

Selection guide



Electrostatic **Powder Coating** solutions

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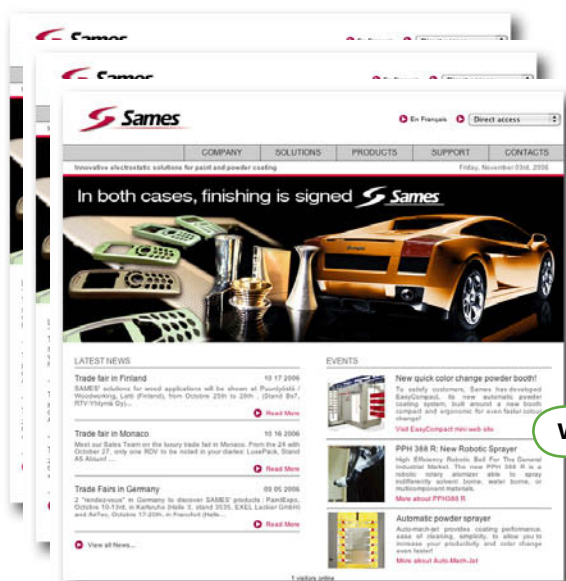
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Powder coating	4
Electrostatic application	10
Guide lines for the types of parts to coat	16
Overview of the range	17
E-SERIES	18
MACH-JET	24
LABO-SERIES	36
ENAMEL JET M	40
JR 106	46
Auto Mach-Jet	52
ENAMEL JET A	64
TRV 117	68
SRV 038	76
AS 100	84
HVP 125	85
CSV 600	86
RFV 2000	92
REV 600	96
MANUCOMPACT	100
PVV EasyCompact	104
PVV Easycolor	105
Engineering solutions	106
Additional accessories for paint operators	108
Notes	110

4 Powder coating

Decoration and protection are often very closely associated.

Powder Coatings perfectly perform both these functions.

SAMES equipment makes use of the same electric field properties as those that have been used for many years in automatic and manual liquid paint spray systems.

A cloud of charged powder particles is attracted to the item to be painted, surrounds it and deposits itself on both the front and back surfaces. Those powder particles that have not attached themselves to the part are recovered and recycled. Powder loss is therefore virtually nil. This application requires no solvents.

Losses through evaporation are eliminated as the powder is 100% solid.

The electrostatic technology is used to finish a very wide range of heated or cold surfaces with a uniform, very adherent layer of powder, an essential property that has applications in all branches of industry.



Powder coatings

The various powders that are suitable for coatings have widely differing characteristics. For each particular application we must choose the product that gives the best result according to the desired final objective:

⌘ Protective coating: resistance to atmospheric or chemical corrosion (sea air, solvents, acid or alkaline solutions).

⌘ Electrical or thermal insulation: plastics are generally good insulators and have very good resistance to low temperatures.

⌘ Decorative coatings: powder coatings can be used to obtain smooth, glossy surfaces in a wide range of different colours.

⌘ Food quality coatings: certain plastics meet with the current regulations and can be used in the food or pharmaceutical industries (plastic linings inside boxes, metal packaging, etc.).

The typical composition of a powder is as follows:

- :: 50 to 60 % of binder, resin and hardener
- :: 40 to 50% of pigment and charges
- :: 1 to 2% of additives

The binders and all the additives are in solid form. The constituents of the formulations are weighed and measured. This mixture is then extruded to thoroughly mix the raw materials into a homogeneous mass. The material is then crushed and ground once more to obtain a powder that is ready for use.



Types of powders

The following three types of powder (known as "thermosetting" powders) are the most widely used:

- :: Mixed or Hybrid (epoxy / polyester)
- :: Polyesters
- :: Epoxy

Next come the so-called "thermoplastic" powders that are less widely used and include the following:

- :: Acrylics
- :: Nylon
- :: Vinyls
- :: Fluorocarbons, etc.

Finally, frit (porcelain) powders are made from inorganic components.

