

240Hz

918

BIG INSIDE



YOUR PARTNER
IN PLASTIC JOINING

Cutting edge technology and full equipment as a standard

NO COMPROMISE FOR QUALITY

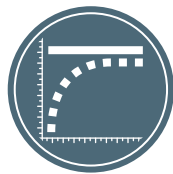
All the components used by CEMAS are from the world leading suppliers and never from sub-brands.

Safety is our ultimate goal, as well as a prompt availability of spares worldwide.



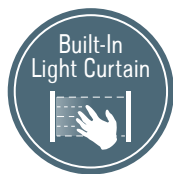
REALTIME TUNING

Our innovative generator is able to adjust the vibration frequency with no autotuning procedure. Internal values are checked and updated every 5ms to constantly ensure a perfect match of the equipment with the machine.



SAFE

Light curtains are fitted as a standard to ensure maximum operator safety and to further decrease the total cycle time of each welding. Light curtains are integrated to protect them against collisions and as a result of an extremely accurate and well defined design.



ERGONOMIC LOADING STATION

Special care was devoted to the manual loading steps of the process, both for small and large machines: to minimize effort on the backbone, the loading/unloading area was kept as close as possible to operator. There are no machines of the same class available on the market where this distance is so small.



135 Kg
240 Hz

COMPACT BUT COMPLETE

CEMAS machines are the most compact machines available on the market, keeping engineering and vibration features unchanged, thus favoring ergonomics. The 918, in particular, is designed to have a broadened working surface (1700x650 mm lift table) and an upper tooling weight capacity up to 135 kg, but still working at 240 Hz.

QUICK VIBRATION STOP

This cutting edge feature can zero the vibration in less than 50 ms, for a more homogeneous and resistant joint.



EASY MAINTENANCE

The use of the latest-generation electronic components has resulted in a remarkably small control panel, and in positioning the hydraulic unit below the control panel for the 240 Hz machines. This change has totally cleared an inner compartment and has made tooling maintenance and set up operations easier.



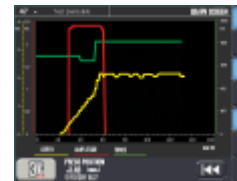
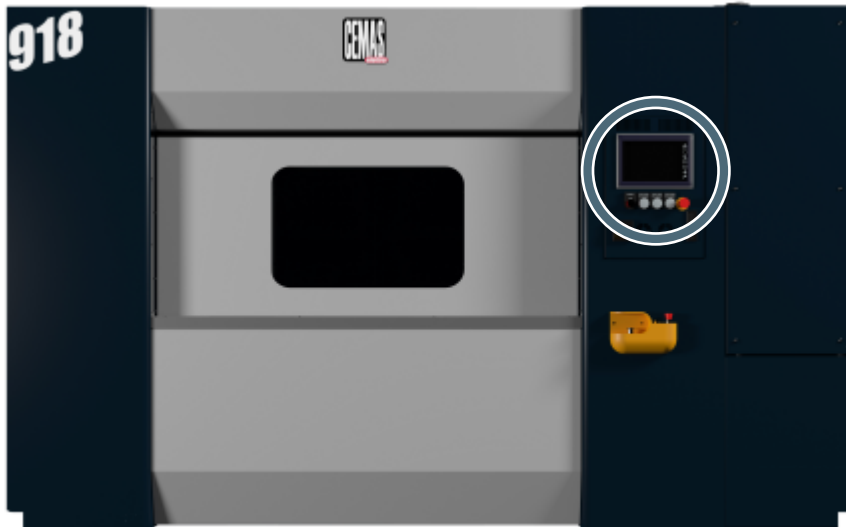


INNOVATIVE OPERATOR INTERFACE SYSTEM

Accurate does not mean complicated: no other machine on the market is so "user friendly".

We have made a big effort in designing our video graphic to simplify any operation. Actually, there would be no need for operator's training.

- Switching to your language is as simple as pressing a key
- Parameters can be set to include up to 8 different welding steps
- Tool movement graphic programming: no need to call us for a new tool!
- Monitoring of the "just in time" process by displaying welding diagrams
- Constantly linked to CEMAS through the Teleservice system for diagnostics and customer's service on line



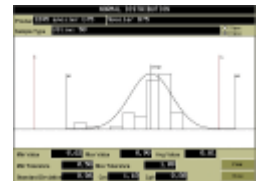
Graph screen



Tool programming



Production screen



Statistical analysis

HIGHLY CUSTOMIZABLE

Many standard features included in our machines are optionals for competitors and, should this not be enough, just turn the page to discover a full range of over 60 optionals for your tailor-made machines.



