKA / END / ENDSTÜCK	MP 3002	14
54	99.171.014	0	KONCOVKA / END / ENDSTÜCK		1

1.DRŽAK SÍKA 30.2014-023 NAHRAZEN DÍLEM 30.2911-029, STERAC 30.3511-013 DÍLEM 30.2911-030 A SNIMAC 91.270.004
SNIMACEM 91.270.006 16.4.2003 ROZKOSNY

2.ZRUSEN SPINAC 91.172.001 A NAHRAZEN 91.172.009. 203/ZM245 9.9.2011 SLEZACKOVA

7.41. Válec podavače / Feeder cylinder / Vorschubwalze

Schéma
Schemas
Scheme



NAZEV SESTAVY VAL-C PODAVACE	ČÍSLO SESTAVY 201.2807-100	STROJ ERG0250GANC
Konstruová : STASTNY		
Datum: 30. 06. 2015		
Meritko: 1:2		

7.42. Kusovník / Piece list / Stückliste -
Válec podavače / Feeder cylinder / Vorschubwalze

Číslo Sestavy 201.2807-100		Ver. 2	Název sestavy VALEC PODAVACE/FEEDER CYLINDER/VORSCHUBWALZE		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.0305-202	0	PIST / PISTON / KOLBEN	TYC 45	1
2	30.2807-101	2	VÍKO / COVER / DECKEL	TYC 80x80	1
3	30.2807-102	0	PISTNICE / PISTON ROD / KOLBENSTANGE	d 20	1
4	30.2807-103	0	VALEC / ROLLER / ZYLINDER	TR52/40H8	1
5	30.2807-104	0	VÍKO / COVER / DECKEL	HR 60x25	1
6	30.2807-105	1	TRUBKA / TUBE / ROHR		1
7	30.2807-106	3	CELIST / JAW / BACKE		1
8	30.2807-107	0	HREBEN / COMB / KAMM	HR 10x10/m=1	1
9	30.2807-108	0	PŘILOŽKA / STRAP / LASCHE	HR 80x10	1
10	30.2811-018	0	ZATKA / PLUG / STOPFEN	SK 19	1
11	90.001.25.007 (2)	0	SROUB IMBUS ČERNÝ / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5x10	2
12	90.001.25.026	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x65	4
13	90.001.25.033	0	SROUB IMBUS ČERNÝ / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x25	4
14	90.001.25.096	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x80	1
15	90.001.55.083	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x30	4
16	90.301.02.017	0	KOLÍK VALCOVÝ / CYLINDRICAL PIN SOFT / ZYLINDERSTIFT WEICH	KOLÍK 6x45	1
17	94.005.002	0	RUKOJET / HANDLE / GRIFF	M12	1
18	95.800.007	0	KROUZEK POJIST.VNĚJSÍ / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNÝ KROUZEK 16	1
19	95.800.021	0	KROUZEK POJIST.VNĚJSÍ / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNÝ KROUZEK 62	1
20	96.082.002	0	TESNĚNÍ / SEALING / DICHTUNG	KROUZEK CU 13/17	1

