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PRODUCT AND MAINTENANCE MANUAL

CORNER CRIMPING MACHINE

Model No. OMRM - 136





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1. INTRODUCTION

We congratulate you on acquisition of the high-quality equipment. Undoubtedly, you have made a correct and well-founded choice, production of our company is the highly reliable product corresponding to the European quality standards. The equipment is simple in usage, has high consumer properties and will serve you long.

User instruction contains the manufacturer states principles of work and machine use. Each operator, beginning to work on the machine should familiarise attentively with the instruction and understand it.

At correct operation and observance requests of the present instruction the manufacturer guarantees working capacity of the machine during a warranty period.

MANUFACTURER:



M.S.K. MOTOR KOMPRESÖR MAKINA SAN. TIC. LTD. STI. Nilufer Organize Sanayi Bolgesi 113. Sk. No: 23 Nilüfer Bursa Turkey 16140 Tel :+90 224 411 07 45 Fax :+90 224 411 07 49



Some operational characteristics of the machine may not be specified herein.



We have performed numerous checks to verify the information given herein. However, presence of some inconsistency is possible and complete conformance is not guaranteed.



The producer reserves the right to modify process of production and instructions.

2. SAFETY MEASURES

- 1. Operation of the machine shall be performed by the operator only.
- 2. Operate the machine only after you have thoroughly understood all the designations and definitions pertaining to safety.
- 3. The operator, who did not read or understand this manual, may not work on or operate this machine.
- 4. Knowledge and understanding of this manual is important to prevent injury to the operator and damage to third parties, animals, environment and machine itself.

Do not operate the machine without observing all the provisions mentioned above because such operation is undoubtedly dangerous!

2.1SYMBOLS USED IN THIS MANUAL

	Indication of information necessary to familiarize the user with the machine.
	Indication of necessity of consulting the manual before operating the machine.
	Indication of the safety guidelines to be observed in order to prevent possible damage to the machine.
4	Warning of high voltage present.
	Warning of possible injury and any kind of temporary damage.
	Warning of possible emergencies causing injury or death.
×	Indication of necessity to wear protective clothing
	Indication of necessity to wear hearing protection while operating the machine.
	Indication of necessity to wear eye protection while operating the machine.
	Indication of necessity to wear gloves while operating the machine.
	Warning of possible hand injury when it is jammed.
	Prohibitive sign. Do not touch. Dangerous.
	Warning to perform certain measures before servicing the machine.
	Warning of high temperature present.

2.2SAFETY INSTRUCTION

	ATTENTION! It is mandatory to read the manual and understand all rules and provisions.
	Keep the manual in a safe place. The manual shall be within easy reach in order to be consulted while servicing the equipment.
	The person performing the installation of the machine shall thoroughly read and understand this manual.
	The operator is prohibited to perform repairs in case of machine malfunction. The malfunction repair shall be performed by service professional only.
	The machine and its parts shall be protected from any external actions. Check the lubricator regularly and top off the oil if necessary.
	It is not prohibited to be under the machine during the loading and unloading.
	The machine shall be grounded. Operation without grounding is prohibited!
	Eye protection shall be used while machine operation.
	Hearing protection shall be used against the equipment noise.
	Gloves shall be worn while changing the discs.
	Only original spare parts shall be used.
	Take care of the control panel. Make sure that it is protected from any mechanical damage.
	Start-up of the equipment shall be performed only by the service professional. Start-up by any other person is prohibited.
	Equipment repairs shall be performed only by service professionals and only with genuine spare parts and consumables.
	Usage of the equipment for purposes other than its intended use may cause dangerous situations.
	Always pay attention and check what you do, do not start the machine operation without thinking. Operation of the machine is prohibited if you are tired or under influence of drugs, alcohol or medications. A minor inattention while operating the machine may cause major injuries.
4	Operation of the machine with damaged power cable is prohibited. The damaged cable shall be replaced as soon as possible.
R	Use special work clothes. Do not wear loose-fitting clothing or jewelry. Watch out for hair, clothing and gloves around moving parts. Loose-fitting clothing, jewelry or long hair may be caught in the moving parts of the machine.
	Power and air supply shall be switched off before performing any repairs or maintenance.
	Removal of protection components of the machine is prohibited. It shall be remembered that machine protection components are installed there to ensure the safe operation of the machine.

