Portable Ultrasonic Wire Harness Welder for 0.5-20mm² Copper Wires WPM-001N

Model No. WPM-001N



SPECIFICATIONS

Model Number	WPM-001N
Operating Frequency	20KHz
Input Voltage	AC 220V/50Hz
Equipment Power	2000W
Wire Capacity	0.5mm² - 20mm² copper wire
Welding Speed	~0.6 seconds per weld
Display	7" Touchscreen
Equipment Weight	20kg (rack) + 13kg (electric box)
Rack Size	517*142*181(mm)
Chassis Dimensions	453*300*178(mm)

WPM-001N is a portable ultrasonic wire harness welder for copper cable from 0.5 to 20 mm2. It welds at 20 kHz with 2000 W of ultrasonic power, and a splice takes about 0.6 s. The set divides into a 20 kg welding rack carrying the horn and anvil, and a 13 kg control box with a 7 inch touchscreen.

A soldered splice needs flux, filler and a heat source, and the heat travels up the strand bundle into the insulation. Ultrasonic welding joins the strands by friction at the interface instead, so there is no filler metal, no flux residue and no dwell for the joint to cool. The same vibration breaks the oxide film, which keeps joint resistance low without a cleaning step before the weld.

In this pair of portable welders the WPM-001N is the copper-only, larger-section unit: 2000 W, 0.5 to 20 mm2, 7 inch touchscreen. The WPM-X00 runs 3000 W, adds aluminium, covers 0.35 to 12 mm2 and uses a 4.3 inch LCD with a keypad. Where all work is copper and sections run past 12 mm2, the WPM-001N is the wider machine.

Key Features

1. 2000 W at 20 kHz, welding copper cable from 0.5 to 20 mm2 in a single overlap splice

2. Weld time of about 0.6 s per joint, entered on the touchscreen and repeated from the stored setting

3. The joint is made by 20 kHz vibration rather than impact, so there is no hammer noise at the bench

4. Horn and anvil are changed for the cable section, and the head clamps the bundle before the weld starts

5. Split construction: a 20 kg welding rack of 517 x 142 x 181 mm and a 13 kg control box of 453 x 300 x 178 mm, each with its own handle

6. Red stop button on the welding head within reach of the operator, with the horn closing only on the clamped bundle

Technical Specifications

Parameter	Specification
Model	WPM-001N
Machine type	Portable ultrasonic wire harness welder
Operating frequency	20 kHz
Equipment power	2000 W
Wire capacity	0.5 - 20 mm2 copper wire
Welding speed	About 0.6 s per weld
Display	7 inch touchscreen
Input voltage	AC 220 V / 50 Hz
Rack size / weight	517 x 142 x 181 mm / 20 kg
Control box size / weight	453 x 300 x 178 mm / 13 kg

