

# 950

**COST-EFFECTIVE  
AND SOLID**

# 999

**POWERFUL  
AND RELIABLE**



YOUR PARTNER  
IN PLASTIC JOINING

# Cutting edge technology and full equipment as a standard

## NO COMPROMISE FOR QUALITY

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

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



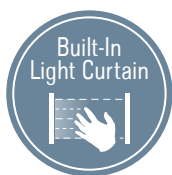
## ERGONOMIC LOADING STATION

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. For unmatched ergonomic we designed a full electrical super fast sliding table (optional). The height of the vibrating head is adjustable to meet any cycle requirements.



## SAFE

Light curtains are fitted as a standard to ensure maximum operator safety, further to decreasing 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.



## 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.



## COMPACT BUT COMPLETE

CEMAS machines are the most compact machines available on the market, keeping engineering and vibration features unchanged, thus favoring ergonomics.



## 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.



## EASY MAINTENANCE

The use of the latest-generation electronic components has resulted in a remarkably smaller control panel. This change has totally cleared an inner compartment and has made tooling maintenance and set up operations easier. Machines can be moved using a fork lift or a bridge crane without dismantling the sound-proof booth.



## CLEAN AND QUIET

Hydraulic power plant outside of the machine and electrical cabinet detachable.



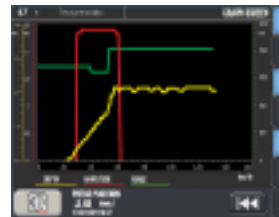


## INNOVATIVE OPERATOR INTERFACE SYSTEM

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



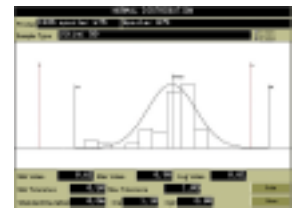
Graph screen



Tool programming



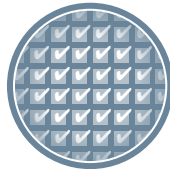
Production screen



Statistical analysis

## 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.



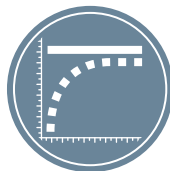
## SHORT DELIVERIES

Ask for info: it's quite usual to get a 100Hz machine in less than 8 weeks!



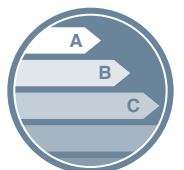
## REALTIME TUNING

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.



## ENERGY SAVING TECHNOLOGY

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



## QUICK VIBRATION STOP

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



**Top quality  
and cost-effectiveness**

950<sup>ST</sup>950<sup>HL</sup>999<sup>HL</sup>999<sup>XT</sup>

## INPUT

Power supply	[50HzThree-phases+N+GND]	a.c. 400V	a.c. 400V	a.c. 400V	a.c. 400V
Pneumatic power (min.)	[bar]	5	5	5	5
Maximum power required (peak load)	[KW]	35	35	35	35

## OUTPUT

Upper tool weight	[Kg]	75÷150	75÷180	75÷200	75÷200
Generator power	[KW]	30	30	30	30
Vibration frequency	[Hz]	100÷120	100÷120	100÷120	100÷120
Vibration amplitude	[mm]	up to 4	up to 4	up to 4	up to 4
PP equivalent welding area	[cm <sup>2</sup> ]	650	750	750	750

## MECHANICAL DATA

Vibration plate dimensions	[mm]	1100×580	1100×580	1420×500	1420×500
Lifting table stroke	[mm]	800	800	800	800
Lifting table maximum speed	[mm/s]	250	250	250	250
Clamp net force (Gross)	[KN]	38 net. (43)	38 net. (43)	36 net. (43)	36 net. (43)
Lifting table dimensions	[mm]	1600×700	1600×700	1900×850	2200×850
Lifting table height	[mm]	665	665	710	710
Front-door span	[mm]	1650×1160	1650×1160	1900×1160	2200×1160
Upper door threshold	[mm]	1900	1900	1900	2200
Lower tool weight	[up to Kg]	-	-	-	-
Clearance between planes	[mm]	1100-1500 (adjustable)	1100-1500 (adjustable)	1100-1500 (adjustable)	1100-1500 (adjustable)
Overall dimensions	[W×D×H mm]	3200×1800×2800	3200×1800×2800	3500×2000×2900	3840×2000×2900
Total weight	[Kg]	7300	7300	8700	10000
Hydraulic oil tank	[Lt/ISO32]	200	200	200	200