Avoid jamming your hands between profile fixing cylinders and moving parts of the equipment.
Do not open the protective covers until the machine is fully switched off.
Only one operator shall work with the machine.
The machine shall undergo regular maintenance and adjustment. Do not operate the machine if it is out of order.
Do not operate the machine in wet or damp environments.
Touching the heating plate of the machine in operation, as well as touching the plate when it is heated, is prohibited.

3. MACHINE DESCRIPTION

3.1GENERAL VIEW



Figure 3.1-1 General view

- 1. Corner crimping pedal.
- 2. Lock stop activation pedal.
- 3. Side stops.
- 4. Right crimping head.
- 5. Corner stop horizontal adjustment knob.
- 6. Corner stop vertical adjustment knob.
- 7. Left crimping head.
- 8. Pneumatic clamps.
- 9. Supports.
- 10. Lock stop.
- 11. Adjustment knob for lock stop travel limiter.

3.2TECHNICAL DESCRIPTION

- 2 universal knife-equipped, 3-axis adjustable heads
- pneumatic linkage-equipped clamps ensure synchronous head movement
- horizontal hydropneumatic retractable stop facilitates smooth profile movement and ensures their proper alignment and locking
- vertical pneumatic clamps ensure proper insertion and locking of the profiles in the machine
- knife-equipped head assembly ensures micrometric adjustment
- quick lock/unlock system ensures full adaptability of the machine to any kind of profile
- profile alignment with the help side stops
- hydropneumatic stop locking
- two pedal operation

3.3TECHNICAL SPECIFICATIONS

: 6–8 Bar
: 12 lpm
: 3100 kg*f
: 25 mm
: 60 mm
: 110 mm
: 140 mm
: 900 mm
: 850 mm
: 1225 mm
:380 kg

3.4PACKAGE CONTENTS

Machine	: 1 pc.
Side support with support leg	: 2 pcs
Air gun	: 1 pc.
5 mm blade	: 2 pcs.
6 mm blade	: 2 pcs.
Electrical panel key	: 1 pc.
Operator's manual	: 1 pc.
Technical data sheet	: 1 pc.
Warranty card	: 1 pc.
SPTA kit	
8 mm Allen wrench	: 1pc.
6 mm Allen wrench	• 1nc

6 mm Allen wrench	: 1pc.
5 mm Allen wrench	: 1pc.
½ - Ø8 adapter	: 1pc.
Ø8 hose	: 3 m
Hose clamp	: 2 pcs.

4. INSTALLATION

The equipment has passed factory operational tests of all mechanical and pneumatic assemblies. All materials and spare parts shipped from the factory were fully and thoroughly inspected before delivery to the transport operator.

Please check and inspect the equipment on take-over for any damage taken in transit.

4.1TRANSPORTATION DIRECTIONS

The machine is shipped in a special packaging. Pay attention to the leveling of the machine's position on the forklift's forks. Positioning the forks as close to the ground as possible provides balance and ensures good field of view for the forklift operator. The forks shall be adjusted for maximum spacing width and the machine situated in the center.

- Damage of the cables, cylinders, hoses, lubricator and control panel shall be avoided when loading the forklift.
- 2. Means of transport shall be appropriately sized for the machine.
- 3. Avoid hitting the machine while moving it.
- 4. The machine shall be moved by the forklift truck.

4.2REQUIRED WORKING AREA

To ensure high performance of the machine, it is recommended to place the machine in the shop while observing the manufacturer recommended clearances. Minimum top clearance between the topmost machine part and the ceiling is 2m.



Figure 4.2-1 Required working area

4.3INSTALLATION AND MOUNTING

Make sure the surface and base is even and strong. Make sure there is enough space around the machine for safe operation, servicing and turn.
Use level while installing the machine. When the machine is in balanced position then vibrations are decreased, it becomes simpler to operate, performance and performance quality are increased.
Air pressure shall be 6-8Bar. Thick hose prevents the pressure drop throughout the line. Moreover, moisture ingress shall be avoided to prevent pneumatic cylinders and valves breakage.
Warning: If air supply connection does not include dehumidifier then pneumatic valves are not subject to warranty service!

