

HIGH PRESSURE FOAMING MACHINES

# ECOPLUS SERIES



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**OMS**  
Group  
Polyurethane Evolution |

PROGRESS THROUGH EXPERIENCE



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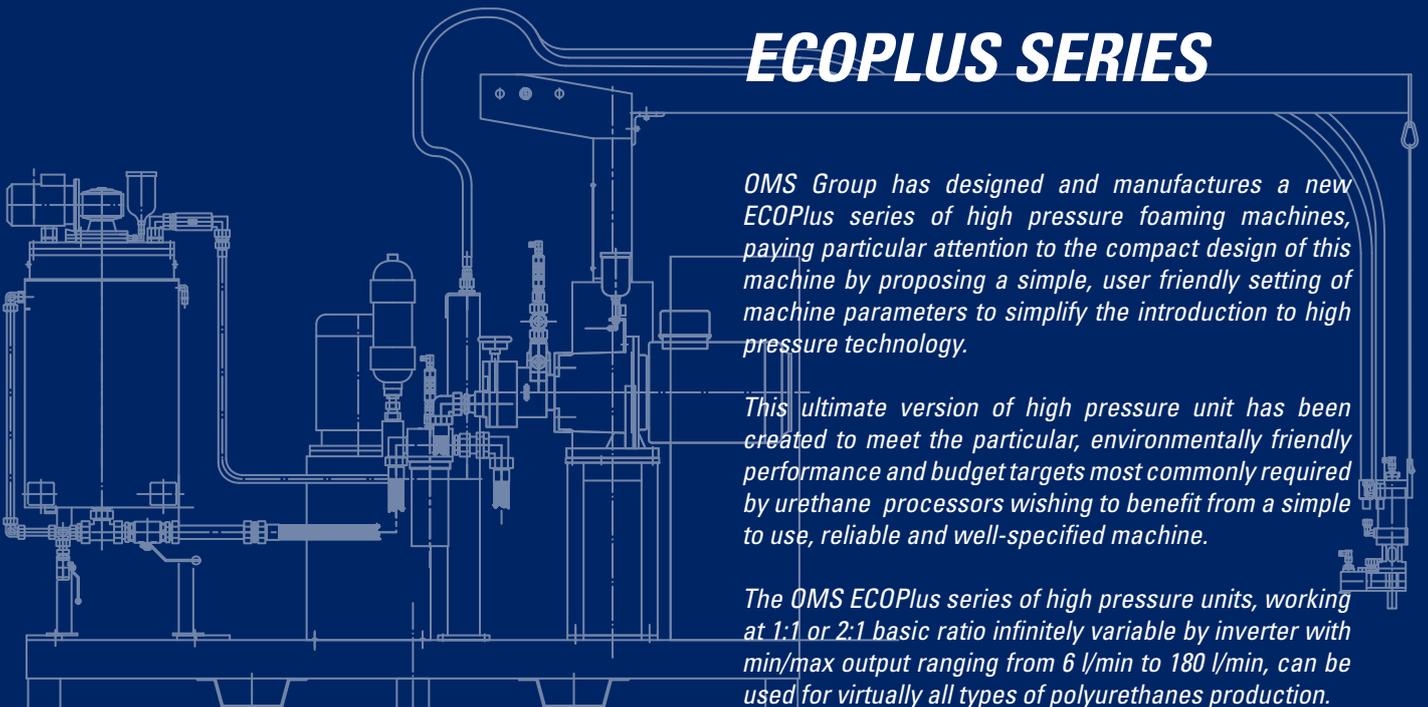
## HIGH PRESSURE FOAMING MACHINES

## ECOPLUS SERIES

*OMS Group has designed and manufactures a new ECOPlus series of high pressure foaming machines, paying particular attention to the compact design of this machine by proposing a simple, user friendly setting of machine parameters to simplify the introduction to high pressure technology.*

*This ultimate version of high pressure unit has been created to meet the particular, environmentally friendly performance and budget targets most commonly required by urethane processors wishing to benefit from a simple to use, reliable and well-specified machine.*

*The OMS ECOPlus series of high pressure units, working at 1:1 or 2:1 basic ratio infinitely variable by inverter with min/max output ranging from 6 l/min to 180 l/min, can be used for virtually all types of polyurethanes production.*



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## COMPONENTS STORAGE AND TEMPERATURE CONDITIONING

100 litres capacity each vertical, jacketed cylindrical tanks PED certified, insulated and complete with:

- Flanged and removable lid;
- Slow-speed agitator driven by a motor reducer;
- Nylon visual level;
- Tank pressurization system complete with pressure regulation valve and manometer;
- Safety valve for maximum tank pressure;
- Connection piping to the metering pump.