Tailor-made Machines

WIDE REAR OPENING

Since the very beginning, all our vibration range was conceived to get tool change from the back of the machine, as maintenance door opening size always exceeds the width of the press bed.



63 TOOL MEMORIES

The machine can store up to 63 different equipment parameters, of which 31 are automatically acknowledged. Data can be easily copied to other machines if needed.



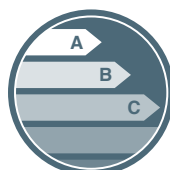
CLEAN AND QUIET

Hydraulic power-plant outside the working area.



ENERGY SAVING TECHNOLOGY

Big welding area and low power required: this is energetic efficiency!



**Top quality
and cost-effectiveness**

ST

HL

IR


INPUT

Power supply	[50HzThree-phases+N+GND]	a.c. 400V	a.c. 400V	a.c. 400V
Pneumatic power (min.)	[bar]	5	5	5
Maximum power required (peak load)	[KW]	20	40	25

OUTPUT

Upper tool weight	[Kg]	90	135	90
Generator power	[KW]	18	2×18	18
Vibration frequency	[Hz]	220÷245	220÷245	220÷245
Vibration amplitude	[mm]	0,4÷1,8	0,4÷1,8	0,4÷1,8
PP equivalent welding area	[cm²]	500	700	500

MECHANICAL DATA

Vibration plate dimensions	[mm]	945×540	1400×560	945×540
Lifting table stroke	[mm]	500	500	500
Lifting table maximum speed	[mm/s]	250	250	250
Clamp net force (Gross)	[KN]	17 net. (23,5)	35 net. (40)	20 net. (26,5)
Lifting table dimensions	[mm]	1700×650	1700×650	1700×650
Lifting table height	[mm]	1000	1000	1000
Front-door span	[mm]	1740×750	1740×750	1740×750
Upper door threshold	[mm]	1720	1720	1720
Lower tool weight	[up to Kg]	-	-	-
Clearance between planes	[mm]	200/700	200/700	200/700
Overall dimensions	[W×D×H mm]	3420×1310×2220	3420×1310×2220	3420×2310×2220
Total weight	[Kg]	5200	6200	6400
Hydraulic oil	[Lt/ISO32]	60	60	

CONTROL

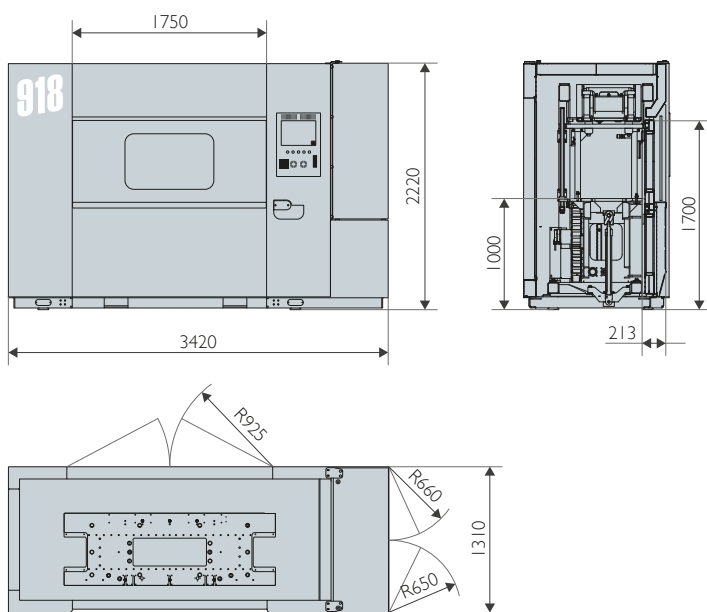
PLC Control	Siemens IM 151 - ET200	Siemens IM 151 - ET200	Siemens CPU 15125P
Operating panel	Siemens TP 1200	Siemens TP 1200	Siemens Pc Panel IPC 477D
Vibration frequency tuning *	Continuous REALTIME	Continuous REALTIME	Continuous REALTIME
Welding steps	[pressure, amplitude]	8	8
Welding depth sensitivity	[mm]	0,01	0,01
Work settings memory		31 automatic equipment + 32 manual	31 automatic equipment + 32 manual
Type of communication	Profibus	Profibus	Profibus

