

INSTRUCTION MANUAL

ULTRASONIC DEVICE FOR WASHING “DUNA”

GUIDELINES

Ultrasonic device “DUNA” for washing (further- “appliance”) is a household electronic appliance based on ultrasonic vibrations to wash textile products of different fabrics.

Innovative technology of ultrasonic washing excludes not only possible mechanical friction, distortion and / or wear, but also recovery of textured fabric-fiber structure, internal cleansing and fresh heightening. This is particularly significant for fine linen, knitted, lace and wool fabrics which require delicate handling.

TECHNICAL SPECIFICATION

1. Power supply-voltage.....220V \pm 10%
2. Current frequency50÷60 hz
3. Input power, not more20 W
4. Emitter acoustic frequency90 khz \pm 15 khz
5. Cleansing solution temperature, not more60 °C
6. Performance mode.....long-term
7. Unit weight, not more.....0,165 kg
8. Performance life, not more5 years

CONFIGURATION

Delivery set includes:

1	Ultrasonic device “DUNA” for washing	1 pc.
2	Instruction manual	1 pc..
3	Single-packed	1 pc.
4	Ultrasonic power detector	1 pc.

SAFETY REQUIREMENTS

Ultrasonic device “DUNA” for washing is consistent with sanitary requirements.

Functional test involves a short-term (not more than 1 minute) plugging-in without placing in water. Light vibrating sound from in-service device indicates its performance capacity. This unit has no negative effect on people and domestic animals.

Before starting examine to make sure that there is no mechanical damage of the device frame, cord set and/or connector plug.

Device maintenance and service are performed by the manufacturer.

If transported at below-zero temperature, the device should be maintained at room temperature for two hours.

DO NOT:

- use device in case of mechanical damage of the frame or cord isolation;
- plug in and/or plug out with wet hands;
- plug in the device without water (* only for one minute)
- put one's hands in cleansing solution when device is running;
- remove the device by the cord;
- tamper the device;
- heat and/or boil laundry together with the device.

DESCRIPTION OF DEVICE AND ITS OPERATING PRINCIPLES

1. Generator, electric power supply and piezoceramic radiator are installed into the device frame.
2. Piezoceramic radiator produces ultrasonic vibrations, possessing high effective penetration in fluid medium and producing specific micro-reactions on the surface of stained textile fibers. These micro-reactions break the bond between dirty microfine particles and the fabric fiber itself furthering easy surface-active agent release via washing detergents. Such internal cleansing results in highly effective washing.

OPERATION PROCEDURE

1. Unpack the device. The cord should not be twisted.
2. Sort the laundry out according to fabric type, color and dirtiness. It is recommended to presoak "heavy" stained laundry in warm washing solution for 1-3 hours and then wring laundry out. Especially stained spots on collars, cuffs, etc. should be dampened by washing detergent. If there are nasty and dreaded stains, use stain removers (laundry boosters) for this or that type of fabric.
3. Fill a tub with water (recommended metal tub), i.e 10-20 liters (10 liters of water to 1 kg. of dry laundry). Temperature of the detergent solution should be maximum for this or that type of fabric (pay attention to clothing label). Adjust the temperature, accordingly- it should not be more than 60 °C. Optimal temperature 30-50 °C. Detergent should be suitable for this or that fabric.
4. Distribute the detergent in the water and mix it around in the water with your hands. Measure out the laundry detergent for hand washable. Check the recommended amounts on the detergent packaging.
5. Then add the laundry. Work by moving the laundry around in the water to loosen up air bubbles from the fabric (improves washing quality). The laundry should not be cramped.
6. **Place the device under the laundry in the middle. The logotype "Duna" should be upwards.** Laundry with particularly dirty spots place closer to the radiator. Plug the device in- and your washing is in process.
7. Washing time: up to 40 minutes for less dirty laundry and delicate fabrics and more than 40 minutes (even several hours) for particularly dirty laundry and durable cloth. It is recommended to move the laundry 2-3 times during one or more hour washing. **Don't forget** to plug out the device.
8. After washing: По окончании стирки необходимо:
 - plug out the device from the socket;
 - remove the device from the tub, rinse and dry it.
9. Freshly washed laundry dunk into a tub of clean water and move it around to get off as much of the detergent solution as possible. Then rinse the laundry again in clean water.
10. Place the device away, Be sure that the cord is not twisted.

MANUFACTURER GUARANTEE

1. Guarantee period- 12 months from on-sale date. Manufacturer guarantees to repair or replace the device free of charge if it is damaged or faulty through no fault of the consumer.

2. Guarantee service shall be valid if only:

- no mechanical damage of the device and/or cord;
- certificate of acceptance and sale;
- undamaged and standard labeling of the device, i.e. production date as stated in certificate of acceptance and sale.

3. The device under guarantee is either taken to the Service Center of the trade organization by the consumer or the consumer independently can send the device by post (excluding parcels by cash on delivery).

4. The customer should cover the cost of repair (Service Center) if the device is without any guarantee. In this case, the consumer can go to the Service Center independently or send the device by post (excluding parcels by cash on delivery)

Service Center address: CJSC Medico-Ecological Center “Duna”
52 Gertsen St. Tomsk, 634061, Russia
Tel: (382 2) 52-37-04.

Certificate of acceptance and sale

Ultrasonic device “DUNA” for washing compliant to TS 5156-007-44240337-2005 and certificate № TS RU S-RU.AL16.V05238

Production date

Stamp (seal) of producer

Name and address of trade organization

On-sale date

Stamp (seal) of trade organization

Ultrasonic indicator

Ultrasonic power indicator controls performance efficiency of the device during washing, converting ultrasonic energy into electrical signals. Under conditions of sufficient power Indicator LED begins emitting- the higher the power output, the brighter the emitting diode.

Ultrasonic power indicator has no power supply source, is waterproof (can be placed in water)

Testing:

1. Pour a small amount of water into a container
2. Place the **Indicator**
3. Plug the washing device “Duna” in. Press down the **Indicator** slightly. At sufficient ultrasonic power the diode begins emitting.

