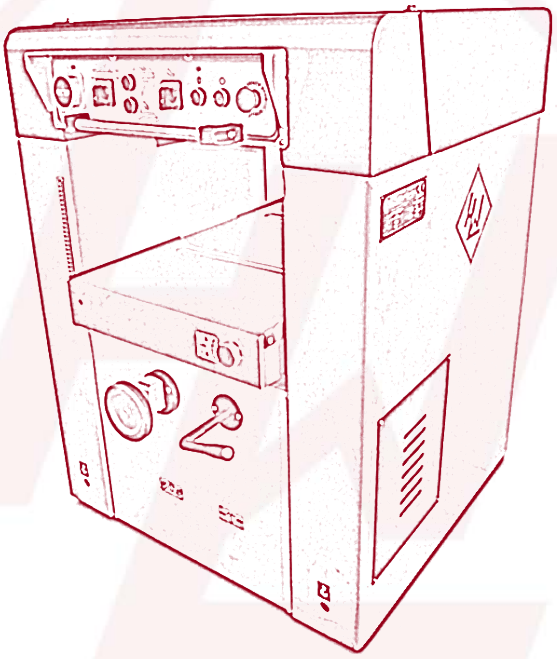
OPERATION MANUAL

WINTER SMOOTHING PLANER

PLANERMAX 530



WARNING!

The operator must thoroughly read this manual before operation.
Keep this manual for future reference.

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H.WINTER HOLZTECHNIK

TO OUR CUSTOMERS

This manual contains all the instructions required for the faultless operation of the machine and its respective maintenance, as well.

Thus, during the warranty period, you will receive for free all components that have presented eventual defects.

The producer is always at your disposal for resolving of problems that machine operators may encounter during operation, and for delivery of spare parts, too.

Your recommendations related to this manual are valuable contribution to the improvement of the products offered by Winter Holztechnik GmbH to its customers.

CONTENTS

SECTION A: GENERAL DATA

A.1. MANUFACTURER

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A.2. INTRODUCTION

The present manual is designed for those who will operate the machine. You will find in it the necessary data for assembly, commissioning, maintenance and safety operation of the machine. The experience of the company manufacturer and its experts in considered in the preparation of this manual.

We recommend you to consider with responsibility our recommendations concerning the safety of work. The operations requiring disassembly of machine and electrical components should be performed by authorized and qualified personnel only. Repairs and settings not described in the present manual should not be performed. This manual is prepared by the manufacturer and is an integral part of the machine's delivery. The information contained herein is intended for specialists and is compulsory.

The manual defines the machine's field of application and contains all the information necessary for its proper and safety operation.

The permanent and exact observation of the instructions contained in this manual ensure safety of personnel and machine, profitable work as well as long life of the machine itself.

For better clarity this manual is divided in separate parts in which are contained the more important subjects.

The contents will allow you to find fast the specific subjects.

The important text is printed in bold and is marked by the following symbols:

This means that you should proceed very carefully in order to avoid situations that could be dangerous to human life or may cause serious injury to the personnel.

Provides information about situations that may occur during the life of the product, the system or the equipment and that may cause injury to the personnel, damages on the machine, environmental pollution or financial loss.

Means that you should be more cautious in order to avoid material damage.

Very important instructions.

Some figures and information in this manual may not coincide with those of the machine purchased by you.

The producer is constantly working on the improvement and renovation of the product and may introduce modifications without prior notification.

At preparation of this manual are considered all the operations belonging to "normal servicing". Repair works and other operations not mentioned in the manual should not be undertaken.

All operations requiring disassembly of machine parts should be carried out by technically qualified personnel.

The instructions of this manual should be observed for correct usage of the machine.

Use only original spares of Winter Holztechnik GmbH.

The manufacturer should not be held responsible for damages caused by the use of spares which are not original.

i *INFORMATION*

The machine can be operated and serviced only by specially trained personnel, well acquainted with this manual.

A.3. CORRESPONDENCE

In case of technical problem please contact the Seller or Service department.

In the correspondence or telephone call with them concerning the purchased machine please supply the following information:

- Machine serial number
- Operating voltage and frequency
- Date of production
- Detailed description of the eventual failure
- Detailed description of the working process
- Total time of operation – working hours;

In case of enquiry concerning the electrical part is necessary to provide the data from the name plate.

A.4. NAME PLATE

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CE

TYPE	XXXXXX	PRODUCTION YEAR	20XX
SERIAL NR.	Xx12345	PHASE NR.	3
SUPPLY VOLTAGE (V)	400	MAX. POWER (kW)	XX,X
FREQUENCY (Hz)	50	WEIGHT (Kg)	XXXX

A.5. FIELD OF APPLICATION

The thickness machine is designed for processing of pieces of wood or materials similar to wood (e.g. fibre-boards, pressed wooden plates, chipboards, hardboards, plywood, laminated and non-laminated plates) with rectangular or square section.

Material with other sections that could not be fixed by the reverse hit grabs during operation of the thickness machine MAY NOT BE PROCESSED ON THIS MACHINE

Other materials, except the above-mentioned, as well as different from wood MUST NOT BE ME WORKED ON THE MACHINE.

A.6. WORKING CONDITIONS AND REQUIREMENTS

Working places

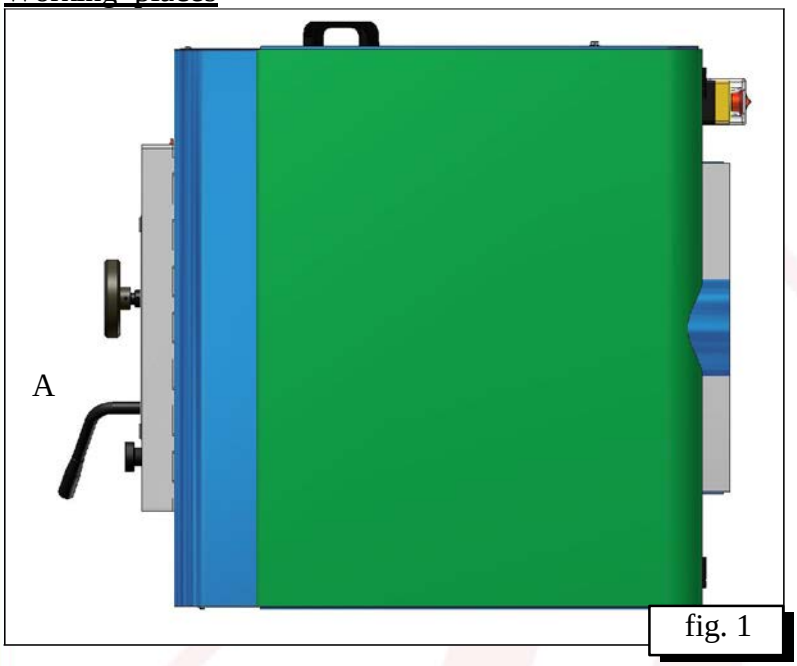


fig. 1

ATTENTION

The machine is designed for one operator only.

A- working place during operation of the thickness machine

Defense to operate

- The operation of the machine under conditions differing from those above mentioned is prohibited.
- The operation of the machine without the protection devices provided, as well as the removal of any part of those devices, is prohibited.
- Materials differing from those described above may not be processed on the machine.
- Pieces, whose dimensions differ from those described above, may not be processed on the machine.
- Tools that do not comply with pr. EN847-1 and tools, whose dimensions do not comply with the cutting disk shaft diameter may not be used.
- Introduction of modifications in the machine is prohibited.

The sole and exclusive liability in case of injury of personnel and damages of the machine as a result of processing of unspecified materials shall be borne by the machine operator.

Tools that may be used:

May be installed and used on the machine tools complying with pr. EN847-1 related to manual feed only.

Working environment

The machine is designed for operation under the following environmental conditions:

Humidity	Max 90%
Temperature	Min +1°C Max +40°C
Altitude	Max 1000 м

The machine should not be open-air operated.
The machine should not be operated in environment presenting danger of explosions.

A.7. TECHNICAL CHARACTERISTICS

		DMS 53
Maximum working width	mm	530
Length of work table	mm	950
Maximum thickness of cut layer	mm	8
Maximum thickness of processed element	mm	300
Minimum thickness of processed element	mm	3
RPM of cutter drum	1/min	5000
Power of cutter drum motor	kW	5,5
Speed of material feed	m/min	8/16
Power of motor for material feed	kW	1,1/1,5
Power of motor for table lifting	kW	0,25
Diameter of cutter drum	mm	Ø 125
Number of cutter knives		4
Number of motors		3
Diameter of aspirator output	mm	Ø 160
Clearance dimensions:		
Length	mm	1120
Width	mm	950
Height	mm	1200
Weight	kg	680

A.8. NOISE CHARACTERISTICS

ATTENTION

A continuous noise exposure over above 85 dB (A) may result in health injury. That is why we recommend to use in such cases noise protection devices like ear-plugs, earphones, etc.

Statement on the emitted noise:

1. /A/ weighed level of noise pressure at idle

L_{pfA} = 82 dB

Indefiniteness K = 2 dB

2. /A/ a measured level of acoustic power at the working place.

- planer machine - L_{wA} = 110 dB
- thickness machine - L_{wA} = 111 dB

Indefiniteness – K = 2 dB

At 95% probability

SECTION B: SAFETY OF WORK

B.1. SAFETY INSTRUCTIONS

Before commissioning, use, servicing, repair, cleaning or any other operations on the machine read very carefully this manual.

The manufacturer shall not be liable for any damages on the machine or any injury of personnel occurred as a result of failure to observe the operation, maintenance and safety instructions.

- Only personnel trained and acquainted in detail with the operation of the machine and especially with the dangers during operation of this kind of machines and being safe and controlling completely their mind may operate the machine..
- Do not operate the machine beyond the safety instructions and without the protection devices.
- Follow strictly the Operation and service manual.
- During all preparation activities, removal of failures, maintenance works and other, switch off the machine from the electric mains by pulling the supply coupling from the connector of the starter.
- Follow the maximal and minimal dimensions of the pieces under p. D.1. of the servicing manual.
- Before commissioning check the availability and the condition of all protection devices.
- Do not operate the machine with gloves.
- Clean thoroughly the machine from all dust and chips after work.
- Do not clean the machine by water neither when switched on nor when switched off.
- Always keep the working place of the machine in clean condition.
- Remove from the machine and the operation surface all adjustment tools before operation.
- Before any electrical connection, keep the machine switched off.
- Before commissioning of the machine make sure that the connection to the electric mains is properly effected.
- Use the machine and the tools only for the purpose they are intended for.
- Do not operate the machine in damp premises and do not leave it under the rain or at low temperatures
- Never leave the machine operate without control when you are apart of it.
- Do not work with loose clothing, free hair or long stoles.
- Remove all bracelets, watches, chains and other similar objects.
- Always feed the key-shaped pieces in the machine by the highest part of the section.
- The sleeves of the working clothing must be always buttoned.
- In order to protect yourself from the noise, always work with headphones.
- Always work with protection goggles, mask against the dust and with the other protection devices.
- Keep children apart from the machine and take care to prevent machine's operation by children.
- Teenagers under the age of 16 may operate the machine under the supervision of skilled expert – adult person only.
- Provided the machine operates longer, it should be connected to the chip and dust aspiration device.
- Before commissioning check the pieces for defects, e.g. free knots, fissures, nails, metal objects and other foreign objects.
- Use only perfectly sharpened tools.
- Do not use cracked, damaged, wrong-shaped or incorrectly sharpened tools.
- Keep always the tools with due care and do not allow unauthorized personnel to handle them.
- Do not use the tools under speeds that exceed the maximal ones as specified by the respective tool producer.
- Clean tools' coupling surfaces and check for presence of swellings and dints.
- Do not clean the tools by means of wire brush; do not use water in any case.
- When handling the tools, use protection gloves whenever possible.
- Do not open in any case the protection covers and doors while the machine is under operation.

