

Low Pressure Machines



IMPACT Series

I M P A C T

The brand new **Impact** series of low pressure machines launched by **OMS Group** marks a new era in our technology and results from our long-standing effort in research and development in the polyurethane field. **Impact** is the result of **OMS's** will to meet customers' demanding needs and expectations by proposing a simple, user friendly means of setting machine parameters, status displays, pouring times etc.

In designing **Impact**, we also made it priority the need to simplify and minimise maintenance operations.

The electrical control panel provides for the handling of all operating cycles through a PLC which is standardised throughout the range thus assuring utmost reliability.

COMPONENTS TANK AND TEMPERATURE CONTROL SYSTEM

100 litres (each) capacity carbon steel components tanks each one complete with:

- Flanged and removable lid;
- Connection for automatic loading system (optional);
- Silica gel;
- Connection for automatic loading levels (optional);
- Hatch for manual loading;
- Nylon visual level tube;

The temperature control of each component is obtained by recycling the component through a stainless steel tube nest type heat exchanger. Integral electrical resistance heaters and cooling water solenoid valves are provided for the temperature conditioning cycle.



Component temperatures are monitored by a PT100 probe and controlled by a PLC through a PID algorithm.



METERING PUMPS

No 2 independently controlled, high accuracy metering groups.

Each metering group feeds the mix head and has the following characteristics:

- pumps driven by asynchronous, three-phase motors (one for each pump) and controlled by a frequency converter to ensure precise control of pump speed;
- pump and/or motor revolutions are set through the operator panel and coupled to the selected pouring program (19 programs as standard);
- double seal gear pumps with integral lubricating circuit;
- pressure gauge fitted at feed side of each metering pump to display working pressure and complete with maximum pressure safety contact;
- Maximum working pressure 15 BAR;

Series

SERVICES REQUIRED

Electrical power: 380V; 50Hz; 3-phase+neutral+earth

Compressed air: dry industrial air at 8 BAR

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



MIXING HEAD

Recycle type mixing head equipped with pneumatic operation to control component recycle/pouring phases. The head is supplied with a mixer and mixing chamber appropriate to the required working output and type of material to be processed.

Moreover, it is provided with a range of various diameter nozzles and special valves on the recycle line for the adjustment of the recycle and pouring pressure in order to ensure a constant and even production process.

CONTROL PANEL

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

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 with a combined acoustic/text warning alerting the operator should an alarm or anomaly arise.



Indeed, should a variable exceed such pre-set limits, the machine itself will signal

an alarm status in clear text message triggering, at the same time, all the necessary interventions

(depending on the type of alarm) to ensure safe working conditions.

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

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



ALARMS AND MAINTENANCE WARNINGS.

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

All functions controlled by the PLC are constantly monitored through pre-set minimum and maximum alarm set point values.

Moreover, this system controls automatically the operating status of the machine by signalling appropriate maintenance operations.

All main elements composing the machine are identified by a colour code depending either on the number of either working hours or working cycles the machine has completed.

Special seal on the mixer shaft lubricated automatically during the pouring phase.

High shear mixer driven by a three-phase electric motor.

Mixing speed: 6,500 rpm (other speeds available on request) obtained by a toothed belt and pulley arrangement.

The mix head can be prearranged for 2 colour metering lines (optional).



CLEANING CIRCUIT

18 litres capacity pressurised stainless steel cleaning solvent tank.

Solenoid valve for automatic mixing head cleaning and drying with related timers to adjust solvent and/or air quantity.

Minimum level and related alarm.

Special manual valve to clean the mix head in case of mains power failure.



ACCESSORIES & OPTIONAL

Capacitance or probe type automatic level controls;

Electro-pneumatic loading valves;

Pneumatic loading drum pumps;

Stirrer on components tanks;

Programmable pouring module - 99 programs;

Chiller unit.