## CONTROL

PLC Control	Siemens CPU 1512SP	Siemens CPU 1512SP	Siemens CPU 1512SP	Siemens CPU 1512SP
Operating panel	Siemens TP 1200	Siemens TP 1200	Siemens TP 1200	Siemens TP 1200
Vibration frequency tuning *	Continuous REALTIME	Continuous REALTIME	Continuous REALTIME	Continuous REALTIME
Welding steps [pressure, amplitude]	8	8	8	8
Welding depth sensitivity [mm]	0,01	0,01	0,01	0,01
Work settings memory	31 automatic equipment + 32 manual	31 automatic equipment + 32 manual	31 automatic equipment + 32 manual	31 automatic equipment + 32 manual
Type of communication	Profinet/Profibus	Profinet/Profibus	Profinet/Profibus	Profinet/Profibus
The digital generator ensures very short swing on/off vibration phases (50ms)				

## REFERENCES

Noise level **	[dB din 45635]	≤ 80	≤ 80	≤ 80	≤ 80
Work outcome definition	Automatic (good/reject)	Automatic (good/reject)	Automatic (good/reject)	Automatic (good/reject)	Automatic (good/reject)
Work outcome printer	Custom Plus	Custom Plus	Custom Plus	Custom Plus	Custom Plus
Holes on planes compatible with	Branson 2790, 2900, M2900H and M-2913H	Branson 2790, 2900, M2900H and M-2913H	Branson 2790, 2900, 2913, M-2900H, M-2913H and M906	Branson 2790, 2900, 2913, M-2900H, M-2913H and M906	Branson 2790, 2900, 2913, M-2900H, M-2913H and M906
Work pneumatic movements	2 (opt up to 10) valves + 1 (opt up to 2) vacuum circuits	4 (opt up to 10) valves + 2 vacuum circuits	4 (opt up to 10) valves + 2 vacuum circuits	4 (opt up to 10) valves + 2 vacuum circuits	4 (opt up to 10) valves + 2 vacuum circuits
Remote-assistance	Optional	Included	Included	Included	Included
Automatic rear door (for rear loading/unloading)	Optional	Optional	Optional	Optional	Optional
Electrical sliding table	Optional	Optional	Optional	Optional	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.

# 950

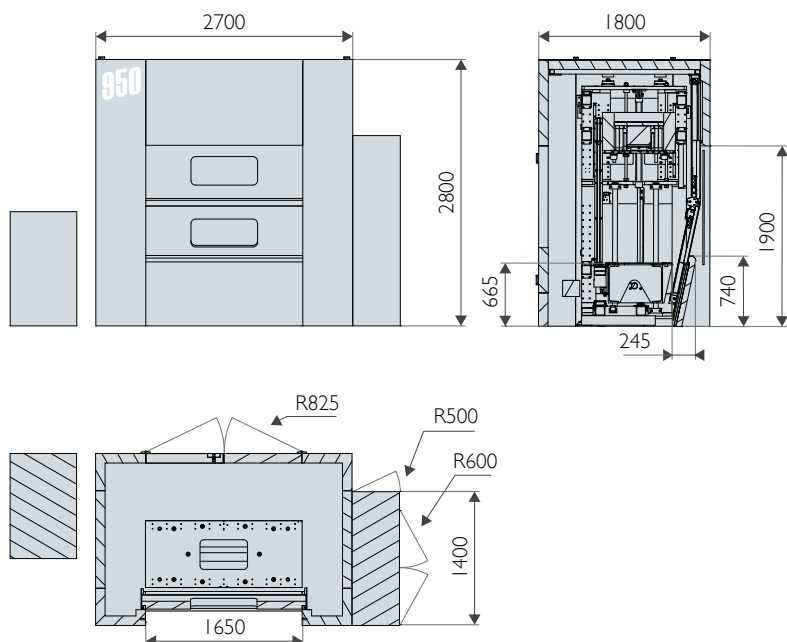
## ST STANDARD VERSION

100 Hz machine, highly sturdy for welding large components. Ideal for a small-to-medium sized dashboards. It can also be used for welding washing machine drums.

