

COMMERSALD IMPIANTI

ROBO650H

**N.C EQUIPMENT
FOR P.T.A. WELDING
AND PRE-HEATING**

ROBO 650H is an installation fully managed by an NC for the heating and welding (or hard-facing) with technology Plasma Transferred Arc. It is equipped with seven Cartesian axis and it is useful for shaped work-pieces weight till 35 kg.

The equipment is assembled on a main platform where there are:

- the welding section with cartesian motion
- the induction heating
- the NC and the operator console.
- torch cleaning automatic system.

P.T.A. WELDING

The electric panel is comprising of an inverter welding machine produced by Commersald under the same basis as the standard type PTA200i. The system is complete of cooled welding torch and powder feeder. The welding machine grants an output current of 200A at 100% and it allows to make single pass **welding of thickness from 1 to 3,5 mm and width till 30 mm with a deposition rate till 2 kg/h** respecting severe metallurgical parameters.

MOTION

The system is composed by seven axis: three Cartesian axis, two rotating axis to move the workpiece, one oscillator for the welding torch and an axis mounted on a rotating pneumatic for 370°.

Thanks to its planning and construction features, this motion grants:

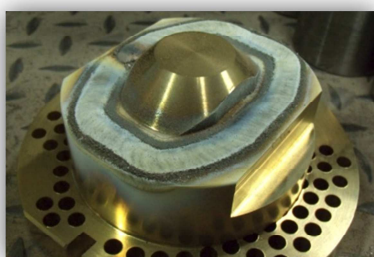
- **smooth exit of the powder**, because it is possible to place the powder feeder closed and perpendicular to the torch;
- **high precision in positioning**, even after years of working;
- **quick displacements** thanks to the strong and powerful system;
- **nearness of the operator** to the welding point, and consequent good visibility of the arc, even with closed barriers.

INDUCTION HEATING

The induction heating system is integrated in the main structure of the machine, based on the standard Commersald machine HEAT24. The main advantage of the induction heating, if compared with a traditional furnace is the high efficiency, for a quick and uniform pre-heating in a time shorter than the welding time. This version is useful to pre-heat pieces having **maximum size Ø 150 x 250 mm**

NUMERICAL CONTROL

The programming is done by means of a Mitsubishi numerical control developed especially for Commersald, with program language ISO implemented and integrated with the welding and heating parameters. The same NC controls both heating and welding.



TECHNICAL FEATURES ROBO 650 H			
FEATURES OF THE MOTION			
Structure	Stroke Z axis	mm	580
	Stroke X axis	mm	800
	Stroke Y axis	mm	230
	RPO pneumatic axis	deg.	370°
Oscillator	Max oscillation amplitude	mm	40
Rotating table	Tilting	deg.	-15° + 140°
Work-piece	Max diameter of the coating	mm	500
	Max height of the coating	mm	400
	Max weight of the work-piece	kg	35
FEATURES OF THE WELDING MACHINE			
Pilot arc generator	Output current	A	70 al 100%
Transferred arc generator	Output current	A	200 al 100%
Powder feeder	Delivery	kg/h	0,5 - 3,5
	Capacity	kg	7
Deposition rate		kg/h	0,5 - 2,0
FEATURES OF THE PRE-HEATING SECTION			
Power of the generator		kW	24
Working frequency		kHz	30 - 50
Max pre-heating temperature		°C	600
Temperature control	thermocouple type K		
Max size of the work-piece		mm	Ø 150 x 250
GENERAL FEATURES OF THE INSTALLATION			
Overall size	dimensions (lpxh)	mm	3000x2200x3500*
	weight	kg	
Installed power		kVa	50
Tension	400V 50/60 Hz (3F+N+T)		
Compressed air		bar	5
Cooler	Given power (water at 20°C)	W	16.000
Gas (two available input)		bar	7

Commersald Impianti srl has the right to modify, while completing the operative planning, the technical details of the offer. In case the changes, done to improve the installation as much as possible, are quite important, Commersald Impianti srl will inform the buyer in due time for approval.