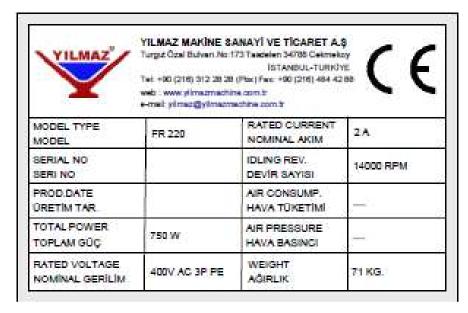
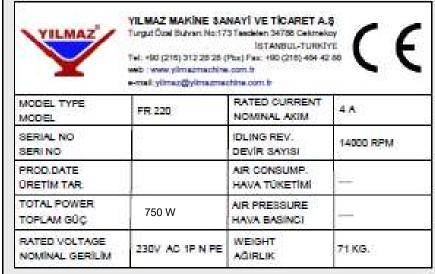
# المواصفات الفنية- TEKNİK ÖZELLİKLER - TECHNICAL FEATURES - TEXHNYECKNE OCOБЕННОСТИ

			ے		*	AZ YY	H ↑ W cm	kg	kg
FR 220	750 W 50 Hz 230 V AC P N PE	750 W 50-60 Hz 400 V AC 3 PE			14000 dev/dak RPM	<b>x</b> = 270 mm <b>y</b> = 110 mm <b>z</b> = 130 mm	<b>W</b> = 64 <b>L</b> = 80 <b>H</b> = 149	71	109
FR 221	750 W 50 Hz 230 V AC P N PE	750 W 50-60 Hz 400 V AC 3 PE	6-8 BAR	5 Lt/dak. Lt/min.	14000 dev/dak RPM	<b>x</b> = 270 mm <b>y</b> = 110 mm <b>z</b> = 130 mm	<b>W</b> = 64 <b>L</b> = 80 <b>H</b> = 149	72	110







#### YILMAZ MAKINE SANAYI VE TICARET A.S

Turgut Özəl Bulvan No.173 Təsdələn 34768 Cəkməkoy İSTANBUL-TURKİYE

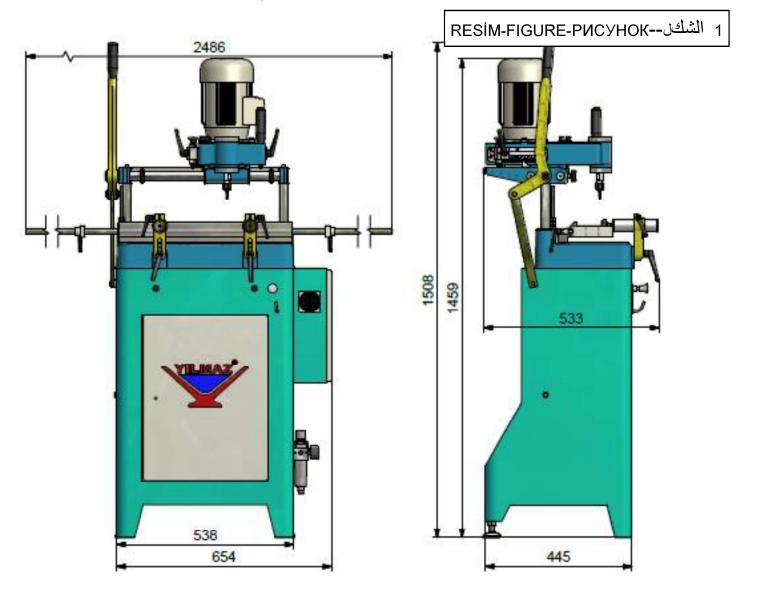
Tel: +90 (216) 312 20 20 (Pbx) Fex: +90 (216) 484 42 88 eeb: www.ylimacractine.com.tr e-met: ylimac@ylimacractine.com.tr



