Série **Pulldown**

Pulldown 160.120 G

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:		
3.00 / Feb. 2010 rev. 2		

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: **Pulldown 160.120 G**

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, saw band and drive, manual clamping device, control.

Technical data: cutting rate 35/70 m.min^{-1}, cutting angle 0^0 - 60^0,
Total dimensions in mm (l x w x h) 810×530×450
Supply voltage 230 V, total power requirement 0,45 kW, weight 38 kg

The applied decrees of governments: **No. 24/2003 Coll. (Directive 98/37/EC)**
No. 616/2006 Coll. (Directive 2004/108/EC)
No. 17/2003 Coll. (Directive 2006/95/EC)

The applied harmonized standards,
National standards and technical specifications: ČSN EN ISO 12 100-2:2004, ČSN EN 13 898+A1:2009, ČSN EN ISO 13857:2008, ČSN EN 55 011 ed.2:2007, ČSN EN 61000-6-4 ed.2:2007, ČSN EN 60204-1 ed.2:2007

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

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

The inspection certificate no . 00.889.332/09/07/02/0 was issued.

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

Alfred Pichlmann, jednatel

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

7. VÝKRESY SESTAV PRO OBJEDNÁNÍ NÁHRADNÍCH DÍLŮ / ZEICHNUNGEN FÜR BESTELLUNG DER ERSATZTEILE / DRAWING ASSEMBLIES FOR SPARE PARTS ORDER 41

1. Safety notes

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

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

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

1.1. Machine determination

The band saw **Pulldown 160.120 G** 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 angles 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 startet to work on the machine! Keep the operating instructions in good condition!

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

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

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

1.4. Safety notes for the servicing and repairs

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

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

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

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

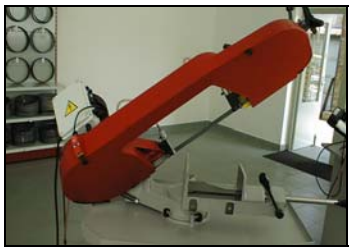
1.5. Safety machine accessories

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

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

1.5.1. Arm cover

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



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

1.5.2. Band saw cover

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

Never turn-ON saw band when cover is not mounted!

1.6. Safety notes for the cooling

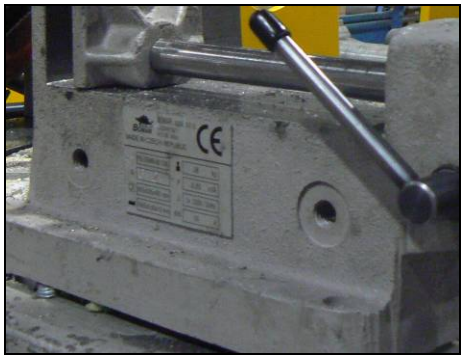
Attention!
- *When handling cooling agents always wear hazardous fluid-proof gloves!*
- *Wear protective goggles!*
- *Cooling liquid can get in contact with your eyes and may cause permanent severe injuries*

1.6.1. Instructions for first help

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

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

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

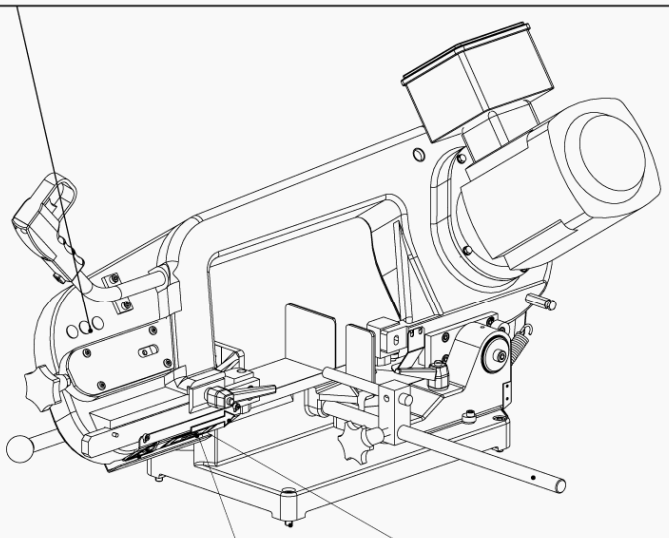


Machine label is placed on side of vice.

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

PO:
Noste pevnou pracovní obuv /
Tragen Sie Sicherheitsschuhe /
Wear fixed protective shoes
CZ:
Přečíst návod k použití /
Bedienungsanleitung lesen /
Read the operating instructions

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

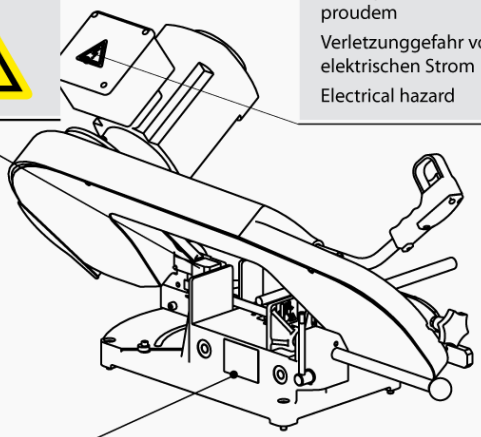


NR:
Nebezpečí říznutí /
Schnittgefahr /
Cutting or severing hazard

SP:
Směr pohybu
Bewegungsrichtung
Direction of motion

NS
Nebezpečí stlačení
Pressunggefahr
Crushing hazard

NE
Nebezpečí úrazu elektrickým proudem
Verletzunggefahr vom elektrischen Strom
Electrical hazard



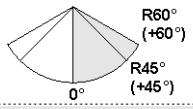
Štítek stroje
Maschinenschild
Machine label

2. Machine documentation

2.1. Technická data / Technische Daten / Technical data

Hmotnost stroje / Maschinengewicht / Machine weight:	
• Hmotnost / Gewicht / Weight	38 kg
Rozměry stroje / Maschinengröße / Machine size :	
• Délka / Länge / Lenght	810 mm
• Šířka / Breite / Width	530 mm
• Výška / Höhe / Height	450 mm
Elektrické vybavení / Elektrische Ausrüstung / Electical equipment:	
• Napájení / Versorgungsspannun / Supply voltage	~ 1×230 V, 50 Hz
• Příkon / Gesamptschlusswert / Total Input	0,45 kW
• Max.jištění / Max. Vorschaltsicherung / Max. Fuse	8 A
Akustický tlak / Schalldruckpegel / Acoustic pressure:	
• Pulldown 160.120 G	L_{Aeqv} = 59 / 65 dB … 35 m.min^{-1} / 70 m.min^{-1}
Virbrace / Vibration / Vibration:	
• Pulldown 160.120 G	0,08/0,2 m.s^{-2} … 35 m.min^{-1}/70 m.min^{-1}
Pohon / Atrieb / Drive:	
• Typ / Typ / Type	JMC 71 2/4 B14
• Napájení / Versorgungsspannun / Supply voltage	~ 1×230 V, 50 Hz
• Výkon / Leistung / Output	0,25 / 0,37 kW
• Jmenovité otáčky / Motornenndrehzahl / Nominal speed	2800 / 1420 min-1
Chladící zařízení – volitelné přísluš. / Kühlmiteleinrichtung – wahlfrei / Cooling equipment – optional:	
• Typ / Typ / Type	3COA 2–22
• Napájení / Versorgungsspannun / Supply voltage	~ 1×230 V, 50 Hz
• Obsah nádrže / Volumen vom Kühlmittel / Capacity	12 dm3
Rozměr pásu / Sägebanddimension / Band size:	
1620×13×0,65 mm	
Řezná rychlost / Schnittgeschwindigkeit / Cutting speed:	
35/70 m/min.	

Řezné rozsahy / Schnittbereiche / Cutting size:

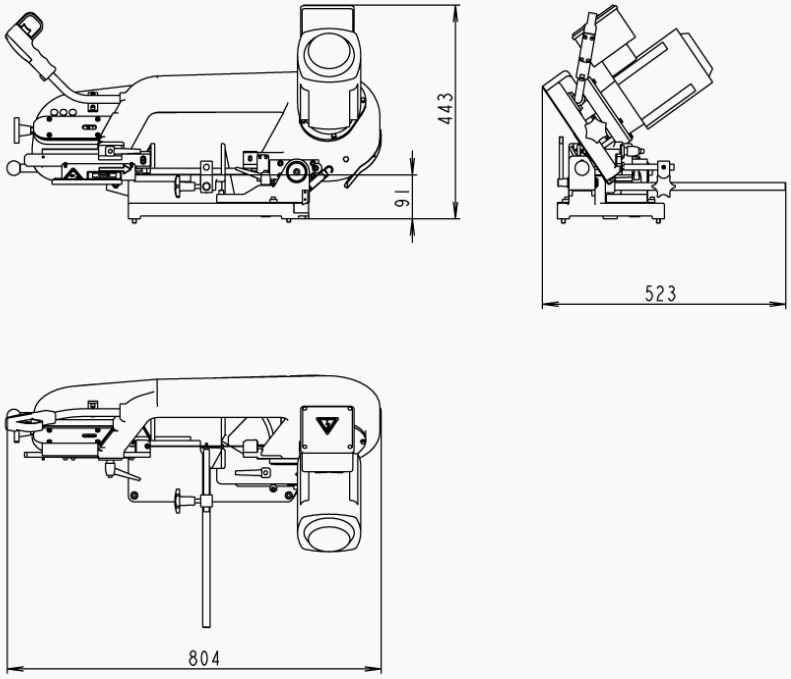


0°	Ø120 mm	160×70 mm	150×120 mm	120×120 mm
R 45°	Ø90 mm	100×90 mm	90×120 mm	90×90 mm
R 60°	Ø55 mm	55×65 mm	55×65 mm	55×55 mm

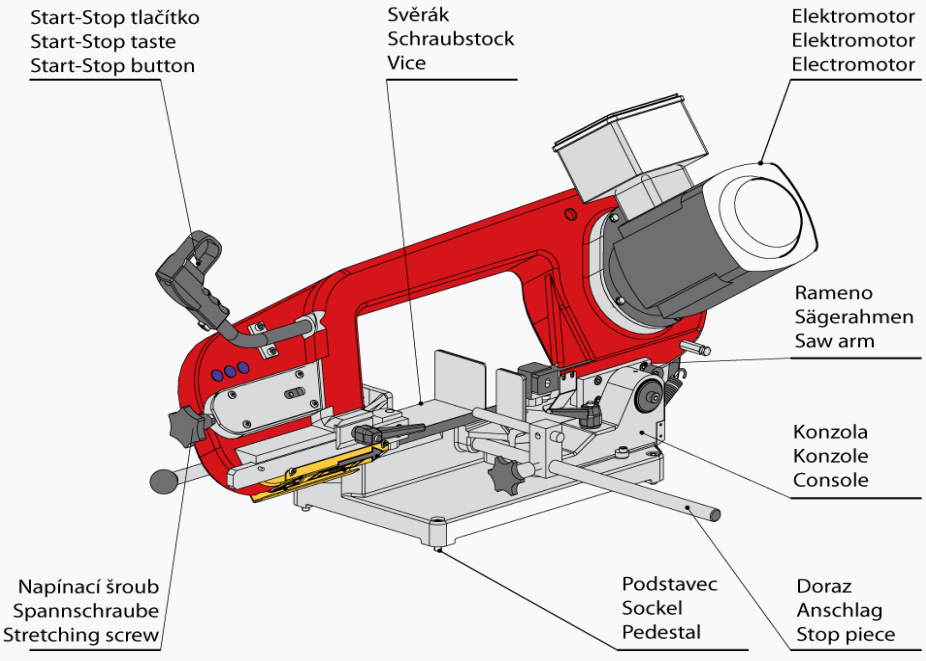
Level of acoustic pressure:

Equivalent level of acoustic pressure A (noise) at operator position are L_{Aeqv}=59 / 65 dB for speed 35 m.min^{-1} / 70 m.min^{-1}. Mentioned values are levels of emission which doesn't have to represent safe levels. Factors which influence real level of acoustic pressure on machine operator are: working place characteristics, cut material, saw band. These factors have significantly influence on acoustic pressure.

