



INSTRUCTION MANUAL

ARG 260 CF-NC automat • ARG 300 CF-NC automat
ARG 300 DCT CF-NC automat • ARG 330 CF-NC automat
ARG 330 DC CF-NC automat • ARG 520 DC CF-NC automat

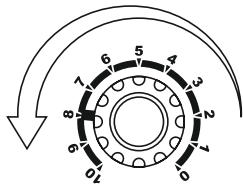
2. PART



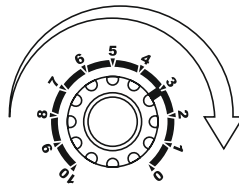
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4.2. Control Valve - Saw Blade Feed to the Cut

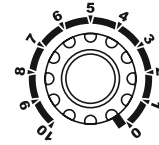
The control valve allows for a continuous setting of the velocity of saw blade feed towards the cut or stabilizing the saw arm in any position by mechanical closing. The optimum value of descent can be determined very easily by ear. The saw blade movement must be noiseless, free from vibrations. Such a state can be achieved by reducing or increasing the pressure force (by the velocity of saw arm descent). The prerequisite of setting the optimum pressure is selecting the correct saw blade velocity and the optimum size of the saw blade teeth.



ACCELERATION
SAW ARM DESCENT

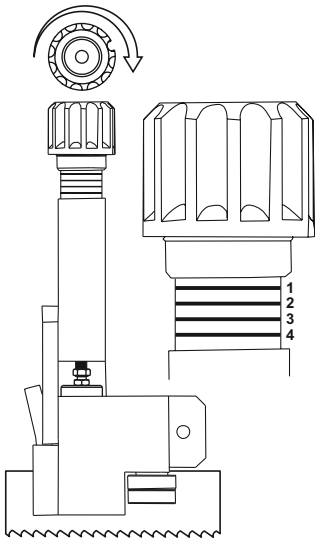


DECELERATION
SAW ARM DESCENT



STOP
SAW ARM DESCENT

4.3. Saw Blade Feed Pressure Control



This system ensures the coordination of the cutting pressure and the saw blade feed to the cut in the real time, which is especially useful when cutting section materials. In the event of cutting of workpieces of larger sections, the cutting channel extends and the saw blade load increases. For instance, if cutting the H section, the arm initially descends fast, slows down in the middle (the cutting channel extends) and after cutting the transverse section, the resistance decreases and the arm increases its speed again. If the feed rate does not adjust automatically when cutting such range of sizes, the durability of the saw blade decreases significantly in the event of a too high feed, or it may lead to a significant increase of the cutting time in the event of a feed that is too low.

Sensitivity settings:

The control sensitivity decreases when the control wheel is being screwed in.

1 - maximum sensitivity

4 - control off, the band saw arm always descends with the same velocity preset on the throttle valve arranged on the control board.

Note: In some machine types, this device is not included in the basic machine version.

4.4. Vice

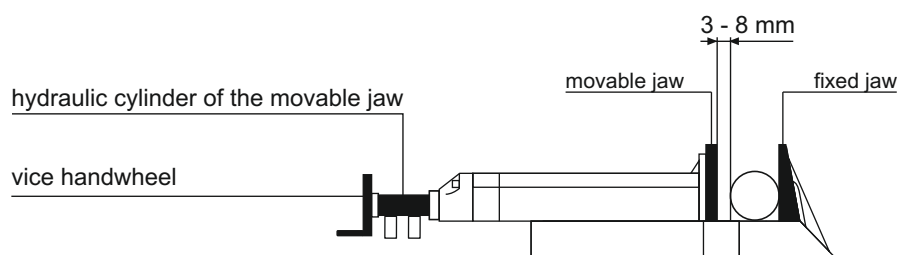
The hydraulic cylinder between the fixed clamping jaw and the jaw on the moving part of the vice facilitate workpiece clamping. Do not use the hydraulic cylinder to align long workpieces in the vice! Such operation has to be carried out only manually or by other means. You can set the clamping force depending on the type of material to be cut on the hydraulic unit using the VICE PRESSURE CONTROLLER (see section 4.10.1.). The movement of the movable vice ensures the servomotor together with the vice ball screw.

Workpiece clamping procedure:

Raise the arm above the presumed cross-section of the workpiece to be cut. Insert the material between the clamping jaws and align it parallel to the fixed clamping jaw. Set the movable clamping jaws 3-8 mm from the clamping material (except the ARG 520 DC CF-NC).

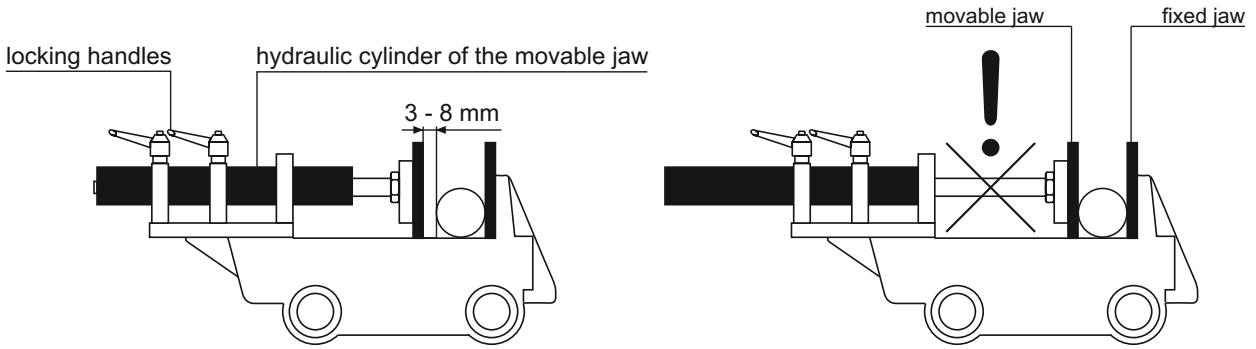
Setting the clamping jaws according to the machine type:

ARG 260 NC Automat - fixed vice



Use the scroll wheel of the vice to push the movable jaw to the distance of 3-8 mm from the material. The clamping stroke of the hydraulic cylinder is 15 mm.

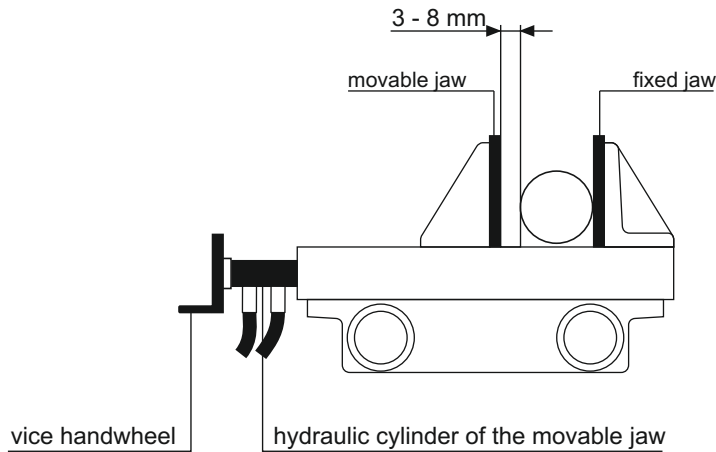
ARG 260 NC - movable vice



Release the locking handle and pull the hydraulic cylinder with moveable jaws up to the distance of 3-8 mm from the material. Lock the handle. Correct setting of the clamping jaws prevents excessive retraction of the piston from the hydraulic cylinder. In case of incorrect clamping, cylinder seal damage may occur, feeding time may extend and feeding accuracy may be influenced.

ARG 300, 330 NC - The fixed and the movable vice

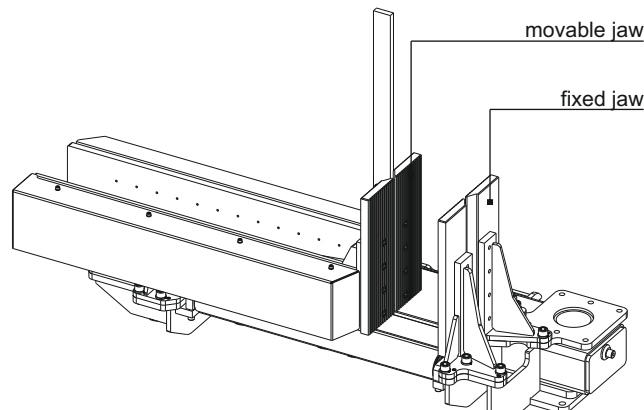
The moveable vice is designed as a so-called "floating vice" for accurate feed of uneven and rough materials.



Use the scroll wheel of the vice to push the movable jaw to the distance of 3-8 mm from the material. The clamping stroke of the hydraulic cylinder is 15 mm.

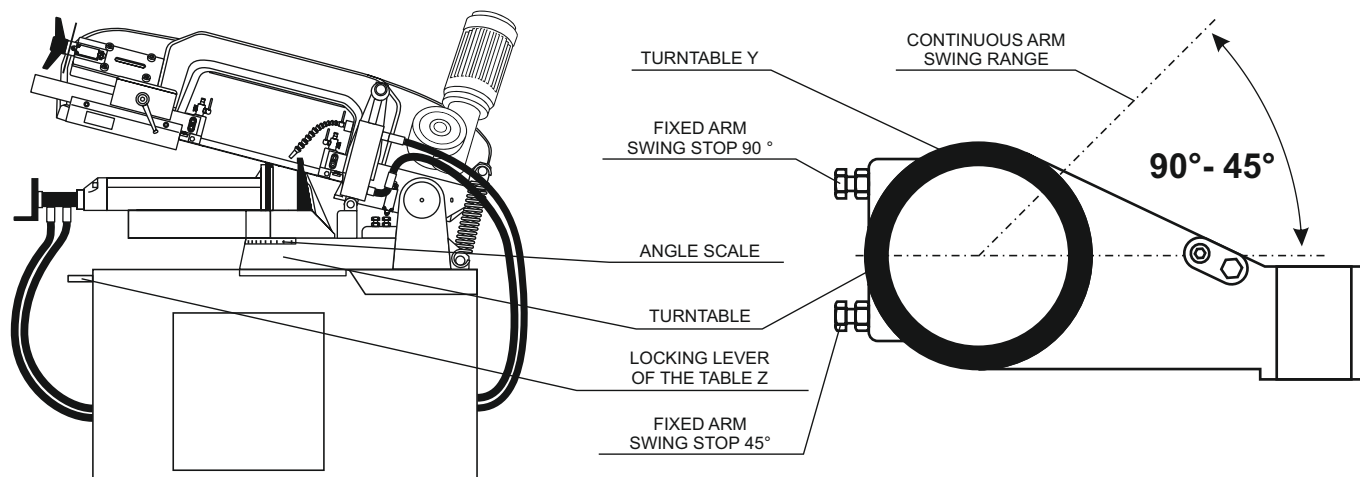
ARG 520 NC - The fixed and the movable vice

Both vices are fully ascendable. For cutting of very heavy and often uneven materials, e.g. forgings, the feeding vice is fitted with a system that opens both jaws simultaneously.



4.4.1. Setting the cutting angle (except the ARG 330 DC CF-NC and the ARG 520 DC CF-NC)

The design of the machine allows for angular cutting without a need to handle the workpiece. To set the desired cutting angle, release the arm swing locking lever Z and then manually swing the entire saw arm as well as the turntable Y. During swinging, the arm must be ascended so that the saw blade is located above the level of the loading area of the vice. After you set the desired angle (based on the angular scale), the turntable with the arm will lock using the locking handle of the table Z. The fixed stop is used for stable setting of critical angles.



4.4.2. Adjustment Procedure - Lateral Play of the Vice

You can adjust the lateral play of the vice in all types of saws except for ARG 520 DC CF-NC automat.

Fixed vice ARG 260 CF-NC

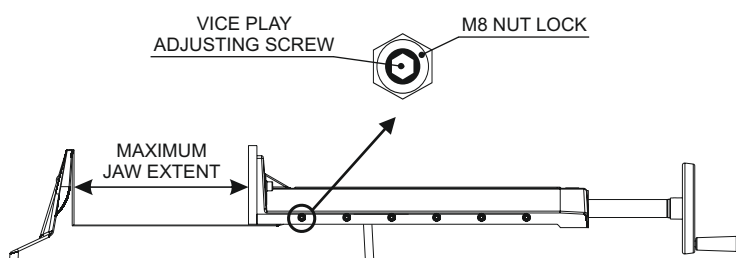
- ① Open the movable vice jaw to maximum extent.
- ② Loosen the M8 LOCKING NUTS and loosen the M8 VICE PLAY SETTING SCREWS.
- ③ Carefully tighten the first VICE PLAY SETTING SCREW (right at the movable clamping jaw) up to a point, where you feel that the screw (through a supporting ball) rested on the bar that pushes to the dovetail.
- ④ In this position, tighten the screw with an M8 LOCKING NUT against loosening.
- ⑤ Use the handwheel to move the VICE MOVING BODY, so that the next VICE PLAY SETTING SCREW is in the same position as the previous screw.
- ⑥ Repeat points ③, ④, ⑤ until the vice is completely closed and therefore adjusted.

You can watch the video with instructions on www.pilous.cz.

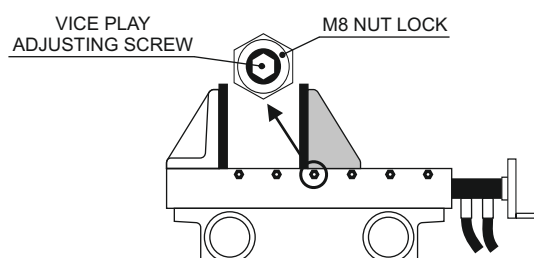
Vices ARG 300 CF-NC, ARG 300 DCT CF-NC, ARG 330 CF-NC, ARG 330 DC CF-NC

- ① Loosen all M8 LOCK NUTS and all M8 VICE PLAY SETTING SCREWS.
- ② Pull the moveable jaw to the half of the maximum opening of the vice against two SCREWS SETTING THE PLAY OF THE VICE.
- ③ Carefully tighten these two VICE PLAY SETTING SCREWS (located against the movable clamping jaw) up to a point, where you feel that the screw (through a supporting ball) rested on the bar that pushes to the dovetail.
- ④ In this position, tighten the screw with an M8 LOCK NUT against loosening.
- ⑤ Use the handwheel to move the movable vice jaw, so that the next two VICE PLAY SETTING SCREWS are in the same position as the previous screws.
- ⑥ Repeat the points ③, ④, ⑤ until all VICE PLAY SETTING SCREWS are set and secured and the vice adjusted.

ARG 260 CF-NC
FIXED VICE



**ARG 300 CF-NC, ARG 300 DCT CF-NC,
ARG 330 CF-NC, ARG 330 DC CF-NC**



4.4.3. Feed system of the movable vice

Moving vice is in all types standardly equipped with a slowing system in the end positions - when feeding the material both forward and backwards.

Description of the cycle:

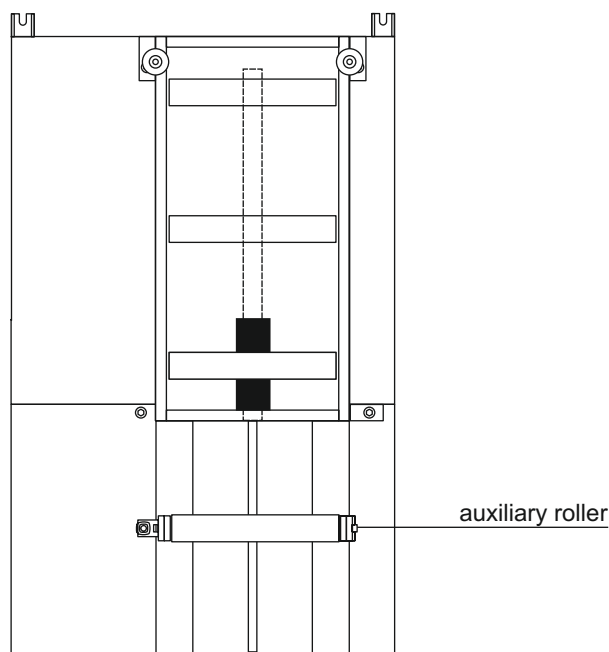
Moving vice grips the material, slowly starts, runs to its maximum speed, and begins to slow down before reaching the feeding length. When feeding just short courses, e.g. 10 mm, the feeding vice can start moving and then immediately slow down. This very important feature of the saw ensures minimum inertia forces and thus prevents slipping of the material in jaws. At the same time, it uses the greatest time efficiency and the accuracy of the fed material. The whole system is controlled with maximum precision by the PLC - a control unit of the entire saw.

The feed speed of the movable vice can be set in three speeds (see Machine settings - servo speed). Speed 1 = 3,0 m/min, speed 2 = 2,5 m/min, speed 3 = 1,6 m/min. Lightweight materials can be set for an effective and quick feeding to speed 1 - maximum speed, and possibly also medium heavy pieces of short feeding. On the contrary, cutting very heavy materials of long lengths could due to the influence of inertial forces cause crossings or slipping of material in the jaws. In this case, set a lower speed.

4.4.4. Setting the auxiliary roller

The auxiliary roller slides on guide rods and is used to support short (end) pieces of material, when the material does not longer reach as far as the fixed roller track.

Set the auxiliary roller outside the range of motion of the feeding vice and its feeding length.



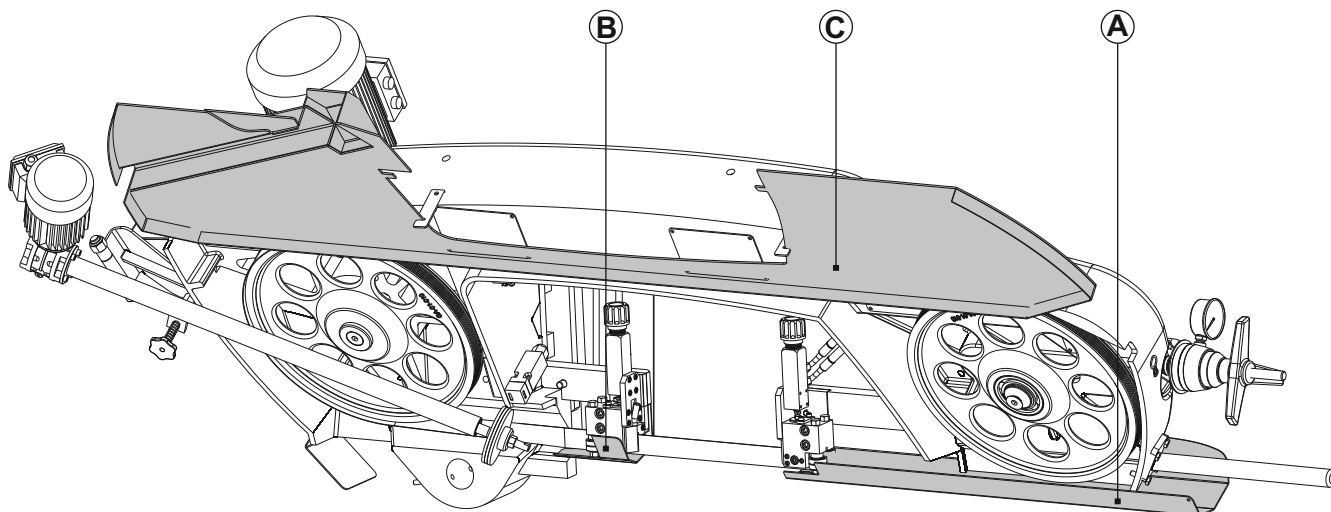
4.5. Removal of Protective Covers



Caution! You can remove the protective covers only if the **POWER SWITCH** is turned off and secured against restart or if the machine is disconnected from the mains.
Caution: Danger of injury by the sharp teeth of the saw blade. Use protective gloves. Do not reach between the wheels and the saw blade.

4.5.1. Removal of protective covers of the saw blade in ARG 260 CF-NC, ARG 300 CF-NC, ARG 300 DCT CF-NC, ARG 330 CF-NC, ARG 330 DC CF-NC

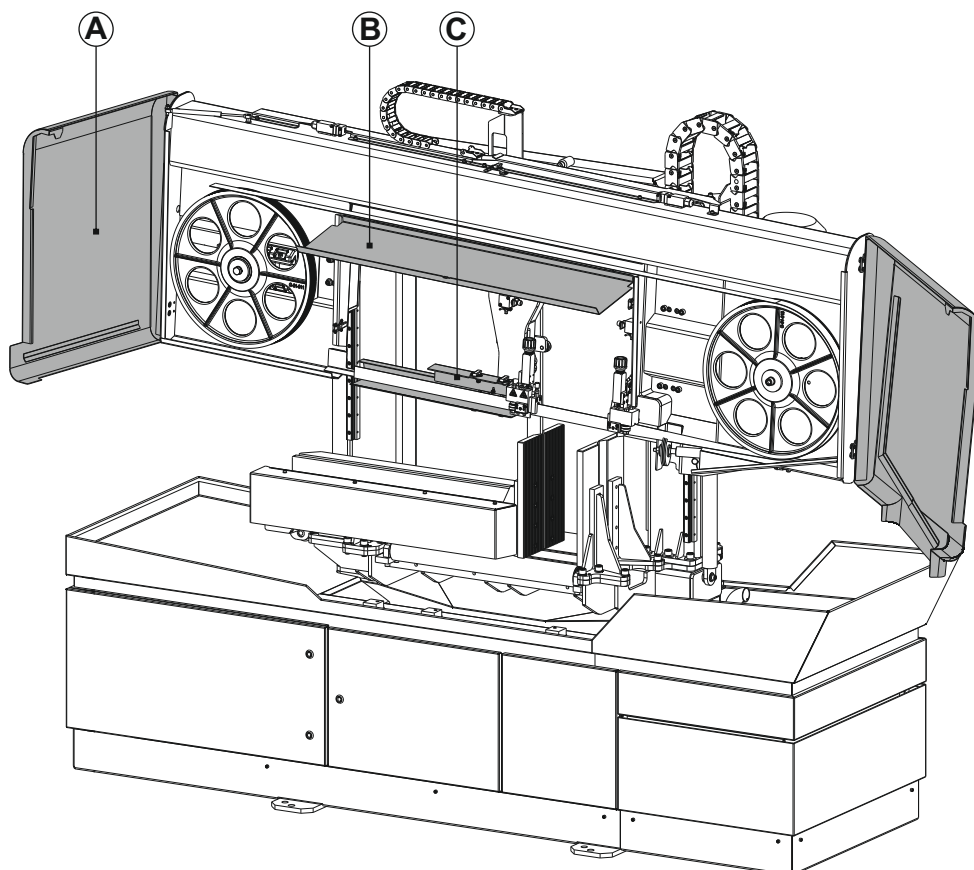
Connect the machine to the mains and press the **POWER SWITCH**. The **TOTAL STOP** button is unlocked. Press the **SAFETY** button in order to display the **MAIN MENU**. Start the **MANUAL MODE**, switch on the **HYDRAULIC UNIT - START**. Start the uplift of the arm and stop it above the fixed jaw of the vice, or even at the maximum lift of the arm. Close the **CONTROL VALVE** of the damping cylinder (see Section 4.2.), start the arm descent and by gradual releasing of the control valve, descend the arm to about 30 mm above the fixed jaw of the vice. Lock the **CONTROL VALVE** to prevent further descent of the arm. Turn off The **HYDRAULIC UNIT - STOP**. Switch off the **POWER SWITCH** and secure it against restart. Unscrew and slide out the cover of the front rod (A) and place it aside. Unscrew the blade cover (B) and place it aside. Unlock the angled shoulder bolts and tilt the rear cover of the arm (C) upwards and secure by bolts. Use a reverse procedure to mount back the protective covers. Turn on the **POWER SWITCH**. In the **MANUAL MODE**, press the **SAW BLADE UPWARDS** button and the arm will also travel into the upper position; or press the **SAW BLADE DOWNWARDS** button and the arm will travel to the lower position.



4.5.2. Removal of protective covers of the saw blade in ARG 520 DC CF-NC

Connect the machine to the mains and press the POWER SWITCH. The TOTAL STOP button is unlocked. Press the SAFETY button in order to display the MAIN MENU. Start the MANUAL MODE, switch on the HYDRAULIC UNIT - START. Start the uplift of the arm and stop it above the fixed jaw of the vice, or even at the maximum lift of the arm. Close the CONTROL VALVE of the damping cylinder (see Section 4.2.), start the arm descent and by gradual releasing of the control valve, descend the arm to about 70 mm above the fixed jaw of the vice. Lock the CONTROL VALVE to prevent further descent of the arm. Close the vice, so that the cover of the front moving guide head C moves out from the front part of the arm - tensioning wheel. Turn off The HYDRAULIC UNIT - STOP. Switch off the POWER SWITCH and secure it against restart.

Open the covers A, then flip up covers B and C. Mount back the covers using reverse procedure. Turn on the POWER SWITCH. In the MANUAL MODE, press the SAW BLADE UPWARDS button and the arm will travel into the upper position; or press the SAW BLADE DOWNWARDS button and the arm will travel to the lower position.



4.6. Setting the arm descent endpoint

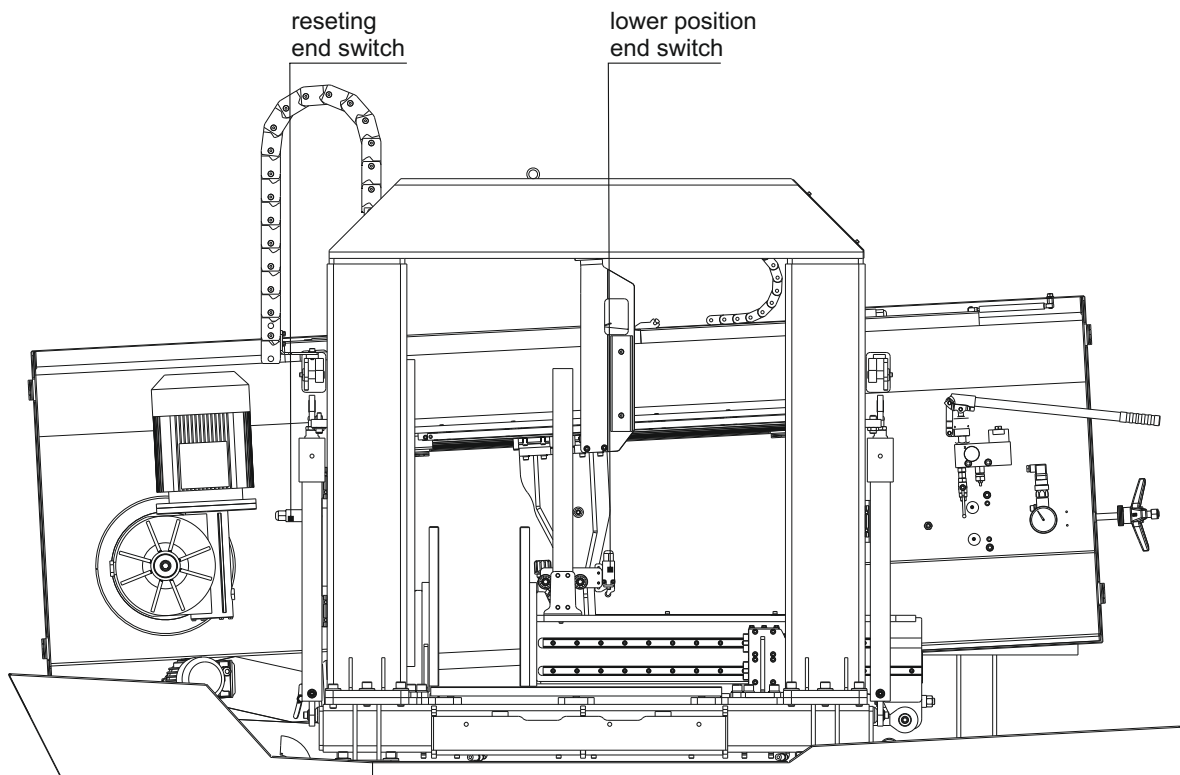
only in ARG 520 DC CF-NC

Lower position end switch stops the arm descent. When cutting square or rectangular sections (I sections, U sections, etc.), it is necessary that the cutting edges of the saw blade slide under the bearing surface of the vice along the whole cutting width. Only in this way complete cut through the material can be secured. When cutting circular cross sections, it is sufficient if the cutting edges reach under the bearing surface of the vice only to a half of the diameter of the workpiece. By adjusting the lower position end switch, you can significantly reduce the overall cutting time, which leads to an overall increase in the production efficiency when cutting circular cross-sections.

The resetting end switch resets the lower position of the arm with every cut. It is the bottom point for the calibration (see Chapter 4.1. SETTING (CALIBRATION) THE ARM UPLIFT HEIGHT MEASUREMENT). This value is set by the manufacturer.

only in ARG 330 DC CF-NC

There is only one end switch and it corresponds to the measurement reset (see section 4.1. SETTING (CALIBRATION) THE ARM UPLIFT HEIGHT MEASUREMENT). Adjustment is carried out via the lower position end switch placed on the column next to the main motor.



