

DPM AV

USER MANUAL

BALA
VERTICAL PANEL SAW

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1 PREFACE

1.1 Information on Operating Instructions

This operating guide contains information on the use of BALA DPM AV panel sawing machines and all the information about working with these machines. This guide is the main reference for all persons appointed for the installation, use, service and maintenance of the panel saw.

This operating guide contains explanations and safety precautions for the transport, installation, operation, operation, use and maintenance of the vertical panel sawing machine.

1.2 Modifications

Modifications made by BALA should only be carried out on vertical panel saw machines. Any modification beyond this is prohibited.

1.3 Display Rules

In order to be able to understand the specific or important information in this user manual more quickly and easily, texts and figures are marked with certain symbols, warning words and text marks.

1.3.1 Warning Notes

TEHLIKE



This notice draws attention to a danger directly threatening the person, which, if not avoided, may result in serious injury or death.

Here, it explains what the danger is, what consequences it may have for you, and what you need to do to prevent it.

- Protective prevention must be followed

UYARI



This notice notes a potential hazard which, if not avoided, may result in serious injury or death.

Here, it explains what the danger is, what consequences it may have for you, and what you need to do to prevent it.

- Protective prevention must be followed.

DIKKAT



This notice notes a potential hazard which, if not avoided, may result in minor to moderate injury or property damage.

Here, it explains what the danger is, what consequences it may have for you, and what you need to do to prevent it.

- Protective prevention must be followed.

1.3.2 Other Danger Warnings Indicating Special Hazard Sources



- Electric Shock

Warning against dangerous electrical voltage.



- Fire hazard

It warns against flammable substances and processes that may cause fire.



- Crush hazard

It warns against the risk of compression or crushing of the body parts.



- Harmful substances

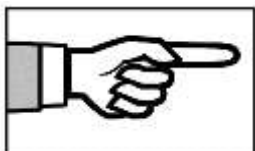
Indicates a hazard to health or to irritants.



- Laser Beam

Attention, laser beams can lead to blindness.

1.3.3 Other Pictograms and Notes



- Tooltip for application

This sign points to clues and explanations that may be useful when working with a panel saw and transfers points that need to be known in the process of cutting material.



- Emergency Stop Button

This sign indicates that the machine must be stopped and the emergency close button pressed for further control steps.

1.4 Limitation of Liability

All information, notes and explanations contained in these user manual are based on standards and safety directives applicable to vertical panel saw machines. The vertical panel saw machine itself and its accessories are at the latest technical level.

The manufacturer will not assume any liability for damages resulting from:

- non-compliance with user manual
- Unsuitable use
- Failure to use protective devices or equipment or improper use
- Misuse
- Interventions by non-trained personnel
- Modifications made by unauthorized person
- Not using original BALA spare parts

1.5 Customer Service

If you have any questions regarding the installation, operation and maintenance of the vertical panel saw, please refer to the operating manual first. If you need more help or assistance to solve the problem, contact your dealer's customer service. Likewise, if you need spare parts, or if you only need to carry out major repairs that must be done by a trained service technician, contact your dealer's customer service.

1.6 Spare Parts

Incorrect or faulty spare parts can cause damage to the machine, malfunctions or complete machine breakdown, and can pose a safety hazard.

- Only use original Bala spare parts included in the spare parts list.
- Modify parts subject to abrasion within the prescribed time.
- Replace standard parts only with equivalent parts.

2 SHIPPING AND ASSEMBLY

2.1 Safety Directives

2.1.1 General Safety Directives

- The vehicle must not be moved without fully loaded machinery, apparatus and accessories
- During loading; breaking, tilting conditions must be taken into account and the specified safety instructions must be applied.
- Do not load the machine in the vehicle or on the forklift so as to disrupt the balance, stick to something on the road and create sharp spikes.
- Do not load the vehicle in such a way as to obstruct the view of the vehicle, disrupt the safety of driving the vehicle or forklift, cover registration plates, signs, brakes and turning lights and reflectors.
- Do not load in the out of right and left sides of the truck.
- Iron pipe and so on. long items should not be left in a vertical and protruding position
- Measures should be taken such as support, reinforcement necessary for the collapse or disintegration of the stack to damage yourself or others.
- Be extremely careful when loading materials that are difficult to load with the danger of slipping and rolling due to its shape.
- After the car loading is complete, even if there are very short distances, it should definitely not have personnel on the load.
- Loading should not be done in such a way as to touch the highway, to fall, to pour, to scatter, to shatter, to make noise.
- The material to be loaded can be loaded up to 30 cm below the neck of the case. Special loads should be obtained by contacting the Occupational Health and Safety Team.
- Be sure to check that the loaded product is fully loaded and that the bag is picked up.
- The complete user manual should be read and understood well.
- The operator assigned to use BALA vertical panel sizing machines must be identified. and the use of non-informed personnel should not be allowed
- Only original parts or parts recommended by BALA should be used on BALA vertical panel saw machines.
- The instructions given in the apparatus and accessories shipped with the machine apply.
- The transport personnel must obtain the necessary information during loading.

2.1.2 In Case of Accident

- Move away from the dangerous area immediately and get the safety of the accident area.
- inform your supervisor.
- Those who have an accident; first aid by authorized personnel.
- inform the BALA about the accident.

2.1.3 Protective Equipment

In transportation, installation, disassembly and disposal, there may be accidents that could lead to serious injury or death due to machine parts and package overturning, falling or breaking.

These studies should only be carried out by persons who have been trained for it and have personal protective equipment.



- Use protective goggles when necessary.
- Wear gloves with high tactile feel and non-slip.
- Wear tip-protected, non-slip business shoes.
- Wear a work suit that is firmly seated in the body and does not wrap around the machine parts.

2.1.4 Transport

The vertical panel saw machines are bulky and heavy. Incorrect handling, improper handling, and incorrectly selected fasteners may cause injury and overturning of the machine during shipping.

Selecting a transport mode suitable for weather conditions is another safety measure. The following instructions should be applied in order to minimize the negative.

Transport vehicles with suitable safety devices must be selected. Care must be taken to ensure that the fixing devices in the vehicle are not missing. It is important to use inertia and devices that can accommodate centrifugal force.

- The load is used to take the baggage; load safety and connection equipment must be tested and approved in accordance with the standards.
- When lifting tools are used, the permitted carrying capacity must not be exceeded.
- Hanging loads are never safe.
- The vehicle floor must be checked. (lubricity, rust formation, residues of liquid and sticky substances)

2.1.5 Installation

Installation and assembly must be done by authorized dealers and BALA officials.

- Installation should be done in correct order, fixed at specified values against parts falling, tipping, loosening problems.
- Correct lifting devices and fasteners must be used to remove and hold the machine components during installation-assembly.
- Note: Vertical panel saw machines work 0,1 mm accuracy/ meter.

2.1.6 Dismantling of machine - change of location

- The BALA vertical panel saw machine needs to be disassembled in accordance with the method. Otherwise it may cause injury.
- No parts must be removed to disrupt the machine's stability without using the lifting tools to secure the machine.
- The securing bolts should be loosened after taking the necessary precautions.
- All machining tools must be removed from the machine and loose parts must be removed.

2.1.7 Electric

- Work to be done in the field of electricity; it should only be done by personnel with a certificate of professional competence.
- The vertical panel saw machine is removed from operation and all of the machine and all accessory systems must be disconnected from the mains supply via the electrical connection terminals when dismantling.
- Adjust all power lines that run the operating systems before the disassembly so as not to carry voltage.
- All disassembly and transport work must be carried out only after these closing and checking operations.

2.1.8 Compressed Air

- Work to be done in compressed air installation; it should only be done by personnel with a certificate of professional competence.
- Empty the pressure of the entire compressed air system of the machine and check that the pressure remains unchanged.
- When the vertical panel saw machine is removed from operation and removed, all of the machine and all accessory systems in the machine's compressed air connection must be disconnected from the

operating pressure-relief air network.

- All disassembly and transport work must be carried out only after discharge of the pneumatic system pressure.

Suction of bodily limbs or items may be dangerous due to Vacuum / Low pressure pipes.

Such situations can cause material damage and more importantly, injuries.

- Before opening or leaving such lines, they must be closed with air or low pressure propellant or valves and air should be supplied.

- After the pressure is balanced, the connection lines of the suction system of the operation can be separated from the panel saw machine.

- Prevent any cistern or living organism from entering the suction system by properly closing the connection port of the operation.

- Suction and other vacuum and / or low pressure components must be dismantled and moved only when the air is supplied.

2.1.9 Removal from Operation

- Saw frame; must be taken in the saw frame so that it no longer remains.

- The saw unit should not turn and should be fixed so that it does not come in and out.

- Cable chains resting on the profiles should be fixed so that they do not fall down.

- The open ends of the dust-absorbing pipes and hoses must be closed.

2.2 Transportation of Chassis

- Disconnect the vehicle's connections with the aid of appropriate apparatus, after the vehicle has stopped and the necessary safety precautions have been taken.

- Connect the rope to the specified rectangular spaces in the upper equilibrium points of the machine and lift the chassis using the crane or forklift as shown in the figure below. (figure 2.1) The machine comes out of the factory with its ropes attached, then the ropes must be reconnected when the machine is to be moved. To connect the ropes on the chassis; The frame front piston lift mechanism on the front side of the frame and the cable channel in the chassis rear comb, some of the transport plates must be removed during transport.

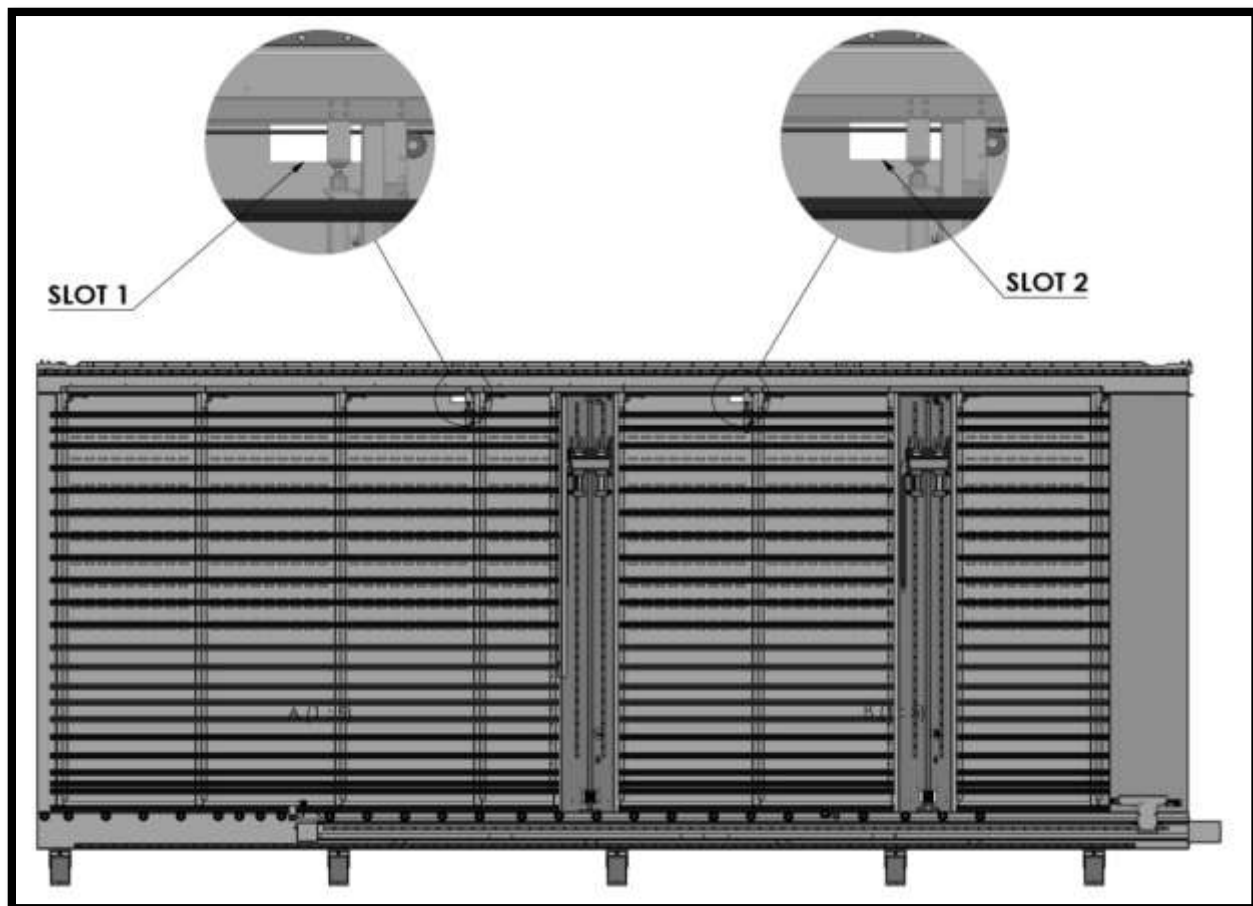


Figure 2.1 – Chassis Lift Slots

- Carry the machine safely to the area to be used and allow it to rest on its feet.
- All fixing elements and connections shall be made by authorized service personnel.

The BALA vertical panel sizing machine must be installed with a systematic, safe and accurate sequence. When the chassis is assembled, it should be carried out by the trained personnel in the following order after it is lowered according to the safety instructions given.

- 1- The frame should be lowered with the help of the necessary fixtures, which have been previously cleaned and planned.
- 2- The feet are adjusted so that all the feet of the chassis are pressed. (figure 2.2)
- 3- Open the holes from the points where the holes in the feet are located. (figure 2.3)
- 4- The machine feet are secured in place with the help of the steel dowels that come with the machine.(figure 2.4)
- 5- A water balance is placed at various points of the machine as shown, the machine is roughly leveled by adjusting the foot heights by looking at the water level.

6- Accurate scaling of the machine is only possible by controlling the vertical and horizontal cuts made in the machine.

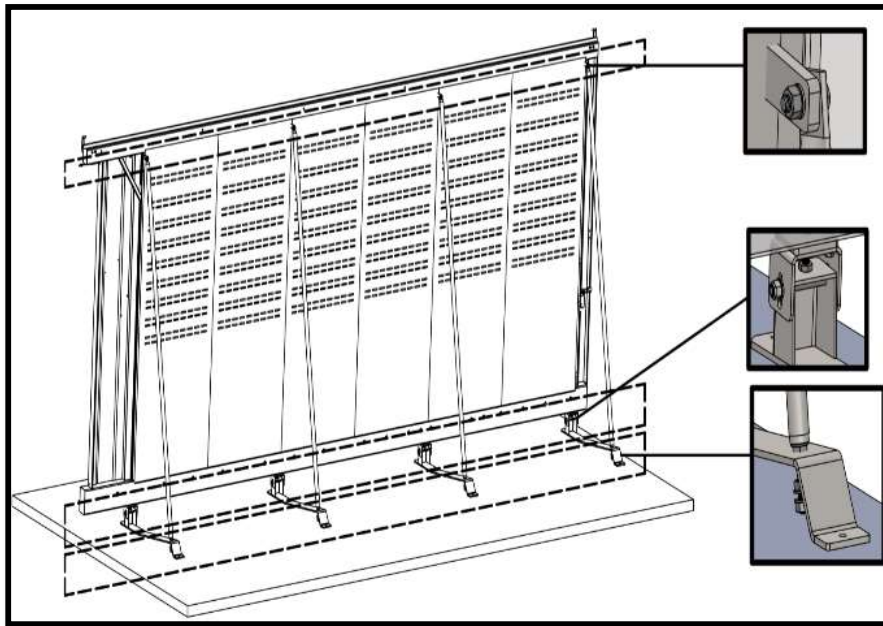


Figure 2.2 – Chassis Feet Set Points

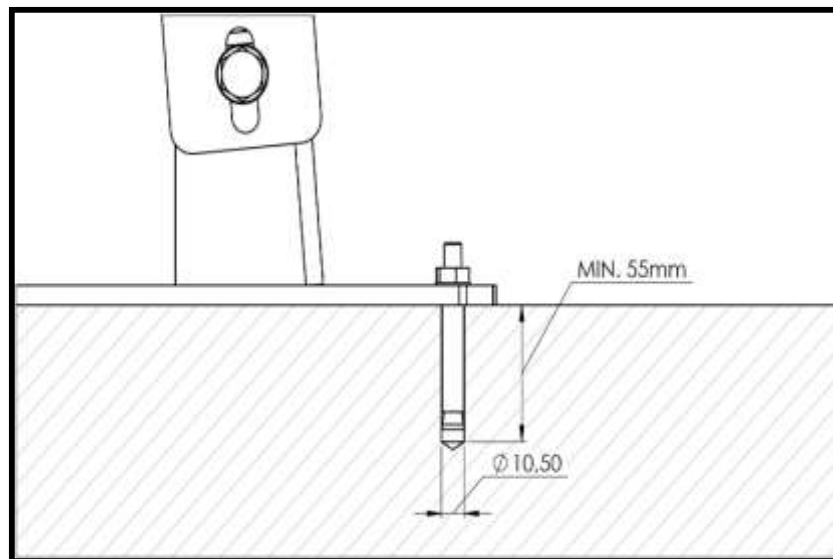


Figure 2.3 Anchor hole size

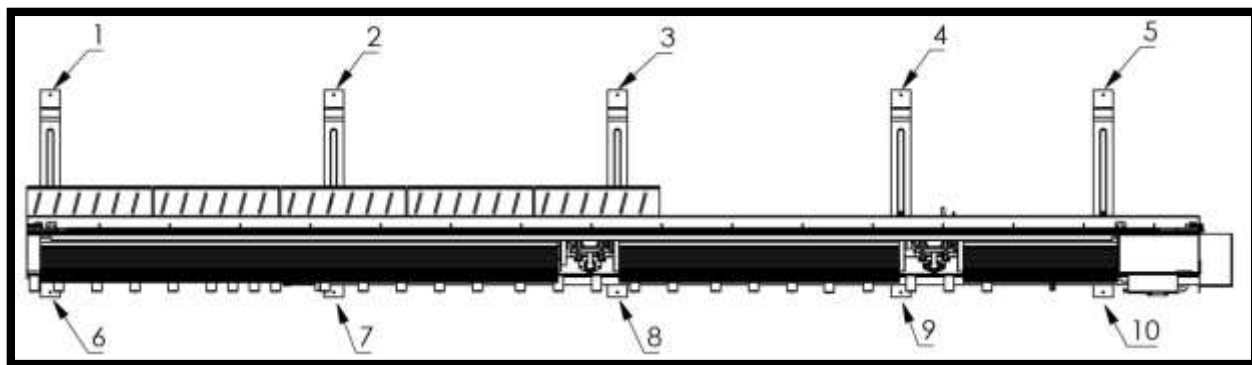


Figure 2.4 – Chassis Fixing Holes

2.3 Transportation of Gantry

- Disconnect the gantry from the vehicle.
- You must use a forklift or a tool that can do the same to transport the gantry.
- How to carry the position of the car while moving the gantry and leave the floor in the same place where the installation is to be done.
- While carrying the gantry part of the machine; make sure that the cutting head is at the center of the weight as shown below.
- When handling the gantry, do not damage any hoses or cables on it.
- Do not damage the saw when handling the gantry .

The following operations must be performed in the order of assembly of the gantry.

- 1- Make sure that the chassis is completely secured to the ground. On the chassis upper rail and on the lower rail, 1 linear car should be positioned on the rail which corresponds to the connection points in the cutting block (Figure 2.5). NOTE: You can remove the lubrication records on cars to avoid damage during installation, they can be reinstalled after the installation is complete.

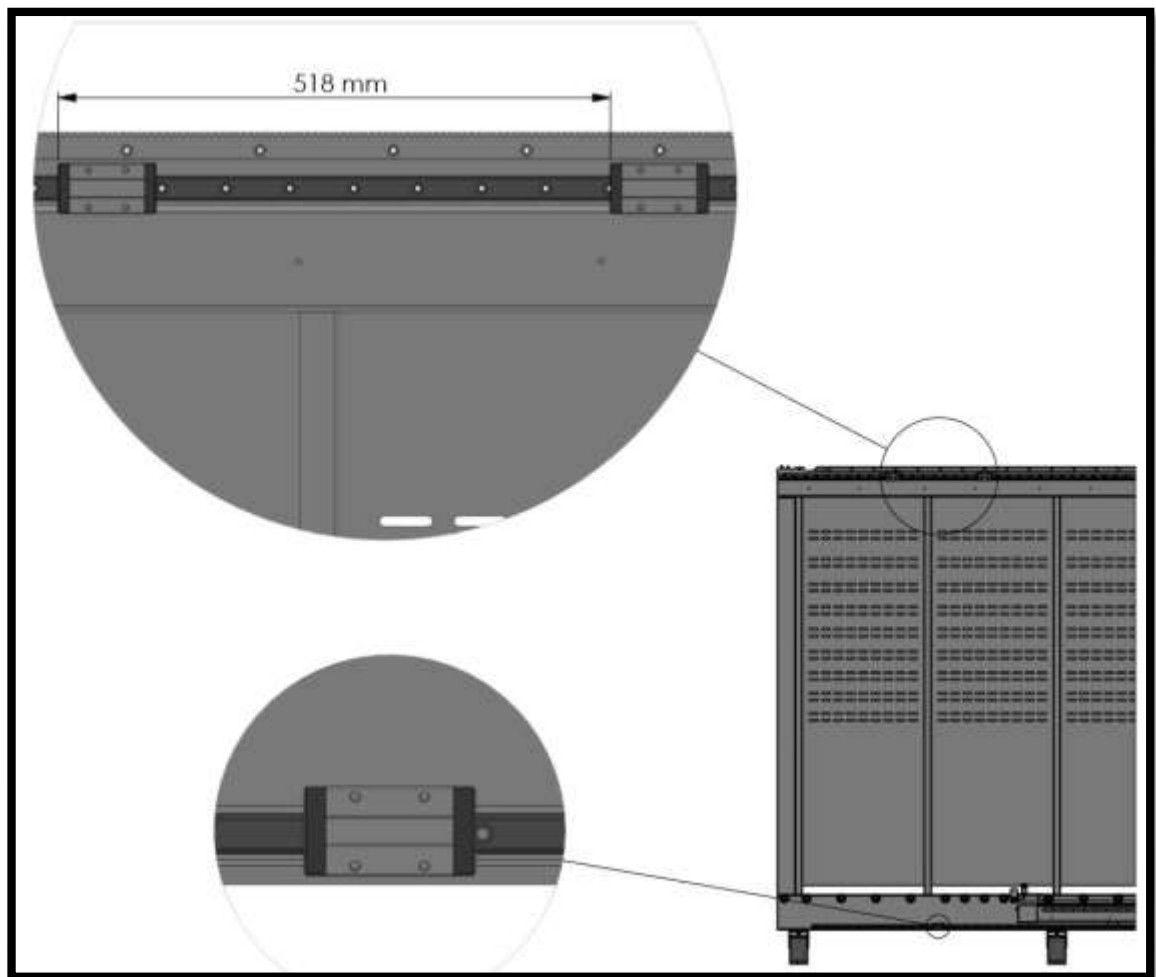


Figure 2.5 – Positioning of Carriage on the Chassis

- 2- Lift the cut block with the aid of a rope as shown in “Figure 2.6. Place them on the chassis. NOTE: After placing the cutting block on the frame with the aid of rope, remove the rope after fixing the trolleys with the trolleys and the trolleys to the cutting block.

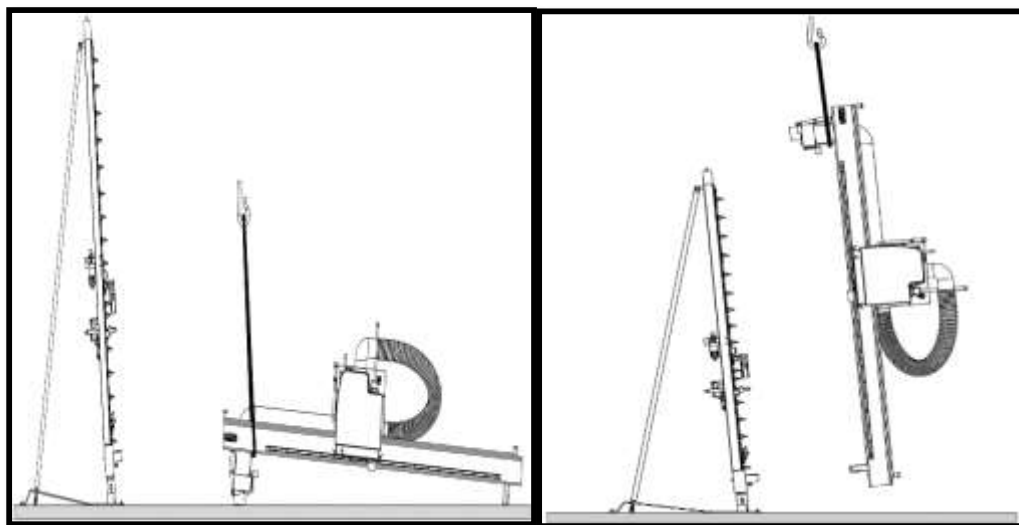


Figure 2.6 – gantry mounting type

- 3- After mounting the gantry on the chassis, check the movement by manually sliding it on the chassis. Make sure that; gantry press the mechanical switches on the right and the left side.
- 4- Check the movement by sliding the cutting head up and down manually. Make sure that; cutting head press the mechanical switches at the bottom and up.

2.4 Assembling of the Motors

After assembling the gantry, the axis motors are assembled. The following steps are applied in sequence.

- 1- X2 axis motor protection plate is removed.
- 2- The motor is mounted to the gear unit on the chassis (Figure 2.7). The coupling between the motor and the gear unit must be tightened tightly.

The cables in the chassis are connected to the motor. NOTE: Make sure the cable numbers match.

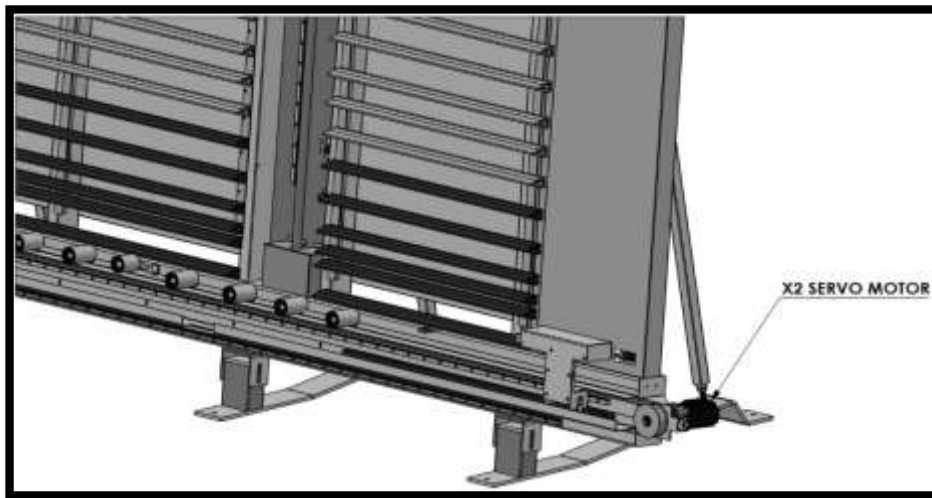


Figure 2.7 - Position of X2 Axis Motor on Chassis

- 3- Y axis motor is attached to the gearbox on the cutting block. (Fig. 2.8) NOTE: The screws that secure the motor flange to the gear unit must be securely fastened. The coupling between the motor and the gear unit must be tightened tightly.
- 4- It is disassembled together with X-axis motor gear and gear unit. The threaded flange is firmly attached to the holes in the gantry. NOTE: There must be no gap between the pinion and the rack at the end of the mounting process.
- 5- The cable duct on the chassis is firmly mounted to the holes on the gantry.
- 6- The cables of X and Y axis motors are connected. NOTE: Make sure the cable numbers match.
- 7- Cable and air hose sockets coming from cable duct are installed.

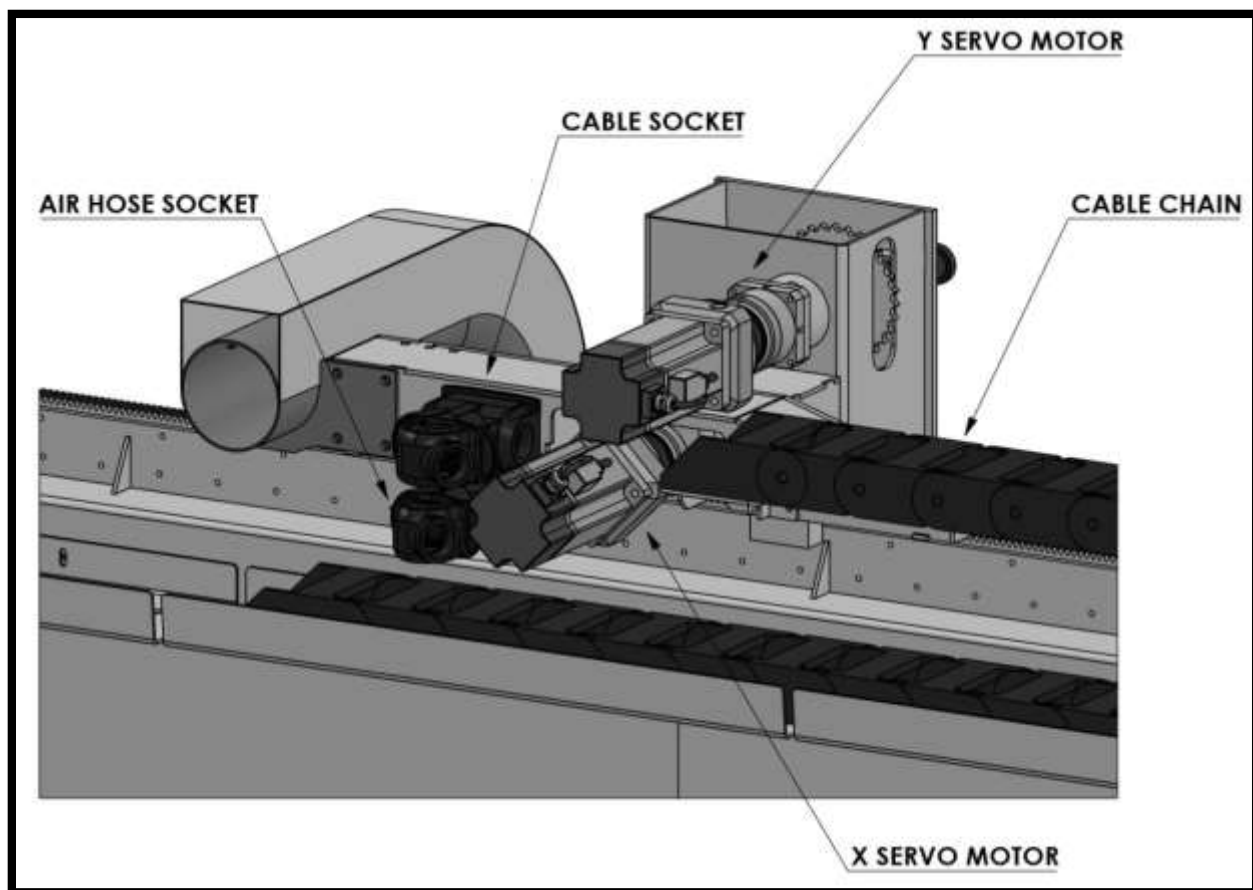


Figure 2.8 - Locations of X and Y Axis Motors

2.5 ELECTRICAL PANEL INSTALLATION

The electrical cabinet is located on the side of the chassis. The cables next to the frame are connected to the sockets next to the switchboard. Note: Make sure that the socket numbers match.

2.5 ELECTRICITY AND AIR CONNECTION

- 1- Electrical connection is made to the electrical panel.
- 2- Air connection is made from the connection point at the rear of the chassis.

3.USAGE

3.1 Main Safety Directives

In this chapter; safety instructions are included under the headings such as moving, setting up, changing the position of the vertical panel saw machine.