Applications

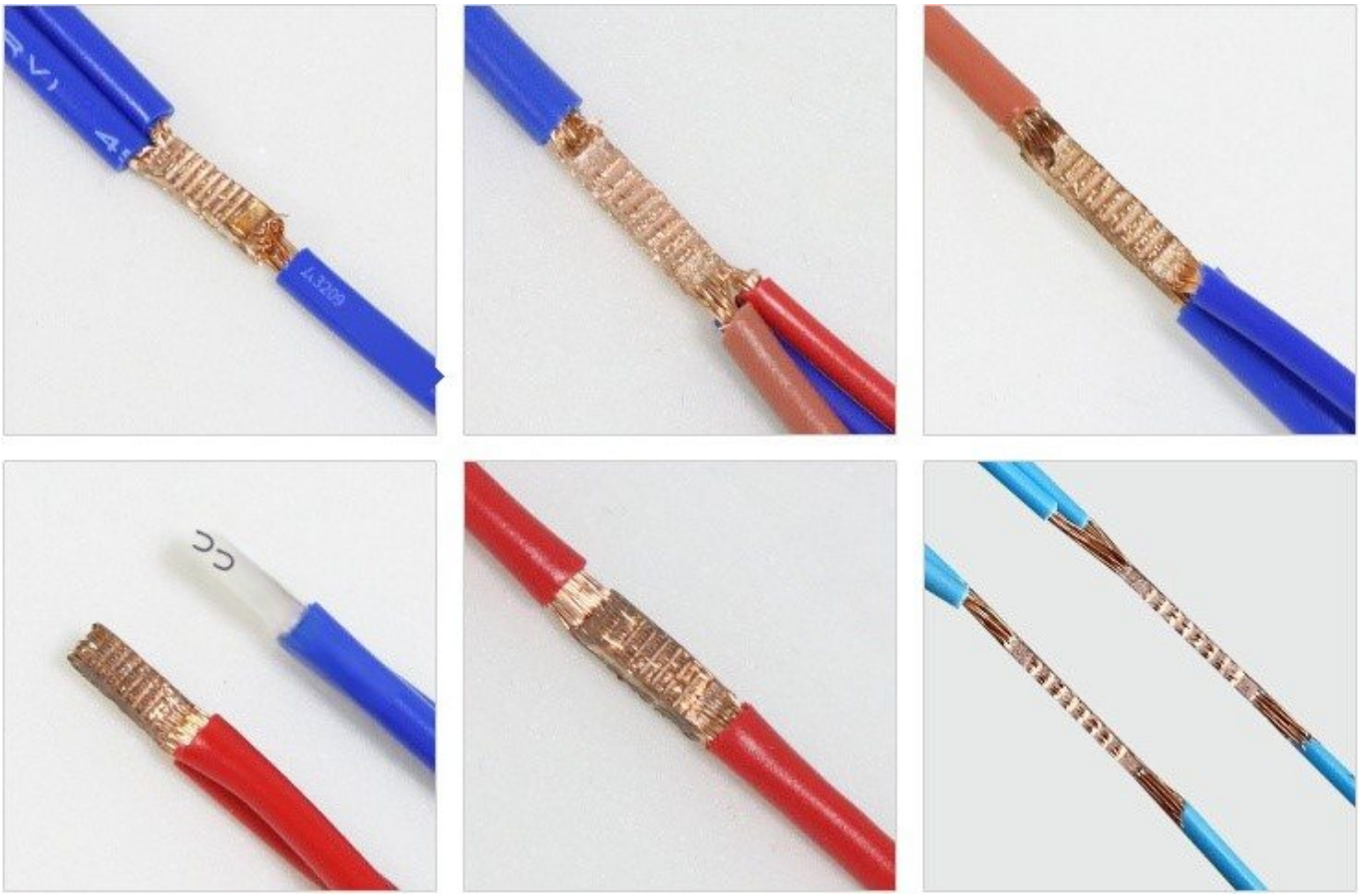
— Automotive harness splices: copper-to-copper joints replacing solder in the tap and joint station

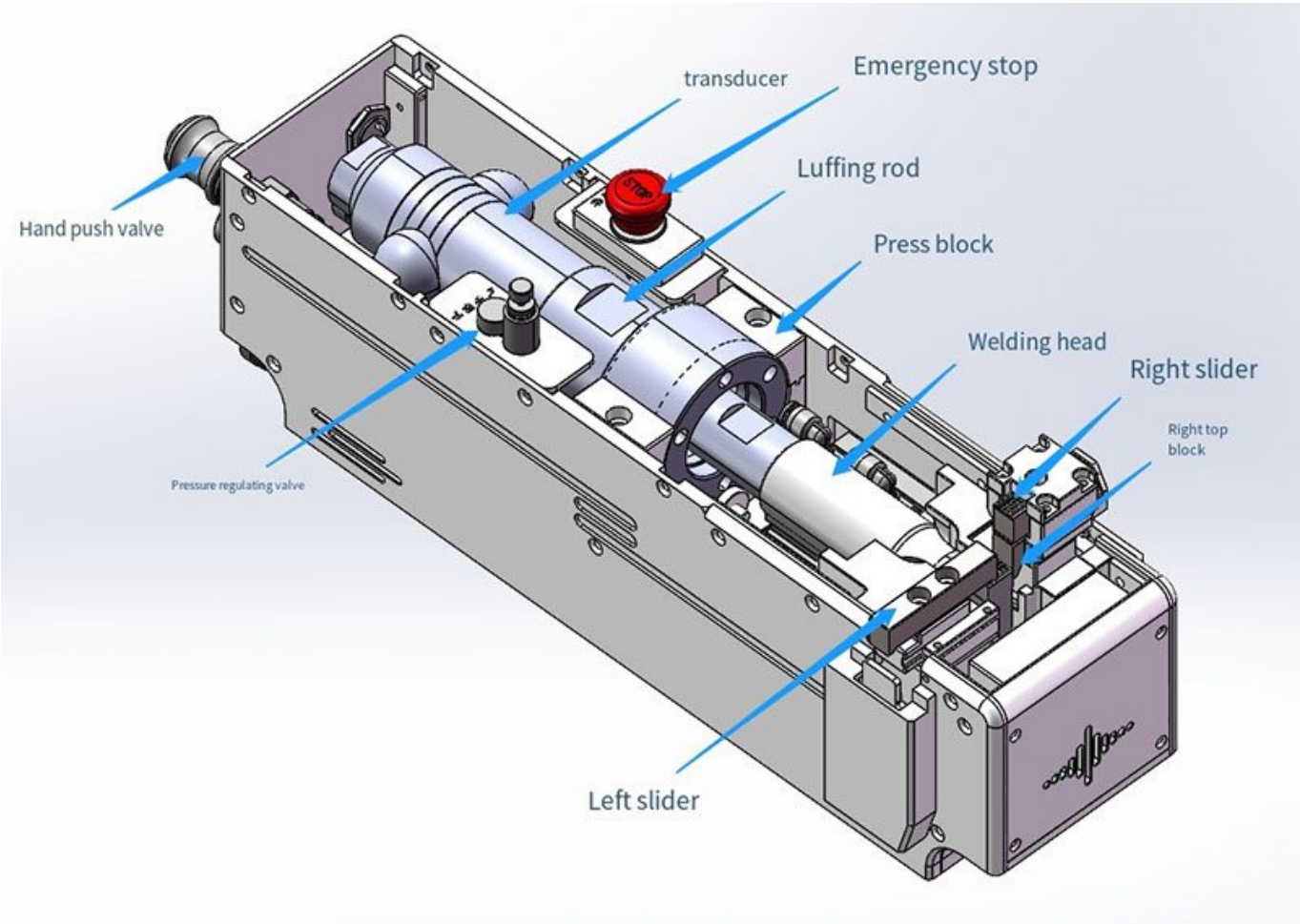
— Home appliance leads: splice points inside cord sets where a soldered joint would scorch the insulation