4.7. Arm - Saw Blade Guidance

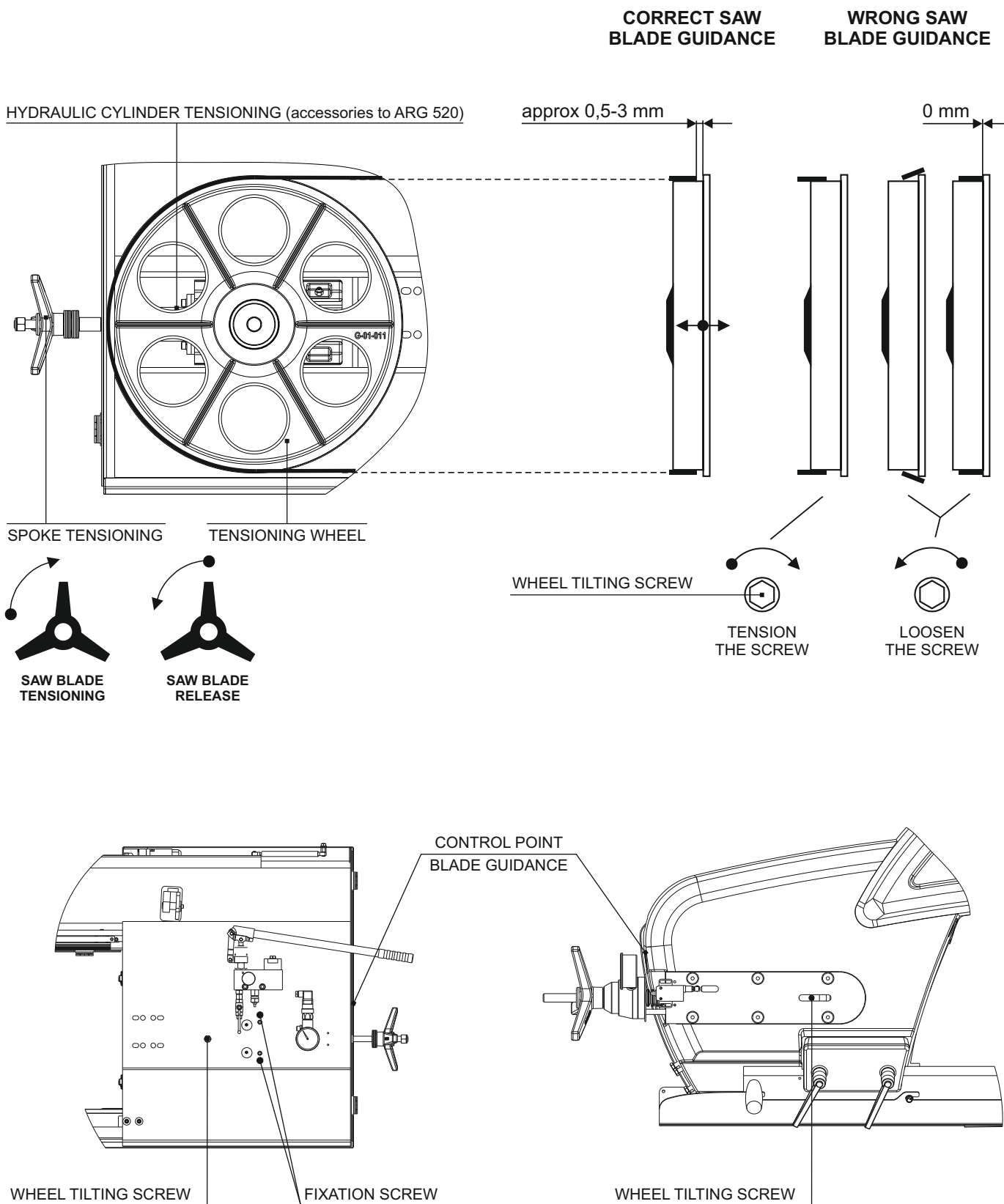
The arm of ARG 260 - 330 automat is made of robust casting from grey cast iron. The casting is hollow, which ensures extraordinary stiffness when tensioning the saw blade. The arm of ARG 520 DC automat is a massive welded steel structure. The saw blade is guided by two guide heads both behind and in front of the cut. The heads are fitted with eccentrically placed bearings and hardened steel blade guides that allow easier rewinding of the saw blade as opposed to wheel guidance. The fixed guide block is placed on a fixed guide bar and the movable guide block is placed on the movable bar. In ARG 260 - 330 automat, the moving guide block moves towards the cut material by approx. 30-50 mm manually. In ARG 520 DC, the moving guide head moves along a linear guidance and moves towards the cut material automatically, while the movement is tied to the moving jaw of the vice.



Danger of injury - no cover in the machining area!

4.8. Replacement, Tensioning and Adjustment of the Saw Blade

A timely replacement of the saw blade is needed to achieve good cutting performance, surface finish quality and compliance with workpiece dimensions. Blunt saw blades cause high consumption of electrical power, scarf cuts and rough cutting surfaces. One of the decisive factors affecting the quality of the cut and the life of the cutting tool is the correct and sufficient saw blade tension.





Caution: You can remove the protective covers only if the POWER SWITCH is turned off and secured against restart or if the machine is disconnected from the mains.

Caution: Danger of injury by the sharp teeth of the saw blade. Use protective gloves. Do not reach between the wheels and the saw blade.

Open/remove the protective covers of the saw blade (see section 4.5.). Use the tensioning star nut to release the wheel and the blade. In ARG 520 DC, fasten the hardened steel screw in order to release the grip of the blade in the head (see section 4.9.2.). Take the saw blade off of the moving wheels and push it off the guide heads. Insert the new saw blade in the guide heads. Place it on the blade wheels (you can control the position of the tensioning wheel by the tensioning star nut). Tension the fitted saw blade. In ARG 520 DC, loosen the contact pressure screw of the saw blade (see Section 4.9.2.). Close/put back the protective covers of the saw blade and turn on the POWER SWITCH. Turn on the hydraulic unit, switch to the MANUAL MODE and set the minimum saw blade speed by a SAW BLADE SPEED CONTROLLER. Press the START button of the saw blade to start the saw blade so that it turns approximately once of the full length. Switch off the POWER SWITCH and secure it against restart. Open/remove the protective covers of the saw blade to make sure that the saw blade is correctly fitted on the guide heads and correctly installed on the blade wheels (see figure). The machine is also fitted with a control hole that allows you to check the condition of the saw blade on the wheels. The hole is covered by a cap.

If the saw blade is not properly set on the wheels, loosen the saw blade a little bit and use the wheel tilting screw to adjust the wheel tilt. In ARG 520 DC, it is necessary to loosen both fixation screws and, after tilting the wheel, to tighten them again. Tension the saw blade again and close/put back the protective covers of the saw blade. Turn on the POWER SWITCH and the hydraulic unit. Carry out a saw blade trial run. Switch off the POWER SWITCH and secure it against restart, open/remove the protective covers of the saw blade and once again check the placement of the saw blade on the wheels. Repeat the procedure, if required. Close/put back the protective covers of the saw blade and turn on the POWER SWITCH and the hydraulic unit. Carry out the cutting.

In ARG 520 DC: The spring keeps the saw blade permanently on the moving wheels, even if the hydraulic system is off or the hydraulic hoses are damaged. **WARNING:** The spring cannot provide optimum saw blade tension. The limit switch monitors the saw blade rupture; it turns on when the wheel has reached the end position; thus, the main motor is switched off, which is indicated by the red lamp on the control board. **Caution! While replacing the saw blade, tighten (and after fitting the saw blade loosen again) the bolts to press down the hardened steel blade guides (ARG 520 DC) before shifting out the saw blade from the guide heads; see Section 4.9.2.**

4.9. Guide Heads Adjustment

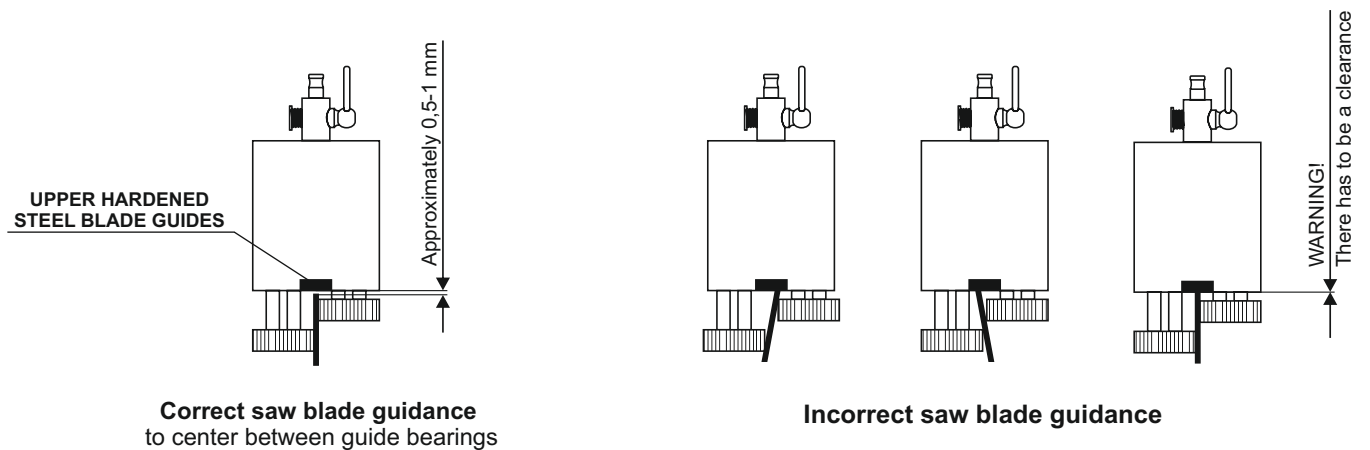
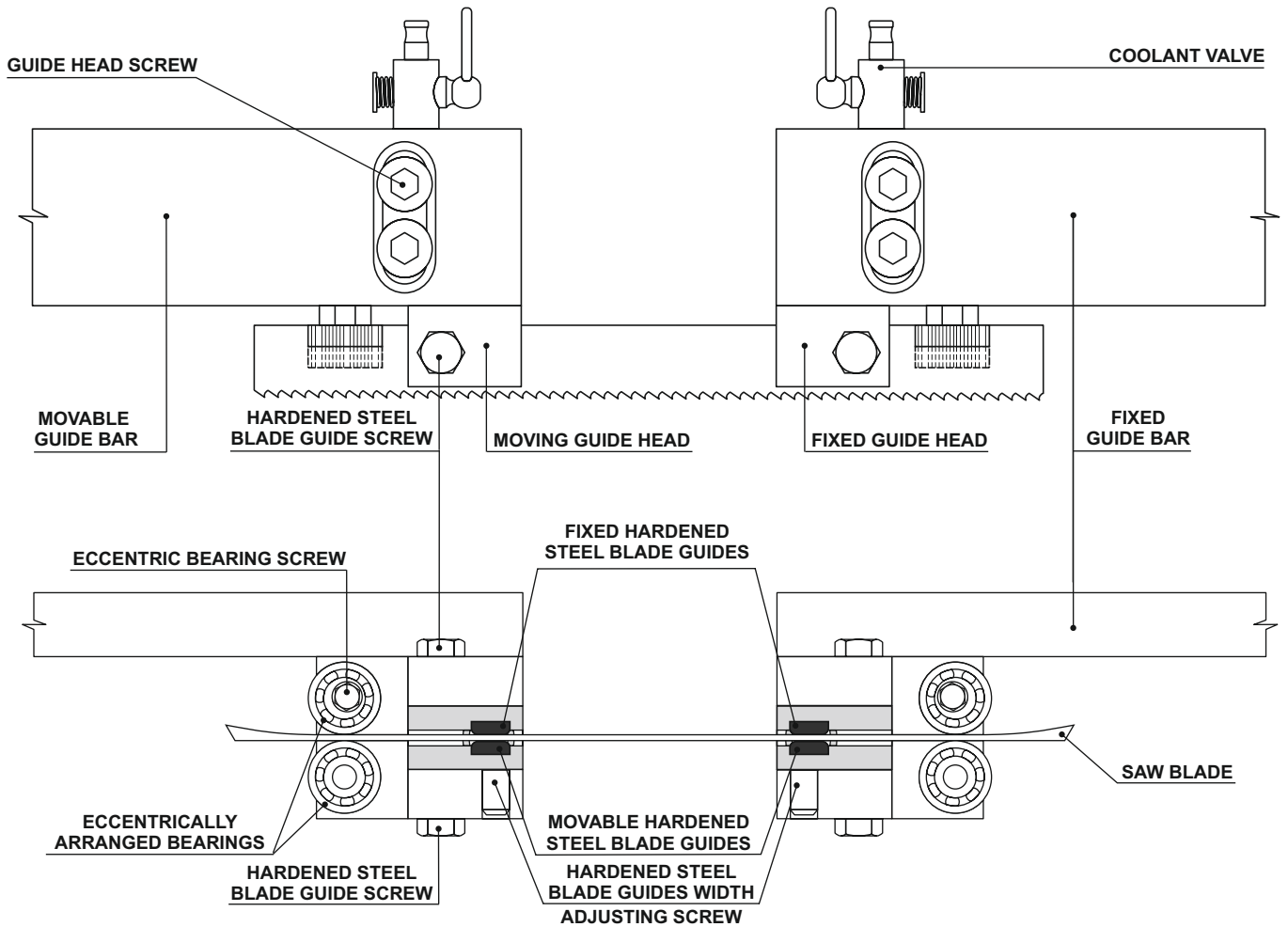
4.9.1. Guide heads - adjustment in ARG 260 CF-NC, ARG 300 CF-NC, ARG 300 DCT CF-NC

The correct setting of the bearings and the hardened steel blade guides in the guide heads substantially influences the saw blade life and the quality of the cut. The eccentrically arranged guide head bearings must be set in such a manner that the saw blade surface is parallel to the surface of hardened steel blade guides with a minimum play (clearance) between the plates and the blade.

Guide Head Setting Procedure

Follow the instructions in Section 4.5. in order to tilt/remove the protective covers. Set the movable guide head, so that the distance between the guide heads is approximately 20 cm. Disconnect the inlet hoses from the coolant valve. Loosen the tensioning star, take the saw blade off the wheels and push it off the guide heads. Unscrew the guide heads gradually from the fixed and movable bars, turn them by 180 ° (with bearings and hardened steel blade guides facing upwards) and screw back to the bars. Make sure that the guide heads are perpendicular to the guide bars and that the height of the guide heads is identical. If you find special washers between the guide head and the bar, make sure you place them back afterwards. Check the tightening of the fixed hardened steel blade guides. Insert approximately 30 cm of an old saw blade in the guide heads between the hardened steel blade guides and the bearings. Set the hardened steel blade guides using the width adjusting screw, so that the saw blade does not move between the guides without any play and jamming. When the saw blade has been adjusted, set the eccentrically mounted bearings in such a manner that the bearings do not "cut" the saw blade, but at the same time you have to prevent too much space for the saw blade between the bearings. When the saw blade moves, the bearings are carried along by the saw blade. Make sure that all bolt connections are tight. Unscrew the guide heads from the bars. Fit the saw blade on the wheels, check its correct alignment on the wheels and tension the saw blade. Install both guide heads on the saw blade in the space between the bars and adjust them in the correct position on the bars. You can achieve the correct guide head height in relation to the saw blade by lifting the guide heads, so that the upper hardened steel guide in the guide head is about 0.5-1 mm away from the upper edge of the saw blade. See the picture. In this way, the correct guide head height towards the guide bars is achieved.

Set the guide heads perpendicular to the bars and tighten them. If you fail to achieve perpendicularity, the saw blade will either keep sliding off or running into the wheels. Put back the protective covers of the saw blade, turn on the POWER SWITCH, press the SAFETY BUTTON and the hydraulic unit. Carry out a saw blade trial run. Switch off the POWER SWITCH and secure it against restart, remove the protective covers of the saw blade and once again check the placement of the saw blade on the wheels. Make a correction, if necessary - see section 4.6. Put back the protective covers of the saw blade, turn on the POWER SWITCH, press the SAFETY BUTTON and the hydraulic unit. Carry out the cutting. You can watch the video with instructions on www.pilous.cz.

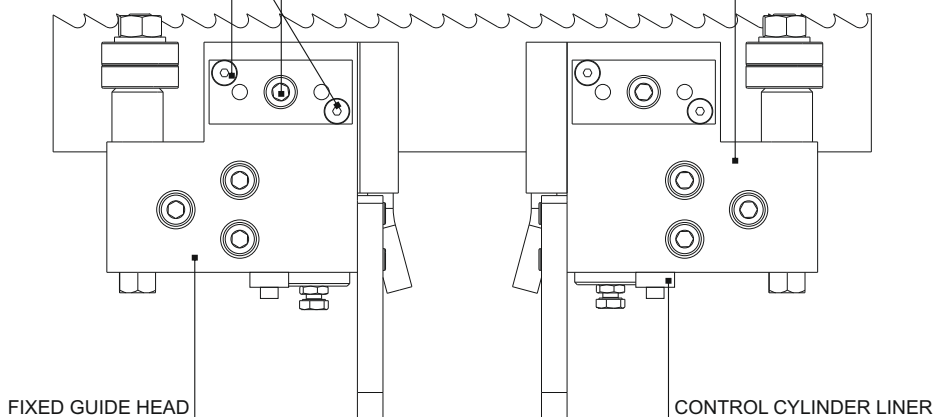


4.9.2. Guide heads - adjustment ARG 330 CF-NC, ARG 330 DC CF-NC, ARG 520 DC CF-NC

The correct setting of the bearings and the hardened steel blade guides in the guide heads substantially influences the saw blade life and the quality of the cut. The eccentrically arranged guide head bearings must be set in such a manner that the saw blade surface is parallel to the surface of hardened steel blade guides. One of the hardened steel blade guides is fixed, the other is setting (ARG 330 type) or floating and pressed to the saw blade by a set of springs (ARG 520 DC type).

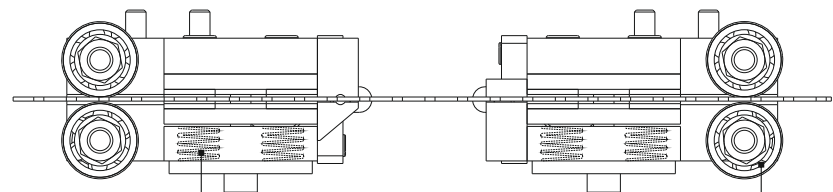
Caution! While replacing the saw blade, tighten (and after fitting the saw blade release again) the bolts to press down the hardened steel blade guides before shifting out the saw blade from the guide heads (ARG 520 DC type).

FLOATING HARDENED STEEL BLADE GUIDES LINER BOLTS HARDENED STEEL BLADE GUIDES PRESSURE SCREW MOVING GUIDE HEAD



FLOATING HARDENED STEEL BLADE GUIDES SPRINGS

ECCENTRICALLY ARRANGED BEARINGS

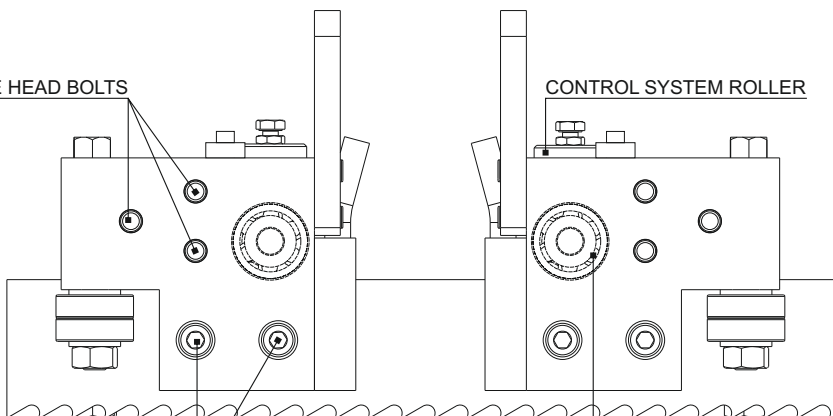


GUIDE HEAD BOLTS

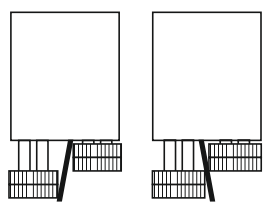
CONTROL SYSTEM ROLLER

BOLTS OF FIXED HARDENED STEEL BLADE GUIDES

CONTROL SYSTEM BEARINGS



Correct saw blade guidance
to center between guide bearings



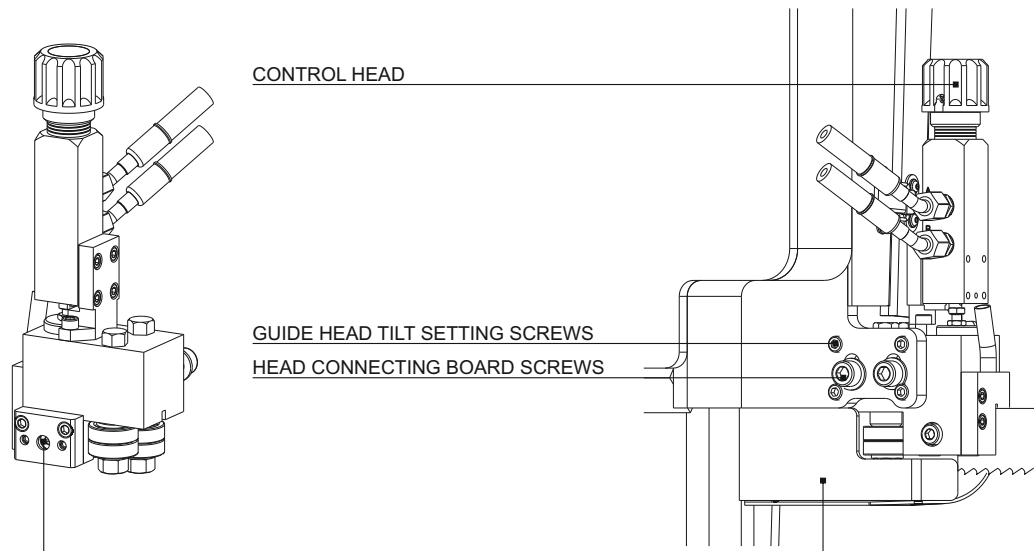
Incorrect saw blade guidance

CONTROL HEAD

GUIDE HEAD TILT SETTING SCREWS
HEAD CONNECTING BOARD SCREWS

SCREW LOOSENING THE BLADE GRIP

GUIDE HEAD WITH CONTROL HEAD ATTACHED



Machines of the type ARG 330 are not fitted with springs for floating hardened steel blade guides. Adjustable contact pressure of floating hardened steel guides is facilitated by screws.

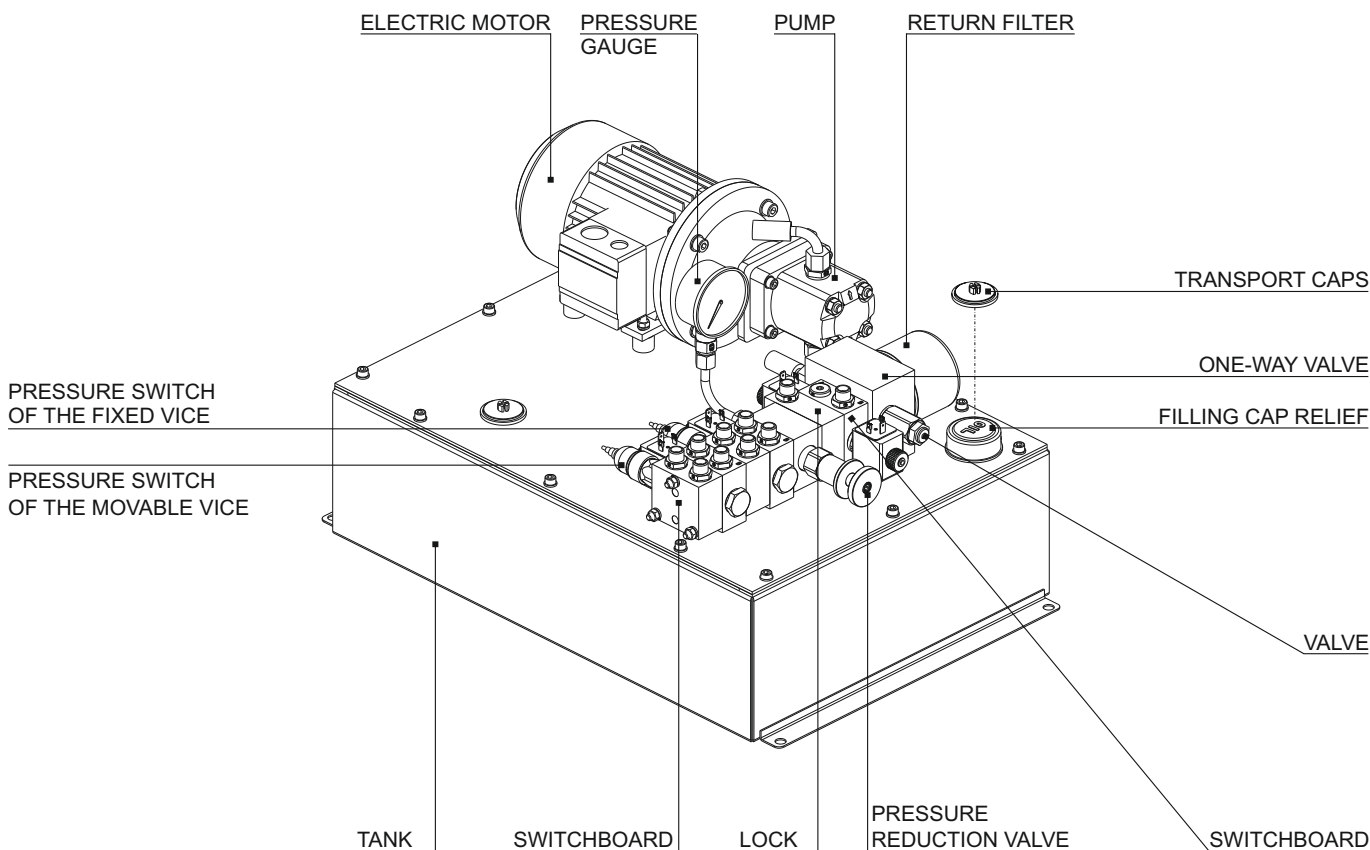
Guide Head Setting Procedure

Raise the saw blade approx. 30 mm (in ARG 300) above the fixed vice jaw (70 mm in ARG 520). Switch off the POWER SWITCH and secure it against restart. Disconnect the coolant supply hoses from the guide heads and the control head (the hydraulic hoses must never be disconnected!). Loosen the tensioning star nut in order to loosen the saw blade. Open/remove the protective covers of the saw blade. In ARG 520 DC, fasten the hardened steel blade guides screw in order to release the grip of the blade in the head. Take the saw blade off the moving wheels and push it off the guide heads. Unscrew the guide heads gradually from the fixed and moving guide bars and clean them thoroughly. Fasten the guide heads to the fixture approx. 350 mm from each other and turn them through 180° (with bearings and hardened steel blade guides upwards). Make sure that the guide heads are perpendicular to the guide bars and that the height of the guide heads is identical. Check the tightening of the fixed hardened steel blade guides. Insert approximately 50 cm of an old saw blade in the guide heads between the hardened steel blade guides and the bearings. When the saw blade has been adjusted, set the eccentrically mounted bearings in such a manner that the bearings do not "cut" the saw blade, but at the same time you have to prevent too much space for the saw blade between the bearings. When the saw blade moves, the bearings are carried along by the saw blade. Adjust the control bearing with the control cylinder liner so that the bearing axis is perpendicular to the saw blade. Make sure that all bolt connections are tight. Unscrew the guide heads from the fixture. Fit the saw blade on the wheels, check its correct alignment on the wheels and tension the saw blade. Install both guide heads on the saw blade in the space between the bars and adjust them in the correct position on the bars. In this way, the correct guide head height towards the guide bars is achieved. Adjust the heads in such a way that the saw blade is in perpendicular position to the machine table and tighten them. Connect the coolant hoses and the saw blade pressure control heads. Close/put back the protective covers of the saw blade and turn on the POWER SWITCH. Switch on the hydraulic unit and carry out a short trial run of the saw blade. Switch off the POWER SWITCH and secure it against restart. Open/remove the protective covers of the saw blade and check the placement of the saw blade on the wheels. Make a correction, if necessary - see section 4.8.. Close/put back the protective covers of the saw blade and turn on the POWER SWITCH and the hydraulic unit. Carry out the cutting.

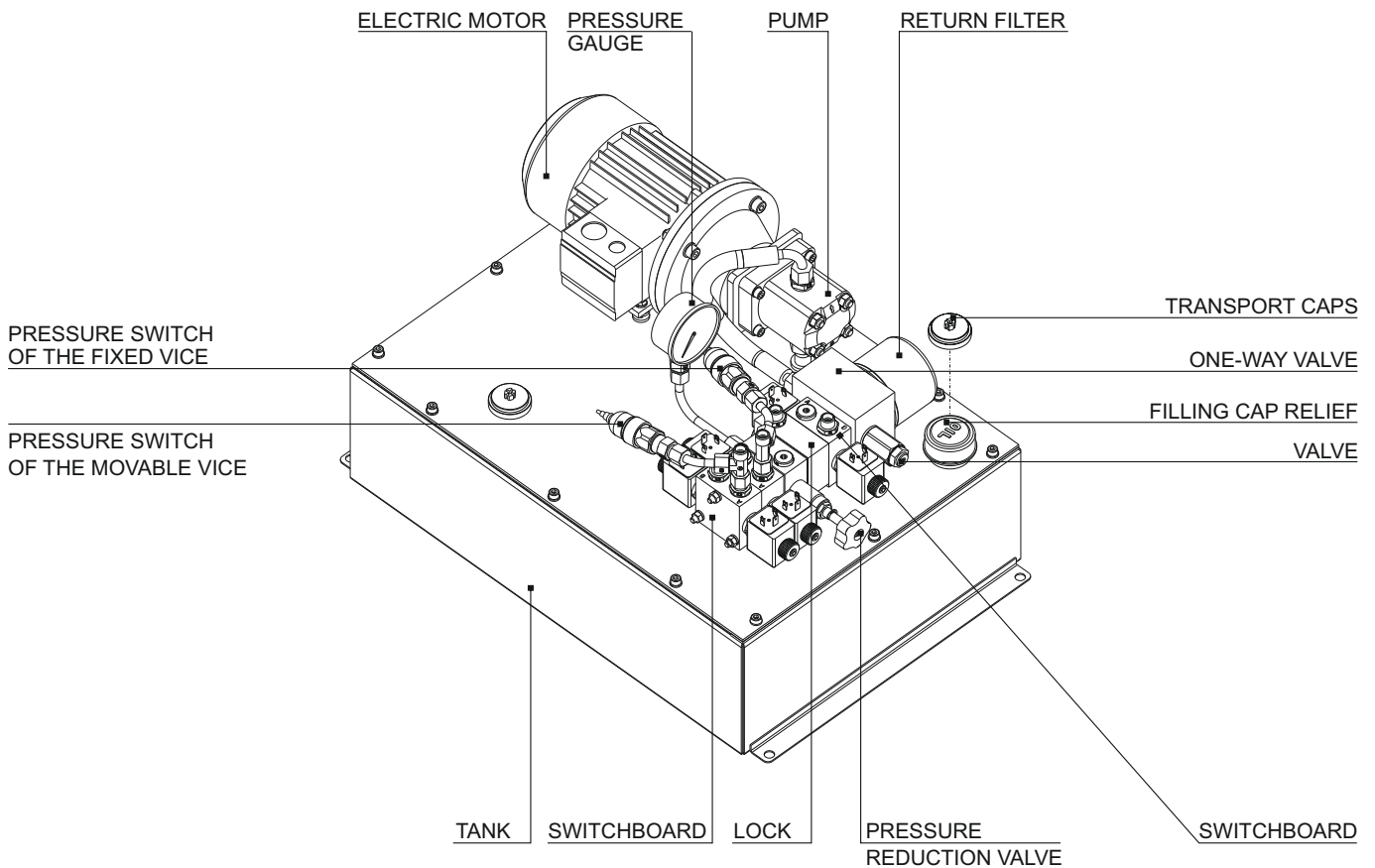
4.10. Hydraulic Unit

The hydraulic unit is installed in the machine base. It lifts the band saw arm, feeds the saw blade to the cut, feeds the arm into the cut and clamps and unclamps the vice. The HYDRAULIC UNIT - START button is used for activation of the hydraulic unit when the MAIN SWITCH is turned on. The units in all machines are identical, only the ARG 520 DC CF-NC includes an extra block - marked in grey.