The temperature control of each single component is executed directly inside the pertaining tank through a system including:

- Electric resistances inside the jacket for heating;
- Intercepting valve for cooling water control at the entry of the tank jacket;
- Component temperatures monitored by a PT 100 probe and controlled by the PLC.



## METERING PUMP GROUP

N° 2 High pressure metering pump groups, each one feeds the mixing head and has the following features:

- High pressure metering pump, rotary axial piston type at fixed output;
- Inverter control for pump RPM variation according to different pouring programs;
- Pump horizontally mounted and coupled with a dedicated three-phase electric motor inverter controlled;
- Double seal pump and relative lubricating group;
- Cartridge filter on the suction side of the pump;
- Safety valve for maximum pressure;
- Digital pressure gauge, double contact type, to control the mixing pressure;
- Digital pressure gauge, single contact type, to control minimum feeding pressure to the suction side of the metering pump.



## **SERVICES REQUIRED**

**Electrical power:** 400V;50HZ; 3-phase+neutral+earth

**Compressed air:** dry industrial air at 6-8 BAR

**Working temperature:** from +10°C to 35°C

## **MIXING HEAD**

*The ECOMIX Y2K series of impingement type, self-cleaning high pressure mixing head is provided with flexible support hoist rod to support it and complete with flexible pipe 5m long.*

*The ECOMIX Y2K series of mixing head is equipped with a separation system on all the surfaces in contact between oildynamic circuit and PU (in order to avoid any contamination). In case of main power failure the oildynamic system will only shut the mixing piston in order both to avoid erroneous working sequences and damages to the components lines.*

*The head is equipped with:*

- Proximity sensor (one for each plunger);
- Nozzles at variable pressure;
- Oil electric distributor;
- N°1 standard boom of 1.9m length to support the mixing head thus allowing a 120° working radius and a 500mm vertical movement;
- Hydraulic unit for mixing head control.

## **CONTROL PANEL**

*The OMS design concept for the control system adopted for this brand new ECOPlus series of high pressure machine is innovative and is based on Siemens S7 300 series PLC for reliability and world wide service and parts availability.*

*All machine variables and working parameters settings are set through an operator panel functioning as an interface between the PLC and the operator.*

*The main difference relates to the control system; in fact, the machine is self-diagnostic and checks that all variables are within their pre-set working range.*

*Indeed, should a variable exceed such pre-set limits, the machine itself will signal an alarm status by triggering a clear text message and, at the same time, all the necessary interventions (depending on the type of alarm) to ensure safe working conditions.*

*All data will be displayed and a given working page can be retained during the working process should the operator decide so.*

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## ALARMS AND MAINTENANCE OPERATION MESSAGES

Full control and operation of all machine functions is by means of the PLC which, in case of anomalies, gives an acoustic warning with display of a text message identifying the related problem and possible solution.

This system controls automatically the status of the machine by signalling appropriate maintenance operations.

According to the number of cycles or working hours, the machine will give advice of preventive maintenance in relation to its different elements.



