

# TECNA<sup>®</sup>

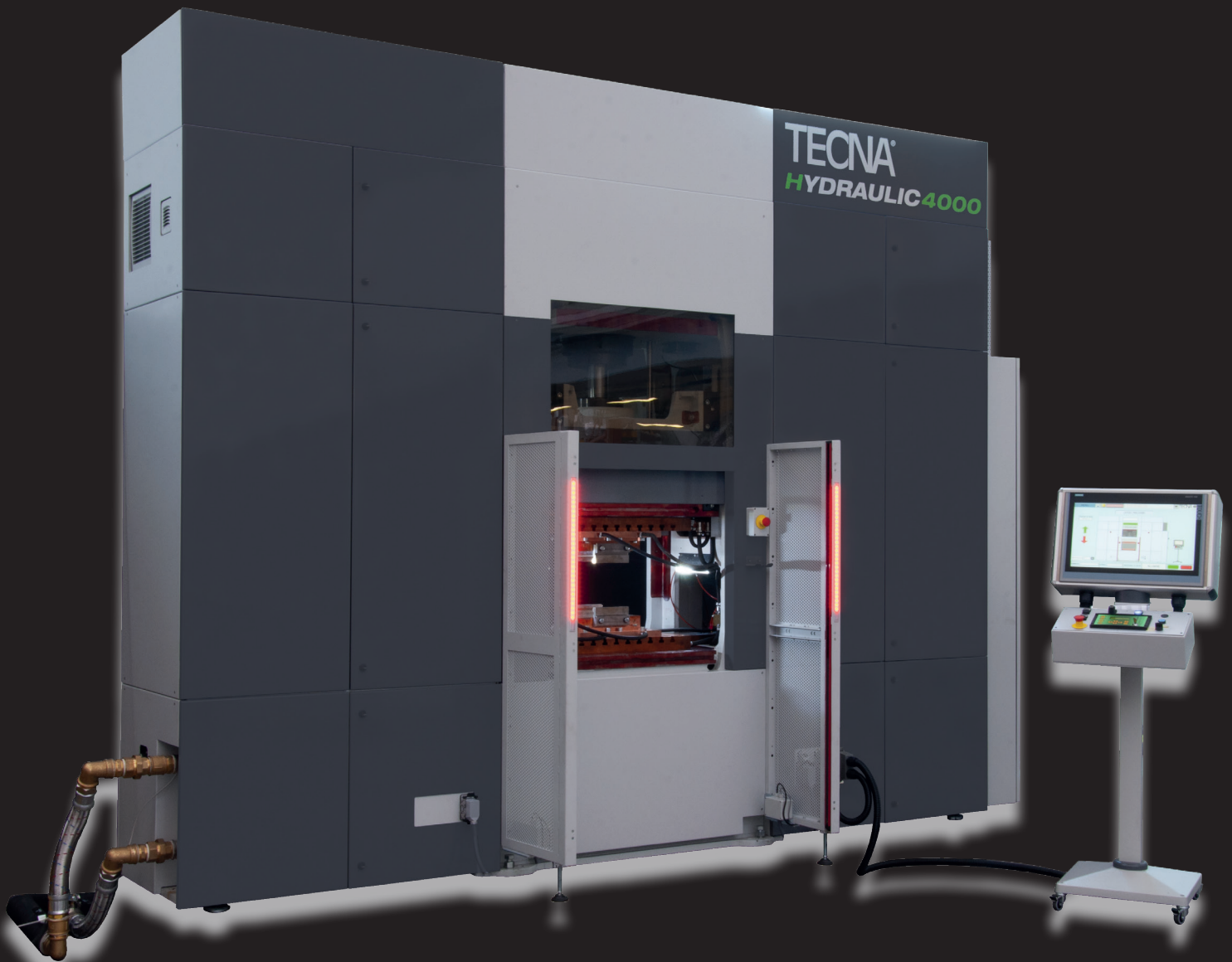
Resistance Welding Systems & Balancers

## **HYDRAULIC4000**

### **PERFECT PLANARITY**

#### **MULTIPURPOSE PORTAL MACHINE**

#### **FOR RESISTANCE WELDING AND DIFFUSION BONDING**



**HYDRAULIC1500 | HYDRAULIC4000**



# MULTIPURPOSE WELDING MACHINE

Tecna's H4000 is a multipurpose welding machine that synergistically combines awesome force with **pin point precision**. The result is this portal structure that pushes the performance boundaries of **resistance welding** and **diffusion bonding** like nothing seen before.

The innovative mix of mechanical force and electric power combine into an **efficient** machine. The result is a powerful, **precise, performing, compact, silent, flexible, fast and absolutely repetitive machine**, which unites the highest levels of diffusion bonding and welding and the constant attention to the environment and to the green economy.