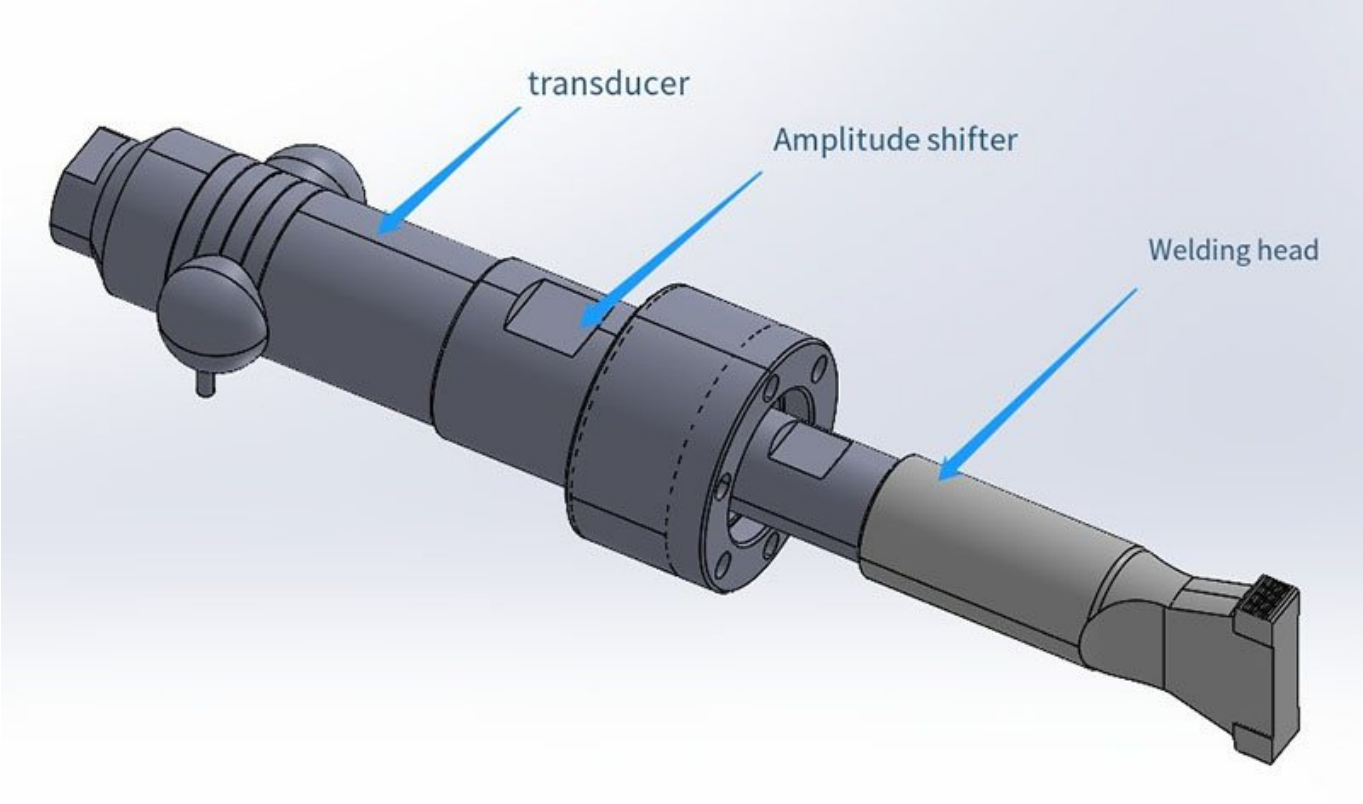
— Motor and transformer leads: stranded copper taps joined without filler metal