Hydraulic unit ARG 260 CF-NC, ARG 300 CF-NC, ARG 300 DCT CF-NC, ARG 330 CF-NC, ARG 330 DC CF-NC



Hydraulic unit ARG 520 DC CF-NC



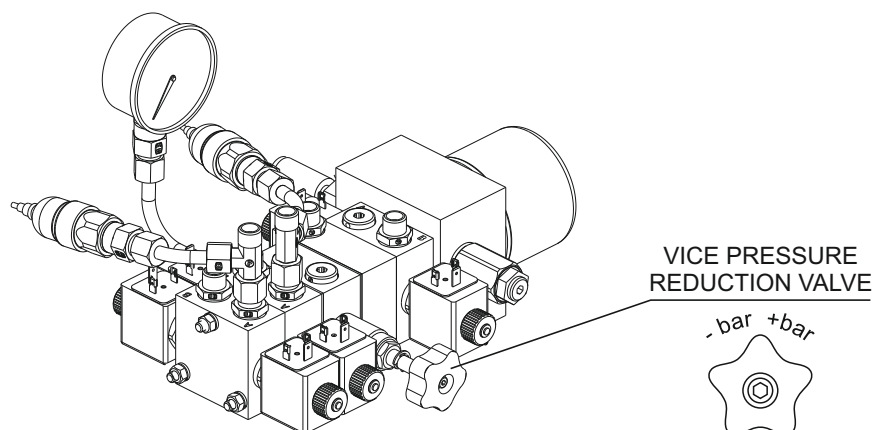
4.10.1. Vice Clamping Force Setting

The hydraulic unit is fitted with a PRESSURE REDUCTION VALVE. It enables setting the required vice clamping force depending on the kind of the workpiece within the range:

13-35 bar in ARG 260 CF-NC, ARG 300 CF-NC, ARG 300 DCT CF-NC, ARG 330 CF-NC, ARG 330 DC CF-NC,
 15-30 bar in ARG 520 DC CF-NC.

Turning the PRESSURE REDUCTION VALVE to the left reduces the pressure, while turning it to the right increases the pressure (see picture). The specified pressure is shown on the pressure gauge.

If the pressure is set below a clamping force smaller than 13/15 bar, the safety PRESSURE SWITCH OF THE VICE does not switch on and the saw blade does not start.



4.11. Cooling System

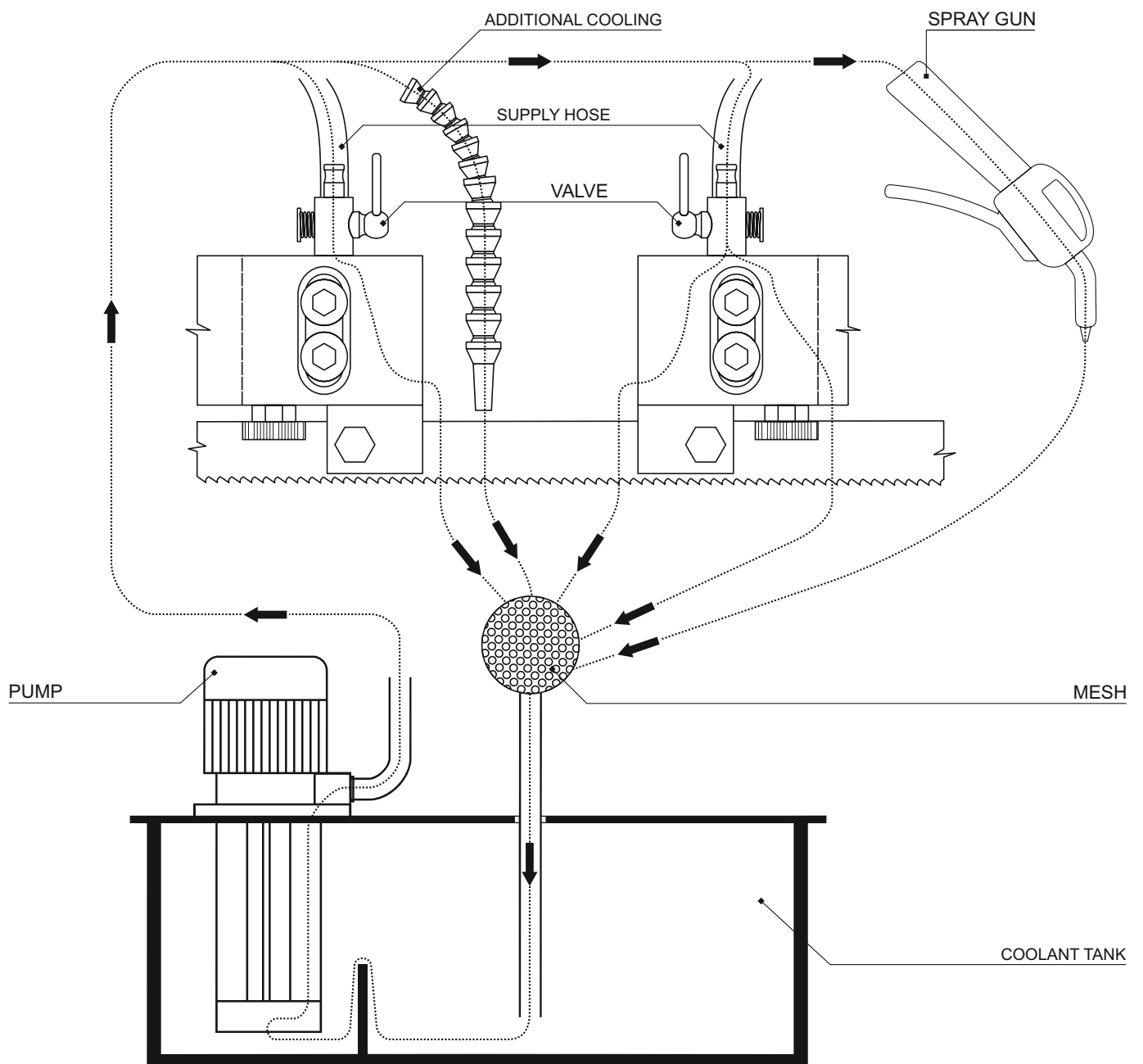
The pump and the coolant tank, which are mounted in the machine base, are the basic elements of the cooling system. The coolant pump conveys the coolant via hoses, valves and guide heads to the saw blade. The main cooling via the guide heads is complemented by an additional cooling system. The coolant quantity is regulated with valves. The coolant cools down and lubricates the saw blade and flushes away metal chips. The pump switches on and off when the saw blade drive is started or shut down. The pump can be started during the machine cleaning and also when the saw blade or the hydraulic unit is off. Activate the machine cleaning menu - chips conveyor and manually start the coolant pump.



If you fill too much coolant, an overflow resulting in spilling the coolant under the saw may occur.



When handling coolants, risks linked to hazardous substances cannot be avoided. Observe the manufacturer's and/or your company's instructions and recommendations referring to safe coolant handling.



5. Commissioning

5.1. Security Check







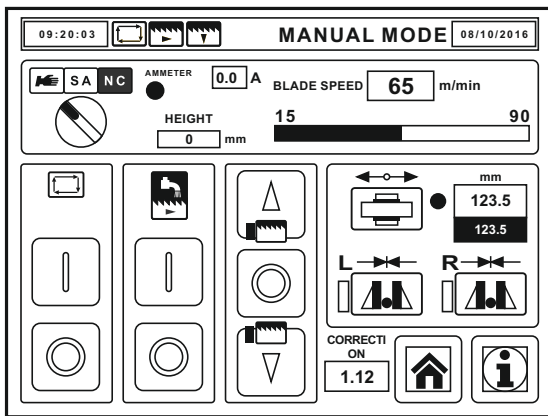
Is everything in perfect condition with regard to safety and technical condition?
Are all protective devices mounted properly?

5.2. Cutting Procedure

















Danger of injury!
No cover on the saw blade in the cutting area!
High risk of injury in the operating area of the blade!

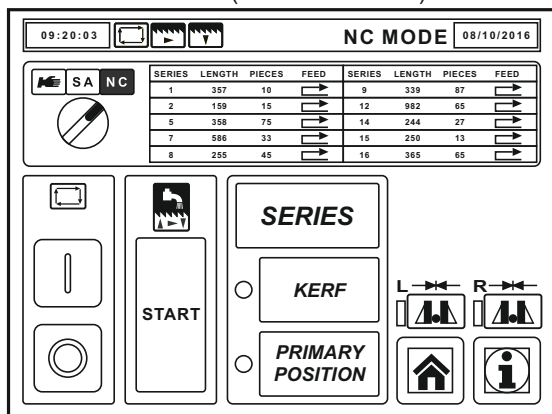
- 1) Unlock the arm. In ARG 520 DC automat, unscrew the M10x60 bolt (see section 3.5.) on each side of the column and release the arm.
- 2) Turn on the POWER SWITCH. The operation system turns on the control panel display. A yellow screen will appear, showing: "Close the arm cover, unlock the TOTAL STOP and press the yellow-lit SAFETY button".
- 3) The MAIN MENU will initialize. Turn on the HYDRAULIC UNIT START .
- 4) Choose MANUAL , SEMI-AUTOMATIC  or AUTOMATIC MODE . The performance of the first cut will be described only for MANUAL and AUTOMATIC MODE.



MANUAL mode (see Section 4.1.4)

- 5) You have selected MANUAL MODE .
 - 6) Turn on the HYDRAULIC UNIT START , unless you have already done so in step 3).
 - 7) Open the vices L and R hydraulically . In ARG 260, 300 and 330, open the vice also manually, using a rotary wheel. In ARG 520 DC automat, press it  and hold it. In ARG 520 DC automat, the bar simultaneously moves along the movable guide head with the vice. In ARG 260,300,330 it is necessary to move the bar of the movable guide head manually in front of the movable jaw.
 - 8) Lift the arm up to the upper position  (see Section 4.1.4) so that the saw blade is located above the cut material. Stop lifting . In case the saw blade is now too high above the material, you can adjust this height the following way.
 - 9) Insert the material manually under your saw blade to the desired length of cut.
 - 10) Clamp the vice R .
 - 11) In ARG 260, 300 and 330, move the movable bar in a way that allows moving the guide head towards the cut workpiece to the distance of 30-50 mm and shut off the control valve.
 - 12) If the arm is too high above the material, lower it down  and control the speed of the descent using the control valve. Stop the descent  and shut off the CONTROL VALVE.
 - 13) Press the SAW BLADE START button (see Sec. 4.1.4), to start the saw blade. Set the optimum blade speed.
 - 14) Start the arm descent .
 - 15) Set the optimum speed of the arm descent to the cut by gradual loosening of the CONTROL VALVE and perform the cut.
 - 16) Turn off the SAW BLADE STOP .
 - 17) Lift the arm up to the required upper position  and turn off the arm uplift.
 - 18) Open the vice R .
 - 19) Insert a new workpiece, or move the current one.
- You can use the servo feed system of the feed vice and move to material after entering the cut length on the screen. The feed vice L feeds, however, only pieces up to 500 mm, in ARG 520 is it 600 mm. Click here  to confirm the value. After feeding and removing the material, you can manually measure the length of the cut material and adjust the whole process.

AUTOMATIC MODE (see Section 4.1.2)



- 1) You have selected AUTOMATIC MODE .
- 2) Turn on the HYDRAULIC UNIT START , unless you have already done so in step 3).
- 3) Open the vice in ARG 260, 300 and 330 manually, using a rotary wheel. In ARG 520 DVC automat, press it and hold it. In ARG 520 DC automat, the bar simultaneously moves along the movable guide head with the vice. In ARG 260, 300 and 330 it is necessary to move the bar of the movable guide head manually in front of the fixed bar.
- 4) Click on the "SERIES" button, enter into any line, for example line 1, the length, the number of pieces, the height of the material, the type of the feed (usually gradual >> for short pieces, return > for longer pieces) and then confirm the whole series (see Section 4.1.5). To exit the screen, press the ESC button. For further assistance with filling in of the height of the cut material, you can use the table "ARM UPLIFT HEIGHT H SETTING" under the button (only in selected machines). Do not fill in value which is lesser than 40 mm.
- 5) Click on the "PRIMARY POSITION" button, the arm ascends to the highest position and the feeding vice arrives at the zero position. Thus reaches the vice as well as the arm their primary positions and the machine becomes ready for the insertion of new material.
- 6) Insert material. Insert the material underneath the blade in the case that you will want to downcut the material, i.e. deburr the surface and, at the same time, the downcutting calibrates the saw to the zero level. After downcutting, the saw will feed the exact length of the newly set workpiece. In case you do not wish to execute any downcutting, move the material as close as possible to the saw blade. The accuracy, with which you perform this movement, will be included in the resulting workpiece.
- 7) Make sure the control valve is closed.
- 8) Turn on the SAW BLADE START button and the Correction pop-up window will appear. Click on the continue button to resume the cycle. The saw blade will get started and the material will be clamped. Set the desired saw blade speed by a SAW BLADE SPEED CONTROLLER.
- 9) The arm will execute the cut and will subsequently ascend to the height that has been preset in the series. According to the set number of pieces, next cut will be performed or the series will be ended. The overall duration of the series will appear in the pop-up window.
- 10) Set up a new series or insert new material to continue cutting.

6. Machine Maintenance



Danger of injury!

Carry out the maintenance work only if the power switch is off or if the machine is disconnected from the mains.

Care and maintenance is absolutely necessary to maintain the functionality of the machine and its components. This includes: check and adjustment of band saw guide heads • machine cleaning • metal chips removal • removing metal chips from the internal part of the band saw arm • coolant replacement • lubrication of sliding surfaces • checking of supply lines for damage • vice checks • screw connection checks • limit switch checks



Check protective devices

Check the protection devices for possible damages and faults prior to the start of everyday work.



Check power cable

Check in regular intervals, at least once a week: integrity of electric installation • integrity of connections and relief from pulling

6.1. Cleaning

Clean the machine in regular intervals (always at the end of the shift, or if required, during the shift). Use suitable cleaning agents. Do not use solvents (e.g. nitro thinner). Do not use compressed air! Compressed air would blow delicate chips and dirt particles under sliding elements or endanger the health of personnel by flying particles.

6.2. Removal/disposal of chips



Observe the instructions and recommendations concerning safe disposal of waste produced during operation.

Correct cutting angles will be achieved when the bearing surfaces for the workpiece and the surfaces of gripping jaws are free from metal chips or other impurities. In order to retain proper function of the machine, make sure that the space around moving parts of the machine is free of wood chips. Should this prerequisite not be maintained, a great risk of machine damage arises. For the wood chip removal, use of a spray gun is recommended.

6.3. Coolant system cleaning



When handling coolants, risks linked to hazardous substances cannot be avoided. Observe the regulations and recommendations (operating instructions by professional associations or your company) related to safe handling of coolants.

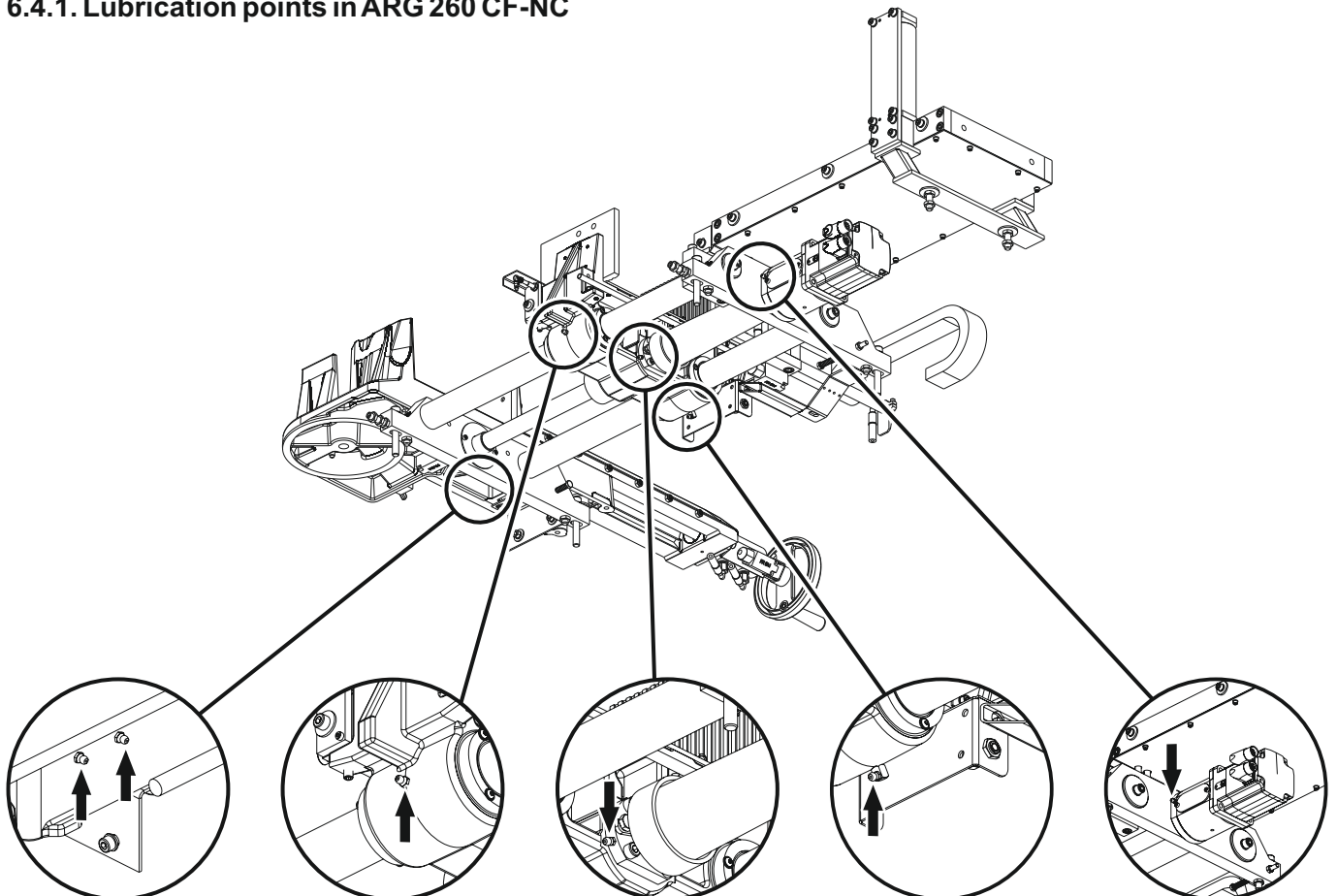
The coolant tank cannot be removed from the machine base during the maintenance and cleaning. Access to it is facilitated through the lid in the base. **Caution: Used coolant belongs to special waste category!**

Our recommendations: Regular cleaning and maintenance of the coolant increases the service life and functionality of the coolant pump. If possible, use the coolants miscible with water, non-irritant to skin and with high protection against aging and corrosion. Min. Check the volume of oil in the coolant at least once a week. Optimum lubrication increases cutting productivity. There is a barrier in the coolant tank that separates the space for filtering impurities. This space should be cleaned during routine checks depending on the kind of material to be cut.

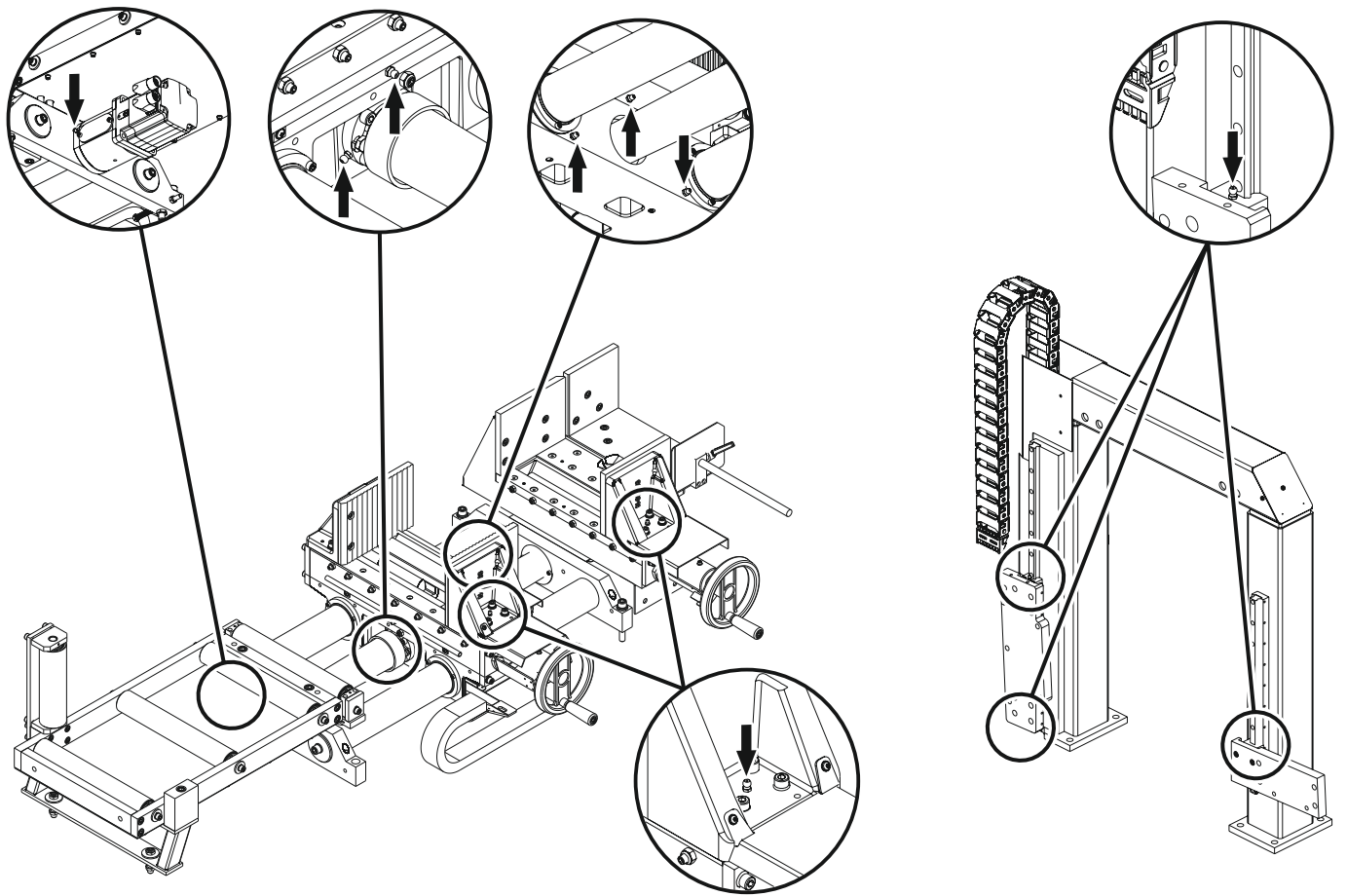
6.4. Lubrication

Regular lubrication and cleaning extend the life and functionality of the machine. While making routine checks, make sure there is sufficient grease on the vice friction surfaces. Observe lubrication of greasing points according to the lubrication plan for individual machines within every 40 hours or so. The linear guides must be greased or oiled according to manufacturer's instructions. The first lubrication with lithium soap-based grease class NGLI-2 is applied during the assembly. Spiral spring covers of the ball screw have to be periodically cleaned from gross impurities and greased - if possible, with the oil spray W44T Turbo spray approx. every 20 hours. Dense rosin oils are not suitable. Their usage can lead to blocking of the threads and breakage of the spring. By using unsuitable oils, the warranty becomes invalid.

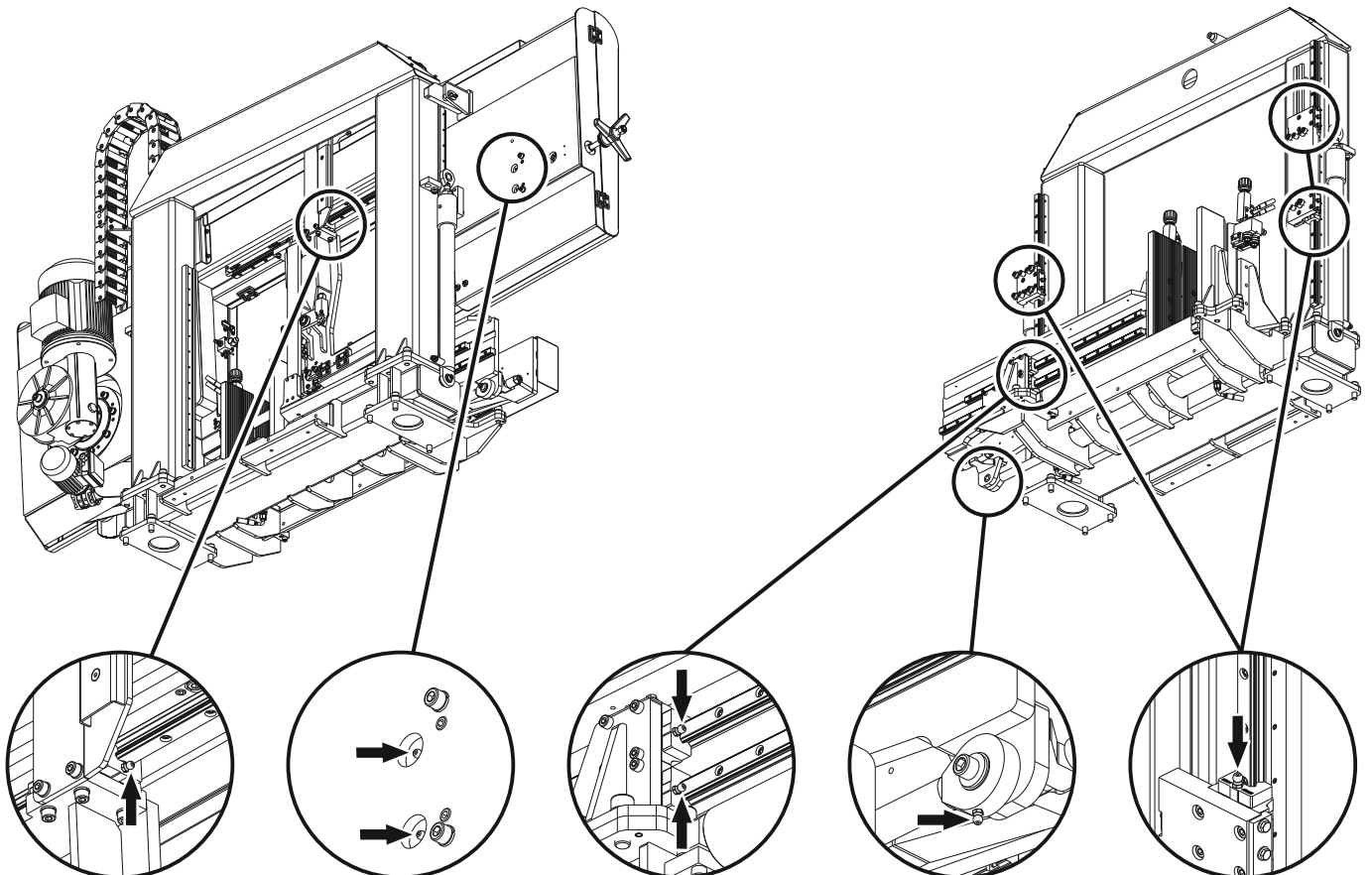
6.4.1. Lubrication points in ARG 260 CF-NC



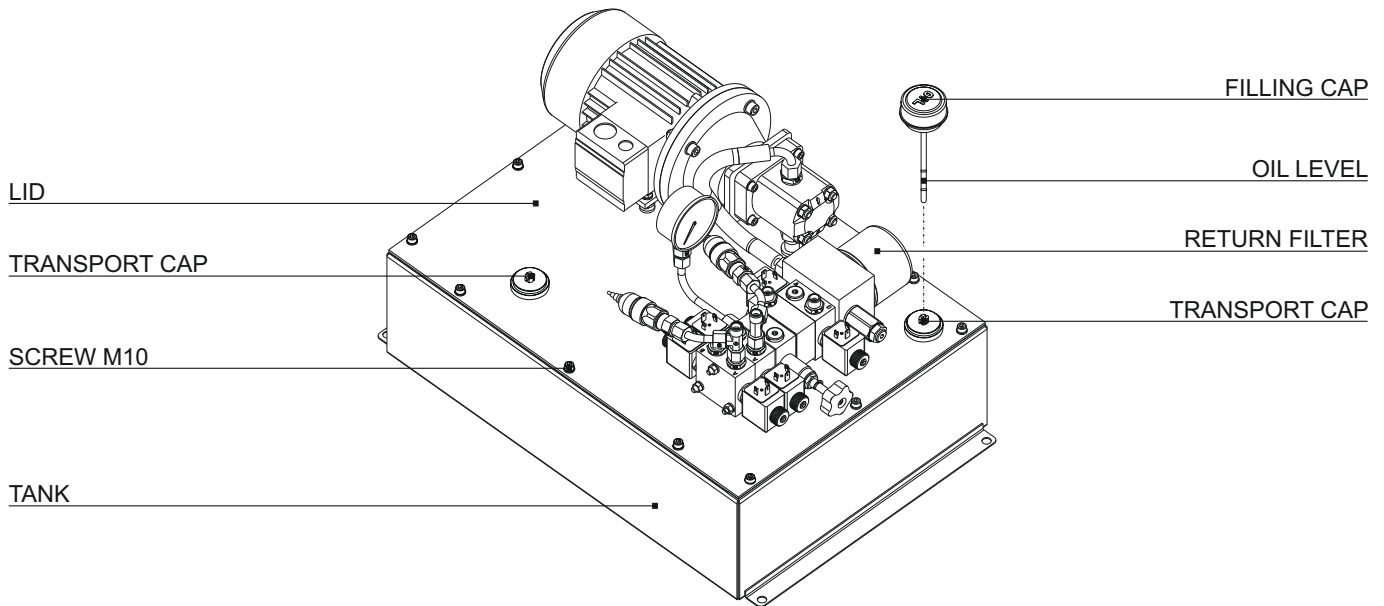
6.4.2. Lubrication points in ARG 300 CF-NC, ARG 330 CF-NC + ARG 300 DCT CF-NC, ARG 330 DC CF-NC



6.4.3. Lubrication points in ARG 520 DC CF-NC



6.5. Principles of Hydraulic Unit Maintenance



The following principles must be adhered to during the assembly of hydraulic circuit elements and piping. The basic rule in cleaning and maintenance is cleanliness and orderliness! The hydraulic circuit consists of very precise elements and it is very difficult, complicated and costly to remove any contamination and its consequences. Remove the protective cap just before putting the device into operation. Consistently check the oil level on the gauge located on the filling cap on the hydraulic unit.

