Serie **Individual**

Individual 620.460 GH

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: fax: e-mail: www:	+420 – 533 426 100 +420 – 533 426 109 info@bomar.cz http://www.bomar.cz
We are available:		
Mondays to Fridays	$7^{00} – 16^{00}$	
Version:		
1.40 / Feb. 2013 rev. 1		

EC Declaration of Conformity

1) We

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

declare herewith,

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

Name: **Band Saw**

Type range: **INDIVIDUAL 620.460 GH**

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 , Hydraulic, cooling system, el. switch board with control panel.

Technical data: cutting rate 20–120 m.min^{-1}, cutting angle 0^0 to 60^0,
Total dimensions in mm (l x w x h) 3000 x 3200 x 2350,
Supply voltage 400 V, total power requirement 8,7 kW, weight 1850 kg

The applied decrees of governments: **No. 17/2003 Coll.** (Directive 73/23/EEC)
No. 616/2006 Coll. (Directive 2004/108/EC)
No. 17/2003 Coll. (Directive 2006/95/EC)

The applied harmonized standards,
National standards and technical specifications: ČSN EN ISO 12 100-2:2004, ČSN EN 13 898:2004, ČSN EN ISO 13857:2008, ČSN EN 982:1997 + A1:2008, ČSN EN 55 011 ed.2:2007, ČSN EN 61000-6-4:2002 ed.2:2007, ČSN EN 60204-1 ed.2:2007

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

The conformity judging was performed according to §12, par. 3, let. a), of the Law no. 22/1997 Coll. as amended
2) 2) The declaration of conformity was carried out in the cooperation with the TÜV CZ s.r.o., Novodvorská 994, 142 21 Prague 4 – Czech Republic, Identification number: 63987121 - Inspection body no. 4002

The inspection certificate no . 00.480.140/09/07/02/0 was issued.

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

Alfred Pichlmann, Managing Director

Point of issue, datum	Name and function of the responsible subject	Signature

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

!	If the equipment is installed without safety equipment offered by BOMAR, spol. s ro 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 ro have been declared "identical" to a safety device, as offered by BOMAR, spol. s ro or its agents.

Content

1. Safety notes

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

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

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

1.1. Machine determination

The band saw **Individual 620.460 GH** 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 excepted for cutting! Any other usage and operation outside this range are unauthorized and the manufacturer/supplier does not accept any responsibility for any damages resulting from such misuse. **The operator has full responsibility!**

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

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

1.2. Protective suit and personal safety

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

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

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

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

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

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

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

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

1.3. Safety notes for machine operator

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

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

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

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

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

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

1.4. Safety notes for the servicing and repairs

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

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

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

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

1.4.1. 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.

1.5. Safety machine accessories

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

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

1.5.1. Total Stop

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

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

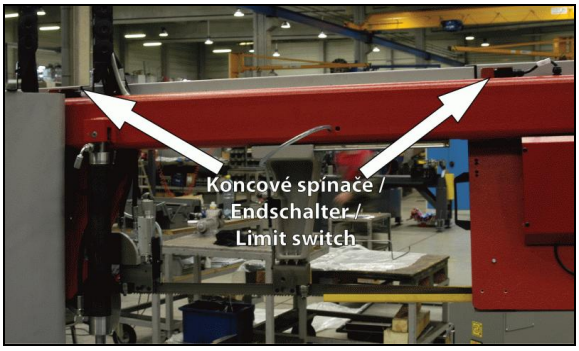
1.5.2. Arm covers

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

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

Central cover – It covers band saw.

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



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

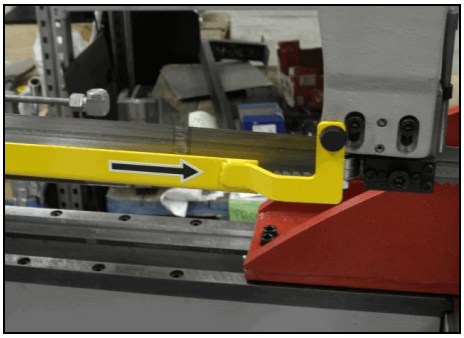
1.5.3. Saw band stretching and rupture inspection

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

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

1.5.4. Band saw cover

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



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

1.6. Safety notes for the cooling

Attention!

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

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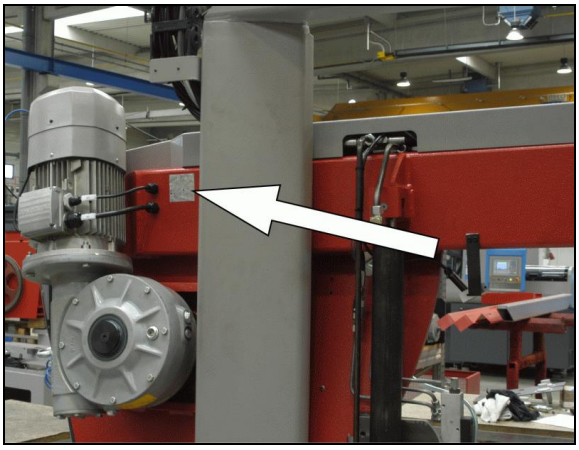
1.6.1. Instructions for first help

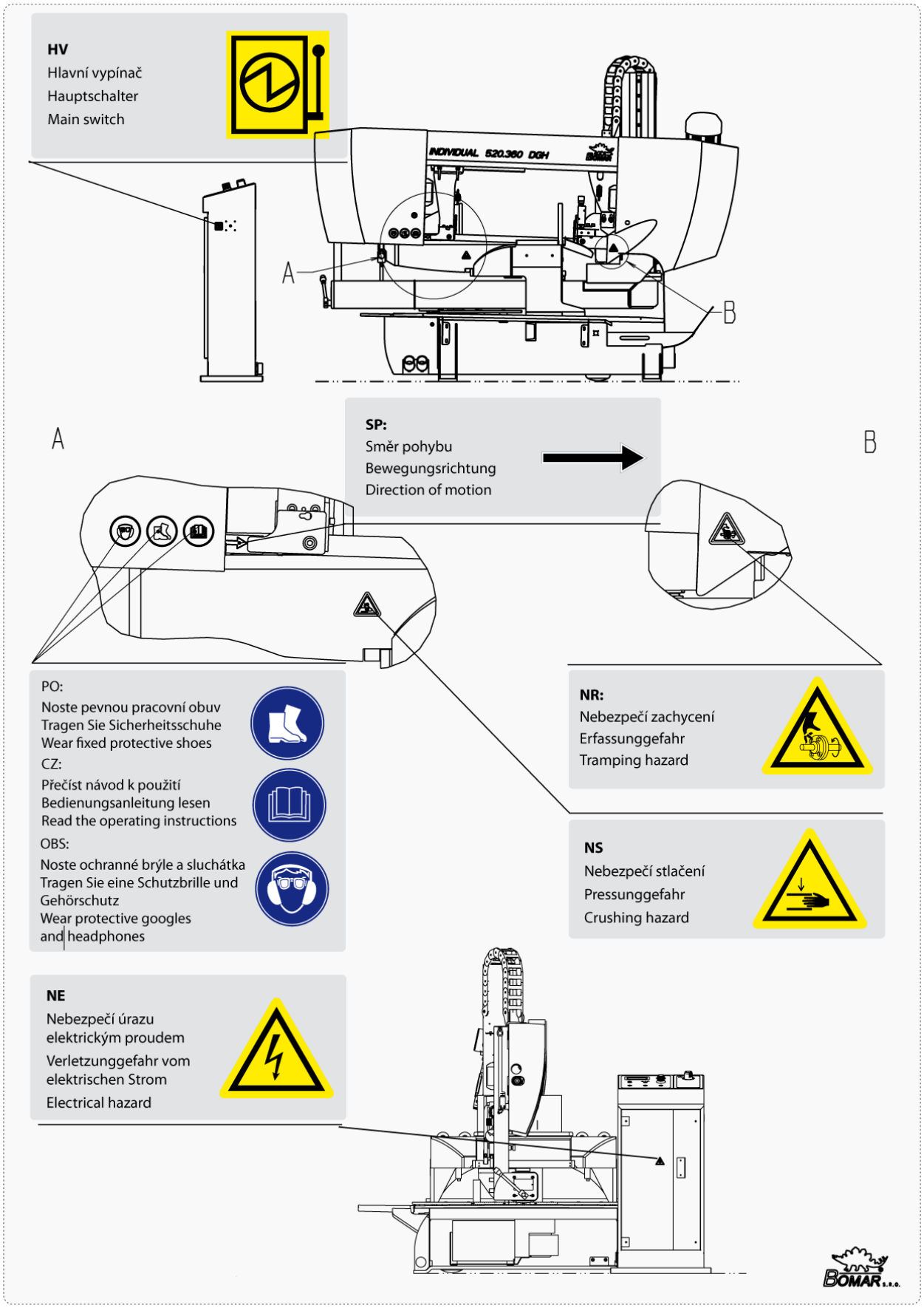
1. Pull off and safely remove polluted, soaked clothing.
2. For breathing, go out in the fresh air or look for first aid treatment.
3. Wash with water or use crèmes for contact with the skin.
4. Flush with water for eyes and look for first aid treatment.
5. For swallowing, drink a lot of water and induce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

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



Machine label is located at the rear of saw arm near the electromotor.

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



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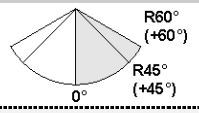
2. Machine documentation

2.1. Technická data / Technische Daten / Technical data

Hmotnost stroje / Maschinengewicht / Machine weight:	
• Hmotnost / Gewicht / Weight	1850 kg
Rozměry stroje / Maschinengröße / Machine size :	
• Délka / Länge / Lenght	3000 mm
• Šířka / Breite / Width	3200 mm
• Výška / Höhe / Height	2350 mm
Elektrické vybavení / Elektrische Ausrüstung / Electical equipment:	
• Napájení / Versorgungsspannun / Supply voltage	~3 x 400 V (230 V), 50Hz, TN-C-S/TN-C (dep. on saw ver.)
• Příkon / Gesamptschlusswert / Total Input	8,7 kW
• Max.jištění / Max. Vorschaltsicherung / Max. Fuse	32 A
• Krytí / Schutzart / Protection	IP 54
Akustický tlak / Schalldruckpegel / Acoustic pressure:	
• Individual 620.460 GH	L_{Aeqv} = 76,3 dB
Pohon / Atrieb / Drive:	
• Napájení / Versorgungsspannun / Supply voltage	~3 x 400V, 50Hz (dep. on saw ver.)
• Výkon / Leistung / Output	4 kW
• Jmenovité otáčky / Motornenndrehzahl / Nominal speed	1440 min^{-1}
Hydraulické zařízení / Hydraulikeinrichtung / Hydraulic equipment:	
• Typ / Typ / Type	SMA 03/870-1554
• Výkon / Leistung / Output	8 MPa/3 kW
Chladící zařízení / Kühlmiteleinrichtung / Cooling equipment:	
• Typ / Typ / Type	3-COA4-12
• Výkon / Leistung / Output	0,05 kW
• Obsah nádrže / Volumen vom Kühlmittel / Capacity	35 l
Rozměr pásu / Sägebanddimension / Band size:	
6100×41×1,30 mm	
Řezná rychlost / Schnittgeschwindigkeit / Cutting speed:	
20–120 m/min.	

Řezné rozsahy / Schnittbereiche / Cutting size:



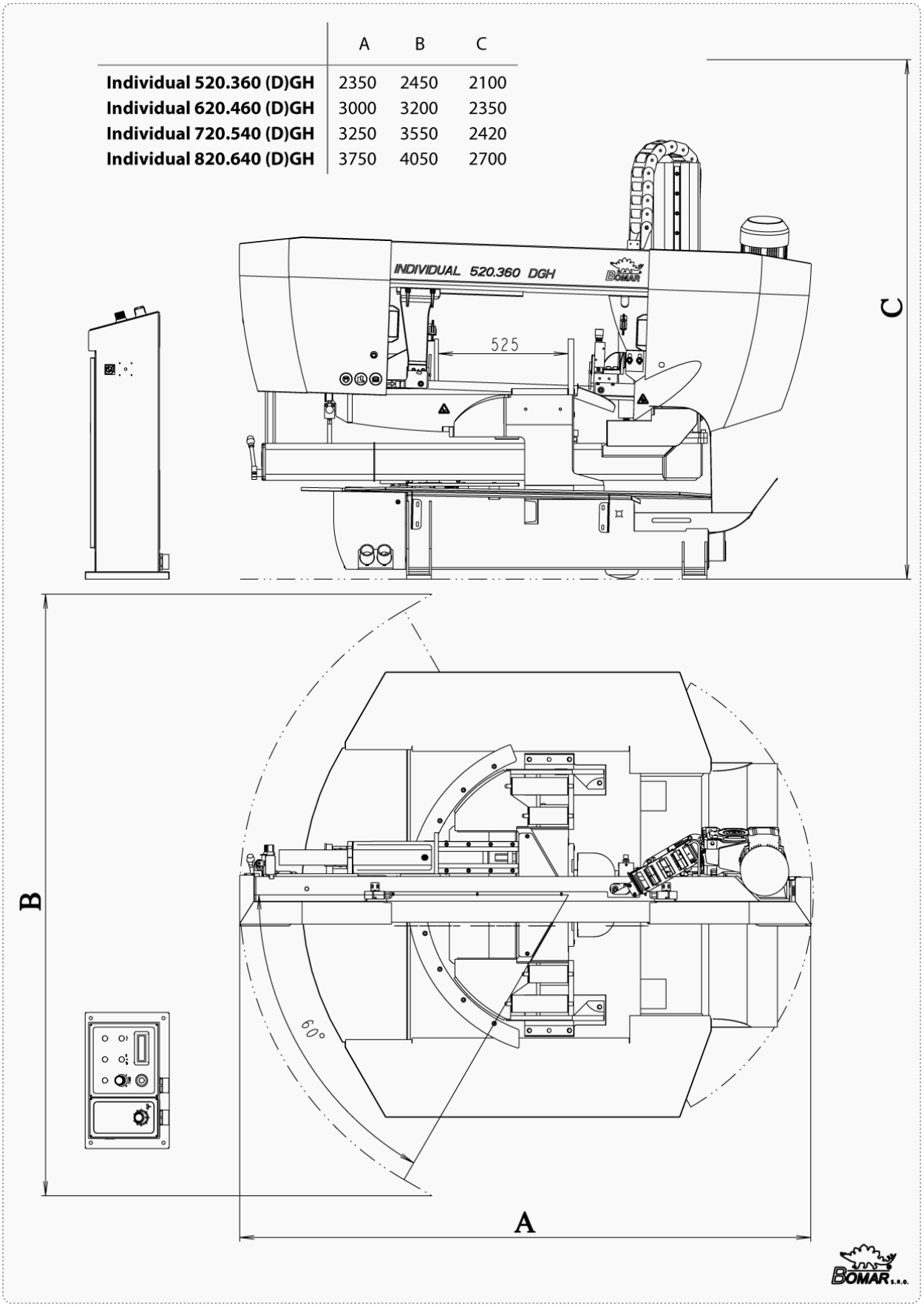
0°	∅460 mm	620×460 mm	460×460 mm	460×460 mm
45° R	∅420 mm	420×400 mm	460×400 mm	405×450 mm
60° R	∅275 mm	390×28 mm	460×265 mm	265×265 mm

Level of acoustic pressure:

Equivalent level of acoustic pressure A (noise) at operator position are L_{Aeqv}=76,3 dB. Mentioned values are levels of emission which doesn't have to represent safe levels. Factors which influence real level of acoustic pressure on machine operator are: working place characteristics, cut material, saw band. These factors have significantly influence on acoustic pressure.

2.2. Rozměrové schéma / Aufstellzeichnung / Installation diagram

	A	B	C
Individual 520.360 (D)GH	2350	2450	2100
Individual 620.460 (D)GH	3000	3200	2350
Individual 720.540 (D)GH	3250	3550	2420
Individual 820.640 (D)GH	3750	4050	2700



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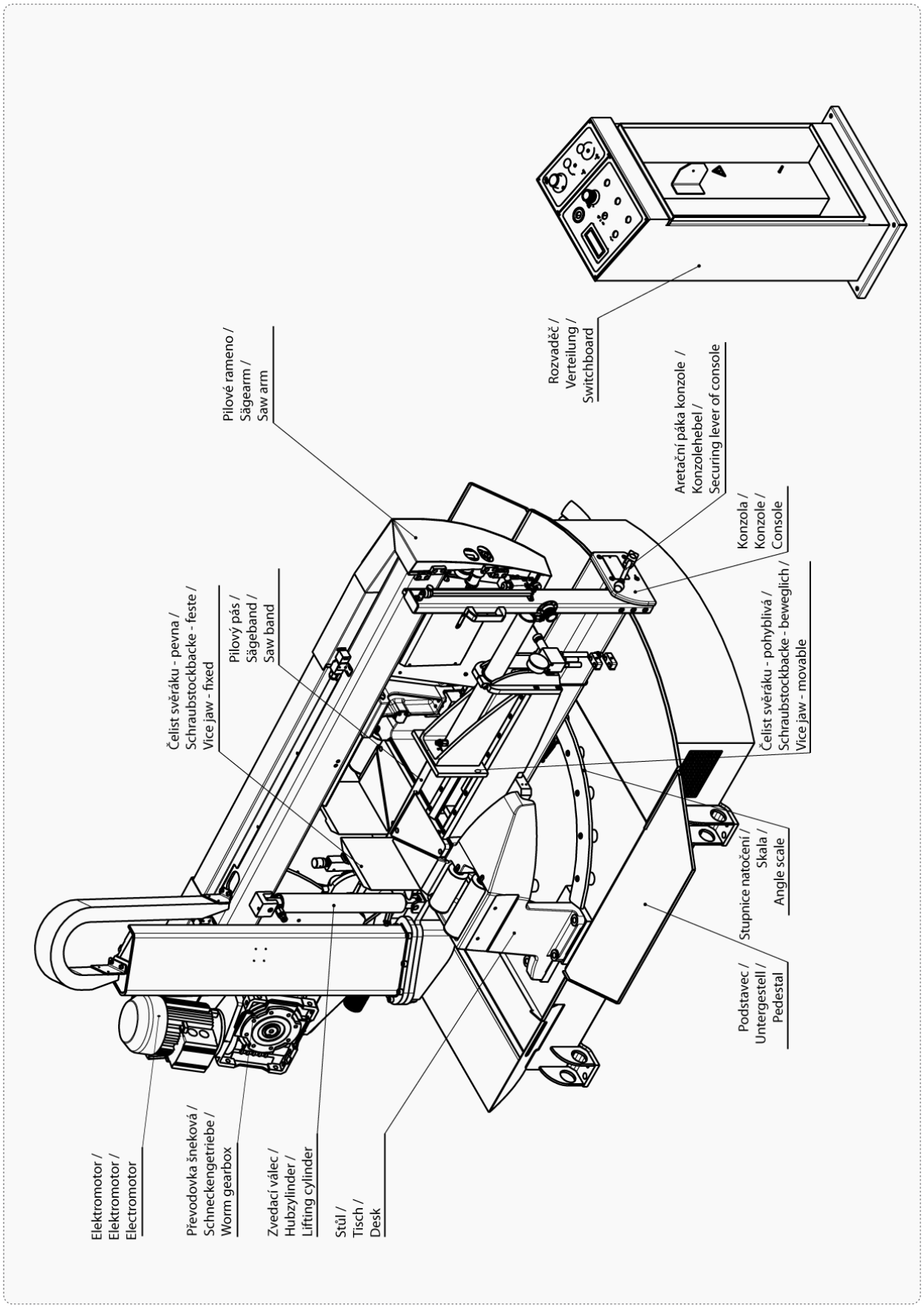
2.3. Popis / Beschreibung / Description



2.4. Transportation and stocking

2.4.1. Conditions for transportation and stocking

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

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

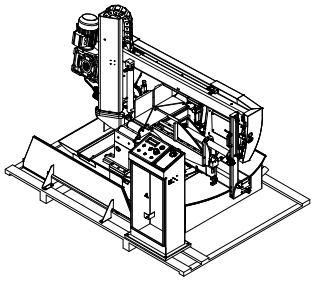
2.4.2. Transport and stocking preparations

- Close the vice and thoroughly oil all blank surfaces.
- Lower the saw frame to the lowest position.
- Make sure to empty the machine of all traces of the cooling agent.
- Fasten all loose parts securely to the machine.
- Pack and wrap the control desk securely to avoid damage during transport.

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

2.4.3. Transport and stocking

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

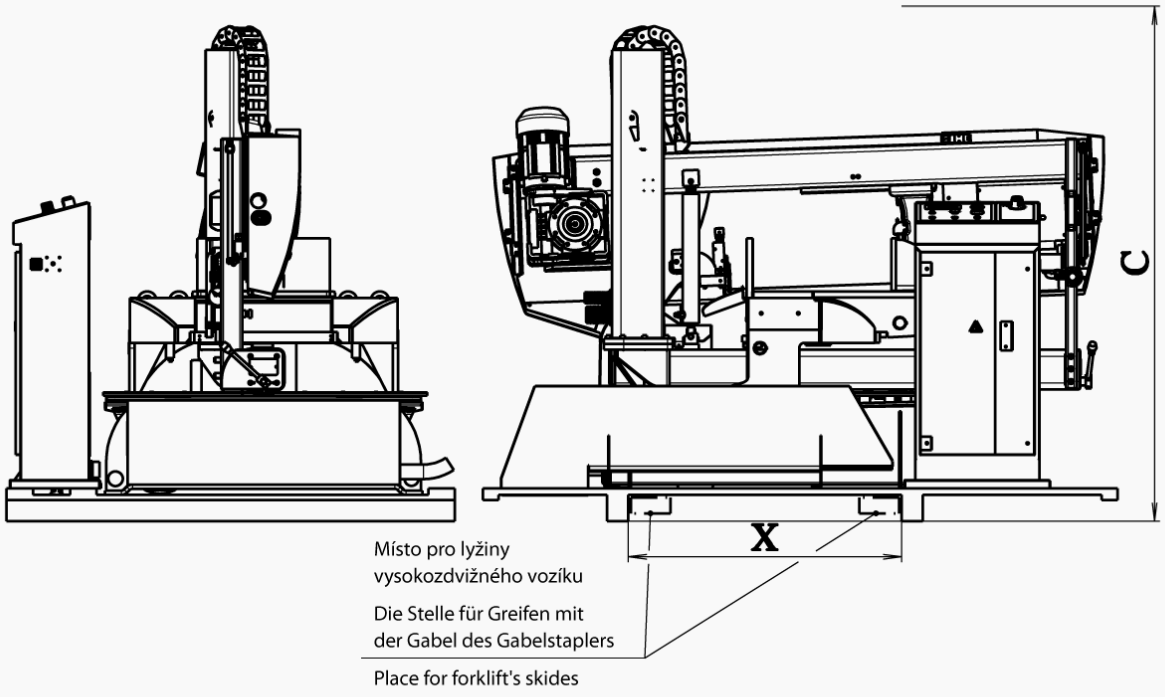


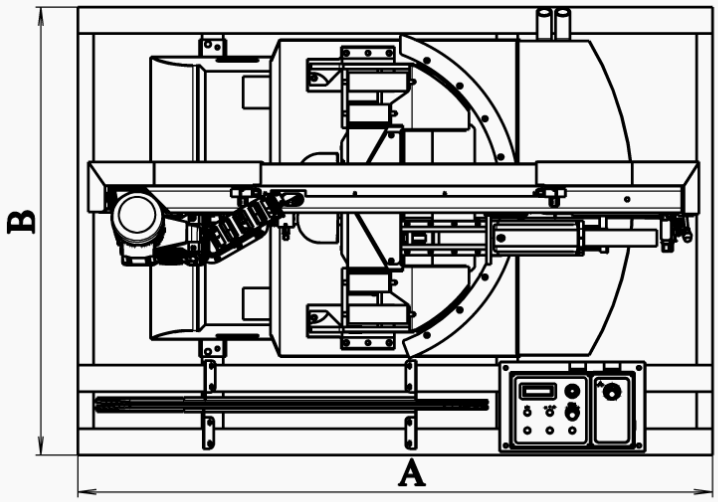
- Make sure that the hand pallet truck; the forklift truck or the crane and the suspension cables had sufficient capacity.
- Make sure that the van or the trailer had sufficient capacity.
- The machine must be secured during transportation.
- Screw on the palette to the floor of the van or the trailer.
- Be careful that the machine is not damaged during transportation. Make sure that the van or the trailer had sufficient capacity.
- The machine must be secured during transportation. Screw on the palette to the floor of the van or the trailer. Be careful that the machine is not damaged during transportation.
- Store the machine only under conditions mentioned in the manual, to avoid damage of the machine.

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

2.4.4. Transportní schéma / Transport schema / Transport scheme

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





2.5. Activation

2.5.1. Machine working conditions

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

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

- At temperature air from ***5°C to 40°C***, the temperature average during 24 hours must ***not exceed over 35°C***.
- At relative dampness of the air in the interval from 30% to 95% (not concentrate). Altitude must be 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).

2.6. Band saw unpacking and assembling

Remove the packing from the machine and unpack all parts.

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

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

2.6.1. Machine installing and levelling

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

Minimal requirement:

machine weight – Individual 620.460 GH – 1850 kg

+ weight of accessories

+ maximum weight of material

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

2.6.2. Machine disposal after lifetime

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

2.6.3. First run of the power pack

Before the first run check:

- The direction of the Pump, while run the power pack for max. 2seconds.
- The cooling fan of the motor has to rotate in the same direction as the arrow on the top of the motor cowling indicates.
- In case of wrong rotational direction, the electrical phase in the connection box is to be changed. This check is required after every disconnection from the power source
- Wiring matches with electrical and hydraulic diagrams
- the electric motors (pump and cooler) are properly connected and have the prescribed rotation
- the hydraulic accumulator with nitrogen gas to the specified value
- aux. elements work right (thermometer, level gauge, heater)

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

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

2.6.4. Filling the reservoir with hydraulic oil

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

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

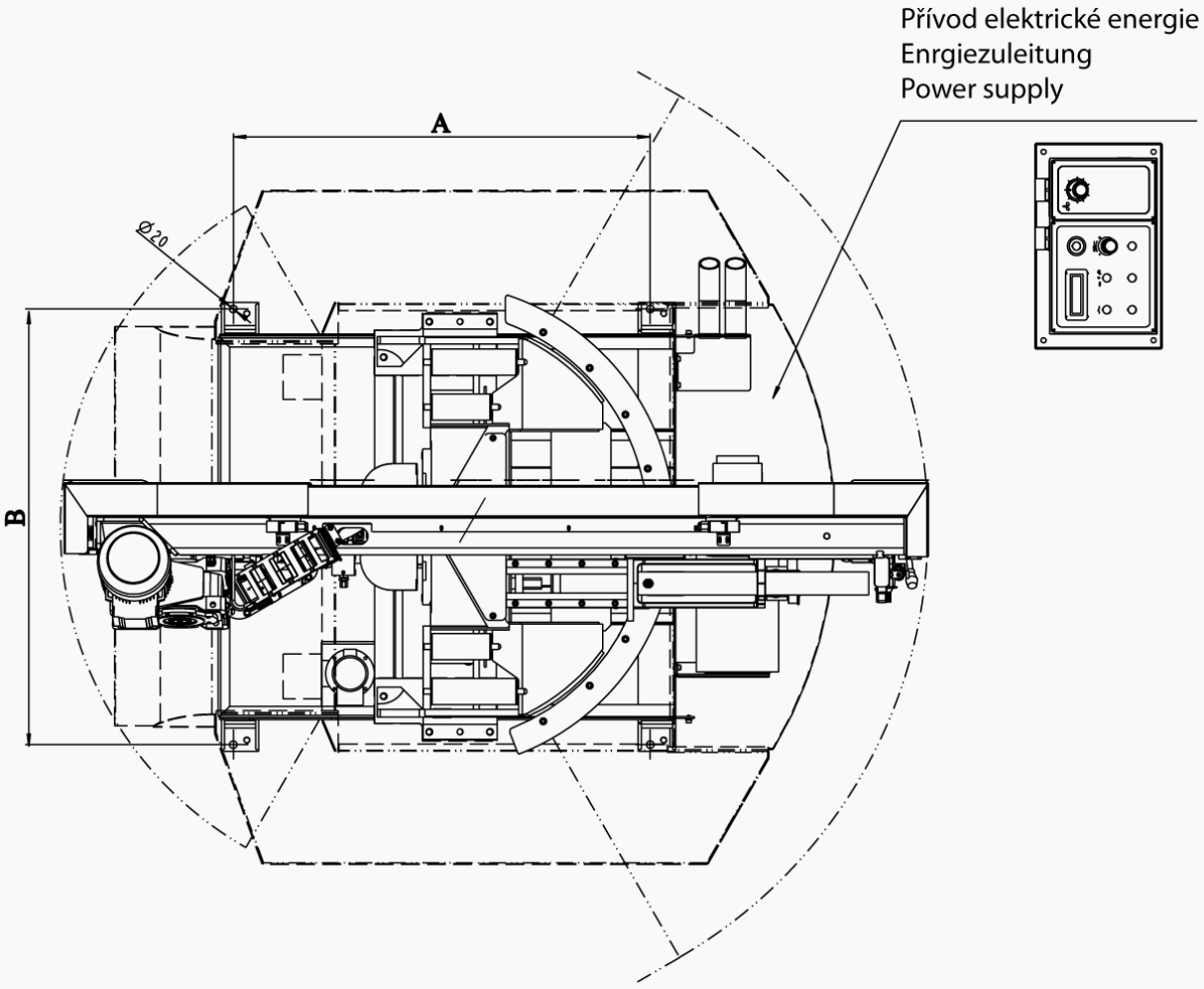
Filling from container, such as barrels, backets, etc. is not recommended or permitted!

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-HM 46	400	170	46	18	11	-30
OH-HM 68	700	170	68	26	14	-28
OH-HV 32	180	67	32	17	11	-40
OH-HV 46	350	110	46	25	14	-36

2.6.5. Kotevní plan / Verankerungsplan / Grounding plan

	A	B	Příkon Gesamptschlusswert Total Input [kW]	Max.jištění Max. Vorschaltsicherung Max. Fuse [A]	Únosnost podlahy Vorschaltsicherung Carrying capacity [kg/m²]
Individual 520.360 (D)GH	1114	1164	5,2 kW	16	1100
Individual 620.460 (D)GH	1114	1164	8,7 kW	32	1500
Individual 720.540 (D)GH	1107	1482	8,7 kW	32	1700
Individual 820.640 (D)GH	1107	1482	10,5 kW	32	2000



Kotvící materiál / Verankerungsmaterial / Grouding material

- 4× Hmoždina / Dübel / Plug – ø18 mm
- Vrtáno do hloubky / In die Tiefe gebohrt / Drilled to – 140 mm
- Šrouby / Schraube / Screws – M16

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

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

± 10 mm / 1 m

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2.7. Electrical connection

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

Electrical parameters of the machine:

- Service voltage: ~3 x 400 V (230 V), 50Hz, TN-C-S/TN-C (dep. on saw ver.)
- Total input / Max. fuse: 8,7 kW / 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.

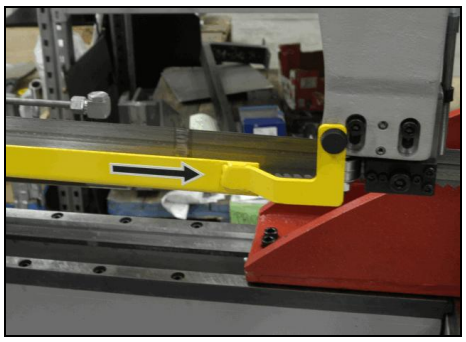
Note:
The values of the crosscut of the conductor and the rated current are in the norms.

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.

2.7.1. Check the direction of the saw band



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

2.7.2. 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!!!

2.8. Filling of the cooling system

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

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

Note
If the machine is equipped with Micronising unit, fill the Microniser container with prescribed cooling agent. Microniser is ready for operation.

2.9. Check machine function

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

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

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

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

2.10. Saw band

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

2.10.1. Saw band size

6100×41×1,30 mm

2.10.2. Selection of the saw band tooth system

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

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

BOMAR for 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:

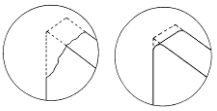
32 S – number „32" means 32 teeth on one inch (that means constant tooth system), letter „S" marks teeth with zero angle of the tooth.

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.

2.10.3. Saw band running-in

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

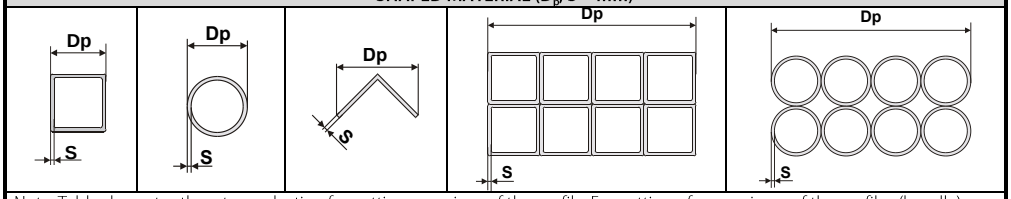
When cutting small pieces run the band until approximately 300 cm^2 of material has been cut. When cutting large pieces run the band for 15 minutes approximately. When the band has been run, increase the lowering-speed to normal speed. The running in of the saw band avoids micro-breaks on the cutting edges of new saw band ensuing from first excessive stress. This would decrease service life substantially. The optimal running in of the saw band produces ideal rounded cutting edges and therefore the conditions for an optimal service life.



Note: *Run regrinding saw bands too.*

2.10.4. Tables for teeth selection:

SHAPED MATERIAL (D_p, S = mm)

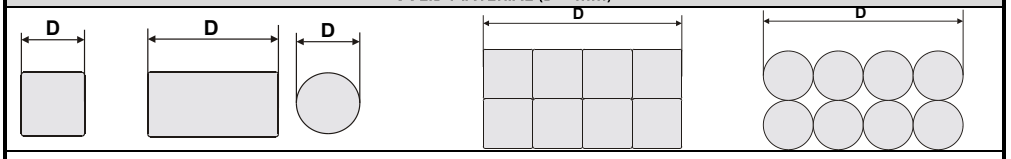


Note: Table shows tooth system selection for cutting one piece of the profile. For cutting of more pieces of the profiles (bundle), you must think of the size of the wall as double size of the wall of one profile (that means, size „S" equates to 2×S). In table, there are tooth systems constant and variable.

Size of the wall S [mm]	Tooth system (Z_pZ) Outer diameter of the profile D_p [mm]					
	20	40	60	80	100	120
2	32 S	24 S	18 S	18 S	14 S	14 S
3	24 S	18 S	14 S	14 S	10–14 S	10–14 S
4	24 S	14 S	10–14 S	10–14 S	8–12 S	8–12 S
5	18 S	10–14 S	10–14 S	8–12 S	6–10 S	6–10 S
6	18 S	10–14 S	8–12 S	8–12 S	6–10 S	6–10 S
8	14 S	8–12 S	6–10 S	6–10 S	5–8 S	5–8 S
10	-	6–10 S	6–10 S	5–8 S	5–8 S	5–8 S
12	-	6–10 S	5–8 S	5–8 S	4–6 K	4–6 K
15	-	5–8 S	5–8 S	4–6 K	4–6 K	4–6 K
20	-	-	4–6 K	4–6 K	4–6 K	3–4 K
30	-	-	-	3–4 K	3–4 K	3–4 K
50	-	-	-	-	-	3–4 K

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

SOLID MATERIAL (D = mm)



Constant tooth system	
length of the cut D	tooth system (Z_pZ)
to 3 mm	32
to 6 mm	24
to 10 mm	18
to 15 mm	14
15–30 mm	10
30–50 mm	8
50–80 mm	6
80–120 mm	4
120–200 mm	3
200–400 mm	2
300–800 mm	1,25
700–3000 mm	0,75

Variable tooth system	
length of the cut D	tooth system (Z_pZ)
to 30 mm	10 –14
20–50 mm	8–12
25–60 mm	6–10
35–80 mm	5–8
50–100 mm	4–6
70–120 mm	4–5
80–150 mm	3–4
120–350 mm	2–3
250–600 mm	1,4–2
500–3000 mm	0,75–1,25

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

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3. Machine control

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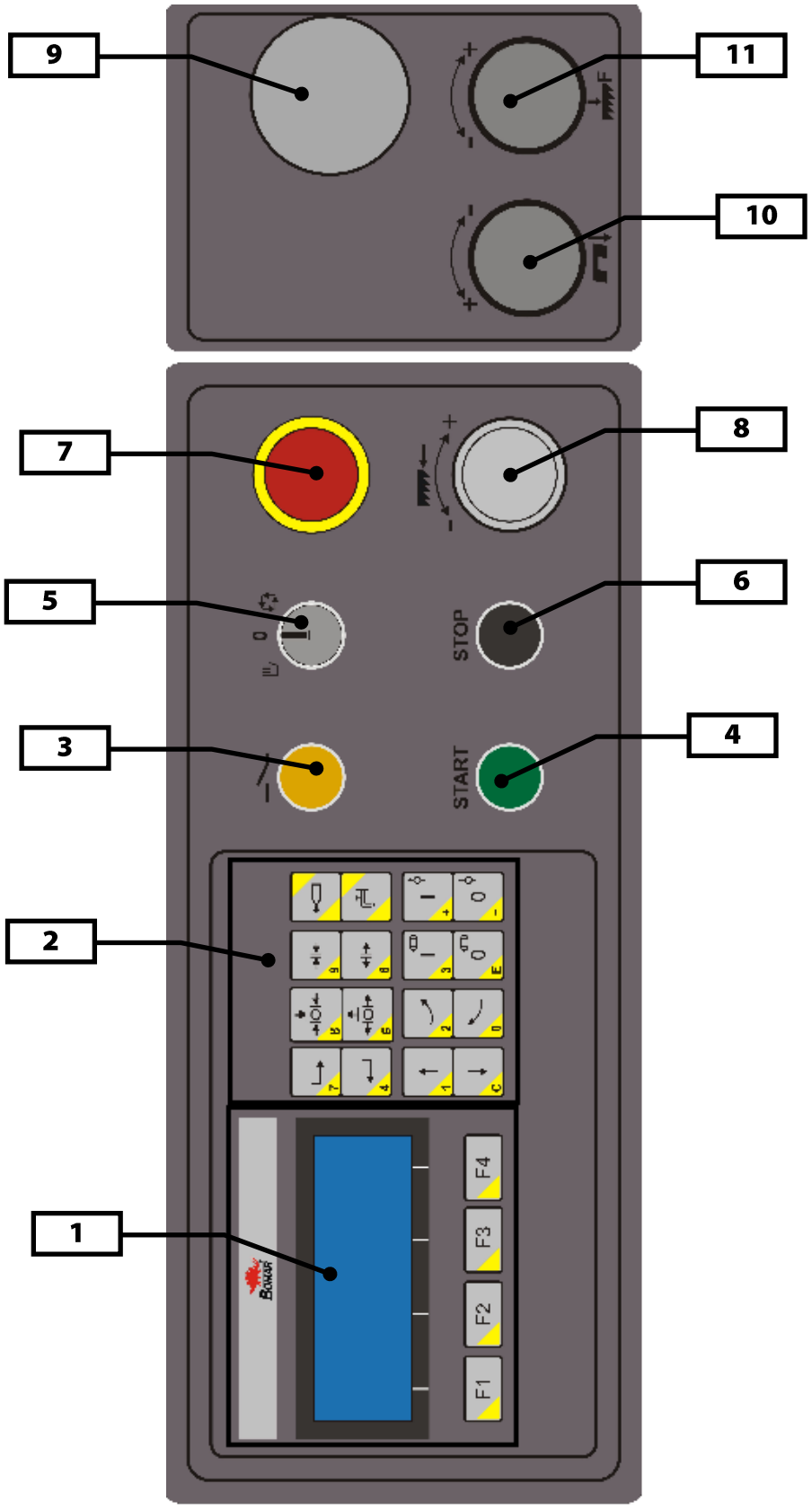
3.1. Starting the band saw

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

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

3.2. Control panel



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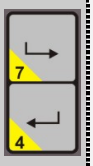
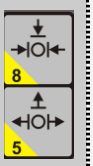
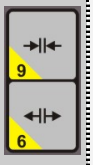
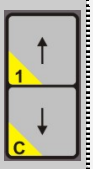
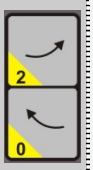
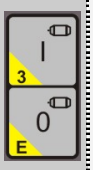
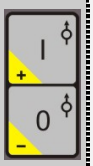
3.2.1. Control panel description

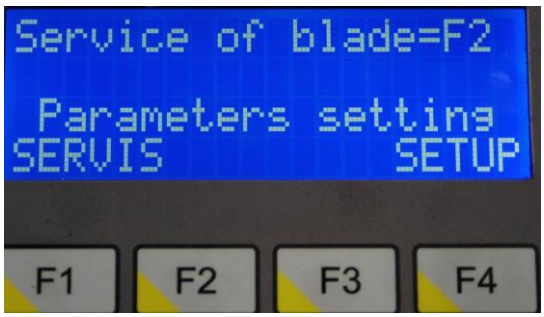
1	**LCD Display** Onto display are described all runnind processes, control with functional buttons **F1-F4**
2	**Control buttons / numeric keypad**
	**GH version – no function** **DGH version – vice movement right/left**
	**Clamp / release vice clamp**
	**Clamp / release vice** In manual cycle pressing and holding the button allows you to release pressure or clamping vise. .
	**Cooling system selection** Cooling with Microniser (optional cccessories) Cooling with water cooling pump runs even when the saw band drive isswitch off.
	**Movement of the arm** Pressing and holding a button or trigger arm lifts the lifting hydraulic cylinder. When lifting the arm using the arm can be lifted in its entirety lifting cylinder. On the down can be activated by simultaneously pressing the **rapid move** functional button F1.
	**No function**
	**Turn on / off the band drive** In manual mode the button is displayed "I" switched band drive, the button with the symbol "0" switch off
	**Turn on / off the hydraulic circuit** Button with the symbol "I" turns the hydraulic circuit, the button with the symbol "0" disables the hydraulic circuit. The hydraulic circuit is automatically switched on when needed.
3	**Safety circuit** Switch on the safety circuit by pressing button.
4	**Button START - Switch on the semi-automatic cycle** After pressing the button will start the cutting cycle

5	**Selecting a mode machines** 0 for servicing and settings manual mode semi-automatic mode **Note**: The functions performed in both manual and semi-automatic mode are the same, but only in semi-automatic cycle it is possible to use the START / STOP (ie start / off cycle)
6	**Button STOP - Switch off on the semi-automatic cycle** After pressing the button will turn off the interruption or of cutting cycle
7	**TOTAL – STOP button** In emergency causes the machine must be immediately switched off.
8	**Frequency convertor** Turn to change the speed of the saw band in the range of 20-120 m / min
9	**Cutting pressure manometer** Pointer to cut pressure adjustment
10	**Cutting pressure regulation** Adjust the arm pressure to the cut. **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.
11	**Governing valve for adjust the spped of the arm sinking to the cut** 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.

3.3. Machine setup

Machine setup mode is activated by switch on control panel. Switch must be in **"0"** position.

After swiching into position "0" is displayed on LCD this screen.



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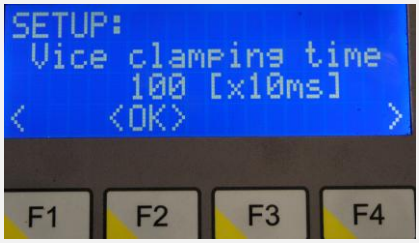
3.3.1. SERVIS

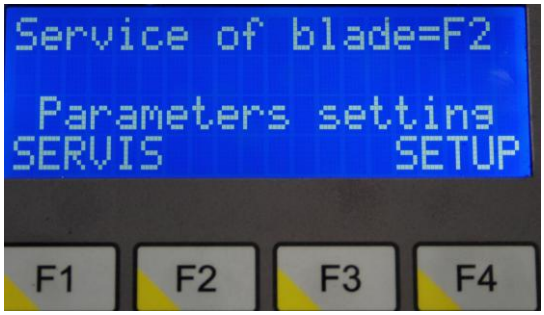
After pressing the **F1** functional key can be set servis parameters that are password protected (947).

Control and movement in SERVIS can be set using the function keys **F1 - F4.**

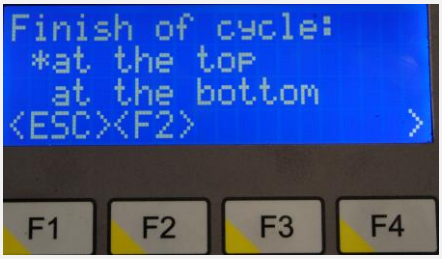
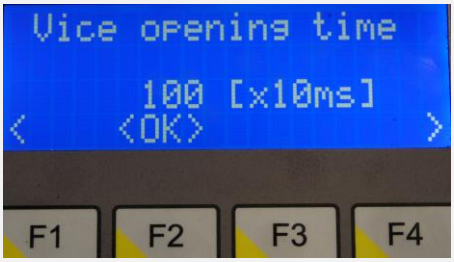
On display	Descriptiom
	**Blade speed correction** • Constant for calculation of blade speed display values from analog input**.** • **F1** go back, **F4** next menu screen, **F2** enter value
	**Sensor** • Display variable sensor arm (optional accessories) • Use to check the functionality of the sensor on the arm • Read only • **F1** go back, **F4** next menu screen
	**Vice clamping time** • Watch vice clamping time in ms**.** • **F1** go back, **F4** next menu screen, **F2** enter value
	**The type of machine.** • Display the machine type (the value set by the manufacturer) • Read only

3.3.2. SETUP

After pressing the **F4** functional key can be set setup parameters that are not password protected.



Control and movement in SETUP can be set using the function keys **F1 - F4.**

On display	Description
	**Finish of cycle** • At the top – arm after cut starts above the material and cutting cycle ends • Athe the bottom – arm after cut remains in the lower position, the above material does not exit • **F1** go back, **F4** next menu screen, **F2** enter value
	**Turn off motor after cut** • Up position – saw arm move up after cut and then turn off drive of saw blade. • Down position – drive of saw band turn off immediately after cut. • **F1** go back, **F4** next menu screen
	**Upper vice** • Allows to able / disable the upper vice in the cutting process • **F1** go back, **F4** next menu screen, **F2** enter value
	**Vice mening time** • Watch vice opening time in ms. • **F1** go back, **F4** next menu screen, **F2** enter value

Upper vice opening time

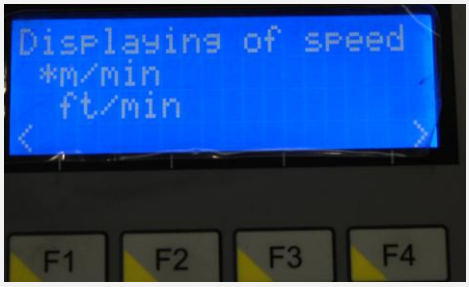
- Watch upper vice opening time in ms.
- **F1** go back, **F4** next menu screen, **F2** enter value

Switch off hydraulic

- Setting the hydraulic unit off when idle machines
- **F1** go back, **F4** next menu screen, **F2** enter value

Language

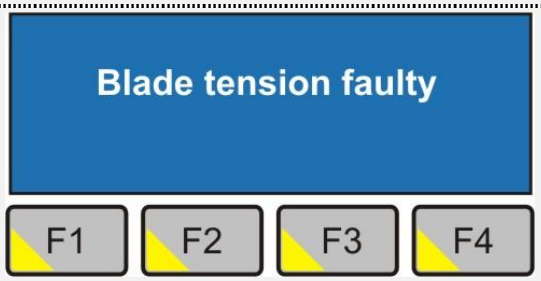
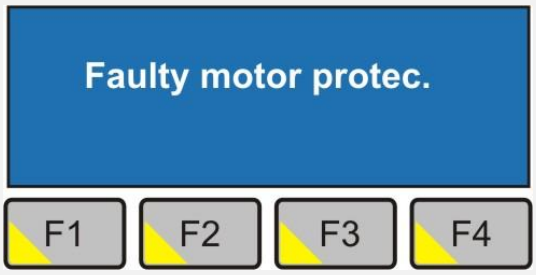
- Choose menu language
- **F1** go back, **F4** next menu screen, **F2** enter value



Displaying of speed

- Displaying of band speed according to the selected units
  (m / min or ft / min)
- **F1** go back, **F4** next menu screen, **F2** enter value

3.4. Machine error messages

Error	Information
	Saffety button (pos. 2 on kontrol panel) is not ON. Press **F4** to confirm error.
	Total Stop button is active. Turn button **TOTAL STOP** according to the arrows. Press **F4** to confirm error.
	Saw blade in properly tensioned. Press **F4** to confirm error.
	Engine temperature protection is active. **Do not overload saw!** Press **F4** to confirm error.

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3.5. Machine control

3.5.1. Semi-automatic cycle

1. Lift the saw arm to the top position by pressing button 

.
2. Open the vice by pressing button 

.
3. Clamp material to the vice by pressing button 

.
4. Lower the frame about 10 mm above the material by button 

.

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

5. Select the max. height of the arm with limit switch.

   You can clear the register of the performed cycles by button 

and stop on 5 seconds.
6. Press button **START** (position **4**) of semi-automatic cycle.

   Set the saw band speed according to the kind of the cutting material.

   Set the speed of the arm sinking by adjust **governing valve** (position **10**).

Attention!
Press button „5" (STOP of semi-automatic cycle). In risk of injury or damage of the band saw, press the emergency button TOTAL STOP "10"!

7. The band saw clamps the material to the vice and it makes the cut.
8. Open the vice. If the vice is not opened, you can open it by button 

.
   Remove the blank (cut off a piece of material).
9. You can repeat whole process.

3.5.2. Cycle breaking

»

- **STOP button**

  Semi-automatic cycle is interrupted by pressing button **STOP** (position **6**) of the semi-automatic cycle.

  The arm is lifted to the top position and the saw band drive is stopped..

  By pressing button ***START*** (position **4**) of the semi-automatic cycle, you can start the cycle.

- **TOTAL STOP button**

  In case of the risk, press button **TOTAL STOP** (position **7**).

  After pressing **TOTAL STOP** button, saw band drive is immediately broken and the arm sinking is stopped.

- **Reactivation**

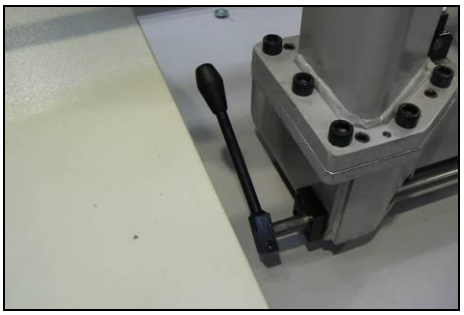
  1. Turn button **TOTAL STOP** according to the arrows (on the button).
  2. Switch on the **Safety circuit** by button (position **3**).
  3. By pressing button **START** (position **4**) of the semi-automatic cycle), you can start the cycle. The arm is lifted to the top position and the saw band starts the cycle.

3.6. Band saw adjusting

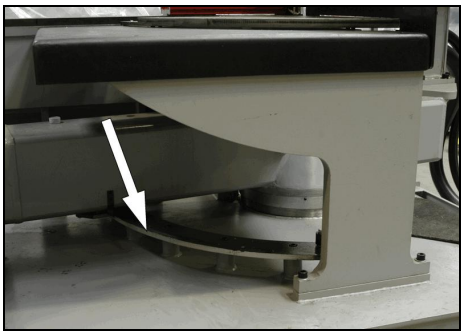
3.6.1. Angular cut setting

The machine enables angular cuts under **+ 60°.** The cut angle can be set fluently from **0°** to **60°** on one sides.

1. Release securing lever of the console.



2. Swivel the frame to the desired angle by pulling the saw arm. Angle is shown on scale (see arrow



3. After cutting angle setup tighten securing lever.

Attention!
Moving parts of the vice must be moved when saw arm has zero angle of rotation and closed vice jaws.
Moving vice jaw of vice must be in endmost position otherwise there is a danger of collision saw arm with vice.

Electronic admeasurement (252.178/252.177) – optional acessories:

Desired cutting angle is shown on LCD. How to use electronic admeasurement is described in special instruction manual.

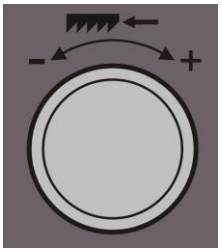
3.6.2. Adjusting band guides

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. Press button ***STOP*** (position **6**) to switch off the hydraulics and stop on 2 second.
2. Release the stopping lever of the listel (see picture).
3. Move the left part of the guide apparatus so that the left guide cube edge is as close to the cut material as possible.
4. Tighten the lever of the gib and check the guide cube setting for possible collision with binding table or vice jaw.

Note:
Position of the guiding cubes is secure by the limit switch. The limit switch is activated after switch lever hits the listel.

3.6.3. Cutting speed adjusting



Speed of the saw band is possible change from ***20*** to ***120 m/min***. You can effect to adjusting speed of the saw band following.

Use the frequency convertor by button **8** on control panel to adjust requested speed of the saw band. You can see the speed on display. Band speed is displayed on the Display **1** on control panel during one semi-automatic cycle.

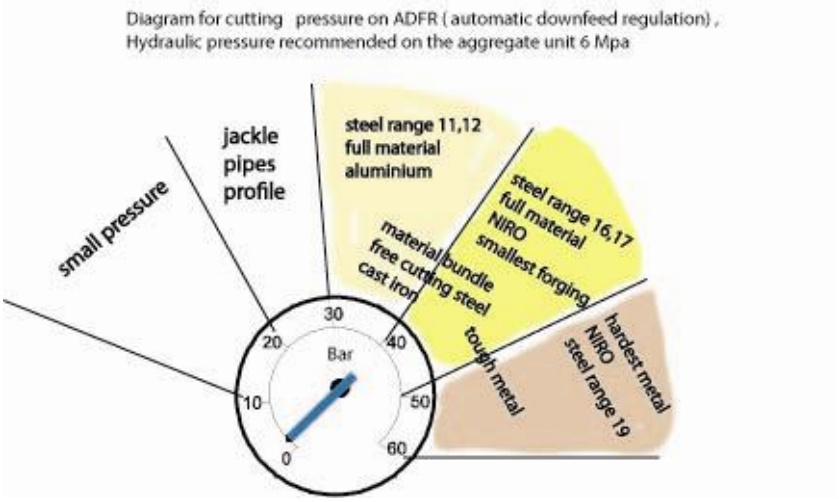
3.6.4. Adjustment of pressure to the cut

The band saw is equipped with cutting pressure regulation on the both guiding cubes.

Pressure adjusting is performed with governing valve **11** on control panel. The pressure to the cut is displayed on the cutting pressure manometer **9** on control panel .

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.

- **Lower** pressure to the cut – turn the wheel against the clock's direction.
- **Higher** pressure to the cut – turn the wheel **to the clock's** direction.



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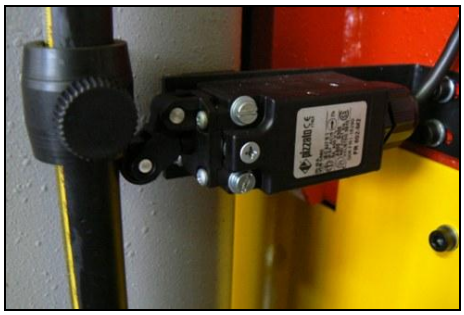
3.6.5. Speed adjustment of the arm lowering

Set the speed of the arm lowering to the cut by control valve for Cutting pressure regulation **10** on 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.

3.6.6. Saw frame lift stop setting



Notice:
Arm Position is monitored by a limit switch. If the limit switch lever hits the bar and goes, then you can not run a semi-automatic cycle.

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

1. Height adjustment is sensed by a limit switch
2. Press button 

and lift the saw arm to the upper position.
3. Insert a material into the vice. Carefully lower the saw arm button 

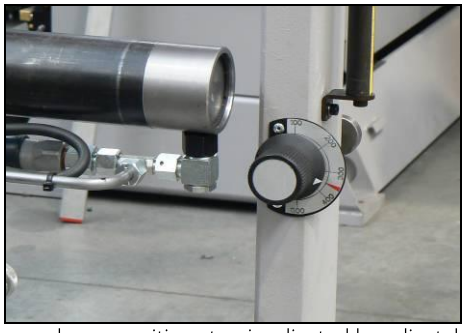
to the material (or 

+ **F1** for **rapid move**)
4. Stop the saw arm 10mm above the material.
5. The lift stop setting is sensed by the limit switch

   Set the stop just above arm height sensor - slide stop turning the locking knob close to the limit switch

3.6.7. Saw arm lower position stop adjustment

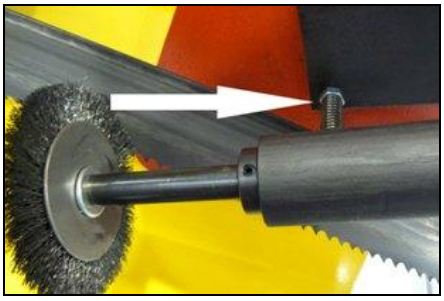
The lower stop limits the lowest position of the saw arm. This stop point has to be checked at least once a month. If the lower stop point is wrongly adjusted, the cutting table can be deeply cut or the material will not be cut completely.



Adjusting of the saw arm lower position stop is adjusted by adjustable excenter on saw arm pile.

3.6.8. Brush adjustment

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



1. Release the fixative screw of the brush. It is possible to move with the brush.
2. Set the brush to the saw band according to the picture.

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

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

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

3.7. Material insertion

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

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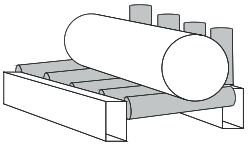
3.7.1. Handling agent selection

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

3.7.2. Insertion

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

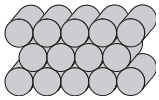
Make sure the conveyor is long enough and the material cannot tip off the conveyor.



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

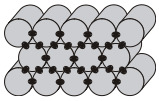
3.7.3. Bundle material cutting

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



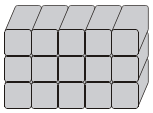
Round material bundle: Take care especially with round material that the bars are put according to the picture. If the bars are put differently, you may have problems with movement.

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



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

Square material bundle:



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

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4. Machine service

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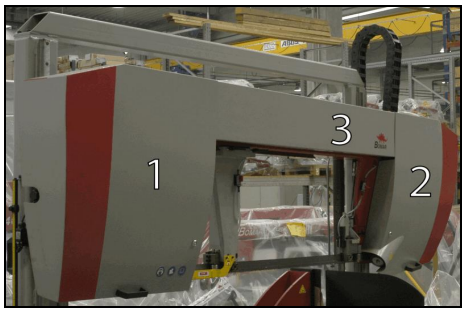
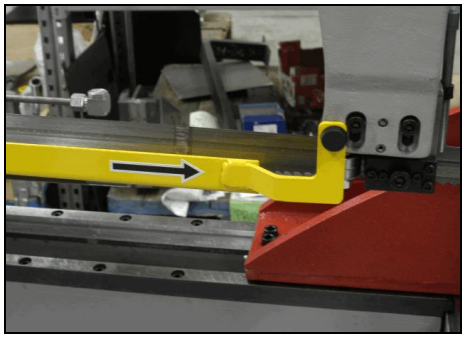
4.1. Saw band dismantling

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

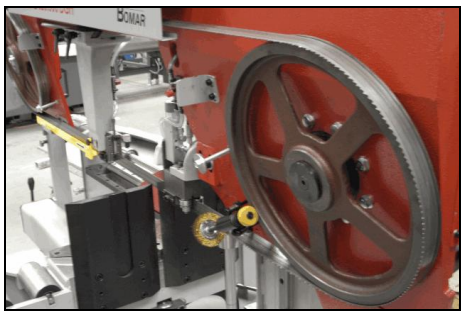


3. Open all three covers on the saw arm.



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

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



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

4.2. Saw band installation

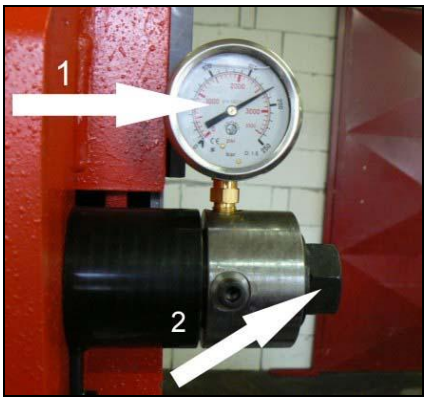
1. Prior to installation, clean all track wheels, guide cubes and inner side of the arm thoroughly of all traces of chips and dirt. *Keep in mind the teeth direction when installing the saw band.*
2. Insert new saw band in the guide cubes. Make sure the saw band runs between both guide rollers and it is pushed all the way to the top.
3. Put the saw band on both guide wheels. Make sure that the saw band ridge fits tightly to the wheel rim. Then push the saw band as far back as possible.
4. Stretch the saw band by means of the screw, that the band did not falls from wheels.
5. Install yellow protective cover of the band.
6. Move the brush to the saw band. Tighten the securing screw.
7. Close the covers of both driving wheels.
8. Saw band installation is finished.

4.3. Saw band stretching and inspection

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

4.3.1. Saw band stretching

- Switch on the hydraulic aggregate after the saw band installation check the saw band stretching on the manometer (arrow 1).



- Use the screw (arrow 2) to stretch the saw band until it is stretched to the recommended value.

4.3.2. Saw band inspection

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

1. Check, if the saw band is right in the guiding cubes..
2. Switch on the saw band drive and then after 10 seconds switch off saw band drive. If the saw band drive is not possible to switch on, set the limit switch of the saw band stretching.
3. Switch off the main switch.
4. Open cover(s) of the wheels and check position of the saw band on the both wheels..

- If the distance between backside of the saw band and the offset wheel is **1 mm**, setting is right..
- If the distance is bigger than **1 mm**, or the saw band is on the offset of the wheel, set the saw band.

5. Close cover of the saw band.

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4.3.3. Saw band run setting

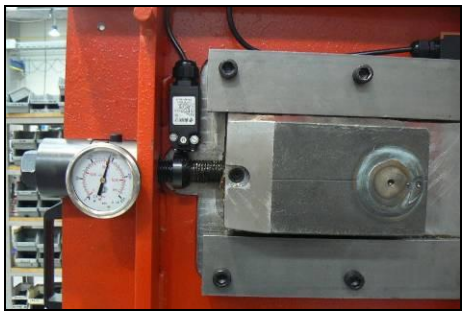
Saw band run is set with screw (arrow) in the stretching cube on the saw arm. Right distance rear part of the saw band from wheel rim is **1 – 3 mm**.

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

Check saw band run adjustment again.

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

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



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

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

4.4. Cooling agents and chips disposal

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

4.4.1. Coolant device inspection

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

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

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

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

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

* according to manufacturers' instructions

4.4.2. Chips disposal

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

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

4.5. Hydraulic, Greases and oils

4.5.1. Gearbox oils

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

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

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

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

Band saw	Gearbox oil	Capacity
Individual 620.460 GH	Shell Tivela S 320	3,3 l
Swarf conveyor	Shell Tivela S 320	0,075 l

Comparative table of the gearbox oils

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

4.5.2. Lubricant greases

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

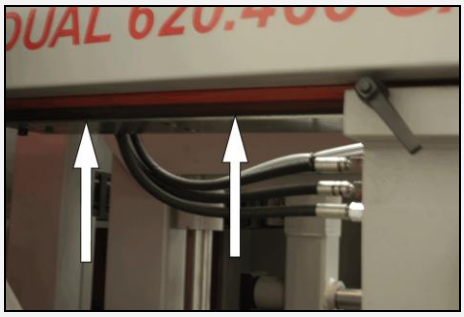
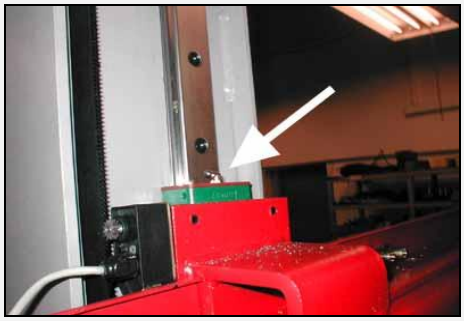
Comparative table of the lubricant greases:

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

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

4.5.3. Lubrication

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

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

4.5.4. Hydraulic oils

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

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

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

Comparative table of the hydraulic oils

Manufacturer	Type	Manufacturer	Type
Agip	Oso 46	Ina	Hidraol 46 HD
Aral	Vitam GF 46	Klüber	Lamora HLP 46
Avia	Avilub RSL 46	Hungary	Hidrokomol P 46
Benzina	OH-HM 46	Mobil	Mobil DTE 25
BP	Energol HLP 46	ÖMV	HLP 46
Bulgaria	MX-M/46	Poland	Hydrol 30
Castrol	Hyspin AWS 46	Rumania	H 46 EP
Čepro	Mogul HM 46	Russia	IGP 30
DEA	Astron HLP 4hy6	Shell	Tellus Oil 46

Manufacturer	Type	Manufacturer	Type
Elf	Elfolna 46	Sun	Sunvis 846 WR
Esso	Nuto H 46	Texaco	Rando HD B 46
Fam	HD 5040	Valvoline	Ultramax AW 46
Fina	Hydran 46		

4.5.5. Hydraulic unit service

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

- checking off all screws and connections, fixing points, tubes and hoses for leakage
- Cheb hydraulic oil level
- During time of duty the oil temperature shouldn´t exceed 60-70°C
- check function of signaling components (thermometer, level gauge, dirty filter indicator)
- Check the adjustment of working pressure

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

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

4.6. Machine cleaning

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

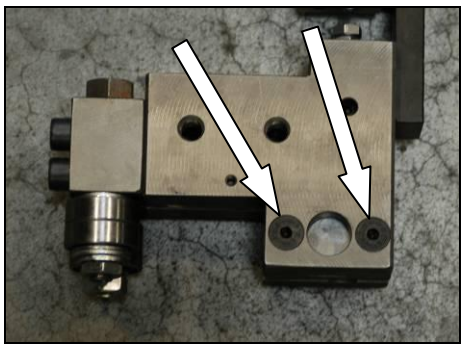
- Clamping jaws guiding of the vice.
- The guiding of the feeder.
- Loading surface of the vice.

4.7. Worn pieces replacement

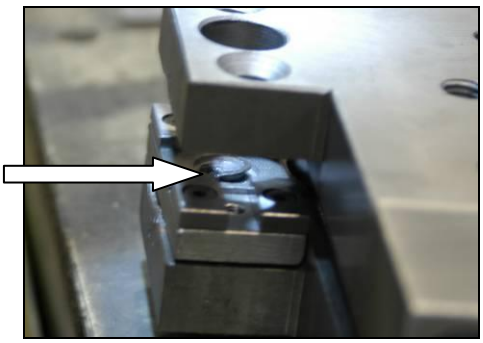
4.7.1. Pushing bearing replacement

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

1. Dismantle the saw band.
2. Disconnect the hose from the cooling agent eventually unmount microniser.
3. Unmount guiding cube from holder on saw.



4. Loosen the 2 clamp screws solid carbide guides and remove them..
5. Remove fixed hardmertal.



6. Remove retaining ring. Then unmount adjusting screw.

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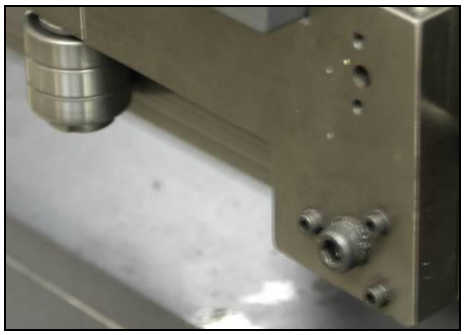
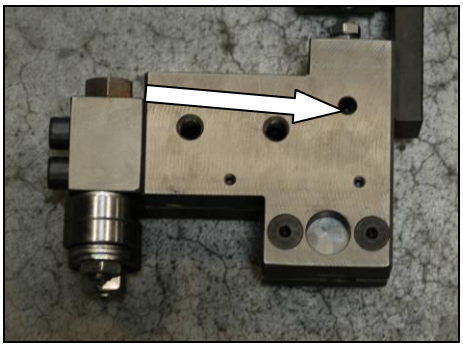


7. Remove other three screws.

8. Carefully remove the hardmetal. Remove disc springs.

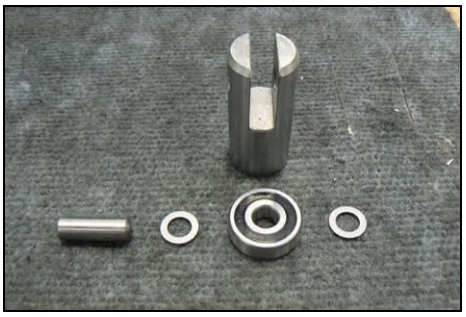


9. Loosen the mounting worm (allen wrench no. 3). Remove the pivot with bearing from the guiding cube.

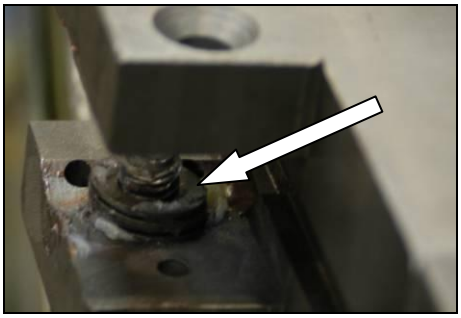
10. Insert the pivot to the vice.

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

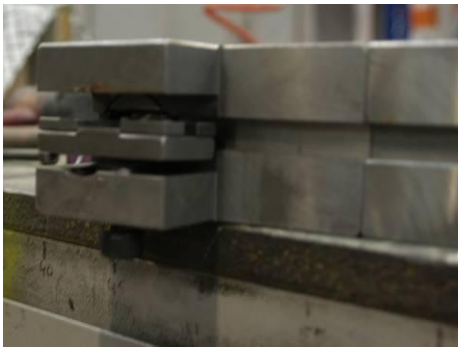
11. Remove the bearing pivot from the bearing holder by means of the swager.

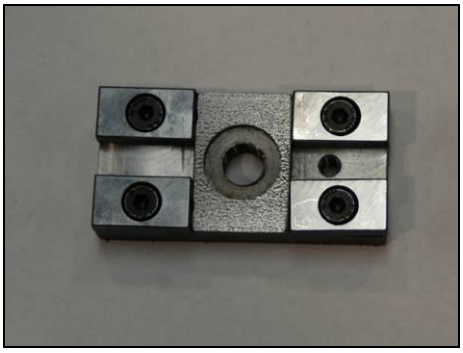


12. Remove the worn bearing and other damaged parts.
13. Fasten the holder to the vice.
14. Insert the bearing and washers and return the pivot to its original place.
15. Place the assembled piston guide cube. Piston must move freely in a guiding cube.
16. Worm screw defines the operation of the piston (piston has a slot in which is the worm). Tighten the worm, but with a minimum clearance to the piston could move.



17. Insert the disc springs. The number of disc springs must match the number of dismantled springs. Disc springs are folded against each other 1 to 1 Odd plate spring is near the harmetal carbide.





18. Insert the new hard metal guide. ***Attention,Do not lose disc springs.*** Ensure proper position of carbide guides – holes for 3 stop screws must be in the same position as the holes in a guiding cube.

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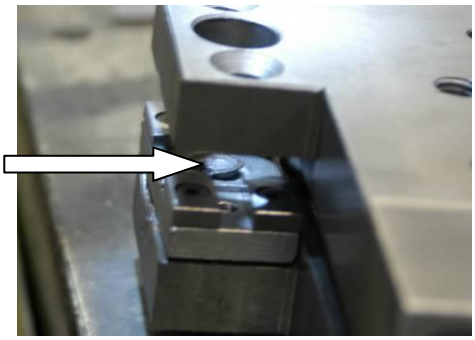
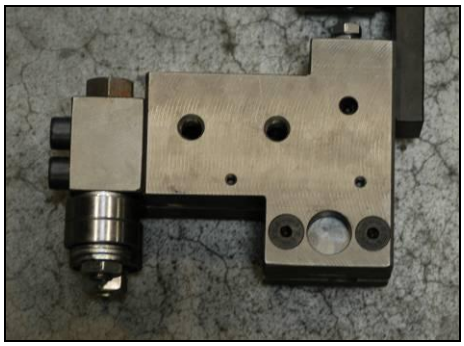
19. Insert and tighten central screw.

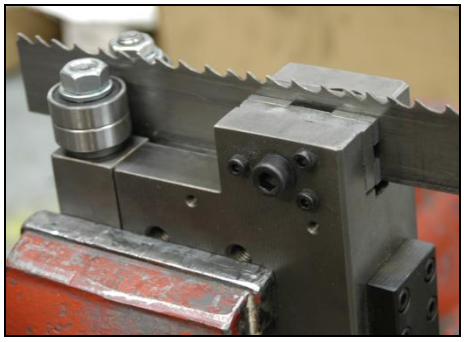


20. Insert the retaining ring on central screw.

21. Insert 3 stop screw around central screw.



22. Insert fixed hardmetal guiding and mount hard metal with two screws.

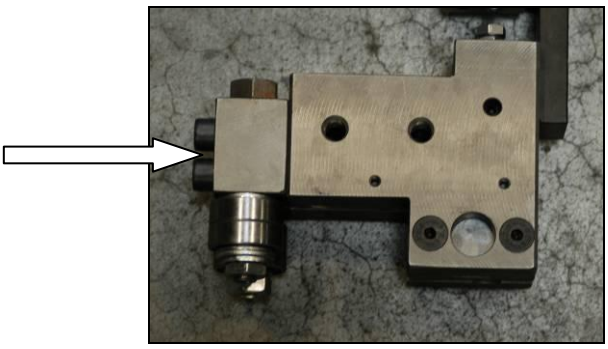


23. Using a short piece of the blade used on the machine, adjust the width of the gap between the guides. Loosen the central screw. Set the gap by central adjusting screw. Belt guides must walk freely without large and will also not scrub.

4.7.2. Saw band guiding pulleys replacement

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

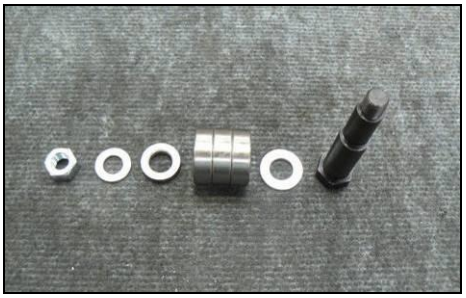
Attention:
Guiding pulleys must be replaced together on both guiding cubes!



1. Release 2 screws. Dismantle the guiding cube of the saw band.

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

2. Tighten the guiding cube to the vice and dismantle both eccentrics with bearings following way.
3. Screw off nuts from eccentrics.
4. Remove eccentrics from bearings by means of the swager.



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

Attention:
Do not replace the eccentrics placing in the cube.

