



Since 1957  
The technology in the  
investment casting



**PRESSOVAC**



**PRESSOVAC MAX**



**PRESSOVAC MAX XL**

*GALLONI...there's no better way to cast!*

**ASOG  
GALLONI**

Made in Italy

# PRESSOVAC



The system used by our Pressovac series casting machines was specially developed for dental labs where casting perfection is absolute: casting pieces have a very smooth surface, a very dense molecular structure and without defects like improper filling, porosity and shrinkage.

Metal is inserted into the crucible and the flask positioned on the cradle inside the casting chamber. Casting cycle is fully automatic. The casting chamber is fully evacuated by vacuum before melting, followed by helium gas supply to create an inert atmosphere.

Helium gas has an excellent gas fluidity which provides a cleaning effect of the molten metal and mould and guarantees a smooth filling of metal even of the most intricate patterns.

The casting temperature is attained and low frequency pulses are given to vibrate and mix the molten metal by keeping it homogeneous. Temperature is controlled by an optical pyrometer up to 2100°C (3812°F) for platinum and steel and by an immersion type "K" thermocouple inside the graphite crucible up to 1150°C (2102°F) for gold, silver and bronze.

At this stage, just by pushing a button, the whole crucible/flask system will automatically rotate 90° and the metal, once poured in a homogeneous and controlled way into the flask, it is automatically pressurized to 3 bars by argon gas. This high and quick pressurization is indispensable to obtain a proper and homogeneous filling, even at low metal/flask temperatures, for gold, silver and bronze alloys and, above all, for platinum and special steels which have a very narrow melting interval, thus a very quick solidification.

This results in a very smooth surface due to the effect of the vacuum and a dense, well compacted casting due to the "over pressure" of 3 bars, which benefits both thick and thin sections.



Touch-screen capable to store 50 casting processes and to display the actual parameters of pressure, temperature and power



On request, an "universal cradle" is available fitting any flask diameter (between 50 mm  $\varnothing$  minimum and 90 mm  $\varnothing$  maximum) but reducing the flask height down to 80 mm

## **PRESSOVAC AND PRESSOVAC DUAL PYROMETER TECHNICAL FEATURES**

ELECTRICAL	singlephase 230 V 50/60 Hz - 3.5 kW
FLASKS	from 50 to 90 mm $\varnothing$ , up to 90 mm h
COOLING LIQUID	2 l/minute 3~4 bar with closed circuit water pump
COMPRESSED AIR	6~7 bar
GAS	Helium, Argon, Nitrogen
EXTERNAL VACUUM PUMP	8 m <sup>3</sup> /h - 0.5 mbar
OVERALL DIMENSIONS AND WEIGHT	600 x 500 mm x 580 mm h.- 90 kg
In compliance with CE regulation - Warranty 12 months only if Galloni original consumables are used	

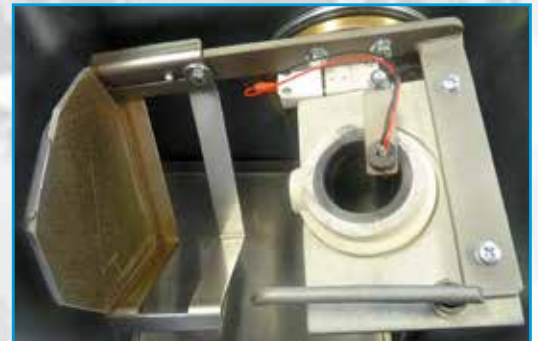
# PRESSOVAC DUAL PYROMETER



Touch-screen capable to store 50 casting processes and to display the actual parameters of pressure, temperature and power

The "DUAL PYROMETER" version of our well-proven Pressovac machine features:

- optical infrared pyrometer for temperatures up to 2100°C (3812°F) for steel and platinum.
- immersion "K" thermocouple for temperatures up to 1150°C (2102°F) for gold, silver, brass, bronze.
- Option: immersion "K" thermocouple for temperatures up to 1450°C (2642°F) for gold alloys with palladium.



