


**Tecno**  
**Coating**

 POWDER COATING SYSTEMS MADE IN ITALY

# Automatic powder coating systems



***Custom painting systems according to your needs***

[www.tecnocoating.it](http://www.tecnocoating.it)

# **Tecno** Coating

*Tecnocoating, a leading company with over ten years of experience in the manufacturing of powder coating machinery, wants to be a point of reference for this sector.*

*Our goal is to satisfy any possible need in the field of surface finish.*

*Tecnocoating not only designs and manufactures patented, cutting-edge equipment delivering the best top quality results but also offers automated systems as well as consulting and customization services.*

*From design to installation, Tecnocoating is the ideal partner for companies looking for the best quantitative and qualitative results.*



# FLOW30-E

## MANUAL COATING EQUIPMENT

*Trolley for manual coating  
with 30 litre powder tank and DPS system*

FLOW30-E is a handy and robust trolley for manual coating.

Powder is directly taken from the 30 litre powder tank and is kept perfectly fluid and mixed by the internal fluid bed. This device is specifically suitable for metallic and iron-micaceous powders requiring a perfect mixing. After use the tank can be easily removed and fully cleaned.

This machine is equipped with a specially patented Deep Penetration System for high penetration and spreading. This is ideal for parts with many nooks and crannies requiring an even and thorough application.

Separate control of charge voltage (Kv) and current (uA).

Supply control through a proportional valve.

High performance powder sucking pump reducing the speed and quantity of output air flow.

This machine allows the operator to change colour very quickly not only thanks to a special feature embedded in the digital control unit but also because the powder sucking pump is very easy to clean.

Beyond 4 pre-set quick-access programs which are already installed, it is possible to save up to 100 programs that can be easily changed and retraced.



## TECHNICAL DATA SHEET



### SYSTEM COMPONENTS

- > Control unit model EC15
- > Manual gun model AIG 103-M
- > Powder injector model INJ02
- > Vibrating trolley
- > Suction tube
- > Input pressure reducer
- > Cables and pipes

MODEL	VIB11-E
Weight	35,5 kg
Dimension (LxPxH)	600x460x1190 mm
Voltage	115-230 Vac – 50-60 Hz
Max input pressure	8 Bar
Max air consumption	300 lt/min
Powder box	Box 25 lt
Gun cable length	6 m
Powder pipe sizing	6,5mt / ø 12mm
Certifications	EN50050 – EN60079

## *Trolley with a vibrating tilted plane for manual coating and DPS patented system.*

VIB11-E is a very handy and robust trolley with a vibrating tilted plane for manual coating.

The powder is directly taken from the box placed on the vibrating plane.

This machine is equipped with a specially patented Deep Penetration System for high penetration and spreading. This is ideal for parts with many nooks and crannies requiring an even and thorough application.

Separate control of charge voltage (Kv) and current (uA).

Supply control through a proportional valve.

The powder inside the box is kept perfectly fluid thanks to the powder suction tube which also plays this role.

High performance powder sucking pump reducing the speed and quantity of output air flow.

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# EC15

## CONTROL UNIT

Control unit equipped with DPS patented system and touch panel for fine adjustments

The EC15 control unit is equipped with the patented DPS (Deep Penetration System) system which guarantees a high penetration in the crevices and hidden corners and also allows a drastic reduction of the Faraday cage.

High efficiency of transfer and distension of the powder on the particular to be covered are the winning features of this system.

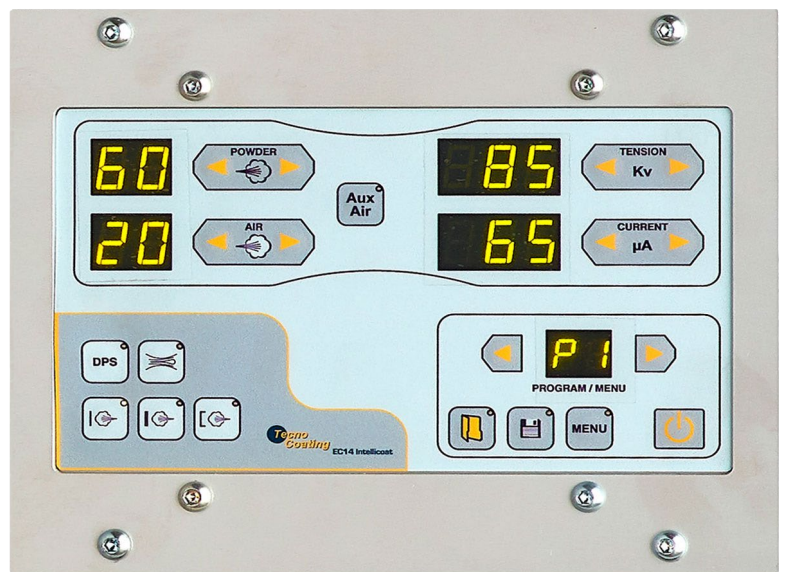
The auto output voltage, adjusted according to the gun distance from the piece, ensures perfect penetration avoiding the "orange peel" effect.