3.1.1 Proper Use

Proper use includes the below;

- The operating instructions, especially the safety instructions in the operating instructions, must comply with the service, control and maintenance requirements as specified by the manufacturer
- Workplace safety, occupational medicine, dust and noise safety regulations and directive must be respected wherever the machine is located.
- Only authorized personnel are allowed to use it. Vertical panel saw machines must only be used, equipped and inspected by persons who know the machine and have knowledge of the existing hazards.
- The panel saw machine and accessories must be kept in a state of technical safety and operational safety. Cleaning and replacement of defective parts with original spare parts immediately. Unauthorized modification or alteration to the machine or accessories is prohibited.

3.1.2 Operator's Liability

The panel sawing machine will be used in the industry. For this reason, it is obliged to comply with the legal provisions and directives of the machine's own security, accident prevention and environmental protection. Operator should keep informed about the most current clauses in this area.

Operator is responsible for training of personnel.

- Anyone who is assigned to work with the machine must read and understand this operating manual before starting work.
- Make sure that these persons also read and understand the operating instructions for the operations to be performed with the panel saw machine.
- Through trainings; be sure to read and understand the operating instructions for the operations to be performed with the panel saw.
- Through trainings; draw the attention of these people to special hazards that may suddenly occur while working with panel saws and materials

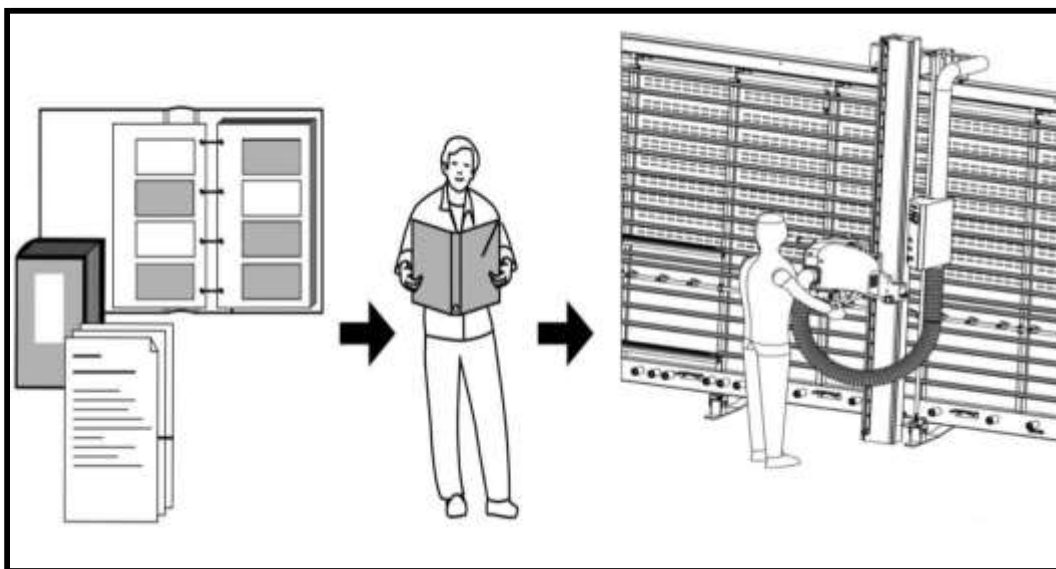
- Please confirm in writing to those who participated in the training that these instructions and training were received.
- Regularly check safety and accident prevention regulations, whether safety devices are used, whether safety regulations are adhered to, and whether personal protective equipment is being used.
- The fact that the panel sawing machine is in perfect condition in terms of technical and hygienic must ensure that the safety mechanisms are fully fitted and operational.
- Regularly check that the security symbols and labels attached to the machine are legible and clean.

3.1.3 Staff Quality

Use / Service Personnel

The vertical panel saw must only be operated, equipped, controlled and inspected by persons trained in the use and service of the machine, who have the necessary authority.

- He must have proved that he has read and understood all of the operating manual, in particular the safety directives.
- The operating instructions and trainings issued by the owner of the machine (operator) must be taken into account and understood.
- Personal protective work equipment must be identified, always in use, and kept in good condition for quality and hygiene.
- First aid equipment and information on measures to be taken in case of fire / accident.



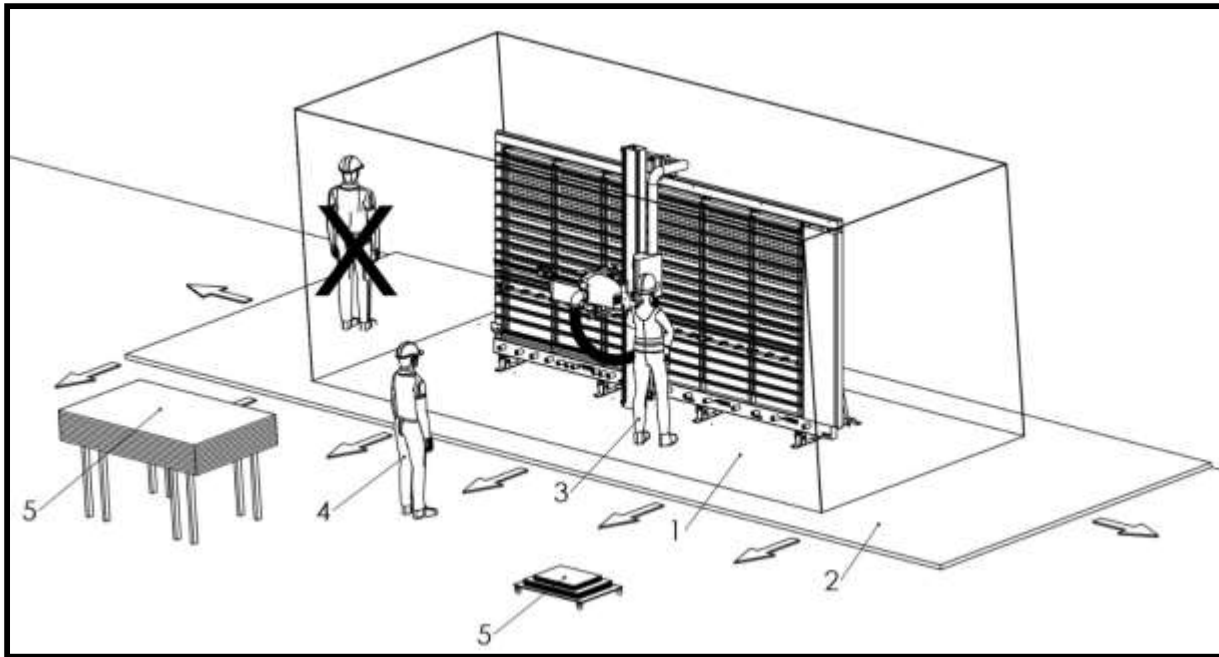
MAINTENANCE PERSONNEL

The panel saw must be repaired by operators who have been trained in operation and service as well as in repair. These persons should in principle know all the information that the use staff has. For this, repair personnel must have a special training on maintenance / repair by the machine manufacturer or dealer and have appropriate equipment. These persons are the members of Bala or the dealer of Bala.

3.1.4 Operator/ Auxiliary Working Area

The panel sawing machine is designed to be equipped and usable by a single person. You can use the helpers to load the machine and pick up the cut pieces

- As an operator; during the machining, lightly stand in front of the saw unit on the left or in front of the control panel in front of the control box. At this point, the control keys and other operating elements are clearly visible and easily accessible. The entire periphery of the saw blade will be in front of you.
- Arrange the work area appropriately so that there is always enough free space (2) for the machine's use and that the use staff / assistants can move without being exposed to any danger.
- Make sure that you will not be pressed or injured by the machine towards other machine parts, work pieces or transport devices.
- As an operator you know the planned business process. The assistant operator must always provide clear instructions. Ex. If assistants assigned to fix work pieces need to work exceptionally in their operation, you must ensure that they never enter danger due to the work of the machine or that they do not enter their hands near the cutting unit.
- The assistants (4) must exit the machine's control panel after placing or receiving the cutting material. They must stop in a place where they will not prevent the machine from being commanded
- Use sheet handling equipment when transporting heavy plates to or from the machine. Always keep outside the working area of the panel saw (5) when you are not using these devices.
- Ensure that the departure and arrival areas used for the transport of the plates are always open and in good condition.



3.1.5 Pattern of Behavior in Case of Emergency

It is important to act on threats that are directly threatening or likely to come into play in the following way:

- Stop the machine immediately with emergency stop button

Then move in the following way, depending on whether it is malfunctioning or damaging.

- Take an aspiration so that the machine will not reopen until the fault is cleared.
- Act according to the general alarm and recovery guidelines known in the event of major damage

3.1.6 Modifications / Changes Made by Unauthorized Persons

Changes, additions or modifications to the panel saw machine are prohibited by unauthorized persons. This includes repair work, such as alignment of metal parts, welding of components. If such work needs to be done, it is necessary to contact the manufacturer of the machine beforehand.

3.1.7 Death Hazard Caused by Inoperative Security Devices

Safety mechanisms ensure that the machine is operated with maximum security. For this reason, these devices should never be disabled. However, there is a safe operation when the safety devices are mounted and in operation.

- Never disable security mechanisms.
- Do not remove any coating on the machine.
- Do not solve any anchors on the machine and do not make any changes that could ruin the machine's statue.

- Before starting to work, be absolutely sure that all safety devices are installed and operational.

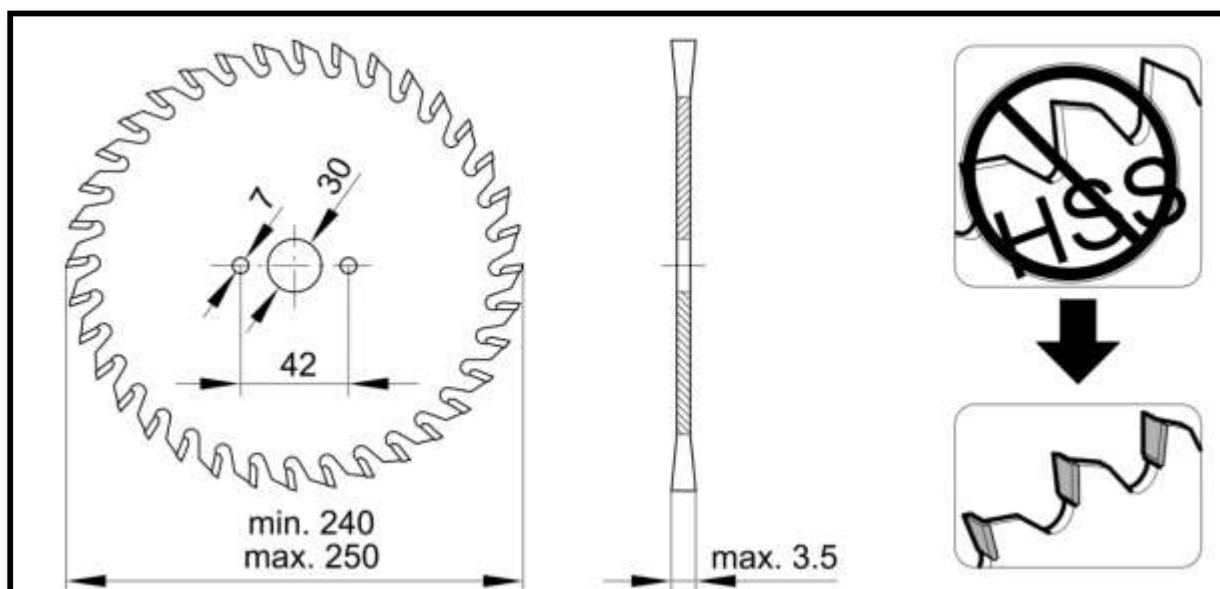
3.1.8 Saw Unit

- requirements for cutting insert

The main saw blades should have the following measurements

Diameter	min 240mm, max. 250mm
Hole diameter	30 mm
Side diameter	TKO 42 mm, 2xØ7 mm, diametrically
Maximum thickness	3,5mm

- Use only sharpened saw blades and milling tools. The cutting edge geometry and the cutting edge material must match the material to be cut.
- Never use cracked or deformed saw blades
- The use of HSS type saw blades is prohibited.
- When working with processing tools, you may be injured by sharp edges. Use appropriate fittings and transport arrangements.
- The grooving blades used must be compatible with the machine
- The instructions for accessory systems include more safety directives for the described teams.



- Riving Knife

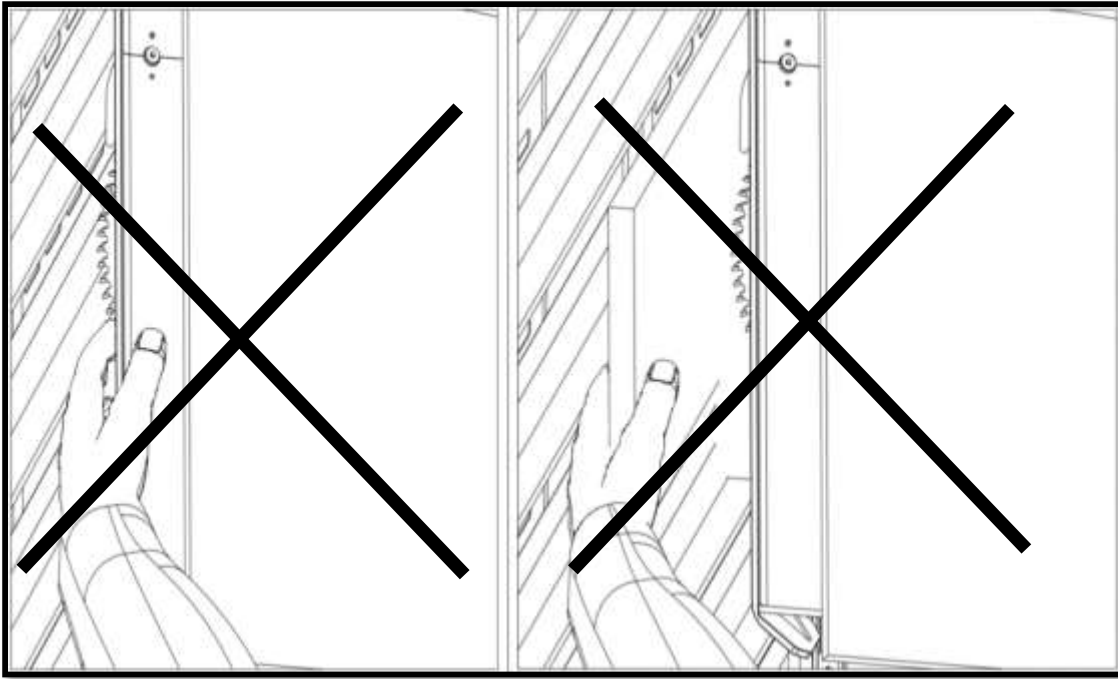
- The riving knife must always be used on the vertical panel saw machines. In sections the riving knife can be reversed per cut. The riving knife must never be fixed while retracted.
- The suction hood must be removed for placement, adjustment and control of the riving knife. It is forbidden to operate the machine in this case. Before starting this work, stop the machine and press the emergency stop button.

- OPERATION OF CUTTING UNIT

- Always hold the control unit when shifting the cutting unit.
- Bring the saw unit to the beginning of the cut while outside the material.
- start to size the material after the saw blade has reached the full rotation speed.

3.1.9 Dust Sucking

- Panel saw machine; must be connected to a suction system installed by the operator in accordance with the applicable directives in the geographical region where the machine is operated. The suction systems of the operator can be fixed-set or portable dust removers.
- The dust suction system should start working when the saw motor is running at the latest and the saw motor should be operated to discharge the suction lines for a certain period of time after closing.
- The pipes and hoses of the dust extraction system must be connected to the grounded construction parts of the machine as conductors for the dissolution of static electricity.
- The panel sizing machine must always be operated with a suction hood that is undamaged and properly installed. Damaged suction hoods should be replaced immediately.
- Damaged or compressed suction hoods will not provide adequate protection against the saw blade and will reduce suction. As a result, heavy injuries and heavy dust concentrations in the air can occur.
- The suction hood should never be tightened. The hood must always be able to take the required take off action.
- Never put your hand in front of the suction hood. The processing tool can cause severe injury by coming out of the tool space in the suction hood.
- Never put your hand behind the cut material. During entry and / or cutting, the saw blade leaves behind the cut material and enters the gap in the support wall. There is a danger of severe injury in this area.



3.1.10 Cutting Material

- Requirements for cutting material

- Only materials suitable for the capacity of the machine should be processed.

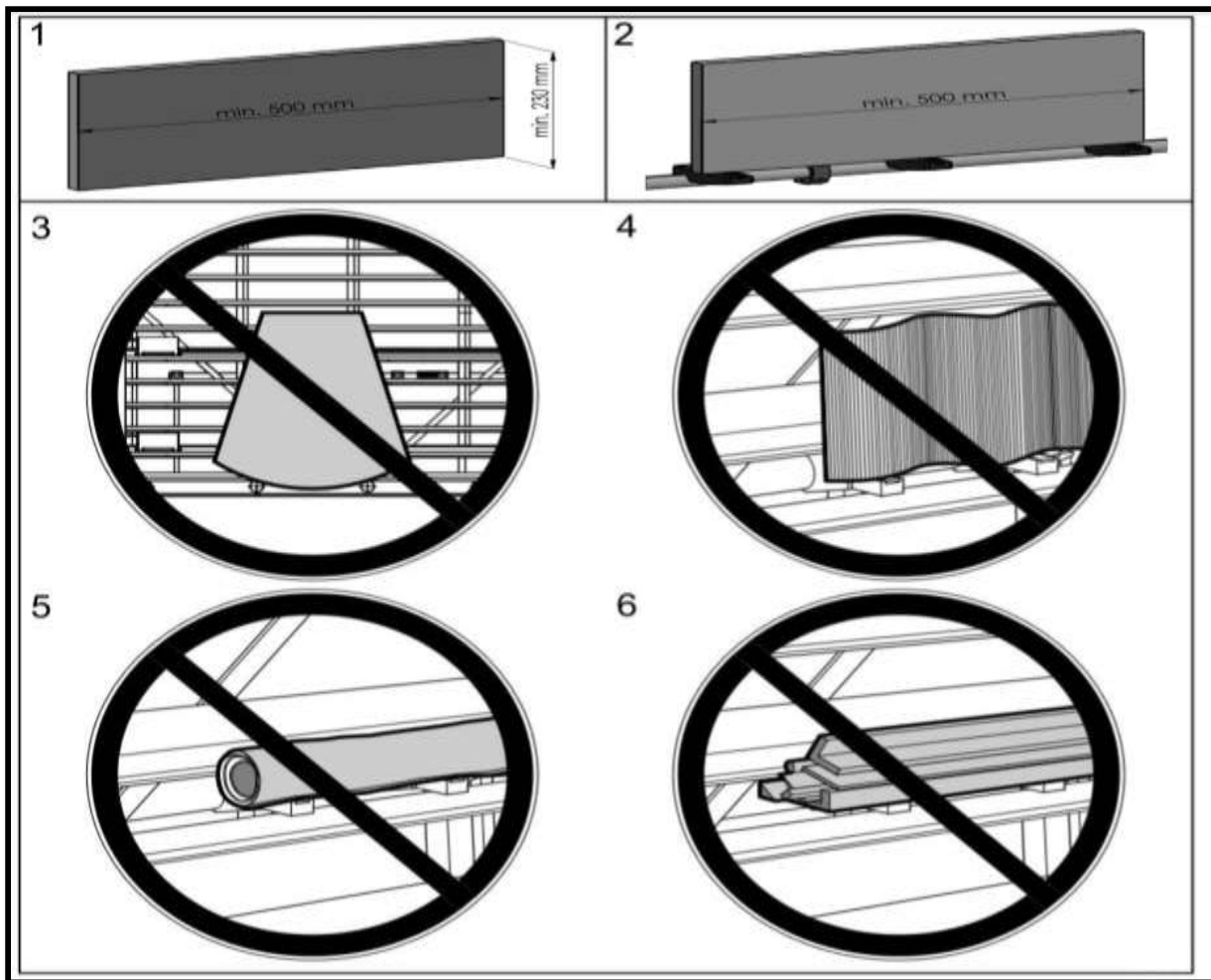
Observe the maximum cutting widths, maximum plate thicknesses and maximum work piece weights depending on the support being installed.

- The following minimum work piece measurements must not be exceeded.

Horizontal cutting and vertical cutting (1) X=500 mm Y=230 mm

Work pieces with the following characteristics must never be machined in a vertical panel saw machine.

- Amorphous materials
- Soft materials
- Unstable materials
- Round materials



a

- Positioning work pieces on the machine

- The cutting material must be placed on the support wall in a wiping manner along its entire surface (1).
- Place only equal-sized plates on the machine during package cuts (2).
- Use medium stoppers for horizontal machining of smaller work pieces and / or machining of horizontal stoppers on support rollers of work pieces (3).
- For horizontal or vertical cutting, place the work pieces on the plate support in such a way as to stabilize, not slip, or tilt forward or downward. The work pieces must be able to withstand the forces coming from the saw blade and the spring suction hood (4-5).
- Make sure that there is no cutting material on the medium support before turning it off (5).
- Never stack plates of different format or thickness on top of each other (6).
- The cutting position of the work pieces should be determined in such a way as to allow the parts to be held or manually secured with a sufficient axial distance to the saw blade. Sufficient distance is the distance that you will not touch the saw blade in improper situations such as your hand slip. Assign an assistant if necessary (7)

3.1.11 Usage Wizard Error Notification

When a malfunction occurs on the machine, you must first determine the type of malfunction.

Depending on the type of malfunction, these can be cleared by the machine user.

E.g. Defects in electrical or pneumatic systems must not be removed by the operator.

- Do not open electrical or pneumatic control bodies
- Do not turn on the power switch or motor protection switch after it has been triggered.
- Do not change insured fuses.
- Do not activate electrical appliances in the control cabinets.

Such defects should only be rectified by the dealer or BALA service technicians or authorized specialists.

3.1.12 Residual Risks

The panel saw is manufactured in accordance with the applicable standards and accepted safety regulations. The machine is suitable for the latest technical level.

Nevertheless, there may be a risk of damage to the machine or other persons or to the health of the users and / or third parties during the use of the machine.

Electric shock

Contact with voltage conducting parts may lead directly to death or serious injury. Defective electrical components or damaged insulation can carry voltage.

Danger of injury from splinters coming from tools or cutting material

When a processing tool is broken or the cutting material is being processed, splinters and particles may be ejected from the tool or the material. These can lead to injuries.

- Use protective equipment during handling: Protective work clothing, safety goggles and protective gloves.

Danger of injury from moving machine parts

The movements of the saw entry and sawing unit can trap, drag, and injure people's clothing or similar objects.

Likewise, people or bodily limbs can be jammed or crushed between machine parts or between machine and work pieces.

- Use personal protective work equipment while working on the machine.
- Never enter the dangerous zone of moving machine parts or insert your hand.

Danger of injury from processing tools

Sharply sharpened machining tools can cause serious disruption or separation of the body parts during installation / removal of the machine or when placed in the machine.

- Do not bring your hand close to the tool when the saw is stationary or running.
- Use personal protective work equipment while working on processing tools.

Risk of injury from explosive pneumatic parts

Pressurized air coming out of defective pneumatic parts or exploding pneumatic parts can lead to injuries.

- If there is a fault in the damaged pneumatic line or in the pneumatic system, the compressed air should be immediately closed and taken out of the booth in such a way that it can not be opened again.
- The work to be carried out in the pneumatic system should only be carried out by authorized specialists.
- Use personal protective work equipment.

Health hazard caused by dust and noise

-The working panel saw produces noises and harmful dusts or other substances can form when certain materials are being processed. These effects can lead to hearing impairment or respiratory distress.

- Use personal protective equipment while the machine is running.
- Learn about the emission values involved when processing sheet materials.
- Use adequate respiratory protection in addition to personal protective equipment when handling hazardous materials.

The risk of occupational illnesses and injuries occurring as a result of work with materials and work pieces can be greatly reduced by us the following.

- Lifting and transport equipment for work pieces
- Aids for storage of plates
- Good lighting and ventilation of the workplace
- Proper arrangement of the workplace
- Emergency tools, devices and instructions

3.2 General Use Instructions

The BALA vertical panel saw machine is manufactured by specialists in the field of manufacturing, taking all safety precautions into consideration. The safety instructions specified during transportation, assembly and installation must be fully applied before use. The specified mechanical and electrical systems must be inspected and made available.

3.2.1 Machine Start-up Instructions

The following items must be checked when the first energy and air are supplied after the installation of the machine and the necessary connections are completed.

- 1- Visually check that the saw is in the reverse position (in the position to strike the wicks or the lower wheels).
- 2- The machine is resets. Resets the machine axes by moving them automatically.
- 3- While there is no material on the machine, vertical and horizontal cutting is done manually. (Explained in the Manual section)
- 4- The machine is ready for use in machine movements if there is no problem in sawing operation.

3.2.2 Installing a Workpiece

The following steps are applied to load material on the machine.

- 1- If the gantry is in the position to prevent material loading, the Park “command is used to move the cutting block to the edge.
- 2- The material is loaded with the help of an apparatus or manually on the machine.
- 3- The material is placed on the wheels; the back plate is based on the gap.
- 4- The material can move to the left and right by hand. It rests on the chassis by moving it manually to the right. (Figure 3.1)

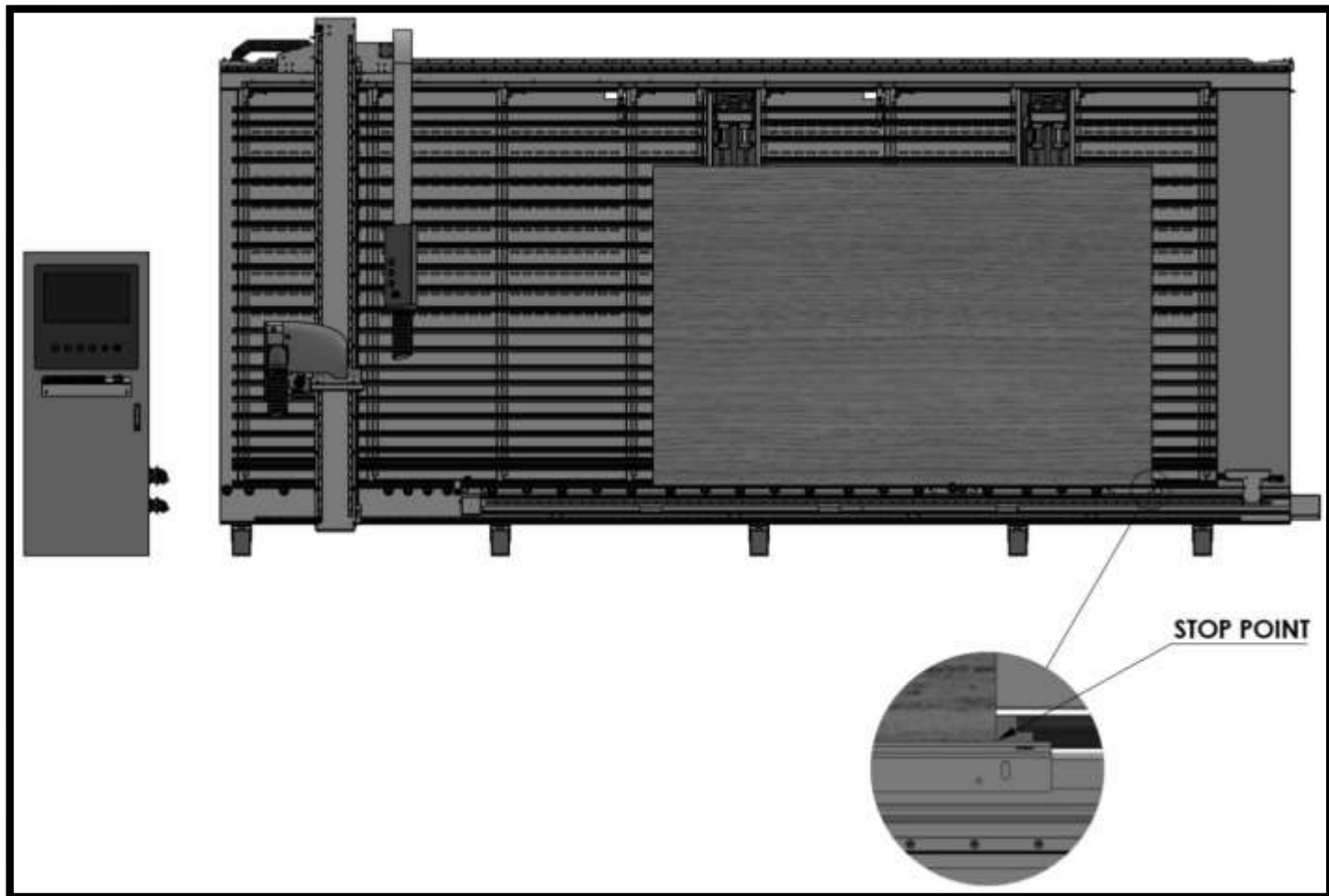


Figure 3.1 - Position of the workpiece on the machine

3.2.3 Machine Operations

The machine has several operations to process the material. Before starting any operation, the workpiece must be loaded onto the machine and the dimensions must be measured clearly. Then the workpiece is processed by entering the necessary data in the control panel.

4. ACCESSORIES

Follow the instructions below to use the accessories of the BALA vertical panel saw machine.

4. Scoring saw unit

This product is used as an accessory for BALA vertical panel sizing machine. It should not be forgotten that the product may bring some hazards with its use. You can reduce or prevent these hazards by following the safety instructions.

4.1.1 Tooling Assembly

The scoring blades must have the following characteristics.

Nominal diameter	80 mm
Minimum diameter	75 mm
Hole diameter	20 mm
Maximum width.	3,6 mm

Only use sharp scoring blade suitable for the material. The cutting edge geometry of the saw leaves and the cutting edge material must be determined according to the material.

The use of HSS type saw blades is prohibited.

Saw leaves that are cracked or deformed should not be used.

Maximum attention must be given to operations performed with processing tools. There is a risk of injury from very sharp edges. Appropriate fittings and handling arrangements should be used.

4.1.2 Processing of Cutting Material

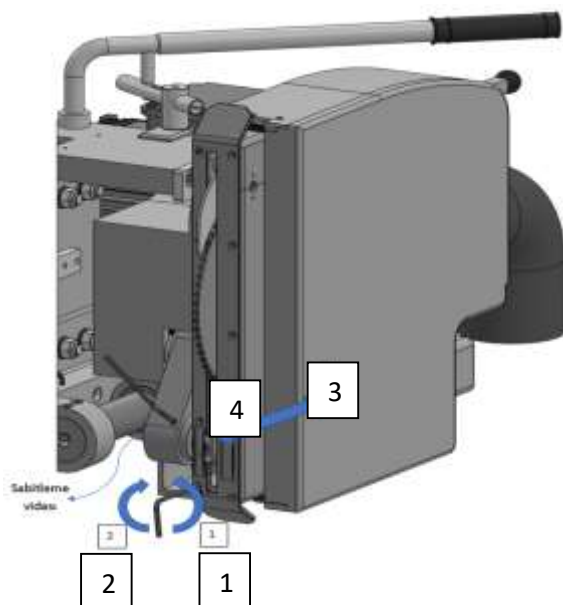
Never work without protective devices and never make any changes that could put safety on the machine

The scoring saw blade unit can only be pushed into the working position in the effective process. After the end of the cutting, the unit should be returned to the waiting position.