REFERENCES

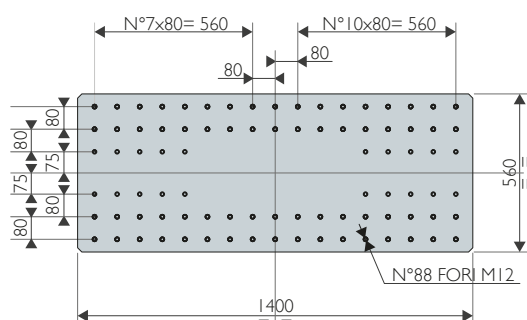
Noise level **	[dB din 45635]	≤ 80	≤ 80	≤ 80
Work outcome definition		Automatic (good/scrap)	Automatic (good/scrap)	Automatic (good/scrap)
Work outcome printer		Custom Plus	Custom Plus	Custom Plus
Holes on planes compatible with		Branson M-522H, M-624H and M6i3	Branson M-522H, M-624H and M6i3	Branson M-522H, M-624H and M6i3
Work pneumatic movements		4 (opt up to 8) valves and 2 vacuum circuits	4 (opt. up to 8) valves and 2 vacuum circuits	10 valves and 2 vacuum circuits
Remote-assistance		Optional	Included	Optional

* Thanks to our third-generation controller we have been able to eliminate the necessity of the auto-tuning cycle: the machine can adapt to the vibration frequency in real-time following the mechanical reactions of the vibrating system. Therefore, the outcome is a neater and more efficient vibration than the one obtained employing second-generation old systems.

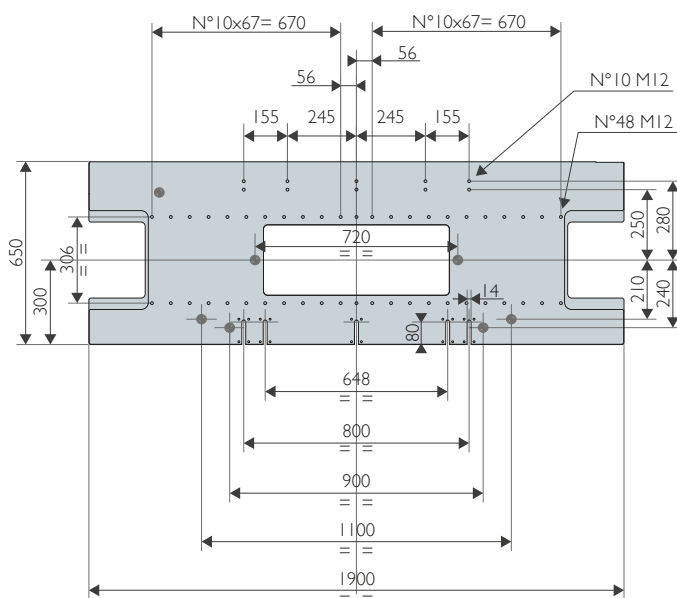
** Peak values can be higher for short periods depending on the application.



UPPER PLATE



LOWER PLATE



ST STANDARD VERSION

The 918 embodies the best technology in the field of vibration welding, combining the versatility typical of our 901 and 911 welding machines (240Hz) with the extreme power of the 950 and 999 welding machines (100Hz). Stems from the need to weld those same products welded by 901 and 911 machines, but that, given their special features, require a strong welding force within an increased workspace: big components (spoilers), prestigious parts (PAB chutes), double figure (intake manifolds and rear lamps).

Therefore we have thought and designed a machine with the same technical characteristics of the 911 HL, with a broadened working surface; essentially, a larger and more capacious welding machine, that still works at 240Hz.

HL HI LEVEL

The 918 HL version can withstand weights and welding forces even higher, while maintaining the best levels of precision. HL version is different to the standard one as it includes some features making the machine even more flexible and powerful than ever. Just to mention some of the major changes, the welding power has been increased, more complex equipment and cycles can now be controlled, a teleservice module and a heavy duty vibrating plate have been included to make the machine suitable to frequent equipment changes.

For these reasons, 918 HL is perfect for customers who need to weld products that, given their special features, require a strong welding force within an increased workspace, but still working at 240Hz.