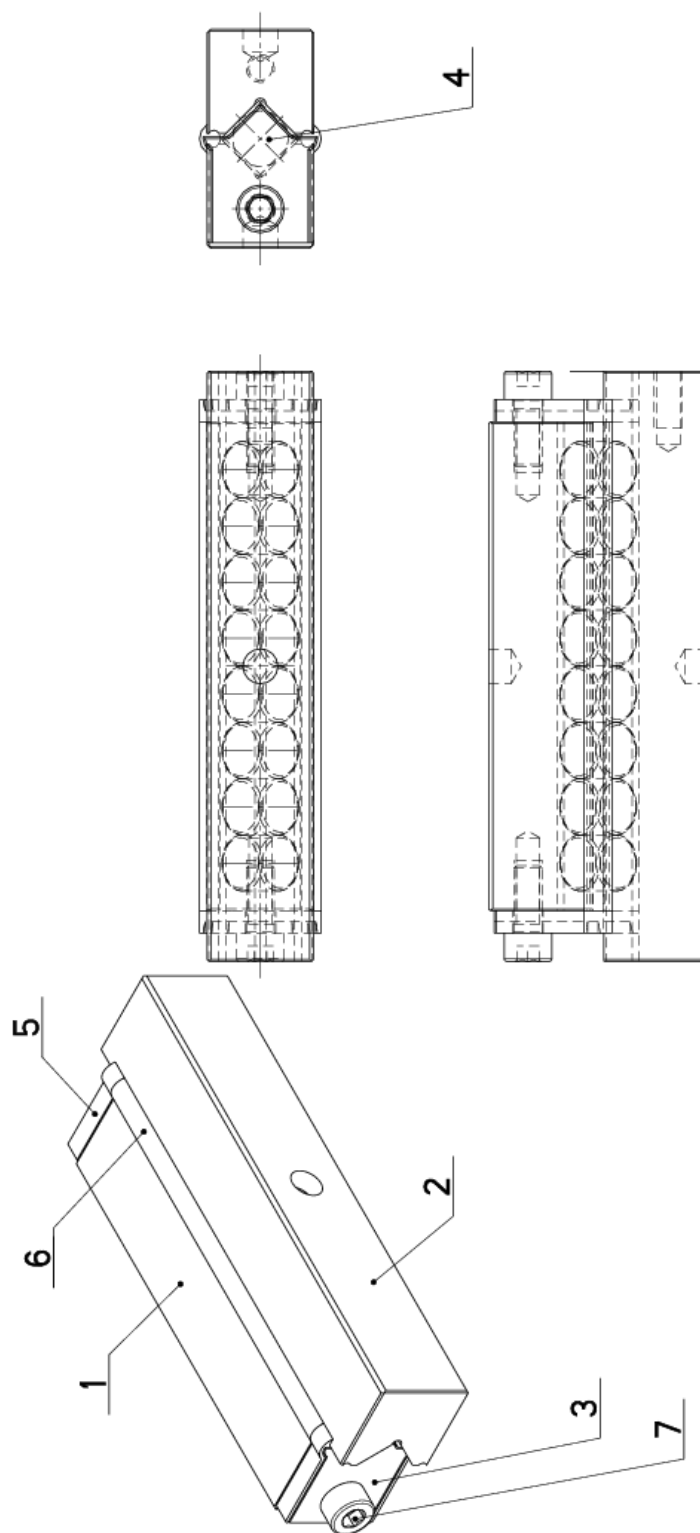
1. Pouzdro KU50x50 95.700.006 nahrazeno 95.700.026 24.3.05 Stosino