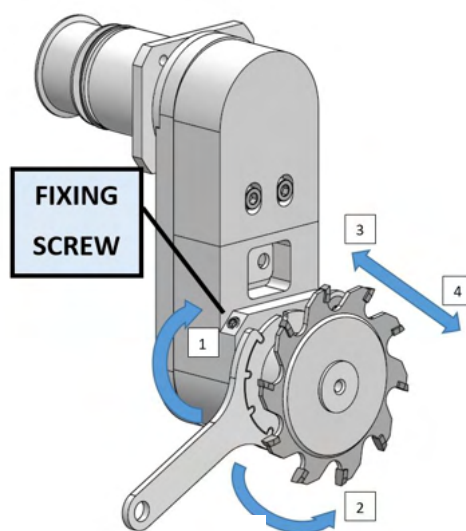
Settings for scoring saw blade centering and depth of draw should only be performed while the machine is stationary and the Emergency Off button is pressed.

4.1.3 Settings of Scoring Blade

1. The fixing screw shown is loosened by turning 2 turns.
2. For right and left adjustment of the blade; the indicated screw moves 0.1 mm when turned.
3. The screw shown for the depth adjustment of the blade moves 1 mm when rotated 1 turn.



when the key rotates the direction 1, blade move the direction 3
when the key rotates the direction 2, blade move the direction 4



when the key rotates the direction 1, blade move the direction 3
when the key rotates the direction 2, blade move the direction 4

5 MAINTENANCE

6.1 Safety Instructions

Failure to perform maintenance or proper servicing may result in hazardous conditions on machine parts or tools.

- Follow the maintenance intervals specified in the maintenance chart.
- In all maintenance work, take an aspiration so that the machine and its accessories are not inadvertently operated. Switch off the circuit breaker and the pneumatic opening valve.
- Solvent should never be used in machine cleaning.

5.2 Daily Maintenance

Check the list below for daily maintenance.

Control Point	Method	Resolution
1. Gantry movement	Move the gantry	Gantry should move freely. * check lubrication
2. Visual Blade control	Turn the blade slowly with your hand and check the teeth.	It should not be broken or crushed. If this is the case, change the knife.
3. Machine cleaning	Clean with air and dry cloth	The machine should be cleaned every day after work.
4. Lubrication condition	Lubricate the rails.	Use fine oil with a sponge or cloth. Keep it away from dust after it has been greased.
5. Sound, vibration and heat of bearings	Listen to the sound of the blade and look at the motion of the cutting block during the process	There should be no abnormal sound and vibration. There should not be abnormal heat in the bearings. And the motor sounds are not abnormal..
6. Dust hose	Make sure that the dust hose is not filled and that it does not accumulate at any point.	The powder hose must be open and there should be no sawdust in it.
7. Bolts, hose connections	Check all bolts before operating the machine	All the points must be secure.

5.3 Weekly Maintenance

Check the list below for weekly maintenance.

Control Point	Method	Resolution
1. Main bar	The main bar should be lubricated for comfortable movement of the shaft. Lubricate every 15 days	The cutting head should be able to move smoothly to horizontal and vertical positions.

6.4 Monthly Maintenance

Check the list below for monthly maintenance.

Control Point	Method	Resolution
1. Upper rail surface tolerance	Measure thickness and straightness	It must be straight
2. Right angle tolerance of cutting blade	Measure by cutting the panel	Maximum tolerance 0.2 mm per 1 meter
3. Tolerance of Gantry	Measure by cutting the panel	Maximum tolerance 0.2 mm per 1 meter
4. Level of rails	Put a long piece on the bottom rollers	The cylinders must be at the same level.
5. Electric cables and pneumatic hoses	Check carefully	they should not open, cut or cracked. connection point should be tight

6.5 Yearly Maintenance

Check the list below for annual maintenance.

Control Point	Method	Resolution
1. Overall level of the machine	Check the main parts. Check the machine's feet	The machine must be stationary. It should print all its feet. There should be no feet on the air. Be sure to safely fix it to the place feet.)
2. Motor insulation	Measure with the measuring instruments. IMPORTANT: The insulation test must be carried out by a qualified technician in order to avoid damage.	The value should be more than 2 mega ohms.
3. Material support profiles	be renewed	Material support profiles are highly modifiable..

7 WARRANTY CONDITIONS

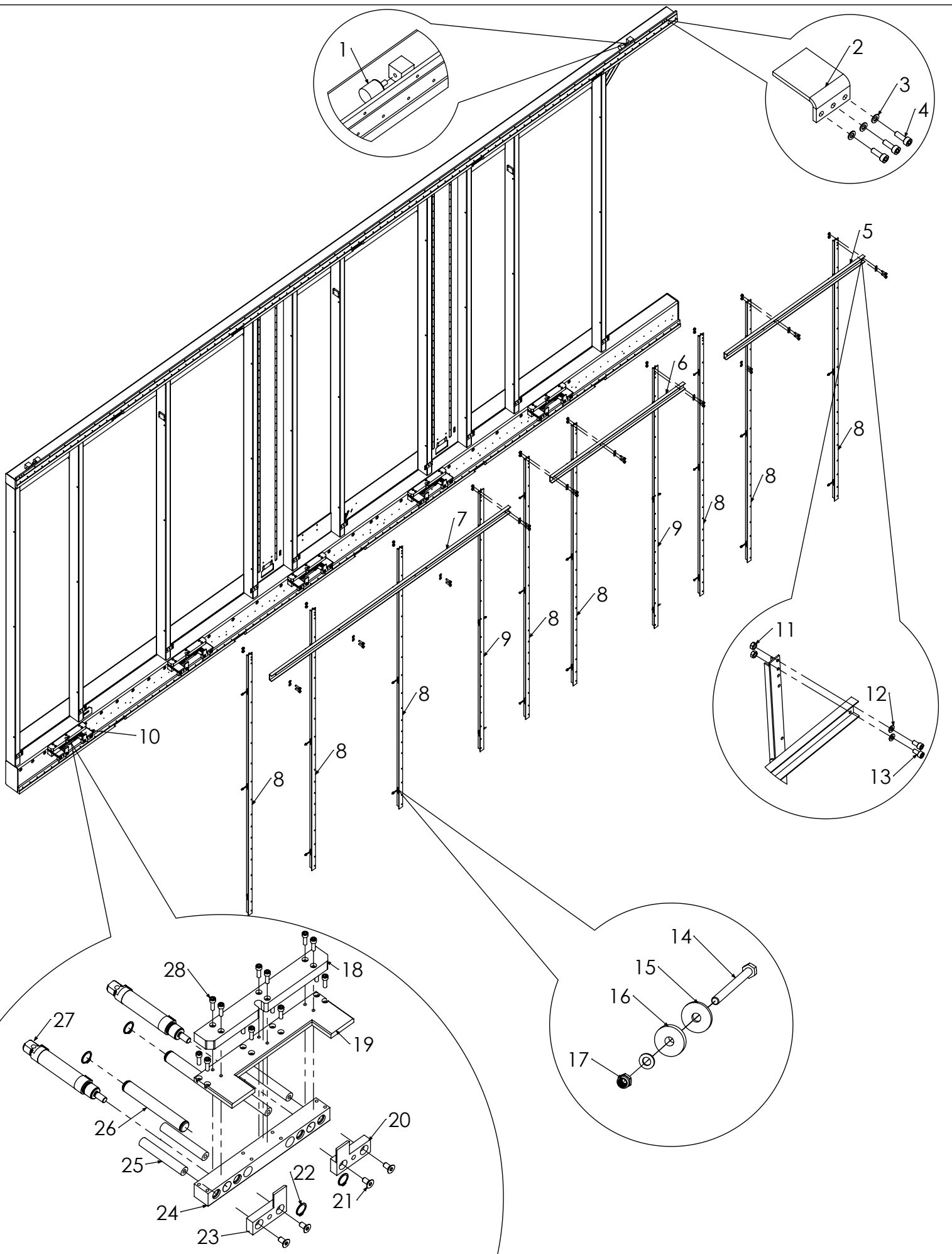
Bala Makine San. Tic. Ltd. Şti.' guarantees that all machines are tested before shipment and manufactured in accordance with international standards. The warranty period of the machine is 24 (twenty-four) months from the date of shipment.

Warranty Covering Damages in the Following Situations

- All defects and defective part changes caused by factory production processes are made free of charge.
- In the event that any malfunction or defective part of the machine is replaced on site by our technical service staff, transportation, accommodation and occupation costs of the service staff will be covered by the requesting company.

Warranty Does Not Cover Damages That Occur in the Following Situations

- Failure to comply with the rules set out in the instructions for use
- Improper use and improper use of the machine for design purposes.
- Routine maintenance of the machine (cleaning, oiling of the rails, etc.) is not done by the user or is incomplete
- Failures due to the electrical installation of the user in the electrical panels and materials of the machines
- Use of machining tools that are of poor quality and not suitable for machining may result in defects.
- Damages that may occur in the machine during relocation in the workshop or during the relocation of the machine to another facility.
- Natural Disasters (Fire, flood, earthquake etc.)
- Damage that may occur as a result of the machine being operated in a problematic manner.



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PARÇA/MONTAJ ADI
PART/ASSEMBLY NAME

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Yavuz Varışlısoy

11.11.2023

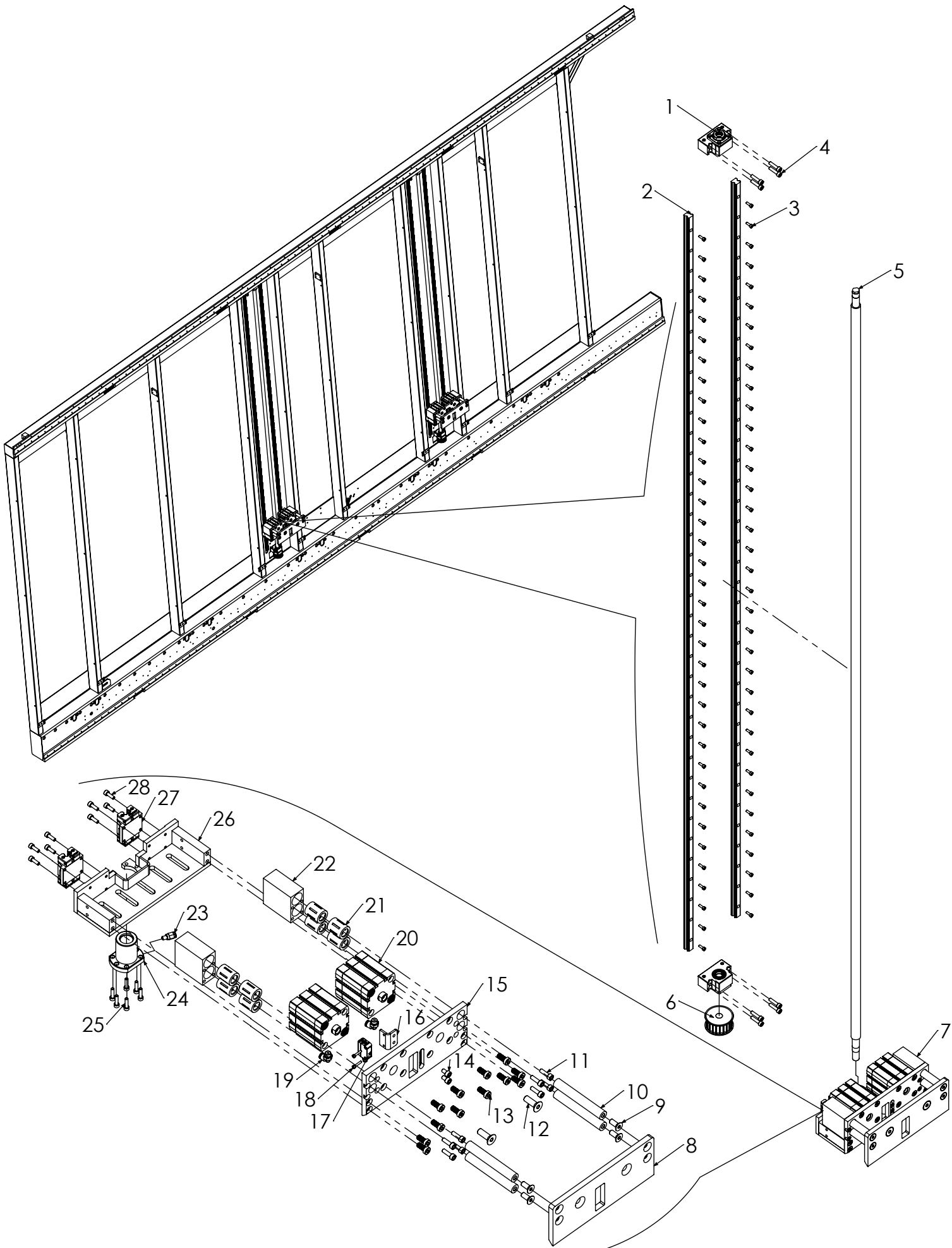
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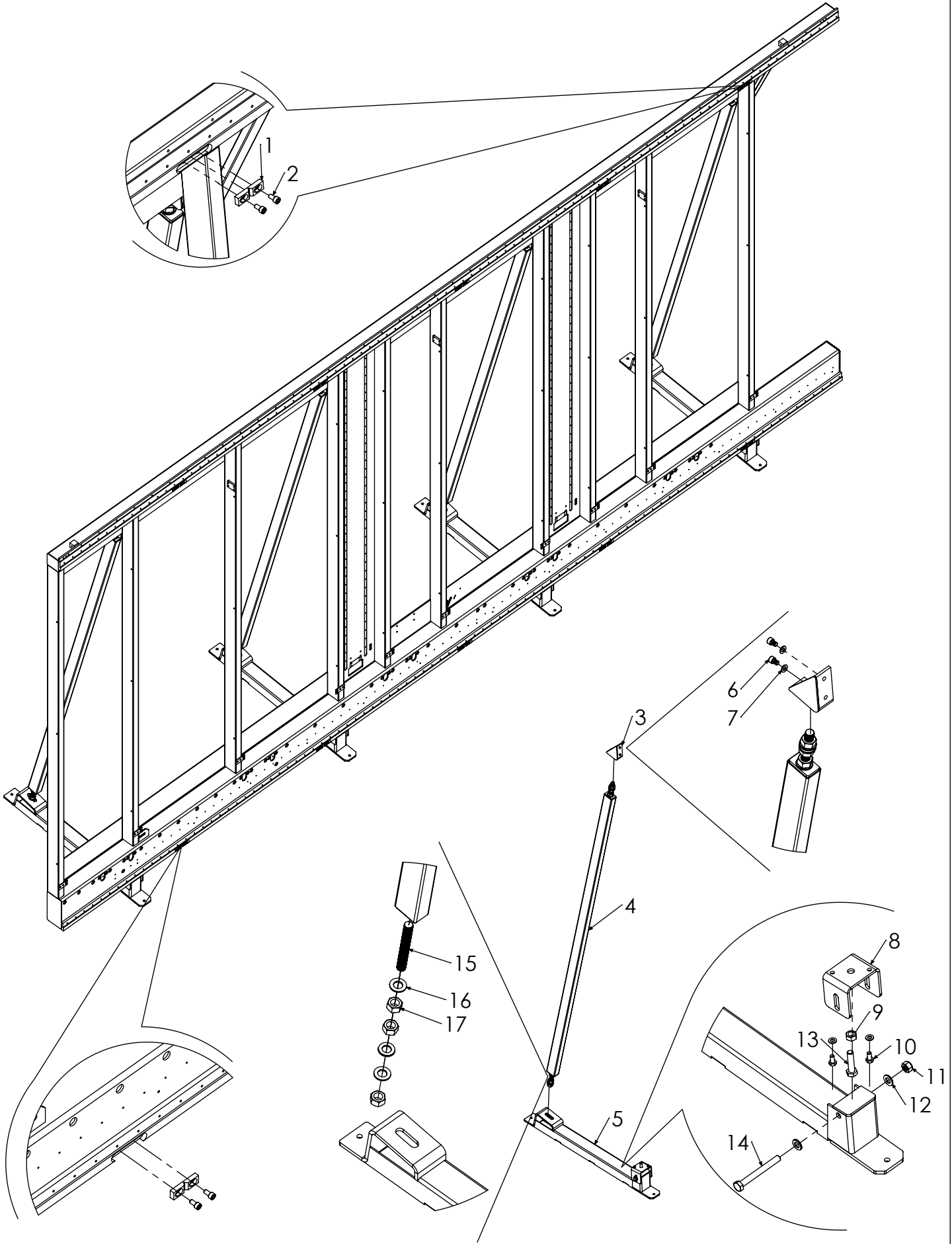
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List Number	List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	1	P019931	Rubber Stopper	2		
2	2	P019817	X-Axis Sensor Sheet	2		
3	3	S000099	M5 Washer	36	DIN 125	M5
4	4	S000062	M5 x 15 Socket Head Screw	6	DIN 912	M5 x 15
5	5	P19594	U Profile 3	1		
6	6	P19593	U Profile 2	1		
7	7	P19591	U Profile 1	1		
8	8	P19829	Movable Sheet(Rigth)	8		
9	9	P19599	Movable Sheet(Left)	2		
10	10	M002008	Vertical Lock Support Assembly	5		
11	11	S000026	M8 Nut	20	DIN 934	M8
12	12	S000025	M8 Washer	20	DIN 125	M8
13	13	S000054	M8 x 16 Socket Head Screw	20	DIN 7984	M8 x 16
14	14	S000162	M5 x 60 Hex Head Screw	30	DIN 912	M5 x 60
15	15	P016630	Plastic Washer(Small)	30		
16	16	P016626	Plastic Washer	30		
17	17	S000163	Fibered Nut	30		
18	18	P019998	Vertical Cut Support Part	1		
19	19	P019997	Vertical Cut Support Part (Middle Sheet)	1		
20	20	P019848	Vertical Cut Pressing Part(Right)	1		
21	21	S000051	M8 x 16 Flat Head Screw	4	DIN 7991	M8 x16
22	22	S000049	Ø20 Retaining Ring	4	DIN 471	Ø20
23	23	P019847	Vertical Cut Pressing Part(Left)	1		
24	24	P019996	Vertical Cut Support Part (Bottom)	1		
25	25	P019913	Ø16 Induction Shaft	4		
26	26	P019486	Ø12 Shaft	2		
27	27	S000512	Festo 25-50 Rod Cylinder	2		
28	28	S000087	M6 x 20 Socket Head Screw	14	DIN 912	M6



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List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	S000437	BK 15 Bearing House	4		
2	S000654	Hiwin 15 Lineer Guideway	4		
3	S000389	M4X12 Socket Head Screw	144	DIN 912	M4 x 12
4	S000064	M6X25 Socket Head Screw	16	DIN 912	M6 x 25
5	P018666	Threaded Rod	2		
6	S000436	HTD 8M Z25 20mm Steel	2		
7	M001062	Head Clamp Assembly	2		
8	P018679	Clamp Sheet 1	2		
9	S00302	M8X20 Flat Head Screw	8	DIN 7991	M8 x 20
10	P018680	Clamp Induction Shaft	8		
11	S00087	M6X20 Socket Head Screw	16	DIN 912	M6 x 20
12	S000441	M10X30 Flat Head Screw	4	DIN 7991	M10 x 30
13	S000440	M8X16 Socket Head Screw	24	DIN 912	M8 x 16
14	S000017	M6X10 Socket Head Screw	4	DIN 912	M6 x 10
15	P018672	Clamp Sheet 2	2		
16	P018678	Clamp Sheet 3	2		
17	S000120	Photocell (Sick GTB6 - P4212)	2		
18	S000097	M3X16 Socket Head Screw	4	DIN 912	M3 x 16
19	S000439	Festo G1 8 6MM Union Elbow	4		
20	S000442	ADN 50-30 IPA	4		
21	S000438	KH 16-30	16		
22	P018673	Clamp Linear Bearing House Part	4		
23	S000444	Festo M6 Straight Lubrication Record	2		
24	S000443	21-40 Ball Screw FSUD2005	2		
25	S000104	M5X20 Socket Head Screw	12	DIN 912	M5 x 20
26	P018669	Clamp Sheet 4	2		
27		Hiwin HGW 15CC	4		
28	S000062	M5X15 Sockhet Head Screw	16	DIN 912	M5 x 15



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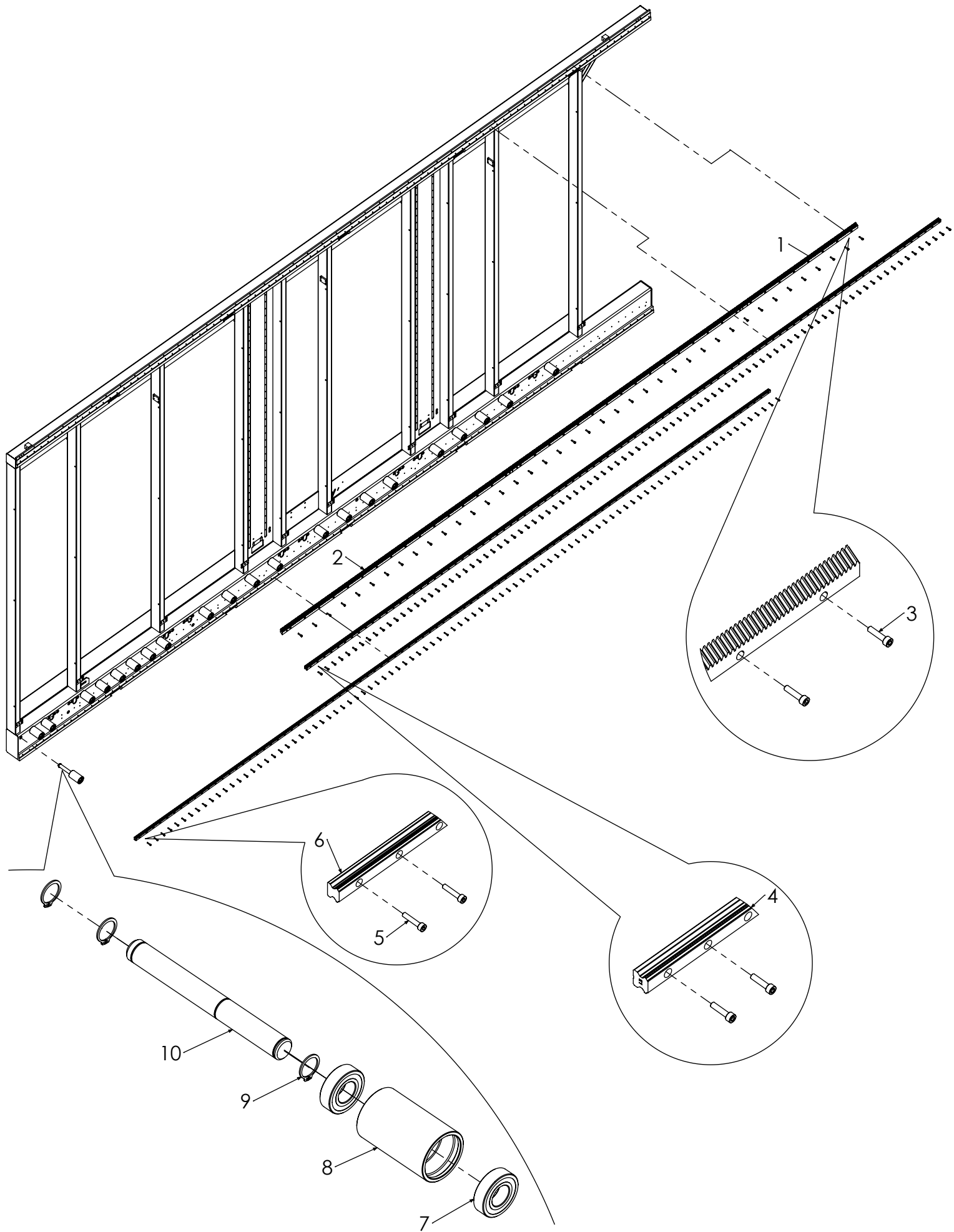
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List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	P019692	Top Lock Part	10		
2	S000054	M8X16 Socket Head Screw	20	DIN 912	M8 x 16
3	M000144	Rear Foot Bracket Assembly	4		
4	M001234	Foot Pipe Profile Assembly	4		
5	M001237	Foot Base Assembly	4		
6	S000318	M8X12 Socket Head Screw	16	DIN 912	M8 x 12
7	S000025	M8 Washer	16	DIN 125	M8
8	P016661	Foot Sheet 5	4		
9	S000181	M12 Nut	4	DIN 934	M12
10	S000176	M8X16 Hex Head Screw	8	DIN 912	M8 x 16
11	S000175	M12 Fibered Nut	4	ISO 10511	M12
12	S000173	M12 Washer	8	DIN 125	M12
13	S000180	M12 x 50 Hex Head Screw	4	DIN 912	M12 x 50
14	S000174	M12 x 30 Hex Head Screw	4	DIN 912	M12 x 30
15	S000657	M18 x 140 Threaded Rod	8		M18 x 140
16	S000182	M18 Washer	24	DIN 125	M18
17	S000426	M18 Nut	24	DIN 934	M18



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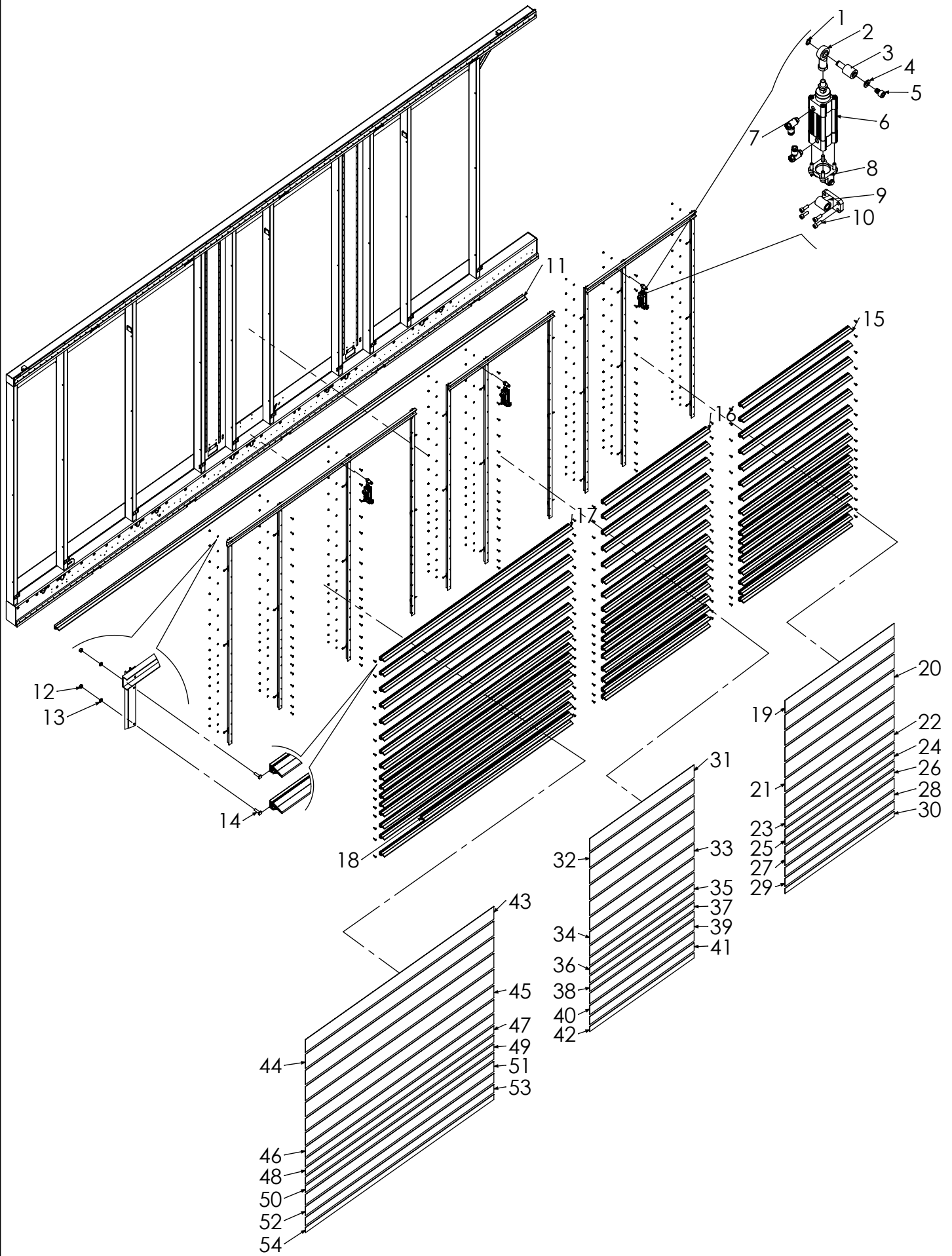
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List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	S000658	Gear Rack 1000mm	1		
2	S000659	Gear Rack 2000mm	1		
3	S000064	M6 x 25 Socket Head Screw	132	DIN 912	M6 x 25
4	S000660	15 Linear Guideway 5504mm	1		
5	S000077	M5 x 25 Socket Head Screw	92	DIN 912	M5 x 25
6	S000661	20 Linear Guideway 5508mm	1		
7	S000663	6004 2RS Bearing	44		
8	P019838	Lower Wheel Cylinder	22		
9	S000049	Ø20 Retaining Ring	66	DIN 471	
10	P019657	Lower Wheel Shaft	22		