Prosperities of powders

:: Epoxy

These are the most wellknown and exist in a vast range of formulations. Used for their decorative (furniture, shelving and various instruments) and functional properties ("rebar" pipes, electrical equipment, automotive primers and undercoats).

They have very good corrosion resistance and can be specially formulated to provide high thermal or chemical stress resistance. They do not, however, have very high resistance to UV radiation, exposure to which may cause flaking.

They are suitable for painting metal supports and are mainly used on indoor equipment, but can also be used to provide electrical insulation. They can even be applied as an enamel coat. An undercoat is not necessarily required.

These powders are relatively expensive, but they are very widely used.

They can be baked from 3 minutes at 232°C up to 25 minutes at 121°C.

6 Powder coating

:: Mixed or Hybrid

These combine the properties of Epoxy and Polyester powders.

They are resistant and compensate for the "weakness" of Epoxy powders to UV rays, but are less hard and more sensitive to solvents and metals.

They are also suitable for metal supports, and do not necessarily require an undercoat when applied using electrostatic techniques.

Used for office equipment, store shelves, etc.

:: Polyester

These can be used on their own or in combination with other resins to cover a very wide range of applications.

They are very flexible, resistant and used for decorative applications. They have good weather and UV resistance.

They are equally suitable for indoor and outdoor use. They are quick-drying and relatively inexpensive.

They are used for construction, industrial equipment, external decoration, bicycles, etc.

They are baked for between 10 and 30 minutes at 149°C to 204°C.

:: Acrylics

With their good durability and excellent chemical resistance to detergents, staining and corrosion, these powders offer the best adhesion and covering capacity in external applications.

They have excellent pigment retention and are hard enough to resist scratching while at the same time having a soft, glossy appearance.

Depending on their formulation, the properties of these powders can be of an equivalent level to those of liquid acrylic paints.

Acrylics are incompatible with other powder paints. So that,, its use is exclusive.

They are always used for automotive and domestic applications and are reasonably inexpensive.

They can be baked for a period of 10 minutes at 204°C up to 30 minutes at 135°C.

:: Nylon

These powders are used for coating truck parts, food hooks, smoke and steam chamber racks and baskets, printing rollers, hospital equipment, shopping trolleys and shop furniture, door handles, lighting columns and equipment, aircraft and ships' rudders.

These powders are very reliable on metallic and non-metallic surfaces, when applied to an undercoat, and are very long-lasting.

:: Fluorocarbon

These are the most stable and resistant powders. Depending on formulation, they can display excellent properties. They can thus be used where resistance is required to chemicals, solvents or the sun's rays.

Their qualities are close to those of the best liquid coatings.

They can be baked from 8 minutes at 163°C up to 20 minutes at 204°C.

:: Polyvinyl chloride

PVC powders are used for: dishwasher baskets, refrigerator shelves, playground equipment, air-conditioning unit grilles, bus bars, garden equipment, letter boxes, etc.

Vinyl powder coatings are mostly applied as thick coatings. They are glossy, "unctuous" and flexible, as well as having good impact, electrical and weather resistance. PVC coating are generally formulated in conjunction with plastics technologists in order to obtain the required properties of flexibility, hardness, etc.

These paints do however contain Volatile Organic Compounds (VOC) that are forbidden by the new environmental regulations. Even if they are below 1%, they require special treatment.

:: Polyurethane

These are the most stable and resistant powders and are widely used in the transport industry (trains, lorries, etc). Depending on formulation, they can display excellent properties. They can thus be used where it is required to resist chemicals, solvents or the sun's rays. Their qualities are close to those of the best performing liquid coatings.

They are more expensive than polyester powders.

:: Inorganic powder

The powder is obtained by grinding and melting oxidised elements with base metals.

They have excellent chemical and mechanical characteristics. They are used for coating kitchen equipment, bath-tubs, shower trays, architectural elements (signposts, street signs, etc.), glass, cumulus, etc..., and in an increasing range of new applications.