2. ZRUS. 2xPOUZDRO KU 95.700.026, ZRUS. SROUB M5x6 A NAHR. M5x10 (90.001.25.007). 223/ZM256 23.9.2010 SLEZACKOVA

7.43. Element válečkový / Roller element / Rollenelement

Schéma
Schemas
Scheme

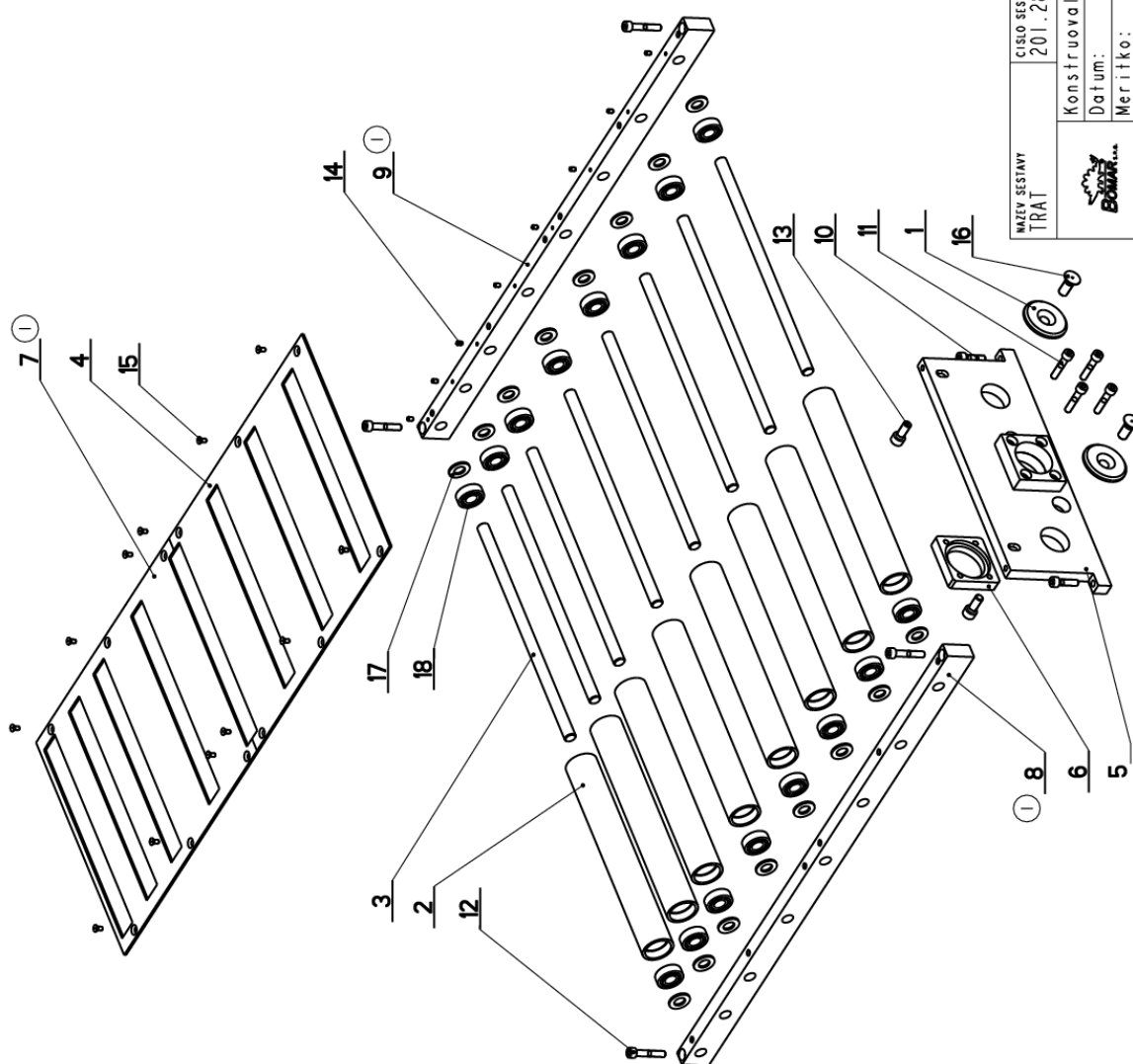
Císlo Sestavy 201.2911-200		Ver. 0	Název sestavy ELEMENT VALEČKOVÝ/ROLLER ELEMENT/ROLLENELEMENT			
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks	
1	30.2911-201	1	LISTA / TRIM / LEISTE	HR 20x20	1	
2	30.2911-202	1	LISTA / TRIM / LEISTE	HR 20x20	1	
3	30.2911-206	0	PŘÍLOŽKA / STRAP / LASCHE	P 2x20	2	
4	30.4311-203	0	VALEČEK / CYLINDER / ROLLE	d 10	8	
5	31.2911-204	0	STERAC / WIPER / ABSTREIFER	PLAST. VYLISEK	2	
6	31.2911-205	0	PRACHOVKA / DUST COVER / STAUBSCHUTZ	VYLISEK PLAST	2	
7	90.001.25.008	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5x12	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