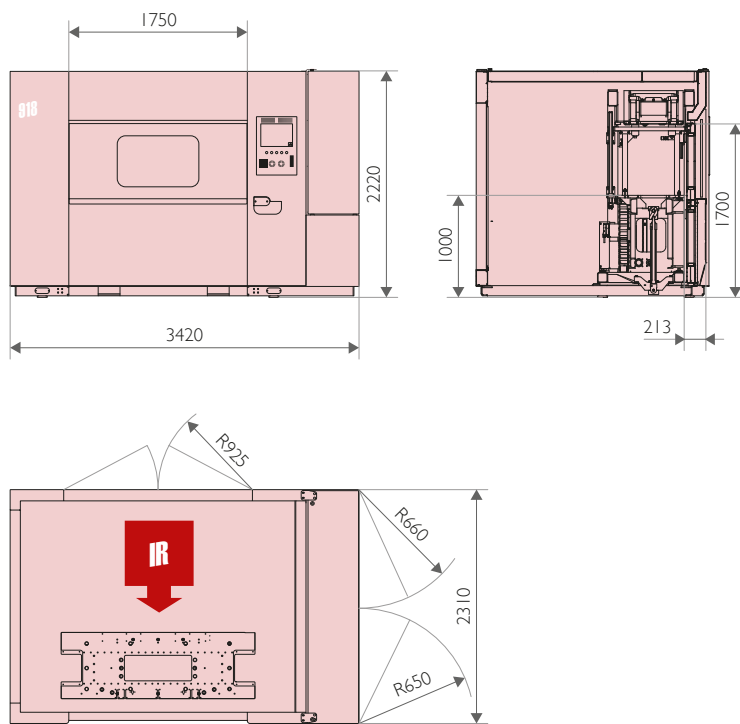


As everybody knows, the IR pre-heating process is the solution to some major criticalities in the traditional vibration process. Listing the pros of this technology is simply pointless as you have probably opted for it because you know exactly what we are talking about.

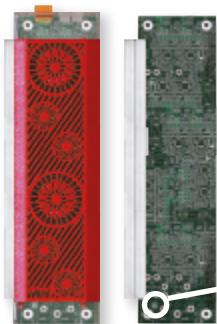
Therefore, we would like to focus on HOW CEMAS has been dealing with it; this is not simply a matter of adjusting previous components to current needs but to devote our best effort to research & development until achieving a technology and an electronic system able to meet even the most stringent requirements.

Every detail has been accurately considered and designed for our machine, to include the IR sources, the control units, the power supply units and the interface software: all this is now part of our highly innovative modular system aimed at improving the IR heating system and to make it cost-effective, user's friendly and highly reliable.

Each 918 IR can be equipped with up to 16 Infrared Modules **IRM**, take a look here below.



Vibration Goes Hybrid!



Each medium wave emitter is operated by its own **IRM** controller



- ✓ Space saving solution
- ✓ Fully modular
- ✓ Smart design
- ✓ Easy maintenance

Proprietary technology that allows the **IRM** to retrofit existing third party machines via serial I/O sockets

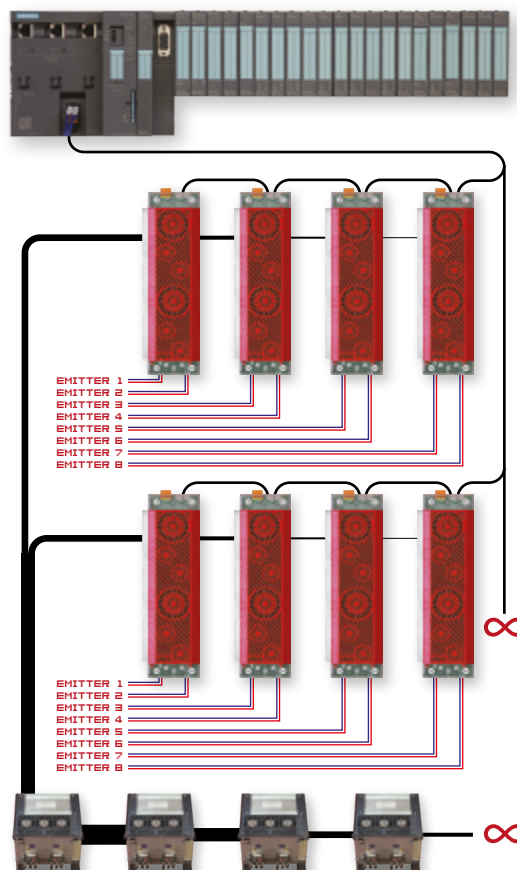


The ultra fast protocol communication enables a FULLY DIGITAL MODULAR ARCHITECTURE

For unrivaled management, diagnostic and flexibility

Any application can be satisfied

The **IRM** control modules are powered by specifically designed power units



Even the electrical power system is COMPLETELY MODULAR and can be freely configured based on your specific power needs with VIRTUALLY NO LIMITS

