

**COMPACT INCUBATOR
MI-30-1-E**

(MINI-INCUBATOR “KVOCHKA”)

**Operating Manual
REST 272131.001 RE**

1. GENERAL INFORMATION

- 1.1. This operating manual includes the general information concerning the structure and operation of the compact incubator MI-30-1-E (Mini-incubator “KVOCHKA”) hereinafter referred to as incubator, being the document certifying the incubator’s general specifications. This incubator is a household device purposed for hatching of any poultry eggs for private farming.
- 1.2. This incubator is to be operated indoors, in heated rooms under normal climatic conditions at the environment temperature +15...+35°C.
- 1.3. It is prohibited to install the incubator near heaters. Protect the device from direct sunrays and draught.

2. TECHNICAL DATA

Incubator capacity:

Quail eggs:	180 pcs. max.
Hen eggs:	70 pcs. max.
Duck and turkey:	50 pcs. max.
Goose:	40 pcs. max.
Preferable temperature range for incubation, °C:	+37,7...+38,3
The electronic thermoregulator maintains the required temperature in automatic mode.	
Temperature accuracy in the incubator, °C:	±0.2
Voltage:	220±22 V AC
Power supply frequency, Hz:	50
Power, W:	30
Power consumption during the hatching period (30 days), kW / hour, 10 max.	

Dimensions:

Length, mm	470
Width, mm	470
Height, mm	210
Gross weight, max, kg	2.5

3. COMPLETE SET

Incubator MI-30-1-E	1 pc.
Operating manual	1 pc.
Replaceable grid	1 pc.
Spare tissues	2 pcs.
Cardboard box	1 pc.
Additional trays for quail eggs (optional – against special order):	6 pcs.

4. SAFETY REQUIREMENTS

- 4.1. Please read this manual thoroughly and follow the operation requirements.
- 4.2. Do not switch on the incubator with its cover removed.
- 4.3. Do not place the incubator near open fire and heaters. Do not connect the incubator to the power supply in the event of considerable voltage drops (less than 180V and more than 250V).
- 4.4. Do not pull the power cable when disconnecting it from the power source.
- 4.5. In the event of any close lightning storm the incubator shall be provisionally disconnected.
- 4.6. Do not place any objects on the incubator's cover and do not press on it.
- 4.7. If stored in the cold place the incubator is to be kept at the room temperature during four hours at least before connecting it to the power supply.

5. INCUBATOR'S STRUCTURE

- 5.1. The incubator consists of two functional parts (see the figure): case 1, cover 2, and two supports 3 made of special heat insulating material. Case 1 includes a hygienic pallet 13 (to place eggs in lines), two moisteners 7 with hygroscopic tissues 7a, grid with sixteen trays 8 purposed for placing hen, duck and turkey eggs in 9 lines, large goose eggs in 8 lines and quail eggs in 12 lines (due to the trays relocation on the grid. Case 1 bottom part and hygienic pallet 13 include seven vent openings 4. There are four flanges (7mm high) from the outside of the bottom, for supports 3 installation, which maintain case 1 inclined. Cover 2 includes two inspection windows 8 covered with transparent lids, six constantly opened vents and three vents closed with the red plugs 9. Heater 10 (four incandescent lamp or heating wire), fan 11 and air distributor 12 are installed inside the cover 2. The electronic thermoregulator 15 with a power cable 14 are mounted on the outside of cover 2. The central part of the thermoregulator case includes the temperature indicator 16; and the right bottom part includes the temperature setting button 17.
- 5.2. Preset temperature in the incubator is maintained by means of the electrical heater 10. The heater is switched on and off automatically by thermoregulator 15.
- 5.3. Air humidifying is provided due to water evaporation from two hygroscopic tissues 7a in moisteners 7.
- 5.4. Air exchanging in the incubator is provided through vents in case 1, pallet 13 and cover 2. More intensive ventilation may be provided though vents closed with removable red plugs 9.
- 5.5. Fan 11 and air distributor 12 provide air mixing inside the entire incubator to maintain the homogenous temperature and humidity.
- 5.6. Hygienic pallet 13 is purposed to collect any waste products and to protect the incubator case against contamination.