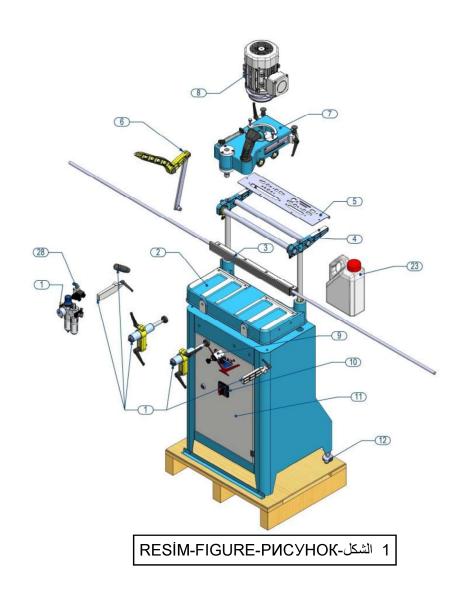
MODEL TYPE MODEL	FR 221	RATED CURRENT NOMINAL AKIM	2 A
SERIAL NO SERI NO		IDLING REV. DEVÍR SAYISI	14000 RPM
PRODIDATE ORETIMITAR	1	AIR CONSUMP, HAVA TÜKETİMİ	5 Lbmin
TOTAL POWER TOPLAM GOÇ	750 W	AIR PRESSURE HAVA BASINCI	6-8 BAR
RATED VOLTAGE NOMÍNAL GERÍLÍM	400V AC 3P PE	WEIGHT AĞIRLIK	72 KG.