- Always operate the machine with protection devices, support rulers etc. in good order.
- Do not pass your hands or other parts of your body to the mobile parts of the machine.
- Process only materials the machine is designed for.
- Ensure proper lighting (500 lux) that would not blind the eyes and avoid the stroboscopic effect.
- The repair or maintenance works on the machine must not be carried out by unauthorized personnel.
- The transportation, installation and assembly of the machine should be assigned to qualified personnel only possessing the required knowledge and equipment for that purpose.
- All interventions to the electrical equipment may be carried out solely and exclusively by qualified personnel who possess the required knowledge for that purpose.
- Do not modify in any case the electric equipment of the machine.
- The chip and dust aspiration device must ensure a minimal rate of air delivery of 1800 m^3/h at a speed of 25-30 m/sec.
- Replace the knives on the cutting shaft only by sets and do not use knives narrower than 20 mm.
- There must be sufficient space around the machine in order to ensure that the operator can always stand outside the areas of potential danger.
- Clean regularly machine's board and the floor from dust and chips.

Training of the servicing personnel

All servicing personnel must be trained to operate and maintain the machine.
The training should include the following special features:
- general principles of machine's driving, the proper operation, adjustment of support rulers, as well as the use of appliances for special kinds of processing.
- The proper handling of the piece during processing.
- The position of the hands towards the cutting disks during processing and afterwards.

The servicing personnel must be informed about the dangers during machine's operation, as well as about the respective protection measures.
The servicing personnel must be trained to carry out periodical checks of the protection devices.
The servicing personnel must be informed about the use of the protection devices.

Additional dangers

Despite all operation and safety rules contained in this Operation and service manual, the following additional dangers may occur:
- Contact with the tool;
- contact with the rotating parts of the driving (pulleys, belts etc.)
- Back hit of the piece or parts thereof;
- Possible danger of dust when operating without aspiration device.

However, the safety depends mainly on yourself.
Bear in mind that you always undertake some risk when operating the machine.

WARNING

The failure to follow the safety instructions or the improper operation of the machine present serious danger for the servicing personnel.

B.2. DESIGN MEASURES FOR ENSURING SAFETY FOR WORK

The thickness machine is equipped with the following safety devices:
- Micro-switcher, which is activated upon opening the shavings collector to switch the machine OFF automatically.

- The machine cannot be switched on if the shavings collector is not closed during operation.
- Shavings collector:

  The unit serves to collect dust and shavings and is connected to an aspirator.

  The shaving collector covers the cutter drum of the thickness planer and does not permit access to its during work.
- Holding “grips” protecting against backlash during processing:

  The protection against a backlash of the processed element is located on the in-feed side of the planer immediately before the feeding roller and covers the whole width of the machine.

  The protection consist of separate teeth, mounted on a shaft with a diameter of 30 mm.

  The width of these teeth is 22 mm and the distance between each pair is 7 mm.

  In a starting position, they stand at 3 mm below the circumference for cutting and are constructed in such a way, that they always return to the starting position under their own weight. They are secured against accidental turn-over.
- The in-feed side of the planer also contains a restricting device for the possible thickness of the shavings.
- The board of the thickness planer is height adjusted automatically and blocks in its adjusted position.
- Mechanized in-feeding of the material for processing:

  A special motor has been mounted for driving the rollers which in-feed the processed material.
- There is a dead-end restricting device for the height adjustment range of the working board so that it does not contact the cutter drum, the in-feed and output rollers as well as with the backlash protection grips.
- The working board of the planer has side restrictors for setting the working width and the in-feed of the processed element.
- Perfectly sharpened cutter knives.

  Blunt instruments may cause backlash of the material; they overload the machine and the results from the processing are poor.
- Dynamically balanced cutter drum.

  The vibrations during processing are decreased to a minimum and the resulting surface has excellent quality.

  When switching off the rotation of the cutter drum the automatic material in-feed top the thickness planer is also switched off.

ELECTRICAL EQUIPMENT

- Electronic brake for the electro-dynamic stopping of the motor.

  The time necessary for the complete stopping of the cutter drum is decreased to a maximum of 10 sec. of switching the motor off.
- Minimum voltage protection.

  When voltage is cut off the machines stops working but upon restoring voltage feed it stays idle. To start the machine again it will necessary to perform the operations as when starting the machine for the first time.
- Emergency stop from the main control board.
- Off switchers for controlling the shavings collector.
- Off switchers for blocking the working board movements.

  These serve to prevent the machine from starting if the shavings collector is still opened.
- Protective grounding.
- Anti overload protecting (via inbuilt thermal contacts)
- Electrical unit protection standard grade – IP 54.

SECTION C: ASSEMBLY OF MACHINE

C.1. REQUIREMENTS TO THE WORKING AREA

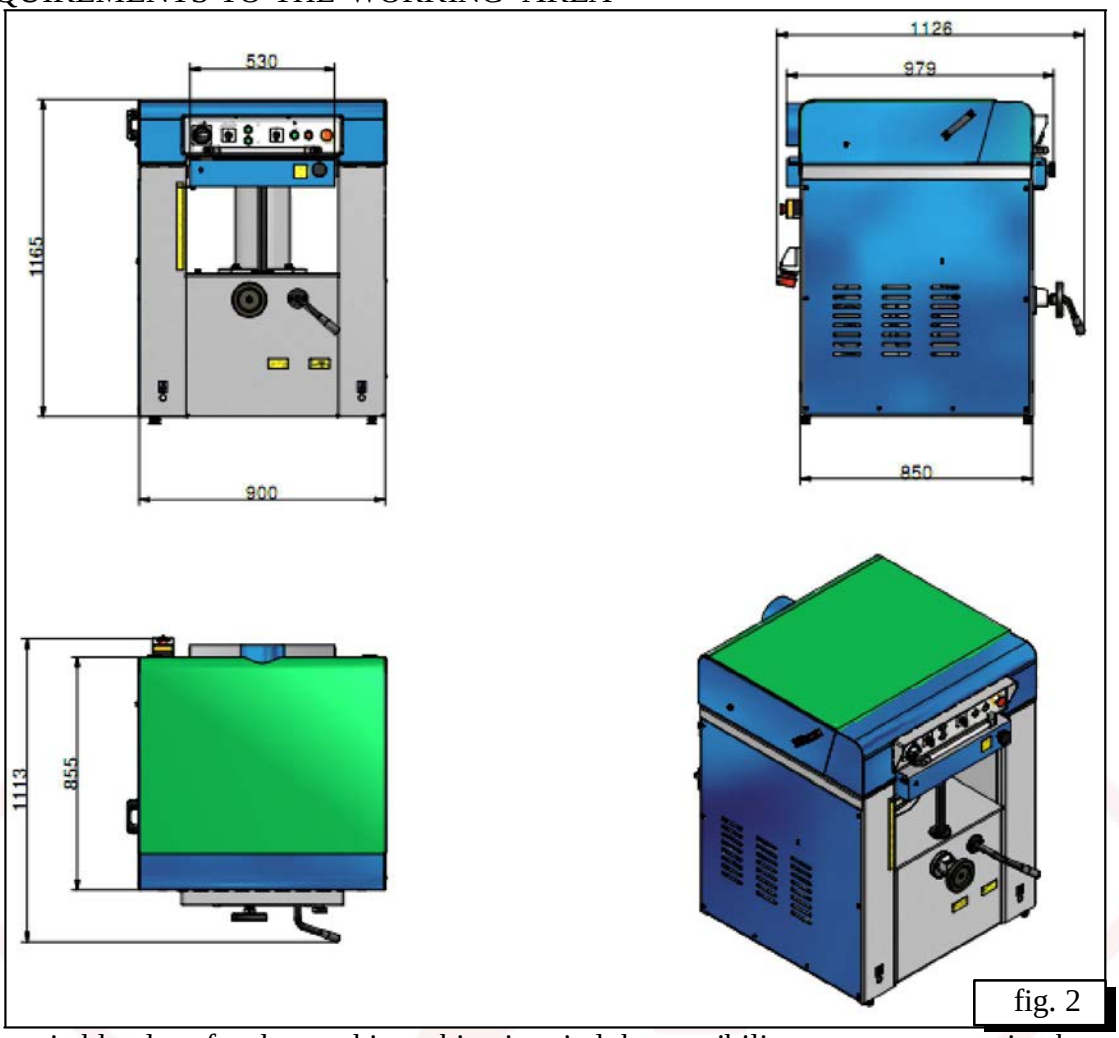


fig. 2

Choose a suitable place for the machine taking in mind the possibility to mount extension boards for the smoothing planer.

Follow the instructions given in section B.

The place chosen for positioning of the machine should provide for convenient connection to the electric mains and the device for aspiration of the dust and ships.

Provide for suitable lighting (500 lux) that would not blind and avoid the stroboscopic effect.

Check the load capacity of the floor and bear in mind that the machine must be leveled simultaneously on its four supporting points.

Provide for a distance of at least 0.8 m around the machine.

You should provide for the space required at the entrance and exit of the machine in order to feed and take up ling pieces.

C.2. UNLOADING OF MACHINE

ATTENTION

For hoisting of the machine you will need a fork-lift truck with fork long at least 1200 mm.

- provide for a fork lift truck A with the respective load capacity, corresponding to machines weight;

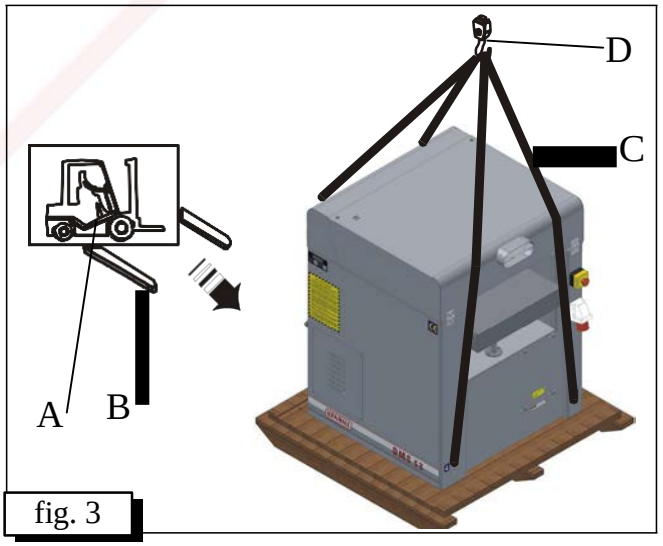


fig. 3

- the fork B of the truck should be positioned to the machine as shown on fig. 3;

In case you are in a position to make use of crane or similar equipment, make as follows:

- prepare 2 pcs of ropes or belts C with the respective load capacity and length;
- hang the ropes on the hook C with the respective load capacity and length;
- the ropes are hung on the hook of crane D with the respective load capacity and length, corresponding to the weight of the machine;
- the ropes are raised by the crane and are hung by four hooks purposed for lifting, in the four holes of machine's body.

WARNING

Check the secure fixing of the hoisting hooks to machine's body.

- Set properly the ropes and if necessary the crane should move a bit to secure vertical and stable lifting without tilting of machines.
- The machines are lifted slowly and very carefully to avoid jerks and swinging of load
- Avoid collision with the milling machine-circular saw when lifting the buzz planer- thickness machine.
- The machine should be placed near the selected place
- After that the hooks are put into the holes of the body of the milling machine- circular saw
- After lifting the machine at about 1 m stop the lifting and attach the four leveling supports to the body of the machine
- After removing from the sledge place the milling machine-circular saw on the selected place
- Level the machine with the four leveling supports to obtain a stable position.

C.3. DESLUSHING OF MACHINE

Remove the anti-corrosion grease from all unpainted machine parts using kerosene, turpentine or ordinary cleaning products commercially available.

Do not use nitro- thinners or similar diluents and by no means use water.

C.4. FOUNDATIONS LAYOUT

The stable construction of the machine, ensuring precise leveling and vibration-free operation does not require any foundations.

Besides that an additional facility can be mounted to the machine by which it can be moved in the working room.

C.5. ASSEMBLY OF THE DISASSEMBLED UNITS

With view to the transportation and packaging, some parts of the machine are delivered in unassembled condition

This machine not parts wish unassembled.

C.6. CONNECTING TO THE MAINS

ATTENTION

The connection of the machine to the mains and the subsequent additional check-ups should be executed only by an electrician.

- Check by suitable apparatus the good condition of the nullifying and earthling device.