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

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

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

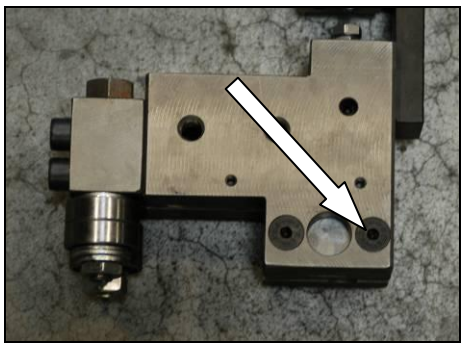
10. Tighten nuts on both eccentrics.
11. Remove the testing piece of saw band from the cube lead. Install the guiding cube on the machine.

4.7.3. Hard metal guides replacement

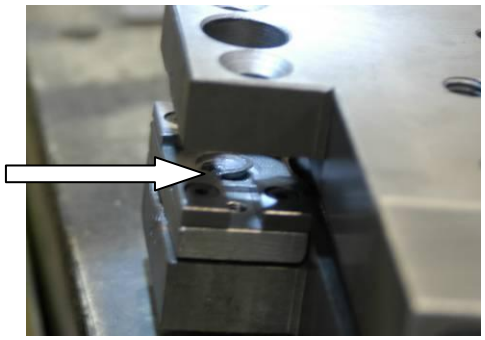
If the hard metal guides cannot be adjusted, they have to be replaced

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

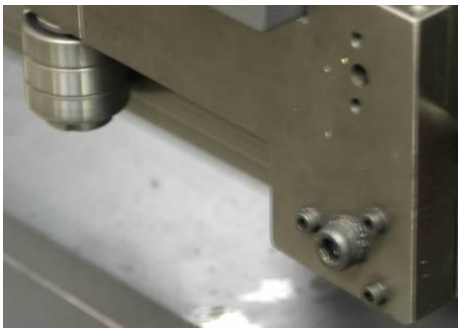
1. Dismantle the saw band.
2. Disconnect the hose from the cooling agent eventually unmount microniser.
3. Unmount guiding cube from holder on saw.



4. Loosen the 2 clamp screws solid carbide guides and remove them..
5. Remove fixed hardmertal.

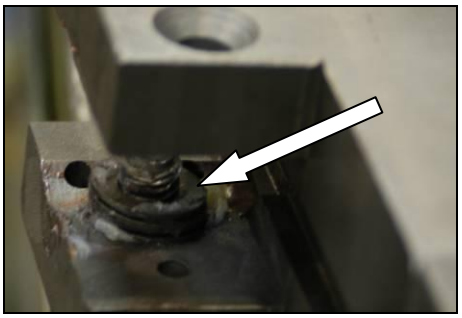


6. Remove retaining ring. Then unmount adjusting screw.

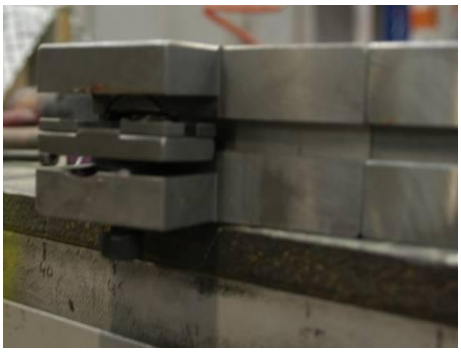


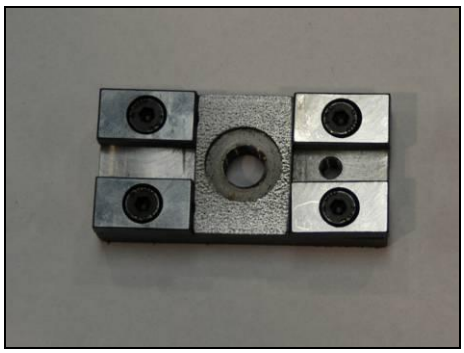
7. Remove other three screws. .

8. Carefully remove the hardmetal. ***Pozor, nesmí dojít ke ztrátě talířových pružin.***

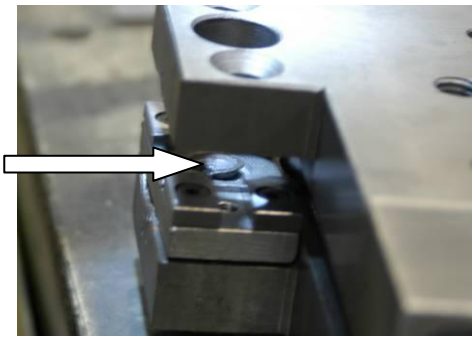


9. The number of disc springs must match the number of dismantled springs. Disc springs are folded against each other 1 to 1 Odd plate spring is near the harmetal carbide.

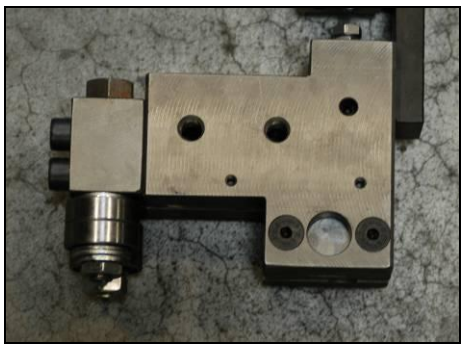




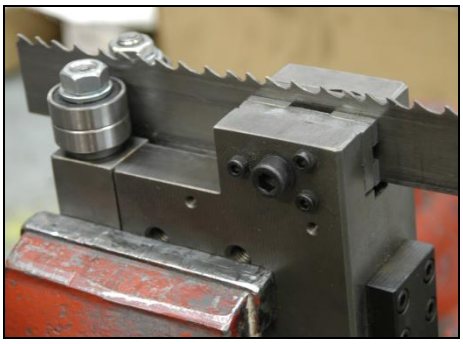
10. Insert the new hard metal guide. ***Attention,Do not lose disc springs.*** Ensure proper position of carbide guides – holes for 3 stop screws must be in the same position as the holes in a guiding cube.
11. Insert and tighten central screw.



12. Insert the retaining ring on central screw.
13. Insert three stop screw around central screw.



14. Insert fixed hardmetal guiding and mount hard metal with two screws.



15. Using a short piece of the blade used on the machine, adjust the width of the gap between the guides. Loosen the central screw. Set the gap by central adjusting screw. Belt guides must walk freely without large and will also not scrub.

4.7.4. Brush replacement

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

1. Hold shaft of the brush by wrench.

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

5. Závady / Troubleshooting

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5.1. Mechanical problems

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

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

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

5.2. Electric problems

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

5.3. Hydraulic problems

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

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6. Schémata / Schemas / Schematics

6.1. Elektrické schema / Elektroschema / Wiring diagrams – 3×400 V, TN-C,1S, 50 Hz

Obsah

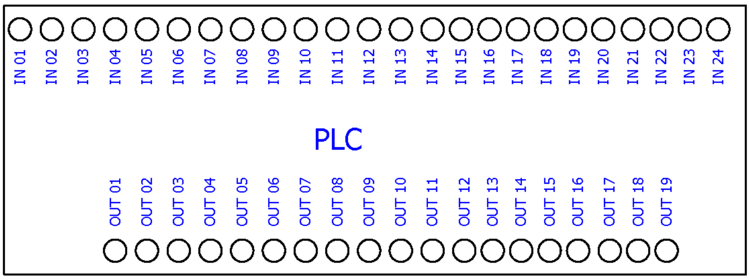
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno

Stroj/Machine/Maschine: Individual 620.460 (D)GH

Název stránky/Name page/Name seiten: I/O řídící systém / I/O Control station / I/O Steuerung

Č.proj./Project/Projekt: ESN430-202V6.1
Napájení/Power supply/Einspeisung: 3x400V+PE, 50Hz
Datum/Date/Datum: 31.1.2013
Zpracoval/Processed/Hat verarbeitet: HALFAR
List: 02
Listů: 19

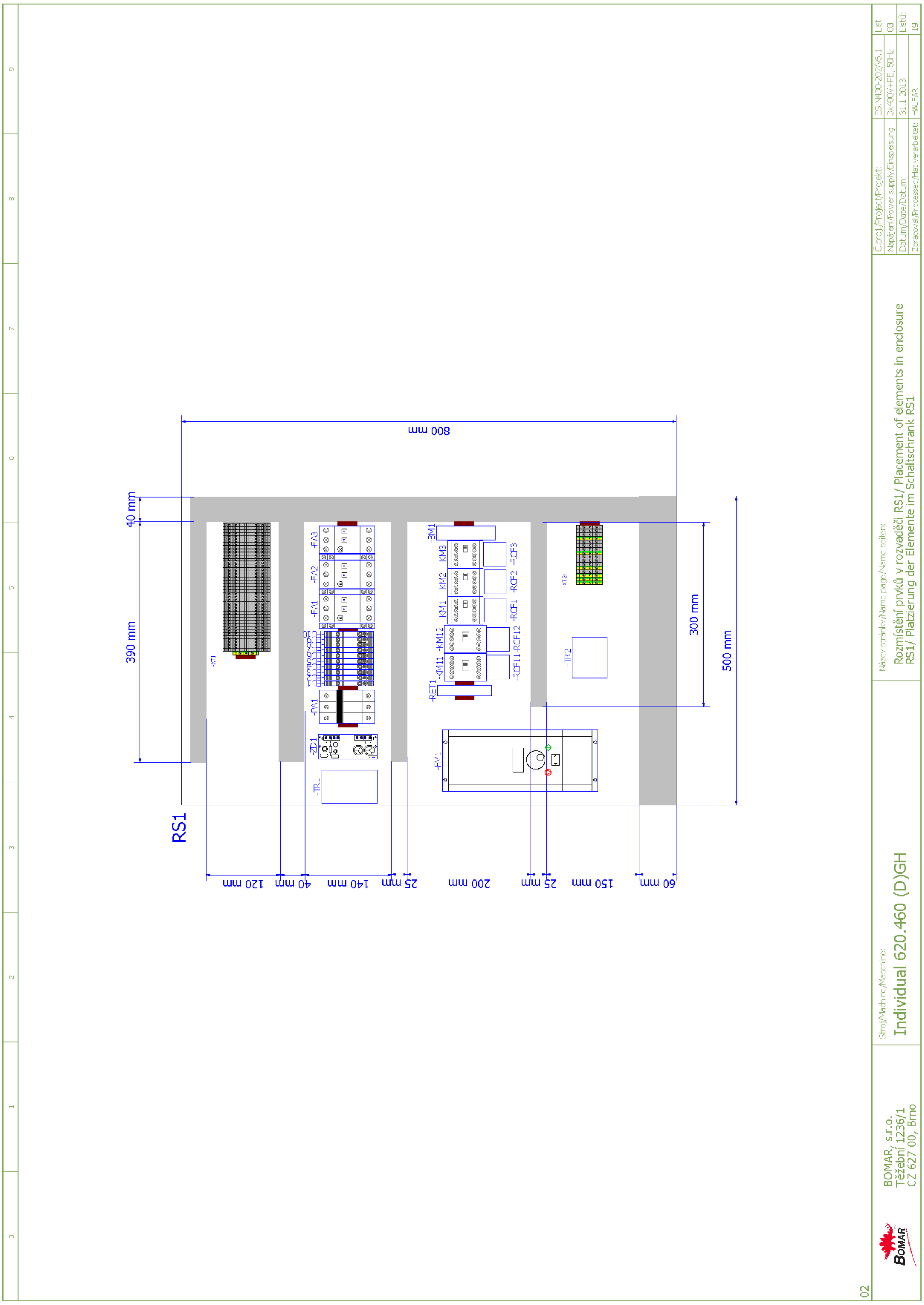
Individual 720.540 (D)GH

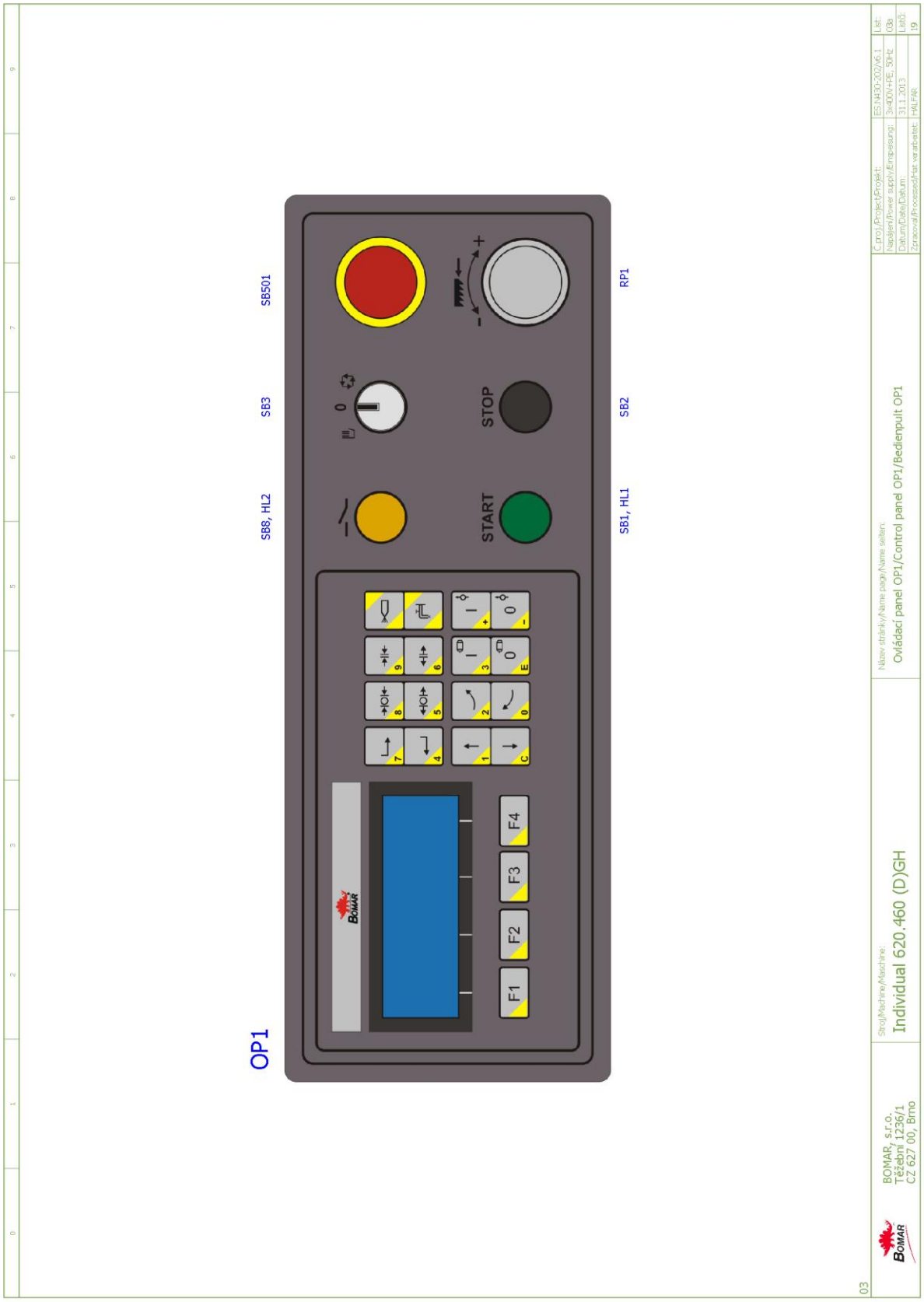


Pohled ze spodu/From under view/Blick nach

HW	
FW	

I/O	CZE	ENG	DE
IN 01	Svěrák upnut	Vice is clamped	Schraubstock ist gespannt
IN 02	Rameno dole	Arm is down	Rahmen ist unten
IN 03	Rameno nahoře	Arm is up	Rahmen ist oben
IN 04	Napnutí pásu	Blade tension	Bandspannung
IN 05	Motory OK	Motors OK	Motoren OK
IN 06	Bezpečnostní okruh uzavřen	Safety circle shut down	Sicherheitsschaltung gesperrt
IN 07	Tlačítko TOTAL STOP	Button TOTAL STOP	Taste TOTAL STOP
IN 08	Tlačítko START	Button START	Taste START
IN 09	Tlačítko STOP	Button STOP	Taste STOP
IN 10	MANUAL	MANUAL	MANUAL
IN 11	CYKLUS	CYCLE	ZYKLUS
IN 12	NC	NC	NC
IN 13	NC	NC	NC
IN 14	NC	NC	NC
IN 15	NC	NC	NC
IN 16	NC	NC	NC
IN 17	NC	NC	NC
IN 18	NC	NC	NC
IN 19	Tlačítko napnout pás	Button band tension	Taste band spannen
IN 20	Tlačítko povolit pás	Button band release	Taste band lösen
IN 21	Tlačítko rameno nahoru	Button arm up	Taste Rahmen nach oben
IN 22	NC	NC	NC
IN 23	Přítlak upnut	Upper vice is clamped	Ober Schraubstock ist gespannt
IN 24	NC	NC	NC
OUT 01+ / OUT 01-	Start FM1	Start FM1	Start FM1
OUT 02+ / OUT 02-	NC	NC	NC
OUT 03+ / OUT 03-	NC	NC	NC
OUT 04	Motor chlazení	Coolant pump	Motor Kühlung
OUT 05	Čerpadlo hydrauliky	Hydraulic pump	Hydraulikpumpe
OUT 06	2.stupeň hydrauliky	Second level of hydraulic pump	Hydraulikpumpe 2.Stufe
OUT 07	Svěrák upnout	Vice clamp	Schraubstock spannen
OUT 08	Svěrák povolit	Release vice	Schraubstock lösen
OUT 09	Svěrák doleva	Vice to the left	Schraubstock nach links
OUT 10	Svěrák doprava	Vice to the right	Schraubstock nach rechts
OUT 11	Rameno nahoru	Arm up	Rahmen nach oben
OUT 12	Rameno dolů	Arm down	Rahmen nach unten
OUT 13	Rameno rychle	Arm fast	Rahmen schnell
OUT 14	Přítlak upnout	Upper vice clamp	Ober Schraubstock spannen
OUT 15	Přítlak povolit	Release upper vice	Ober Schraubstock lösen
OUT 16	Napnout pás	Sawblade tension	Spannen des Sägebandes
OUT 17	Uvolnit pás	Sawblade leave	Entspannen des Sägebandes
OUT 18	Mikronizer	Microniser	Mikronizer
OUT 19	Kontrolka start	Indicator start	Kontrollicht start


RS1
800 mm
40 mm
390 mm
300 mm
500 mm
120 mm
40 mm
140 mm
25 mm
200 mm
25 mm
150 mm
60 mm
-XT1
-FA3
-FA2
-FA1
-PA1
-ZD1
-TR1
-BM1
-KM3
-KM2
-KM1
-KM12
-KM11
-RET1
-RCF3
-RCF2
-RCF1
-RCF11-RCF12
-FM1
-XT2
-TR2
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Rozmístění prvků v rozvaděči RS1/ Placement of elements in enclosure
RS1/ Platzierung der Elemente im Schaltschrank RS1
Č.proj./Project/Projekt: ES-N430-202/V6.1
Napájení/Power supply/Einspeisung: 3x400V+PE, 50Hz
Datum/Date/Datum: 31.1.2013
Zpracoval/Processed/Hat verarbeitet: HALFAR
List: 03
Listů: 19
02


OP1
SB8, HL2
SB3
SB501
SB1, HL1
SB2
RP1
START
STOP
F1
F2
F3
F4
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Ovládací panel OP1/Control panel OP1/Bedienpult OP1
Č.proj./Projekt/Projekt:
ES.N430-202/v6.1
Napájení/Power supply/Einspeisung:
3x400V+PE, 50Hz
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Zpracoval/Processed/hat verarbeitet:
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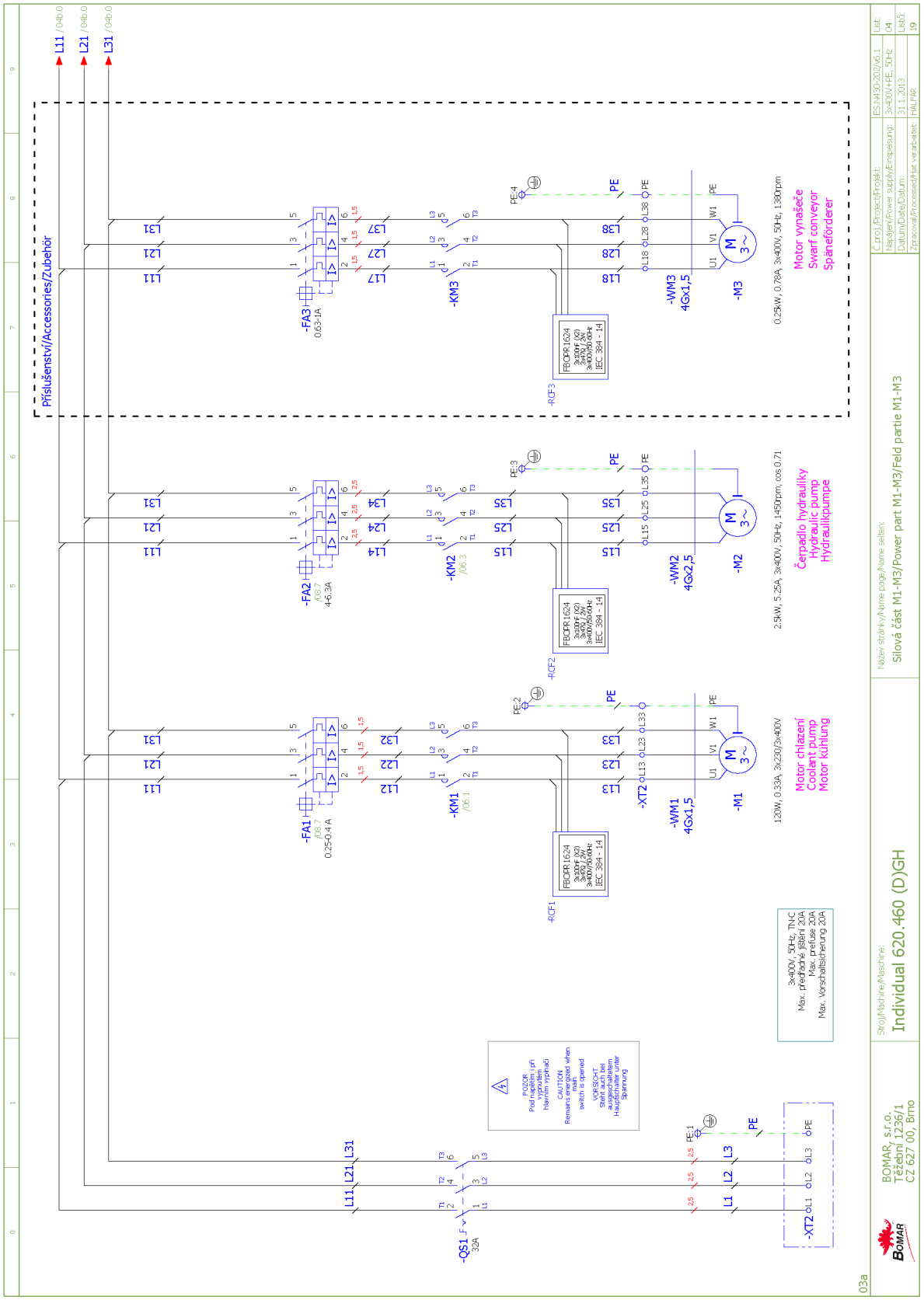
Listů:
19
03


Příslušenství/Accessories/Zubehör
L11 /04b.0
L21 /04b.0
L31 /04b.0
-FA3 0.63-1A
-KM3
-WM3 4Gx1,5
-M3
0.25kW, 0.78A, 3x400V, 50Hz, 1390rpm
Motor vynašeče
Swarf conveyor
Späneförderer
-FA2 /08.7 4-6.3A
-KM2 /06.3
-WM2 4Gx2,5
-M2
2.5kW, 5.25A, 3x400V, 50Hz, 1450rpm, cos 0.71
Čerpadlo hydrauliky
Hydraulic pump
Hydraulikpumpe
-FA1 /08.7 0.25-0.4 A
-KM1 /06.1
-WM1 4Gx1,5
-M1
120W, 0.33A, 3x230/3x400V
Motor chlazení
Coolant pump
Motor kühlung
-XT2
-QS1 32A
3x400V, 50Hz, TN-C
Max. předřazené jištění 20A
Max. prefuse 20A
Max. Vorschalsicherung 20A
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
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Č.proj./Projekt/Projekt:
ES.M430-202/v6.1
Napájení/Power supply/Einspeisung:
3x400V+PE, 50Hz
Datum/Date/Datum:
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Zpracoval/Processed/Hat verarbeitet:
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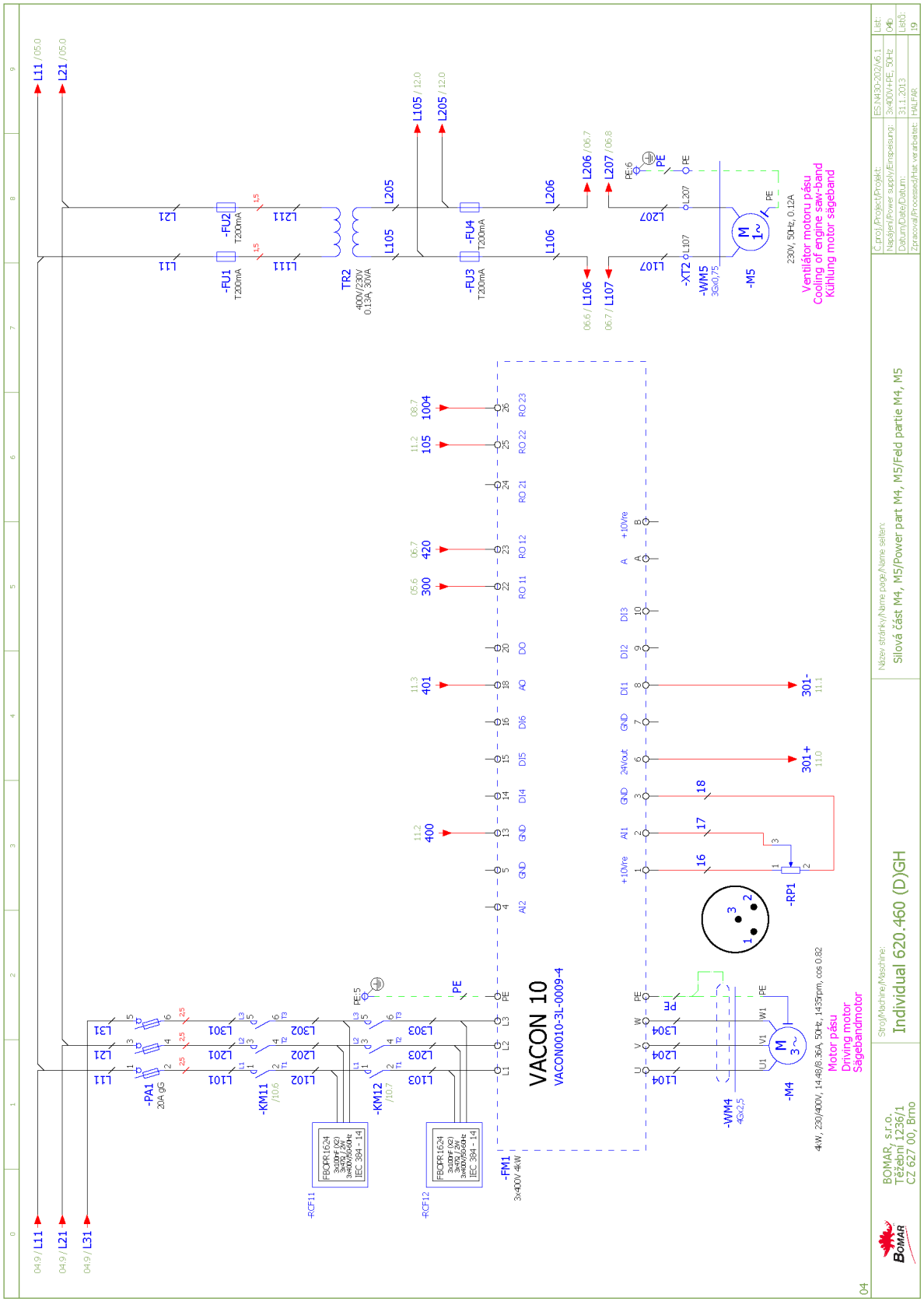
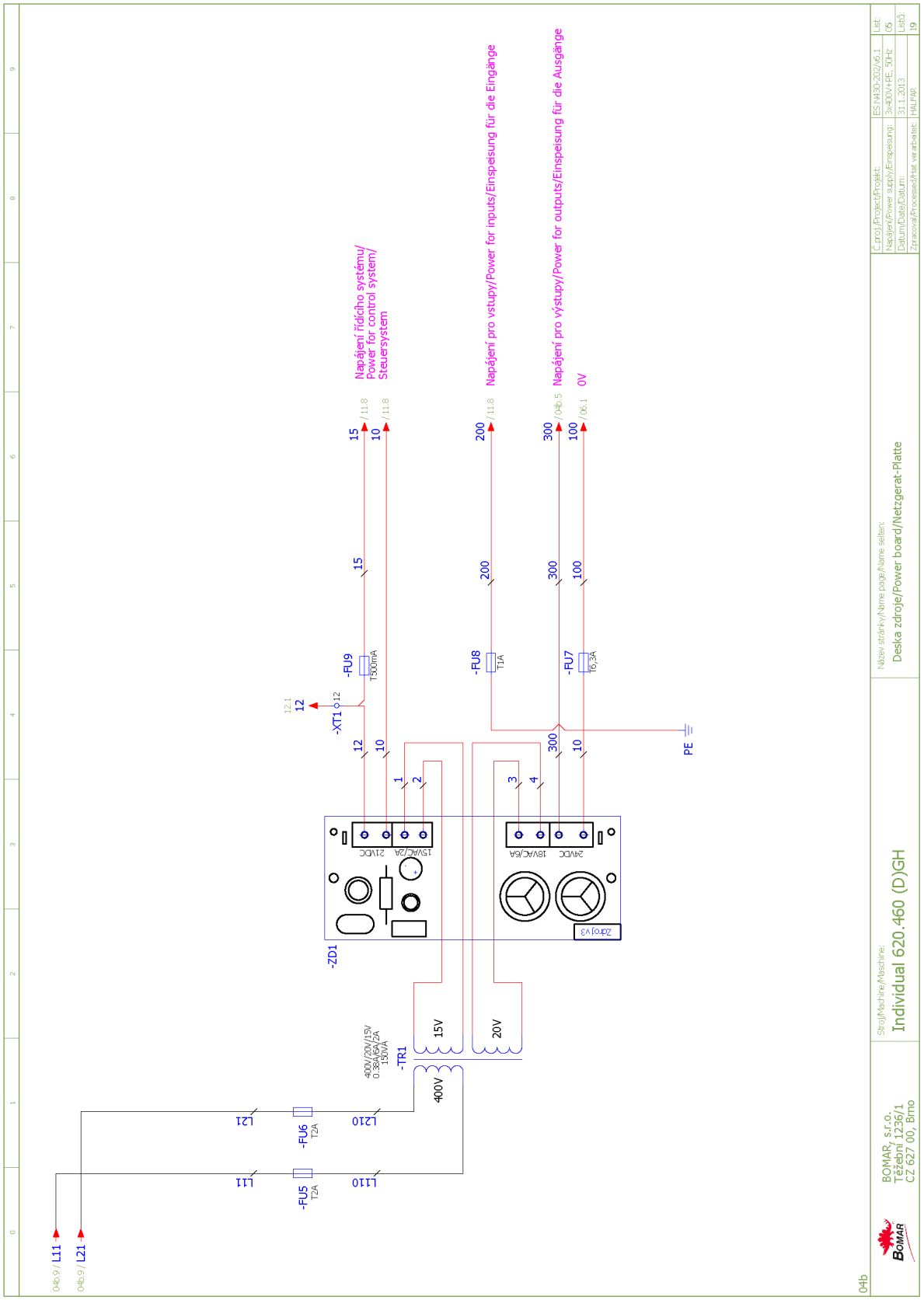
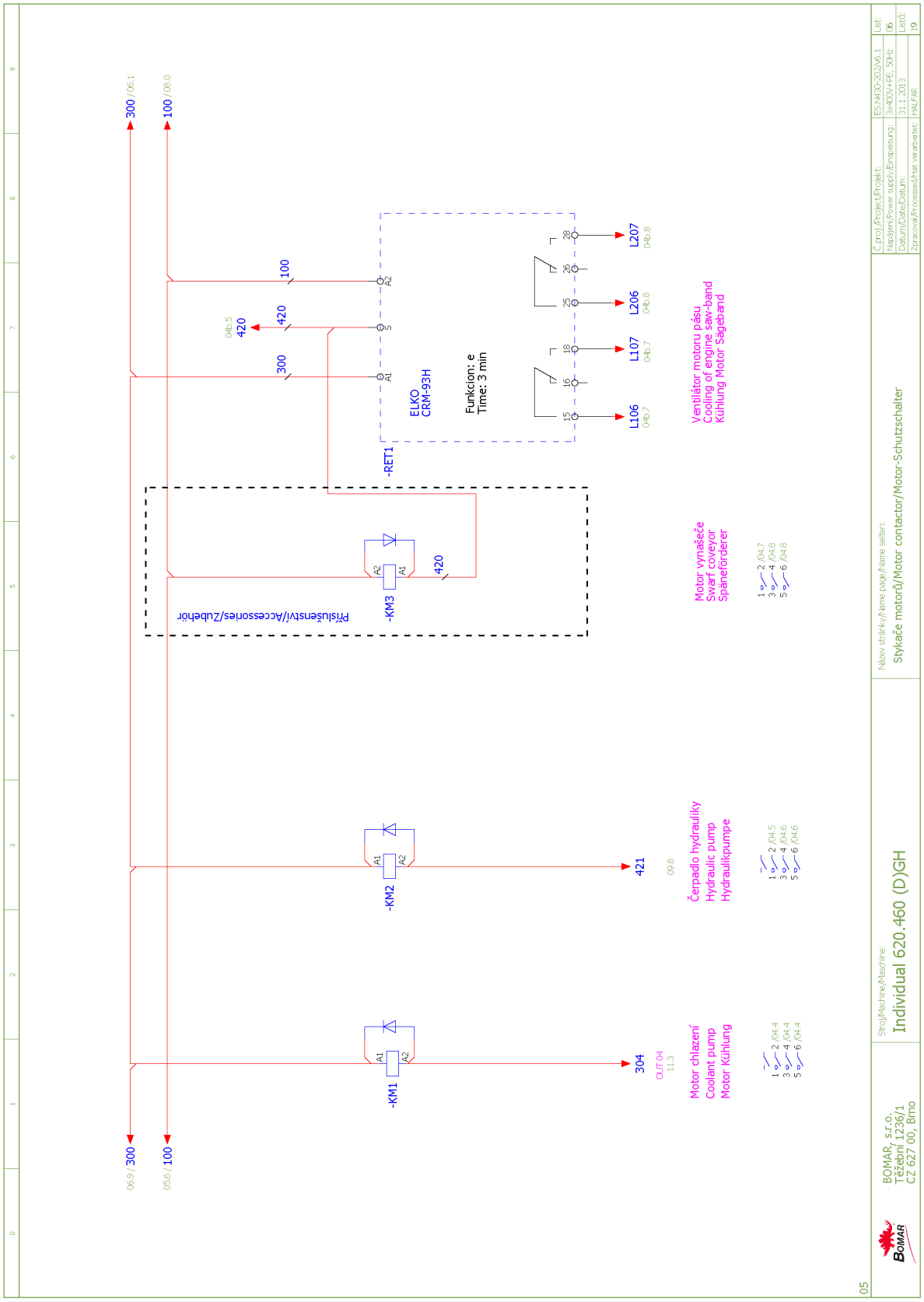
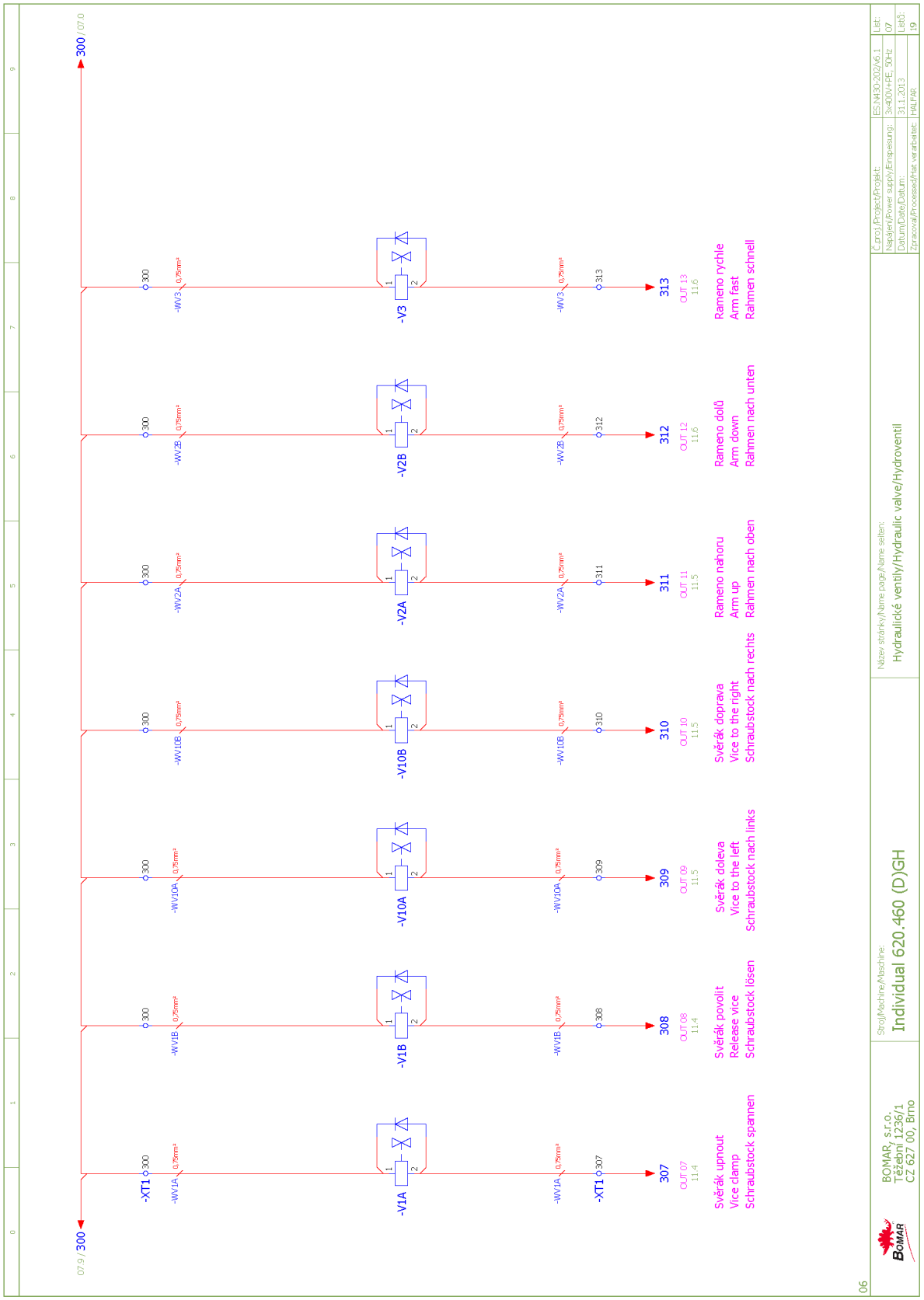
List:
04
Listů:
19
03a

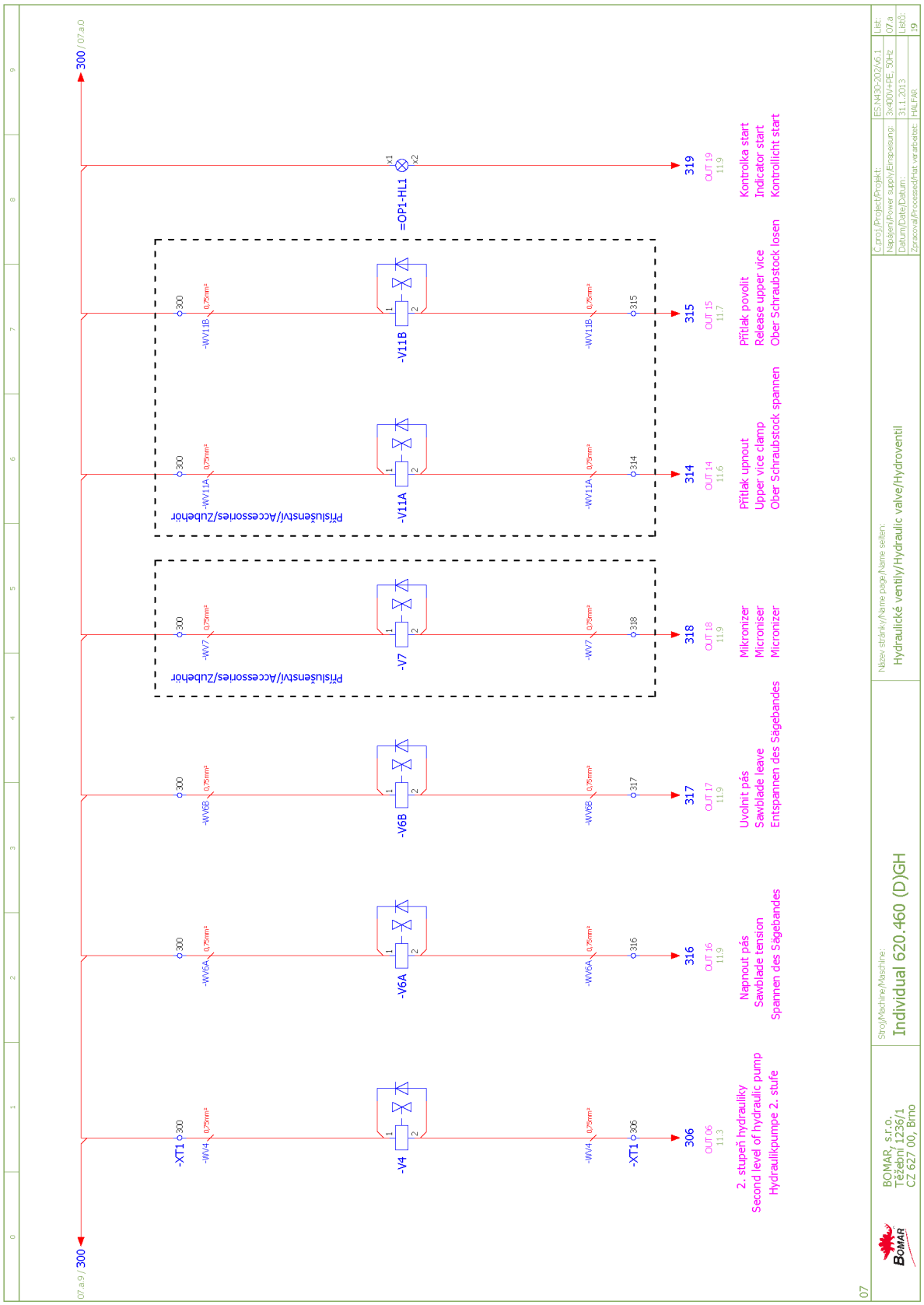


Manual version: 1.40 / Feb. 2013
Manual rev.: 1

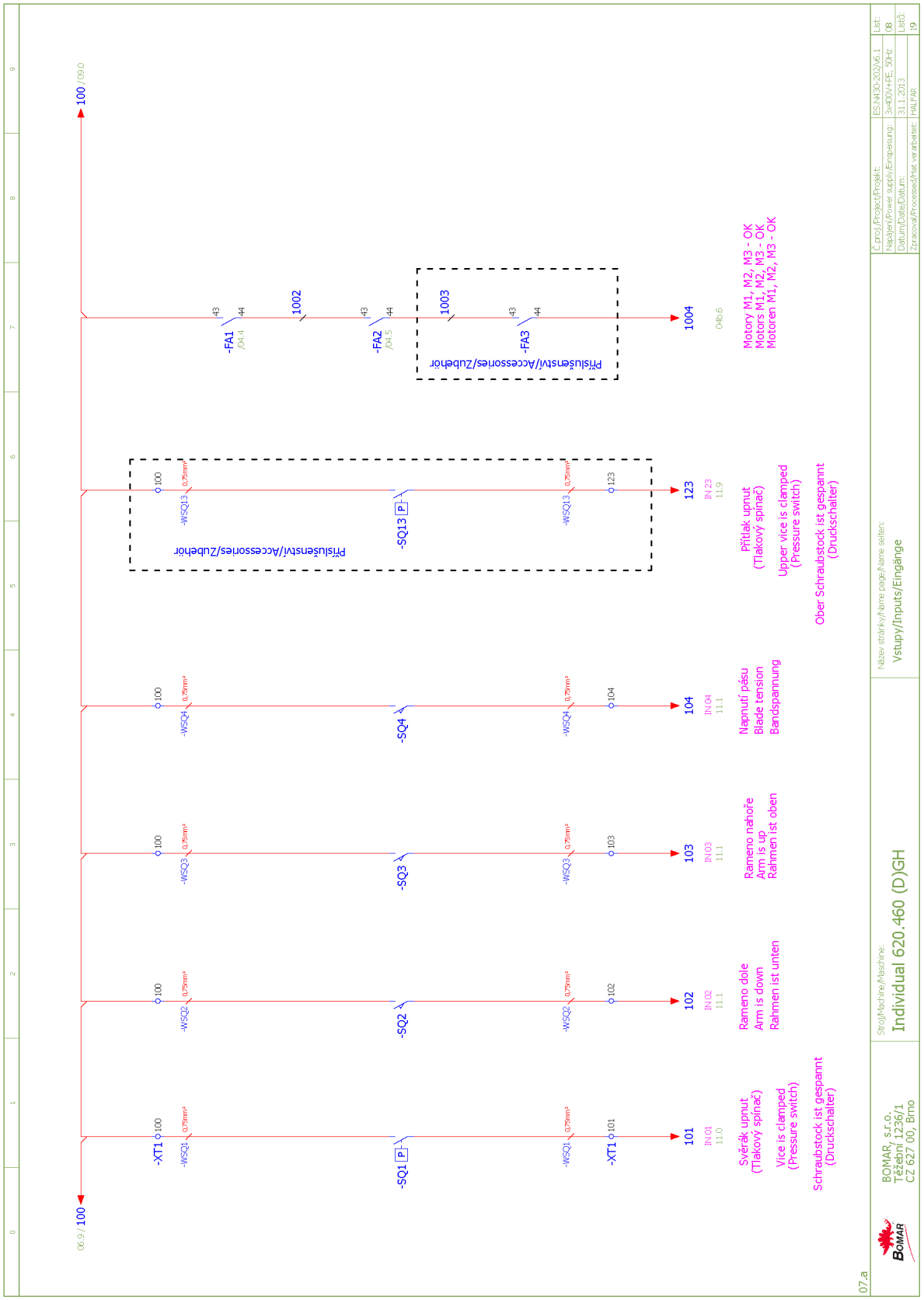

Napájení řídícího systému/
Power for control system/
Steuersystem
Napájení pro vstupy/Power for inputs/Einspeisung für die Eingänge
Napájení pro výstupy/Power for outputs/Einspeisung für die Ausgänge
0V
PE
-XT1
-FU9
T500mA
-FU8
T1A
-FU7
T6,3A
-FU5
T2A
-FU6
T2A
-TR1
400V/230V/15V
0.38A/0A/2A
15VA
-ZD1
15V
20V
400V
15VAC/2A
21VDC
18VAC/6A
24VDC
Zdroj v3
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Deska zdroje/Power board/Netzgerat-Platte
Č.proj./Project/Projekt:
ES.N430-202/v6.1
Napájení/Power supply/Einspeisung:
3x400V+PE, 50Hz
Datum/Date/Datum:
31.1.2013
Zpracoval/Processed/Hat verarbeitet:
HALFAR
List:
05
Listů:
19
04b

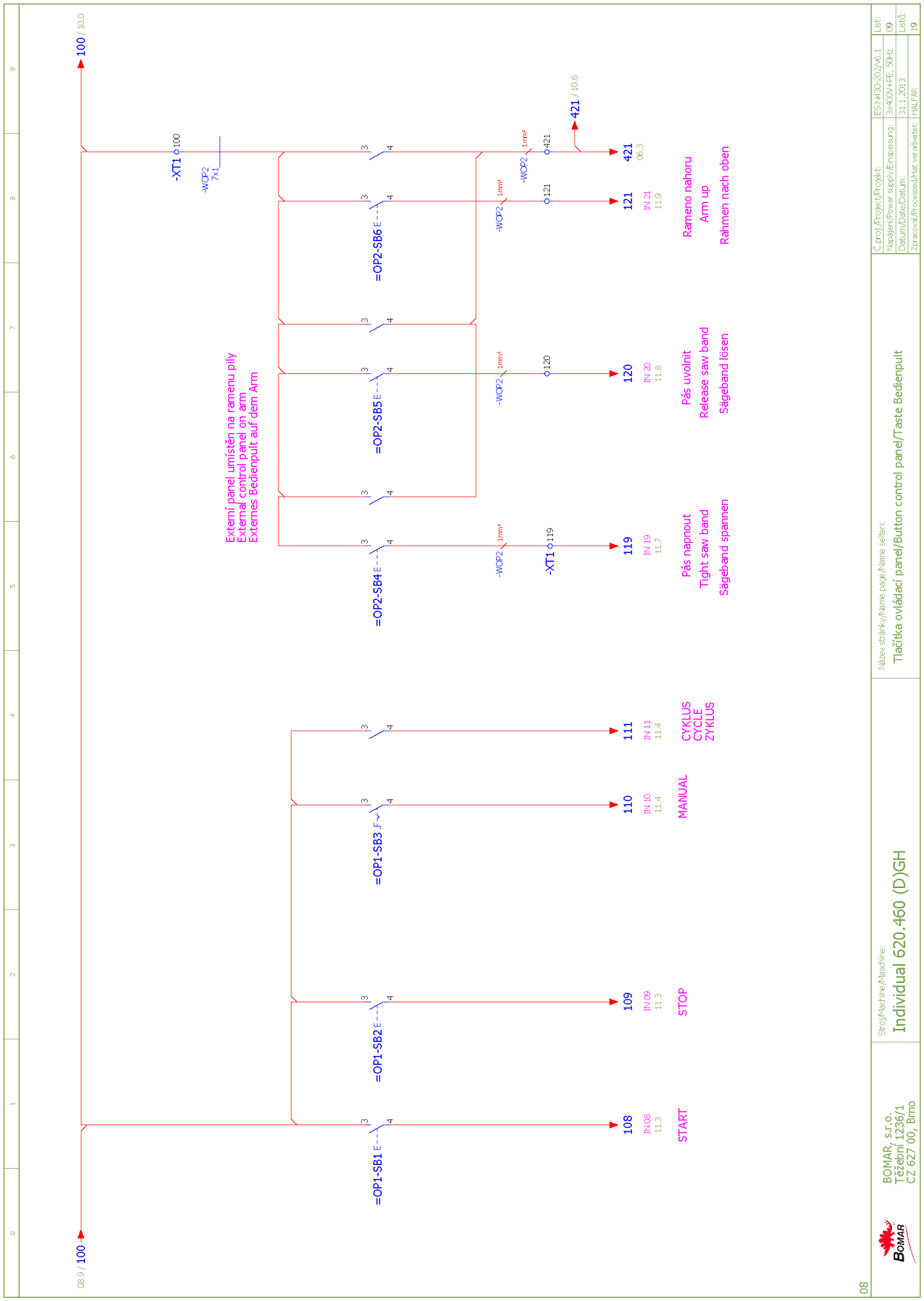

300 /06.1
100 /08.0
06.9 / 300
05.6 / 100
-KM1
-KM2
-KM3
-RET1
ELKO
CRM-93H
Funkcion: e
Time: 3 min
Příslušenství/Accessories/Zubehör
Čerpadlo hydrauliky
Hydraulic pump
Hydraulikpumpe
Motor chlazení
Coolant pump
Motor Kühlung
Motor vynašeče
Swarf conveyor
Spaneförderer
Ventilátor motoru pásu
Cooling of engine saw-band
Kühlung Motor Sägeband
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Stykače motorů/Motor contactor/Motor-Schutzschalter
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno

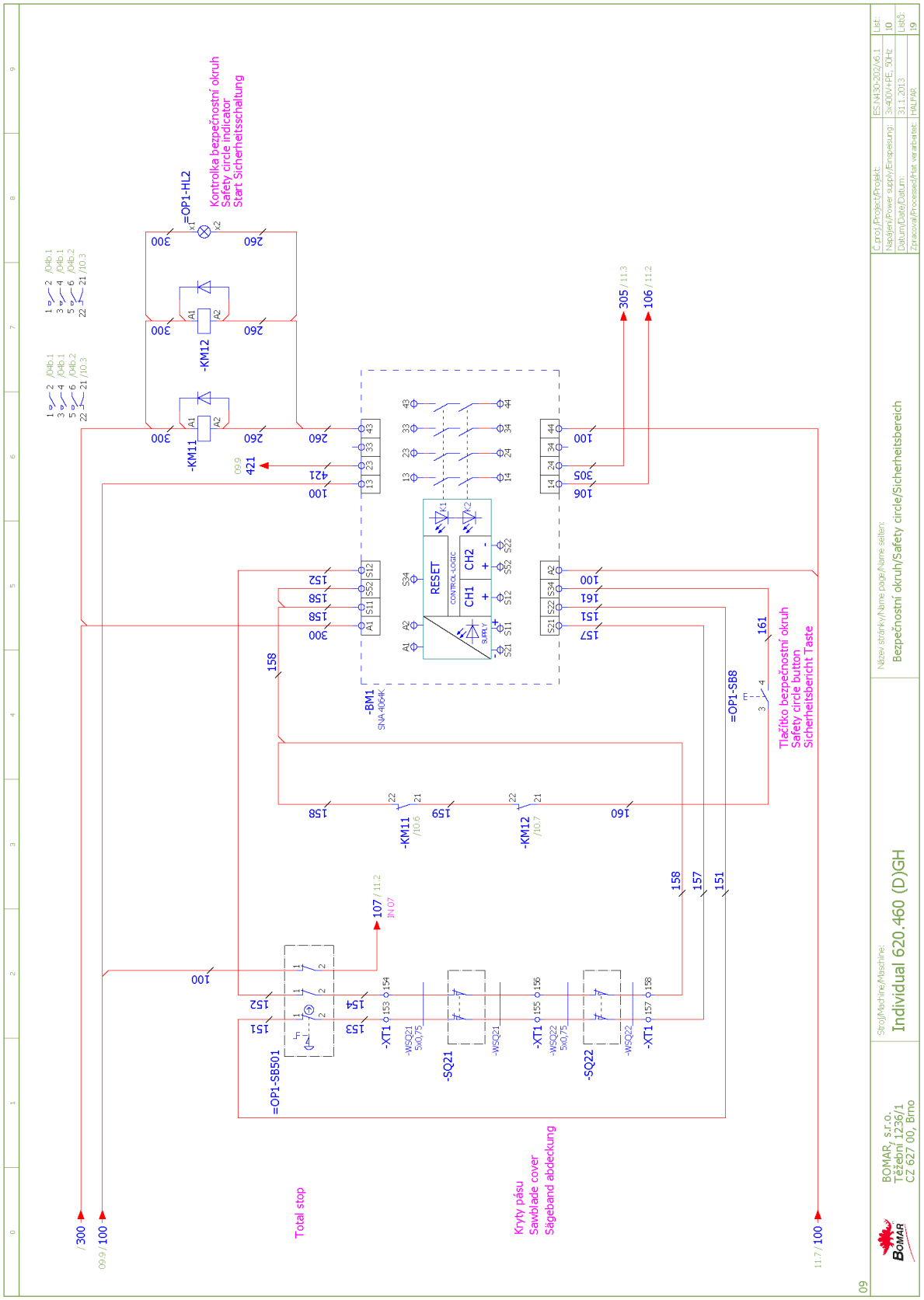

300 / 07.0
07.9 / 300
-XT1
-V1A
-V1B
-V10A
-V10B
-V2A
-V2B
-V3
307
308
309
310
311
312
313
Svěrák upnout
Vice clamp
Schraubstock spannen
Svěrák povolit
Release vice
Schraubstock lösen
Svěrák doleva
Vice to the left
Schraubstock nach links
Svěrák doprava
Vice to the right
Schraubstock nach rechts
Rameno nahoru
Arm up
Rahmen nach oben
Rameno dolů
Arm down
Rahmen nach unten
Rameno rychle
Arm fast
Rahmen schnell
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Hydraulické ventily/Hydraulic valve/Hydroventil
Č.proj./Project/Projekt:
ES.N430-202/v6.1
Napájení/Power supply/Einspeisung:
3x400V+PE, 50Hz
Datum/Date/Datum:
31.1.2013
Zpracoval/Processed/Hat verarbeitet:
HALFAR
List:
07
Listů:
19
06

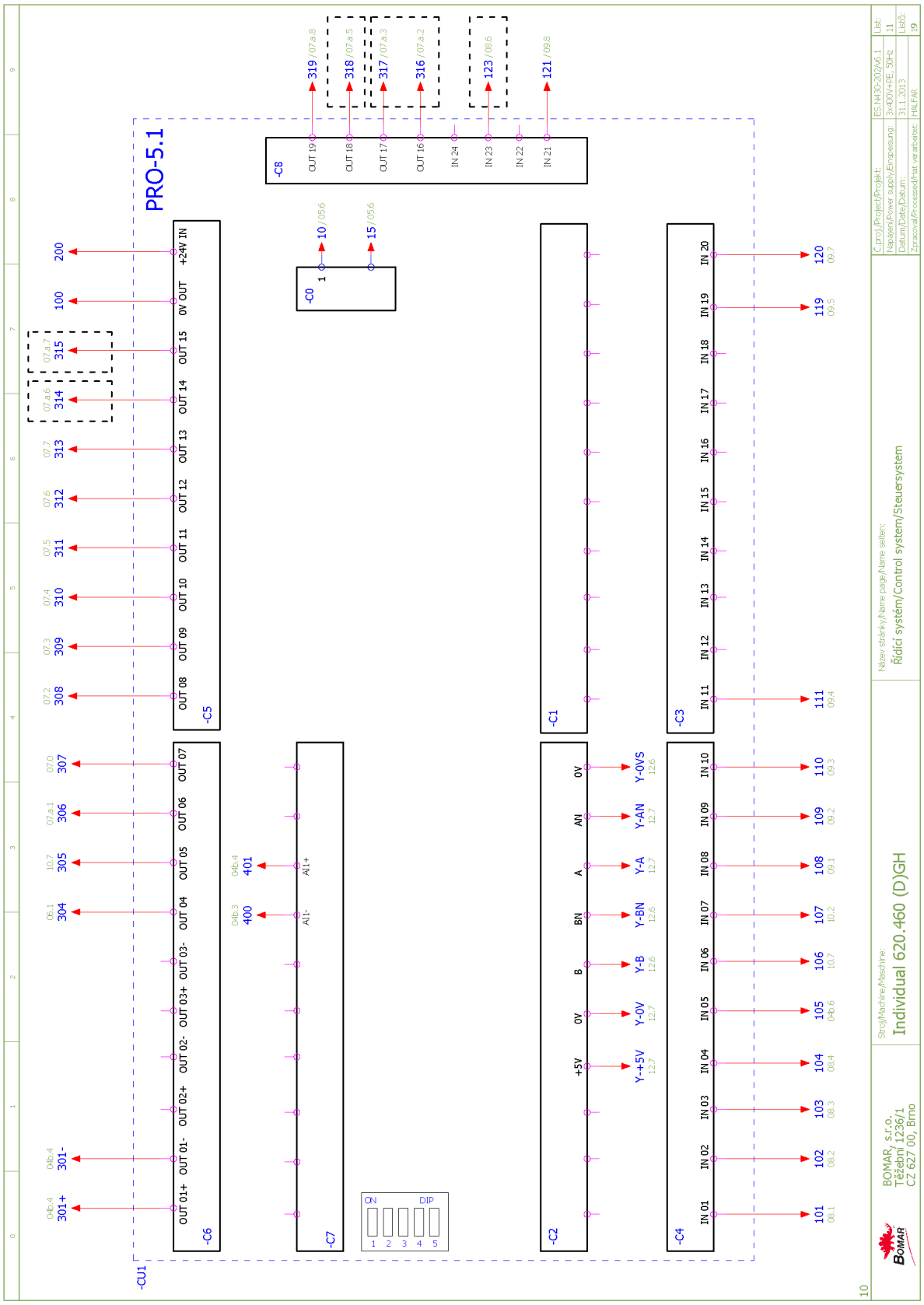


Manual version: 1.40 / Feb. 2013
Manual rev.: 1

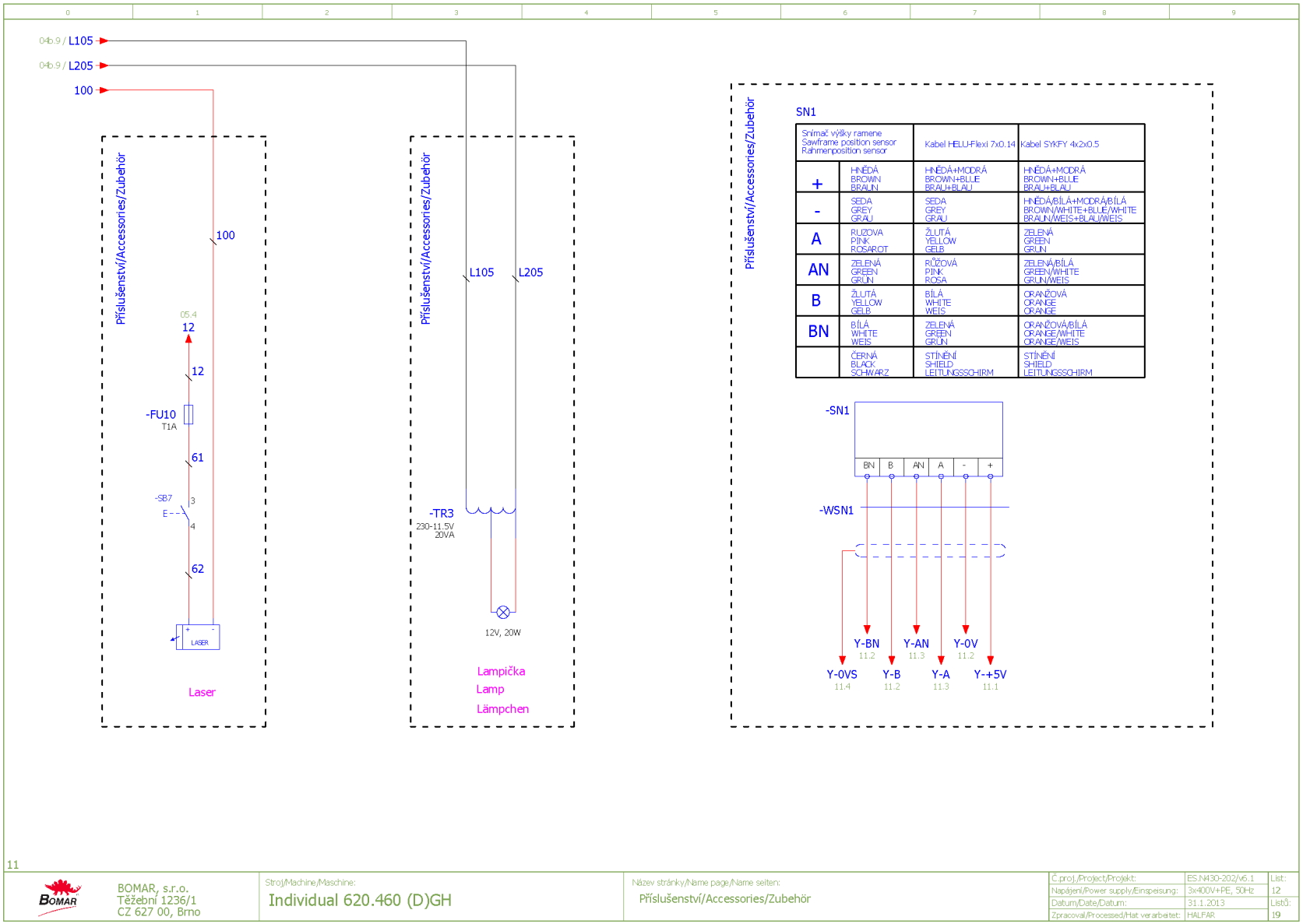

100 /09.0
-XT1
-WSQ1
-SQ1
101
Svěrák upnut (Tlakový spínač)
Vice is clamped (Pressure switch)
Schraubstock ist gespannt (Druckschalter)
-WSQ2
-SQ2
102
Rameno dole
Arm is down
Rahmen ist unten
-WSQ3
-SQ3
103
Rameno nahoře
Arm is up
Rahmen ist oben
-WSQ4
-SQ4
104
Napnutí pásu
Blade tension
Bandspannung
-WSQ13
-SQ13
123
Přítlak upnut (Tlakový spínač)
Upper vice is clamped (Pressure switch)
Ober Schraubstock ist gespannt (Druckschalter)
Příslušenství/Accessories/Zubehör
-FA1
-FA2
-FA3
1002
1003
1004
Motory M1, M2, M3 - OK
Motors M1, M2, M3 - OK
Motoren M1, M2, M3 - OK
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Vstupy/Inputs/Eingänge
Č.proj./Project/Projekt:
ES.N430-202/v6.1
Napájení/Power supply/Einspeisung:
3x400V+PE, 50Hz
Datum/Date/Datum:
31.1.2013
Zpracoval/Processed/Hat verarbeitet:
HALFAR
List:
18
Listů:
19
07.a


100 / 10.0
-XT1 100
-WOP2 7x1
=OP1-SB1
=OP1-SB2
=OP1-SB3
=OP2-SB4
=OP2-SB5
=OP2-SB6
108
109
110
111
119
120
121
421
START
STOP
MANUAL
CYKLUS
CYCLE
ZYKLUS
Pás napnout
Tight saw band
Sägeband spannen
Pás uvolnit
Release saw band
Sägeband lösen
Rameno nahoru
Arm up
Rahmen nach oben
Externí panel umístěn na rameni pily
External control panel on arm
Externes Bedienpult auf dem Arm
-XT1 119
-XT1 120
-XT1 121
-XT1 421
421 / 10.6
06.9 / 100
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Tlačítka ovládací panel/Button control panel/Taste Bedienpult
ES:IN430-202/v6.1
3x400V+PE, 50Hz
31.1.2013
HALFAR
List: 09
List/3: 19


=OP1-HL2
Kontrolka bezpečnostní okruh
Safety circle indicator
Start Sicherheitsschaltung
-KM12
-KM11
-BM1
SNA 4064K
RESET
CONTROL-LOGIC
CH1
CH2
=OP1-SB8
Tlačítko bezpečnostní okruh
Safety circle button
Sicherheitsbericht Taste
=OP1-SB501
-XT1
-SQ21
-SQ22
Total stop
Kryty pásu
Saviblade cover
Sägeband abdeckung
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Bezpečnostní okruh/Safety circle/Sicherheitsbereich
Individual 620.460 (D)GH



Manual version: 1.40 / Feb. 2013
Manual rev.: 1



Schémata
Schemas
Schematics

Parts list

Device tag	Device type	Type number	Manufacturer	Part number	Quantity	Page
-RCF1	RCF filter	FBOPR1624		91.041.015	1	/04.3
-RCF2	RCF filter	FBOPR1624		91.041.015	1	/04.4
-RCF11	RCF filter	FBOPR1624		91.041.015	1	/04b.0
-RCF12	RCF filter	FBOPR1624		91.041.015	1	/04b.0
-RP1	Potentiometer 5k	TP195 4x7/N20A		91.283.015	1	/04b.3
=OP1-SB501	Emergency-stop mushroom push-button + 3xNC	YW1B-V4E02R		91.060.084	1	/10.2
-ZD1	Power supply unit - 15VAC/24VDC; 20VAC/28VDC	ZDR-03	Bomar	265.915	1	/05.2
-KM1	Contactor - 4kW, 9A, 3NO+1NO, 24VDC	DILEM-10-G(24VDC)	EATON	91.040.020	1	/06.1
-KM2	Contactor - 4kW, 9A, 3NO+1NO, 24VDC	DILEM-10-G(24VDC)	EATON	91.040.020	1	/06.3
-KM11	Contactor - 5,5kW, 12A, 3NO+1NC, 24VDC	DILM12-01(24VDC)	EATON	91.040.025	1	/10.6
-KM12	Contactor - 5,5kW, 12A, 3NO+1NC, 24VDC	DILM12-01(24VDC)	EATON	91.040.025	1	/10.7
=OP1-HL1	Green light for Eaton adapter	M22-LED-G	EATON	91.061.023	1	/07.a.8
=OP1-HL2	White light for Eaton adapter	M22-LED-W	EATON	91.061.034	1	/10.8
=OP1-SB1	Green translucent switch head	M22-DL-G	EATON	91.060.031	1	/09.1
=OP1-SB1	Attaching adapter + NO contact	M22-AK10	EATON	91.061.021	1	/09.1
=OP1-SB2	Attaching adapter + NO contact	M22-AK10	EATON	91.061.021	1	/09.2
=OP1-SB2	Black switch head	M22-D-S	EATON	91.060.035	1	/09.2
=OP1-SB3	Head of 3 positional switch	M22-WRK3	EATON	91.060.051	1	/09.3
=OP1-SB3	NO contact for Eaton adapter	M22-K10	EATON	91.061.022	1	/09.3
=OP1-SB3	Attaching adapter + NO contact	M22-AK10	EATON	91.061.021	1	/09.3
=OP1-SB8	Attaching adapter + NO contact	M22-AK10	EATON	91.061.021	1	/10.4
=OP1-SB8	Yellow translucent switch head	M22-DL-Y	EATON	91.060.053	1	/10.4
=OP2-SB4	Black switch head	M22-D-S	EATON	91.060.035	1	/09.5
=OP2-SB4	NO contact	M22-KC10	EATON	91.061.030	2	/09.5
=OP2-SB4	Pushbutton fingerboard - arrow	M22-XD-S-X7	EATON	91.062.002	1	/09.5
=OP2-SB4	Box - 3 holes	M22-I3 IP66	EATON	91.190.052	1	/09.5
=OP2-SB5	NO contact	M22-KC10	EATON	91.061.030	2	/09.7
=OP2-SB5	Black switch head	M22-D-S	EATON	91.060.035	1	/09.7

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Parts list

Device tag	Device type	Type number	Manufacturer	Part number	Quantity	Page
=OP2-SB5	Pushbutton fingerboard - arrow	M22-XD-S-X7	EATON	91.062.002	1	/09.7
=OP2-SB6	Pushbutton fingerboard - arrow	M22-XD-S-X7	EATON	91.062.002	1	/09.8
=OP2-SB6	NO contact	M22-KC10	EATON	91.061.030	2	/09.8
=OP2-SB6	Black switch head	M22-D-S	EATON	91.060.035	1	/09.8
-TR2	Transformer 400V/230V, 0.13A, 30VA	JOC E2520-0022	ELEKTROKOV	91.080.027	1	/04b.8
-FU1	Tube fuse - 200mA/250V, slow, 5x20	T200mA/250V	ESKA	91.230.037	1	/04b.8
-FU2	Tube fuse - 200mA/250V, slow, 5x20	T200mA/250V	ESKA	91.230.037	1	/04b.8
-FU3	Tube fuse - 200mA/250V, slow, 5x20	T200mA/250V	ESKA	91.230.037	1	/04b.8
-FU4	Tube fuse - 200mA/250V, slow, 5x20	T200mA/250V	ESKA	91.230.037	1	/04b.8
-FU5	Tube fuse - 2A/250V, slow, 5x20	T2A/250V	ESKA	91.230.001	1	/05.0
-FU6	Tube fuse - 2A/250V, slow, 5x20	T2A/250V	ESKA	91.230.001	1	/05.1
-FU7	Tube fuse - 6,3A/250V, slow, 5x20	T6,3A/250V	ESKA	91.230.002	1	/05.4
-FU8	Tube fuse - 1A/250V, slow, 5x20	T1A/250V	ESKA	91.230.003	1	/05.4
-FU9	Tube fuse - 500mA/250V, slow, 5x20	T500mA/250V	ESKA	91.230.011	1	/05.4
-FU10	Tube fuse - 1A/250V, slow, 5x20	T1A/250V	ESKA	91.230.003	1	/12.1
-M1	Pump - 120W, 230/400V	4C0A4-12H	EmP	91.020.015	1	/04.4
-TR1	Toroidal transformer - 0-230-400V/20V/15V, 0.65-0.38A/6A/2A, 150VA	1502304002015	KARBAN s.r.o.	91.080.026	1	/05.1
-SQ21	Safety limit switch, 2xNC	QKS8	KEDU	91.173.012	1	/10.2
-SQ22	Safety limit switch, 2xNC	QKS8	KEDU	91.173.012	1	/10.2
-PA1	Fuse case for cylindric fuse 10x38mm - 3P, size 10	OPV10/3	OEZ	91.241.002	1	/04b.1
-PA1	Cylindric fuse - 20A, 10x38, fast, gG charakteristic	PV10 20A gG	OEZ	91.230.038	3	/04b.1
-SQ2	Limit switch - 1NO + 1NC, roller, M2, snap action	FR 605-M2	PIZZATO	91.173.009	1	/08.2
-SQ3	Limit switch - 1NO + 1NC, roller, M2, snap action	FR 605-M2	PIZZATO	91.173.009	1	/08.3
-SQ4	Limit switcher - 1NO + 1NC, large adjustable roller, M2, snap action	FR 555-M2	PIZZATO	91.173.018	1	/08.4
-FA1	Motor-overcurrent circuit breaker 0.25-0.4A	GZ1M03	SCHNEIDER	91.235.022	1	/04.4
-FA1	Auxiliary contact of MOCB - 1xNO+1xNC	GZ1AN11	SCHNEIDER	91.046.004	1	/04.4
-FA2	Motor-overcurrent circuit breaker 4-6.3A	GZ1M10	SCHNEIDER	91.235.026	1	/04.5
-FA2	Auxiliary contact of MOCB - 1xNO+1xNC	GZ1AN11	SCHNEIDER	91.046.004	1	/04.5

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

Stroj/Machine/Maschine:
Individual 620.460 (D)GH

Název stránky/Name page/Name seiten:
Kusovník artiklů/ Parts list/ Artikelstückliste

Č.proj./Project/Projekt:	ES.N430-202/v6.1	List:
Napájení/Power supply/Einspeisung:	3x400V+PE, 50Hz	13.a
Datum/Date/Datum:	31.1.2013	Listů:
Zpracoval/Processed/Hat verarbeitet:	HALFAR	19