6.5.1. Work safety

The hydraulic circuits are reliable and safe even when under high pressure, if all the elements are appropriately sized. However, a breakdown due to material defect or fatigue can occur in them, which could endanger the safety of the staff or contaminate the environment with oil. Examples of visible defects:

- **dripping oil;**
- **destruction of pressure-loaded circuit parts.**

Oil dripping from an untight connection or another spot, which collects on the floor, can cause slipping and falling of persons or floor damage and leakage to the environment, it can cause extensive pollution of large quantities of water. The destruction of pressure - loaded circuit parts does not lead to any explosion. If the crack is small, oil is dispersed to the environment in the form of mist, if the crack is large, mostly the whole tank will discharge. The destruction of pressure hoses will manifest itself by oil leaking, but very frequently also by bursting of hose socket. In such case, the hose can spring up and cause a serious injury. Both failures cause pollution of the environment and even a small spark can lead to a huge fire.

It follows that the following principles must be taken into account for installation and operation of hydraulic circuits:

- keep the machine clean, sprinkle the leaked oil with wood chips or VAPEX absorbate, sweep the floor, clean it with an appropriate solvent and dry;
- while dismantling, prevent oil spilling by installing suitable containers;
- units and all hydraulic elements including hoses and pipelines must be protected against external mechanical damage and heat resources;
- if the circuit is under pressure, do not come close to the pipelines and hoses, particularly do not expose your face;
- should oil be spilled into eyes, flush eyes with Ophtal or any other suitable agent immediately;
- if the anti-flaming agent is in eyes, seek medical help immediately.
- do not smoke or use open fire in the storage facility and near the units and hydromotors;
- shut down the hydrogenerator drive whenever you make any changes or repairs;
- electrical equipment must comply with ESC regulations;
- containers with industrial petrol may only be used in specifically designed spaces and must be covered with a cover or a closure at all times;
- hydromotors, which could start turning automatically in case that the driving hydrogenerator switches off (pressure drop), must be mechanically or hydraulically locked against this possibility;
- all hydraulic systems and circuits must be protected by a pressure valve against an overload, as well as hydromotors, which could become overloaded after hydraulic locking;
- the person responsible for maintenance and setting of the hydraulic unit must be appointed.

The afore mentioned principles of safety at work are not exhaustive.

There are different conditions for each hydraulic circuit and different possibilities of endangering the environment. The afore mentioned, however, should reduce the accident rate and improve the working conditions of users.

6.5.2. Commissioning

The hydraulic unit is fitted with two filling holes that are covered by red transport caps during the transport. The cap that is more accessible to the operator has to be removed and replaced by a filling cap with a gauge, otherwise a risk of making the entire system inoperable arises, along with the risk of pump damage. When transporting the hydraulic unit, always replace the filling cap with a gauge with a transport cap, see figure. Start the hydraulic unit within short intervals. Check the piping for noise and leakage. Vent the hydraulic circuit. Venting is performed usually by raising and descending the arm, clamping and unclamping the vice. Repeat several times, until the system is ventilated (usually 5-10 times).

6.5.3. Hydraulic Liquids

The correct function, service life, operational reliability and economy of the hydraulic equipment are substantially influenced by the usage of suitable hydraulic liquids. Mineral oils, also called hydraulic oils, are the most frequently used liquids. **Hydraulic liquids fulfil various tasks in the hydraulic equipment. The most important of them are the following:**

- hydraulic energy transfer from the hydrogenerator to the hydromotor
- lubrication of moving parts of hydraulic elements
- rust protection
- discharge of impurities
- water drain
- air vent, etc.
- removal of loss heat developed by volume losses and friction.

The hydraulic liquid quality is specified by the following parameters:

Kinematic viscosity is defined as a measure of internal friction of the fluid. Higher viscosity means a thicker liquid. The viscosity unit is $m^2 \cdot s^{-1}$ ($mm^2 \cdot s^{-1}$ is used in practice). Viscosity is dependent on temperature. The amount of temperature influence, i.e. the change of viscosity with temperature, is determined by the viscosity index. The bigger the viscosity index, the smaller the dependence of viscosity on temperature (in standard mineral oils between 85 and 90, in better quality oils 100 and higher).

The compressibility affects the rigidity of the system and thus also the precision of motion in high-pressure devices. The compression value is relatively small. The compressibility of liquid increases with the content of air or other gases.

Foaming quality is undesirable with regard to the function of liquid but also with regard to its ageing. Chemical additives reduce the foaming quality. The foaming quality can be very substantially affected by the hydraulic system design (tank design, air suction).

Requirements for Liquid Properties

The main requirements can be put as follows:

- small dependence of viscosity on temperature change
- corresponding viscosity ensuring good efficiency of the system
- good lubricating capacity and high mechanical oil film stability
- chemical stability and neutrality against materials used
- operational stability (liquid resistance against ageing)
- low foaming quality
- availability and reasonable price.

Specification of Hydraulic Liquids

HM and HV oil performance classes are particularly suitable for the use in hydraulic circuits.

HM - high-quality oils containing additives against oxidation, corrosion, foaming, for reducing wear and tear and viscosity modifier improving also low-temperature properties. They are intended for hydrostatical mechanisms with high mechanical heat stress and for machines operated in unprotected environment throughout the year.

HV - are highly refined oils with additives against oxidation, corrosion, foaming, for reducing wear and tear and a viscosity modifier. High-quality oils with outstanding oxidation stability and anti-abrasive properties, low foaming quality and good resistance against formation of permanent emulsion and has excellent viscosity temperature dependence. They are intended for similar purposes as HM class oils, but with increased requirement for a very low dependence of oil viscosity on temperature, particularly for HP mechanisms of mobile machines operated within a wide range of ambient temperatures.

Biologically Degradable Liquids

Lubrication properties of environmentally-friendly liquids are as a rule identical to those of mineral oils. As regards the resistance against ageing and tolerance of liquids to construction materials, no generally valid knowledge is available at present. Usage of the liquid must be tested. Nevertheless, practical experience shows clearly that carefully adjusted systems operated with environmentally-friendly liquids run smoothly.

Do not use any vegetable oils in the hydraulic unit. Risk of contamination of the whole system and irreversible damage to the unit!

Oil type	Kinematic viscosity in $mm^2 \cdot s^{-1}$ at the temperature					Freezing point in $^{\circ}C$
	0 $^{\circ}C$	20 $^{\circ}C$	40 $^{\circ}C$	60 $^{\circ}C$	80 $^{\circ}C$	
MOGUL HM 32	220	100	32	15	8,5	-40
MOGUL HM 46	400	170	46	18	11	-30
MOGUL HV 32	180	67	32	17	11	-40
MOGUL HV 46	350	110	46	25	14	-36

6.5.4. Hydraulic Mineral Oils

HM performance class according to CETOP RP 91H European specification in viscosity classes ISO VG 32 and 46. Oils marked as HM 32 are recommended for use in environment with ambient temperatures reaching 0 °C and below 0 °C. HM 46 oil types are recommended for use in environment with ambient temperatures within the range +5 °C and +40 °C.

CETOP RP 91 H Specifications	HM 32	HM 46
AGIP	OSO 32	OSO 46
ARAL	VITAM GM 32	VITAM GF 46
BP	ENERGOL HLP 32	ENERGOL HLP 46
CASTROL	HYSPIN AXS 32	HYSPIN AWS 46
ESSO	NUTO H 32	NUTO H 46
MOBIL	MOBIL DTE 24	MOBIL DTE 25
MOGUL	MOGUL HM 32	MOGUL HM 46
OLEA	OPTIMA HM 32	OPTIMA HM 46
ÖMV	HLP 32	HLP 46
PARAMO	PARAMOL HM 32	PARAMOL HM 46
SHELL	TELLUS OIL 32	TELLUS OIL 46
VALVOLINE	ULTRAMAX AW 32	ULTRAMAX AW 46

6.5.5. Service intervals

The hydraulic unit is filled with OPTIMA HV46 hydraulic oil, for which it is recommended to replace the oil within a time interval shorter than 4,500 operating hours, along with the return filter, or once in a year depending on what occurs first. Replace the return filter each 1,500 operating hours (MANN FILTER W 79 supplied by the manufacturer). Consistently check the oil level on the gauge located on the filling cap on the hydraulic unit in the machine base. The oil level must be maintained between the two oil marks.

6.5.6. Oil Refill and Filter Replacement

- Unscrew the return oil filter.
- Remove the lid of the hydraulic unit by unscrewing the twelve M10 bolts.
- Very carefully raise the lid and make sure the sealing does not stick to the lid or the tank, leading to its damage.
- If the sealing is damaged, replace it for a new one. Never use a damaged sealing, otherwise you risk contamination of the hydraulic system by the remnants of cork sealing.
- When replacing the oil, pour out the old oil and clean the tank. A cloth is a sufficient tool for cleaning, but it must be non-linting. You can use a solution that does not disturb the tank coating and does not leave residues in the tank. After the cleaning, check the inside of the tank thoroughly. Check the condition of the oil-resistant coating. Should any flaking or poor quality manifest themselves, remove the coating with an appropriate solvent, wash, dry and clean with pressure air. In this way, failures caused by the deteriorated coating, which contaminates the entire hydraulic system, will be prevented.
- Once the tank is clean and free from deposits, place the lid and the sealing back on the tank using a reverse procedure and cross-tighten the screws.
- Pour in new oil. Only oil recommended by the equipment manufacturer can be filled in. Never refill directly from barrels. Always use a filter unit with filters with a mesh density lower than 25 µm. Using filters with contamination indication improves the quality and convenience of the work. Consistently check the oil level on the gauge located on the filling cap. **The oil level must be maintained between the two oil marks.**
- Unscrew the new return oil filter.
- check the piping for noise and leakage.
- Start the hydraulic unit within short intervals.
- Vent the hydraulic circuit. Venting is performed usually by raising and descending the arm, clamping and unclamping the vice. Repeat several times, until the system is ventilated (usually 5-10 times).

Caution: Oil and the filter are classified as special waste!

7. Faults and Remedies

7.1. Repairs



Caution! Danger of injury!

Carry out repairs only when the master switch is off or secured against switching on or when the machine is isolated from the power supply and secured against restarting. The saw arm must always be supported mechanically in the lower position while it is being repaired - see section 3.5. We recommend to contact an authorised service centre for repairs.

7.2. Failures - Potential Causes and Remedies

Failure	Possible cause	Remedy
Saw blade feed cannot start	<ul style="list-style-type: none"> • The power switch is off • The TOTAL STOP button is locked. • The protective overcurrent relay is off • The vice is not clamped • The control board fuse is burnt • The saw arm is in the lowest position, the limit switch is pressed • The saw arm is not in upper position when in S.A.F. mode 	<ul style="list-style-type: none"> • Turn on the power switch • Unlock the TOTAL STOP button • Check motor protective switch • Clamp the vice • Replace the fuse • The saw arm must be raised when the saw blade starts • The saw arm must be in the upper position when in automatic mode
The motor is on, but the saw blade is not moving	<ul style="list-style-type: none"> • The saw blade slips on the running wheel • Broken blade • Other fault in the gearbox 	<ul style="list-style-type: none"> • Tension the blade properly as specified in section 4.8. • Replace it (see section 4.8.) • Call the service technician
Red light on the control panel		<ul style="list-style-type: none"> • Control panel describes the type of fault
Irregular cooling	<ul style="list-style-type: none"> • Coolant used up • The coolant tank and/or supply pipes or the ball valves are contaminated • Broken pump 	<ul style="list-style-type: none"> • Check the coolant • Clean the coolant tank and supply pipes • Replace the pump
Vibration during cutting	<ul style="list-style-type: none"> • The feed to cut occurs within a non-desirable range • Wrong selection of saw blade tooth size • Incorrectly adjusted guide heads, hardened steel blade guides, bearings • Incorrectly clamped material 	<ul style="list-style-type: none"> • Set 5% less/more feed to cut • Check the tooth size • Adjust it, see section 4.9. • Check workpiece clamping
Broken teeth stuck in the cutting channel in the workpiece		<ul style="list-style-type: none"> • Do not cut into an old cutting channel with a new blade! Otherwise you damage the new blade with the first
The blade cuts under	<ul style="list-style-type: none"> • Blunt saw blade • Wrong selection of saw blade tooth size • Feed to cut is too quick • The blade slid under guide bearings • Clearance between hardened steel blade guides • The workpiece is not placed parallel with the vice loading surface 	<ul style="list-style-type: none"> • Replace the blade • Check the tooth size, see section 8.2. • Adjust the feed • Insert the blade properly as specified in section 4.8. • Adjust it, see section 4.9. <p>Align the roller conveyor, check workpiece clamping</p>
Saw blade cracking between teeth	<ul style="list-style-type: none"> • Wrong selection of saw blade tooth size • Feed to cut is too quick • Incorrectly adjusted or damaged guidance through heads (blade guides, bearings) • The moving guide head is too far from the workpiece • Insufficient cooling • Incorrectly clamped workpiece while cutting 	<ul style="list-style-type: none"> • Check the tooth size, see section 8.2. • Adjust the feed • Adjust (see section 4.9.) or replace them • Move it closer, see section 4.7. • Increase the coolant supply • Clamp the workpiece properly
Saw blade cracking on the face	<ul style="list-style-type: none"> • Saw blade incorrectly placed on wheels (runs into the fitting) • Wrong selection of saw blade tooth size • Feed to cut is too quick • Incorrectly adjusted or damaged guidance through heads (blade guides, bearings) • The moving guide head is too far from the workpiece 	<ul style="list-style-type: none"> • Check, see section 4.8. • Check the tooth size, see section 8.2. • Adjust the feed • Adjust (see section 4.9.) or replace them • Move it closer, see section 4.7.
The feed to cut is not constant, sinks	<ul style="list-style-type: none"> • Not enough oil in hydraulics 	<ul style="list-style-type: none"> • Call the authorised service centre
The arm descends even when the relief valve is closed	<ul style="list-style-type: none"> • Loosened M4 screw on control valve's wheel - turns loosely • Valve seat is worn out • Cylinder sealing is worn out • Valve failure (impurities) 	<ul style="list-style-type: none"> • Tighten it • Tighten M4 lock screw, turn wheel approx. 10° to the left and tighten • Call the authorised service centre • Call the authorised service centre
The arm does not ascend	<ul style="list-style-type: none"> • The arm uplift switch is set to 0 • The power switch is off • The TOTAL STOP button is locked 	<ul style="list-style-type: none"> • Switch it to 1 • Turn on the power switch • Unlock the TOTAL STOP button

Faults reported by the system

FAILURE
Frequency inverter
reports a fault

After clicking on the failure message, the machine will switch to a SYSTEM 2 screen on which you can reset the converter (if the failure is resettable). When you press the **left** RESET button (by the frequency converter) the screen requiring a password will appear. Enter the user password **1234** and the converter reset option will become available (press the left RESET button again). In the window above the RESET button RESET appears: 4 - RDY, If such attempt to reset the converter fails, the fault is unresettable and you have to switch the machine off by the Power switch and leave it off for a few minutes. Then turn the machine on again. You can leave the screen again by using the button << switching to the screen SYSTEM 1. By pressing the button <<, you will get to the MACHINE SETTINGS screen and from there to the MAIN MENU.

FAILURE
Blade-tension sensor

%IX0.0 BP2

In the event of insufficient tensioning of the saw blade or its breakage, a failure message will appear.
Tension the saw blade (see section 4.8.), or replace the saw blade.

FAILURE
Servo exceeded
limit position

LIMP LIMN

The actuator has driven over any end position. Check the appropriate IS3 sensors - left end position (LIMP) and IS4 - right end position (LIMNS) (the sensors are expandable and their correct function is indicated by red squares).
After pressing the failure message, the machine will switch to the system screen SYSTEM 2. When you press the **right** RESET button (by the servo converter) the screen requiring a password will appear. Enter the user password **1234** and the actuator reset option will become available (press the right RESET button again). In the window above the RESET button RESET appears: 6 - run/hAlt, press the HOME button and the actuator will switch to the primary position (indicated by a green square by the HOME button). Then you can leave the screen by pressing the button << and move to the SYSTEM 1 screen. By pressing the button << you will get to the MACHINE SETTINGS screen and from there to the MAIN MENU.

FAILURE
Servoinverter reports
a fault

After clicking on the failure message, the machine will switch to a SYSTEM 2 screen on which you can reset the actuator (if the failure is resettable). When you press the **right** RESET button (by the servo converter) the screen requiring a password will appear. Enter the user password **1234** and the actuator reset option will become available (press the right RESET button again). In the window above the RESET button RESET appears: 6 - run/hAlt, if such attempt to reset the servo converter fails, the fault is unresettable and you have to switch the machine off by the power switch and leave it off for a few minutes. Then turn the machine on again. You can leave the screen again by using the button << switching to the screen SYSTEM 1. By pressing the button <<, you will get to the MACHINE SETTINGS screen and from there to the MAIN MENU.

FAILURE TS
Pressure sensor
fixed vice
(right-R)

%IX0.3 BP7 %IX0.6 TS2

FAILURE TS
Pressure sensor
moving vice
(left-L)

%IX0.1 BP3 %IX0.7 TS1

TS failure - if the PLC loses signal from the pressure sensor during vice clamping, it will immediately pause and turn the hydraulic unit off. The hydraulic unit turns off because of the danger of leakage in the hydraulic system. Upon pressing the failures screen, a screen with settings appears, on which you can check the operation of pressure sensors. Read more on how to delete a failure in the chapter describing the SETTINGS OF THE VICE PRESSURE SWITCH.

FAILURE
Worm chips
transporter

%IX0.11 FQ5

The likely cause of the failure is the overload of the screw conveyor. You can eliminate the failure by switching the motor actuator FQ5 to position 1. If the failure arises repeatedly, check or replace motor of the screw conveyor or the motor actuator. View the status of the sensor for easier detection of the failure FQ5 - the motor actuator of the screw conveyor (blue square indicates that the device is on). In the SA and the manual mode, the failure is only informative. In the NC mode, the message will appear on the screen and should the operator be absent, the machine will finish the cut and interrupt the cycle. After returning to the machine, click on the POP UP window to delete the message and choose whether you want the machine to continue the cycle or cancel it. If you press the window the failure report before completing the currently executed cut, the report will disappear and the machine will finish the cycle. After deleting the window with the failure report (if the failure cause has not been deleted as well), the failure will remain recorded in the failure list as active (marked in red).

FAILURE
Track cover
is open

The likely cause of the failure is an open safety cover, malfunction of the BP6 limit switch or a damage to the wiring of the limit switch.
After opening the cover in NC mode, the movement of the servo will be blocked. After closing the track cover and pressing the screen with the message, the machine continues working in the automatic cycle,

IRC FAILURE

The screen indicates:
Faulty arm position sensor. Arm stroke valve failure.
Mechanical fault in the hydraulic unit.
Incorrectly set stop screw of the limit switch in the lower position of the arm.
Other mechanical failure.

FAILURE
Cooling failure

%IX0.9

FQ3

The likely cause of the failure is overload of the cooling pump. You can eliminate the failure by switching the motor actuator FQ3 to position 1. If the failure arises repeatedly, check or replace the pump or the motor actuator.
View the status of the sensor for easier detection of the failure FQ3 - the motor actuator of the screw conveyor (blue square indicates that the device is on). In the SA and the manual mode, the failure is only informative. In the NC mode, the message will appear on the screen and should the operator be absent, the machine will finish the cut and interrupt the cycle. After returning to the machine, click on the POP UP window to delete the message and choose whether you want the machine to continue the cycle or cancel it. If you press the window the failure report before completing the currently executed cut, the report will disappear and the machine will finish the cycle. After deleting the window with the failure report (if the failure cause has not been deleted as well), the failure will remain recorded in the failure list as active (marked in red).

FAILURE
Hydraulics failure

%IX0.8

FQ1

View the status of the sensor for easier detection of the failure FQ1 - the motor actuator of the hydraulic pump (blue square indicates that the device is on).
Failure arises from the overload of the hydraulic pump. You can eliminate the failure by switching the motor actuator FQ1 to position 1. If the failure arises repeatedly, check or replace the pump or the motor actuator. The motor actuator is placed in the switchboard in the machine base.
In all modes the machine immediately stops. By pressing the failure screen, the MAIN MENU screen will be activated. From there you can continue with the interrupted series by pressing the button START.

FAILURE BP
Moving vice is closed, but
the material is not clamped.
Check the setting of
moving vice
(5 mm from the material).

%IX0.1 BP3

%IX0.7 TS1

FAILURE BP
Fixed vice is closed, but
the material is not clamped.
Check the setting of
fixed vice
(5 mm from the material).

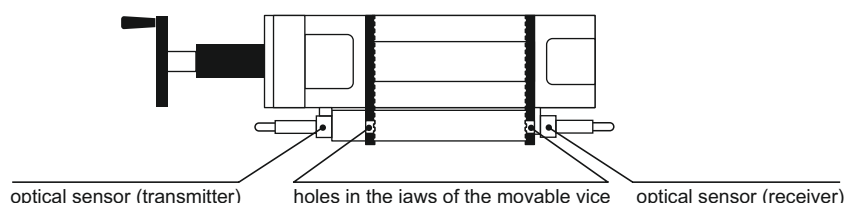
%IX0.3 BP7

%IX0.6 TS2

Should the vice be set far away from the material and the material could not be clamped, a failure message BP FAILURE will appear on the screen and the vice will unclamp. Set the vise to the correct position and try again.
In the NC mode, after deleting this failure, the cover of the movable vice has to be open, which is also illustrated on the failure report. After closing the cover, press the failure screen and the vice will clamp. If everything is alright, the cycle will continue according to the set values.
BP failure - (of the movable vice) can be caused by malfunction of the optical sensor for the material end (IS1 - receiver, IS2 - transmitter (they may be broken or dirty)). Thus, the system will not be able to detect the end of the material and will move to the end position; or to the feed length. This may result in fall of the remaining material into the feed area and damage to the ball screw.

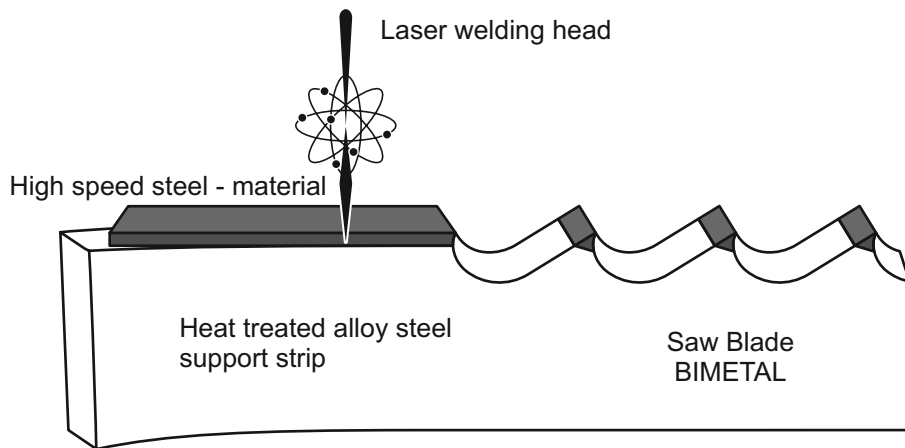
This failure can also arise if the optical sensor is dirty on the moveable vice; or if its opening is clogged for the beam of the optical sensor in the jaws of the vice.

Check the function of the optical sensor MAIN MENU → SETTING → SETTINGS OF THE VICE PRESSURE SWITCH.



8. Saw Blades

8.1. Saw Blade Design



The prerequisite of the correct cutting power of the machine is the use of high-quality saw blades. In order to achieve a high cutting power, it is recommended to use bimetallic saw blades. The main saw blade component is a high-quality heat treated steel with a high elasticity limit. The tooth edges are high-speed steel of the following quality: M 42, M 51.

M 42 - a saw blade for universal use for cutting metallic and non-ferrous materials within the whole range of quality classes up to the 45 HRC hardness. The saw blade is suitable for cutting full materials of all cross-sections and diameters, profiles, pipes and bundles.

M 51 - in comparison to the M 42 saw blade, the M51 is designed first of all for cutting steel up to 50 HRC, steel of higher strength classes, acid-resistant and stainless steels. Furthermore, for cutting nickel, titan alloys and special grade of bronze.

Carbide - high cutting power as compared to bimetallic saw blades. Suitable for cutting of steel, non-ferrous metals, material with high content of chrome, nickel, titan, stainless steel and face-hardened materials up to 62 HRC. The saw blades can be used for all materials including stainless steel, tool steel, non-ferrous metals, cast iron, plastics and fibreboards. Characteristics of these saw blades include a high thermal conductivity, high wear and tear resistance and thus longer life, higher cutting speed, less frequent saw blade replacements and better productivity as compared with carbon steel saw blades.

Design: M 42 - composition: W 2%, Mo 10%, V 1%, CO 8%, tooth hardness: 68 HRC. For cutting of materials up to 45 HRC

Design: M 51 - composition: W 10%, Mo 4%, V 3%, Co 10%, tooth hardness: 69 HRC. For cutting of materials up to 50 HRC

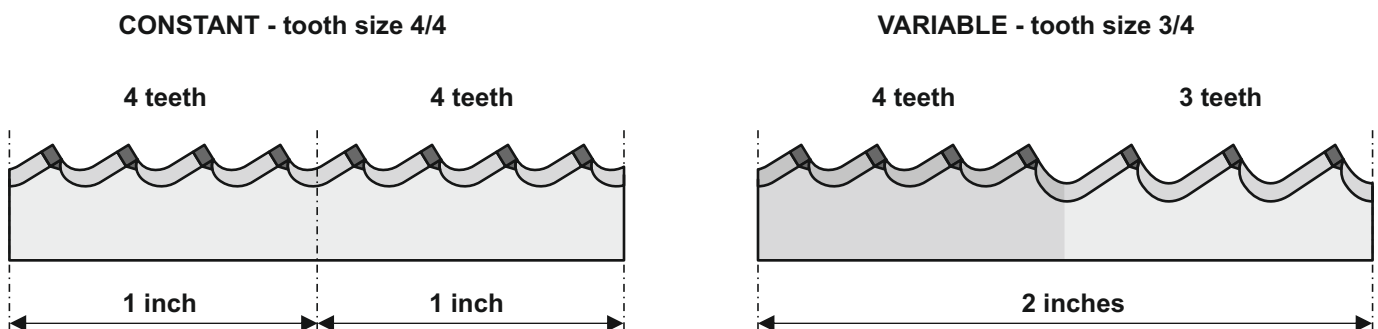
Design: Carbide - tooth hardness 1600 HV. For cutting of materials up to 62 HRC.

In addition to standard shapes and sizes of teeth, the saw blades are also manufactured with special features, such as saw setting, tooth angle and tooth face shape, which are used particularly for cutting of specific materials. Please contact your saw blade supplier to get more information about these features.

Saw Blade Tooth Arrangement

a) **Constant** - tooth edge spacing always equal

b) **Variable** - the tooth edge space is different, repeating periodically. This modern saw blade design enables a bigger cutting range in one saw blade type. It is able to eliminate vibrations caused by the tooth edge touching the material and thus to achieve a clean smooth cut and longer service life.



8.2. Selection of Tooth Size

The selection of the tooth size is of crucial importance for the saw blade service life.