# القياسات-BOYUTLAR – DIMENSIONS – PA3MEPЫ

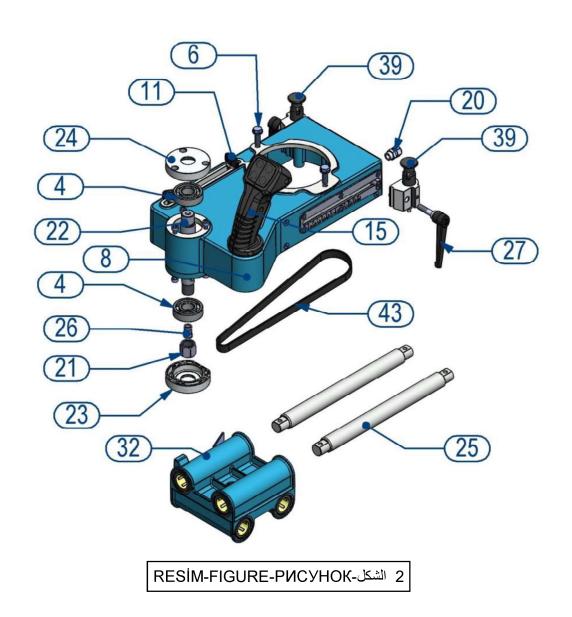


# - PARÇA LİSTESİ - PART LIST - ПЕРЕЧЕНЬ ДЕТАЛЕЙ

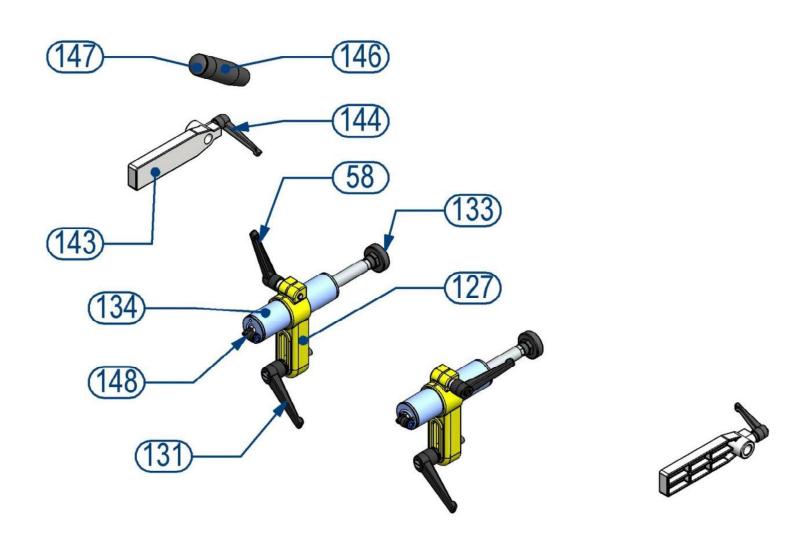


NO	STOK KODU	ADET	NO	STOK KODU	ADET
номер	STOCK CODE ПОРЯДОК КОД	QTY	номер	STOCK CODE ПОРЯДОК КОД	QTY
1	3UA280030-0011	1	9	1PN010000-0087	1
2	3UA230030-0010	1	10	1EL010000-0046	1
3	3UA230030-0048	1	11	1SA230000-0001-2	1
4	3UA230030-0009	1	12	1SC170000-0019	2
5	2TU011410-0025	1	21	1PN060000-0004	1
6	3UA230030-0008	1	23	1PL010000-0020	1
7	3UA230030-0050	1	28	3UA230030-0054	1
8	1EL070001-0105	1			

RESIM-FIGURE-PUCYHOK- الشكل

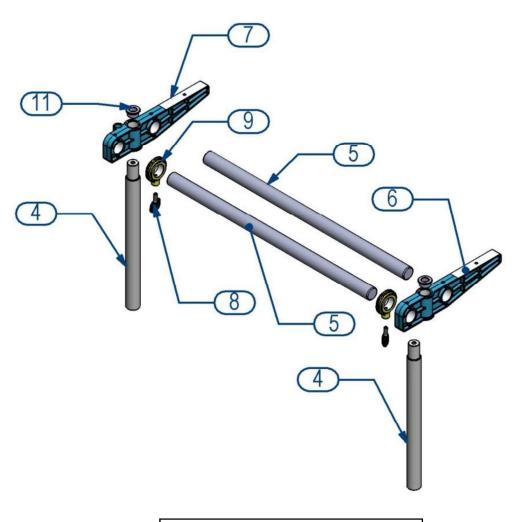


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номер	STOCK CODE ПОРЯДОК КОД	QTY	номер	STOCK CODE ПОРЯДОК КОД	QTY
4	1SR010000-0005	2	23	2TU012610-0073	1
6	1SC011000-0017	2	24	2TU012610-0072	1
8	2TU012710-0023	1	25	2TU015010-0094	2
11	2TU011110-0146	2	26	2TU011110-0121	1
15	3UB170030-0019	1	27	3UA040030-0007	2
20	1EL170000-0004	1	32	3UA230030-0005	1
21	2TU011210-0014	1	39	3UA230030-0002	2
22	2TU011110-0440	1			



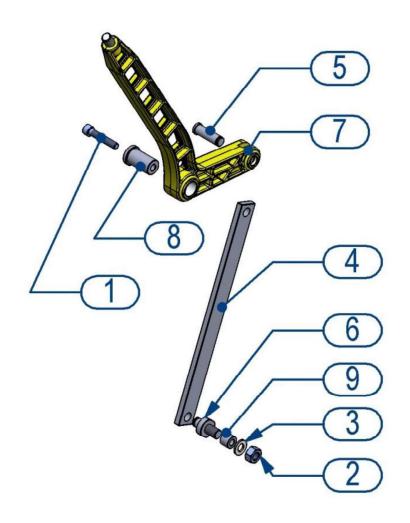
RESİM-FIGURE-PИСУНОК- الشكل 3

NO	STOK KODU	ADET	NO	STOK KODU	ADET
номер	STOCK CODE ПОРЯДОК КОД	QTY	номер	STOCK CODE ПОРЯДОК КОД	QTY
58	3UA040030-0007	2	143	2TU012610-0069	2
127	2TU012610-0010	2	144	3UA040030-0010	2
131	3UA040030-0002	2	146	1PL010000-0012	1
133	1PL010000-0033	2	147	1PL010000-0034	1
134	3UA060030-0004	2	148	1PL140000-0005	2

