

THERMOSONICS

ULTRASONIC WELDING EQUIPMENT

Hand-held Welder Model H35-05



APPLICATIONS

This hand-held welder is an in-expensive and handy tool for ultrasonically welding large plastic parts and those with hard to reach joint areas.

Ultrasonic welding may be used to join all thermoplastics and there are a multitude of different assembly techniques including, spot welding, staking, swaging and inserting of metal fasteners.

In this connection the hand-held welding system is particularly suitable for

- spot welding
- welding of planes/flat zones
- deformation of moulded rivets.

The hand-held welder is extremely flexible and may be used for example:

- when weld spots have to be set irregularly or when weld positions change.
- for hard to reach joint areas.
- for large and difficult parts.
- in small series production.
- for repair jobs.

These conditions often occur are, during the manufacture of panels, housings, vacuum formings, air channels and also when welding films and synthetic fabrics.

The handtool may also be mounted in a small hand press as an economical alternative

to a pneumatic press. This would be particularly suitable for welding smaller components or for inserting and staking applications.

Ultrasonic Cutting

The handset is also available with a range of either off the shelf, or bespoke cutting blades.

Ultrasonics is particularly useful for cutting and sealing fabrics, films and filter media, being much quicker and giving a neater finish than hot knives. Ultrasonic cutting is also used extensively in the food industry.

DESCRIPTION

The generator supplies a 35kHz signal to the hand-tool which is converted into mechanical vibration. The operator applies the tip of the hand-tool, under pressure to the part to be welded and the ultrasonic vibration causes friction at the joint which melts the plastic.

The molten material of both work-pieces now flows together and after the cooling phase, becomes a durable assembly.

The duration of the weld can be determined by the operator in two ways. Either the weld time is selected by adjusting the weld time control, or the weld time is determined by pressing and releasing the switch.

Technical Features

Handtool

The grip of the handtool is ergonomically designed for easy handling. The weld is triggered by a switch located in the grip. The horn can be easily exchanged and is screwed to the transducer (M8 thread).

Generator

Varying conditions arising through manual application of pressure are compensated for by the automatic amplitude compensation. The weld time can either be preselected to between 0.5 and 10 seconds or set to continuous and controlled by the operator.

Technical Specifications

Handtool

Dimensions:
length 230mm
weight 0.3kg
RF cable 2.0m

Generator

Dimensions:
height 184mm
width 308mm
depth 280mm
weight 1.5kg

Power Requirements

Supply 220/240 50Hz
Output power 500W max
Frequency 35kHz

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