Tooth sizes recommended for cutting full materials

		ARG 260, 300 NC blade 27x0,9			ARG 330 NC blade 34x1,1			ARG 520 NC blade 41x1,3		
Material cross-section	Number of teeth per inch	Tooth quality M42/67-69 Hrc	Tooth quality M51/69 Hrc	Carbide 1600 Hr	Tooth quality M42/67-69 Hrc	Tooth quality M51/69 Hrc	Carbide 1600 Hr	Tooth quality M42/67-69 Hrc	Tooth quality M51/69 Hrc	Carbide 1600 Hr
0-10	14z	●			●					
0-25	10/14	●			●					
20-40	8/12	●			●					
20-40	8/11	●								
30-60	6/10	●			●			●		
40-70	5/8	●			●			●		
40-70	5/7	●	●		●					
60-110	4/6	●	●		●	●		●		
80-120	4z	●		●						
90-140	3/4	●	●	●	●	●	●	●	●	●
120-200	3z	●		●						
120-350	2/3z	●	●	●	●	●	●	●	●	●
200-400	2z	●								
250-550	1,4/2				●		●	●	●	●

The following table refers to piece-by-piece cutting of sectional materials. If the material is cut in bundles, the forces of the walls of individual tubes must be added with regard to their diameters.

Tooth sizes recommended for cutting sections

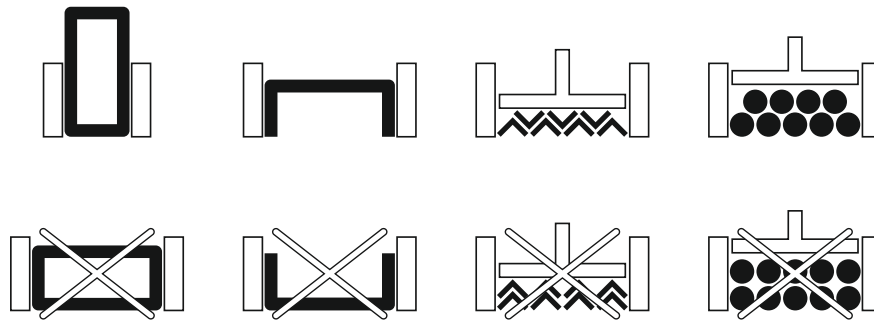
Wall width mm	External tube diameter D (mm)													
	20	40	60	80	100	120	150	200	300	400	500	600	700	
2	14	14	14	14	14	14	10/14	10/14	8/11,8/12	8/11,8/12	6/10	6/10	5/7,5/8	
3	14	14	14	10/14	10/14	10/14	8/11,8/12	8/11,8/12	6/10	6/10	5/7,5/8	5/7,5/8	4/6	4/6
4	14	14	10/14	10/14	8/11,8/12	8/11,8/12	6/10	6/10	5/7,5/8	5/7,5/8	4/6	4/6	4/6	4/6
5	14	10/14	10/14	8/11,8/12	8/11,8/12	6/10	6/10	5/7,5/8	5/7,5/8	4/6	4/6	4/6	4/6	4/6
6	14	10/14	8/11,8/12	8/11,8/12	6/10	6/10	5/7,5/8	5/7,5/8	4/6	4/6	4/6	4/6	3/4	3/4
8	14	8/11,8/12	6/10	6/10	5/7,5/8	5/7,5/8	5/7,5/8	4/6	4/6	4/6	4/6	3/4	3/4	3/4
10		6/10	6/10	5/7,5/8	5/7,5/8	5/7,5/8	4/6	4/6	4/6	3/4	3/4	3/4	2/3	2/3
12		6/10	5/7,5/8	5/7,5/8	4/6	4/6	4/6	4/6	3/4	3/4	3/4	2/3	2/3	2/3
15				4/6	4/6	4/6	4/6	4/6	3/4	3/4	2/3	2/3	2/3	2/3
20				4/6	4/6	4/6	4/6	3/4	3/4	2/3	2/3	2/3	2/3	2/3
30				4/6	4/6	4/6	3/4	3/4	2/3	2/3	2/3	2/3	2/3	2/3
50						3/4	3/4	2/3	2/3	2/3	2/3	1,4/2	1,4/2	1,4/2
75								2/3	2/3	2/3	1,4/2	1,4/2	1,4/2	1,4/2
100									2/3	2/3	1,4/2	1,4/2	1,4/2	1,4/2
150									1,4/2	1,4/2	0,75/1,25	0,75/1,25	0,75/1,25	0,75/1,25
200											0,75/1,25	0,75/1,25	0,75/1,25	0,75/1,25
250											0,75/1,25	0,75/1,25	0,75/1,25	0,75/1,25
300												0,75/1,25	0,75/1,25	0,75/1,25

Caution: The aforementioned values do not apply to cutting of different sectional materials. Such a requirement must be treated with respect to the shape of the sectional material, the number of pieces in the bundle and the dimensions. When the saw blade is used for cutting sectional materials, its service life will decrease by up to one third due to interrupted cutting.

Rule: At least four, but not more than thirty teeth must cut in while a workpiece is being cut.

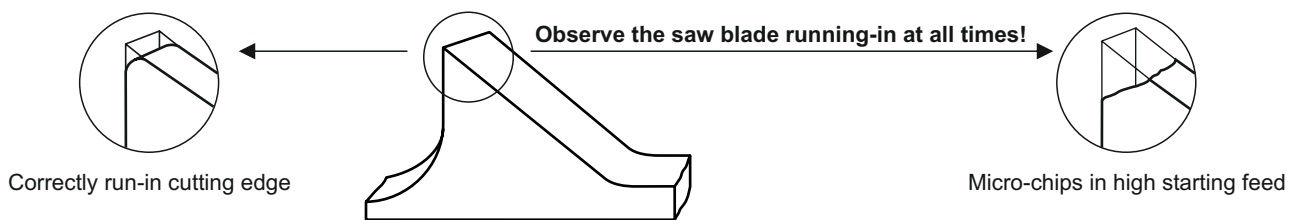
8.3. Optimum workpiece clamping

Correct workpiece clamping can significantly influence the service life of the saw blade and the cutting accuracy. Moreover, it allows for correct selection of tooth size. To cut material in bundles, we recommend to use upper (vertical) pressure device. In order to achieve the optimum cut (service life and cutting performance), observe these ways of clamping.



8.4. Running-in New Saw Blades

The running-in applies to new saw blades. The sharp cutting edges with extremely small edge radii enable high cutting power. In order to achieve maximum tool service life, you have to run in (optimum) the new saw blade. Given the correct cutting speed, the workpiece feed and the quality of its material, the saw blade must be run in only with 50% of currently used feed. Such measure will help you prevent breaking extremely sharp edges particularly in big workpiece sections. These micro-fragments cause destruction of other teeth. Should vibrations or noise due to oscillations manifest themselves when a new saw blade has been fitted, reduce the cutting speed slightly. In small workpiece sections it is recommended to run in the saw blade with a reduced power for 15 minutes, in big sections for 30 minutes. Then increase the feed slowly to the optimum value.



8.5. Factors Influencing Saw Blade Service Life

Inappropriate saw blade tooth size • inappropriate saw blade speed and saw blade descent speed to the cutting position • the saw blade (the whole band saw arm) leans against the workpiece when the band saw is not in the cutting position • the workpiece is not clamped as recommended • saw blade tension is not correct (mostly too little tension) • the saw blade is not correctly fitted on the wheels (the saw blade touches the wheel shoulder) • the saw blade guide heads are not correctly adjusted • the distance between the saw blade guide heads and the workpiece is too big • the oil content of the coolant is too low • the saw blade is not correctly run in • saw blade maintenance is insufficient, metal chips have not been removed from the band saw.







The above mentioned faults lead to inaccurate cut, reduction of the saw blade service life and/or its destruction.

8.6. Values Recommended for Cutting

The selection of values depends on the material class and the material section. The data in the table are only illustrative; they have to be adjusted to the material for certain ranges. The numbers of the CSN-Standards serve for information only. They define only the guide for the material properties for which the respective saw blade type is designed.

Material		Recommended blade speed (m/min)		Arm descent speed into the cut (mm/min)		Cooling oil volume (%)
ČSN	In general	ø 0-100 mm	ø 100-330 mm	ø 0-100 mm	ø 100-330 mm	
11 107 - 11 110	Free-cutting steel	70-90	70-90	190-60	55-20	10-15
11 301 - 11 420 / 12 010 - 12 020	Structure/construction steel	60-90	60-80	190-60	55-30	10-15
11 500 - 11 600 / 12 020 - 12 060	Cementing steel	60-90	50-70	125-38	35-25	10-15
13 250 / 14 260 / 15 260	Spring steel	50-70	40-60	125-30	28-15	5-10
14 100 / 15 220	Bearing steel	50-70	30-60	125-30	28-15	3
14 220 / 15 124	Alloy steel	50-80	40-70	125-35	30-20	10
17 020 - 17 042	NIRO steel	40-50	30-40	75-15	12-4	10-15
17 115	Valve steel	40-60	30-50	90-23	21-10	3
17 253 - 17 255	Heat-resistant steel	30-40	30	40-7	6-1	15
19 063 - 19 083 / 15 142 / 16 142	Refining steel	60-90	40-70	125-35	30-25	5-10
19 150 / 19 192 - 19 312	Non-alloy tool steel	50-70	30-60	120-25	20-8	5-10
19 422 / 19 452 / 19 721 / 19 740	Alloy steel	40-50	30-50	100-20	18-2	5-10
19 436	Hammer steel	30-40	30-40	62-15	14-5	do not
19 662	Nitriding steel	40-50	30-40	76-25	23-12	5
19 721	Tool steel for hot processing	30-40	30	70-1	16-6	5
19 802 - 19 860	High speed steel	40-60	30-50	90-23	21-10	3
INCONEL, HASELLOY, NIMONIC, INCOLOY		30	30	25-5	4-2	15-20
Heat-treated steel		30	30	25-5	4-2	15-20
Cast steel		30-70	30-60	190-60	55-25	40
Grey cast iron		40-80	30-70	190-60	55-30	do not
Copper, bronze, tin bronze		70-90	60-90	300-90	85-55	3
Red bronze		70-90	60-90	230-75	70-45	10
Aluminium bronze		40-70	30-60	230-75	70-45	10-15
Aluminium alloy castings		80-90	80-90	450-150	140-55	25
Al 99%, thermoplastics, plastics		50-90	50-80	450-150	140-55	do not

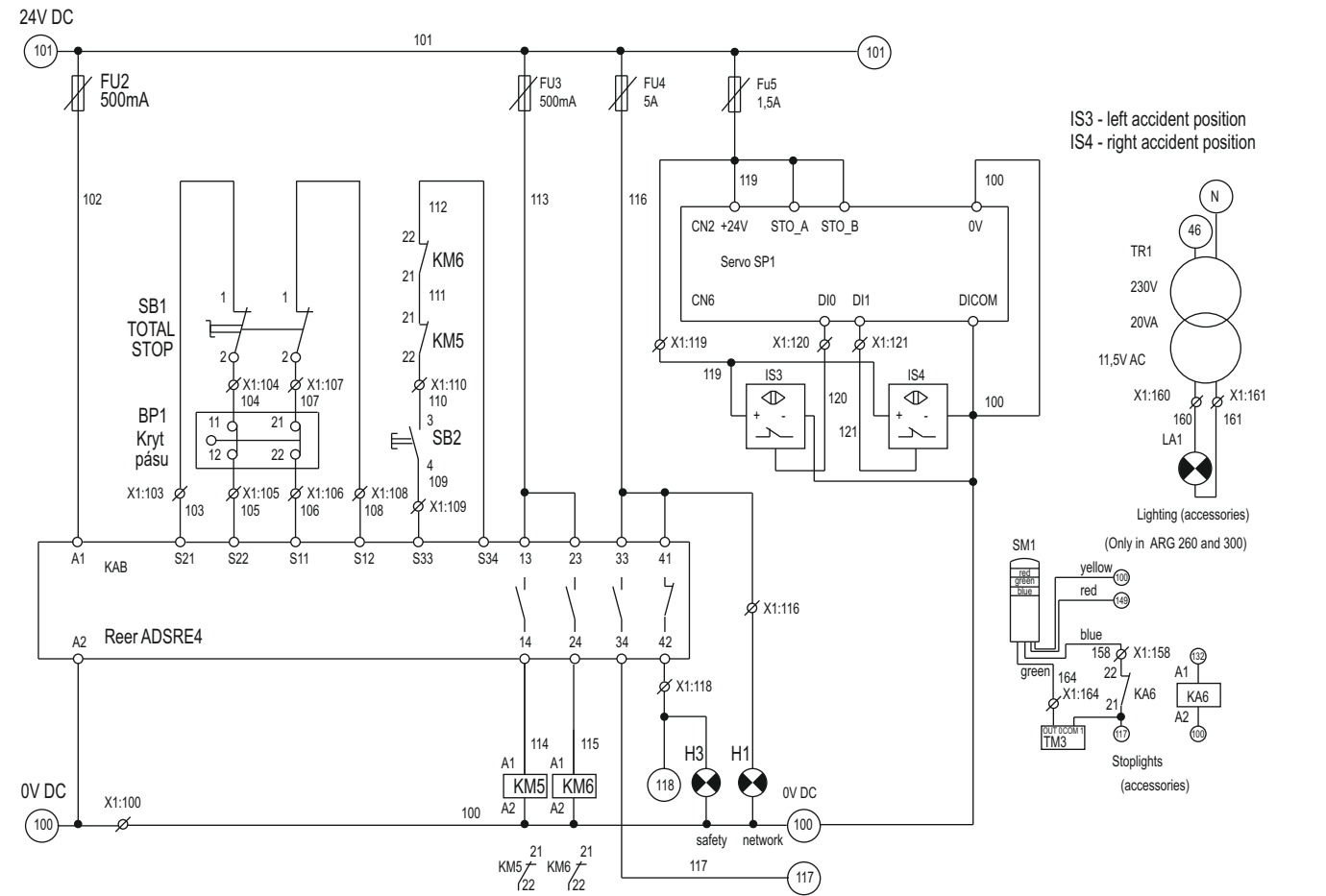
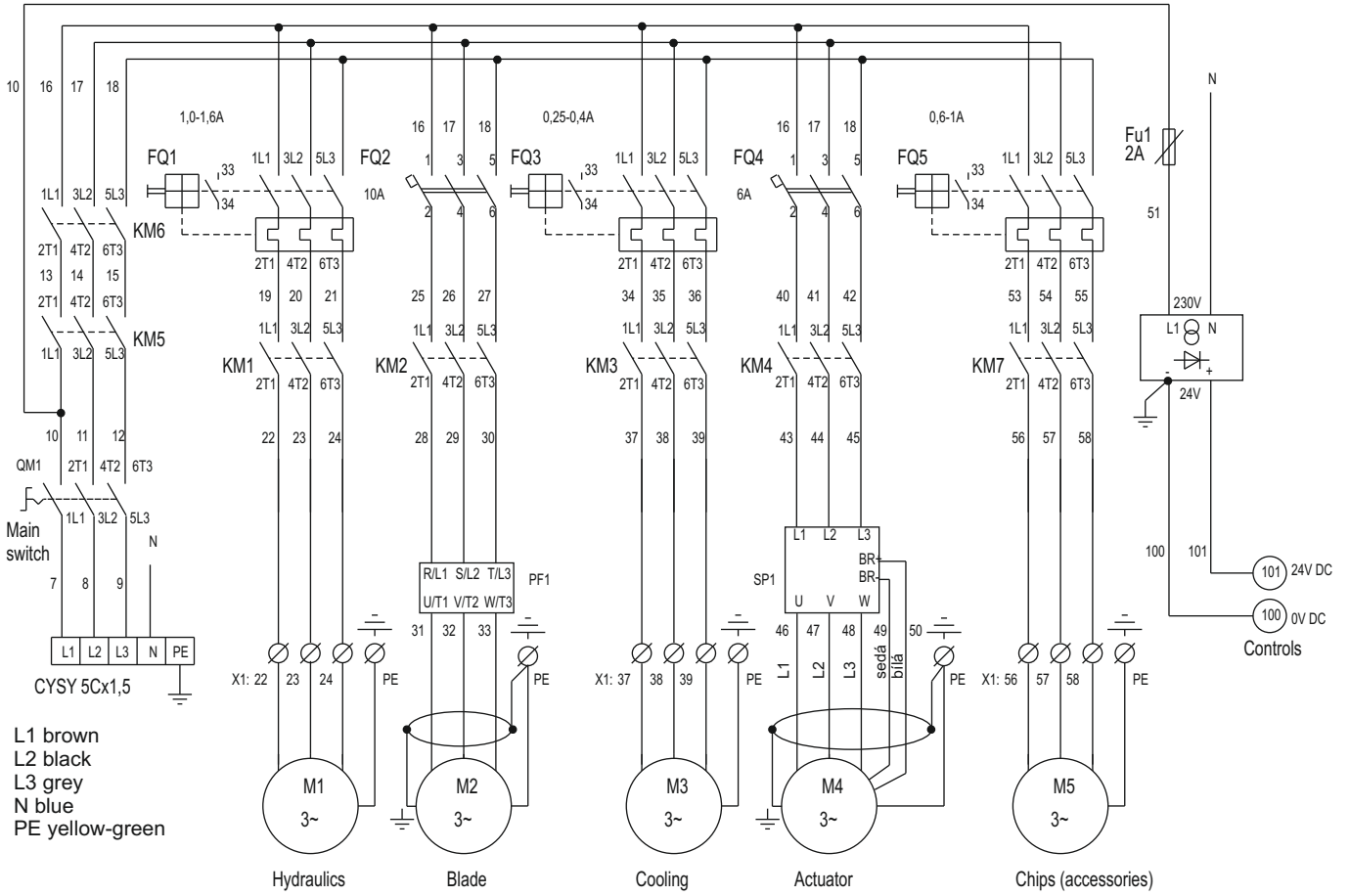
9. Nameplate

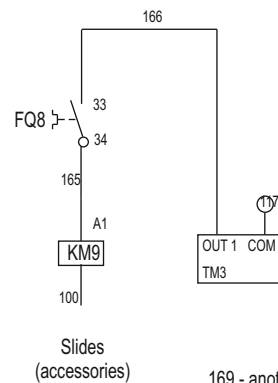
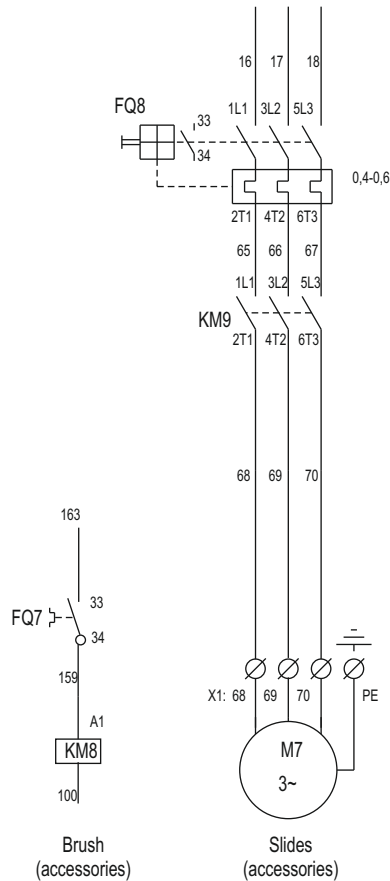
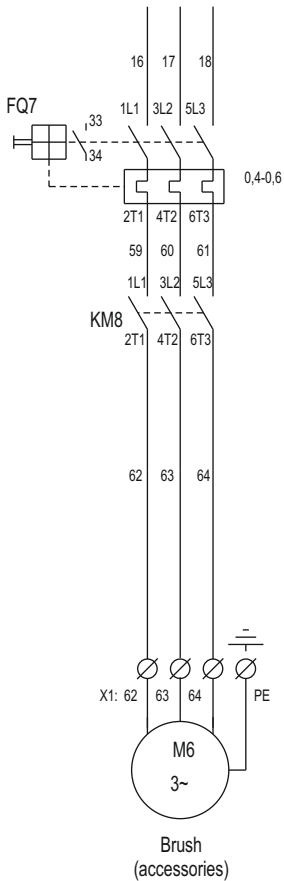
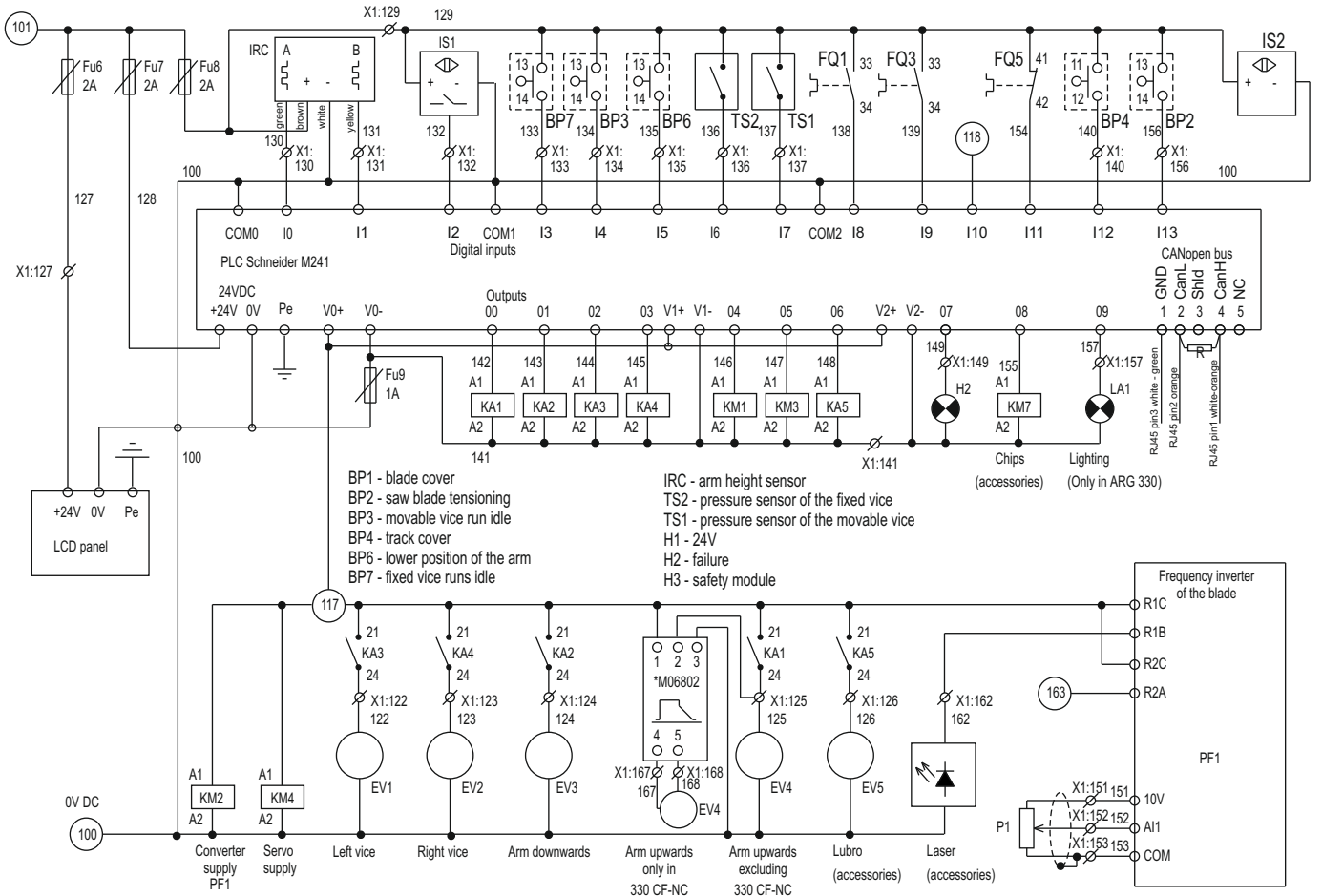
MANUFACTURER MANUFACTURER'S ADDRESS MACHINE MODEL SERIAL NUMBER TOTAL WATTAGE OPERATING VOLTAGE SAW BLADE SIZE VOLUMETRIC FLOW			Producer Pilous-pásové pily, spol. s r.o. Address Železná 9, 619 00 Brno, CZ		 	
	Model ARG 250 plus S.A.F.	Year 2016	YEAR OF MANUFACTURE			
	Serial No. 17/16/0067	 550kg	MACHINE WEIGHT			
	P 2.7kW	I 6.2A	RATED CURRENT			
	U 3x400V/50Hz	 400/24	CONTROL VOLTAGE			
	Blade 2710x27x0,9					
	 Q 4,7 dm ³ /min	P_{max} 6 MPa	MAXIMUM SYSTEM PRESSURE			
	The data are only illustrative					

10. Electrical Wiring Diagram

10.1. Electrical Wiring Diagram in ARG 260 CF-NC, ARG 300 CF-NC, ARG 300 DCT CF-NC, ARG 330 CF-NC, ARG 330 DC CF-NC

v 5.6 21.1.2015





169 - another free number

Diagram:	Name:	Type:	Order No.:
BP1	Limit switch	FR993 with the key D1	016830
BP2	Limit switch	FR615	002491
BP3	Limit switch	FR6A1	002490
BP4	Limit switch	FR693 with the key D1	002532
BP5	Limit switch	FR615	002491
BP6	Limit switch	FR615	002491
BP7	Limit switch	FR6A1	002490
IS1	optical sensor (receiver)	BOS 08M PS RE11 S49	016447
IS2	optical sensor (transmitter)	BOS 08M X RS11 S49	016448
IS3	inductive sensor	BES M08MI-POC20B-S49G	019513
IS4	inductive sensor	BES M08MI-POC20B-S49G	019513
KM1	Contactora	DILEM - 10(24V DC)	012488
KM2	Contactora	DILEM - 10(24V DC)	012488
KM3	Contactora	DILEM - 10(24V DC)	012488
KM4	Contactora	DILEM - 10(24V DC)	012488
KM5	Contactora	DILEM - 01(24V DC)	016828
KM6	Contactora	DILEM - 01(24V DC)	016828
KM7	Contactora	DILEM - 10(24V DC)	012488
FQ1	Motor actuator	MS 325 + HKF11 1-1,6A	001921
FQ2	Circuit breaker	S 203-C 10	003896
FQ3	Motor actuator	MS 325 + HKF11 0,24-0,4A	001871
FQ4	Circuit breaker	S 201-C 6	003597
FQ5	Motor actuator	MS 325 + HKF11 0.6-1A	021178
FQ6	Circuit breaker	S 201-C 6	003597
FU1	The fuse holder	Fuse terminal 5x20 tiltable	001779
	Fuse glass	2A	001597
FU2	The fuse holder	Fuse terminal 5x20 tiltable	001779
	fuse glass	500mA	004197
FU3	The fuse holder	Fuse terminal 5x20 tiltable	001779
	fuse glass	500mA	004197
FU4	The fuse holder	Fuse terminal 5x20 tiltable	001779
	Fuse glass	5A	012712
FU5	The fuse holder	Fuse terminal 5x20 tiltable	001779
	Fuse glass	1,5A	001792
FU6	The fuse holder	Fuse terminal 5x20 tiltable	001779
	Fuse glass	2A	001597
FU7	The fuse holder	Fuse terminal 5x20 tiltable	001779
	Fuse glass	2A	001597
FU8	The fuse holder	Fuse terminal 5x20 tiltable	001779
	Fuse glass	1A	006674
FU9	The fuse holder	Fuse terminal 5x20 tiltable	001779
	fuse glass	500mA	004197
KA1	Relay	RJ2S-CL-D24	013691
	Cap	SJ2S-07L	013490
KA2	Relay	RJ2S-CL-D24	013691
	Cap	SJ2S-07L	013490
KA3	Relay	RJ2S-CL-D24	013691
	Cap	SJ2S-07L	013490
KA4	Relay	RJ2S-CL-D24	013691
	Cap	SJ2S-07L	013490
KA5	Relay	RJ2S-CL-D24	013691
	Cap	SJ2S-07L	013490
KA6	Relay	RJ2S-CL-D24	013691
	Cap	SJ2S-07L	013490
P1	Potentiometer	TP195 4K7/N	002780
	Machine button	dia. 34.8mm	002781
SB1	TOTAL STOP button	YW1B-V4E01R	006104

Diagram	Name:	Type:	Order No.:
SB2	MO head grip.yellow-lit	M22-DL-Y	016736
	mo head connection	M22-A	006103
	mo switch, unit 1on	M22-K10	006090
H3	MO led socket white	M22-LED-W	006092
H1	MO head sig. white	M22-L-W	006095
	mo head connection	M22-A	006103
	MO led socket white	M22-LED-W	006092
H2	MO head sig. red	M22-L-R	006096
	mo head connection	M22-A	006103
	MO led socket red	M22-LED-R	006093
SM1	Signalling beacon	LD6A-2DQB-RS	020587
PF1	Frequency converter	ATV32HU22N4	019758
KAB	safety relay	REER - AD SRE4	018630
PLC	control system	TM238LFDC24DT	019759
zdroj	Actuated power unit	PS5R-SF24	012491
zásuvka	socket for DIN	zs203 230V	008866
LCD panel	Graphic panel Magelis HMIGTO 7,5"	HMIGTO4310	019760
SP1	Servo converter	LXM32AU90M2	019755
QM1	switch	OT 16 ET3	002861
	OT switch - accessories	OTS 32 T 3	002863
	OT switch - accessories	OHY2PJ	003523
EV1	Electromagnet connector	is part of the hydraulic unit	005433
EV2	Electromagnet connector	is part of the hydraulic unit	005433
EV3	Electromagnet connector	is part of the hydraulic unit	005433
EV4	Electromagnet connector	is part of the hydraulic unit	005433
TS1	Pressure switch	is part of the hydraulic unit	009150
TS2	Pressure switch	is part of the hydraulic unit	009150