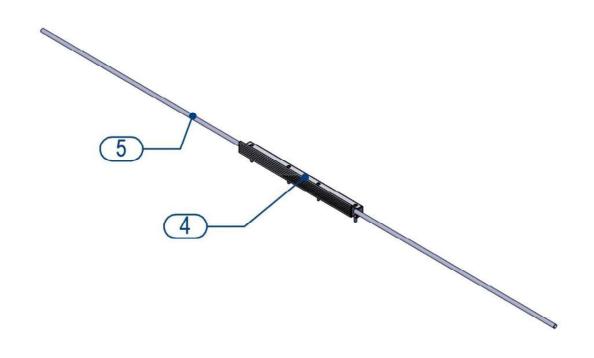


RESİM-FIGURE-РИСУНОК- الشكل 4

NO	STOK KODU	ADET	NO	STOK KODU	ADET
номер	STOCK CODE ПОРЯДОК КОД	QTY	номер	STOCK CODE ПОРЯДОК КОД	QTY
4	2TU015010-0093	2	8	2TU011110-0146	2
5	2TU015010-0095	2	9	2TU012610-0061	2
6	2TU012610-0056	1	11	2TU011110-0102	2
7	2TU012610-0057	1			



NO	STOK KODU	ADET	NO	STOK KODU	ADET
номер	STOCK CODE	QTY	номер	STOCK CODE	QTY
номер	порядок код	Q 1 1	номер	порядок код	QII
1	1SC021000-0030	1	5	2TU011110-0111	1
2	1SC071000-0004	1	6	2TU011110-0110	1
3	1SC081000-0008	1	7	2TU012610-0093	1
4	2TU011210-0064	1	8	2TU011110-0120	1



NO	STOK KODU	ADET	NO	STOK KODU	ADET
HOMOD	STOCK CODE	QTY	llowon	STOCK CODE	QTY
номер	порядок код	QII	номер	порядок код	QII
4	2TU012310-0008	1	5	2TU011110-0101	1



NO	STOK KODU	ADET	NO	STOK KODU	ADET
номер	STOCK CODE	QTY	номер	STOCK CODE	QTY
•	порядок код	·	•	порядок код	·
1	1PL010000-0123	1	4	1EL020000-0022	1
3	1PL030000-0043	1	5	2TU011110-1345	1

7 الشكل-RESİM-FIGURE-PNCYHOK

YE	YEDEK PARÇA LİSTESİ / جدول قطع الغيار / SPARE PART LIST / СПИСОК ЗАПАСНЫХ ЧАСТЕЙ						
PARÇA NO PART NO HOMEP رقم القطعة	RESİM PICTURE PИСУНОК الشكل	STOK KODU / CODE ПОРЯДОК КОД/كود المخزون	PARÇA ADI – PART NAME НАИМЕНОВАНИЕ ДЕТАЛИ- اسم القطعة				
1		2TU012610-0009 / 0053 (FR 220) 2TU012610-0010 / 0054 (FR 221)	MENGENE YATAĞI CLAMP MOUNTING BRACKET قوس تركيب الملزمة				
2	0	3UA060030-0004 (FR 221)	PNÖMATİK MENGENE PNEUMATIC CLAMP ملزمة بانيوماتيك ( هواء مضغوط)				
3		3UA280030-0001 (FR 220)	MEKANİK MENGENE MECHANIC CLAMP ملزمة ميكانيكية				
4		1PL010000-0033	MENGENE PABUCU CLAMP FEET مشد ملزمة				

5	3UA040030-0007	M8x32 PİPO M8x32 HANDLE فراع M8x32
6	3UA040030-0002	M10*50 PİPO M12*60 HANDLE فراع M10*50
7	1EL070001-0003 (230V-1P 50 Hz) 1EL070001-0027 (240V-1P 50 Hz) 1EL070001-0105(400V-415 V 3P 50 Hz) (440V-3P 60 Hz)	MOTOR MOTOR محرك
8	2TU012610-0072	RULMAN YATAĞI (ÜST) BEARING MOUNTING BRACKET وسادة الرولمان ( علوي )
9	2TU012610-0073	RULMAN YATAĞI (ALT) BEARING MOUNTING BRACKET وسادة الرولمان ( سفلي )
10	1SR010000-0005	6204 RULMAN 6204 BEARING رولمان <b>6204</b>