7.44. Trať / Track / Bahn

Schéma
Schemas
Scheme



NAZEV SESTAVY TRAT	CISLO SESTAVY 201.2811-300	STROJ STG 240GA
Konstruoval: STASTNY		
Datum: 26. 03.2010		
Meritko: 1:5		

7.45. Kusovník / Piece list / Stückliste -
Trať / Track / Bahn

Cislo Sestavy 201.2811-300		Ver. I	Nazev sestavy TRAT/TRACK/BAHN		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.0804-009	2	PODLOZKA / WASHER / UNTERLEGSCHEIBE	d 60	2
2	30.2811-203	0	VALECEK / CYLINDER / ROLLE	TR 44.5x6.3	8
3	30.2811-204	0	TYC / POLE / STANGE	d 15h11	8
4	30.2811-205	0	PLECH / PLATE / BLECH	P 3-355	1
5	30.2811-208	1	CELO / HEAD / STIRN		1
6	30.2811-209	1	PRILOZKA / STRAP / LASCHE	HR 70x15	1
7	30.2811-215	0	PLECH / PLATE / BLECH	P 3-355	1
8	30.2811-311	1	LISTA / TRIM / LEISTE	HR 40x20	1
9	30.2811-312	1	LISTA / TRIM / LEISTE	HR 40x20	1
10	90.001.25.034	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x30	2
11	90.001.25.036	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x40	4
12	90.001.25.037	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x45	4
13	90.001.25.047	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10x25	2
14	90.002.20.004	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M5x8	8
15	90.011.27.003	0	SROUB ZAPIUSTNY / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M5x10	12
16	90.011.27.014	0	SROUB ZAPIUSTNY / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M12x30	2
17	90.150.50.008	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	PODLOZKA 15	16
18	95.001.015	0	LOZISKO / BEARING / LAGER	6202 2RS	16

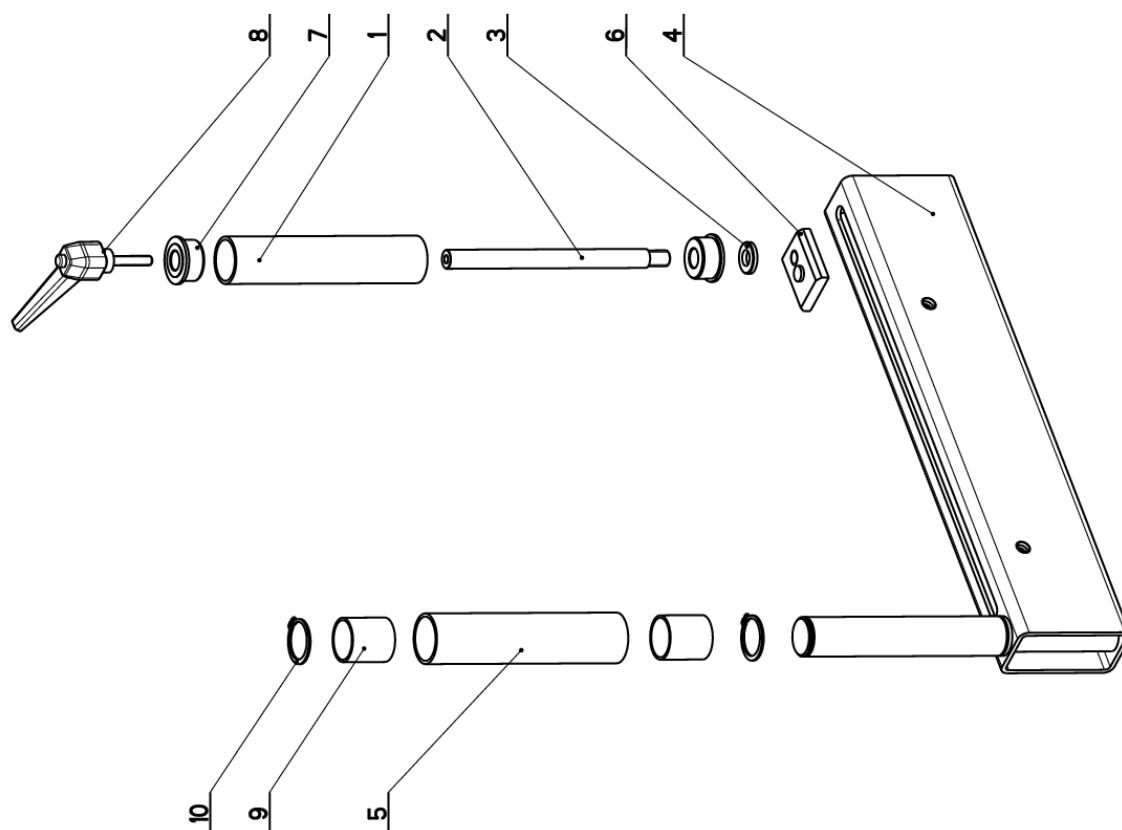
① LISTY 30.2811-301 A 30.2811-302 NAHAZENÝ LISTAMI 30.2811-311 A 30.2811-312, KRYT 30.2811-205 NAHAZEN KRYTEM
30.2811-215, ZMENA POSTU VALEČKU ZE 7 NA 8 29.8.2003 ROZKOSNY