4.4INITIAL CONNECTION

- 1. Remove the packaging.
- 2. Position the machine on even horizontal surface.
- 3. Connect the air supply (6-8 Bar).
- 4. Check the lubricator oil level.

The initial connection shall be performed by the technical support service. The manufacturer assumes no liability for the damage caused by connecting the machine by personnel other than service department personnel.

Initial connection by the service department personnel

- Repair the malfunctions resulting from transport
- Check the leveling of the installed machine
- Check the electrical and air connections
- Switch the machine on
- Brief the operator
- Give directions on safety and maintenance

5. OPERATING PRINCIPLE

5.1MACHINE BASIC SETTINGS

The machine has been factory preset. Regular wear and tear of the mechanical parts and assemblies and profile system changes require changing of some settings. The necessary settings are indicated below.



Figure 5.1-1

- 1. Adjustment knob of lock stop travel limiter.
- 2. Horizontal adjustment knob of corner stop.
- 3. Vertical adjustment knob of corner stop.
- 4. Adjustment knob of top pneumatic clamp.
- 5. Adjustment knob of side stop.
- 6. Adjustment knob of clamping head travel.
- 7. Adjustment screw of crimping head.

5.1.1 ADJUSTMENT OF CRIMPING HEADS POSITION



Figure 5.1-2 5.1.1 Adjusting crimping head position



The operation is the same for both heads

- 1. Loosen the fixing bolts.
- 2. Turn the knob to achieve the desired position. Tighten the bolts (1) when operation is finished.

5.1.2 ADJUSTMENT OF CRIMPING HEADS POSITION



Figure 5.1-3 Adjustment of crimping heads position



The operation is the same for both heads

- 1. Loosen the fixing bolt.
- 2. Insert the allen wrench and turn until the head is in the desired position. Tighten the bolt (1) when operation is finished.

5.1.3 BLADE INSTALLATION

Blade is a rectangular steel bar used as a striking blade. The blade breaks through the aluminum profile walls driving them into the steel insert.



Figure 5.1-4 5.1.3 Blade installation



Fully disconnect the air supply before installing the blades!



The operation is the same for both heads

- 1. Loosen the fixing bolts by turning the wrench to direction shown by the arrow.
- 2. Install the blades. Tighten the bolts.
- 3. The installation groove is fitted with magnetic insert to facilitate the installation of the blades.

5.1.4 BLADES FABRICATION DRAWING



Figure 5.1-5 Blade installation groove. Crimping head top view



Figure 5.1-6 Blade base drawing



Figure 5.1-7 Blade base thickness

Recommended blade base thickness – 14 mm

Figure 5.1-8 Blade end view

1. Both edges contacting the profile shall be sharp.



Blade are made of steel tool (DIN 1.2379) with hardness 58 – 60 HRC, tempered in vacuum furnance with nitrogen.



Blades are fabricated for specific profile series!

5.1.5 ADJUSTING THE BLADES



Figure 5.1-9 Size "A"

The frame and leaf components are connected by inserts. The inserts connect only aluminum compartments – they are not inserted into heat barrier compartments.



Figure 5.1-10 Insert sample



When switching to another profile system, machine settings shall be changed.

 Place the insert into profiles cut at 45°, use caliper to measure "A" size.



 Mark the "A" size on both sides of the profiles.



Figure5.1-12

- 3. Bear the profiles against the corner stop.
- 4. Press the No.2 pedal. The lock stop and pneumatic clamps will lock the angle.
- 5. Press on the No. 1 pedal and trace the blade contact points.



Figure 5.1-13 Blade contact points

- While crimping, the blades shall slide exactly on the edge of the insert groove. The blade contact point shall correspond with the "A" size.
- In case the blade contact point does not match the "A" size, corner stop position shall be adjusted.



Figure 5.1-14

5.1.6 ADJUSTING THE CORNER STOP

- 1. Deactivate the lock stop by pressing pedal No.2.
- 2. Loosen the corner stop fixing bolts.



Figure 5.1-15

- Use the adjustment knob to set the desired corner stop position.
- 4. Tighten the corner stop bolts.