11	1SR070000-0002	MOTOR KAYIŞI MOTOR BELT حز ام محرك
12	1YY030000-0009	AMORTISÖR SHOCK ABSORVER مخمد
13	3UA030030-0002	SUSTA DETENT PIN مسمار تثبیت
14	1SK050000-0001	FREZE ÇAKISI ROUTER BIT مطرقة فريزة
15	1PN010000-0012	SPRAYER SU PÜSKÜRTME VALF WATER SPRAY VALVE صىمام رش الماء
16	3UA110030-0020	ŞARTLANDIRICI LUBRICATOR مصفاة الماء
17	3UB170030-0019	JOYSTICK

### **CONTENTS**

- 1. General information
  - 1.1. Introduction
  - 1.2. Service Information
- 2. Safety
  - 2.1. Safety Symbols and Their Meanings
  - 2.2. Accidents Prevention
  - 2.3. General Safety Information
- 3. Machine's Description
- 4. Transport of the Machine
- 5. Installation of the Machine
  - 5.1. Preparation
  - 5.2. Connecting to Power Source
- 6. Machine's Safety Information
- 7. Operation
  - 7.1 Preparation
  - 7.2 Operation
- 8. Maintenance, Service and Repair
  - 8.1 Maintenance
  - 8.2 Changing the cutting tool
  - 8.3 Changing the belt
  - 8.4 Adjust the air pressure (pneumatic systems)
- 9. Warranty conditions

#### 1. GENERAL INFORMATION

#### 1.1. Introduction

The user's manual given by the manufacturer contains necessary information about the machine parts. Each machine operator should read these instructions carefully, and the machine should be operated after fully understanding them.

Safe and efficient use of the machine for long term depends on understanding and following the instructions contained in this manual. The technical drawings and details contained in this manual constitute a guide for the operator.

#### 1.2. Service Information

In case of any technical problem please contact your nearest YILMAZ dealer, or YILMAZ head office through the above mentioned phone, fax or e-mail address.

Technical labels with the model description of the machine are fixed onto the front side of each machine.

The machine's serial number and manufacturing year are stipulated on the technical label.

Average life usage of production is 10 years. If you have any further failure and complaint, please inform to our below mentioned technical service by verbal or written

# **AUTHORIZED TECHNICAL SERVICE CENTER ADDRESS**

TAŞDELEN MH. ATABEY CD. No 9 34788 ÇEKMEKÖY – İSTANBUL / TÜRKİYE

Tel	0216 312 28 28 Pbx.
Fax	0216 484 42 88
E-mail	service@yilmazmachine.com.tr
Web	www.yilmazmachine.com.tr

For minimize the documantation, It is wery necessary to mention below details at the agreements signed with suppliers and dealers of the purchased machines

Machine model	Voltage and frequency		
Machine's serial number	Date of purchase		
Description of the machine fault	Name of dealer where machine was purchased		
Average daily operation period			

# 2. SAFETY

# 2.1. Safety Symbols and Their Meanings

Read the user guide		Ensure safe working position, always keep your balance.
Wear ear protectors	A	Elektrical excitation
Wear safety goggles		Don't place your hands between parts in motion
If the power cable should be damaged during operation, don't touch and unplug it. Never use damaged power cables.		High temperature warning
During saw blade change operations, use protective gloves		Keep your fingers clear of the movable parts of the glide arm.
The above symbol <b>DANGER WARNING</b> , warns you against specific dangers, and you have definitely to read them	IMPORTANT	The <b>IMPORTANT</b> symbol above is one telling to apply special care and to be careful at carrying out the specified operation

### 2.2. Accidents Prevention



- 2.2.1 Our machines are manufactured in accordance with CE safety directives, which cover national and international safety directives.
- 2.2.2 It is the task of the employer to warn his staff against accident risks, to train them on prevention of accidents, to provide for necessary safety equipment and devices for the operator's safety.
- 2.2.3 It is the task of the employer to warn his staff against accident risks, to train them on prevention of accidents, to provide for necessary safety equipment and devices for the operator's safety.
- 2.2.4 Machine should be operated only by staff members, who have read and understood the contents of this manual.
- 2.2.5 All directives, recommendations and general safety rules contained in this manual have to be observed fully. The machine cannot be operated in any way for purposes other than those described herein. Otherwise, the manufacturer shall not be deemed responsible for any damages or injuries. And such circumstances would lead to the termination of the warranty