- Check whether the supply voltage and frequency of the electric current correspond to the data shown on the plate of the machine. The permissible deviation of the voltage may by ± 15% (for instance: a machine with operation voltage 380V may work at the range between 360 and 400V).
- In order to determine the suitable section of the supply cable, refer to the data for the amperage shown on the plate of the machine, as well as to the table below.
- We do recommend the cable to be rubber insulated type H07RN (WDE0282); take the appropriate measure to avoid mechanical damages.
- Connect the supply cable to the respective terminals of the entry box (L1,L2,L3,N,PE)./fig. 4./

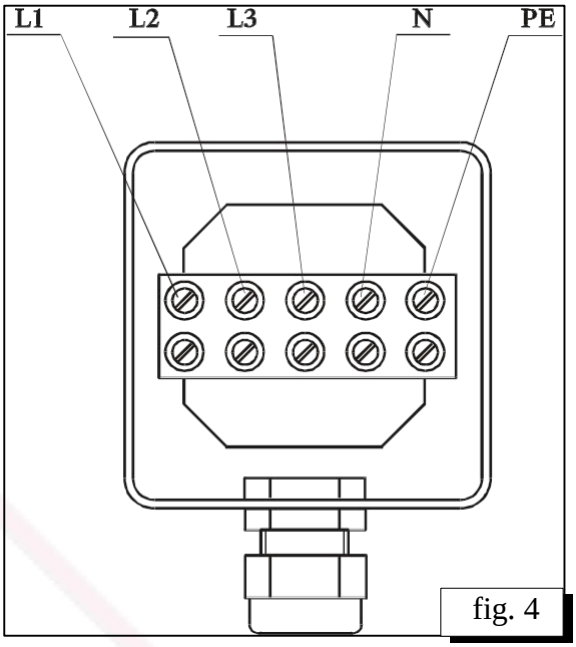


fig. 4

Electric current (A)	*Section of the cable*	*Fuse*
Up to 10	2.5 mm^2	12A AM
from 10 to 14	4.0 mm^2	16A AM
from 14 to 18	6.0 mm^2	20A AM
from 18 to 22	6.0 mm^2	25A AM
from 22 to 28	10.0 mm^2	32A AM
from 28 to 36	10.0 mm^2	40A AM
From 36 to 46	16.0 mm^2	50A AM

- For CEE plug (380V, 16A) the connection to the mains is done by means of CEE coupling (L1,L2,L3,N,PE).
- At the commissioning and after each modification of the connections to the three-phase mains check whether the direction of rotation of the shaft corresponds to that indicated on the table. If the direction of rotation is reverse, change the place of connection of phase conductors L1 and L2.

C.7. CONNECTION TO THE ASPIRATION DEVICE

The chip and dust aspiration device must ensure a minimal rate of air delivery of 1800 m^3/h at a speed of 25-30 m/sec.

ATTENTION

The dust and chips aspiration device must be switched on simultaneously with the motor of the machine.

The machine is equipped with a shavings collector, which has an end sleeve for connection to the aspirator for the saw-dust and the shavings.

Connect the shavings collector with a tubing of Ø 160 mm to the aspirator for saw-dust and shavings.

SECTION D: FITTING AND OPERATING OF MACHINE

D.1. OPERATING OF MACHINE

D.1.1. Dimensions of the pieces

During operation of the smoothing planer

The maximum size of the elements which can be processed by the machine is 530x300x1800 mm.
When processing longer elements use roller supports to keep the element steady and normally fed into the machine.

The minimum possible size of the elements is 400 x 20 x 3 mm.

D.1.2. Disassembly, assembly and adjustment of knives to the cutting shaft

WARNING

- Before starting assembly, disassembly or adjusting of the knives make sure that the machine can not be operated.
- Switch off the machine from the electric mains.
- Put the main switch in position "0" and lock it by padlock;
- When disassembling and assembling the knives always use, whenever possible, protection gloves.

Disassembly of knives /fig. 5/

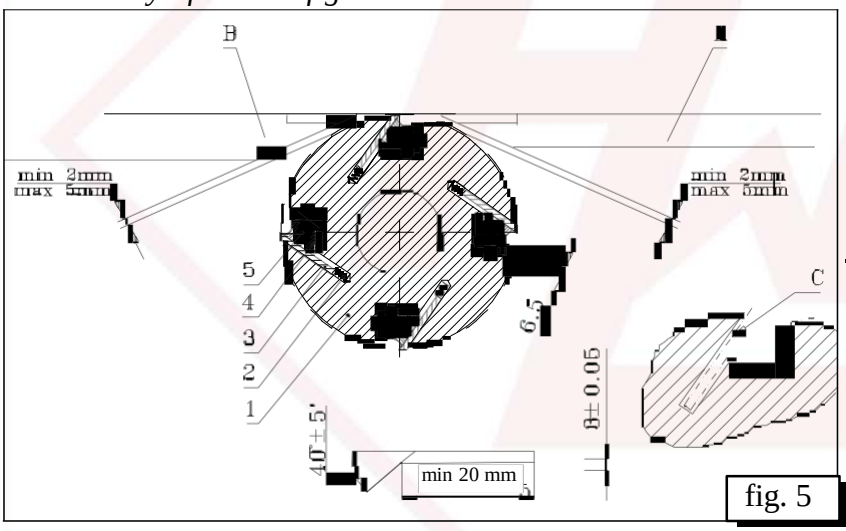


fig. 5

- Release the pressing screws 5 (rotation clockwise);
- Remove the knives 3;
- Remove the pressing wedges 4;
- Remove the springs 2;

D.1.3. Assembly of knives

Clean thoroughly the following parts::
- grooves C in the cutting shaft 1;
- springs 2;
- knives 3;
- pressing wedges 4 and screws 5;

- Place the springs, pressing wedge and screws along the knife in the respective groove of the cutting shaft.
- Check the operation of the spring by pressing slightly on the knife by means of wooden block.
- The knife should enter in the groove of the cutting shaft and, after releasing, get back in initial position.
- Check the proper placement of the knife according to the direction of rotation of the cutting shaft;
- Press the knife by means of wooden block against the spring and tighten slightly the pressing screws (rotation anti-clockwise).

D.1.4. Adjustment of knives

WARNING

- The knives must come out over the cutting shaft at maximal distance of 1.0 mm.
- Check thoroughly the knives for bending or fissures.

- You may not assemble defective knives.
- The defective knives must be replaced by sets only.
- Do not use knives thinner than 20 mm.
- Use only extremely sharpened knives, otherwise you may suffer a reverse hit of the piece..
- Tighten carefully the pressing screws. The torque is 24 Nm.
- During assembly check the direction of rotation of the cutting shaft.

D.1.5. Working on a thickness machine

The thickness unit consist of the following parts /fig. 6/:

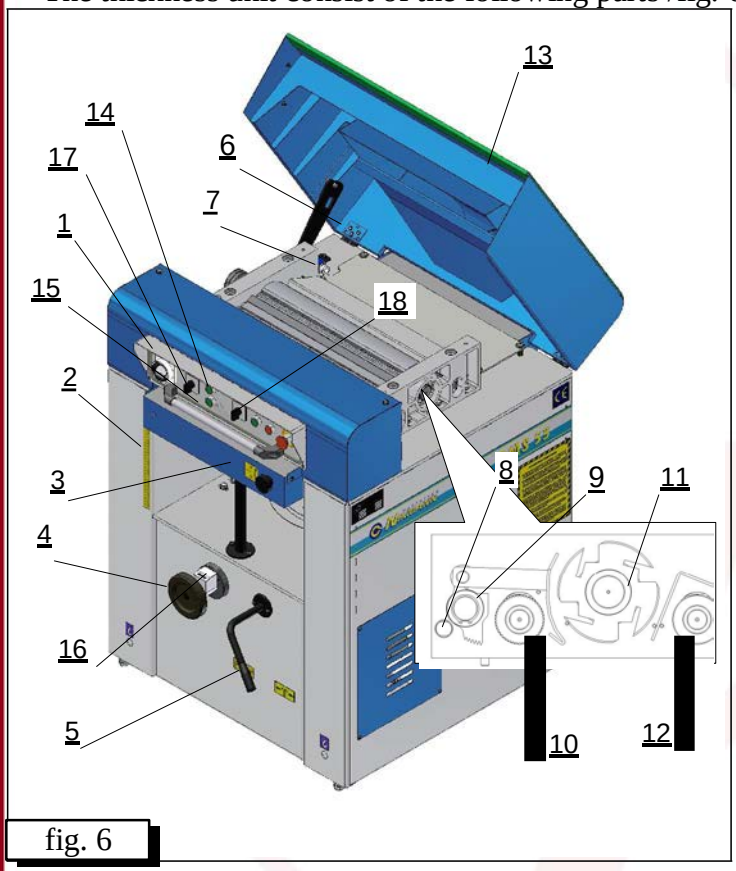


fig. 6

1. Control board
2. Scale
3. Thicknessing planer desk
4. Automatic lifting device
5. Fixing lever
6. Hinge
7. Locker
8. Max. shavings restricting device
9. Protective jaws against backlash
10. Feeding roller
11. Cutter drum
12. Outfeed roller
13. Shavings collector
14. Button “Desk up”
15. Button “Desk down”
16. Digital indication of desk position
17. Feed-in switcher
18. Switch “Y - ”

Adjustment of the thicknessing planer machines /fig. 6/

ATTENTION

Before adjusting the machine to work as a thicknessing planer it will be necessary to close the shavings collector 13 and fixed with the screws and to switch off the main engine fro the control board 1.

- With the help of buttons 14 and 15 and depending on the direction in which you wish to adjust the desk of the thicknessing planer 3 to the desired thickness shown on scale 2 or on the digital indicator 16, fixed on the hand wheel 4. Using the hand wheel you can adjust the desired height with absolute accuracy.

INFORMATION

The adjustment of the desk to the desired height is always performed down-upwards to guarantee against loosening.

- After adjusting to the desired material thickness, block the thicknessing planer with the fixing lever 5.
- Switch on the main motor and select the speed of the feed-in of material with switch 17.

ATTENTION

Before processing on the thickness machine the piece must be smoothed (set straight).

- The element is placed on the table with the smoothened side on the desk and is pushed to the cutter drum 10.
- A hand lever is inbuilt for adjusting the height of the feeding rollers of the desk. The movement is 1 mm.

ATTENTION

- With workpieces having different thickness at the two ends, the thicker end is fed first to avoid jamming
- If adjustment has been made for a chip bigger than 8 mm, the workpiece cannot be fed to the machine because the limiter 8 does not allow for this.
- The removal of a thicker layer can be made with a few passes
- If the workpiece gets jammed and does not move, then the thickness of the chip should be decreased – the table is lowered at about 1 mm. The last chip has to be about 2 mm to get a well machined surface
- The table of the machine has to be cleaned regularly
- The resin should be cleaned with cloth moistened with turpentine
- Do not coat the table with oil or grease. They soak into the wooden piece and make it unfit for sticking, staining or polishing.
- For workpieces with length bigger than the maximum one, roller supports or table extensions should be used
- Observe the dimensions of the details according to item D of the maintenance manual.

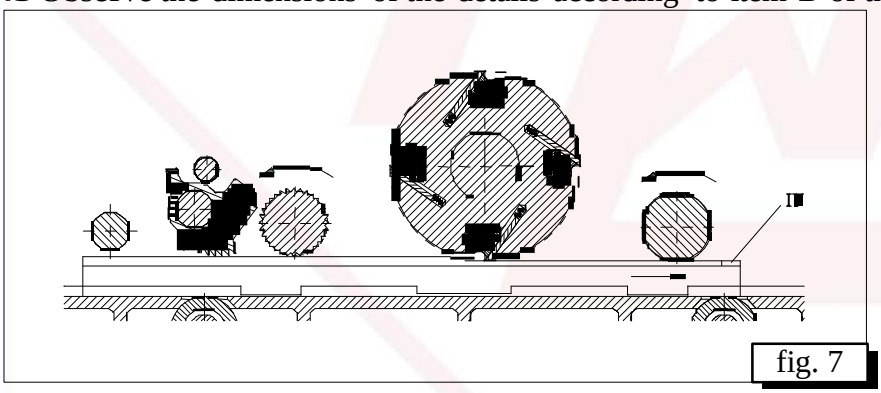


fig. 7

- For working of details with thickness less than 5 mm, a plank worked on the thickness machine can be used. The workpiece is placed on it and it moves together with it thanks to the safety stop IV /fig. 7 /
- The safety stop should not be attached to the plank with nails or other solid fixtures
- Check the workpieces for defects / e.g. nails, free knots, cracks and other objects /
- Avoid working of pieces with a length less than 300 mm, because they cannot be transported well by the machine rollers.