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

Schéma
Schemas
Scheme

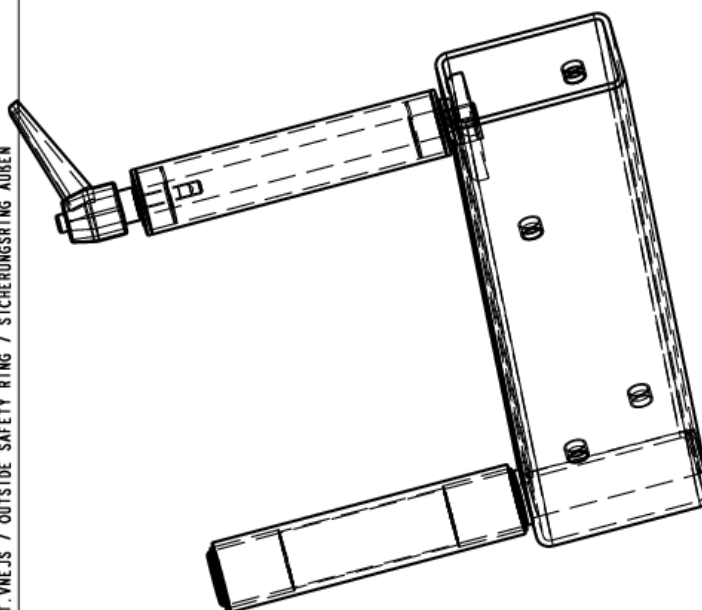
7.46. Válec vertikální / Vertical cylinder / Vertikalzylinder

Schéma
Schemas
Scheme



7.47. Kusovník / Piece list / Stückliste -
Válec vertikální / Vertical cylinder / Vertikalzylinder

Cislo Sestavy 201.2814-000		Ver. 0	Nazev sestavy VALEC VERTIKALNI / VERTICAL CYLINDER / VERTIKALZYLINDER		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.1614-401	0	TRUBKA / TUBE / ROHR	Tr 30x2	1
2	30.1614-405	0	CEP / LUG / BOLZEN	d 12	1
3	30.1614-406	0	CEP / LUG / BOLZEN	d 20	1
4	30.2814-001	0	MOSNIK / CARRIER / TRÄGER		1
5	30.2814-002	0	TRUBKA / TUBE / ROHR	TR 32x3	1
6	30.2814-011	0	DESKA / BOARD / PLATTE		1
7	31.1614-403	0	LOZISKO / BEARING / LAGER	d 30	2
8	94.008.011	0	PAKA UPINACI / ATTACHMENT LEVER / SPANNHEBEL	M6x30	1
9	95.700.010	0	POUZDRO / SLEEVE / BÜCHSE	25x30	2
10	95.800.012	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNY KROUZEK 25	2