The suggested baking temperature is between 780°C and 830°C. It provides an enamel coating that is able to withstand temperatures of up to 450°C, as well as ensuring colour-fastness and preventing scratching.

Coating thickness

The higher the resistivity of the powder, the better it will adhere to the coated surface. The attraction will keep on for many hours.

:: Without pre-heating the part to be painted:

At the start of spraying, the object is covered with a uniform coat of powder that adheres to its surface. There then occurs a phenomenon of repulsion between the powder cloud and the coated object. There is thus an upper limit to the amount of powder deposited. After fusion we obtain a coating, the uniform thickness of which vary from 30 to 80 microns for decorative applications up to 200 to 500 microns for functional applications, varying according to the type of powder used.

:: With pre-heating:

> The part is pre-heated in an oven and the powder is sprayed onto it while hot. The pre-heating temperature will vary according to the shape of the workpiece and type of powder to be applied:

If the pre-heating temperature exceeds the melting point of the powder, the particles will melt in contact with the workpiece. This allows a thicker film to be obtained (5 to 10 mm and over) than when the part is cold.

> The workpiece can also be heated slightly to a temperature below the melting of the powder to assist the flow of electric charge. This is because the insulating particles are heated up by contact with the part onto which they are sprayed, and thus become more conductive, allowing more powder to be deposited than would be possible on a cold surface.

Paint curing

There are a number of different methods that can be used to melt or polymerise the powder coat:

- :: Oven (box or in-line)
- :: Infrared heaters,
- :: High-frequency heating.

The melting and polymerisation time and temperature depend essentially on the nature of the material and the part must be heated to slightly above this temperature (by 10 to 20°C) to obtain a full fusion and a smooth film.



DEFECTS – Various defects can occur

- :: Blistering: can be caused by:
 - > an excessive powder thickness, preventing the air trapped inside the film from escaping,
 - > moisture in the powder or in the compressed air carrying it,
 - > gas release from the part, like porous cast iron, wood and ceramics.

- :: "Orange peel" surface: the melting temperature is too low or the film thickness is insufficient. It is also very difficult to obtain a perfectly smooth surface with certain low-grade quality powders.

- :: Craters (small depressions on the surface of the coating): can result, among other causes, from a failure to adhere due to poor cleaning of the workpiece, or an impurity in the powder.

Why use powder coatings ?

To achieve savings

- :: A single coat is sufficient
- :: The product is easily recycled and reused
- :: Maintenance is reduced (less dirt to clean up)
- :: Productivity is increased
- :: There are fewer scrap parts

To improve product quality

- :: Products keep their appearance longer
- :: The lifespan of products is increased (corrosion, UV resistance, etc.)
- :: Impact and chemical resistance are improved

To respect the environment

- :: There are no Volatile Organic Compounds
- :: The powder coating system does not pollute the atmosphere
- :: Waste is greatly reduced

To improve working conditions

- :: Powder is not flammable, safety is increased
- :: Hygiene is improved ; cleaned with compressed air

Daily operation made easy

- :: The powder-coating technique is simple
- :: Powder-coating equipment is sturdy, lightweight and dependable
- :: Operators are quickly trained



Primer coating on aluminium wheels with Auto-Mach-Jet sprayer.

10 Electrostatic application

High voltage is produced by a controller emitting a low voltage, medium frequency signal (approx. 20KHz). This module supplies a high voltage stage that produces a continuous high voltage. The high-voltage stage, also called "High Voltage Unit" or "cascade" is sometimes incorporated within the spray gun. This is the case of:

- :: the Mach-Jet Gun, E-series, E-Jet and Email Jet-M manual spray guns
- :: the Auto Mach-Jet and Email Jet-A automatic spray guns

It can also be remote, i.e. connected to the gun by a high voltage cable. This is the case of the SRV 038 automatic rotary applicator, aka powder bell.