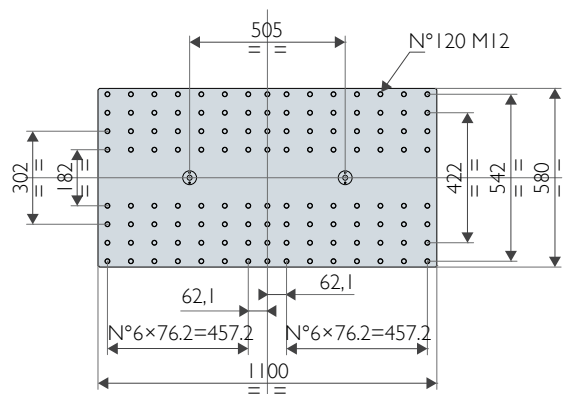
The machine comes in two versions, Standard and High Level. Due to a thorough ergonomic study, CEMAS's machines are among the best currently available on the market. Since the very beginning, we have succeeded in offering to our customers machines having a load position as close as feasible to the work area. Our 950 is no exception to the rule.

## HL HI LEVEL

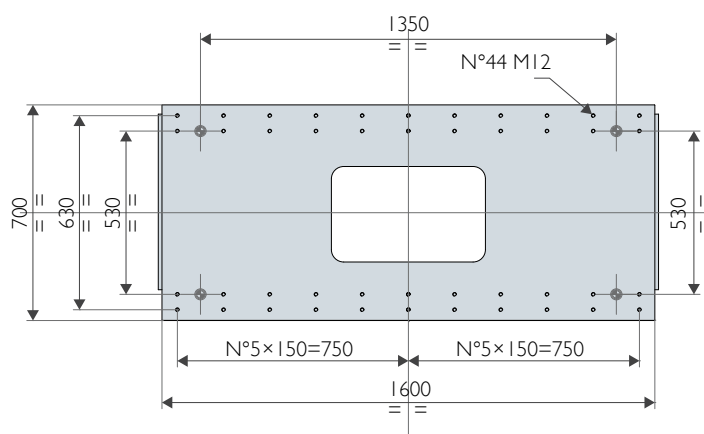
The HL version is different to the standard one as it includes some features making the machine even more flexible and powerful than ever. Just to mention some of the major changes, the welding power has been increased, more complex equipment and cycles can now be controlled, a teleservice module and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