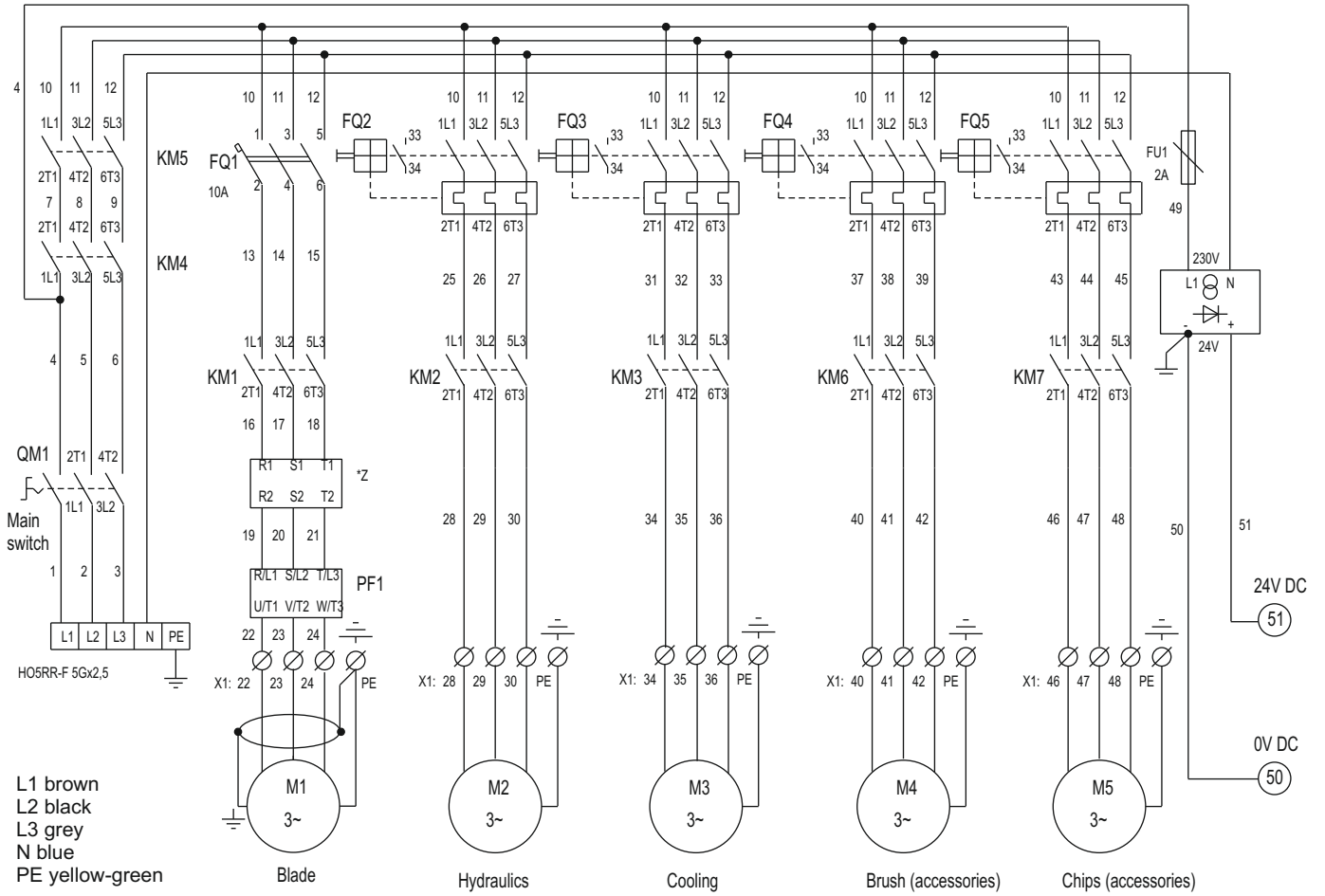
Partlist ARG 330 CF-NC, ARG 330 DC CF-NC

Diagram:	Name:	Type:	Order No.:
BP1	Limit switch	FR993 with the key D1	016830
BP2	Limit switch	PZ-NFB110BB-DN7	020687
BP3	Limit switch	FR6A1	002490
BP4	Limit switch	FR693 with the key D1	002532
BP5	Limit switch	FR615	002491
BP6	Limit switch	FR615	002491
BP7	Limit switch	FR6A1	002490
IS1	optical sensor (receiver)	BOS 08M PS RE11 S49	016447
IS2	optical sensor (transmitter)	BOS 08M X RS11 S49	016448
IS3	inductive sensor	BES M08MI-POC20B-S49G	019513
IS4	inductive sensor	BES M08MI-POC20B-S49G	019513
KM1	Contacto	DILEM - 10(24V DC)	012488
KM2	Contacto	DILEM - 10(24V DC)	012488
KM3	Contacto	DILEM - 10(24V DC)	012488
KM4	Contacto	DILEM - 10(24V DC)	012488
KM5	Contacto	DILEM - 01(24V DC)	016828
KM6	Contacto	DILEM - 01(24V DC)	016828
KM7	Contacto	DILEM - 10(24V DC)	012488
KM8	Contacto	DILEM - 10(24V DC)	012488
FQ1	Motor actuator	MS 325 + HKF11 1-1,6A	001921
FQ2	Circuit breaker	S 203-C 10	003896
FQ3	Motor actuator	MS 325 + HKF11 0,24-0,4A	001871
FQ4	Circuit breaker	S 201-C 6	003597
FQ5	Motor actuator	MS 325 + HKF11 0.6-1A	021178
FQ6	Circuit breaker	S 201-C 6	003597
FQ7	Motor actuator	MS 325 + HKF11 0,4-0,6A	002702
FU1	The fuse holder	Fuse terminal 5x20 tiltable	001779
	Fuse glass	2A	001597

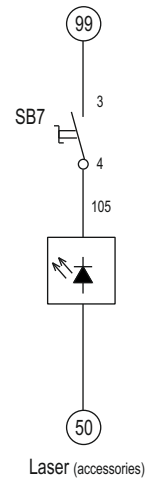
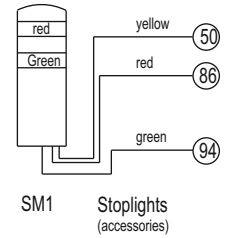
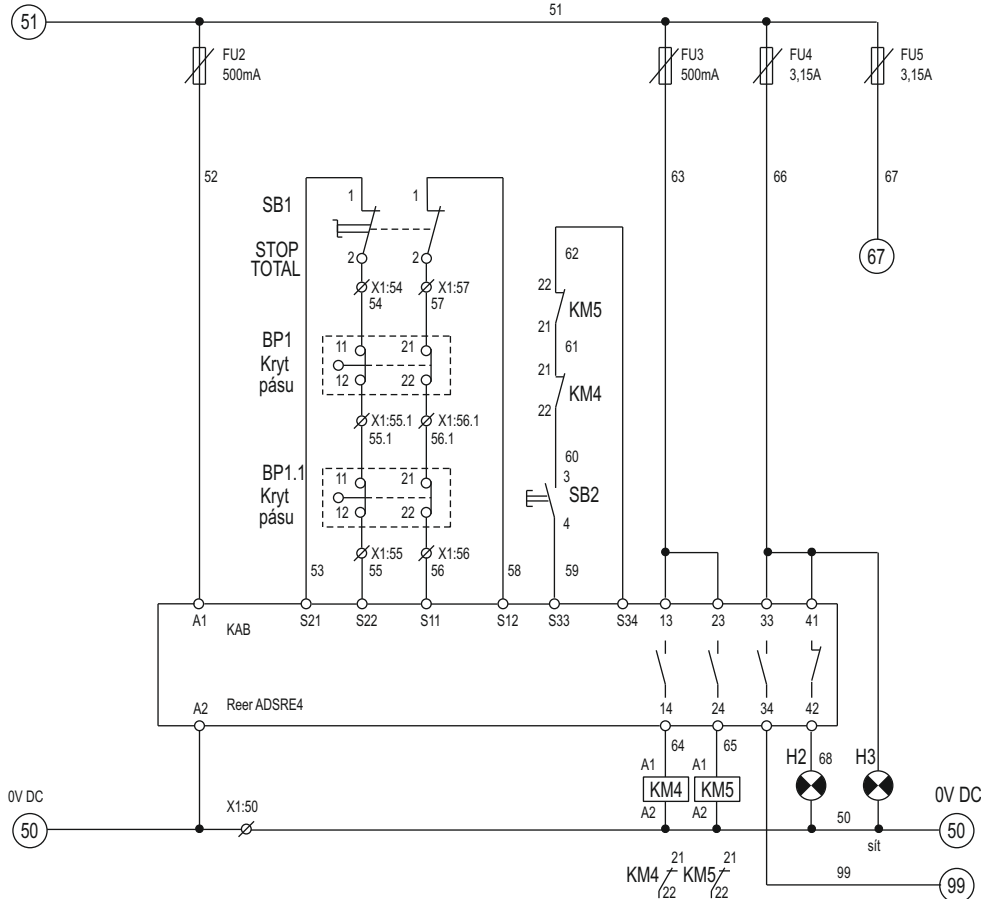
Diagram	Name:	Type:	Order No.:
FU2	The fuse holder	Fuse terminal 5x20 tiltable	001779
	fuse glass	500mA	004197
FU3	The fuse holder	Fuse terminal 5x20 tiltable	001779
	fuse glass	500mA	004197
FU4	The fuse holder	Fuse terminal 5x20 tiltable	001779
	Fuse glass	5A	012712
FU5	The fuse holder	Fuse terminal 5x20 tiltable	001779
	Fuse glass	1,5A	001792
FU6	The fuse holder	Fuse terminal 5x20 tiltable	001779
	Fuse glass	2A	001597
FU7	The fuse holder	Fuse terminal 5x20 tiltable	001779
	Fuse glass	2A	001597
FU8	The fuse holder	Fuse terminal 5x20 tiltable	001779
	Fuse glass	1A	006674
FU9	The fuse holder	Fuse terminal 5x20 tiltable	001779
	fuse glass	500mA	004197
KA1	Relay	RJ2S-CL-D24	013691
	Cap	SJ2S-07L	013490
KA2	Relay	RJ2S-CL-D24	013691
	Cap	SJ2S-07L	013490
KA3	Relay	RJ2S-CL-D24	013691
	Cap	SJ2S-07L	013490
KA4	Relay	RJ2S-CL-D24	013691
	Cap	SJ2S-07L	013490
KA5	Relay	RJ2S-CL-D24	013691
	Cap	SJ2S-07L	013490
KA6	Relay	RJ2S-CL-D24	013691
	Cap	SJ2S-07L	013490
P1	Potentiometer	TP195 4K7/N	002780
	Machine button	pr. 34.8mm	002781
SB1	TOTAL STOP button	YW1B-V4E01R	006104
SB2	MO head grip.yellow-lit	M22-DL-Y	016736
	mo head connection	M22-A	006103
	mo switch, unit 1on	M22-K10	006090
H3	MO led socket white	M22-LED-W	006092
H1	MO head sig. white	M22-L-W	006095
	mo head connection	M22-A	006103
	MO led socket white	M22-LED-W	006092
H2	MO head sig. red	M22-L-R	006096
	mo head connection	M22-A	006103
	MO led socket red	M22-LED-R	006093
IRC	Incremental sensor	LMIX2-026-08,0-1-00	016693
LA1	Lighting	ML-136.001.10.1-5045	020910
SM1	Signalling beacon	LD6A-2DQB-RS	020587
PF1	Frequency converter	ATV32HU30N4	021006
KAB	safety relay	REER - AD SRE4	018630
PLC	control system	TM241CEC24T	021814
zdroj	Actuated power unit	PS5R-SF24	012491
zásuvka	socket for DIN	zs203 230V	008866
LCD panel	Graphic panel Magelis HMIGTO 7,5"	HMIGTO4310	019760
SP1	Servo converter	LXM32AD18N4	021005
QM1	switch	OT 16 ET3	002861
	OT switch - accessories	OTS 32 T 3	002863
	OT switch - accessories	OHY2PJ	003523
EV1	Electromagnet connector	is part of the hydraulic unit	005433
EV2	Electromagnet connector	is part of the hydraulic unit	005433
EV3	Electromagnet connector	is part of the hydraulic unit	005433
EV4	Electromagnet connector	is part of the hydraulic unit	005433
TS1	Pressure switch	is part of the hydraulic unit	009150
TS2	Pressure switch	is part of the hydraulic unit	009150

10.2. Electrical Wiring Diagram in ARG 520 DC CF-NC

v 5.0 21.9.2015



24V DC



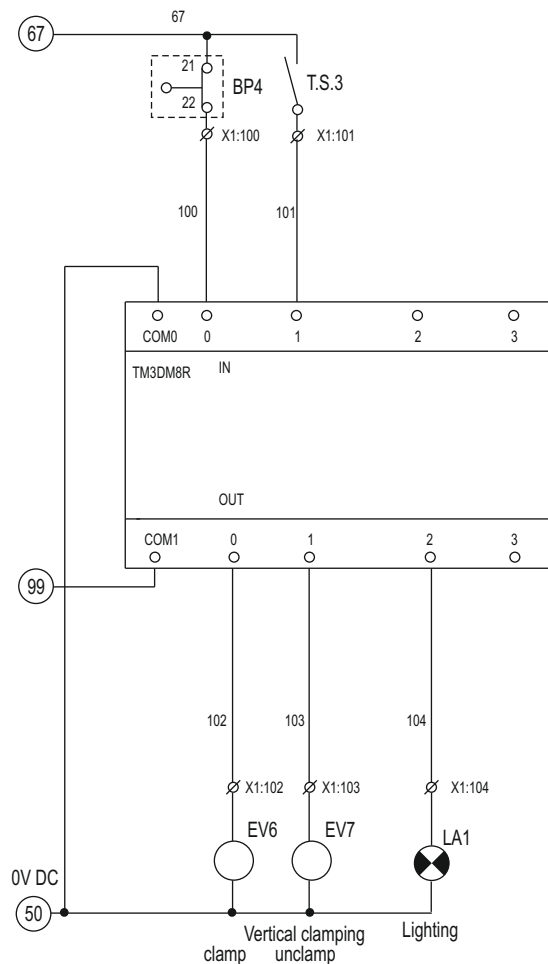
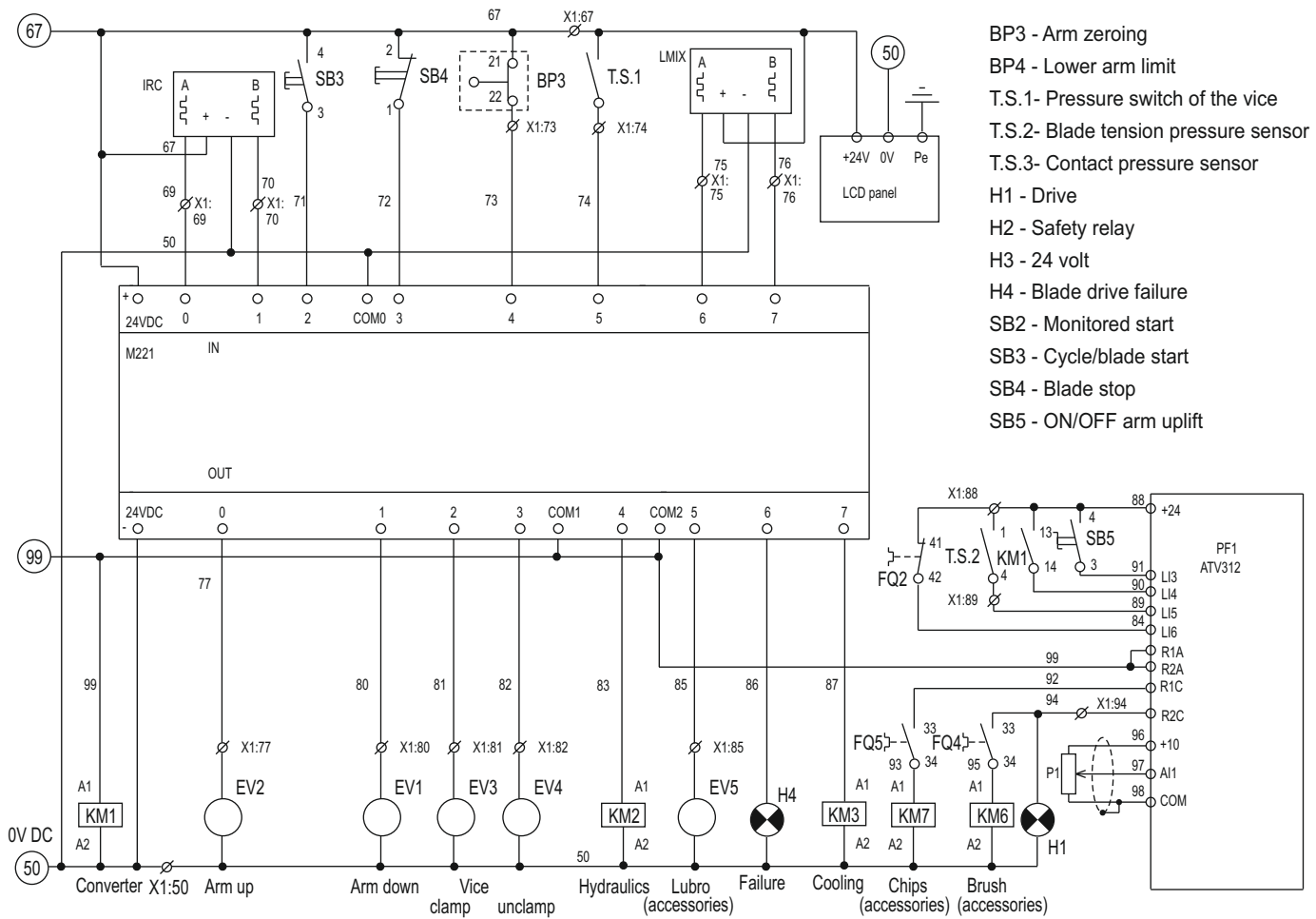
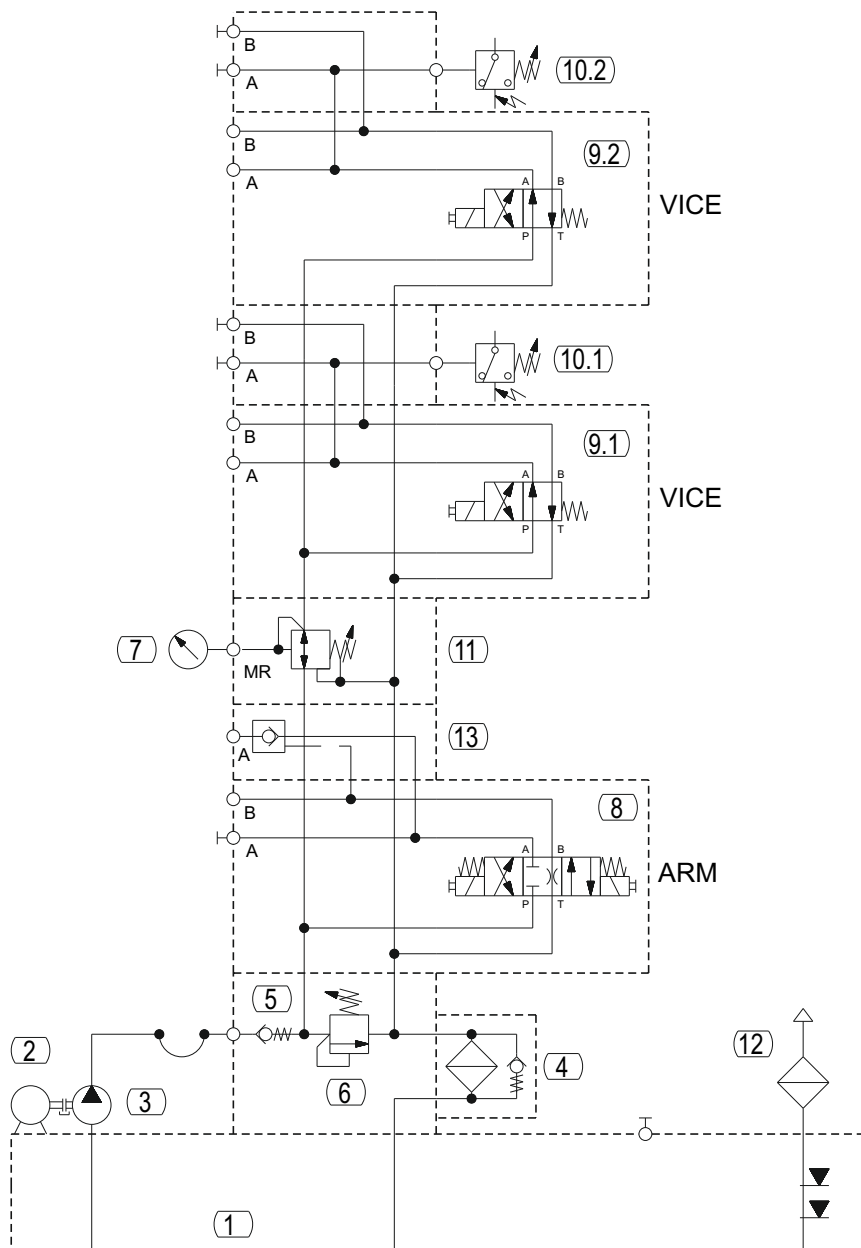


Diagram:	Name:	Type:	Order No.:
BP1	End switch Blade cover	FR 993	016830
BP1.1	End switch Blade cover	FR 993	016830
BP2	Blade tensioning end switch	FR 615	002491
BP3	Arm resetting end switch	FR 6A1	002490
BP3	Lower position limit switch	FR 6A1	002490
KM1	Contactor	DILEM - 10 (24V DC)	012488
KM2	Contactor	DILEM - 10 (24V DC)	012488
KM3	Contactor	DILEM - 10 (24V DC)	012488
KM4	Contactor	DILEM - 01(24V DC)	016828
KM5	Contactor	DILEM - 01(24V DC)	016828
KM6	Contactor	DILEM - 10 (24V DC)	012488
KM7	Contactor	DILEM - 10 (24V DC)	012488
FQ1	Circuit breaker	PL6-C10/3	017351
FQ2	Motor actuator	MS 325 + HKF11 1.0-1.6A	001921
FQ3	Motor actuator	MS 325 + HKF11 0.25-0.4A	001871
FQ4	Motor actuator	MS 325 + HKF11 0.4-0.63A	002702
FQ5	Motor actuator	MS 325 + HKF11 0.6-1A	021178
FU1	The fuse holder	Fuse terminal 5x20 tiltable	001779
	Fuse glass	2A	001597
FU2	The fuse holder	Fuse terminal 5x20 tiltable	001779
	fuse glass	500mA	004197
FU3	The fuse holder	Fuse terminal 5x20 tiltable	001779
	fuse glass	500mA	004197
FU4	The fuse holder	Fuse terminal 5x20 tiltable	001779
	fuse glass	3.15A	001793
FU5	The fuse holder	Fuse terminal 5x20 tiltable	001779
	fuse glass	3.15A	001793
zdroj	Actuated power unit	S8VK-C12024	020201
M221	PLC	TM221M16R	021462
	Card	TM3DM8R	021463
LCD	Touch panel	HMIGTO4310	019760
KAB	safety relay	Reer AD SRE4	018630
PF1	4kW frequency converter	ATV312HU40N4	021016
IRC	Height sensor	LMIX22-012-12.0-2N50	021848
P1	Potentiometer	TP195 4K7/N	002780
	Machine button	pr. 34.8mm	002781
SA2	MO rotary head, black 0-1	M22-WKV	006102
	mo head connection	M22-A	006103
	mo switch, unit 1on	M22-K10	006090
SB1	MO head lock Red	M22-PV/K01	006104
SB2	MO head grip.yellow-lit	M22-DL-Y	016736
	mo head connection	M22-A	006103
	mo switch, unit 1on	M22-K10	006090
H2	MO led socket white	M22-LED-W	006092
SB3	MO head grip.green-lit	M22-DL-G	006098
	mo head connection	M22-A	006103
	mo switch, unit 1on	M22-K10	006090
H1	MO led socket green	M22-LED-G	006094
SB4	MO head grip.red-lit	M22-DL-R	017172
	mo head connection	M22-A	006103
	mo switch, unit 1off	M22-K01	006091
H4	MO led socket red	M22-LED-R	006093
SB5	MO rotary head, black 0-1	M22-WKV	006102
	mo head connection	M22-A	006103
	mo switch, unit 1on	M22-K10	006090
H3	MO head sig. white	M22-L-W	006095
	mo head connection	M22-A	006103
	MO led socket white	M22-LED-W	006092
QM1	switch	OT 16 ET3	002861
	OT switch - accessories	OTS 32 T 3	002863
	OT switch - accessories	OHB2PJ	003523
EV1	Electromagnet connector	is part of the hydraulic unit	005433
EV2	Electromagnet connector	is part of the hydraulic unit	005433
EV3	Electromagnet connector	is part of the hydraulic unit	005433
EV4	Electromagnet connector	is part of the hydraulic unit	005433
T.S.	Pressure switch	is part of the hydraulic unit	009150

11. Hydraulic Unit Wiring Diagram

11.1. Hydraulic Unit Wiring Diagram in ARG 260 CF-NC, ARG 300 CF-NC, ARG 330 CF-NC, ARG 300 DCT CF-NC, ARG 330 DC CF-NC



Q = 4,7 l/min

p_{max} = 40 bar

P = 0,37 kW

UNIT TYPE NUMBER: S001_272_3

ORDER NUMBER OF THE UNIT:

POWER SUPPLY - BASIC PARAMETERS

Pos.	Name	Type
1	tank	TM20, 20 liters
2	electric motor	EM 71 0,37kW/3 1500 RPM B35-L
3	pump	10A3.65X053G
4	return filter	W79
5	one-way valve	CVG 14
6	pressure relief valve	MO-020/10, 40 bar
7	pressure gauge	ø 68 with glyc. Rad., 0-100bar
8	switchboard	DVE03-S51-B5-C24/20/T1-M1
9	switchboard	DVE03-S12-B5-C24/20/T1-M1
10	pressure switch	0166 411 031 043 + cap, sett.13bar+-2
11	pressure reduction valve	RV03-P-55_R_M, 0-40bar
12	filling cap	CPT-MD-FA/1"
13	hydraulic lock	PC08-30-0-N

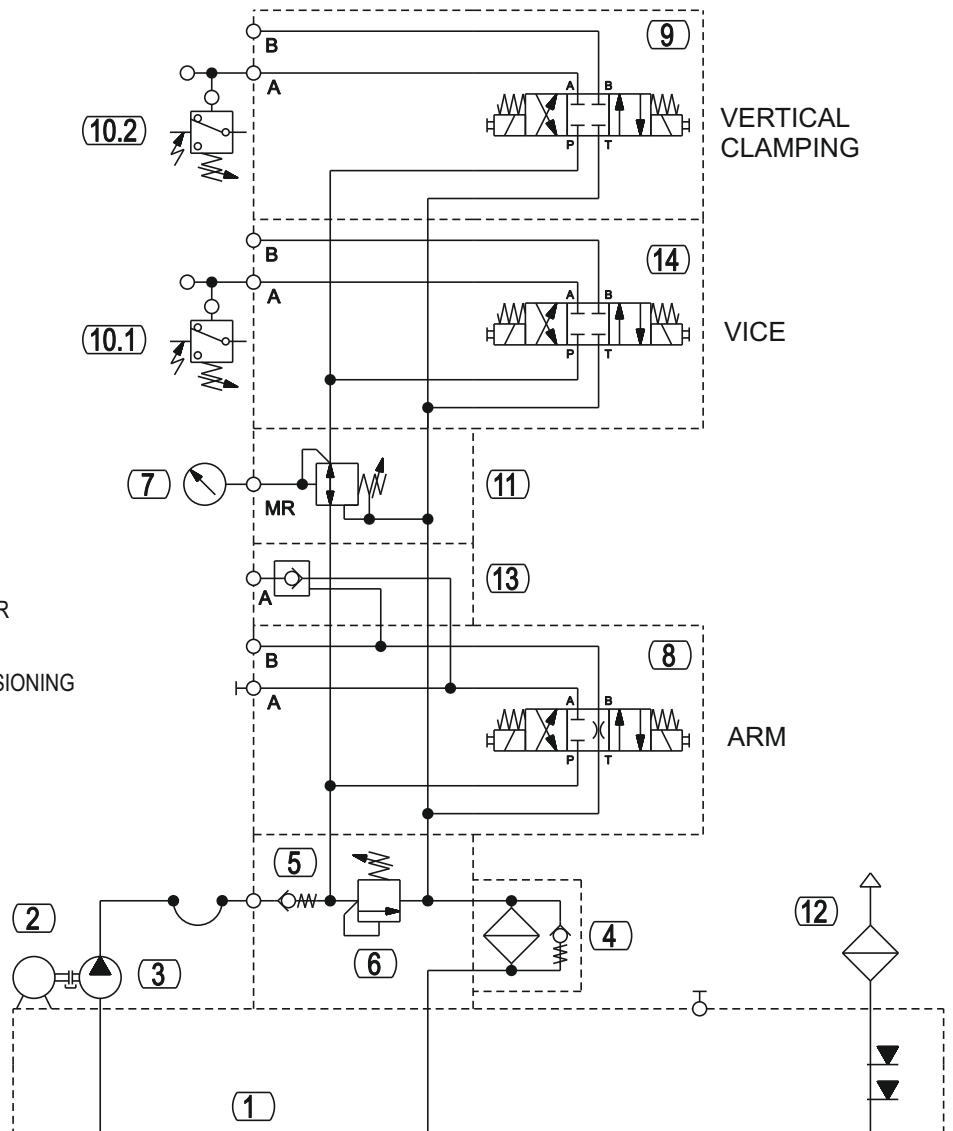
11.2. Hydraulic Unit Wiring Diagram in ARG 520 DC CF-NC

HOSE IDENTIFICATION:

- 1A, 1B - GUIDE FEED
- 2A, 2B - BLADE TENSIONING
- 3A, 3B, 4A, 4B, 5A - ARM
- 6A, 6B - VICE
- 7A, 7B - HVP

ELECTRIC VALVES IDENTIFICATION:

- EV1 - CLAMP THE VICE
- EV2 - UNCLAMP THE VICE
- EV3 - ARM DESCENT
- EV4 - ARM DOWN -> DECELERATE
- EV5 - ARM UP
- EV6 - BLADE TENSIONING
- EV7 - BLADE LOOSENING
- EV8 - MOVING BLOCK TO FIXED BAR
- EV9 - MOVING BLOCK FROM THE FIXED BAR
- EV10 - 2ND PUMP (RELIEF)
- TS1 - PRESSURE SWITCH FOR BLADE TENSIONING
- TS2 - PRESSURE SWITCH FOR THE VICE



Q = 4,7 l/min
 p_{max} = 40 bar
 P = 0,55 kW

UNIT TYPE NUMBER: S001_481_5
 ORDER NUMBER OF THE UNIT: 021406

POWER SUPPLY - BASIC PARAMETERS

Pos.	Name	Type
1	tank	TM20, 20 liters
2	electric motor	EM 71 0.55kW/3 1500 RPM B35-L
3	pump	10A3.65X053G
4	return filter	W79
5	one-way valve	CVG 14
6	pressure relief valve	MO-020/10, 40 bar
7	pressure gauge	ø 68 with glyc. Rad., 0-100bar
8	switchboard	DVE03-S51-B5-C24/20/T1-M1
9	switchboard	DVE03-S01-B2-C24/20/T1-M1
10	pressure switch	0166 411 031 043 + cap, sett.13bar+-2
11	pressure reduction valve	RV03-P-55_R_M, 0-40bar
12	filling cap	CPT-MD-FA/1"
13	hydraulic lock	PC08-30-0-N
14	switchboard	DVE03-S01-B5-C24/20/T1-M1

12. Accessories

12.1. Laser Guideline Light

Laser guidance is a very practical tool for easy identification of the desired length of the cut material without a horizontal side stop both during perpendicular and angular cutting. The desired cutting spot is indicated by a red mark copying the saw blade.



