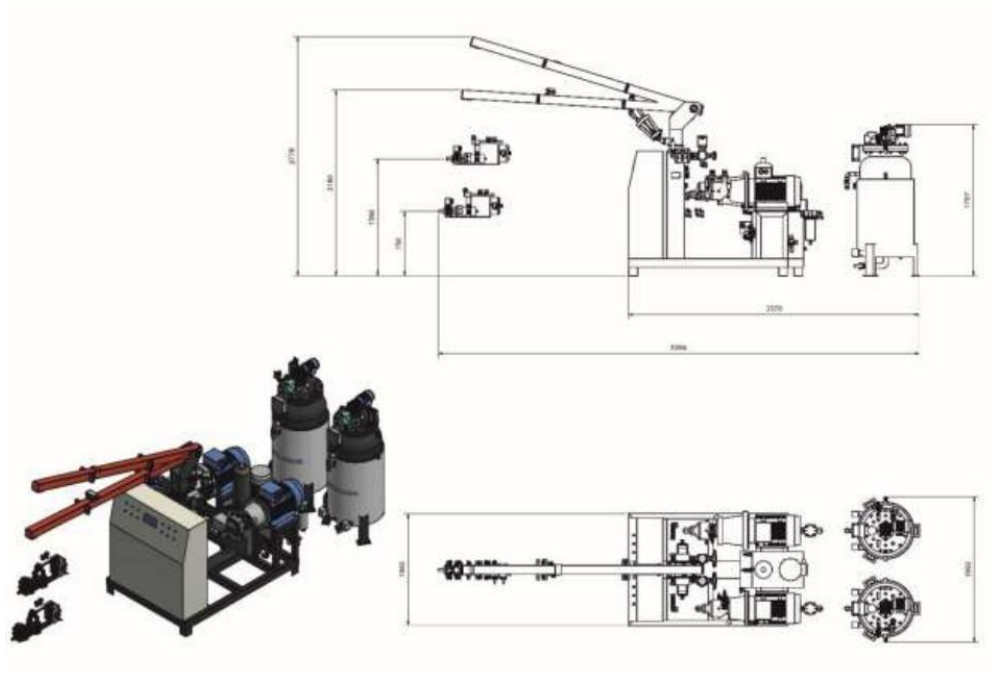
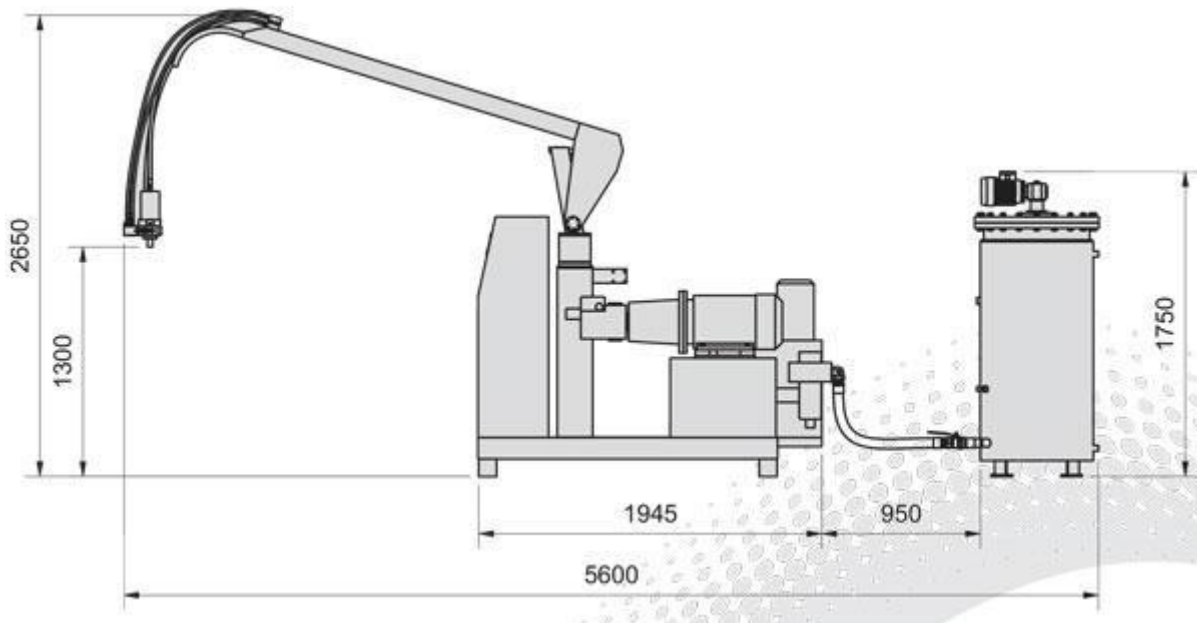


HIGH PRESSURE FOAMING MACHINE TITAN 200





DESCRIPTION OF EQUIPMENT

Adjustable ratio		1:1
Minimum flow-rate	gr/sec 300	gr/sec 300
Maximum flow-rate	gr/sec 3200	gr/sec 3200
Isocyanate metering pump capacity	cc/rpm 62	cc/rpm 62
Polyol metering pump capacity	cc/rpm 62	cc/rpm 62
Capacity of each tank	l 300	l 300
Tank max working pressure	Bar	10
Tank heating power	Kw	6
Hydraulic power pack flow-rate	l/min	20
Hydraulic power pack tank capacity	l	75
Oil accumulator volume	l	10
Polyol filter	mcr	500
Isocyanate filter	mcr	500
L-Shaped mixing head		EKS 16/24
Working pressure	Bar	200
Utilities:		
Compressed air pressure	Bar 6	8
Compressed air consumption	NI/min	NI/min 250
Gross weight	K	K 2200
Power supply (3-phase + neutral)	Volt 400	Volt 400

A) TANKS MODULE TO THERMOREGULATE AND FEED THE METERING MODULE

2 off vertical 300l capacity each 410 carbon steel-made tanks with support feet.

The tanks have PED testing at 6 bar according to the Standards in force. They are complete with visual level and externally insulated by Trocellen CL-1 insulating aluminum sheet.

The flanged lid of each tank accommodates:

- Manometer to read the pressure of tank;
- Pressurization group for compressed air;
- Ped tested safety valve with 5.6 bar calibration;
- Servo-controlled valve with simple effect actuator to handle the loading of components in automatic mode;
- Lektra electronic capacitance level with electronic unit connected to PLC by 4-20 mA analogical signal;
- Rilsan visual level for level visualization;
- 1-1/2" pipe to feed the component to pertaining metering group;
- Flexible hose for component recycle to the tank;
- Rapid relief valve (R S0314) with copper silencer (APS B27) to compensate the pressure during the loading phase of tank;
- Compressed air feed group to machine components by means of:
 - 200 l/h reducing filter;
 - Derivation block;
 - Pressure reducer/regulator c/w manometer.
- Pressure-tested jacket for water recycle, c/w:
 - Armoured resistors (L= 200 1500 W – 400 V) with IP55 protection;
 - Cooling water on/off valves;
 - Component temperature probe (PT 100).
- Low rev. number stirrer with double gasket with liquid barrier, blades having a wide working surface to ensure homogeneity while spreading the liquid inside the tank at a constant temperature;
- Non return valve on tank inlet of component recycle pipe.

B) POLYOL/ISOCYANATE METERING MODULES

The high pressure metering units have been designed and manufactured to reduce the service operations at minimum, ensuring the max reliability to the system.

Each module comprises:

- Filter having a wide filtering surface, assembled at the high pressure pump suction port, c/w manual relief valve ($\frac{1}{2}$ "), to facilitate the discharge of the dirt from the bottom of filter;
- Direct-reading pressure gauge for feeding pressure to the high pressure pump, with min pressure safety contact;
- High accuracy axial piston high pressure pump;
- Single speed motor for pump drive (type B3/B5 400 V – 50 HZ) with control by inverter to ensure a wide range of working flow-rates;
- Motor/pump coupling by mechanical coupling with aluminium belt and elastic joint;
- Direct-reading pressure gauge for recycle and pouring pressures with two-independent contact 0-400 bar digital display, setting of min/max working pressure and handling of signals by means of PLC;
- Tandem flow pneumatic valve for component recycle inside the tank (short recycle) and for component recycle in head directly (recycle in high pressure) through mechanical-sealed nozzles.



C) HYDRAULIC PACK UNIT FOR HEAD CONTROL

CX-75/PAM 7.5KW/2D13RO hydraulic pack unit having a 75l capacity oil storage tank and complete with:

- 16 l/min delivery gear pump having 250 bar working pressure;
- 4poles 5.5kw 3-phase motor coupled to the pump directly by means of elastic joint;
- Visual level with thermometer to visualize the working temperature of hydraulic oil;
- Thermostat to check the temperature for cooling solenoid valve control;
- Cooling solenoid valve;
- Oil loading mouth and pertaining anti-dust filter;

- Heat exchanger to thermoregulate the external oil to avoid any water leakage inside the tank;
- 10l capacity diaphragm-operated hydraulic certified accumulator, with 110bar preload to ensure the proper work of the pouring head;
- Oil filter at pump suction port;
- Rapid relief manual valve for pressure in line to permit any service action;
- Manometer to visualise the pressure inside the circuit with relevant excluding device;
- Solenoid valve for oil dispensing in pressure to the line;
- Valve for manual adjustment of the working pressure.

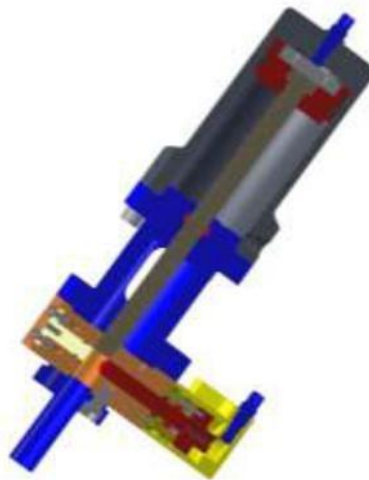
D) HIGH PRESSURE MIXING HEAD

The new concept EKS keeps unchanged all the main features of compactness and work.

The head is complete with:

- Hydraulic system for head opening/closing by means of hydraulic solenoid valves,
- Adjustable pressure nozzles group for the components,
- Proximity switch to check the pouring opening/closing actions, for both the mixing piston and the plunger,
- FLEX HP2 flexible hoses tested,
- Independent adjustment of pouring and recycle pressures carried out directly on each nozzle (static or modulating type with mechanical check) of components,
- Possibility of having the control of ratios in the head directly.

The pouring head is complete with flexible hoses 5,5m long for its positioning on the head holder boom. The boom has a 160° rotation (2600m length) and moves vertically by means of gas springs fitted inside the boom itself.



A remote push buttons panel sited near the head manages the recycle-pouring operations and the choice of times.

Its main functions are:

- Choice of pouring programs by digit display and increase/decrease buttons;
- Visualisation of pouring times and chosen working program;
- Luminous button for cycle start;
- Button for cycle stop;
- Selector for recycle/pouring function;
- Emergency push-button.



E) CONTROL PANEL

The pulpit electrical panel assembled on the basement of the metering unit has IP55 protection and comprises:

- 100 A max power switch with fuses-protection, 3-phase,
- Frequency converters controlling the flow-rates in auto-adjustment according to the chosen program,
- PLC for sequential control of functions, timers, counters, flow-rates, levels, temperatures and process analogical functions,
- "Touch-screen" operator board with keyboard and colored display to set and check all the parameters regarding the pouring and the alarms,
- Automatic thermoregulation of components, with setting of working values and relevant alarms,
- Function for automatic engagement of the metering pumps and hydraulic pack unit,
- Automatic safety control on components pressures,
- Setting and visualization of 99 working programs through digital display with possibility of giving single working programs (different flow-rates and ratios),
- Visualization of any possible alarms that may occur during the working phase on the operator board.



ALARM LIST

- Polyol minimum level.
- Isocyanate minimum level
- Polyol maximum level
- Isocyanate maximum level
- Minimum polyol temperature
- Minimum isocyanate temperature
- Maximum polyol temperature
- Maximum isocyanate temperature
- Emergency pressed
- Hydraulic power pack pump thermal protection
- Fault inverter polyol pump
- Fault inverter isocyanate pump
- Polyol stirrer thermal protection
- Isocyanate stirrer thermal protection
- Polyol minimum pressure
- Polyol minimum pressure during pouring
- Isocyanate minimum pressure
- Isocyanate minimum pressure during pouring
- Polyol maximum pressure
- Isocyanate maximum pressure
- Mixer piston not opened
- Mixer piston not closed
- Self-cleaning piston not opened
- Self-cleaning piston not closed
- Polyol minimum flowrate
- Polyol maximum flowrate
- Isocyanate minimum flow rate
- Isocyanate maximum flow rate

OPTIONAL

- Flow meters