OPTIONALS

● Included

□ Optional

DESCRIPTION

DESCRIPTION	ST	HL	IR	
Vacuum on upper tool	1	2	2	1
Pneumatic valves for tool movements	2	5	5	2
Part detection - signals	2	5	5	3
Opening for rear toolchange (180°)	●	●	●	4
Safety light curtain	●	●	●	5
Quick Vibration stop	●	●	●	6
LED lighting	●	●	●	7
31 automatic tool detections & up to 63 tools memories	●	●	●	8
Noise level ≤80dB	●	●	●	9
EPS Enhanced Power Supply (upper tool up to 90 Kg)	●		●	10
Upper tool capacity (weight 125 kg)		●	□	11
Torsion bar	●	●	●	12
IR controllers			8	13
Quick pneumatic connection by Staubli - (8 lines RMI)	□	□	□	14
Quick pneumatic connection by Staubli - (12 lines RMI)	□	□	□	15
Pneumatic foot switch	□	□	□	16
Additional pneumatic valve-up to 5	□			17
2° valve pack (N.5 valves) - Festo	□			18
Second vacuum circuit - VADMI Festo ¹	□	□	□	19
Third vacuum circuit - VADMI Festo ¹	□	□	□	20
Vacuum pump (Brand Becker) with remote digital vacuumeter - (VT 4.10 Becker) ²	□	□	□	21
Additional vacuum circuit with remote digital vacuumeter ³	□	□	□	22
Remote digital vacuumeter ⁴	□	□	□	23
Air gun outlet	□	□	□	24
Air gun outlet with ionized air	□	□	□	25
Automatic tool coupling system X2 (for quick lower tool changing) with additional hydraulic unit ⁵			□	26
High pressure valve up to 2300 Kg. (only for 918 ST) ⁶	□		□	27
Extractable hidraulic unit	□	□		28
Hydraulic Unit cooling system	□	□		29
Upper plate with special insert ⁷	□	□	□	30
Ball transfer units on lifting table	□	□	□	31
Ball transfer arms for rear toolchange	□	□		32
Trolley interface for toolchange on front side	□	□	□	33
Trolley interface for toolchange on rear side	□	□	□	34
Enlarged clearance between upper and lower plates = 750mm ⁸	□	□	□	35
Siemens Pc Panel ⁹	□	□		36
Traceability system (Included module wifi+barcode reader) ¹⁰	□	□	□	37
Voltage stabilizer	□	□	□	38
UPS power backup	□	□	□	39
Electrical cabinet cooling system ¹¹	□	□	●	40
Power transformer	□	□	□	41
Modem digital/analogic for teleservice	□	□	□	42
Ethernet card/wireless module for remote connections	□	□	□	43
USB plug for production data downloading	□	□	□	44
BADGE reader	□	□	□	45
External label printer (Modello Zebra S4M)	□	□	□	46
Integrated mini printer (Ticket with welding parameters)	□	□	□	47
Robot connection setup	□	□	□	48
Part detection management - Additional signal up to 8°	□	□	□	49
Acoustic alarm warning	□	□	□	50
Light column ¹²	□	□	□	51
Second push-buttons panel	□	□	□	52
External lighting high performance	□	□	□	53
220V Power socket on front side	□	□	□	54
Ultrasonic welding management ¹³	□	□		55
Electrical components brand Schneider	□	□		56
Plugged electric cabinet	□	□	□	57
Additional 4 IR controllers (up to 16 zones) ¹⁴			□	58
Additional rear safety light curtains	□	□	□	59
Rear operative panel into left door	□	□	□	60
Bar Code reader	□	□	□	61
Rear operative panel into electrical cabinet	□	□	□	62
External lighting normal neon	□	□	□	63
Start cylce optical button	□	□	□	64
Power transformer	□	□	□	65
Special color	□	□	□	66
Automatic vertical door on rear side	□	□		67
Rear door with transparent window	□	□	□	68
Enlarged soundproof cabinet +200mm	□	□		69
Soundproof cabin with electrical cabinet and OP on left side.	□	□	□	70

¹ Venturi system

² 1 vacuum circuit

³ Optional with vacuum pump. Up to 3 circuits

⁴ Optional with venturi system

⁵ Mechanical stops + sensors + hydraulic clamping system

⁶ Allow fine regulation for pressure to 2300 Kg

⁷ Suggested for frequent toolchange operations

⁸ Enlarged clearance between upper and lower planes = 750

⁹ SPC, enlarged hystoric data saving, exportable data , USB

¹⁰ According to customer requirements

¹¹ On electrical cabinet and hydraulic unit

¹² 4 colors

¹³ 1 generator - 2 welding units

¹⁴ IR line has already 8 controllers