All the electric and pneumatic adjustments can be carried out in a very fine way, both through the digital knobs and through the dedicated pushbuttons.

The delivery control takes place through proportional valves at low pressure to minimize the speed of dust output, which in this way has more time to adhere to the piece ensuring greater uniformity and speed of coverage.

The presence of 4 pre-set programs and the possibility to memorize up to 99, make the transition between the various types of application very fast.

The pipes and the gun are cleaned with the push of a button.



## TECHNICAL DATA SHEET



MODEL	EC15
Types of powder	STANDARD – METALLIC – FLUORESCENT
Electric power	115-230 Vac – 50-60 Hz
Input power	30 Watt
Max input pressure	3,5 Bar
Max air consumption	300 lt/min
Output air flow regulation	0 – 100 l/min at 3,5 bar
Weight	5,5 kg
Dimensions (LxPxH)	253x300x153 mm

# MANUAL COATING POWDER GUNS

# AIG103

*Ergonomic coating powder guns  
with patented Deep Penetration System*

## AIG103-M

Ergonomic and perfectly balanced gun.

Fast disconnection with powder pipe and signal cable. Fast replacement of nozzle. Excellent electrostatic charge and wrapping up.

Fast reply time for power limitation during the painting of parts with many corners, angles and edges. Fast replacement of electrode and quick accessories mounting (deflectors, conic nozzle, knife nozzle and nozzle extension). Very light: 570 gr

ATEX Certified



## AIG103-C

Manual powder coating gun with 500 gr tank.

Ergonomic and perfectly balanced gun. Compatible with all kinds of accessories. Tank capacity 500gr. Excellent electrostatic charge and wrapping up.

Fast reply time for power limitation during the painting of parts with many corners, angles and edges. Fast replacement of electrode and quick accessories mounting (deflectors, conic nozzle, knife nozzle and nozzle extension of 300 mm). Very light: 690 gr

ATEX Certified



## TECHNICAL DATA SHEET



GUN	AIG103-M	AIG103-C
Weight	599 gr with standard electrode 627 gr with long electrode	831 gr with standard electrode
Length	40 cm with standard electrode 56 cm with long electrode	44 cm with standard electrode
Output voltage	20 - 100 Kv	20 - 100 Kv
Output power	10 - 100 uA	10 - 100 uA
Powder capacity	360 gr/min	280 gr/min
Protection level	IP54	IP54
Maximum cable voltage	32 Vdc	32 Vdc

# AIG103-T

## AUTOMATIC POWDER COATING GUN

*Automatic powder coating gun with 2 axis rotations and patented Deep Penetration System*

### AIG103-A

Automatic powder coating gun with 2 axis rotations strong gun. Possibility to rotate on two axis.

Improved ergonomics for fast cleaning in automatic systems. Fast disconnection with powder pipe and signal cable.

High and fast adaptability of the emitted power compared with the distance of the part to be painted. Fast replacement of electrode and accessories mounting (deflectors, conic nozzle, knife nozzle).

ATEX Certified



*Automatic powder coating gun with 2 patented Deep Penetration System*

### AIG103-AL

Automatic spray gun with fixed attachment. Its tapered shape has been designed for plant with automatic cleaning systems. ATEX Certified

Patented Deep Penetration System



## TECHNICAL DATA SHEET



GUN	AIG103-A	AIG103-AL
Weight	677 gr	1530 gr
Length	46 cm	142 cm
Output voltage	20 - 100 Kv	20 - 100 Kv
Output power	10 - 100 uA	10 - 100 uA
Powder capacity	360 gr/min	360 gr/min
Protection level	IP54	IP54
Maximum cable voltage	32 Vdc	32 Vdc

*Tribo manual powder coating gun without electrical power*

## AIG103-T

In tribo charging, the powder particles are charged by causing them to rub at a high velocity on a surface and thereby, transferring the charge.