D.2. CONTROL PANEL

Operation functions

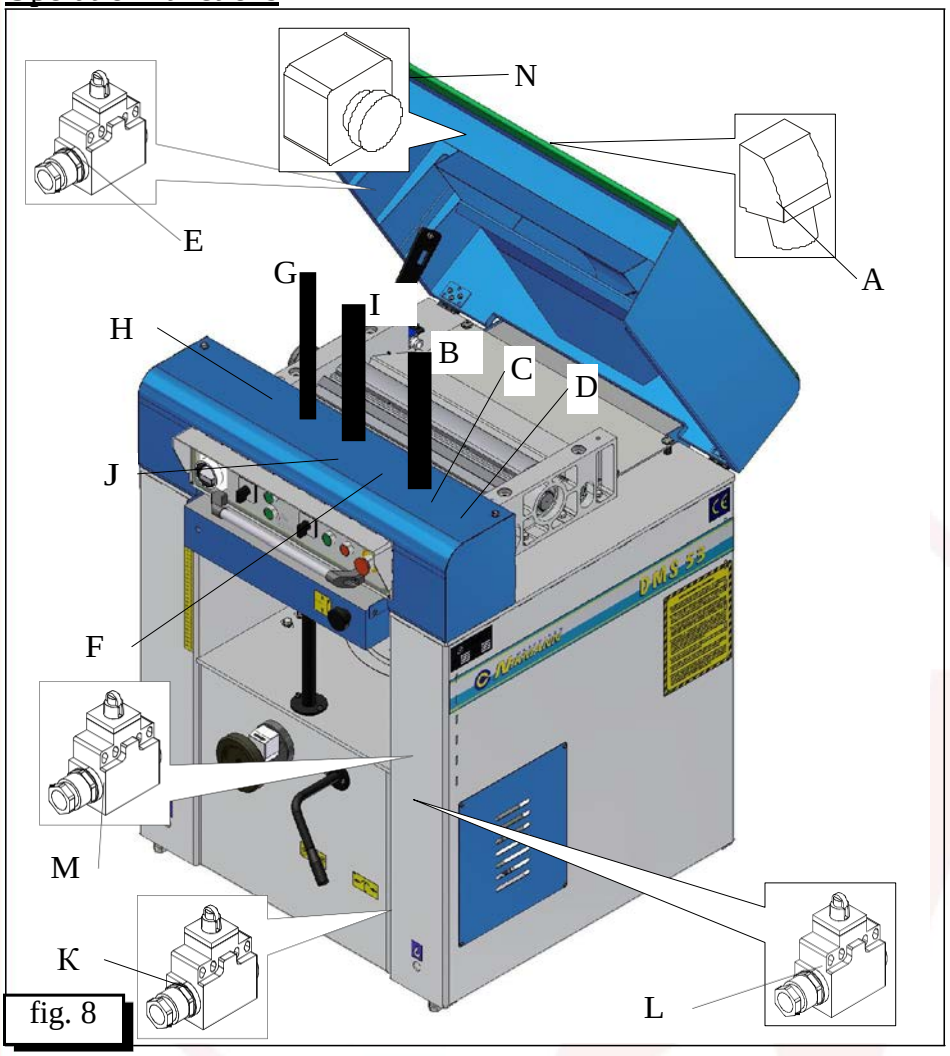


fig. 8

A-CEE socket /3P+N+E; 380V;16A/
It serves to connect and disconnect the machine fro the electricity mains via the CEE coupling.
B – Green button
Prepares the machine for switch on. Press.
C – Red button
Switches the machine off. Press.
D, N – "Emergency Stop" button, used for normal and emergency switch off. Remains self-pressed down. Freed and depressed after turning clockwise or pulling upward. If pressed down the machine cannot be started.
E – End switch off.
Blocks the machine from switch on if the shavings collector is opened.
F – Switch "Y - " – Serves to start the machine. Activated by turning, where in position "0" the machine is switched off. Position "Y" gives a short machine switch on. In position " " the machine is switched on.
G – Switch – Changes the speed of the feeding rolls (8 or 16 m/sec). Activated by turning, where position "0" is "feed switched off". Positions "1" and "2" switch to speeds of 8 and 16 m/sec respectively.
H - Main switch – Switches off and on the main electricity supply to the machine. Can be locked in position "0" to guarantee against accidental switch on. Activated via turning. Position "1" – ON, position "0" – OFF.
I – Green button – "Move the desk upward". Activated by pressing.
J - Green button – "Move the desk downward". Activated by pressing.
K,M – End switch - Serves to block the movement of the desk when reaching extreme low or high position.
L – End switch – Block the movement of the desk when it is blocked with the fixing lever.

D.3. STARTING

ATTENTION

- Before starting the machine check all the protection systems and gear for functionality.
- Closely follow the safety instructions given for operating this machine.

Starting the machine is performed as follows:

1. The main switch H is placed in position "1".

2. The switch G is placed in position “0”.
3. The switch F is placed in position “0”.
4. The green button B is pressed and the indicator lamp under it is activated.
5. The switch F is placed in position “Y” until the motor reaches maximum speed.
6. The switch F is placed in position “ ”.

The switch G is used to select speed, where position “1” or position “2”.

Do not leave the main motor in operational regime “Y” for longer periods of time.

D.4. STOPPING

Normal stop

To stop the machine press the red button C, which activates the dynamic brake of the motor.

Emergency stop

The emergency stop is executed by pressing one of the emergency stops, D or N, which activate the dynamic brake of the motor.

The machine must not be stopped from the main switch H and the switch F, because the dynamic brake of the motor then cannot be activated

SECTION E: DESCRIPTION OF MACHINE

E.1. TECHNOLOGICAL PART

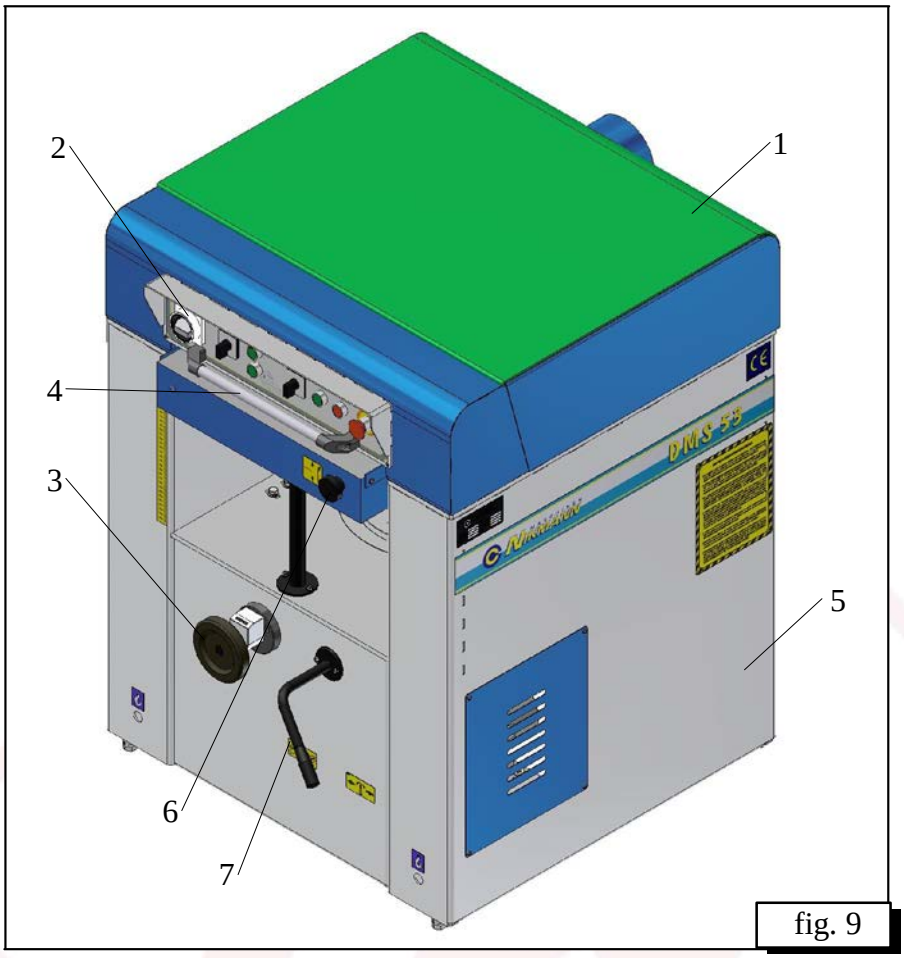


fig. 9

The machine is produced by the following main components /fig. 9/:

1. Chip collector
2. Control panel
3. Handle wheel
4. Handle
5. Body
6. Board of the thickness machine
7. Locking lever

The machine can perform the following operations:

1. Smoothing at specific thickness

Smoothing at specific thickness

This operation is carried out on the unit ”thickness machine”.

- The piece is placed with the preliminary smoothed side on machine's board.
- The processing is carried out on the upper side by means of the horizontal rotating cutting shaft.
- The distance between the circle of cutting and the upper surface of machine's board may be adjusted.
- The feeding is effected automatically through the driven feeding and pulling rollers.
- The processing is carried out along the whole length of the piece.

ATTENTION

- DO NOT operate the machine for processing of only part of piece's length.
- Pieces with sections that could not be fixed by the reverse hit grabs during operation of the thickness machine MAY NOT BE PROCESSED ON THIS MACHINE.

Machine's operator will be the only liable person for injury of personnel or damages of the machine, occurred as a result of processing of other materials.

E.2. ELECTRICAL PART

The machine is equipped with:
- electronic brake for the electro-dynamic stopping of the motor;
- electric off-switch form blocking the machine's start when shavings collector is opened;
- off-switch for blocking the movement of the planer's desk;
- thermal protection of the motor;
- connector with CEE – socket for electricity power supply t the machine;
- the electrical components have been protected against dust and moisture as per IP 54;
- emergency stops for the feed and discharge devices of the machine;

SECTION F: MAINTENANCE

F.1. CLEANING OF MACHINE

The general (complete) cleaning will guarantee long life of the machine and is one of safety factors.

WARNING

Before starting any cleaning, adjusting or dismounting of parts from the machine it is necessary to stop it, put a warning sign for the outsiders in the enterprise and lock the cap of the starter with a padlock.

After each working shift clean thoroughly the machine and all the components, aspirate the dust and the chips by means of the aspiration device and remove all other remainders by compressed air.

At least once every 6 months or every 500 operating hours remove the side covers in order to get full access for cleaning of the internal components.

F.2. LUBRICATION OF MACHINE

In order to remove the dust and chips, clean once per 500 hours by means of soft brush all belts.
Clean thoroughly the machine by strong jet of compressed air and lay a thin layer of oil or grease on all machine's mobile parts.
Protect the belts and pulleys in order to avoid possible soiling by oil or grease.

F.3. CHECKING THE CONDITION OF SOME UNITS AFTER OPERATION

Before starting any maintenance works on the machine disconnect the electric supply, unplugging it from the mains.

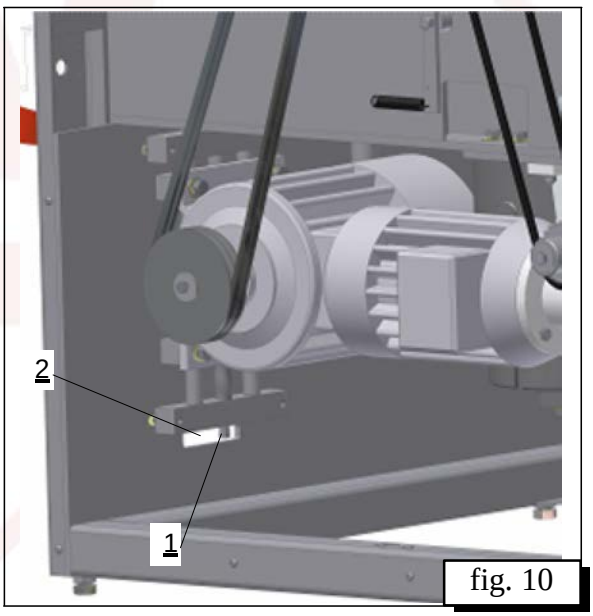


fig. 10

F.3.1. Drawing of belts

- After the first 10 working hours you should check the belts and if necessary – to strain them (fig. 10). This is releasing with remove the rear cover or the groove 2 and with the bilateral wrench tightening the lever 1.