## 2.3. General Safety Information

- 2.3.1 The power cable should be led in such a way that nobody can step on it or nothing can be placed on it. Special care has to be taken regarding the inlet and outlet sockets
- 2.3.2 Don't overload machines for drilling and cutting. Your machine will operate more safely with power supply in accordance with the stipulated values.
- 2.3.3 Use correct illumination for the safety of the operator. (ISO 8995-89 Standard The lighting of indoor work system)

- 2.3.4 Do not leave any things on the machine.
- 2.3.5 Don't use any materials other than those recommended by the manufacturer for cutting operations on the machine.
- 2.3.6 Ensure that the work piece is clamped appropriately by the machine's clamp or vice
- 2.3.7 Ensure safe working position, always keep your balance.
- 2.3.8 Keep your machine always clean for safe operation. Follow the instructions at maintenance and replacement of accessories. Check the plug and cable regularly. If damaged, let it replace by a qualified electrician. Keep handles and grips free of any oil and grease.
- 2.3.9 Unplug first, before conducting and maintenance works.
- 2.3.10 Ensure that any keys or adjustment tools have been removed before operating the machine..
- 2.3.11 If you are required to operate the machine outside, use only appropriate extension cables.
- 2.3.12 Repairs should be carried out by qualified technicians only. Otherwise, accidents may occur.
- 2.3.13 Before starting a new operation, check the appropriate function of protective devices and tools, ensure that they work properly. All conditions have to be fulfilled in order to ensure proper operation of your machine. Damaged protective parts and equipment have to be replaced or repaired properly (by the manufacturer or dealer).
- 2.3.14 Don't use machines with improper functioning buttons and switches
- 2.3.15 Don't keep flammable, combustive liquids and materials next to the machine and electric connections.

### 3. MACHINE'S DESCRIPTION

Copy router machines designed to open lock, handle, hinge and window fastening slots onto PVC and Aluminum profiles.

- Channels in different dimensions can be opened independently from copying.
- FR 220: The clamping is manual.
- FR 221: Clamping is pneumatically.

STANDARD ACCESSORIES	OPTIONAL ACCESSORIES		
Router bit	Cooling system (FR 221)		
Airgun (FR 221)	Router bit		
Profile support	Special copying the template		
User manual	MA 240 Average apparatus		
Service wrench (17 mm)			
Service wrench (22 mm)			

### 4. TRANSPORT OF THE MACHINE



## 4.1. The transport should be done by qualified personnel only.

- 4.2. The machine should be transported by lifting with proper equipment (not touching the ground during the transport).
- 4.3. Unless customer requests the contrary, the machine will be delivered with wooden packaging.
- 4.4. Movable parts on the machine should be fixed before carrying out the transport.
- 4.5. The machine size and weight measurements, given the technical specification sheet.

#### 5. INSTALLATION OF THE MACHINE

### 5.1 Preparation

- 5.1.1 The machine size and weight measurements, given the technical specification sheet. The ground, where the machine will be placed, should be even, solid enough to bear the weight of the machine.
- 5.1.2 The machine should be located approx. 50 cm away from the rear wall. The power connection plug of the machine is located on the rear side of the machine.
- 5.1.3 You can provide the balance of the machine with adjustable counterforts (FIGURE 3 NO 1-1) in the bottom part.
- 5.1.4 Profile fitting parts (FIGURE 3 NO.17, 18,90) are delivered disassembled. Assemble profile fitting parts on the square as it is seen in the figure.
- 5.1.5 Damper (FIGURE 3 NO.27) is delivered disassembled. Open the cover of chassis (FIGURE 3 NO.1) and place the free end of the damper to its place as in the figure (FIGURE 3).

### 5.2 Connecting to Power Source

- 5.2.1 Electrical connection must be made by a licensed electrician
- 5.2.2 The power outlet socket on the machine should be available.
- 5.2.3 Plug the machine to a grounded socket.
- 5.2.1 Mains voltage of the machine is optional as 230 V 50 Hz or 400 V 50 Hz.