Without an external power supply and a charging field in front of the gun, tribo charging virtually eliminates the problem of “*faraday cage effect*”.

The powder particles take on a positive charge inside the gun due to the loss of electrons. The particles are now free to be directed to where they are needed.

The powder flows into recessed and difficult-to-reach areas by nozzle direction and air flow. Because the particles are charged in the gun and there are no lines of force, it is less likely that the powder particles will build up on the leading edge of the part being coated.

The advantage to this is the near elimination of “fatty edges” resulting in a uniform coating and even film build on the product.



### DEFLECTORS AND NOZZLES



Deflectors, conic nozzles and knife nozzles can be easily replaced without removing the blocking gear of the nozzle. Moreover, deflectors can also be placed inside the knife nozzels in order to improve performances.



## TECHNICAL DATA SHEET



GUN	AIG103-T
Weight	595 gr with long electrode
Length	65 cm with long electrode
Output voltage	depending powder velocity and type
Output power	depending powder velocity and type
Powder capacity	360 gr/min
Protection level	IP54
Maximum cable voltage	32 Vdc



# ATG018 - MATG018

## AUTOMATIC TRIBO COATING GUN

### ATG018

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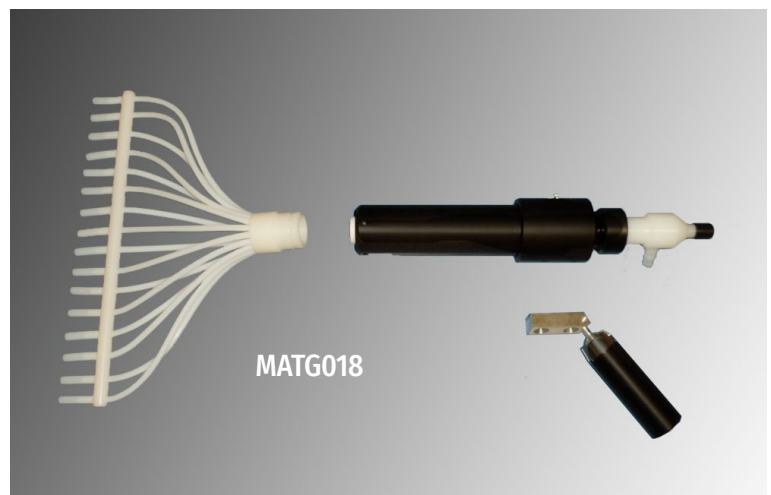
The powder particles take on a positive charge inside the gun due to the loss of electrons. The particles are now free to be directed to where they are needed. The powder flows into recessed and difficult-to-reach areas by nozzle direction and air flow.

Because the particles are charged in the gun and there are no lines of force, it is less likely that the powder particles will build up on the leading edge of the part being coated. The advantage to this is the near elimination of "fatty edges" resulting in a uniform coating and even film build on the product.



### MATG018

Automatic tribo powder coating gun with multiple outputs.



## TECHNICAL DATA SHEET



GUN	ATG018	MATG018
Weight	700 gr	950 gr with multiple electrode
Length	37 cm	65 cm with multiple electrode
Output voltage	depending powder velocity and type	depending powder velocity and type
Output power	depending powder velocity and type	depending powder velocity and type
Powder capacity	360 gr/min	360 gr/min
Protection level	IP54	IP54
Maximum cable voltage	32 Vdc	32 Vdc

## Flexible and completely modular automatic system

**Flexcoat01-D** is a flexible and module-based automatic system.

It is possible to manage up to 12 guns, both automatic and manual. Every module controls and displays clearly all the electric and pneumatic parameters of the specifically associated gun.

It is a very complete and compact system, easy to install and to extend. Easy to interface with already existing reciprocators and optic reading barriers.

