

Technical instruction
Manual for use and maintenance



GAS DONER

MODELS

DC202 • DG103 • DG104 • DG105 • DG110
DG102 • DC203 • DC204 • MK203 • MK204 • MK110

These appliances comply with requirements of regulation (EU) 2016/426

SOTIRIOS D. PRODANAS & CO
PROFESSIONAL ELECTRIC & GAS MACHINES FOR RESTAURANT – PÂTISSERIES – SNACK BAR
OFFICE – FACTORY : National Road Kilkis-Thessaloniki P.C 545 00 Tel. : ++30 23410 41991 Fax: ++30 23410 41539
P.O Box 400 70, P.C : 560 00 www.north.gr - e-mail : info@north.gr

SPECIFICATIONS

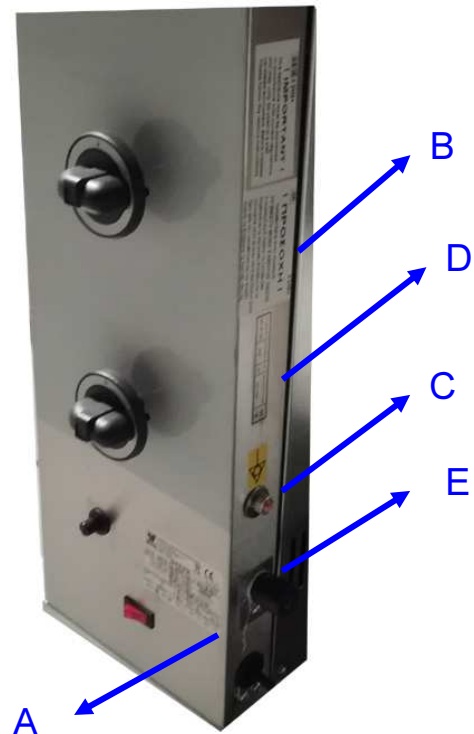
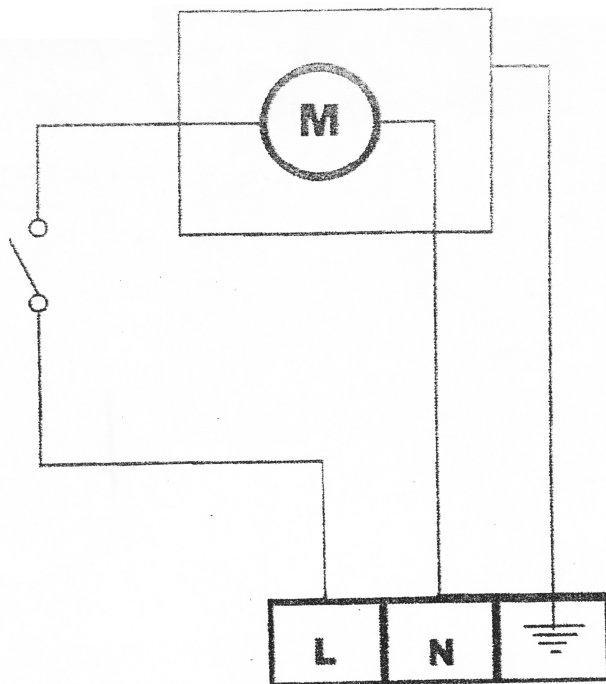
The tables below refer to the specifications for operation with the gas types mentioned

TABLES A: Appliance dimensions - electrical data - Technical data table

Model	Dimension (cm) LxWxH	Weight (Kg)	Length Spit (cm)	Electrical Supply (V/Hz)	Electrical Power (W)	Gas Part		
						Burners		Nominal Heat Input (kW)
					Motor	3.4kW	3.6kw	
DG103	48X50X94	27	66	230-50/60	11	3		10.2
DG104	48X50X115	33	82	230-50/60	11	4		13.6
DG105	48X50X130	37	96	230-50/60	11	5		17.0
DG110	51X50X115	48	82	230-50/60	11		8	27.2
MK110	62x78x105	55	82	230-50/60	11		8	27.2
DC202	47X50X81	22	49	230-50/60	11	2		6.8
DC203	47X50X99	33	65	230-50/60	11	3		11.5
DC204	47X50X114	37	82	230-50/60	11	4		15.3
MK203	48x63x94	38	75	230-50/60	11	3		11.5
MK204	48x63x120	42	92	230-50/60	11	4		15.3
DG102	47X45X75	22	49	230-50/60	11	2		6.8