### UPPER PLATE



### LOWER PLATE



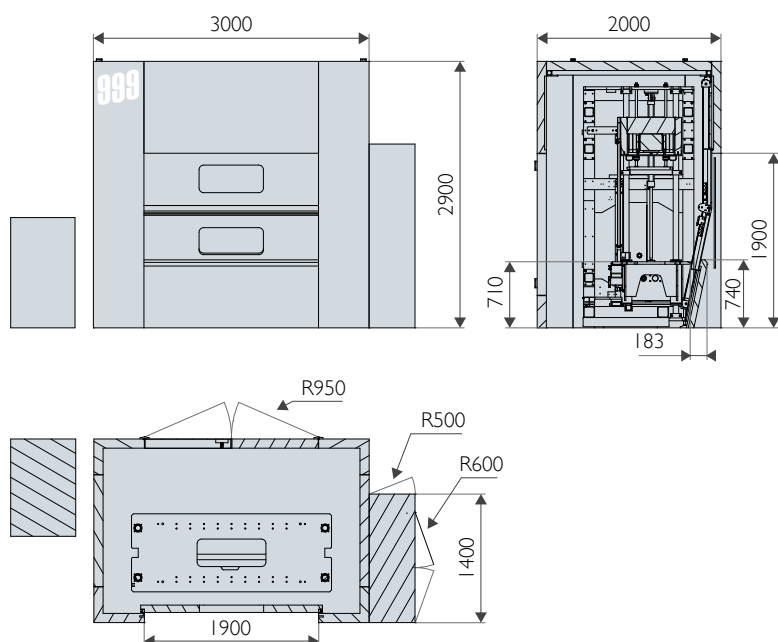
# 999

## HL

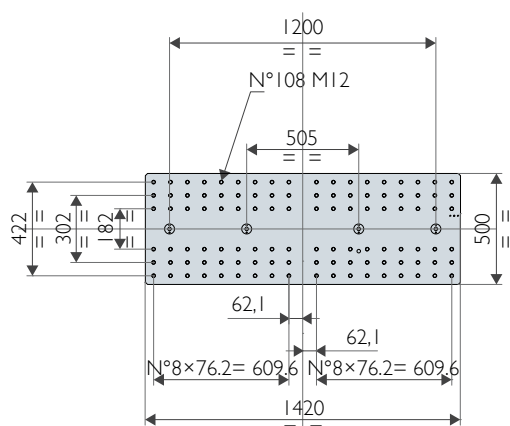
### HI LEVEL

This is one of the largest vibration machine and it can be used for large dashboards, pallets, outdoor furniture.

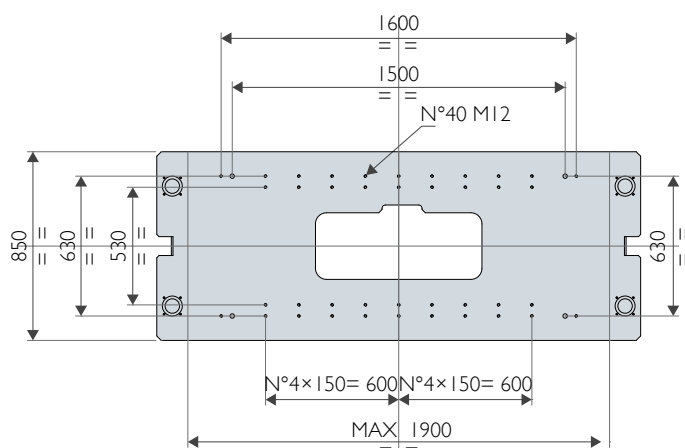
Equipped with an electrical sliding table as a standard series feature, it can clear every undercut and make loading/unloading operations easier.



### UPPER PLATE



### LOWER PLATE



## XT

### EXTENDED

The XT version is even bigger than the HL one.

This machine keeps the same standards of precision and power of the 999 HL machine, but with an increased body (+300 mm), designed for very special and oversized components. No component is too big for this machine!