Figure 5.1-16

5. After each change of settings, adjustment of the side stops to new profile position is necessary.



Figure 5.1-17 Side stop

5.1.7 LOCK STOP ADJUSTMENT

- In order so the lock stop do not over squeeze the profile, travel limiter needs to be adjusted properly.
- 2. When properly adjusted, the lock stop equally bears against the profile and the limiter.



Figure 5.1-18



Figure 5.1-19

- Lock stop shall bear against the rigid edge of the profile.
- To adjust the lock stop height, insert the allen wrench and set the desired position.



Figure 5.1-20

5.2MACHINE CONTROLS



- 1. Corner crimping pedal
- 2. Lock stop activation pedal
- 3. Right crimping head
- 4. Left crimping head
- 5. Corner stop
- 6. Adjustment knob to set position of lock stop travel limiter
- 7. Right side stop
- 8. Left side stop
- 9. Lock stop
- 10. Left pneumatic clamp
- 11. Right pneumatic clamp
- 12. Middle pneumatic clamp

5.3SWITCHING THE MACHINE ON

The following conditions shall be present in order to make the machine ready to start.

- Air supply is connected (6 8 Bar)
- Lock stop is lowered and retracted
- Pneumatic clamps are raised
- Crimping heads are retracted



Before commencing the work, ensure the air pressure is not less than 6 Bar

Before pressing the pedal, ensure that there are no personnel (service personnel, etc.) in the proximity of the machine, who may suffer injuries from the moving parts of the machine; the operator shall exercise caution to ensure the safety of those nearby and around, who also shall be warned for the machine's operation.

The machine is ready for operation

- 1. Place the inserts in the profiles to form the corner.
- 2. Bear the corner against the corner stop.
- 3. Press pedal No. 2 then pedal makes the contact, lock stop rises, extends and clamps the corner against the corner stop, the pneumatic clamps fixing the corner.
- 4. Press and hold pedal No.1, crimping heads will crimp. After releasing the pedal, they will retract.
- 5. Press on the upper inside of the pedal No.2 to unlock the corner and then pneumatic clamps will rise; lock stop will retract and lower.
- 6. Operation is finished.



In order to achieve proper crimping of the profiles, all necessary settings must be properly configured. Ref. Hata! Başvuru kaynağı bulunamadı. Hata! Başvuru kaynağı bulunamadı.



Figure 5.3-3 Incorrect crimping

6. SERVICING AND LUBRICATING THE MACHINE

- 1. Before attempting to service the machine, fully disconnect the air supply.
- 2. Disconnect the air supply hose from the machine to fully switch off the air supply.
- 3. Perform the daily cleanup of the machine regularly.
- 4. Use the types of oil recommended by the manufacturer.
- 5. Check the lubricator frequently. If it is empty or near empty, fill it with required quantity of oil.
- 6. Removal and installation of the blades shall be performed by certified specialist.
- 7. If crimping force is insufficient, check the lubricator pressure.
- 8. The pressure required for the machine is 6 Bar. Check it frequently.

6.10IL REPLENISHER

Oil level in the tank shall not fall below acceptable. In case oil fill-up is needed, detach the tank, flip it over and remove the plug. After filling, replace the tank.



Figure 6.1-1 Oil replenisher

6.1.1 OILS RECOMMENDED FOR THE USE IN REPLENISHER

- 1. ESSO NUTO H32
- 2. MOBIL DTE24SHELL TELLUS C10
- 3. SHELL TELLUS C10
- 4. FESTO SPECIAL OIL
- 5. PETROL OFISI SPINDURA 10
- 6. ARAL VITAM GF32
- 7. MOBIL DHE LIGHT

6.2REGULAR LUBRICATION POINTS







Figure6.2-1 Места регулярной смазки

6.2.1 OILS RECOMMENDED FOR REGULAR LUBRICATION

- 1. Shell: Alvania 3, R3, Cyprina 3, RA
- 2. Mobil: Mobilux 2, 3, EP2, EP3; Mobilgrease MP
- 3. British Petroleum: Energrease L2, LS3
- 4. Exxon: Beacon 3
- 5. Castrol: Castrol LM, LMX
- 6. Agip: Agip F1 CR MU3; Agip F1 CP FC3
- 7. Teboil: Multi-Purpose Grease
- 8. Texaco: Hytex EP-2
- 9. Unocal 76: Multiplex Red Grease 2
- 10. Valvoline: General Multi Purpose Grease