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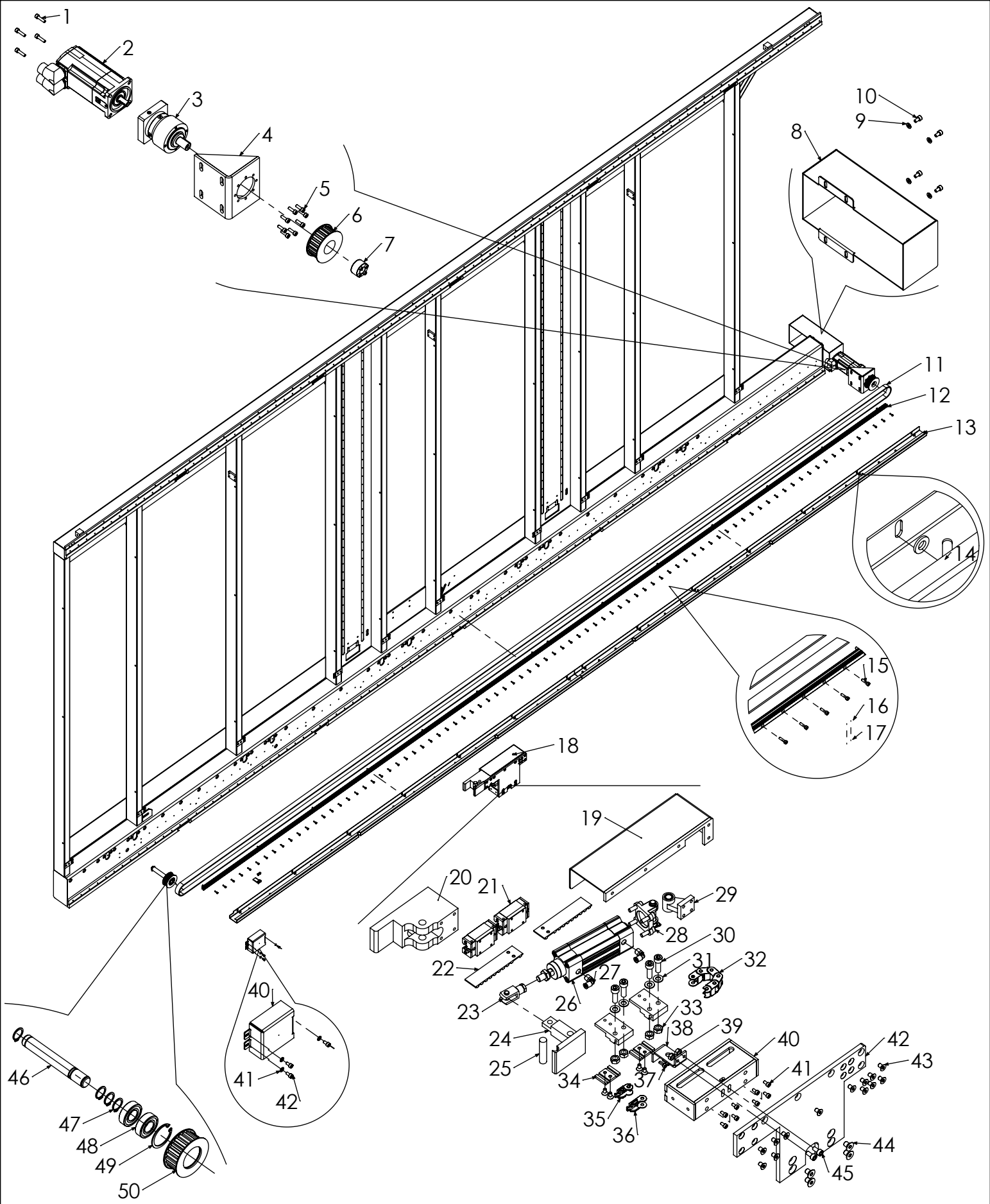
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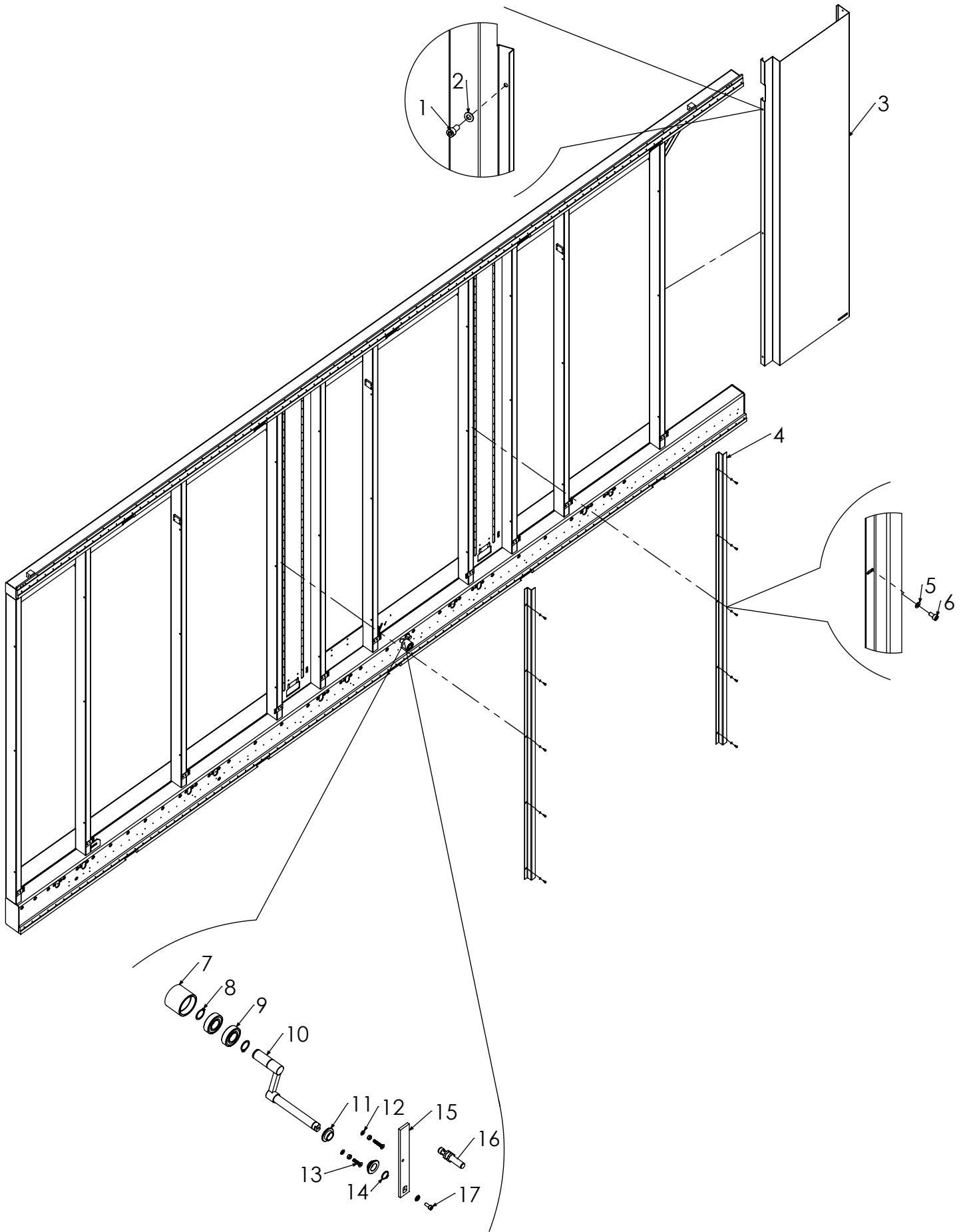
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List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	S000083	Ø10 Retaining Rings	3	DIN 471	Ø10
2	S000197	M10 Female Rod End Bearing	3		
3	P017455	Panel Lifting Piston Connector	3		
4	S000025	M8 Washer	3	DIN 125	M8
5	S000318	M8 x 12 Socket Head Screw	3	DIN 912	M8
6	S000196	Festo DSCB 32-30 Rod Cylinder	3		
7	S000198	GRLA-1/8 QS 6 Flow Control Valves	6		
8	S000195	Elbow Connection	3	ISO 15552	
9	S000194	Ground Connection	3	ISO 15552	
10	S000062	M5 x 15 Socket Head ScREW	4	DIN 912	M5
11	P019837	Plastic Profile for Back Table(Fixed)	1		
12	S000187	M6 Nut	170	DIN 934	M6
13	S000053	M6 Washer	170	DIN 125	M6
14	S000191	M6 x 20 Square Head Screw	170		
15	P019836	Plastic Profile for Back Table (1152mm)	17		
16	P019835	Plastic Profile for Back Table (1102.25mm)	17		
17	P019497	Plastic Profile for Back Table (1990.5mm)	16		
18	P021217	Plastic Profile for Back Table (1560.5)	1		
19	P019576	MDF 1152 x 133	1		
20	P019577	MDF 1152 x 148	4		
21	P019578	MDF 1152 x 128	2		
22	P019579	MDF 1152 x 103	1		
23	P019581	MDF 1152 x 78	1		
24	P019582	MDF 1152 x 71	1		
25	P019583	MDF 1152 x 70	1		
26	P019584	MDF 1152 x 68	1		
27	P019585	MDF 1152 x 108	1		
28	P019586	MDF 1152 x 193	1		
29	P019587	MDF 1152 x 83	1		
30	P019588	MDF 1152 x 53	1		
31	P019551	MDF 1102.25 x 133	1		
32	P049554	MDF 1102.25 x 148	4		
33	P019564	MDF 1102.25 x 128	2		
34	P019565	MDF 1102.25 x 103	1		
35	P019567	MDF 1102.25 x 78	1		
36	P019568	MDF 1102.25 x 71	1		
37	P019569	MDF 1102.25 x 70	1		
38	P019570	MDF 1102.25 x 68	1		
39	P019571	MDF 1102.25 x 108	1		
40	P019573	MDF 1102.25 x 193	1		
41	P019574	MDF 1102.25 x 83	1		
42	P019575	MDF 1102.25 x 53	1		
43	P019547	MDF 1990.5 x 133	1		
44	P019549	MDF 1990.5 x 148	4		
45	P019552	MDF 1990.5 x 128	2		
46	P019553	MDF 1990.5 x 103	1		
47	P019556	MDF 1990.5 x 78	1		
48	P019557	MDF 1990.5 x 71	1		
49	P019558	MDF 1990.5 x 70	1		
50	P019559	MDF 1990.5 x 68	1		
51	P019560	MDF 1990.5 x 108	1		
52	P019561	MDF 1990.5 x 193	1		
53	P019562	MDF 1990.5 x 83	1		
54	P019563	MDF 1990.5 x 53	1		



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List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	S000104	M5 x 20 Socket Head Screw	4	DIN 912	M5 x 20
2	S000668	750W Servo Motor (bmh0702p16a2a)	1		
3	S000669	070 1-10 Reducer	1		
4	M002054	Pusher Motor Flange Welding	1		
5	S000580	M5 x 16 Socket Head Screw	8	DIN 912	M5 x 16
6	S000670	T10 Z22 25mm Alm Pulley	1		
7	S000671	Cone Lock CTL 250M 16-32	1		
8	P0198015	Pusher Motor Cover Sheet	1		
9	S000053	M6 Washer	18	DIN 125	M6
10	S000189	M6 x 10 Socket Head Screw	4	DIN 912	M6
11	S000672	Pusher Belt T10 25mm	1		
12	S000662	15 Linear Guideway 4980mm	1		
13	P019777	Pusher Sheet	1		
14	S000291	Button Head Screw	14		
15	S000066	M4 x 16 Socket Head Screw	82	DIN 912	M4
16	S000106	M5 x 10 Flat Head Screw	14	DIN 7991	M5
17	P019800	Pusher Belt Support Sheet	5		
18	M00204	Pusher Head Assembly	1		
19	P019808	Pusher Piston Cover Sheet	1		
20	P019928	Pusher Alm	1		
21	S000673	15 Linear Block HGH15	2		
22	S000674	T10 25mm Belt	2		
23	P019853	M8 *	1		
24	M002728	Pusher Connection Welding	1		
25	S000677	Ø12 Pusher Rubber	1		
26	S000678	1376468 DSBC-32-40-PPSA-N3	1		
27	S000679	Festo Elbow Air Fitting 1/8 4mm 130764	2		
28	S000680	32 Joint Connection ISO 15552	1		
29	S000681	32 Ground Connection ISO 15552	1		
30	S000393	M8 x 25 Socket Head Screw	4	DIN 912	M8
31	S000025	M8 Washer	4	DIN 125	M8
32	S000682	CK10F1010 R018 Plastic Cable Tray	1		
33	S000026	M8 Nut	4	DIN 934	
34	P019724	Pusher Sheet 2	2		
35	S000683	CK10F1010 Connection Apparatus 1	1		
36	S000684	CK10F1010 Connection Apparatus 2	1		
37	S000685	M4 x 10 Socket Head Screw	4	DIN 912	M4
38	P019779	Pusher Sheet 3	1		
39	S000187	M6 Nut	2	DIN 934	M6
40	M002001	Pusher Welding Assembly	1		
41	S000165	M4 x 8 Socket Head Screw	8	DIN 912	M4
42	P019927	Pusher Alm	1		
43	S000086	M6 x 10 Flat Head Screw	13	DIN 7991	M6
44	S000516	M8 x 12 Flat Head Screw	4	DIN 7991	M8
45	S000059	M6 x 12 Socket Head Screw	2	(DIN 912)	M6
46	P019656	Pusher Loose Pulley Shaft	1		
47	S000049	Ø20 Retaining Ring	4		
48	S000663	6004 2RS Bearing	2		
49	S000048	Internal Circlip	1		
50	S000686	Pusher Loose Pulley	1		



ROTA

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MALZEME
MATERIAL

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TARİH
DATE

PARÇA/MONTAJ ADI
PART/ASSEMBLY NAME

RENK
COLOR

KALINLIK
THICKNESS

AÇIKLAMA
DESCRIPTION

ANTET
FORMAT

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Yavuz Varışlısoy

11.11.2023

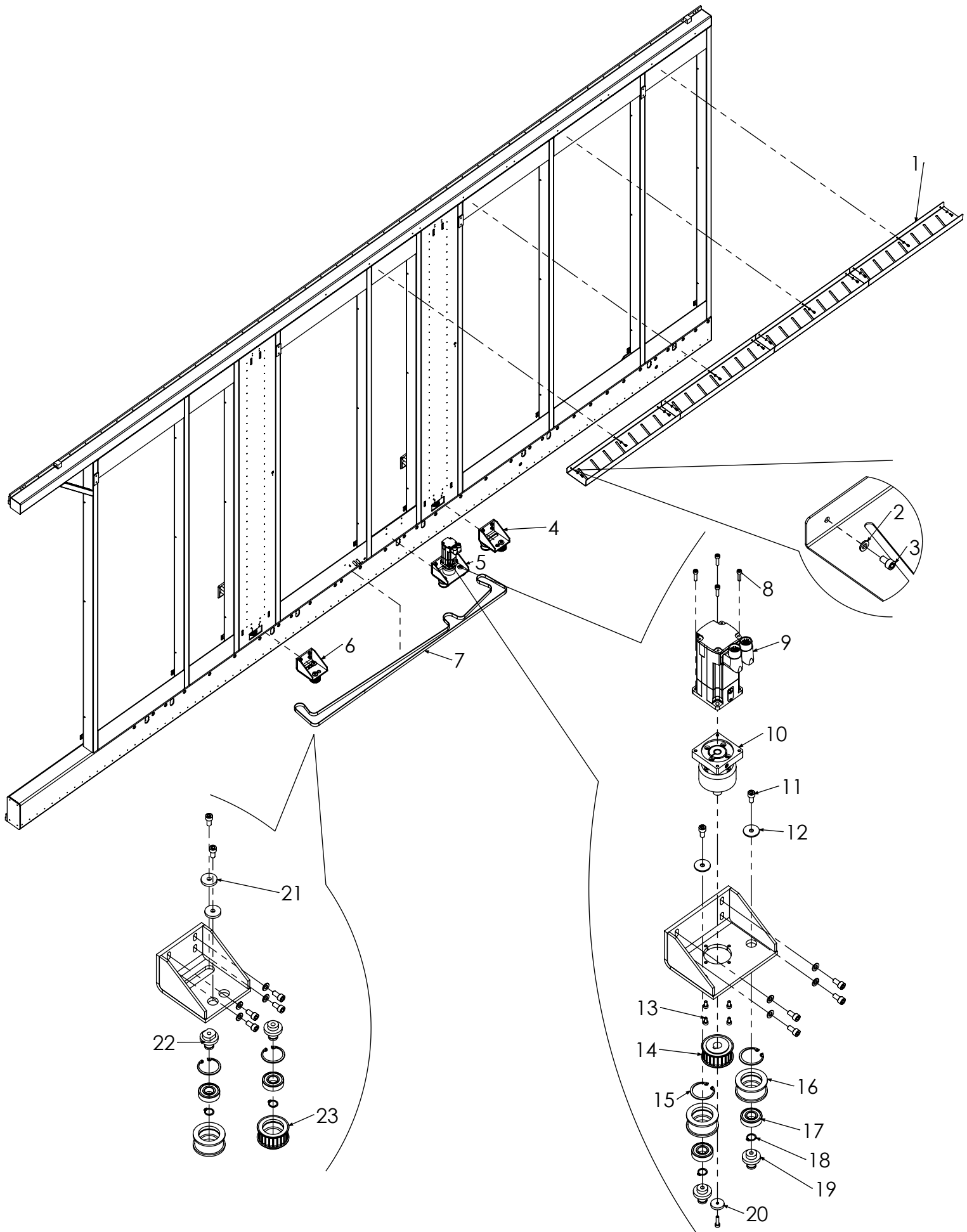
DPM-AV 22-42 SPARE
PARTS

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415.021 - dpm av v2 dikey
kilit destek montaj

A4

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	S000054	M8 x 16 Socket Head Screw	3	DIN 912	M8 x16
2	S000025	M8 Washer	3	DIN 125	M8
3	P019807	Wide Side Sheet	1		
4	P020894	Cable Cover Sheet	2		
5	S000089	M5 Washer	13	DIN 125	M5
6	S000088	M5 x 10 Socket Head Screw	10	DIN 912	M5 x 10
7	P019844	Movable Bottom Wheel Part	1		
8	S000049	Ø20mm Retaining Ring	2	DIN 471	Ø20
9	S000200	6004 ZZ Bearing	2		
10	M002734	Movable Bottom Wheel Welding	1		
11	P019923	Wheel Shaft Bearing Plastic	2		
12	S000141	M5 Nut	2	DIN 934	M5
13	S000119	M5 x 20 Flat Head Screw	2	DIN 7991	M5 x 20
14	S000462	Ø16mm Retaining Ring	1	DIN 471	Ø16
15	P019789	Movable Wheel Sensor Sheet	1		
16	S000099	Sick M12 Ind. Sensor-1040764	1		
17	S000039	M5 x 12 Socket Head Screw	1	DIN 912	M5 x 12



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MALZEME
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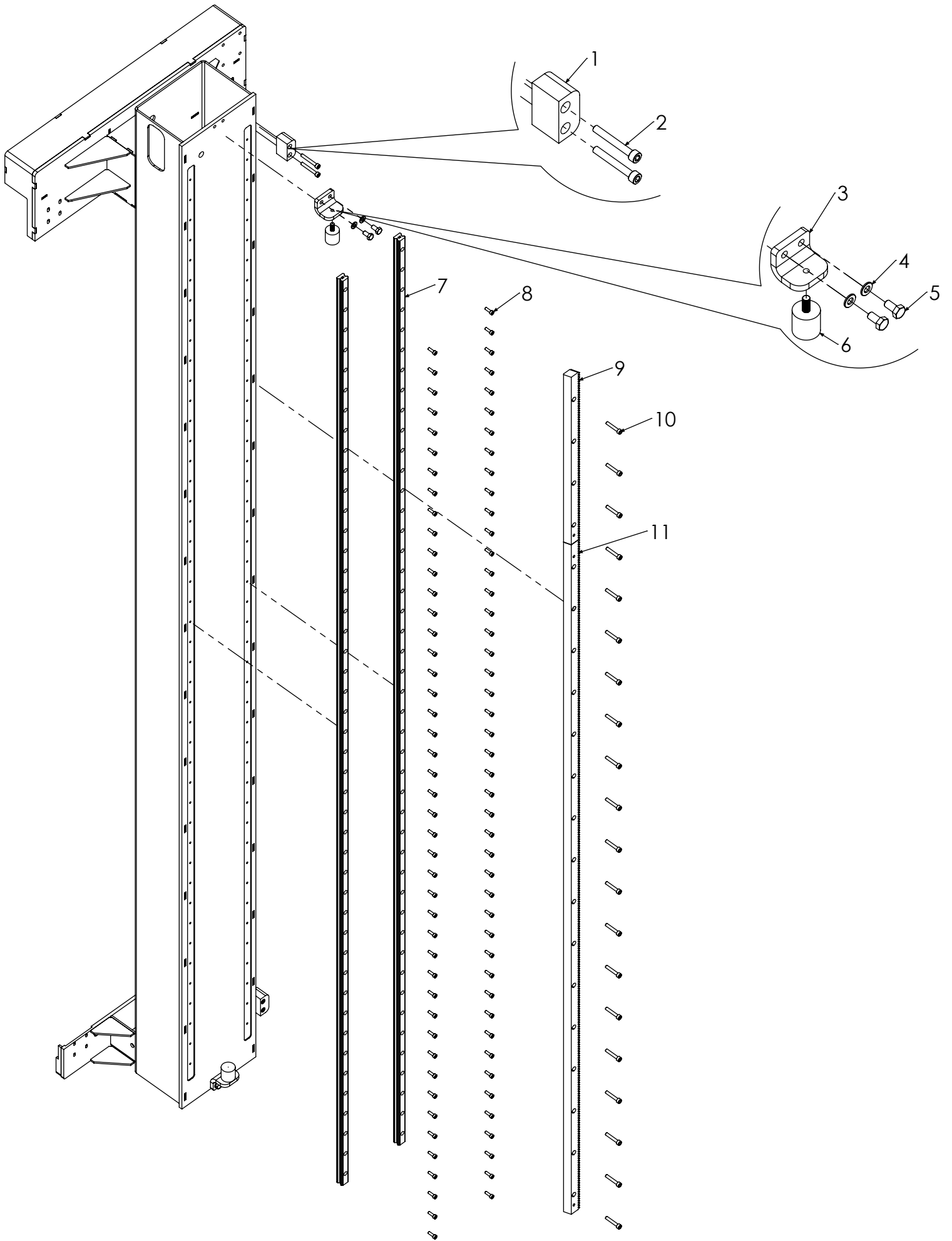
DPM-AV 22-42 SPARE
PARTS

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A4

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	P019748	X Axis Cable Tray Sheet	4		
2	S000053	M6 Washer	12	DIN 125	M6
3	S000017	M6 x 10 Socket Head Screw	12	DIN 912	M6 x 10
4	M001238	Pulley Connecting Assembly(Right)	1		
5	M002047	Clamp Motor Connection Welding Assembly	3		
6	M001053	Pulley Connecting Assembly(Left)	1		
7	S000687	Clamp Belt	1		
8	S000104	M5 x 20 Socket Head Screw	5	DIN 912	M5 x 20
9	S000668	750W Servo Motor	1		
10	S000669	070 1-10 Reducer (PLPE070-010-SSSA3AD-Z11_23_60_82_B5_M5)	1		
11	S000054	M8 x 16 Socket Head Screw	6	DIN 912	M8 x 16
12	S000584	M8 Slot Flange Ø12	2		
13	S000088	M5 x 10 Socket Head Screw	4	DIN 912	M5 x 10
14	S000693	Gear Pulley HTD 8M Z25 20mm Steel	1		
15	S000048	Ø42mm Internal Circlip	2	DIN 472	Ø42
16	P019922	Rear Belt Tensioner Pulley	4		
17	S000319	6203 2RS Bearing	6		
18	S000267	Ø17mm Retaining Ring	6	DIN 471	Ø17
19	P019704	Rear Gear Shaft	2		
20	S000564	M5 Slot Flange Ø35	2		
21	S000582	M8 Flat Flange Ø50	4		
22	P018647	Inner Pulley Pin	4		
23	S000435	HTD 8M-20 Z22 Pulley	1		



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DPM-AV 22-42 SPARE
PARTS

RENK
COLOR

mm

KALINLIK
THICKNESS

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DESCRIPTION

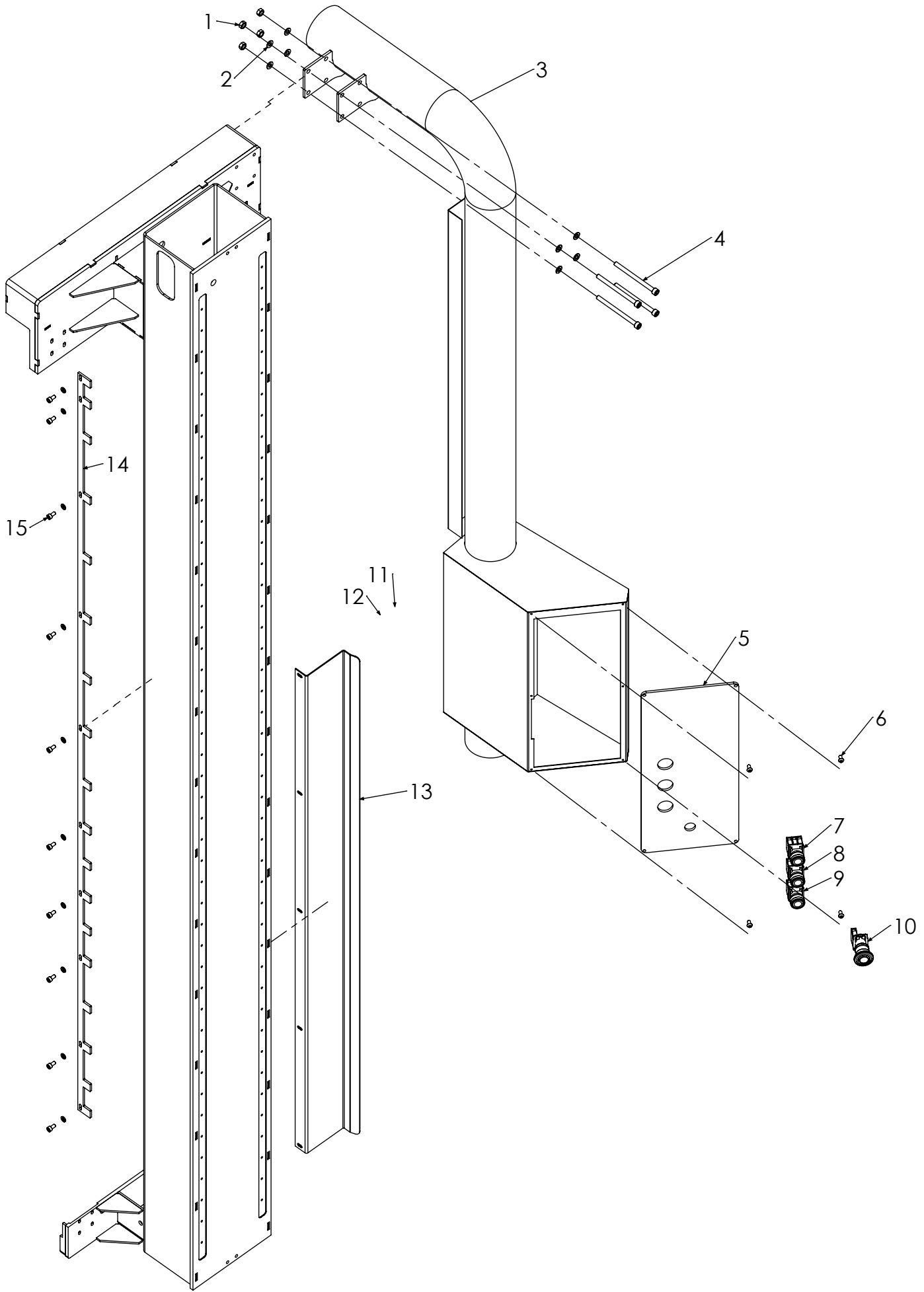
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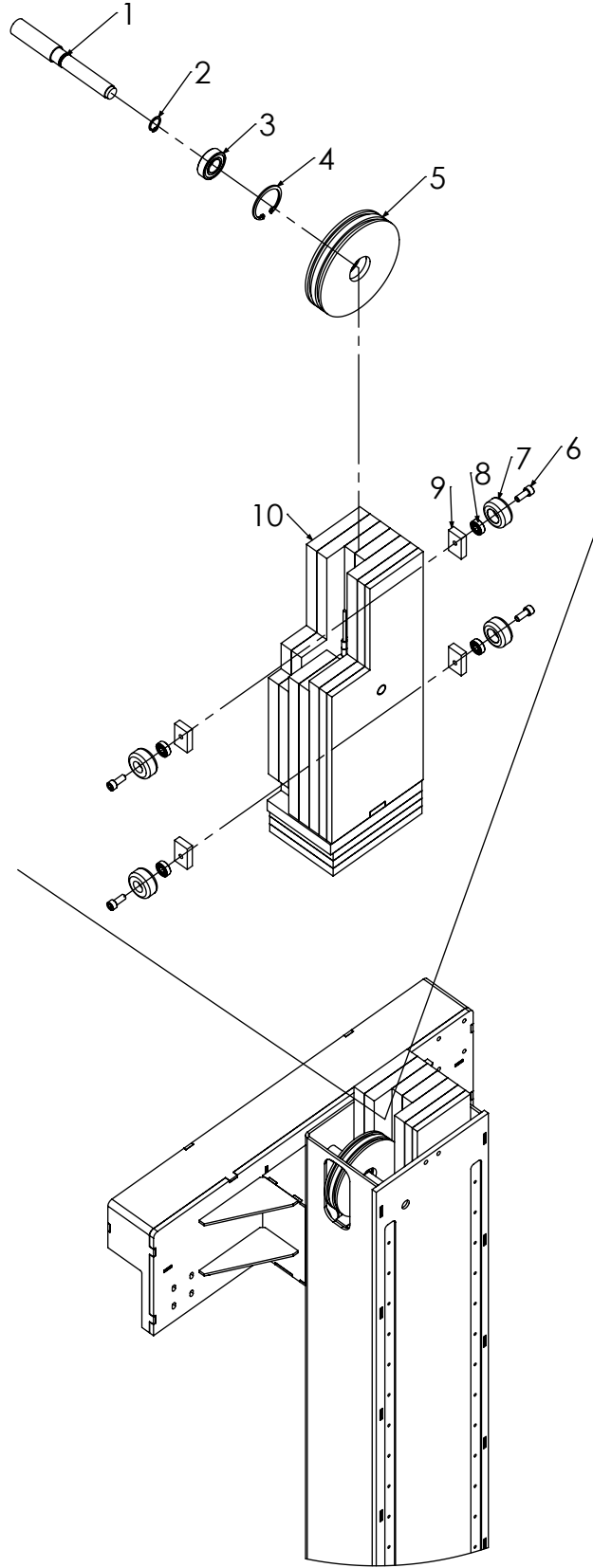
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APPROVAL

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	P019707	Y Axis Sensor Part	2		
2	S000193	M6 x 45 Socket Head Screw	4	DIN 912	M6 x 45
3	P019805	Y Axis Stoper Part	2		
4	S000025	M8 Washer	4	DIN 125	M8
5	S000176	M8 x 16 Hex Head Screw	4	DIN 933	M8 x 16
6	S000130	30-30-M8 Rubber Stopper	2		
7	S000535	20 Linear Guideway 2700mm	2		
8	S000580	M5 x 16 Socket Head Screw	90	DIN 912	M5 x 16
9	S000695	Rack 500mm Module 2 Helis	1		
10	S000103	M6 x 35 Socket Head Screw	20	DIN 912	M6 x 35
11	S000240	Rack 1990mm Module 2 Helis	1		



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		ADI - SOYADI NAME - SURNAME		TARİH DATE					Gr	
	CİZEN DRAWN BY	Yavuz Varışlısoy		11.11.2023	PARÇA/MONTAJ ADI PART/ASSEMBLY NAME		RENK COLOR	KALINLIK THICKNESS	ACIKLAMA DESCRIPTION	ANTET FORMAT
	ONAY APPROVAL				DPM-AV 22-42 SPARE PARTS		mm		415.021 - dpm av v2 dikey kilit destek montaj	A4

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	S000026	M8 Nut	4	DIN 934	M8
2	S000025	M8 Washer	4	DIN 125	M8
3	P019646	Powder Pipe General Assembly	1		
4	S000581	M8 x 110 Socket Head Screw	4	DIN 799	M8 x 110
5	P020798	Plexy Panel	1		
6	S000122	M6 x 12 Button Head Screw	4	DIN 7380	M6 x 12
7	S000321	Red Button	1		
8	S000533	Blue Button	1		
9	S000322	Green Button	1		
10	S000323	Emergency Stop	1		
11	S000189	M6 X 10 Socket Head Screw	5	DIN 912	M6 x 10
12	S000053	M6 Washer	16	DIN 125	M6
13	P019806	Y Axis Cable Tray Sheet	1		
14	P019739	Movable Panel Sheet	1		
15	S000059	M6 x 12 Socket Head Screw	10		