Main injector diameter / By-pass screw diameter [1/100 mm] by-pass screw adjusting		
G20 20/25mbar	G30 - G31 30/50mbar	G25 25mbar
1.0 / 0.95	0.67 / 0.58	1.10
1.0 / 0.95	0.67 / 0.58	1.10
1.0 / 0.95	0.67 / 0.58	1.10
1.0 / 0.95	0.67 / 0.58	1.10
1.0 / 0.95	0.67 / 0.58	1.10
1.40 / 1.30	0.95 / 0.80	1.40
1.40 / 1.30	0.95 / 0.80	1.40
1.40 / 1.30	0.95 / 0.80	1.40

Electrical Diagram 230- 50/60Hz



A = Technical data label.

B = Warning label.

C = Equipotential wire screw.

D = Current gas setting reference.

E = Gas threaded connection.

This gas heated product complies with safety requirements of **Regulation (EU) 2016/426** of the European Parliament about appliances burning gaseous fuels. This Regulation repeals **Directive 2009/142/EC**.

The following harmonized standards were applied to meet Regulation safety requirements:

EN 203-1 Gas heated catering equipment - Part 1: General safety rules.

EN 203-2-7 Gas heated catering equipment - Part 2-2: Specific requirements - Salamanders and rotisseries.

EN 437 + A1 Test gases - Test pressures - Appliance categories.

This product is provided with a EC type certificate issued by a Notified Body and the conformity of internal production is assessed by the Notified Body through procedure "Module C2" indicated in point 2 Annexe III of Regulation 2016/426.

This product also complies with the following other European Directives or Regulations:

Directive 2014/35/UE Low Voltage Directive.

Directive 2014/30/UE Electromagnetic Compatibility Directive.

Regulation No 1935/2004 Materials and articles intended to come into contact with food.

GENERAL INFORMATION

This technical manual includes instructions for the installation, operation, care and maintenance of Doner equipment, manufactured by NORTH. Please read it carefully and keep it for future reference. This manual should be referred to both by the installing or service technicians and the operators of the equipment,

After you remove the packaging make sure that no damage was caused during shipping. If in doubt, we recommend that an authorized technician examine the appliance before you proceed with the installation.

The appliance requires both electrical and gas connections. Before proceeding, make sure that the mains voltage and the type of gas available meet the requirements of the appliance. This information is available on a label, on the right side of the appliance, as you face it. The same label is referred to on Table C, page 3 of this manual, in case of incongruence or if in doubt, do not connect the apparatus. Ask for the equipment to be checked by specialized personnel.

NORTH Doner equipment are commercial grade appliances and should, therefore, be used by personnel who are specially trained in their use.

All procedures concerning installation and connection of the appliance must be carried out exclusively by specialized technicians and according to specifications valid in the country where the installation is taking place.

Before any routine cleaning, disconnect from the electricity mains and turn off the gas supply main valve. The same procedure must be followed in case of malfunction of the appliance, while waiting for the service technician.

Any repairs must be exclusively carried out by authorized personnel using original spare parts only.

The manufacturer cannot be held responsible for damage caused to persons, animals or property due to misuse, tampering, unauthorized modification, or to uses other than the ones mentioned and/or considered in this manual.

INSTALLATION AND SERVICE INSTRUCTIONS

2.1 INSTALLATION OF THE APPLIANCE

After making sure the appliance is Intact place it in position so that is stable and there is adequate operating space around it

Make sure that all parts are at hand. i.e.;

- Doner
- Spit - tray to support the meat
- Meat scoop - Support screws
- Plastic bag with insrtucion manual and necessary ports,

Attention! To avoid accidents, keep all packaging materials (cardboard, plastic bags, metal items, etc) away from children.

Important! install the Doner on a flat non-flammable surface, away from flammable walls, Make sure the Doner does not come into contact with any flammable material. Respect all fire protection specifications in the installation area.

Mounting: Mount securely the Doner to the working surface.

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NORTH GYROS IS A PROFESSIONAL EQUIPMENT SO ALL ASSEMBLY AND CONNECTION PROCEDURES, TESTING AND REQUIRED REPAIRS MUST BE CARRIED OUT BY SPECIALIZED AND AUTHORIZED PERSONNEL ONLY.

