

# ProserviceTech

INNOVATION IN FOUNDRY PROCESS



**ITACA**

Stream

ITACA Stream is a machine designed to dose a determined quantity of in-stream inoculant during pouring.

The ITACA Stream delivering pipe is able to move with high precision to maximize the quantity of inoculant released into the cast metal flow.

Furthermore, the inoculant dosage can be dynamically adjusted by connecting it to the ITACA system, which is able to vary the quantity of inoculant dispensed according to the Casting in Production and dynamically with the real pouring time. This machine can therefore be used in manual or in automatic mode.

## Technical characteristic

	Small Cochlea 25mm	Big Cochlea 33mm
Weight machine	Max. 160 Kg	
INOCULATION INTERVAL (At low revs the minimum delivery values may differ depending on the reduction ratio installed)	0.5 – 15 g/sec (reduction ratio 1/20)	15 – 65 g/sec (Reduction ratio 1/10)
	0.9 – 30 g/sec (Reduction ratio 1/10)	
AIR INLET PRESSURE	6 - 8 bar	
INOCULANT PIPE DIAMETER (d/D)	14 - 16 mm	16 - 18 mm
INOC. TUBE ROTATION	± 12° if centred (24° in total)	
INOCULANT PARTICLE SIZE	0.1 – 1.6 mm	
MAXIMUM WORKING TEMPERATURE	50°C	
POWER SUPPLY	110 /230 V	
FREQUENCY	50/60 Hz	
HOPPER VOLUME	custom 22L	

The ITACA Stream is composed of a control panel installed on the electrical panel (500\*400\*200 mm) and fitted with an operator interface panel with:

1. Main electric switch;
2. Emergency stop button;
3. HMI display for operator control.

And a dosing unit that consists of an hopper, a dosing system, a pneumatic distribution and a driver box. The dispensing system is managed by an electric DC brushless motor. This type of motor is controlled by the electric control panel that allows management of the rotation speed of the screw maintaining high precision of the flow delivered.

The dosing unit is fitted with control sensors such as:

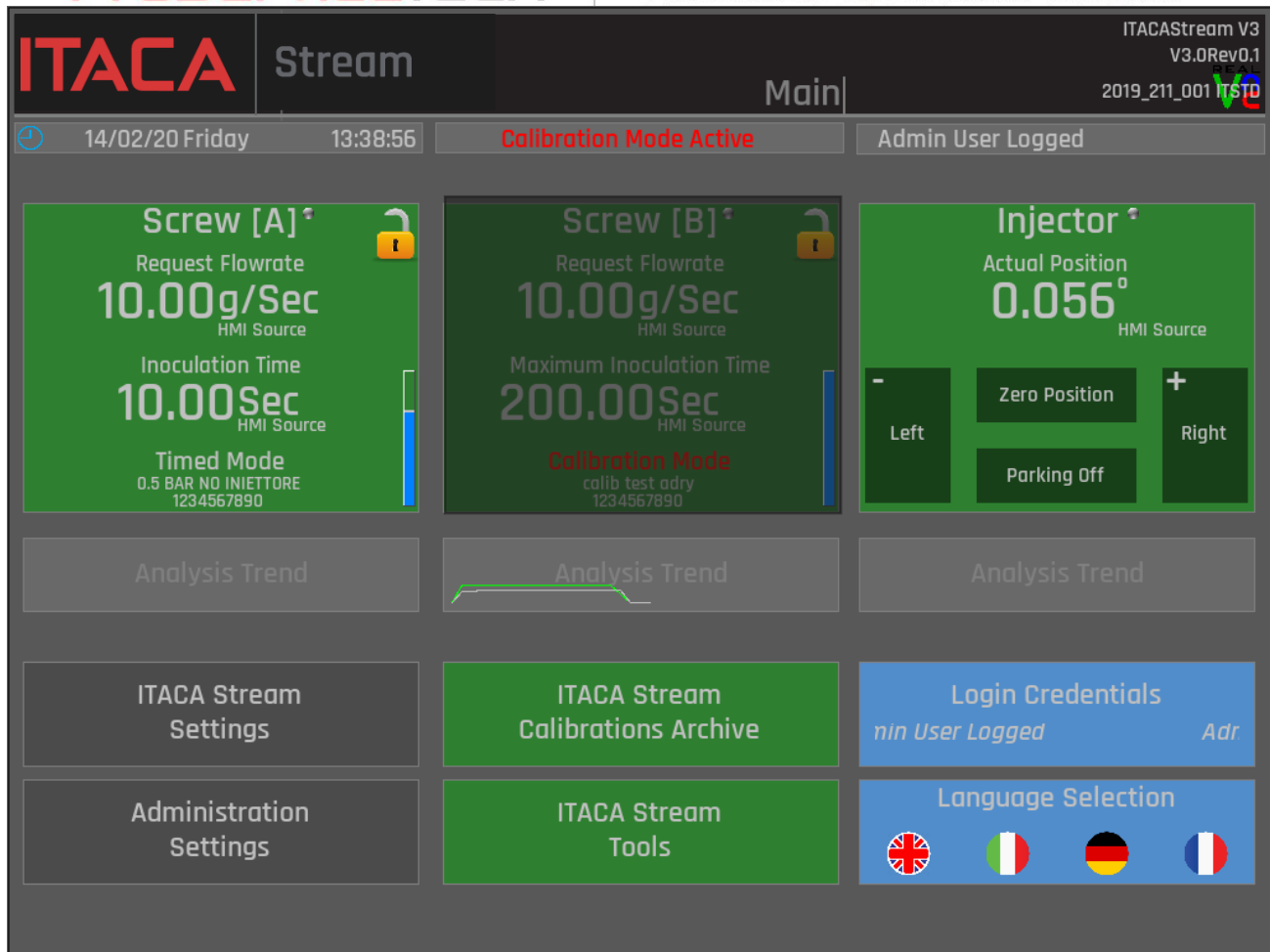
4. Minimum level of inoculant present in the hopper;
5. Inlet and outlet air pressure;
6. System temperature inside the dosing unit;
7. Motor and screw speed;
8. Position and rotation of the inoculant pipe;
9. Pneumatic control system to open and close the hopper valve.