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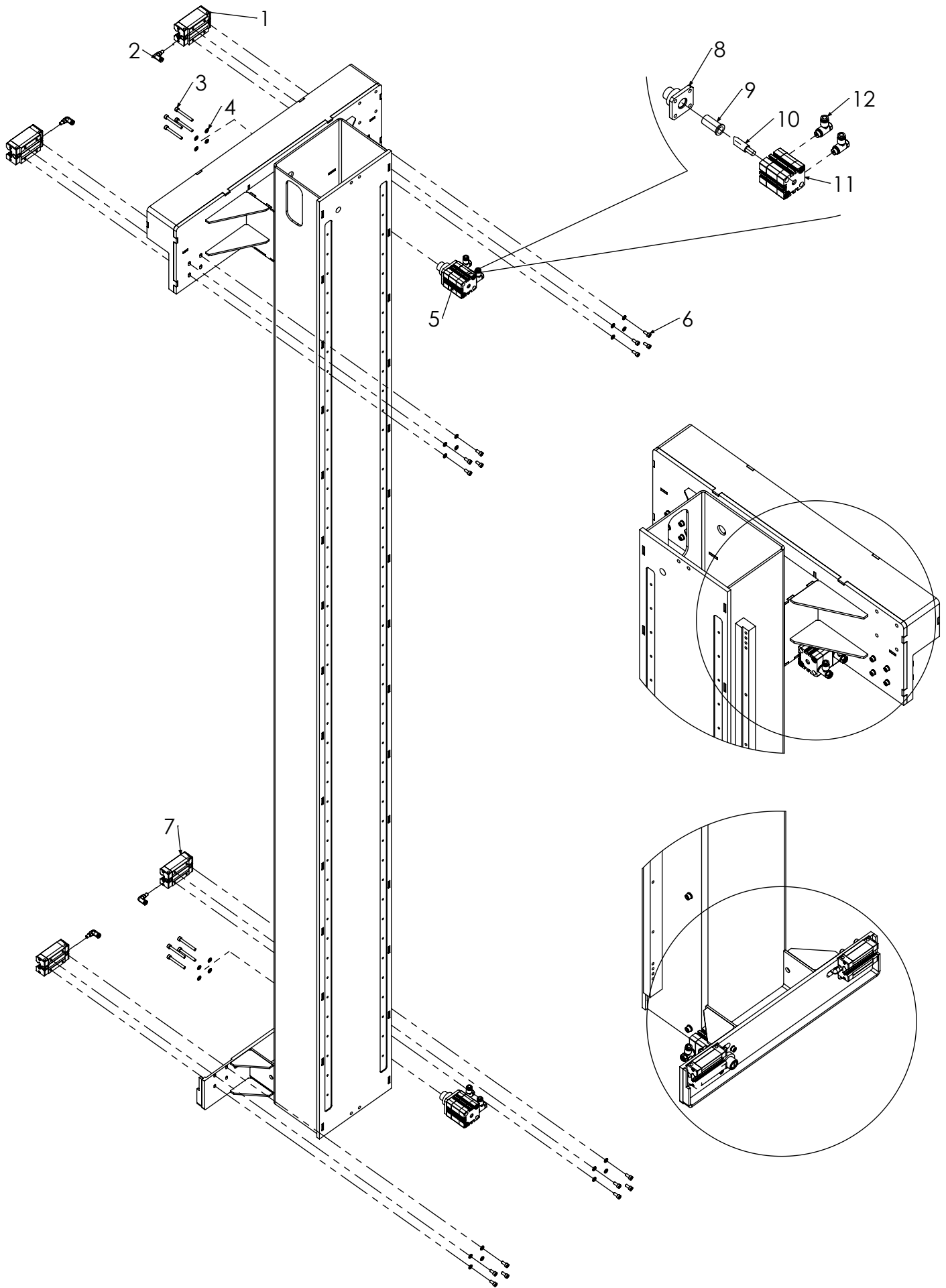
DPM-AV 22-42 SPARE
PARTS

mm

415.021 - dpm av v2 dikey
kilit destek montaj

A4

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	P019683	Chain Gear Pin	1		
2	S000267	17mm Retaining Ring	1	DIN 471	Ø17
3	S000377	6003 2RS Bearing	1		
4	S000320	Ø40 Internal Circlip	1	DIN 472	Ø40
5	P019887	Steel Rope Pulley	1		
6	S000139	M8 x 20 Socket Head Screw	4	DIN 912	M8 x 20
7	P018113	Weight Plates Bearing Plastics	4		
8	S000330	608 Sabit Bilyalı Rulman	4		
9	P018111	Bollard Weight Part Wheel Connecting	4		
10	M000907	Weight Plates Assembly	1		



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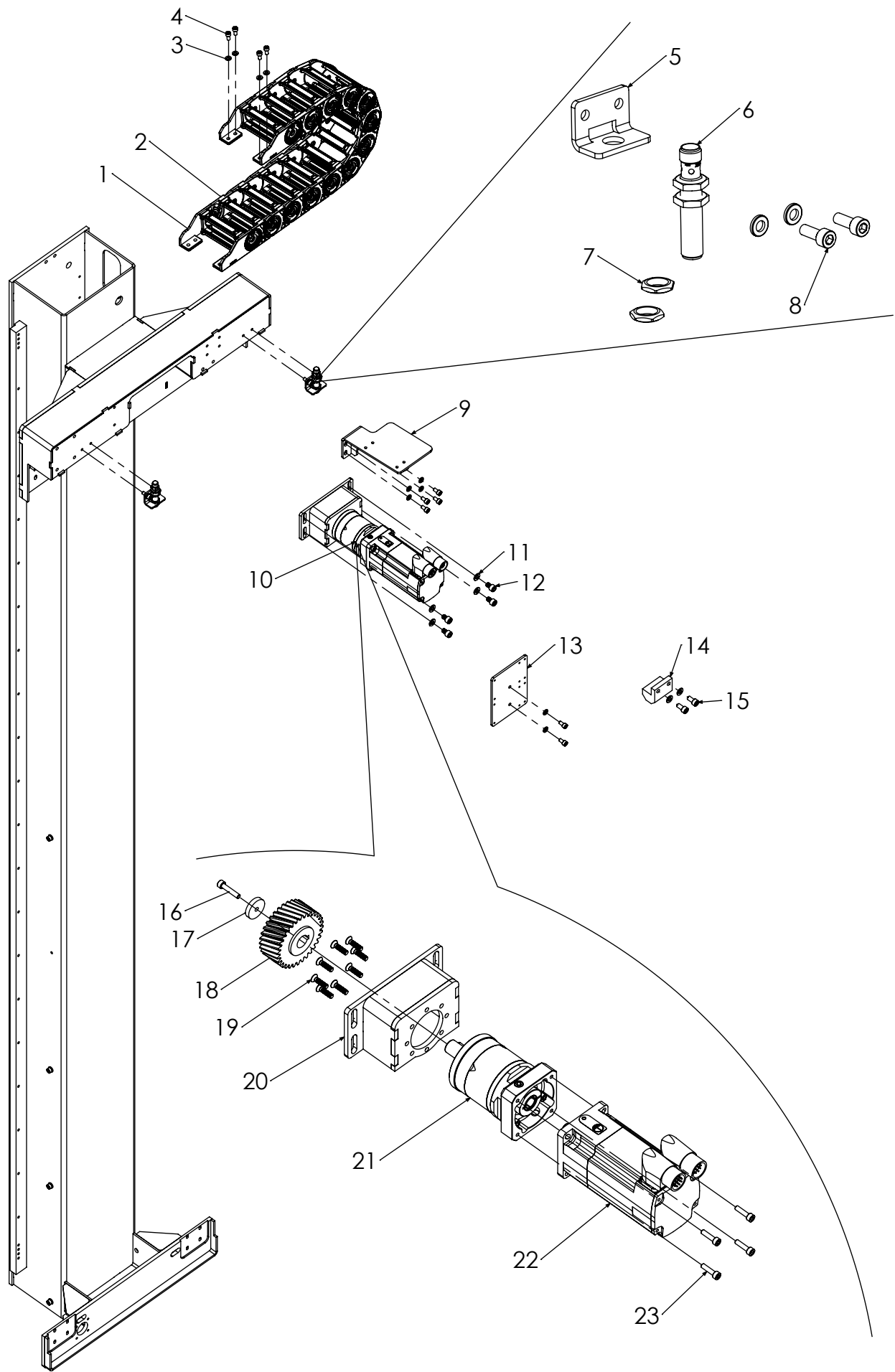
DPM-AV 22-42 SPARE
PARTS

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List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	S000259	Narrow Linear Block HGH25	2		
2	S000551	Ø4 M6 90° Lubrication Fitting	4		
3	S000344	M5x45 Socket Head Screw	8	DIN 912	M5 x 45
4	S000089	M5 Washer	24	DIN 125	M5
5	M001648	Bottom Vertical Lock Piston Assembly	2		
6	S000039	M5 x 12 Socket Head Screw	16	DIN 912	M5 x 12
7	S000578	Narrow Linear Block HGH20	2		
8	P019852	Bottom Vertical Lock Part	2		
9	P020758	Bottom Vertical Lock Cushioning	2		
10	P019706	Bottom Vertical Lock Pin	2		
11	S000549	ADN 32 10 IPA 536279 Piston	2		
12	S000198	GRLA 1/8 QS 6 D Adjustable Fitting	4		



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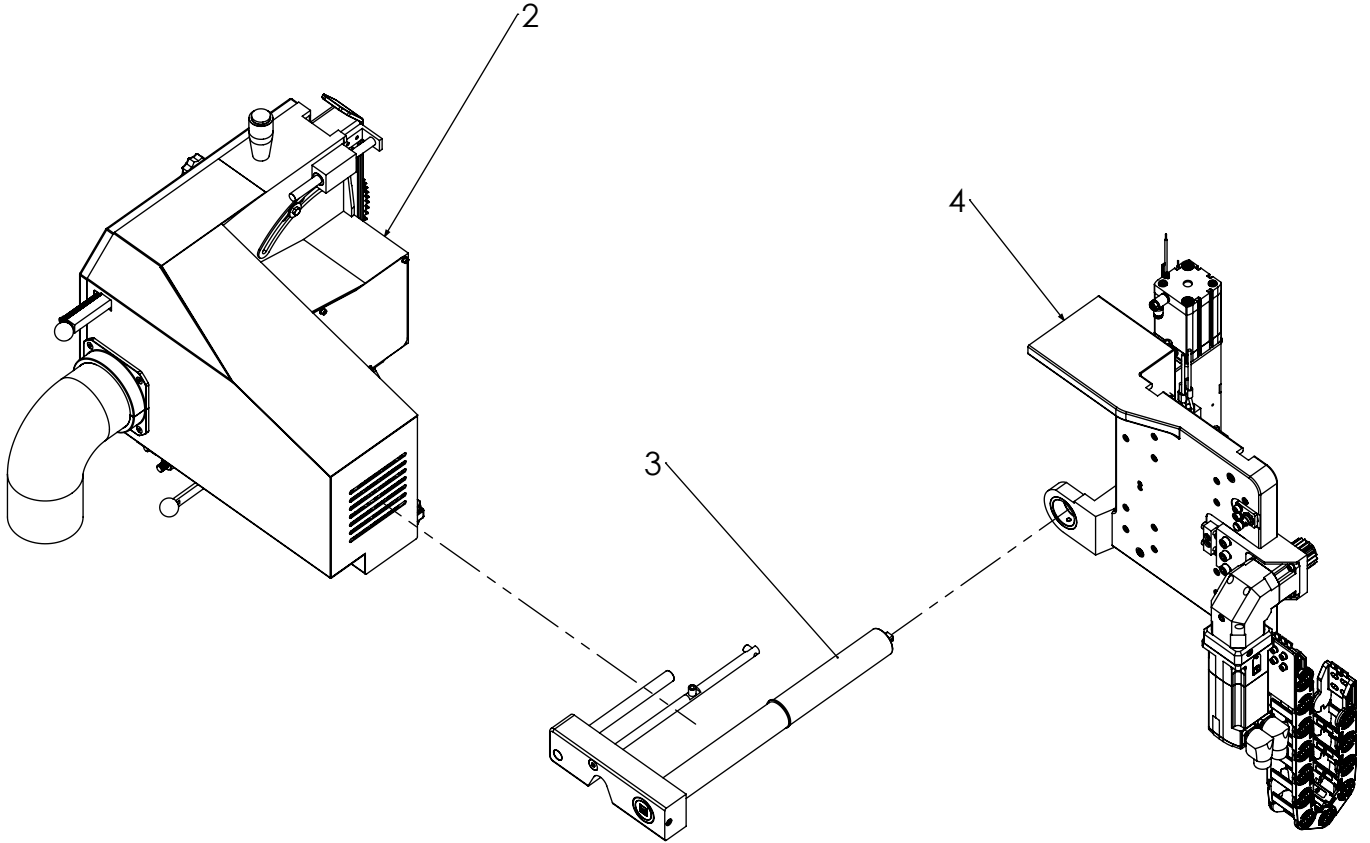
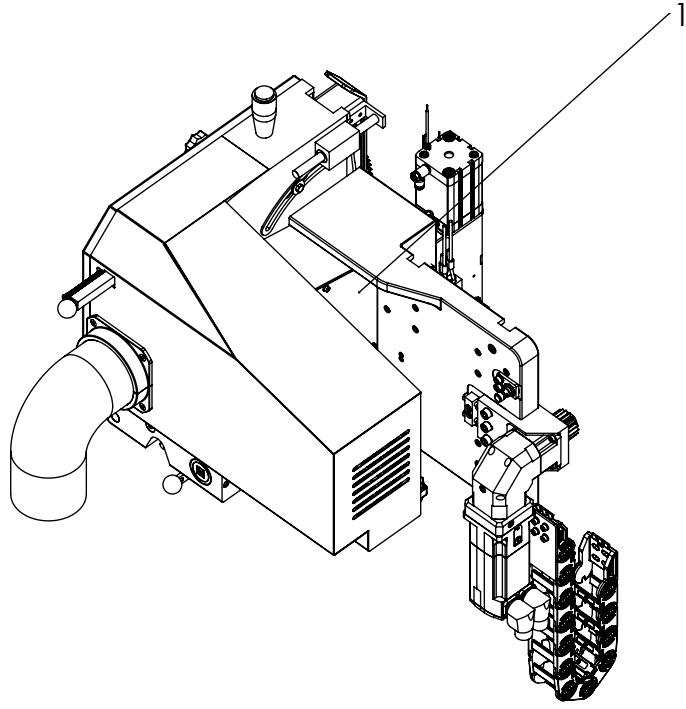
DPM-AV 22-42 SPARE
PARTS

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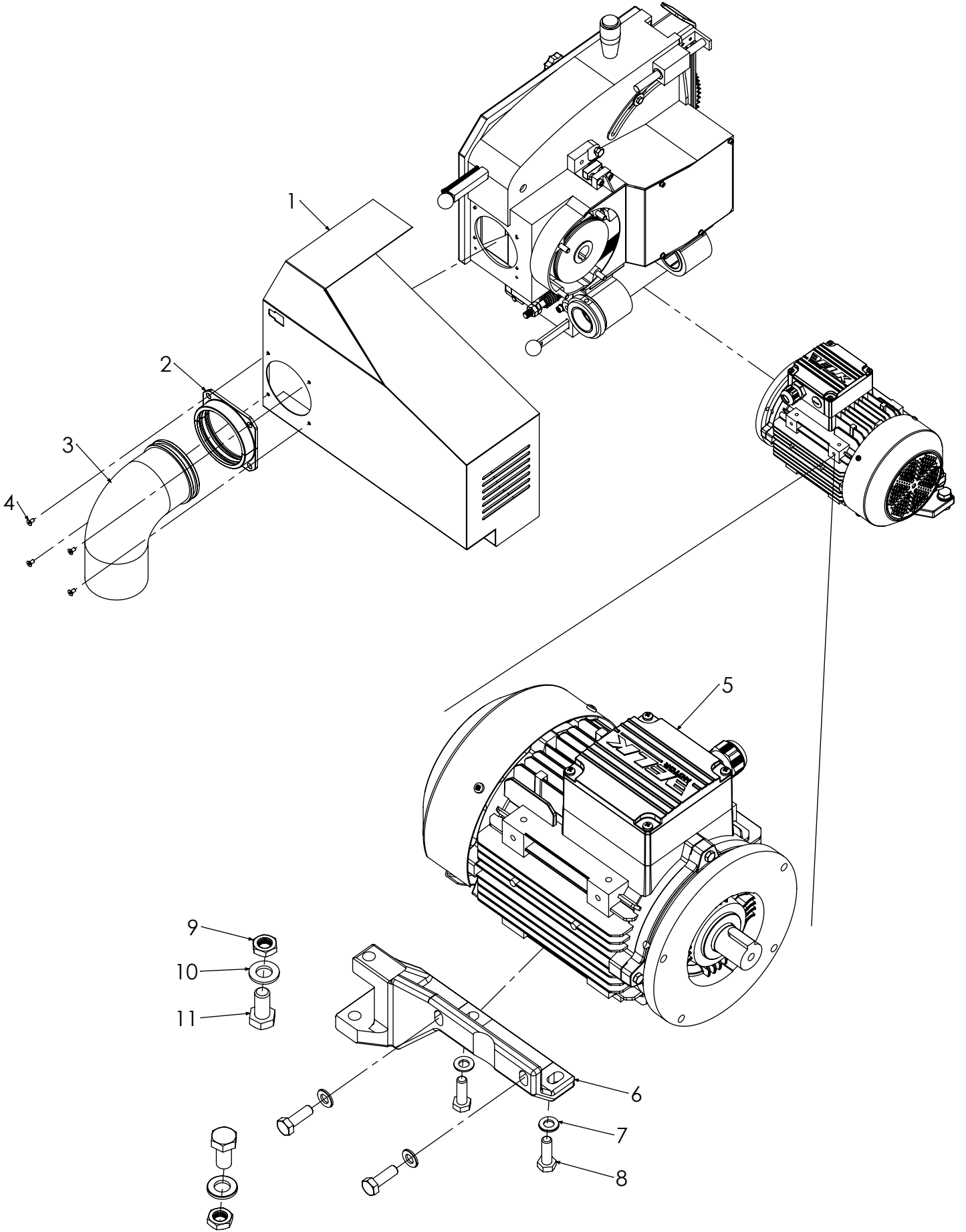
A4

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	S000542	CKS CK35 PA100 Connection Apparatus	2		
2	S000543	CK35 A100 R100 Cable Channel	1		
3	S000059	M6 x 12 Socket Head Screw	14	DIN 912	M6 x 12
4	S000053	M6 Washer	18	DIN 125	M6
5	P019818	X Axis Sensor Sheet	2		
6	S000099	Sick M12 Ind. Sensor 1040764	2		
7	S000541	M12 Sensor Nut	4		
8	S000063	M6 x 16 Socket Head Screw	4	DIN 912	M6
9	P019745	X Axis Cable Channel Connection Sheet	1		
10	M001992	X Axis Motor Assembly	1		
11	S000025	M8 Washer	6	DIN 125	M8
12	S000318	M8 x 12 Socket Head Screw	4	DIN 912	M8
13	P019747	Plug Connection Sheet	1		
14	P019961	X Axis Stopper	1		
15	S000054	M8 x 16 Socket Head Screw	2		
16	S000077	M5 x 25 Socket Head Screw	1	DIN 912	M5
17	S000616	M5 Flat Flange Ø35	1		
18	S000544	Pinion Module 2 Helix Z32	1		
19	S000119	M5 x 20 Flat Head Screw	8	DIN 7991	M5 x 20
20	M001994	X Axis Pinion Cushioning Welding	1		
21	S000459	FE70 1 60M5 Reducer	1		
22	S000668	750W Servo Motor (bmh0702p16a2a)	1		
23	S000104	M5 x 20 Socket Head Screw	4	DIN 912	M5 x 20



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	ÇİZEN DRAWN BY	ADI - SOYADI NAME - SURNAME		TARİH DATE	PARÇA/MONTAJ ADI PART/ASSEMBLY NAME		RENK COLOR	KALINLIK THICKNESS	Gr	
	ONAY APPROVAL	Yavuz Varışlısoy		11.11.2023	DPM-AV 22-42 SPARE PARTS		mm	415.021 - dpm av v2 dikey kilit destek montaj		A4

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	M002014	Complete Head	1		
2	M001637	Saw Head	1		
3	M000957	Slider Shaft	1		
4	M002016	Carriage	1		



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DPM-AV 22-42 SPARE

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COLOR

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DPM-AV 22-42 SPARE

PARTS

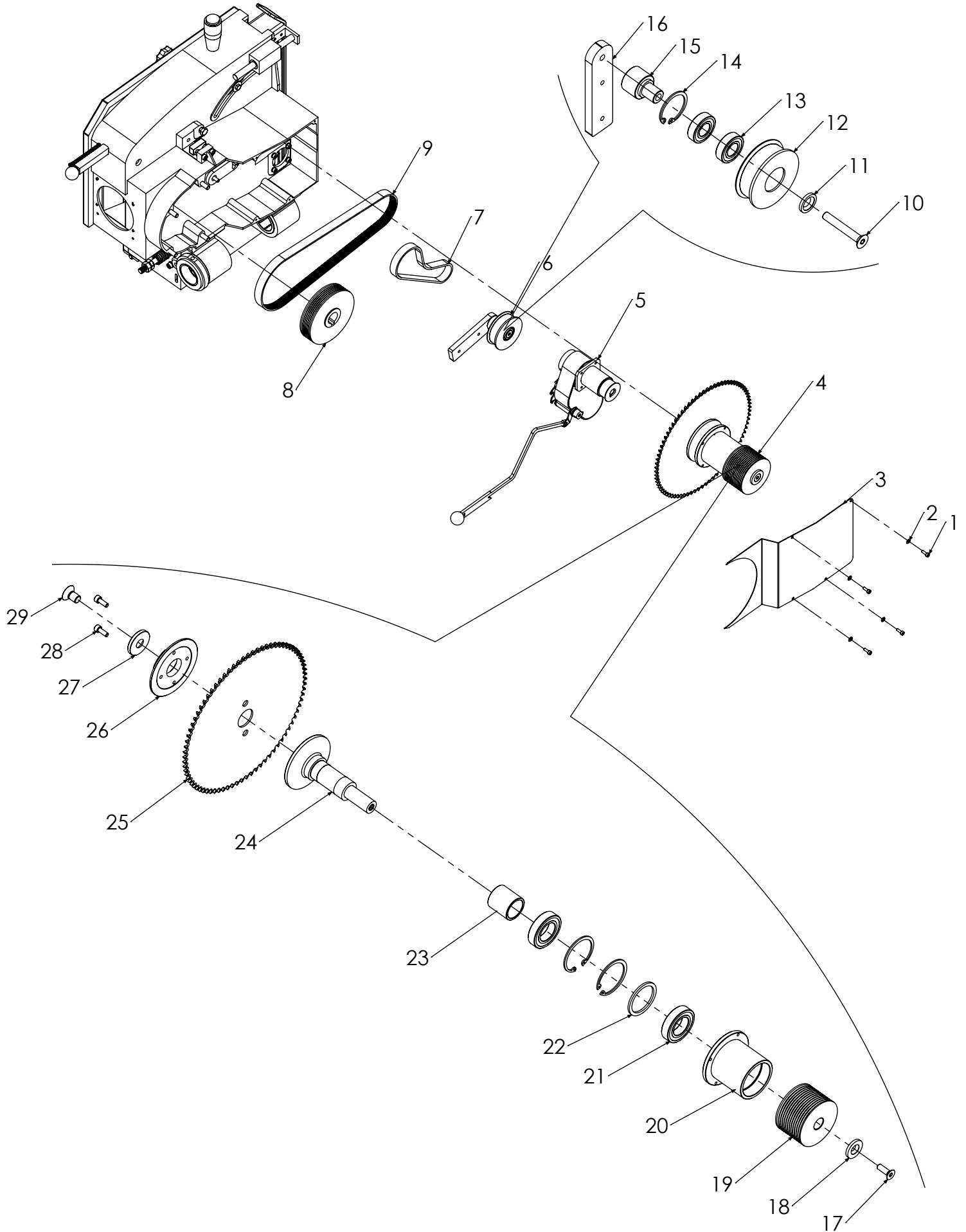
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A4

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	M000952	Trunk Motor Cover Sheet	1		
2	S000386	Elbow Plastic Flange	2		
3	S000387	Elbow Plastic Pipe	1		
4	S000106	M5 x 10 Flat Head Screw	4	DIN 7991	M5 x 10
5	S000391	ELK 3KW 90 Trunk Motor	1		
6	P018281	Trunk Motor Fork	1		
7	S000025	M8 Washer	4	DIN 125	M8
8	S000352	M8 x 25 Hex Head Screw	4	DIN 933	M8
9	S000395	M12 Nut	2	DIN 934	M12
10	S000173	M12 Washer	2	DIN 125	M12
11	S000394	M12 x 25 Hex Head Screw	2	DIN 933	M12



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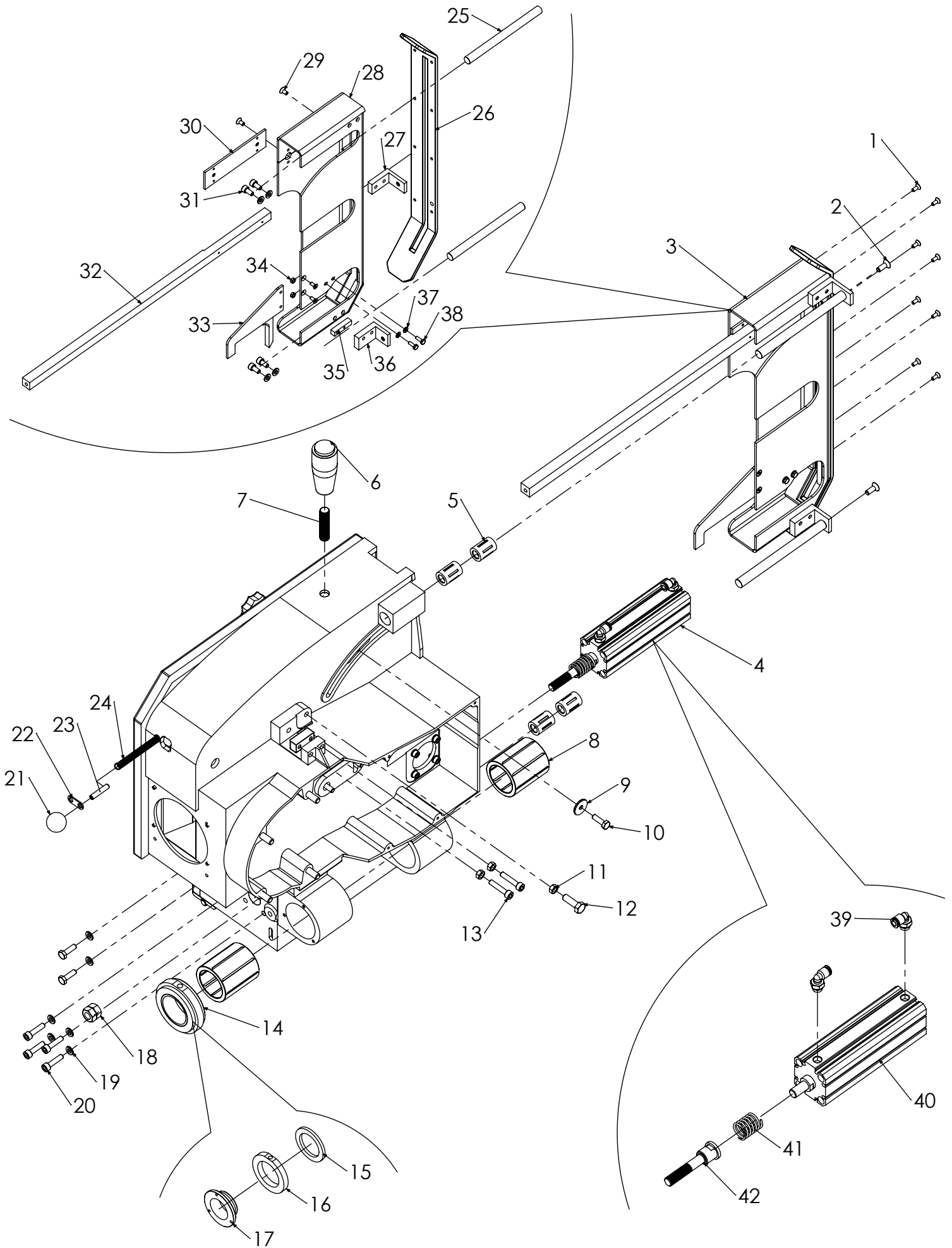
DPM-AV 22-42 SPARE
PARTS

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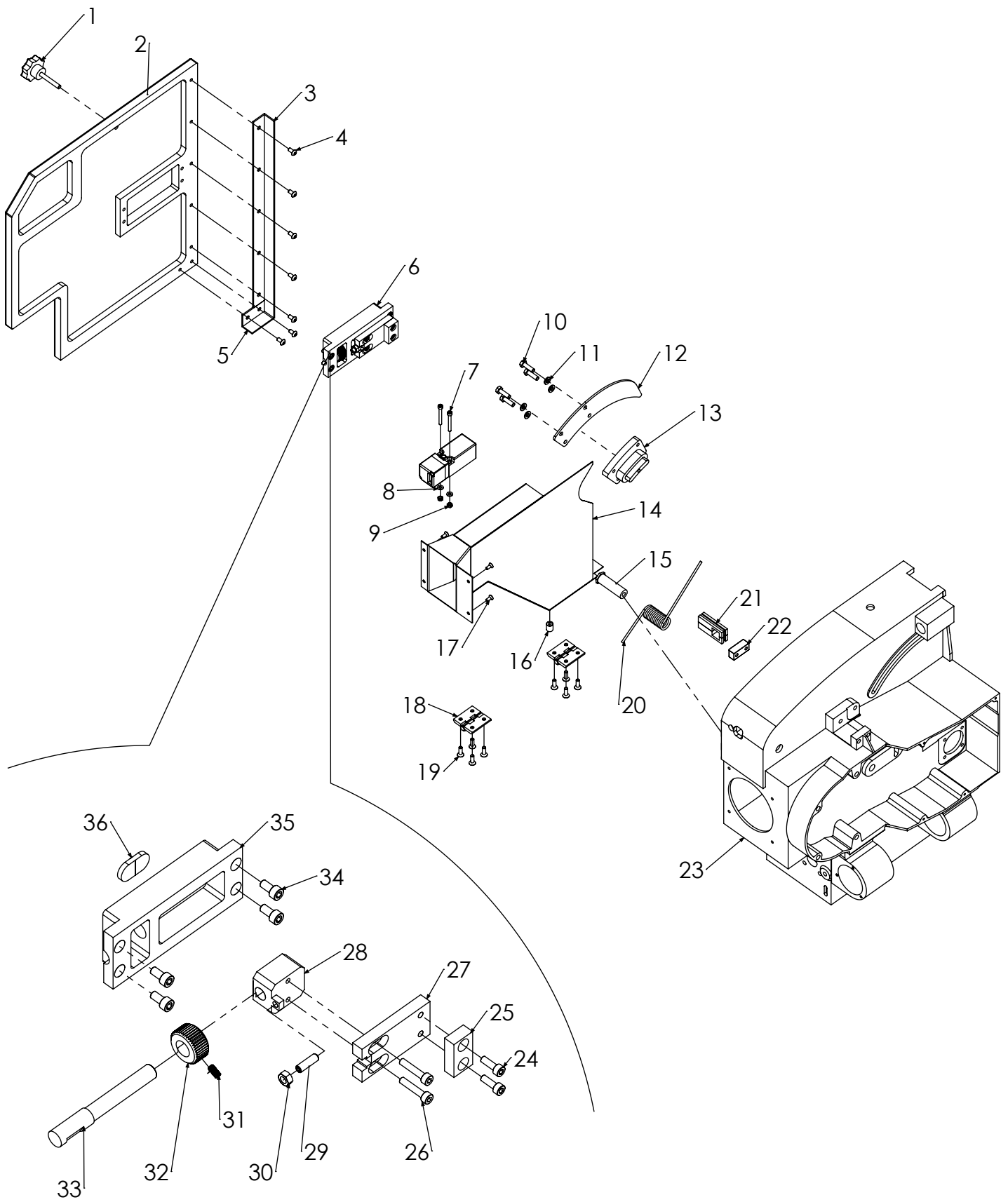
A4

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	S000389	M4 x 12 Socket Head Screw	4	DIN 912	M4 x 12
2	S000346	M4 Washer	4	DIN 125	M4
3	P018271	Trunk Belt Cover Sheet	1		
4	M000935	Trunk Main Blade Sleeve Assembly	1		
5	M000941	Plotter General Assembly	1		
6	M000942	Scraper Belt Tensioner Installation	1		
7	S000385	3 PK 495 Belt	1		
8	P018264	3KW Motor Pulley PK	1		
9	S000384	5 PK 825 Belt	1		
10	S000149	M8 x 55 Flat Head Screw	1	DIN 7991	M8 x 55
11	P18260	Plotter Tensioner Pulley Washer	1		
12	P018258	Aluminum Scraper Tension Pulley	1		
13	S000575	6002 ZZ Bearing	2		
14	S000383	Ø36 Internal Circlip	1	DIN 472	Ø36
15	P018262	Scraper Belt Tensioner Pulley Sleeve	1		
16	P018257	Ploter Hub Pulley Bearing Plate	1		
17	S000370	M8 x 25 Flat Head Screw	1	DIN 7991	M8 x 25
18	P018214	Trunk Main Saw Shaft Pulley Washer	1		
19	P018219	Trunk Aluminium Main Blade Pulis	1		
20	P018211	Trunk Main Saw Bush	1		
21	S000368	6006 2RS Bearing	2		
22	P018213	Trunk Main Saw Sleeve Washer	1		
23	P018212	Trunk Main Saw Sleeve Bearing	1		
24	P018210	Body Main Saw Shaft	1		
25	S000372	Ø250 Saw	1		
26	P018218	Cutting Knife Champ	1		
27	P018221	Bag Washer	1		
28	S000063	M6 x 16 Socket Head Screw	2	DIN 912	M6 x 16
29	S000373	M12 x 20 Flat Head Screw	1	DIN 7991	M12 x 20