5.2.2 Check the supply voltage. The source voltage must be in accordance with the data on the machine's label.

5.2.3 After electrical connection is made, machine must be operated in idle running and it must be controlled whether rotation directions of cutting tools are correct or not and if the rotation direction is wrong, appropriate connection must be made.

#### 6. MACHINE'S SAFETY INFORMATION

- 6.1 Lifting, installation, electric maintenance of the machine should be carried out by qualified personnel only.
- 6.2 Routine maintenance and scheduled maintenance should be carried out by qualified personnel after unplugging the machine first.
- 6.3 Ensure that the machine has been cleaned, tested and maintained before starting to operate it.
- 6.4 Check the safety devices, power cable and moving parts regularly. Don't operate the machine before having replaced defective safety devices or faulty parts.
- 6.5 Never replace the cutting tools before unplugging first.
- 6.6 Keep foreign materials away from the working area of the machine, keep away from the machine's moving parts.
- 6.7 Do not work on the machine by removing the protective parts



The safety data have been defined above. In order to prevent physical damage or damage to the equipment, please read the safety information carefully and keep the manual always in an easy accessible place.

#### 7. OPERATION

### 7.1 Preparation

- 7.1.1 Degrease and dry the machine table. Especially ensure that the holding grips and handles are clean and dry
- 7.1.2 Clean all surfaces of the machine from chip and foreign particles. Use eye glasses for protection.
- 7.1.3 Copy router machines can process on products manufactured from rigid plastic and aluminum materials that don't include iron alloy.
- 7.1.4 Control whether cutting tools (FIGURE 2 NO.78) are inserted safely to their places.
- 7.1.5 Control cutting tools against corrosion, distortion and fractions. If cutting tools are damaged, change them.
- 7.1.6 Cutting tool must process on the part after machine is operated and cycled.
- 7.1.7 Do not process the profile before clamping the work piece properly.

### 7.2 Operation

- 7.2.1 Place PVC or aluminum profile that you are going to process on to the table (FIGURE 3 NO.88). Fix it with clamps (FIGURE 3 NO.24) on the table.
- 7.2.2 FR 220: The clamping is manual. FR 221: Clamping is pneumatically. You can adjust forward-backward, updown position of the clamps with special clamping parts (FIGURE 3 NO.24-1/2). Control of pneumatic clamp is made with the button (FIGURE 3 NO.7) on the chassis (FIGURE 3 NO.1).
- 7.2.3 Determine the process such as lock, spindle, joint socket e.g on the template (FIGURE 2 NO.39) located on the machine. Locate the spring (FIGURE 2 NO.66) pin to the socket that will be processed on the template.

- 7.2.4 You can adjust forward-backward movement of the suspension group (FIGURE 2 NO.66) with special clamping part (FIGURE 2 NO.63).
- 7.2.5 Set system start switch (FIGURE 3 NO.10) to "1" position.
- 7.2.6 Enable cutting tools (FIGURE 2 NO.78) to rotate and motor (FIGURE 2 NO.71) to operate by pressing continuously to the button (FIGURE 2 NO.86) on the spindle (FIGURE 2 NO.85) located on the head (FIGURE 2 NO.53).
- 7.2.7 Move the head with the help of the spindle on the head and perform the process on the profile. Use up-down movement spindle (FIGURE 3 NO.46/47) in order to enable cutting tools to reach desired depth.
- 7.2.8 In order to fix the depth adjustment, you can use the nuts (FIGURE 3 NO.23) on the adjusting stud (FIGURE 3 NO.22).
- 7.2.9 Remove the suspension pin from the socket on the template in order to process free from the template.
- 7.2.10 You can adjust the movement area of the head (FIGURE 2 NO.53) with locking parts (FIGURE 2 NO.41/42) when making free processes.
- 7.2.11 Leave the button after the process finishes. Cutting tool stops after rotating nearly 10 seconds out of gear.
- 7.2.12 Remove the part by opening the clamps.