7. PNEUMATIC COMPONENTS

7.1VALVE AND CYLINDER INSPECTION



Figure 7.1-1 Valve and cylinder inspection

- 1. Piston cup
- 2. Ring seal



If the machine does not perform certain operations or if the valve exhaust holes constantly leak air, the following needed to be done:

- 1. To find the cylinder corresponding to the valve, refer to the pneumatics diagram. If no such diagram is present, follow the cylinder hoses to find the valve.
- 2. Disconnect the hoses from the A and B ports of the cylinder. Supply air into port A, check the port B. If air leaks through port B, then piston cup is malfunctioning. Likewise introduce air to port B and check the port A.
- 3. If air leaks around piston rod when air is introduced into B port, then C seal is malfunctioning.
- 4. If the cylinder has been checked and no air leaks found in A, B and C, but the valve exhaust still leaks air, then the valve itself needs to be checked.
- 5. To find if the fault is in the valve or the coil, do the following: coil valves have a button, if the button is pressed, but nothing happens to the cylinder, then the coil has burnt out and needs to be replaced. The electric signal does not reach the coil. (When current is supplied to the coil, the magnets make audible click).



7.2ADJUSTING THE PNEUMATIC CYLINDER TRAVEL SPEED

Turn the adjusting wheel (1). Screw in or out to tighten or loosen (2). This is the way to adjust the pressure of the piston (6) of the cylinder (5) defining the travel speed of the pneumatic cylinder. Turn damper (3) to adjust the air cushion.

Note: These settings are the same for all types of adjustable pneumatic cylinders.

The damper provides smooth conversion and removes jolts and bumps.

7.3LUBRICATOR



First thing needed for reliable pneumatic system operation is sufficient quantity of clean dry compressed air.

Lubricator is the element which cleans the compressed air from pollutants, extracts water from it, regulates its pressure and saturates it with oil, which helps to prevent wear on pneumatic cylinders and valves.

Oil consumption of the lubricator with air supplied is approximately **1 drop per 2 minutes**. In case of different oil consumption, adjustments shall be made to the oil feed in pressure regulator.

Figure 7.2-1 Adjusting the pneumatic cylinder

7.3.1 WHAT LUBRICATOR IS NECESSARY FOR

- 1. The pollutants of the compressor and pneumatic circuit affect the sensitive elements such as pneumatic valves. The lubricator prevents these pollutants from getting into the machine.
- 2. Water vapor, which is normally present in compressed air, turns into condensate under high pressure. The pneumatic elements may be affected by the condensate, which can cause swelling of the felt seal of the valve or corrosion of the cylinders inner surfaces. Most pneumatic malfunctions are caused by water getting into the system. Centrifugal force traps large water particles in the condensate flask. In case of excessive quantities of condensate in the pneumatic circuit, the system shall be fitted with a dehumidifier.
- 3. Changes in air pressure may also affect system's operation. For example, increase or decrease in cylinder travel speed, malfunction of some systems or even system failure at high pressures. The pressure regulator installed on the lubricator keeps the air pressure in the specific range.
- 4. Most pneumatic system malfunctions are caused by lack of oil in the system. Non-lubricated systems wear out quickly. Also, non-lubricated systems are more affected by the condensate. The pneumatic oil, which is in the lubricator oil spray flask, provides the necessary system lubrication.

APPLICATION

- 1. Fill the lubricator oil spray flask with a certain type of oil.
- 2. If the machine does not consume oil, unscrew the oil supply screw on the oil spray flask, switch on the machine and adjust the feed rate on the basis of **one drop in two minutes** while air supplied.
- 3. Lubricator shall be filled with recommended oil only. Do not use oils of other types such as hydraulic, brake, vegetable or other oils. Usage of such oil types is a definite cause of the system malfunctions and failures.
- 4. The oil spray flask may be contaminated over time. Empty it, wash the inside with soap and water and fill with fresh oil.
- 5. Do not forget to drain the condensate from the condensate flask.