WARNING

- Do not pull the belts with too much strength in order to prevent damages on the bearings and overheating.
- At least once per month check the tension of the belts and the chain and if necessary, stretch them additionally.

At every six months it is necessary to check up stretching of the driving belts again.
The belts must not be stretched much strongly to not overload bearings.
Much strong stretching leads to lengthening of the belts and its fast wearing out.
Pollution of the belts with oil, lubricant, solvent, paint etc., must be avoided.
The driving belts and channels of belt pulleys are clean and dry with soft brush only and woolen or paper towel.
Never use solvent and water.

F.3.2. Control of the electronic brake for electrodynamics stopping of engine

The machine has electronic brake for electrodynamics stopping of engine.
The time for full stopping of the tool turning must not surpass 10 seconds from switching of the engine.
This stopping time must be controlled every month.
If it is more than 10 seconds electrician must check up the brake.
The frequency of the switching on of this brake must be most 10 for on hour.

F.3.3. Grabs for protection against reverse hit of the piece

Each specific grab after turning upward must return in lower initial position under the impact of its weight only.
Grabs' teeth should be always sharp, otherwise there is risk of increased danger from reverse hit.
The grabs soiled with resin or grabs moving hardly should be cleaned by means of brush and turpentine, moved forth and back and get dried by jet of compressed air.
If there are damaged grabs, they must be replaced by ones in good condition.

Removal from operation, storage – disassembly (rejection) of the machine

Switch off all electrical equipment during removal of the machine.
Provided the machine would not be use for some time, after switching off of all electrical equipment, clean it thouroughly and process the operation board, the shaft of the circular disk and the other unpainted parts by roof-protection product.
You should not store the machine in damp places and must protect it from environmental effects.
The machine is produced by non-toxic and safe materials. Upon rejection divide the metal and plastic parts and smash them afterwards.

Emergency situations /states/

Switch off the electric supply immediately in case of flood of the operation area.
Before re-operation of the machine, it must be checked by trained authorized technician.
Switch off the electric supply in case of fire and use fire extinguishers.
Direct the jet to the base of the flame.
Before re-operation of the machine, it must be checked by trained authorized technician.
The operation area around the machine (please refer to Section C.1.) must always be unoccupied.
You must not operate the machine in environment presenting danger of explosion.

F.4. TROUBLE-SHOOTING

Before starting any repair works switch off the electric supply of the machine.

The machine has been tested in the production plant and you can freely operate it.
The incorrect and out of function use of the machine may result in damages.

Fault: *The machine does not start.*	
Reason: - No voltage in the electric mains.	Repair: Check whether the three phases are under tension. Check all options: L1-L2, L1-L3, L3-L2

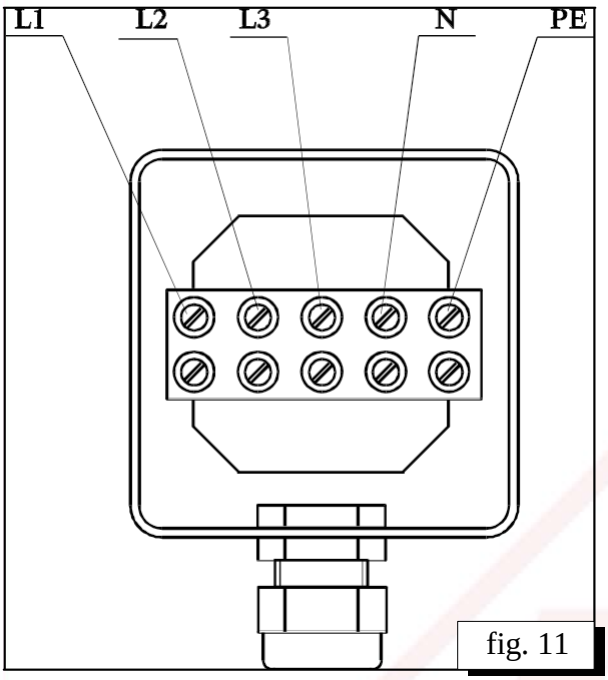


fig. 11

fig. 11.

If there is not tension at all the 3 cases, it means that there is no voltage in the electric mains.

-If, for instance, there is not voltage between L1-L2 and L3-L2, the reasons are:

-lack of one phase in the supply device

-damaged fuse in the distribution box of the supply device

-loosen cable L2 .

Fault:

The machine stops during operation.

Reason:

- overheating of the motor, its thermoswitch has disconnected the supply (incorrect use of the machine – overload).

-belt tightened insufficiently.

- warn belts touching the bottom of the grooves of the belt washers.

Repair:

- Switch off completely the machine. Wait the motor to cool down. Operate again the machine by pressing the green knob.

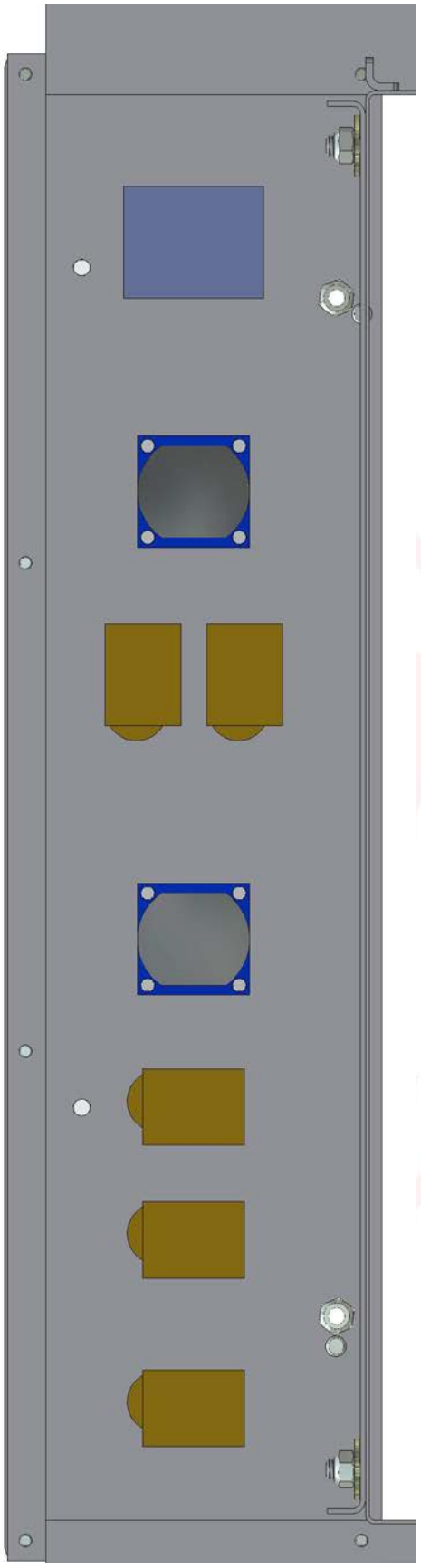
- Pull additionally the belts.

- replace the belts by new ones after you have previously cleaned up the grooves of the belt washers.