There are several types of power supplies:

GNM 100



Used with the manual and automatic ranges, the GNM 100 comes in an IP64 sealed enclosure version:

- :: Enamel Jet-M
- :: Enamel Jet-A
- :: JR 106 (Tribo)
- :: Old generation SRV416 (Automatic corona)

GNM 200



In its electrical cabinet version, its sealing rating is IP 20:

- :: SRV 038 (rotating bell)

CRN 457



Used with the new powder coating equipment range, the module incorporates the high voltage and pneumatic functions. Its sealing rating is IP20:

- :: Mach-jet Gun
- :: Auto Mach-Jet
- :: E-Jet

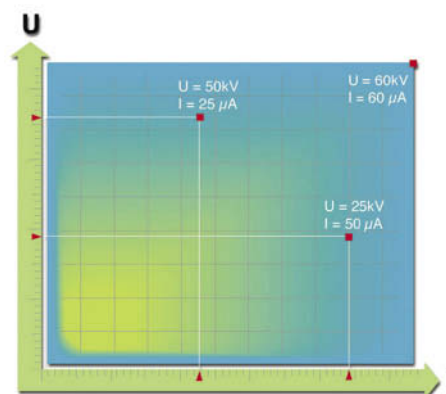
GCU 400



Used with the "E-Series" manual powder coating range

:: The power supplies automatically identifies the type of gun to which it is connected and then sets the cascade's maximum operating values (U & I). The best electrostatic charge is maintained during application regardless of the shape of the part, the characteristics of the powder or the target distance. This is made possible by the rectangular Voltage/Current characteristic of the power supply (see below for modules GNM 100 and GNM 200). These parameters are operator-adjustable.

The power supplies also include a certain number of features such as overcurrent disjunction, fast current peak, etc., to enhance the safety of the system.



CORONA or TRIBO charge

There are two ways to impart an electric charge to the powder particles.

A bit of physics: throughout the universe, there is a basic element to which physicists have given the name "electron". Besides being extremely small, this grain of matter has the interesting property of carrying a negative charge. It is when electrons travel inside a copper wire that an electric current is produced.

As you have no doubt noticed, you don't receive an electric shock every time you touch an object, this is due to the fact that there exists another grain of matter called a proton that also carries an electrical charge of exactly the same value as the electron, but of opposite sign: positive.

These positive and negative charges attract one another, while those of the same sign repel each other. Matter therefore tends to collect in clusters that always contain more or less the same number of protons and electrons (plus a few other electrically neutral particles). Because the positive and negative charges balance out, we do not therefore feel any electric discharge when we touch an object.

By convention the Earth is considered as being at 0 Volts. A positively charged particle (paint droplet or powder grain) will therefore tend to go towards the nearest negative particle or, if there is no particle of the opposite sign, towards the nearest point at 0 Volts.

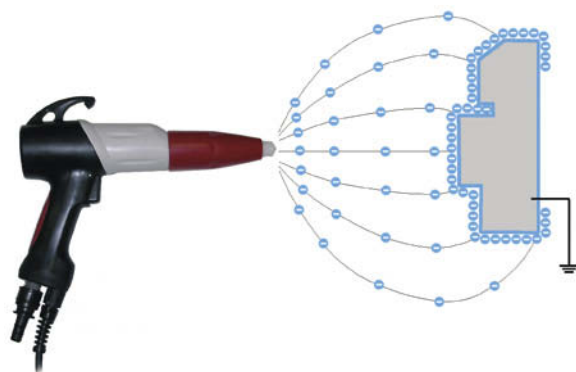
Thus, to charge a grain of powder we must either add extra electrons, which will give it an overall negative charge, or else take some electrons away, leaving an excess of protons and thus giving the particle a positive charge. Adding protons would have exactly the same effect but is much more difficult to achieve, and certain steps of the process would have much in common with an atom bomb.

:: Where the particle has a surplus of electrons, we use the CORONA method.