WARNING! The following malfunctions are not covered by warranty:

- 1. Malfunctions caused by lack of lubricant in the machines where all the oil was consumed.
- 2. Malfunctions caused by condensate, overflowing from the condensate flask.
- 3. Malfunctions caused by using non-approved pneumatic oil, non-approved lubricants or greases including hydraulic, brake, vegetable or other oils.



Figure 7.3-1 Lubricator

- 1. Pressure regulator knob
- 2. Air pressure gauge
- 3. Condensate flask
- 4. Condensate drain valve
- 5. Oil flow adjusting screw
- 6. Oil spray flask

ADJUSTMENT DIRECTIONS

Pressure adjustment: Pull the regulator knob "1" upwards. Turn clockwise to increase the outgoing air pressure, turn counterclockwise to decrease air pressure.

Condensate removal: Drain the water by rotation of condensate drainage crew "4".

Filling the lubricator with oil: Turn the oil spray flask "6" clockwise and remove it. Refill with pneumatic oil.

Adjusting the lubrication rate: Turn the adjusting screw "5" clockwise to decrease the flow, turn counterclockwise to increase.

7.3.2 OILS RECOMMENDED FOR LUBRICATOR USE

- 8. ESSO NUTO H32
- 9. MOBIL DTE24SHELL TELLUS C10
- 10. SHELL TELLUS C10
- **11. FESTO SPECIAL OIL**
- 12. PETROL OFISI SPINDURA 10
- 13. ARAL VITAM GF32
- 14. MOBIL DHE LIGHT



8. TROUBLESHOOTING

8.1WHAT TO DO IF A MALFUNCTION IS PRESENT

- 1. The machine needs 6Bar of air pressure to operate. Check this indication with the lubricator pressure gauge.
- 2. Open the valve panel cover. Check for leaks in hoses, fittings and valves. If a leak is present, try to sort it out.

8.2 PROBLEM – CAUSE – SOLUTION TABLE

No movement at all	Pneumatic connection malfunction	Check pneumatic connections
	Pneumatic cylinder malfunction	Check lubricator air pressure
	Valve malfunction	Ref. pg. 25
		Check the pedal
Lock stop retracts but does not lower	Valve malfunction	Ref. pg. 25
Top pneumatic cylinders do not clamp	Pneumatic connections malfunction	Check pneumatic connections
	Pneumatic cylinder-valve malfunction	Replace
Pressure is sufficient, but the heads do not move or do not	Cylinder malfunction	Ref. pg. 25
crimp properly	Valve malfunction	Add oil Bef ng Hatal Verisareti
	Replenisher oil level low	tanımlanmamış. Hata! Başvuru kaynağı bulunamadı.
There is a slot left in the	Incorrect blade contact point	Check the machine settings
workpiece after crimping	Profile over elemned by the	Ref. pg. Hata! Yer işareti
	lock stop	kaynağı bulunamadı.
		Set the lock stop travel limiter
		position Ref. pg. Hata! Yer isareti
		tanımlanmamış. Hata! Başvuru
		kaynağı bulunamadı.

9. CIRCUIT DIAGRAMS

9.1PNEUMATIC CIRCUIT



10. PARTS LIST

10.1 MECHANICAL PARTS

10.1.1 MAIN ASSEMBLY



No.	Part number	Part name	Qty
1	81.106.001	Ø30x270 Z axis shaft	2
2	81.106.002	Coupler	1
3	81.106.003	Ø30x270 Z axis shaft	4
4	WAC 125 X 200-3	Pneumatic cylinder	1
5	WAC 63 X 150-2	Pneumatic cylinder	2
6	81.108.002	Z axis insert	1
7	81.108.003	Y axis insert shaft	2
8	81.108.010	Z axis insert	1
9	LME 25 UU	Slide insert	12
10	WAC 63 X 150-1	Pneumatic cylinder	2
11	81.107.004	Rod end insert	1
12	WAC 125 X 200-4	Pneumatic cylinder	1
13	EP30G rulman	Slide insert	2
14	81.107.008	Plug	2
15	piston 2.05	Cylinder body	1
16	piston 2.10	Front cylinder coupler	1
17	81.108.001	Lock stop	1
18	81.108.004	Side spacer	2
19	81.108.005	Front guide centering tongues	2
20	81.108.006	Centering tongue	1
21	81.108.007	Upper insert of centering tongue	1
22	81.108.008	Adjustment shaft of centering pointer	1
23	81.108.009	Lower insert of centering pointer	1
24	81.107.002	Lever of intermediary coupling	2
25	81.107.007	Plug	2
26	81.107.001	Horizontal short lever	2
27	81.107.006	Plug	2
28	81.107.003	Lifting lever	2
29	RODM16x1.5	ROD head	4
30	81.101.012	Plug	4
31	81.101.008	Moving shaft of crimping head	4
32	81.101.006	Rear stop	2
33	81.101.005	Moving coupler	1
34	81.101.007	Bushing	8
36	81.101.009	Moving component of crimping head	1
37	81.101.010	Fixed rear stop	2