## Connection to the Pouring machine

ITACA Stream's PLC can receive the input signals from the pouring machine: stopper, start inoculation and inoculant flow rate.

All of these features are managed by HMI screen display, located on electric-box. Here below the main interface.



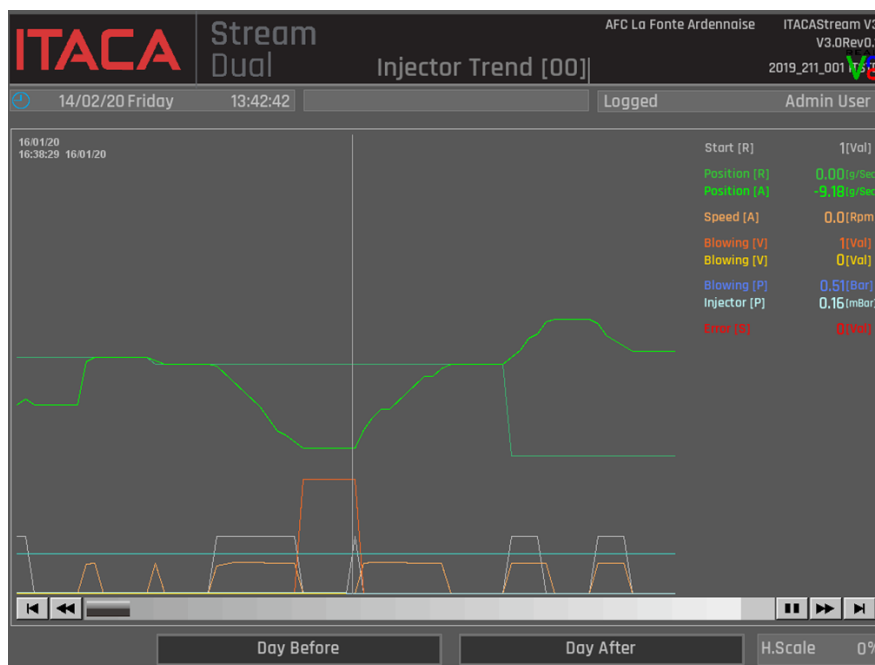
HMI Main Page

The interface is well diided between:

- ITACA Stream Settings: it manages all of the inputs and outputs, alarms, warnings and sensor setup;
- Calibrations Archive: user interface to fill out the inoculation matrix and improved features for the management of them;



- Screw A: working mode summary and manual input for inoculating;
- Injector: this window allows to move the pipe;
- Trend Analysis: information about flow rate, inoculation time, temperature mould by mould;



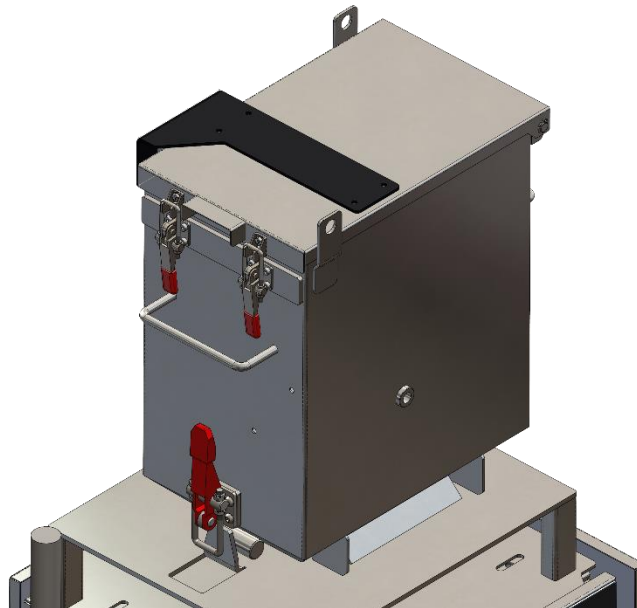
- Tools: features to command the inoculator;
- Login
- Language selection
- Events bar: To access fast to the errors and alarm management

It is possible to associate the hoppers to a specific inoculant through a Barcode/QR code in order to open it only if the barcode corresponds to the correct inoculant: when the operator needs to refill the hopper with the specific inoculant used in production, he has to scan the barcode placed on the



*Barcode laser scanner*

inoculant box with a Laser barcode scanner (optional device, not included) connected to ITACA Stream and the hopper lid will open only if it corresponds.



The main feature of this page is the integration with ITACA Vision: if present, the camera studies the inoculant and molten metal flows in order to move the inoculant pipe of the ITACA Stream to center the inoculant flow to the iron flow. It is possible to connect the ITACA Vision alarms to the ITACA Stream PLC.

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