



# FLAME SPRAY

## INDUSTRY 4.0



**Technical Solutions for High Performance Surface Coatings**

Portable Flame Spray Coating Equipment 4.0

## WHAT DOES INDUSTRY 4.0 MEAN?

**Industry 4.0** is the process that defines the **fourth industrial revolution**, which is leading to the automation of processes and production through **web and virtual interconnection systems**. This development concerns four fundamental components: data usage, increasing computing power of the machines and their connectivity for a better storage and transmission of the information. Analysis of the collected data. Interaction between man and machine and improvement of the transition from digital data to real operation, which is the major field of robotics.



### INDUSTRY 4.0 SUPPLY

**Industry 4.0** is not just about digital equipment. In addition to the **IBIX** systems integrating **Hardware 4.0** (electrical panel with electronic card, modem, IBIX upgrade with the addition of digital valves), the **4.0** project involves the upstream implementation of the **Digital Infrastructure**.

### WHAT ARE THE REQUIREMENTS OF A 4.0 SYSTEM?

- Transmission and management of **IN & OUT DATA**
- Digital infrastructure: third level domain ([ibixconnect.ibix.it](http://ibixconnect.ibix.it)), database and web pages customization.
- Installation on **CLOUD**.
- **IoT service** (Internet of Things).
- **Software** and **designated App** with remote controlled automatic update function of the software and / or of the parameters.

### IBIX FLAME SPRAY 4.0 ATLANTIS SEMI-AUTO 4.0

**ATLANTIS SEMI-AUTO 4.0** is the portable system for spraying thermoplastic powders with **dual mode of use flame spray and flock spray**, in the **semi-automatic version**, which includes:

**FLOCK-SPRAY EQUIPMENT:** for electrostatic spraying in the manual mode, fitted with fluidized bed tank and electrostatic gun.

*Power supply 220 V Frequency: 50 Hz*

**FLAME SPRAY SYSTEM, SEMI-AUTOMATIC:** equipped with mobile trolley with large pneumatic wheels; quick connect system; 9 m hoses + 6 m extension hoses; fixed controls on the machine frame and electrical cabinet; stainless steel tank. **FLAME SPRAY APPLICATION GUN** with **automatic flame ignition device**, available in several versions according to the coating purpose (metal, concrete and other porous substrates) and in various sizes/ types.

**4.0 EQUIPMENT:** electrical panel with interconnection electronic card and modem, temperature-measuring pyrometer with 9 m connection cable.



The IBIX FLAME SPRAY 4.0 equipment is also available for the **SPARTACUS** and **HERCULES SEMI-AUTOMATIC** models

## GUNS

All **IBIX FS 4.0** models are equipped with one or more of the following **APPLICATION GUNS**:

### CENTURION GUNS

Models available:

- With handle and trigger for coating of metals;
- Straight handle and heat exchanger for concrete.

Size options: Medium or Large.

Spray pattern: 14 cm (with LARGE guns).

Flame ignition system: AUTOMATIC.

### MAXI-HI TECH GUNS

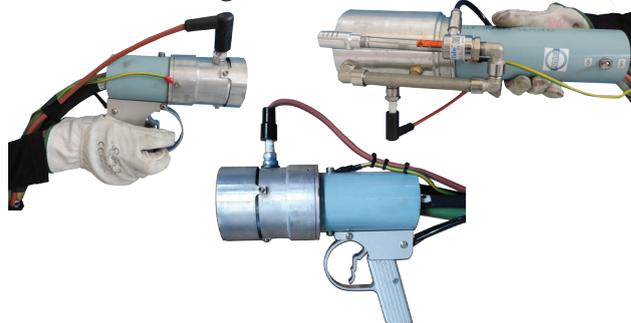
Models available:

- With handle and trigger for coating of metals;
- Straight handle and heat exchanger for concrete.

Size options: Large.

Spray pattern: 30 cm

Flame ignition system: AUTOMATIC.



## ibixconnect.ibix.it

**ibixconnect.ibix.it** stands for the **IBIX Cloud IOT** (Internet of Things) service and provides for the Internet connection of various technologies. These products are intelligent and able to exchange data over wireless networks in an automatic and transparent way for the user. **IBIX FS 4.0** system belongs to the **IBIX IOT** product category and exchanges order data with the **ibixconnect.ibix.it** Cloud service.

Every owner of an **IBIX FS 4.0** system can register for the **IBIX Cloud IOT service**.

## Specific features of the several units IBIX FLAME SPRAY INDUSTRY VERSION 4.0

### Spartacus / Hercules / Atlantis semi-automatic 4.0:

**Requirements:** pneumatic supply + single phase power supply.

**Connectivity:** modem + SIM Data for working on-site (no LAN line).

**IBIX FLAME SPRAY** system fitted with electrical panel with electronic card and modem for interconnection. The **IBIX FS 4.0** equipment will receive the recipe / order data from the company computer or tablet \*.