SECTION G: APPENDICES

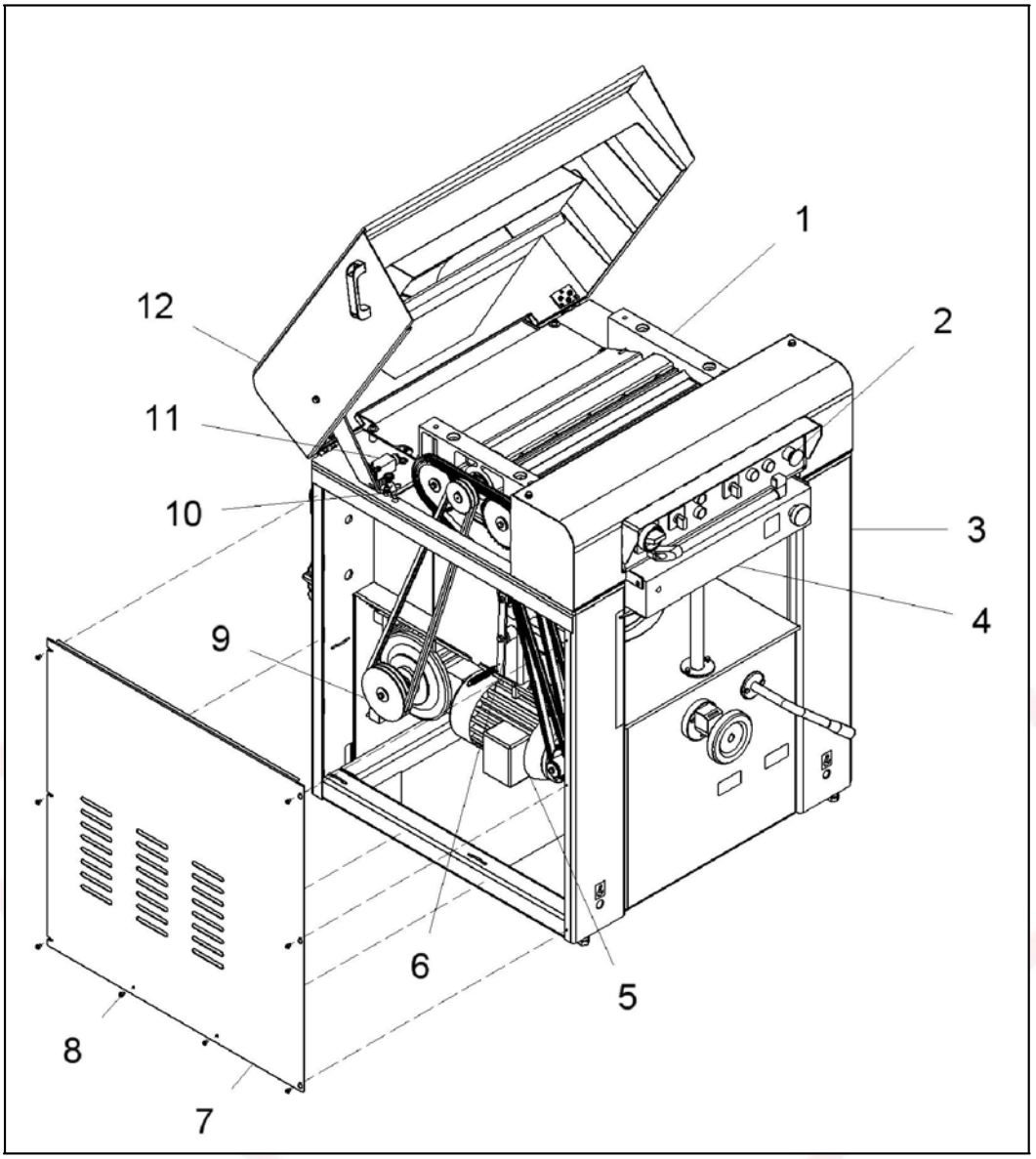
G.1. WIRING DIAGRAM

G.2. LIST OF ELECTRICAL ELEMENTS



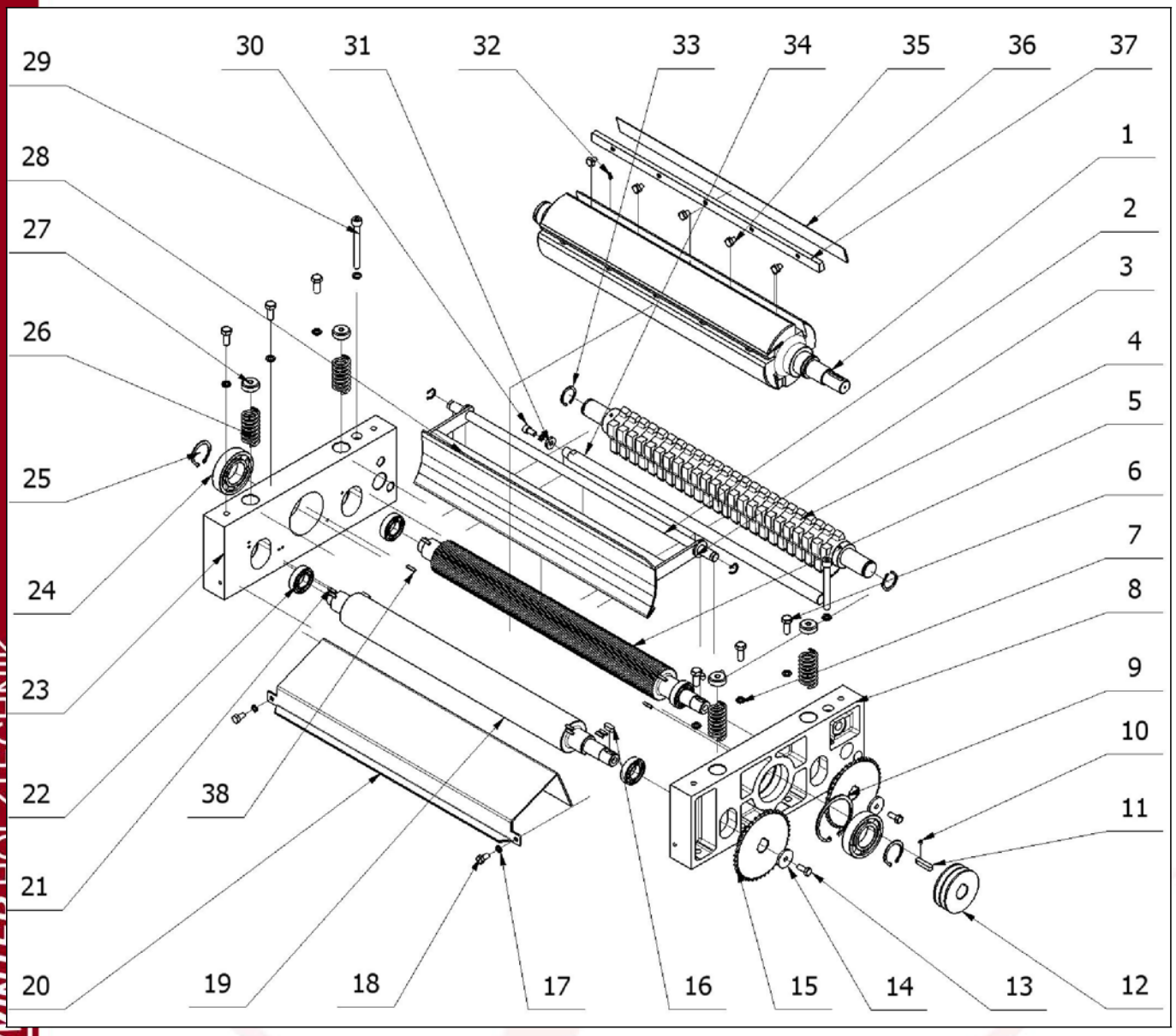
SECTION H: CATALOGUE OF SPARE PARTS

Order: Ref. No. - Denomination – Number
Example: DMS 53.00.00.12 – REAR COVER – 1 psc.



DMS 53.00.00.00 THICKNESS MACHINE

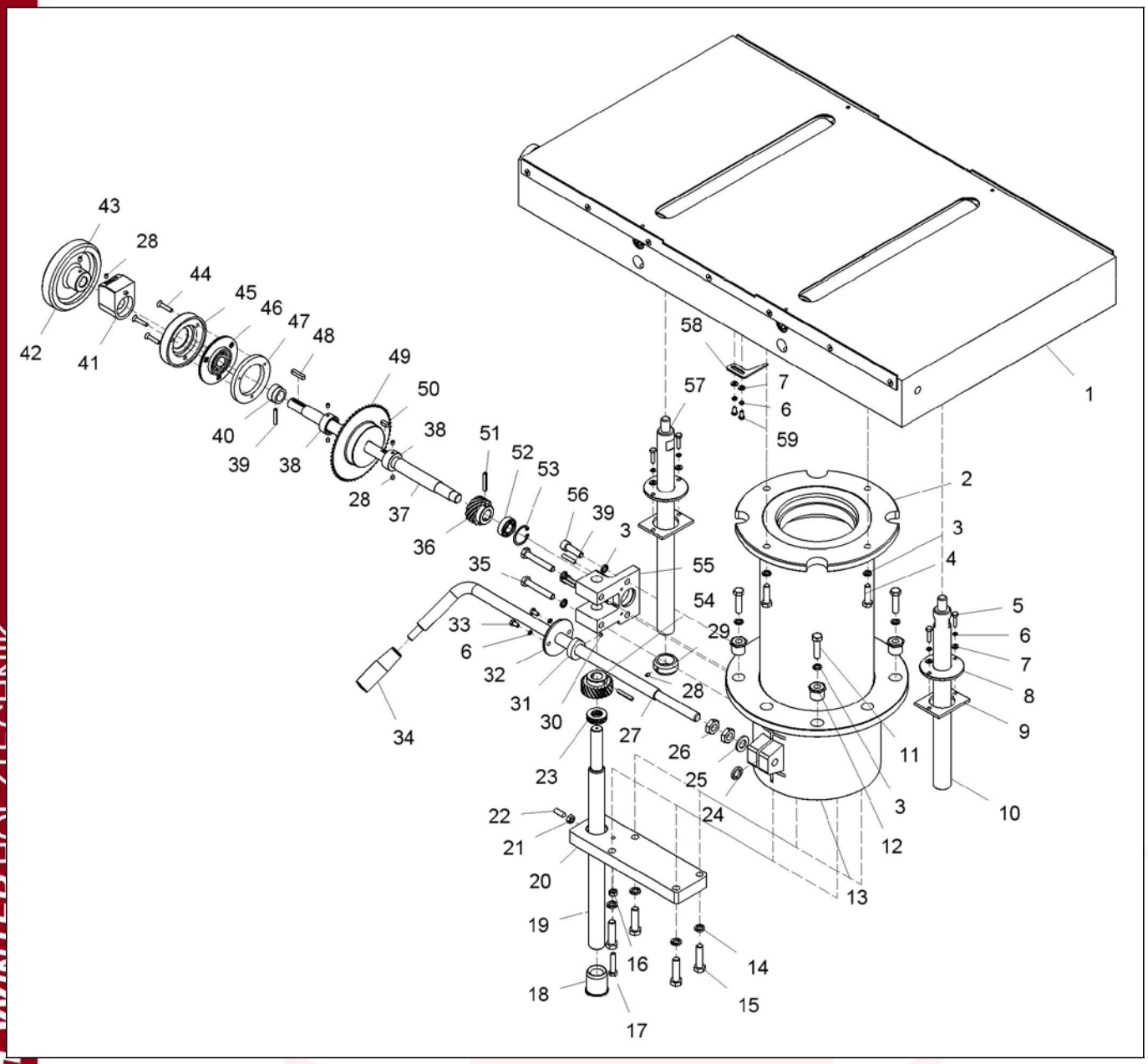
№	DESCRIPTION	DENOMINATION	NUM-BER
1	DMS 53.01.00.00.00	CUTTER SHAFT SET	1
2	DMS 53.10.00.00.00	ELECTRICITY EQUIPMENT	1
3	DMS 53.05.00.00.00-01	CORPS	1
4	DMS 53.02.00.00.00-02	DEVICE FOR RAISING THE WORKING DESK	1
5	DMS 53.06.00.00.00	MOTOR - REDUCER	1
6	DMS 53.07.00.00.00	DEVICE FOR TIGHTEN THE CHAIN	1
7	DMS 53.00.00.00.12	REAR COVER	1
8	ISO 7380	SCREW M 6X 8	8
9	DMS 53.08.00.00.00	MAIN GEAR	1
10	DMS 53.03.00.00.00-01	LOCKER	1
11	DMS 53.13.00.00.00	SWITCH	1
12	DMS 53.09.00.00.00-02	SHAVINGS COLLECTOR	1



DMS 53.01.00.00 CUTTER SHAFT SET

1	DMS 53.01.00.00.16	CUTTER SHAFT	1
2	DMS 53.01.00.02.00	RESTRICTING DEVICE	1
3	DIN 125A	WASHER AM16	2
4	DMS 53.01.00.06.00	TOOTING SHIELD	1
5	DMS 53.01.00.00.07	TOOTING SHAFT	1
6	DIN 931	BOLT M10 X 25	6
7	DIN 7980	SPRING WASHER 2 – 10H	8
8	DMS 53.01.00.00.09	BEARING BODY	1
9	DIN 472	RING FOR HOLE ø 80	1
10	DIN 914-45H	STOPPING SCREW M 6X8	2
11	DIN 6885A	COTTER 8 X 7 X 36	1
12	DMS 53.01.00.00.11	BELT PULLEY	1
13	DIN 931	BOLT M 8 X 20	2
14	DM2 501.01.00.00.17	FRONTAL WASHER	2
15	DM2-501.07.00.00.25	CHAIN GEAR Z=42	2
16	DIN 6885A	COTTER 8 X 7 X 20	2
17	DIN 7980	SPRING WASHER 2-8 H	3
18	DIN 931	BOLT M 8 X 16	2
19	DMS 53.01.00.00.10	SMOOTH SHAFT	1
20	DMS 53.01.00.00.32	SCREEN	1
21	DIN 1481	SPRING PIN Ø 5 X 16	8
22		RADIAL BALL BEARING 6005 – ZZ	4
23	DMS 53.01.00.00.18	BEARING BODY	1

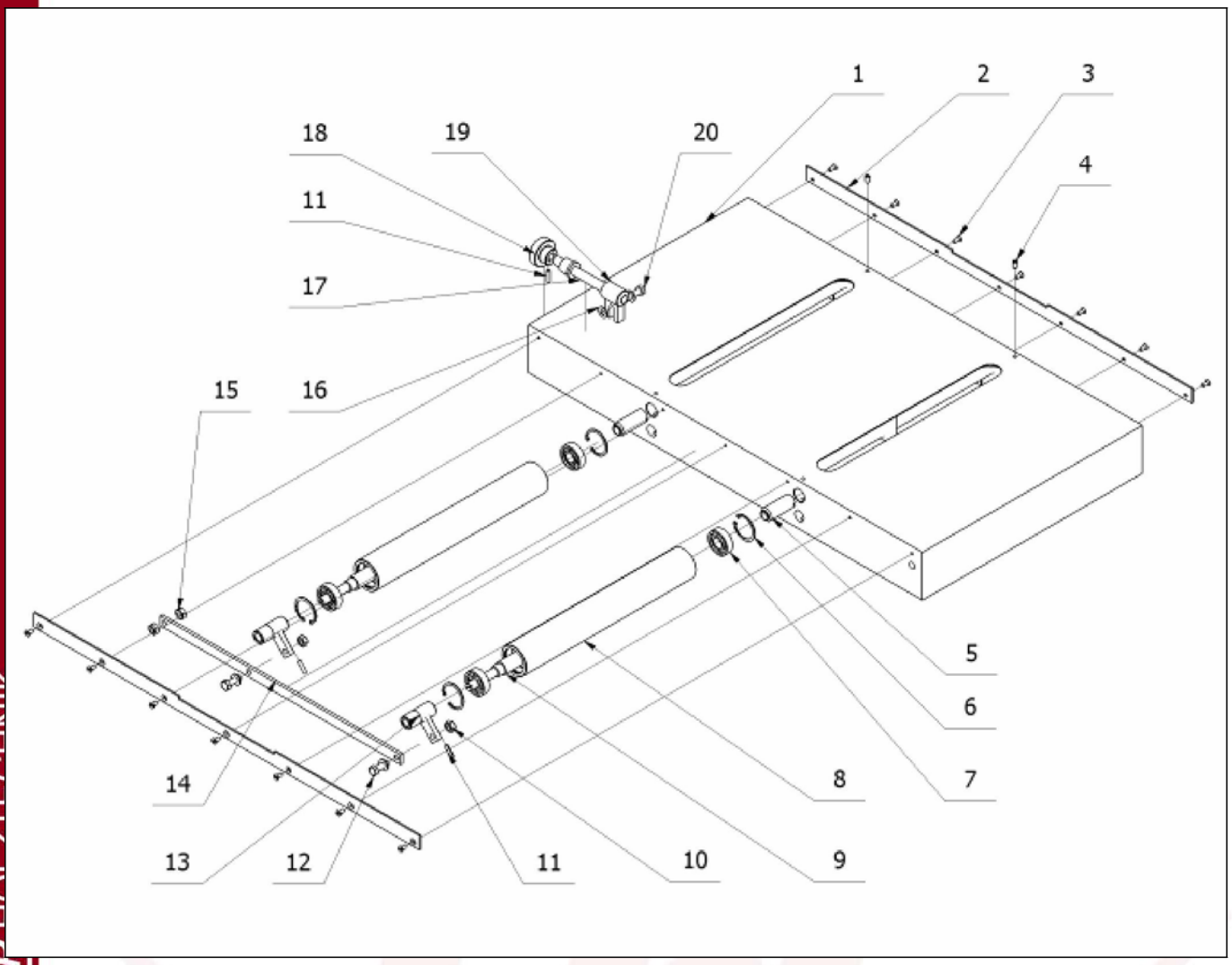
24		RADIAL BALL BEARING 6208 – ZZ	2
25	DIN 471	RING FOR SHAFT Ø 40	2
26	DM2 501.01.00.00.14	SPRING	4
27	DM2 501.01.00.00.15	PRESSURE PLUG	4
28	DMS 53.01.00.24.00	CURTAIN	1
29	DIN 912	SCREW M 10 X 90	2
30	DIN 912	SCREW M 8 X 16	1
31	DIN 7349	WASHER M 8	1
32	DM5-401.20.60.05	SPRING	8
33	DIN 471	RING FOR SHAFT Ø 30	2
34	DMS 53.01.00.00.03	SHAVINGS RESTRICTOR	1
35	DM2-501.01.00.11.04	FIXING BOLT	20
36	DMS 53.01.00.00.20	CUTTER	4
37	DMS 53.01.00.00.19	PRESSING COTTER	4
38	DIN 1481	SPRING PIN Ø 5 X 18	4



