

## SHMEL-1 Process Complex

**SHMEL-1 Process Complex** is designed for hardening by impact deformation at ultrasonic frequency of welded joints of steel structures, which are operated at variable loads.

Ultrasonic impact treatment has an integrated effect on the welded seam:

- reduction of the load and stress concentration in the welded joint;
- creation of a hardening layer with increased cracking resistance on the treated surface:
- beneficial redistribution of residual welding stresses in the welded seam and weld adjacent zone.

SHMEL-1 Process Complex consists of an ultrasonic tool, a power source and connecting elements. At the Customer's request, the Complex may be equipped with an autonomous cooling system and a kiosk for moving and storage for operation in shop of field conditions.



## **SHMEL-1 Technical Characteristics**

Parameter	Unit of Measurement	Rated Value	Maximum Deviation
Maximum power consumption	kW	1.2	
Supply voltage	V	220	±10
Supply voltage frequency	Hz	50	±0.4
Working Frequency Range	kHz	22	±1.65
Maximum power supplied to tool	W	630	
Output Power	W	300/630	
Output Power Adjustment		Step Adjustment	
Operation Mode		75% turn-on time at 30 min cycle	
Power Unit Overall Dimensions, max	mm	213x300x310	
Power Unit Mass, max	kg	7.5	
Maximum length of hoses and tool connection cable	m	5	
Type of ultrasonic converter		magnetostrictive	
Tool Cooling		liquid, autonomous	
Static tool press force	N	20 ÷ 50	
Tool Overall Dimensions	mm	455x180x75	
Tool mass, max	kg	3.5	
Complex operation conditions:			
- air temperature	°C	-20...+40	
- relative humidity	%	up to 65 at 20°C	

### **Warranty obligations:**

The Manufacturer guarantees the compliance of **SHMEL-1 Process Complex** with the declared technical properties provided that the Consumer meets the conditions of operation, transportation and storage specified in the operating manual for this Process Complex.

Process Complex warranty service life comprises 12 months.

The warranty period starts from the Process Complex commissioning, but not later than six months after the Consumer receives the Process Complex.

Process Complex service life comprises at least 5 (five) years.