### Available expansion modules:

- Reciprocators control module
- Shape reading module
- Powder Center control module

### External connections:

- n°1 inlet for compressed air
- n°1 power cable 115/230Vac
- n°1 cable for conveyor synchronization (for the simultaneous activation of the guns)

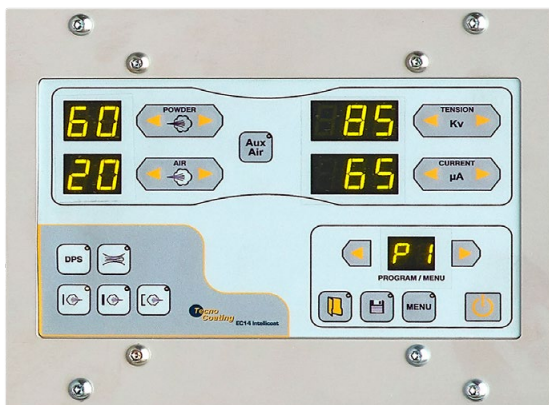
or

- n°1 synchronization cable for each controller (for the separate start of each gun).

Every controller is numbered in a clear and visible way in order to quickly set the specifically associated gun.

All the electric and pneumatic parameters are easy to modify and display.

The TEST switch allows to switch on the single gun associated to it.



## *Solution to rationalize the dust path and work in a less polluted environment*

The Color Powder Center Tecnocoating is the best solution to make the dust way easy and the work place less polluted. Through Tecnocoating Color Powder Center, spray guns draw directly from the fluidified tank or from the open box.

Tecnocoating Color Powder Center main feature is quick automatic cleaning of dust way; pumps, powder pumps and inner part of spray guns. This operation offers two advantages, like a better cleaning than the manual operation, and very short achievement time.

A complete cleaning time is achieved from 20 to 40 seconds, according to the kind of dust.

The lack of dusts is signalled both acoustically and visually, through an ATEX level probe, which is a part of the machine set.

Another important feature of the machine program is to have leading and control functions of the dust recovery peristaltic valve, and to set the pause and work time, according to the demands. The pneumatic board must be ordered, since it is not included in the standard supplying of the powder center.

After the recovery phase, the cleaning of recovery pipe is achieved in a simple quick way.

The power consumption is zero, since no motor is used for the intake of exceeding dust. In fact, the machine is linked to the final filter through pipes 240mm diameter.

The pneumatic partialization shutter gate, which is assembled on the chimney, permits to manage the different cycles in the best way; the shutter gate will be almost closed while working, and it will be open while cleaning the walls and the attachments of the powder center.



## TECHNICAL DATA SHEET

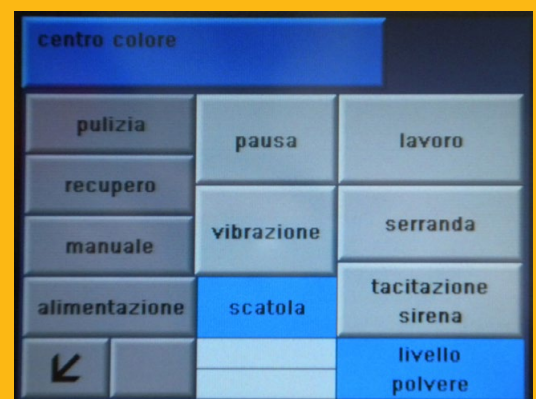


### TOUCH SCREEN

Through the coloured touchscreen it is possible to operate all the working and cleaning cycles of the machine. The software already includes the peristaltic management program.

### BENEFIT

- > Clean working area
- > No polluting elements
- > The colour changes are quick and efficient



## FLUID BED TANK

# TANK-30L

*Fluid bed tank for automatic equipment*

### TANK-30L

This TANK-30L fluidized bed tank has a capacity of 30 lt and is ideal to feed manual guns.

It is possible to fit up to 2 powder injectors.

The integrated fluid bed homogenizes very finely the inside powder therefore improving consistently the overall system performances.

On the upper part of the tank there are not only the injectors but also the dust exhaust pipe. The simple removal of the upper cover makes the cleaning of the tank extremely convenient.



## FLUID BED TANK

# TANK-130L

*Fluid bed tank for automatic plant*

### AIG103-C

The fluidized-bed tank TANK-130L for automated installations has a capacity of 130 lt.

It is possible to fit up to 12 powder injectors.

The integrated fluid bed homogenizes very finely the inside powder therefore improving consistently the overall system performances.

On the upper part of the tank there is the large tube connected to the cyclone and the feeding powder inlet.