— Electronics and AV cable: small-section joints close to connectors, with heat confined to the weld zone

— Harness cells converting from soldering: same joint position, no flux, no cleaning and no cool-down




transducer
Emergency stop
Luffing rod
Hand push valve
Press block
Welding head
Right slider
Right top block
Pressure regulating valve
Left slider




Auto industry


> Healthcare <

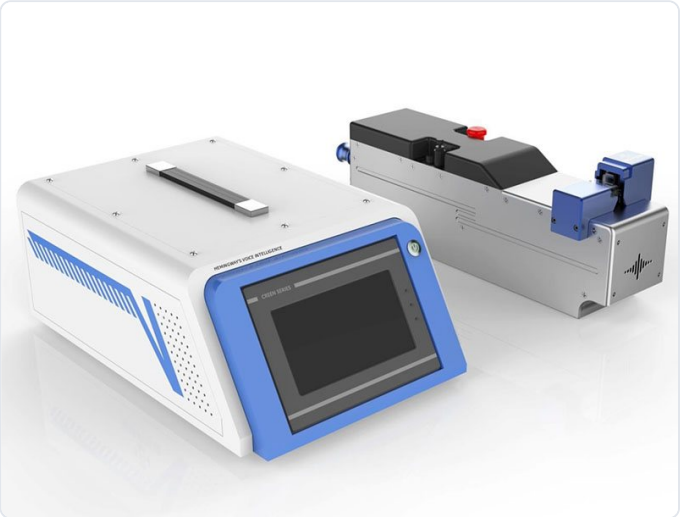

> Battery industry <>


> Home appliance industry


> Aerospace <


> Data transmission <

Product Images



FAQ

What is the primary application of the WPM-001N Portable Ultrasonic Wire Harness Welder?

The WPM-001N is an industrial-grade portable welder designed for creating high-integrity, cold-weld joints in copper wire harnesses. It is ideally suited for manufacturing and repair applications in the automotive industry, as well as for appliances, consumer electronics, and other sectors requiring reliable, solder-free electrical connections between wires ranging from 0.5 to 20mm^2.

How does ultrasonic welding work, and what are its benefits over traditional soldering?

Ultrasonic welding uses high-frequency (20KHz) mechanical vibrations under pressure to fuse copper wires at a molecular level without melting the base metal. Key benefits include a fast 0.6-second cycle time, a cold process that eliminates thermal damage and oxidation, and the creation of a gas-tight, low-resistance joint that is stronger and more reliable than a soldered connection, with no consumables like solder or flux required.

What are the key technical specifications and features of the WPM-001N welder?

The WPM-001N features a robust 2000W ultrasonic system operating at 20KHz. Its core specifications include a welding capacity for copper wires from 0.5mm^2 to 20mm^2, an ultra-fast weld time of approximately 0.6 seconds, and a user-friendly 7-inch color touchscreen for intuitive operation and parameter control. Its portable design and consistent power output make it a versatile tool for both bench and on-site use.

Is this machine suitable for on-site or field repair work?

Yes, absolutely. The WPM-001N is engineered as a portable welding machine, making it an excellent choice for field service technicians, repair shops, and production lines that require mobility. Its compact design and powerful, self-contained ultrasonic system allow for high-quality harness welding and repairs directly at the point of need, such as in automotive service bays or on factory floors without dedicated welding stations.

What makes the WPM-001N an economical choice for wire harness production?

The WPM-001N offers significant long-term cost savings and operational efficiency. Its ultrasonic process eliminates ongoing costs for solder, flux, and associated cleaning materials. The speed (0.6s per weld) increases throughput, while the consistent, high-quality welds reduce rework and product failure rates. This combination of low consumable costs, high productivity, and reliability provides a strong return on investment, making it an economical solution for both high-volume and specialized low-volume welding tasks.