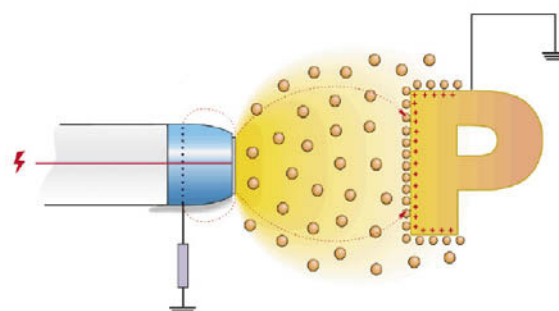
:: Where the particle has an electron deficit, we use the TRIBO method.

The CORONA charge (or ionic bombardment)

Powdered paints are electrically very insulating (resistivity $> 10^7 \text{ M}\Omega\cdot\text{cm}$): and ionic bombardment is the only way in which a charge can be imparted on the particles. When spraying, the powder particles are electrically charged by a high voltage unit (HV cascade) supplying up to 85 kV. This generator creates an electric field between the electrode of the gun and the grounded part, causing the negatively charged particles to move along the electrostatic lines of force. The powder is uniformly deposited on all sides of the part, ensuring a high transfer efficiency.

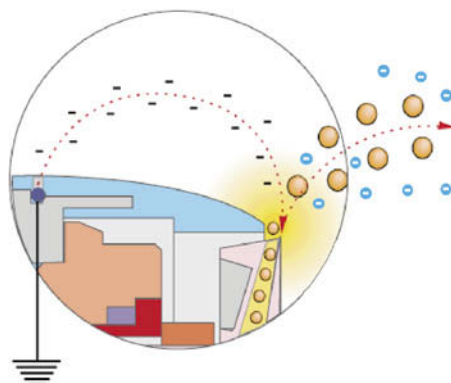


Coating with a manual gun



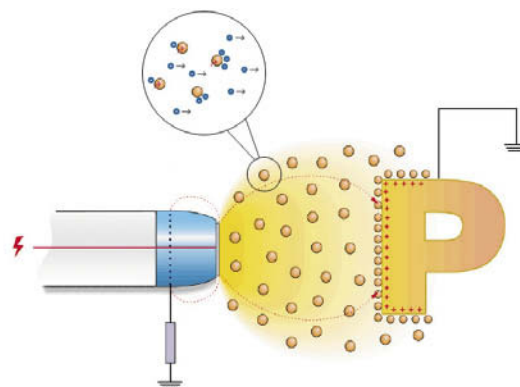
Coating with a rotating bell

We note that the electric field at the tip of the nozzle or the edge of the bell is very intense (small bend radius). The surrounding air is strongly ionised. The ions created are moved towards the grounded part at high speed (~ 100 m/s). These ions generate their own electric field.



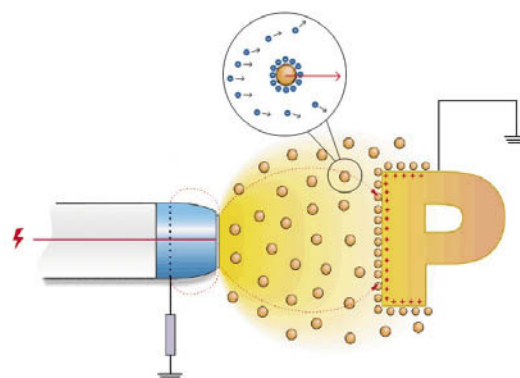
The air ions come across the trajectory of the powder particles and catch them up (the speed of the powder particles being much lower than that of the ions, only a few m/s). The powder particles are therefore subjected to ionic bombardment.

When an ion meets a particle, it attaches to the particle surface and cannot detach itself. If the particle is very nonconductive, it will rotate on itself to present the side that has not yet been charged by the ion flow: the electric charge will continue increasing as the powder travels towards the part.



A large number of ions will therefore have attached themselves to the powder particle before it reaches the part. It will then achieve its maximum charge and the particle will repel all the other ions on its path.

Charging by ion bombardment works on both insulating and conductive particles.



N.B : the charge by bombardment adds to the charge by contact for a high speed bell, in which these two charging phenomena are complementary.