Four turning wheels make its handling very convenient.

Thanks to the exhaust pipe and the feeding inlet it is very easy to fully clean the tank and also to replace the porous baffle.



# TCM-INJ01

## HIGH FLOW POWDER INJECTOR

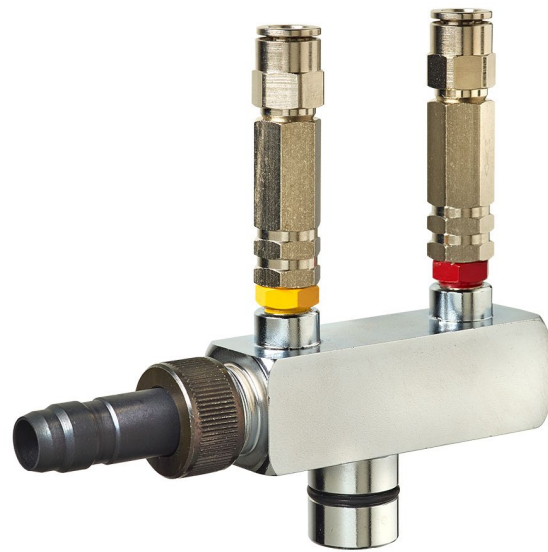
The powder injector TCM-INJ01 is the result of a long research work aimed at creating a high-flow injector with a constant and homogeneous flow.

The building technology of this injector prevents the initial puff and at the same time guarantees an excellent balance between the feeding air and the output product quantity so that the transfer capacity remains very high.

It is possible to match it to a low-flow Venturi for parts requiring a very low and homogeneous thickness.

### CHARACTERISTICS

- The maximum product volume is 420 gr/min with any kind of resin including metallic paints with a high concentration of metal.
- Reduced cleaning time
- Long life of the Venturi Teflon tube



## SOME APPLICATION CASES



## Self-supporting structure for automated painting systems

Tecnocoating **RECIPROCATORS** run through wheels working on anti-capsize horizontal drives, provided with electromechanical safety stops.

### CHARACTERISTICS

- Self-carrying steel framework provided with wheels and covered with dust paints
- Motor reducer ROSSI 0,75 kw
- Handling of the truck through toothed belt
- Dustproof system
- Light alloy running drive with self-cleaning profile
- Running wheels made of anti-friction materials
- Double outlet for spray-gun arm attack provided with plates
- Reading of position through Encoder
- Motor control through Digital Inverter
- Adjustable safety run stop
- Constant run while speed changing
- Digital control of all functions
- Machine stop control by conveyor provided with programmable positioning and adjustable timing restart
- Run control with 1 cm. resolution
- All functions and controls can be performed at the control board

On the same reciprocator can be mounted the arms for both horizontal and vertical guns.



## TECHNICAL DATA SHEET



MODEL	PS 170	PS 220	PS 270	PS 320
<b>TOTAL HEIGHT</b> mm	2610	3110	3610	4110
<b>RUN USEFUL</b> mm	1700	2200	2700	3200
<b>START FROM THE GROUND</b> mm	520	520	520	520
<b>MIN/MAX SPEED</b> mt/min	10/40	10/40	10/40	10/40
<b>MOTOR CONTROL</b>	Inverter	Inverter	Inverter	Inverter
<b>CARRYING CAPACITY</b>	12 spry guns	12 spry guns	12 spry guns	12 spry guns
<b>MOTOR</b> Kw	0,75	0,75	0,75	0,75
<b>BELT</b>	Toothed	Toothed	Toothed	Toothed