2.2. Rozměrové schéma / Aufstellzeichnung / Installation diagram



2.3. Popis / Beschreibung / Description



2.4. Transportation and stocking

2.4.1. Conditions for transportation and stocking

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

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

2.4.2. Transport and stocking preparations

Close the vice and thoroughly oil all blank surfaces.

Lower the saw frame to the lowest position.

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

Fasten all loose parts securely to the machine.

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

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

2.4.3. Transport and stocking

- Pulldown 160.120 G is normally supplied without a pedestal.
- Saw is wrapped in a protective foil

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 (for example by, lifting by the saw frame of the band saw), than it is written in this operating instructions, the machine can be damaged.

2.5. Activation

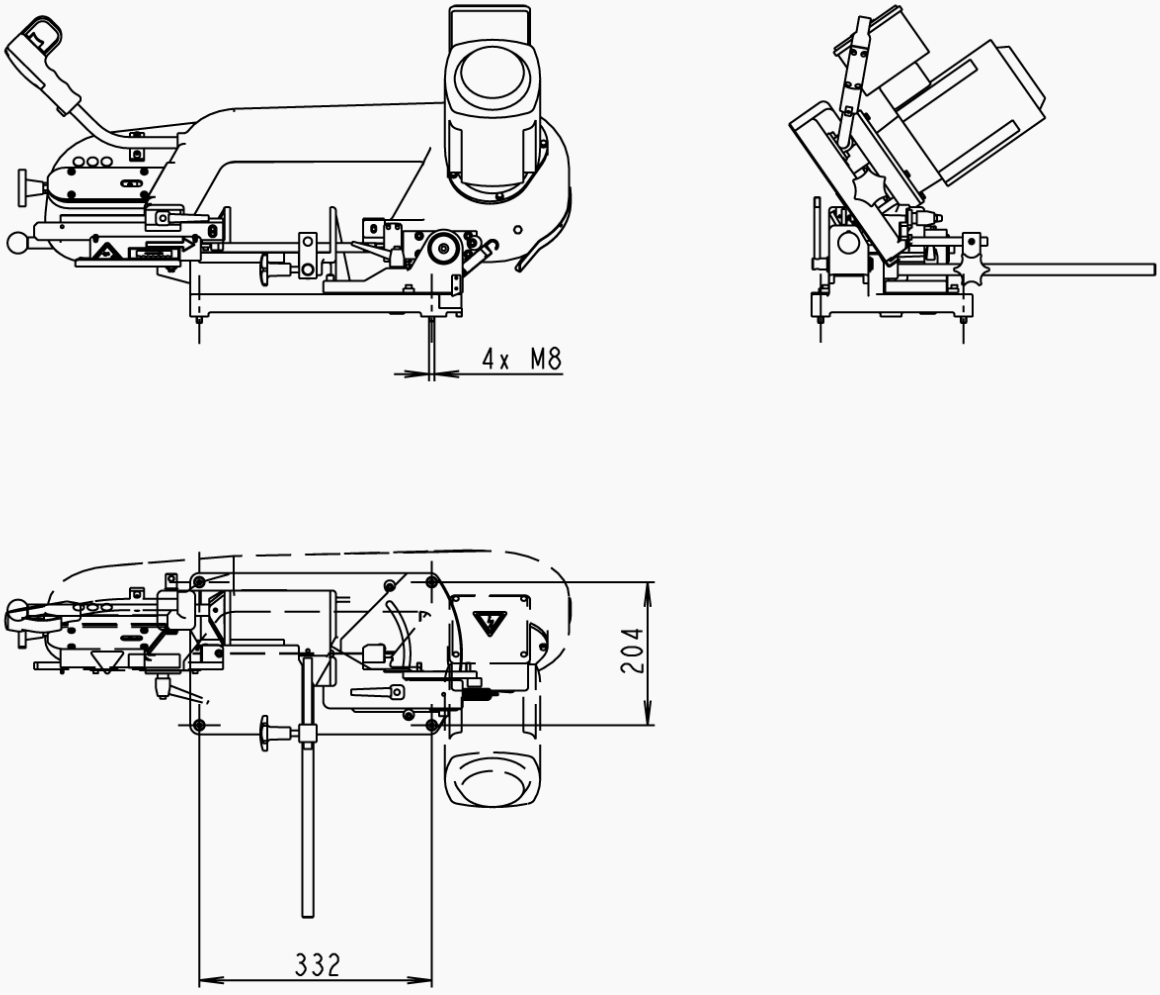
2.5.1. Machine working conditions

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

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

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

2.5.2. Kotevní plan / Verankerungsplan / Grounding plan



Kotvící materiál / Verankerungsmaterial / Grouding material

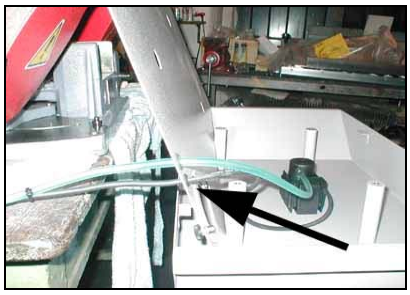
• 4× Šrouby / Schraube / Screws – M8

2.6. Band saw unpacking and assembling

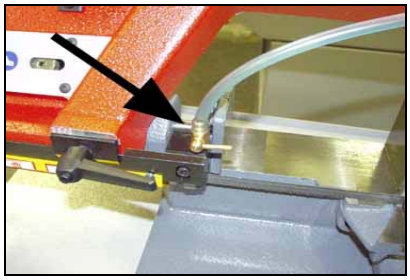
Remove the packing from the machine and unpack all parts.

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

2.6.1. Cooling – assembly and connection – optional accesories

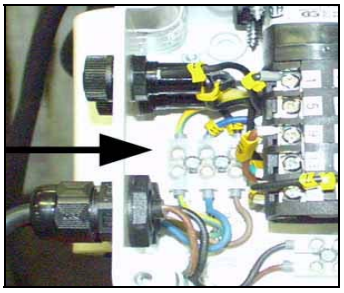


1. Pull the hose and the cable from cooling pump through holes in the tank cover.



Attention!
Only a qualified professional can carry out the assembly 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

2. Screw on the cooling valve to the left guiding cube. Connect the hose on the cooling valve.

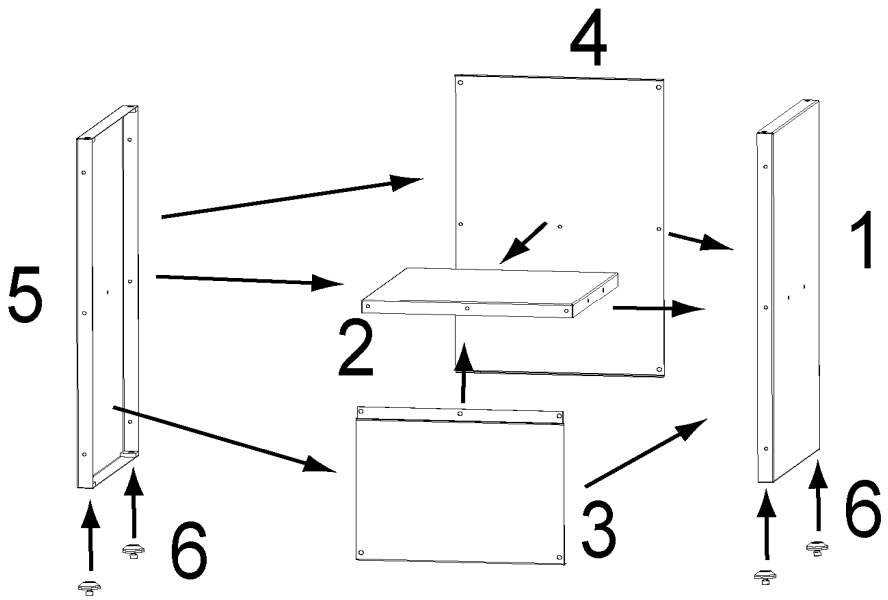


3. Screw off the distributor cover. Pull the cable of the cooling pump through sleeve. Connect conductors to the distributor of the band saw – from the left side PE, N, L. Screw on the distributor cover back.

4. Put cover **2** on the tank **1** and screw on the band saw **3** to the tank **1** (4 screws).

- If you have the band saw with cooling system without pedestal, you screw on legs **4** to the tank **1** (4 legs). The assembly is finished
- If you have the band saw with cooling system and with pedestal, you do not screw on legs **4** and you continue in chapter **Pedestal assembly**

2.6.2. Pedestal assembly – optional accesories



1. Screw the partition **2** to the side plate **1** (2 screws).
2. N Screw the forward panel **3** to parts **1** and **2** (4 screws).
3. Screw the rear panel **4** to parts **1** and **2** (5 screws).
4. Screw the side plate **5** to parts **2**, **3** and **4** (7 screws).
5. Screw legs **6** to side plates **1** and **5** (4 legs).

2.6.3. Assembly of the band saw and pedestal

- Screw on the tank with assembled band saw to the pedestal.

2.6.4. 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 – Pulldown 160.120 G – 38 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.