2.2 CONNECTION TO THE GAS SUPPLY

Before connecting your machine to the gas supply, make sure that:

- a) The gas supplied in your area is of the type the appliance is set for if THIS IS NOT SO, FIRST RE-SET THE APPLIANCE FOR THE TYPE OF GAS AVAILABLE, AS DESCRIBED IN PAR. 2.4 THEN PROCEED WITH THE CONNECTION.
- b) Information for this setting appears on a label on the back of the appliance, as you face it,
- c) Connect the machine to the gas supply using hard or flexible piping; METAL PIPES MUST BE USED EXCLUSIVELY.
- d) Make sure the pressure used is the one the appliance is set (See table below)
- e) Use threading certified compound or gas tighten gasket in connections; when you have finished with the connection procedures, check for possible leakage around the gas fittings. Use liquid' soap for these checks. Do not use matches or lighters,
- f) Install the machine under an appropriate hood and in a well ventilated area according to regulations in force in the country of destination (appliance type A1 or B21).
- g) According to the country of destination and gas setting, the supply pressure must be checked connecting a manometer to the pressure point of the appliance placed in the pipeline after the gas threaded connection R 1/2". The supply pressure should be included between the minimal and maximal value and should be measured being the appliance on. Pressure values are reported on table D.

TABLES D: Supply pressures.

Country of destination	Gas type	Category	Nominal supply pressure [mbar]	Maximal supply pressure [mbar]	Minimal supply pressure [mbar]
AT-CH	G20 G30/G31	II2H3B/P	20 50	25 57.5	17 42.5
AL-BA-BG-DK-EE-FI-HR-LT-LV-MK-NO-RO-SE-SI-UA	G20 G30/G31	II2H3B/P	20 28-30	25 35	17 25
CZ-ES-GR-IE-IT-PT-GB-CH-SK-TR	G20 G30/G31	II2H3+	20 28-30/37	25 35/45	17 20/25
DE	G20 G25 G30/G31	II2ELL3B/P	20 20 50	25 25 57.5	17 18 42.5
BE-FR	G20/G25 G30/G31	II2E+3+	20/25 28-30/37	25/30 35/45	17/20 20/25
IS-CY-MT-HU-NL	G30/G31	I3B/P	28-30	35	25
LU	G20	I2E	20	25	17
LU	G30/G31	I3+	28-30/37	35/45	20/25

THE MANUFACTURER CANNOT BE HELD RESPONSIBLE

FOR ACCIDENTS AND DAMAGE CAUSED TO PERSONS, ANIMALS OR PROPERTY DUE TO NONCOPLIANCE WITH THESE INSTRUCTIONS

EXHAUST SYSTEM TYPE A1

The type A1 appliances are not designed for connection to a line discharging directly the products of combustion outside of the installation premise. These appliances can discharge the product of combustion into appropriate hoods, or similar devices. If such an arrangement is not possible, the unit can be installed in a premise with an fresh air ventilation system allowing to keep healthy the premise for the users and workers. According to the regulations in force in the Country of destination, the minimal volume of the local must be suitable like the fresh air volume inlet (To Ensure an adequate supply of combustion air. It is technically correct to guarantee at least 2m³/h per kW installed).

2.3 CONNECTION TO THE POWER MAINS

Before connecting the appliance, check mains voltage and frequency match the data values on rating plate. A voltage variation of $\pm 10\%$ is allowed. An omnipolar master switch must be placed between the Doner and the mains, with at least 3 mm of gap between contacts. Suitable high-sensitivity ground fault interrupters must be installed to assure protection against direct and indirect contact of live parts and fault currents towards earth according to the rules in force. The maximal allowed leakage current is 1 mA/kW. The switch must be placed where it can be easily reached by users.