# TRANSLATOR

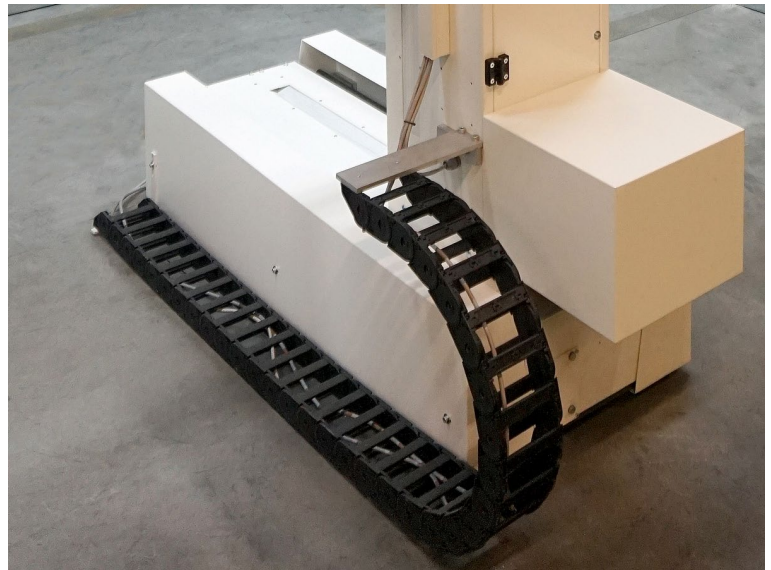
## PAINTING SYSTEM AUTOMATION

*Systems for the horizontal movement of the reciprocators*

Tecnocoating TRANSLATORS are the best solution for horizontal handling of Reciprocators and the spray-gun arm of the painting automatic installations, either with thermo-hardening dust or paints.

TO TRANSLATORS work to move forward and backward the Reciprocator and the spray-gun arm to paint the piece. In fact, when you have different depth profiles, you have to move all the Reciprocator or the spray-gun arm by manual handling, and this implies a waste of time and the risk of wrongly aligning the arm to your profile. It is possible to motorize the Reciprocator through the Tecnocoating Translator by simply pressing a selector shifting the machine towards the chosen direction. You can just do it at the control board or at the branching panel, which is included in the machine equipment, provided with a connecting cable in order to put it in a place where you have a good view on the painting surface (e.g. the area of manual retouch).

In this way, you can control all operations without moving from your site and be sure the spray guns are always aligned to the cabin.



## SOME APPLICATION CASES



## *Emitter and receiver detection system for the product*

The vertical detection system makes the management of reciprocators and coating guns fully automated so that not only operators can gain a lot of time but it is also possible to make savings relating to the consumption goods used during the process, the powder, the wearing-out of the gun spare parts, etc...

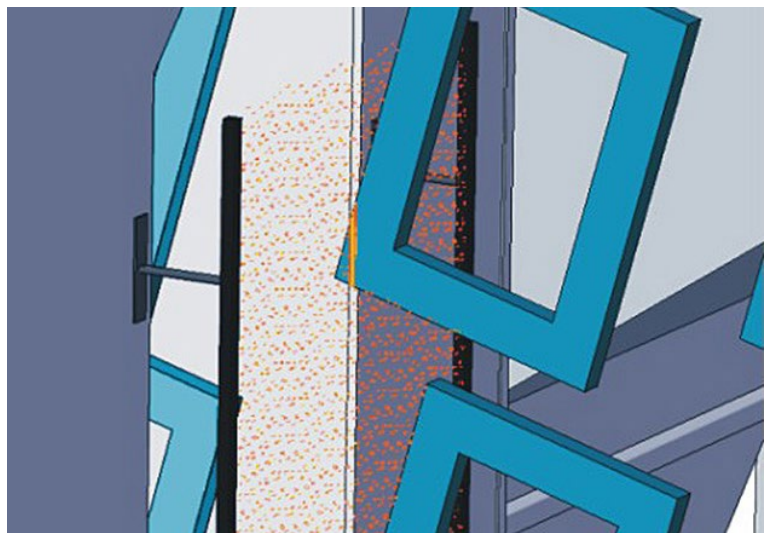
The detection system is made of a reading bar, an emitter and a transmitter with a 10 mm resolution that display the height and length of the part to be coated. The part is put at the entrance of the booth. Everything is managed by a PLC processing the image and transmitting the data to the reciprocators that will then adjust the right stroke in order to get the best finish.

Apart from adjusting the strokes, the system also manages the speed of reciprocators which is calculated according to the height of the part, the speed of the chain and the number of guns used for finishing, making the product applied on the part completely homogeneous.

The stroke values can be increased or reduced according to the image displayed by the bars simply by setting a positive value, in order to have more stroke both above and beneath the part with two values that must always be independent from each other. The setting of a negative figure would reduce the reciprocators' excursion. Speed can be adjusted by the operator as needed by setting a correcting value compliant to the calibration standards.