**EXAMPLE OF FILIGREE CASTING FROM RAPID-PROTOTYPING MODELS**  
(courtesy by DWS - Italy)



## EXAMPLE OF MINISTRUCTURE

The ministructure consists of the casting machine, the burnout furnace and the investment mixer; it requires a small area (just 60 x 160 cm) on a bench top. Goldsmiths, jewellery designers and studios can cast by themselves high quality intricate patterns in a short time. An ideal way to produce from rapid-prototyping.



A metal wheeled bench is available which accomodates the PRESSOVAC together with its closed circuit water pump and vacuum pump.



# PRESSOVAC MAX



The "MAX" version of our Pressovac machine is free-standing and offers the same proven features and functions as the standard Pressovac but accepting a larger flask and with an enhanced casting capacity (flask size up to 100 mm ø x 150 mm h.) All functions are touch-screen controlled.

The machine features:

- optical infrared pyrometer for temperatures up to 2100°C (3812°F) for steel and platinum
- immersion "K" thermocouple for temperatures up to 1150°C (2102°F) for gold, silver, brass, bronze.
- Option: immersion "S" thermocouple for temperatures up to 1450°C (2642°F) for gold alloys with palladium

## FEATURES OF THE PRESSOVAC SERIES

- Extremely robust water-cooled casting chamber
- Automatic tilt
- Rapid pressurization up to 3 bar, allowing lower metal and flask temperatures

## COMPETITORS

Most of our competitors' machines have weak casting chambers which cannot withstand 3 bar pressure supplied in a very short time, otherwise the cover will blow out. Therefore gas pressure has to be applied slowly to the molten metal after pouring. This requires a significant temperature increment of both flask and metal to achieve adequate filling, resulting in porosity

and rough surface of the casted piece. A further disadvantage of competitors' machines is the manual tilting, an action affected by the operator skill: incomplete filling if the pouring is slow, metal spillage if too rapid.



WATER PUMP



VACUUM PUMP

## PRESSOVAC SERIES ACCESSORIES

- External high VACUUM PUMP
- WATER PUMP  
supplied complete with water recirculating cooling tank

## PRESSOVAC MAX TECHNICAL FEATURES

ELECTRICAL	three phase 230/400/415 V 50/60 Hz – 6 kW
FLASKS	from 50 to 100 mm ø, up to 150 mm h
COOLING LIQUID	3 litri/min. 3-4 bar with closed circuit water pump
COMPRESSED AIR	6~7 bar
GAS	Helium, Argon, Nitrogen
EXTERNAL VACUUM PUMP	8 m <sup>3</sup> /h – 0.5 mbar
OVERALL DIMENSIONS AND WEIGHT	680 x 490 mm x 1200 mm h. – 160 kg
In compliance with CE regulation – Warranty 12 months only if Galloni original consumables are used	

# PRESSOVAC MAX XL

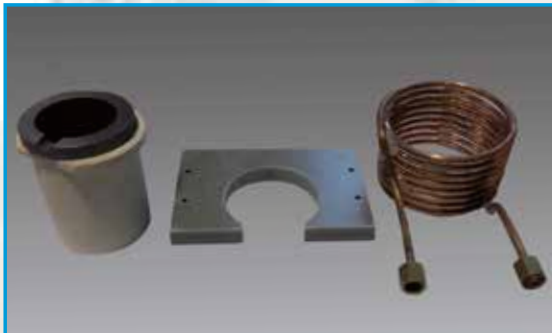


PRESSOVAC MAX XL is the high capacity version of the series PRESSOVAC.

It accepts flask sizes up to 150 mm Ø and 250 mm h and is controlled by a colour touch screen.