2.6.5. Machine disposal after lifetime

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

2.7. 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: ~ 1×230 V, 50 Hz, TN-C-S
- Total input: 0,45 kW
- Max. fuse: 8 A

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

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

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

Connect the service cable of the machine on the clamps of the electric distribution.

Note:
The socket with the fork can be used only at the machines with the rated current less than 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.

2.8. Filling of the cooling system

Note:
Cooling is optional accessories for Pulldown 160.120 G

Fill the tank with the cooling liquid. Take care not drip out liquid around the tank and not overflow the tank.

Durring operation of the machine, cooling liquid flow through liquid drain hole back into the tank. Keep strainer drain hole in passable condition.

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 and the feeding 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 dimensions

1620×13×0,65 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:

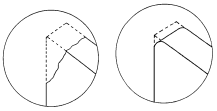
32 S – number „32" means 32 teeth on one inch (that means constant tooth system), letter „S" marks teeth with zero angle of the tooth.

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

To ensure a full service life of the saw bands, we strongly recommend that you carry out the *Run-In process*.

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

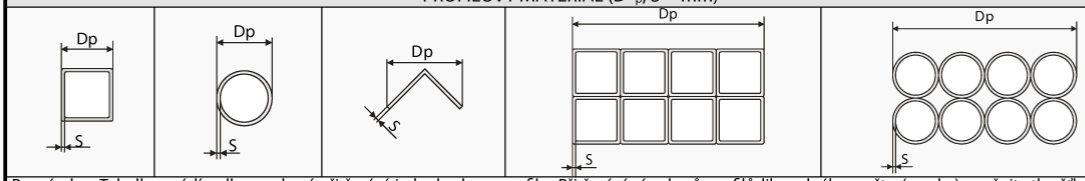


When cutting small pieces run the band until approximately 300 cm2 of material has been cut. For cutting large pieces run the band for 15 minutes approximately.

Note:
Run regrinding saw bands too.

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.

PROFILOVÝ MATERIÁL (D_p, S = mm)

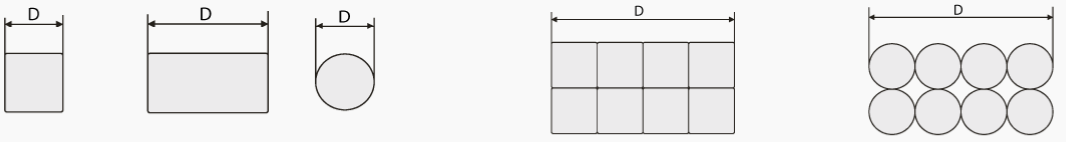


Poznámka: Tabulka uvádí volbu ozubení při řezání jednoho kusu profilu. Při řezání více kusů profilů libovolného počtu (svazku) uvažujte tloušťku stěny jako dvojnásobek tloušťky stěny jednoho profilu (tzn., že tloušťka „S" rovná se 2×S). V tabulce je uvedeno ozubení jak konstantní, tak variabilní.

Tloušťka stěny S [mm]	Ozubení (Z_pZ) Vnější průměr profilu 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

Tloušťka stěny S [mm]	Ozubení (Z_pZ) Vnější průměr profilu 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	1,4–2K	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

PEVNÝ MATERIÁL (D = mm)



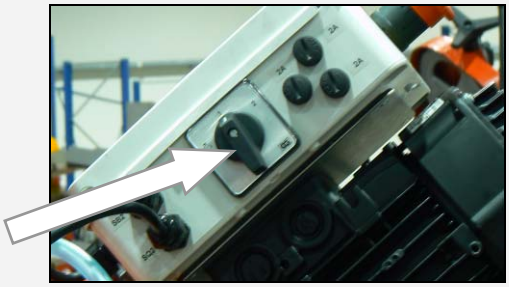
Konstantní ozubení	
délka řezu D	ozubení (Z_pZ)
do 3 mm	32
do 6 mm	24
do 10 mm	18
do 15 mm	14
15–30 mm	10
30–50 mm	8
50–80 mm	6
80–120 mm	4
120–200 mm	3
200–400 mm	2
300–800 mm	1,25
700–3000 mm	0,75

Variabilní ozubení	
délka řezu D	ozubení (Z_pZ)
do 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

Přes výše uvedené návrhy berte v úvahu doporučení Vašeho dodavatele a nechte si od něj odborně poradit i přesto, že výrobci Vám často doporučí vlastní pilové pásy.

3. Machine control

3.1. Control elements

Control element	Description
	1. **Start and stop** Button in the arm starts or stops the movement of the saw band. **Attention!** Pressing the button *Total Stop* se does not stop arm falling!
	2. **Cutting speed switch** Used to select the speed band saw – 35 or 70 m. min^{-1}.

3.2. Machine controling

3.2.1. Cutting

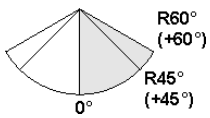
1. Insert the material to the vice
2. Shift the material to the desired length of the cut and clamp it.
3. Select the desired cutting speed by means of the switch on the engine.
4. Check the right material clampin.
5. Start the machine with the switch placed in the handle and starts the cut. *Attention!* The pressure must be too peaceful on the machine.

3.2.2. Cutting speed setting

Picture	Description
	• speed **35 m.min^{-1}** – turn speed switch into pos. no. **1** • speed **70 m.min^{-1}** – turn speed switch into pos. no. **2**

3.2.3. Angular cut setting

Pulldown 160.120 G alollows angular cuts at angles from **0°** to **60°**. There are limit stops on the saw for easy setting of extreme positions of **0° – 45° – 60°**.

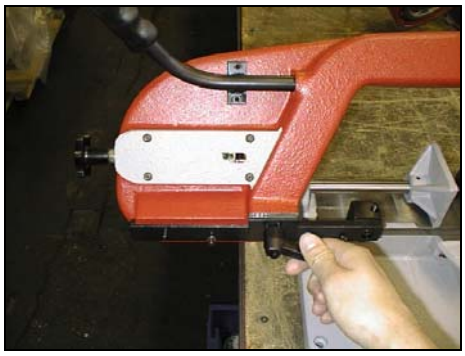


Manual version: 3.00 / Feb. 2010
Manual rev.: 2

Picture	Description
	1. Release gripping lever on the revolving console.
	2. Set the desired angle by swivelling the frame in the upper position. The scale for the reading the set angle is on the rear side of the base. 3. When the desired angle has been set, tighten the gripping lever again.

3.2.4. Optimal adjusting of the guide cubes span

To achieve a smooth and sufficient accuracy cut, it is necessary to place the guide cube close to the cuted material.



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

3.3. Material insertion

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

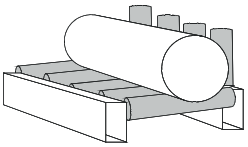
3.3.1. Handling agent selection

- 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!

3.3.2. 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

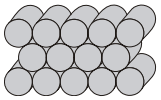
Make sure the conveyor is long enough and the material cannot tip off the conveyor.



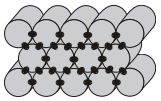
Be especially careful with round materials that it always stays on two vertical rollers and that it cannot fall off the conveyor!

3.3.3. Bundle material cutting

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



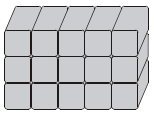
Round material bundle: Take care especially with round material that the bars are put according to the picture. If the bars are put differently, you may have problems with movement.



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

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

Square material bundle:



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

4. Machine service

4.1. Saw band dismantling

1. Unplug the machine from the power supply. It guarantees that the machine does not accidentally start running.
2. Open the protective cover on the rear side of the saw frame. Release the saw band tension using the handle so that the saw band can be taken out easily
3. Remove the saw band from rotation wheels.
4. Slide out the saw band from the guides.

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 band on both rotation wheels so that the band ridge fits closely to the wheel rim.
4. Stretch the band gently so that the band does not slide off the rotation wheels.
5. Turn the tightening wheel a bit and check if the saw band runs correctly.
6. Stretch the band to the correct value and start the machine.

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

1. The saw band must not fall from the wheels after setting.

2. Install the Tenzomat on the saw band and secure it with screws.
3. Stretch the saw band until it is stretched to the recommended value.

4.3.2. Saw band inspection

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

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

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

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

5. Close cover of the saw band.

4.4. 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. 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
Pulldown 160.120 G	Paramo PP7	0,2 l
Pulldown 225.160 G	Paramo PP7	0,9 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
Shell Aseol AG	ASEOL Litea EP 806-077

Manufacturer	Type of the lubricant grease
Texaco	Multifak EP1

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.