6. PREPARATION FOR WORK

- 6.1. Unpack the incubator. Remove the cover 2 from the incubator case 1. Take out a grid with trays, tissues, supports, moisteners, pallet and this operation manual. **ATTENTION! Careful operation and maintenance of the incubator will ensure the healthy just-hatched poultry and your incubator's good condition.**
- 6.2. Wash and disinfect separately the case 1, pallet 13 and grid 5 with trays 8 and moistener 7; trays, moistener and grid may be disinfected when assembled. Disinfection shall be made with 1...3% manganese-water solution (pink colour) or special disinfectant Browades plus (delivered by Ost-Invest as an option). Neither wipe nor dry them. Do not wash the cover, just wipe with a wet tissue.
- 6.3. Install two supports 3 (press them with hands previously) between flanges on the bottom of the incubator case. The case therefore is inclined. Place pallet 13 on the bottom of case 1, grid 5 assembled with trays 8 and moisteners with tissues (7 and 7a). Moisteners with tissues are placed inside the incubator, on the case walls – opposite each other (see the figure). The moistener cylindrical flange shall enter tray 8. Tissues in moisteners shall be previously wetted with drinking water and slightly wrung out. Spare tissues shall be used for the following incubations.
- 6.4. Add two table spoons of warm boiled or settled drinking water (30 ml) in the cone of each moistener. Tissues shall absorb water at that. We recommend to use a plastic graduated glass (may be purchased in the pharmacy).
- 6.5. Install cover 2 on case 1 so that lateral slots (purposed for power cable 14 during transportation or storage) do not coincide.
- 6.6. Connect power cable 14 to the power supply 220V. Heater 10 (four incandescent lamps or heating wire) shall switch on; and indicator 16 shall indicate the current temperature in the incubator. **The signal lamp under indicator 16 inside the thermoregulator case will switch on; the signal lamp is off when the heater is off correspondently.**
- 6.7. Check the temperature after four hours of operation. Its value shall be within the range 37,7-38,3°C (the most favorable temperature for incubation of any poultry). The incubator factory setting: +38,0°C.

7. OPERATION

- 7.1. Select eggs suitable for hatching according to the recommendations described in the manual *Things You Should Know About Poultry Farming*, Chapter 3 (edited by Ost-Invest Ltd.) (to be delivered as an option).
- 7.2. Disconnect the incubator from the power supply, remove cover 2. Place the eggs in lines between trays; the sharp end thus will be inclined downwards. **You should take into consideration that the incubator case may swing regarding supports 3, eggs placement shall be commenced from the lower part of the incubator case.** As soon as the eggs are placed into the incubator install the cover 2 on case 1. Connect the incubator to power supply 220V.

- 7.3. Upon four hours of operation at least check up the incubator automatic operation; which can be monitored by the heater 10 periodic switching on, as well as the signal lamp activation.
- 7.4. **Upon 10-15 hours after the eggs placing change the incubator inclination. Further change the incubator inclination twice a day: in the morning and in the evening (each 10-15hrs). The air humidity in the incubator is an essential factor having the effect on the hatching process. Monitor the tissues humidity and moisten them every day (each 24...30 hrs), pouring 2 table spoons (30 ml) of warm water into the cone of each moistener. The air humidity will be maintained at 60...70%.**
- 7.5. The temperature in the incubator after the tissues moistening will restore in one hour at least.
- 7.6. **ATTENTION! The temperature indicated during two days immediately after the eggs placing into the incubator will be the temperature of cold eggs. No temperature adjustment is permitted therefore. Be informed that several days before the hatching termination the temperate increases naturally in the incubator (embryo's temperature is about 40°C). That is why we do not recommend the temperature decreasing in the incubator.**
- 7.7. To detect the set temperature in the incubator press button 12 and hold it during 1...1,5 s; and indicator 16 indicates the set temperature. Release the button and the indicator indicates the current temperature inside the incubator. Thermoregulator 15 provides the temperature setting within 37,0 ... 39,0 °C. To adjust the set temperature press button 12 and do not release. The value on the indicator will increase by 0,1°C each 2 seconds until it achieves the value 39,0°C. After that the temperature decreases to 37,0°C and than — it starts rising again. As soon as the required temperature is obtained release the temperature.
- 7.8. **Where the misted area of transparent plugs 8 exceeds a quarter, open two openings in the incubator closed with red plugs 9 and close them when the misted area decreases. Where mass pipped eggs appear open three openings 9 covered with red plugs and keep them open until the incubation terminates.**
- 7.9. The power supply interruption of maximal duration 5 hours has no effect on the hatching process; though we recommend to close the inspection holes with thermal insulator (e.g. books); do not close six vents between the holes. In the event of frequent power supply interruptions do not remove the books. If no power supply is available more than 5 hours, put hot water bottles on each inspection hole (water temperature is +60...+65°C) and cover the bottles so that the vents remain open. Do not open the indicator during this period.
- 7.10. **Stop swinging the incubator and install it in the horizontal position, remove supports 3: for quails - on the 15th day; for hens - on the 18th day; for turkeys and ducks - on the 24th day; for geese - on the 27th day and for musk-ducks - on the 29th day. Continue the tissues moistening.**
- 7.11. Upon the pipping commencement disconnect the incubator from the power supply, remove cover 2, take eggs out of the incubator and place them carefully on a soft mat; remove grid 5 with trays 8, moisteners 7 and tissues 7a.