The detection system always manages automatically the switching on and off of the coating guns which will open when the part arrives and will close after its passage. Guns too can be managed sooner or later with respect to the coming and going of the part always through the setting of a positive or negative value that must always be independent from each other and that can also differ from one gun to the other. All of the setting shares are expressed in centimetres and can be easily programmed. Once the calibration has been done the system remains fully independent because these calibrations must be made only when the equipment is operated.

**The same applies to an optional horizontal bar, laid on the floor in order to detect the width profile and also to adjust the distance of the reciprocators from the part through the motorized bases.**



## TECHNICAL DATA SHEET



### DIMENSIONAL CHARACTERISTICS

Distance between receiving-transmitting bars (min – max)	320 mm – 5 m
Photocell minimum distance (reading precision)	20 mm
Maximum bar height	3,140 mm



## Patented Deep Penetration System

This system patented by TECNOCOATING allows automatic control of the power emitted according to the shape of the surface to be painted. The system therefore improves the effectiveness in painting large flat surfaces and at the same time details with deep cracks and complex structures.

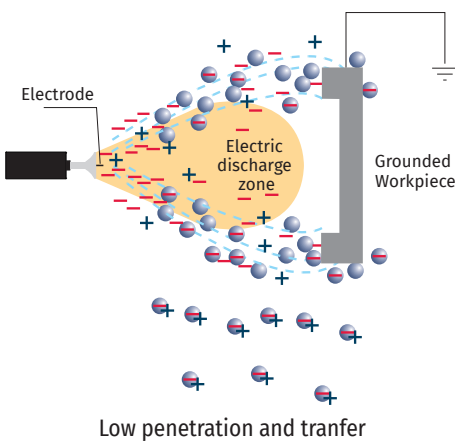
The particular patented circuit for detecting the actual voltage and current output values of the gun are sent to the control unit.

The high-frequency analysis of these data allows to keep the total power emitted under control, allowing the achievement of high quality standards in terms of penetration, envelopment, relaxation and absolute absence of orange peel.

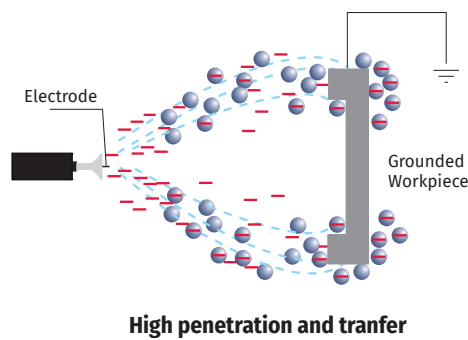
The high voltage (Kv) for painting panels, combined with a very rapid feedback (low uA) allow at the same time transfer speed on flat surfaces and effectiveness in the penetration of details with deep cracks, without the need for any adjustment.



### Traditional corona gun



### Teconcoating corona gun



- Uncharged particles
- Negative O2 free Iones
- + Positive O2 free Iones
- Dropping neutralized particles
- Charged particles
- - - Electric field lines

Thanks to the patented **DPS (Deep Penetration System)**, these spray guns combine the typical coating power of a corona gun with the deep penetration, high stretching and even drawing up typical of a triboelectric gun.

Most of all this effectiveness means great savings in terms of powder and time.

Thanks to the very effective **DPS** that automatically regulates the power according to the distance from the part to be coated, these

guns prevent air ionization which usually leads to the formation of positive charges.

Positive ions tend to bind themselves to powder particles which are usually negatively charged so that their ability to firmly hold on to the part is weakened. These brand new guns feature a softer powder charging process that leads to improved results in terms of finish and final visual effect.

# DEALERS

*The spread of our technologies  
is expanding all over the world*



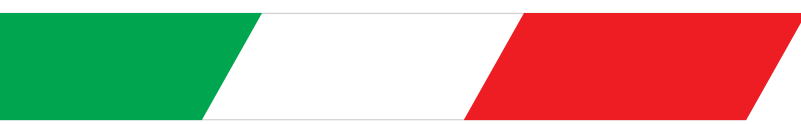
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POWDER COATING SYSTEMS MADE IN ITALY

*Automatic and manual  
electrostatic powder coating systems.*

*Design and construction of plants  
for industrial powder coating.*

*We produce technologically  
advanced tools equipped with  
all the modern controls  
for a perfect painting with every  
dust and on every surface.*



Dealer

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