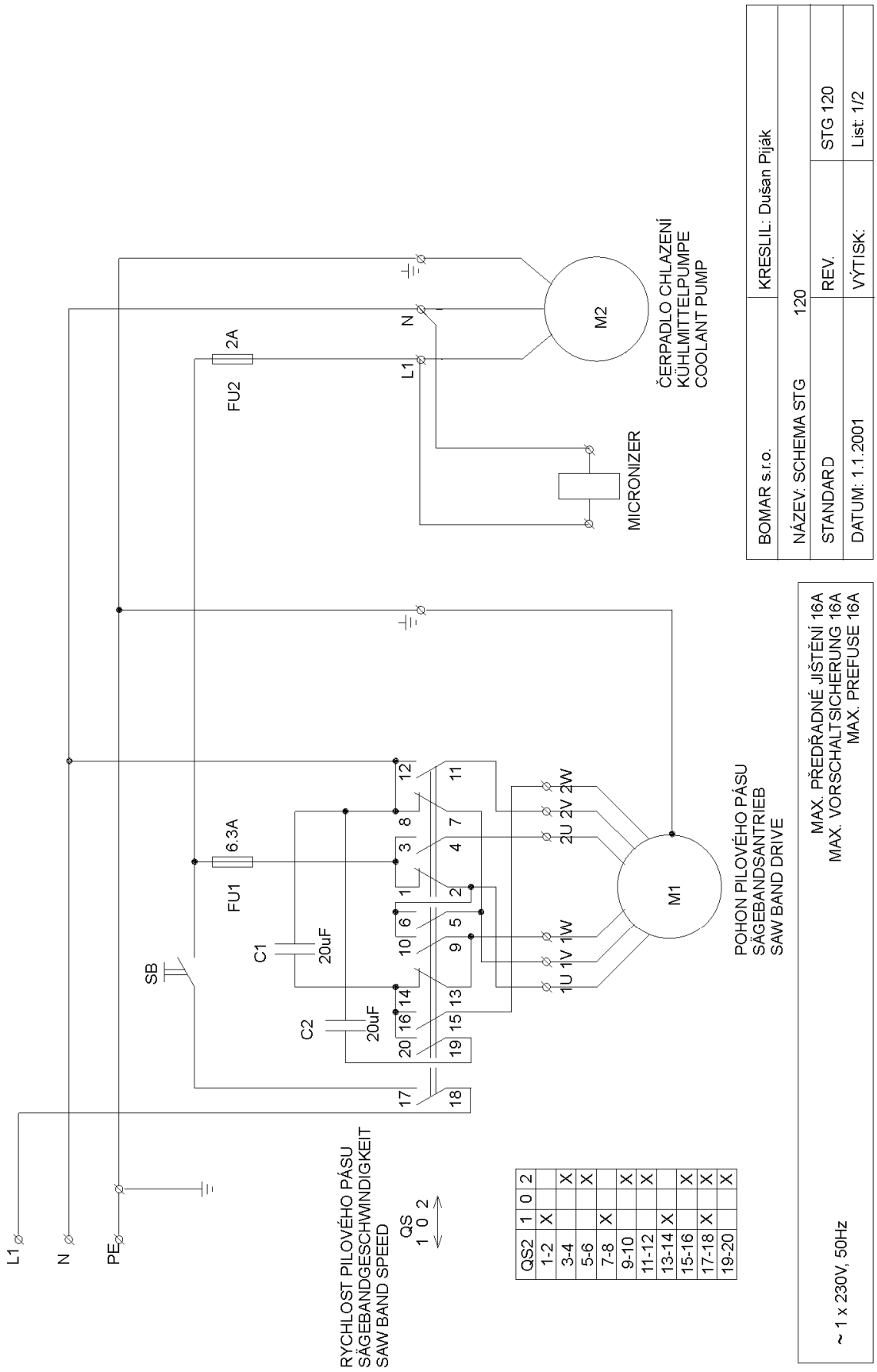
5. Závady / Troubleshooting

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“
	- 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“

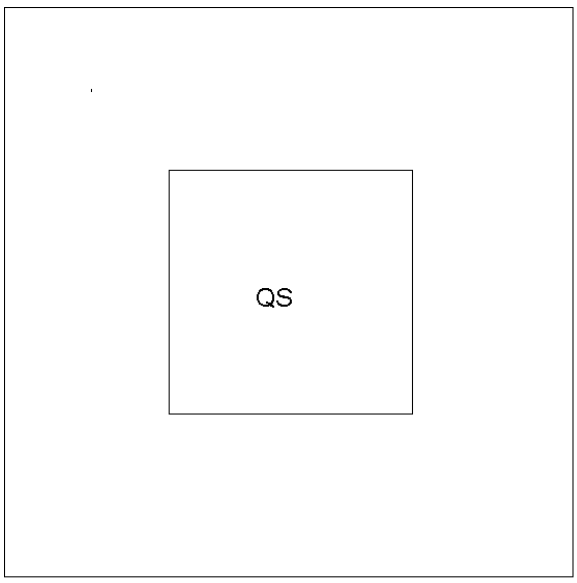
Problem	Possible causes	Repair
	- Wrongly adjusted down feed and saw band speed.	Adjust the feeding and speed of a saw band according to values published by saw band manufacturer.
	- Different material quality.	Adjust feeding and speed of a saw band according to desired material (try cut-test).
	- Low-class 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. Saw band drive cannot be started.	Pressure switch is adjusted wrong.	Set the pressure switch according to chapter „Servicing and adjustment“
	Pressure switch is defective.	Replace defective parts of the pressure switch.
	Material is deformed.	Use pressure control of the vices SDRA. SDRA is possible buy as additional load, parameters of the SDRA are in chapter „**Special accessories**“
6. Cooling is not active	Lack of cooling agent.	Fill the tank with cooling agent.
	Input hosepipe is broken or obstructed.	Check the cooling circuit and perhaps cleanse cooling system.
	Cooling pump is defective.	Replace the cooling pump.
7. The cut is not finished.	Wrongly adjusted lower stop point of the saw frame.	Check lower limit switch and screw.
	Stop point surface is messed-up.	Cleanse stop point surface of the limit switch from debris and residue material.

6. Schémata / Schemas / Schematics

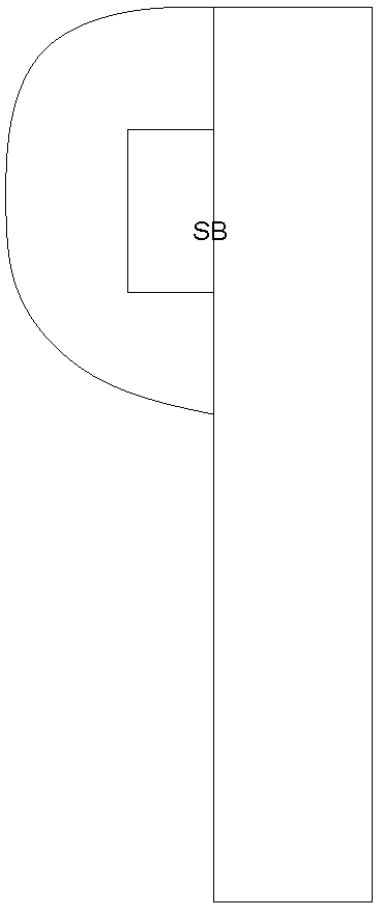
6.1. Elektrické schema / Elektroschema / Wiring diagrams



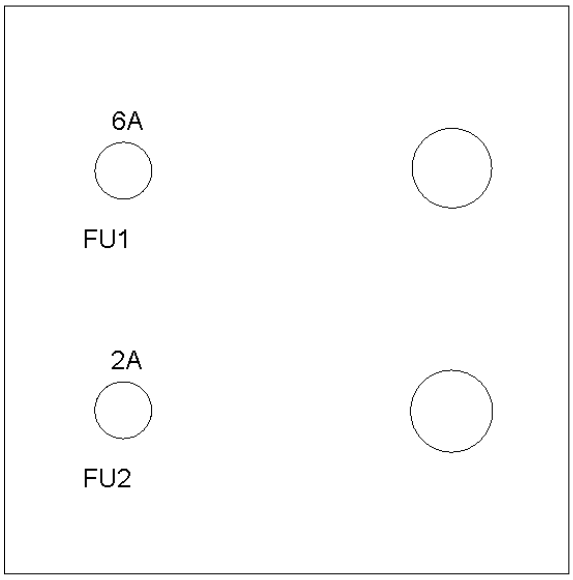
Manual version: 3.00 / Feb. 2010
Manual rev.: 2



RUKOJEŤ
GRIFF
HANDLE



KRABICE
BUCHSE
BOX



BOMAR s.r.o.	KRESLIL: Dušan Piják	
NÁZEV: SCHEMA STG 120		
STANDARD	REV.	STG 120
DATUM: 1.1.2001	VÝTISK:	List: 2/2

6.1.1. Kusovník elektrosoučástí / Stückliste der Elektroteilen / Piece list of elektroparts

Obj. číslo Bestell - Nr. Ref. No.	Název položky Bezeichnung Item		Ozn. Sign. Sign.	ks Mng. Pcs.
91.001.002	Elektromotor / Elektromotor / Electromotor	JMC 71 2/4 B14	M1	1
91.020.019	Čerpadlo chlazení / Kühlmittelpumpe / Coolant pump	P1/Z-Pump P1	M2	1
91.171.012	Spínač vačkový / Schalter / Cam switch	S10-60111	QS	1
91.240.002	Držák pojistky panel / Sicherungshalter / Holder panel fuse	PTF 30	FU1/FU2	2
91.230.001	Pojistka / Röhrensicherung / Fuse	2 A	FU2	1
91.230.002	Pojistka / Röhrensicherung / Fuse	6,3 A	FU1	1
91.290.003	Kondenzátor / Kondensator / Capacitor	20 µF	C1/C2	2
91.190.004	Krabice elektro / Buchse / Cross	ABB 00851		1

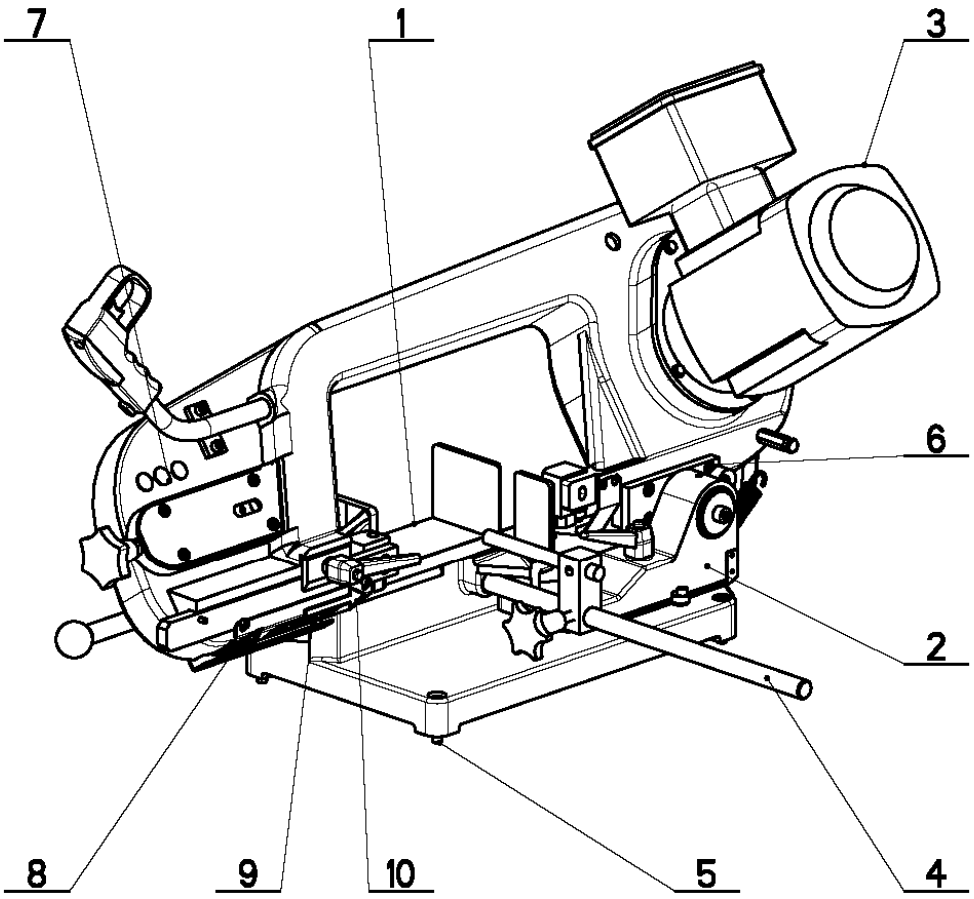
7. Výkresy sestav pro objednání náhradních dílů / Zeichnungen für Bestellung der Ersatzteile / Drawing assemblies for spare parts order

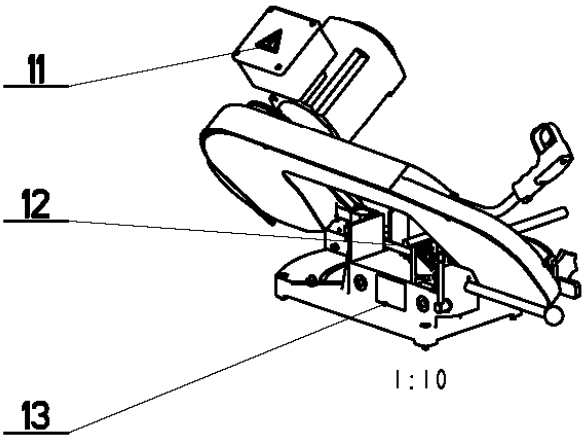
- Při objednávání náhradních dílů vždy uvádějte: typ stroje (např. practix Pulldown 160.120 G) , výrobní číslo (např. 125) a rok výroby (např. 1999).