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		ADI - SOYADI NAME - SURNAME		TARİH DATE			Gr			
	ÇİZEN DRAWN BY	Yavuz Varışlısoy		11.11.2023	PARÇA/MONTAJ ADI PART/ASSEMBLY NAME	RENK COLOR	KALINLIK THICKNESS	AÇIKLAMA DESCRIPTION		ANDET FORMAT
	ONAY APPROVAL				DPM-AV 22-42 SPARE PARTS	mm		415.021 - dpm av v2 dikey kilit destek montaj		A4

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	S000155	M4 x 10 Flat Head Screw	8	DIN 7991	M4 x 10
2	S000148	M6 x 16 Flat Head Screw	2	DIN 7991	M6 x 16
3	P018191	Trunk Aluminum Cover	1		
4	M000951	Back-Forward Piston Assembly	1		
5	S000357	KH 12 PP Bearing	4		
6	S000700	Handle	1		
7	S000701	M12 x 50 Threaded Rod	1		
8	S000356	KH 40-60 Bearing	2		
9	P018190	Sword Washer	1		
10	S000358	M6 x 20 Hex Head Screw	3	DIN 933	M6 x 20
11	S000187	M6 Nut	3	DIN 934	M6
12	S000352	M8 x 25 Hex Head Screw	1	DIN 933	M8
13	S000192	M6 x 30 Socket Head Screw	2	DIN 912	M6
14	M000931	Slider Shaft Race Assembly	1		
15	P018186	Trunk Upper Arm Part	1		
16	P018185	Trunk Upper Arm Part 2	1		
17	P018184	Trunk Upper Arm Part 3	1		
18	S000411	M10 Nut	2	DIN 934	M10
19	S00053	M6 Washer	10	DIN 125	M6
20	S000064	M6 x 25 Socket Head Screw	4	DIN 912	M6
21	S000366	M6 Female Bakelite Knob	1		
22	P018218	Trunk Aluminum Cover Puller Spring Part	1		
23	S000359	M6 x 30 Setscrew	1	DIN 916	M6
24	S0000406	Ø8 L=151.5 W=1 Cover Spring	1		
25	P018194	Ø12 Induction Shaft	1		
26	P018195	Trunk Cover Plastic Part	1		
27	P018207	Trunk Aluminum Cover Cushioning Part	1		
28	P018191	Trunk Aluminum Cover	1		
29	S000106	M5 x 10 Flat Head Screw	2	DIN 7991	M5
30	P018200	Trunk Aluminum Cover Part	1		
31	S000059	M6 x 12 Socket Head Screw	4	DIN 912	M6
32	P018199	Trunk Aluminum Cover Arm	1		
33	P018192	Trunk Aluminum Cover	1		
34	S000354	M4 Nut	2	DIN 934	M4
35	P018204	Trunk Aluminum Cover Part 2	1		
36	P018206	Trunk Aluminum Cover Cushioning Part 2	1		
37	S000346	M4 Washer	2	DIN 125	M4
38	S000360	M4 x 12 Hex Head Screw	2	DIN 933	M4
39	S000398	QSML-G1-8-6 Fitting	2		
40	S000396	Compact Cylinder Piston CD55B32	1		
41	S000399	Ø20 L=25.5 W=2 Spring	1		
42	P018289	Back-Forward Piston Fitting	1		



ROTA

ÖLÇEK
SCALE

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SAYFA NO
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18/27

MALZEME
MATERIAL

REVİZYON NO
REVISION NO

AĞIRLIK (Gr)
MASS (Gr)

Gr

bala[®]

CİZEN
DRAWN BY

ADI - SOYADI
NAME - SURNAME

TARİH
DATE

PARÇA/MONTAJ ADI
PART/ASSEMBLY NAME

RENK
COLOR

KALINLIK
THICKNESS

AÇIKLAMA
DESCRIPTION

ANTET
FORMAT

ONAY
APPROVAL

Yavuz Varışlısoy

11.11.2023

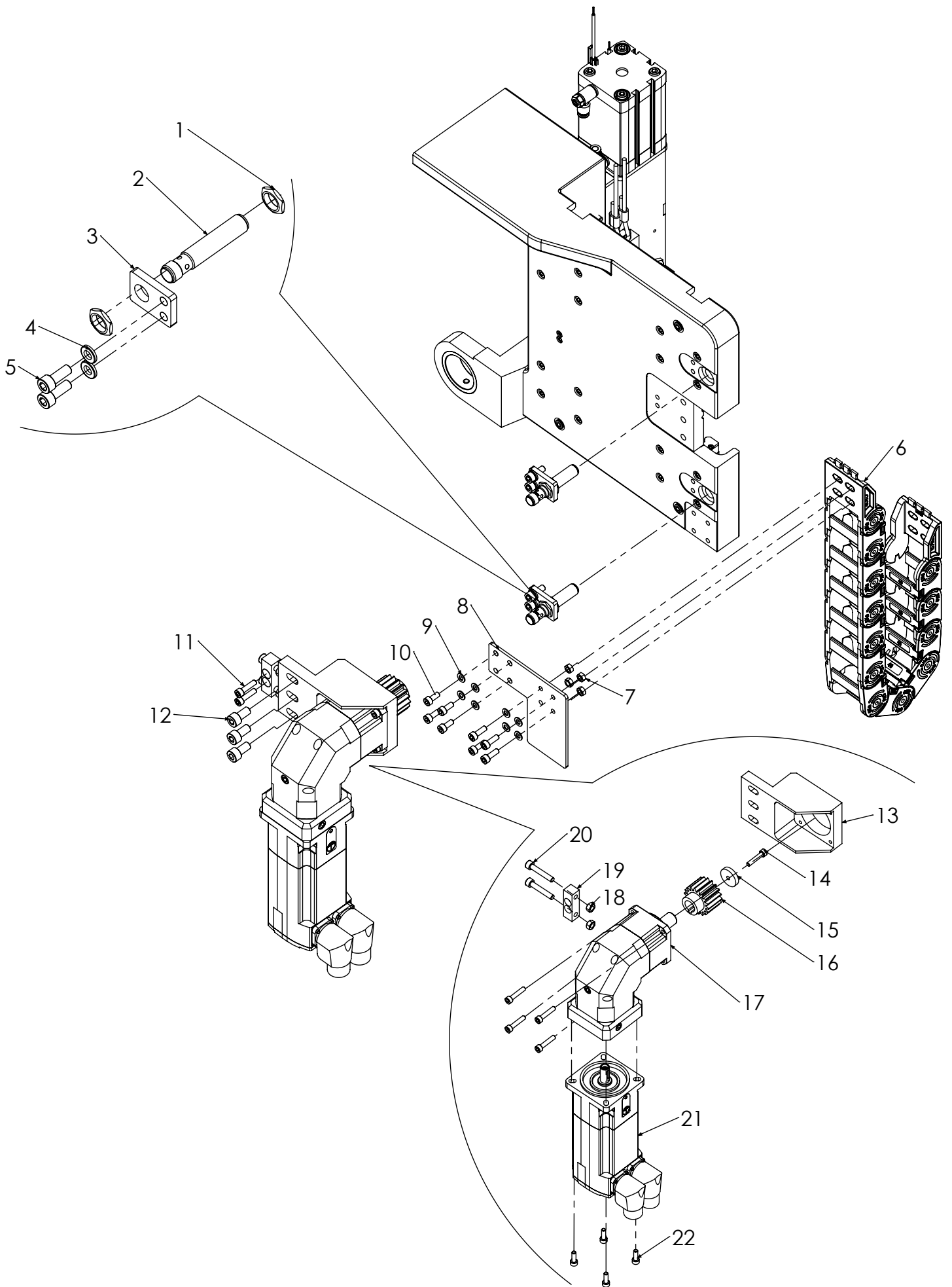
DPM-AV 22-42 SPARE
PARTS

mm

415.021 - dpm av v2 dikey
kilit destek montaj

A4

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	S000367	M6 Butterfly Handle	1		
2	P018296	Trunk Special Cover	1		
3	P018307	Cover Aluminum Front Part	1		
4	S000031	M5 x 10 Button Head Screw	7	DIN 7380	M5 x 10
5	P018308	Cover Aluminum Front Part 2	1		
6	M000953	Shelter Depth Apparatus Assembly	1		
7	S000108	M4 x 35 Socket Head Screw	2	DIN 912	M4 x 35
8	S000346	M4 Washer	2	DIN 125	M4
9	S000354	M4 Nut	2	DIN 934	M4
10	S000358	M6 x 20 Hex Head Screw	4	DIN 933	M6
11	S000053	M6 Washer	4	DIN 125	M6
12	P018189	Trunk Sword Part	1		
13	P018188	Trunk Sword Part 2	1		
14	M001100	Hood Welding Assembly	1		
15	S000703	Plotter Spring Pin	1		
16	P018285	Trunk Hood Mounting Shaft Collar	1		
17	S000155	M4 x 10 Flat Head Screw	4	DIN 7991	M4
18	M000944	Lily Hinge Assembly	2		
19	S000040	M5 x 12 Flat Head Screw	8	DIN 7991	M5
20	S000388	Ø21 L=43 W=3 Spring	1		
21	P018178	Shelter Sheet Plastic	1		
22	P018176	Motor Support Plastic	1		
23	P020714	DPM-AV Trunk	1		
24	S000062	M5 x 15 Socket Head Screw	2	DIN 912	M5
25	P018303	Shelter Depth Mechanism Part	1		
26	S000077	M5 x 25 Socket Head Screw	2	DIN 912	M5
27	P018302	Shelter Depth Mechanism Part 2	1		
28	P018300	Guard Depth Support Part	1		
29	S000401	M6 x 20 Setscrew	1	DIN 916	M6
30	S000187	M6 Nut	1	DIN 934	M6
31	S000400	M5 x 10 Setscrew	1	DIN 916	M5
32	P018299	Guard Depth Served Part	1		
33	P018298	Guard Depth Threatened Rod	1		



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MALZEME

MATERIAL

REVİZYON NO

REVISION NO

AĞIRLIK (Gr)

MASS (Gr)

Gr

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11.11.2023

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PART/ASSEMBLY NAME

RENK

COLOR

KALINLIK

THICKNESS

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DESCRIPTION

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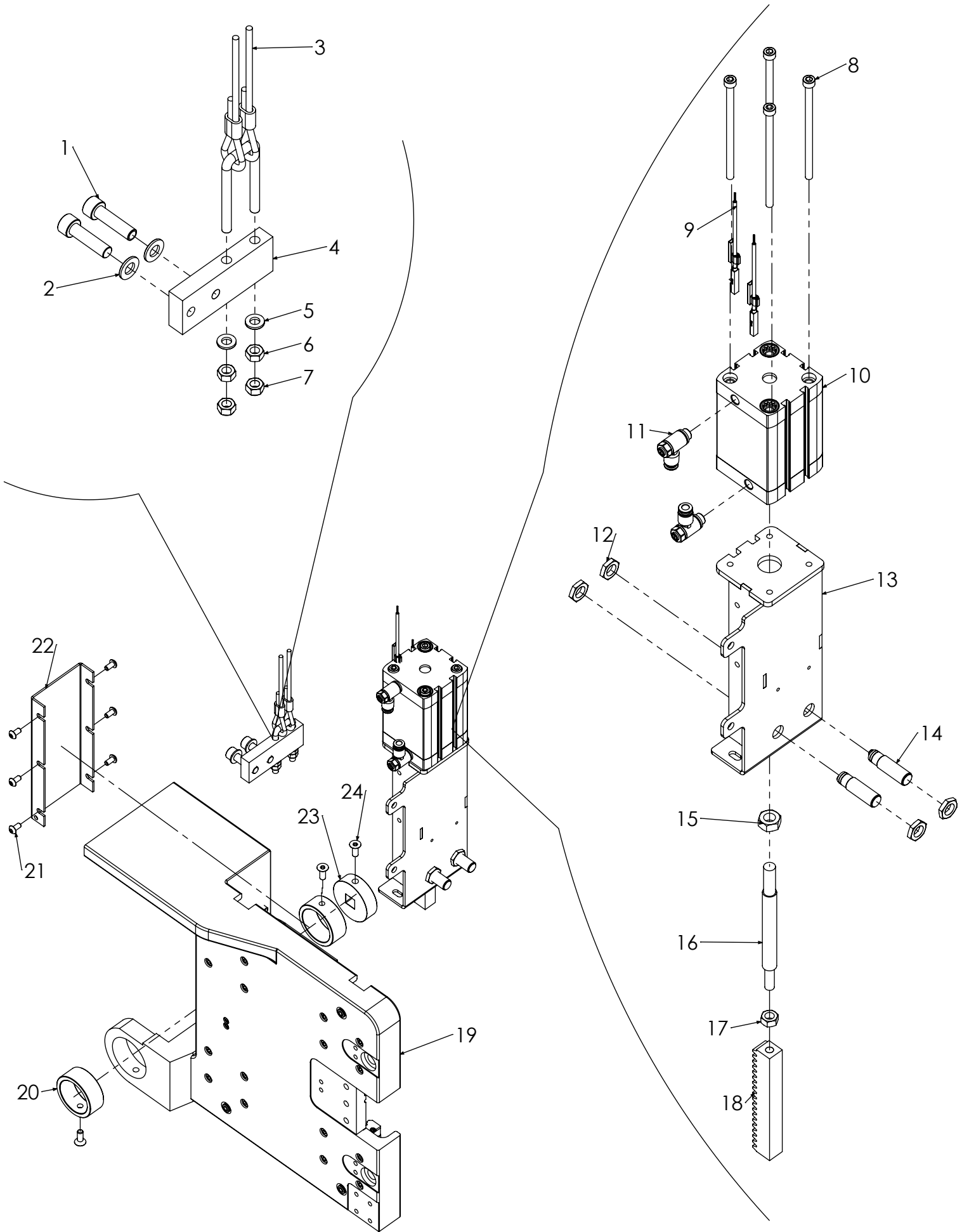
DPM-AV 22-42 SPARE
PARTS

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415.021 - dpm av v2 dikey
kilit destek montaj

A4

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	S000541	M12 Sensor Nut Thin	2		
2	S000704	M12 Sensor	1		
3	P019812	Y Axis Sensor Sheet	1		
4	S000053	M6 Washer	2		
5	S000063	M6 x 16 Socket Head Screw	2	DIN 912	M6 x 16
6	S000705	CK 24 40 40 Cable Channnel	1		
7	S000141	M5 Nut	4	DIN 934	M5
8	P019813	Y Axis Cable Channel Sheet	1		
9	S000089	M5 Washer	8	DIN 125	M5
10	S000039	M5 x 12 Socket Head Screw	8	DIN 912	M5
11	S000104	M5 x 20 Socket Head Screw	2	DIN 912	M5
12	S000024	M8 x 16 Socket Head Screw	3	DIN 912	M8
13	P019581	Y Axis Reducer Flange	1		
14	S000077	M5 x 25 Socket Head Screw	5	DIN 912	M5
15	S000616	Ø35 Flat Flange M5	1		
16	S000706	Pinion Module 2	1		
17	S000707	SBL 62-160 M5 Reducer	1		
18	S000187	M6 Nut	2	DIN 934	M6
19	P019708	Y Axis Reducer Flange Part	1		
20	S000103	M6 x 35 Socket Head Screw	2	DIN 912	M6
21	S000708	Servo Motor BMH0701P16A2A	1		
22	S000062	M5 x 15 Socket Head Screw	4	DIN 912	M5



ROTA

ÖLÇEK



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MALZEME

MATERIAL

REVİZYON NO

REVISION NO

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PARÇA/MONTAJ ADI

PART/ASSEMBLY NAME

DPM-AV 22-42 SPARE

PARTS

RENK

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THICKNESS

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DESCRIPTION

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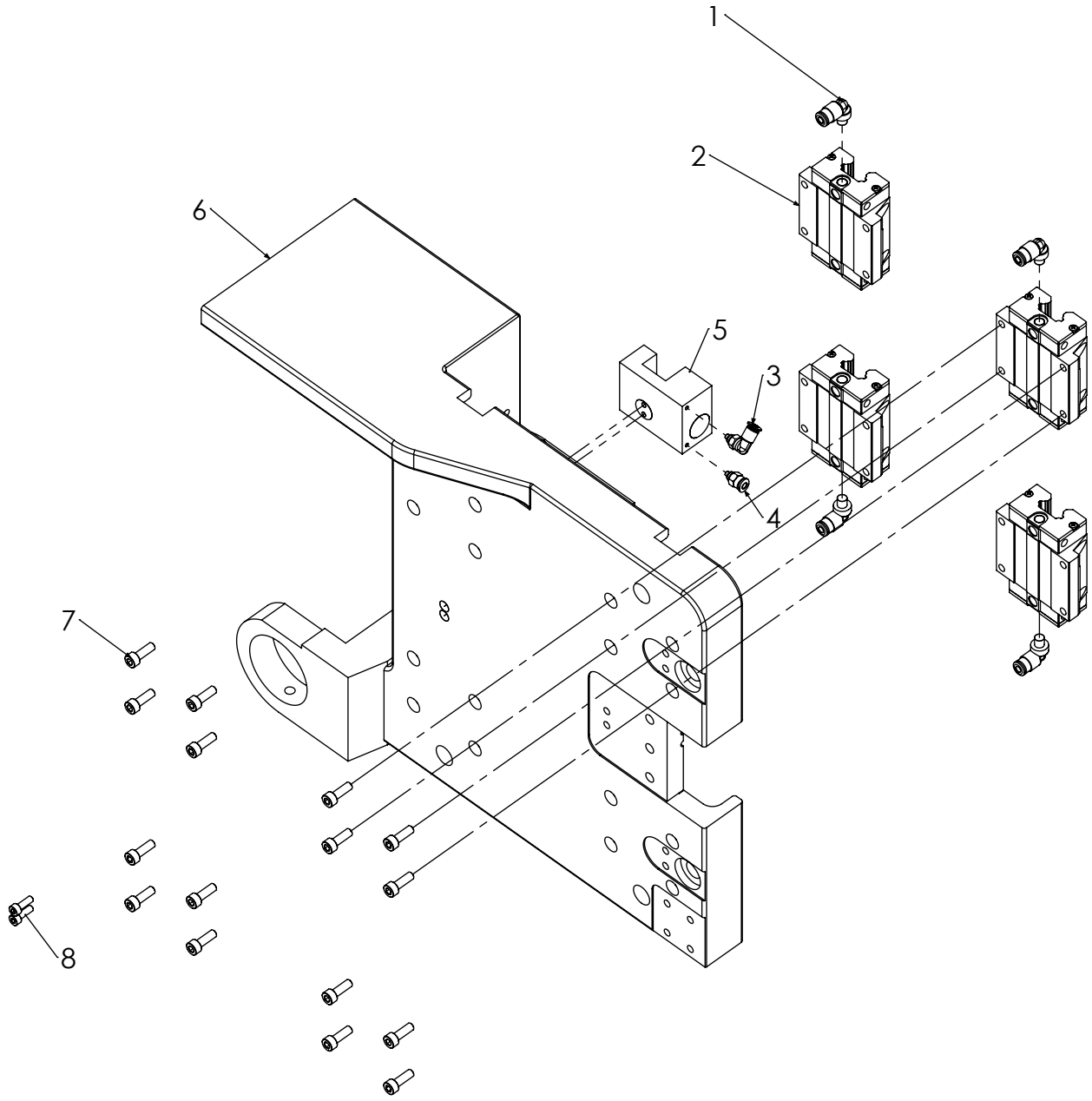
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FORMAT

A4

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	S000713	M8 x 30 Socket Head Screw	2	DIN 912	M8 x 30
2	S000025	M8 Washer	2	DIN 125	M8
3	M001967	Weight Chain Assembly	2		
4	P019753	Rope Connection Sheet	1		
5	S000053	M6 Washer	2	DIN 125	M6
6	S000187	M6 Nut	2	DIN 934	M6
7	S000116	M6 Fibered Nut	2	ISO 10511	M6
8	S000714	M6 x 110 Socket Head Screw	4	(DIN 912)	M6
9	S000716	Festo Piston Sensor	2		
10	S000557	Compact Cylinder ADN 50-60 IPA	1		
11	S000198	GRLA 1/8 QS 6D Adjustable Elbow Record	2		
12	S000100	M12 Sensor Nut	2		
13	P019738	Piston Sheet	1		
14	S000558	M12 Sensor (Short) Telemacanique XS112BLPA2	2		
15	S000411	M10 Nut	1	DIN 934	M10
16	P019660	Piston Shaft Extend	1		
17	S000026	M8 Nut	1	DIN 934	M8
18	S000559	Rack 120mm	1		
19	P019918	DPM-AV Trunk	1		
20	P018118	Ø50 Bronze Bush	2		
21	S000031	M5 x 10 Button Head Screw	6	DIN 7380	M5
22	P020721	U Cover Sheet	1		
23	P018170	Slider Shaft Steel Part	1		
24	S000148	M6 x 16 Flat Head Screw	3	DIN 7991	M6



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MALZEME
MATERIAL

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MASS (Gr)

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THICKNESS

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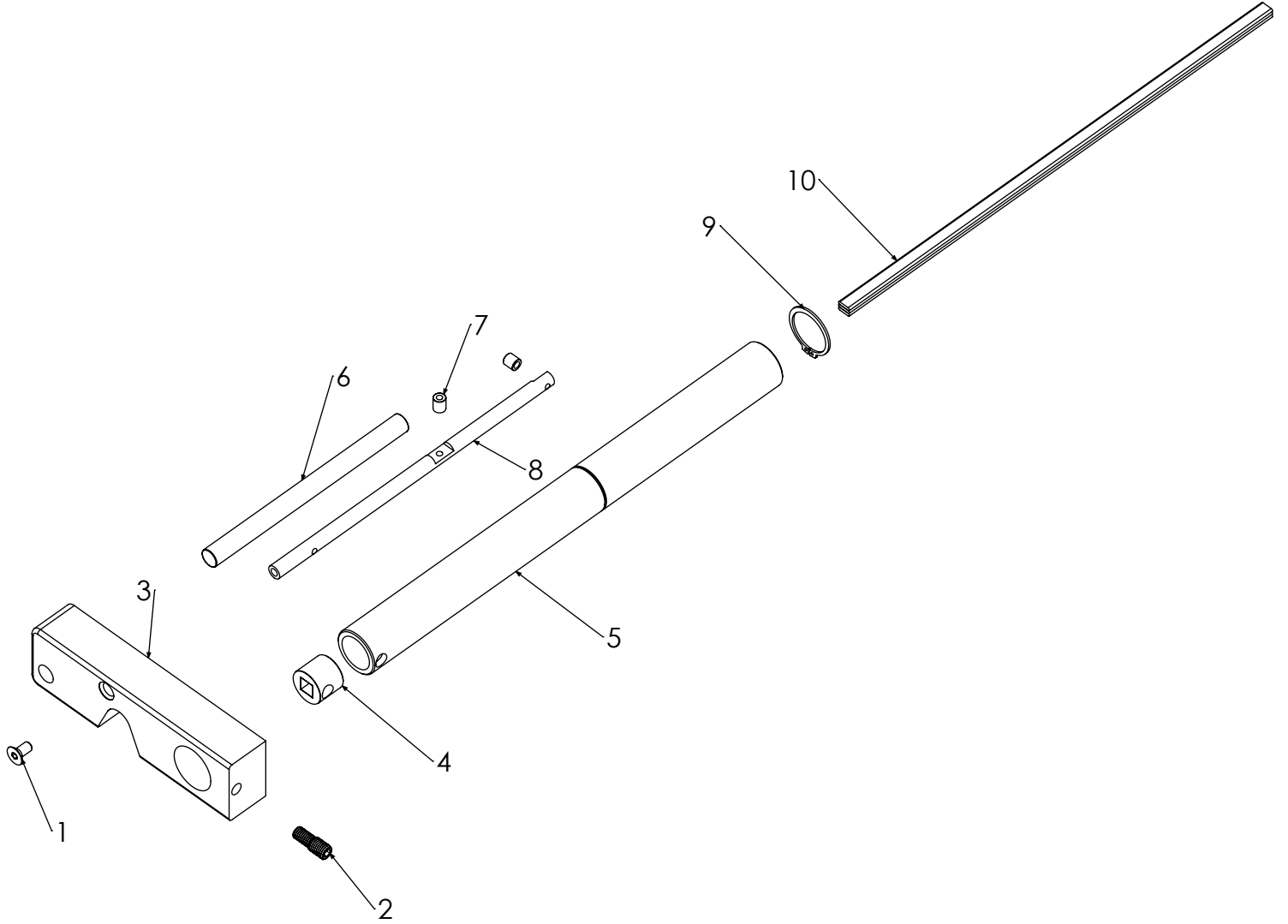
DPM-AV 22-42 SPARE
PARTS

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415.021 - dpm av v2 dikey
kilit destek montaj

A4

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	S000717	Lubrication Elbow Fitting	4		
2	S000276	Wide Linear Block HGH20	4		
3	S000567	QSM M3/4 Elbow Fitting	1		
4	S000572	QSM M3/4 Flat Fitting	1		
5	P019855	Pneumatic 20 Rail Lock Zimmer LCP2001AS2	1		
6	P019918	DPM-AV Trunk	1		
7	S000062	M5 x 15 Socket Head Screw	16	DIN 912	M5 x 15
8	S000389	M4 x 12 Socket Head Screw	2	DIN 912	M4



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MALZEME
MATERIAL

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DESCRIPTION

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FORMAT

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APPROVAL

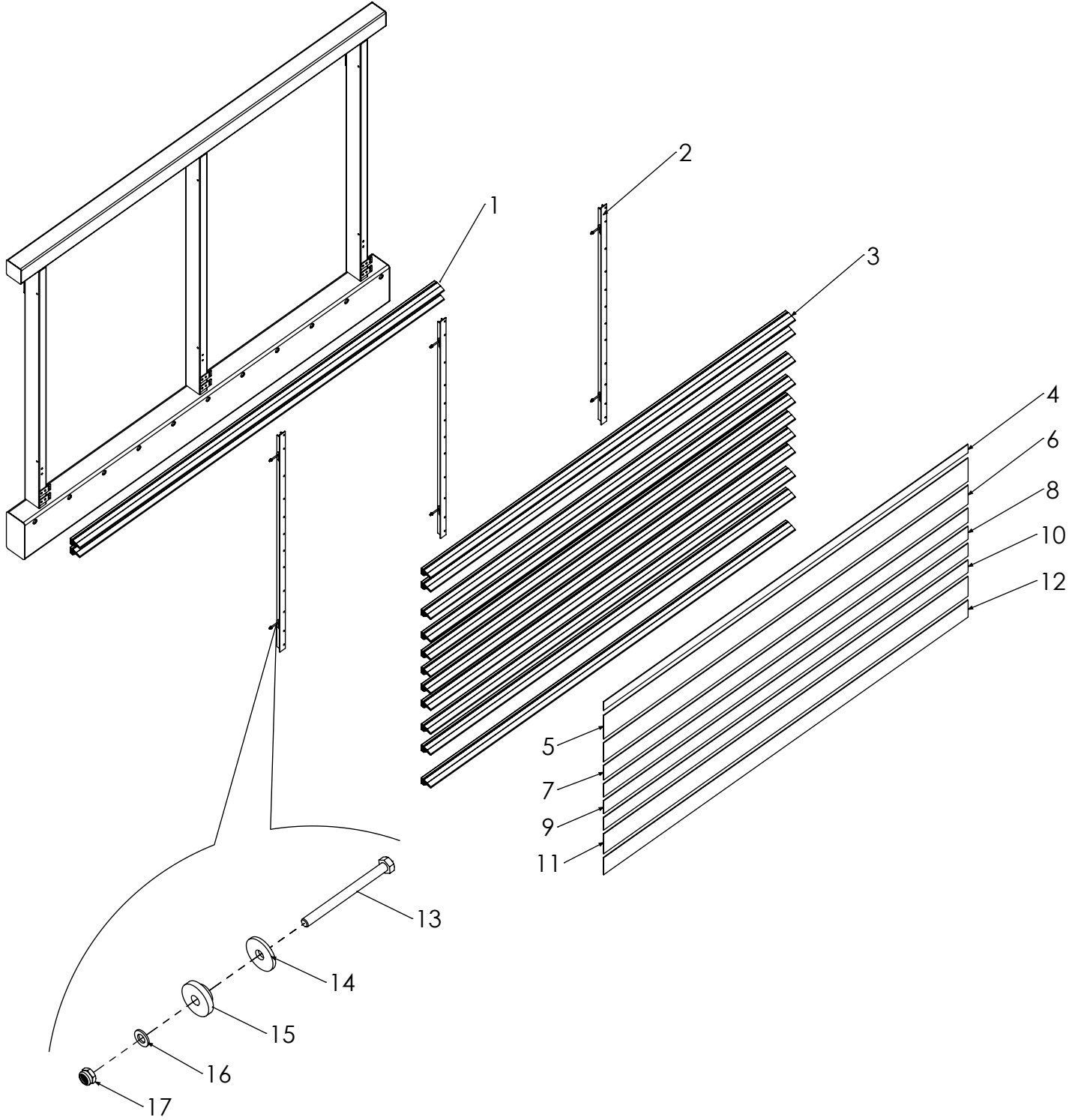
DPM-AV 22-42 SPARE
PARTS

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415.021 - dpm av v2 dikey
kilit destek montaj