### 8. MAINTENANCE, SERVICE AND REPAIR

#### 8.1 Maintenance

- 8.1.1 Cut the electric and pneumatic (if any) power connections of the machine.
- 8.1.2 Clean all surfaces of the machine from burs, chips and foreign substances. If the machine will not be used for a long time, lubricate undyed parts with oil that prevents rusting.
- 8.1.3 When cleaning the machine, do not use materials that may damage the dye.
- 8.1.4 Control cutting tools against corrosion, distortion and fractions. If cutting tools are damaged, change them.
- 8.1.5 Before using cutting tool, operate the machine out of gear and control whether it is inserted correctly, it is without flexure and it is inserted appropriately. Do not use cutting tools that are damaged or lost its functionality.

### 8.2 Changing the cutting tool

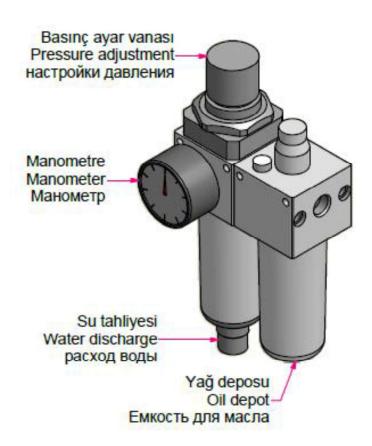
- 8.2.1 Cut the electric connection of the machine.
- 8.2.2 Loosen the pliers nut (FIGURE 2 NO.76) by turning it counter clockwise with the help of 17 and 22 mm wrenches that are given with the machine. Remove cutting tool (FIGURE 2 NO.78) from retainer pliers. Tighten the pliers nut by inserting the new cutting tool to the pliers socket and making the opposite of the processes made in the removal.
- 8.2.3 Before using cutting tool, operate the machine out of gear and control whether it is inserted correctly, it is without flexure and it is inserted appropriately. Do not use cutting tools that are damaged or lost its functionality.

## 8.3 Changing the belt

- 8.3.1 Disconnect the electrical connections from the machine
- 8.3.2 Loosen the fitting bolts (FIGURE 2 NO 105) and pull the motor to front side. Strip the belt at the bottom from the motor pulley .
- 8.3.3 Loosen the fitting bolts of shaft slide (FIGURE 1 NO 73) on the head and disassemble the whole parts of sliding group from the machine.
- 8.3.4 Fit the new belt.
- 8.3.5 Assemble the disasembled part before.
- 8.3.6 In order to tighten the belt push the motor backward manually when the motor bolts are loosen (FIGURE 2 NO 105). Than tighten the fix and fit the motor.

## 8.4 Adjust the air pressure (pneumatic systems)

- 8.4.1 Pull up pressure adjustment valve. Set adjustment valve to the desired value on manometer by turning it clockwise or counter clockwise. Then lock the valve by pressing it down.
- 8.4.2 Set the air pressure between 6 and 8 BAR. If air pressure drops below the stated values, accessories operating with pneumatic power do not work.
- 8.4.3 Conditioner unit accumulates the water in the air in the collection container so that it won't damage pneumatic components. At the end of the working day, empty the accumulated water by opening water discharge valve under the collection container.
- 8.4.4 In order to put oil to the oil tank, remove the reservoir by turning. Oils recommended by the manufacturer are; TELLUS C10 / BP ENERGOL HLP 10 / MOBIL DTE LIGHT / PETROL OFISI SPINDURA 10.



#### 9. WARRANTY CONDITIONS

YILMAZ Machine Industry and Trade Limited Company, guarantees that all machines have been tested and conform to the international standards.

The guarantee is valid 24 months from despatch date and does not cover the electrical parts of the machine.

During this period:

- Any repair and replacement effected at our workshop is completely free of charge (only transport costs are at customer's charge).
- For repair and replacement effected by our technician at the customer's site, we will invoice only the travel and lodging costs for our technician.

The guarantee does not cover damages caused by:

- not respect of the rules indicated in the manual instruction book
- not correct voltage
- improper use or use not in accordance with what the Machine has been designed for
- use of non original tooling
- programming errors
- lack of cleaning and of ordinary maintenance by the customer
- transport or displacement (even inside the workshop)
- natural events (lightings, fires, floods)

The warranty does not cover, in any case, damages caused by the malfunction of the Machine