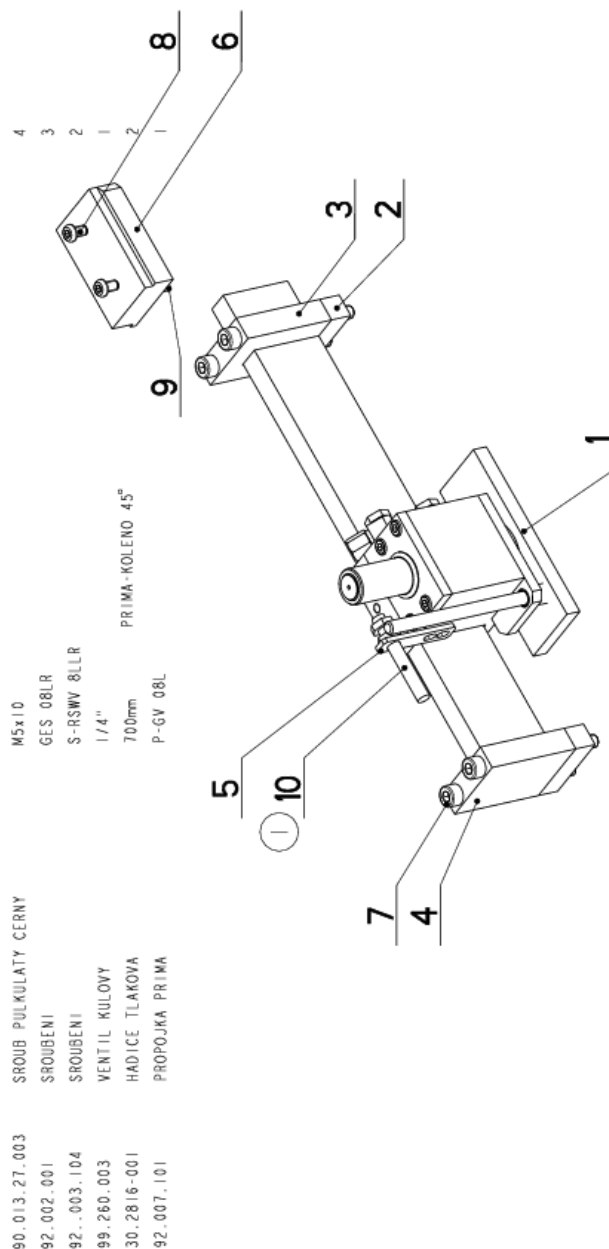
Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název Sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

7.48. Horní upínání /Obere Spannung / Top clamping

Schéma
Schemas
Scheme

Císlo Sestavy 202.2812-200		Ver. 1	Název sestavy HORNÍ UPÍNÁNÍ / 8NAZEV_EN / 8NAZEV_DE		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	201.2807-500	0	VALEC / ROLLER / ZYLINDER		1
2	30.2812-201	0	KOSTKA / /	HR 15x15	2
3	30.2812-202	0	VODÍTKO / /	HR 50x15	1
4	30.2812-203	1	NOSNÍK / /		1
5	30.2812-204	0	DRŽÁK / /	P 3x12	1
6	30.2812-205	0	DRŽÁK / /	HR 50x20	1
7	90.001.25-078	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8x90	4
8	90.013.27.007	0	SROUB PULKULATÝ / HALF ROUND BOLT / HALBRUNDSCHRAUBE	M6x10	2
9	90.303.07.003	0	KOLÍK PRUŽNÝ / PIN / BOLZEN	KOLÍK 4x16	1
10	91.172.057	1	SPÍNAC / SWITCH / SCHALTER	AECO-S18-DC2 PNP NO HI / 108000084	1

