

IPER-PVP-ETH

**Measuring, storage and advanced control device
for injection parameters with 15" Touchscreen**



IPER-PVP-ETH is a system for the measuring, storage and control in the soil consolidation process with concrete injections; the system can control **one to unlimited numbers of injectors**.

The system has the dual function of automatically controlling the injectors and of measuring/supplying the characteristic parameters by which the injection has been carried out for statistic control analyses.

For each concrete injector and injection, the device allows to measure and store the following parameters:

Parameters measured	Plant Management
Injected mixture pressure	Injector START-STOP automatic control
Injected mixture instantaneous flow rate	Proportional valve automatic management
Injected mixture volume	
Valve break pressure	
Max. pressure in low pressure phase	Pressure controlled injection, max. volume and GIN automatic management
Final pressure	

IPER-PVP-ETH can be interfaced only with second generation injector like Lorenzetto Elena plus and request the usage of very precise flow measurement system (Electromagnetic flowmeter), in order to obtain the advanced control benefits.

The management can be manual (START-STOP) or automatic according to the achieved limit of pressure or volume or to the Gin number previously set up. The system manages continuously the injection flow by controlling the proportional valve with an advanced algorithm. This second generation algorithm let you reduce the flow rate very precisely in order to obtain a better filling factor maintaining the pressure under specified limit, and the valve under specified pressure with flow zeroed at the end of the injection.



IPER-PVP-ETH can be connected to a 3G, or wireless or ethernet network so that it could be remotely monitored giving the chance to load programmed injection recipes into the system, download data collected or run maintenance tests and procedure.

For each concrete injection, the system stores the name of the injection, the valve number, the mixture type, the duration of the operation, the date and time of execution, the number of the injector used, the default limit values (max. pressure, max. volume and GIN number). The LCD displays the trend in time of the pressure and flow rate for each ongoing injection or it allows to monitor simultaneously the state of all the injectors with the values of flow rate, pressure and volume.

Data is stored into internal memory and then downloaded to a PC using a standard USB key. By using **VISUAL-SGD** software, it is possible to carry out the statistical analysis of stored data during the operation, as well as other quality controls, including the printing of records with the typical graphs of each injection performed. It is possible to customize the printing configuration by modifying the display scales, the printing colours, etc. following the customer needs. You

can display and print a final report (e.g., for the current day) such as a list of the injections carried out, including the main values for each operation as described above.

IPER-PVP-ETH can import jobs planning by loading a planning file into the display using USB slot. The jobs planning can be edited in any PC by using Excel sheet and then imported into the display. It contains all the information on how to perform each single injection. Once executed the injection, data is stored in the display and then downloaded to PC and showed using the same Excel sheet, to obtain a continuous update of the injections performed and injections still to be done other than the report of each one executed.

Main technical features

- ✓ Colour 15-inch touchscreen, 1024x768 WVGA
- ✓ 2 GB internal memory
- ✓ 2 USB front port for data download
- ✓ Hardware dimension (400 x 335 x 60 mm) , Weight 9.0 Kg
- ✓ IP65 frontal protection
- ✓ 24 V DC voltage (18-36V), 25 W
- ✓ Service temperature: -10° to 60° C
- ✓ Proportional E/V control output
- ✓ Connector oriented design