Water cleaning system;

Low pressure colour dosing unit;

Pre-pouring cycle;

Pneumatic diaphragm drum pumps;

Gear loading pump;

Jollymatic;

Printer;

Mixer motor with inverter;

Pump and mixer rpm readout;

Programmable temperature control and recycle during week-end;

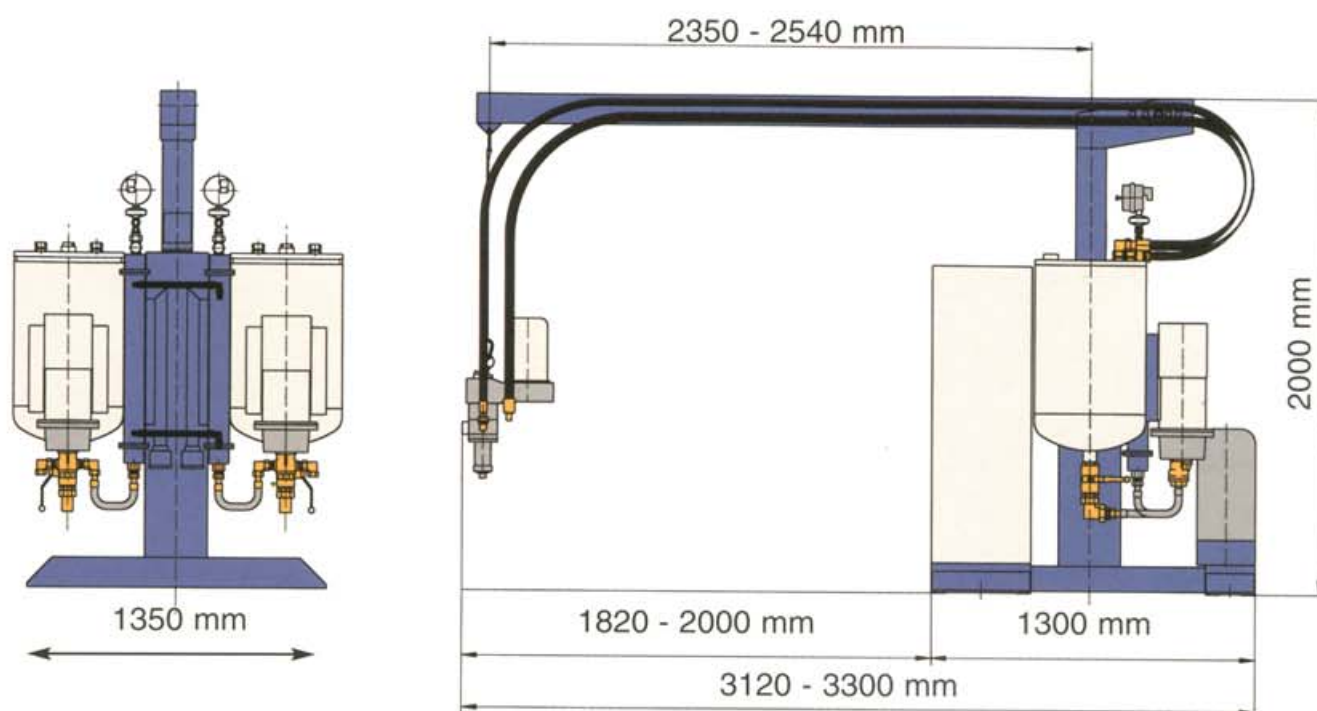
Filter on suction side pumps;

Volumetric or mass type flow meter;

Stainless steel tanks.

SERIES	RATIO 1:1		RATIO 2:1		Tank Capacity litres			Power Consumption Kw	Weight Kg	Cooling Capacity Kcal/h
	MIN. l/min	MAX. l/min	MIN. l/min	MAX. l/min	A	B	Solvent			
Impact 6	1	6	1.5	6	100	100	18	6 - 9	700	1200
Impact 12	2	11	3	12	100	100	18	6.5 - 10	710	1200
Impact 25	4	22.5	5	24	100	100	18	11 - 14.5	720	3000
Impact 40	6	35	6	35	100	100	18	12 - 16	750	3000
Impact 60	10	50	10	50	100	100	18	15 - 18.5	800	3000
Impact 80	12	70	15	70	100	100	18	16 - 19.5	820	6000
Impact 100	19	110	20	84	100	100	18	17 - 20.5	850	6000

NOTE: Chiller power consumption is not included in the above data since the chiller is independently connected to the machine



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 notice.

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Polyurethane Evolution