10.1.2 BODY



No.	Part number	Part name	Qty
1	81.101.039	Shaft	2
2	81.101.001	Top plate	1
3	81.101.002	Lower left profile protector	1
4	81.101.003	Lower right profile protector	1
5	81.101.040	Coupler	1
6	81.101.022	Shaft	2
7	00.000.002	Top cover of pneumatic clamp	3
8	00.000.001	Tip of pneumatic clamp	3
9	00.000.004	Bottom cover of pneumatic clamp	3
10	00.000.015	Fixing washer	3
11	00.000.006	Coupler of pneumatic clamp	3
12	00.000.016	Body of pneumatic clamp	3
13	00.000.017	Rod of pneumatic clamp	3

10.1.3 LOWER ASSEMBLY



No.	Part number	Part name	Qty
1	81.103.005	Insert of rear limiter	1
2	81.103.004	Lower rear limiter	1
3	81.103.003	Adjustment handwheel of limiter	1
4	81.103.002	Lower part of limiter	1
5	81.103.001	Top coupler of rear limiter	1

10.1.4 CORNER STOP



No.	Part number	Part name	Qty
1	81.102.001	Rear limiter of profile	1
2	81.102.002	Axis shaft for rear adjustment	2
3	81.102.003	Tip of corner stop	1
4	81.102.004	Position adjustment shaft of corner stop	1
5	81.102.005	Lower part of adjustment shaft	1
6	81.102.007	Rear adjustment shaft	1
7	81.102.008	Insert support	1
8	81.102.009	Insert bushing	2
9	81.102.010	Upper shaft coupler	1

10.1.5 CRIMPING HEAD





No.	Part number	Part name	Qty
1	81.101.009	Bushing	8
2	81.101.010	Crimping head	1
3	81.101.012	Plug	2
4	81.104.001	Moving part of crimping head along Y axis	1
5	81.100.008	Moving part of crimping head along X axis	2
6	81.104.008	X axis adjustment knob	2
7	81.100.001	Coupler of crimping head	2
8	81.100.004	Leveler	2
9	81.104.006	Driver	8
10	81.104.002	Moving part of crimping head along Y axis	1
11	81.104.004	Moving part of crimping head along X axis	1
12	81.104.005	Crimping head	1
13	81.104.003	Blade	2

11. WARRANTY

1. The manufacturer guarantees the product to be free from defects in material and workmanship for 1 (one) year from the date of purchase.

The warranty does not cover:

- 1. Malfunctions caused due to the disregarding of the guidelines of the user manual.
- 2. The consumables (milling cutters, drill bits, cutting wheels, Teflon etc).
- 3. Damage caused by transportation.
- 4. Damage caused by non-genuine parts. Damage caused by careless or unqualified user.
- 5. Equipment with the start-up performed by unauthorized technicians.
- 6. Attempts to repair the machine by personnel without manufacturer authorization.
- 7. Damage caused by improper transportation, use and service, and also cases of alterations made to the machine's serial number.
- 8. Damage caused by lubricant shortage or use of unsuitable lubricant and the like.
- 9. Damage caused by absence of air dehumidifier in the air supply.
- 10. Damage caused by power supply surges, specifically:
 - a. Phase shortage
 - b. Damage caused by wrong phase sequence
 - c. Overvoltage
 - d. Undervoltage
 - e. Power overload



The manufacturer reserves the right to modify the process and the manual.