The TRIBO-ELECTRIC charge:

To cause an electron deficit, the particles are (energetically) rubbed against a material that captures the electrons torn off by friction, and from there, are conducted directly to the ground. The principle is simple but where we have parts rubbing against one another, we also have wear.

What is more, tearing off electrons requires a great deal of energy. It therefore takes repeated frictions to achieve the desired result, which explains why TRIBO spray guns are generally longer and their flow rate limited.

The powder is electrically charged by friction inside the gun tubes and those of the nozzle; that allows it to acquire a uniform electrostatic charge, as well as high transfer efficiency and better penetration than a traditional Tribo equipment:

Tribo charge overcomes the main disadvantage associated with the Corona charge, which is the Faraday cage effect.

The electrostatic field produced by the tribo-electric gun is almost non-existent, allowing the powder to penetrate cavities and folds, a great uniformity of film build and a perfect distribution of the powder on the part.

The powder must be capable of losing electrons to Teflon (diagram 1) An insulating material can capture or release a very large number of electrons. The charge therefore increases with the number of contacts. A suitable powder must be used for the charge to be effective (generally Epoxy).

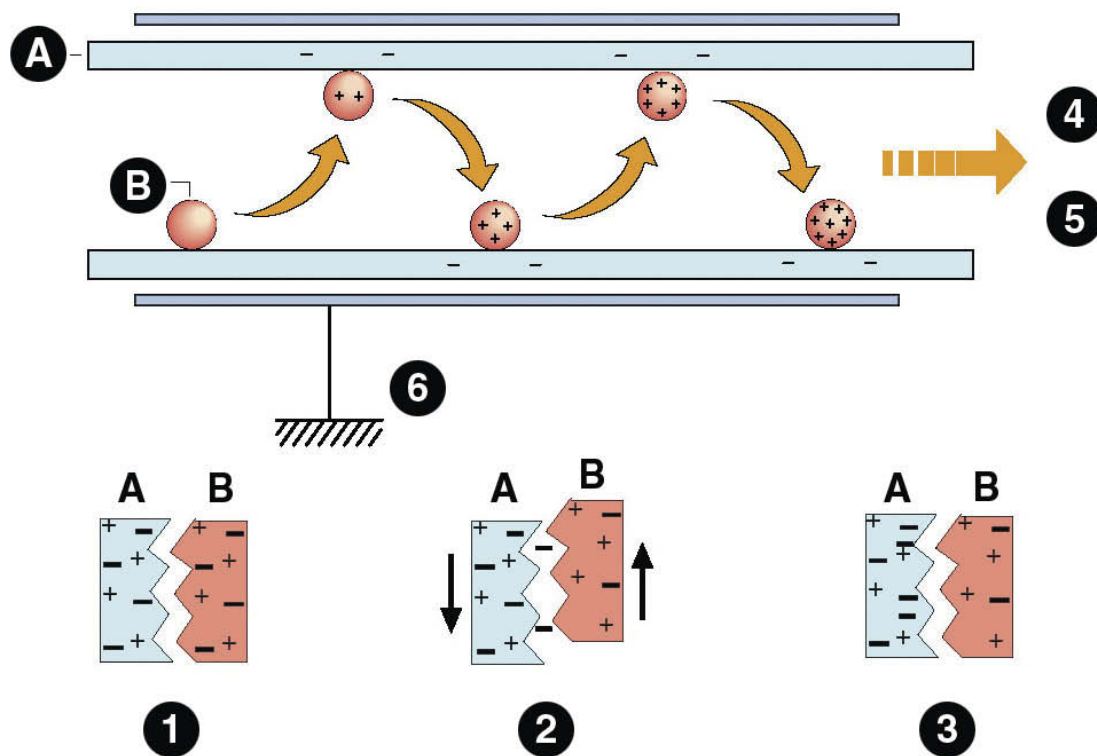


Diagram 1

A = Powder tube

B = Powder particle

1 = A & B uncharged

2 = Separation of charges

3 = A negatively charged & B positively charged

4 = Direction of flow

5 = Direction of current

6 = Teflon tube grounding

14 Electrostatic application

Friction charging involves no electrostatic field or ion emission, and requires no high voltage generator or electrode.