## ACCESSOIRES

- Chiller unit for cold water circulation at closed loop
- High pressure colour dosing unit
- Refilling pumps from drums
- Emulsification unit
- Jib type boom
- Magnetic coupling between electric motor and high pressure metering pump
- Additional programmable pouring module - 99 programs - besides those 19 as standard.
- Capacitive loading levels with control of: minimum, start loading and maximum level
- Electro-pneumatic loading valves actuated by the automatic levels
- Flow-valves for high and low pressure recycle sequences

## OPTIONALS

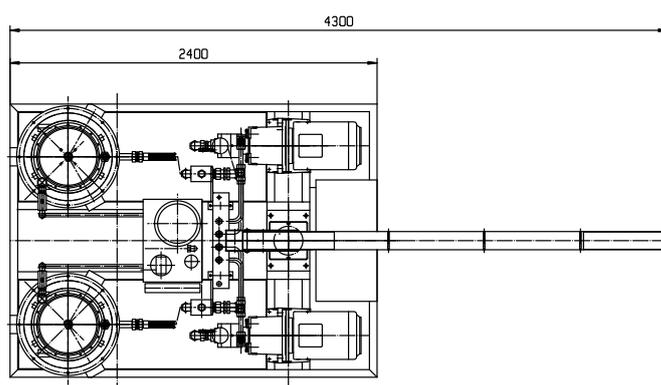
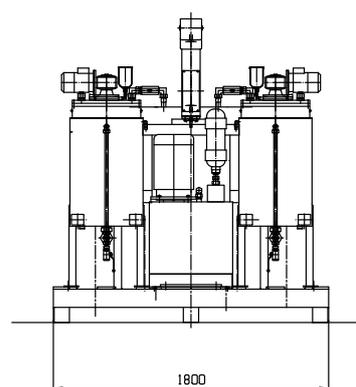
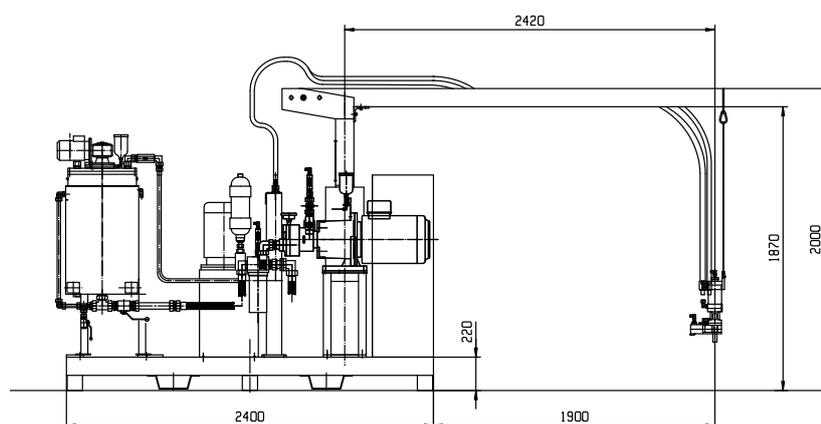
- Manually operated self-cleaning filters (through a hand-wheel);
- Additional heat exchanger on the components recycle line;
- Programmable temperature control and recycle during weekend;
- Power variation;
- Jollymatic;
- Output readout by means of volumetric flow-meter through relative display (for each line);
- Output and ratios readout by means of mass-flow meters through relative display (for each line);
- Pneumatic injectors for pressure self-adjustment;
- 250 l or 500 l machine day tanks;
- Addition of second mixing head;
- Data Capture System on USB memory card.





SERIES	RATIO 1:1		RATIO 2:1		TANK CAPACITY	POWER CONSUMPTION Kw	WEIGHT kg
	MIN l/min	MAX l/min	MIN l/min	MAX l/min			
<i>Ecoplus 15</i>	6	17	9	13	100	23	1100 - 1300
<i>Ecoplus 35</i>	11,5	33	17	25	100	30	1100 - 1300
<i>Ecoplus 100</i>	33	85	49	64	100	45	1100 - 1300
<i>Ecoplus 200</i>	62	160	93	120	250	79	1300 - 1500
<i>Ecoplus 10F</i>	/	6,8	4,5	10,2	100	21	1100 - 1300
<i>Ecoplus 25F</i>	12	17	9	25	100	27	1100 - 1300
<i>Ecoplus 50F</i>	/	33	25	50	100	38	1100 - 1300
<i>Ecoplus 100F</i>	62	85	50	122	250	63	1100 - 1300

*Machines with different configuration due to high outputs are available on demand*



*The above data is issued for guidance only, the detailed specification of any machine is subject to confirmation. We reserve the right to improve the features of our equipment at any time without prior not.*



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