



Operation Manual

TTS400



Thank you for purchasing this Sonowave Ultrasonics product.

Read this manual attentively before starting up this unit.

This product may only be used by operators who have read and understood this operation manual, and are familiar with the applicable laws for accident prevention and workplace safety.

Keep all the information material for future reference.

For any doubt you can contact our technical service.

Safety precautions

For safety reason the operator must read the following cautions carefully.

Installation must be carried out by qualified technical personnel only.

This device can only be operated by properly trained personnel.

During installation, servicing and cleaning the unit must be unplugged from the mains. Never use liquid or spray for cleaning.

Check that voltage and frequency correspond to the one indicated on the generator before connecting it to the mains.

In order to avoid fire, explosion or injury, do not operate the unit in places where harmful gases or material (flammable, explosive, corrosive, etc.) are detected.

Never operate the unit in places where moisture could penetrate the unit itself.

To avoid risk of electrical shock do not introduce a rod or any other object in the generator air inlet or outlet.

Do not operate the device with wet hands.

The generator should be positioned on a stable surface which prevents it from falling, which may cause damage or injuries. The generator should not be positioned on surfaces subject to vibrations or bumps.

This device should only be used with converters and spares supplied by Sonowave Ultrasonic. Using a non original part may result in a damage to the device itself or/and in injuries.

If the unit (or any part of the same, cables included) should be damaged or should not function properly, unplug it immediately from the mains.

Do not modify or try to repair the device. In case of damage contact our technical service.

The device must be earthed. Incomplete earthing may result in electric shocks.

Do not touch the converter body (11) and/or the sonotrode (12) when ultrasonic are operating, this to avoid the risk of burning or injuries.

Sonowave Ultrasonics

Working conditions

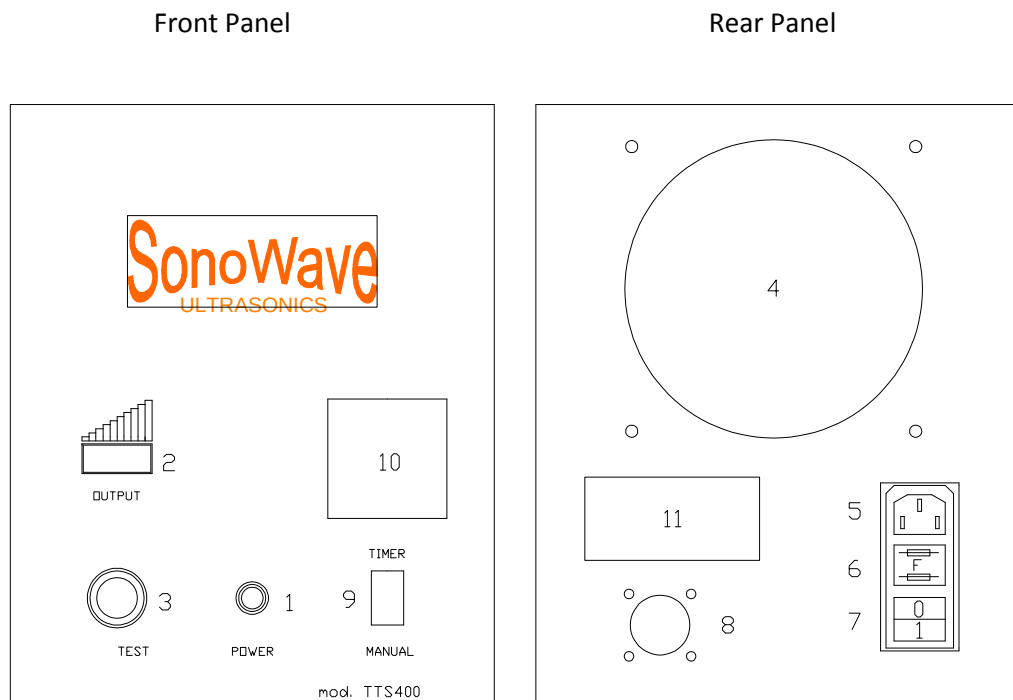
The generator should be positioned on a stable surface which prevents it from falling, which may cause damage or injuries. The generator should not be positioned on surfaces subject to vibrations or bumps.

Working temperature should be between 10°C and 35°C.

Avoid wet and humid locations.

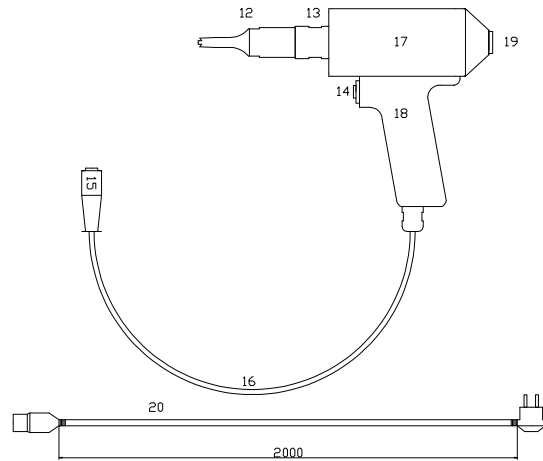
Names of parts

Generator



1. LED POWER. Shows that the generator is connected to the mains and switched on.
2. OUTPUT DISPLAY. Shows output power, each led shows a 10% increase.
3. TEST BUTTON. If the button is pressed the generator starts operating.
4. COOLING FAN
5. MAINS CORD CONNECTION
6. MAINS FUSES POSITION
7. ON/OFF SWITCH
8. 7 POLES CONNECTOR
9. TIMER/MANUAL SWITCH
10. TIMER
11. ID NUMBER

Pistol



- 12. SONOTRODE/HORN
- 13. CONVERTER BODY FOR ULTRASONIC OUTPUT
- 14. START BUTTON
- 15. BACK PANEL CONNECTOR
- 16. US CORD FOR GENERATOR LINKING UP
- 17. PISTOL BODY
- 18. PISTOL HANDGRIP
- 19. PISTOL BACK WITH AIR INTAKE
- 20. MAINS CORD

Connections

For connections use cord and cables supplied.