Powder coating requires air to direct the powder towards the part (additional air) and to vary the speed of the particles in the gun, and thus their level of charge (diagram 2).

The particle is then attracted by the grounded part via the field created by the powder cloud ("wraparound" phenomenon).

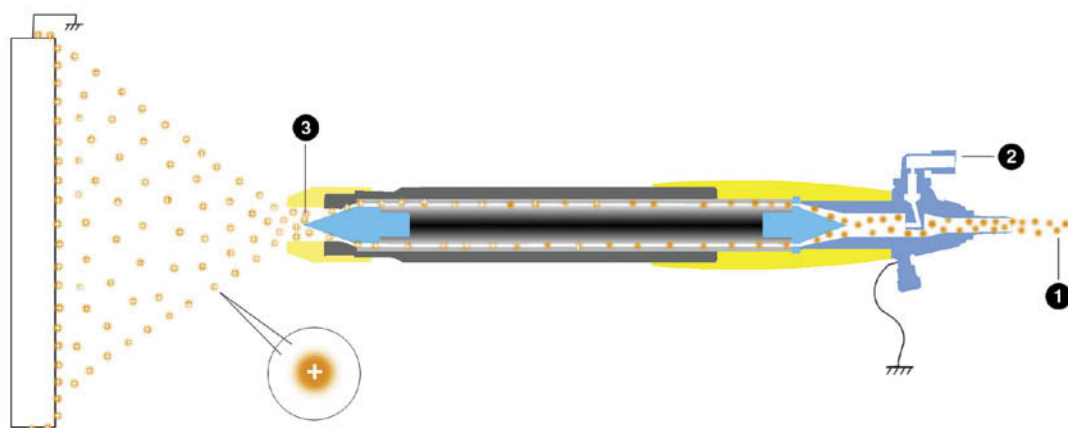


Diagram 2

1 = Uncharged powder

2 = Additional air

3 = Charged powder

Choice of charging method (Corona, tribo):

Application	Corona	Tribo
Wraparound	✓	
Penetration into workpiece		✓
Even film	✓	
Re-coating		✓
Thin coating	✓	
Thick coating		✓
Cost considerations	Corona	Tribo
Powder consumption	✓	
Initial investment		✓
Wear	✓	
Choice of powder	✓	
Use	Corona	Tribo
Colour change	✓	

Advantages of electrostatic application

∴ Electrostatic application helps to save powder, reduces overspray (and thus pollution) and ensures that hidden surfaces are properly coated (wraparound effect).
Imparting an electric charge gives:

∴ A better pattern than with conventional methods

∴ A very high transfer efficiency:

- > saves paint
- > reduces soiling of the booth (reduced maintenance)

∴ An excellent appearance:

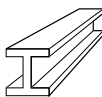
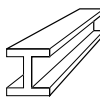
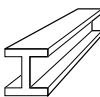
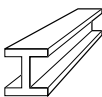
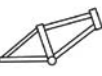
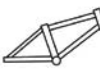
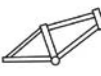
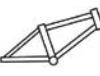
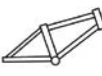
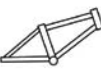
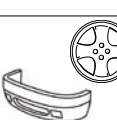
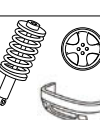
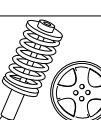
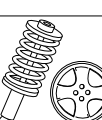
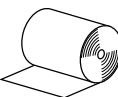
- > excellent uniformity and consistency of film
- > quality of coverage

∴ The wraparound effect is enhanced:

- > reduction in painting times
- > reduction in the number of applicators or operators required

Together these advantages allow a reduction in operating costs and an increase in paint line productivity.