- In die Bestellung der Ersatzteile führen Sie immer an: Maschinentyp (z. B. Pulldown 160.120 G), Serien Nr. (z. B. 125) und Baujahr (z. B. 1999).

- For spare parts order, you must always to allege: type of machine (for example Pulldown 160.120 G), serial number (for example 125, see cover page) and year of construction (for example 1999).

7.1. Pulldown 160.120 G



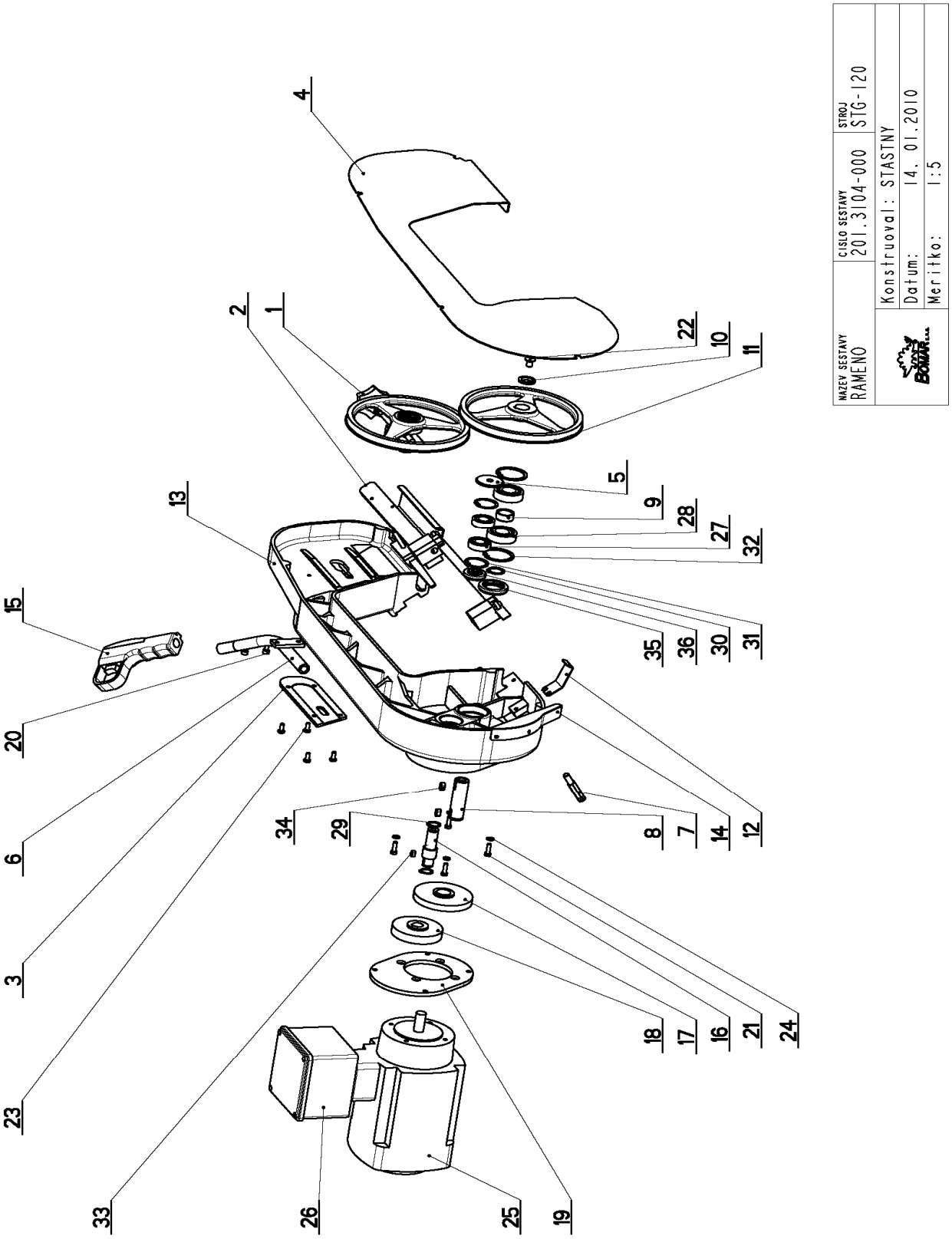


NAZEV SESTAVY	CISLO SESTAVY	STROJ
PILA PASOVA	201.3100-100	STG120
	Konstruoval:	
	Datum: 21. 01.2010	
	Meritko: 1:5	

Cislo Sestavy	Ver.	Nazev sestavy
201.3100-100	0	PILA PASOVA/BAND SAW/BANDSÄGE

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.3103-000	0	SVERAK / VICE / SCHRAUBSTOCK		1
2	201.3102-000	0	KONZOLA / CONSOLE / KONSOLE		1
3	201.3104-000	0	RAMENO / SHOULDER / SÄGERAHMEN		1
4	201.3114-000	0	DORAZ / STOP PIECE / ANSCHLAG		1
5	90.001.25.034	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8X30	4
6	90.001.25.017	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6X16	4
7	31.3199-003	0	SAMOLEPKA / STICKER / AUFKLEBER		1
8	99.900.040	0	SAMOLEPKA / STICKER / AUFKLEBER		1
9	31.0104-026	0	SAMOLEPKA / STICKER / AUFKLEBER		1
10	99.900.053	0	SAMOLEPKA / STICKER / AUFKLEBER		1
11	99.900.045	0	SAMOLEPKA / STICKER / AUFKLEBER		1
12	31.0599-005	0	SAMOLEPKA / STICKER / AUFKLEBER		1
13	31.3199-001	1	STITEK / LABEL / SCHILD	P 0,5-65	1