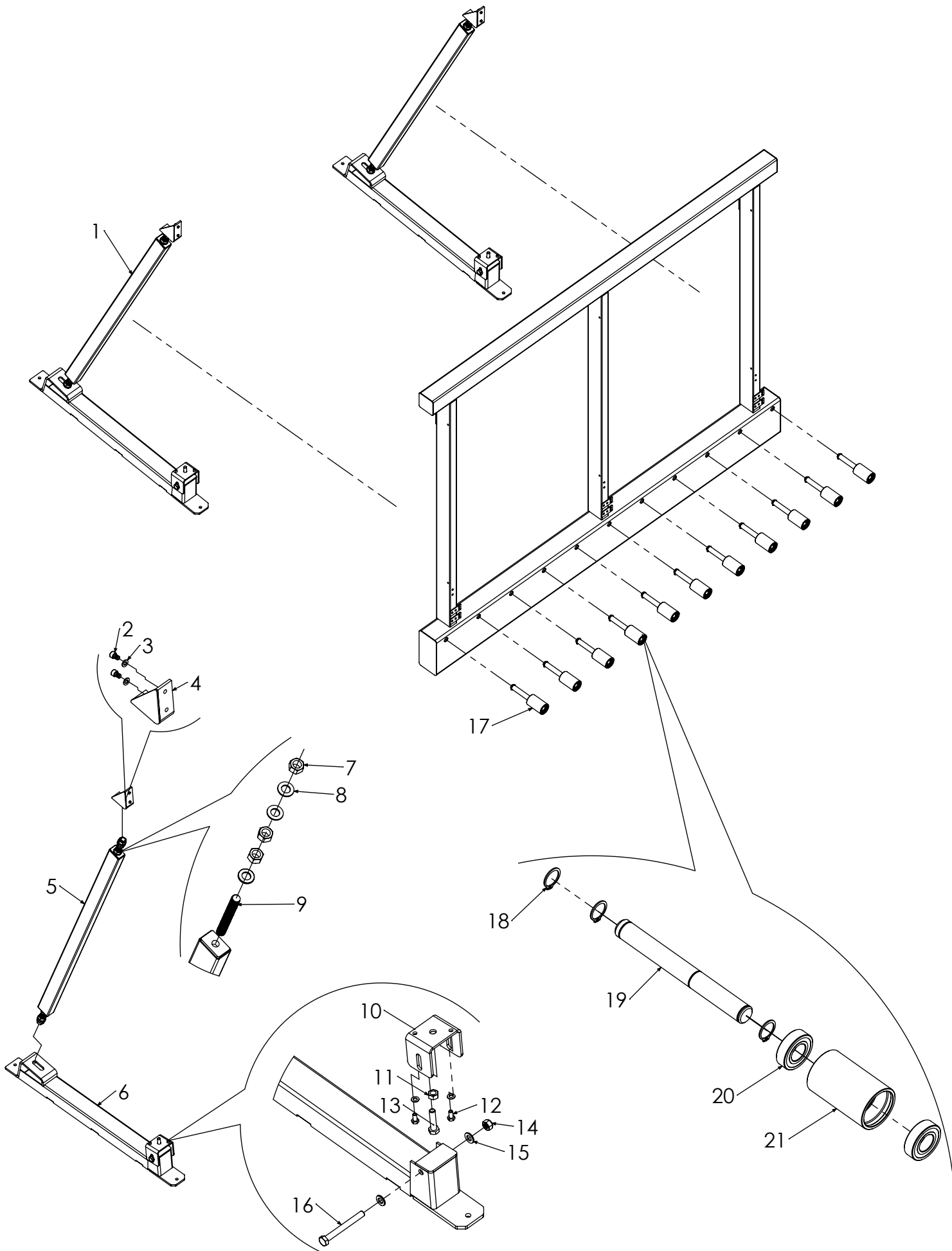
A4

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	S000051	M8 x 16 Flat Head Screw	1	DIN 7991	M8
2	S000402	M12 x 35 Setscrew (Turned)	2		
3	P018309	Slider Shaft Aluminum Wedge	1		
4	P018313	Slider Shaft Wedge Part	1		
5	P018312	Slider Shaft Ø40	1		
6	P018315	Slider Shaft Wedge Part 2	1		
7	P018317	Wedge Shaft Bracket	1		
8	P018310	Aluminum Wedge Shaft	1		
9	S000566	Ø40 Retaining Ring	1	DIN 471	Ø40
10	P018318	Slider Shaft Spring	3		



ROTA	ÖLÇEK SCALE	1:50	SAYFA NO PAGE NR	23/27	MALZEME MATERIAL		REVİZYON NO REVISION NO		AĞIRLIK (Gr) MASS (Gr)	bala®
	ÇİZEN DRAWN BY	ADI - SOYADI NAME - SURNAME		TARİH DATE	PARÇA/MONTAJ ADI PART/ASSEMBLY NAME		RENK COLOR	KALINLIK THICKNESS	Gr	
	ONAY APPROVAL	Yavuz Varışlısoy		11.11.2023	DPM-AV 22-42 SPARE PARTS		mm		415.021 - dpm av v2 dikey kilit destek montaj	ANTET FORMAT
										A4

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	P020829	Additional Chassis Plastic Profile for Back Table(Fixed)	2		
2	P020826	Movable Sheet	3		
3	P020829	Plastic Profile for Back Table(Movable)	11		
4	P020872	MDF - 2000 x 46.5	1		
5	P020871	MDF - 2000 x 128	1		
6	P020870	MDF - 2000 x 103	1		
7	P020869	MDF - 2000 x 78	1		
8	P020868	MDF - 2000 x 71	1		
9	P020867	MDF - 2000 x 70	1		
10	P020866	MDF - 2000 x 68	1		
11	P020865	MDF - 2000 x 108	1		
12	P020864	MDF - 2000 x 93	1		
13	S000162	M5 x 60 Hex Head Screw	1	DIN 933	M5
14	P016630	Movable Sheet Plastic Part	1		
15	P016626	Movable Sheet Plastic Part 2	1		
16	S000089	M5 Washer	1	DIN 125	M5
17	S000163	M5 Fibered Nut	1	ISO 10511	M5



ROTA

ÖLÇEK
SCALE

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MALZEME
MATERIAL

REVİZYON NO
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AĞIRLIK (Gr)
MASS (Gr)

bala®

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PARÇA/MONTAJ ADI
PART/ASSEMBLY NAME

RENK
COLOR

KALINLIK
THICKNESS

AÇIKLAMA
DESCRIPTION

ANTET
FORMAT

ONAY
APPROVAL

Yavuz Varışlısoy

11.11.2023

DPM-AV 22-42 SPARE

mm

415.021 - dpm av v2 dikey

A4

ONAY
APPROVAL

Yavuz Varışlısoy

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DPM-AV 22-42 SPARE

mm

415.021 - dpm av v2 dikey

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ONAY
APPROVAL

Yavuz Varışlısoy

11.11.2023

DPM-AV 22-42 SPARE

mm

415.021 - dpm av v2 dikey

A4

ONAY
APPROVAL

Yavuz Varışlısoy

11.11.2023

DPM-AV 22-42 SPARE

mm

415.021 - dpm av v2 dikey

A4

ONAY
APPROVAL

Yavuz Varışlısoy

11.11.2023

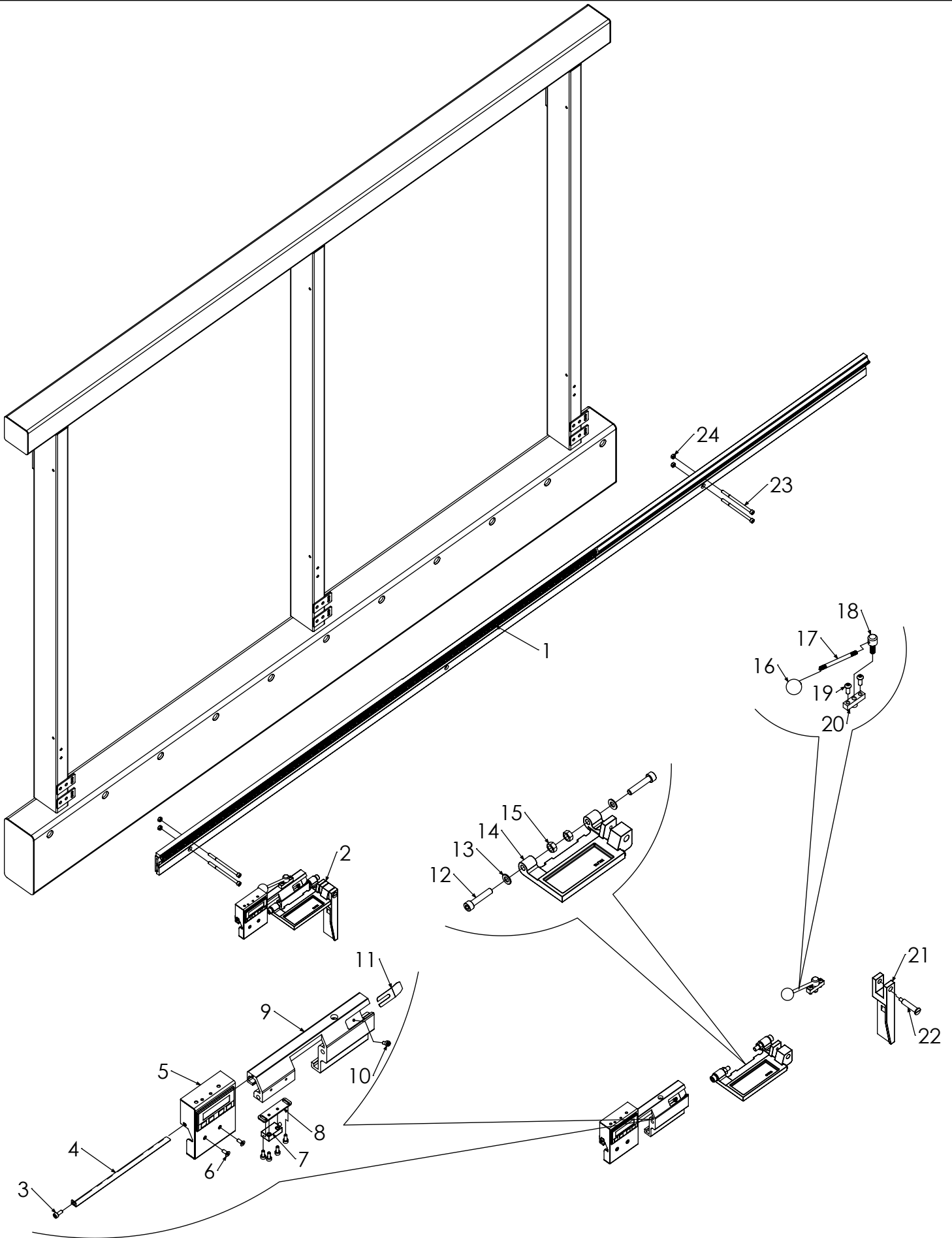
DPM-AV 22-42 SPARE

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415.021 - dpm av v2 dikey

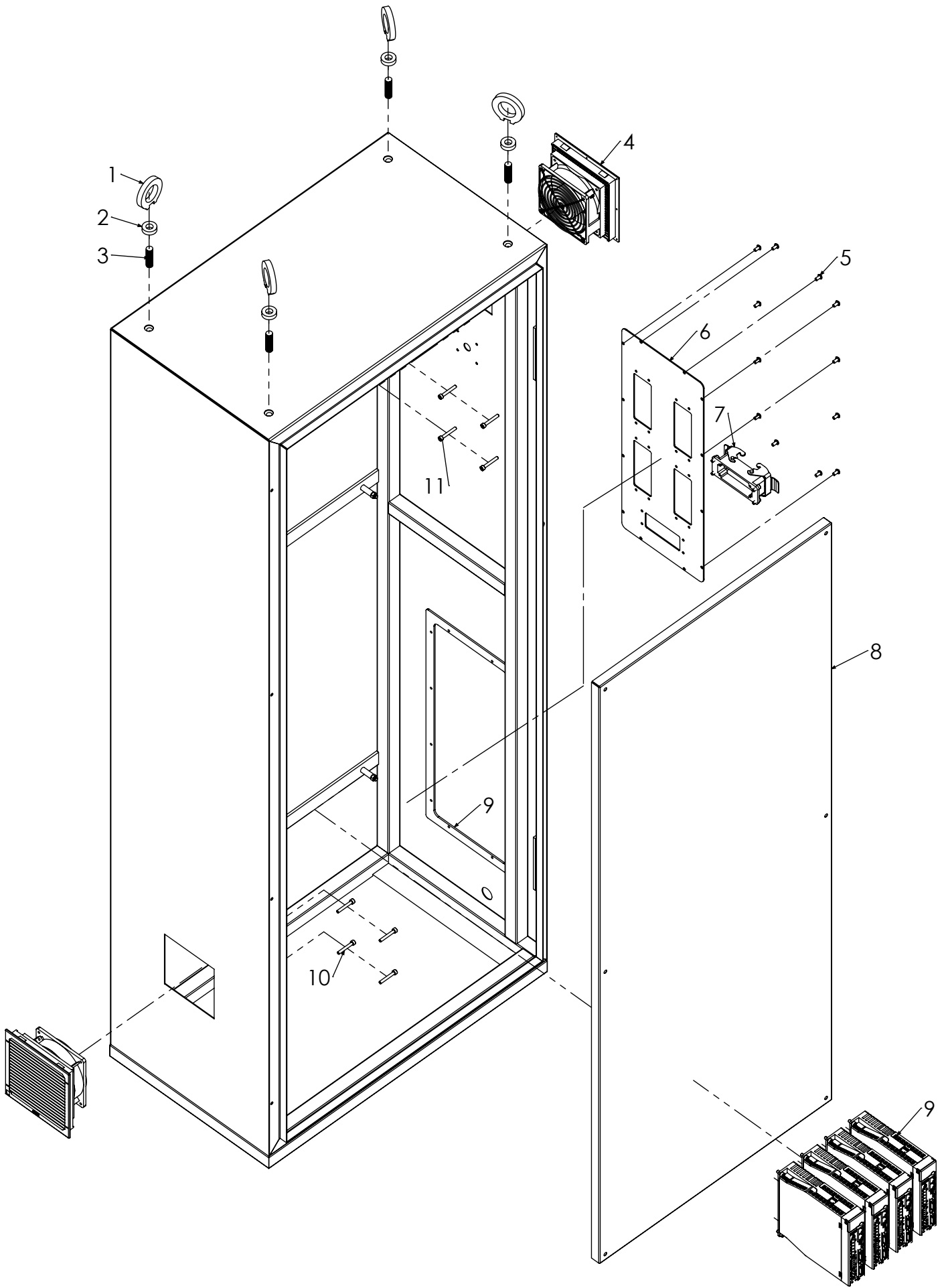
A4

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	M001716	Additional Chassis Foot Base Assembly	2		
2	S000318	M8 x 12 Socket Head Screw	2	DIN 912	M8
3	S000025	M8 Washer	4	DIN 125	M8
4	M000142	Rear Foot Connection Bracket Welding	1		
5	M001717	Foot Pipe Profile Assembly	1		
6	M001237	Foot Base Assembly	1		
7	S000009	M18 Nut	6	DIN 934	M18
8	S000182	M18 Washer	6	DIN 125	M18
9	S000657	M18 x 140 Threaded Rod	2		
10	P016661	Foot Sheet	1		
11	S000181	M12 Nut	1	DIN 934	M12
12	S000176	M8 x 16 Hex Head Screw	2	DIN 933	M8
13	S000180	M12 x 50 Hex Head Screw	1	DIN 933	M12
14	S000175	M12 Fibered Nut	1	ISO 10511	M12
15	S000173	M12 Washer	2	DIN 125	M12
16	S000174	M12 x 30 Hex Head Screw	1	DIN 933	M12
17	M001953	Bottom Wheel Assembly	11		
18	S000049	Ø20 Retaining Ring	33	DIN 471	Ø20
19	P019657	Bottom Wheel Shaft	11		
20	S000663	6004 2RS Bearing	22		
21	P019838	Bottom Wheel Cover	11		



ROTA	ÖLÇEK SCALE	1:50	SAYFA NO PAGE NR	25/27	MALZEME MATERIAL	REVİZYON NO REVISION NO	AĞIRLIK (Gr) MASS (Gr)	bala®
CİZEN DRAWN BY	Yavuz Varışlısoy	TARİH DATE	11.11.2023	PARÇA/MONTAJ ADI PART/ASSEMBLY NAME	RENK COLOR	KALINLIK THICKNESS	Gr	
ONAY APPROVAL				DPM-AV 22-42 SPARE PARTS	mm		415.021 - dpm av v2 dikey kilit destek montaj	ANTET FORMAT A4

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	M002590	Additional Chassis Digital Meter Wedge Assembly	1		
2	M000172	Digital Meter Assembly	1		
3	S000685	M4 x 10 Socket Head Screw	1	DIN 912	M4
4	P018397	Digital Meter Sheet	1		
5	M001087	Display Screen Welding	1		
6	S000155	M4 x 10 Flat Head Screw	6	DIN 7991	M4
7	S000342	Meter With Digital Display	1		
8	P018396	Digital Meter Sheet	1		
9	P018399	Digital Meter Movable Part	1		
10	S000165	M4 x 8 Socket Head Screw	1	DIN 912	M4
11	P018383	Meter Display Sheet 2	1		
12	S000153	M8 x 40 Socket Head Screw	2	DIN 912	M8
13	S000025	M8 Washer	2	DIN 125	M8
14	P018400	Digital Meter Support Hinge	1		
15	S000026	M8 Nut	2	DIN 934	M8
16	S000366	M6 Female Bakelite Knob	1		
17	P016635	Brake Part Shaft	1		
18	P016486	Meter Break Part	1		
19	S000166	M6 x 16 Button Head Screw	2	DIN 7380	M6 x 16
20	P016485	Meter Break Part 2	1		
21	P016474	Support Part	1		
22	P016502	Meter Support Shaft	1		
23	S000623	M6 x 100 Socket Head Screw	2	DIN 912	M6 x 100
24	S000187	M6 Nut	2	DIN 934	M6



ROTA

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SCALE

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MALZEME
MATERIAL

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MASS (Gr)

bala

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PART/ASSEMBLY NAME

RENK
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KALINLIK
THICKNESS

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DESCRIPTION

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FORMAT

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APPROVAL

Yavuz Varışlısoy

11.11.2023

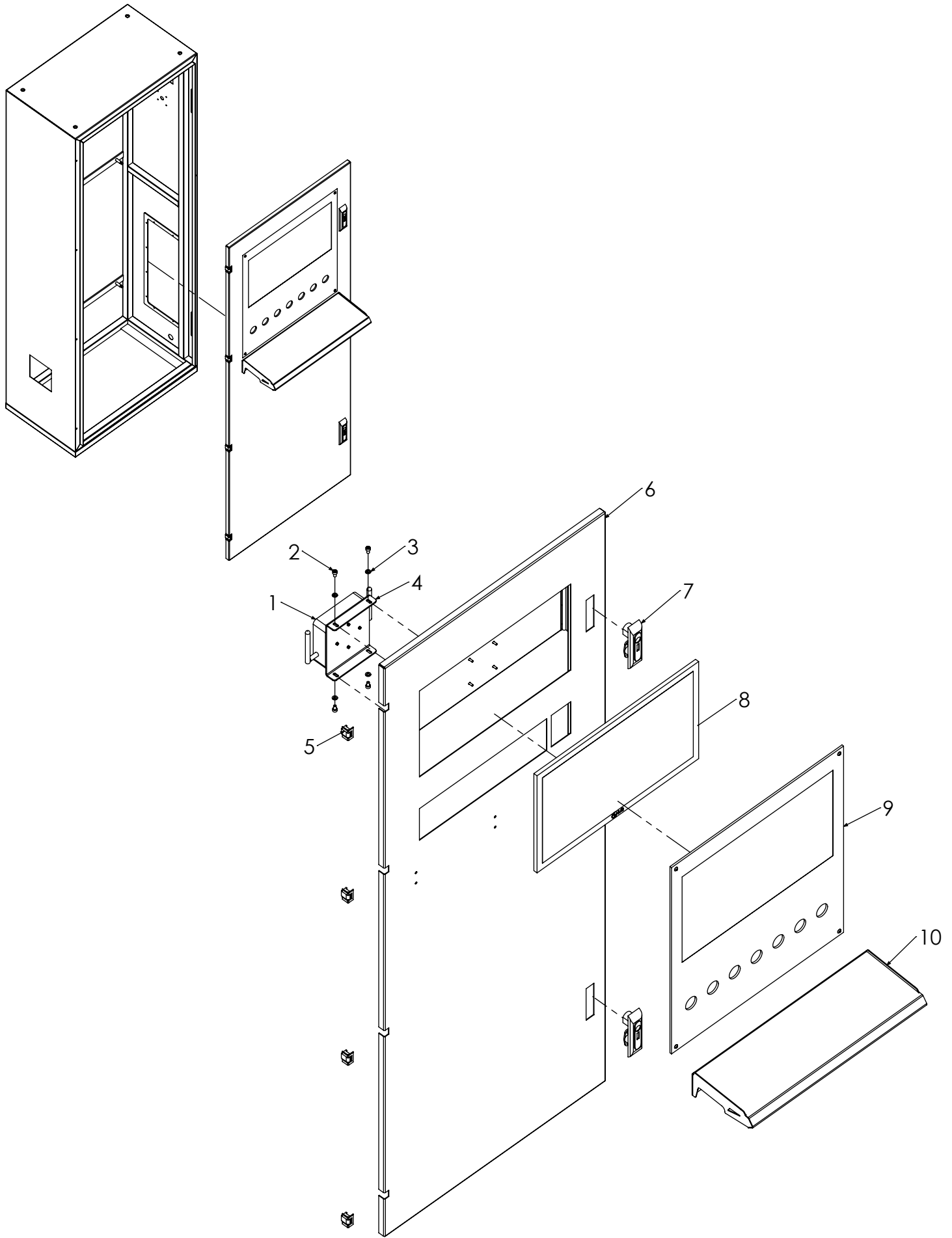
DPM-AV 22-42 SPARE
PARTS

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415.021 - dpm av v2 dikey
kilit destek montaj

A4

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	P020930	Top Ring	4		
2	P020931	M12 Washer	4		
3	P020922	M16 Threaded Rod	4		
4	P020924	Filtered Fan PFI1500	2		
5	S000031	M5 x 10 Button Head Screw	12	DIN 7380	M5
6	P202934	Cable Sheet	1		
7	P20943	Cable House	1		
8	P020918	Panel Inner Sheet	1		
9	P020923	Pronet 01AEG-EC Driver	4		



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MALZEME
MATERIAL

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MASS (Gr)

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Yavuz Varışlısoy

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DPM-AV 22-42 SPARE
PARTS

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415.021 - dpm av v2 dikey
kilit destek montaj

A4

List Number	Part Number	Part Name	Number of Pieces	Standard Name	Dimension
1	P020908	Pc	1		
2	S000017	M6 x 10 Socket Head Screw	4	DIN 912	M6 x 10
3	S000053	M6 Washer	4	DIN 125	M6
4	P020914	Pc Assembly Part	1		
5	M001800	Recessed Hinge	4		
6	P020937	Front Cover Trunk	1		
7	P020907	Handle Lock	2		
8	P020921	LG Monitor	1		
9	P020942	A-02-22 Plexi	1		
10	P020920	Keyboard Sheet	1		

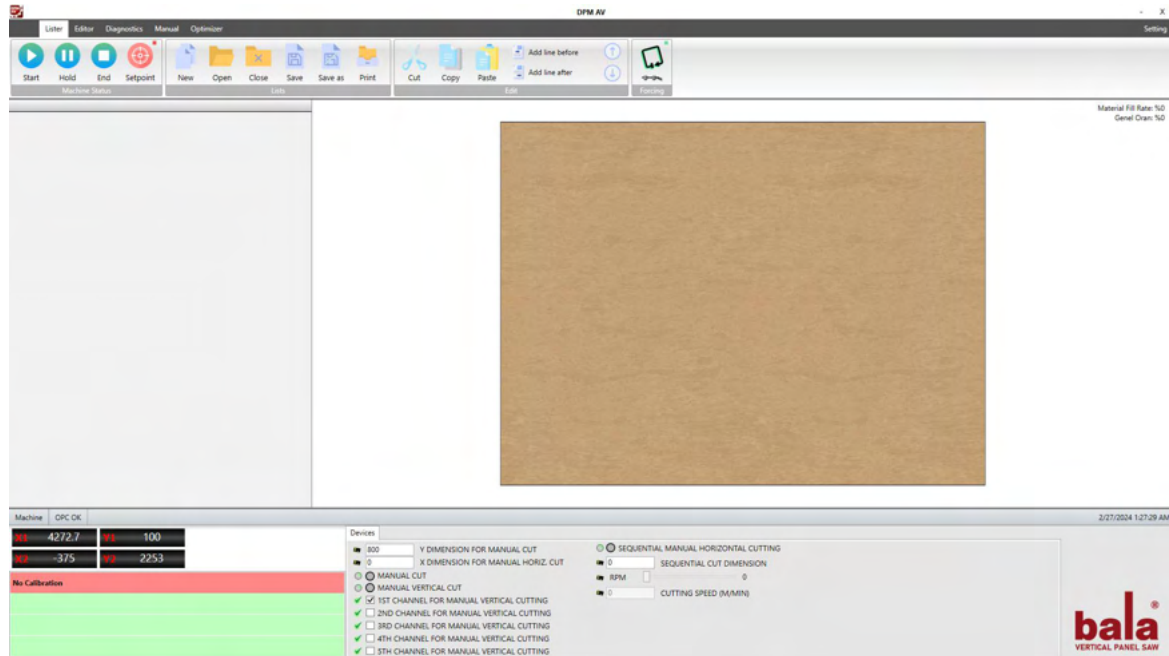
OPERATOR PROGRAM USER MANUAL

After turning on the machine; DPM AV CNC operator software is run; which installed on the computer.

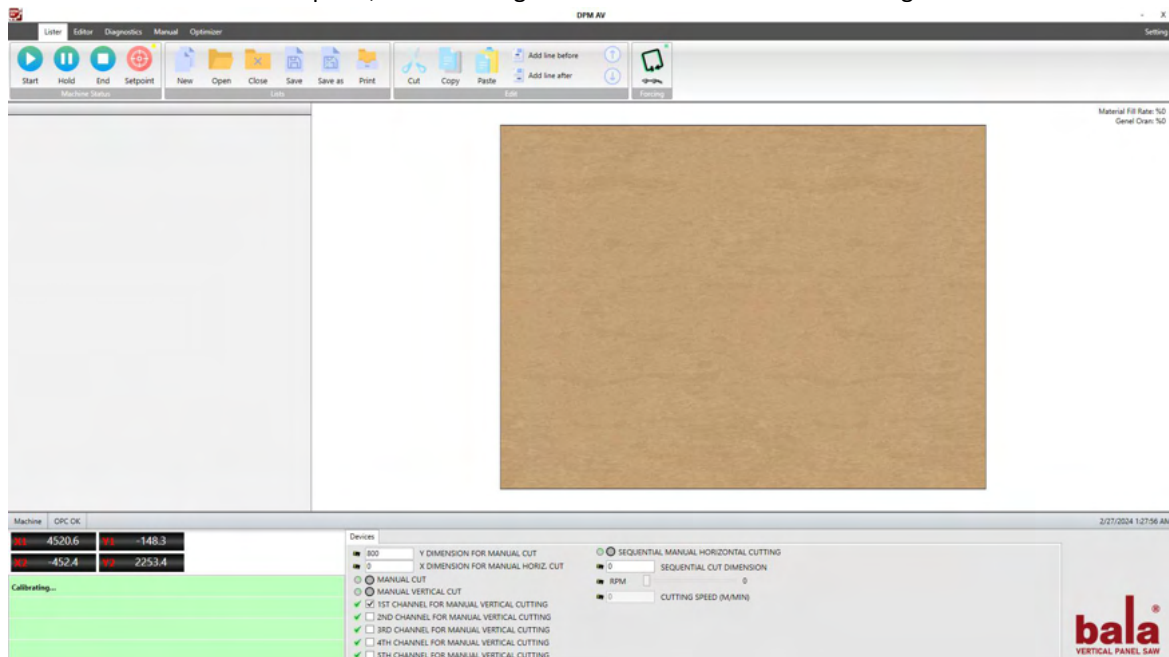
The machine is controlled to see if there is anything preventing it from running around.

Press the reset button on the control panel

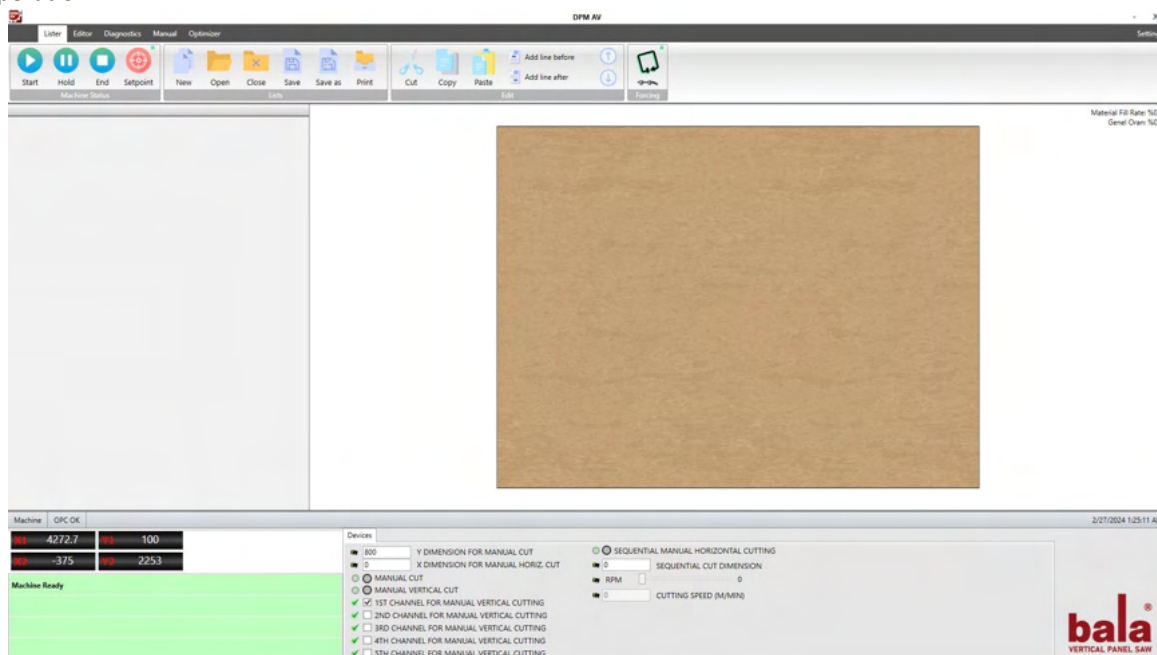
Click the Set Point icon on the Lister Point page of the program.



The machine starts to the Set point, the bottom green section shows the "Calibrating..."



After that, the message "Machine Ready" appears in the green message box and the machine is ready for operation.



Adjustments are made in the lower middle section of devices for manual cutting.

Only for horizontal manual cuttings; enter the height of the part to be cut in "Y DIMENSION FOR MANUAL CUT" and enter the width of the part to be cut in "X DIMENSION FOR MANUAL HORIZ. CUT"

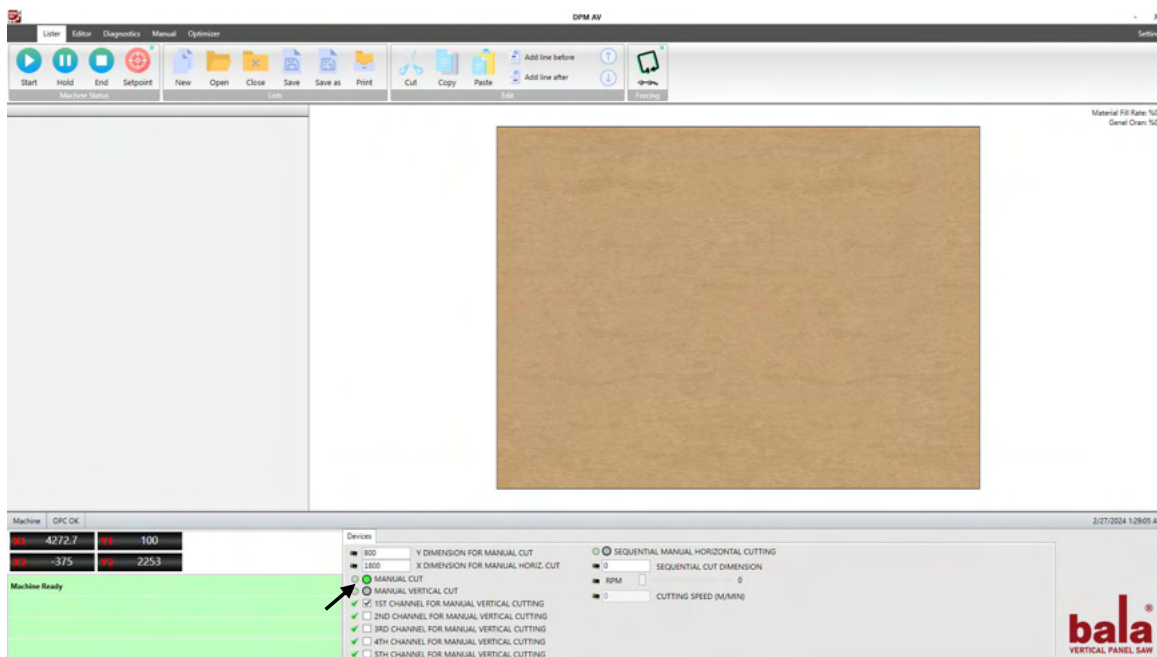
double-clicked the "MANUAL CUTS" icon and green light appears

Axis speed information is showed in the section "Cutting FeedRate" or "Cutting Speed".

the main blade motor speed is entered the "RPM" section

The part to be cut is loaded on the machine and rests on the right hand side.