The H4000 is a fundamental machine for anyone who wants to achieve high production and quality standards. The **portal structure** allows you to work with fast cycle times and the **large working area**, entirely exploitable, greatly enhances the machines already considerable productivity.

**Efficiency and maximum quality standards: the keywords to invest in your future business.**



## MAXIMUM FLEXIBILITY

Self-learning approach, simple configuration, adjustment and memorization of the welding cycle time and storage up to 1000 different part numbers with dedicated working cycles. **All easily accessible to the operator.**

The H4000 integrates a Tecna control for welding current analysis and management. Furthermore, through a whole pack of sensors the H4000 offers complete **monitoring** and overall **control on all parameters of the welding process**, to guarantee flawless results, repeatable through time, and great flexibility. All functions are harmonized in every aspect within the HMI.





## PERFECT PLANARITY

Total work surface 900x600mm. Vertical movement 200mm of the upper plane.

**Perfect planarity:** at any point on the working area, at any force applied, we guarantee a **parallelism consistency within 1/100th of mm** of the moving working surfaces.

## BALANCE OF POWERS

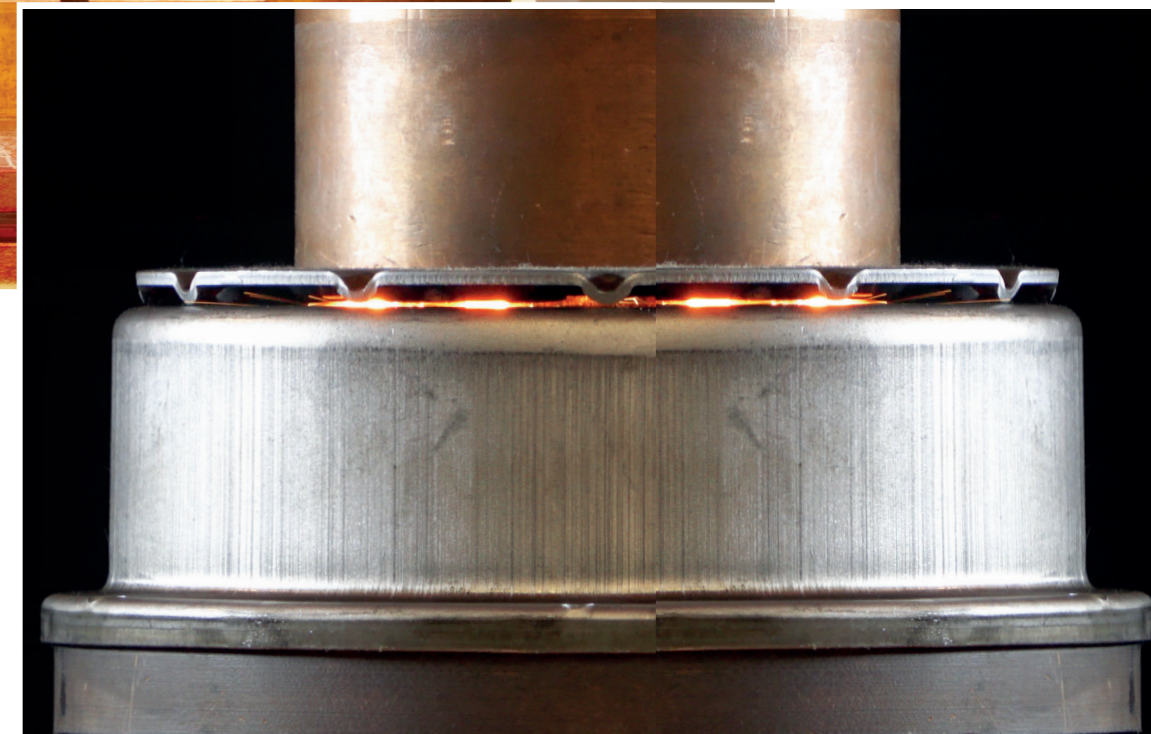
The welding power is obtained by means of a pair of three-phase transformers from 250 to 400 kVA, positioned on each side of the working area, that guarantee a precise and **perfectly balanced energy** load, that will quickly reach the required working temperatures for the a highly efficient and energy-saving process.