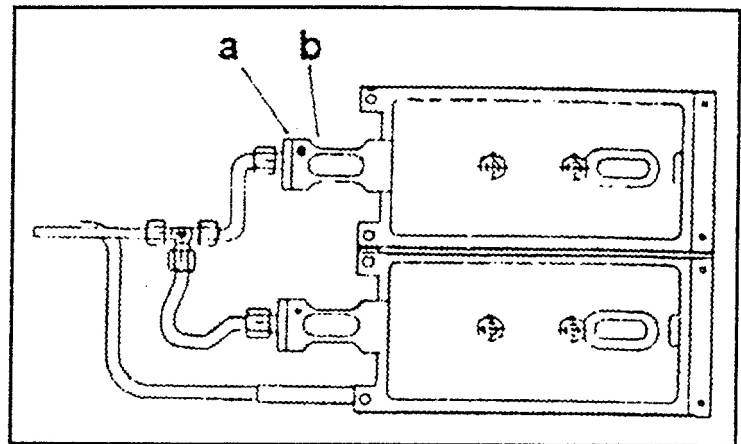
The appliance must be connected to the mains' earth line and included in an equipotential circuit whose connection must be made with a wire featuring a cross-section of at least 10 mm².

If necessary, the electrical cable must be replaced by an H05 RN-F heavy rubber in neoprene cable with 3 x 1 mm² wires.

2.3.1 GAS TYPE AND PRESSURE

The factory setting appear both on the packaging and the appliance you need to arrange these settings regarding the type of gas supplied in your area this what you must do

- Check which gas type and pressure correspond to the settings on the label to be found on the right side of the doner appliance as well as on page 2 of this manual.
- Select the appropriate nozzles for the type of gas and the operating pressure in the area (do not forget that pressure should never exceed 50 mbar) and replace all existing nozzles in the burners as follows



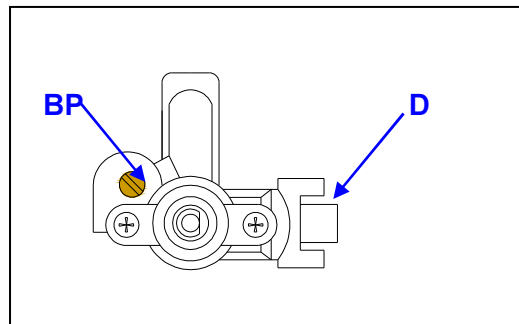
2.3.2 MAIN NOZZLES REPLACING

- a) Unscrew the 4 screws that hold the back basin of the appliance to have access to all burners.
- b) Loosen screw (c) (see picture above) that locks the nozzle holder onto the burner
- c) Unscrew screws . that hold the base of the burners and The overall structure of the doner appliance. This way the burners are free and can be disconnected one at a time.
- d) Unscrew nozzle (b) (see picture above) and replace it with the appropriate one.
- e) Do the same with all burners of the appliance,
- i) Re-screw the locking screws of the nozzle holder, the spit base and The appliance base, reversing the above procedures a,b,c,d,e.
- ii) When installation is completed, check for any possible leakage using liguide soop, Do not use matches or lighters for this check.

2.3.3 BY –PASS VALVE

The valves (gas taps) regulating the flow of the gas to the burners have a setting for maximun flow and one for moderate flow. The flow of gas to the burners at moderate (or reduced) flow setting is regulated by a by-pass nozzle (or screw), which can be seen on the regulator in the picture. The by-pass nozzle has a 0.85 mm diameter hole and should be screwed tight (fully down) when it operates with liguid gas (G30/G31); if it is to operate with natural gas (G20 or G25) it should be loosened for 3.5 rounds.

BP = By-pass screw.
D = Gas tap.



In order to regulate the by-pass you must:

- Remove the regulator knob and use a small screwdriver in the hole next to the regulator and to gain appears to the by-pass regulating screw. Turn clockwise to turn off the by-pass (to move from natural gas to liguid gas) and anticlockwise to move from liguid gas to natural gas.
- The by pass nozzle is kept in place by a special rubber O ring so there is no danger of it coming off even if you unscrew for 3.5 rounds which is the setting for natural gases.

After adapting the appliance for a different gas remember to:

- Check for any possible leakage using liquid soapy solution; do not use matches or lighters for this check.
- Put a red sealing (heat resistant paint) on adjusted by-pass screws to avoid tampering.
- Change the gas preset label on the appliance.
- Put again in place the rear metal panel by its fixing screws.