Put the replaceable grid into the incubator with its smooth surface upwards to exclude the possible jamming of feet and beaks in it. Place eggs on the grid, close the cover and connect the incubator to the power supply.

The hatching period differs for different eggs: quails - 17 days; hens – 21 days; turkeys and ducks - 28 days; geese – 30 days and musk-ducks – 33 days. The hatching results depend on the quality of selected eggs and accuracy of recommendations of this manual and those of *Things You Should Know About Poultry Farming*.

- 7.12. Check up eggs quality before the incubation by means of eggtester. Egg-testing promotes hatching by 90...95%. Ost-Invest manufactures three models of eggtesters and supplies them against a separate order.
- 7.13. Monitor hatching through the inspection holes and remove chicks from the incubator. We recommend to place the just hatched chicks into thermal chambers (30...35°C) or into the nursery Kurchatko (Chick), manufactured by Ost-Invest Ltd and supplied against a separate order.
- 7.14. When the hatching is terminated wash case 1, pallet 13, grid 5, trays 8 and moisteners 7 with warm water and detergent. **Do not wash the cover, just wipe with a wet tissue.** To remove trays 8 from grid (where necessary) by slight pressing catches and removing them from the grid mesh. Wash, dray and pack into PE package tissues 7a. Disinfect clean parts of the incubator with 1...3% manganese-water solution (pink colour) or special disinfectant Browades plus (delivered by Ost-Invest as an option) and do not dry.

8. STORAGE

- 8.1. Keep the incubator in the supplied cardboard box that protects it from any damage.
- 8.1. Protect the incubator from strong chokes and pushes.
- 8.1. Store the incubator packed in the dry, ventilated room, protected from direct sunrays at the temperature +5...+35°C and maximal relative humidity 80%. Never place the incubator near the open fire and heaters.
- 8.1. The air in the storage place should not contain any evaporations and gases that may result in corrosion of the parts.

ATTENTION! The incubator is to be stored in the room free from rodents (mice, rats).

9. TROUBLE-SHOOTING AND FAULT REMOVAL

Any malfunctions of the incubator operation including a lamp heater (no lamps radiation) may be caused by failure of any lamp or missing contact in any of four lamp holders (electrical circuit has a series connection). In such a case the lamp (60W) shall be replaced or tightened up. In the event of other malfunctions of the incubator operation refer to the manufacturer – Ost-Invest. In your written request notify your contact phones.

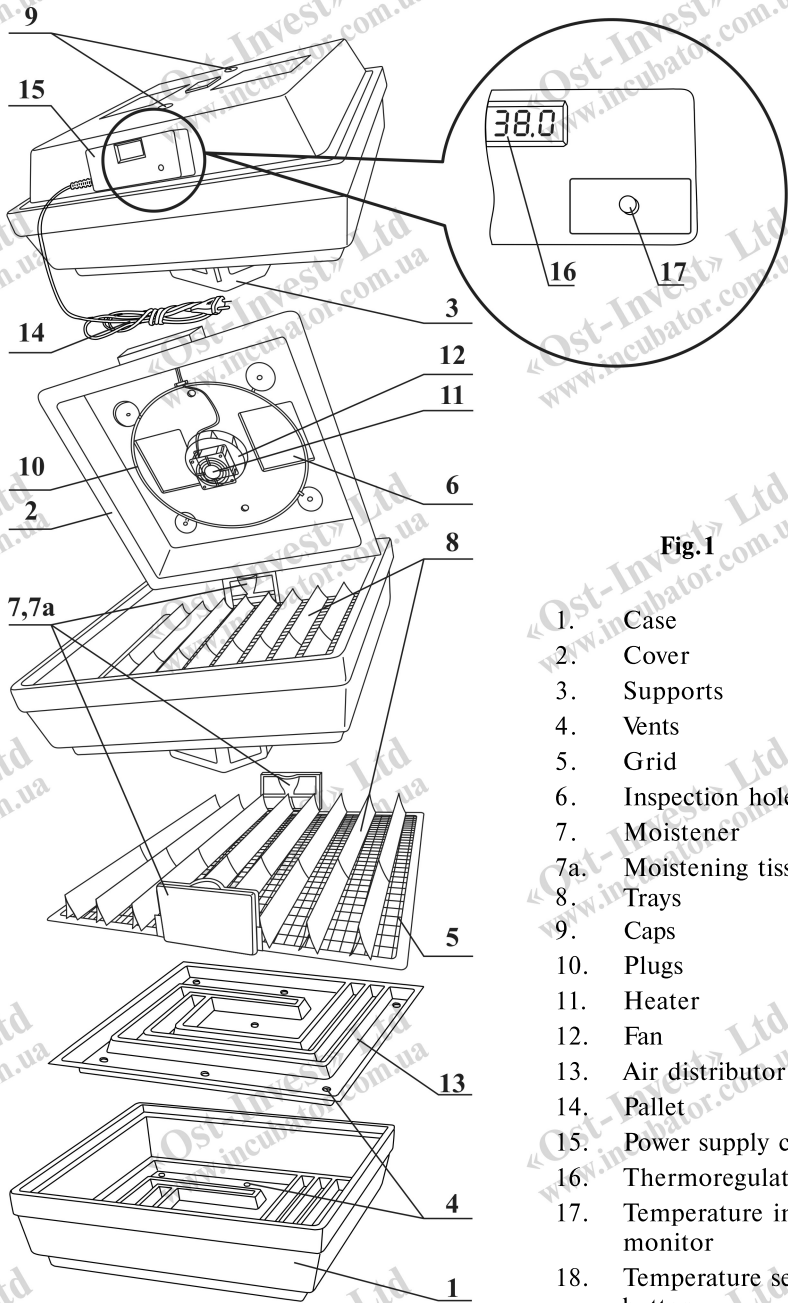


Fig.1

1. Case
2. Cover
3. Supports
4. Vents
5. Grid
6. Inspection holes
7. Moistener
- 7a. Moistening tissues
8. Trays
9. Caps
10. Plugs
11. Heater
12. Fan
13. Air distributor
14. Pallet
15. Power supply cable
16. Thermoregulator
17. Temperature indicator monitor
18. Temperature setting button

10. ACCEPTANCE CERTIFICATE

- 10.1. The incubator MI-30-1-E meets all Ukrainian technical specifications 21356020.001-96 TU and is certified for operation.

Production date _____

Signature of person
responsible for acceptance _____

11. MANUFACTURER'S WARRANTY

- 11.1. The manufacturer guarantees that the quality of the incubator meets the technical specifications 21356020.001-96 TU if the consumer follows all operation conditions in this manual.

The warranty period is 18 months after the sale date.

The incubator's minimal service life is 5 years after the production date.

The incubator's owner has a right for free repairs in the event of any failures that may arise during the warranty period subject to this manual presentation.

The warranty repairs will be performed by the manufacturer:

Ost-Invest Ltd.

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