The **patented** technological heart of the H4000 is the **hybrid servo-hydraulic** force actuator and continuous control of force and position of the axis, which combines the higher speed, lower noise and greater precision of movement of the brushless motor, and the continuous force available from the hydraulic circuit. Therefore the H4000 machine can hold a constant **specific pressure** of up to **40 tons** equally distributed on all the working area, for the whole processing time, from a few tenths of a second of the resistance welding process to the minutes of the diffusion bonding process.

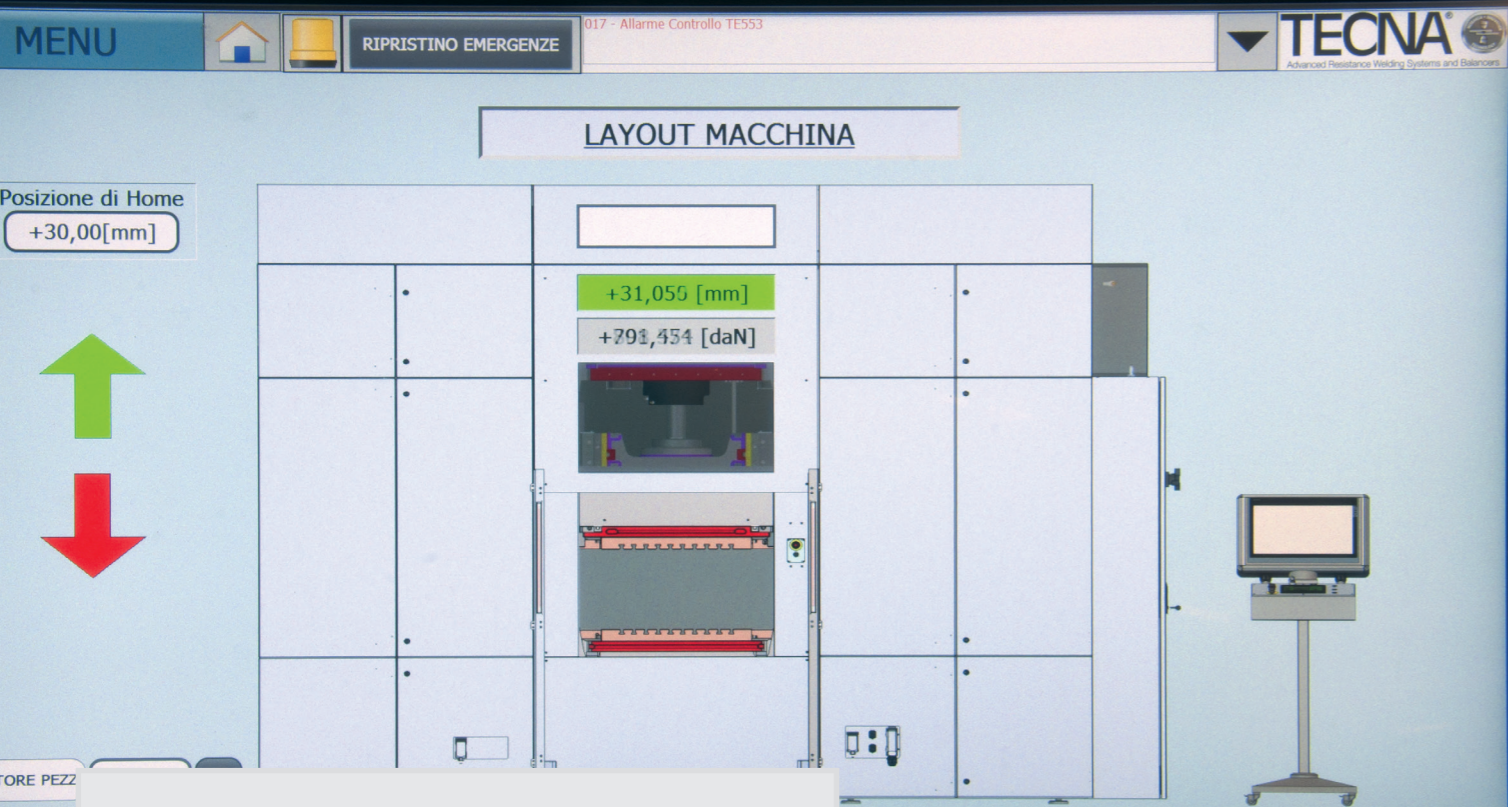
The hybrid servo-hydraulic solution also means smaller, pressurized hydraulic circuit, with **less oil** (5 liters in all), which has been installed on top of the machine, thus eliminating its floor space use.