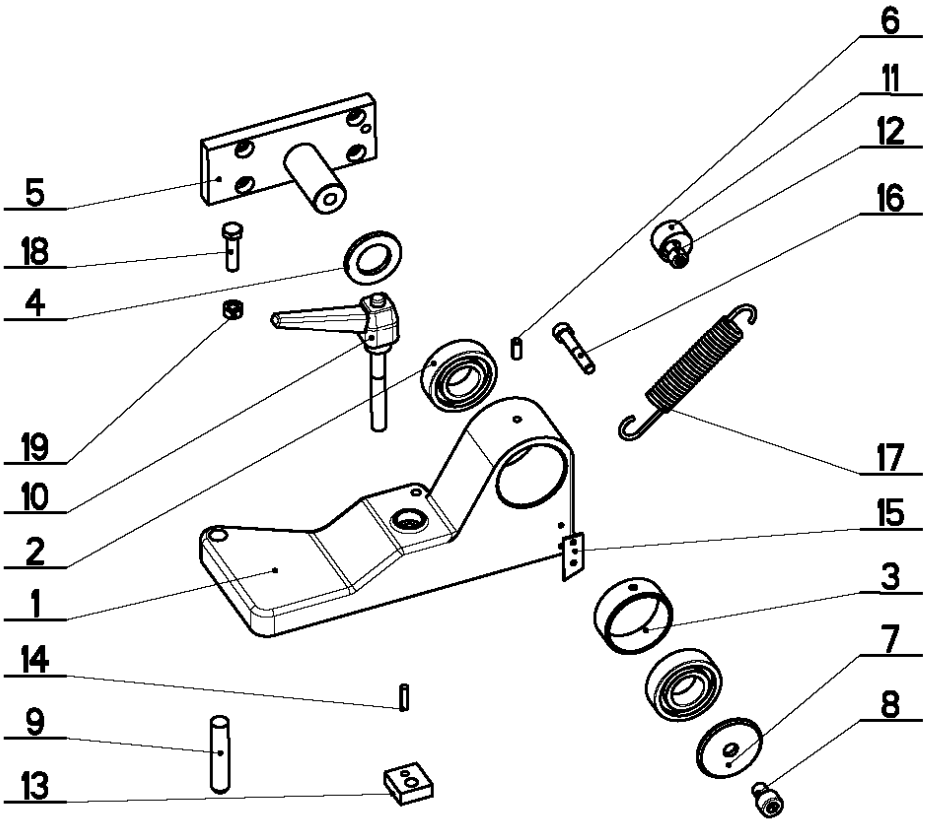
7.3. Rameno / Sägerahmen / Saw arm



Cislo Sestavy	Ver.	Nazev sestavy
201.3104-000	0	RAMENO/SHOULDER/SÄGERAHMEN

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.3108-000	0	NAPINANI / TENSIONING / SPANNUNG		1
2	201.3110-000	0	VEDENI PASU / BELT GUIDE / SÄGEBANDFÜHRUNG		1
3	30.0201-003	0	VIKO / COVER / DECKEL	P 4- 55	1
4	30.0201-004	0	KRYT RAMENE / SHOULDER COVER / RAHMENABDECKUNG	P 1.5- 238	1
5	30.0201-006	0	VIKO LOZISKA / BEARING COVER / LAGERDECKEL	P 3- 45	1
6	30.0201-007	0	RUKOJET / HANDLE / GRIFF		1
7	30.0201-009	0	NASTAVEC / EXTENSION / ANSATZ	SK 10	1
8	30.0202-001	0	HRIDEL / SHAFT / WELLE	d 22	1
9	30.0202-007	0	KROUZEK DISTANCNI / DISTANCE RING / DISTANZRING	d 26	1
10	30.0202-008	1	PODLOZKA / WASHER / UNTERLEGSCHEIBE		1
11	30.0202-009	0	KOLO NAPINACI / TENSIONING WHEEL / UMLENKRAD		1
12	30.0205-009	3	KRYT PASU / BELT COVER / BANDABDECKUNG	P 1 - 25	1
13	30.3104-001	2	RAMENO / SHOULDER / SÄGERAHMEN		1
14	30.3104-006	1	KRYT / COVER / ABDECKUNG		1
15	30.3104-007	0	RUKOJET / HANDLE / GRIFF		1
16	30.3105-001	0	HRIDEL / SHAFT / WELLE	d 22	1
17	30.3105-002	0	KOLO OZUBENE / COG WHEEL / ZAHNRAD	d 90	1
18	30.3105-003	0	KOLO OZUBENE / COG WHEEL / ZAHNRAD	d 80	1
19	30.3105-004	0	VIKO / COVER / DECKEL	P 6- 120	1
20	90.001.25.007	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5X10	2
21	90.005.55.003	0	SROUB 6HRANNY / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M5X16	4
22	90.011.27.007	0	SROUB ZAPUSTNY / COUNTERSINK BOLT / SENKSCHRAUBE	SROUB M8X12	1
23	90.013.27.004	0	SROUB PULKULATY / HALF ROUND BOLT / HALBRUNDSCHRAUBE	M5X12	4
24	90.150.50.003	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	PODLOZKA 5,3	4
25	91.001.003	0	ELEKTROMOTOR / ELECTRIC MOTOR / ELEKTROMOTOR		1
26	91.190.004	0	KRABICE / BOX / DOSE		1
27	95.001.006	0	LOZISKO / BEARING / LAGER	6002 2RS	2
28	95.001.007	0	LOZISKO / BEARING / LAGER	6004 2RSA	2
29	95.800.006	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNY KROUZEK 15	2
30	95.800.009	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNY KROUZEK 20	1
31	95.801.003	0	KROUZEK POJIST.VNITR / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNY KROUZEK 32	2
32	95.801.006	0	KROUZEK POJIST.VNITR / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNY KROUZEK 42	2
33	95.810.003	0	PERO / SPRING / FEDER	PERO 5X5X10	1
34	95.810.004	0	PERO / SPRING / FEDER	PERO 6X6X12	2
35	95.830.001	0	GUFERO / GIT SEAL / DICHTUNG	GUFERO 25X42X7	1
36	95.830.003	0	GUFERO / GIT SEAL / DICHTUNG	GUFERO 15X32X7	1

7.5. Konzola / Konzole / Console

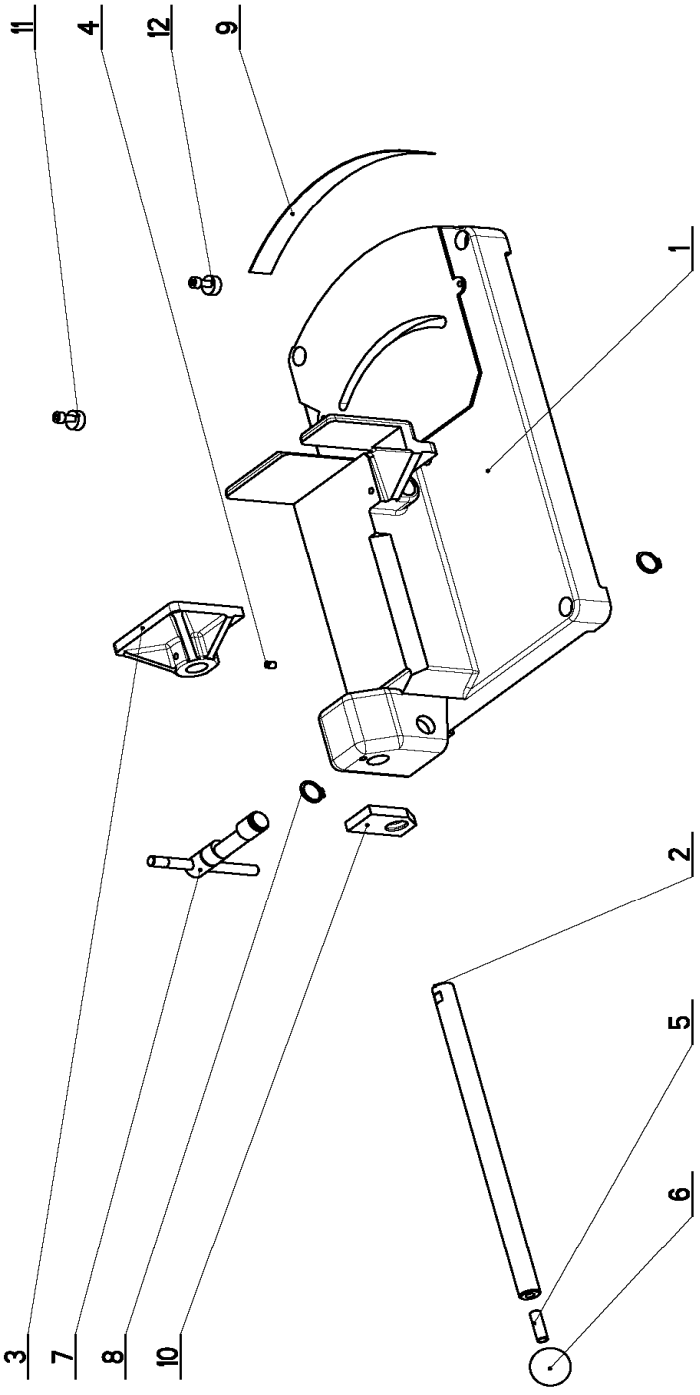


NAZEV SESTAVY	CISLO SESTAVY	STROJ
KONZOLA	201.3102-000	STG-120
BOMAR	Konstruoval: TDCUSTO	
	Datum: 15. 01.2010	
	Meritko: 3:10	

Cislo Sestavy	Ver.	Nazev sestavy
201.3102-000	0	KONZOLA/CONSOLE/KONSOLE

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.3101-002	0	KONZOLA / CONSOLE / KONSOLE		1
2	95.001.007	0	LOZISKO / BEARING / LAGER	6004 2RSA	2
3	30.3101-008	0	KROUZEK DISTANCNI / DISTANCE RING / DISTANZRING	TR 42x 2	1
4	90.153.50.002	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	PODLOZKA 19	1
5	30.3101-004	0	CEP / LUG / BOLZEN		1
6	90.303.0Z.006	0	KOLIK / PIN / BOLZEN	KOLIK 5X12	1
7	30.0201-006	0	VIKO LOZISKA / BEARING COVER / LAGERDECKEL	P 3- 45	1
8	90.001.25.029	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M8X12	1
9	90.300.0Z.002	0	KOLIK VALCOVY KALENY / CYLINDRICAL PIN TEMPERED / ZYLINDERSTIFT GEHÄRTET	KOLIK 10X50	1
10	94.008.004	0	PAKA / LEVER / HEBEL	M8x40	1
11	30.0301-018	0	EXCENTR / CAM / EXZENTER	d 20	1
12	90.001.25.092	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6X14	1
13	30.3101-010	0	MATICE / NUT / MUTTER	HR 20x 8	1
14	90.303.0Z.003	0	KOLIK / PIN / BOLZEN	KOLIK 4X16	1
15	30.3101-012	1	UKAZATEL / INDICATOR / ZEIGER	P I - 30	1
16	90.001.25.021	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6X35	1
17	31.0206-005	0	PRUZINA / SPRING / FEDER	2.50x16x90x27	1
18	90.005.55.009	0	SROUB SHRANNY / 6 SIDED BOLT / SECHSKANTSCHRAUBE	SROUB M6X25	1
19	90.100.55.004	0	MATICE / NUT / MUTTER	MATICE _ M6	1

7.7. Svěrák / Schraubstock / Vice

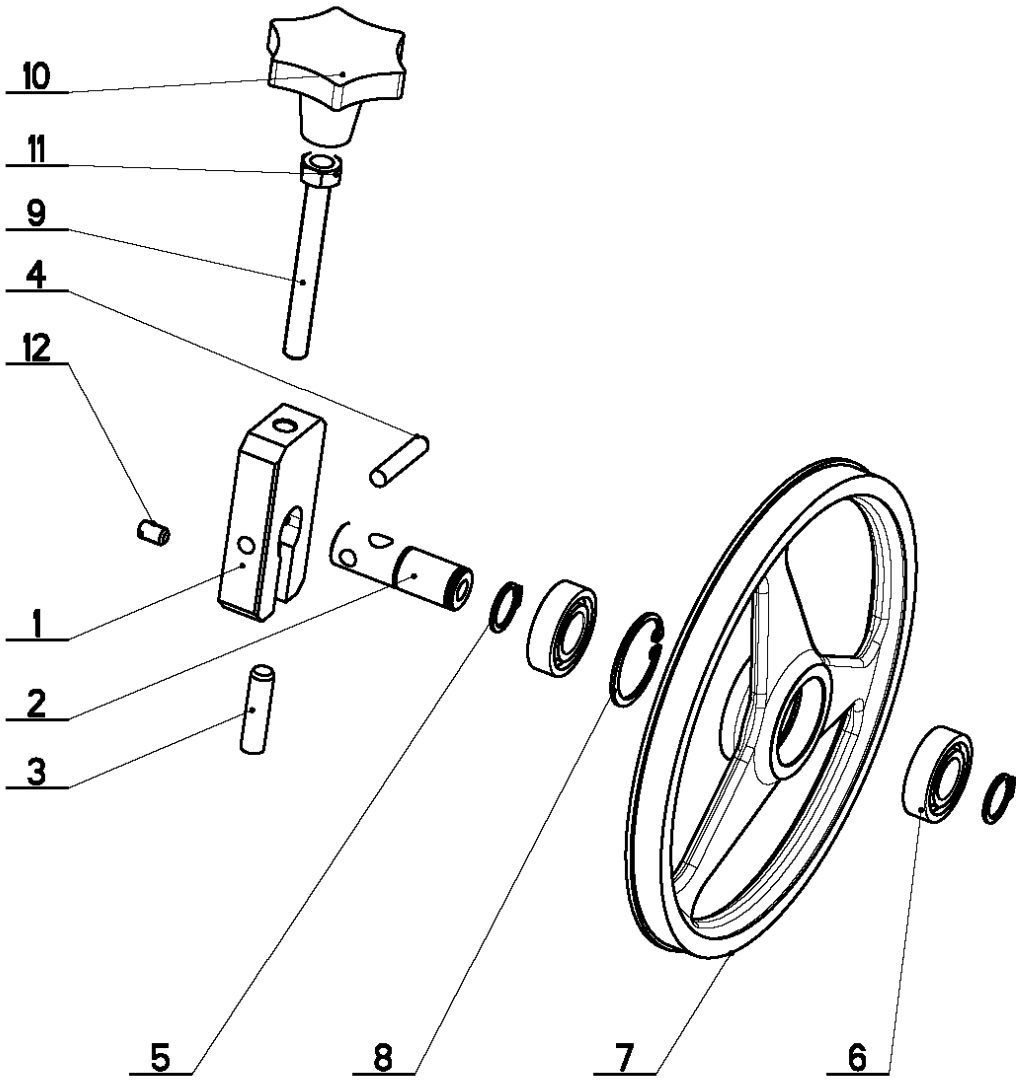


NAZEV SESTAVY	CISLO SESTAVY	STROJ
SVERAK	201.3103-000	STG-120
	Konstruoval: STASTNY	
	Datum: 14. 01.2010	
	Meritko: 3:10	