The machine features:

- optical infrared pyrometer for temperatures up to 2100°C (3812°F) for steel and platinum
- immersion "S" thermocouple for temperatures up to 1150°C (2102°F) for gold, silver, brass, bronze.
- Option: immersion "S" thermocouple for temperatures up to 1450°C (2642°F) for gold alloys with palladium



A100.434  
Special graphite crucible with container  
P04736  
Melting coil  
A107.158  
Crucible holding plate



A100.626  
Silicon carbide crucible (180 cc)  
P06071  
Melting coil  
A107.213  
Crucible holding plate

**PRESSOVAC MAX XL** will be supplied outfitted with one kit chosen by customer. Extra kits on request must be ordered separately

## **PRESSOVAC MAX XL TECHNICAL FEATURES**

ELECTRICAL	three-phase 230/400/415 V-50/60 Hz –10 kW
FLASKS	from 100 to 150 mm ø, from 120 to 250 mm h
COOLING LIQUID	water 3 l/minute at 3 bar with closed circuit water pump
COMPRESSED AIR	7 bar
GAS	Helium, Argon, Nitrogen
EXTERNAL VACUUM PUMPA	60 m³/h – 0.5 mbar
OVERALL DIMENSIONS AND WEIGHT	1000 x 700 mm x h 1250 mm – 330 kg
In compliance with CE regulation – Warranty 12 months only if Galloni original consumables are used	

## BURNOUT FURNACES

### G-THERM burnout furnace

Even temperature throughout the firing chamber is an essential prerequisite for gold and consistent casting results. This is possible using our burnout furnaces because they have the following advantages:

- efficiently thermally insulated firing chambers for uniformity of the temperature and maximum economy of energy consumption
- efficient fume extraction during the early phase of burnout and oxygen ventilation indispensable for resin castings
- maximum working temperature of 1000 °C.
- temperature control system permits 10 different pre-programmed burnout cycles
- progress of the cycle constantly displayed
- provided with a 7- day timer for pre-setting



### G-THERM SMALL

ELECTRICAL	singlephase 230 V 50/60 Hz – 2,8 kW
BURNOUT CHAMBER DIMENSIONS	165 mm x width 280 mm depth x 150 mm h.
OUTSIDE DIMENSIONS AND WEIGHT	325 x 600 mm x 690 mm h. – 38 kg



### G-THERM MEDIUM

ELECTRICAL	singlephase 230 V 50/60 Hz – 4 kW
BURNOUT CHAMBER DIMENSIONS	240 mm x width 320 mm depth x 250 mm h.
OUTSIDE DIMENSIONS AND WEIGHT	530 x 700 mm x 800 mm h. – 100 kg

### G-THERM LARGE

ELECTRICAL	three phase 400 V 50/60 Hz -13 kW
BURNOUT CHAMBER DIMENSIONS	400 mm x width 500 mm depth x 400 mm h.
OUTSIDE DIMENSIONS AND WEIGHT	760 x 950 x 1360 mm – 300 kg



## INVESTMENT

### Investment vacuum mixer

Modern casting laboratories take advantage of vacuum mixers to produce gas-free investment slurries in a safe environment for the operator because of the very small quantity of airborne investment powder.

Features and advantages of our mixers:

- Precise and automatic water measure by means of its graduated tank
- Electronic controlled mixing time and speed, with exceptionally high torquemotor for the complete gas removal and the optimization of the results, suitable for every type of investment
- Possibility to adjust the vibration intensity inside the flask
- Little maintenance requirements, no investment waste (reduced running costs)



**G-MIX**

### G-MIX

<b>ELECTRICAL</b>	singlephase 230 V 50/60 Hz
<b>INVESTMENT CAPACITY</b>	1 kg (for gold), 0.8 kg (for platinum)
<b>OPERATION</b>	single flask maximum dimensions 100 mm $\varnothing$ x 120 mm h

### GAL-MIX

<b>ELECTRICAL</b>	singlephase 230 V 50/60 Hz
<b>INVESTMENT CAPACITY</b>	4 kg (for gold), 3 kg (for platinum)
<b>OPERATION</b>	three flasks each time, maximum dimensions 100 mm $\varnothing$ x 120 mm h

### MEDIUM MIXER

<b>ELECTRICAL</b>	singlephase 230 V 50/60 Hz
<b>INVESTMENT CAPACITY</b>	6 kg (for gold), 3 kg (for platinum)
<b>OPERATION</b>	three flasks each time, maximum dimensions 100 mm $\varnothing$ x 200 mm h



### Water refrigerator - Chiller

Stringent regulations in water use, frequent working cycles, environmental protection consciousness require water refrigerators. The closed circuit refrigerator eliminates the water consumption and increase the yield of the casting machine.