DMS-53.02.00.00.00-02 RAISING THE WORKING DESK

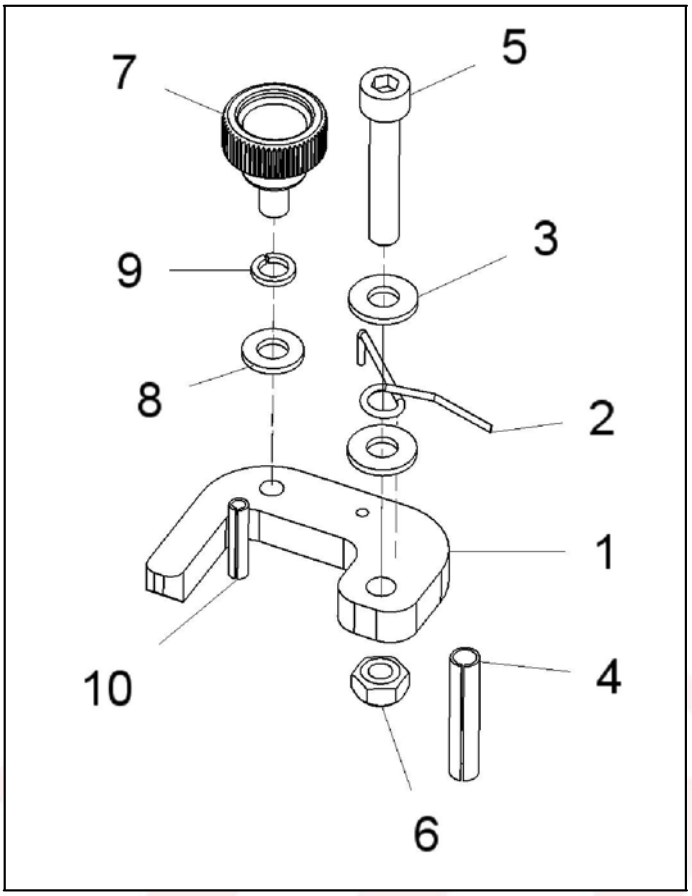
1	DMS 53.02.20.00.00-01	THICKNESSING DESK WITH ROLLERS	1
2	DMS 53.02.00.00.26-02	PINOLE	1
3	DIN 7980	SPRING WASHER 2-10H	12
4	DIN 933	BOLT M10X35	4
5	DIN 933	BOLT M6X25	4
6	DIN 7980	SPRING WASHER 2-6H	8
7	DIN 125 A	WASHER AM 6	6
8	DMS 32 02.00.00.17	FLANGE	2
9	DMS 32 02.00.00.14	PLATE	2
10	DMS 53.02.00.00.28	GUIDING AXLE	1
11	DIN 931	BOLT M10X40	4
12	DM5-401.31.00.48	BOLT HOLLOW	4
13	DMS 53.02.00.00.30	LEADING CYLINDER	1
14	DIN 7980	SPRING WASHER 2-12H	4
15	DIN 931	BOLT M12X45	4
16	DIN 934	NUT M8	1
17	DIN 933	BOLT M 8X40	1
18	DPM 250.02.10.29-02	NUT Tr28x5	1
19	DMS 53.02.10.00.04	SCREW	1
20	DMS 53.02.10.00.01-02	LOWER CONSOLE	1

21	DIN 934	NUT M8	1
22	DIN 914	FIXING SCREW M 8X25	1
23		AXIAL BEARING 8104	1
24	DIN 7980	SPRING WASHER 2-16H	1
25	DIN 125 A	WASHER AM16	1
26	DIN 439B	NUT M16	2
27	DMS 53.02.00.00.04	HANDLE LEVER	1
28	DIN 914	FIXING SCREW M 6X8	7
29	DMS 53.02.00.00.16	BUSHING CAM	1
30	DIN 914	FIXING SCREW M 6x6	1
31	DMS 53.02.00.00.17	CAM	1
32	DMS 53.02.00.00.01	FLANGE	1
33	DIN 933	BOLT M6X12	2
34	GN519-28-M12	HANDLE	1
35	DIN 931	BOLT M10x65	2
36	DM5-401.31.10.08	GEAR WHEEL Z=11	1
37	DMS 53.02.10.00.03-01	SHAFT	1
38	DMS 53.02.00.00.35	LIMITED BUSHING	2
39	DIN 1481	SPRING PIN ø6x30	3
40	DM5-401.30.00.07	RING	1
41		COUNTER GN 952-0002.5-AN	1
42	DMS 53.02.00.00.27	FLYWHEEL	1
43	DIN 914	FIXING SCREW M 6X10	1
44	DIN 7991	SCREW M 6X30	3
45	DMS 53.02.00.00.44	BUSHING FOR COUNTER	1
46		BEARING 76204.2RSR	1
47	DMS 53.02.00.00.53	COVER-NUT FOR COUNTER	1
48	DIN 6885A	COTTER 6X6X30	1
49	DMS 53.02.00.00.15	CHAIN GEAR Z=57	1
50	DIN 6885A	COTTER 6X6X16	1
51	DIN 1481	SPRING PIN ø6x36	2
52		RADIAL BALL BEARING 6003-ZZ	1
53	DIN 472	RING FOR HOLE ø35	1
54	DM5-401.31.10.11	GEAR WHEEL Z=22	1
55	DMS 53.02.10.00.02-01	UPPER CONSOLE	1
56	DIN 912	SCREW M10X35	2
57	DMS 53.02.00.00.19	GUIDING AXLE, LONG	1
58	DMS 53.02.00.00.31	ARROW	1
59	ISO 7380	SCREW M6X12	2



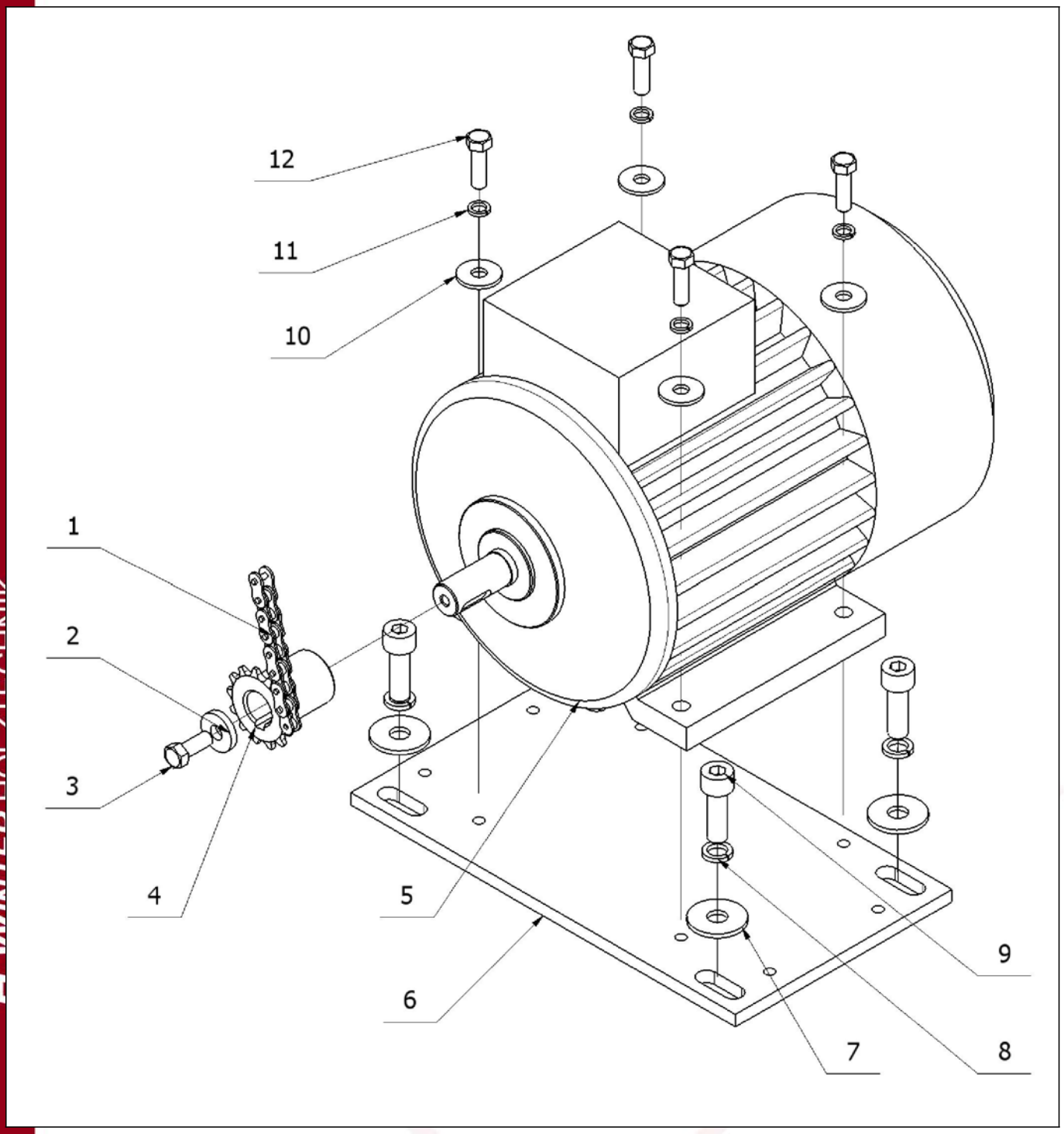
DMS-53.02.20.00.00 THICKNESSING PLANER DESK WITH ROLLERS

1	DMS 53.02.20.00.01	PLANER DESK	1
2	DMS 53.02.20.00.19	DIRECTING ROD	2
3	DIN 963 A	SCREW M 6 X 10	14
4	DIN 914	STOPPING SCREW M 6 X 16	2
5	DM2-501.08.22.00.07	ECCENTRIC PLUG	2
6	DMS 53.02.20.04.00	ROLLER	2
6	DIN 472	RING FOR HOLE Ø 47	2
7		RADIAL BALL BEARING 6204-ZZ	2
8	DMS 53.02.20.04.04	ROLLER	1
9	DMS 53.02.20.04.01	AXLE	1
10	DIN 985	NUT M10	3
11	DIN 1481	SPRING PIN Ø 6 X 24	3
12	DIN 931	BOLT M 10 X 30	2
13	DM2-501.08.22.22.00	LEVER	2
14	DMS 53.02.20.00.14	ROD	1
15	DIN 934	NUT M10	1
16	DIN 125A	WASHER AM10	4
17	DMS 53.02.20.00.09	SCREW	1
18	DMS 53.02.20.00.21	HAND GRIP	1
19	DM2-501.08.22.19.00	FORK	1
20	DIN 931	BOLT M 10 X 45	1