2.4 SAFETY SYSTEMS

- Each gas cock (tap) controls one single burner and it is equipped with a safety thermocouple prohibiting the flow of gas in case of accidental extinguishing of the flame on burner. If the safety thermocouple is not heated by the burner flame, the gas supply is cut within 60 seconds.
- Every pair of burners therefore is a closed and autonomous system with it's own cock (tap) and safety system.
- If the ventilation of the working area (installation premise) is not adequate, it will be necessary to make an opening on one of the walls to gain outside open air acces. The cross-section of the opening must not be less than 100 cm or meeting local and national rules in the matter of gas appliance installation.

2.5 TRAINING

The personnel who are going to install and connect the appliance must train the users appropriately so that they can handle the operation and safety measures of the appliance.

ATTENTION!!

- Check that the mains voltage In your working area is suitable for the settings on the label and that the appliance is properly earthed,
- Before any service activity takes place or any parts are replaced an the appliance, unplug It and moke sure the main gas supply vane is turned off.

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3. OPERATION INSTRUCTIONS

INSTRUCTIONS TO PERSONNEL FOR OPERATION AND CARE OF DONER

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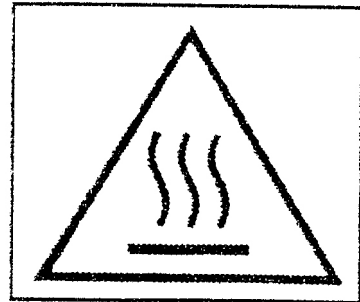
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3.1 TURNING ON THE APPLIANCE

Look out for hot surfaces on the outside of the appliance during preparation and grilling. These are clearly marked with the symbol shown on the right.

After making sure the appliance has been correctly connected to the electricity and gas supplies you can ignite and start using it.

NORTH DONER APPLIANCES ARE EQUIPPED WITH A PIEZOELECTRIC IGNITER WHICH IS CONNECTED TO THE FIRST BOTTOM BURNER IF YOU WANT TO IGNITE ONLY THE TOP BURNERS YOU NEED TO USE A MATCH OR A LIGHTER



For routine turning on procedures do the following.

- Turn on the gas supply main valve.
- Turn on and keep pressing on, the bottom first control knob.
- While pressing on the first control knob, activate the piezo-electric times until the burner lights.
- When the burner ignites, keep the control knob pressed for a few seconds (until the safety thermocouple is heated). Now the appliance is ready to operate.
- **Attention!** When the appliance is used for the first time, you may need to repeat the above procedure several times before ignition. This is due to presence of air in the gas pipes. After initial ignition this procedure returns to normal.

c) In order to ignite the rest of the burners, which operate in series, all you have to do is to turn on the second control knob by turning it and holding it pressed for a short while. Each pair of burners is equipped with a safety valve and can be lit separately.

3.2 PREPARING THE SPIT

- Prepare the spit by setting the round meat base, into place.
- Place the meat on the spit with the herbs and spices you have already prepared.
- Secure the spit on the lower base by placing the arm in the appropriate support position
- Secure the top end of the spit in the appropriate position by locking the safety key.

Now the Doner appliance are ready to operate. All you have to do is set the desired flame to spit distance (about 10cm) and start the rotation motor by pressing the switch.

- When grilling is over it is necessary to stop the spit rotary before you start cutting the meat.
- **ATTENTION!!** Do not try to stop the rotation of the spit with your hands while the motor is running

3.3 CLEANING AND MAINTENANCE

- Turn off the burner before any cleaning or maintenance procedures. Let the appliance cool and make sure it has been unplugged from the mains and the gas supply valve is turned off.
- At the end of the working day remove the arm and clean it. Empty and clean the fat collecting drawer as well as the meat scoop.
- Clean with a wet cloth the reflecting surface on the sides of the appliance the base of the spit and the spark plug of the piezo-electro igniter. **DO NOT EVER CLEAN THE CERAMIC BURNER.**
- Never use running water to clean the doner appliance.
- When you think it is necessary to clean the protective grid of the burners remove it carefully from the side and clean it with water and detergent. Let it dry well before reinstalling.
- At least twice a year, check the gas supply piping and the electrical wiring, At the time of more thorough check, ask specialized technicians to lubricant the control valves with a special lubricant if this is considered necessary,
- If the supply pipe needs replacing, use N05 RN-F3 x 1 mm Its external diameter should not exceed 8,2 mm.