# OPTIONALS

● Included

□ Optional

<sup>1</sup> Venturi system

<sup>2</sup> 1 vacuum circuit

<sup>3</sup> Optional with vacuum pump.  
Up to 4 circuits

<sup>4</sup> Optional with venturi system

<sup>5</sup> Mechanical stops + sensors + hydraulic  
clamping system

<sup>6</sup> Allow fine regulation for pressure  
up to 5600Kg

<sup>7</sup> Suggested for frequent toolchange  
operations

<sup>8</sup> According to customer requirements

<sup>9</sup> On electrical cabinet and hydraulic unit

<sup>10</sup> 4 colors

## DESCRIPTION

	950 <sub>LT</sub>	950 <sub>XL</sub>	999 <sub>HL</sub>	999 <sub>XT</sub>	
Vacuum on upper tool	1	2	2	2	1
Pneumatic valves for tool movements	2	5	5	5	2
Part detection - signals	2	5	5	5	3
Clearance between upper and lower plates	1100+1500	1100+1500	1100+1500	1100+1500	4
Opening for rear toolchange (180°)	●	●	●	●	5
Safety light curtain	●	●	●	●	6
QuickVibration stop	●	●	●	●	7
LED lighting	●	●	●	●	8
31 automatic tool detections & up to 63 tools memories	●	●	●	●	9
Noise level ≤80dB	●	●	●	●	10
Quick pneumatic connection by Staubli - (12 lines RMC)	□	□	□	□	11
Additional pneumatic valve-up to 5	□	●	●	●	12
2° valve pack (+ N.5 valves/ + N.3 for IR machines) - Festo	□	□	□	□	13
Second vacuum circuit - VADMI 300 Festo (upper or lower) <sup>1</sup>	□	●	●	●	14
Third vacuum circuit - VADMI 300 Festo (upper or lower) <sup>1</sup>	□	□	□	□	15
Vacuum pump (Becker) with remote digital vacuumeter - (VX 4.10 Becker) <sup>2</sup>	□	□	□	□	16
Additional vacuum circuit with remote digital vacuumeter - Festo SDE <sup>3</sup>	□	□	□	□	17
Remote digital vacuumeter <sup>4</sup>	□	□	□	□	18
Air gun outlet	□	●	●	●	19
Air gun outlet with ionized air	□	□	□	□	20
Automatic tool coupling system ×4 for big machines (for quick lower tool changing) <sup>5</sup>	□	□	□	□	21
High pressure valve up to 5000 Kg (only for 950-999) <sup>6</sup>	□	□	□	□	22
Hydraulic Unit cooling system	□	□	□	□	23
Upper plate with special insert for small machines <sup>7</sup>	□	●	●	●	24
Upper plate with special insert for big machines <sup>7</sup>	□	●	●	●	25
Torsion bar	●	●	●	●	26
Ball transfer units on lifting table ×12 (for big machine)	□	●	●	●	27
Ball transfer arms for rear toolchange	□	□	□	□	28
Trolley interface for toolchange on front & rear side	□	□	□	□	29
Trolley interface for toolchange on front side + sicurity	□	□	□	□	30
Metal hinges	□	□	□	□	31
Electrical sliding table	□	□	□	□	32
Advanced HMI (SPC, hystoric data saving N.xxx, USB data download)	□	□	□	□	33
EPS Enhanced Power Supply (upper tool up to 50 Kg)	□	□	□	□	34
EPS Enhanced Power Supply (upper tool up to 180 Kg)	□	●	●	●	35
Traceability system (parameters recording into machine memory) <sup>8</sup>	□	□	□	□	36
Voltage stabilizer (VARAT 400V -25% +15% / 40000 VA)	□	□	□	□	37
UPS power backup	□	□	□	□	38
Electrical cabinet cooling system <sup>9</sup>	□	□	□	□	39
Power transformer (440-480V)	□	□	□	□	40
Digital modem for teleservice (EWON)	□	●	●	●	41
Ethernet card/wireless module for remote connections	□	□	□	□	42
USB plug for production data downloading and parameter recording	□	●	●	●	43
BADGE reader	□	□	□	□	44
External label printer (Modello Zebra S4M)	□	□	□	□	45
Integrated mini printer (ticket with welding parameters)	□	●	●	●	46
Robot connection setup	□	●	●	●	47
Part detection management - Additional signal up to 8° (each)	□	□	□	□	48
Acoustic alarm warning	□	●	●	●	49
Light column <sup>10</sup>	□	□	□	□	50
Light column (Balluff Smart Light)	□	□	□	□	51
Second push-buttons panel	□	□	□	□	52
External lighting high performance (sun light 5000-7000°K - 1000 LUX)	□	□	□	□	53
External lighting normal LED	□	□	□	□	54
230V Power socket on front side (each)	□	□	□	□	55
Plugged electric cabinet	□	□	□	□	56
Rear operative panel into left door	□	□	□	□	57
Manual Bar Code reader (cable)	□	□	□	□	58
Rear operative panel into electrical cabinet	□	□	□	□	59
Start cycle optical button	□	□	□	□	60
Special color	□	□	□	□	61
Automatic vertical door on rear side (120 Hz)	□	□	□	□	62
Rear door with transparent window	□	□	□	□	63
Soundproof cabin with electrical cabinet and OP on left side.	□	□	□	□	64

## ● PRODUCTION PLANTS



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