<b>ELECTRICAL</b>	singlephase 230 V 50/60 Hz
<b>WORKING PRESSURE</b>	3 bar

### Water Jet Cabin


The unit quickly removes all investment from castings. A strong pressured water jet blasts all investment off the trees. The cabin is made of stainless steel and is complete with a special high pressure water pump to be connected to the water supply.

<b>ELECTRICAL</b>	singlephase 220 V 50/60 Hz
<b>WATER</b>	13 liters/minute
<b>PUMP</b>	90 bar





# CRUCIBLES KIT





## PRESSOVAC

	A100.561	Ceramic container for graphite liner	<b>for Au</b>
	A100.562	Interchangeable graphite liner (10 cc)	<b>for Au</b>
	A100.559	Ceramic crucible (10 cc)	<b>for Pt</b>
	A100.564	Silicon carbide crucible (20 cc)	<b>for Steel/Pd</b>
<p>Melting coil and crucible plate, supplied with the machine, are the same for all crucibles.  <b>PRESSOVAC</b> machine will be supplied complete with all crucibles</p>			

## PRESSOVAC DUAL PYROMETER

 <p><b>Au KIT</b></p>	A100.566	Graphite crucible cemented with its container for gold and silver (20 cc)
	A100.509	Lid cover for crucible
	A100.580	Graphite thermocouple sheath
	A083.056	Spare thermocouple type "K" for 1150°C (2102°F)
	A083.051	(Option) Spare thermocouple type "S" for 1450°C (2642°F)
	P05046	Melting coil (3648)
	P05064	Crucible holding plate complete with crucible lid cover holder mechanism
 <p><b>Pt/Pd/Acciaio KIT</b></p>	A100.559	Ceramic crucible for platinum (10 cc)
	A100.564	Silicon carbide crucible (20 cc)
	P05020	Melting coil (3645)
	P05097	Crucible holding plate complete with crucible lid cover holder mechanism
<p><b>PRESSOVAC DUAL PYROMETER</b> will be supplied outfitted with one kit chosen by customer          extra kits on request must be ordered separately</p>		

## PRESSOVAC MAX

 <p><b>Au KIT</b></p>	A100.594	Graphite crucible cemented with its container for gold and silver (60 cc)
	A100.577	Lid cover for crucible
	A100.575	Graphite thermocouple sheath
	A083.055	Spare thermocouple type "K" for 1150°C (2102°F)
	A083.049	(Option) Spare thermocouple type "S" for 1450°C (2642°F)
	P05042	Melting coil (3647.1)
	P05062	Crucible holding plate complete with crucible lid cover holder mechanism
 <p><b>Pt KIT</b></p>	A100.512	Ceramic crucible (20 cc)
	P05058	Melting coil (3650.1)
	P05061	Crucible holding plate complete with crucible lid cover holder mechanism
 <p><b>Acciaio/Pd KIT</b></p>	A100.568	Silicon carbide crucible (40 cc)
	P05058	Melting coil (3650.1)
	P05063	Crucible holding plate complete with crucible lid cover holder mechanism
 <p><b>Acciaio/Pd KIT (Grande)</b></p>	A100.578	Silicon carbide crucible (75 cc)
	P05080	Melting coil (3656.1)
	P05091	Crucible holding plate complete with crucible lid cover holder mechanism
<p><b>PRESSOVAC MAX</b> will be supplied outfitted with one kit chosen by customer          extra kits on request must be ordered separately</p>		

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We reserve the right to modify technical specifications without notice.