The generator has to be connected to the mains. Check that voltage and frequency correspond to the one indicated on the generator before connecting it to the mains.

The generator has two mains fuses 3,15A 250V placed on its back panel (6) between on/off switch and mains cord connection.

If you need to change the fuses, the generator has to be unplugged from the mains. Pull the fuses holder from the back panel and replace them with new fuses of the same type.

For the connection of the generator with the converter use only the US cable supplied with the unit. The cable must be connected to the 7 poles connector on the back side of the generator.

In some applications the 7 poles connector may have an extra start cable. The start cable gives a connection that can be used to start the ultrasonic generator. The start cable is a normally open contact.

Starting the unit

Connect the generator to the mains, give power with the on/off switch (7), the power led (1) lights.

Push the start button on the pistol. The generator starts functioning and the converter starts vibrating. Ultrasonic will be continuously generated until the start button is maintained pressed if the switch (9) is on manual position. Ultrasonic functioning time will depend on timer setting if the switch (9) is on timer position

The unit can also be started by pressing the test button (3).

When you start the unit for the first time we suggest to press the test button (3) and to check that without any cutting or welding operation the output power is 10-20% of the total on the output display (2). This corresponds to 1-2 led lighted. You should contact our technical service if the test gives different results.

A proper cooling of the converter and sonotrode is needed whenever the application requires a continuous functioning of the unit. Feel free to contact our technical service for assistance.

A proper cooling of the converter and sonotrode is needed whenever the cutting or welding application generates heat which cannot be easily dissipated. Feel free to contact our technical service for assistance.

The pistol is designed to be used for discontinuous manual operations.

Timer

The timer allows the user to set a fixed lapse of time. Timer mode is active when the switch (9) on the front panel of the generator is on timer position.

The timer display shows the preset operation time.

Each of the number keys 1 to 4 is used to increment the value of the corresponding digit of the preset. Keys 4 and 3 are used to set seconds. Keys 2 and 1 are used to set tenths and cents of second.

When ultrasonic are active the timer display will also show timing.

E and P keys are used by the producer for timer programming. Program will not be modified if E and P keys are pressed by mistake, anyway they should not be pressed intentionally.

Maintenance

No special maintenance is needed if the unit is used properly.

Always stop the unit and disconnect it from the mains before cleaning.

Dust and dirt should be removed regularly using a damp cloth.

Troubleshooting

Should the unit not work properly please check what follows:

- ✓ The generator is connected to the mains and the on/off switch is on.
- ✓ All cables and cords are properly connected and not damaged.
- ✓ The mains fuses are not broken.
- ✓ The sonotrode is firmly screwed on the converter and the contact surfaces between converter and sonotrode are perfectly clean.
- ✓ The stud is tightly screwed in the sonotrode before the sonotrode is fixed on the converter.
- ✓ When pressing the test button (3) without any cutting or welding operation the output power is 10-20% of the total on the output display (2).

Specifications

Maximum power	400 Watt
Frequency	40 KHz
Voltage	230V, 240V, 110V depending on areas
Fuses	3,15A 250V two fuses
Generator dimension	mm 180X350X240
Generator weight	Kg 10
Display Output	10 led 10% increase each

Warranty

The unit is covered by one year warranty from purchase date. Warranty applies to parts, transport at customer cost.

Warranty does not cover:

- ✓ Wear and tear parts, such as sonotrodes
- ✓ Damage caused by inappropriate operation
- ✓ Damage caused by modifications made by the customer
- ✓ Damage caused by the use of not original spare parts

For technical questions or assistance you can always contact us at:

service@sonowave.eu

Sonowave S.r.l.
Via Monterosa, 10
20025 Legnano MI
ITALY
Tel +39 0331021299
Fax +39 03311812399

EC Declaration of conformity



Sonowave S.r.l.

Via Monterosa, 10 20025 Legnano MI ITALY

declares that the electrical equipment

Product	Ultrasonic unit
Model (s)	TTS 400

Satisfies the requirements of these Directives that apply to it:

- ✓ Directive LVD 2006/95/EC
- ✓ Directive EMC 2004/108/EC

Harmonized standards:

- EN 61000-6-2 (2002)
- EN 55011 (1998, +A1+A2)

Year in which the CE marking was affixed: 08

Legnano 26/03/2008

Lorenzo Muscarella

Disposal requirements



The device is marked with this symbol. This means that electrical and electronic products shall not be mixed with unsorted waste.

The device must be treated at a specialized treatment facility for re-use, recycling and recovery. By ensuring this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health. Please contact your supplier or the producer for more information.

In countries where electrical and electronic equipment waste disposal regulations are applicable, infractions are punishable with a fine.