## TOTAL CONTROL

Thanks to cutting-edge sensors and a design built for **perfect planarity**, Tecna's H4000 portal machine can finally guarantee the geometrical repeatability on any process, as well as total control and traceability over all parameters. Tecna's H4000 machine is designed to implement also processes in **vacuum chambers** or in a **controlled atmosphere** for the most demanding quality standards.







## MAXIMUM EFFICIENCY

### Real Energy Savings and cutting-edge safety systems.

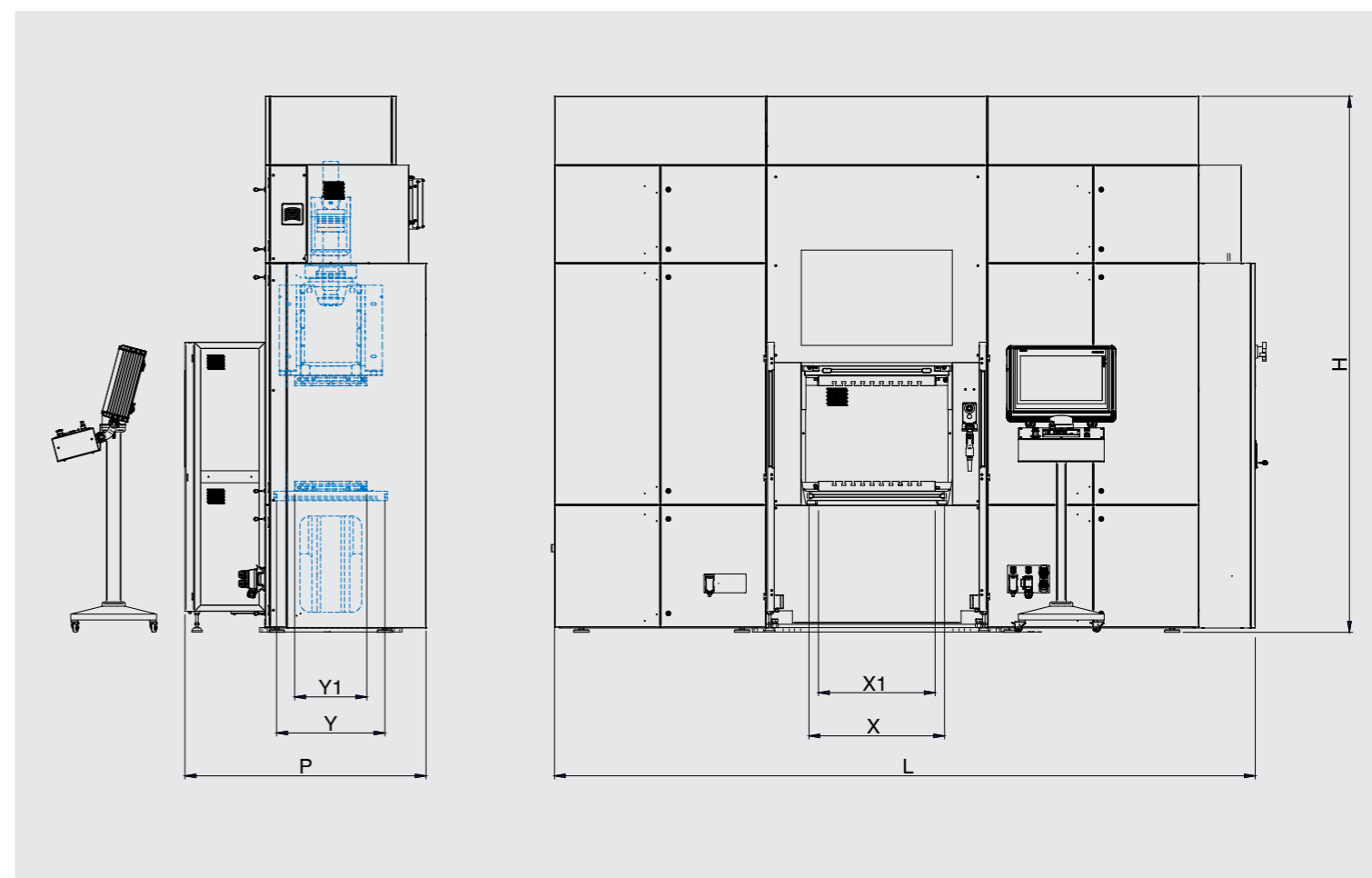
The cooling circuits are entirely modular, managed automatically by the machine PLC. The whole process is completely monitored by 21" Siemens full HD monitor. The machine interface is designed to give total control on all process parameters, with a simple visual look: menus are easily accessible, working programs can be easily modified, the parameters of the cooling system are accessible and adjustable in real time.

The H4000 machine is predisposed to interface with external devices and IT infrastructures, to answer the requirements of **Industry 4.0 standards**. It can support various industrial communication buses, and through these communication protocols upload and exchange data and parameters with external servers and interface with external controlling software structures, and as well perform predictive maintenance and interventions.

Synchronization with additional machinery in a combined work line process cell.