1. ZRUSEN SPINAC 91.172.001 A NAHR. 91.172.057. 172/ZM198 26.8.2015 SLEZACKOVA

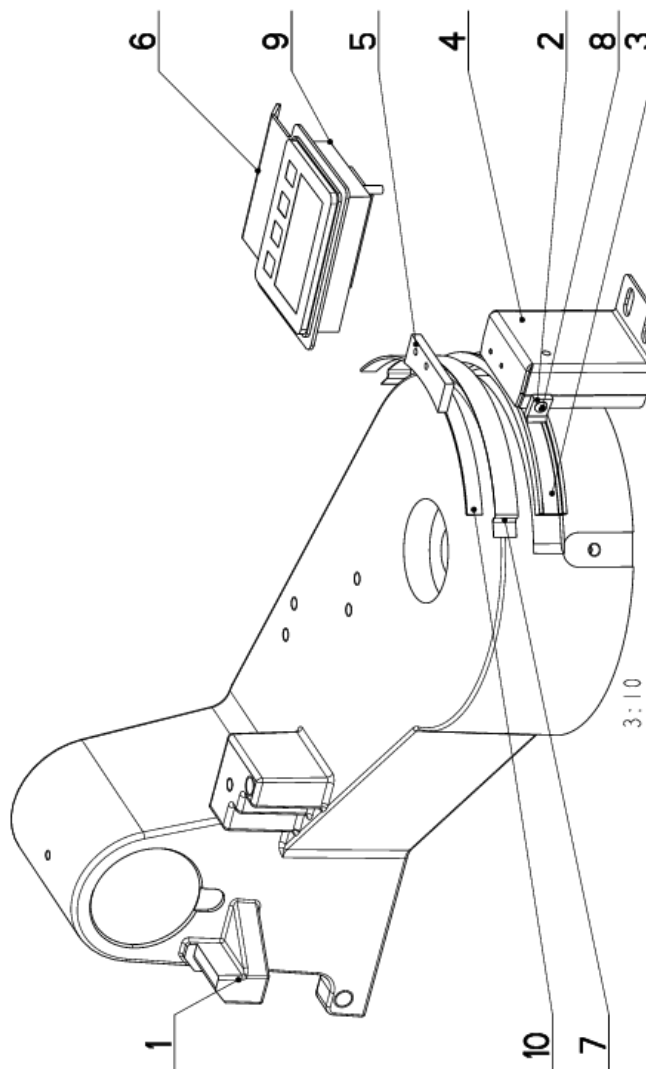


Císlo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver./Version/Version; Název sestavy/Assembly title/Name der Baugruppe; Pozice (Poz./Position/Position;
Objednací číslo/Purchase order number/Bestellnummer; Název položky/Volume title/Name der Position; Rozměr/Stock size/Abmessung

8. **Volitelné příslušenství/ Optionale Zubehör/ Optional accessories**

8.1. Odměrování/ Measuring/ Gehrungsmessung

Císlo Sestavy 201.0518-100		Ver. 0	Název sestavy ODMĚROVÁNÍ / MEASURING / GEHRUNGSMESSUNG		
Poz.	Objednací číslo	Ver.	Název položky	Rozměr	Ks
1	30.0702-101	0	KONZOLA / CONSOLE / KONSOLE		1
2	30.1226-007	0	STERAC / WIPER / ABSTREIFER	BA 18	2
3	30.1226-102	0	LISTA / TRIM / LEISTE	HR 18x6	1
4	30.1226-105	0	DRŽAK / HOLDER / HALTER	P2x117	1
5	30.1226-106	0	TYC / POLE / STANGE	HR 70x6	1
6	30.MR02-402	0	DRŽAK / HOLDER / HALTER	P 2x110	1
7	55.800.009	0	PLECH / PLATE / BLECH	P 0,3x15	1
8	90.013.27.001	0	SROUB / BOLT / SCHRAUBE	M4x8	2
9	91.270.016	0	SNÍMAC MAGNET. / MAGNETIC SENSOR / MAGNETSENSOR	I216E-008-1-01, 0-0	1
10	91.271.005	0	PASKA MAGNETICKÁ / MAGNETIC TAPE / MAGNETBAND	ELGO MB20-25	1



Císlu 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