Parts list

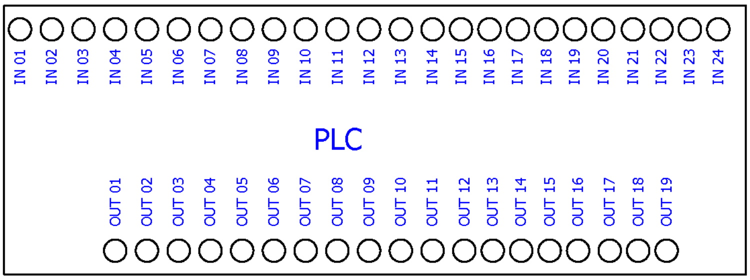
Device tag	Device type	Type number	Manufacturer	Part number	Quantity	Page
-QS1	Main switch 3P, 32A	VCF1-32A	SCHNEIDER	91.170.012	1	/04.0
-BM1	Safety relay - 4xNO	SNA 4064K	WIELAND	91.051.026	1	/10.4
-CU1	PRO-4.3	PRO-4.3	Bomar	265.917	1	/11.0
-FM1	Frequency converter - 4kW, 3x400V	VACON0010-3L-0009-4	VACON	91.012.062	1	/04b.1
-RET1	Multifunction time relay	CRM-93H/UNI	ELKO	91.051.031	1	/06.6
-FU1	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/04b.8
-FU2	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/04b.8
-FU3	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/04b.8
-FU4	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/04b.8
-FU5	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.0
-FU6	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.1
-FU7	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.4
-FU8	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.4
-FU9	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.4
-FU10	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/12.1
-M5	Cooling ventilator - 230V, 50Hz, 0.12A	RAH1278B1-C	XFAN	91.015.105	1	/04b.8

13.a

6.2. Elektrické schema / Elektroschema / Wiring diagrams – 3×400 V, TN-C, 2S, 50 Hz

Obsah/ Table of contents/ Inhaltsverzeichnis

Individual 620.460 (D)GH



HW	
FW	

Pohled ze spodu/From under view/Blick nach

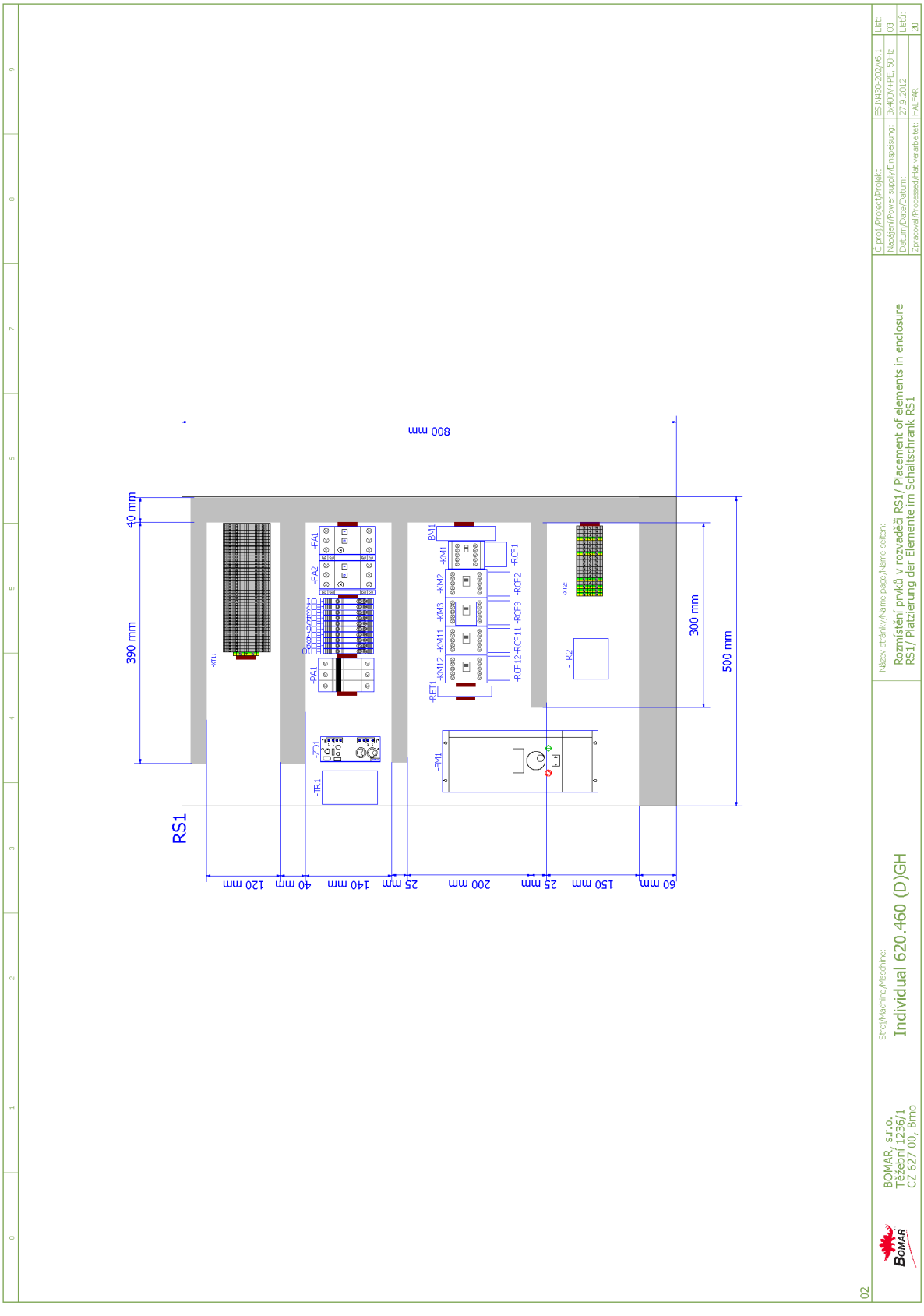
I/O	CZE	ENG	DE
IN 01	Svěrák upnut	Vice is clamped	Schraubstock ist gespannt
IN 02	Rameno dole	Arm is down	Rahmen ist unten
IN 03	Rameno nahoře	Arm is up	Rahmen ist oben
IN 04	Napnutí pásu	Blade tension	Bandspannung
IN 05	Motory OK	Motors OK	Motoren OK
IN 06	Bezpečnostní okruh uzavřen	Safety circle shut down	Sicherheitsschaltung gesperrt
IN 07	Tlačítko TOTAL STOP	Button TOTAL STOP	Taste TOTAL STOP
IN 08	Tlačítko START	Button START	Taste START
IN 09	Tlačítko STOP	Button STOP	Taste STOP
IN 10	MANUAL	MANUAL	MANUAL
IN 11	CYKLUS	CYCLE	ZYKLUS
IN 12	NC	NC	NC
IN 13	NC	NC	NC
IN 14	NC	NC	NC
IN 15	NC	NC	NC
IN 16	NC	NC	NC
IN 17	NC	NC	NC
IN 18	NC	NC	NC
IN 19	Tlačítko napnout pás	Button band tension	Taste band spannen
IN 20	Tlačítko povolit pás	Button band release	Taste band lösen
IN 21	Tlačítko rameno nahoru	Button arm up	Taste Rahmen nach oben
IN 22	NC	NC	NC
IN 23	Přítlak upnut	Upper vice is clamped	Ober Schraubstock ist gespannt
IN 24	NC	NC	NC
OUT 01+ OUT 01-	Start FM1	Start FM1	Start FM1
OUT 02+ OUT 02-	NC	NC	NC
OUT 03+ OUT 03-	NC	NC	NC
OUT 04	Motor chlazení	Coolant pump	Motor Kühlung
OUT 05	Čerpadlo hydrauliky 1.rychlost	Hydraulic pump 1.speed	Hydraulikpumpe 1.Geschwindigkeit
OUT 06	Čerpadlo hydrauliky 2.rychlost	Hydraulic pump 2.speed	Hydraulikpumpe 2.Geschwindigkeit
OUT 07	Svěrák upnout	Vice clamp	Schraubstock spannen
OUT 08	Svěrák povolit	Release vice	Schraubstock lösen
OUT 09	Svěrák doleva	Vice to the left	Schraubstock nach links
OUT 10	Svěrák doprava	Vice to the right	Schraubstock nach rechts
OUT 11	Rameno nahoru	Arm up	Rahmen nach oben
OUT 12	Rameno dolů	Arm down	Rahmen nach unten
OUT 13	Rameno rychle	Arm fast	Rahmen schnell
OUT 14	Přítlak upnout	Upper vice clamp	Ober Schraubstock spannen
OUT 15	Přítlak povolit	Release upper vice	Ober Schraubstock lösen
OUT 16	Napnout pás	Sawblade tension	Spannen des Sägebandes
OUT 17	Uvolnit pás	Sawblade leave	Entspannen des Sägebandes
OUT 18	Mikronizer	Microniser	Mikronizer
OUT 19	Kontrolka start	Indicator start	Kontrollicht start

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

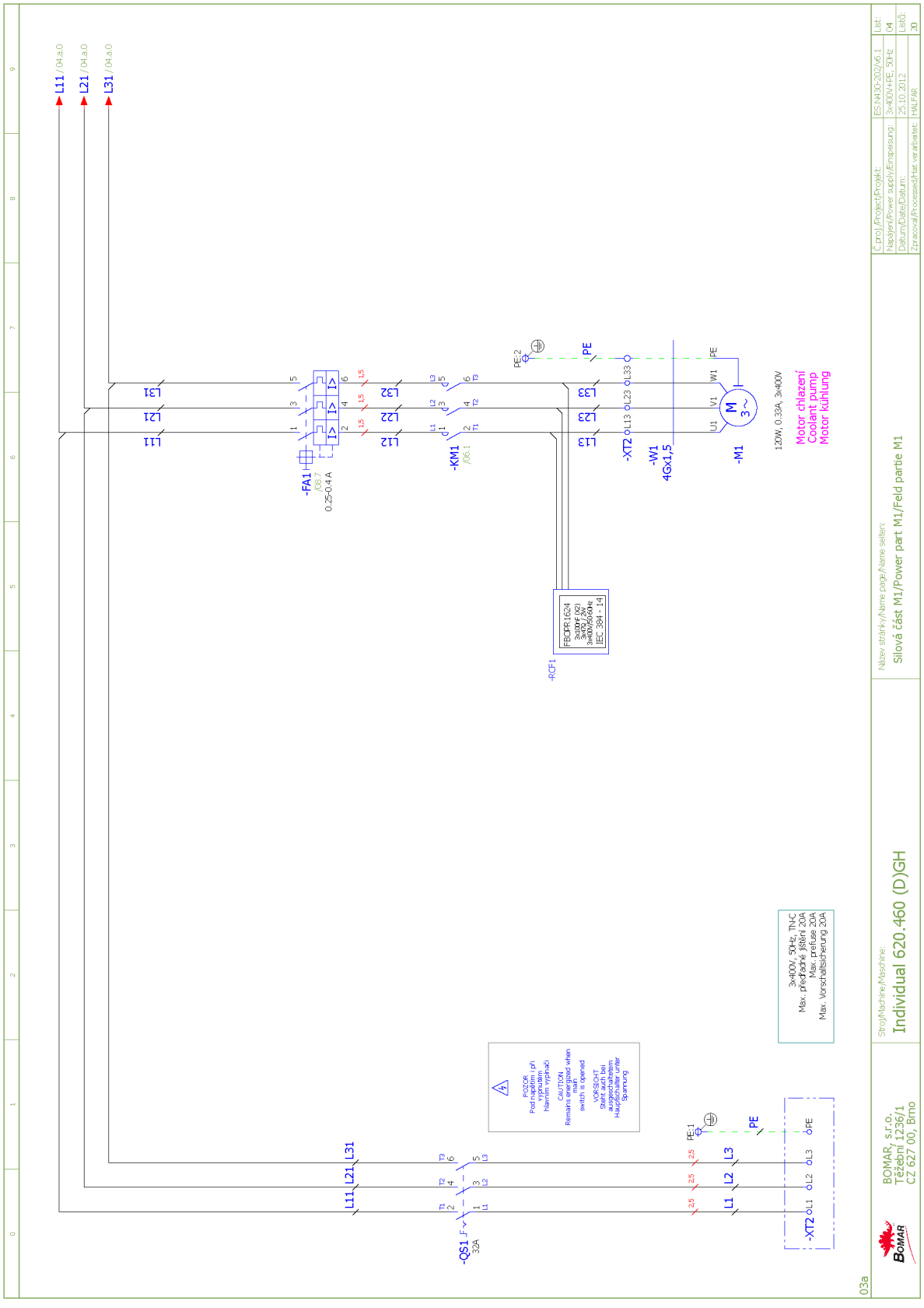
Stroj/Machine/Maschine: Individual 620.460 (D)GH

Název stránky/Name page/Name seiten: I/O řídicí systém / I/O Control station / I/O Steuerung

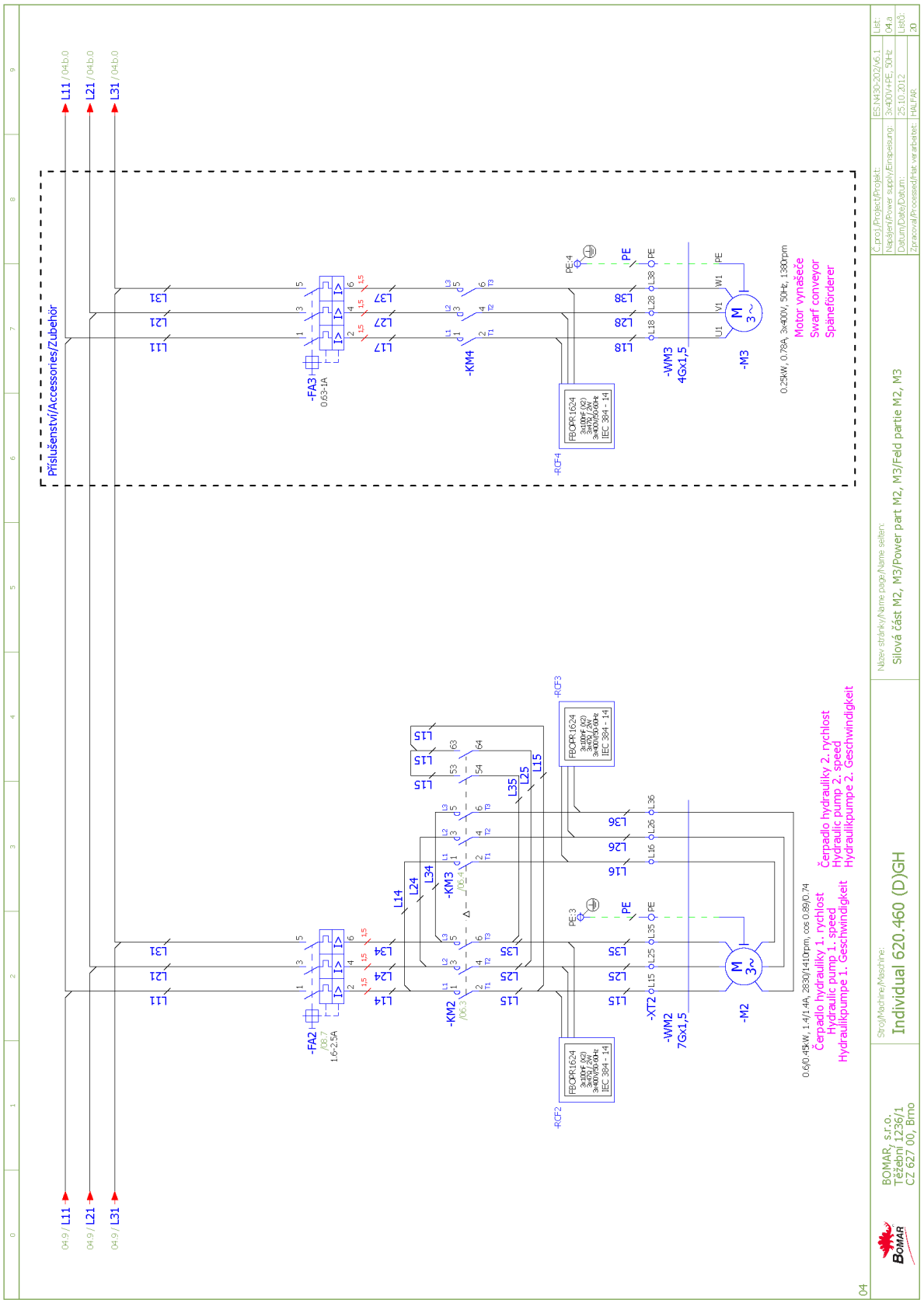
C.proj./Project/Projekt: ES-N430-2020/6.1
Napájení/Power supply/Einspeisung: 3x400V+PE, 50Hz
Datum/Date/Datum: 2.9.2012
Zpracoval/Processed/Hat verarbeitet: HALFAR
List: 02
Listů: 20

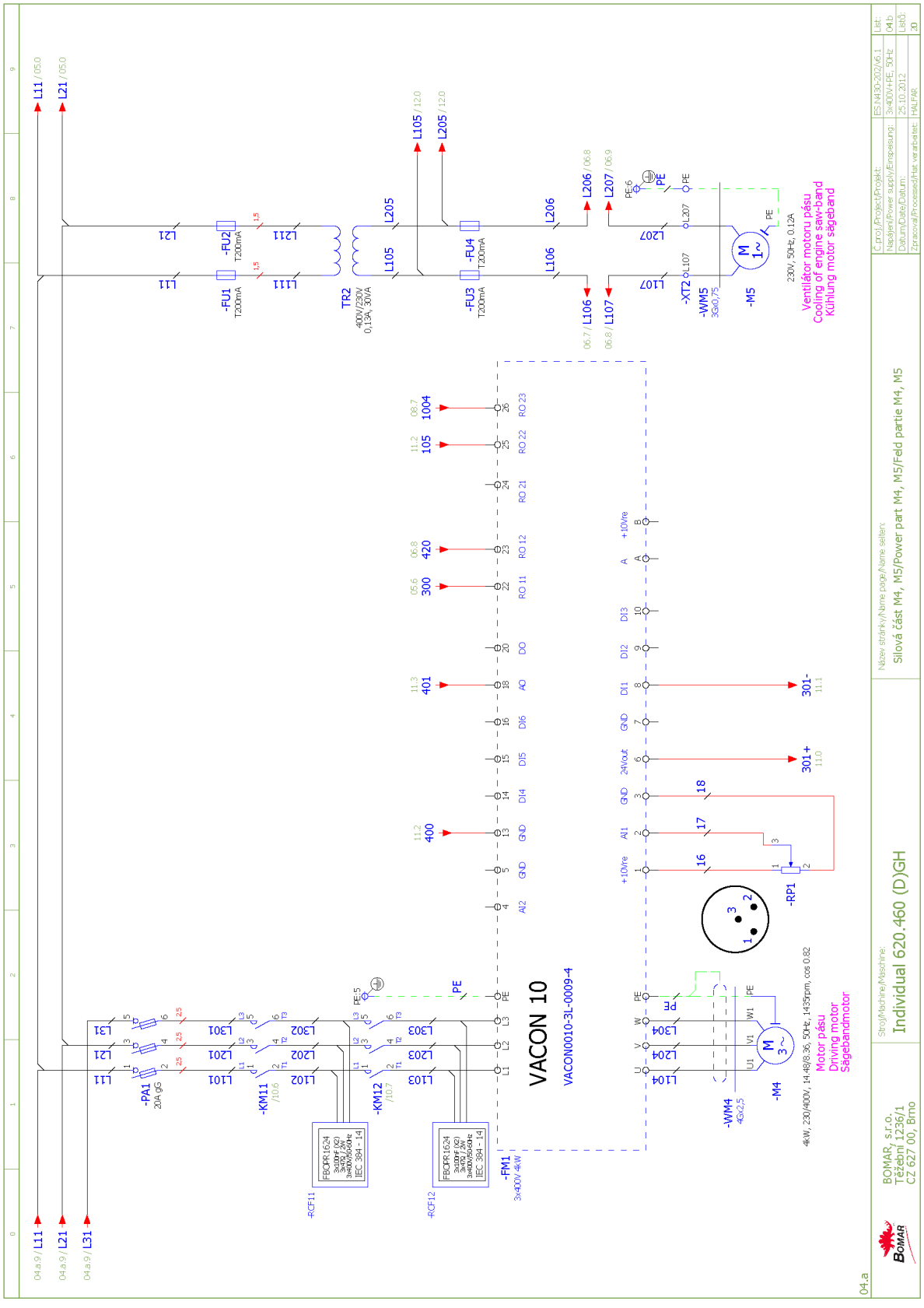

800 mm
40 mm
390 mm
300 mm
500 mm
RS1
120 mm
40 mm
140 mm
25 mm
200 mm
25 mm
150 mm
60 mm
-XT1
-FA1
-FA2
-PA1
-ZD1
-TR1
-BM1
-KM1
-KM2
-KM3
-KM11
-KM12
-RET1
-RGF1
-RGF2
-RGF3
-RGF11
-RGF12
-FM1
-XT2
-TR2
02
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Rozmístění prvků v rozvaděči RS1/ Placement of elements in enclosure
RS1/ Platzierung der Elemente im Schaltschrank RS1
C:proj./Projekt/Projekt:
ES:N430-202/V6.1
Napájení/Power supply/Einspeisung:
3x400V+PE, 50Hz
Datum/Date/Datum:
27.9.2012
Zpracoval/Processed/Hat verarbeitet:
HALFAR
List:
03
Listů:
30


OP1
SB8, HL2
SB3
SB501
BOMAR
F1
F2
F3
F4
START
STOP
SB1, HL1
SB2
RP1
03
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Ovládací panel OP1/Control panel OP1/Bedienpult OP1
Č.proj./Project/Projekt: ES.N430-202/v6.1
Napájení/Power supply/Einspeisung: 3x400V+PE, 50Hz
Datum/Date/Datum: 30.8.2012
Zpracoval/Processed/Hat verarbeitet: HALFAR
List: 03a
Listů: 20

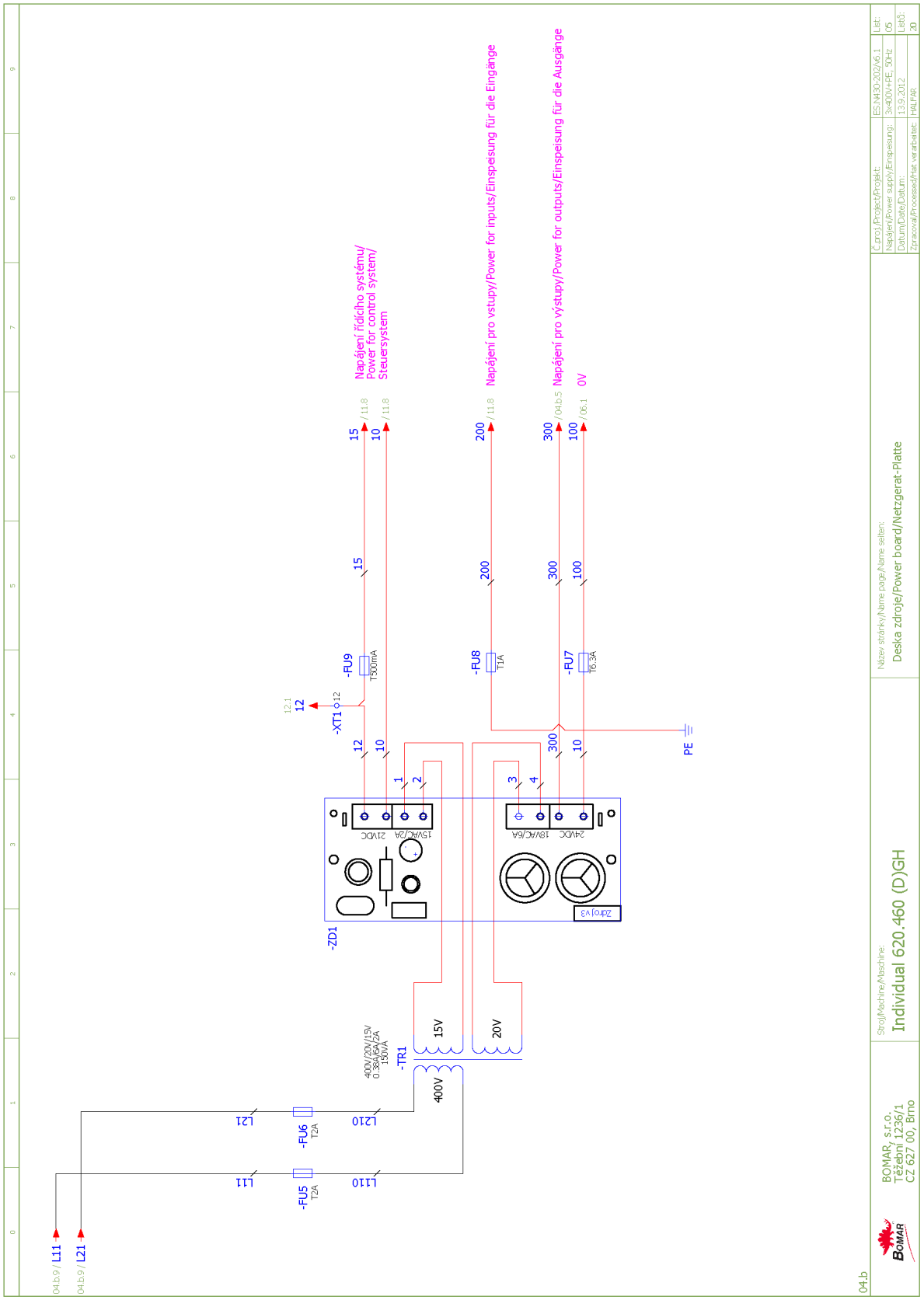


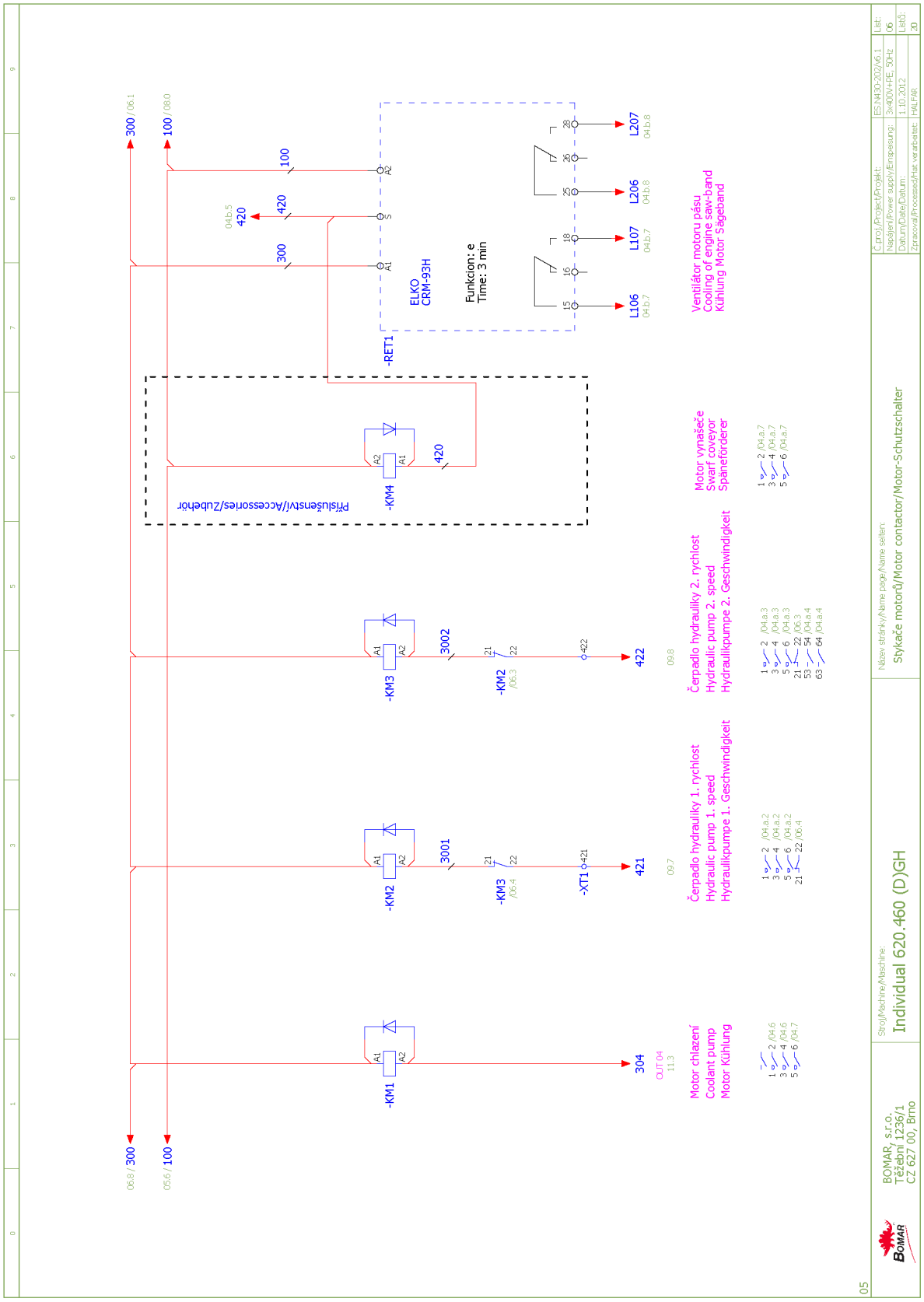
Manual version: 1.40 / Feb. 2013
Manual rev.: 1

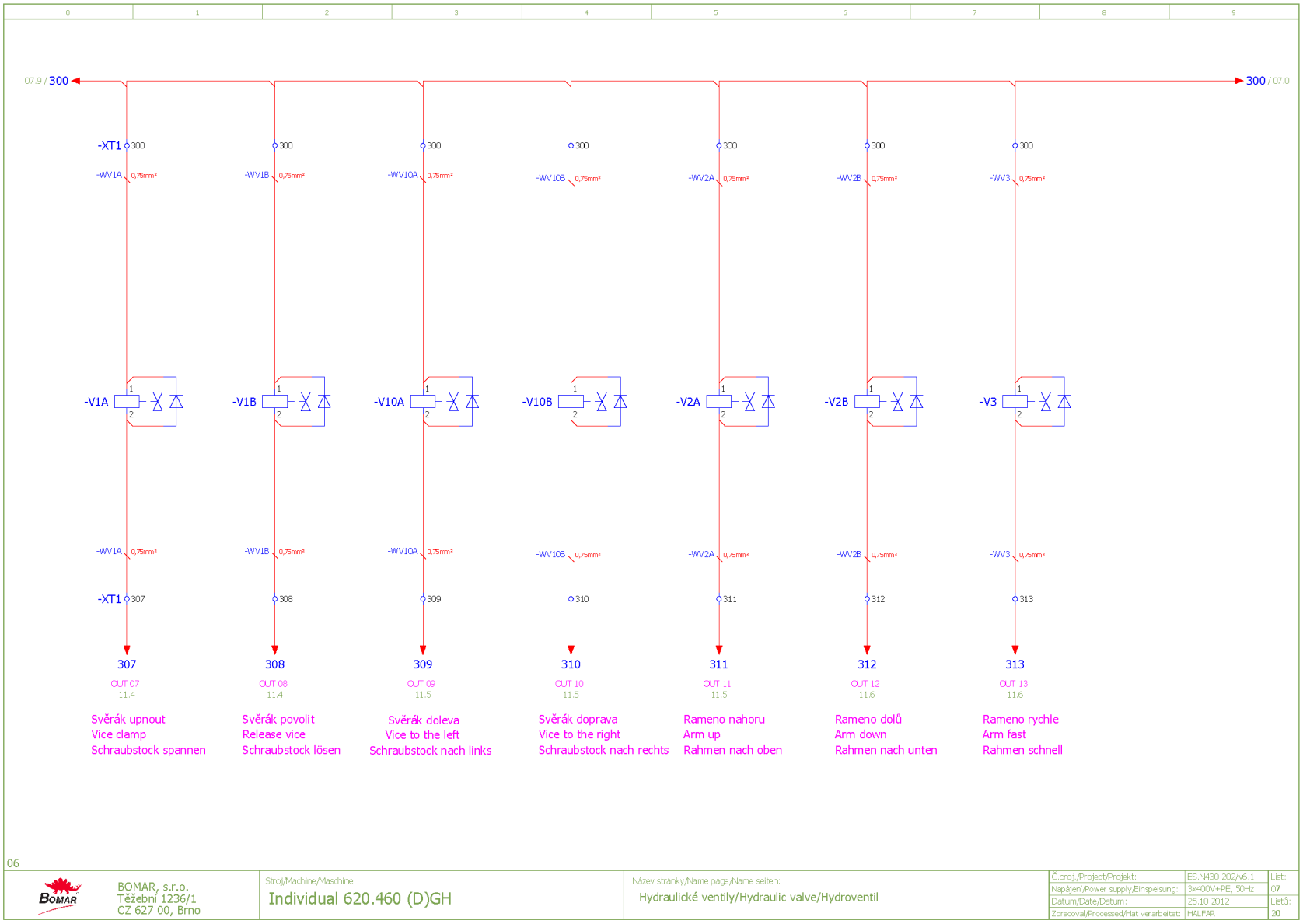

Příslušenství/Accessories/Zubehör
L11 /04b.0
L21 /04b.0
L31 /04b.0
04.9 / L11
04.9 / L21
04.9 / L31
-FA3
0.63-1A
-KM4
-WM3
4Gx1,5
-M3
0,25kW, 0,78A, 3x400V, 50Hz, 1380rpm
Motor vymašeče
Swarf conveyor
Späneförderer
-RCF4
FBCPR1624
IEC 384 - 14
-FA2
1.6-2.5A
-KM2
-KM3
-WM2
7Gx1,5
-XT2
-M2
0,6/0,45kW, 1.4/1.4A, 2830/1410rpm, cos 0.89/0.74
Čerpadlo hydrauliky 2. rychlost
Hydraulic pump 2. speed
Hydraulikpumpe 2. Geschwindigkeit
Čerpadlo hydrauliky 1. rychlost
Hydraulic pump 1. speed
Hydraulikpumpe 1. Geschwindigkeit
-RCF3
-RCF2
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Silová část M2, M3/Power part M2, M3/Feld partie M2, M3
Č.proj./Projekt/Projekt:
ES:M30-202/V6.1
Napájení/Power supply/Einspeisung:
3x400V+PE, 50Hz
Datum/Date/Datum:
25.10.2012
Zpracoval/Processed/Hat verarbeitet:
HALFAR
List:
04.a
Listů:
30
04



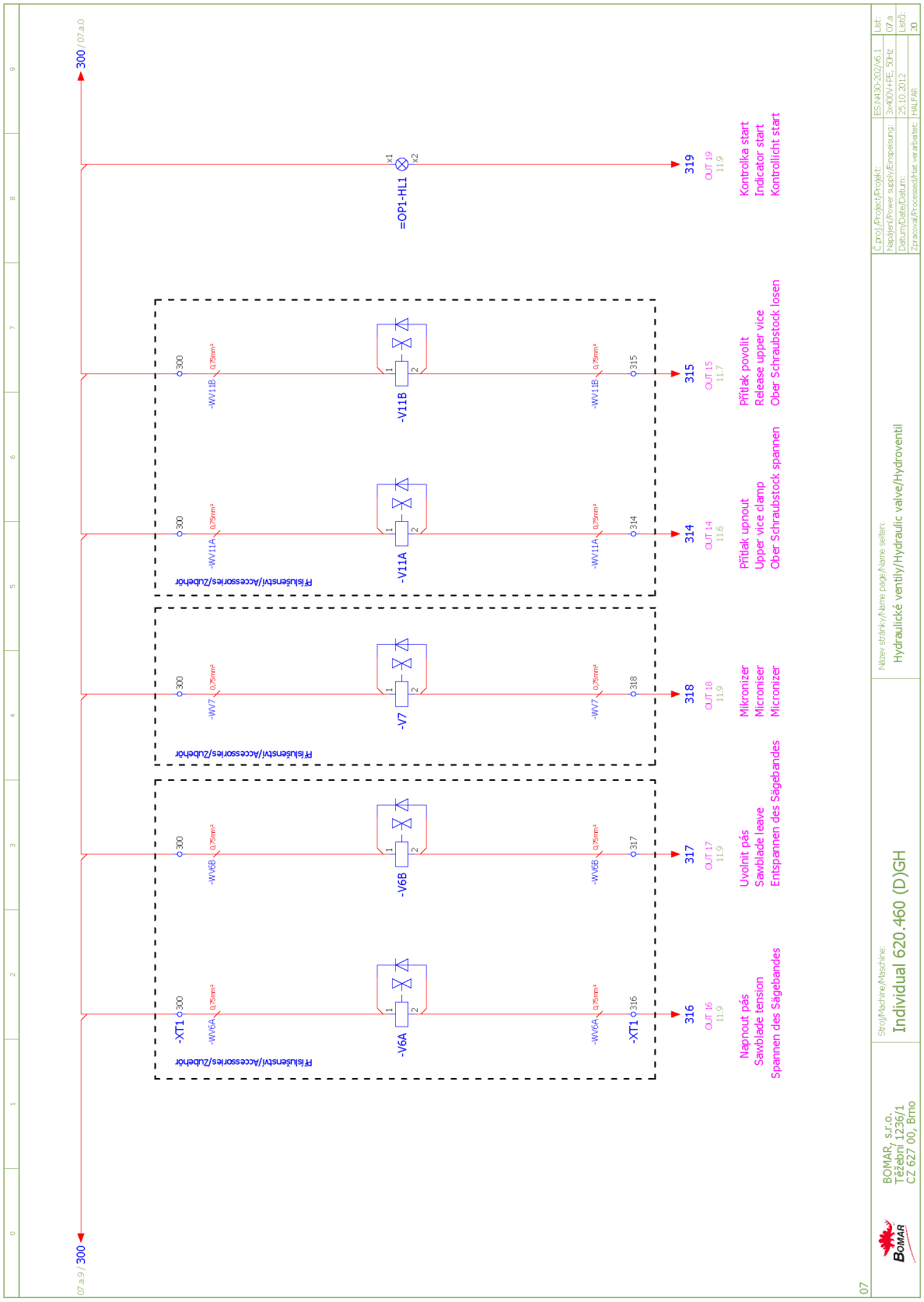
Manual version: 1.40 / Feb. 2013
Manual rev.: 1


Napájení řídícího systému/
Power for control system/
Steuersystem
Napájení pro vstupy/Power for inputs/Einspeisung für die Eingänge
Napájení pro výstupy/Power for outputs/Einspeisung für die Ausgänge
0V
PE
-XT1
-FU9
T500mA
-FU8
T1A
-FU7
T6.3A
-FU5
T2A
-FU6
T2A
-TR1
400V/220V/15V
0.38A/0A/2A
150VA
15V
20V
400V
-ZD1
15VAC/2A
21VDC
18VAC/6A
24VDC
Zdroj v3
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Deska zdroje/Power board/Netzgerat-Platte
Č.proj./Project/Projekt:
ES.N430-202/v6.1
Napájení/Power supply/Einspeisung:
3x400V+PE, 50Hz
Datum/Date/Datum:
13.9.2012
Zpracoval/Processed/Hat verarbeitet:
HALFAR
List:
05
Listů:
20
04.b

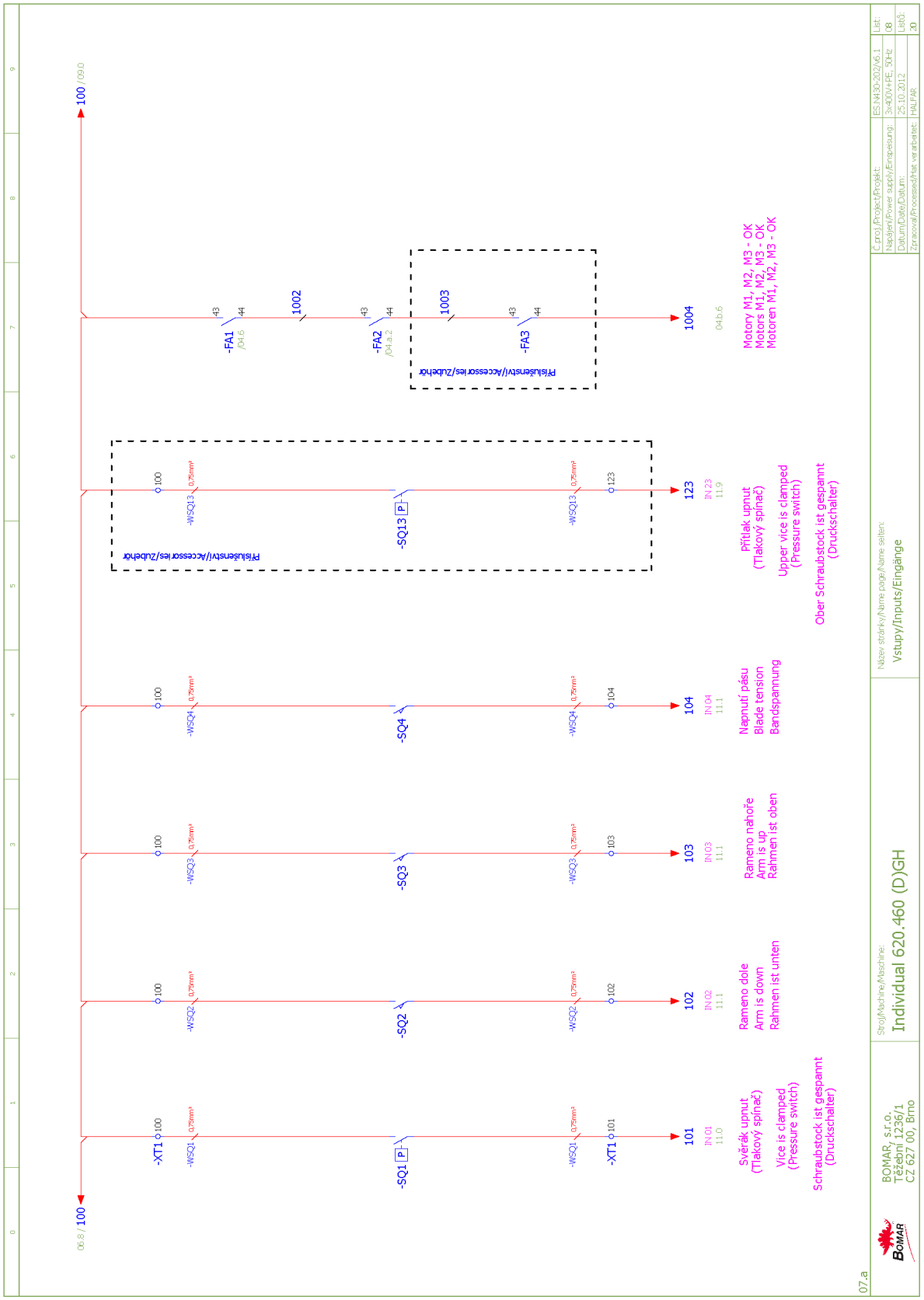

300 / 06.1
100 / 08.0
100
420
300
04b.5
420
-RET1
ELKO
CRM-93H
Funkcion: e
Time: 3 min
L106
04b.7
L107
04b.7
L206
04b.8
L207
04b.8
Ventilátor motoru pásu
Cooling of engine saw-band
Kühlung Motor Sägeband
Příslušenství/Accessories/Zubehör
-KM4
-KM3
-KM2
-KM1
3002
3001
304
422
421
-XT1
Čerpadlo hydrauliky 2. rychlost
Hydraulic pump 2. speed
Hydraulikpumpe 2. Geschwindigkeit
Motor vynašeče
Swarf coveyor
Späneförderer
Čerpadlo hydrauliky 1. rychlost
Hydraulic pump 1. speed
Hydraulikpumpe 1. Geschwindigkeit
Motor chlazení
Coolant pump
Motor Kühlung
300 / 06.8
100 / 05.6
05
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Stykače motorů/Motor contactor/Motor-Schutzschalter
ES.N430-202/v6.1
3x400V+PE, 50Hz
1.10.2012
HALFAR

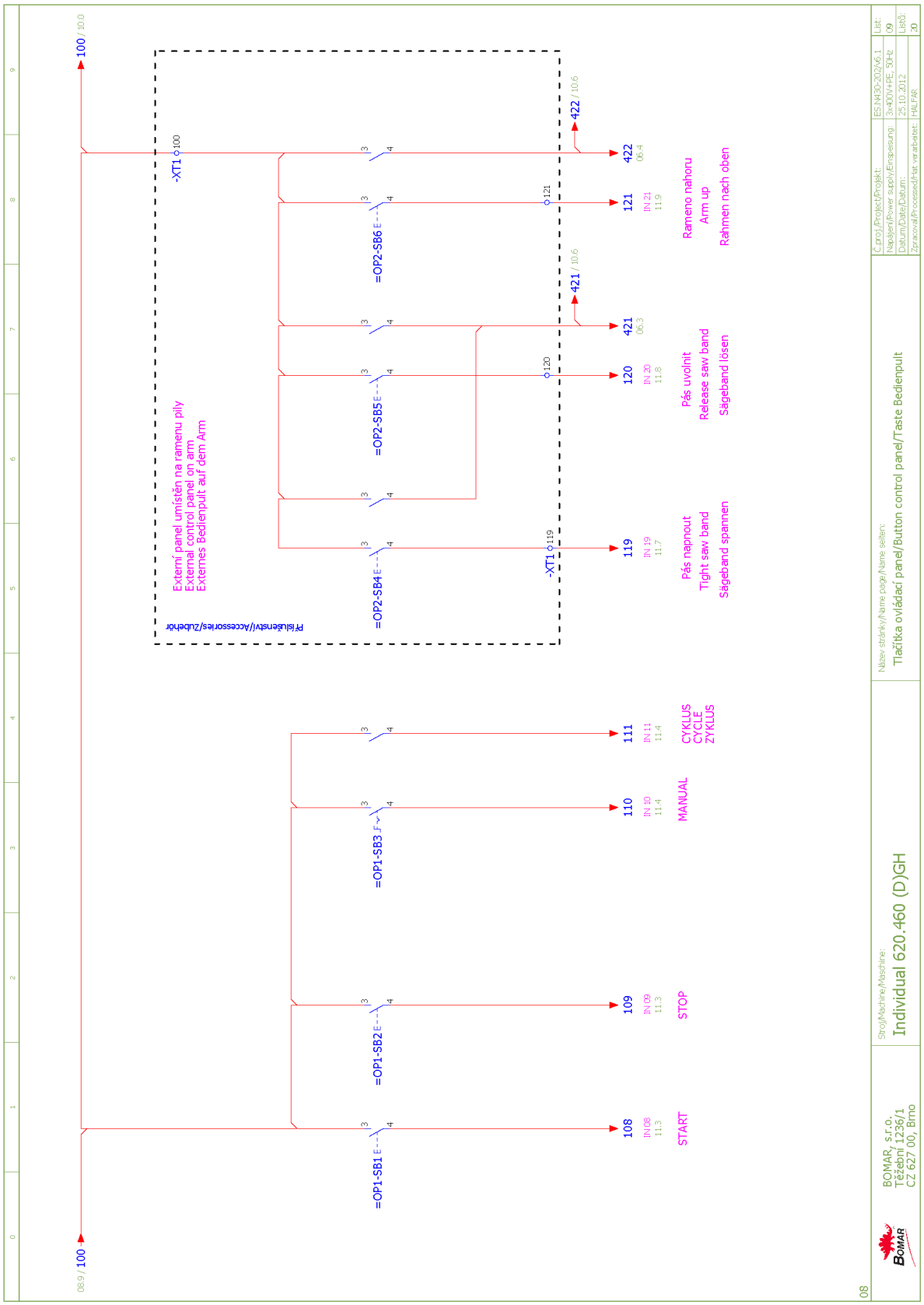


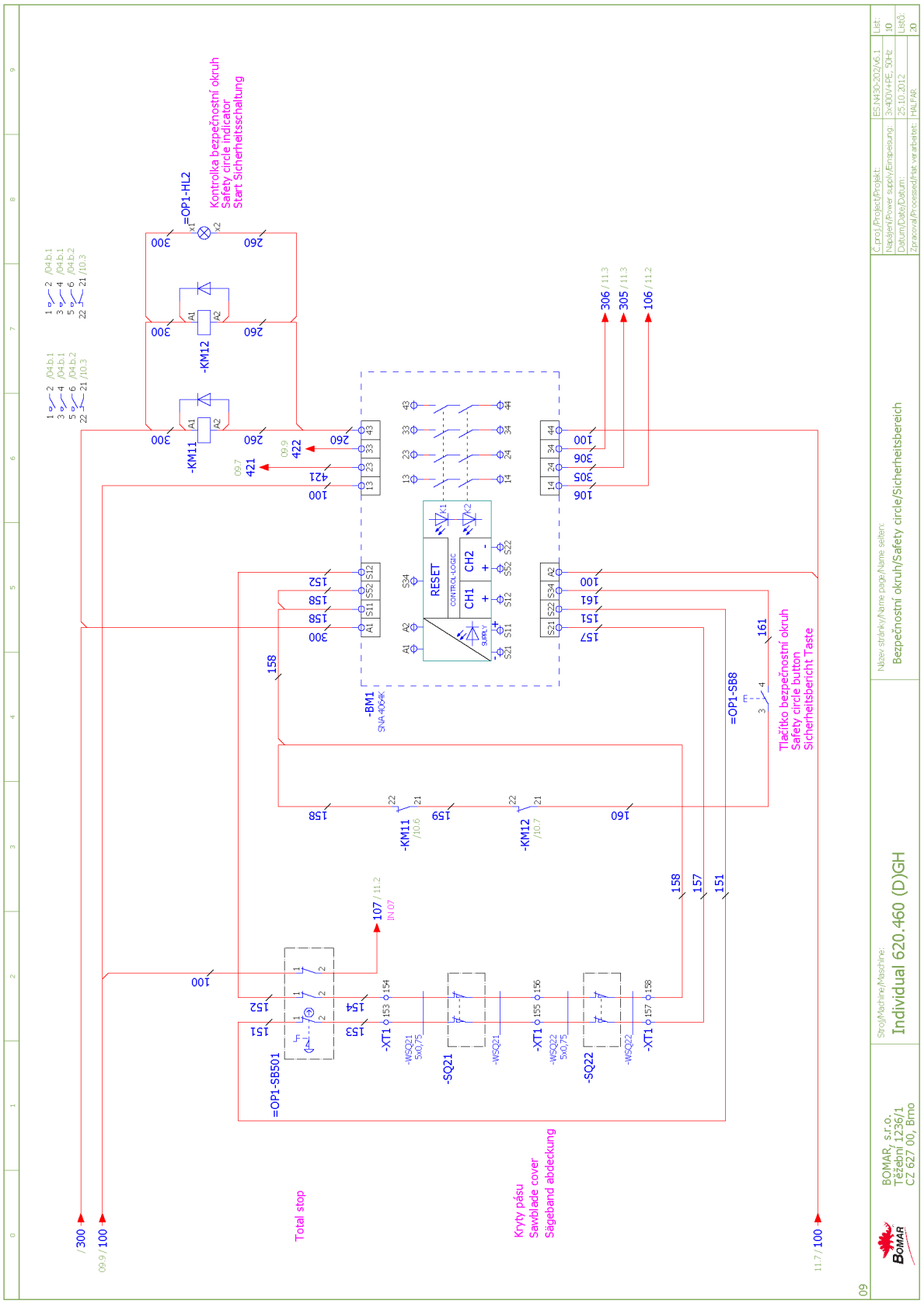
Schémata
Schemas
Schematics

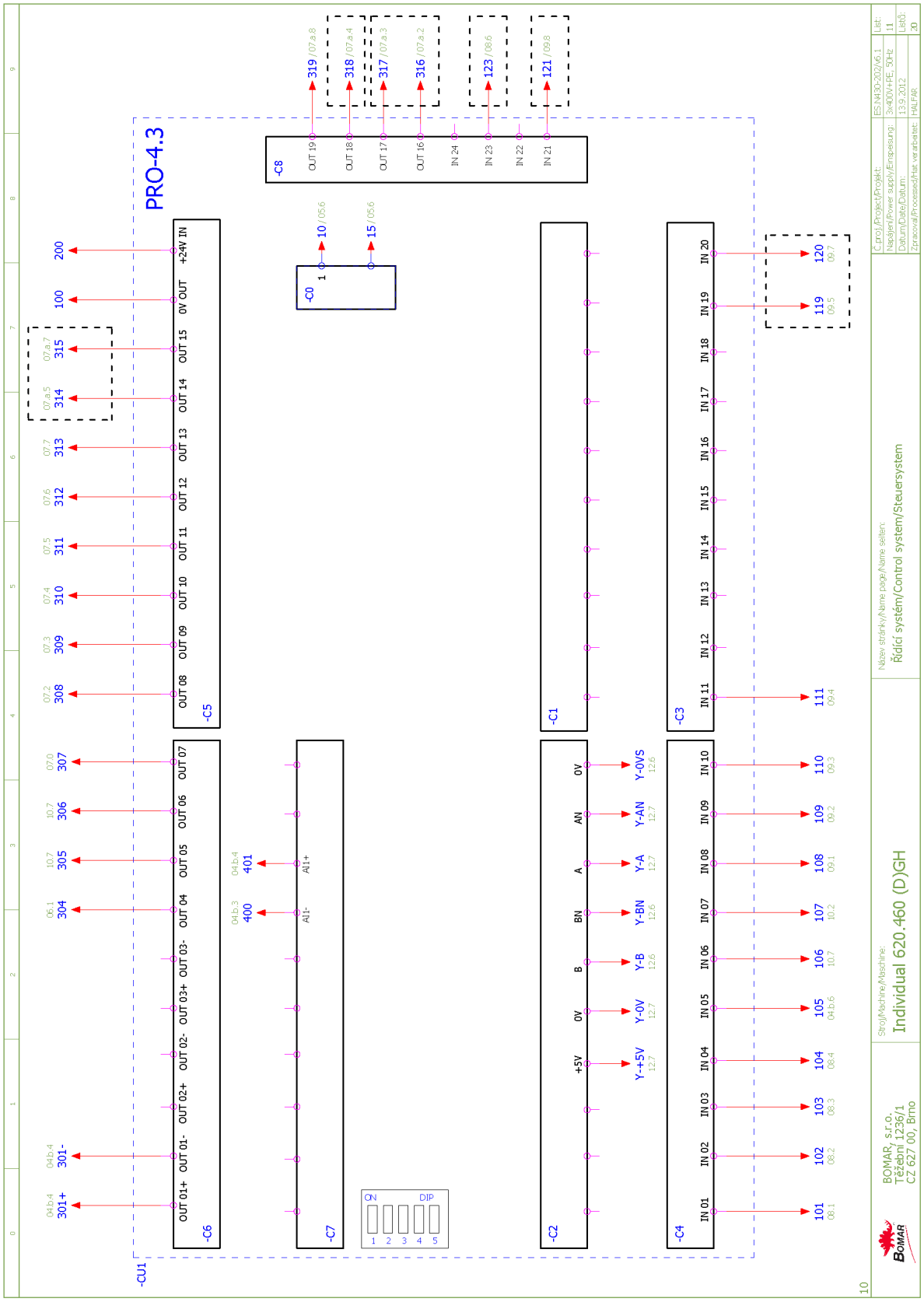


Manual version: 1.40 / Feb. 2013
Manual rev.: 1

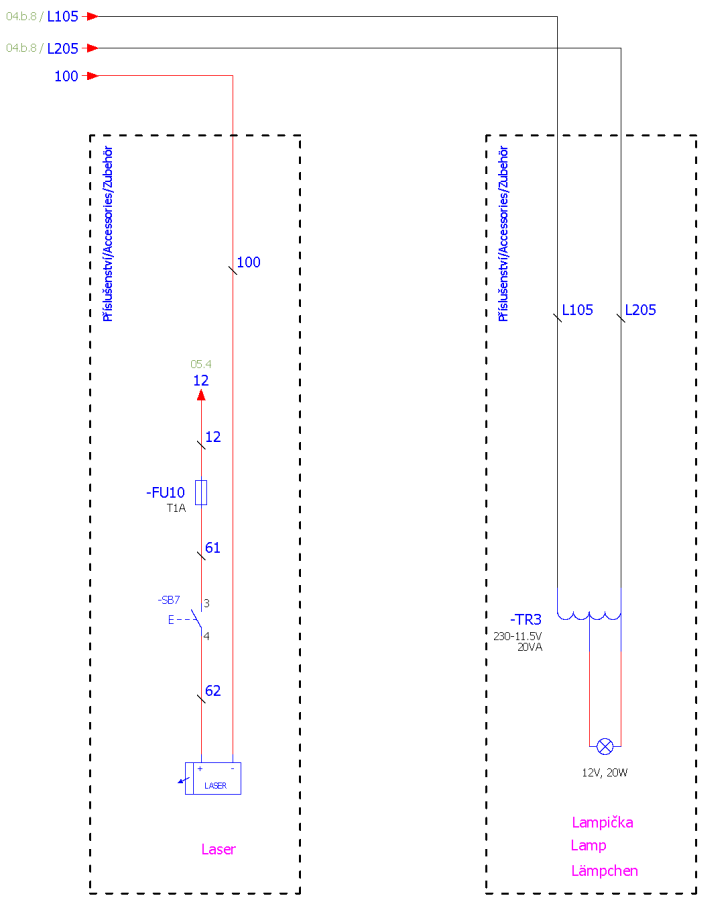

100 /09.0
-XT1
-WSQ1
-WSQ2
-WSQ3
-WSQ4
-WSQ13
-SQ1
-SQ2
-SQ3
-SQ4
-SQ13
-FA1
-FA2
-FA3
1002
1003
1004
101
102
103
104
123
Příslušenství/Accessories/Zubehör
Svěrák upnut
(Tlakový spínač)
Vice is clamped
(Pressure switch)
Schraubstock ist gespannt
(Druckschalter)
Rameno dole
Arm is down
Rahmen ist unten
Rameno nahoře
Arm is up
Rahmen ist oben
Napnutí pásu
Blade tension
Bandspannung
Přítlak upnut
(Tlakový spínač)
Upper vice is clamped
(Pressure switch)
Ober Schraubstock ist gespannt
(Druckschalter)
Motory M1, M2, M3 - OK
Motors M1, M2, M3 - OK
Motoren M1, M2, M3 - OK
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Názvy stránky/Name page/Name seiten:
Vstupy/Inputs/Eingänge
Č.proj./Project/Projekt:
ES.N430-202/v6.1
Napájení/Power supply/Einspeisung:
3x400V+PE, 50Hz
Datum/Date/Datum:
25.10.2012
Zpracoval/Processed/Hat verarbeitet:
HALFAR
List:
18
Listů:
20
07.a


100 / 10.0
06.9 / 100
-XT1 ϕ100
Externí panel umístěn na ramenu pily
External control panel on arm
Externes Bedienpult auf dem Arm
Příslušenství/Accessories/Zubehör
=OP1-SB1 E---
=OP1-SB2 E---
=OP1-SB3 F---
=OP2-SB4 E---
=OP2-SB5 E---
=OP2-SB6 E---
-XT1 ϕ119
-XT1 ϕ120
ϕ121
108 IN 08 11.3
109 IN 09 11.3
110 IN 10 11.4
111 IN 11 11.4
119 IN 19 11.7
120 IN 20 11.8
121 IN 21 11.9
421 / 10.6
422 / 10.6
421 06.3
422 06.4
START
STOP
MANUAL
CYKLUS
CYCLE
ZYKLUS
Pás napnout
Tight saw band
Sägeband spannen
Pás uvolnit
Release saw band
Sägeband lösen
Rameno nahoru
Arm up
Rahmen nach oben
08
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Tlačítka ovládací panel/Button control panel/Taste Bedienpult
C.proj./Project/Projekt:
ES:N430-202/V6.1
Napájení/Power supply/Einspeisung:
3x400V+PE, 50Hz
Datum/Date/Datum:
25.10.2012
Zpracoval/Processed/Hat verarbeitet:
HALFAR
List:
09
Listů:
30


=OP1-HL2
Kontrolka bezpečnostní okruh
Safety circle indicator
Start Sicherheitsschaltung
-KM12
-KM11
-BM1
SNA 4064K
RESET
CONTROL-LOGIC
CH1
CH2
=OP1-S68
Tlačítko bezpečnostní okruh
Safety circle button
Sicherheitsbericht Taste
=OP1-SB501
Total stop
-SQ21
-SQ22
Kryty pásu
Sawblade cover
Sägeband abdeckung
-XT1
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Bezpečnostní okruh/Safety circle/Sicherheitsbereich
Č.proj./Project/Projekt:
ES:N430-202/V6.1
Napájení/Power supply/Einspeisung:
3x400V+PE, 50Hz
Datum/Date/Datum:
25.10.2012
Zpracoval/Processed/Hat verarbeitet:
HALFAR
List:
10
Listů:
30



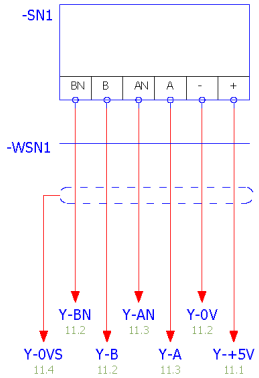
Manual version: 1.40 / Feb. 2013
Manual rev.: 1



Příslušenství/Accessories/Zubehör

SN1

Snímač výšky rámene Sawframe position sensor Rahmenposition sensor		Kabel HELU-Flexi 7x0.14	Kabel SYKFY 4x2x0.5
+	HNĚDÁ BROWN BRAUN	HNĚDÁ+MODRÁ BROWN+BLUE BRAUN+BLAU	HNĚDÁ+MODRÁ BROWN+BLUE BRAUN+BLAU
-	SEDÁ GREY GRAU	SEDÁ GREY GRAU	HNĚDÁ/BÍLÁ+MODRÁ/BÍLÁ BROWN/WHITE+BLUE/WHITE BRAUN/WEIS+BLAU/WEIS
A	RUŽOVÁ PINK ROSAROT	ŽLUTÁ YELLOW GELB	ZELENÁ GREEN GRUN
AN	ZELENÁ GREEN GRÜN	RŮŽOVÁ PINK ROSA	ZELENÁ/BÍLÁ GREEN/WHITE GRUN/WEIS
B	ŽLUTÁ YELLOW GELB	BÍLÁ WHITE WEIS	ORANŽOVÁ ORANGE ORANGE
BN	BÍLÁ WHITE WEIS	ZELENÁ GREEN GRÜN	ORANŽOVÁ/BÍLÁ ORANGE/WHITE ORANGE/WEIS
	ČERNÁ BLACK SCHWARZ	STÍNĚNÍ SHIELD LEITUNGSSCHIRM	STÍNĚNÍ SHIELD LEITUNGSSCHIRM



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

Stroj/Machine/Maschine: Individual 620.460 (D)GH

Název stránky/Name page/Name seiten: Příslušenství/Accessories/Zubehör

Č.proj./Project/Projekt:	ES.N430-202/v6.1	List:
Napájení/Power supply/Einspeisung:	3x400V+PE, 50Hz	12
Datum/Date/Datum:	25.10.2012	Listů:
Zpracoval/Processed/Hat verarbeitet:	HALFAR	20

Parts list

Device tag	Device type	Type number	Manufacturer	Part number	Quantity	Page
-RCF1	RCF filter	FBOPR1624		91.041.015	1	/04.4
-RCF2	RCF filter	FBOPR1624		91.041.015	1	/04.a.1
-RCF3	RCF filter	FBOPR1624		91.041.015	1	/04.a.4
-RCF11	RCF filter	FBOPR1624		91.041.015	1	/04.b.0
-RCF12	RCF filter	FBOPR1624		91.041.015	1	/04.b.0
-RP1	Potentiometer 5k	TP195 4x7/N20A		91.283.015	1	/04.b.3
=OP1-SB501	Emergency-stop mushroom push-button + 3xNC	YW1B-V4E02R		91.060.084	1	/10.2
-ZD1	Power supply unit - 15VAC/24VDC; 20VAC/28VDC	ZDR-03	Bomar	265.915	1	/05.2
-KM1	Contactor - 4kW, 9A, 3NO+1NO, 24VDC	DILEM-10-G(24VDC)	EATON	91.040.020	1	/06.1
-KM2	Contactor - 5,5kW, 12A, 3NO+1NC, 24VDC	DILM12-01(24VDC)	EATON	91.040.025	1	/06.3
-KM2	Mechanical interlock for contactors DILM12	F-MO DILM12-XMV	EATON	91.041.012	1	/06.3
-KM3	Contactor - 5,5kW, 12A, 3NO+1NC, 24VDC	DILM12-01(24VDC)	EATON	91.040.025	1	/06.4
-KM3	Auxiliary contact of contactor - 2xNO	F-MO DILA-XHI20	EATON	91.041.010	1	/06.4
-KM11	Contactor - 5,5kW, 12A, 3NO+1NC, 24VDC	DILM12-01(24VDC)	EATON	91.040.025	1	/10.6
-KM12	Contactor - 5,5kW, 12A, 3NO+1NC, 24VDC	DILM12-01(24VDC)	EATON	91.040.025	1	/10.7
=OP1-HL1	Green light for Eaton adapter	M22-LED-G	EATON	91.061.023	1	/07.a.8
=OP1-HL2	White light for Eaton adapter	M22-LED-W	EATON	91.061.034	1	/10.8
=OP1-SB1	Green translucent switch head	M22-DL-G	EATON	91.060.031	1	/09.1
=OP1-SB1	Attaching adapter + NO contact	M22-AK10	EATON	91.061.021	1	/09.1
=OP1-SB2	Attaching adapter + NO contact	M22-AK10	EATON	91.061.021	1	/09.2
=OP1-SB2	Black switch head	M22-D-S	EATON	91.060.035	1	/09.2
=OP1-SB3	Head of 3 positional switch	M22-WRK3	EATON	91.060.051	1	/09.3
=OP1-SB3	NO contact for Eaton adapter	M22-K10	EATON	91.061.022	1	/09.3
=OP1-SB3	Attaching adapter + NO contact	M22-AK10	EATON	91.061.021	1	/09.3
=OP1-SB8	Attaching adapter + NO contact	M22-AK10	EATON	91.061.021	1	/10.4
=OP1-SB8	Yellow translucent switch head	M22-DL-Y	EATON	91.060.053	1	/10.4
-TR2	Transformer 400V/230V, 0.13A, 30VA	JOC E2520-0022	ELEKTROKOV	91.080.027	1	/04.b.7
-FU1	Tube fuse - 200mA/250V, slow, 5x20	T200mA/250V	ESKA	91.230.037	1	/04.b.7

12

Parts list

Device tag	Device type	Type number	Manufacturer	Part number	Quantity	Page
-FU2	Tube fuse - 200mA/250V, slow, 5x20	T200mA/250V	ESKA	91.230.037	1	/04.b.8
-FU3	Tube fuse - 200mA/250V, slow, 5x20	T200mA/250V	ESKA	91.230.037	1	/04.b.7
-FU4	Tube fuse - 200mA/250V, slow, 5x20	T200mA/250V	ESKA	91.230.037	1	/04.b.8
-FU5	Tube fuse - 2A/250V, slow, 5x20	T2A/250V	ESKA	91.230.001	1	/05.0
-FU6	Tube fuse - 2A/250V, slow, 5x20	T2A/250V	ESKA	91.230.001	1	/05.1
-FU7	Tube fuse - 6,3A/250V, slow, 5x20	T6,3A/250V	ESKA	91.230.002	1	/05.4
-FU8	Tube fuse - 1A/250V, slow, 5x20	T1A/250V	ESKA	91.230.003	1	/05.4
-FU9	Tube fuse - 500mA/250V, slow, 5x20	T500mA/250V	ESKA	91.230.011	1	/05.4
-FU10	Tube fuse - 1A/250V, slow, 5x20	T1A/250V	ESKA	91.230.003	1	/12.1
-M1	Pump - 120W, 230/400V	4C0A4-12H	EmP	91.020.015	1	/04.6
-TR1	Toroidal transformer - 0-230-400V/20V/15V, 0.65-0.38A/6A/2A, 150VA	1502304002015	KARBAN s.r.o.	91.080.026	1	/05.1
-SQ21	Safety limit switch, 2xNC	QKS8	KEDU	91.173.012	1	/10.2
-SQ22	Safety limit switch, 2xNC	QKS8	KEDU	91.173.012	1	/10.2
-PA1	Fuse case for cylindric fuse 10x38mm - 3P, size 10	OPV10/3	OEZ	91.241.002	1	/04.b.1
-PA1	Cylindric fuse - 20A, 10x38, fast, gG charakteristic	PV10 20A gG	OEZ	91.230.038	3	/04.b.1
-SQ4	Limit switch - 1NC+1NO, M20, slow	D4N-4A32	OMRON	91.173.010	1	/08.4
-SQ2	Limit switch - 1NO + 1NC, roller, M2, snap action	FR 605-M2	PIZZATO	91.173.009	1	/08.2
-SQ3	Limit switch - 1NO + 1NC, roller, M2, snap action	FR 605-M2	PIZZATO	91.173.009	1	/08.3
-FA1	Motor-overcurrent circuit breaker 0.25-0.4A	GZ1M03	SCHNEIDER	91.235.022	1	/04.6
-FA1	Auxiliary contact of MOCB - 1xNO+1xNC	GZ1AN11	SCHNEIDER	91.046.004	1	/04.6
-FA2	Motor-overcurrent circuit breaker 1.6-2.5A	GZ1M07	SCHNEIDER	91.235.030	1	/04.a.2
-FA2	Auxiliary contact of MOCB - 1xNO+1xNC	GZ1AN11	SCHNEIDER	91.046.004	1	/04.a.2
-QS1	Main switch 3P, 32A	VCF1-32A	SCHNEIDER	91.170.012	1	/04.0
-BM1	Safety relay - 4xNO	SNA 4064K	WIELAND	91.051.026	1	/10.4
-CU1	PRO-4.3	PRO-4.3	Bomar	265.917	1	/11.0
-FM1	Frequency converter - 4kW, 3x400V	VACON0010-3L-0009-4	VACON	91.012.062	1	/04.b.1
-RET1	Multifunction time relay	CRM-93H/UNI	ELKO	91.051.031	1	/06.7
-FU1	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/04.b.7

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

Stroj/Machine/Maschine: Individual 620.460 (D)GH

Název stránky/Name page/Name seiten: Kusovník artiklů/ Parts list/ Artikelstückliste

Č.proj./Project/Projekt:	ES.N430-202/v6.1	List:
Napájení/Power supply/Einspeisung:	3x400V+PE, 50Hz	13.a
Datum/Date/Datum:	1.10.2012	Listů:
Zpracoval/Processed/Hat verarbeitet:	HALFAR	20

Schémata
Schemas
Schematics

Parts list

Device tag	Device type	Type number	Manufacturer	Part number	Quantity	Page
-FU2	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/04.b.8
-FU3	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/04.b.7
-FU4	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/04.b.8
-FU5	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.0
-FU6	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.1
-FU7	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.4
-FU8	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.4
-FU9	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.4
-FU10	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/12.1
-M5	Cooling ventilator - 230V, 50Hz, 0.12A	RAH1278B1-C	XFAN	91.015.105	1	/04.b.7

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Těžební 1236/1
CZ 627 00, Brno

Stroj/Machine/Maschine:
Individual 620.460 (D)GH

Název stránky/Name page/Name seiten:
Kusovník artiklů/ Parts list/ Artikelstückliste

Č.proj./Project/Projekt:	ES.N430-202/v6.1	List:
Napájení/Power supply/Einspeisung:	3x400V+PE, 50Hz	13.b
Datum/Date/Datum:	1.10.2012	Listů:
Zpracoval/Processed/Hat verarbeitet:	HALFAR	20

6.3. Elektrické schema / Elektroschema / Wiring diagrams – 3×400 V, TN-C-S,1S, 50 Hz

Obsah/ Table of contents/ Inhaltsverzeichnis

00

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

Stroj/Machine/Maschine: Individual 620.460 (D)GH

Název stránky/Name page/Name seiten: Obsah/ Table of contents/ Inhaltsverzeichnis

Č.proj./Project/Projekt:	ES.N430-201/v6.1	List:
Napájení/Power supply/Einspeisung:	3x400V+PE+N, 50Hz	01
Datum/Date/Datum:	3.12.2012	Listů:
Zpracoval/Processed/Hat verarbeitet:	HALFAR	16

01

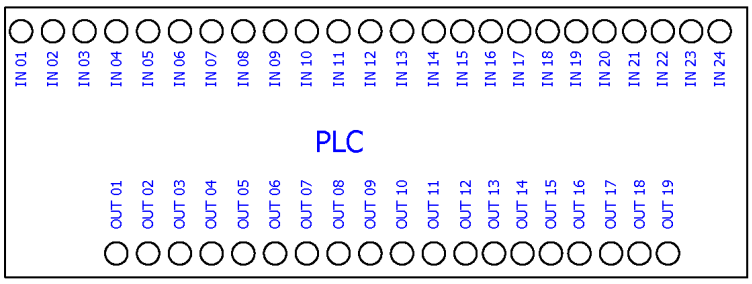
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno

Stroj/Machine/Maschine:
Individual 620.460 (D)GH

Název stránky/Name page/Name seiten:
I/O řídící systém / I/O Control station / I/O Steuerung

Č.proj./Project/Projekt:
Napájení/Power supply/Einspeisung:
3x400V+PE+N, 50Hz
Datum/Date/Datum:
3.12.2012
Zpracoval/Processed/Hat verarbeitet:
HALPAR
ES.N430-2014/6.1
List:
02
Listů:
16