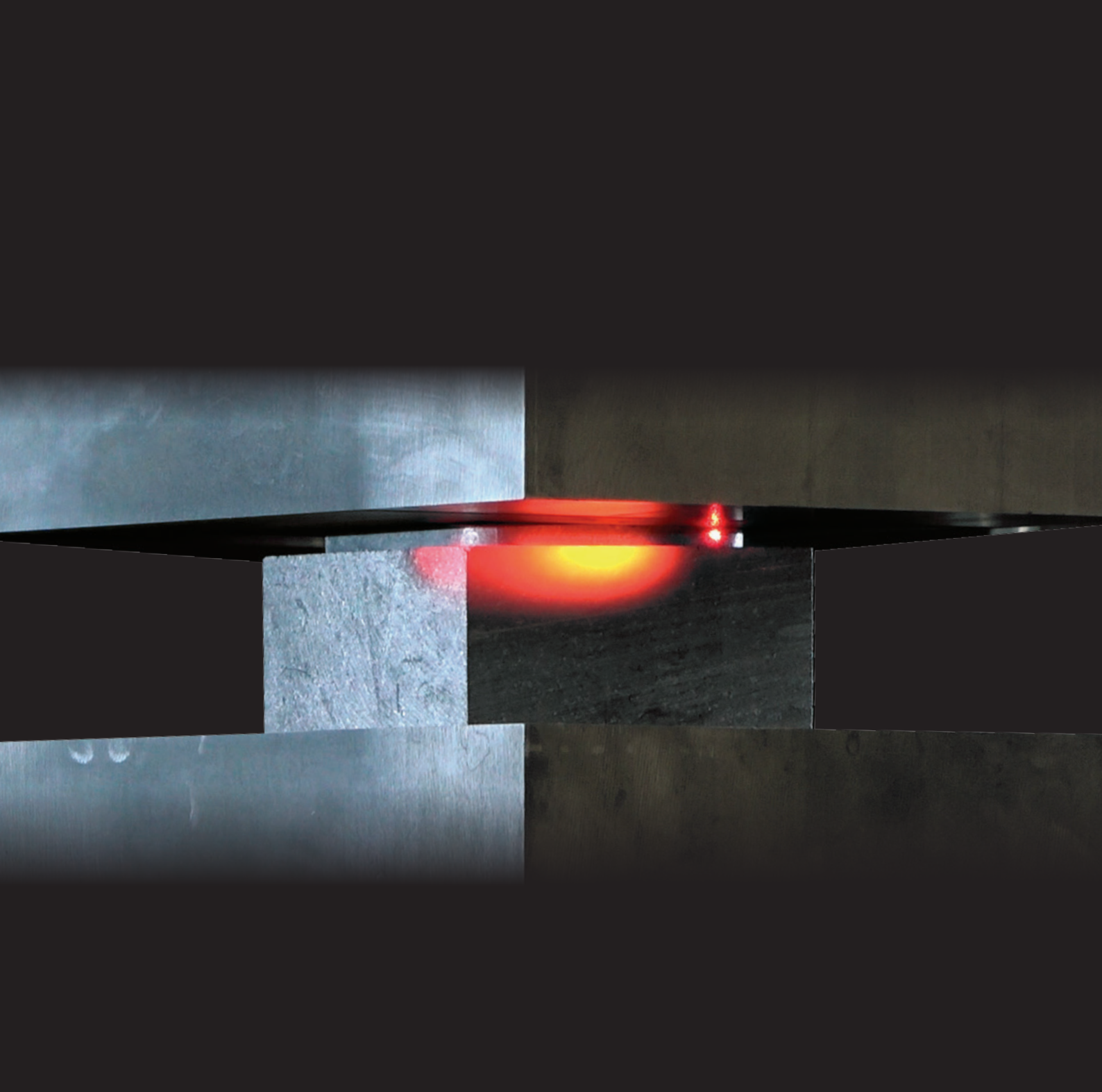


## HYDRAULIC1500 | HYDRAULIC4000



		H1500	H4000
Max welding power	kVA	2x250	2x400
Voltage	V	400	400
Frequency	Hz	50	50
Secondary voltage	V	11.75	13.8
		10.6	12.2
		9.5	10.7
Secondary current at 100%	A	18.000	36.000
Effective ram stroke	mm	150	200
Max ram downward speed	mm/sec	100	100
Max force at 250 bar - standard	kN	150	400
Noise level at working station	dB	< 67	< 67
L		3700	4100
P		820	1400
H		2800	3120
X		650	800
Y		450	600
X1		-	680
Y1		-	420





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