Manual version: 3.00 / Feb. 2010
Manual rev.: 2

Cislo Sestavy 201.3103-000		Ver. 0	Nazev sestavy SVERAK/VICE/SCHRAUBSTOCK		
Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.3101-001	2	PODSTAVEC / BASE / UNTERSATZ		1
2	30.3101-005	0	TYC / POLE / STANGE	d 16h7	1
3	30.3101-003	0	CELIST / JAW / BACKE		1
4	90.002.2D.004	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M5X8	1
5	30.3101-011	0	SROUB / BOLT / SCHRAUBE	M8	1
6	94.001.002	0	HLAVICE / HEAD / KOPF		1
7	30.3101-007	0	EXCENTR / CAM / EXZENTER		1
8	95.800.007	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNY KROUZEK 16	2
9	30.3101-009	0	MERITKO / MEASURE / SKALA		1
10	30.3101-006	0	DESKA / BOARD / PLATTE	HR 50x 10	1
11	30.0206-008	0	EXCENTR / CAM / EXZENTER	d 15	2
12	90.001.25.087	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5X14	2

7.9. Napínání / Spannung / Tensioning

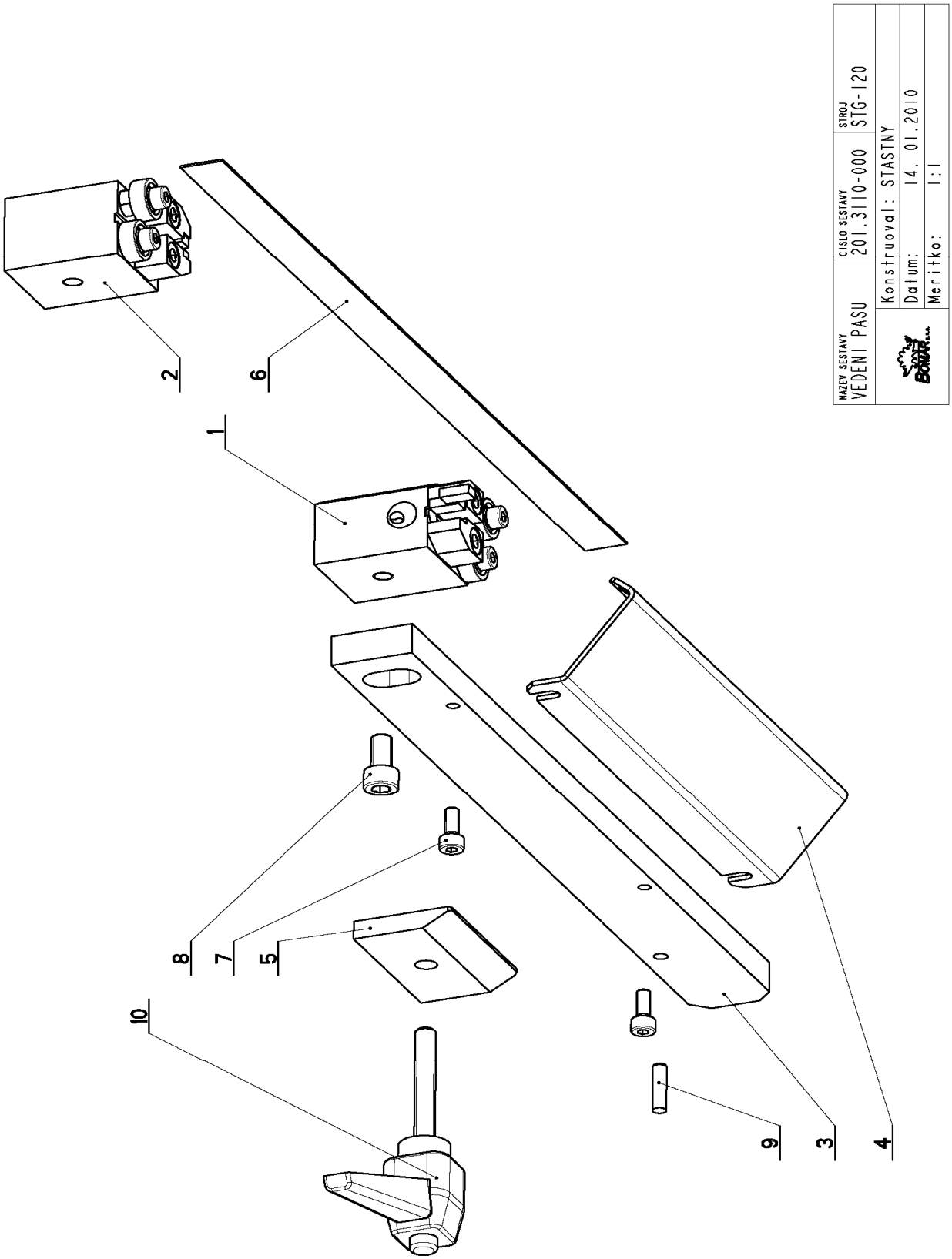


NAZEV SESTAVY	CISLO SESTAVY	STROJ
NAPINANI	201.3108-000	STG-120
	Konstruoval:	
	Datum: 15. 01.2010	
	Meritko: 1:2	

Cislo Sestavy	Ver.	Nazev sestavy
201.3108-000	0	NAPINANI/TENSIONING/SPANNUNG

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.0203-001	0	KOSTKA NAPINANI / TENSIONING CUBE / BANDSPANNUNGSWÜRFEL	HR 35x 15	1
2	30.0203-002	0	CEP / LUG / BOLZEN	d 16	1
3	90.300.0Z.010	0	KOLIK VALCOVY KALENY / CYLINDRICAL PIN TEMPERED / ZYLINDERSTIFT GEHÄRTET	KOLIK 8X32	1
4	90.300.0Z.006	0	KOLIK VALCOVY KALENY / CYLINDRICAL PIN TEMPERED / ZYLINDERSTIFT GEHÄRTET	KOLIK 6X32	1
5	95.800.006	0	KROUZEK POJIST.VNEJS / OUTSIDE SAFETY RING / SICHERUNGSRING AUßEN	POJISTNY KROUZEK 15	2
6	95.001.006	0	LOZISKO / BEARING / LAGER	6002 2RS	2
7	30.0203-004	0	KOLO NAPINACI / TENSIONING WHEEL / UMLENKRAD		1
8	95.801.003	0	KROUZEK POJIST.VNITR / INSIDE SAFETY RING / SICHERUNGSRING INNEN	POJISTNY KROUZEK 32	1
9	30.0203-005	0	SROUB / BOLT / SCHRAUBE	M8	1
10	94.003.001	0	HLAVICE / HEAD / KOPF		1
11	90.100.55.005	0	MATICE / NUT / MUTTER	MATICE _ M8	1
12	90.002.2D.023	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M6X10	1

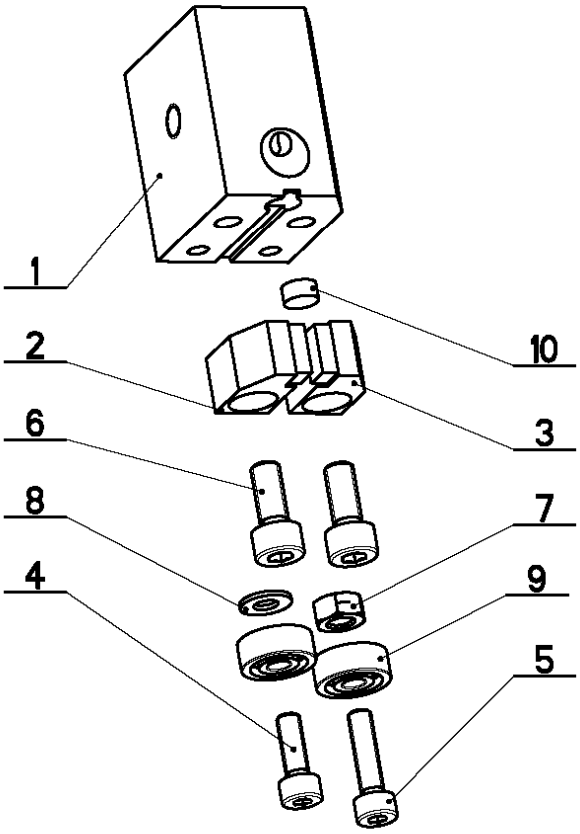
7.11. Vedení pásu / Sägebandführung / Belt guide



Cislo Sestavy	Ver.	Nazev sestavy
201.3110-000	0	VEDENI PASU/BELT GUIDE/SÄGEBANDFÜHRUNG

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	201.3110-100	0	KOSTKA VODICI / LEAD CUBE / FÜHRUNGSKLOTZ		1
2	201.3110-200	0	KOSTKA VODICI / LEAD CUBE / FÜHRUNGSKLOTZ		1
3	30.0205-004	0	LISTA / TRIM / LEISTE	HR 25x 10	1
4	30.0205-008	2	KRYT PASU / BELT COVER / BANDABDECKUNG	P 1.5- 57.5	1
5	30.3104-002	0	PRILOZKA / STRAP / LASCHE	HR 30x 6	1
6	30.3104-902	0	PAS PILOVY / SAW BELT / SÄGEBAND		1
7	90.001.25.002	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M4X10	2
8	90.001.25.016	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M6X12	1
9	90.303.0Z.003	0	KOLIK / PIN / BOLZEN	KOLIK 4X16	1
10	94.008.011	0	PAKA / LEVER / HEBEL	M6x30	1