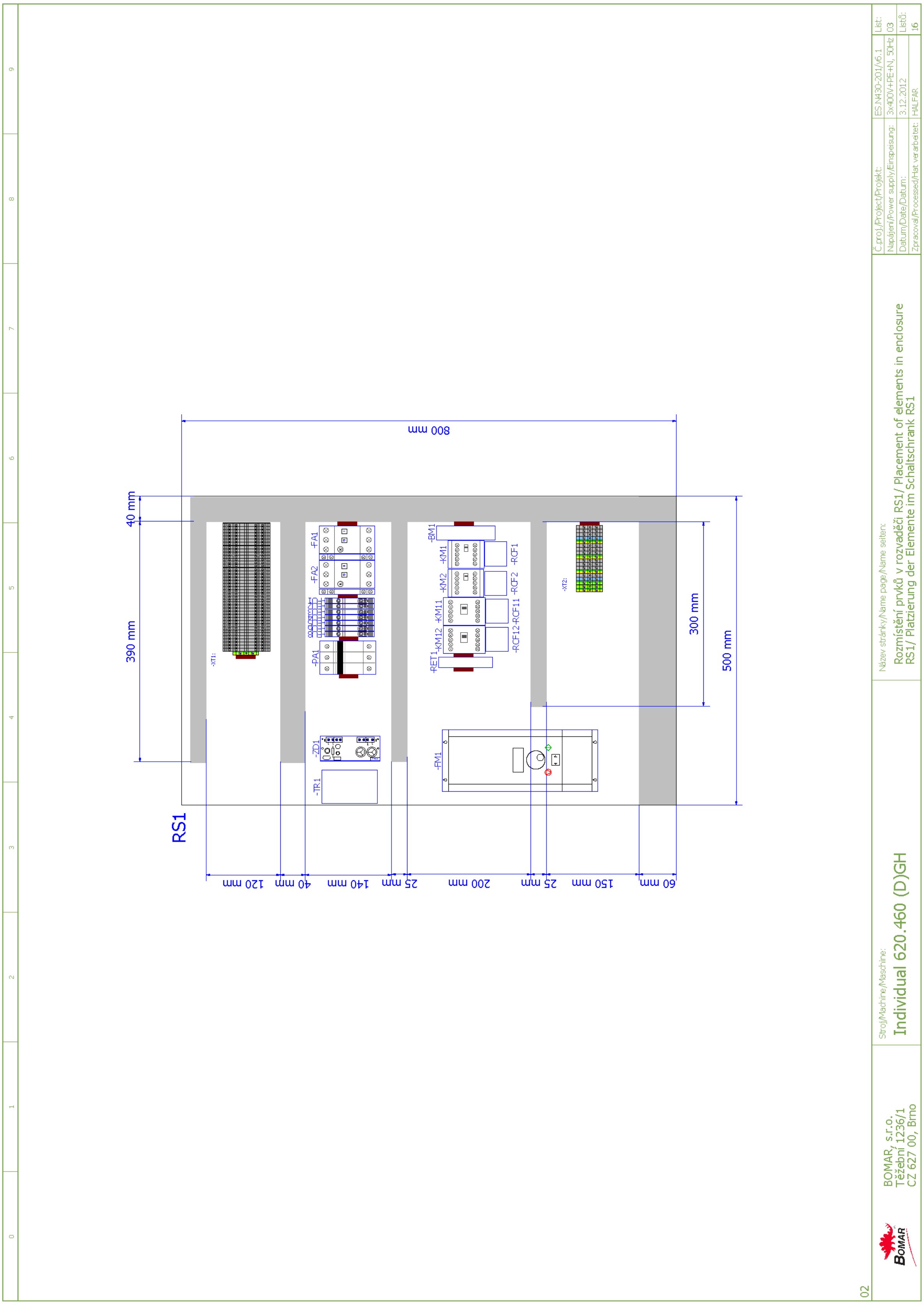
Individual 620.460 (D)GH



HW	
FW	

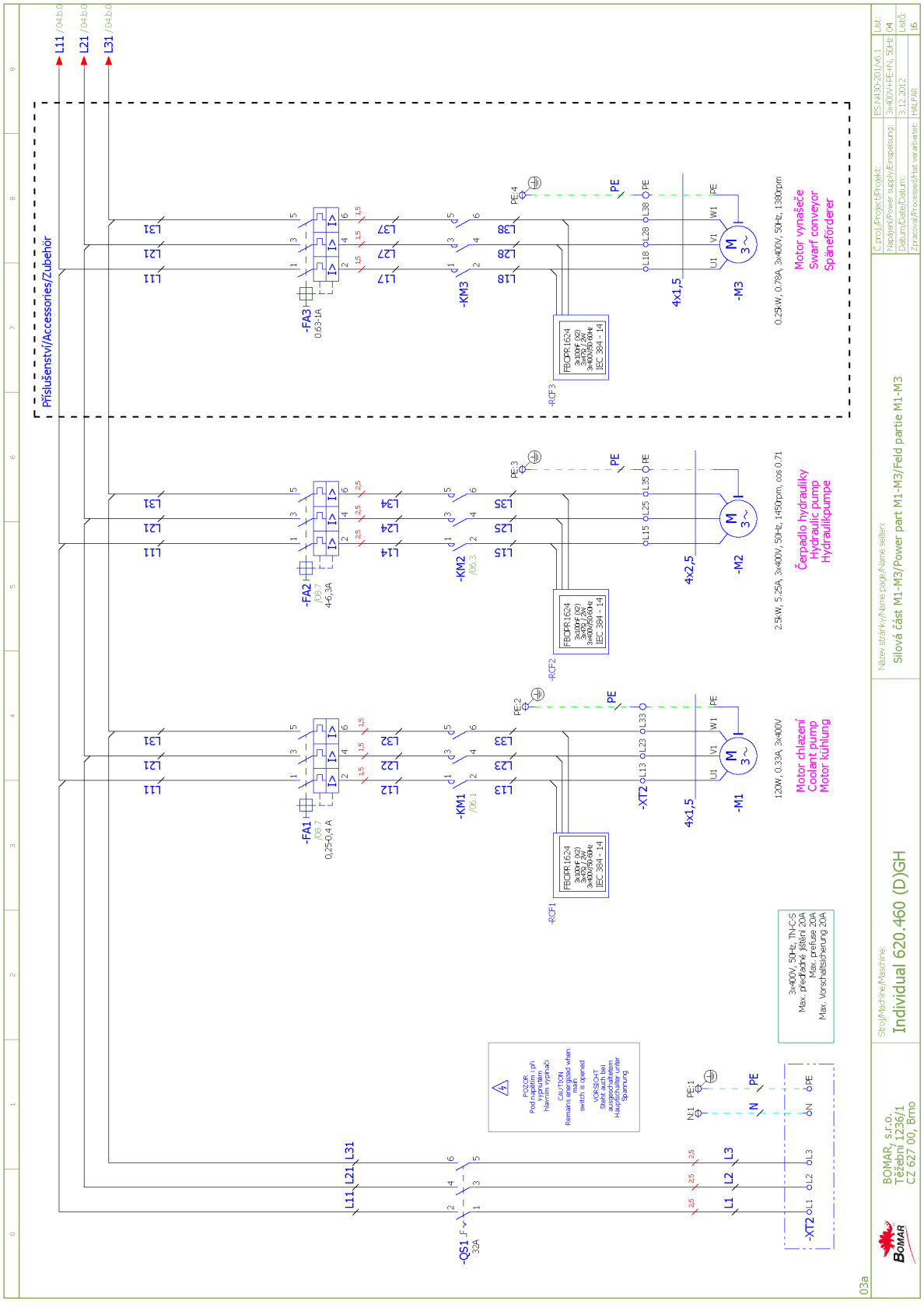
Pohled ze spodu/From under view/Blick nach

I/O	CZE	ENG	DE
IN 01	Svěrák upnut	Vice is clamped	Schraubstock ist gespannt
IN 02	Rameno dole	Arm is down	Rahmen ist unten
IN 03	Rameno nahoře	Arm is up	Rahmen ist oben
IN 04	Napnutí pásu	Blade tension	Bandspannung
IN 05	Motory OK	Motors OK	Motoren OK
IN 06	Bezpečnostní okruh uzavřen	Safety circle shut down	Sicherheitsschaltung gesperrt
IN 07	Tlačítko TOTAL STOP	Button TOTAL STOP	Taste TOTAL STOP
IN 08	Tlačítko START	Button START	Taste START
IN 09	Tlačítko STOP	Button STOP	Taste STOP
IN 10	MANUAL	MANUAL	MANUAL
IN 11	CYKLUS	CYCLE	ZYKLUS
IN 12	NC	NC	NC
IN 13	NC	NC	NC
IN 14	NC	NC	NC
IN 15	NC	NC	NC
IN 16	NC	NC	NC
IN 17	NC	NC	NC
IN 18	NC	NC	NC
IN 19	Tlačítko napnout pás	Button band tension	Taste band spannen
IN 20	Tlačítko povolit pás	Button band release	Taste band lösen
IN 21	Tlačítko rameno nahoru	Button arm up	Taste Rahmen nach oben
IN 22	NC	NC	NC
IN 23	Přítlak upnut	Upper vice is clamped	Ober Schraubstock ist gespannt
IN 24	NC	NC	NC
OUT 01+ OUT 01-	Start FM1	Start FM1	Start FM1
OUT 02+ OUT 02-	NC	NC	NC
OUT 03+ OUT 03-	NC	NC	NC
OUT 04	Motor chlazení	Coolant pump	Motor Kühlung
OUT 05	Čerpadlo hydrauliky	Hydraulic pump	Hydraulikpumpe
OUT 06	2.stupeň hydrauliky	Second level of hydraulic pump	Hydraulikpumpe 2.Stufe
OUT 07	Svěrák upnout	Vice clamp	Schraubstock spannen
OUT 08	Svěrák povolit	Release vice	Schraubstock lösen
OUT 09	Svěrák doleva	Vice to the left	Schraubstock nach links
OUT 10	Svěrák doprava	Vice to the right	Schraubstock nach rechts
OUT 11	Rameno nahoru	Arm up	Rahmen nach oben
OUT 12	Rameno dolů	Arm down	Rahmen nach unten
OUT 13	Rameno rychle	Arm fast	Rahmen schnell
OUT 14	Přítlak upnout	Upper vice clamp	Ober Schraubstock spannen
OUT 15	Přítlak povolit	Release upper vice	Ober Schraubstock lösen
OUT 16	Napnout pás	Sawblade tension	Spannen des Sägebandes
OUT 17	Uvolnit pás	Sawblade leave	Entspannen des Sägebandes
OUT 18	Mikronizer	Micronizer	Mikronizer
OUT 19	Kontrolka start	Indicator start	Kontrollicht start

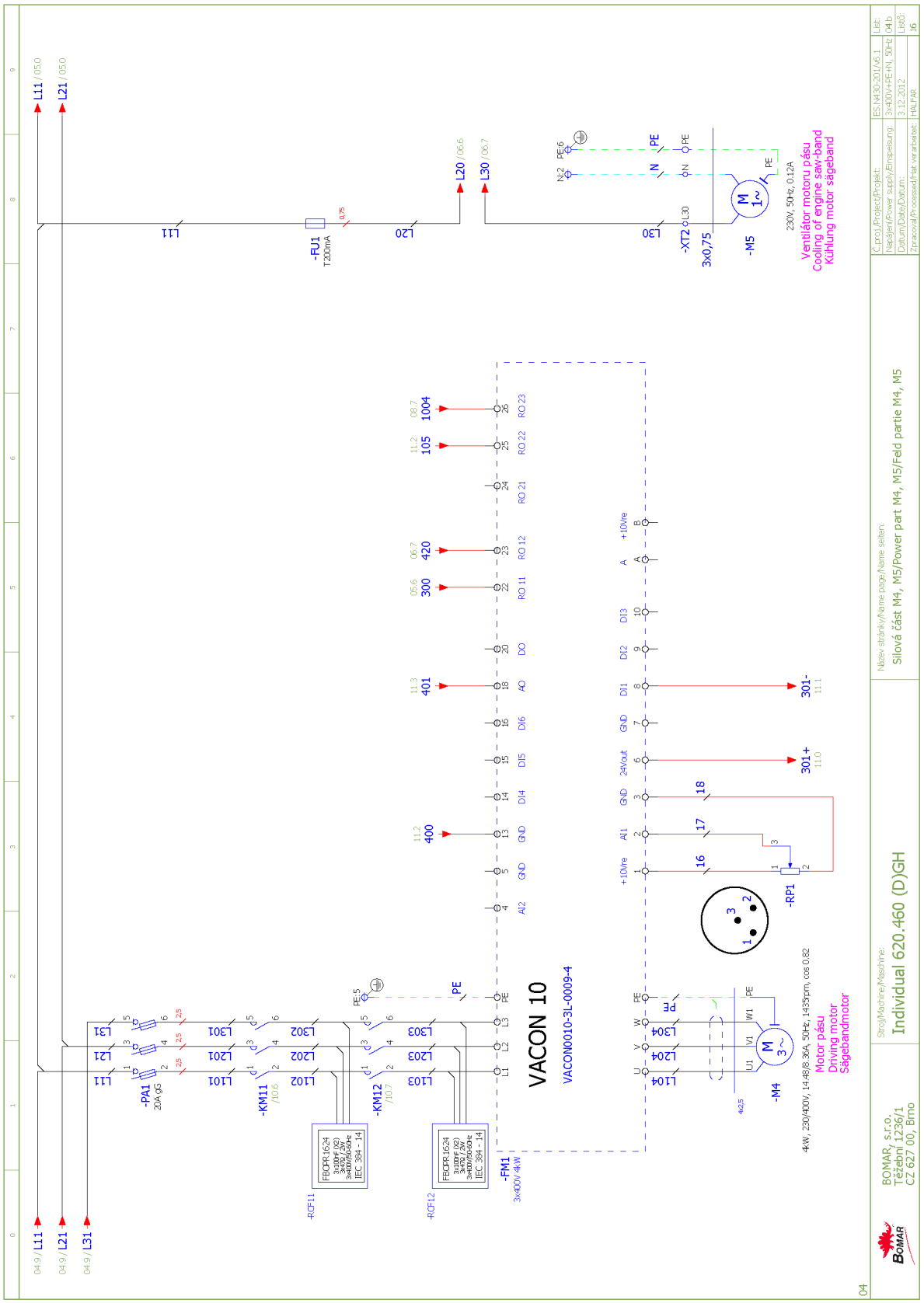

RS1
800 mm
40 mm
390 mm
300 mm
500 mm
120 mm
40 mm
140 mm
25 mm
200 mm
25 mm
150 mm
60 mm
-XT1
-FA1
-FA2
-PA1
-ZD1
-TR1
-BM1
-KM1
-KM2
-KM11
-KM12
-RET1
-RCF1
-RCF2
-RCF11
-RCF12
-FM1
-XT2
Č.proj./Project/Projekt: ES N430-201/V6.1
Napájení/Power supply/Einspeisung: 3x400V+PE+N, 50Hz
Datum/Date/Datum: 3.12.2012
Zpracoval/Processed/Hat verarbeitet: HALFAR
List: 03
Listů: 16
Název stránky/Name page/Name seiten:
Rozmístění prvků v rozvaděči RS1/ Placement of elements in enclosure
RS1/ Platzierung der Elemente im Schaltschrank RS1
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
02

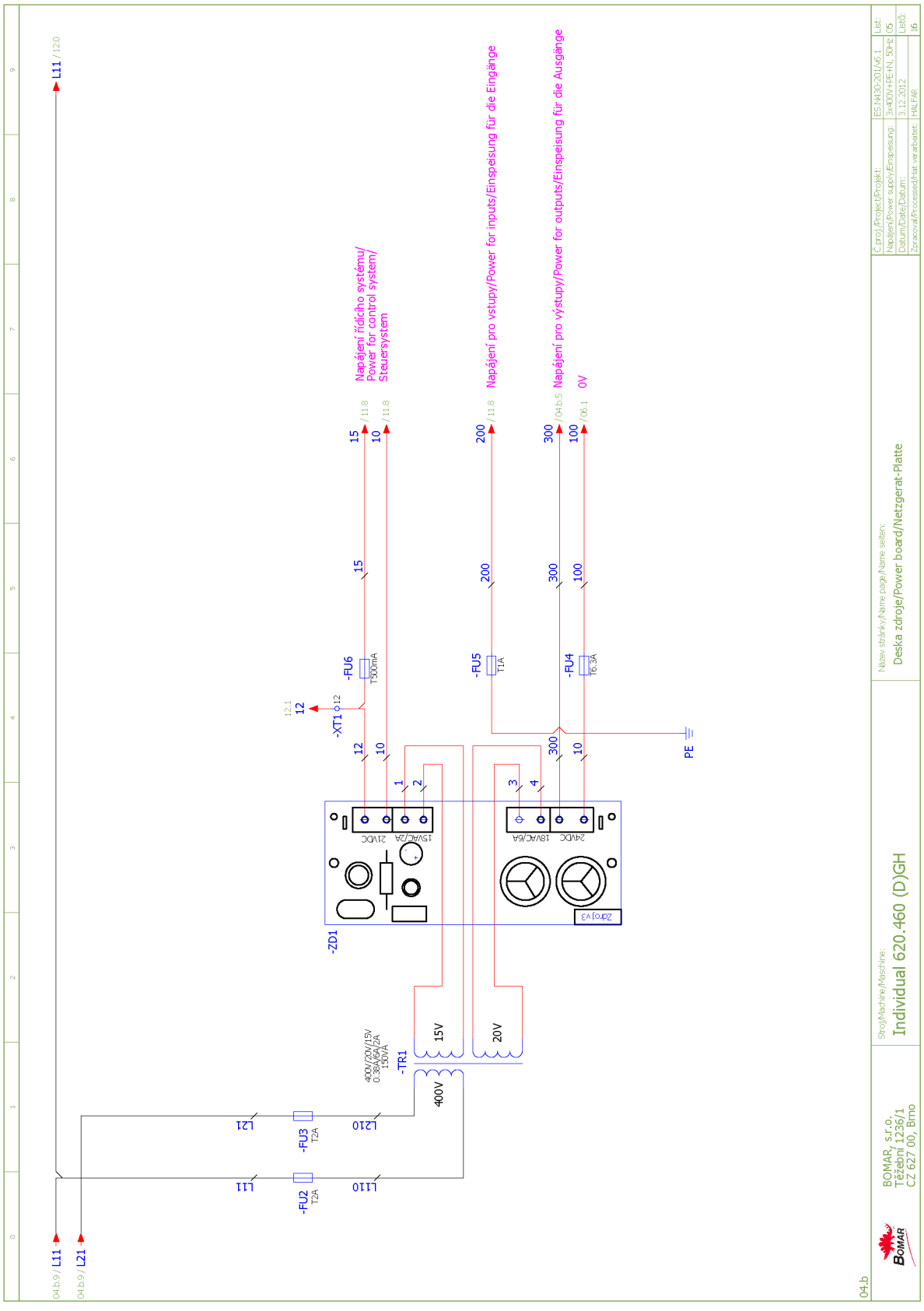
03

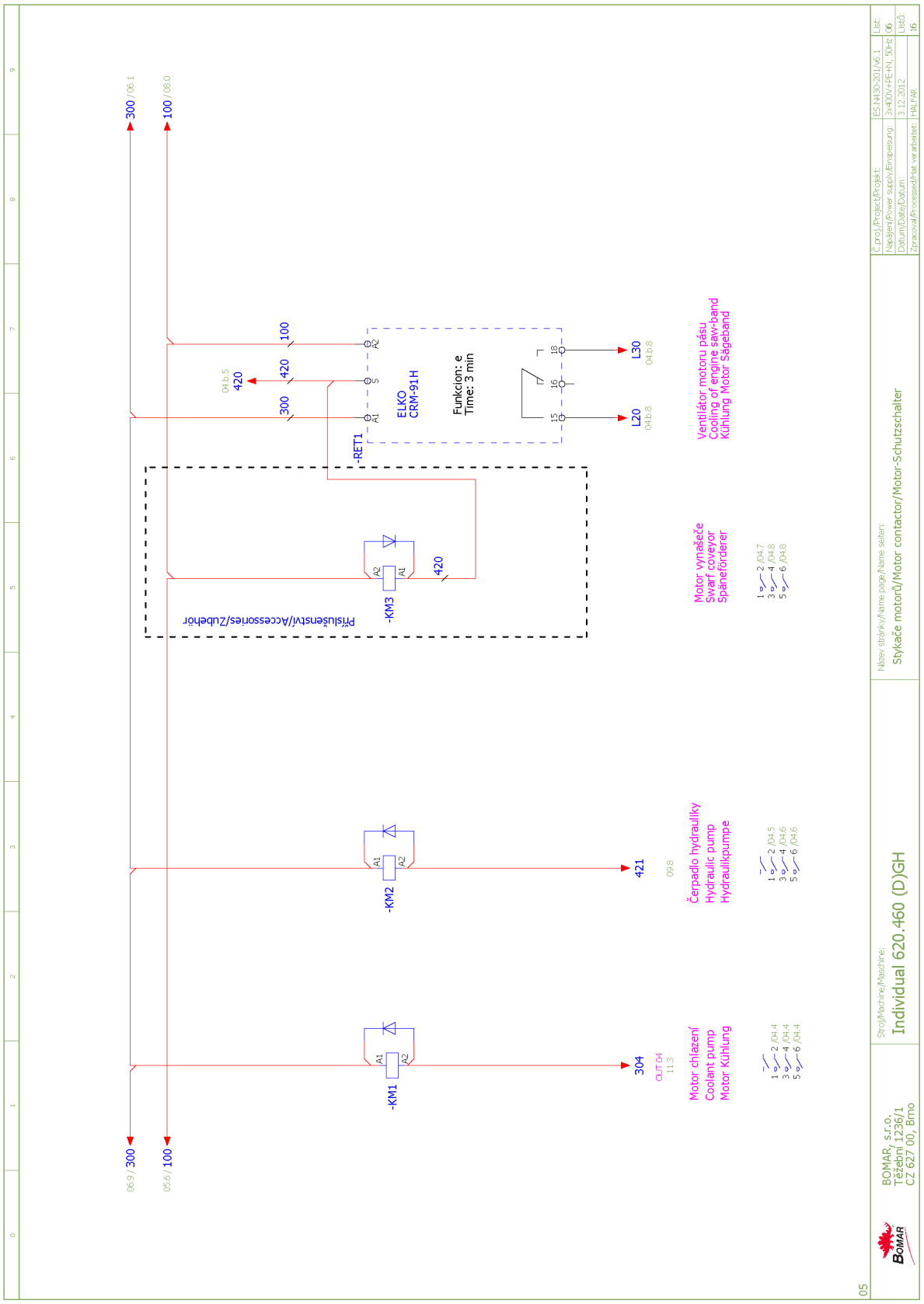
BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: Individual 620.460 (D)GH	Název stránky/Name page/Name seiten: Ovládací panel OP1/Control panel OP1/Bedienpult OP1	Č.proj./Project/Projekt: ES.N430-201/v6.1 List: 03a Napájení/Power supply/Einspeisung: 3x400V+PE+N, 50Hz Datum/Date/Datum: 3.12.2012 Listů: 16 Zpracoval/Processed/Hat verarbeitet: HALFAR

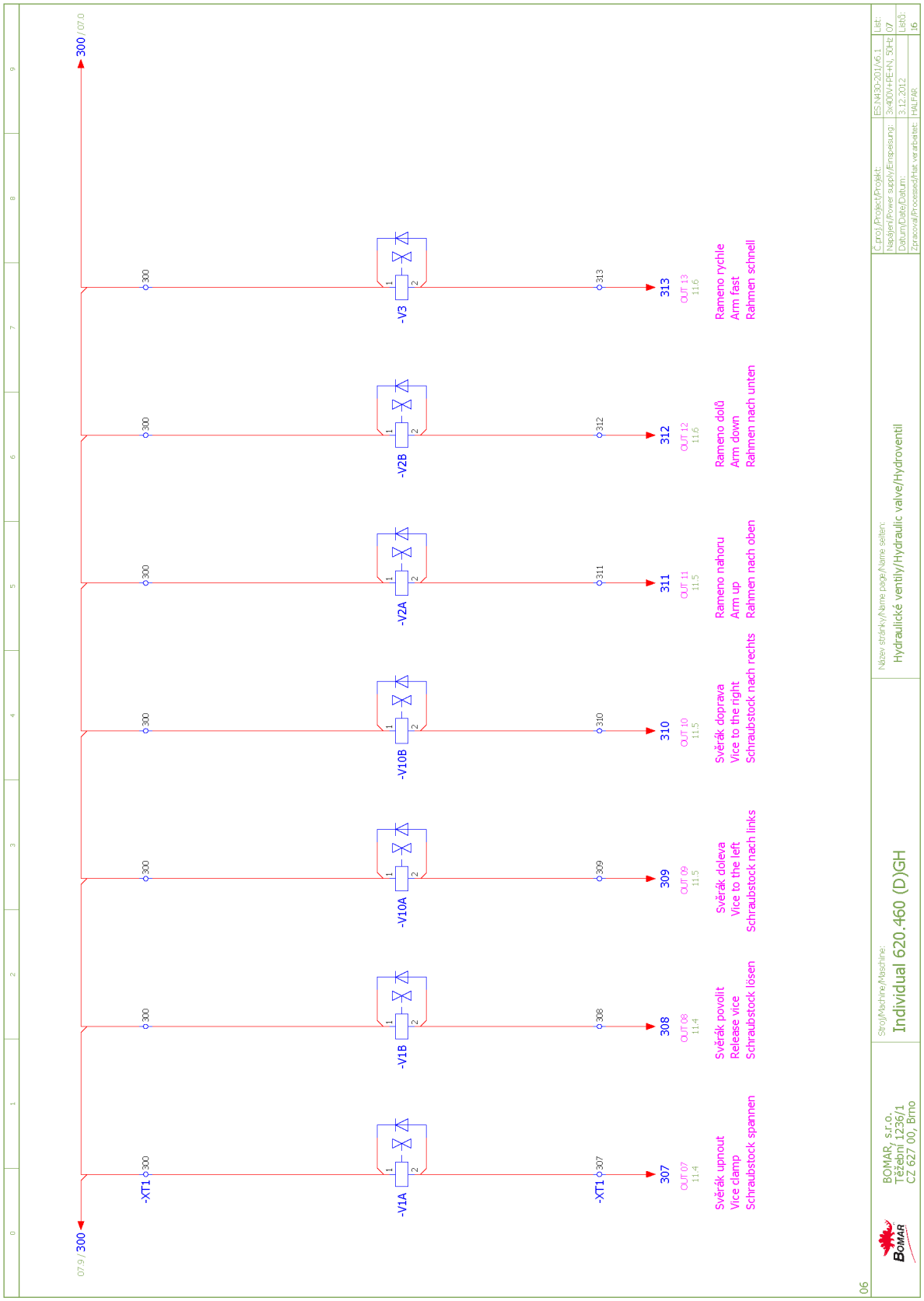


Manual version: 1.40 / Feb. 2013
Manual rev.: 1


L11 / 05.0
L21 / 05.0
L20 / 06.6
L30 / 06.7
-FU1
T200mA
-XT2
3x0,75
-M5
230V, 50Hz, 0.12A
Ventilátor motoru pásu
Cooling of engine saw-band
Kühlung motor sägeband
-PA1
20A gG
-KM11
-KM12
-RF11
-RF12
-FM1
3x400V 4kW
VACON 10
VACON0010-3L-0009-4
-M4
4kW, 230/400V, 14.48/8.36A, 50Hz, 1435rpm, cos 0.82
Motor pásu
Driving motor
Sägebandmotor
-RP1
301+
301-
400
401
420
300
105
1004
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Silová část M4, M5/Power part M4, M5/Feld partie M4, M5
ES:N430-201/V6.1
3x400V+PE+N, 50Hz
3.12.2012
HALFAR
04.b
16


L11 /12.0
04.b9/ L11
04.b9/ L21
-FU2 T2A
-FU3 T2A
L11
L21
L110
L210
400V
15V
20V
400V/20V/15V
0.38A/6A/2A
19VA
-TR1
-ZD1
15VAC/2A
21VDC
18VAC/6A
24VDC
Zdroj v3
-XT1
12.1
12
-FU6 T500mA
-FU5 T1A
-FU4 T6.3A
Napájení řídícího systému/
Power for control system/
Steuersystem
Napájení pro vstupy/Power for inputs/Einspeisung für die Eingänge
Napájení pro výstupy/Power for outputs/Einspeisung für die Ausgänge
0V
PE
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Deska zdroje/Power board/Netzgerat-Platte
C:proj./Projekt/Projekt:
ES:N430-201/V6.1
Napájení/Power supply/Einspeisung:
3x400V+PE+N, 50Hz
Datum/Date/Datum:
3.12.2012
Zpracoval/Processed/Hat verarbeitet:
HALPAR
List:
05
Listů:
16
04.b


300 /06.1
100 /06.0
06.9 / 300
05.6 / 100
-KM1
-KM2
-KM3
-RET1
ELKO
CRM-91H
Funkcion: e
Time: 3 min
Příslušenství/Accessories/Zubehör
Motor chlazení
Coolant pump
Motor Kühlung
Čerpadlo hydrauliky
Hydraulic pump
Hydraulikpumpe
Motor vynašeče
Swarf coveyor
Späneförderer
Ventilátor motoru pásu
Cooling of engine saw-band
Kühlung Motor Sägeband
304
421
L20
L30
420
100
300
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Stykače motorů/Motor contactor/Motor-Schutzschalter
ES:N430-201/V6.1
3x400V+PE+N, 50Hz
3.12.2012
HALFAR
05



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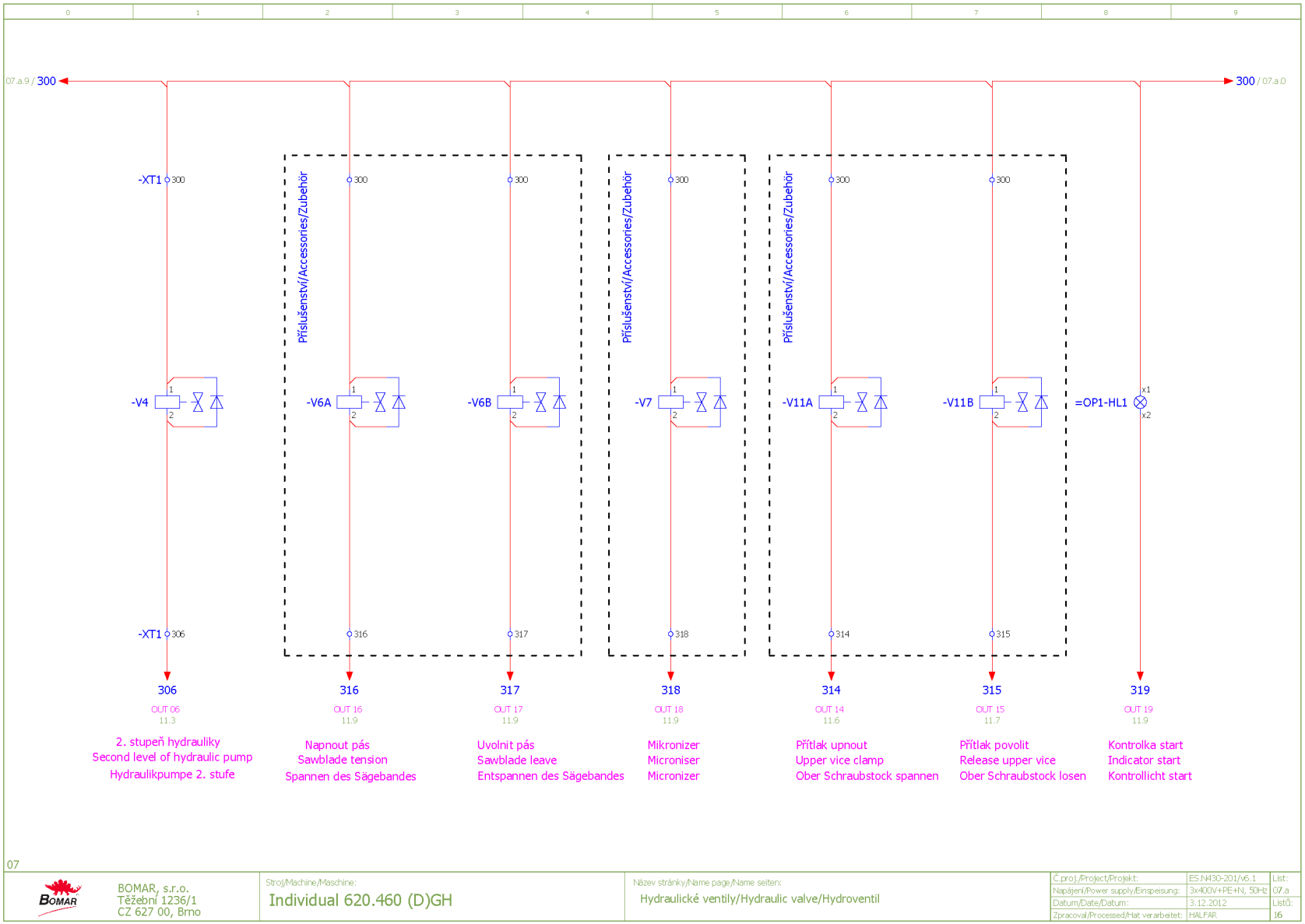
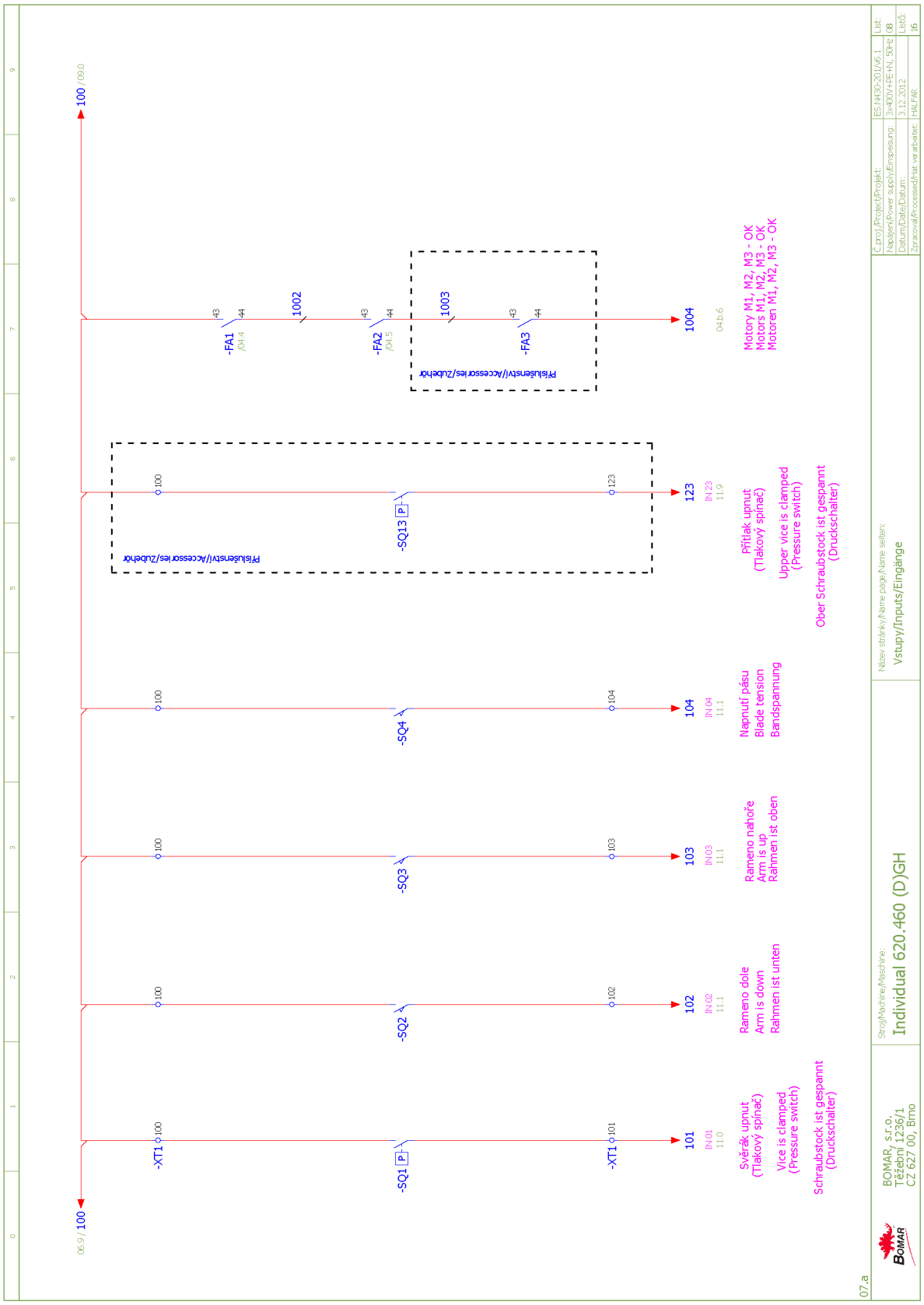
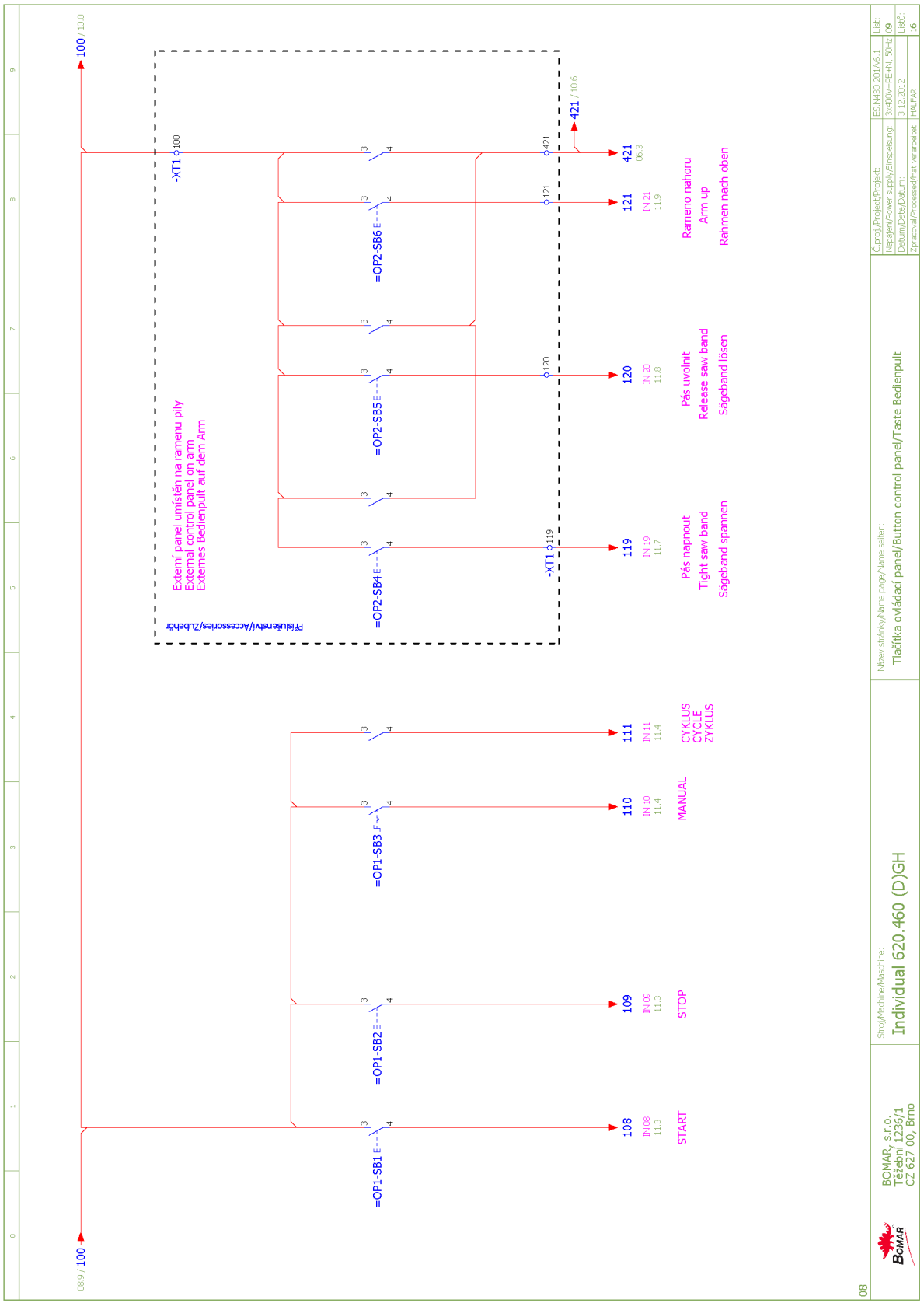
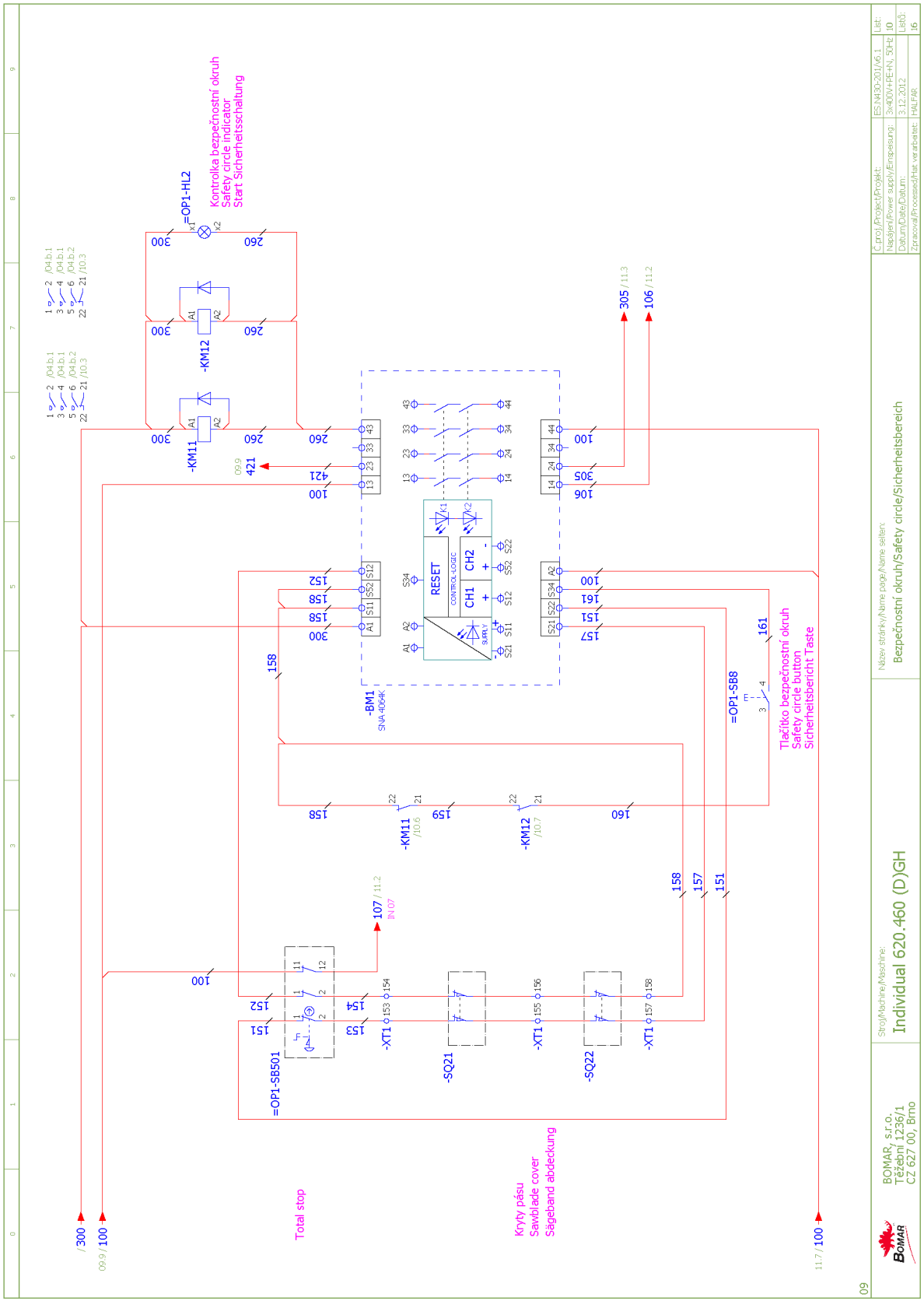
Manual rev.: 1



Schémata
Schemas
Schematics


100 / 09.0
06.9 / 100
-XT1
-SQ1
-SQ2
-SQ3
-SQ4
-SQ13
-FA1
-FA2
-FA3
Příslušenství/Accessories/Zubehör
Svěrák upnut
(Tlakový spínač)
Vice is clamped
(Pressure switch)
Schraubstock ist gespannt
(Druckschalter)
Rameno dole
Arm is down
Rahmen ist unten
Rameno nahoře
Arm is up
Rahmen ist oben
Napnutí pásu
Blade tension
Bandspannung
Přítlak upnut
(Tlakový spínač)
Upper vice is clamped
(Pressure switch)
Ober Schraubstock ist gespannt
(Druckschalter)
Motory M1, M2, M3 - OK
Motors M1, M2, M3 - OK
Motoren M1, M2, M3 - OK
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Vstupy/Inputs/Eingänge
ES:N430-201/V6.1
3x400V+PE+N, 50Hz
3.12.2012
HAL FAR
07.a


100 / 10.0
06.9 / 100
-XT1 100
Externí panel umístěn na ramenu pily
External control panel on arm
Externes Bedienpult auf dem Arm
Příslušenství/Accessories/Zubehör
=OP1-SB1 E---
=OP1-SB2 E---
=OP1-SB3 F---
=OP2-SB4 E---
=OP2-SB5 E---
=OP2-SB6 E---
108
109
110
111
119
120
121
421
-XT1 119
-XT1 120
-XT1 121
-XT1 421
421 / 10.6
START
STOP
MANUAL
CYKLUS
CYCLE
ZYKLUS
Pás napnout
Tight saw band
Sägeband spannen
Pás uvolnit
Release saw band
Sägeband lösen
Rameno nahoru
Arm up
Rahmen nach oben
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Tlačítka ovládací panel/Button control panel/Taste Bedienpult
Č.proj./Projekt/Projekt:
ES:N430-201/V6.1
Napájení/Power supply/Einspeisung:
3x400V+PE+N, 50Hz
Datum/Date/Datum:
3.12.2012
Zpracoval/Processed/Hat verarbeitet:
HALFAR
List:
09
Listů:
16
08



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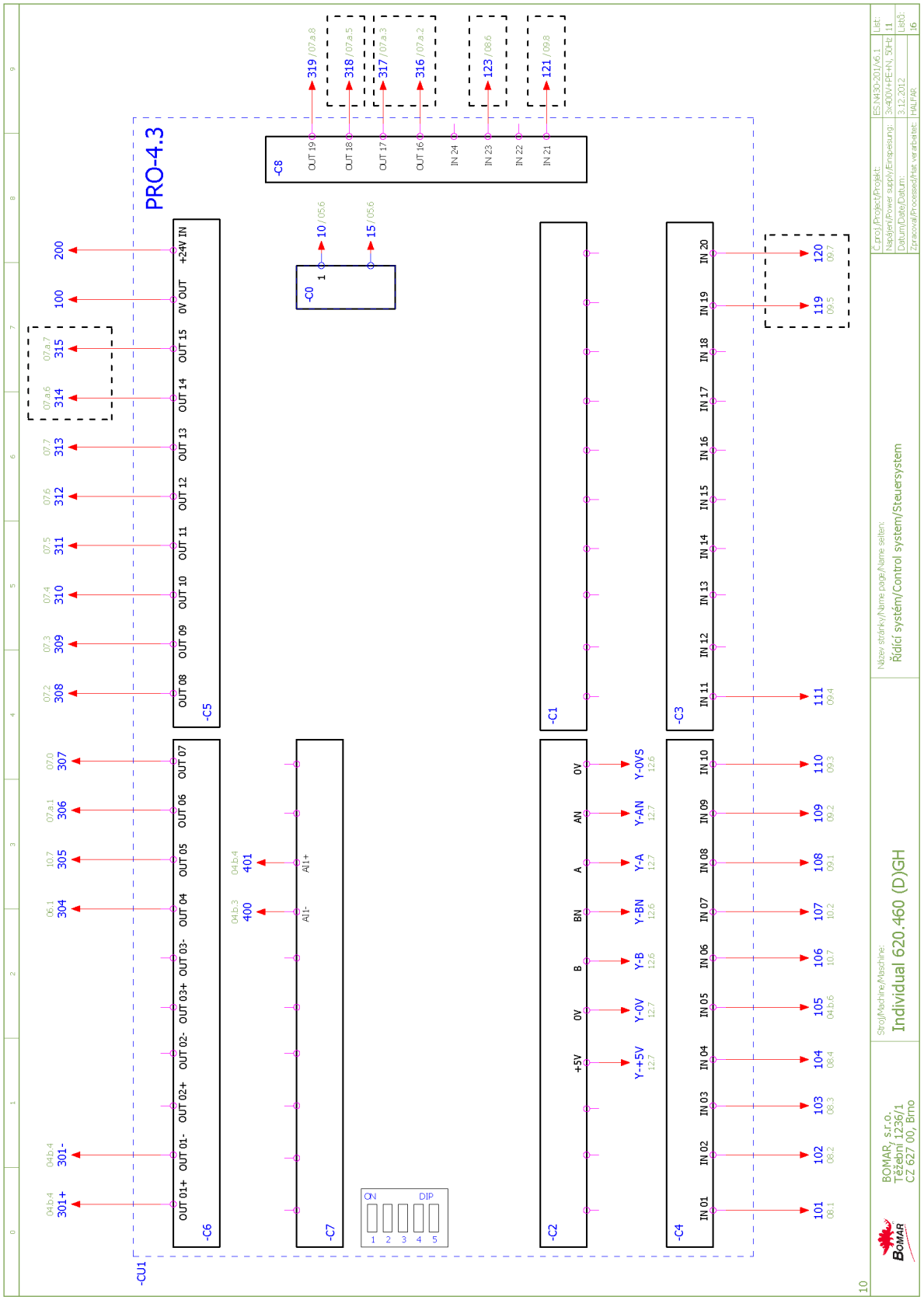
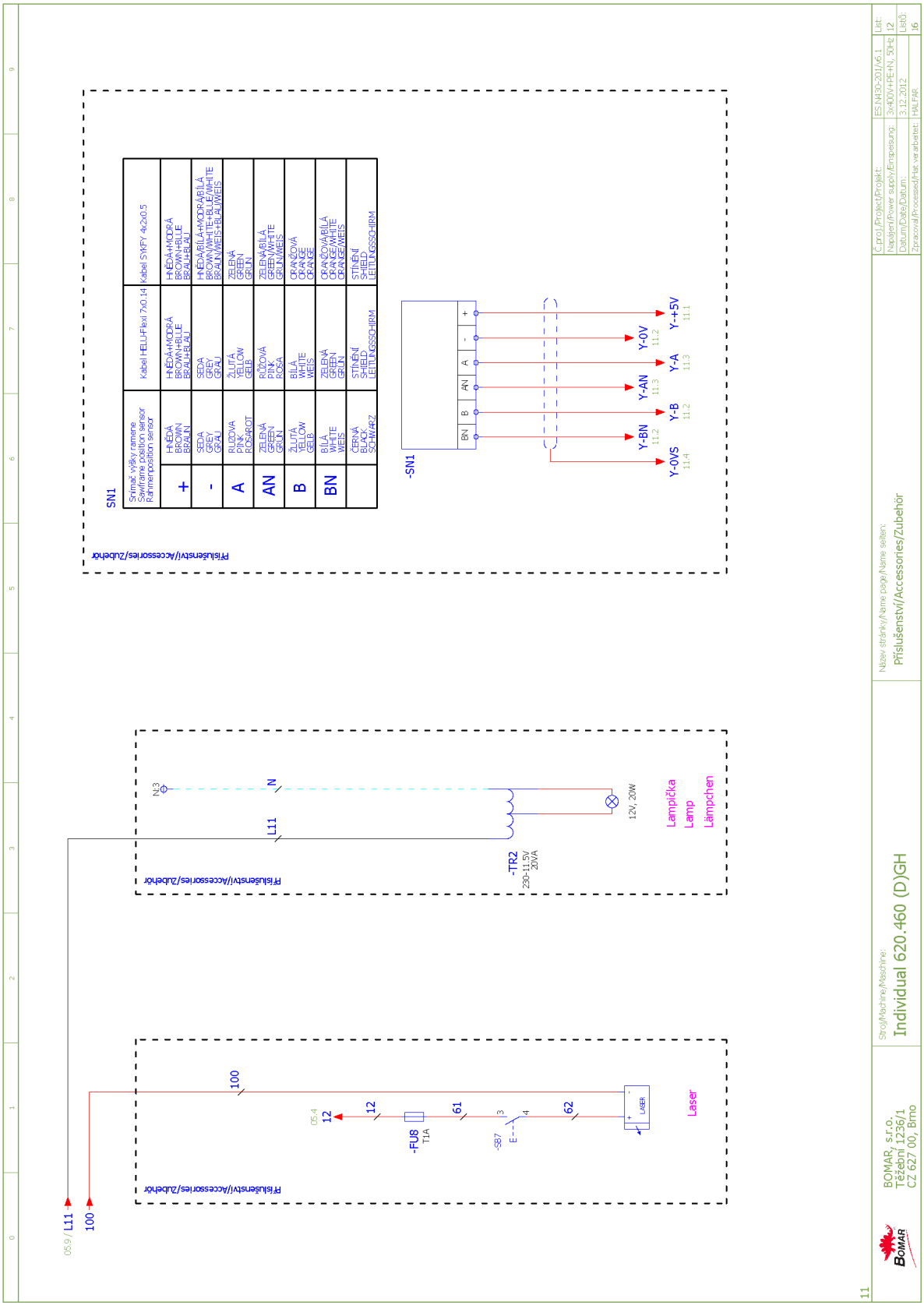

PRO-4.3
-CU1
-C0
-C1
-C2
-C3
-C4
-C5
-C6
-C7
-C8
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Názvy stránky/Name page/Name seiten:
Řídicí systém/Control system/Steuersystem
Číslo projektu/Project/Projekt:
ES.N430-2011/46.1
Napájení/Power supply/Einspeisung:
3x400V+PE+N, 50Hz
Datum/Date/Datum:
3.12.2012
Zpracoval/Processed/Hat verarbeitet:
HALFAR
List:
11
Listů:
16

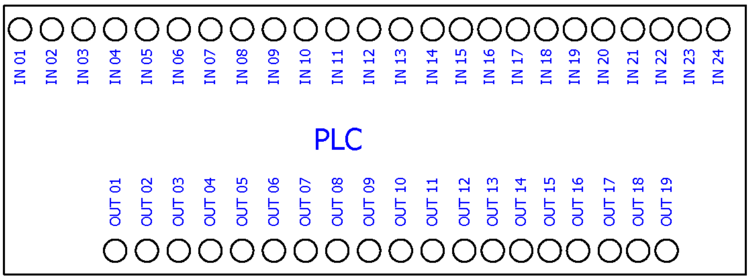


Manual version: 1.40 / Feb. 2013
Manual rev.: 1

6.4. Elektrické schema / Elektroschema / Wiring diagrams – 3×400 V, TN-C-S,2S, 50 Hz

Obsah/ Table of contents/ Inhaltsverzeichnis

Individual 620.460 (D)GH



HW	
FW	

Pohled ze spodu/From under view/Blick nach

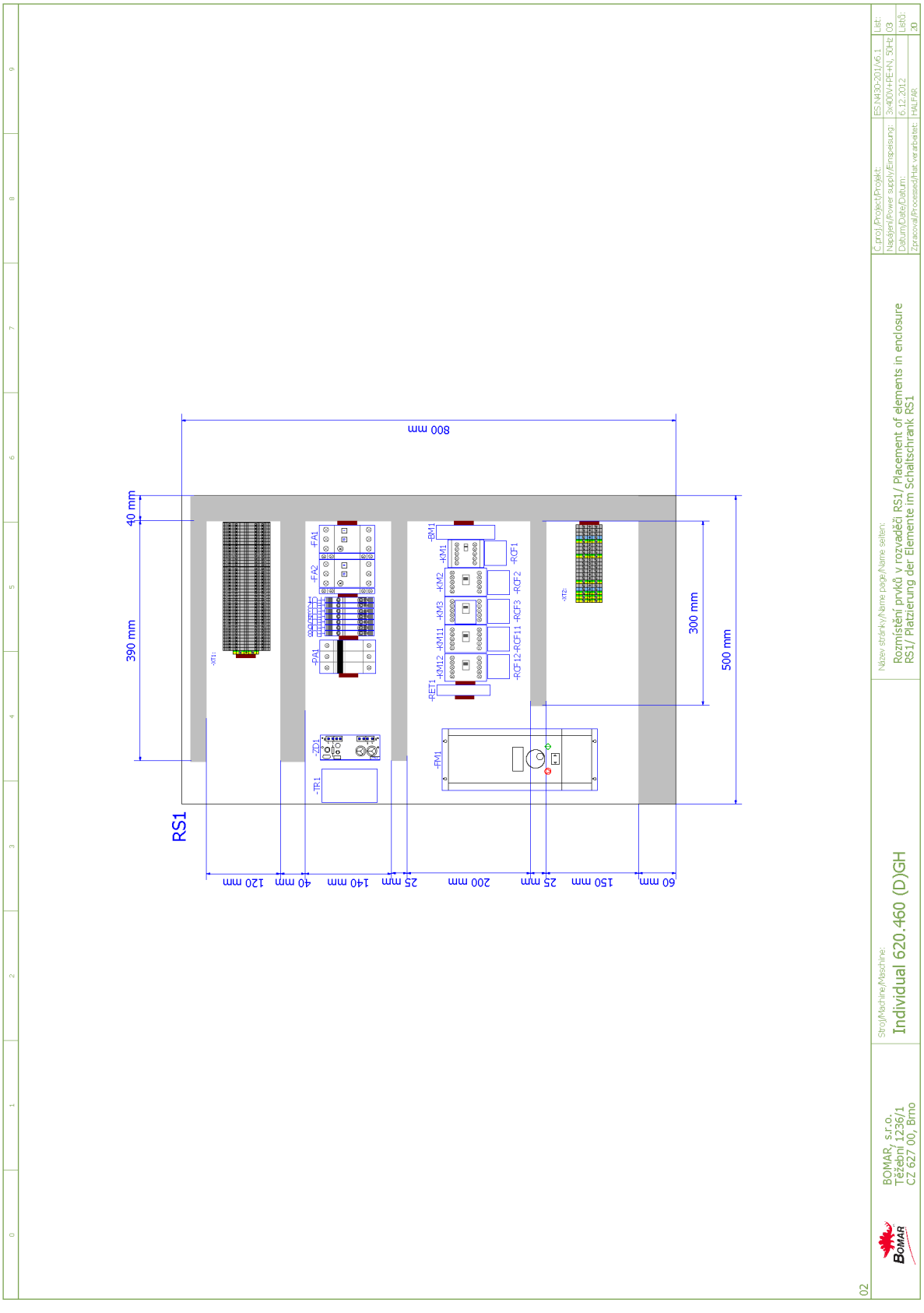
I/O	CZE	ENG	DE
IN 01	Svěrák upnut	Vice is clamped	Schraubstock ist gespannt
IN 02	Rameno dole	Arm is down	Rahmen ist unten
IN 03	Rameno nahoře	Arm is up	Rahmen ist oben
IN 04	Napnutí pásu	Blade tension	Bandspannung
IN 05	Motory OK	Motors OK	Motoren OK
IN 06	Bezpečnostní okruh uzavřen	Safety circle shut down	Sicherheitsschaltung gesperrt
IN 07	Tlačítko TOTAL STOP	Button TOTAL STOP	Taste TOTAL STOP
IN 08	Tlačítko START	Button START	Taste START
IN 09	Tlačítko STOP	Button STOP	Taste STOP
IN 10	MANUAL	MANUAL	MANUAL
IN 11	CYKLUS	CYCLE	ZYKLUS
IN 12	NC	NC	NC
IN 13	NC	NC	NC
IN 14	NC	NC	NC
IN 15	NC	NC	NC
IN 16	NC	NC	NC
IN 17	NC	NC	NC
IN 18	NC	NC	NC
IN 19	Tlačítko napnout pás	Button band tension	Taste band spannen
IN 20	Tlačítko povolit pás	Button band release	Taste band lösen
IN 21	Tlačítko rameno nahoru	Button arm up	Taste Rahmen nach oben
IN 22	NC	NC	NC
IN 23	Přítlak upnut	Upper vice is clamped	Ober Schraubstock ist gespannt
IN 24	NC	NC	NC
OUT 01+ OUT 01-	Start FM1	Start FM1	Start FM1
OUT 02+ OUT 02-	NC	NC	NC
OUT 03+ OUT 03-	NC	NC	NC
OUT 04	Motor chlazení	Coolant pump	Motor Kühlung
OUT 05	Čerpadlo hydrauliky 1.rychlost	Hydraulic pump 1.speed	Hydraulikpumpe 1.Geschwindigkeit
OUT 06	Čerpadlo hydrauliky 2.rychlost	Hydraulic pump 2.speed	Hydraulikpumpe 2.Geschwindigkeit
OUT 07	Svěrák upnout	Vice clamp	Schraubstock spannen
OUT 08	Svěrák povolit	Release vice	Schraubstock lösen
OUT 09	Svěrák doleva	Vice to the left	Schraubstock nach links
OUT 10	Svěrák doprava	Vice to the right	Schraubstock nach rechts
OUT 11	Rameno nahoru	Arm up	Rahmen nach oben
OUT 12	Rameno dolů	Arm down	Rahmen nach unten
OUT 13	Rameno rychle	Arm fast	Rahmen schnell
OUT 14	Přítlak upnout	Upper vice clamp	Ober Schraubstock spannen
OUT 15	Přítlak povolit	Release upper vice	Ober Schraubstock lösen
OUT 16	Napnout pás	Sawblade tension	Spannen des Sägebandes
OUT 17	Uvolnit pás	Sawblade leave	Entspannen des Sägebandes
OUT 18	Mikronizer	Microniser	Mikronizer
OUT 19	Kontrolka start	Indicator start	Kontrollicht start

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

Stroj/Machine/Maschine: Individual 620.460 (D)GH

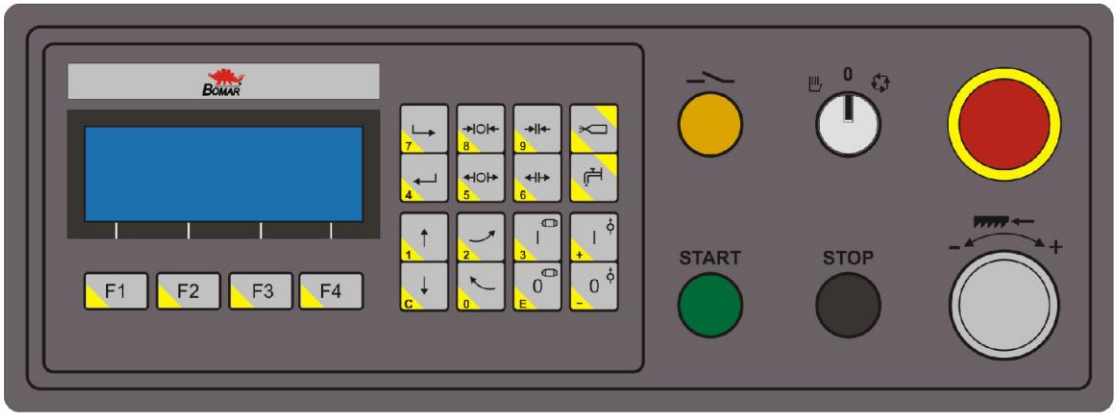
Název stránky/Name page/Name seiten: I/O řídící systém / I/O Control station / I/O Steuerung

Č.proj./Project/Projekt:	ES.N430-201/v6.1	List: 02
Napájení/Power supply/Einspeisung:	3x400V+PE+N, 50Hz	
Datum/Date/Datum:	6.12.2012	Listů: 20
Zpracoval/Processed/Hat verarbeitet:	HALFAR	


800 mm
40 mm
390 mm
300 mm
500 mm
RS1
120 mm
40 mm
140 mm
25 mm
200 mm
25 mm
150 mm
60 mm
-XT1:
-FA1
-FA2
-PA1
-TD1
-TR1
-BM1
-KM1
-KM2
-KM3
-KM11
-KM12
-RET1
-RGF1
-RGF2
-RGF3
-RGF11
-RGF12
-FM1
-XT2:
02
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Rozmístění prvků v rozvaděči RS1/ Placement of elements in enclosure
RS1/ Platzierung der Elemente im Schaltschrank RS1
Č.proj./Projekt/Projekt:
ES.1M430-2011/A6.1
List:
03
Napájení/Power supply/Einspeisung:
3x400V+PE+N, 50Hz
Listů:
30
Datum/Date/Datum:
6.12.2012
Zpracoval/Processed/Hat verarbeitet:
HALPAR

OP1

SB8, HL2 SB3 SB501

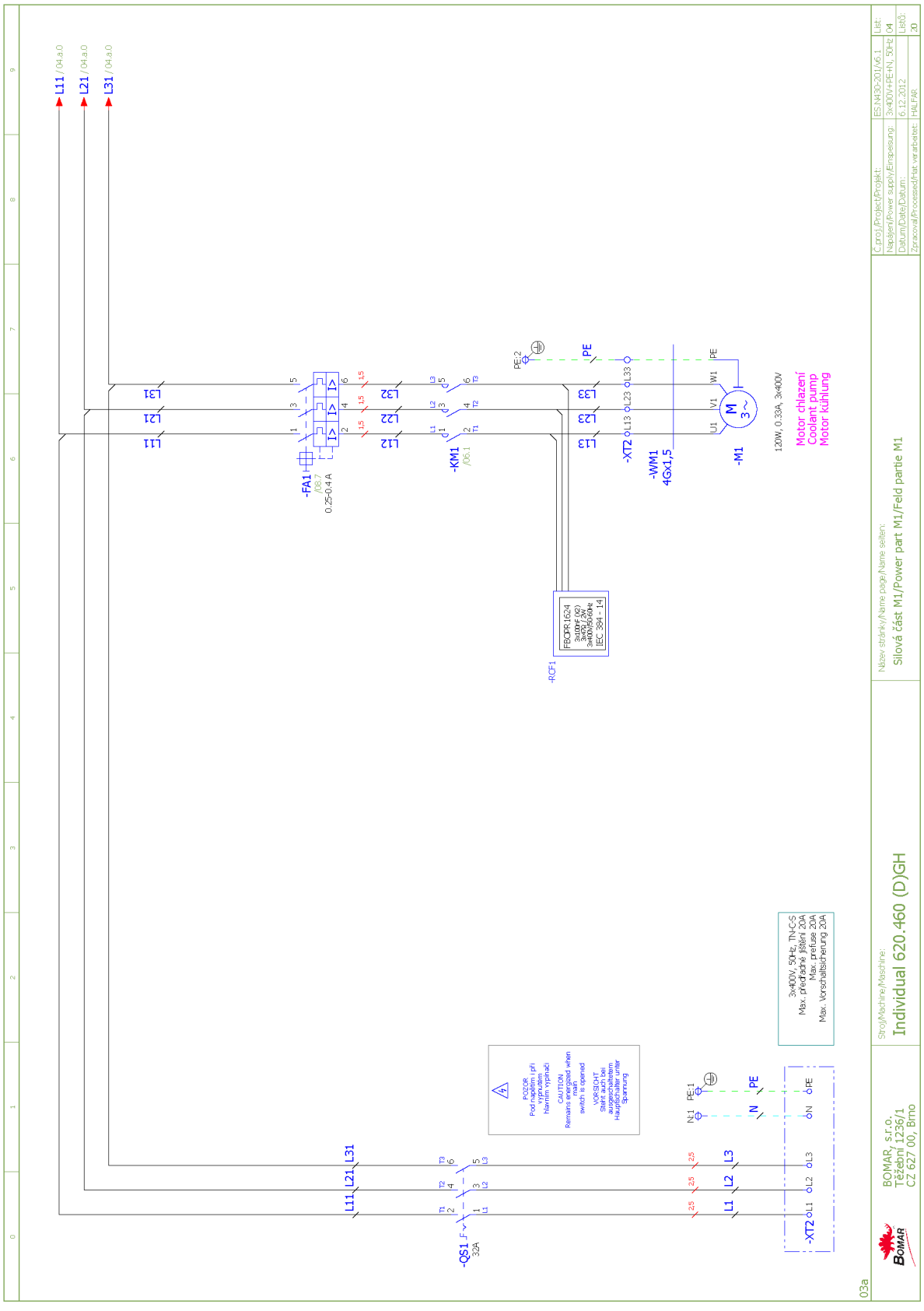


SB1, HL1 SB2 RP1

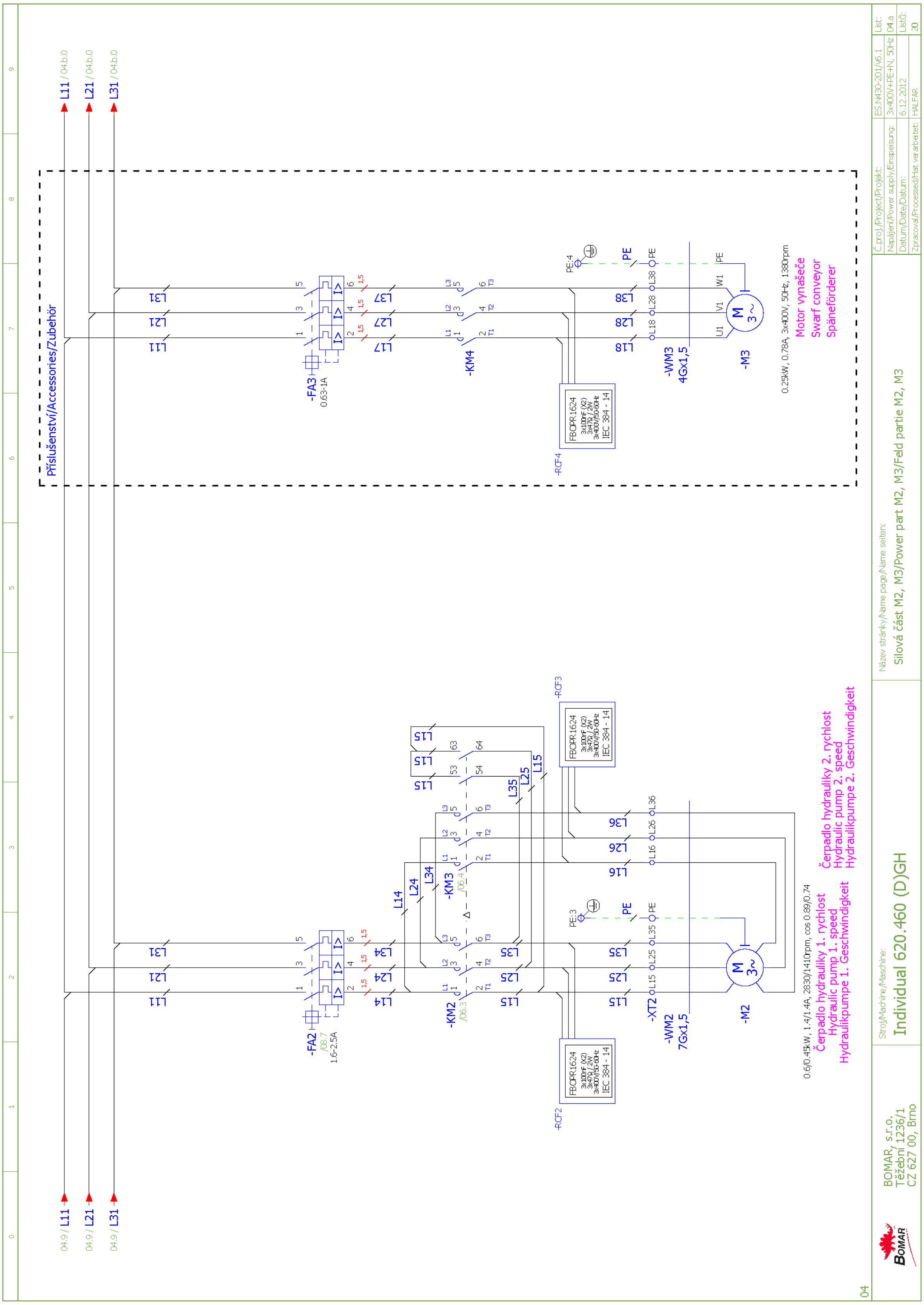
03

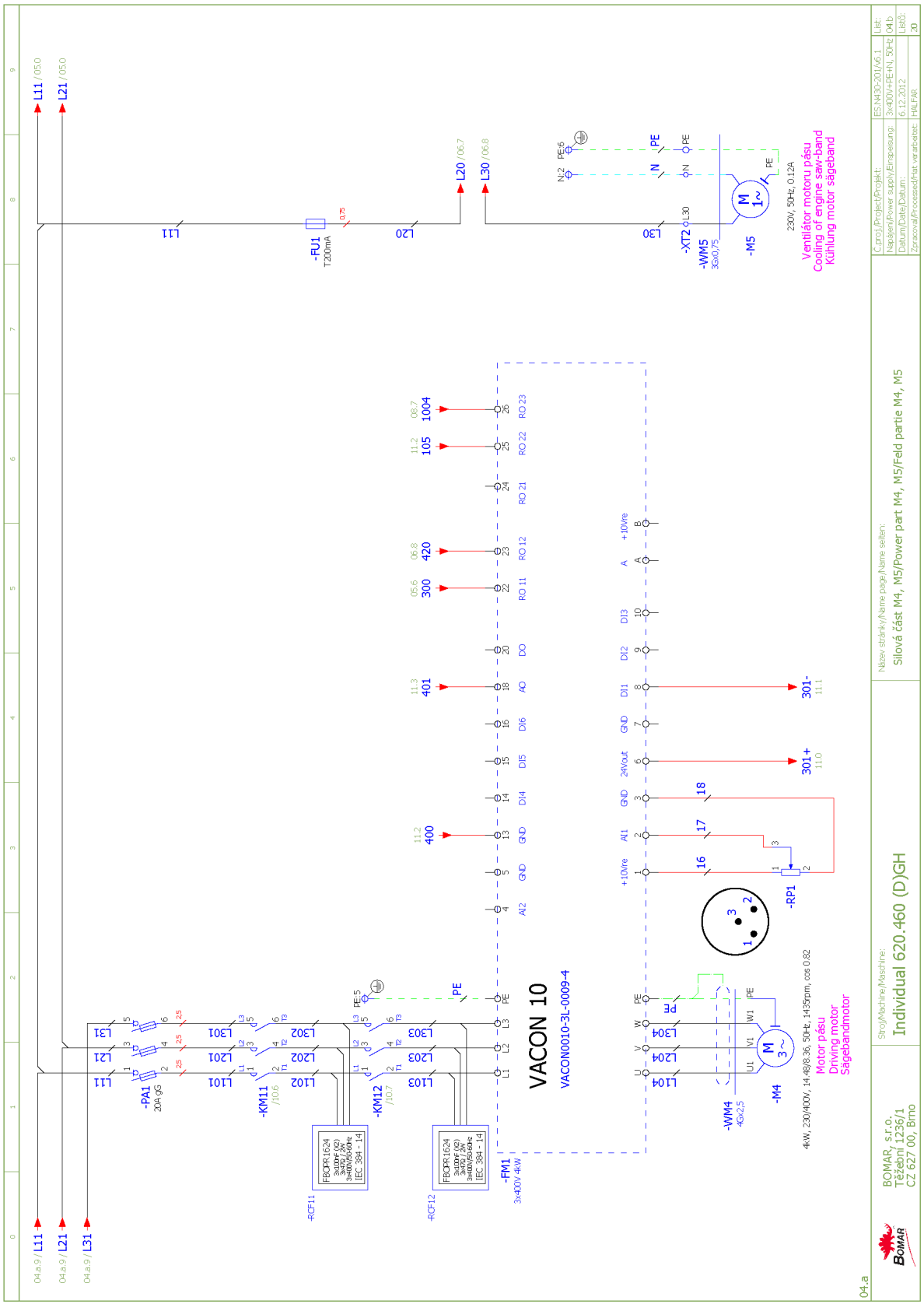
BOMAR, s.r.o. Těžební 1236/1 CZ 627 00, Brno	Stroj/Machine/Maschine: Individual 620.460 (D)GH	Název stránky/Name page/Name seiten: Ovládací panel OP1/Control panel OP1/Bedienpult OP1	Č.proj./Project/Projekt:	ES.N430-201/v6.1
			Napájení/Power supply/Einspeisung:	3x400V+PE+N, 50Hz
			Datum/Date/Datum:	6.12.2012
			Zpracoval/Processed/Hat verarbeitet:	HALFAR

List:	03a
Listů:	20

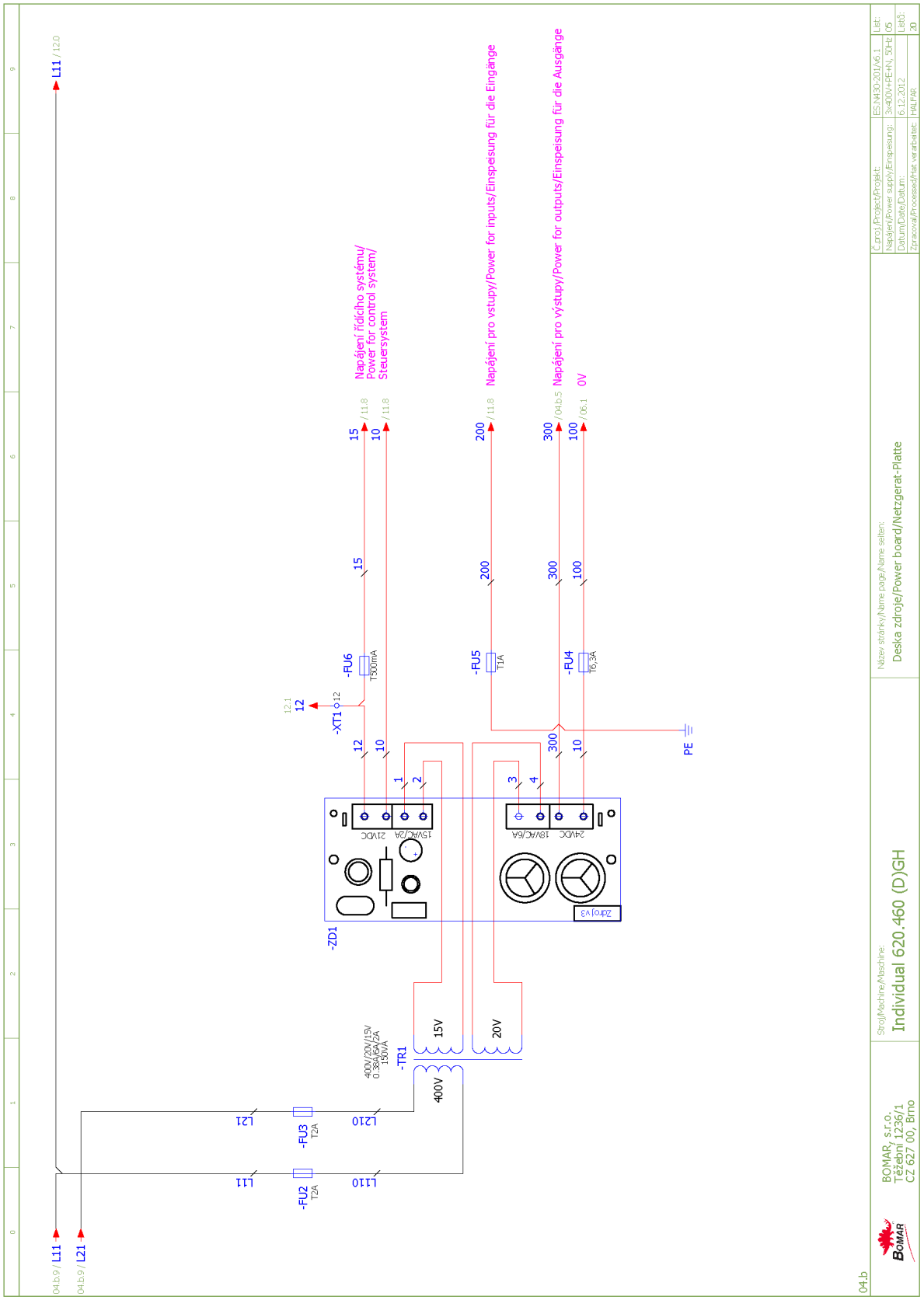


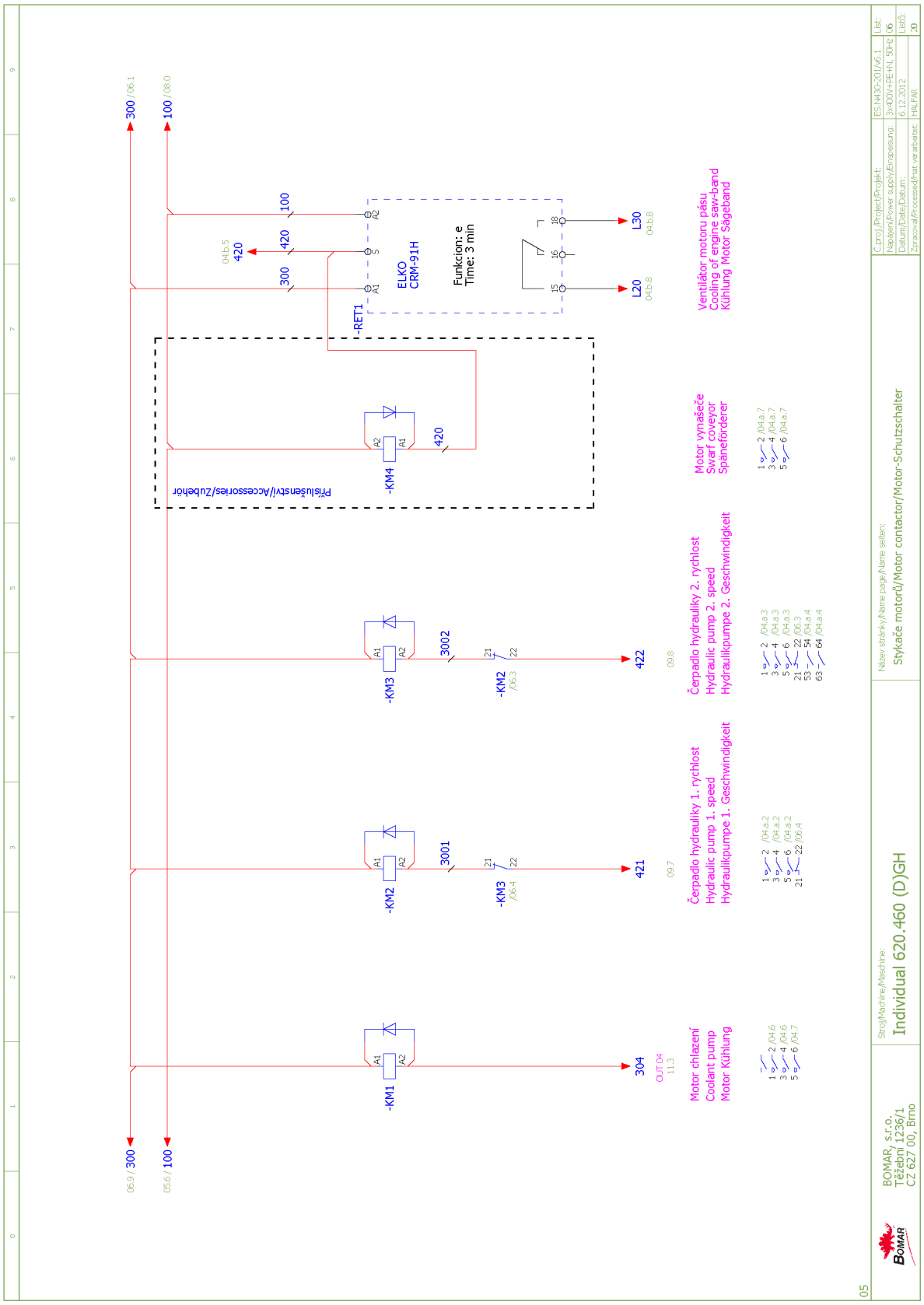
Manual version: 1.40 / Feb. 2013
Manual rev.: 1

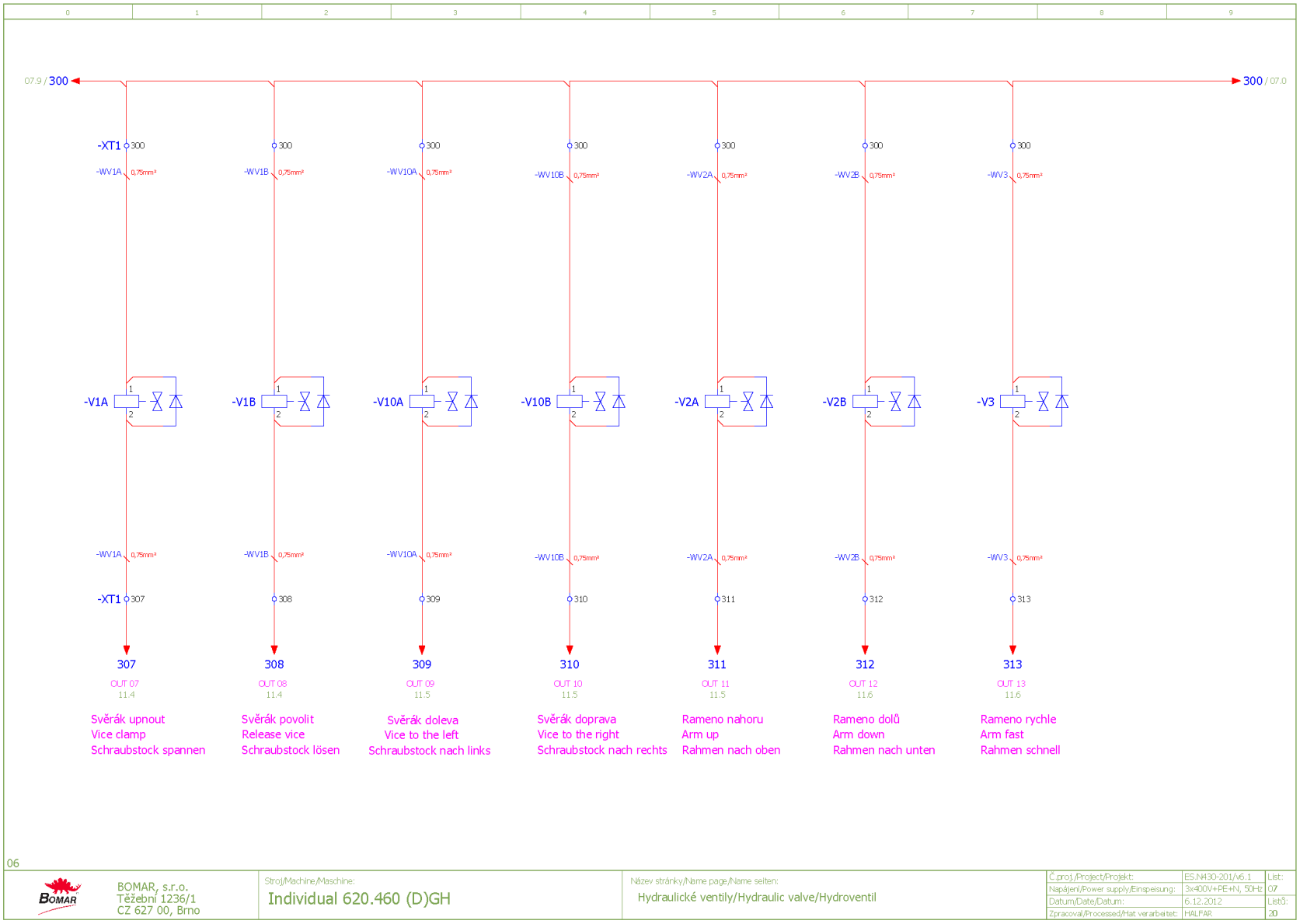

Příslušenství/Accessories/Zubehör
Motor vynašeče
Swarf conveyor
Spänefördererer
0.25kW, 0.78A, 3x400V, 50Hz, 1380rpm
Čerpadlo hydrauliky 1. rychlost
Hydraulic pump 1. speed
Hydraulikpumpe 1. Geschwindigkeit
Čerpadlo hydrauliky 2. rychlost
Hydraulic pump 2. speed
Hydraulikpumpe 2. Geschwindigkeit
0.6/0.45kW, 1.4/1.4A, 2830/1410rpm, cos 0.89/0.74
-FA2
1.6-2.5A
-FA3
0.63-1A
-KM2
-KM3
-KM4
-M2
-M3
-XT2
-WM2
7Gx1,5
-WM3
4Gx1,5
-RCF2
-RCF3
-RCF4
FBOPR1624
IEC 384 - 14
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Silová část M2, M3/Power part M2, M3/Feld partie M2, M3
Č.proj./Project/Projekt: ES-N430-201/V6.1
Napájení/Power supply/Einspeisung: 3x400V+PE+N, 50Hz
Datum/Date/Datum: 6.12.2012
Zpracoval/Processed/Hat verarbeitet: HALFAR
List: 04.a
Listů: 30



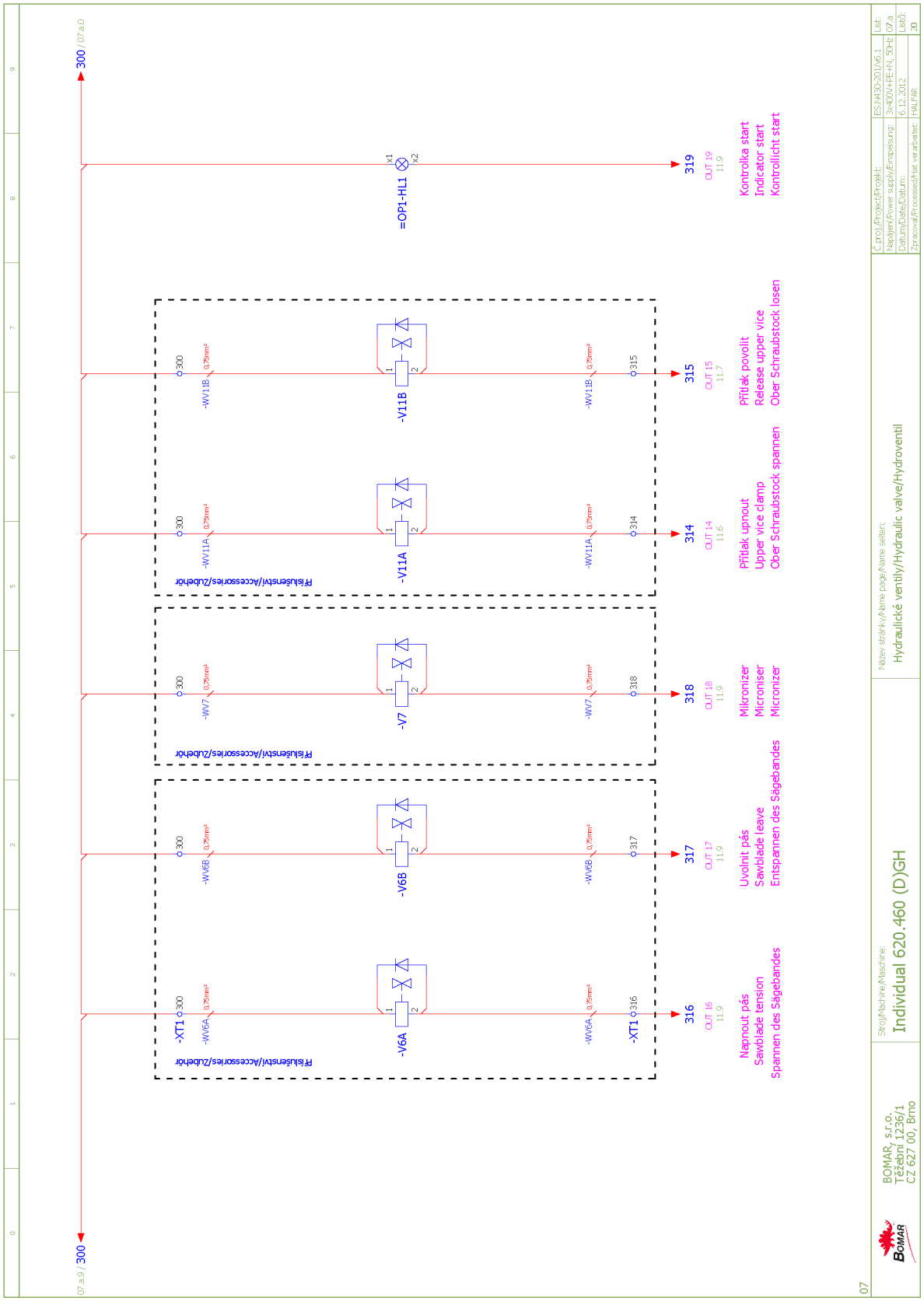
Manual version: 1.40 / Feb. 2013
Manual rev.: 1

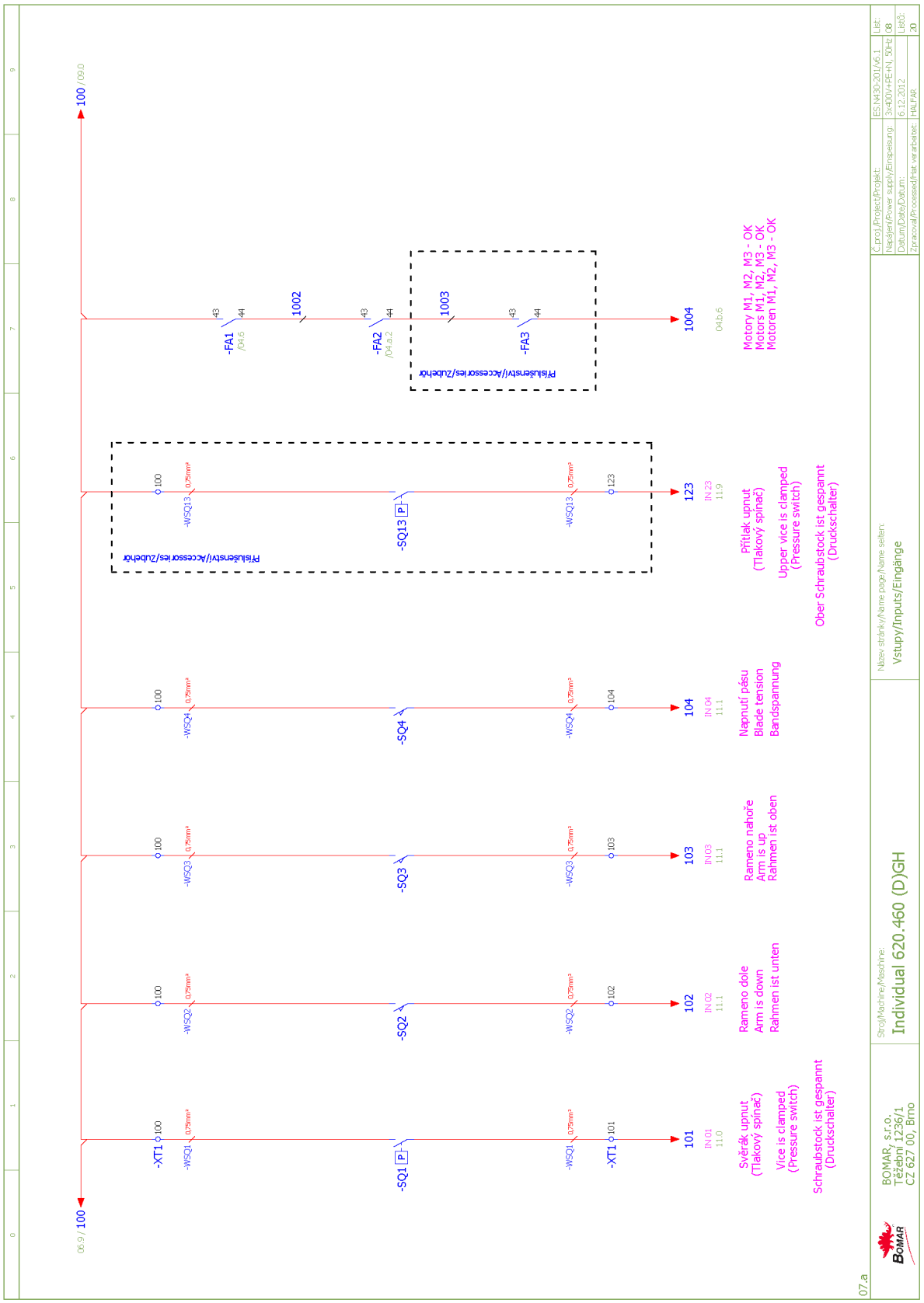

L11 /12.0
04.b.9 / L11
04.b.9 / L21
-FU2 T2A
-FU3 T2A
-TR1
400V/220V/15V
0.38A/0A/2A
150VA
400V
15V
20V
-ZD1
-XT1
-FU6 T500mA
-FU5 T1A
-FU4 T6,3A
Napájení řídícího systému/
Power for control system/
Steuersystem
Napájení pro vstupy/Power for inputs/Einspeisung für die Eingänge
Napájení pro výstupy/Power for outputs/Einspeisung für die Ausgänge
0V
PE
15VAC/2A
21VDC
18VAC/6A
24VDC
Zdroj v3
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Deska zdroje/Power board/Netzgerat-Platte
Č.proj./Project/Projekt:
ES1.M30-2011/V6.1
Napájení/Power supply/Einspeisung:
3x400V+PE+N, 50Hz
Datum/Date/Datum:
6.12.2012
Zpracoval/Processed/Hat verarbeitet:
HALFAR
List:
05
Listů:
20
04.b

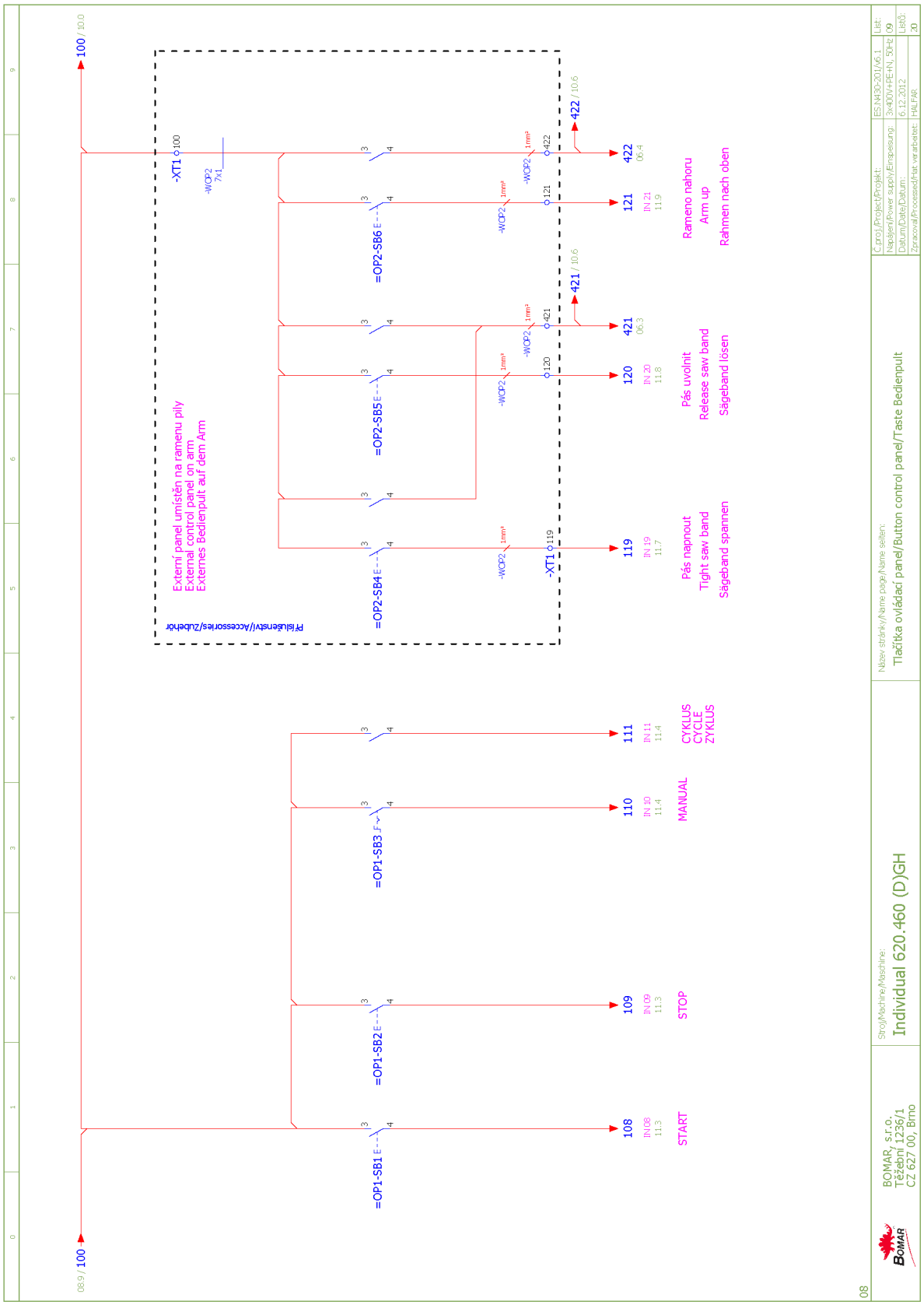

300 / 06.1
100 / 08.0
06.9 / 300
05.6 / 100
-KM1
-KM2
-KM3
-KM4
-RET1
ELKO
CRM-91H
Funkcion: e
Time: 3 min
Příslušenství/Accessories/Zubehör
Motor chlazení
Coolant pump
Motor Kühlung
Čerpadlo hydrauliky 1. rychlost
Hydraulic pump 1. speed
Hydraulikpumpe 1. Geschwindigkeit
Čerpadlo hydrauliky 2. rychlost
Hydraulic pump 2. speed
Hydraulikpumpe 2. Geschwindigkeit
Motor vynašeče
Swarf conveyor
Spänenförderer
Ventilátor motoru pásu
Cooling of engine saw-band
Kühlung Motor Sageband
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Stykače motorů/Motor contactor/Motor-Schutzschalter
ES:N430-201/V6.1
3x400V+PE+N, 50Hz
6.12.2012
HAL FAR
List: 06
Listů: 20
05

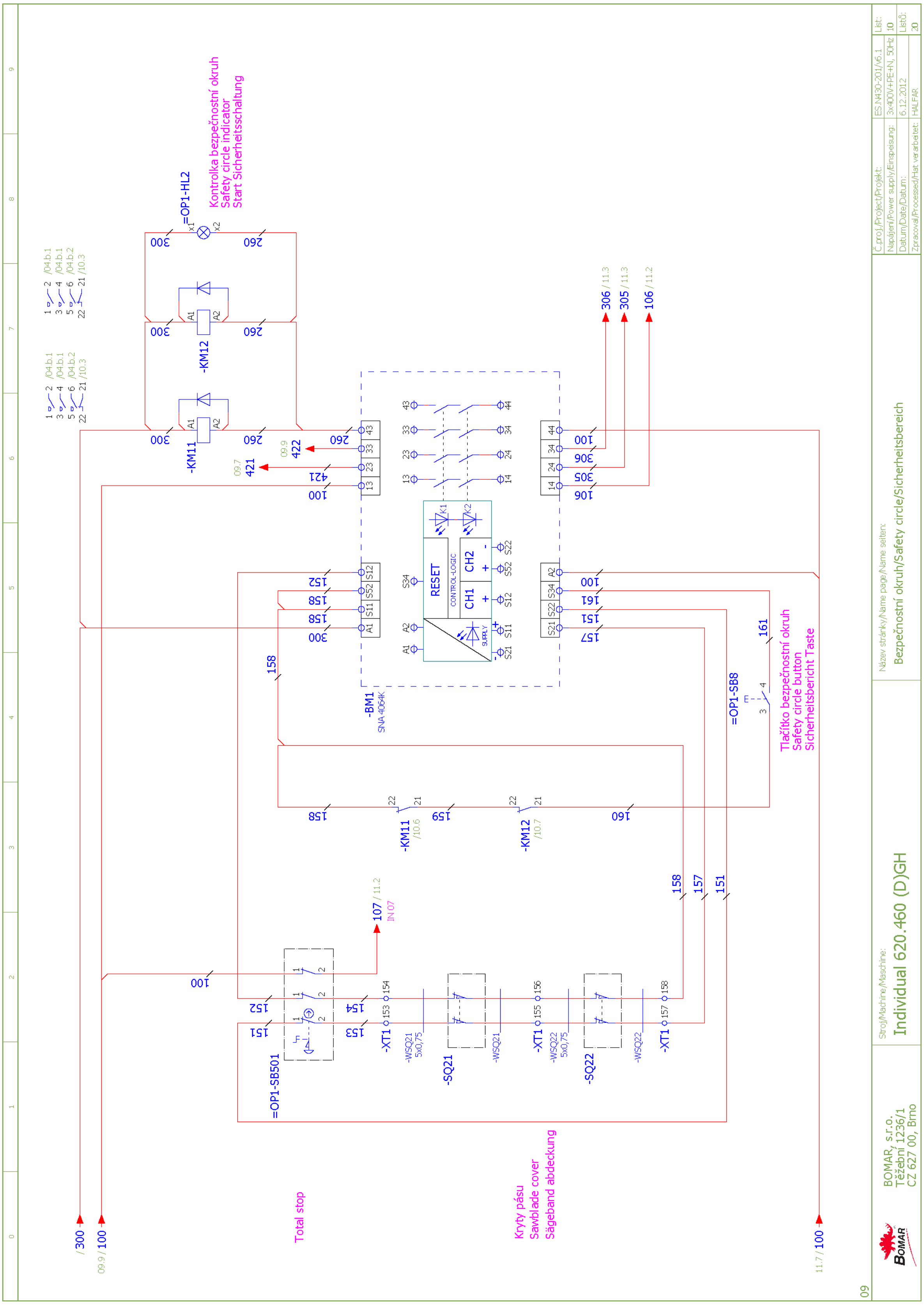


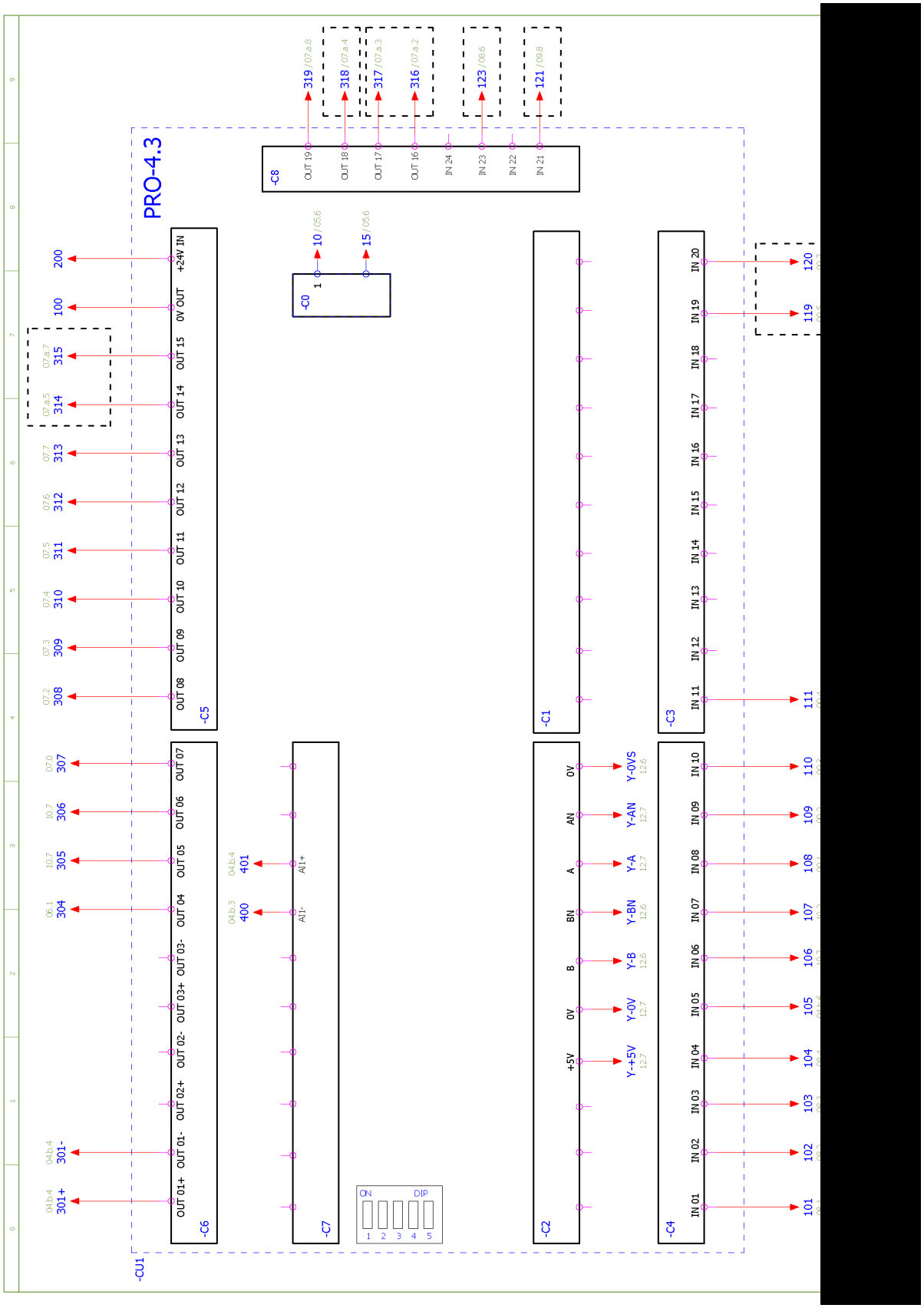
Schémata
Schemas
Schematics


300 / 07.a.0
07.a.9 / 300
=OP1-HL1
-V11B
-V11A
-V7
-V6B
-V6A
-XT1
319
315
314
318
317
316
Kontrolka start
Indicator start
Kontrollicht start
Přítlak povolit
Release upper vice
Ober Schraubstock losen
Přítlak upnout
Upper vice clamp
Ober Schraubstock spannen
Mikronizer
Microniser
Micronizer
Uvolnit pás
Sawblade leave
Entspannen des Sägebandes
Napnout pás
Sawblade tension
Spannen des Sägebandes
Příslušenství/Accessories/Zubehör
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Názvy stránky/Name page/Name seiten:
Hydraulické ventily/Hydraulic valve/Hydroventil
Č.proj./Projekt/Projekt:
ES.N430-2011/A6.1
Napájení/Power supply/Einspeisung:
3x400V+PE+N, 50Hz
Datum/Date/Datum:
6.12.2012
Zpracoval/Processed/Hat verarbeitet:
HALPAR
List:
07.a
Listů:
30


100 /09.0
-FA1
-FA2
-FA3
1002
1003
1004
Příslušenství/Accessories/Zubehör
Motory M1, M2, M3 - OK
Motors M1, M2, M3 - OK
Motoren M1, M2, M3 - OK
-XT1
-WSQ1
-SQ1
101
Svěrák upnut
(Tlakový spínač)
Vice is clamped
(Pressure switch)
Schraubstock ist gespannt
(Druckschalter)
-WSQ2
-SQ2
102
Rameno dole
Arm is down
Rahmen ist unten
-WSQ3
-SQ3
103
Rameno nahoře
Arm is up
Rahmen ist oben
-WSQ4
-SQ4
104
Napnutí pásu
Blade tension
Bandspannung
-SQ13
123
Přítlak upnut
(Tlakový spínač)
Upper vice is clamped
(Pressure switch)
Ober Schraubstock ist gespannt
(Druckschalter)
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Vstupy/Inputs/Eingänge
07.a


100 / 10.0
06.9 / 100
-XT1 ϕ100
-WOP2 7x1
Externí panel umístěn na ramenu pily
External control panel on arm
Externes Bedienpult auf dem Arm
Příslušenství/Accessories/Zubehör
=OP2-SB4 E---
=OP2-SB5 E---
=OP2-SB6 E---
-WOP2 1mm²
-XT1 ϕ119
ϕ120
ϕ121
ϕ421
ϕ422
422 / 10.6
421 / 10.6
119
120
121
421
422
IN 19 11.7
IN 20 11.8
IN 21 11.9
06.3
06.4
Pás napnout
Tight saw band
Sägeband spannen
Pás uvolnit
Release saw band
Sägeband lösen
Rameno nahoru
Arm up
Rahmen nach oben
=OP1-SB1 E---
=OP1-SB2 E---
=OP1-SB3 F---
108
109
110
111
IN 08 11.3
IN 09 11.3
IN 10 11.4
IN 11 11.4
START
STOP
MANUAL
CYKLUS
CYCLE
ZYKLUS
08
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Tlačítka ovládací panel/Button control panel/Taste Bedienpult
C.proj./Project/Projekt:
ES:N430-201/V6.1
List:
09
Napájení/Power supply/Einspeisung:
3x400V+PE+N, 50Hz
Datum/Date/Datum:
6.12.2012
Listů:
30
Zpracoval/Processed/Hat verarbeitet:
HALPAR


=OP1-HL2
Kontrolka bezpečnostní okruh
Safety circle indicator
Start Sicherheitsschaltung
-KM11
-KM12
-BM1
SNA 4064K
RESET
CONTROL-LOGIC
CH1
CH2
SUPPLY
=OP1-SB8
Tlačítko bezpečnostní okruh
Safety circle button
Sicherheitsbericht Taste
=OP1-SB501
Total stop
Kryty pásu
Sawblade cover
Sägeband abdeckung
-SQ21
-SQ22
-XT1
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Bezpečnostní okruh/Safety circle/Sicherheitsbereich
Č.proj./Project/Projekt: ES-N430-201/V6.1
Napájení/Power supply/Einspeisung: 3x400V+PE+N, 50Hz
Datum/Date/Datum: 6.12.2012
Zpracoval/Processed/Hat verarbeitet: HALFAR
List: 10
Listů: 30
09



Manual version: 1.40 / Feb. 2013
Manual rev.: 1

6.5. Elektrické schema / Elektroschema / Wiring diagrams – 3×230 V, TN-C,1S, 50 Hz

Obsah/ Table of contents/ Inhaltsverzeichnis

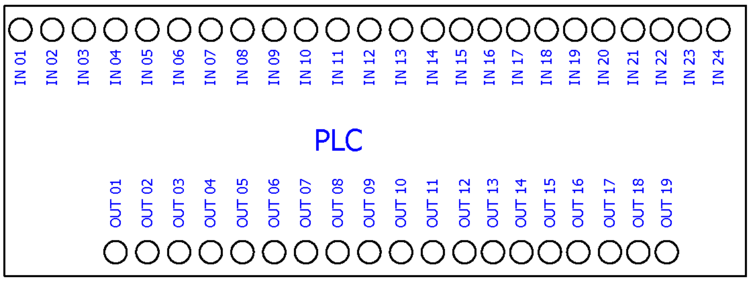
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno

Stroj/Machine/Maschine: Individual 620.460 (D)GH

Název stránky/Name page/Name seiten: Obsah/ Table of contents/ Inhaltsverzeichnis

Č.proj./Project/Projekt:	ES:N430-203/v6.1	List:
Napájení/Power supply/Einspeisung:	3x230V+PE, 50Hz	01
Datum/Date/Datum:	1.10.2012	Listů:
Zpracoval/Processed/Hat verarbeitet:	HALFAR	19

Individual 620.460 (D)GH



HW	
FW	

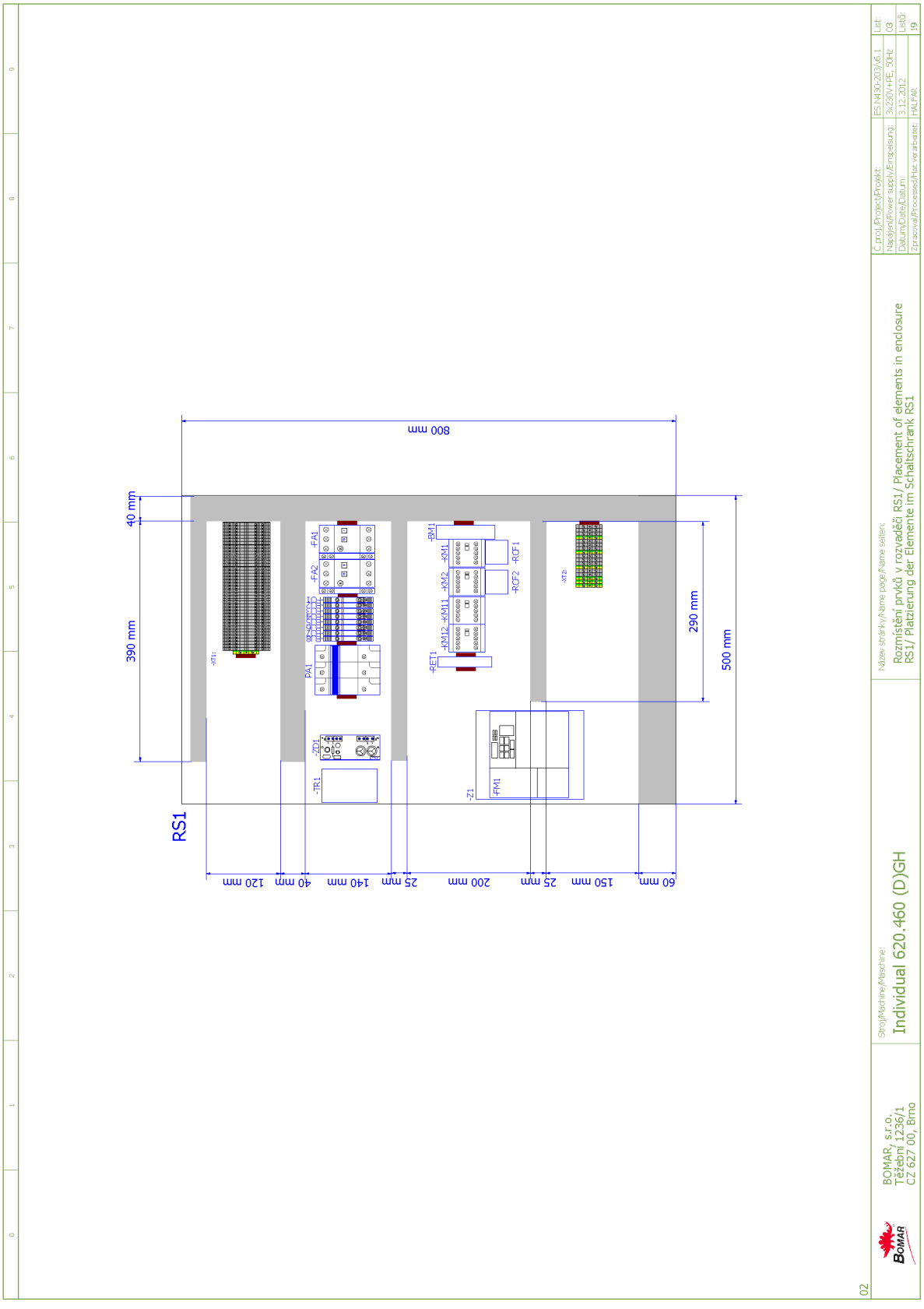
Pohled ze spodu/From under view/Blick nach

I/O	CZE	ENG	DE
IN 01	Svěrák upnut	Vice is clamped	Schraubstock ist gespannt
IN 02	Rameno dole	Arm is down	Rahmen ist unten
IN 03	Rameno nahoře	Arm is up	Rahmen ist oben
IN 04	Napnutí pásu	Blade tension	Bandspannung
IN 05	Motory OK	Motors OK	Motoren OK
IN 06	Bezpečnostní okruh uzavřen	Safety circle shut down	Sicherheitsschaltung gesperrt
IN 07	Tlačítko TOTAL STOP	Button TOTAL STOP	Taste TOTAL STOP
IN 08	Tlačítko START	Button START	Taste START
IN 09	Tlačítko STOP	Button STOP	Taste STOP
IN 10	MANUAL	MANUAL	MANUAL
IN 11	CYKLUS	CYCLE	ZYKLUS
IN 12	NC	NC	NC
IN 13	NC	NC	NC
IN 14	NC	NC	NC
IN 15	NC	NC	NC
IN 16	NC	NC	NC
IN 17	NC	NC	NC
IN 18	NC	NC	NC
IN 19	Tlačítko napnout pás	Button band tension	Taste band spannen
IN 20	Tlačítko povolit pás	Button band release	Taste band lösen
IN 21	Tlačítko rameno nahoru	Button arm up	Taste Rahmen nach oben
IN 22	NC	NC	NC
IN 23	Přítlak upnut	Upper vice is clamped	Ober Schraubstock ist gespannt
IN 24	NC	NC	NC
OUT 01+ / OUT 01-	Start FM1	Start FM1	Start FM1
OUT 02+ / OUT 02-	NC	NC	NC
OUT 03+ / OUT 03-	NC	NC	NC
OUT 04	Motor chlazení	Coolant pump	Motor Kühlung
OUT 05	Čerpadlo hydrauliky 1.rychlost	Hydraulic pump 1.speed	Hydraulikpumpe 1.Geschwindigkeit
OUT 06	2.stupeň hydrauliky	Second level of hydraulic pump	Hydraulikpumpe 2.Stufe
OUT 07	Svěrák upnout	Vice clamp	Schraubstock spannen
OUT 08	Svěrák povolit	Release vice	Schraubstock lösen
OUT 09	Svěrák doleva	Vice to the left	Schraubstock nach links
OUT 10	Svěrák doprava	Vice to the right	Schraubstock nach rechts
OUT 11	Rameno nahoru	Arm up	Rahmen nach oben
OUT 12	Rameno dolů	Arm down	Rahmen nach unten
OUT 13	Rameno rychle	Arm fast	Rahmen schnell
OUT 14	Přítlak upnout	Upper vice clamp	Ober Schraubstock spannen
OUT 15	Přítlak povolit	Release upper vice	Ober Schraubstock lösen
OUT 16	Napnout pás	Sawblade tension	Spannen des Sägebandes
OUT 17	Uvolnit pás	Sawblade leave	Entspannen des Sägebandes
OUT 18	Mikronizer	Microniser	Mikronizer
OUT 19	Kontrolka start	Indicator start	Kontrollicht start

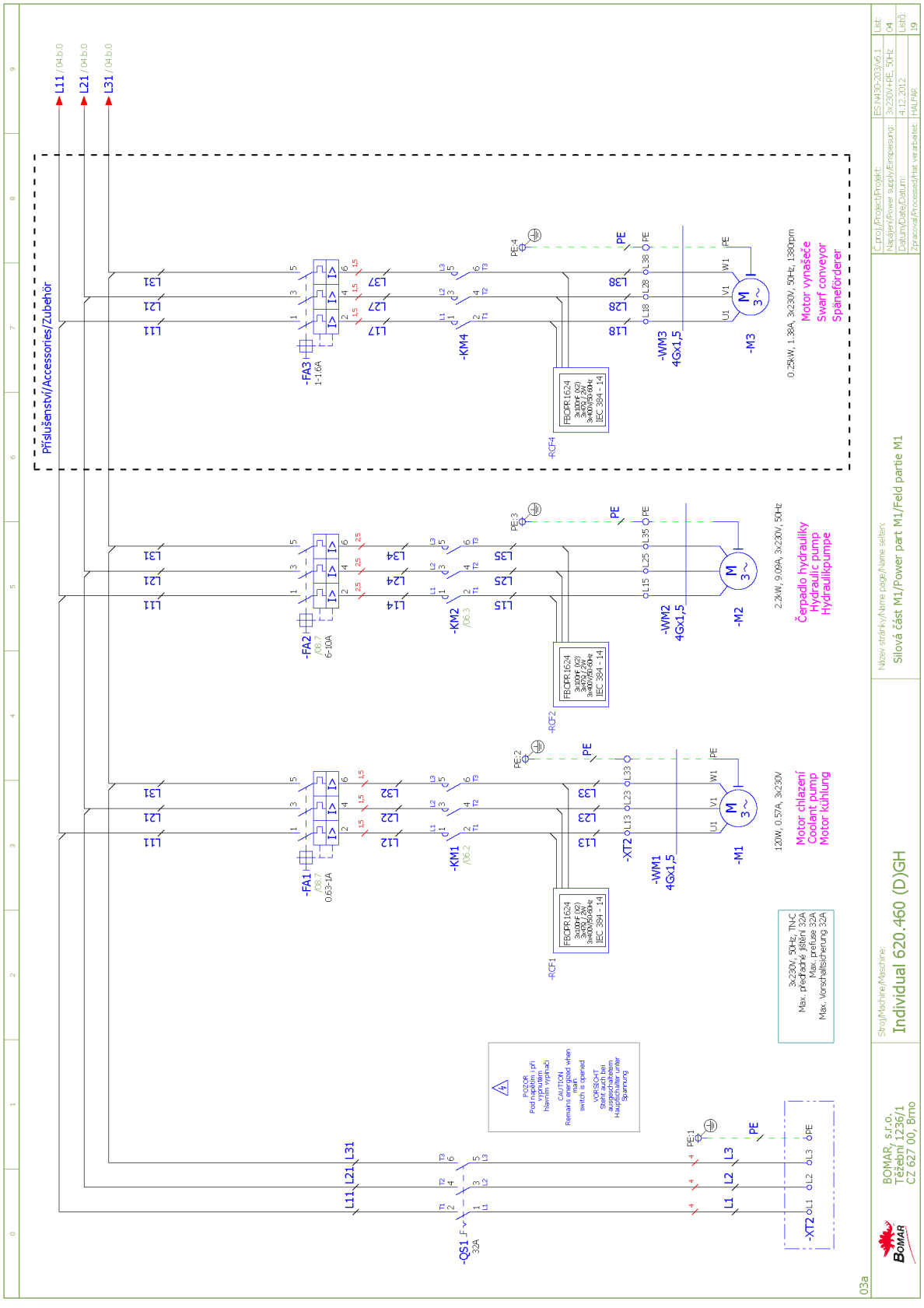
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno

Stroj/Machine/Maschine: Individual 620.460 (D)GH

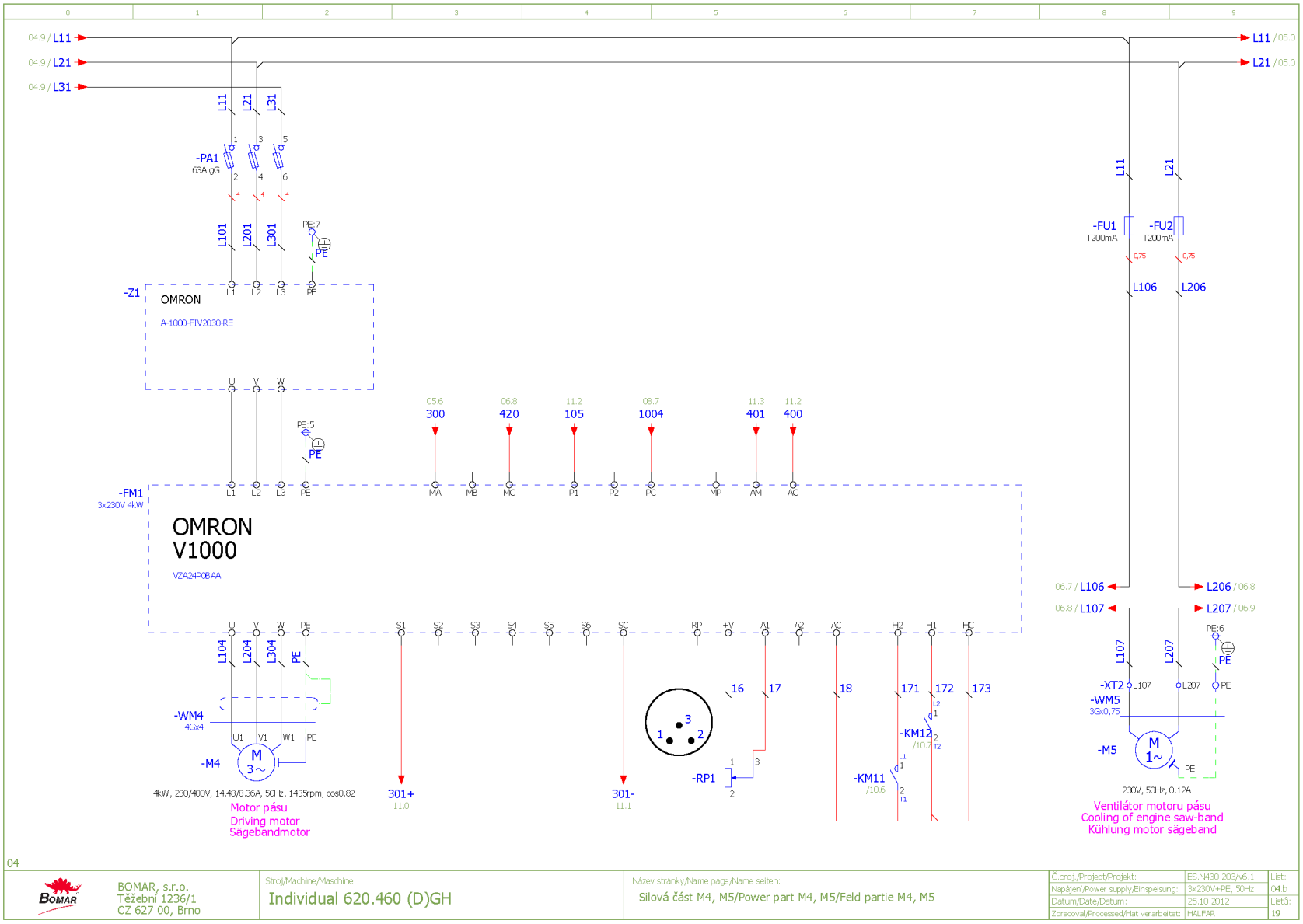
Název stránky/Name page/Name seiten: I/O řídicí systém / I/O Control station / I/O Steuerung


800 mm
40 mm
390 mm
290 mm
500 mm
RS1
120 mm
40 mm
140 mm
25 mm
200 mm
25 mm
150 mm
60 mm
-XT1:
-FA1
-FA2
-PA1
-ZD1
-TR1
-BM1
-KM1
-KM2
-KM11
-KM12
-RET1
-RGF1
-RGF2
-XT2:
-Z1
-FM1
02
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Rozmístění prvků v rozvaděči RS1/ Placement of elements in enclosure
RS1/ Platzierung der Elemente im Schaltschrank RS1
Č.proj./Projekt/Projekt:
ES.N430-203/v6.1
List:
03
Napájení/Power supply/Einspeisung:
3x230V+PE, 50Hz
Listů:
19
Datum/Date/Datum:
3.12.2012
Zpracoval/Processed/Hat verarbeitet:
HALPAR

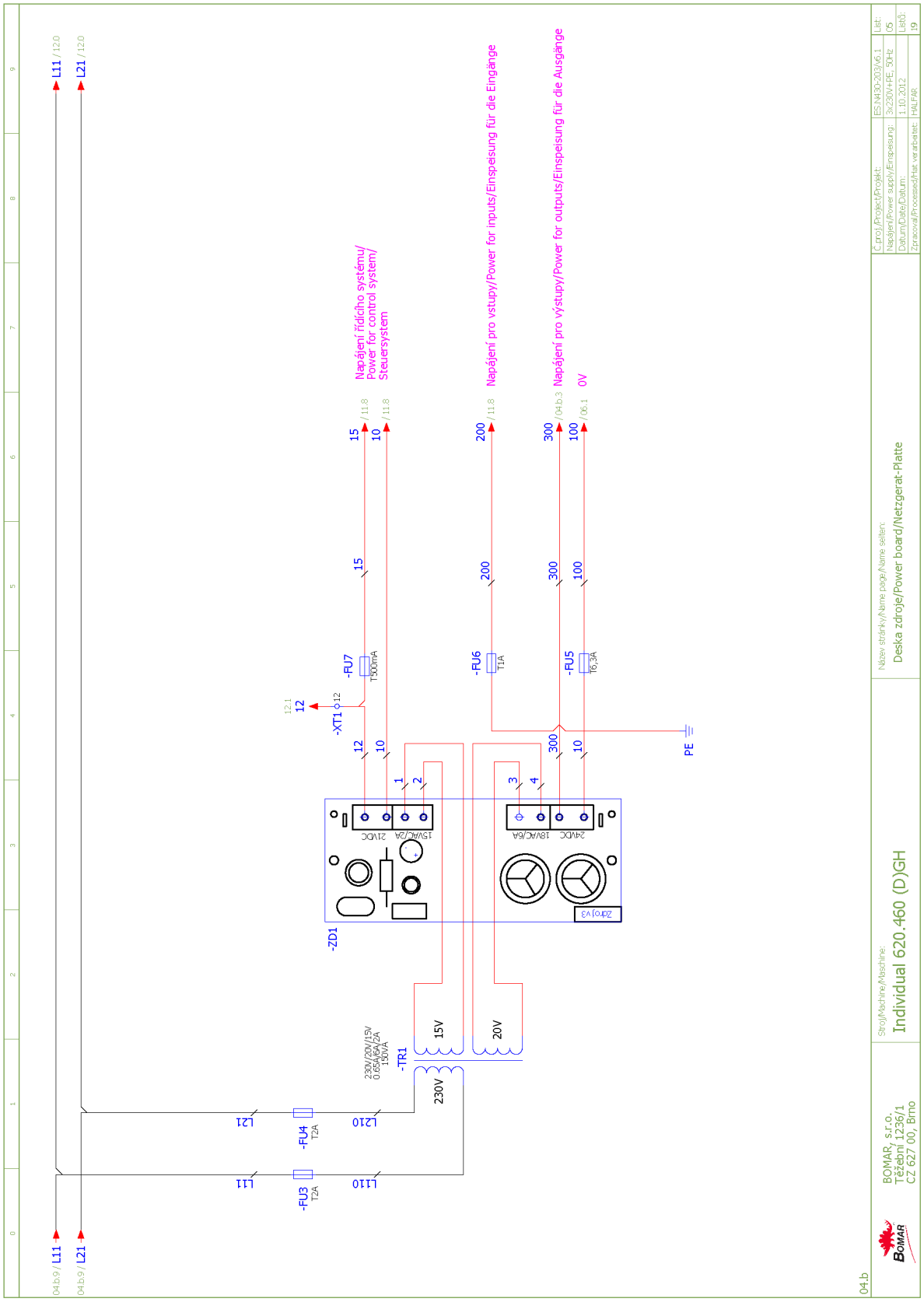

OP1
SB8, HL2
SB3
SB501
SB1, HL1
SB2
RP1
START
STOP
F1
F2
F3
F4
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Ovládací panel OP1/Control panel OP1/Bedienpult OP1
Č.proj./Project/Projekt:
ES N430-303/V6.1
Napájení/Power supply/Einspeisung:
3x230V+PE, 50Hz
Datum/Date/Datum:
30.8.2012
Zpracoval/Processed/Hat verarbeitet:
HALFAR
List:
03a
Listů:
19
03

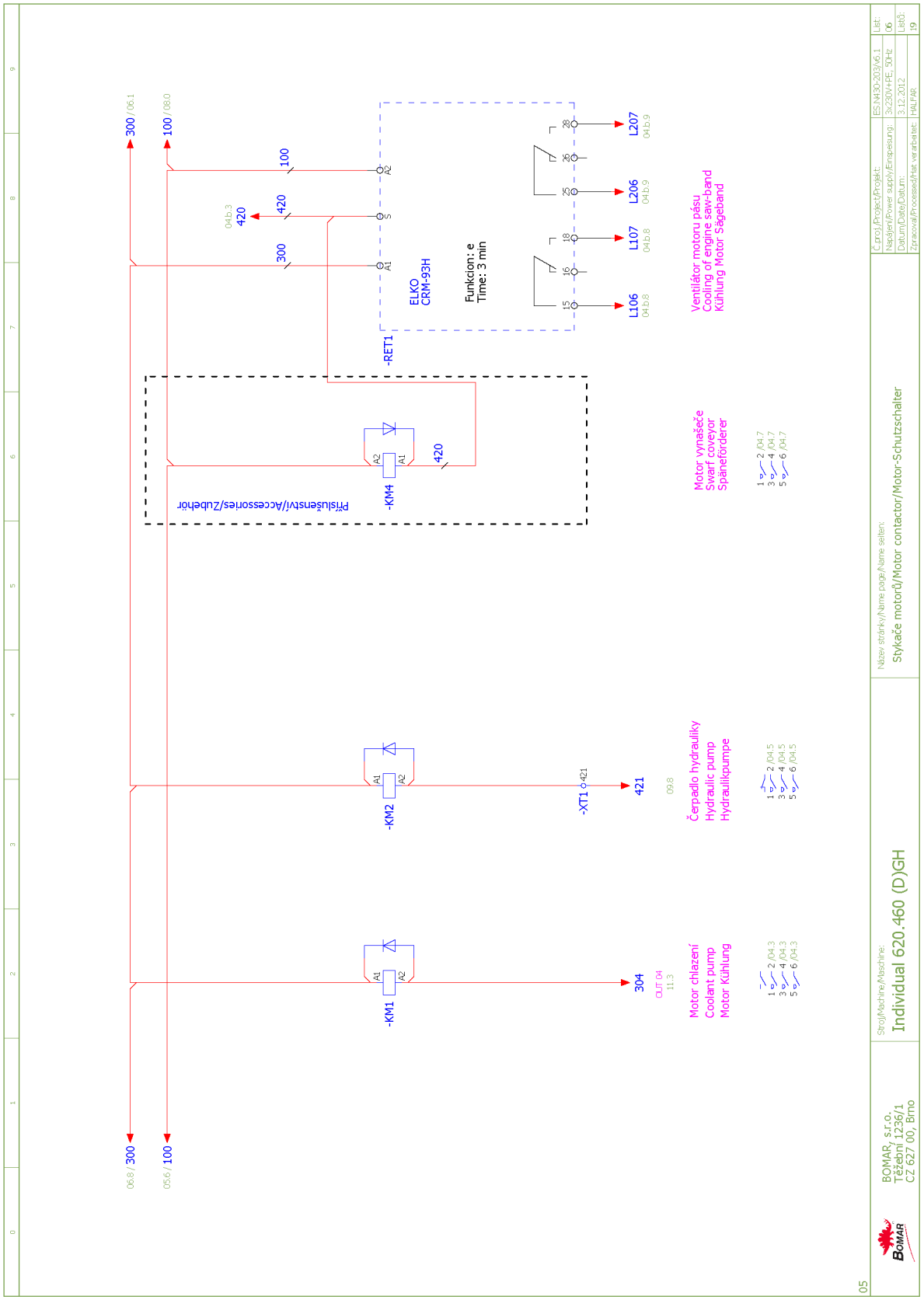


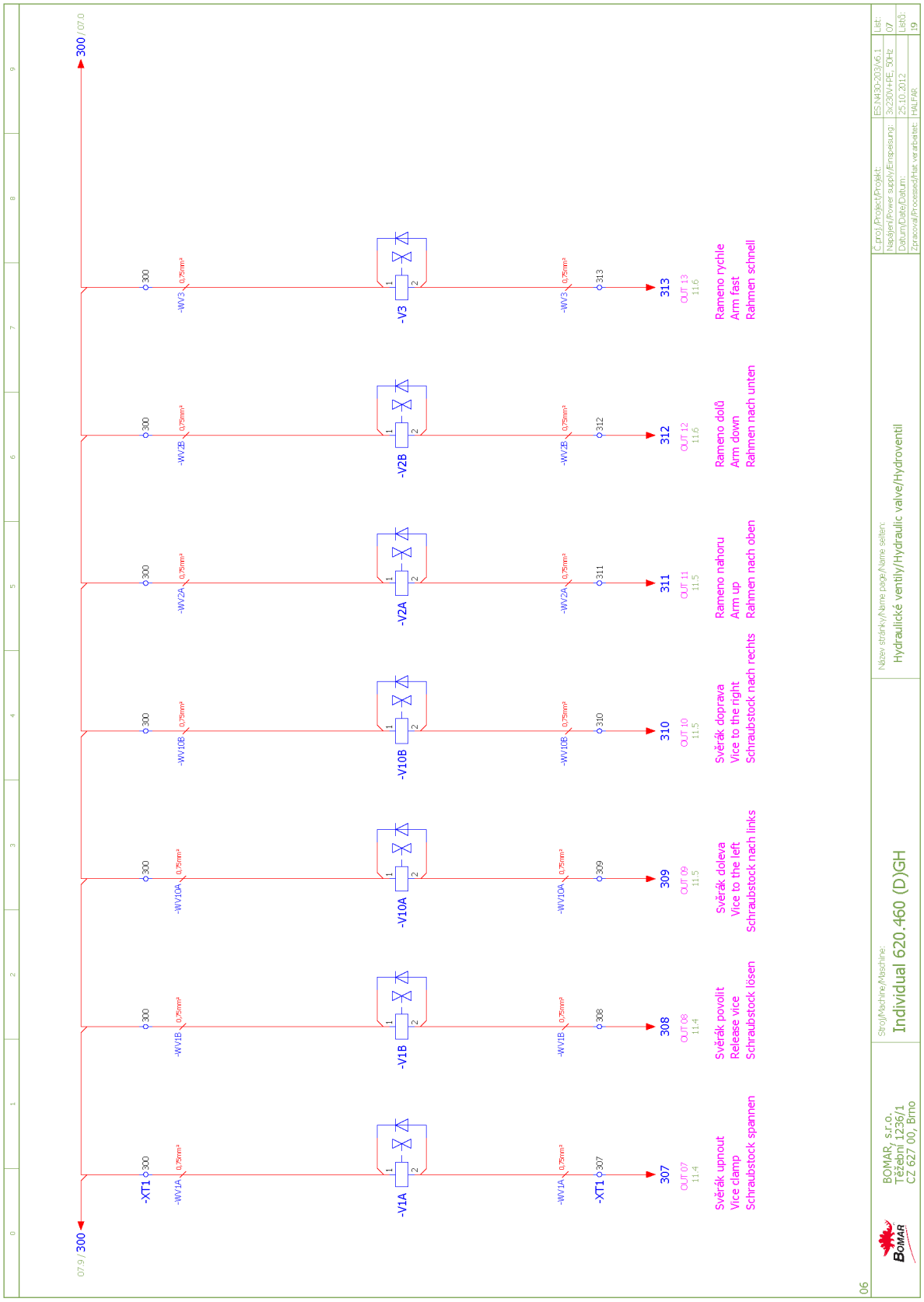
Manual version: 1.40 / Feb. 2013
Manual rev.: 1



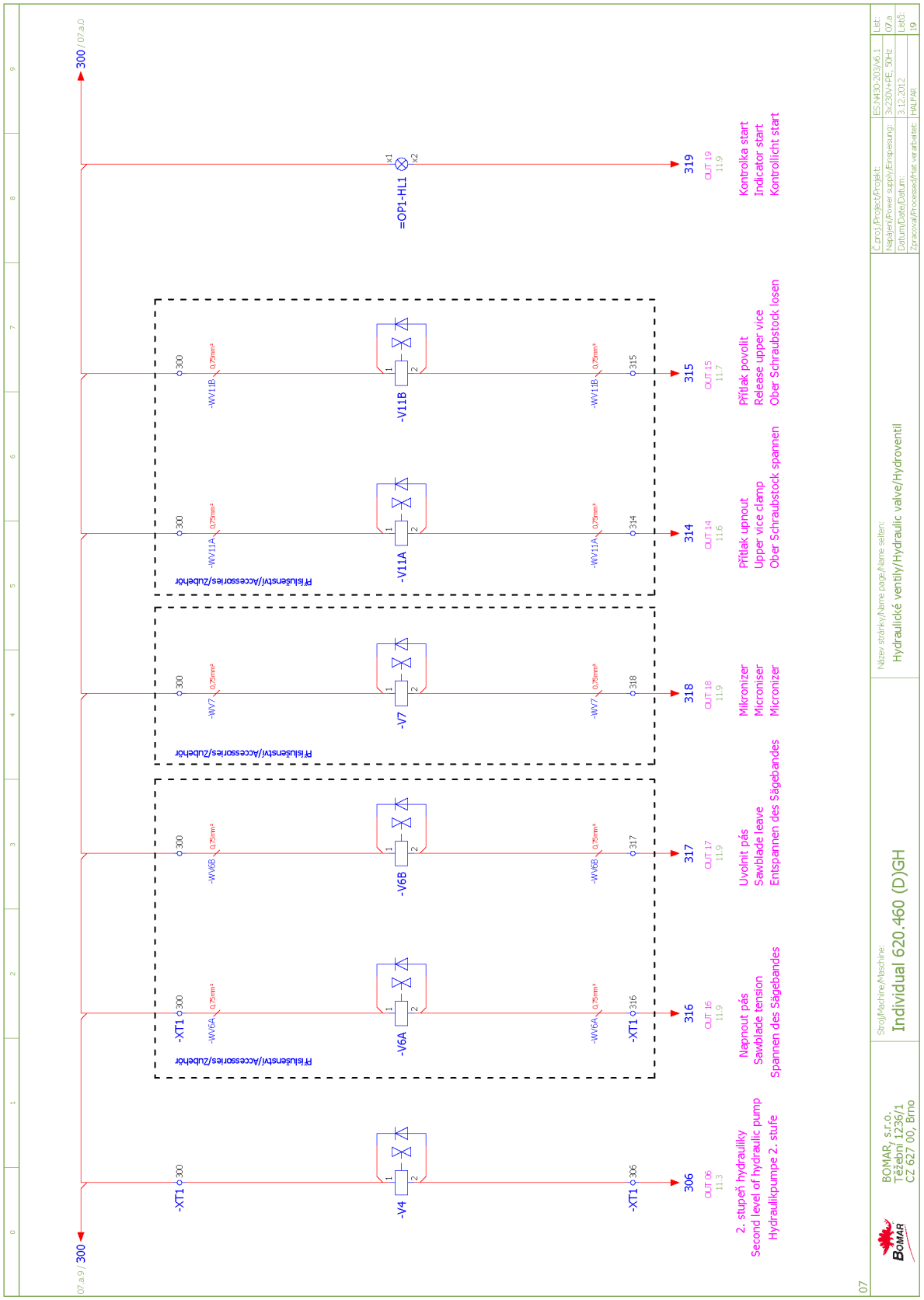
Schémata
Schemas
Schematics

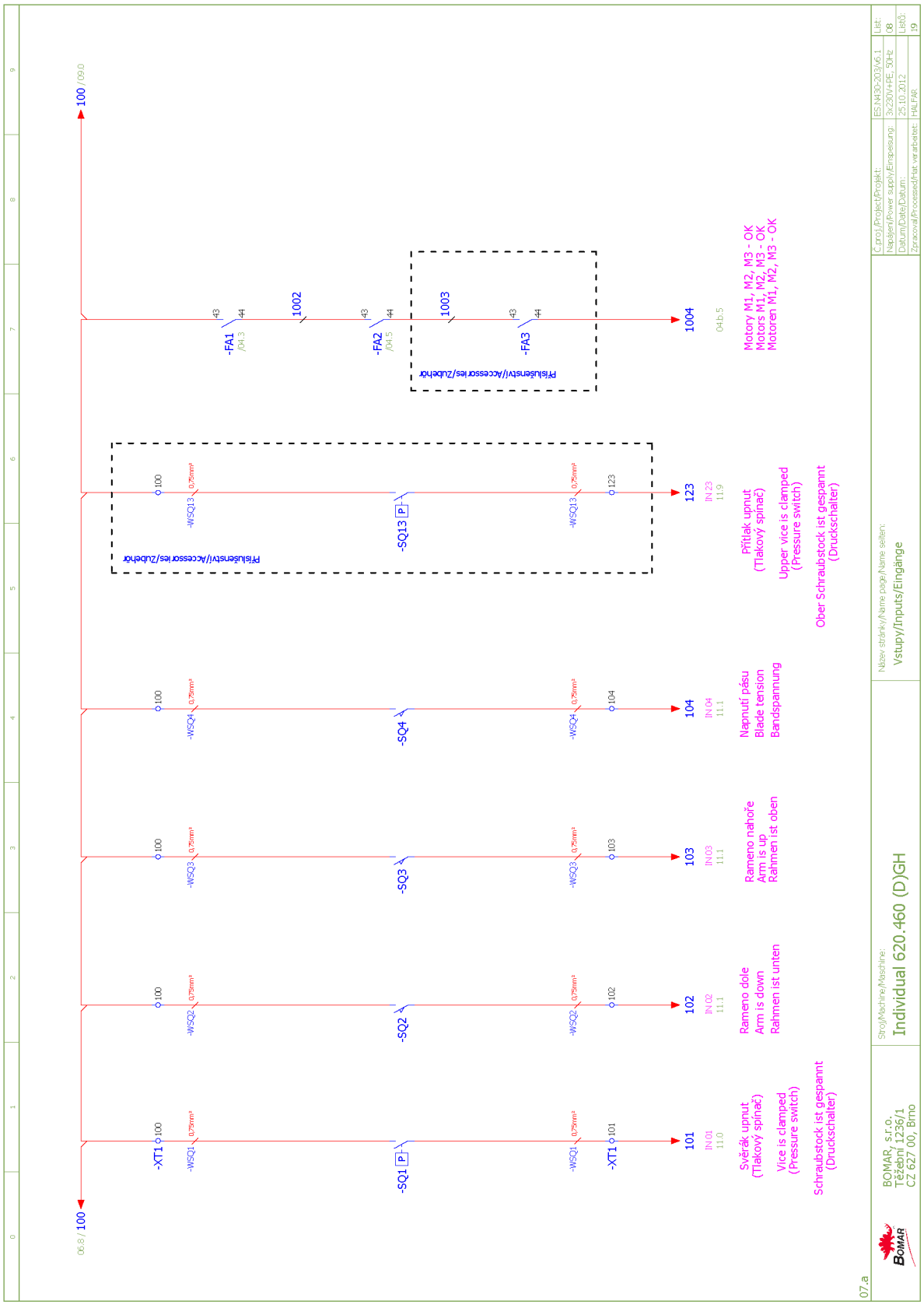

L11 /12.0
L21 /12.0
Napájení řídicího systému/
Power for control system/
Steuersystem
Napájení pro vstupy/Power for inputs/Einspeisung für die Eingänge
Napájení pro výstupy/Power for outputs/Einspeisung für die Ausgänge
0V
-XT1
-FU7 T300mA
-FU6 T1A
-FU5 T6,3A
-FU4 T2A
-FU3 T2A
-TR1
230V/20V/15V
0.65A/6A/2A
150VA
230V
15V
20V
-ZD1
15VAC/2A
21VDC
18VAC/6A
24VDC
PE
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Deska zdroje/Power board/Netzgerat-Platte
Napájení/Power supply/Einspeisung:
3x230V+PE, 50Hz
Datum/Date/Datum:
1.10.2012
Zpracoval/Processed/Hat verarbeitet:
HALFAR
ES.N430-203/v6.1
05
19
04.b


BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Stykače motorů/Motor contactor/Motor-Schutzschalter
Č.proj./Projekt/Projekt:
ES1M30-203/V6.1
Napájení/Power supply/Einspeisung:
3x230V+PE, 50Hz
Datum/Date/Datum:
3.12.2012
Zpracoval/Processed/Hat verarbeitet:
HALFAR
List:
06
Listů:
19
300 / 06.1
100 / 08.0
06.8 / 300
05.6 / 100
-KM1
-KM2
-KM4
-RET1
ELKO
CRM-93H
Funkcion: e
Time: 3 min
-XT1
304
421
420
100
300
L106
L107
L206
L207
Motor chlazení
Coolant pump
Motor Kühlung
Čerpadlo hydrauliky
Hydraulic pump
Hydraulikpumpe
Motor vynašeče
Swarf coveyor
Spaneförderer
Ventilátor motoru pásu
Cooling of engine saw-band
Kühlung Motor Sägeband
Příslušenství/Accessories/Zubehör

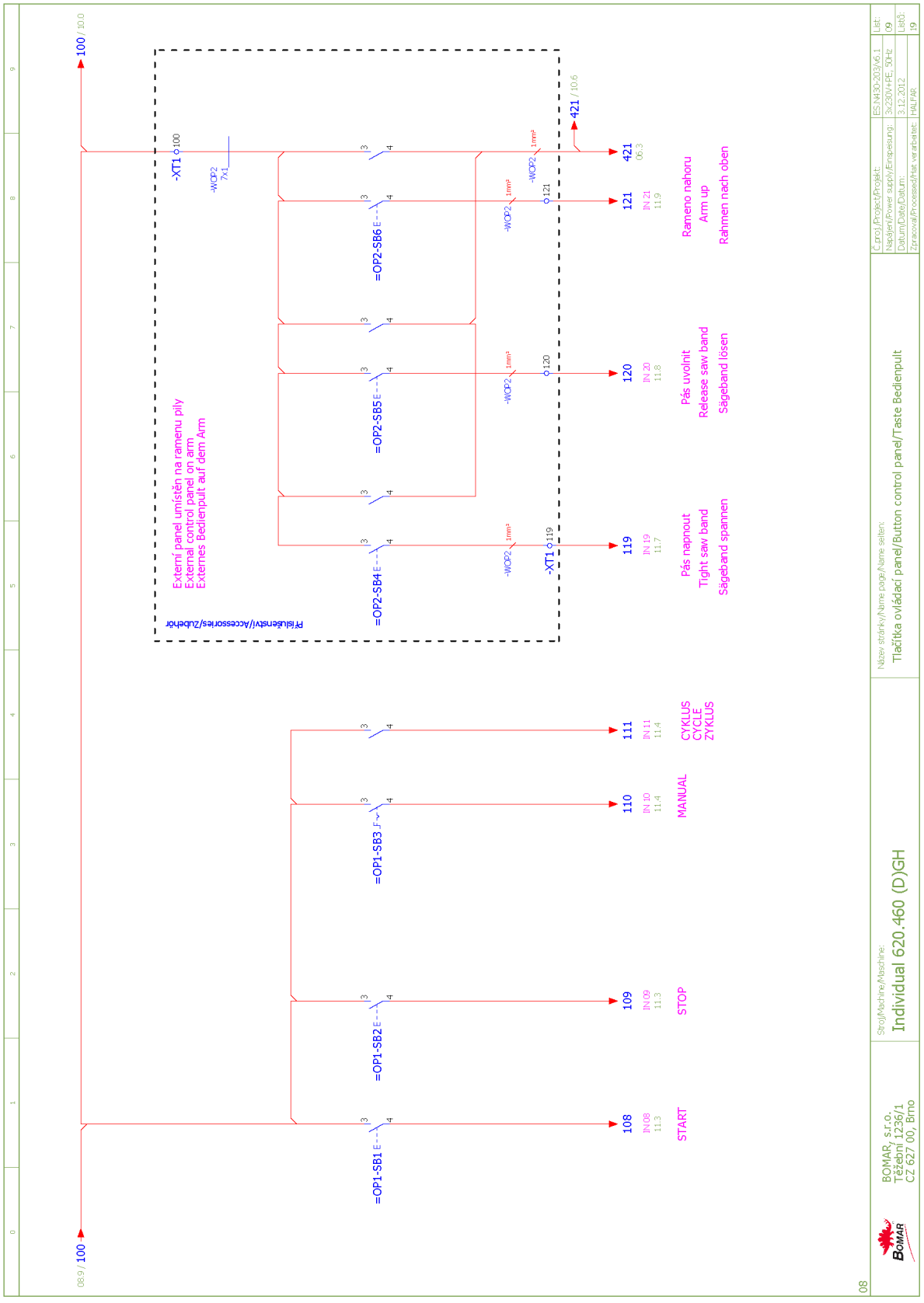


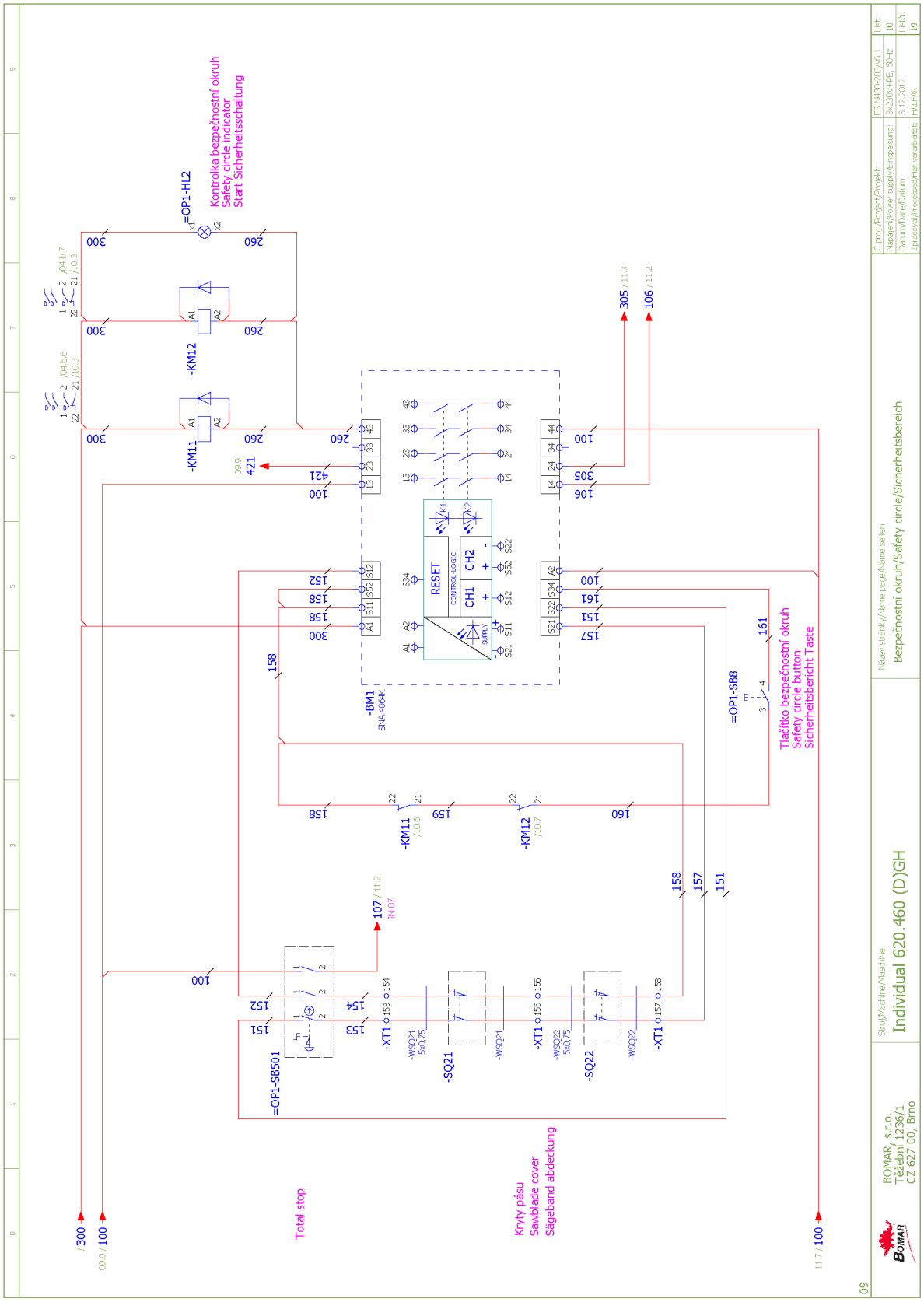
Manual version: 1.40 / Feb. 2013
Manual rev.: 1

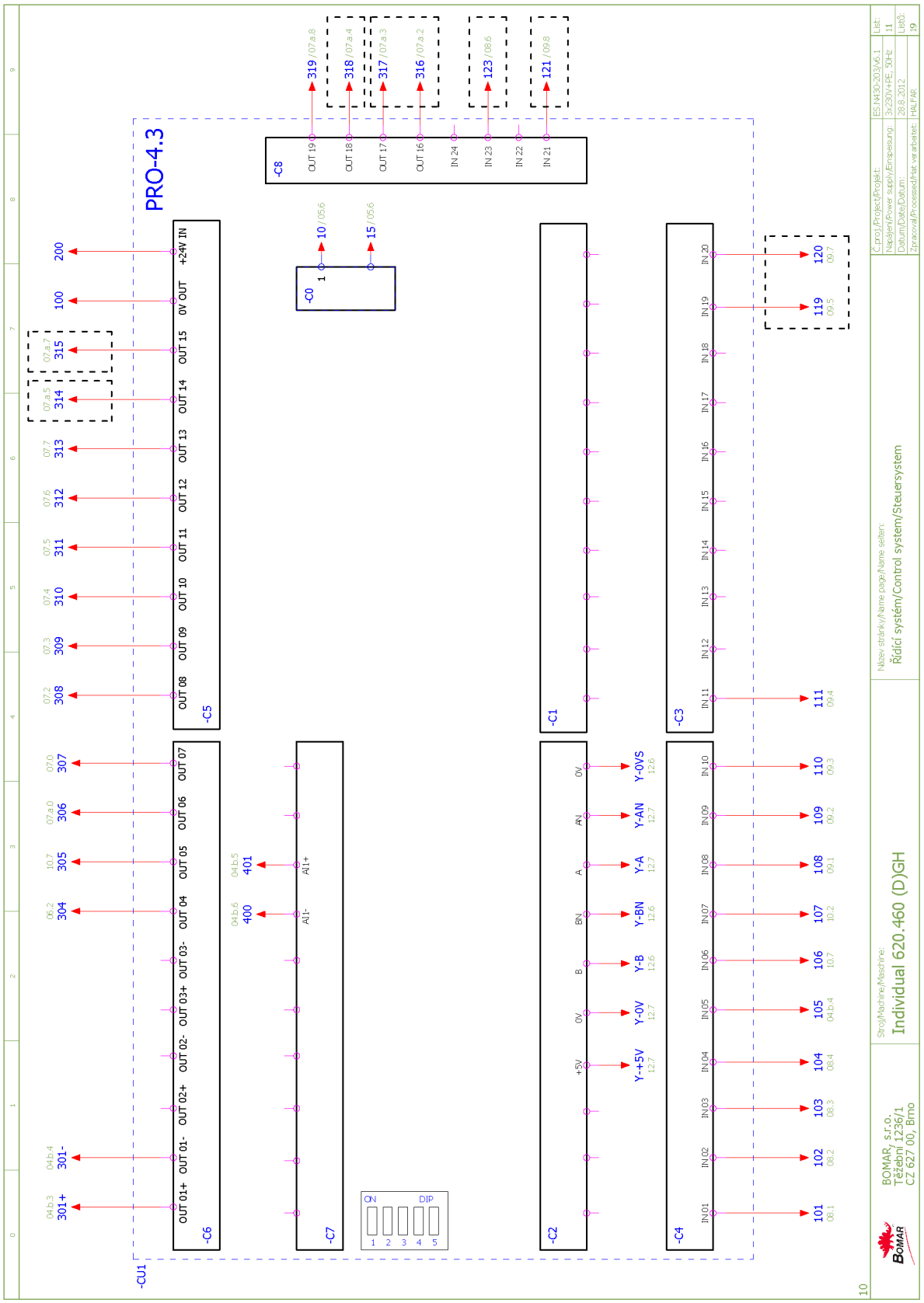

BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Hydraulické ventily/Hydraulic valve/Hydroventil
Č.proj./Project/Projekt:
ES.N430-203/V6.1
Napájení/Power supply/Einspeisung:
3x230V+PE, 50Hz
Datum/Date/Datum:
3.12.2012
Zpracoval/Processed/Hat verarbeitet:
HALFAR
List:
07.a
Listů:
19
2. stupeň hydrauliky
Second level of hydraulic pump
Hydraulikpumpe 2. stufe
Napnout pás
Sawblade tension
Spannen des Sägebandes
Uvolnit pás
Sawblade leave
Entspannen des Sägebandes
Mikronizer
Microniser
Micronizer
Přítlak upnout
Upper vice clamp
Ober Schraubstock spannen
Přítlak povolit
Release upper vice
Ober Schraubstock losen
Kontrolka start
Indicator start
Kontrollicht start
=OP1-HL1
-XT1
-V4
-V6A
-V6B
-V7
-V11A
-V11B
-WV6A
-WV6B
-WV7
-WV11A
-WV11B
Příslušenství/Accessories/Zubehör
306
316
317
318
314
315
319

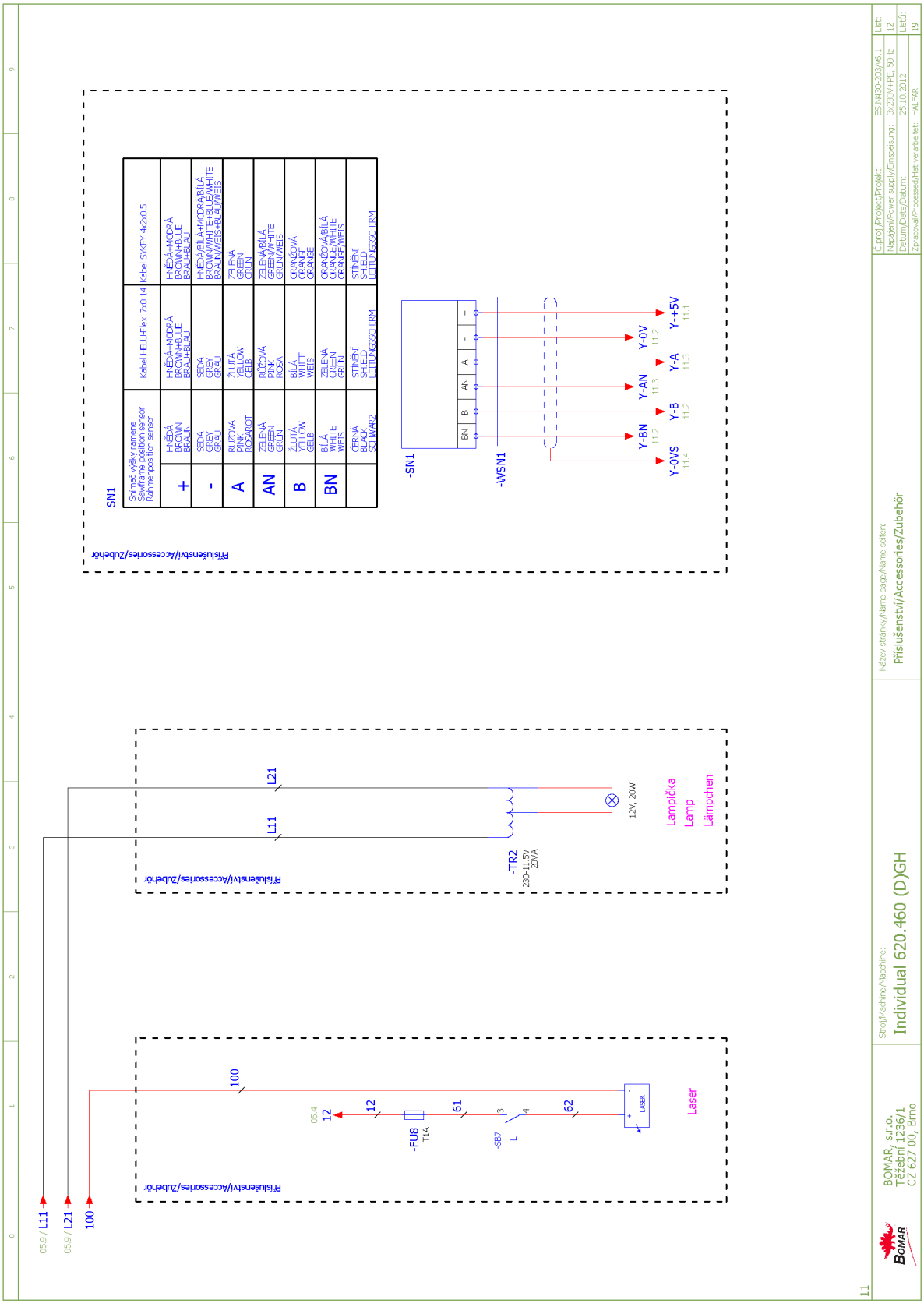


Manual version: 1.40 / Feb. 2013
Manual rev.: 1


100 / 10.0
06.9 / 100
-XT1 100
-WOP2 7x1
Externí panel umístěn na ramenu pily
External control panel on arm
Externes Bedienpult auf dem Arm
Příslušenství/Accessories/Zubehör
=OP2-SB4 E---
=OP2-SB5 E---
=OP2-SB6 E---
-WOP2 1mm²
-XT1 119
-XT1 120
-XT1 121
421 / 10.6
421 06.3
121 IN.21 11.9
120 IN.20 11.8
119 IN.19 11.7
Rameno nahoru
Arm up
Rahmen nach oben
Pás uvolnit
Release saw band
Sägeband lösen
Pás napnout
Tight saw band
Sägeband spannen
=OP1-SB1 E---
=OP1-SB2 E---
=OP1-SB3
108 IN.08 11.5
109 IN.09 11.3
110 IN.10 11.4
111 IN.11 11.4
START
STOP
MANUAL
CYKLUS
CYCLE
ZYKLUS
08
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Tlačítka ovládací panel/Button control panel/Taste Bedienpult
Č.proj./Project/Projekt:
ES.N430-203/V6.1
List:
09
Napájení/Power supply/Einspeisung:
3x230V+PE, 50Hz
Datum/Date/Datum:
3.12.2012
Listů:
19
Zpracoval/Processed/Hat verarbeitet:
HALFAR


=OP1-HL2
Kontrolka bezpečnostní okruh
Safety circle indicator
Start Sicherheitsschaltung
-KM12
-KM11
-BM1
SNA-4064K
RESET
CONTROL+LOGIC
CH1
CH2
SUPPLY
=OP1-SB8
Tlačítko bezpečnostní okruh
Safety circle button
Sicherheitsbericht Taste
-KM11
-KM12
=OP1-SB501
-XT1
-WSQ21
-SQ21
-WSQ22
-SQ22
Total stop
Kryty pásu
Sawblade cover
Sägeband abdeckung
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Bezpečnostní okruh/Safety circle/Sicherheitsbereich
ES.N430-203/v6.1
3x230V+PE, 50Hz
3.12.2012
HALFAR
List:
10
List/3:
19


PRO-4.3
-CU1
-C0
-C1
-C2
-C3
-C4
-C5
-C6
-C7
-C8
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Řídicí systém/Control system/Steuersystem
Řídicí systém/Control system/Steuersystem
ES:NM30-203/V6.1
3x230V+PE, 50Hz
28.8.2012
HALFAR
List:
11
Listů:
19


SN1
Příslušenství/Accessories/Zubehör
-SN1
-WSN1
Y-BN
Y-B
Y-AN
Y-A
Y-0V
Y-+5V
Y-0VS
-TR2
230-115V
20VA
12V, 20W
Lampička
Lamp
Lämpchen
-FU8
T1A
-SB7
Laser
L11
L21
100
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Individual 620.460 (D)GH
Příslušenství/Accessories/Zubehör
ES.N430-203/v6.1
3x230V+PE, 50Hz
25.10.2012
HALFAR

Parts list

Device tag	Device type	Type number	Manufacturer	Part number	Quantity	Page
-RCF1	RCF filter	FBOPR1624		91.041.015	1	/04.2
-RCF2	RCF filter	FBOPR1624		91.041.015	1	/04.4
-RP1	Potentiometer 5k	TP195 4x7/N20A		91.283.015	1	/04.b.5
=OP1-SB501	Emergency-stop mushroom push-button + 3xNC	YW1B-V4E02R		91.060.084	1	/10.2
-ZD1	Power supply unit - 15VAC/24VDC; 20VAC/28VDC	ZDR-03	Bomar	265.915	1	/05.2
-KM1	Contactor - 4kW, 9A, 3NO+1NO, 24VDC	DILEM-10-G(24VDC)	EATON	91.040.020	1	/06.2
-KM2	Contactor - 4kW, 9A, 3NO+1NC, 24VDC	DILEM-01-G(24VDC)	EATON	91.040.024	1	/06.3
-KM11	Contactor - 4kW, 9A, 3NO+1NC, 24VDC	DILEM-01-G(24VDC)	EATON	91.040.024	1	/10.6
-KM12	Contactor - 4kW, 9A, 3NO+1NC, 24VDC	DILEM-01-G(24VDC)	EATON	91.040.024	1	/10.7
=OP1-HL1	Green light for Eaton adapter	M22-LED-G	EATON	91.061.023	1	/07.a.8
=OP1-HL2	White light for Eaton adapter	M22-LED-W	EATON	91.061.034	1	/10.8
=OP1-SB1	Green translucent switch head	M22-DL-G	EATON	91.060.031	1	/09.1
=OP1-SB1	Attaching adapter + NO contact	M22-AK10	EATON	91.061.021	1	/09.1
=OP1-SB2	Attaching adapter + NO contact	M22-AK10	EATON	91.061.021	1	/09.2
=OP1-SB2	Black switch head	M22-D-S	EATON	91.060.035	1	/09.2
=OP1-SB3	Head of 3 positional switch	M22-WRK3	EATON	91.060.051	1	/09.3
=OP1-SB3	NO contact for Eaton adapter	M22-K10	EATON	91.061.022	1	/09.3
=OP1-SB3	Attaching adapter + NO contact	M22-AK10	EATON	91.061.021	1	/09.3
=OP1-SB8	Attaching adapter + NO contact	M22-AK10	EATON	91.061.021	1	/10.4
=OP1-SB8	Yellow translucent switch head	M22-DL-Y	EATON	91.060.053	1	/10.4
-FU1	Tube fuse - 200mA/250V, slow, 5x20	T200mA/250V	ESKA	91.230.037	1	/04.b.8
-FU2	Tube fuse - 200mA/250V, slow, 5x20	T200mA/250V	ESKA	91.230.037	1	/04.b.9
-FU3	Tube fuse - 2A/250V, slow, 5x20	T2A/250V	ESKA	91.230.001	1	/05.0
-FU4	Tube fuse - 2A/250V, slow, 5x20	T2A/250V	ESKA	91.230.001	1	/05.1
-FU5	Tube fuse - 6,3A/250V, slow, 5x20	T6,3A/250V	ESKA	91.230.002	1	/05.4
-FU6	Tube fuse - 1A/250V, slow, 5x20	T1A/250V	ESKA	91.230.003	1	/05.4
-FU7	Tube fuse - 500mA/250V, slow, 5x20	T500mA/250V	ESKA	91.230.011	1	/05.4
-FU8	Tube fuse - 1A/250V, slow, 5x20	T1A/250V	ESKA	91.230.003	1	/12.1

Parts list

Device tag	Device type	Type number	Manufacturer	Part number	Quantity	Page
-M1	Pump - 120W, 230/400V	4C0A4-12H	EmP	91.020.015	1	/04.3
-TR1	Toroidal transformer - 0-230-400V/20V/15V, 0.65-0.38A/6A/2A, 150VA	1502304002015	KARBAN s.r.o.	91.080.026	1	/05.1
-SQ21	Safety limit switch, 2xNC	QKS8	KEDU	91.173.012	1	/10.2
-SQ22	Safety limit switch, 2xNC	QKS8	KEDU	91.173.012	1	/10.2
-PA1	Fused disconnect for cylindric fuse - 3P, size 14	OPV14S-3	OEZ	91.241.003	1	/04.b.1
-PA1	Cylindric fuse - 63A, 14x51 fast, gG charakteristic	PV14 63A gG	OEZ	91.230.018	1	/04.b.1
-SQ4	Limit switch - 1NC+1NO, M20, slow	D4N-4A32	OMRON	91.173.010	1	/08.4
-SQ2	Limit switch - 1NO + 1NC, roller, M2, snap action	FR 605-M2	PIZZATO	91.173.009	1	/08.2
-SQ3	Limit switch - 1NO + 1NC, roller, M2, snap action	FR 605-M2	PIZZATO	91.173.009	1	/08.3
-FA1	Motor-overcurrent circuit breaker 0.63-1A	GZ1M05	SCHNEIDER	91.235.023	1	/04.3
-FA1	Auxiliary contact of MOCB - 1xNO+1xNC	GZ1AN11	SCHNEIDER	91.046.004	1	/04.3
-FA2	Motor-overcurrent circuit breaker 6-10A	GZ1M14	SCHNEIDER	91.235.025	1	/04.5
-FA2	Auxiliary contact of MOCB - 1xNO+1xNC	GZ1AN11	SCHNEIDER	91.046.004	1	/04.5
-QS1	Main switch 3P, 32A	VCF1-32A	SCHNEIDER	91.170.012	1	/04.0
-BM1	Safety relay - 4xNO	SNA 4064K	WIELAND	91.051.026	1	/10.4
-CU1	PRO-4.3	PRO-4.3	Bomar	265.917	1	/11.0
-FM1	Frequency converter - 4kW, 3x230V	VZA24POBAA	OMRON	91.012.032	1	/04.b.1
-RET1	Multifunction time relay	CRM-93H/UNI	ELKO	91.051.031	1	/06.7
-Z1	Filter for frequency converter VZA 24P0	A-1000-FIV2030-RE	OMRON	91.012.033	1	/04.b.1
-FU1	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/04.b.8
-FU2	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/04.b.9
-FU3	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.0
-FU4	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.1
-FU5	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.4
-FU6	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.4
-FU7	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.4
-FU8	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/12.1

Parts list

Device tag	Device type	Type number	Manufacturer	Part number	Quantity	Page
-M5	Cooling ventilator - 230V, 50Hz, 0.12A	RAH1278B1-C	XFAN	91.015.105	1	/04.b.8

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Těžební 1236/1
CZ 627 00, Brno

Stroj/Machine/Maschine:
Individual 620.460 (D)GH

Název stránky/Name page/Name seiten:
Kusovník artiklů/ Parts list/ Artikelstückliste

Č.proj./Project/Projekt:	ES.N430-203/v6.1	List:
Napájení/Power supply/Einspeisung:	3x230V+PE, 50Hz	13.b
Datum/Date/Datum:	3.12.2012	Listů:
Zpracoval/Processed/Hat verarbeitet:	HALFAR	19

6.6. Elektrické schema / Elektroschema / Wiring diagrams – 3×230 V, TN-C,2S, 50 Hz

Manual version: 1.40 / Feb. 2013
Manual rev.: 1

Obsah/ Table of contents/ Inhaltsverzeichnis

00

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

Stroj/Machine/Maschine: Individual 620.460 (D)GH

Název stránky/Name page/Name seiten: Obsah/ Table of contents/ Inhaltsverzeichnis

Č.proj./Project/Projekt:	ES.N430-203/v6.1	List:
Napájení/Power supply/Einspeisung:	3x230V+PE, 50Hz	01
Datum/Date/Datum:	1.10.2012	Listů:
Zpracoval/Processed/Hat verarbeitet:	HALFAR	20

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

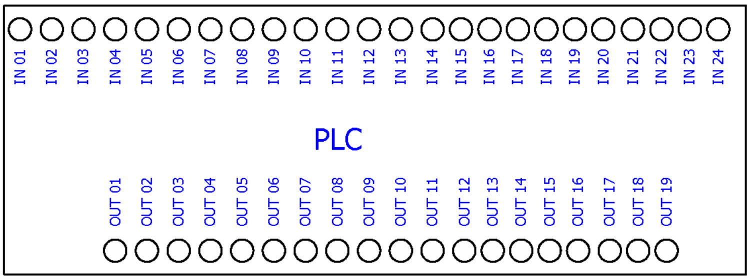
Stroj/Machine/Maschine: Individual 620.460 (D)GH

Název stránky/Name page/Name seiten: I/O řídící systém / I/O Control station / I/O Steuerung

Č.proj./Project/Projekt:	ES.N430-203/v6.1
Napájení/Power supply/Einspeisung:	3x230V+PE, 50Hz
Datum/Date/Datum:	2.9.2012
Zpracoval/Processed/Hat verarbeitet:	HALFAR
List:	02
Listů:	20

01

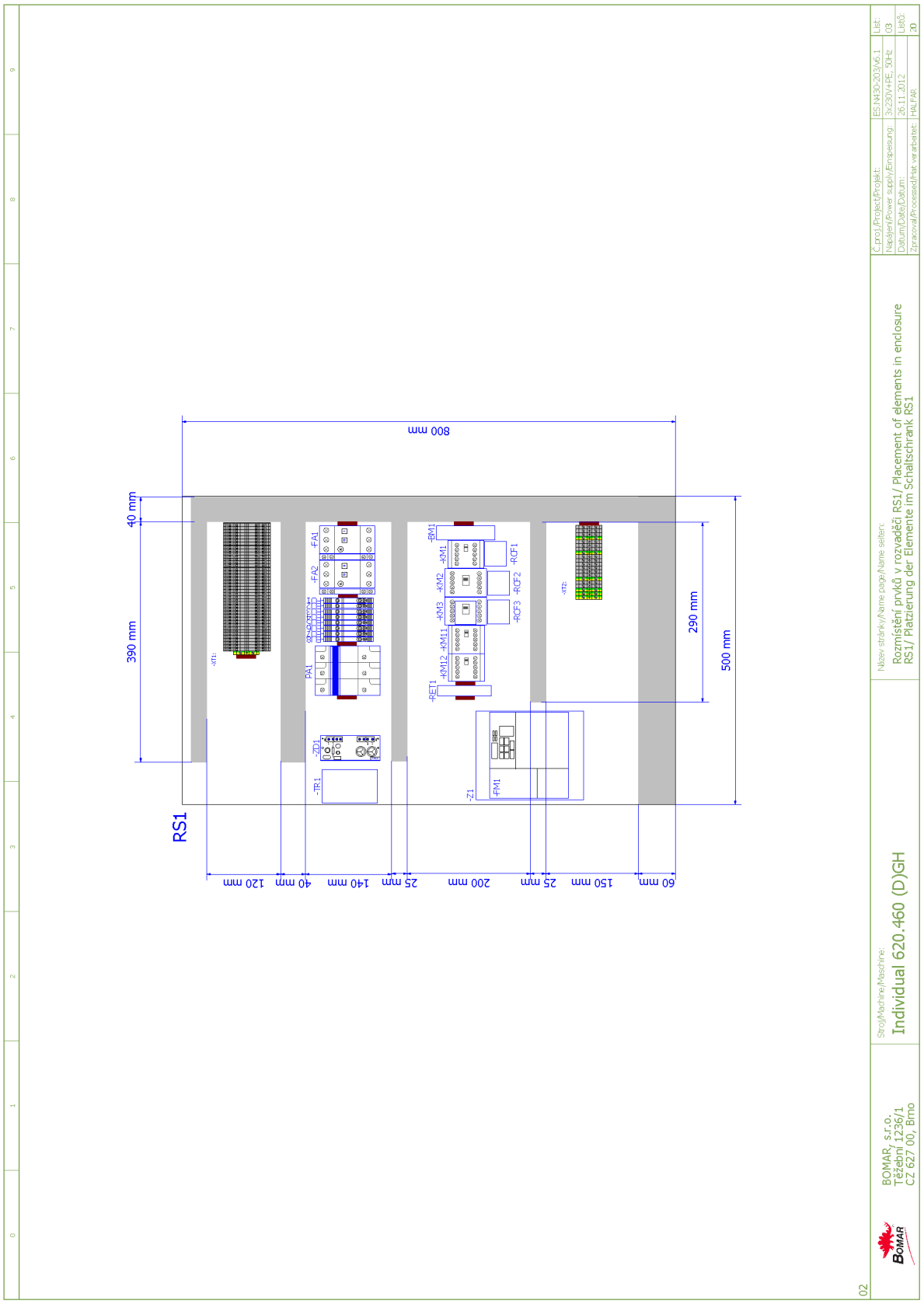
Individual 620.460 (D)GH



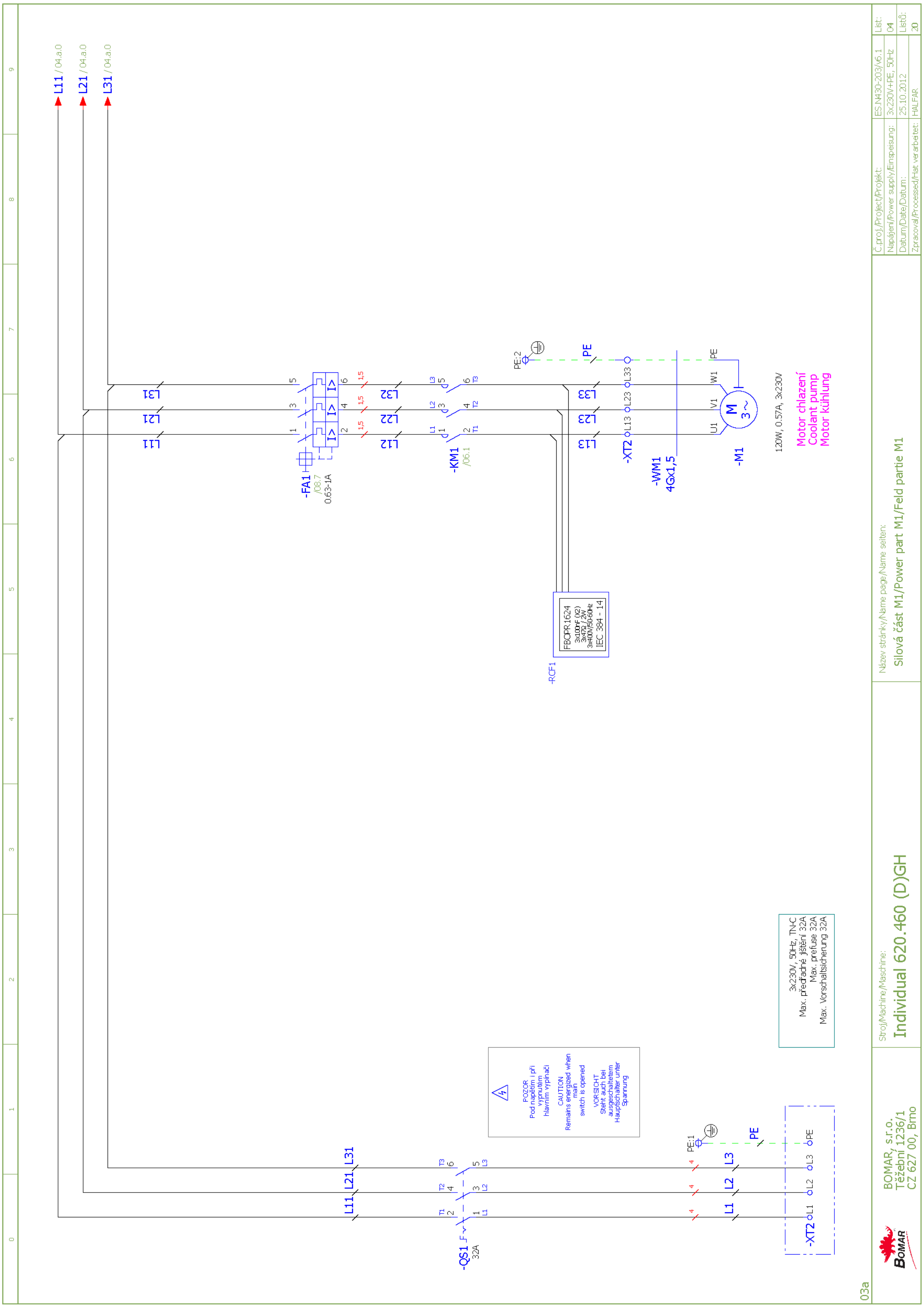
HW	
FW	

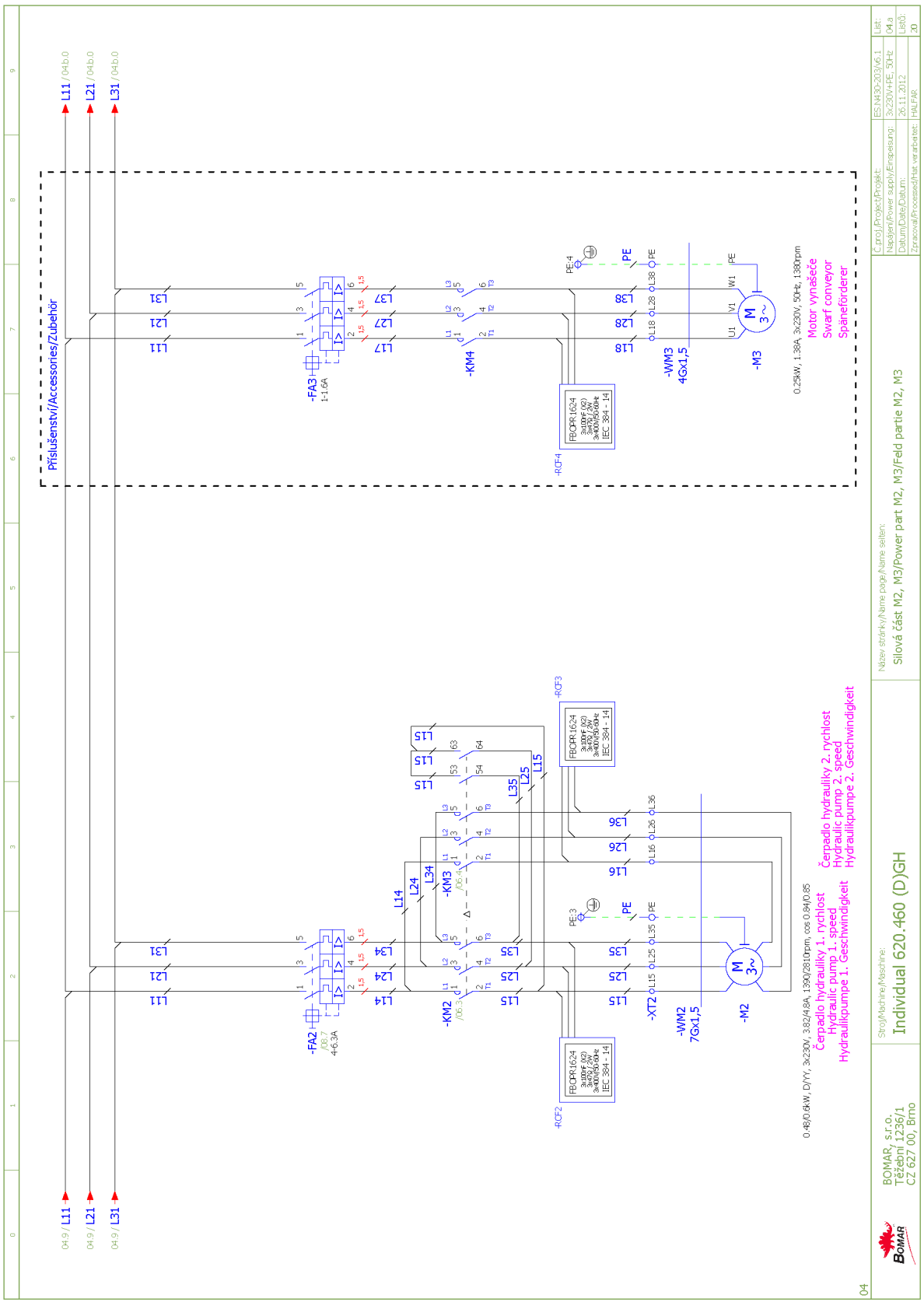
Pohled ze spodu/From under view/Blick nach

I/O	CZE	ENG	DE
IN 01	Svěrák upnut	Vice is clamped	Schraubstock ist gespannt
IN 02	Rameno dole	Arm is down	Rahmen ist unten
IN 03	Rameno nahoře	Arm is up	Rahmen ist oben
IN 04	Napnutí pásu	Blade tension	Bandspannung
IN 05	Motory OK	Motors OK	Motoren OK
IN 06	Bezpečnostní okruh uzavřen	Safety circle shut down	Sicherheitsschaltung gesperrt
IN 07	Tlačítko TOTAL STOP	Button TOTAL STOP	Taste TOTAL STOP
IN 08	Tlačítko START	Button START	Taste START
IN 09	Tlačítko STOP	Button STOP	Taste STOP
IN 10	MANUAL	MANUAL	MANUAL
IN 11	CYKLUS	CYCLE	ZYKLUS
IN 12	NC	NC	NC
IN 13	NC	NC	NC
IN 14	NC	NC	NC
IN 15	NC	NC	NC
IN 16	NC	NC	NC
IN 17	NC	NC	NC
IN 18	NC	NC	NC
IN 19	Tlačítko napnout pás	Button band tension	Taste band spannen
IN 20	Tlačítko povolit pás	Button band release	Taste band lösen
IN 21	Tlačítko rameno nahoru	Button arm up	Taste Rahmen nach oben
IN 22	NC	NC	NC
IN 23	Přítlak upnut	Upper vice is clamped	Ober Schraubstock ist gespannt
IN 24	NC	NC	NC
OUT 01+ OUT 01-	Start FM1	Start FM1	Start FM1
OUT 02+ OUT 02-	NC	NC	NC
OUT 03+ OUT 03-	NC	NC	NC
OUT 04	Motor chlazení	Coolant pump	Motor Kühlung
OUT 05	Čerpadlo hydrauliky 1.rychlost	Hydraulic pump 1.speed	Hydraulikpumpe 1.Geschwindigkeit
OUT 06	Čerpadlo hydrauliky 2.rychlost	Hydraulic pump 2.speed	Hydraulikpumpe 2.Geschwindigkeit
OUT 07	Svěrák upnout	Vice clamp	Schraubstock spannen
OUT 08	Svěrák povolit	Release vice	Schraubstock lösen
OUT 09	Svěrák doleva	Vice to the left	Schraubstock nach links
OUT 10	Svěrák doprava	Vice to the right	Schraubstock nach rechts
OUT 11	Rameno nahoru	Arm up	Rahmen nach oben
OUT 12	Rameno dolů	Arm down	Rahmen nach unten
OUT 13	Rameno rychle	Arm fast	Rahmen schnell
OUT 14	Přítlak upnout	Upper vice clamp	Ober Schraubstock spannen
OUT 15	Přítlak povolit	Release upper vice	Ober Schraubstock lösen
OUT 16	Napnout pás	Sawblade tension	Spannen des Sägebandes
OUT 17	Uvolnit pás	Sawblade leave	Entspannen des Sägebandes
OUT 18	Mikronizer	Microniser	Mikronizer
OUT 19	Kontrolka start	Indicator start	Kontrollicht start


800 mm
40 mm
390 mm
290 mm
500 mm
RS1
120 mm
40 mm
140 mm
25 mm
200 mm
25 mm
150 mm
60 mm
-FA1
-FA2
-PA1
-ZD1
-TR1
-FM1
-Z1
-RET1
-KM12
-KM11
-KM3
-KM2
-KM1
-RCF3
-RCF2
-RCF1
-BM1
-XT1:
-XT2:
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Rozmístění prvků v rozvaděči RS1/ Placement of elements in enclosure RS1/ Platzierung der Elemente im Schaltschrank RS1
Č.proj./Project/Projekt:
ES.N430-203/V6.1
Napájení/Power supply/Einspeisung:
3x230V+PE, 50Hz
Datum/Date/Datum:
26.11.2012
Zpracoval/Processed/Hat verarbeitet:
HALFAR
List:
03
Listů:
30
02


OP1
SB8, HL2
SB3
SB501
SB1, HL1
SB2
RP1
START
STOP
F1
F2
F3
F4
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Ovládací panel OP1/Control panel OP1/Bedienpult OP1
C.proj./Projekt/Projekt:
ES.N430-203/v6.1
Napájení/Power supply/Einspeisung:
3x230V+PE, 50Hz
Datum/Date/Datum:
30.8.2012
Zpracoval/Processed/hat verarbeitet:
HALFAR
List:
03a
Listů:
30
03


L11 /04.a.0
L21 /04.a.0
L31 /04.a.0
-FA1 /08.7 0.63-1A
-KM1 /06.1
-RCF1
FBOPR1624
IEC 384 - 14
-XT2
-WM1 4Gx1,5
-M1
M 3~
120W, 0.57A, 3x230V
Motor chlazení
Coolant pump
Motor kühlung
PE
-QS1 32A
POZOR Pod napětím i při vypnutém hlavním vypínači
CAUTION Remains energized when main switch is opened
VORSICHT Steht auch bei ausgeschaltetem Hauptschalter unter Spannung
3x230V, 50Hz, TN-C
Max. předřadné jištění 32A
Max. prefuse 32A
Max. Vorschaltsicherung 32A
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Silová část M1/Power part M1/Feld partie M1
Č.proj./Project/Projekt: ES.NI430-203/V6.1
Napájení/Power supply/Einspeisung: 3x230V+PE, 50Hz
Datum/Date/Datum: 25.10.2012
Zpracoval/Processed/Hat verarbeitet: HALFAR
List: 04
Listů: 20
03a



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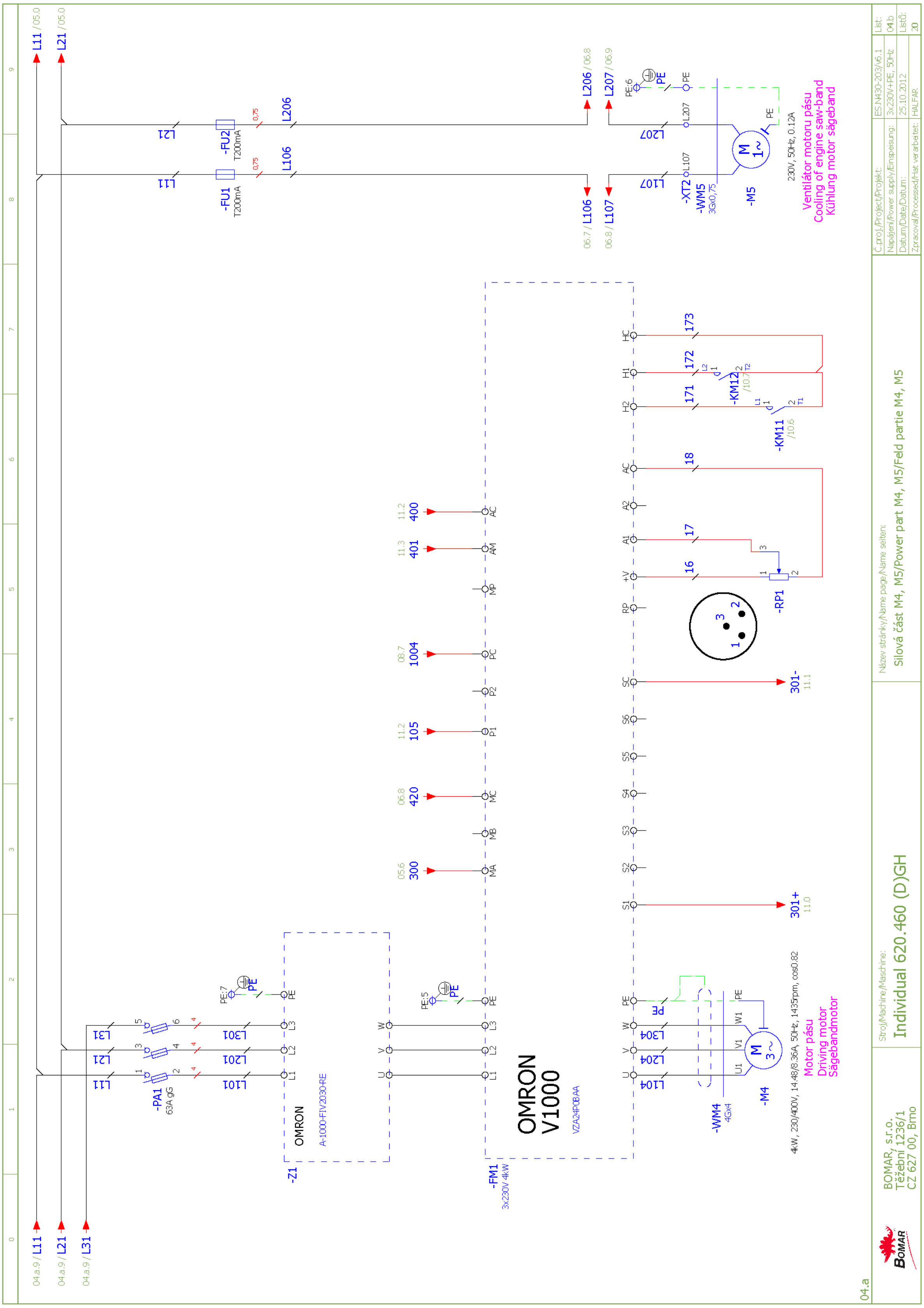
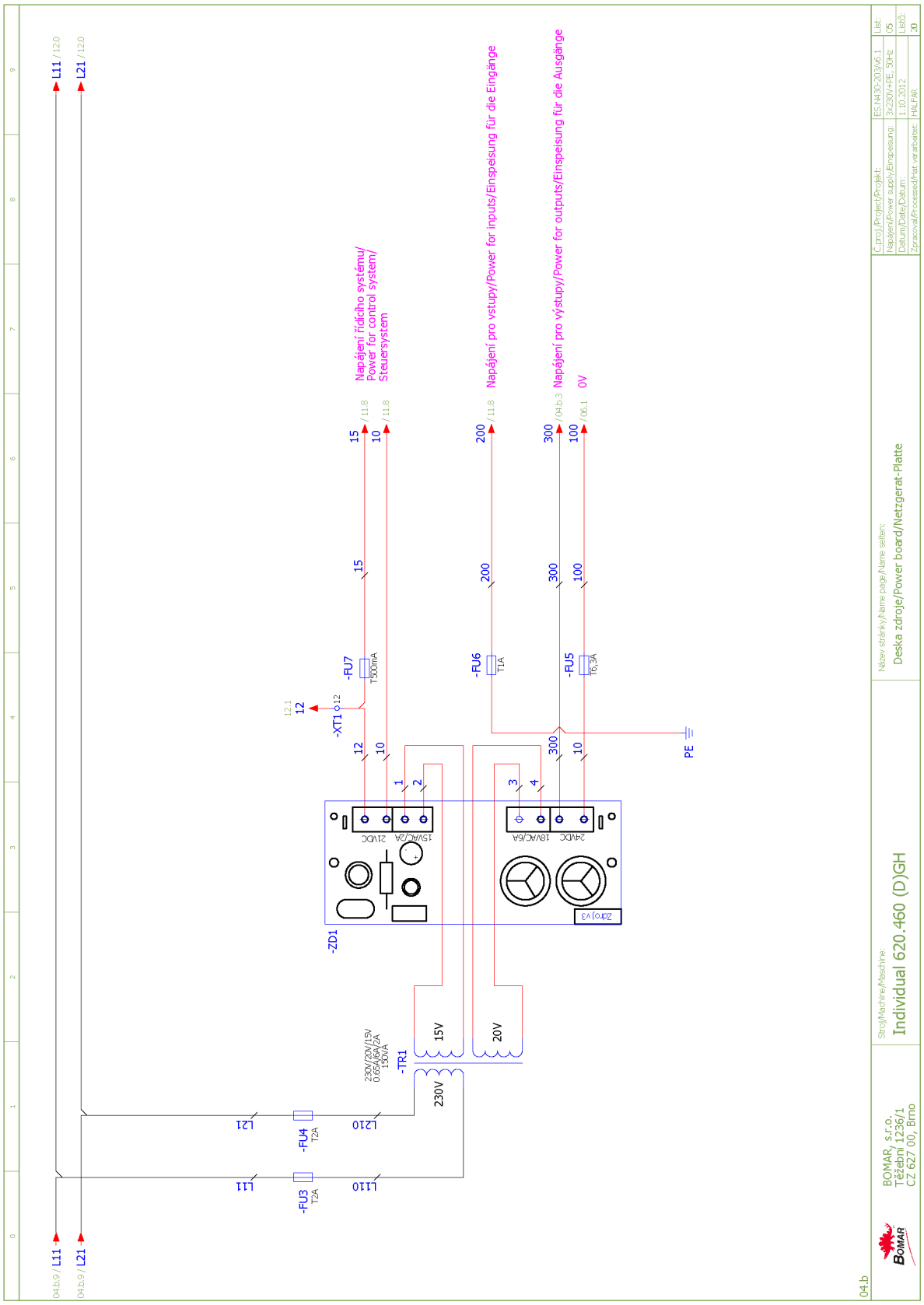
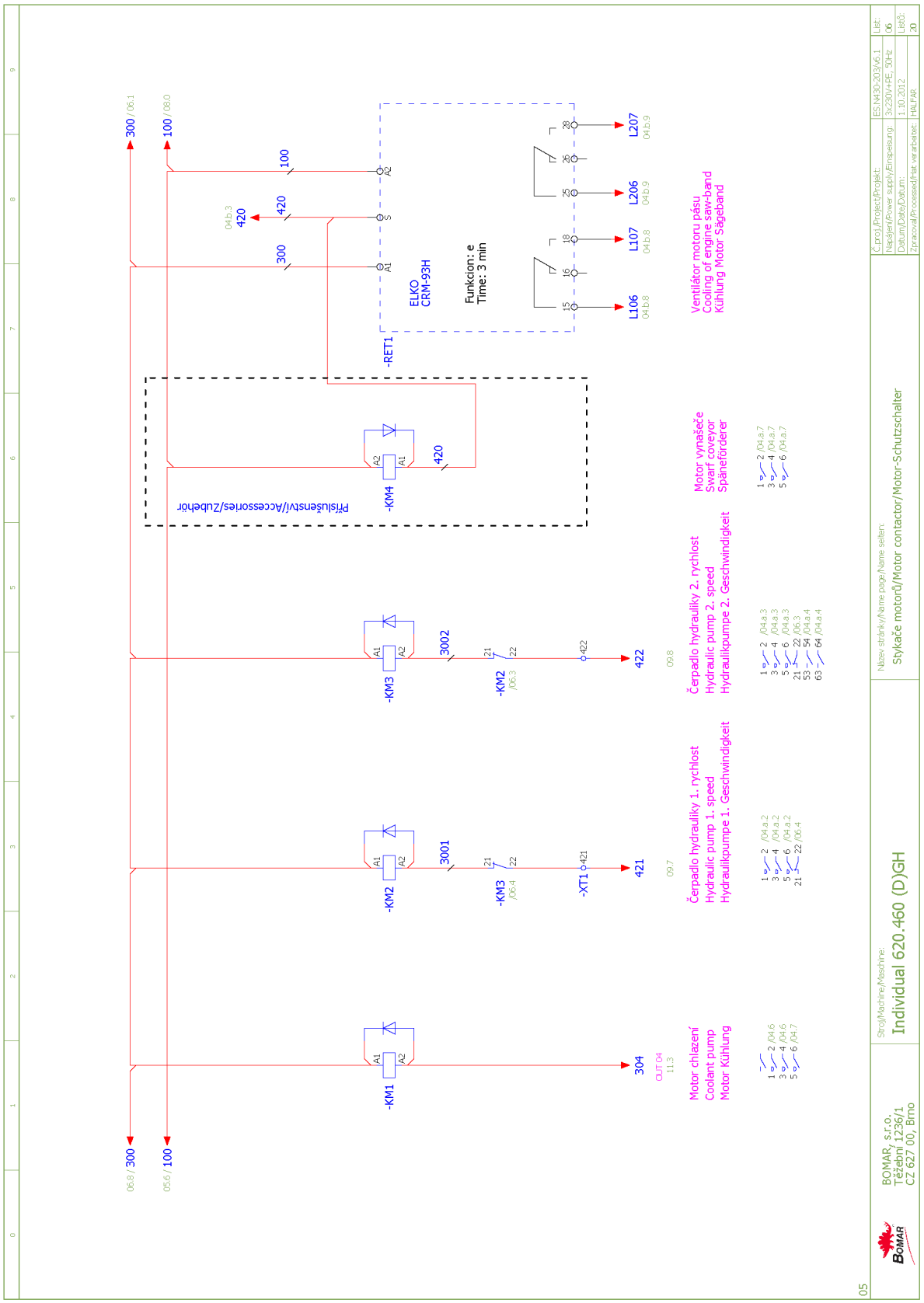
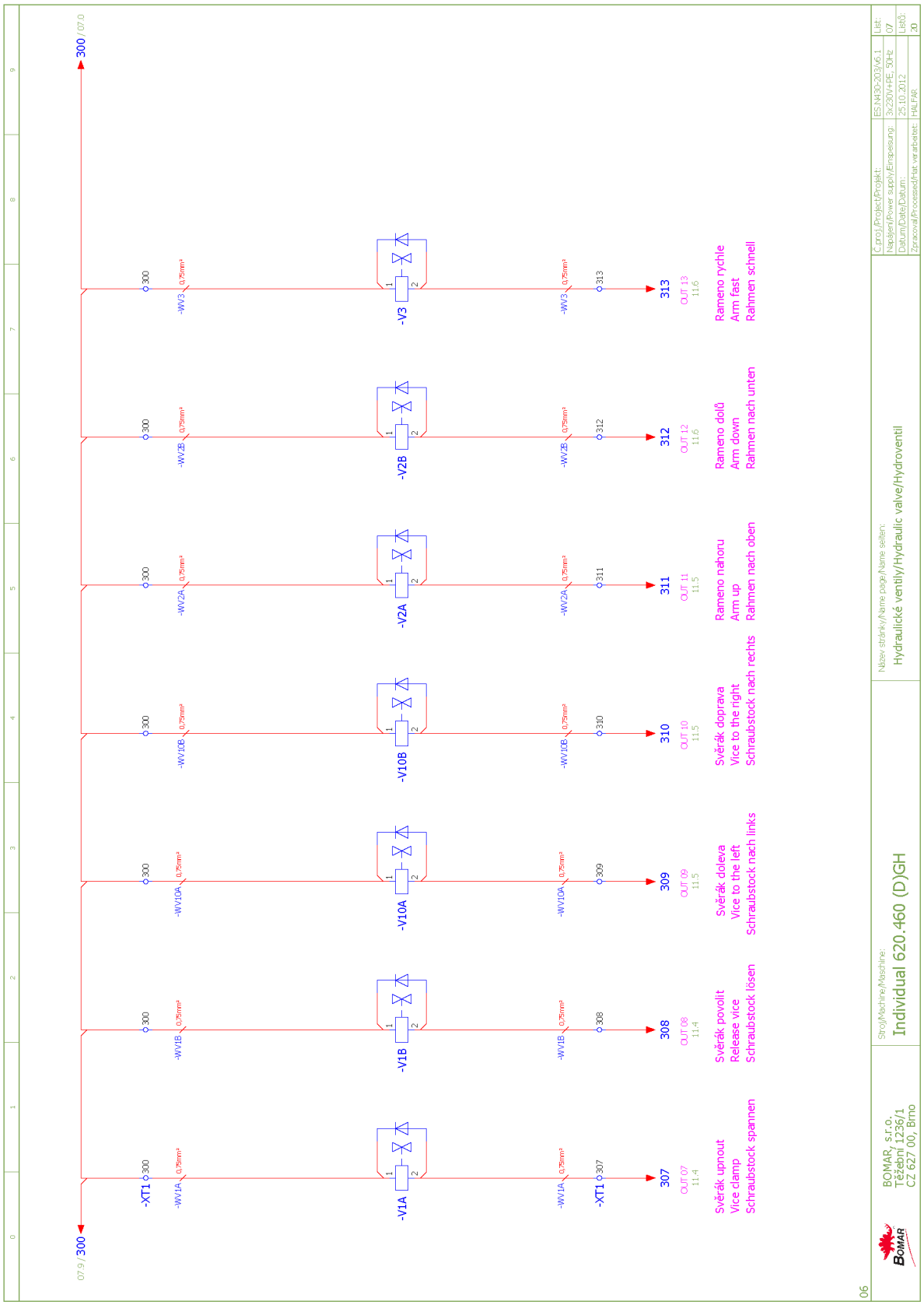
Manual rev.: 1

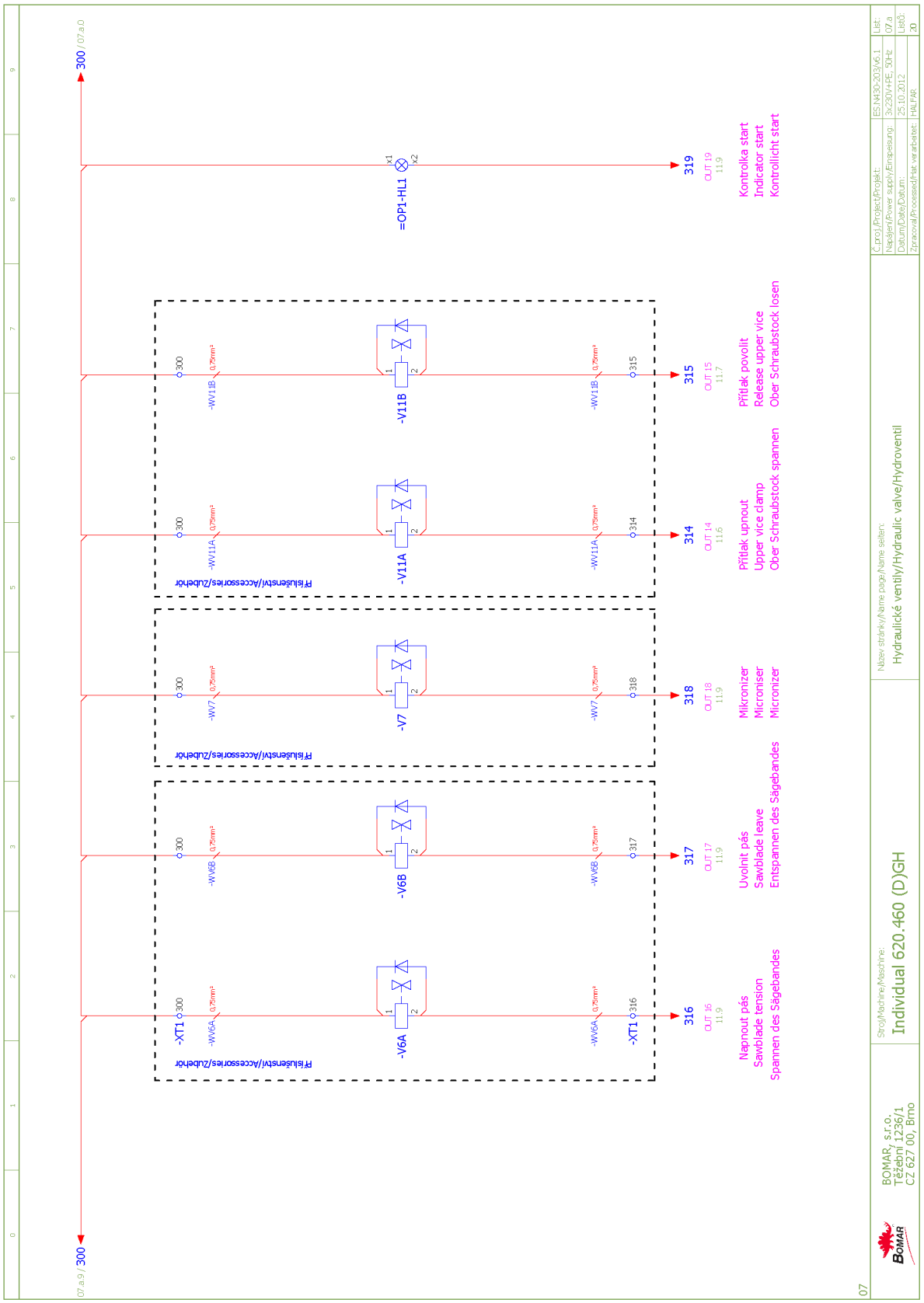


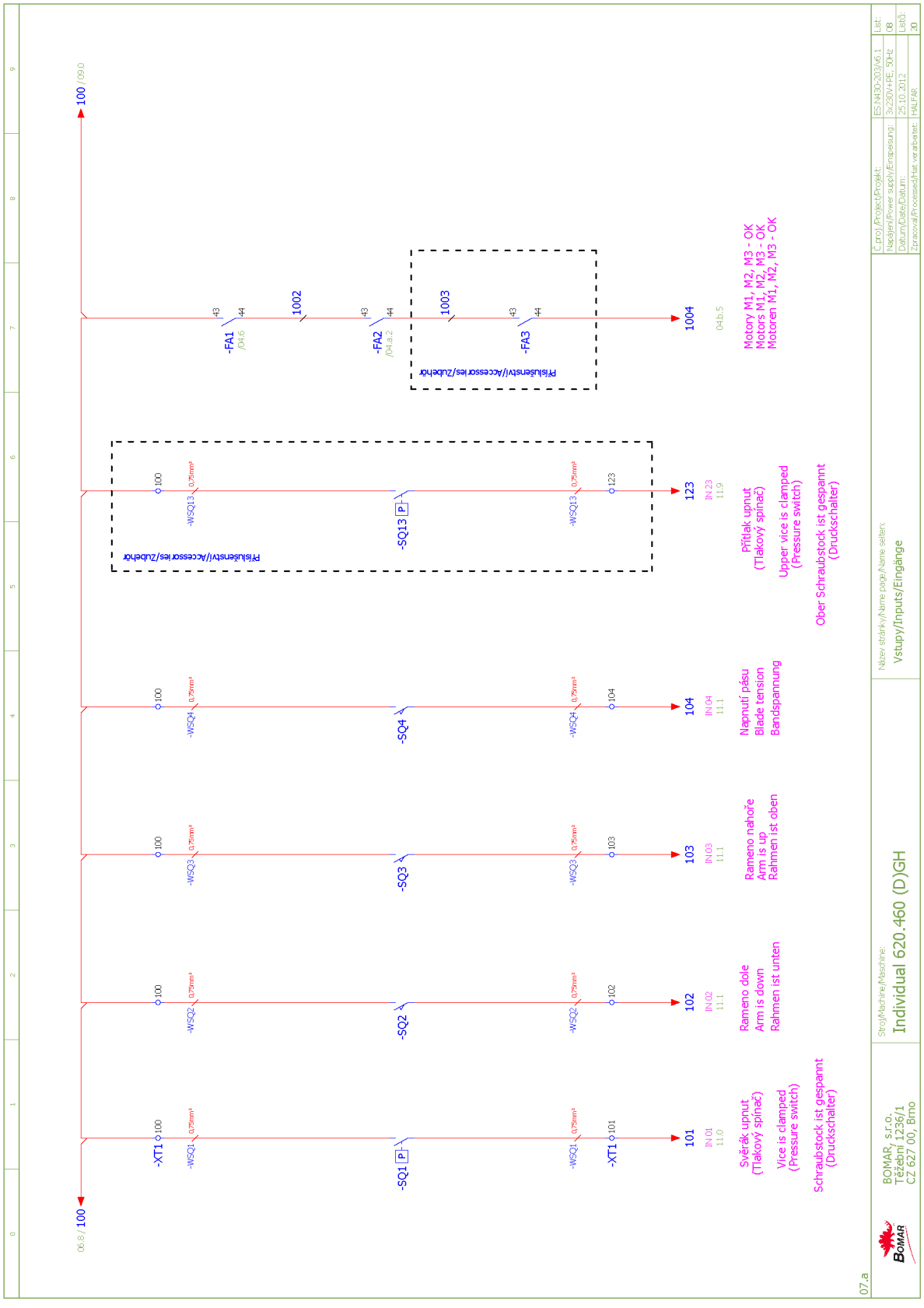
OMRON V1000
VZA24P0BAA
-FM1
3x230V 4kW
OMRON
A-1000-FIV2030-RE
-Z1
-PA1
63A gG
-FU1
T200mA
-FU2
T200mA
-M4
-WM4
4kW, 230/400V, 14.48/8.36A, 50Hz, 1435rpm, cos0.82
Motor pásu
Driving motor
Sägebandmotor
-M5
-WM5
-XT2
230V, 50Hz, 0.12A
Ventilátor motoru pásu
Cooling of engine saw-band
Kühlung motor sägeband
-RP1
-KM11
-KM12
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Silová část M4, M5/Power part M4, M5/Feld partie M4, M5
Č.proj./Project/Projekt: ES.N430-203/V6.1
Napájení/Power supply/Einspeisung: 3x230V+PE, 50Hz
Datum/Date/Datum: 25.10.2012
Zpracoval/Processed/Hat verarbeitet: HALFAR
List: 04.b
Listů: 20
04.a


L11 /12.0
L21 /12.0
04.b/ L11
04.b/ L21
-FU3 T2A
-FU4 T2A
-TR1
230V/20V//15V
0.65A/6A/2A
15VA
230V
15V
20V
-ZD1
15VAC/2A
21VDC
18VAC/6A
24VDC
Zdroj v3
-XT1
-FU7 T500mA
-FU6 T1A
-FU5 T6,3A
Napájení řídícího systému/
Power for control system/
Steuersystem
Napájení pro vstupy/Power for inputs/Einspeisung für die Eingänge
Napájení pro výstupy/Power for outputs/Einspeisung für die Ausgänge
0V
PE
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Deska zdroje/Power board/Netzgerat-Platte
C:proj./Projekt/Projekt:
ES:N430-203/V6.1
Napájení/Power supply/Einspeisung:
3x230V+PE, 50Hz
Datum/Date/Datum:
1.10.2012
Zpracoval/Processed/Hat verarbeitet:
HALPAR
List:
05
Listů:
20


BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Stykače motorů/Motor contactor/Motor-Schutzschalter
Č.proj./Projekt/Projekt:
ES:M430-203/V6.1
Napájení/Power supply/Einspeisung:
3x230V+PE, 50Hz
Datum/Date/Datum:
1.10.2012
Zpracoval/Processed/Hat verarbeitet:
HALFAR
List:
06
Listů:
30
05
300 / 06.1
100 / 08.0
06.8 / 300
05.6 / 100
-KM1
-KM2
-KM3
-KM4
-RET1
ELKO
CRM-93H
Funkcion: e
Time: 3 min
-XT1
304
421
422
3001
3002
420
100
300
L106
L107
L206
L207
Motor chlazení
Coolant pump
Motor Kühlung
Čerpadlo hydrauliky 1. rychlost
Hydraulic pump 1. speed
Hydraulikpumpe 1. Geschwindigkeit
Čerpadlo hydrauliky 2. rychlost
Hydraulic pump 2. speed
Hydraulikpumpe 2. Geschwindigkeit
Motor vynašeče
Swarf conveyor
Spänefördérer
Ventilátor motoru pásu
Cooling of engine saw-band
Kühlung Motor Sägeband
Příslušenství/Accessories/Zubehör


300
-XT1
-WV1A
-V1A
307
Svěrák upnout
Vice clamp
Schraubstock spannen
-WV1B
-V1B
308
Svěrák povolit
Release vice
Schraubstock lösen
-WV10A
-V10A
309
Svěrák doleva
Vice to the left
Schraubstock nach links
-WV10B
-V10B
310
Svěrák doprava
Vice to the right
Schraubstock nach rechts
-WV2A
-V2A
311
Rameno nahoru
Arm up
Rahmen nach oben
-WV2B
-V2B
312
Rameno dolů
Arm down
Rahmen nach unten
-WV3
-V3
313
Rameno rychle
Arm fast
Rahmen schnell
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Hydraulické ventily/Hydraulic valve/Hydroventil
ES:N430-203/V6.1
3x230V+PE, 50Hz
25.10.2012
HAL FAR


300 / 07.a.0
07.a.9 / 300
=OP1-HL1
-V11B
-V11A
-V7
-V6B
-V6A
-XT1
-WV11B
-WV11A
-WV7
-WV6B
-WV6A
Přislušenství/Accessories/Zubehör
319
315
314
318
317
316
Kontrolka start
Indicator start
Kontrollicht start
Přítlak povolit
Release upper vice
Ober Schraubstock losen
Přítlak upnout
Upper vice clamp
Ober Schraubstock spannen
Mikronizer
Microniser
Micronizer
Uvolnit pás
Sawblade leave
Entspannen des Sägebandes
Napnout pás
Sawblade tension
Spannen des Sägebandes
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Hydraulické ventily/Hydraulic valve/Hydroventil
Č.proj./Projekt/Projekt:
ES:N430-203/V6-1
Napájení/Power supply/Einspeisung:
3x230V+PE, 50Hz
Datum/Date/Datum:
25.10.2012
Zpracoval/Processed/Hat verarbeitet:
HALFAR
List:
07.a
Listů:
30
07



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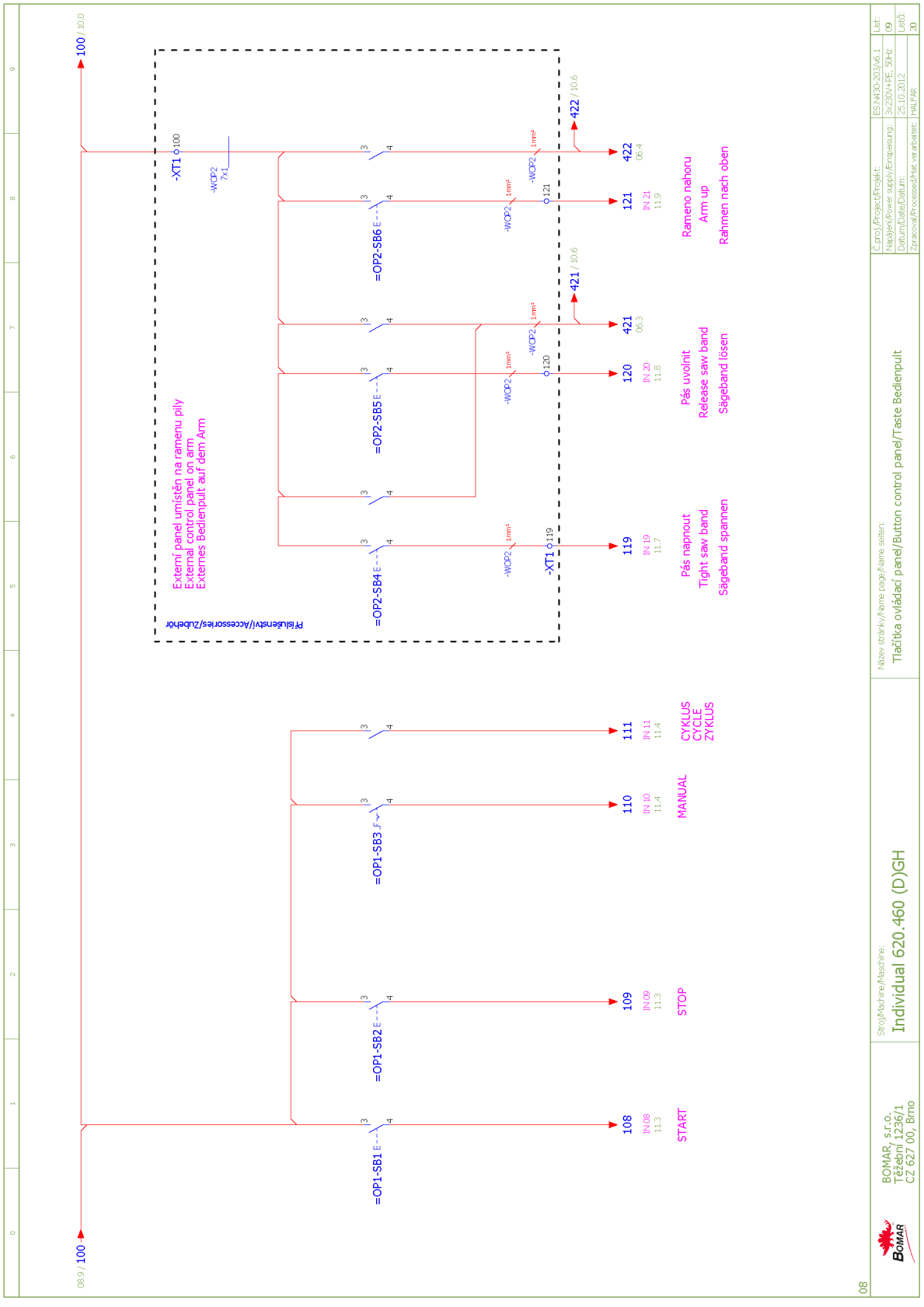
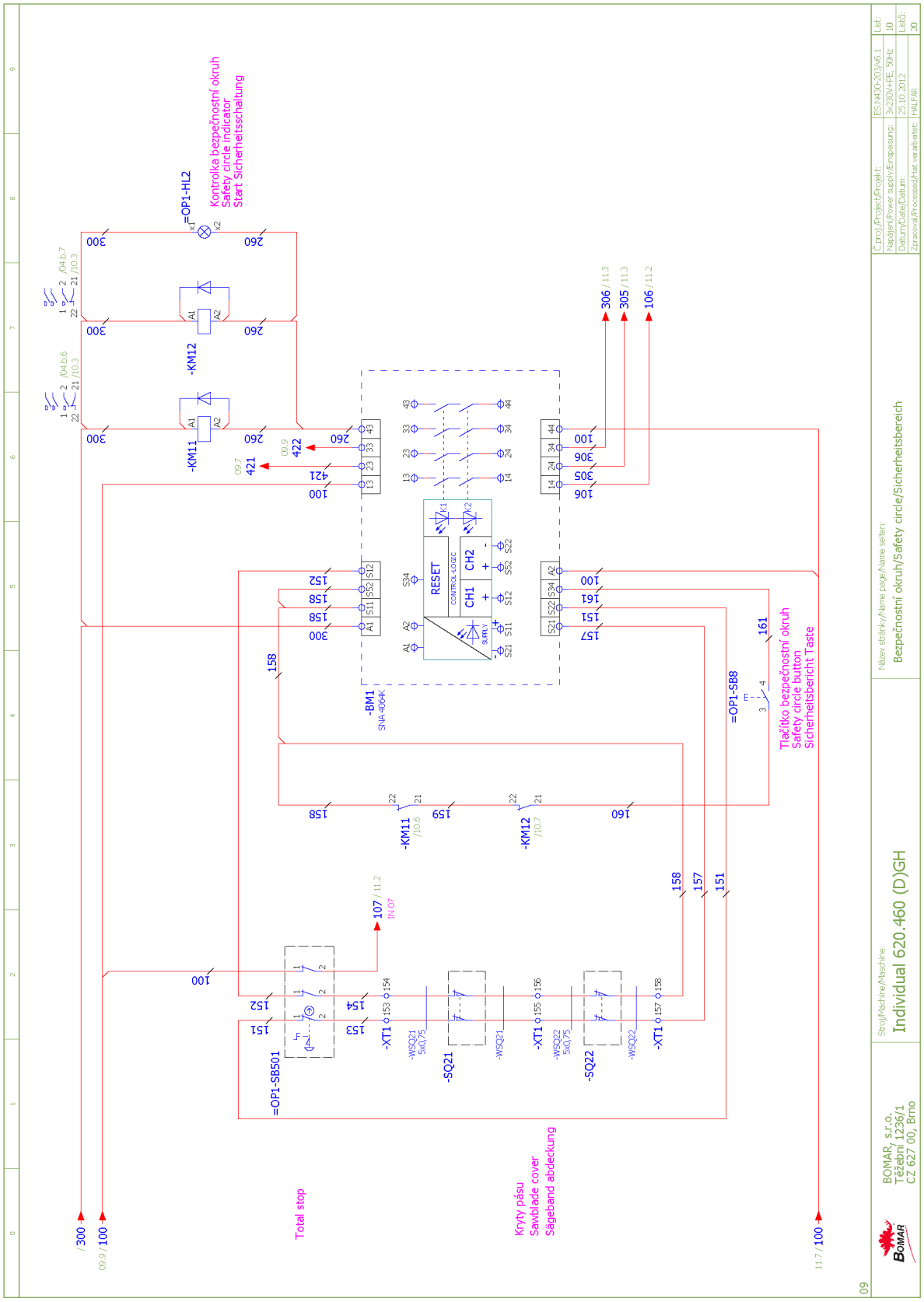
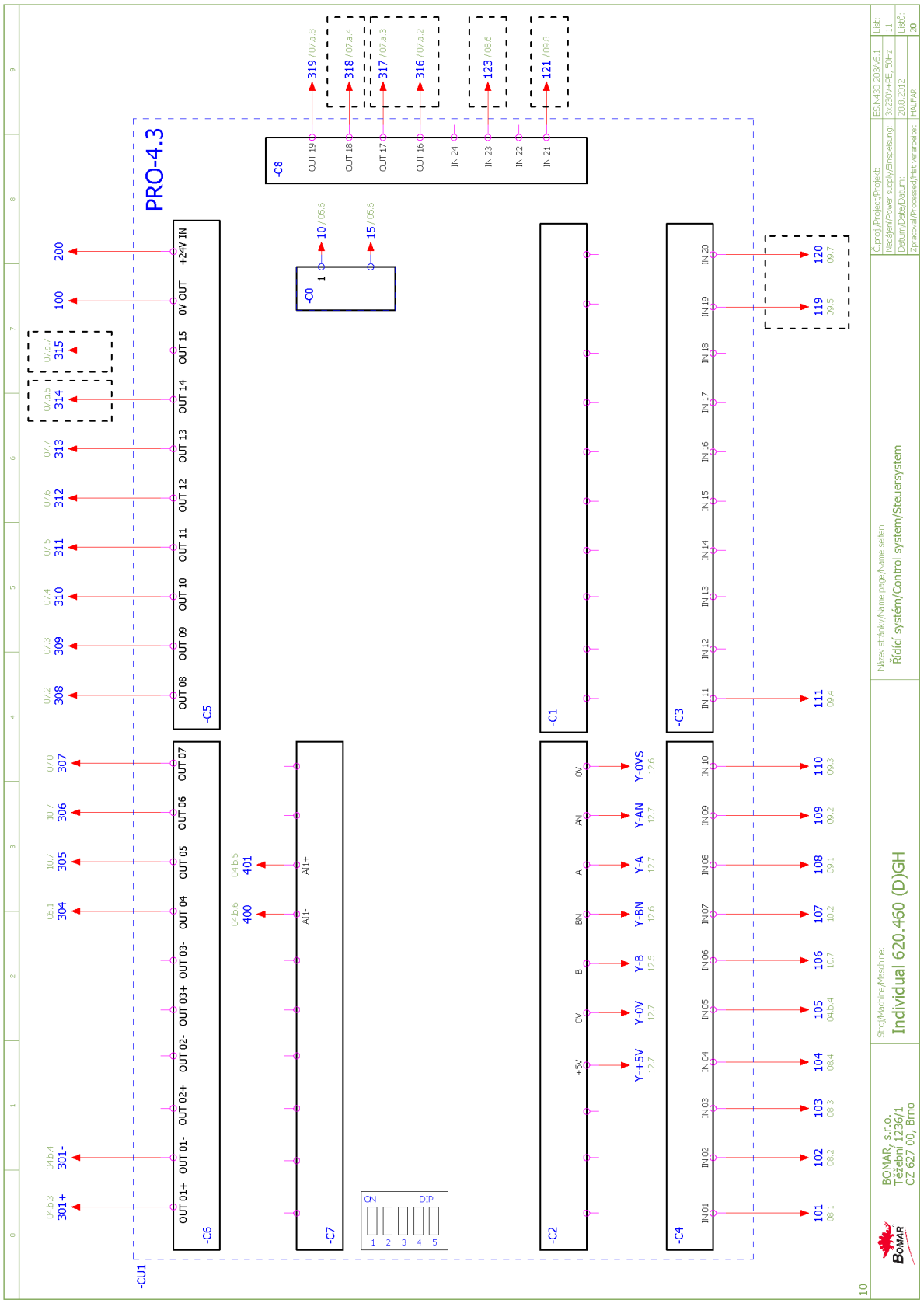
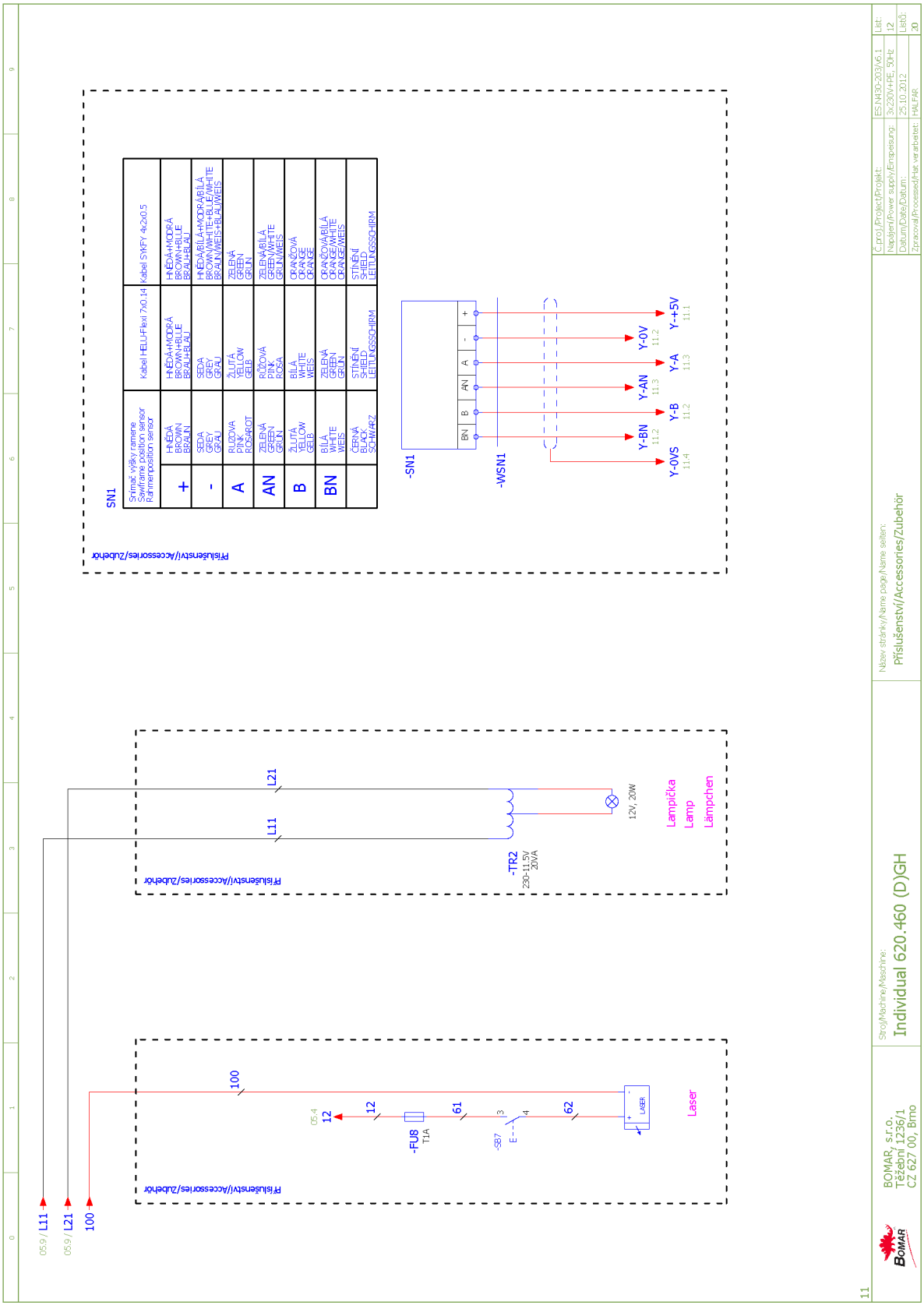
Manual rev.: 1


100 / 10.0
06.9 / 100
-XT1 100
-WOP2 7x1
Externí panel umístěn na ramenu pily
External control panel on arm
Externes Bedienpult auf dem Arm
Příslušenství/Accessories/Zubehör
=OP2-SB4 E---
=OP2-SB5 E---
=OP2-SB6 E---
-XT1 119
-XT1 120
-XT1 121
-WOP2 1mm²
422 / 10.6
421 / 10.6
422
06.4
421
06.3
120
IN 20
11.8
121
IN 21
11.9
119
IN 19
11.7
Rameno nahoru
Arm up
Rahmen nach oben
Pás uvolnit
Release saw band
Sägeband lösen
Pás napnout
Tight saw band
Sägeband spannen
=OP1-SB1 E---
=OP1-SB2 E---
=OP1-SB3
108
IN 08
11.5
109
IN 09
11.3
110
IN 10
11.4
111
IN 11
11.4
START
STOP
MANUAL
CYKLUS
CYCLE
ZYKLUS
08
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Tlačítka ovládací panel/Button control panel/Taste Bedienpult
Č.proj./Project/Projekt:
ES.M30-203/V6.1
List:
09
Napájení/Power supply/Einspeisung:
3x230V+PE, 50Hz
Datum/Date/Datum:
25.10.2012
Listů:
20
Zpracoval/Processed/Hat verarbeitet:
HALFAR


=OP1-HL2
Kontrolka bezpečnostní okruh
Safety circle indicator
Start Sicherheitsschaltung
-KM12
-KM11
-BM1
SNA-4064K
RESET
CONTROL+LOGIC
CH1
CH2
SUPPLY
=OP1-SB8
Tlačítko bezpečnostní okruh
Safety circle button
Sicherheitsbericht Taste
-KM11
-KM12
=OP1-SB501
-XT1
-WSQ21
-SQ21
-WSQ22
-SQ22
Total stop
Kryty pásu
Sawblade cover
Sägeband abdeckung
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Bezpečnostní okruh/Safety circle/Sicherheitsbereich


PRO-4.3
-CU1
-C0
-C1
-C2
-C3
-C4
-C5
-C6
-C7
-C8
BOMAR, s.r.o.
Těžební 1236/1
CZ 627 00, Brno
Stroj/Machine/Maschine:
Individual 620.460 (D)GH
Název stránky/Name page/Name seiten:
Řídicí systém/Control system/Steuersystem
Č.proj./Project/Projekt:
ES:NM30-203/V6.1
Napájení/Power supply/Einspeisung:
3x230V+PE, 50Hz
Datum/Date/Datum:
28.8.2012
Zpracoval/Processed/Hat verarbeitet:
HALFAR
List:
11
Listů:
30



Manual version: 1.40 / Feb. 2013
Manual rev.: 1

Parts list

Device tag	Device type	Type number	Manufacturer	Part number	Quantity	Page
-RCF1	RCF filter	FBOPR1624		91.041.015	1	/04.4
-RCF2	RCF filter	FBOPR1624		91.041.015	1	/04.a.1
-RCF3	RCF filter	FBOPR1624		91.041.015	1	/04.a.4
-RP1	Potentiometer 5k	TP195 4x7/N20A		91.283.015	1	/04.b.5
=OP1-SB501	Emergency-stop mushroom push-button + 3xNC	YW1B-V4E02R		91.060.084	1	/10.2
-ZD1	Power supply unit - 15VAC/24VDC; 20VAC/28VDC	ZDR-03	Bomar	265.915	1	/05.2
-KM1	Contactor - 4kW, 9A, 3NO+1NO, 24VDC	DILEM-10-G(24VDC)	EATON	91.040.020	1	/06.1
-KM2	Contactor - 5,5kW, 12A, 3NO+1NC, 24VDC	DILM12-01(24VDC)	EATON	91.040.025	1	/06.3
-KM2	Mechanical interlock fot contactors DILM12	F-MO DILM12-XMV	EATON	91.041.012	1	/06.3
-KM3	Contactor - 5,5kW, 12A, 3NO+1NC, 24VDC	DILM12-01(24VDC)	EATON	91.040.025	1	/06.4
-KM3	Auxiliary contact of contactor - 2xNO	F-MO DILA-XHI20	EATON	91.041.010	1	/06.4
-KM11	Contactor - 4kW, 9A, 3NO+1NC, 24VDC	DILEM-01-G(24VDC)	EATON	91.040.024	1	/10.6
-KM12	Contactor - 4kW, 9A, 3NO+1NC, 24VDC	DILEM-01-G(24VDC)	EATON	91.040.024	1	/10.7
=OP1-HL1	Green light for Eaton adapter	M22-LED-G	EATON	91.061.023	1	/07.a.8
=OP1-HL2	White light for Eaton adapter	M22-LED-W	EATON	91.061.034	1	/10.8
=OP1-SB1	Green translucent switch head	M22-DL-G	EATON	91.060.031	1	/09.1
=OP1-SB1	Attaching adapter + NO contact	M22-AK10	EATON	91.061.021	1	/09.1
=OP1-SB2	Attaching adapter + NO contact	M22-AK10	EATON	91.061.021	1	/09.2
=OP1-SB2	Black switch head	M22-D-S	EATON	91.060.035	1	/09.2
=OP1-SB3	Head of 3 positional switch	M22-WRK3	EATON	91.060.051	1	/09.3
=OP1-SB3	NO contact for Eaton adapter	M22-K10	EATON	91.061.022	1	/09.3
=OP1-SB3	Attaching adapter + NO contact	M22-AK10	EATON	91.061.021	1	/09.3
=OP1-SB8	Attaching adapter + NO contact	M22-AK10	EATON	91.061.021	1	/10.4
=OP1-SB8	Yellow translucent switch head	M22-DL-Y	EATON	91.060.053	1	/10.4
-FU1	Tube fuse - 200mA/250V, slow, 5x20	T200mA/250V	ESKA	91.230.037	1	/04.b.8
-FU2	Tube fuse - 200mA/250V, slow, 5x20	T200mA/250V	ESKA	91.230.037	1	/04.b.9
-FU3	Tube fuse - 2A/250V, slow, 5x20	T2A/250V	ESKA	91.230.001	1	/05.0
-FU4	Tube fuse - 2A/250V, slow, 5x20	T2A/250V	ESKA	91.230.001	1	/05.1

Parts list

Device tag	Device type	Type number	Manufacturer	Part number	Quantity	Page
-FU5	Tube fuse - 6,3A/250V, slow, 5x20	T6,3A/250V	ESKA	91.230.002	1	/05.4
-FU6	Tube fuse - 1A/250V, slow, 5x20	T1A/250V	ESKA	91.230.003	1	/05.4
-FU7	Tube fuse - 500mA/250V, slow, 5x20	T500mA/250V	ESKA	91.230.011	1	/05.4
-FU8	Tube fuse - 1A/250V, slow, 5x20	T1A/250V	ESKA	91.230.003	1	/12.1
-M1	Pump - 120W, 230/400V	4C0A4-12H	EmP	91.020.015	1	/04.6
-TR1	Toroidal transformer - 0-230-400V/20V/15V, 0.65-0.38A/6A/2A, 150VA	1502304002015	KARBAN s.r.o.	91.080.026	1	/05.1
-SQ21	Safety limit switch, 2xNC	QKS8	KEDU	91.173.012	1	/10.2
-SQ22	Safety limit switch, 2xNC	QKS8	KEDU	91.173.012	1	/10.2
-PA1	Fused disconnect for cylindric fuse - 3P, size 14	OPV14S-3	OEZ	91.241.003	1	/04.b.1
-PA1	Cylindric fuse - 63A, 14x51 fast, gG charakteristic	PV14 63A gG	OEZ	91.230.018	1	/04.b.1
-SQ4	Limit switch - 1NC+1NO, M20, slow	D4N-4A32	OMRON	91.173.010	1	/08.4
-SQ2	Limit switch - 1NO + 1NC, roller, M2, snap action	FR 605-M2	PIZZATO	91.173.009	1	/08.2
-SQ3	Limit switch - 1NO + 1NC, roller, M2, snap action	FR 605-M2	PIZZATO	91.173.009	1	/08.3
-FA1	Motor-overcurrent circuit breaker 0.63-1A	GZ1M05	SCHNEIDER	91.235.023	1	/04.6
-FA1	Auxiliary contact of MOCB - 1xNO+1xNC	GZ1AN11	SCHNEIDER	91.046.004	1	/04.6
-FA2	Motor-overcurrent circuit breaker 4-6.3A	GZ1M10	SCHNEIDER	91.235.026	1	/04.a.2
-FA2	Auxiliary contact of MOCB - 1xNO+1xNC	GZ1AN11	SCHNEIDER	91.046.004	1	/04.a.2
-QS1	Main switch 3P, 32A	VCF1-32A	SCHNEIDER	91.170.012	1	/04.0
-BM1	Safety relay - 4xNO	SNA 4064K	WIELAND	91.051.026	1	/10.4
-CU1	PRO-4.3	PRO-4.3	Bomar	265.917	1	/11.0
-FM1	Frequency converter - 4kW, 3x230V	VZA24P0BAA	OMRON	91.012.032	1	/04.b.1
-RET1	Multifunction time relay	CRM-93H/UNI	ELKO	91.051.031	1	/06.7
-Z1	Filter for frequency converter VZA 24P0	A-1000-FIV2030-RE	OMRON	91.012.033	1	/04.b.1
-FU1	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/04.b.8
-FU2	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/04.b.9
-FU3	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.0
-FU4	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.1
-FU5	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.4

13

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

Stroj/Machine/Maschine: Individual 620.460 (D)GH

Název stránky/Name page/Name seiten: Kusovník artiklů/ Parts list/ Artikelstückliste

Č.proj./Project/Projekt:	ES:N430-203/v6.1	List:
Napájení/Power supply/Einspeisung:	3x230V+PE, 50Hz	13.a
Datum/Date/Datum:	26.11.2012	Listů:
Zpracoval/Processed/Hat verarbeitet:	HALFAR	20

Parts list

Device tag	Device type	Type number	Manufacturer	Part number	Quantity	Page
-FU6	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.4
-FU7	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/05.4
-FU8	Fuse case	WK4/THSi5...U	WIELAND	91.251.102	1	/12.1
-M5	Cooling ventilator - 230V, 50Hz, 0.12A	RAH1278B1-C	XFAN	91.015.105	1	/04.b.8

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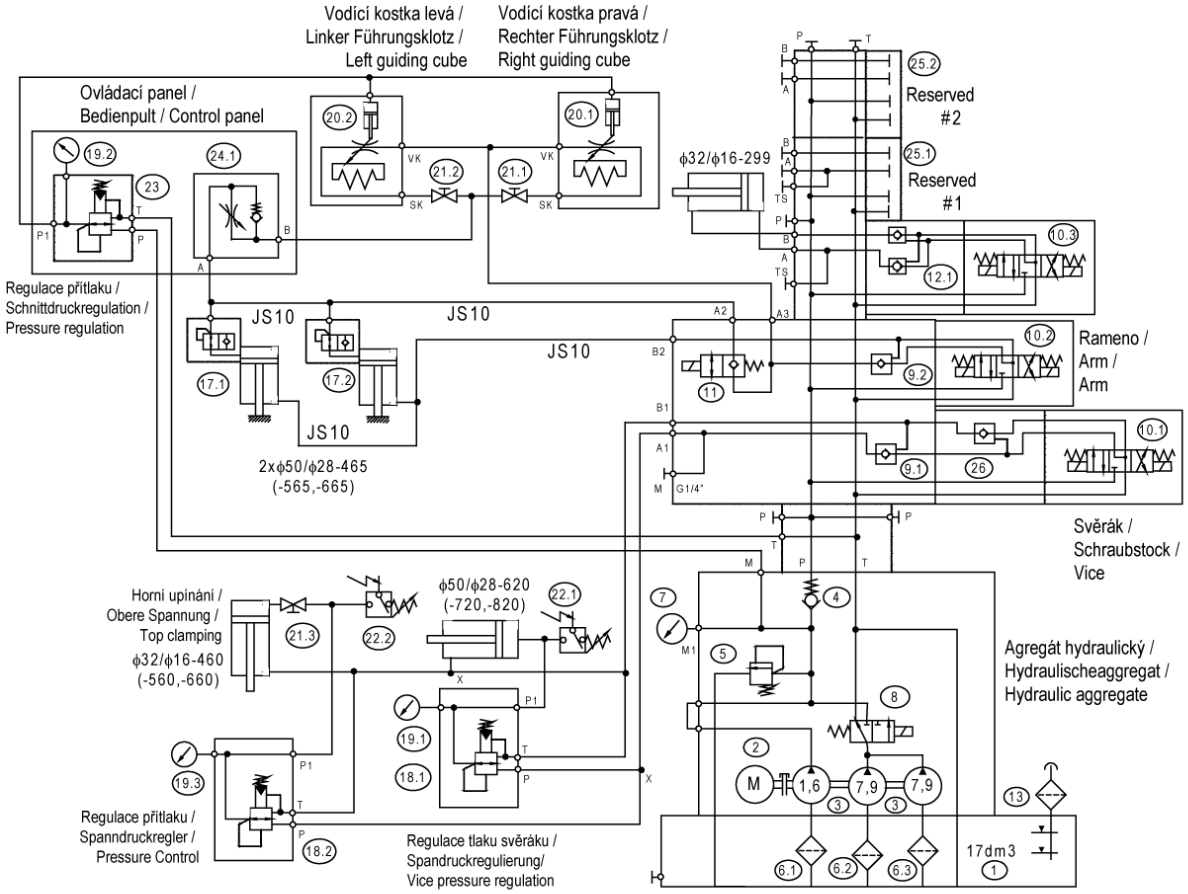
Těžební 1236/1
CZ 627 00, Brno

Stroj/Machine/Maschine:
Individual 620.460 (D)GH

Název stránky/Name page/Name seiten:
Kusovník artiklů/ Parts list/ Artikelstückliste

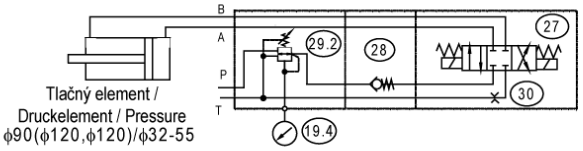
Č.proj./Project/Projekt:	ES.N430-203/v6.1	List:
Napájení/Power supply/Einspeisung:	3x230V+PE, 50Hz	13.b
Datum/Date/Datum:	26.11.2012	Listů:
Zpracoval/Processed/Hat verarbeitet:	HALFAR	20

6.7. Hydraulické schéma / Hydraulikschema / Hydraulic diagram

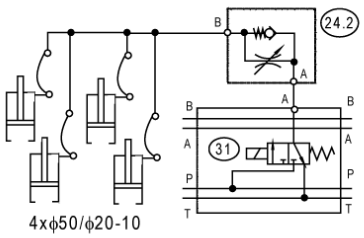


Nestandardní výbava
Nicht-standard-Ausrüstung
Non-standard equipment

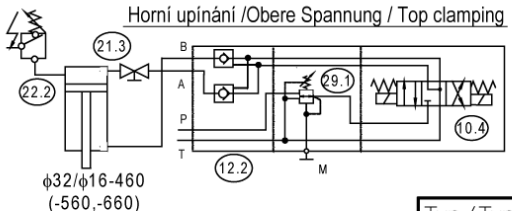
Napínání pásu/ Sägebandspannung / Saw band tensing



Zdvih stroje / Reise-Tools / Hydraulical saw lift



Horní upínání /Obere Spannung / Top clamping



205.Y416-000
TIN7
INDIV. 620.460 GH,DGH
INDIV. 720.540 GH,DGH
INDIV. 820.640 GH,DGH
15.11.2010

Základní technické parametry
Technische Spezifikation
Technical specification

Typ / Type / Type	Individual 460, 540, 640 (D)GH (TIN7)
Hydraulický agregát / Hydroaggregat Hydro aggregat	SSM-3/79+79+16-1/3-17/02400 92.001.062 (19753500)
Neuvedené světlosti / Unerwähnt Lichtbreite Unlisted inside diameters	JS6
Výstupní šroubení / Ausgangschraubung Output screewing	G1/4"
p_{max}	8 Mpa
Q	21,2+2,2 dm^3/min
n	1425 ot./min
P	3 kW

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Poz.	Název položky		ks
Pos.	Bezeichnung		Menge
Pos.	Item		Pcs.
1	Nádrž / Behälter / Tank	Ø220-610 mm, 17 l	1
2	Elektromotor / Elektromotor / Electromotor	MA-AL100L 400/230V 50 Hz, 3 kW, 6,68 A	1
3	Hydrogenerátor / Hydraulikgenerator / Hydrogenerator	P23-7,9/7,9/1,6 L62334	1
4	Jednosměrný ventil / Einwegventil / One-way valve	VJ01-06/SG-1	1
5	Přepouštěcí ventil / Bypaßventil / By pass valve	VPN1-06/S-10S/M 27999700	1
6	Sací filtr / Filter / Suction filter	2SF56/48-0,063 63 um	3
7	Manometr / Manometer / Manometer	Ø68 0-10 MPa	1
8	Rozváděč / Schaltschrank / Switchboard	SD2E-A3/C2D21 408-0328.003	1
9	Hydraulický zámek / Hydraulisches Schloß / Hydraulic lock	RJV1-05-0	2
10	Rozváděč / Schaltschrank / Switchboard	RPE3-04Y11/02400E1K1 92.101.005	4(3/2)
11	Rozváděč / Schaltschrank / Switchboard	ROE3-042S2/02400E1K1	1
12	Hydraulický zámek / Hydraulisches Schloß / Hydraulic lock	VJR1-04/MC 92.103.003	2(1/0)
13	Nalévací zátka / Stopfen / Fill stopper	L1.0406	1
14	---	---	-
15	---	---	-
16	---	---	-
17	Pojistný ventil / Sicherungventil / Safety valve	VPNH ¼ 92.151.001	2
18	Redukční ventil / Reduktionventil /	VRN2-06/S-6R 92.154.001	2(1)
19	Manometr / Manometer / Manometer	Ø68, 0–6 MPa	3(2)
20	Kostka regulace / Regulationklotz / Regulation cube		1
21	Kulový ventil /Kugelventil / Globe valve	99.260.004	1(0)
22	Tlakový spínač / Druckschalter / Pressure switch	0166415031059 20–50 bar	2(1)
23	Redukční ventil / Reduktionventil /	VRN2-06/S-6R	1
24	Škrtící ventil / Drosselventil / Throttle-valve	VS01-04/R2,5 92.152.001	2(1)
25	Krycí deska / Schutzplatte / Cover platte	DK 1-04/32-2	2/3(2/3)
26	Hydraulický zámek / Hydraulisches Schloß / Hydraulic lock	VJR1-04/MB 92.103.003	1(0)
27	Rozváděč / Schaltschrank / Switchboard	RPE3-043Z11/02400E1K1 92.101.010	1(0)
28	Jednosměrný ventil / Einwegventil / One-way valve	VJ01-04/MP-30 92.104.001	1(0)
29	Redukční ventil / Reduktionventil /	VRP2-04-PS/6,3 92.154.003	2(0)
30	Clona / Schürze / Shield	0,8 92.153.022	1(0)
31	Rozváděč / Schaltschrank / Switchboard	SD2E-A3/S2D26 408-0328.003	1(0)

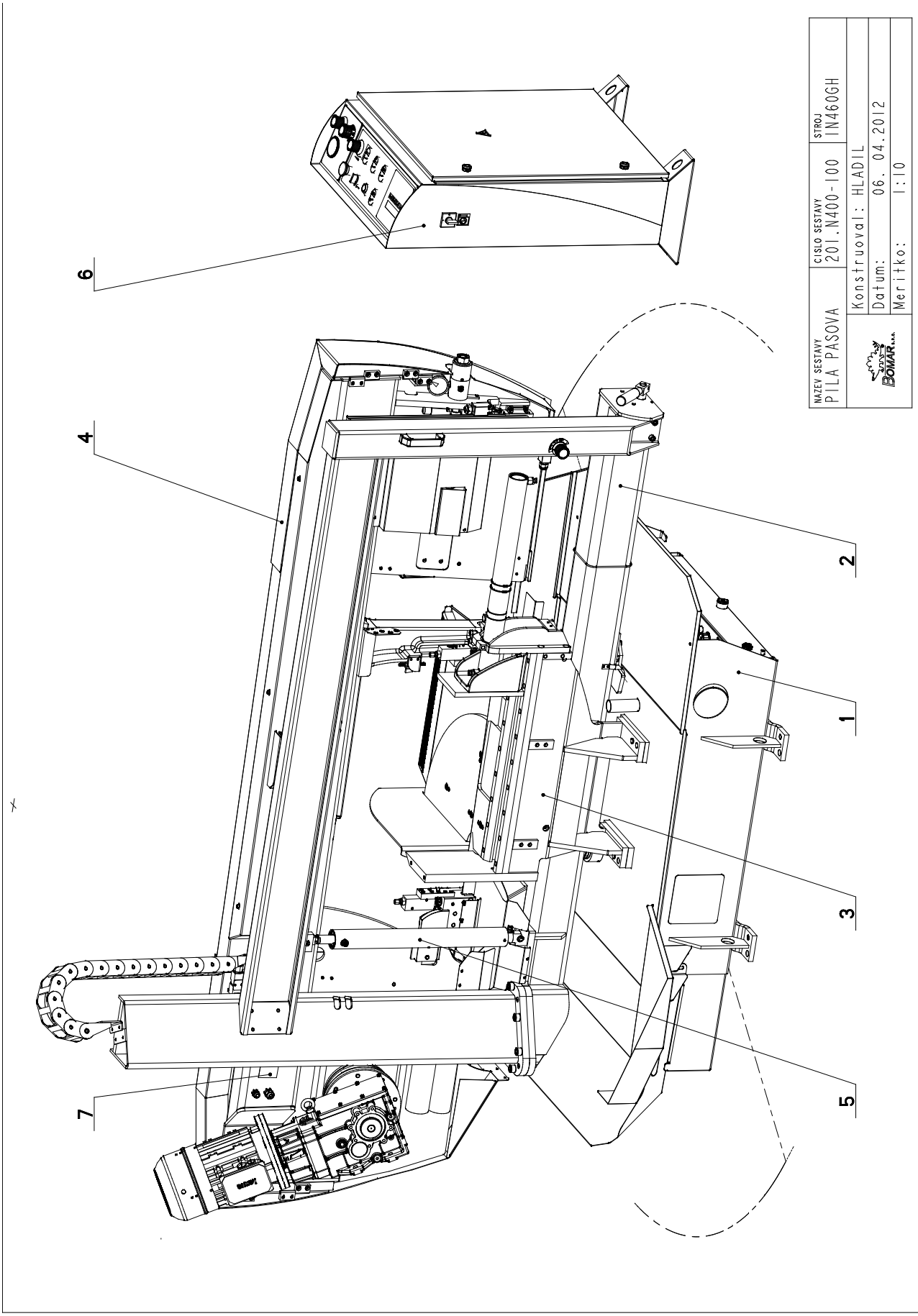
7. Výkresy sestav pro objednání náhradních dílů / Zeichnungen für Bestellung der Ersatzteile / Drawing assemblies for spare parts order

- Při objednávání náhradních dílů vždy uvádějte: typ stroje (např. practix Individual 620.460 GH) , výrobní číslo (např. 125) a rok výroby (např. 1999).

- In die Bestellung der Ersatzteile führen Sie immer an: Maschinentyp (z. B. Individual 620.460 GH), Serien Nr. (z. B. 125) und Baujahr (z. B. 1999).

- For spare parts order, you must always to allege: type of machine (for example Individual 620.460 GH), serial number (for example 125, see cover page) and year of construction (for example 1999).

7.1. Individual 620.460 GH 1



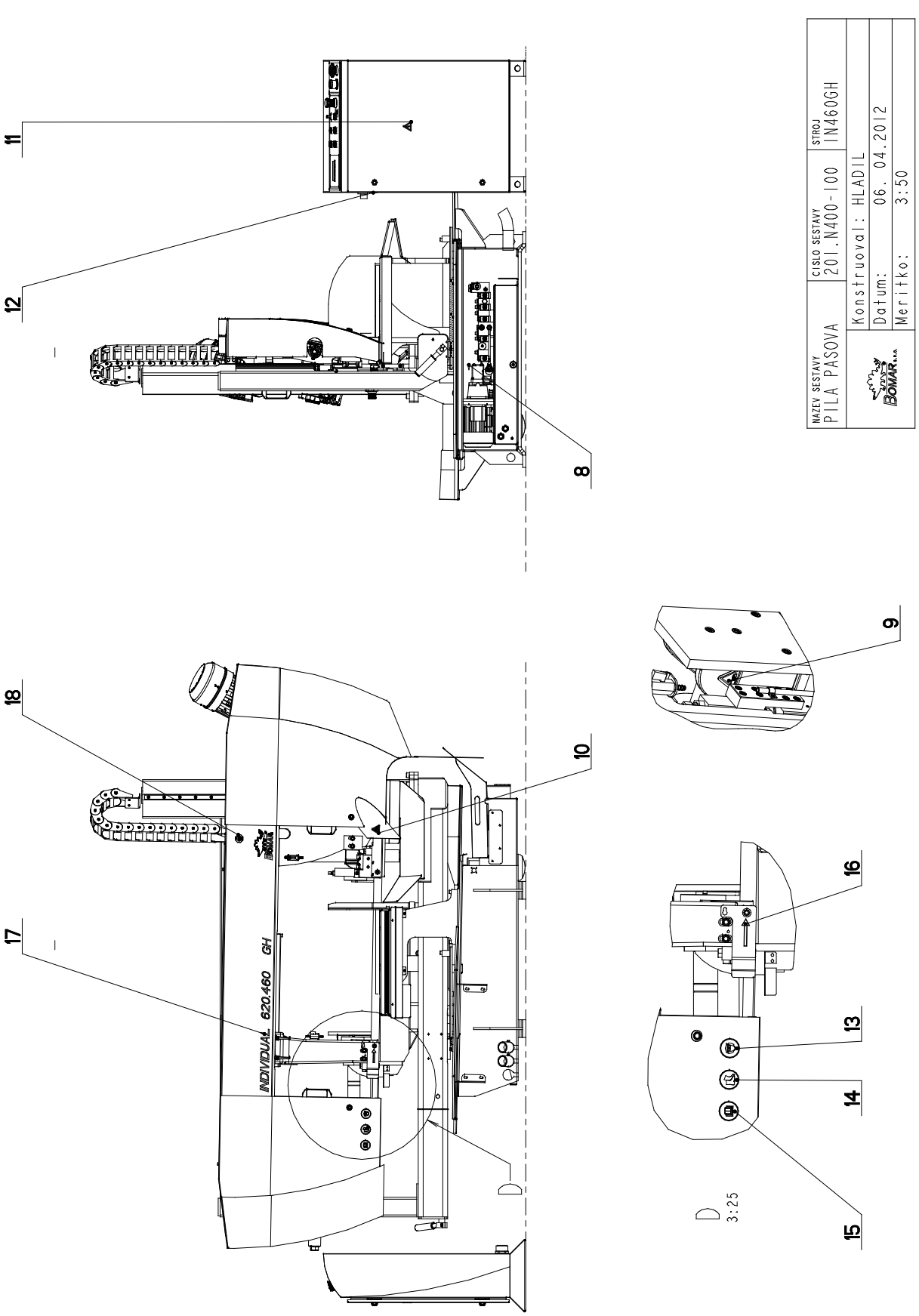
Manual version: 1.40 / Feb. 2013
Manual rev.: 1

Cislo Sestavy	Ver.	Nazev sestavy
201.N400-100	0	PILA PASOVA/BAND SAW/BANDSÄGE

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.N401-100	0	PODSTAVEC / BASE / UNTERSATZ		1
2	201.N402-300	0	KONZOLA OTOCNA / TURNABLE CONSOL / DREHKONSOLE		1
3	201.N403-200	0	SVERAK / VICE / SCHRAUBSTOCK		1
4	201.Y404-200	2	RAMENO / SAW ARM / SÄGERAHMEN		1
5	201.Y407-210	3	VALEC ZVEDACI / LIFTING CYLINDER / HEBEZYLINDER		1
6	201.Y430-000	1	OVLADACI PANEL / CONTROL PANEL / BEDIENPULT		1
7	30.N499-001	0	STITEK TYPOVY / MACHINE LABEL / MASCHINE SCHILD	P 0.5x65	1
8	31.0899-004	0	SAMOLEPKA / STICKER / AUFKLEBER		1
9	99.900.039	0	SAMOLEPKA / STICKER / AUFKLEBER	NEBEZP.STLACENI	1
10	99.900.043	0	SAMOLEPKA / STICKER / AUFKLEBER		1
11	99.900.045	0	SAMOLEPKA / STICKER / AUFKLEBER		1
12	99.900.046	0	SAMOLEPKA / STICKER / AUFKLEBER		1
13	99.900.047	0	SAMOLEPKA / STICKER / AUFKLEBER		1
14	99.900.048	0	SAMOLEPKA / STICKER / AUFKLEBER		1
15	99.900.049	0	SAMOLEPKA / STICKER / AUFKLEBER		1
16	99.900.053	0	SAMOLEPKA / STICKER / AUFKLEBER		1
17	99.901.028	0	SAMOLEPKA / STICKER / AUFKLEBER	IN 460DGH	1
18	99.901.032	0	SAMOLEPKA / STICKER / AUFKLEBER	CETIFIKACNI SAMOLEPKA	1

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

7.3. Individual 620.460 GH 2



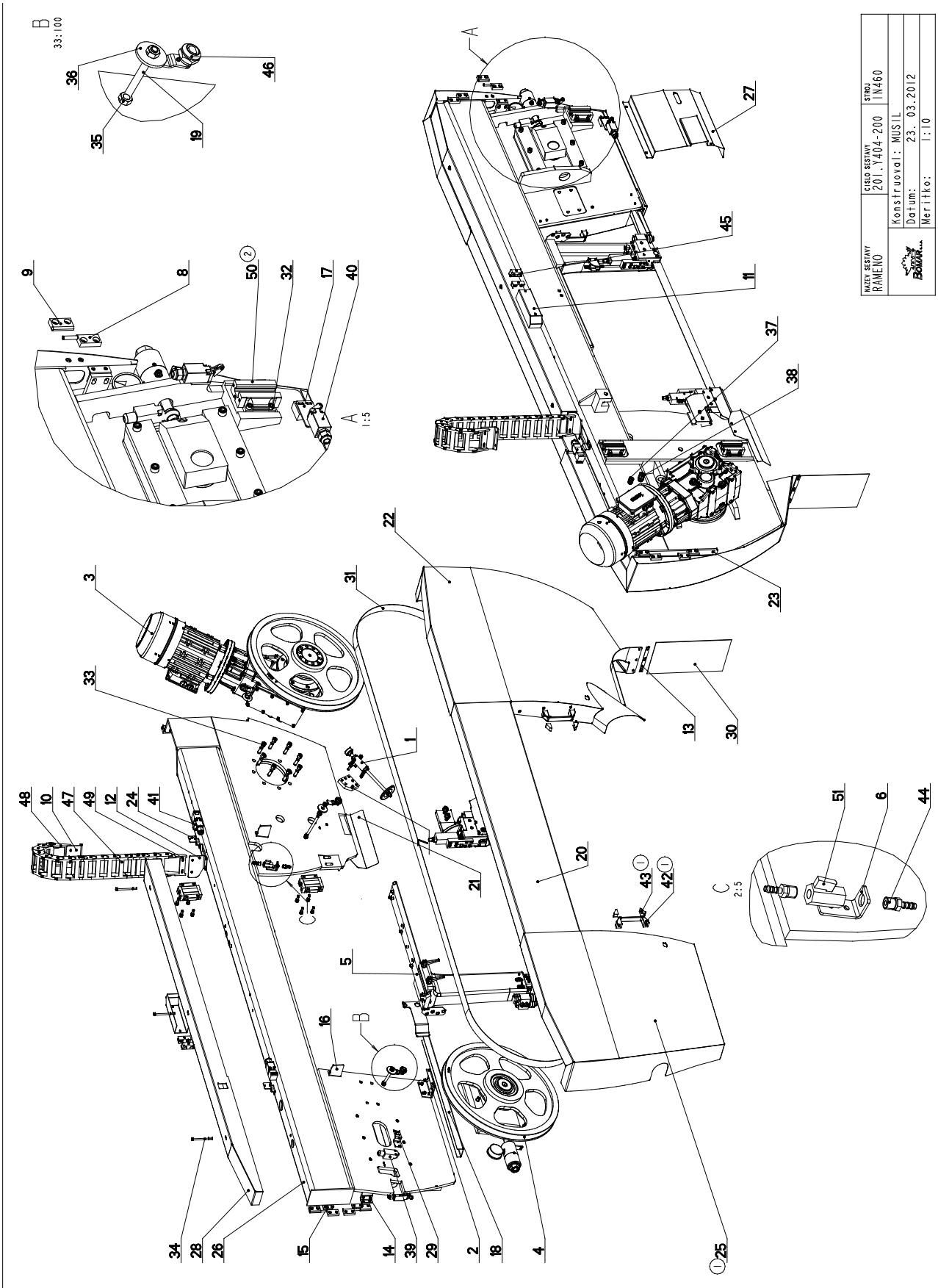
Manual version: 1.40 / Feb. 2013
Manual rev.: 1

Cislo Sestavy	Ver.	Nazev sestavy
201.N400-100	0	PILA PASOVA/BAND SAW/BANDSÄGE

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.N401-100	0	PODSTAVEC / BASE / UNTERSATZ		1
2	201.N402-300	0	KONZOLA OTOCNA / TURNABLE CONSOL / DREHKONSOLE		1
3	201.N403-200	0	SVERAK / VICE / SCHRAUBSTOCK		1
4	201.Y404-200	2	RAMENO / SAW ARM / SÄGERAHMEN		1
5	201.Y407-210	3	VALEC ZVEDACI / LIFTING CYLINDER / HEBEZYLINDER		1
6	201.Y430-000	1	OVLADACI PANEL / CONTROL PANEL / BEDIENPULT		1
7	30.N499-001	0	STITEK TYPOVY / MACHINE LABEL / MASCHINE SCHILD	P 0.5x65	1
8	31.0899-004	0	SAMOLEPKA / STICKER / AUFKLEBER		1
9	99.900.039	0	SAMOLEPKA / STICKER / AUFKLEBER	NEBEZP.STLACENI	1
10	99.900.043	0	SAMOLEPKA / STICKER / AUFKLEBER		1
11	99.900.045	0	SAMOLEPKA / STICKER / AUFKLEBER		1
12	99.900.046	0	SAMOLEPKA / STICKER / AUFKLEBER		1
13	99.900.047	0	SAMOLEPKA / STICKER / AUFKLEBER		1
14	99.900.048	0	SAMOLEPKA / STICKER / AUFKLEBER		1
15	99.900.049	0	SAMOLEPKA / STICKER / AUFKLEBER		1
16	99.900.053	0	SAMOLEPKA / STICKER / AUFKLEBER		1
17	99.901.028	0	SAMOLEPKA / STICKER / AUFKLEBER	IN 460DGH	1
18	99.901.032	0	SAMOLEPKA / STICKER / AUFKLEBER	CETIFIKACNI SAMOLEPKA	1

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

7.5. Rameno / Sägerahmen / Saw arm 1



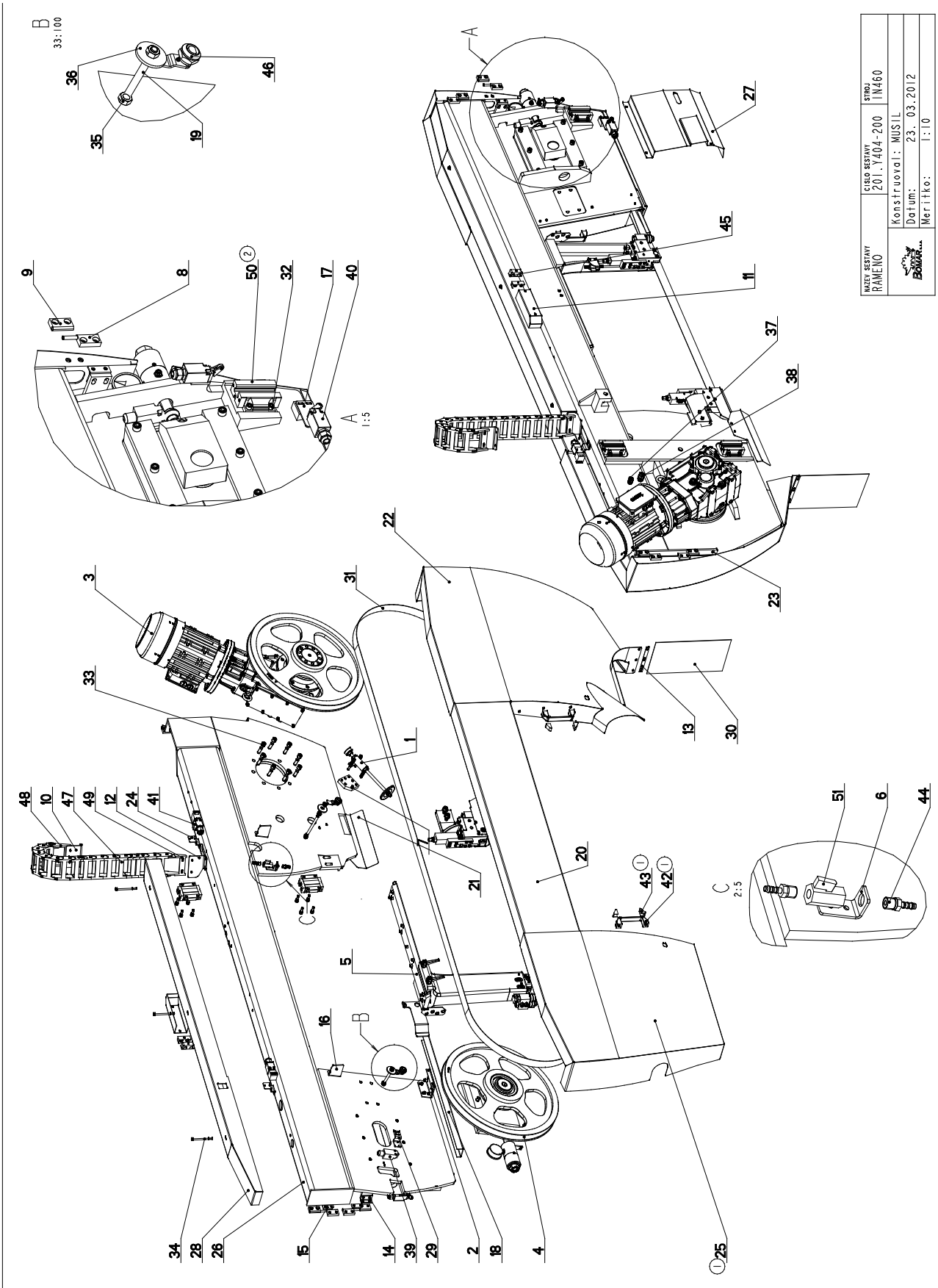
Manual version: 1.40 / Feb. 2013
Manual rev.: 1

Cislo Sestavy	Ver.	Nazev sestavy
201.Y404-200	2	RAMENO/SAW ARM/SÄGERAHMEN

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.9214-300	0	KARTAC / BRUSH / BÜRSTE		1
2	201.Y404-070	0	DRZAK / HOLDER / HALTER		1
3	201.Y405-200	1	POHON / DRIVE / ANTRIEB		1
4	201.Y408-000	0	NAPINANI / TENSIONING / SPANNUNG		1
5	201.Y410-000	2	VEDENI PASU / BELT GUIDE / SÄGEBANDFÜHRUNG		1
6	30.1814-011	1	DRZAK / HOLDER / HALTER	P 3x76	1
7	30.4814-701	0	ZAKLADNA / BASE / GRUNDLAGE	TYC 70x15	1
8	30.6014-109	1	PANT / HINGE / TÜRBAND		4
9	30.6014-110	1	PANT / HINGE / TÜRBAND	HR 30x12	4
10	30.7114-142	1	DRZAK / HOLDER / HALTER	P 4 -100	1
11	30.8914-220	1	KRYT / COVER / ABDECKUNG	P 1.5 - 153	1
12	30.T304-014	0	DRZAK / HOLDER / HALTER	P 4-100	1
13	30.Y304-030	0	PLECH / PLATE / BLECH	P 1-15	1
14	30.Y304-034	1	DRZAK / HOLDER / HALTER	L 20x30	1
15	30.Y304-035	0	DESKA / BOARD / PLATTE	HR 20x5	4
16	30.Y304-038	0	ZAMEK / LOCK / SCHLOSS	P4 - 67	2
17	30.Y304-107	0	DRZAK / HOLDER / HALTER	P 3 - 40	1
18	30.Y404-009	1	KRYT PASU / BELT COVER / BANDABDECKUNG		1
19	30.Y404-018	0	TYC ZAVITOVA / THREADED POLE / GEWINDESTANGE	M10	2
20	30.Y404-022	0	KRYT PASU / BELT COVER / BANDABDECKUNG		1
21	30.Y404-028	0	SKLUZ / SLIDE / RUTSCH	P1-136	1
22	30.Y404-031	2	KRYT RAMENE / SHOULDER COVER / RAHMENABDECKUNG		1
23	30.Y404-033	1	DRZAK / HOLDER / HALTER	L 30x20x3	1
24	30.Y404-039	0	DRZAK / HOLDER / HALTER	P3 - 35	2
25	30.Y404-132 (1)	0	KRYT RAMENE / SHOULDER COVER / RAHMENABDECKUNG		1
26	30.Y404-201	1	RAMENO / SAW ARM / SÄGERAHMEN	SVARENO	1
27	30.Y404-203	0	KRYT NAPINANI / TENSIONING COVER / BANDSPANNUNGSABDECKUNG		1
28	30.Y404-219	0	KRYT / COVER / ABDECKUNG	P 2x238	1
29	30.Y504-003	0	DRZAK / HOLDER / HALTER	P3-30	1
30	31.PK02-054	0	GUMA / RUBBER / GUMMI	G2 - 206	1
31	44.105.001	0	PAS PILOVY / SAW BELT / SÄGEBAND	41x1,3	1

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

7.7. Rameno / Sägerahmen / Saw arm 2



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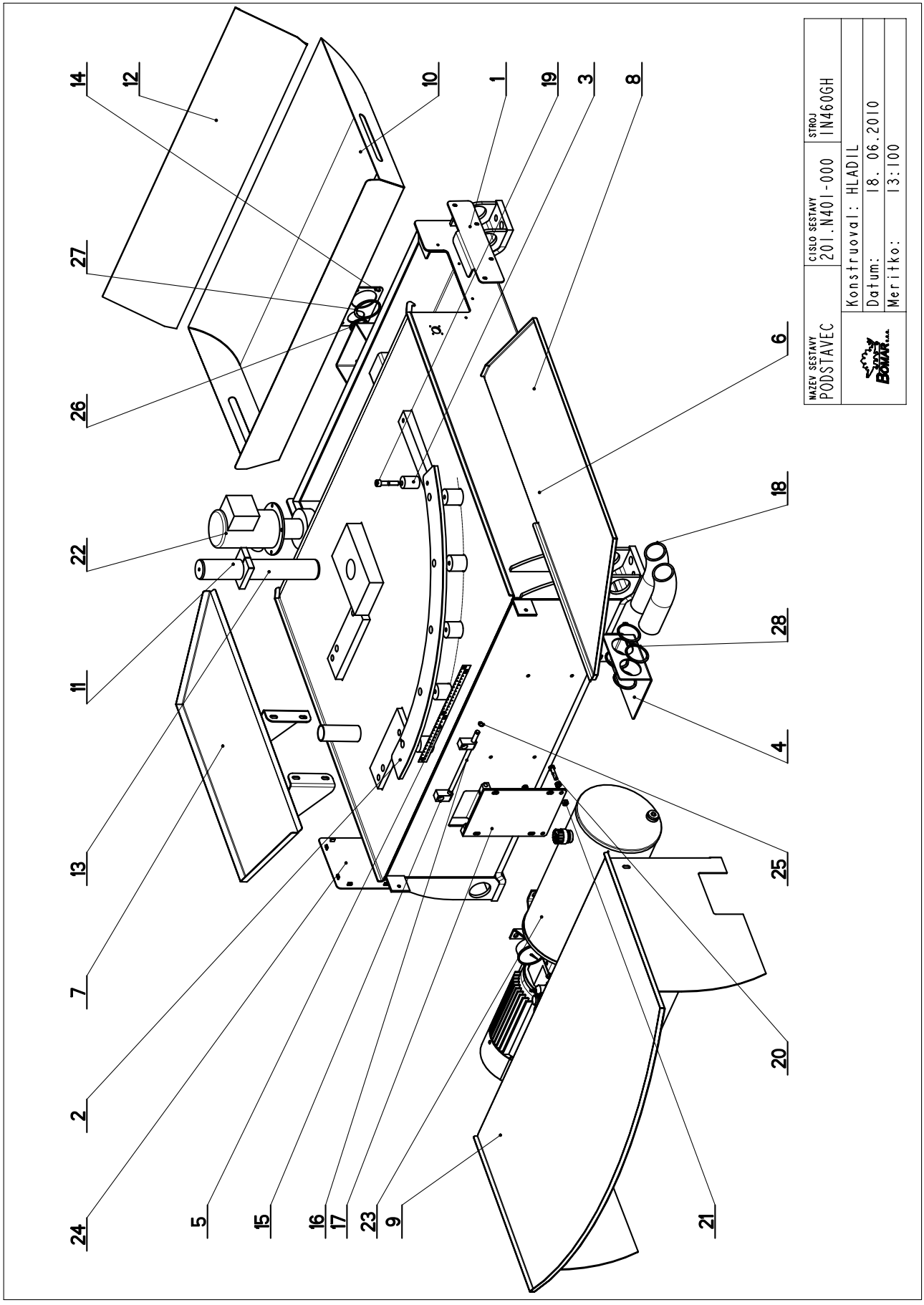
32	90.001.25.033	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x25	12
33	90.001.25.062	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12X50	8
34	90.001.25.070	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6x90	3
35	90.100.55.006	0	MATICE / NUT / MUTTER	MATICE _ M10	6
36	90.151.50.002	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	PODLOZKA 12	2
37	91.070.011	0	VYVODKA / BUSHING / TÜLLE	M16x1.5	1
38	91.070.012	0	VYVODKA / BUSHING / TÜLLE	M20x1.5	1
39	91.173.007	0	SPINAC KONCOVY / END SWITCH / ENDSCHALTER		1
40	91.173.009	0	SPINAC KONC.S KLADK. / END SWITCH WITH PULLEY / ENDSCHALTER MIT ROLLE	PZ-FR605-M2	2
41	91.173.012	0	SPINAC KONCOVY / END SWITCH / ENDSCHALTER	QKS8-2xNC	2
42	94.012.001 (1)	0	RUKOJET / HANDLE / GRIFF		2
43	94.012.002 (1)	0	ZATKA / PLUG / STOPFEN		4
44	94.202.002	0	REDUKCE / REDUCTION / ADAPTOR / REDUKTION	REDUKCE 6/R1/4"	2
45	94.204.005	0	DRZAK / HOLDER / HALTER	LBG 14/14-PP	2
46	99.104.002	0	ZAMEK / LOCK / SCHLOSS	ZAMEK CINSKY	2
47	99.170.001	0	RETEZ ENERGII / ENERGY BELT / ENERGIEKETTE	0555.030.075.100	15
48	99.173.001	0	RETEZ ENERGII / ENERGY BELT / ENERGIEKETTE	KONCOVKA VNEJ	1
49	99.173.002	0	RETEZ ENERGII / ENERGY BELT / ENERGIEKETTE	KONCOVKA VNIT	1
50	99.201.058 (2)	0	VOZIK LINEARNIHO VEDENI / LINEAR GUIDE CART / LINEARFUHRUNGSWAGEN	MSA30E SS FO N	3
51	99.260.003	0	VENTIL / VALVE / VENTIL	1/4"	1

1. KRYT 30.Y404-032 NAHRAZEN KRYTEM 30.Y404-132; PRIDANY 2x DRZAKY 94.012.001 A 4x KRYTKY 94.012.002; 276/Zm.304 HLADIL 23.11.2011

2.ZRUS.VOZIK LIN.VEDENI 99.201.007 A NAHR.99.201.058 . 056/ZM105 23.3.2012 SLEZACKOVA

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

7.9. Podstavec / Untersatz / Base

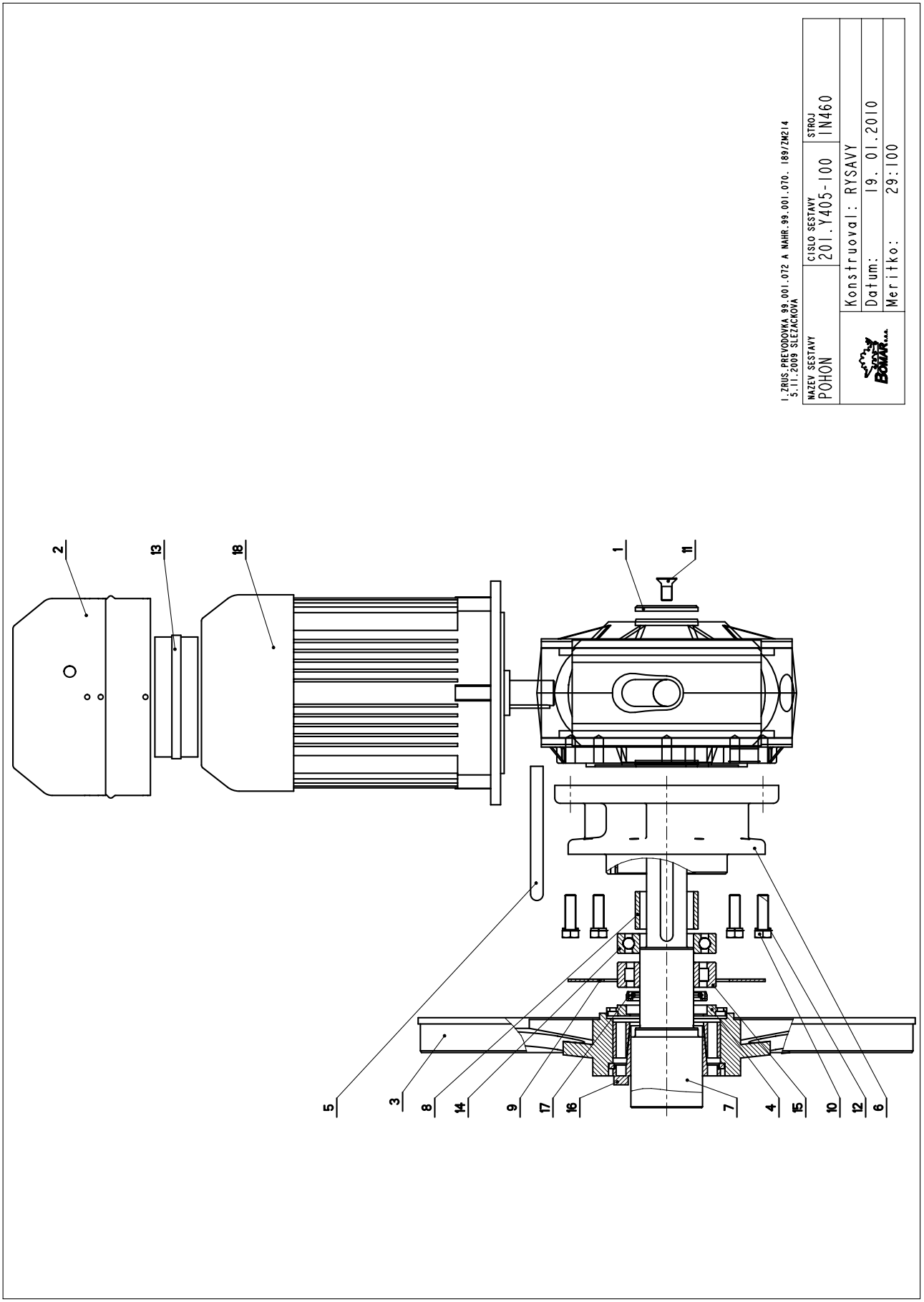


Manual version: 1.40 / Feb. 2013
Manual rev.: 1

Cislo Sestavy	Ver.	Nazev sestavy
201.N401-000	0	PODSTAVEC/BASE/UNTERSATZ

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.D314-130	0	KRYT / COVER / ABDECKUNG	P3-104	1
2	30.N301-002	0	SEGMENT / SEGMENT / SEGMENT	P 12- 197	1
3	30.N301-005	0	EXCENTR / CAM / EXZENTER	d 30	1
4	30.N301-010	0	DRZAK / HOLDER / HALTER	P3 - 234	1
5	30.N301-041	0	STUPNICE / SCALE / SKALA	P0,5-22	1
6	30.N301-101	0	PODSTAVEC / BASE / UNTERSATZ		1
7	30.N314-017	0	OKAP / GUTTER CHANNEL / BLECH		1
8	30.N401-016	0	OKAP / GUTTER CHANNEL / BLECH		1
9	30.N401-105	0	KRYT HYDRAULIKY / HYDRAULIC COVER / HYDRAULIKABDECKUNG		1
10	30.Y301-010	0	VANA / TANK / WANNE		1
11	30.Y301-013	0	POUZDRO UPINACI / FIXING SLEEVE / SPANNHÜLSE	HR 70x15	1
12	30.Y301-020	0	SKLUZ / SLIDE / RUTSCH		1
13	30.Y401-103	0	CEP / LUG / BOLZEN	d 50 h6	1
14	30.Y502-162	0	UCHYTKA / CLIP / HALTER	P3-80	1
15	30.Y601-111	0	DRZAK / HOLDER / HALTER	HR 20x20	2
16	30.Y601-112	0	OSA / AXLE / ACHSE	d 10	1
17	30.Y601-113	0	DRZAK / HOLDER / HALTER		1
18	41.001.006	0	HADICE / HOSE / SCHLAUCH	55/46	2
19	90.001.25.052	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10X50	1
20	90.005.55.018	0	SROUB 6HRANNY / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M8X35	2
21	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE _ M8	4
22	91.020.015	0	CERPADLO / PUMP / PUMPE	3C0A4-12	1
23	92.001.062	0	AGREGAT HYDRAULICKY / HYDRAULIC GENERATOR / HYDRAULIKAGGREGAT	19753500	1
24	94.101.039	0	ZASLEPKA / PLUG / BLINDFLANSCH	154x154x4	1
25	95.800.003	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNY KROUZEK 10	2
26	95.800.016	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNY KROUZEK 42	1
27	95.800.021	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNY KROUZEK 62	1
28	95.800.034	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNY KROUZEK 55	4

7.11. Pohon / Antrieb / Drive

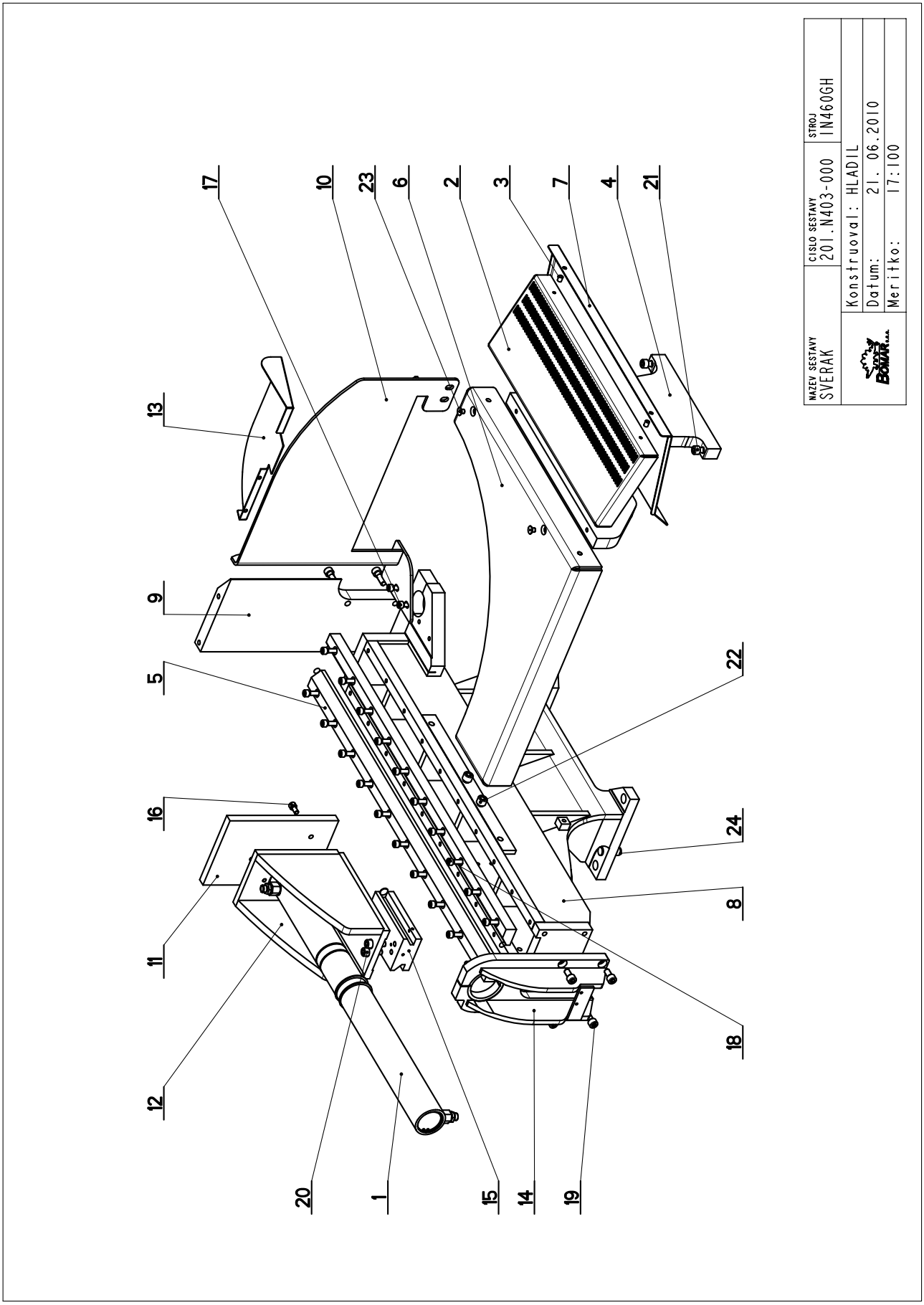


Cislo Sestavy	Ver.	Nazev sestavy
201.Y405-100	1	POHON/DRIVE /ANTRIEB

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.1804-010	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	d 70	1
2	30.4304-018	3	VENTILATOR / VENTILATOR / VENTILATOR		1
3	30.6005-001	3	KOLO HNACI / DRIVE WHEEL / ANTRIEBSRAD	ODLITEK	1
4	30.6005-006	0	VIKO / COVER / DECKEL	P 12 -134	1
5	30.6105-108	0	PERO / SPRING / FEDER	HR.14x9	1
6	30.8904-203	2	PRIRUBA / FLANGE / FLANSCHE		1
7	30.8904-204	3	HRIDEL / SHAFT / WELLE	d 85	1
8	30.8904-205	0	KROUZEK DISTANCNI / DISTANCE RING / DISTANZRING	TR 70x5	1
9	30.8904-206	0	KROUZEK DISTANCNI / /	P 4-220x220	1
10	90.005.55.034	0	SROUB 6HRANNY / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M12X40	8
11	90.011.27.025	0	SROUB ZAPUSTNY / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M12X25	1
12	90.158.50.009	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	PODLOZKA 12	8
13	91.015.100	0	VENTILATOR / VENTILATOR / VENTILATOR		1
14	95.001.031	0	LOZISKO / BEARING / LAGER	6212A	1
15	95.201.003	0	LOZISKO / BEARING / LAGER	VALECKOVA L. IRADA	1
16	95.825.001	0	POUZDRO UPINACI / FIXING SLEEVE / SPANNHÜLSE	KTR210- 80x120	1
17	95.830.006	0	GUFERO / GIT SEAL / DICHTUNG	GUFERO 70X90X10	1
18	99.001.070	0	POHON / DRIVE / ANTRIEB	VF130 P1 30P112	1

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

7.13. Svěrák / Schraubstock / Vice



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Cislo Sestavy	Ver.	Nazev sestavy
201.N403-000	1	SVERAK/VICE/SCHRAUBSTOCK