*\*Note: if a data is not entered, the system will NOT get stuck.*

All **IBIX FS 4.0** models come supplied with the following:

A **contact probe** for detecting the pre-heating T ° of the substrate to be coated, with storage of the last measured value.

In addition, the machine includes an **infrared thermometer** to be used during the flame spray application of thermoplastic powders.



Smart control,  
from tablet or smartphone



## REMOTE CONTROL

**IBIX FS 4.0** is fitted with a WiFi Access Point. Each **IBIX FS 4.0** machine can be managed using a web interface accessible from devices with WiFi connection: **smartphone, tablet, PC.**

Once connected, you can access the control interface through the web.

### Controls and transmissible Data

Remote controlled on / off  
Sending of "recipe - work order" with some project data, such as:

- Date
- Name / definition of the project
- Name of the client
- Surface type: metal or non-metal (concrete, ceramic, fiberglass, other)
- Type of powder to use
- Use of primer? YES - NO
- Thickness of the coating according to specifications
- Sq meters to be covered

### Further data transmitted from the device to the Cloud and downloadable from the company computer

- Gas flow adjustment / setting from smartphone
- Adjustment / setting of operating air pressure
- Gas flow value during processing
- Air pressure value during processing
- Geo-location of the machine
- Notes (short text of 120 characters)

### Data forwarded from the machine to the CLOUD

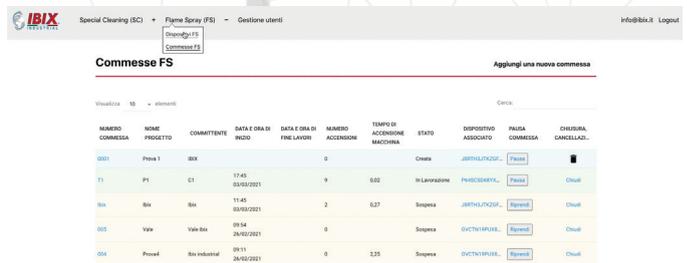
- Work start time
- Work end time
- Processing time
- Number of stops
- Substrate temperature prior to the coating cycle
- Pre-heating temperature / s detected
- Last pre-heating temperature detected

### Data previously entered manually by the operator:

- Thickness of the coating performed
- Kg of primer used
- Kg of powder used
- Kg of gas used

### By consulting the database, you will also see the following values:

- Total number of starts / stops
- Total working time of the machine



The screenshot shows a web interface for managing IBIX FS machines. It features a navigation menu with options like 'Special Clearing (SC)', 'Pulito Spray (FS)', and 'Gestione utenti'. The main content area is titled 'Commesse FS' and includes a search bar and a table of operations. The table has columns for 'NUMERO COMMESA', 'NOME PROGETTO', 'COMMITTENTE', 'DATA E ORA DI INIZIO', 'DATA E ORA DI FINE LAVORI', 'NUMERO ACCENSIONI', 'TEMPO DI ACCENSIONE MACCHINA', 'STATO', 'DISPOSITTO ASSOCIATO', 'PRIMA COMMESA', and 'CHIESURA CANCELLAZ.'. The table contains several rows of data, including project names like 'Pila 1', 'P1', 'Sx', 'Vix', and 'Paved', and various dates and times.

NUMERO COMMESA	NOME PROGETTO	COMMITTENTE	DATA E ORA DI INIZIO	DATA E ORA DI FINE LAVORI	NUMERO ACCENSIONI	TEMPO DI ACCENSIONE MACCHINA	STATO	DISPOSITTO ASSOCIATO	PRIMA COMMESA	CHIESURA CANCELLAZ.
001	Pila 1	IBX	17:45 03/03/2021		0		Chiusa	IBITRALF0201	Finale	
11	P1	CI	11:40 03/03/2021		9	0:02	In Lavorazione	FINACEN0001	Finale	Chiusa
001	Sx	Sx	11:40 03/03/2021		2	0:27	Sospesa	IBITRALF0201	Finale	Chiusa
002	Vix	Vix-IBX	09:34 26/02/2021		0		Sospesa	IBITRALF0201	Finale	Chiusa
004	Paved	IBX Industrial	09:11 24/02/2021		0	3:25	Sospesa	IBITRALF0201	Finale	Chiusa

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**IBIX Srl - INDUSTRIAL Division**

Via dell'Industria 43, Lugo (RA)

tel: 0545 994589 - fax: 0545 994567

www.ibixindustrial.com - info@ibixindustrial.com

