BUTLER®

USER MANUAL

Rotary Rack Ovens:

RO-16E, RO-16D, RO-16G

Please read this Operation Manual carefully before operation and keep it properly.

The merits of this product are listed below:

1. Convenient operation, less manual work and single person operation.
2. Suitable for many kinds of roasting, including bread, toast, biscuit, cookie, moon cake, snack and a variety of meat etc.
3. Big roasting amount, 16 plates per roast.
4. Sound roast effect with consistent color, excellent taste.
5. Energy-saving, imported burner with low gas consumes and low exhaust.
6. Safe and reliable, with enclosed circuit design, and alarming is also equipped for releasing excess heat.
7. Low trouble happening rate, firm and durable and convenient maintenance.
8. Upper grade material, imported electronic components.

Model

Ⅰ----stainless steel (304)
Ⅱ----Outer installed panel, inner electrolyse panel
Ⅲ----stainless steel 430
Ⅳ----front 430, inner electrolyse panel, painted outer installed panel

Number of roasting plates
Way of heating (D - Fuel E - Electric G - Gas)
Code mark of rotary convection oven

Main parameters

Model	Electricals		Heating		Fuel consumption L/h	Gas			Heat load MJ/h	Dimension L×W×H(mm)	Weight kg
	Power kw	Voltage V	Power kw	Voltage V		Pressure pa					
						LPG	Pipeline	Natural gas			
RO-16D	2.2	380			1.2				200	2250x1280x2400	1180
RO-16E	2.2	380	33	380					200	2250x1280x2400	1180
RO-16G	2.2	380				2800	1000	2000	200	2250x1280x2400	1180

Installation and debugging position for installation

This equipment shall be installed to the place where there are no problems for the installation of auxiliary devices, operation of working procedure and fire-fighting. Considering cleaning, 100mm.space shall be left for both sides of the machine.

1. Installation
   This equipment is quite convenient to be installed. Adjust the device after it is well placed to make sure that it is under horizontal condition, and then continue the connection of circuit, gas pipe (gas model) and smoke venting system.
2. For safety considerations, grounding device shall be installed to equipment.
3. Debugging of the equipment
   After the completion of power supply configuration, the equipment shall be checked comprehensively, like whether there is appearance abnormality, whether the control meters is under original condition, whether there are buttons breakdown. And then clean the machine completely. After the completion of this steps, adjust each device respectively.
   ① Air feeder: start the air feeder and then adjust the air exit to ensure even air outflow.
   ② Motor for rotary table: start the motor to check the tightness of the belt (adjust it if necessary) and see whether the rotary table is under normal condition.
   ③ Exhauster: press the exhauster button and see whether it is operating when the door is open and stopping when the door is closed.
   ④ After completing the three steps above, operate the machine integrally to make sure there are no problems after putting into production.

Operation and maintenance

1. Open the power to adjust roasting temperature according to roasted food varieties. Keep the set temperature 10---15Min so that the temperature in the oven is under balanced condition after set temperature is reached.
2. Open the oven door and push the cart full of roasting articles into the oven, and then close the door and start the timer to roast.
3. Observe the roasting condition within the oven to see whether the set roasting time is appropriate.
4. The buzzer will alarm after the completion of this action. So it is time to open the oven and pull the cart out. And then close the oven door for temperature reservation for the next roasting.
5. Clean the oven body daily after roasting is ended to keep the equipment tidy.
6. Clean the roasting chamber weekly (if necessary) to remove the dirt, residue etc to make sure there is no smell within the oven.
7. Due to high temperature within the oven, add high temperature-resisting lubricating grease to each cart wheel monthly to ensure flexible movement.
8. Remove the lifting bedplate and add lubricating grease to the slide way to ensure free up and down movement.
9. Check the rotary plate tri-belt a periodically and make adjustments to ensure proper tightness.
10. As to diesel oil type equipment, the sprayer and ignition shall be cleaned every three month to ensure normal operation.
11. As to gas-firing type, the gas pressure shall be well monitored to make sure that the input pressure satisfy relevant requirements.

Attentions

1. The heating shall be avoided for injury in case of opening the door under high temperature conditions.
2. The cart shall be pushed to position so that the spring of the base plate lock the shaft, or else the cart may deviate (or go to the wall) and influence the roasting quality. Non standard carts are prohibited for use.
3. The measuring and control of temperature of this machine is single reaction type with no up and down toasting temperature adjustment. So the temperature of the upper and lower area is adjusted through multi-band air adjustment board. Temperature, time and air flow shall be applied for controlling toasted food color, the air flow is better not to be changed. The rule shall be carefully researched for the output of ideal roasting.
4. Principle of air speed selection
   ① As to roasting with mould, low air speed and longer roasting time shall be selected.
   ② As to deeper color or thin and small product roasting, high speed shall be selected. The temperature at the moment is high, so the roasting time shall be limited.
   ③ As to large interval between cart shelf, lower speed air shall be used (the amount of roasting article is large, so more time is needed) and vice verse high air speed is needed.