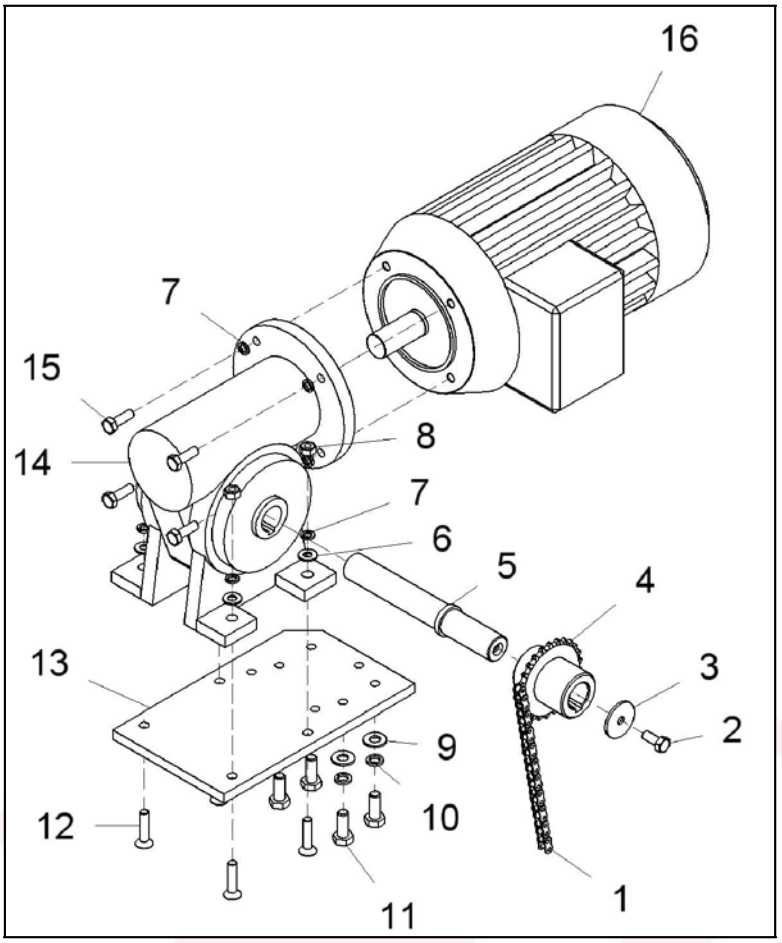
DMS 53.03.00.00.00-01 LOCKER

1	DMS 53.03.00.00.01	LOCKER	1
2	KSM3000.06.00.20	SPRING RIGHT	1
3	DIN 134	WASHER M 6	2
4	DIN 1481	SPRING PIN ø6x30	1
5	DIN 912	SCREW M 6X35	1
6	DIN 985	NUT M 6	1
7	H766-21 M06x10	HANDLE M6X10	1
8	DIN 125 A	WASHER AM 6	1
9	DIN 7980	SPRING WASHER 2-6H	1
10	DIN 1481	SPRING PIN ø4X18	1



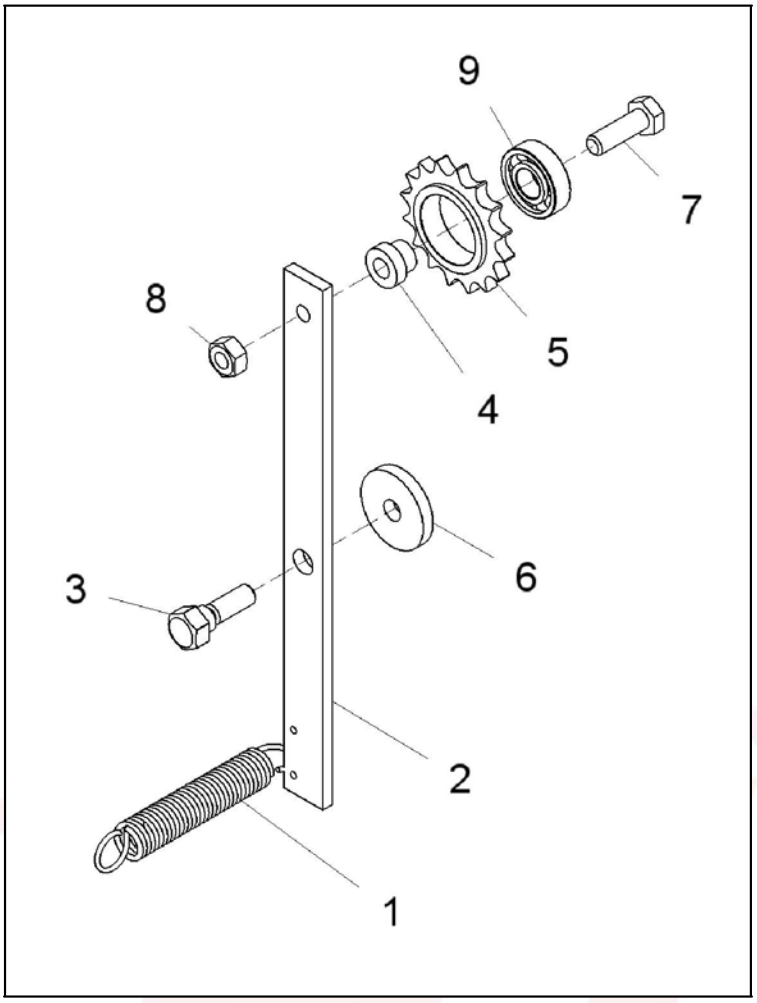
DMS 53.04.00.00.00 MECHANISM FOR THE MECHANICAL LIFTING OF THE DESK

1		CHAIN 05B-1	1
2	DIN 7349	WASHER M6	1
3	DIN 931	BOLT M 5 X 16	1
4	DMS 53.04.00.00.01	CHAIN WHEEL Z = 13	1
5	AT71-B6	EL. MOTOR 0,25KW; 1000 RPM;B3	1
6	DMS 53.04.00.00.02	CARRYING PLATE	1
7	DIN 9021A	WASHER AM8	4
8	DIN 7980	SPRING WASHER 2-8H	4
9	DIN 912	SCREW M 8 X 25	4
10	DIN 9021 A	WASHER M6	4
11	DIN 7980	SPRING WASHER 2-6 H	4
12	DIN 931	BOLT M 6 X 20	4



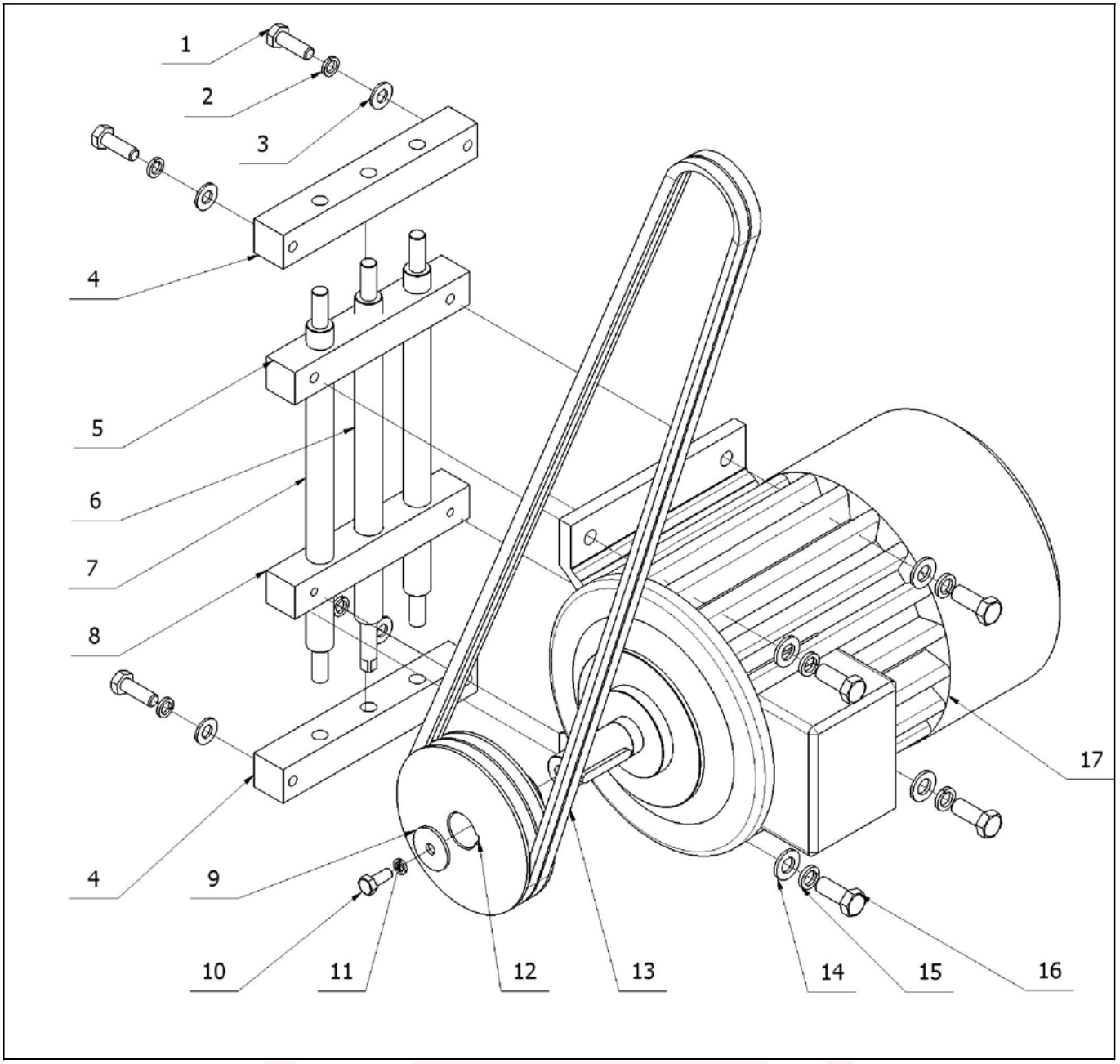
DMS 53.06.00.00.00 MOTOR - REDUCER

1	06B-1	CHAIN t=9.525	1
2	DIN 933	BOLT M 8x20	1
3	UN 732	WASHER Φ 8.4XΦ35X2,5	1
4	FS41N.29.00.26	CHAIN GEAR z=25	1
5	FS41N.29.00.00	SHAFT REDUCER	1
6	DIN 125A	WASHER M8	4
7	DIN 7980	SPRING WASHER 2-8H	8
8	DIN 934	NUT M8	4
9	DIN 125 A	WASHER AM 10	4
10	DIN 7980	SPRING WASHER 2-10H	4
11	DIN 931	BOLT M10X25	4
12	DIN 7991	SCREW M 8X35	4
13	FS41N.05.00.30	INTERMEDIATE PLATE	1
14	VF 63 P90 B14	WORM REDUCER WITH FLANGE	1
15	DIN 933	BOLT M 8X25	4
16	T90L-B14_F115	MOTOR	1



DMS 53.07.00.00.00 DEVICE FOR TIGHTEN THE CHAIN

1	DM5-401.20.00.60	SPRING	1
2	DMS 53.07.00.00.01	LEVER	1
3	DM5-321.20.00.55	BOLT SPECIAL	1
4	ADM 410.20.00.71	BUSHING	1
5	ADM 410.20.00.86	CHAIN GEAR	1
6	DMS 41 07.00.00.02	WASHER	1
7	DIN 933	BOLT M 8X25	1
8	DIN 934	NUT M8	1
9		RADIAL BALL BEARING 6001-ZZ	1



DMS 53 08.00.00.00 MAIN DRIVER

1	DIN 931	BOLT M 10 X 30	4
2	DIN 7980	SPRING WASHER 2 – 10 H	4
3	DIN 125A	WASHER AM10	4
4	DM5-401.20.40.06	HOLDER	2
5	DM5-401.20.40.04	CARRIER	1
6	DMS 53.08.01.00.05	SCREW	1
7	DMS 53.08.01.00.02	AXLE	2
8	DM5-401.20.40.01	CARRIER	1
14	DIN 125A	WASHER AM12	4
15	DIN 7980	SPRING WASHER 2 – 12 H	4
16	DIN 931	BOLT M 12 X 30	4
9	UN 732	WASHER Ø9 X 35 X 2,5	1
10	DIN 931	BOLT M 8 X 20	1
11	DIN 7980	SPRING WASHER 2 – 8H	1
12	DMS 53.08.00.00.03	BELT PULLEYT112	1
13		WEDGE BELT XPZ 10 X 8L=1750	2
17	T112MB-2	ELECTRICAL MOTOR	1