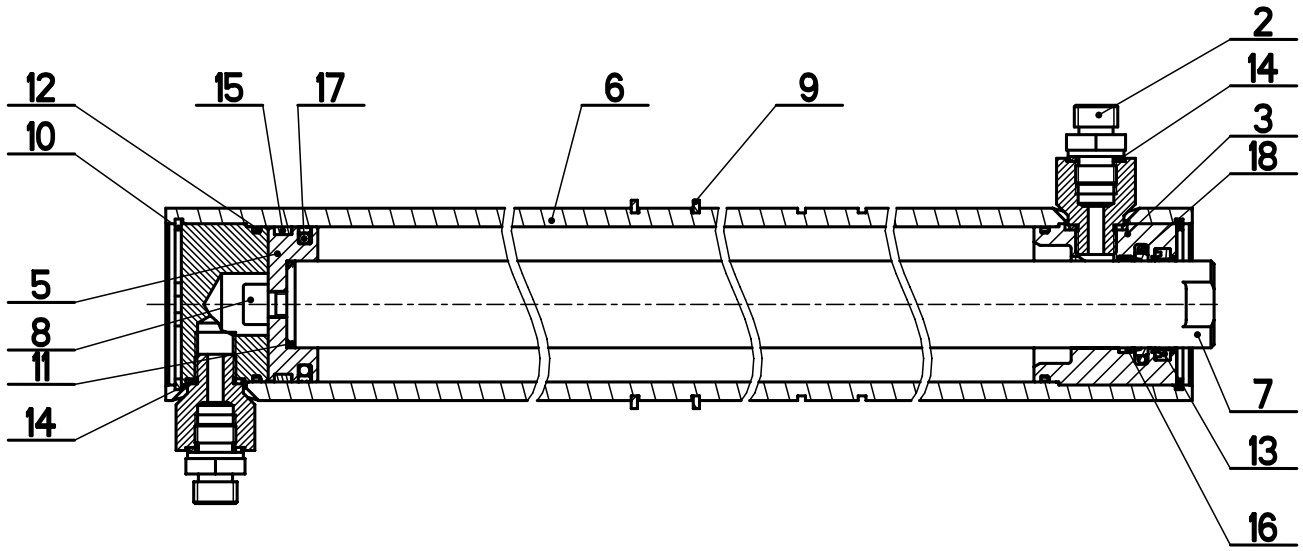
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.Y407-030	0	VALEC SVERAKU / VICE CYLINDER / SCHRAUBSTOCKZYLINDER		1
2	30.2903-012	1	ROST / GRILL / GITTER	P3 - 240	1
3	30.3509-015	1	KROUZEK DISTANCNI / DISTANCE RING / DISTANZRING	TR 8x1	2
4	30.N303-013	0	NOHA / LEG / STÄNDER	P25 - 394	1
5	30.N303-102	0	LISTA VODICI / LEAD TRIM / FÜHRUNGSLEISTE	HR 40x25	2
6	30.N303-110	0	STUL / TABLE / TISCH		1
7	30.N303-112	0	SKLUZ / SLIDE / RUTSCH	P1,5-272	1
8	30.N303-201	1	TELESO SVERAKU / VICE BODY / SCHRAUBSTOCKKÖRPER		1
9	30.N403-004	0	CELIST PEVNA / SOLID JAW / FESTE BACKE	P30-182	1
10	30.N403-006	0	BOCNICE / SIDE PLATE / SEITENTEIL		1
11	30.N403-009	0	CELIST / JAW / BACKE	HR 160x16	1
12	30.N403-105	0	CELIST / JAW / BACKE		1
13	30.N413-002	0	SKLUZ / SLIDE / RUTSCH	P1,5-183	1
14	30.Y303-104	1	DRZAK / HOLDER / HALTER		1
15	30.Y303-206	0	KLUZAK / GLIDER / GLEITER	HR 80x50	1
16	90.001.25.031	0	SROUB IMBUS CERNENY / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x16	4
17	90.001.25.032	0	SROUB IMBUS CERNENY / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x20	2
18	90.001.25.033	0	SROUB IMBUS CERNENY / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x25	20
19	90.001.25.046	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10X20	4
20	90.001.25.048	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10X30	8
21	90.001.25.050	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10X40	2
22	90.001.25.057	0	SROUB IMBUS CERNENY / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12x25	2
23	90.011.27.010	0	SROUB ZAPUSTNY / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M8X10	2
24	90.300.0Z.035	0	KOLIK VALCOVY KALENY / CYLINDRICAL PIN TEMPERED / ZYLINDERSTIFT GEHÄRTET	KOLIK 16X45	2

1.ZRUS.PRILOZKA 30.Y309-008,2xSROUB M10x40 (90.001.25.050). 046/ZM255 22.9.2010 SLEZACKOVA

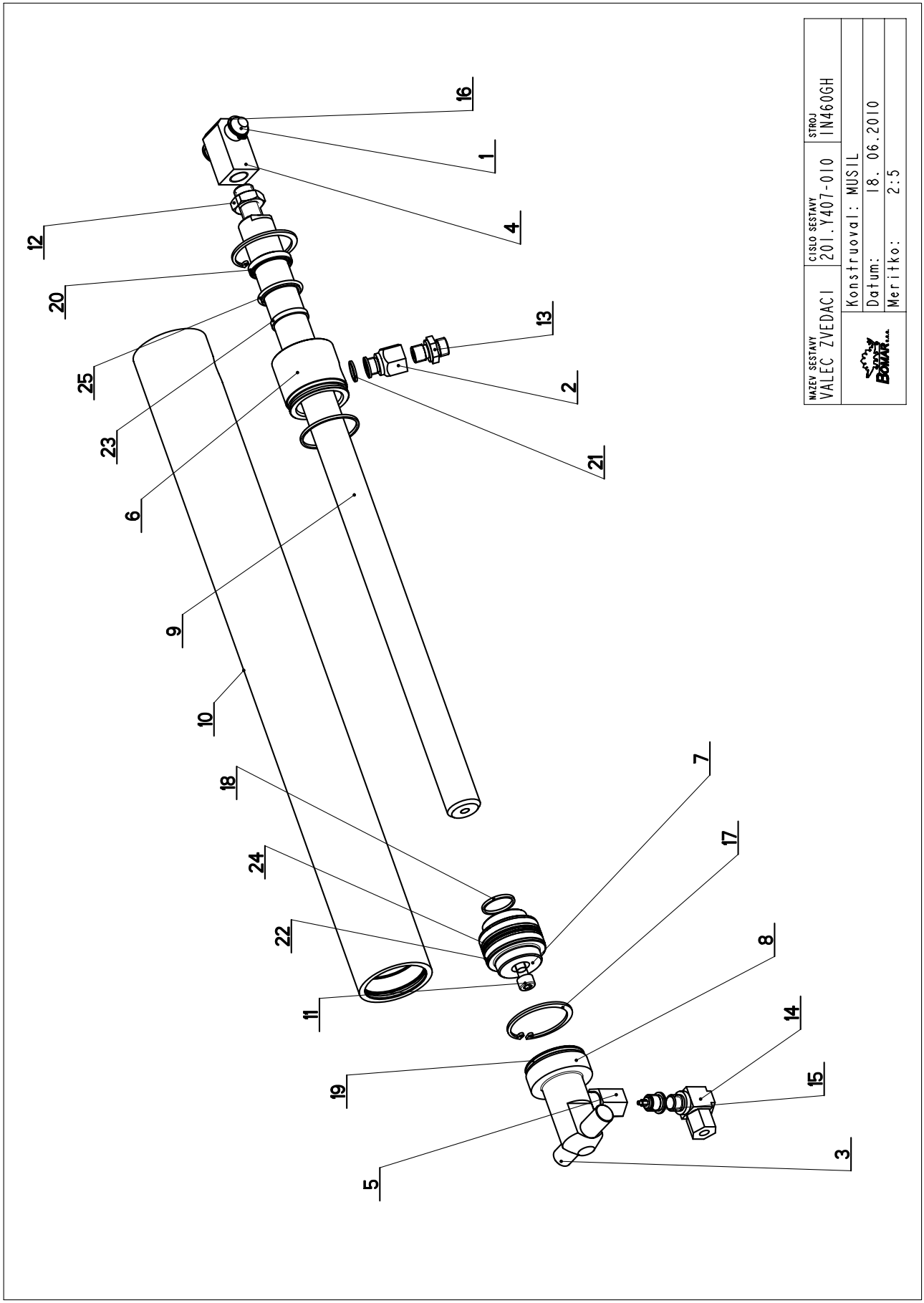
Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Nazev sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position; Objednaci cislo/Purchase order number/Bestellnummer; Nazev polozky/Volume title/Name der Position; Rozmer/Stock size/Abmessung

Cislo Sestavy	Ver.	Nazev sestavy
201.Y407-030	0	VALEC SVERAKU/VICE CYLINDER/SCHRAUBSTOCKZYLINDER

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.1807-005	3	SROUBENI / BOLTING / VERSCHRAUBUNG	6-HR 22	2
2	30.2807-109	0	SROUBENI PRIME / DIRECT BOLTING / GERADE VERSCHRAUBUNG		2
3	30.C407-012	1	VIKO / COVER / DECKEL	d 55	1
4	30.C407-111	0	VIKO / COVER / DECKEL	d 55	1
5	30.Y307-035	0	PIST / PISTON / KOLBEN	d 55	1
6	30.Y407-033	1	VALEC / ROLLER / ZYLINDER	TR 62/50H8	1
7	30.Y407-034	0	PISTNICE / PISTON ROD / KOLBENSTANGE	d 28 f8	1
8	90.001.25.032	0	SROUB IMBUS CERNENY / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x20	1
9	95.800.021	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNY KROUZEK 62	2
10	95.801.009	0	KROUZEK POJIST.VNITR / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNY KROUZEK 52	2
11	96.002.011	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	24X2	1
12	96.002.019	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	46X2	2
13	96.061.009	0	KROUZEK STIRACI / SCRAPER RING / ABSTREIFRING	WD2200280	1
14	96.082.002	0	TESNENI / SEALING / DICHTUNG	KROUZEK CU 13/17	4
15	96.084.001	0	KROUZEK VODICI / LEAD RING / FÜHRUNGSRING	GP6500500-T47	1
16	96.084.006	0	KROUZEK VODICI / LEAD RING / FÜHRUNGSRING	GR4300280-T47	1
17	96.900.001	0	TESNENI KOMBINOVANE / COMBINATION SEALING / KOMBIDICHTUNG		1
18	96.900.021	0	TESNENI KOMBINOVANE / COMBINATION SEALING / KOMBIDICHTUNG	RSK200280	1



7.16. Válec zvedací / Hebezylinder / Lifting cylinder



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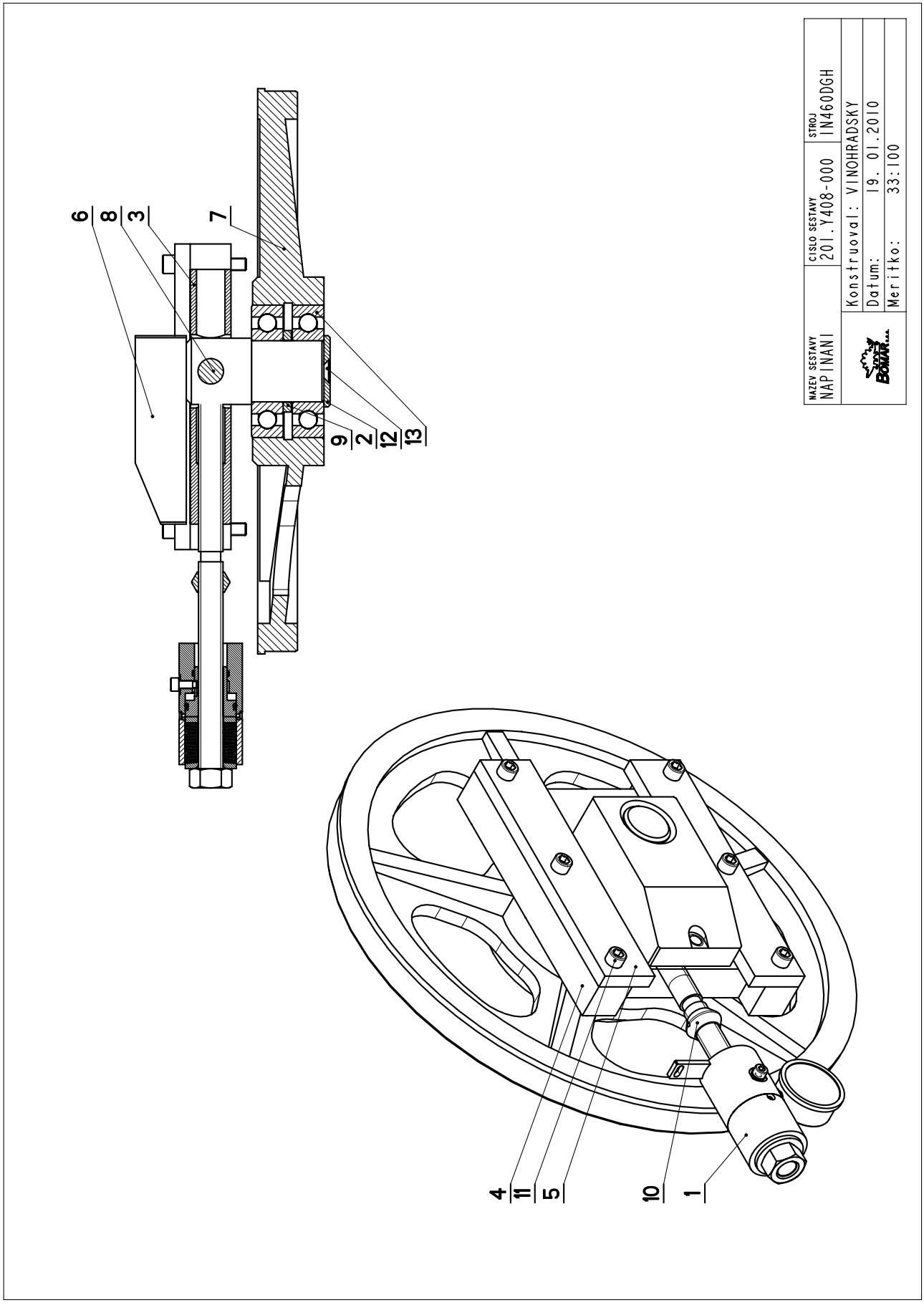
Cislo Sestavy	Ver.	Nazev sestavy
201.Y407-010	0	VALEC ZVEDACI/LIFTING CYLINDER/HEBEZYLINDER

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.0807-009	1	CEP / LUG / BOLZEN	d 16h9	1
2	30.1807-005	3	SROUBENI / BOLTING / VERSCHRAUBUNG	6-HR 22	1
3	30.8307-205	0	CEP / LUG / BOLZEN	d 16h9	1
4	30.8607-001	0	DRZAK / HOLDER / HALTER	HR 25x25	1
5	30.9107-509	0	SROUBENI / BOLTING / VERSCHRAUBUNG	6HR 22	1
6	30.C407-012	1	VIKO / COVER / DECKEL	d 55	1
7	30.LM07-504	0	PIST / PISTON / KOLBEN	d 55	1
8	30.Y307-005	3	VIKO / COVER / DECKEL	d 55	1
9	30.Y407-002	0	PISTNICE / PISTON ROD / KOLBENSTANGE	d 28 f8	1
10	30.Y407-011	0	VALEC / ROLLER / ZYLINDER	TR 62/50H8	1
11	90.001.25.034	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8X30	1
12	90.101.55.003	0	MATICE / NUT / MUTTER	MATICE M16	1
13	92.002.001	0	SROUBENI PRIME / DIRECT BOLTING / GERADE VERSCHRAUBUNG	GES 08LR	1
14	92.003.001	0	SROUBENI UHLOVE / ANGLE BOLTING / WINKELVERSCHRAUBUNG	P-RSWS-08LR	1
15	92.151.001	0	VENTIL POJISTNY / SAFETY VALVE / SICHERUNGSVENTIL	VPNHI_4	1
16	95.800.007	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNY KROUZEK 16	2
17	95.801.009	0	KROUZEK POJIST.VNITR / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNY KROUZEK 52	2
18	96.002.011	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	24X2	1
19	96.002.019	0	KROUZEK O DYNAMICKY / DYNAMIC O RING / O-RING DYNAMISCH	46X2	2
20	96.061.009	0	KROUZEK STIRACI / SCRAPER RING / ABSTREIFRING	WD2200280	1
21	96.082.002	0	TESNENI / SEALING / DICHTUNG	KROUZEK CU 13/17	3
22	96.084.001	0	KROUZEK VODICI / LEAD RING / FÜHRUNGSRING		2
23	96.084.006	0	KROUZEK VODICI / LEAD RING / FÜHRUNGSRING	GR4300280-T47	1
24	96.900.001	0	TESNENI KOMBINOVANE / COMBINATION SEALING / KOMBIDICHTUNG		1
25	96.900.021	0	TESNENI KOMBINOVANE / COMBINATION SEALING / KOMBIDICHTUNG	RSK200280	1

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

7.18. Napínání / Spannung / Tensioning



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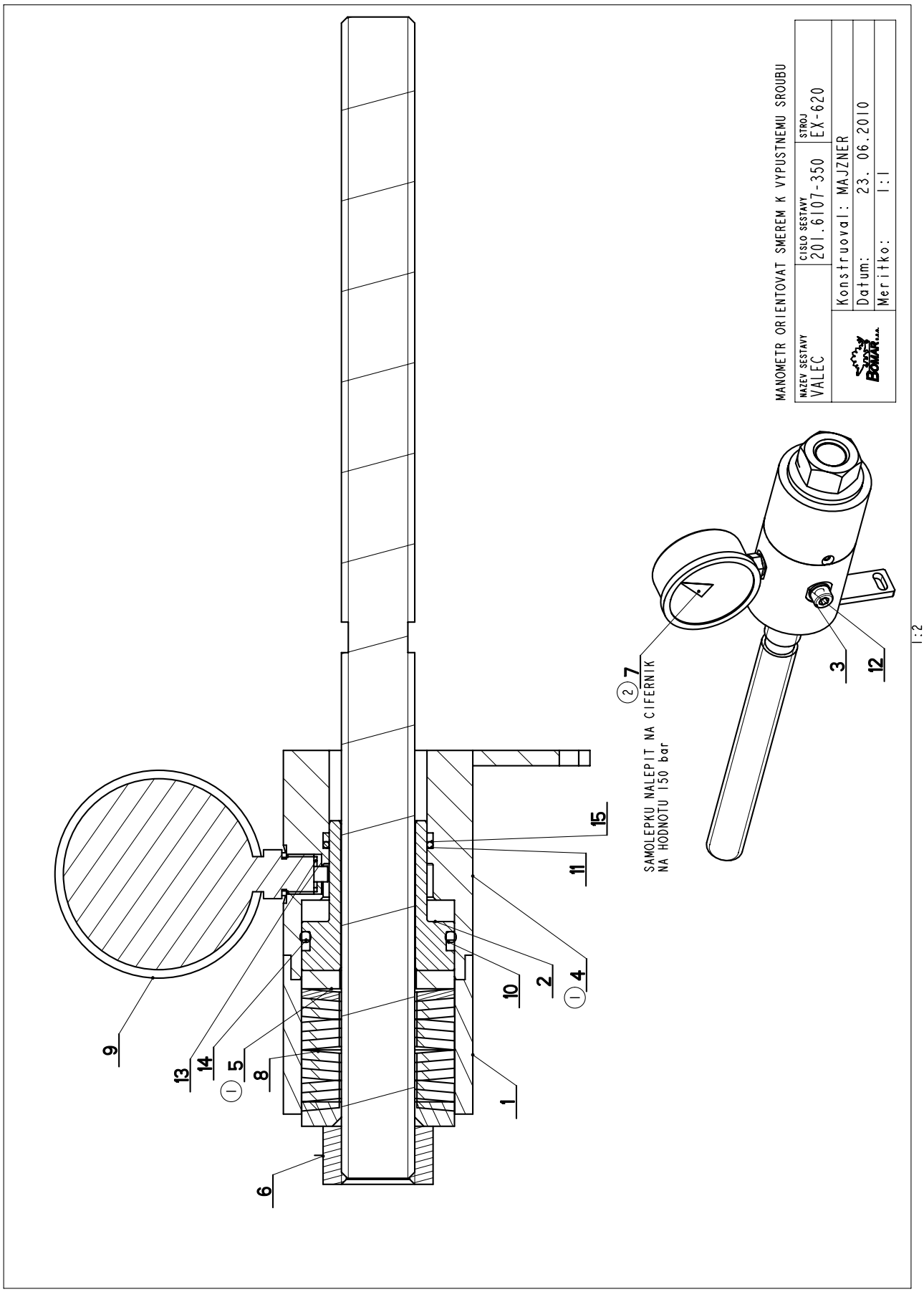
Cislo Sestavy	Ver.	Nazev sestavy
201.Y408-000	0	NAPINANI/TENSIONING/SPANNUNG

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.6107-350	2	VALEC / ROLLER / ZYLINDER	SESTAVA	1
2	30.1804-010	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	d 70	1
3	30.6008-001	0	KOSTKA NAPINANI / TENSIONING CUBE / BANDSPANNUNGSWÜRFEL	HR 160x40	1
4	30.6008-002	0	LISTA VODICI / LEAD TRIM / FÜHRUNGSLEISTE	HR 40x40	2
5	30.6008-003	0	LISTA VODICI / LEAD TRIM / FÜHRUNGSLEISTE	HR 60x15	2
6	30.6008-004	1	NAPINANI / TENSIONING / SPANNUNG		1
7	30.6008-006	5	KOLO NAPINACI / TENSIONING WHEEL / UMLENKRAD		1
8	30.6008-014	1	CEP NAPINANI / TENSIONING LUG / SPANNUNGSBOLZEN	d 25 h6	1
9	30.6708-002	1	KROUZEK DISTANCNI / DISTANCE RING / DISTANZRING	TRUBKA 82.5x12.5	1
10	30.7208-006	0	DORAZ / STOP PIECE / ANSCHLAG	TYC 38	1
11	90.001.25.064	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12X70	6
12	90.011.27.009	0	SROUB ZAPUSTNY / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M12X20	1
13	95.001.041	0	LOZISKO / BEARING / LAGER	6312A	2

7.20. Válec / Zylinder / Cylinder



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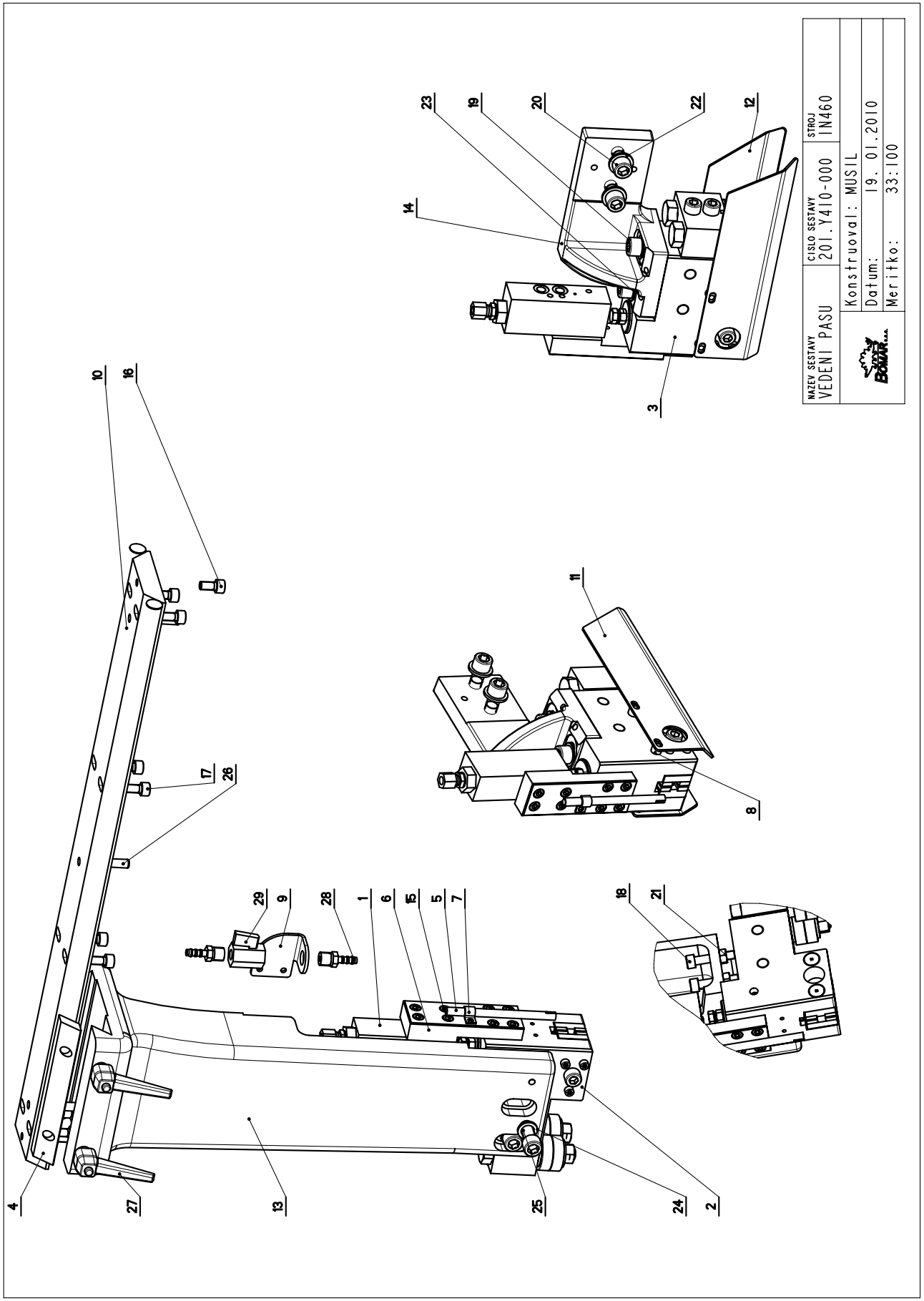
Cislo Sestavy	Ver.	Nazev sestavy
201.6107-350	2	VALEC/ROLLER/ZYLINDER

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.6008-013	0	TRUBKA / TUBE / ROHR	TR 62x10	1
2	30.6107-352	0	PIST / PISTON / KOLBEN	d 55	1
3	30.6107-354	1	SROUB / BOLT / SCHRAUBE	M8X20	1
4	30.6107-358 (1)	0	VALEC / ROLLER / ZYLINDER		1
5	30.6107-359 (1)	1	DISTANC / DISTANCE / DISTANZ	d 50	1
6	30.6108-008	1	SROUB / BOLT / SCHRAUBE		1
7	31.0899-004 (2)	0	SAMOLEPKA / STICKER / AUFKLEBER		1
8	90.350.0Z.004	0	PRUZINA TALIROVA / DISC SPRING / TELLERFEDER	50X25.4X3	12
9	92.080.004	0	MANOMETR / MANOMETER / MANOMETER	d 63 - 250bar	1
10	96.001.033	0	KROUZEK O STATICKY / STATIC O RING / O-RING STATISCH	ORAR00224-N70	1
11	96.002.063	0	KROUZEK O STATICKY / STATIC O RING / O-RING STATISCH	ORAR00125-N70	1
12	96.082.001	0	TESNENI / SEALING / DICHTUNG	KROUZEK CU 10/14	2
13	96.082.005	0	KROUZEK TESNICI / SEAL RING / DICHTUNGSRING	5x8.8x1	1
14	96.083.010	0	KROUZEK / RING / RING	BG2700446-PT00	1
15	96.083.011	0	KROUZEK / RING / RING	BU2000320-PT00	1

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

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

7.22. Vedení pásu / Sägebandführung / Belt guide



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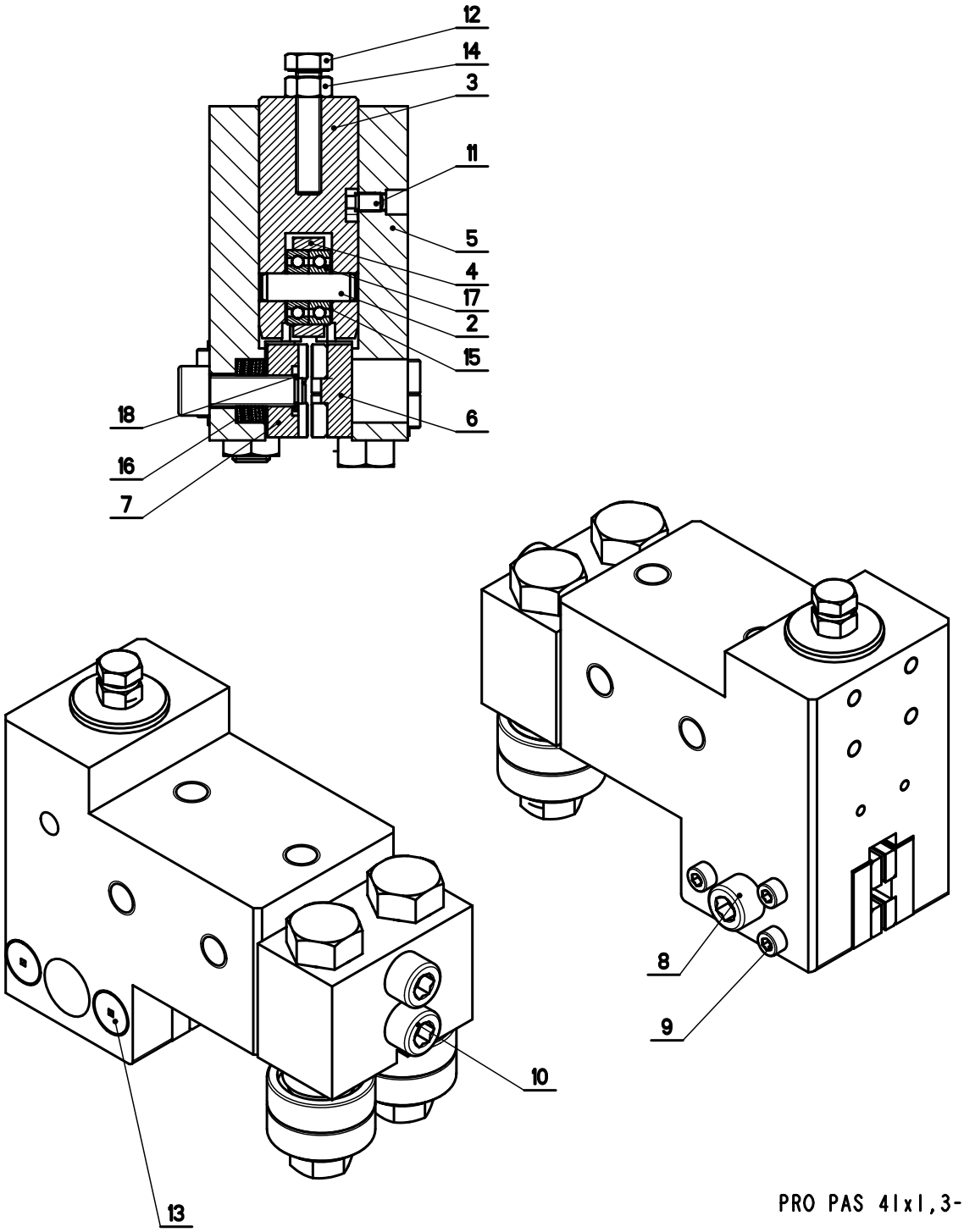
Cislo Sestavy	Ver.	Nazev sestavy
201.Y410-000	1	VEDENI PASU/BELT GUIDE/SÄGEBANDFÜHRUNG

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.6816-100	0	KOSTKA REGULACE / REGULATION CUBE / REGELUNGSWÜRFEL		2
2	201.Y410-100	0	KOSTKA VODICI / LEAD CUBE / FÜHRUNGSKLOTZ		1
3	201.Y410-200	0	KOSTKA VODICI / LEAD CUBE / FÜHRUNGSKLOTZ		1
4	30.0810-011	0	LISTA TRECI / FRICTION TRIM / FRIKTIONSLEISTE	HR 30x10	1
5	30.3510-004	0	TRUBKA / TUBE / ROHR	TR 8x 1	2
6	30.6016-002	0	DESKA / BOARD / PLATTE	HR 40x20	2
7	30.9010-003	0	DRZAK / HOLDER / HALTER	P1.5x10	2
8	30.Y310-007	0	KROUZEK / RING / RING	TR 10x2,5	4
9	30.Y310-008	0	DRZAK / HOLDER / HALTER	P3-50	1
10	30.Y410-003	0	LISTA VODICI / LEAD TRIM / FÜHRUNGSLEISTE	HR 90x20	1
11	30.Y410-006	0	KRYT PASU / BELT COVER / BANDABDECKUNG	P2-70	1
12	30.Y410-008	0	KRYT PASU / BELT COVER / BANDABDECKUNG	P2-70	1
13	30.Y410-104	0	KONZOLA / CONSOLE / KONSOLE		1
14	30.Y410-105	0	DRZAK / HOLDER / HALTER		1
15	90.001.25.016	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6X12	16
16	90.001.25.031	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x16	2
17	90.001.25.032	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x20	8
18	90.001.25.036	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8X40	2
19	90.001.25.058	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12X30	4
20	90.001.25.061	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12X45	2
21	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE _ M8	2
22	90.150.50.007	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	PODLOZKA 13	2
23	90.150.50.XXX	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	PODLOZKA B13	2
24	90.163.00.003	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	NORD-LOCK	2
25	90.300.0Z.007	0	KOLIK VALCOVY KALENY / CYLINDRICAL PIN TEMPERED / ZYLINDERSTIFT GEHÄRTET	KOLIK 6X36	2
26	90.302.0Z.002	0	KOLIK KUZELOVY / TAPER PIN / KEGELBOLZEN	KOLIK 8X30	3
27	94.008.003	0	PAKA UPINACI / ATTACHMENT LEVER / SPANNHEBEL	M8x40	2
28	94.202.002	0	REDUKCE / REDUCTION / ADAPTOR / REDUKTION	REDUKCE 6/R1/4"	2
29	99.260.003	0	VENTIL / VALVE / VENTIL	1/4"	1

7.24. Vodící kostka / Führungsklotz / Guiding cube 1



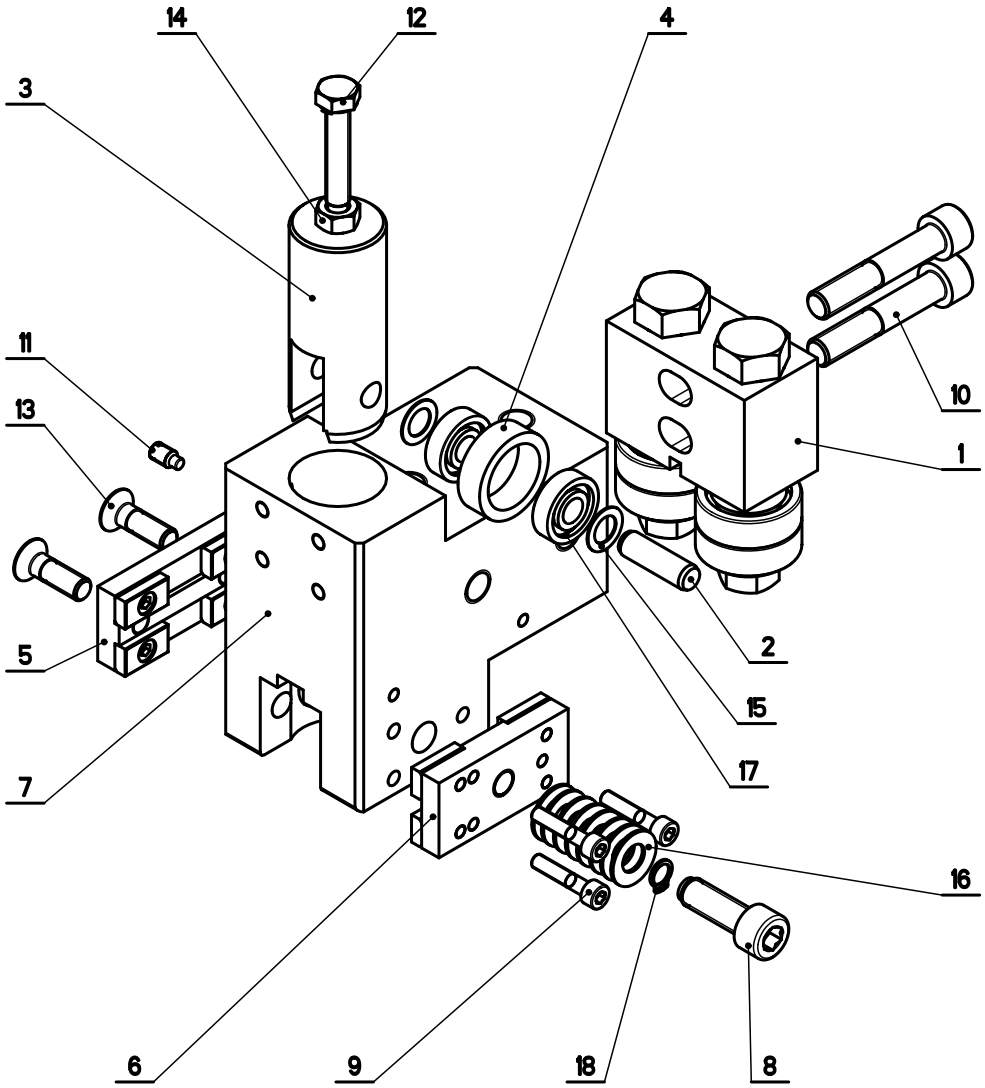
PRO PAS 41x1,3-1,6

NAZEV SESTAVY	CISLO SESTAVY	STROJ
KOSTKA VODICI	201.Y410-100	IN460DGH
	Konstruoval: DUFEK	
	Datum: 19. 01.2010	
	Meritko: 3:5	

Cislo Sestavy	Ver.	Nazev sestavy
201.Y410-100	0	KOSTKA VODICI/LEAD CUBE/FÜHRUNGSKLOTZ

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.6110-510	0	VEDENI / GUIDE / BACKENFÜHRUNG		1
2	30.6710-108	1	KOLIK / PIN / BOLZEN	TYC 10	1
3	30.6710-109	0	PIST / PISTON / KOLBEN	d 32	1
4	30.6710-110	1	KROUZEK / RING / RING	LH 2403210	1
5	30.Y410-101	1	KOSTKA VODICI / LEAD CUBE / FÜHRUNGSKLOTZ	HR 110x70	1
6	30.Y410-110	0	DRZAK TVRDOKOVU / POA HOLDER / HM-HALTER		1
7	30.Y410-120	0	DRZAK TVRDOKOVU / POA HOLDER / HM-HALTER		1
8	30.Y610-503	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10X30	1
9	90.001.25.011	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5X25	3
10	90.001.25.054	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10X60	2
11	90.004.2D.002	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M6X12	1
12	90.005.55.019	0	SROUB 6HRANNY / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M8X40	1
13	90.011.27.016	0	SROUB ZAPUSTNY / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M8X25	2
14	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE _ M8	1
15	90.154.50.003	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	10x16x0.50	2
16	90.350.0Z.005	0	PRUZINA TALIROVA / DISC SPRING / TELLERFEDER	20X10.2X1.1	8
17	95.001.044	0	LOZISKO / BEARING / LAGER	609 2RS	2
18	95.800.002	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNY KROUZEK 8	1

7.26. Vodící kostka / Führungsklotz / Guiding cube 2

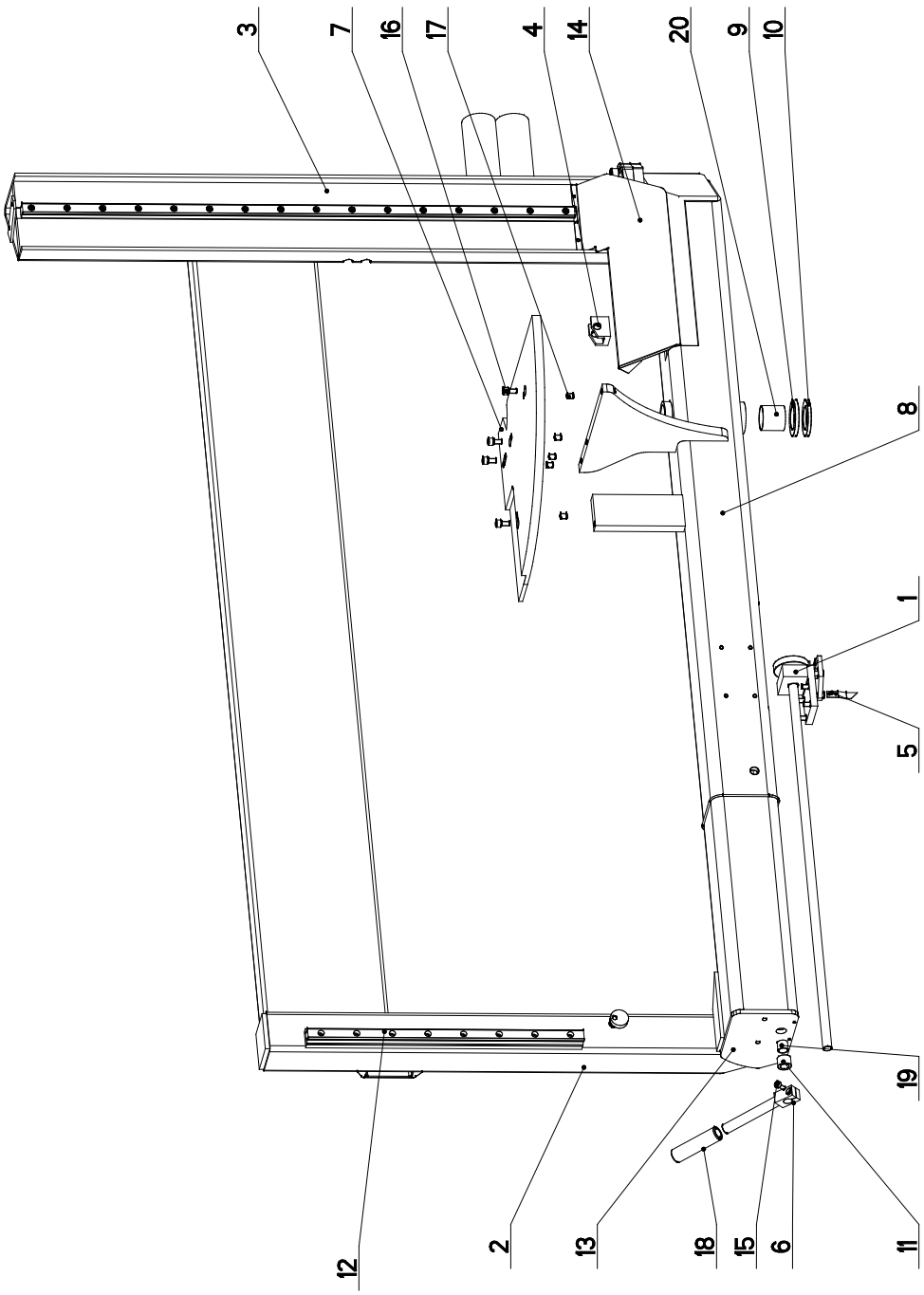


NAZEV SESTAVY	CISLO SESTAVY	STROJ
KOSTKA VODICI	201.Y410-200	IN460DGH
	Konstruoval: MUSIL	
	Datum: 19. 01.2010	
	Meritko: 1:2	

Cislo Sestavy	Ver.	Nazev sestavy
201.Y410-200	0	KOSTKA VODICI/LEAD CUBE/FÜHRUNGSKLOTZ

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.6110-510	0	VEDENI / GUIDE / BACKENFÜHRUNG		1
2	30.6710-108	1	KOLIK / PIN / BOLZEN	TYC 10	1
3	30.6710-109	0	PIST / PISTON / KOLBEN	d 32	1
4	30.6710-110	1	KROUZEK / RING / RING	LH 2403210	1
5	30.Y410-110	0	DRZAK TVRDOKOVU / POA HOLDER / HM-HALTER		1
6	30.Y410-120	0	DRZAK TVRDOKOVU / POA HOLDER / HM-HALTER		1
7	30.Y410-201	1	KOSTKA VODICI LEVA / LEAD CUBE / FÜHRUNGSKLOTZ	HR 110x70	1
8	30.Y610-503	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10X30	1
9	90.001.25.011	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5X25	3
10	90.001.25.053	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10X55	2
11	90.004.2D.002	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M6X12	1
12	90.005.55.019	0	SROUB 6HRANNY / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M8X40	1
13	90.011.27.016	0	SROUB ZAPUSTNY / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M8X25	2
14	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE _ M8	1
15	90.154.50.003	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	10x16x0.50	2
16	90.350.0Z.005	0	PRUZINA TALIROVA / DISC SPRING / TELLERFEDER	20X10.2X1.1	8
17	95.001.044	0	LOZISKO / BEARING / LAGER	609 2RS	2
18	95.800.002	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNY KROUZEK 8	1

7.28. Konzola otočná/ Drehkonsole / Turnable consol



NÁZEV SESTAVY	ČÍSLO SESTAVY	STROJ
KONZOLA OTOCNA	201.N402-300	IN460GH

Konstruoval: MUSIL
Datum: 26. 03. 2012
Měřítko: 1:100

Cislo Sestavy	Ver.	Nazev sestavy
201.N402-300	0	KONZOLA OTOCNA/TURNABLE CONSOL/DREHKONSOLE

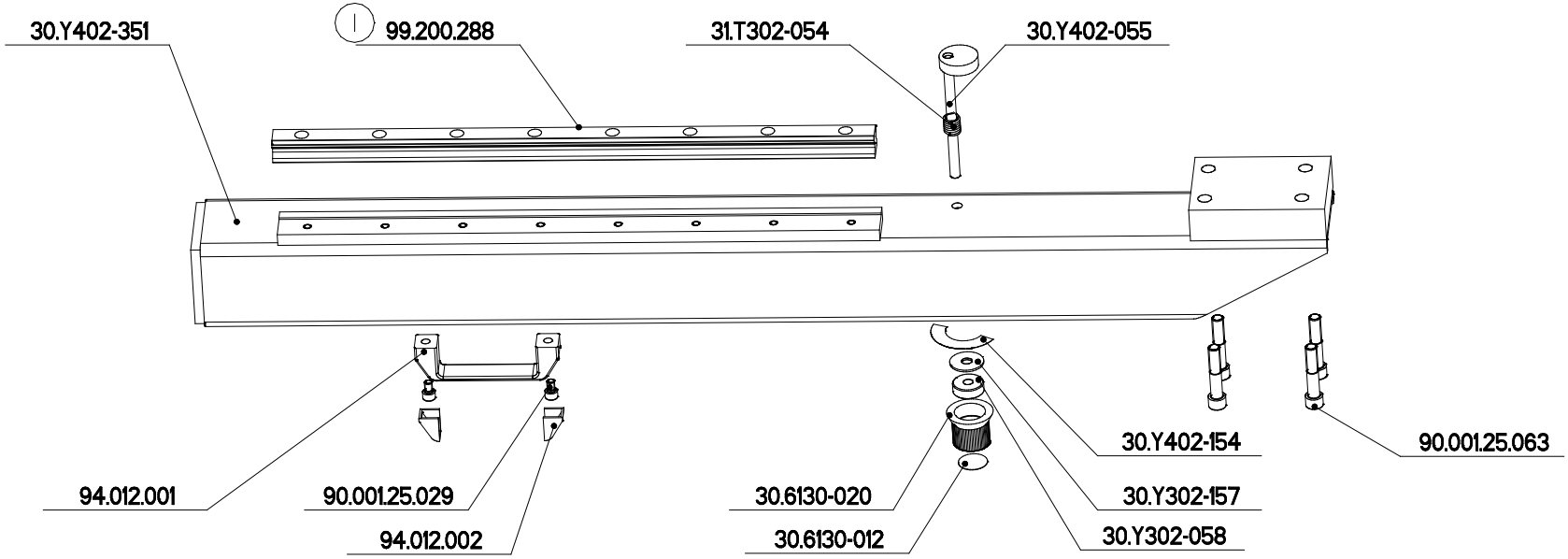
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.Y402-020	0	BRZDA / BRAKE / BREMSE		1
2	201.Y402-350	1	SLOUP / POLE / SÄULE	SESTAVA	1
3	201.Y402-360	1	SLOUP / POLE / SÄULE	SESTAVA	1
4	30.0807-008	2	DRZAK / HOLDER / HALTER	HR 40x40	1
5	30.4604-004	0	UKAZATEL / INDICATOR / ZEIGER	P 1,5x15	1
6	30.8602-505	0	PAKA / LEVER / HEBEL		1
7	30.N302-004	1	DESKA / BOARD / PLATTE	P 20 - 430	1
8	30.N402-201	0	KONZOLA / CONSOLE / KONSOLE	SVARENO	1
9	30.Y302-006	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	d 80	1
10	30.Y302-007	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	d 85	1
11	30.Y302-204	0	KROUZEK DISTANCNI / DISTANCE RING / DISTANZRING	TR 30x5	1
12	30.Y402-202	0	VZPERA / PROP / STREBE	P4x439	1
13	30.Y402-303	0	VIKO / COVER / DECKEL	P10x150	1
14	30.Y414-401	0	OKAP / GUTTER CHANNEL / BLECH	P1x264	1
15	90.001.25.032	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x20	1
16	90.001.25.046	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10X20	4
17	90.002.2D.017	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M12X16	5
18	94.004.502	0	RUKOJET / HANDLE / GRIFF	D22	1
19	95.700.004	0	POUZDRO / SLEEVE / BŮCHSE	20X20	1
20	95.720.002	0	POUZDRO / SLEEVE / BŮCHSE	50x50x55	2

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

Cislo Sestavy	Ver.	Nazev sestavy
201.Y402-350	1	SLOUP/POLE/SÄULE

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.6130-012	0	VIKO / COVER / DECKEL	P 0.5x 30x30	1
2	30.6130-020	0	OVLADANI / CONTROLS / STEUERUNG	VYLISEK	1
3	30.Y302-058	1	VLOZKA / INSERT / EINLAGE	d 32	1
4	30.Y302-157	0	GUMA / RUBBER / GUMMI	TL.2-35	1
5	30.Y402-055	1	OSA / AXLE / ACHSE	SVARENO	1
6	30.Y402-154	0	STUPNICE / SCALE / SKALA	P0.5-70	1
7	30.Y402-351	1	SLOUP / POLE / SÄULE	SVARENO	1
8	31.T302-054	0	PRUZINA / SPRING / FEDER	d 2.24	1
9	90.001.25.029	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8X12	2
10	90.001.25.063	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M12X60	4
11	94.012.001	0	RUKOJET / HANDLE / GRIFF		1
12	94.012.002	0	ZATKA / PLUG / STOPFEN		2
13	99.200.288 (1)	0	VEDENI LINEARNI / LINEAR GUIDE / LINEARE FUHRUNG	MSA 30R 620 30/30N	1

1.ZRUS.LIN.VEDENI 99.200.124 A NAHR.99.200.288 . 056/ZM105 22.3.2012 SLEZACKOVA



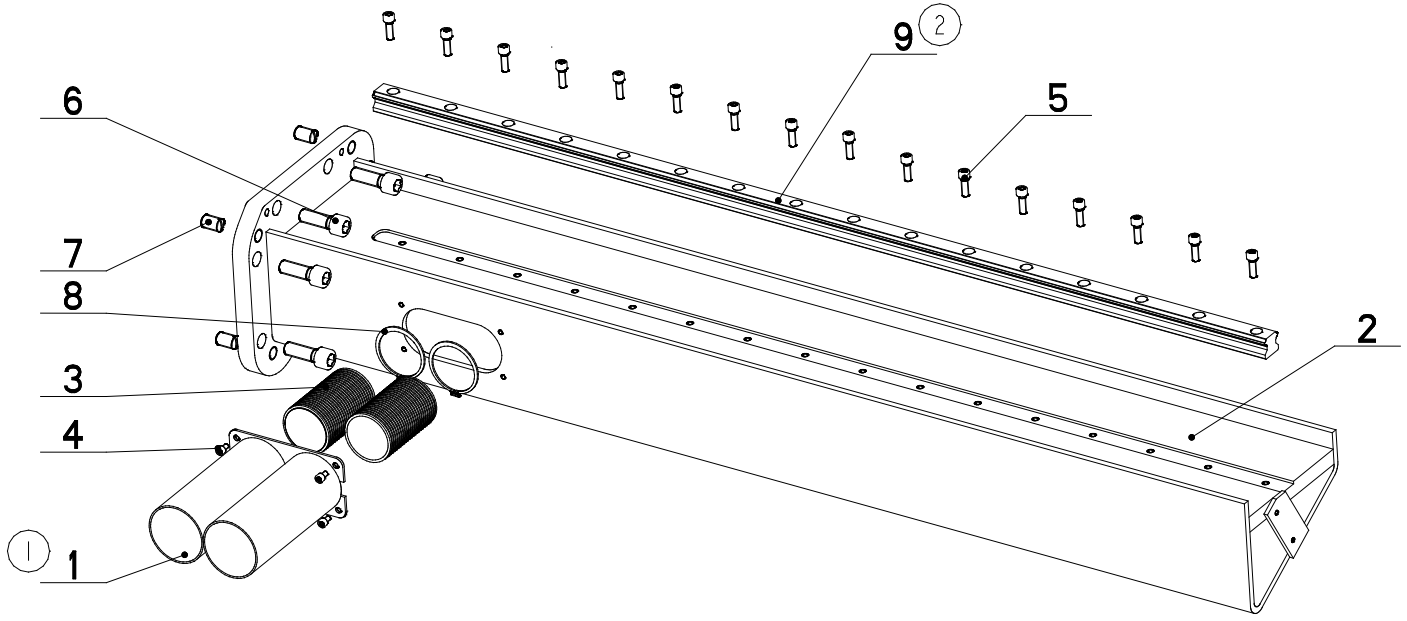
Cislo Sestavy/Number of assembly/Nummer der Baugruppe; Verze (Ver.)/Version/Version; Nazev sestavy/Assembly title/Name der Baugruppe; Pozice (Poz.)/Position/Position; Objednaci cislo/Purchase order number/Bestellnummer; Nazev polozky/Volume title/Name der Position; Rozmer/Stock size/Abmessung

Cislo Sestavy	Ver.	Nazev sestavy
201.Y402-360	2	SLOUP/POLE/SÄULE

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.V302-125 (1)	0	DRZAK / HOLDER / HALTER		1
2	30.Y402-361	0	SLOUP / POLE / SÄULE	SVARENO	1
3	41.001.006	0	HADICE / HOSE / SCHLAUCH	PG48	2
4	90.001.25.015	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6X10	4
5	90.001.25.033	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	8x25	16
6	90.001.25.074	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M16X45	7
7	90.002.2D.028	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M16x1,5x25	4
8	95.800.021	0	SEGR HRIDEL. / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNY KROUZEK 62	2
9	99.200.291 (2)	0	VEDENI LINEARNI / LINEAR GUIDE / LINEARE FUHRUNG	MSA 30R 1240 20/20N	1

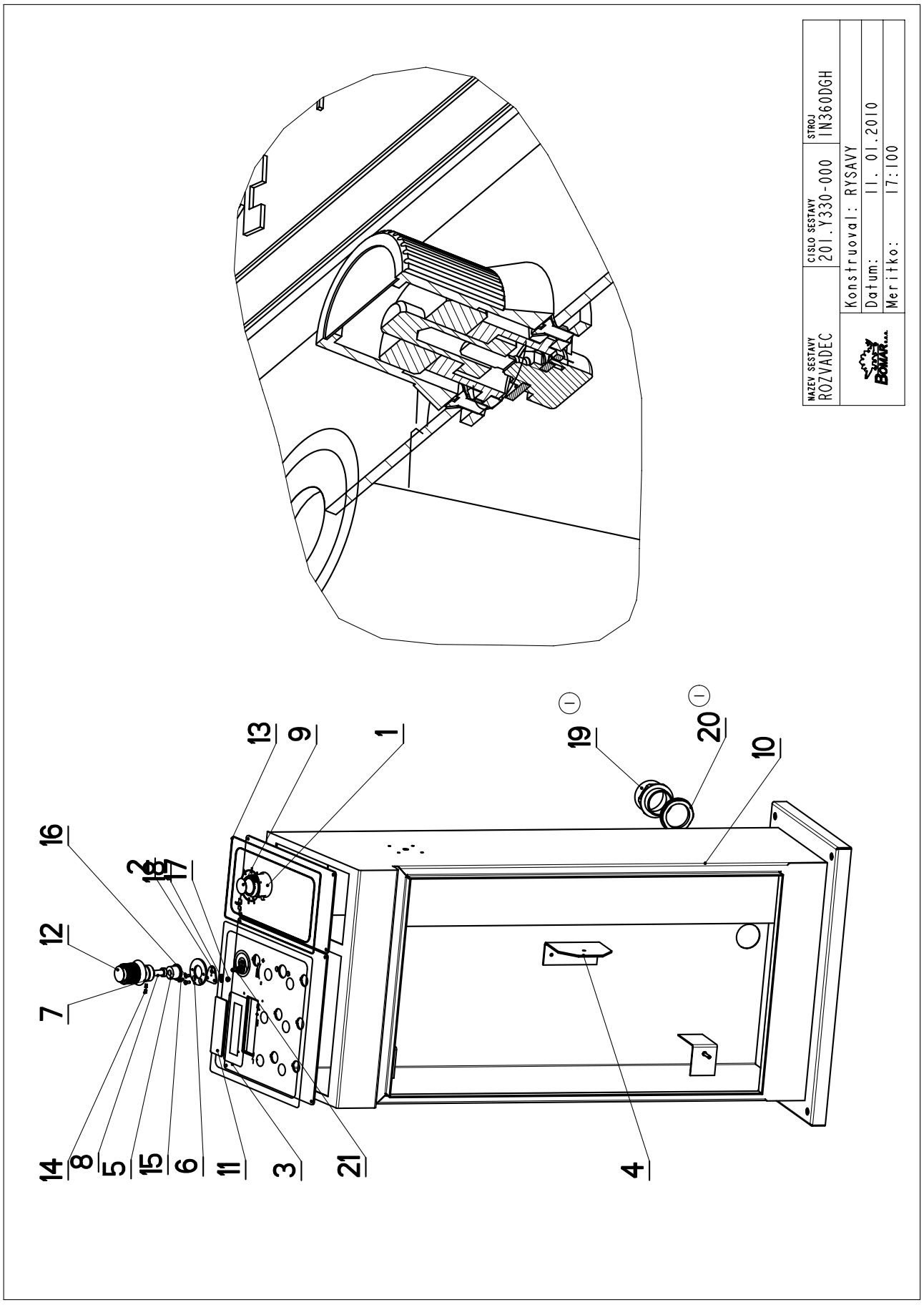
1.ZRUS.DRZAK 30.Y502-163 A NAHR.30.V302-125. 287/ZM322 9.12.2011 SLEZACKOVA

2.ZRUS.LIN.VEDENI 99.200.140 A NAHR.99.200.291(PMI). 056/ZM105 4.4.2012 SLEZACKOVA



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

7.32. Rozvaděč / Verteiler / Distributor



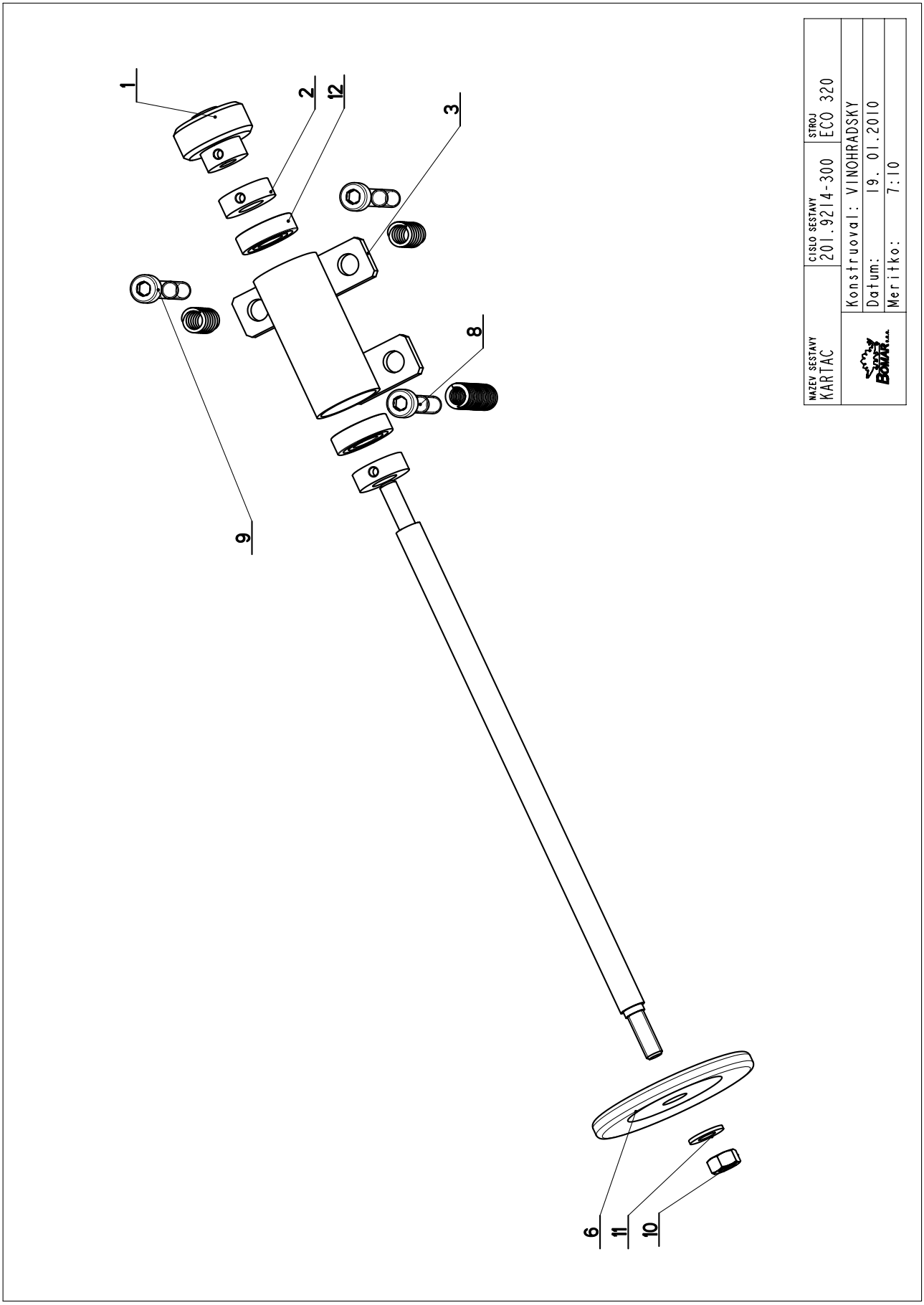
Manual version: 1.40 / Feb. 2013
Manual rev.: 1

Cislo Sestavy	Ver.	Nazev sestavy
201.Y330-000	1	ROZVADEC/DISTRIBUTOR/VERTEILER

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.Y330-020	0	PANEL / PANEL / PANEL		1
2	30.5002-003	0	DRZAK / HOLDER / HALTER		1
3	30.6030-406	3	PANEL ELEKTRO / ELECTRO PANEL / PANEL	P 3x297x285	1
4	30.6030-413	1	DRZAK / HOLDER / HALTER	P3x110x140	1
5	30.6130-007	0	ULOZENI / MOUNTING / LAGERUNG	d 30	1
6	30.6130-009	0	PRILOZKA / STRAP / LASCHE	P 3 - 50	1
7	30.6130-010	0	VLOZKA / INSERT / EINLAGE	d 30	1
8	30.6130-011	0	VEDENI / GUIDE / BACKENFÜHRUNG	d 16	1
9	30.6130-012	0	VIKO / COVER / DECKEL	P 0.5x 30x30	2
10	31.6030-401	0	ELEKTROSKRIN / ELECTRIC BOX / ANSCHLUSSKASTEN		1
11	31.6030-414	0	SKLO ORGANICKE / PLEXIGLASS / PLEXIGLAS	3x30x150	1
12	31.6130-008	0	HLAVICE / HEAD / KOPF		1
13	31.Y330-010	0	SAMOLEPKA / STICKER / AUFKLEBER		1
14	90.002.2D.001	0	STAVECI S KUZEL / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M4X6	2
15	90.008.50.003	0	SROUB ZAPUSTNY / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M4X10	2
16	90.011.27.001	0	SROUB ZAPUSTNY / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M4X8	2
17	90.100.55.002	0	MATICE / NUT / MUTTER	MATICE _ M4	2
18	90.150.50.002	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	PODLOZKA 4,3	2
19	91.071.022 (1)	0	VYVODKA / BUSHING / TÜLLE		2
20	91.072.016 (1)	0	MATICE / NUT / MUTTER		2
21	91.283.001	0	POTENCIOMETR / POTENTIOMETER / POTENTIOMETER		1
22		0	/ /		1

1.ZRUS.VYVODKA PG36 91.071.005 A NAHR. VYVODKOU MSV-M50x1.5 91.071.022,PRID.MATICE M50x1.5.
133/ZM163 17.7.2009 SLEZACKOVA

7.34. Kartáč / Bürste / Brush



Manual version: 1.40 / Feb. 2013
Manual rev.: 1

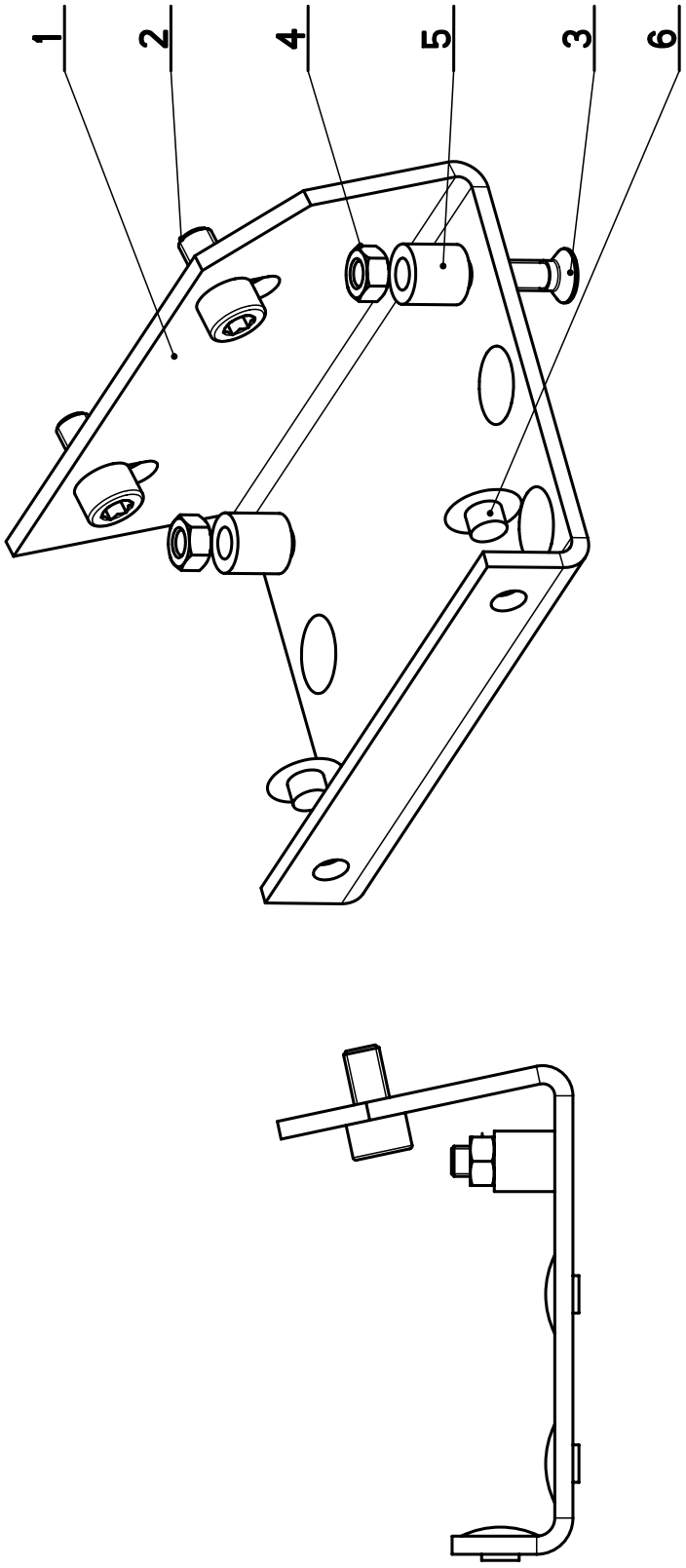
Cislo Sestavy	Ver.	Nazev sestavy
201.9214-300	0	KARTAC/BRUSH/BÜRSTE

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.0814-204	0	KOLECKO / WHEEL / ROLLE	SESTAVA	1
2	30.0814-207	0	KROUZEK / RING / RING	d 25	2
3	30.9214-301	1	DRZAK / HOLDER / HALTER		1
4	30.9214-302	1	HRIDEL / SHAFT / WELLE	D 12	1
5	31.0305-211	0	PRUZINA / SPRING / FEDER	2x12x50x15,5	1
6	31.0814-208	0	KARTAC / BRUSH / BÜRSTE		1
7	31.1506-115	0	PRUZINA / SPRING / FEDER	1.6x12x25x7.5	2
8	90.001.25.038	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8X50	1
9	90.001.25.040	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8X60	2
10	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE _ M8	1
11	90.150.50.005	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	PODLOZKA 8,4	1
12	95.001.005	0	LOZISKO / BEARING / LAGER	6001 2RS	2

7.36. Držák / Halter / Holder

Cislo Sestavy	Ver.	Nazev sestavy
201.Y404-070	0	DRZAK/HOLDER/HALTER

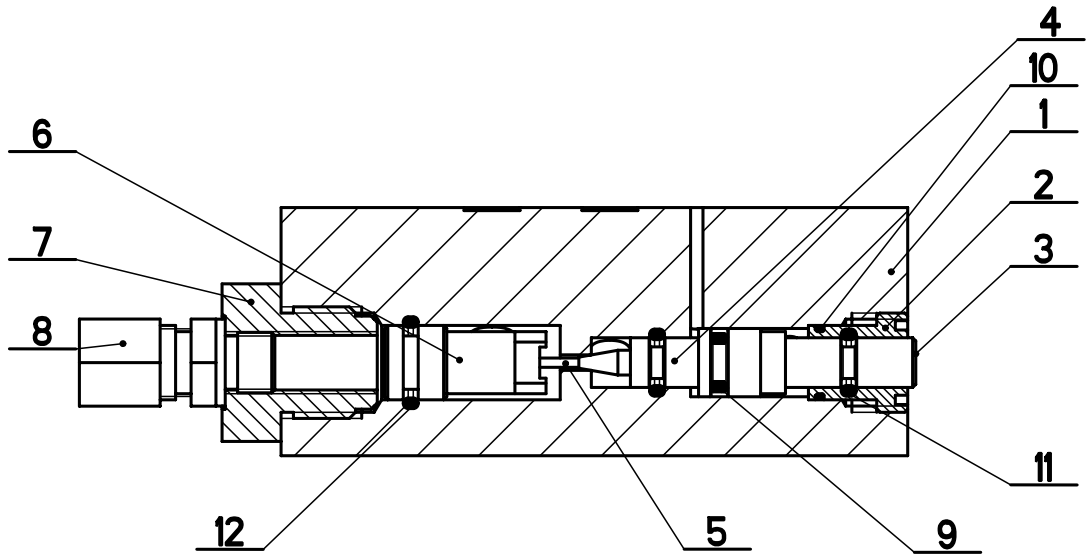
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.Y404-071	0	DRZAK / HOLDER / HALTER	P3 - 100	1
2	90.001.25.016	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6X12	2
3	90.011.27.024	0	SROUB ZAPUSTNY / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M5X20	2
4	90.100.55.003	0	MATICE / NUT / MUTTER	MATICE - M5	2
5	90.163.00.006	0	DISTANC / DISTANCE / DISTANZ	TR 10/5.3	2
6	94.101.029	0	ZATKA / PLUG / STOPFEN	PRO IMBUS M8	6



Manual version: 1.40 / Feb. 2013
Manual rev.: 1

Cislo Sestavy	Ver.	Nazev sestavy
201.6816-100	0	KOSTKA REGULACE/REGULATION CUBE/REGELUNGSWÜRFEL

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.6816-101	1	KOSTKA REGULACE / REGULATION CUBE / REGELUNGSWÜRFEL	TYC 40x40	1
2	30.6816-104	1	VIKO / COVER / DECKEL	TYC 16	1
3	30.6816-103	0	PIST / PISTON / KOLBEN	TYC 12	1
4	30.6816-108	0	JEHLA / NEEDLE / NADEL	TYC 8	1
5	95.690.001	0	JEHLA / NEEDLE / NADEL	1.5x11.8	1
6	30.6816-106	2	PIST / PISTON / KOLBEN	TYC 12	1
7	30.6816-107	0	VIKO / COVER / DECKEL	TYC 22	1
8	92.002.102	0	SROUBENI / BOLTING / VERSCHRAUBUNG	S-GEV-8LLR	1
9	96.002.003	0	O-KROUZEK DYNAMIC / DYNAMIC O RING / O-RING DYNAMISCH	6X2	1
10	96.002.041	0	O-KROUZEK DYNAMIC / DYNAMIC O RING / O-RING DYNAMISCH	10x1	1
11	96.001.001	0	O-KROUZEK STATIC / STATIC O RING / O-RING STATISCH	4X1,8	2
12	96.001.003	0	O-KROUZEK STATIC / STATIC O RING / O-RING STATISCH	8X2	1



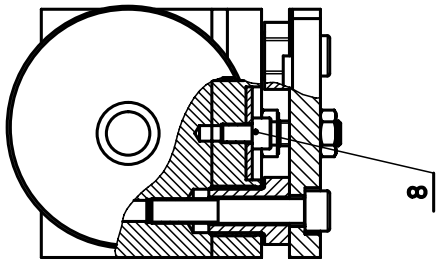
7.38. Brzda / Bremse / Brake

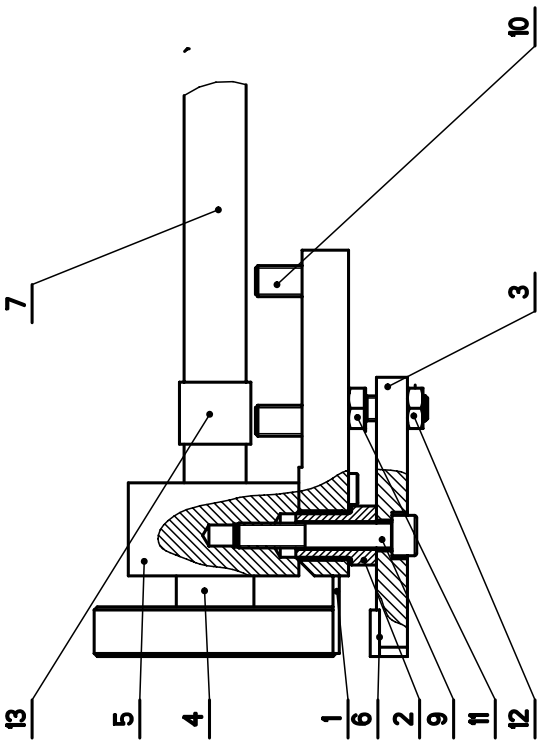
Cislo Sestavy
201.Y402-020

Ver.
0

Nazev sestavy
BRZDA/BRAKE/BREMSE

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.Y402-022	0	DESKA / BOARD / PLATTE	P2-30	1
2	30.Y402-023	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	6HR 19	2
3	30.Y402-024	0	DESKA / BOARD / PLATTE	HR 80x10	1
4	30.Y402-027	0	KROUZEK / RING / RING	TR 25x5	1
5	30.Y402-028	0	TELESO / BODY / KÖRPER		1
6	30.Y402-029	0	DESKA / BOARD / PLATTE	P 3-15	1
7	30.Y402-125	0	EXCENTR / CAM / EXZENTER		1
8	90.001.25.015	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6X10	2
9	90.001.25.038	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8X50	2
10	90.001.25.046	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M10X20	4
11	90.005.55.015	0	SROUB 6HRANNY / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M8X20	1
12	90.101.55.001	0	MATICE / NUT / MUTTER	MATICE M8	1
13	95.700.004	0	POUZDRO / SLEEVE / BÜCHSE	20X20	1





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