Trouble treatment

1. Table fir general trouble treatment (mechanical and electric part)

No.	Trouble characteristics	Reasons	Treatment
1	Opened power, but no movement on the equipment	1). Abnormal power 2). Malfunction of the travel switch on the lower left of the oven 3). Burned fuse within the control box, component trouble or moment high voltage 4). Broken power switch	1). Check whether it is three phase and four line 2). Adjust or replace travel switch 3). Replace fuse after checked to be normal 4). Replace power switch
2	Rotated plate but unmoved air blower	1). High and low air speed conversion switch 2). Broken contactor or loosen coil connection 3). Thermal relay jump, too low voltage or too small set current on the thermal relay 4). Damaged air blower 5). Power trouble	1). Replace switch or operate the switch to see whether it is normal 2). Overhaul or replacing 3). Reset or replace after checking out the reasons 4). Repairing or replacing 5). Overhaul the outer power supply
3	Moving air blower but unmoved high and low speed blower	1). Unclosed door 2). Travel switch failure	1). Well close the door 2). Adjust the position or replacing
4	Moving air blower but	1). Circuit trouble of the motor of	1). Overhaul the control

	unmoved rotary plate	the rotary plate 2). Damaged rotary plate motor 3).Overloaded thermal relay protection action	circuit 2). Repair the motor 3). Reset or adjust the set value larger
5	Opened oven door, but non automatic rotary plate positioning	1). Damaged close connection switch on the top 2). Loosen close connection switch on the top 3). Open circuit close connection switch	1). Replace close connection switch 2). Reset 3). Lock the connection joint
6	Non working air exhauster on the door top when the door is opened or time out	1). Damaged exhauster motor 2). Contactor trouble 3). Thermal relay jump 4). Motor be blocked due to rarity 5). Damaged timer	1). Overhaul motor 2). Check the coil connection of or the contactor, replacing or repairing 3). Reset or adjust to larger set value 4). Clean, adjust and repair 5). Replace timer
7	Time out, but quiet buzzer	1). Loosen connection 2). Damaged timer or buzzer	1). Check the circuit 2). Relevant repairing or replacement
8	No steam or small amount of steam after pressing spraying switch (reserved for special ordering)	1). Damaged button switch 2). Blocked magnetic valve or burned coil 3). Damaged spraying timer or irrational adjustment 4). Too low water supply pressure	1). Replace button switch 2). Clean or replace coil 3). Replace or readjust spraying time 4).Improve water supply
9	Non stopping spraying or too much spraying (reserved for special ordering)	1). Too long spraying time 2). Too large pressure 3). Blocked magnetic valve or difficult to close	1). Adjust the set value to 2-3 seconds 2). Adjust the water inlet valve to let less water in 3). Clean magnetic valve
10	Uneven interval of oven door	1). Aged door sealing 2). Loosen door adjustment structure	1). Replace sealing 2). Readjust
11	Uneven temperature within the oven and inconsistent toast	1). Irrational adjustment of the heated air inlet 2). Uneven rotary plate or partial cart center	1). Adjust air inlet bigger at the point of higher temperature, and vice verse 2). Adjust the rotary plate or the positioning spring of the cart

2. Table for general trouble treatment for the burner

No.	Trouble characteristics	Reasons	Treatment
1	Opened temperature switch, but quiet burner	1). Damaged temperature switch or error connection 2). Damaged burner controller (there is power to the burner) 3). Abnormal procedure results from abnormality	1). Overhaul switch or connection 2). Replace controller 3). Press the green button on the burner for 1-2 seconds
2	Running motor of the burner, but difficult to ignite	1). Lack of diesel or blocked oilway 2). Air in the oilway 3). Blocked spray nozzle 4). Damaged or blocked magnetic valve 5). Unmatched distance between spray nozzle and fire rod 6). Broken ceramics of fire rod and result into electric leakage 7). Problematic oil pump	1). Adding oil or clean oil line and filter 2). Open exhaust valve, and start the machine after completing exhausting 3). Clean spray nozzle and replace clean diesel 4). Repair magnetic valve or purging 5). Adjust and retrying 6). Replacing fire rod 7). Overhaul oil pump to see whether it is blocked or there is trouble on the oil line
3	The burner can be ignited, but goes out quickly	1). Damaged or too dirty electric eye which make it difficult to be detected 2). Troubled controller	1). Replace or clean the electric eye 2). Replace controller
4	Airing (namely blasting after the combustion chamber is ignited, but it generally happens after igniting for some times)	1). Loosen or broken spray nozzle, which results into oil leakage and inefficient burning 2). Too slow ignition (≥15 second) may be due to: (1) too dirty fire rod (2) moved fire rod (3) ruptured ceramics of the fire rod (4) too dirty ceramics part of the ignition transformer 3). Too dirty electric eye, which results into unsmooth ignition and oil accumulation 4). Obstructed smoke venting pipe, which results into obstruction	1). Tighten the spray nozzle or replace it 2). Selective methods; (1) clean the fire rod (2) adjust the position and fix it (3) replace fire rod (4) clean relevant positions 3). Clean electric eye 4). Clean smoke venting pipe 5). Replace diesel 6). Clean combustion chamber 7). Clean or over haul the magnetic valve

		5). Low quality diesel, which results into inefficient burning 6). Large amount of oil accumulation or carbon deposit in the combustion chamber 7). Too dirty magnetic valve, which results into oil leakage	

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