3.4 RISKS ANALYSIS

Hazard type	Risk origin	Intervention for facing/reducing/eliminating risk
Mechanical	Fingers cuts during operating or maintenance of product.	<ul style="list-style-type: none"> Removal of burrs on manufacturing items in factory quality system. Use of protective means (suitable gloves) when food charging, food emptying and cleaning the rotisserie.
	Fingers/arms crushing or dragging during operating or maintenance of product.	<ul style="list-style-type: none"> Glass door with magnet to limit force for closing. Shaft rotators with increased handles diameters. Use of protective means (suitable gloves) when food charging, food emptying and cleaning the rotisserie. Recommendation to users and technician to operate after turning off the spit gearing rotation or switched off the electrical main.
Electrical	Electrocution.	<ul style="list-style-type: none"> Appliance body avoiding users access to live parts. Appliance provided with suitable grounding wire and equipotential circuit (project safety solution) according to standard EN 60335-1 requirements for professional devices. Recommendation to install the appliances in rooms equipped with safety devices on electrical main line (master with right technical features, differential breakers, ecc.). Maintenance allowed only to qualified personnel. Recommendation to avoid using direct water jets for cleaning and recommendation to switch off the main when cleaning. Use of original spare parts with right technical features (as electrical cable).
Temperatures	Burns and excessive temperature in the environment.	<ul style="list-style-type: none"> Surfaces of appliances are within temperatures limits fixed by standards according to item design. Use of protective means (suitable gloves) when food charging, food emptying and cleaning the rotisserie. Recommendation to install the appliances in rooms equipped with ventilation systems and at right distances from walls. Recommendation to supply the appliances with correct gas according to technical data label indicating current gas setting.
Materials	Fire and explosion.	<ul style="list-style-type: none"> Ceramic infrared burner operates properly when supplied with the right gas at the right pressure. The installed injectors shall be with suitable type and sizes for supplied gas. Right material used for enclosures and gas circuit fittings. Recommendation to keep away from appliances flammable liquid bottles or any other objects that could explode due to high temperatures.
	Gas leaks and fumes evacuation.	<ul style="list-style-type: none"> Each burner is equipped with safety thermocouple as mandatory requirement on standard EN 203-1. Gas tightness is checked on each item in factory quality system. Gas tightness is checked after installation and servicing. Recommendation to install the appliances in a proper room equipped with right devices (fan and hoods) to remove fumes and to keep healthy and ventilated the work environment.
	Biological harms.	<ul style="list-style-type: none"> Materials in contact with food comply to Regulation No 1935/2004. Recommendation to clean daily the rotisserie, in particular spits and fats collecting drawer.

3.5 TROUBLE SHOOTING TABLE

Fault	Possible reason	Measure
Burner does not light.	No gas pressure or low gas pressure.	Check valves are open and check on gauges if gas pressure is correct in supplying line or gas cylinder. In case, call technical Assistance.
	Gas valve on gyros is faulty.	Call technical Assistance for gas valve servicing or replacing.
	Burner ceramic holes are dirty or clogged.	Burner holes shouldn't be normally touched during cleaning; if really necessary, use carefully a light brush in plastic to uncork holes. Never use metal brushes or awls.
	Wrong gas installed or wrong injectors.	Call technical Assistance for adaptation to right gas.
Burner does not keep alight at maximal rate.	Thermocouple is faulty, dirty or not well licked up and heated by burner flame.	Call technical Assistance for safety thermocouple servicing or replacing.
	Gas valve on gyros is faulty.	Call technical Assistance for gas valve servicing or replacing.
Burner does not keep alight at minimal rate.	By pass screw on gas valve is wrong or not correctly adjusted.	Call technical Assistance for by-pass screw servicing or replacing.
Flames of burner are not stable.	Primary air is not correctly adjusted.	Call technical Assistance for adjusting the primary air near injector mixing chamber.
Spit does not move/rotate	Switch is not in ON position.	Turn ON the switch in frontal panel.
	Supply cable is not plugged in socket.	Insert the cable in the socket.
	No electrical supply is available.	Verify the room is supplied with electrical energy or safety breaker did not operate for short circuit troubles.
	Spit is not blocked in right seat/position.	Put the spit in right position for correct rotation.
	Internal wire is detached.	Call technical Assistance for electrical servicing.
	Internal gearing motor is faulty.	Call technical Assistance for electrical servicing.