Cutting will be performed when the start button on the panel is pressed.



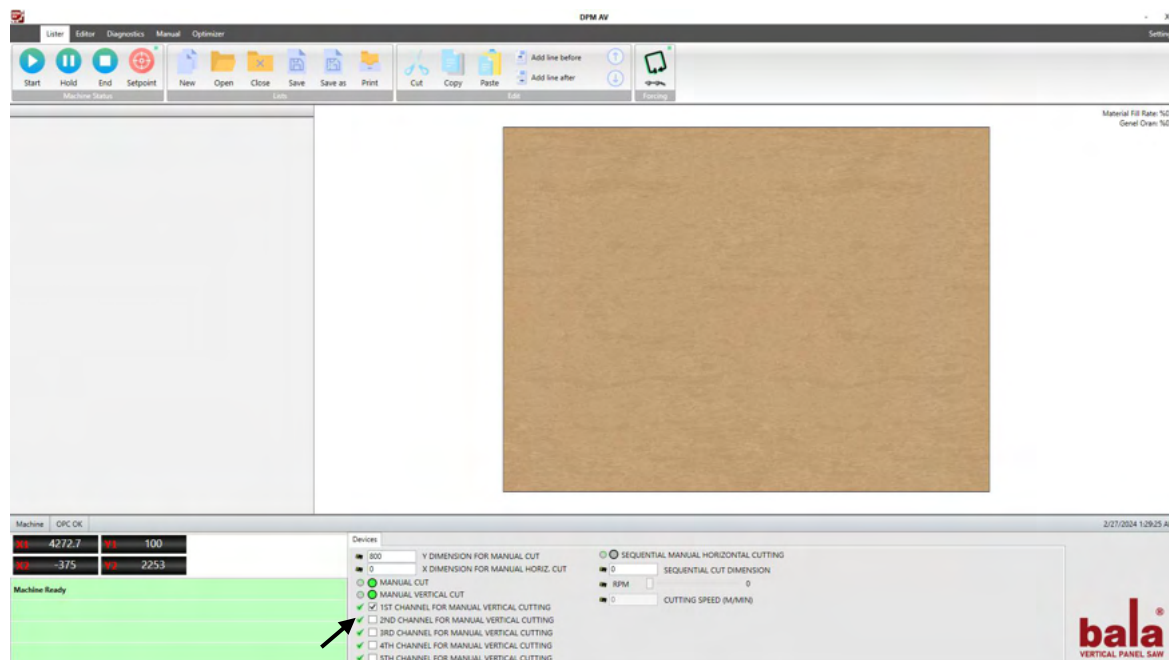
Only for vertical manual cuttings; enter the height of the part to be cut in "Y DIMENSION FOR MANUAL CUT"

Double-clicked the "MANUAL CUTS" icon and green light appears

Double-clicked the "MANUEL VERTICAL CUT " icon and green light appears

Mark the Channel's box; At which vertical cutting point the piece is to be cut.

Cutting will be performed when the start button on the panel is pressed.



EDITOR

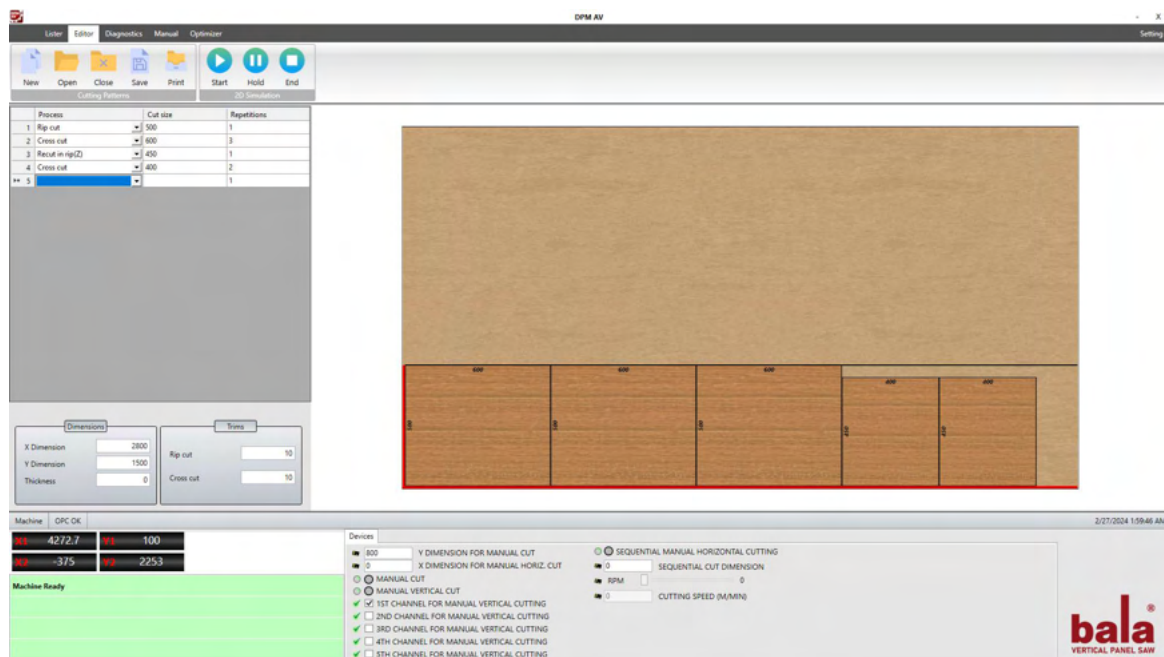
You can prepare cutting program by entering individual dimensions in Editor section.

Firstly, from the "Dimension" section; the height of the panel is written to "Y dimension" section and the width is written to "X dimension". If horizontal trimming is desired in the Trim section; it is written in "rip-cut" section. If vertical trimming is desired in the trim section; it is written in "cross-cut" section.

Then, the desired cut is horizontal or vertical, the cut size and cut pieces are written.

The part to be cut is loaded on the machine and it rests on the right hand.

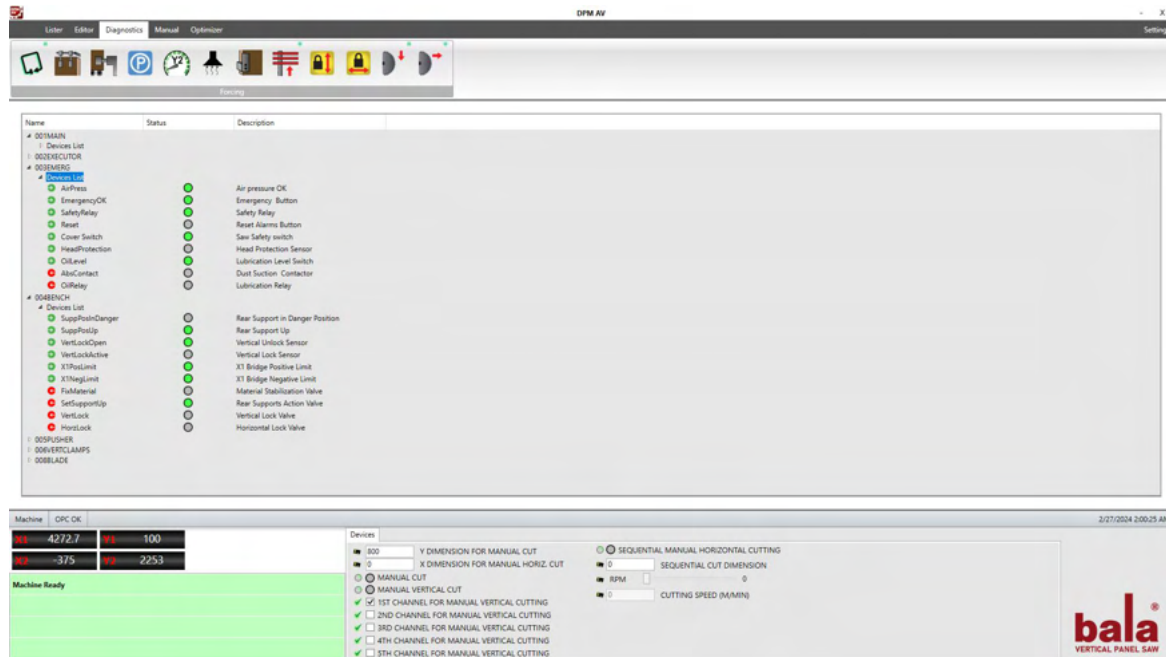
Press the start icon in the program and then press the start button on the panel.



DIAGNOSTIC

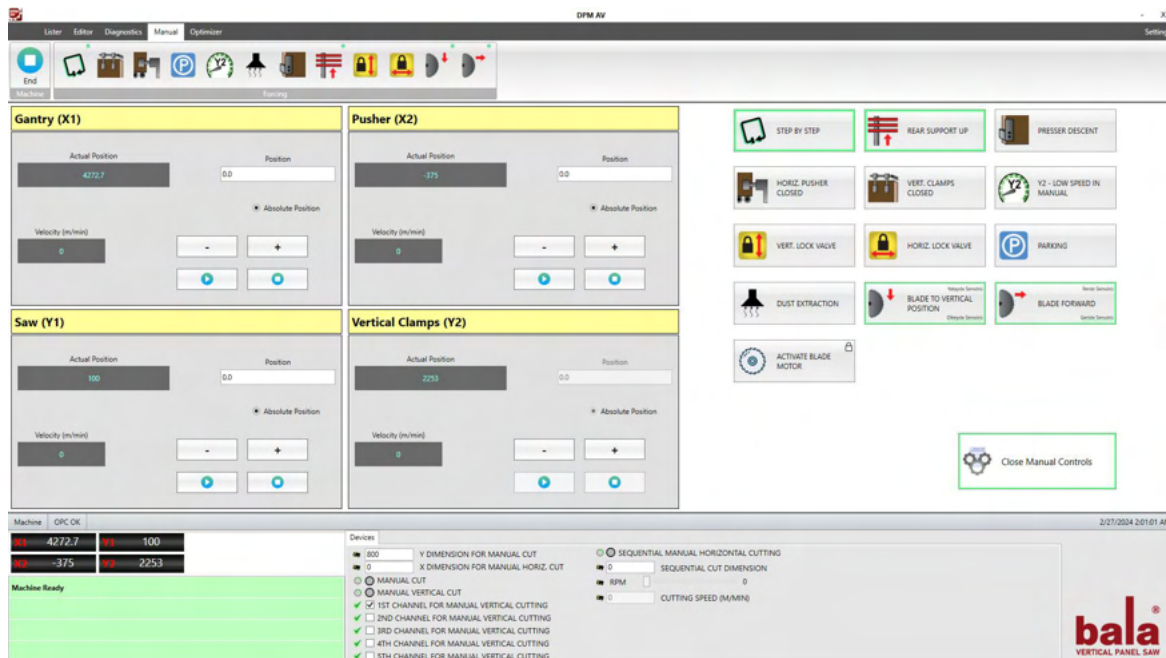
We can check the status of electrical equipment connected to the machine from the diagnostic section.

Used only by technical personnel.



MANUAL

Manual section is the section where we can make axis movements manually.



OPTIMIZER

Optimizer section is the section for optimization of the panels to be cut.

Machine: DPC OK

Machine Ready

Device

Y DIMENSION FOR MANUAL CUT

X DIMENSION FOR MANUAL HORIZ. CUT

MANUAL CUT

MANUAL VERTICAL CUT

1ST CHANNEL FOR MANUAL VERTICAL CUTTING

2ND CHANNEL FOR MANUAL VERTICAL CUTTING

3RD CHANNEL FOR MANUAL VERTICAL CUTTING

4TH CHANNEL FOR MANUAL VERTICAL CUTTING

5TH CHANNEL FOR MANUAL VERTICAL CUTTING

SEQUENTIAL MANUAL HORIZONTAL CUTTING

SEQUENTIAL CUT DIMENSION

RPM

CUTTING SPEED (M/MIN)

bala
VERTICAL PANEL SAW

Material

Panel name or code can be written in "Code" section.

The width of the panel is written in "X Dimension" section

The height of the panel is written in "Y Dimension" section

The thickness of the panel is written in "Thickness" section

"1" is written next to the panel to use "Quantity"

"Rip cut trim" horizontal trim measure

"Cross cut trim" vertical trim measure

DPM AV

File Edit Diagnostics Manual **Optimizer** Settings

New Open Save as Optimize Import Template Cut Copy Paste

Material

	Code	Description	X Dimension*	Y Dimension*	Thickness	Quantity	Rip cut trim	Cross cut trim	Right Trim	Top Trim	Customer	Interior Color	Exterior Color
1	P109		2000	1500	18	1	10	10					
2	P104		2000	2100	18		10	10					
3													

Pieces

	Code	Description	Length*	Height*	Grain	Quantity*	Top edge thickness	Calculate Dimensions	Bottom edge thickness	Calculate Dimensions	Right edge thickness	Calculate Dimensions	Left edge thickness	Calculate Dimensions	Customer	Description 2	Description 3	Description 4
1	P401		500	300	1"	10		☒		☒		☒		☒				
2	P54		600	400	1"	10		☒		☒		☒		☒				
3	P411		350	350	1"	10		☒		☒		☒		☒				
4	P135		600	400	1"	10		☒		☒		☒		☒				
5								☒		☒		☒		☒				

Machine: OPC OK

45 4272.7 45 100

45 375 45 2253

Machine Ready

Devices

800 Y DIMENSION FOR MANUAL CUT

0 X DIMENSION FOR MANUAL HORIZ. CUT

☐ MANUAL CUT

☐ MANUAL VERTICAL CUT

☒ 1ST CHANNEL FOR MANUAL VERTICAL CUTTING

☒ 2ND CHANNEL FOR MANUAL VERTICAL CUTTING

☐ 3RD CHANNEL FOR MANUAL VERTICAL CUTTING

☐ 4TH CHANNEL FOR MANUAL VERTICAL CUTTING

☐ 5TH CHANNEL FOR MANUAL VERTICAL CUTTING

☒ SEQUENTIAL MANUAL HORIZONTAL CUTTING

0 SEQUENTIAL CUT DIMENSION

RPM 0

0 CUTTING SPEED (M/MIN)

2/27/2024 2:03:43 AM

bala
VERTICAL PANEL SAW

Pieces

Panel name or code can be written in "Code" section.

"Length" panel length

"Height" panel height

if panel's pattern is important written "✓" in "Grain" section

"Quantity" How many pieces are requested

"Edge thickness" If the edge band thicknesses are desired; edge band values of the corresponding edge are entered.

click the "Optimize" icon

DPM AV

File Edit Diagnostics Manual **Optimizer** Settings

New Open Save as Optimize Import Template Cut Copy Paste

Material

	Code	Description	X Dimension*	Y Dimension*	Thickness	Quantity	Rip cut trim	Cross cut trim	Right Trim	Top Trim	Customer	Interior Color	Exterior Color
1	P109		2000	1500	18	1	10	10					
2	P104		2000	2100	18		10	10					
3													

Pieces

	Code	Description	Length*	Height*	Grain	Quantity*	Top edge thickness	Calculate Dimensions	Bottom edge thickness	Calculate Dimensions	Right edge thickness	Calculate Dimensions	Left edge thickness	Calculate Dimensions	Customer	Description 2	Description 3	Description 4
1	P401		500	300	1"	10		☒		☒		☒		☒				
2	P54		600	400	1"	10		☒		☒		☒		☒				
3	P411		350	350	1"	10		☒		☒		☒		☒				
4	P135		600	400	1"	10		☒		☒		☒		☒				
5								☒		☒		☒		☒				

Machine: OPC OK

45 4272.7 45 100

45 375 45 2253

Machine Ready

Devices

800 Y DIMENSION FOR MANUAL CUT

0 X DIMENSION FOR MANUAL HORIZ. CUT

☐ MANUAL CUT

☐ MANUAL VERTICAL CUT

☒ 1ST CHANNEL FOR MANUAL VERTICAL CUTTING

☒ 2ND CHANNEL FOR MANUAL VERTICAL CUTTING

☐ 3RD CHANNEL FOR MANUAL VERTICAL CUTTING

☐ 4TH CHANNEL FOR MANUAL VERTICAL CUTTING

☐ 5TH CHANNEL FOR MANUAL VERTICAL CUTTING

☒ SEQUENTIAL MANUAL HORIZONTAL CUTTING

0 SEQUENTIAL CUT DIMENSION

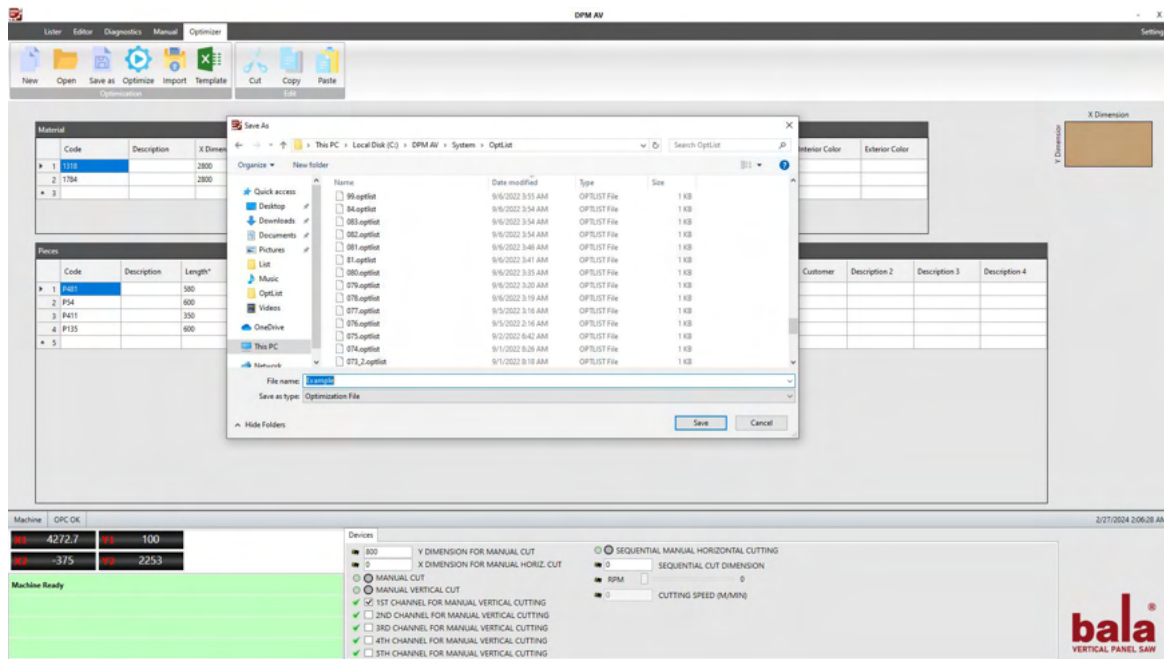
RPM 0

0 CUTTING SPEED (M/MIN)

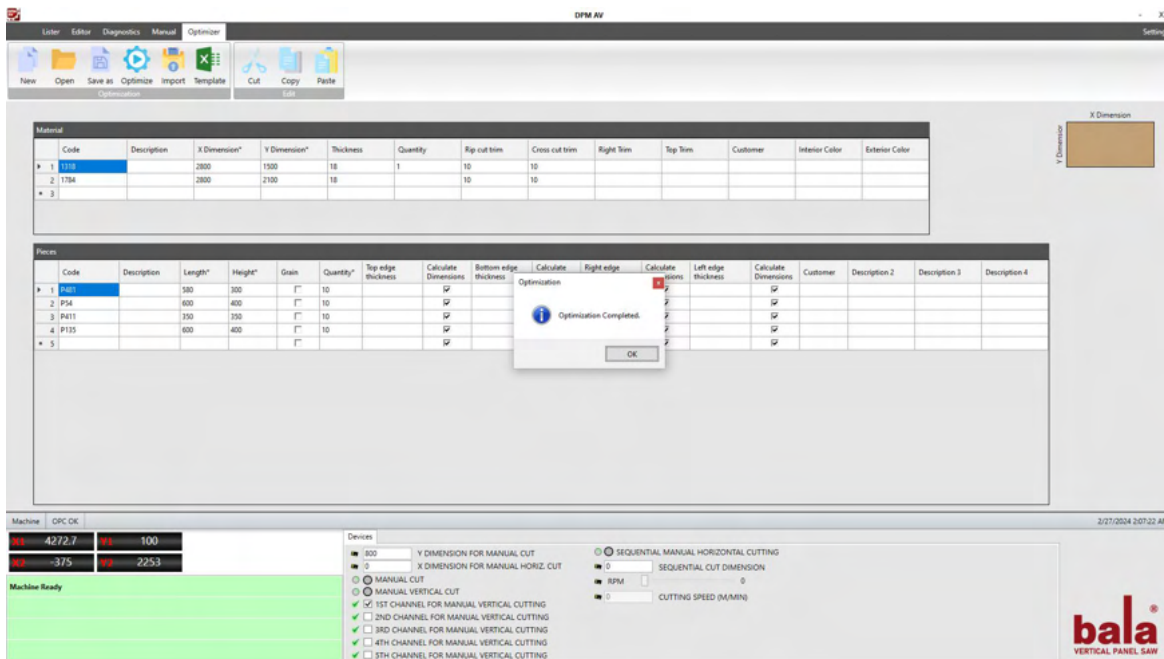
2/27/2024 2:03:43 AM

bala
VERTICAL PANEL SAW

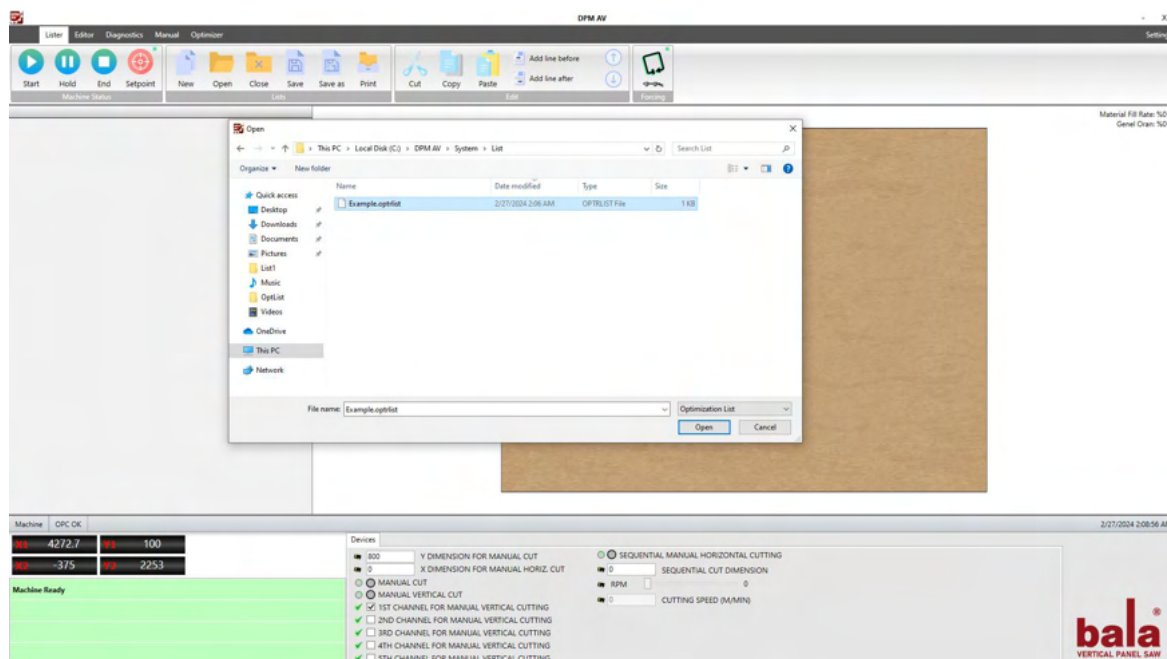
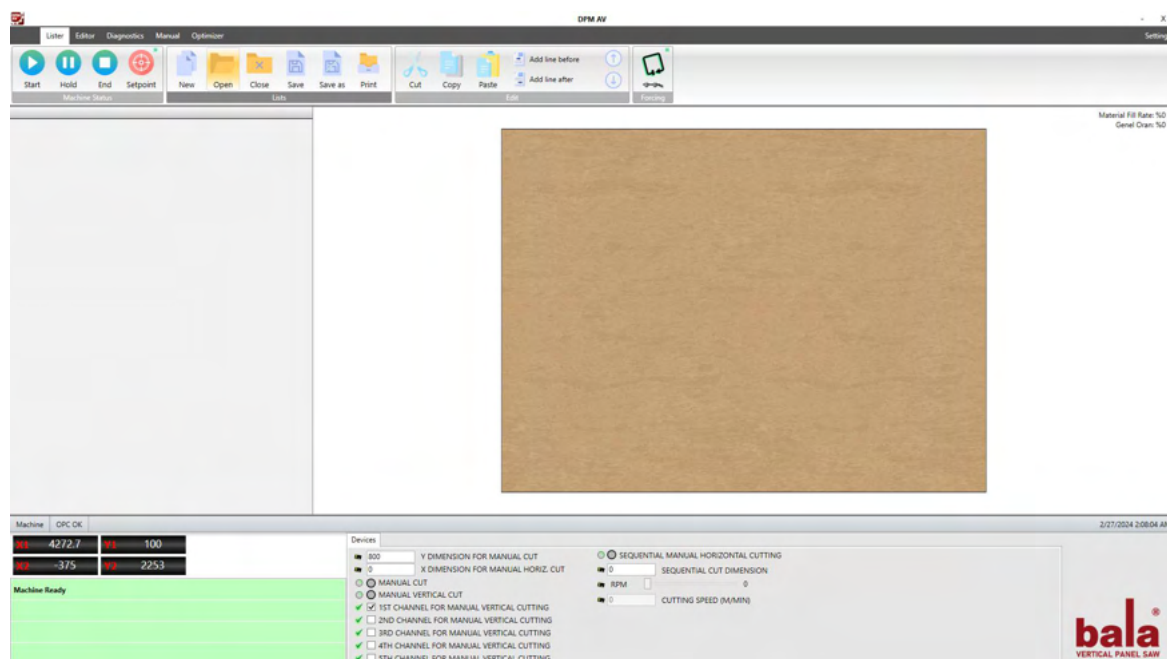
The file name is given for the job to be done and the save button is pressed.



After the process is completed it writes "Optimization Completed".

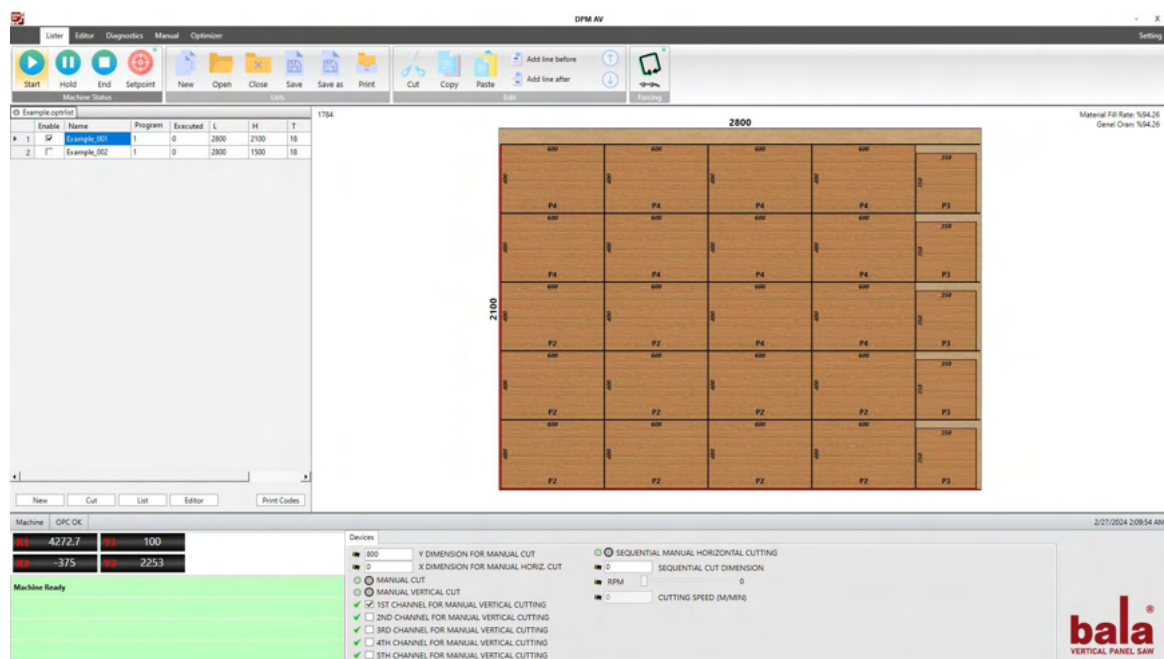


Select the file we have optimized by clicking the “open” file icon from the Lister section.

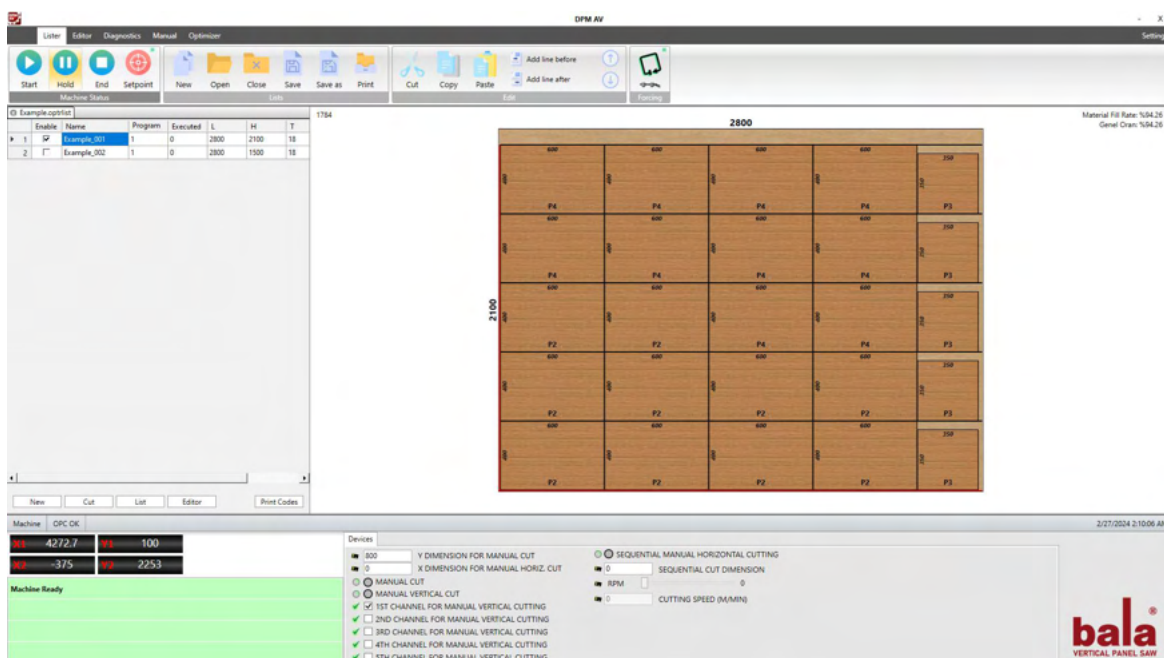


The part to be cut is loaded on the machine and it rests on the right side.

Click on the start icon in the program and then press the start button on the panel to cut.



The program can be stopped by clicking the “hold” icon or pressing the “pause” button on the panel.



The program can be terminated by clicking on the “End” icon or by pressing the “stop” button on the panel.