7.13. Vodící kostka / Führungsklotz / Guiding cube

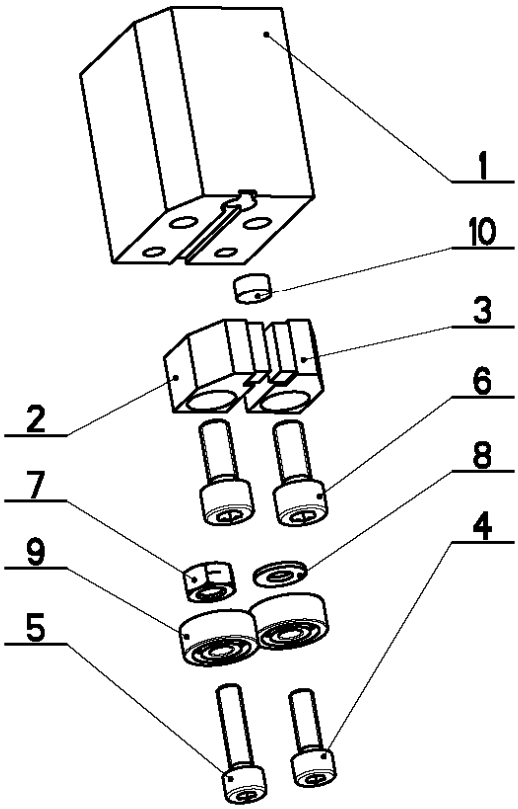


NAZEV SESTAVY	CISLO SESTAVY	STROJ
KOSTKA VODICI	201.3110-100	STG-120
BOMAR	Konstruoval:	
	Datum: 15. 01.2010	
	Meritko: 1:1	

Cislo Sestavy	Ver.	Nazev sestavy
201.3110-100	0	KOSTKA VODICI/LEAD CUBE/FÜHRUNGSKLOTZ

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.0205-001	0	KOSTKA VODICI / LEAD CUBE / FÜHRUNGSKLOTZ	HR 30x 25	1
2	30.0205-003	0	DRZAK TVRDOKOVU / POA HOLDER / HM-HALTER		1
3	30.0205-004	0	DRZAK TVRDOKOVU / POA HOLDER / HM-HALTER		1
4	90.001.25.003	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M4X12	1
5	90.001.25.004	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M4X16	1
6	90.001.25.008	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5X12	2
7	90.100.55.003	0	MATICE / NUT / MUTTER	MATICE _ M5	1
8	90.150.50.002	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	PODLOZKA 4,3	1
9	95.001.002	0	LOZISKO / BEARING / LAGER	624 2RS	2
10	99.040.001	0	TVRDOKOV / HARD METAL / HM-SEGMENT	6x3	1

7.15. Vodící kostka / Führungsklotz / Guiding cube



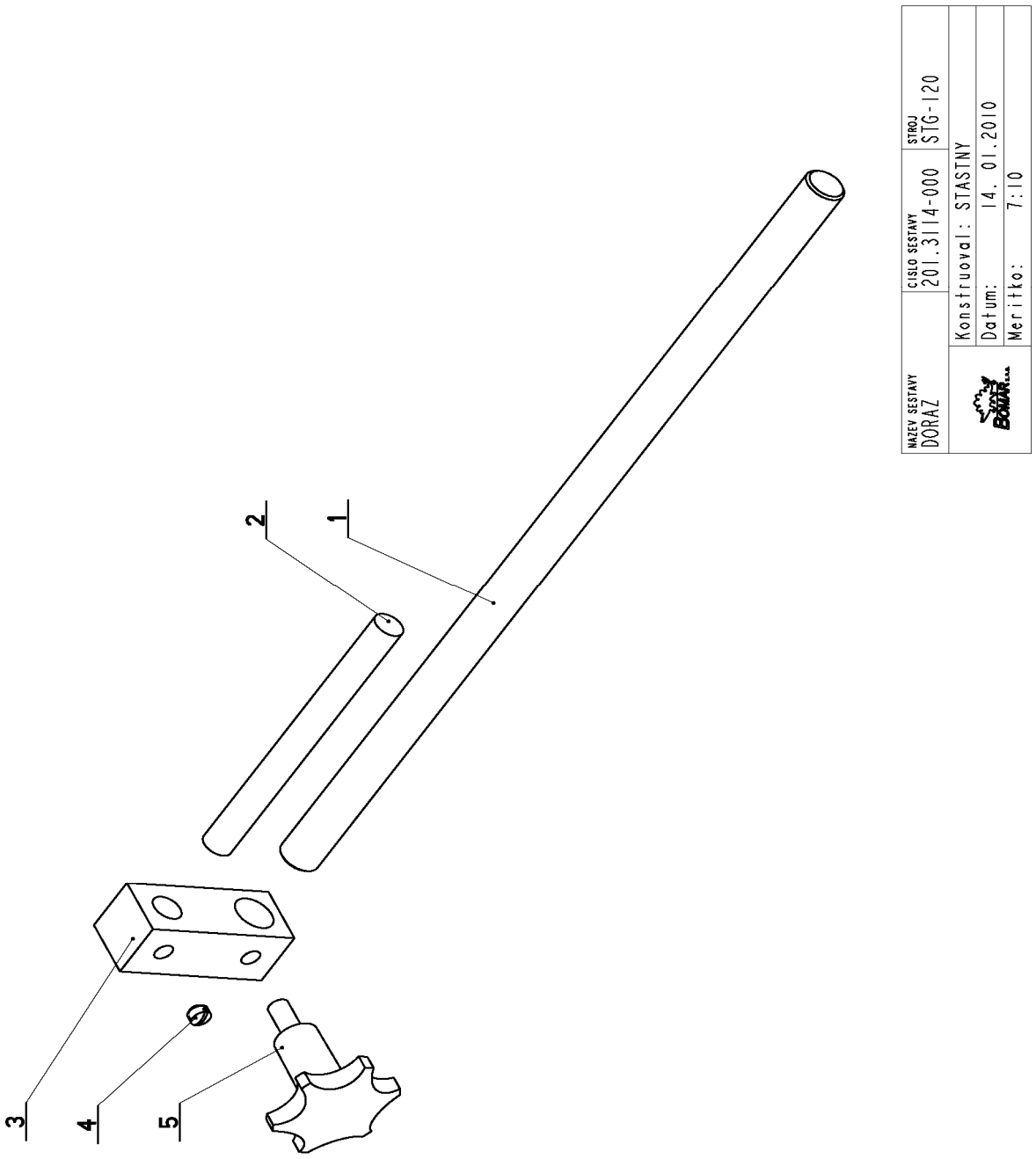
NAZEV SESTAVY	CISLO SESTAVY	STROJ
KOSTKA VODICI	201.3110-200	STG-120
BOMAR	Konstruoval:	
	Datum: 15. 01.2010	
	Meritko: 1:1	

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

Cislo Sestavy	Ver.	Nazev sestavy
201.3110-200	0	KOSTKA VODICI/LEAD CUBE/FÜHRUNGSKLOTZ

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.0205-002	0	KOSTKA VODICI / LEAD CUBE / FÜHRUNGSKLOTZ	HR 30x 25	1
2	30.0205-003	0	DRZAK TVRDOKOVU / POA HOLDER / HW-HALTER		1
3	30.0205-004	0	DRZAK TVRDOKOVU / POA HOLDER / HW-HALTER		1
4	90.001.25.003	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M4X12	1
5	90.001.25.004	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M4X16	1
6	90.001.25.008	0	SROUB IMBUS / ALLEN HEAD BOLT / IMBUSSCHRAUBE	M5X12	2
7	90.100.55.003	0	MATICE / NUT / MUTTER	MATICE _ M5	1
8	90.150.50.002	0	PODLOZKA / WASHER / UNTERLEGSCHEIBE	PODLOZKA 4,3	1
9	95.001.002	0	LOZISKO / BEARING / LAGER	624 2RS	2
10	99.040.001	0	TVRDOKOV / HARD METAL / HM-SEGMENT	6x3	1

7.17. Doraz / Stop piece / Anschlag



Manual version: 3.00 / Feb. 2010
Manual rev.: 2

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

Cislo Sestavy	Ver.	Nazev sestavy
201.3114-000	0	DORAZ/STOP PIECE/ANSCHLAG

Poz.	Objednaci cislo	Ver.	Nazev polozky	Rozmer	Ks
1	30.0207-002	0	DORAZ / STOP PIECE / ANSCHLAG	TYC 16	1
2	30.0304-017	1	DORAZ / STOP PIECE / ANSCHLAG	TYC 12	1
3	30.3101-013	0	DORAZ / STOP PIECE / ANSCHLAG	HR 25x25	1
4	90.002.2D.009	0	SROUB STAVECI / ADJUSTMENT BOLT / STELLSCHRAUBE	SROUB M8X6	1
5	94.006.001	0	SROUB / BOLT / SCHRAUBE	M8x17	1

BOMAR, spol. s r.o.
Těžební 1236/1
627 00 Brno
Česká republika

tel: +420 533 426 100
fax: +420 533 426 109
e-mail: info@bomar.cz

Záruční list

Stroj:	strojní pásová pila na kov
Typ:	Pulldown 160.120 G .....
Výrobní číslo:	.....
Datum kontroly:	.....

ZÁRUČNÍ DOBA: 12 měsíců od data *prodeje*, při osmi hodinách provozu denně. U dílů, které nejsou u prodávajícího dále zpracovávány, se záruka stanovuje na základě záručních podmínek stanovených dodavatelem dílu.

Záruka se vztahuje:

- na stroj zakoupený u firmy Bomar, spol. s r.o. nebo u jejího autorizovaného prodejce.
- na poškození z důvodu vady materiálu, konstrukce anebo montáže.
- záruka je platná pouze na území České republiky.

Záruka se nevztahuje:

na poškození vlivem živelných pohrom, nedodržením návodu k obsluze a norem v něm uvedených, umístněním stroje v nevhodném prostředí, dopravou, chybnou a neodbornou obsluhou. Prodávající nenese v tomto případě odpovědnost za škody způsobené závadou stroje a možný ušlý zisk.

Záruka se nevztahuje na spotřební materiál, tj.:

- pilový pás
- čistící kartáček
- pohon čistícího kartáčku
- ložiska vodících kostek
- tvrdokovové vedení pilového pásu
- oběžná kola pilového pásu.

Záruční servis je vždy zajištěn prodávajícím. Zákazník souhlasí, že uhradí cestovní náklady servisního technika související s opravou. Při neopodstatněném využití servisu v záruční době bude tato oprava a cestovní náklady s ní spojené účtovány kupujícímu v plné výši.

Duplikát záručního listu se nevystavuje. Za jeho správnost a originálnost ručí zákazník. Při uplatnění záruční i pozáruční opravy je nutné reklamaci zaslat poštou nebo faxem. V reklamaci musí být uveden přesný popis závady, typ stroje, výrobní číslo stroje a datum dodání. Zároveň s oznámením o reklamaci je nutno zaslat také kopii tohoto záručního listu.

Datum prodeje:

Razítko a podpis prodejce: