

PicoV7

Touch screen + PLC automation system for the production of concrete

INTRODUCTION TO THE SYSTEM

The TOUCH SCREEN+PLC system is designed to meet the needs of CONCRETE batching plants for truckmixer loading (version TL) or for precast production (version PF).

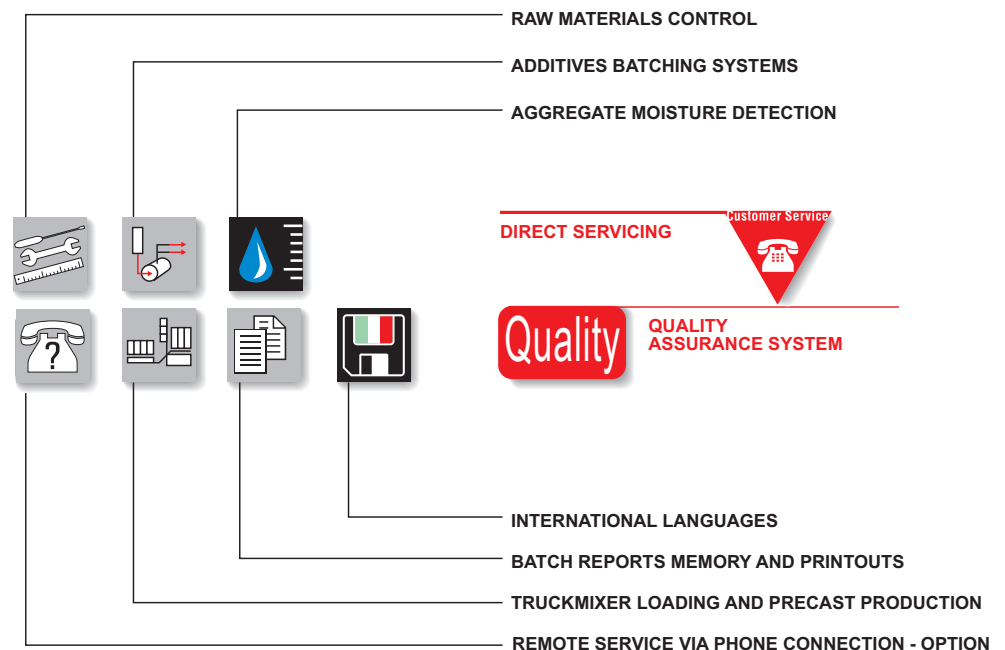
Extremely compact, it is based on STANDARD technologies that are easy to service and operate, and it features a complete automation system with powerful and comprehensive characteristics.

The wide graphic LCD DISPLAY make it easy to input all the parameters through the touch screen keyboard and ensure the readout of weights during both automatic and manual operation.

The version for **truckmixer loading** can control: 6 weight-batched AGGREGATES, 3 weight-batched CEMENTS, 1 volume-batched WATER, 2 additives batched by volume through the LVM system or by weight through the LPM system or on a single weigher, and it can control up to 4 AGGREGATE MOISTURE VALUES detected by probes or input manually.

The version for **precast production** can control: 6 weight-batched AGGREGATES, 3 weight-batched CEMENTS 1 volume-batched WATER, 2 additives batched by volume through the LVM system or by weight through the LPM system or on a single weigher, and it can control up to 4 AGGREGATE MOISTURE VALUES detected by probes or input manually, a SKIP and a MIXER. An RS232 serial port can be used for standard 40-column printers in order to print mix reports or service printouts.

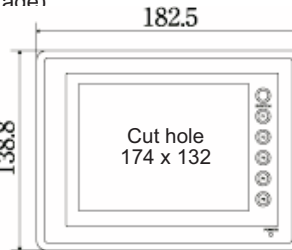
The construction features of the TOUCH SCREEN (IP65, PANEL mounting) allows installation in dusty environments such as concrete batching plants.



TECHNICAL FEATURES

TERMINAL:

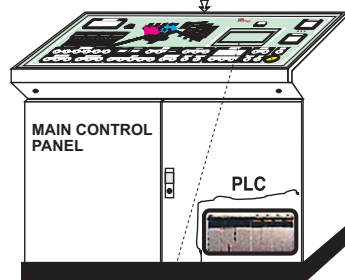
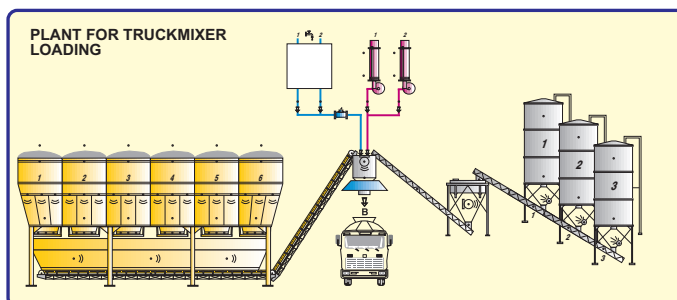
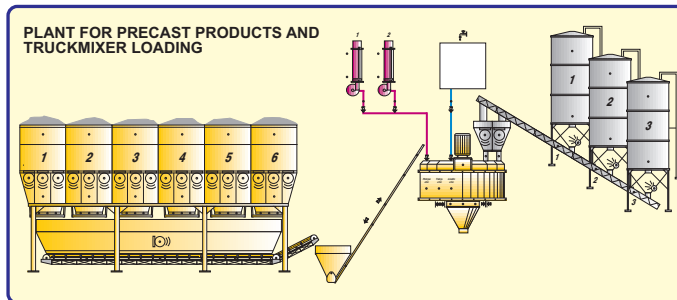
- Touch screen display 5,7" STN monochrome LCD.
- Quick function access KEYS.
- USB port for flash memory (batch reports storage)
- PLC connection RS232 serial port.
- Printer connection RS232 serial port.
- Power supply: 24 Vdc +/- 10 % 15 VA.
- Operation temperature: 0-50 °C.
- Protection: front IP65, back IP20.
- Weight: approximately 0,7 Kg.



PLC OMRON:

- CPU module type CQM1-CPU51-E, 16 inputs 24 Vdc
- Power supply module type CQM1-PA203
- 4 analogue inputs module type CQM1-AD042
- 16 relay outputs modules type CQM1-OC222
- Serial communication cable for connection to the terminal (10 mt)

AUTOMATED PLANTS EXAMPLE



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SYSTEM'S FEATURES

- It stores 200 RECIPES set in net weight for each component, on the CUBIC METER basis.
- Batching of 6 AGGREGATES by weight on a single scale.
- Batching of 3 CEMENTS by weight on a single scale.
- Batching of 1 WATER by volume (pulse launcher).
- Batching of 2 ADDITIVES by volume (LVM system) or by weight (LPM or single scale).
- Control of 4 AGGREGATES MOISTURE with automatic detection (or manual set).
- Control of 1 SKIP with alarms and safeties.
- Control of 1 MIXER with timers and alarms.
- ALARM display and signalling during automatic production.
- All CONFIGURATION PARAMETERS of the plant can be input and trimmed to fit the physical characteristic of the plant in order to achieve the best production rate/accuracy. Free fall control, scales tare, self-tare, emptying times, vibration/fluidification, dosage slow-down, mixing time, cycle suspension and restart.
- AGGREGATES MOISTURE COMPENSATION automatic (with sensors) or manuale (input set by touch screen), that modifies aggregates and water batching quantities.
- HEAD WATER setting for truckmixer loading, main water batching during dosage of other components, tail water batching to clean up the drip edge.
- COMPONENTS DISCHARGE SEQUENCE can be programmed to trim the proper timing, for best mixing results.
- AUTOMATIC split of the requested quantity in sequential fractions, in order to match the plant's capacity (mixer, scales).
- Double speed (fast-slow) dosage for components.
- Real time CONTROL of all production phases for production output and raw material consumption optimization.
- BATCH REPORTS storage on removable USB flash memory (5 years of production on average) in order to display, print, export them at any time.
- Automatic printing of BATCH REPORTS at the end of each production cycle and/or at the end of the truckmixer load.
- RAW MATERIAL CONSUMPTION counter, can be displayed and printed at any time.
- All configuration data can be printed for reference and service.
- ANALOGUE INPUTS (scales) CALIBRATION from touch screen.
- PASSWORD protection for access to main functions only from authorized operators.
- The system can be extensively CUSTOMIZED to match different types of batching plants (modifications are separately evaluated and quoted).