Safety warning

Caution! Includes a 3R-class laser source. Avoid eye contact with both direct and reflected laser beam. Never look into the laser lens when the machine is in operation! Risk of permanent damage to your vision! Keep away from children.

Information - What is a Laser of the performance class 3R - classification according to IEC 60825

This group covers lasers that emit radiation in the continuous mode in the visible part of the spectrum, from 400 to 700 nm, and whose power does not exceed 5mW. Laser of this class cannot cause damage to the human eye in case of a fleeting glance. The eye of a healthy human is protected by the natural blink reflex, supposing the person is not under the influence of narcotic substances. It is assumed that the time that elapses between the contact with the eye and the laser beam, and the closing of the eyelids (or turning the head aside), is less than 0.25 s. That is sufficient for the retina to remain protected from the light energy of over 0.25 millijoule. The amount of 0.25 mJ is the maximum permissible value the human eye can be exposed to in case of a direct eye contact with the laser bundle. Danger arises during an intentional and a long look into the laser beam, or when observing the beam with an optical system. **It is not allowed to watch the beam with binoculars.** These lasers would cause permanent eye damage.

12.1.1. Activation and deactivation of the laser beam

After unpacking, the laser guideline light is in a full working condition. After switching on the machine (according to the instruction manual of the machine), the laser beam is activated and starts to radiate. After turning off the machine (according to the instruction manual of the machine), the beam extinguishes.

12.1.2. Laser indication on the machine

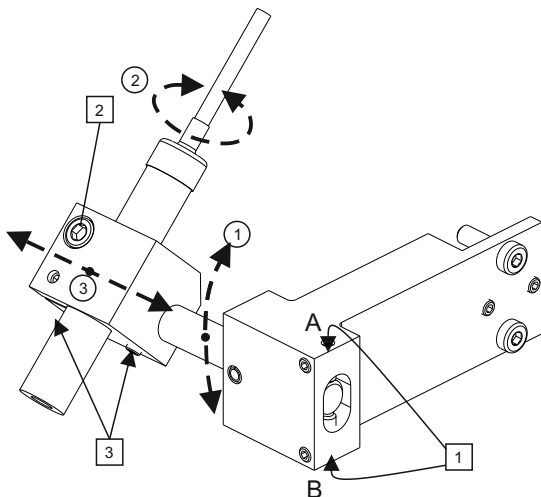
Each machine equipped with the laser guideline light must be indicated with a laser pictogram label.

In the proximity of the machine and the operator, a security warning must be displayed.



12.1.3. Adjustment

If the laser beam does not point exactly at the cut, it needs to be adjusted.



1. Switch on the machine, the laser beam starts to radiate.
2. Set up the beam as close as possible to the desired position.
3. Then, while adjusting, start moving the laser holder console (1) upwards or downwards and adjust the laser beam with a descending arm so that it does not veer to one or the other side.
If the beam veers in the direction ahead of the cut, when the shoulder is descending, loosen the setting screw 1A and tighten 1B. Or the other way round.
4. When the beam does not veer anymore and remains directed during both ascending and descending of the arm, readjust the desired direction by (2) and (3).

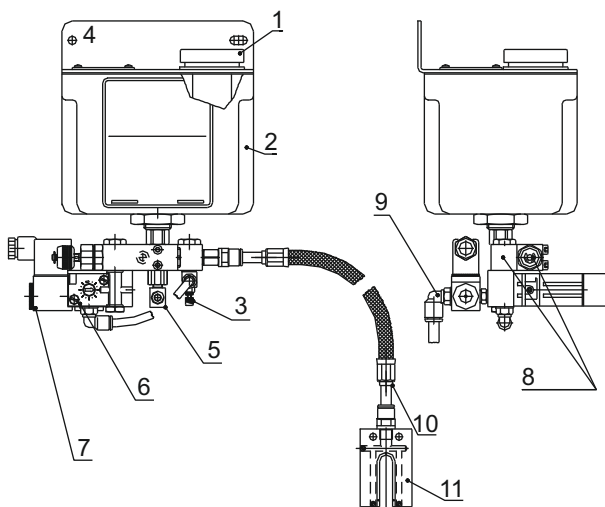
12.2. Oil Mist Lubrication

When using the standard cooling equipment, coolant leakages from the machine often occur, particularly when cutting long sections. Oil mist lubrication is a device that creates oil mist, which is subsequently applied through nozzles directly onto the saw blade that is then cooled and lubricated. The device functions by dosing oil and air mixture. It is also useful in the processing of material that excludes the contact with a regular coolant. This lubrication system is lossy, so it is necessary to refill the coolant regularly.

The injection nozzle holder must be placed near the designated point in order to reach the optimum adjustment of the nozzle with the least possible distance from the lubrication point. The supplied compressed air must be absolutely dry and oil free. Optimum operating pressure is between 4 and 8 bars. Commissioning is carried out during the open subordinate actuating valve by an external signal from the control valve (optional), the connection to the mains is facilitated by a supplied screw connector (PG9). Fill the tank with COOLcut Micro liquid and the mist lubrication is ready for operation.

Important:

In the event of use of lubricating media other than the recommended, a risk of decay or deposits arise. That is why the system functionality can only be guaranteed for the use of COOLcut Micro liquid.



1	SCREW-ON LID WITH A FILTER
2	1.2L CONTAINER
3	OIL MIST SETTING
4	FITTING HOLE
5	VENTING
6	PULSE GENERATOR
7	SOLENOID VALVE 24V DC PG 9 SOCKET
8	DOSING PUMP
9	COUPLING 8MM
10	2.5 M COAXIAL POWER CABLE (METAL PROTECTION)
11	NOZZLE HEAD CAT. NO.: 70.107.1

Oil mist venting

Oil mist lubrication system is supplied after testing.

Before commissioning and maintenance on the coaxial cable or nozzle, the system has to be vented. If the volume of oil in the container does not drop under the minimum threshold, other venting is not necessary.

Venting procedure:

1. Fill the tank with a clean lubrication medium.
2. Loosen the drainage and venting screw a little and keep releasing the lubricating medium until there are no air bubbles present in it.
3. Set the pulse generator frequency to the maximum value (approx. 66 pulses per minute).
4. Set the dosing pump piston stroke to the maximum.
5. Connect the compressed air and fill the capillary tube, so that all the tubing along the whole length is bubble-free (filling duration depends on the length of tubing).
6. Connect to coaxial head to the spray head.
7. After venting, set the frequency and piston stroke to operating values again.

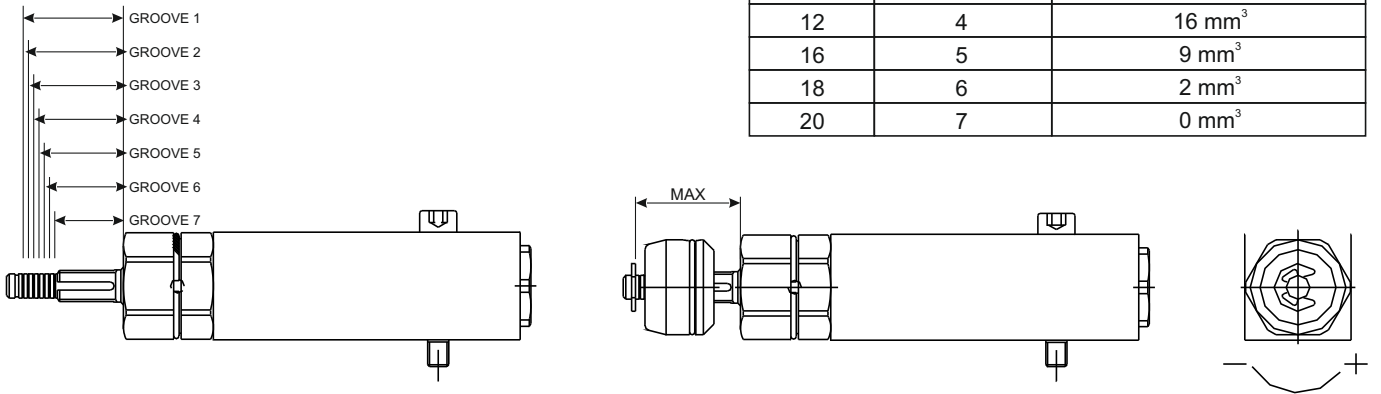
Oil mist setting

1. Pulse generator settings: pneumatic time relay controls the dosing pump. You can set the frequency continuously from 0 to 66 pulses per minute.
2. Dosing pump settings: the piston vacuum pump doses the lubricating medium under high pressure. The quantity of the lubricant can be regulated by turning the manual setting wheel.
3. Oil mist spray setting: By spraying the air the drops form a very fine lubricating film and its setting influences the degree of dispersion, cooling and chips formation. Volume of air in the nozzle can be adjusted by the adjustment screw.

DOSING PUMP SETTINGS

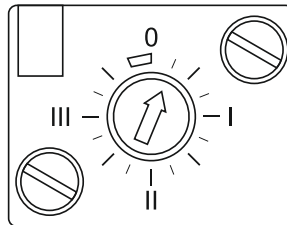
Piston vacuum pump doses the lubricant accurately and under high pressure.

CLICK	GROOVE No.	SUPPLIED VOLUME/STROKE
0	1	41 mm ³
4	2	30 mm ³
8	3	23 mm ³
12	4	16 mm ³
16	5	9 mm ³
18	6	2 mm ³
20	7	0 mm ³



PULSE GENERATOR SETTINGS 6 BAR (90 PSI)

66 PULSES
PER MINUTE

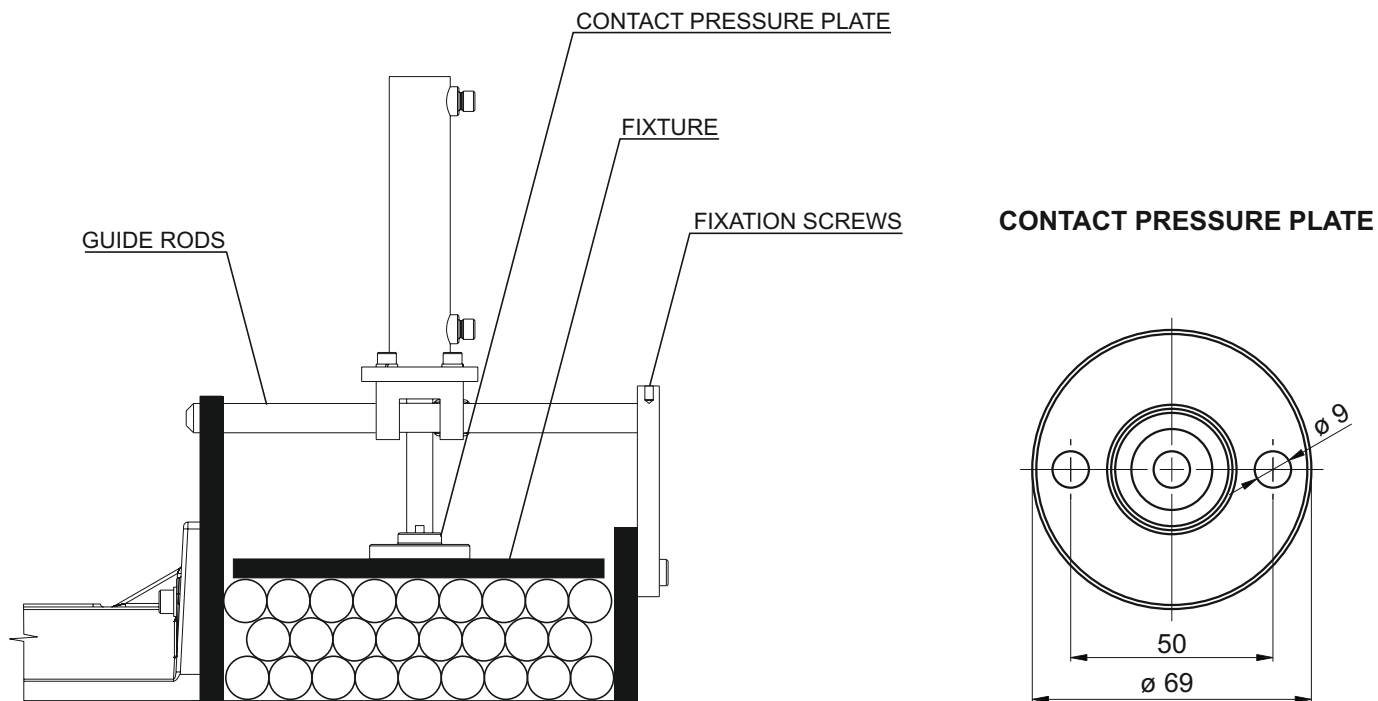


37 pulses per minute	21 pulses per minute	13 pulses per minute	10 pulses per minute	6 pulses per minute	5 pulses per minute
4 pulses per minute	3 pulses per minute	2,5 pulses per minute	2 pulses per minute	1,5 pulses per minute	1 pulse per minute

12.3. HVP Vertical Vice for Bundle Cutting

The HVP vertical vice facilitates are used for cutting of materials in bundles. Proper and sufficient clamping of all workpieces in the bundle significantly influences the service life of the saw blade. The contact pressure plate facilitates vertical clamping of the workpiece. If a larger bearing surface is required, mount your own fixture of corresponding dimensions onto the contact pressure plate. Make sure that the guide rods are locked by fixation screws before you start cutting. **Check whether the workpiece is properly clamped, otherwise you risk its ejection during cutting!**

WARNING! When using the vertical vice while cutting the workpieces in HVP bundles, you can cut only at 90°.



The HVP packet for the saw ARG 260 CF-NC includes a new movable clamping jaw and also a small clamping jaw that has to be connected onto a pre-drilled cast iron fixed clamping jaw in front of the cutting line.

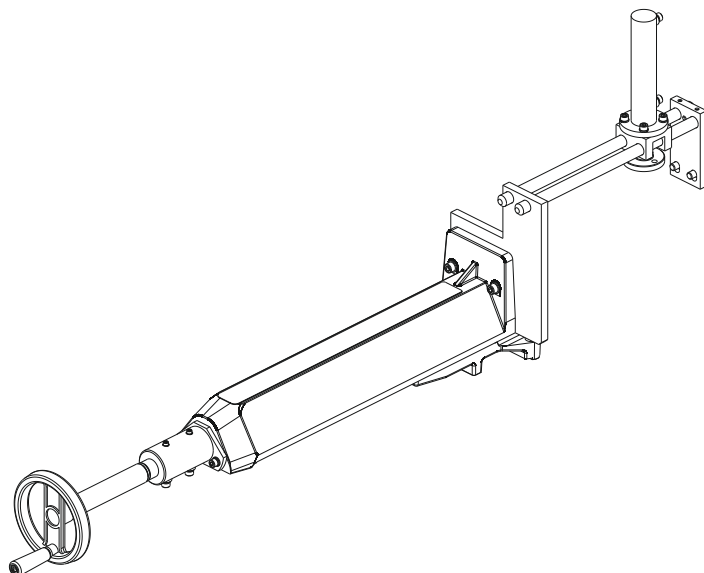
The HVP packet for the saw ARG 300 CF-NC, ARG 300 DCT CF-NC and ARG 330 CF-NC includes a new movable jaw as well as a fixed jaw.

The HVP packet for the saw ARG 330 DC CF-NC includes extensions for both the movable and the fixed jaw, where the threads are already predrilled.

Guiding rods are usually supplied in three pieces, in order to allow for cutting of a whole range of sections. It is necessary to replace the rod before cutting in order to prevent collision with the guide head or the clamping jaw.

Maximum material HVP

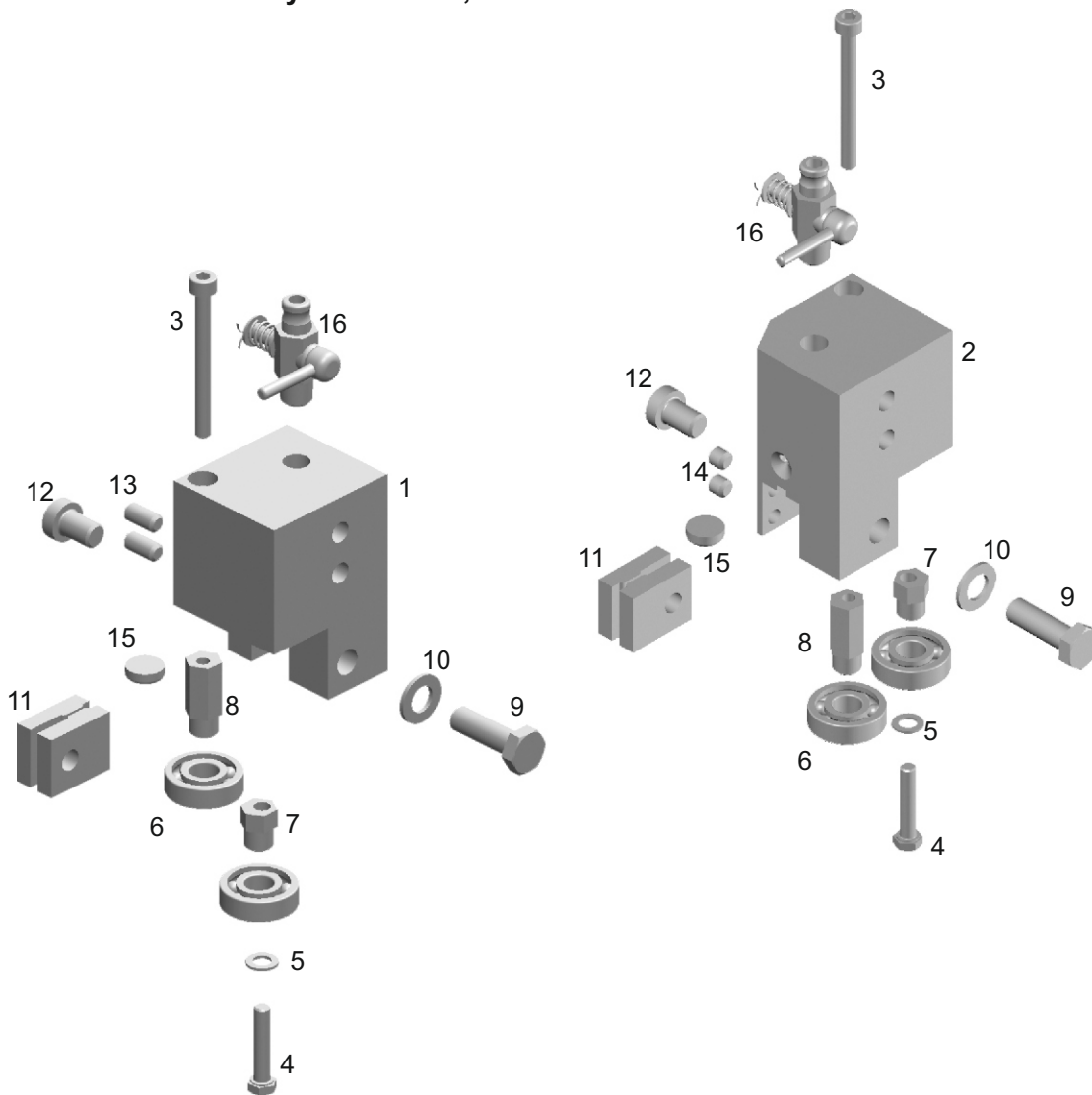
Machine type	width	height
ARG 260 CF-NC	250	150
ARG 300 CF-NC	300	175
ARG 300 DCT CF-NC	360	170
ARG 330 CF-NC	350	210
ARG 330 DC CF-NC	360	190
ARG 520 DC CF-NC	700	400



13. Assemblies

13.1. Guide Head Assembly

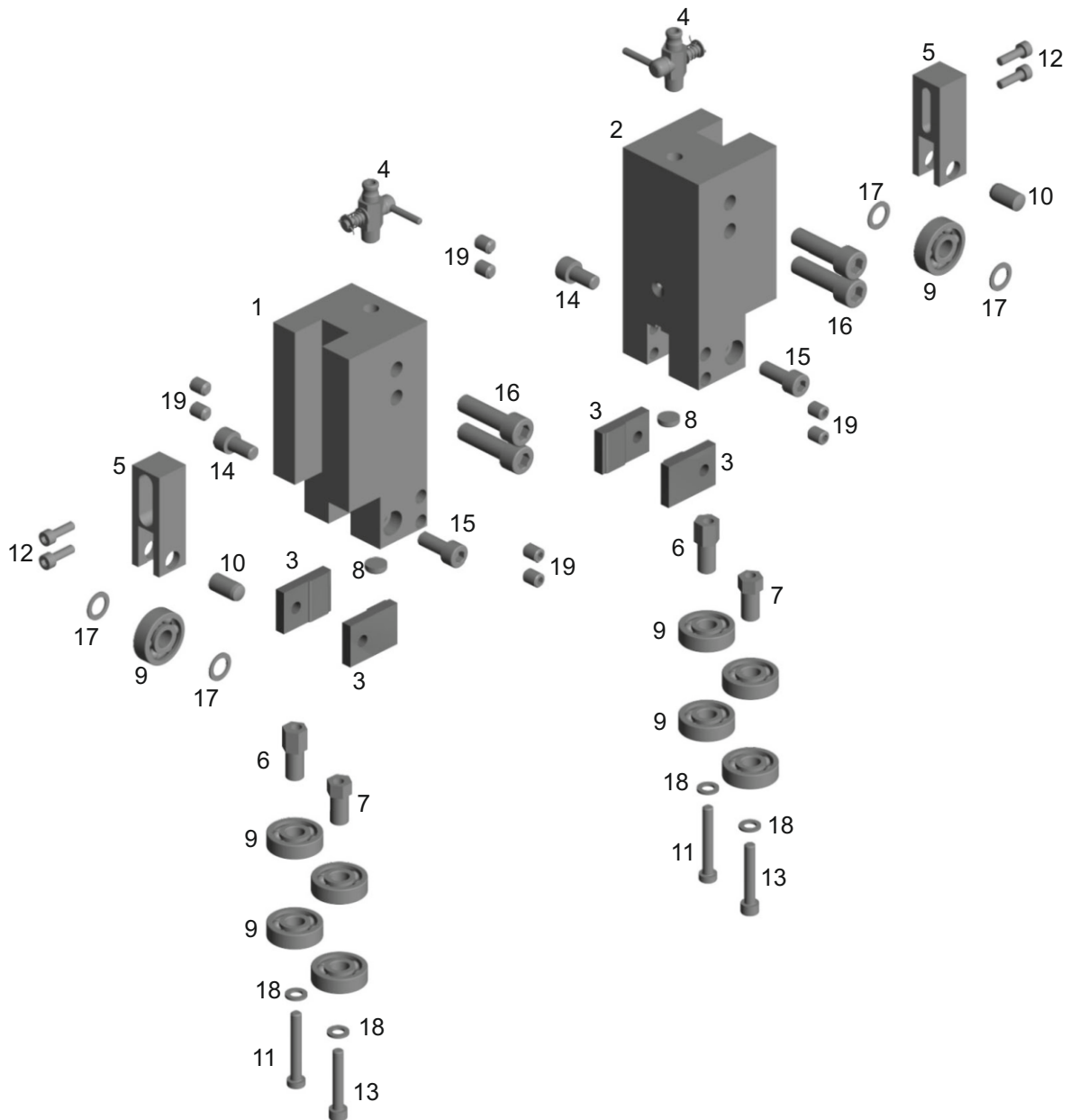
13.1.1. Guide Head Assembly in ARG 260, 300



ver. 1.12.2018

Pos.	Order number	Name	Type ARG	Pcs
1	014056	Guide head moving	260	1
	013848	Guide head moving	300	1
2	014055	Guide head fixed	260	1
	013850	Guide head fixed	300	1
3	002207	Allen screw M5x50	260,300	2
4	001452	SW M5x25 screw	260,300	2
5	001473	Washer 6	260,300	2
6	001405	697 2Z bearing	260,300	4
7	013821	Exc. bearing, guide head, small	260,300	2
8	013822	Exc. bearing, guide head, big	260,300	2
9	001454	M8x25 SW screw	260	2
	001717	M8x30 SW screw	300	2
10	001474	Washer 8	260,300	2
11	001349	Hardened steel plate	260,300	4
12	001673	Allen screw M8x12	260,300	2
13	001457	M6x12 setting screw	260,300	2
14	001924	M6x6 setting screw	260,300	2
15	001351	Hardened steel blade guide KR 12x4	260,300	2
16	001402	Drain valve	260,300	2

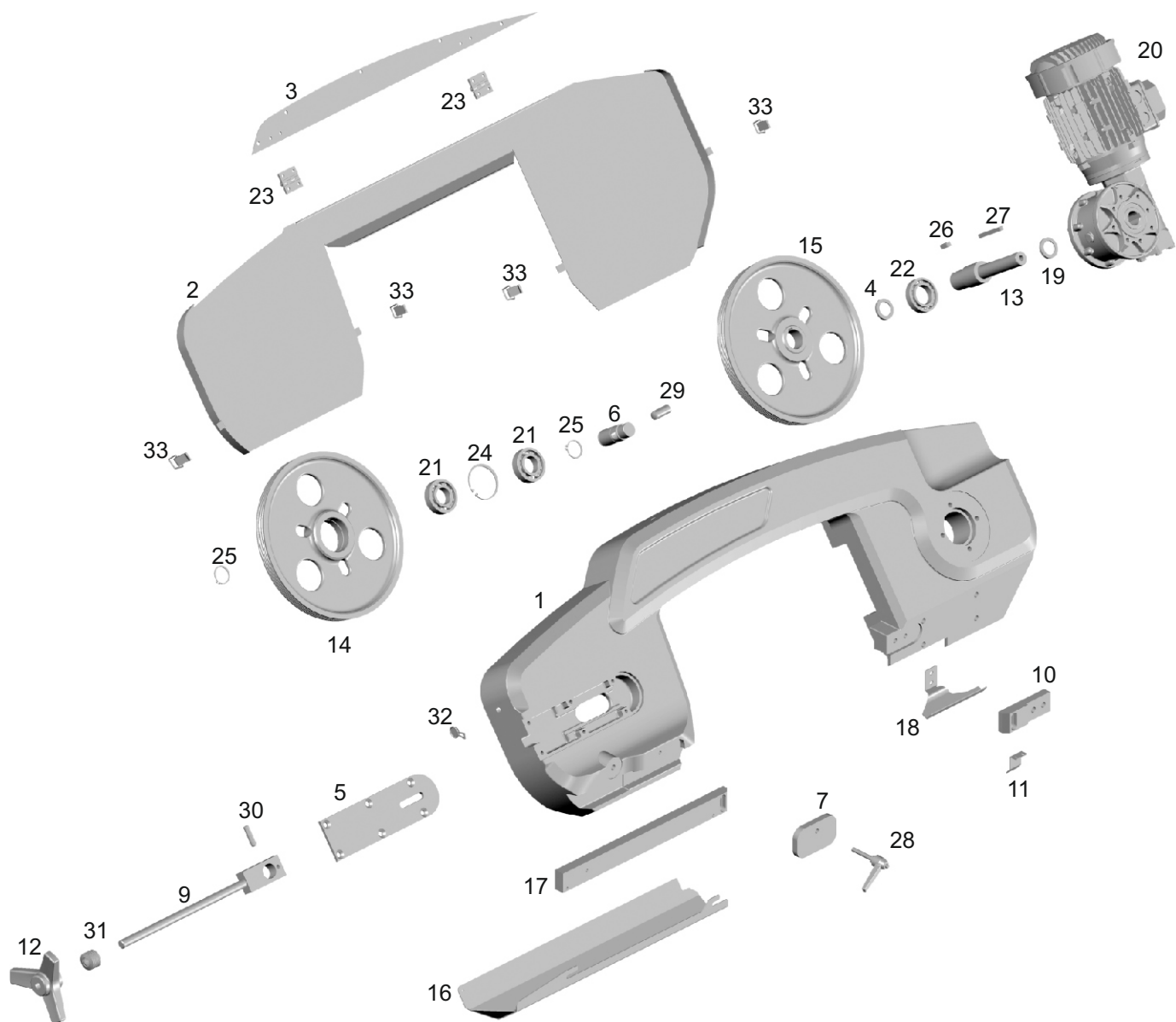
13.1.2. Guide Head Assembly in ARG 330



ver. 1.11.2018

Pos.	Order number	Name	Type ARG	Pcs
1	013946	Guide head, moving	330	1
2	013947	Guide head, fixed	330	1
3	001997	Hardened steel plate	330	4
4	001402	Drain valve	330	2
5	001890	Guide head slider	330	2
6	014968	Exc. bearing, guide head, big	330	2
7	014967	Exc. bearing, guide head, small	330	2
8	001351	Hardened steel blade guide, round	330	2
9	001829	6200 - 2Z bearing	330	10
10	002044	Hardened pin 10x20	330	2
11	004237	Allen screw, low head, M6x45	330	2
12	001560	Allen screw M5x16	330	4
13	002043	Allen screw M6x40	330	2
14	001562	Allen screw M8x16	330	2
15	001441	Allen screw M8x20	330	2
16	001563	Allen screw M10x40	330	4
17	005036	Washer 10x16x1, flush	330	4
18	001473	Washer 6	330	4
19	001458	Worm Allen screw M8x16	330	8

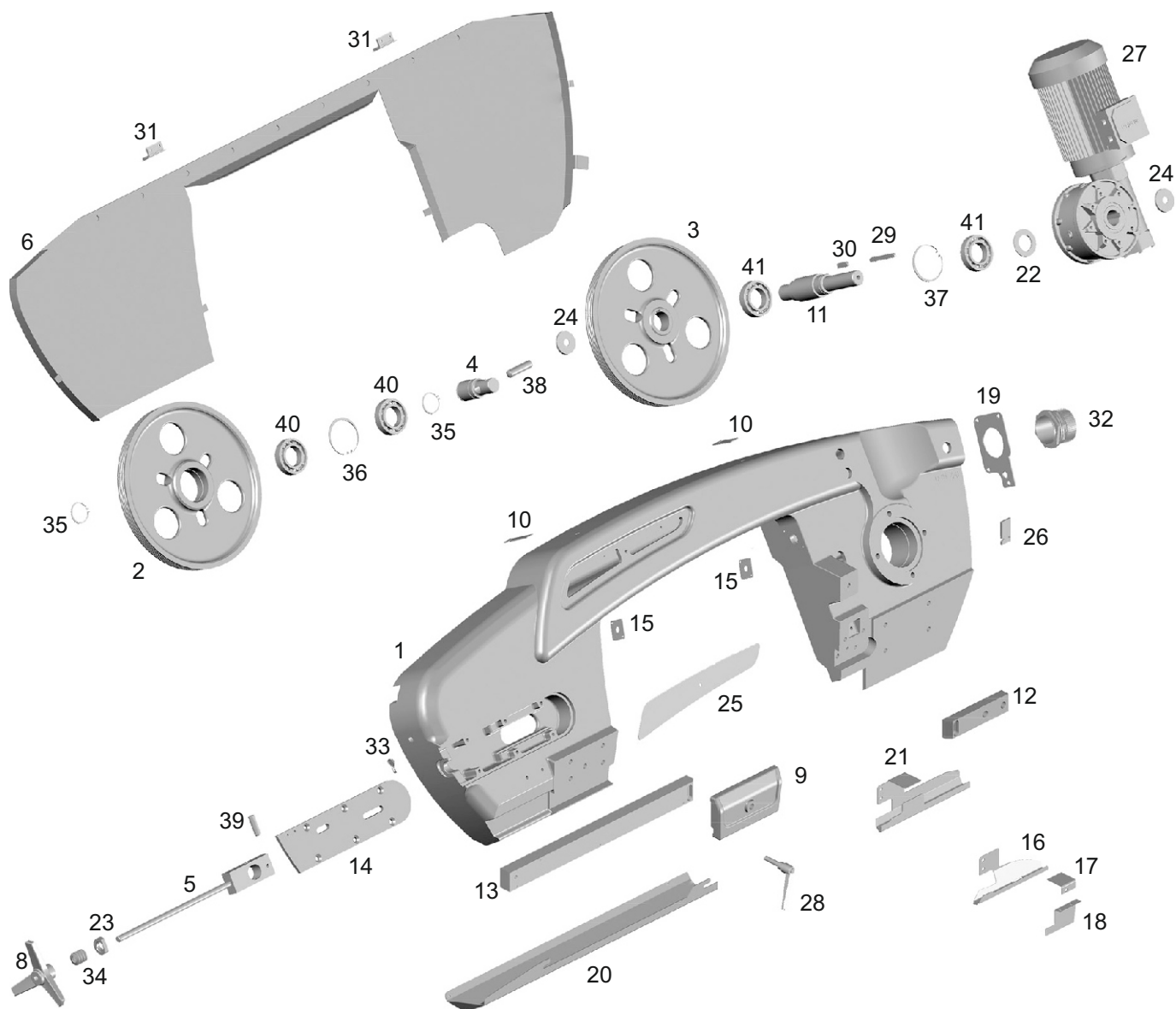
13.2.1. Arm assembly ARG 260



ver. 1.11.2018

Pos.	Order number	Name	Type ARG	Pcs	Pos.	Order number	Name	Type ARG	Pcs
1	025548	Arm 260	260	1	18	025555	Blade cover, fixed guide head	260	1
2	025549	Back cover, arm	260	1	20	021915	Drive MRT70, i=30	260	1
3	025550	Upper cover	260	1		021916	Drive MRT60, i=25	260 F	1
4	025553	Distance ring	260	1	21	001626	Bearing 6206-2Z	260	2
5	024922	Tensioning system cover	260	1	22	001627	Bearing 6207-2RS1	260	1
6	025554	Tensioning bolt	260	1	23	024793	Hinge	260	2
7	024924	Clamp	260	1	24	001437	Retaining ring, inner \varnothing 62	260	1
9	024926	Tensioning plate	260	1	25	001432	Retaining ring, outer \varnothing 30	260	2
10	002183	Fixed rod	260	1	26	001488	Tight spring 10e7x8x25	260	1
11	015880	Bearing cover	260	1	27	006699	Tight spring 8e7x7x70	260	1
12	001340	Triangle	260	1	28	026106	Adjustable lever, M8x25	260	1
13	025552	Shaft drive	260	1	29	001485	Hardened pin 16x40	260	1
14	025559	Tensioning wheel	260	1	30	001484	Hardened pin 10x40	260	1
15	025558	Blade wheel	260	1	31	001483	TP 31,5x16,3x1,8x2,5	260	10
16	025287	Blade cover	260	1	32	009577	Cap	260	1
17	025286	Movable rod	260	1	33	002108	Angled latch	260	4

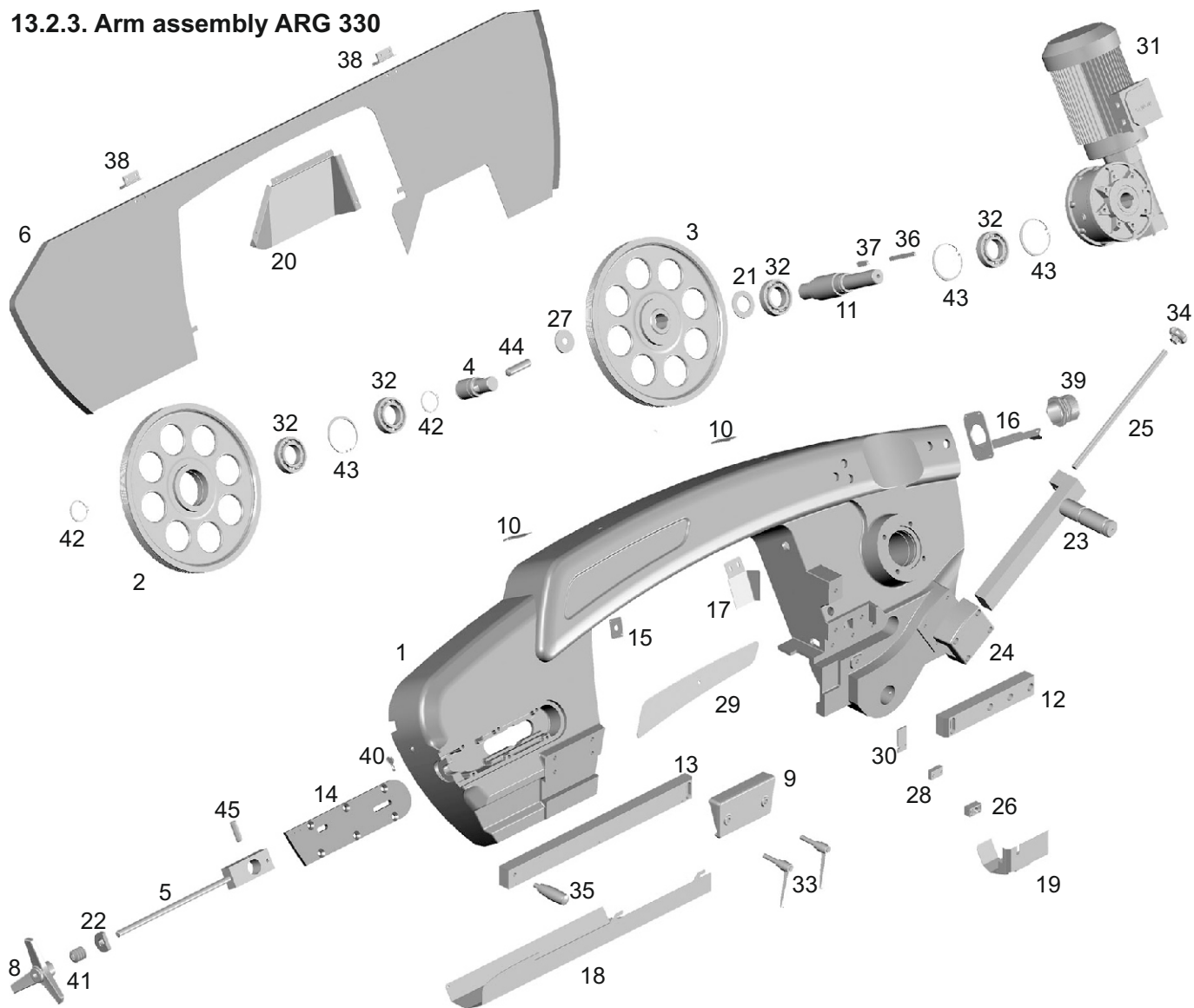
13.2.2. Arm assembly ARG 300



ver. 1.11.2018

Pos.	Order number	Name	Type ARG	Pcs	Pos.	Order number	Name	Type ARG	Pcs
1	023378	Arm	300	1	22	023377	Ring	300	1
2	002161	Tensioning wheel	300	1	23	025248	Tensioning washer	300	1
3	002160	Blade wheel	300	1	24	014108	Washer	300	2
4	023368	Tensioning bolt	300	1	25	023825	Underlying metal sheet	300	1
5	023369	Tensioning plate	300	1	26	018708	Limit switch washer	300	1
6	023429	Back cover, arm	300	1	27	021917	El. drive MRT80-25-FT-RL-90/115	300	1
8	001340	Triangle	300	1	28	011205	Adjustable lever, M12x50	300	1
9	023379	Clamp	300	1	29	011885	Tight spring 10x 8x 80	300	1
10	020473	Cover stop - rear	300	2	30	005423	Tight spring 12x 8x 30	300	1
11	002172	Shaft drive	300	1	31	021170	Hinge	300	2
12	021701	Fixed rod	300+	1	32	014591	Bushing	300	1
	002183	Fixed rod	300	1	33	009577	Cap	300	1
13	013851	Movable rod	300	1	34	001483	TP 31,5x16,3x1,8x2,5	300	10
14	023367	Tensioning system cover	300	1	35	001432	Retaining ring, outer ø 30	300	2
15	020774	Cooling cover	300	2	36	001437	Retaining ring, inner ø 62	300	1
16	015823	Blade cover fixed guide head	300	1	37	001893	Retaining ring, inner ø 90	300	1
17	022208	Top blade cover	300	1	38	001485	Hardened pin 16x40	300	1
18	022212	Side blade cover	300	1	39	002384	Hardened pin 10x45	300	1
19	026079	Arm cover rear	300	1	40	001626	Ball bearing 6206-2Z	300	2
20	024291	Blade cover	300	1	41	002186	Ball bearing 6308-2Z	300	2
21	024251	Blade cover, fixed guide head	300+	1					

13.2.3. Arm assembly ARG 330

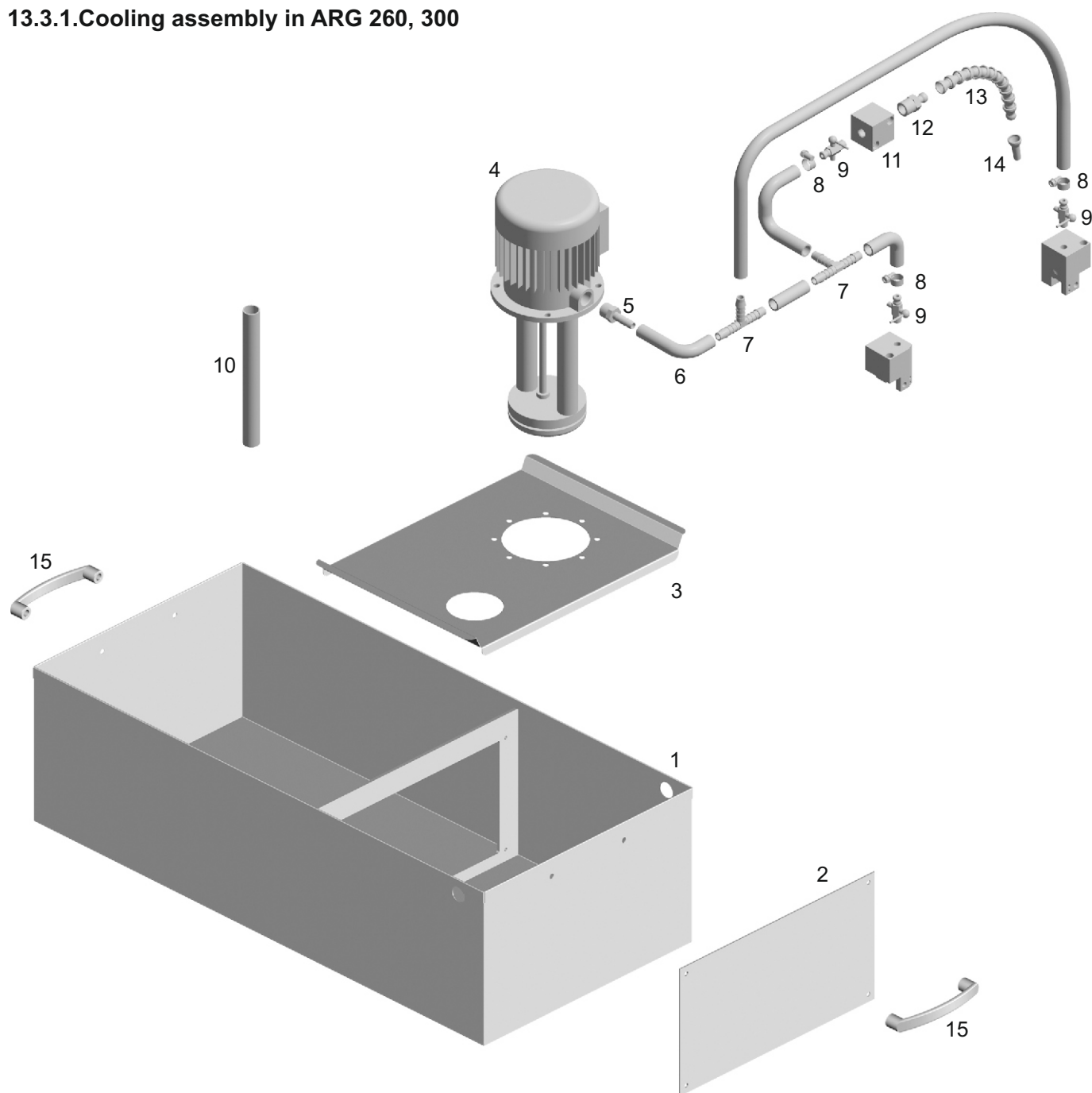


ver. 1.11.2018

Pos.	Order number	Name	Type ARG	Pcs	Pos.	Order number	Name	Type ARG	Pcs
1	020841	Arm 330	330	1	24	020639	Spring holder, movable	330	1
2	012516	Tensioning wheel	330	1	25	020825	Spring holder screw	330	1
3	012515	Blade wheel	330	1	26	022736	Guide head cover column	330	1
4	001767	Tensioning bolt	330	1	27	025607	Washer	330	1
5	014230	Tensioning plate	330	1	28	022737	Column washer	330	1
6	020830	Back cover, arm	330	1	29	020428	Underlying metal sheet, logo	330	1
8	001930	Triangle	330	1	30	018708	Safety switch washer 5	330	1
9	020640	Clamp	330	1	31	021918	Electric drive TM2-100-4L 3,0kW	330	1
10	020473	Back cover latch	330	2	32	001906	6210 - 2Z bearing	330	4
11	020776	Shaft drive	330	1	33	011907	Adjustable lever M12x63	330	2
12	020828	Fixed rod	330	1	34	005140	Plastic triangle	330	1
13	020778	Movable rod	330	1	35	020937	M12 screw, handle	330	1
14	025297	Tensioning system cover	330	1	36	001765	Tight spring 10e7x8x100	330	1
15	020774	Cooling cap	330	1	37	023204	Tight spring 12e7x8x40	330	1
16	020690	Arm cap, back - flange	330	1	38	021170	Hinge	330	2
17	025660	Cable cover	330	1	39	014591	Bushing	330	1
18	024423	Blade cover	330	1	40	009577	Cap KR 12	330	1
19	022738	Fixed guide head cover	330	1	41	001483	Disc spring 31.5x16.3x1.8x2.5	330	10
20	025658	Protective cover	330	1	42	001892	Retaining ring, outer, ø 50	330	2
21	020777	Ring spacer	330	1	43	001893	Retaining ring, inner, ø 90	330	3
22	025298	Tensioning washer	330	1	44	001839	Hardened pin 20x80	330	1
23	020826	Upper spring holder	330	1	45	006845	Hardened pin 16x55	330	1

13.3. Cooling assembly

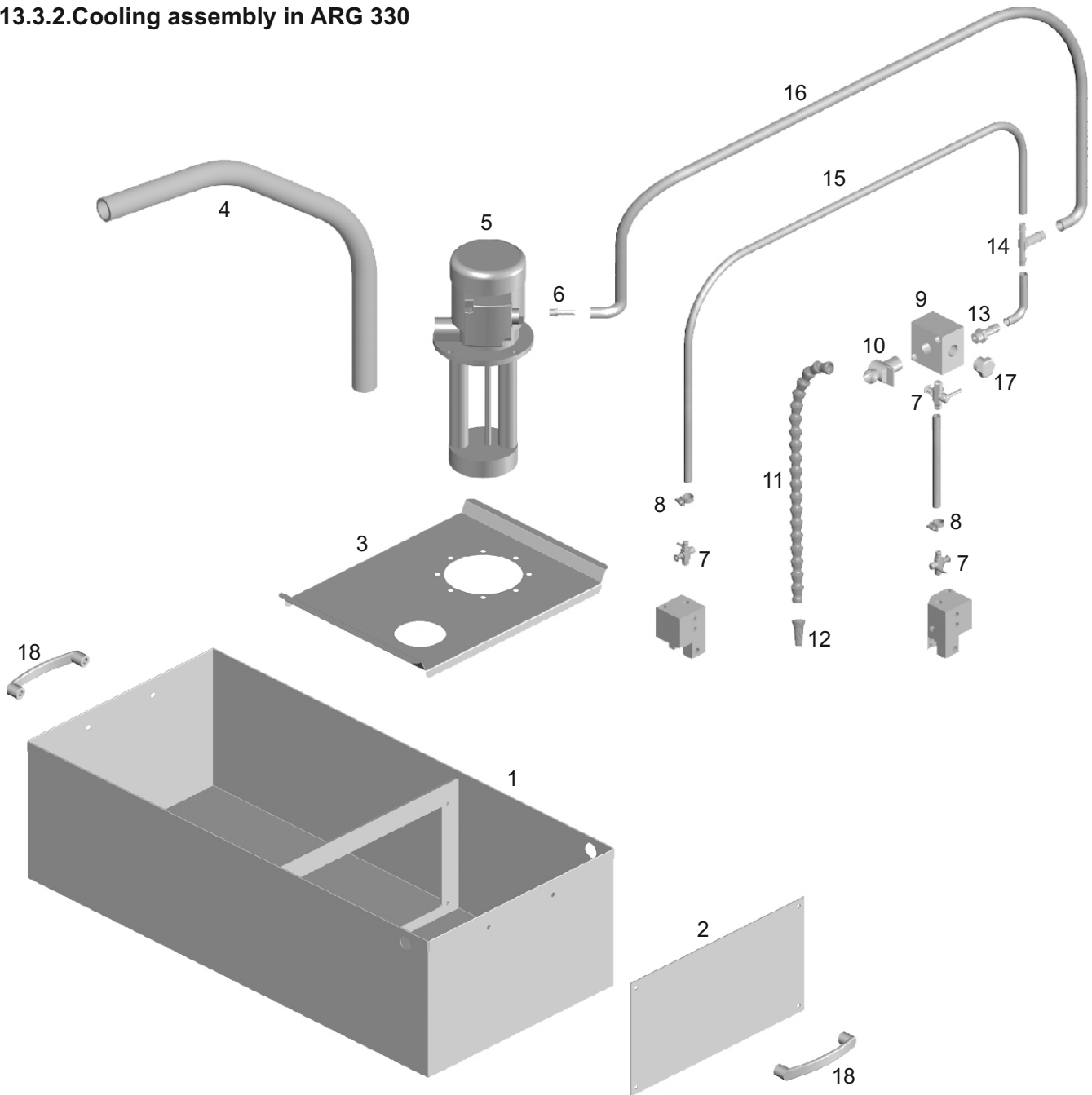
13.3.1. Cooling assembly in ARG 260, 300



ver. 1.10.2016

Pos.	Order number	Name	Type ARG	Pcs
1	021375	Coolant tank	250,300	1
2	021291	Sieve	250,300	1
3	021376	Coolant tank lid	250,300	1
4	015819	Pump 1COP1-17, 20kPa/16l/min, 3x230V/3x400V, 50Hz	250,300	1
5	002403	Hose connector, tapered, 3/4", 8 mm	250,300	1
6	001399	PVC hose DN 8x2	250,300	5,5 m
7	001401	T-piece TS 10	250,300	2
8	001398	Hose clamp	250,300	3
9	001402	Draincock 050	250,300	3
10	005747	Drain hose MPVC 25x32mm	250,300	0,7 m
11	013849	Additional cooling head	250,300	1
12	002194	Neck 12-3/8"	250,300	1
13	001661	Joint part 12"	250,300	17
14	001662	Cylindrical end piece KR 12	250,300	1
15	021146	Handle	250,300	2

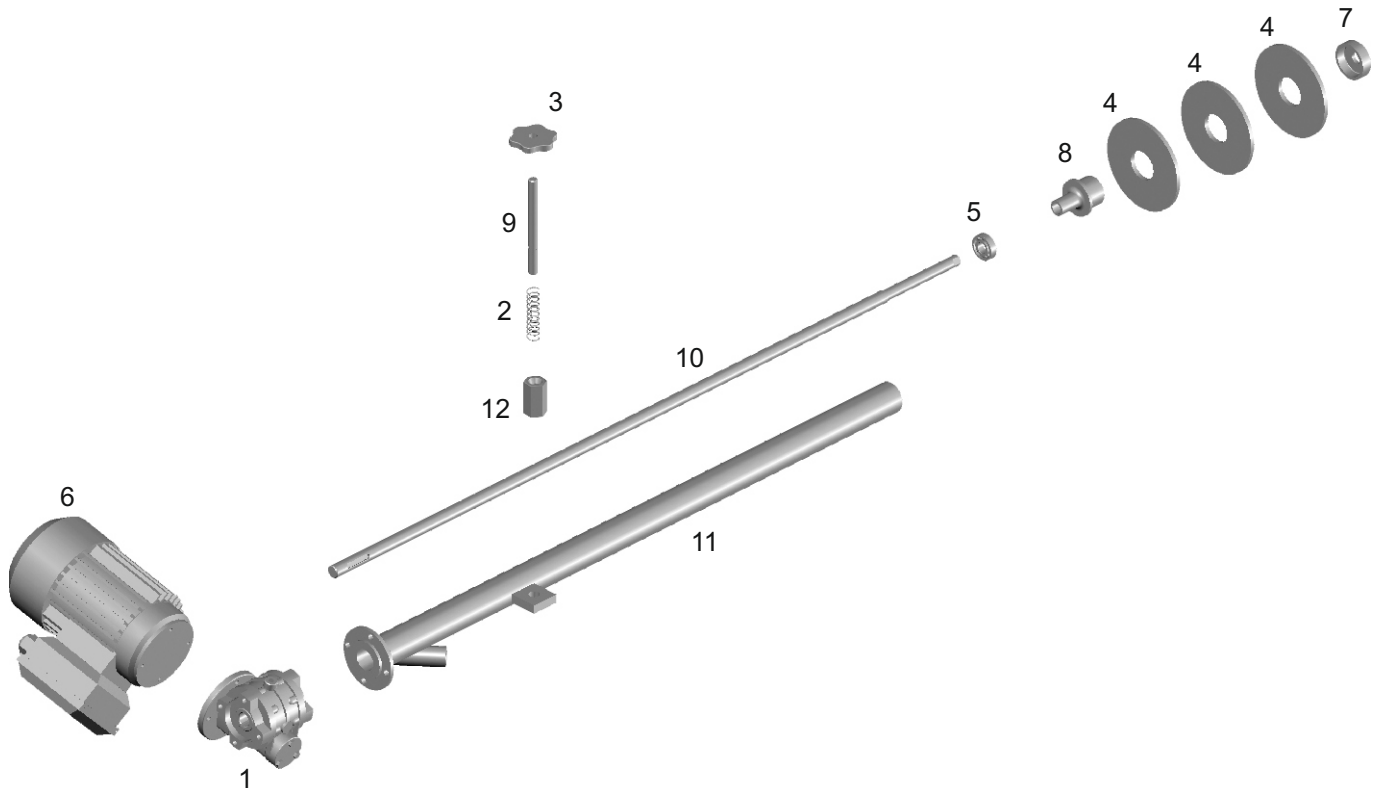
13.3.2.Cooling assembly in ARG 330



ver. 1.10.2016

Pos.	Order number	Name	Type ARG	Pcs
1	021375	Coolant tank	330	1
2	021291	Sieve	330	1
3	021376	Coolant tank lid	330	1
4	005747	Drain hose 25x320.35m	330	1
5	010155	Pump SAMEC AST 60/180	330	1
6	005458	Hose connector 1/2"x 12-13	330	1
7	001402	Drain valve	330	3
8	001398	Hose clamp 7-13	330	3
9	020311	Additional cooling head	330	1
10	020470	PT 3/8" valve	330	1
11	020403	Joint part 3/8"	330	27
12	020469	Tailpiece 3/8"	330	1
13	018941	Connector for hoses with a tapered thread 10-1/4'	330	1
14	005401	T-piece TRS 10-13-10	330	1
15	001399	DN hose 8x2 novoplast1.8m	330	1
16	021035	MPVC hose 12.5/18.5, black3.6m	330	1
17	004087	Cap	330	1
18	021146	Handle	330	2

13.4. Cleaning Brush Assembly



ver. 1.6.2017

Pos.	Order number	Name	Type ARG	Pcs
1	015542	Gearbox	330	1
2	008015	Spring pusher TL 1,5x14x60	330	1
3	004012	M10 Plastic nut	330	1
4	003548	Brush	330	3
5	002892	Bearing 6001-2RS	330	1
6	015543	Electric motor STM 0,09 kW, 1400 rpm, 230/400 V 50 Hz	330	1
7	003552	Brush liner	330	1
8	003551	Brush guiding	330	1
9	020840	Shipping bolt of the brush	330	1
10	020903	Brush shaft	330	1
11	020902	Brush tube	330	1
12	020805	Anchor nut of the brush	330	1

EU Declaration of Conformity

in accordance with Directive 2006/42/EC of the European Parliament and of the Council (Government Regulation No. 176/2008 Coll.)
in accordance with Directive 2014/30/EU of the European Parliament and of the Council (Government Regulation No. 117/2016 Coll.)

Manufacturer: Pilous-pásové pily, spol. s r.o., Železná 9, Brno 619 00, CZ, VAT: CZ60727551

Identification data of the machine: Band saw including accessories

Type: ARG

Serial number:

Description and designation of product function: The band saw is intended for cutting primarily metal materials, while the workpiece is clamped in a fixed vice and the cutting is carried out by a saw blade arm.

All applicable provisions the machine is in compliance with:

- Directive 2006/42/EC of the European Parliament and of the Council
- Directive 2014/30/EU of the European Parliament and of the Council

The EU Declaration of Conformity is issued to the sole responsibility of the producer.

Applied harmonized standards:

- ČSN EN ISO 16093:2018
- ČSN EN 50370 - 1:2005
- ČSN EN 50370 - 2:2003
- ČSN EN 614-1+A1:2009

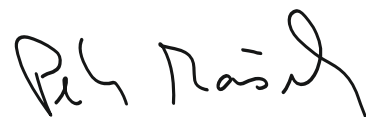
Responsible for drawing up technical documentation:

name, company address: **Pilous-pásové pily, spol. s r.o., Železná 9, Brno 619 00, CZ, VAT: CZ60727551**

This EU Declaration of Conformity is original EU Declaration of Conformity.

The last two digits of the year in which the CE mark was placed on the product: 19

In Brno, on: 1.10. 2019



person authorized to act on our behalf
Ing. Petr Mašek
Managing Director