Guide lines for the types of parts to coat

Application process	Automatic				Manual			
	Rotating bell	Corona	Enamel	Tribo	Corona		Enamel	Tribo
Area of application	SRV 038	Auto Mach-Jet	Enamel Jet-A	TRV 117	Mach-Jet / E-Jet	E - Series	Enamel Jet-M	JR 106
Profiled sections								
Household appliances Electrical apparatus								
Non destructive inspection of metals								
Metallic furniture								
Motor Bicycles								
Public works equipment Farming equipment Large surfaces Railway equipment Aeronautical equipment								
Automotive industry Equipment Manufacturers								
Cylindrical parts								
Small parts								
Fencing Gates								
Wood MDF								
Coil coating Dry lub								

This table shows general applications and does not cover special cases for which a specific study must be carried out.
The illustrations are intended to be indicative only.

Overview of the range

Powder coating at a glance

17

Manual spray guns



JR 106
Tribo electrostatic
spray gun



Labo-Series
Corona electrostatic
spray gun with gravity
feed powder cup



Enamel JET - M
Electrostatic spray gun
for enamel powders



E-series
Corona electrostatic
spray gun



Mach-Jet & e-Jet
Remote control Corona
electrostatic spray gun

Automatic spray guns



SRV 038
Automatic rotating bell
electrostatic sprayer



TRV 117
Tribo charge automatic
spray gun



Enamel JET - A
Automatic electrostatic
spray gun for enamel
powders



Auto Mach-Jet
Automatic Corona
electrostatic spray gun

Peripherals



AS 100
Powder fluidity meter



CSV 600
Powder distribution tank



RFV 2000
Electronically controlled
reciprocator



REV 600
Installation application
controller



HVP 125
High voltage meter



ManuCompact
Manual powder booth



PVV EasyColor
Quick colour change
automatic powder booth



PVV EasyCompact
Quick colour change automatic
powder booth

NEW

E-SERIES

Manual Corona electrostatic powder spray gun



The E-Series is a manual powder gun for use in general industrial applications.

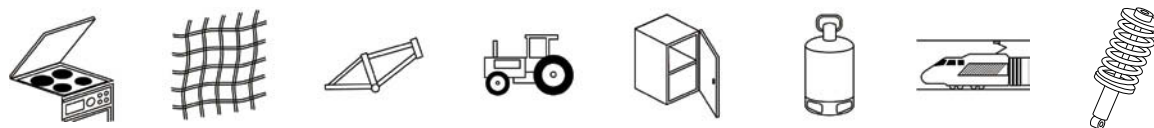
Coupled with the E-Series GCU 400 module and its exclusive "Total Energy Control" system (TEC), it guarantees a superior electrical charge in all circumstances.

The TEC system automatically limits the current according to the distance to the part, thus ensuring a perfect quality finish as well as a saving in powder. Two factory-programmed pre-sets (TEC1 and TEC2) allow you to easily adjust your settings to suit your application.

Areas of application

The E-Series spray gun can be used on a very wide range of shapes:

- :: Aluminium profiles
- :: Mesh products
- :: Domestic appliances
- :: Motorbikes and bicycles
- :: Railway equipment
- :: Farm machinery
- :: Facade elements
- :: Automotive spare parts
(mouldings, frames, rear-view mirrors, rims, etc.)
- :: Non destructive inspection of metals



Benefits

Comfort of use

- :: One of the best weight/balance ratios on the market (495 grams)= reduces operator fatigue
- :: Cable and powder hose quick-disconnect system allowing fast colour changes and easy cleaning
- :: Air supply to deflectors and inside of nozzle prevents powder build-up
- :: Large choice of nozzles and extensions to cover all applications

Meets all the requirements of the industry

- :: Easy application of metallic powders (with TEC2 setting and the special metallic powder nozzles)
- :: Increased productivity: can supply powder to two guns simultaneously
- :: Abrasion-resistant nozzles
- :: Sturdy components (gun, cart)

Optimum safety

- :: CE and ATEX approved

E-SERIES

Manual Corona electrostatic powder spray gun

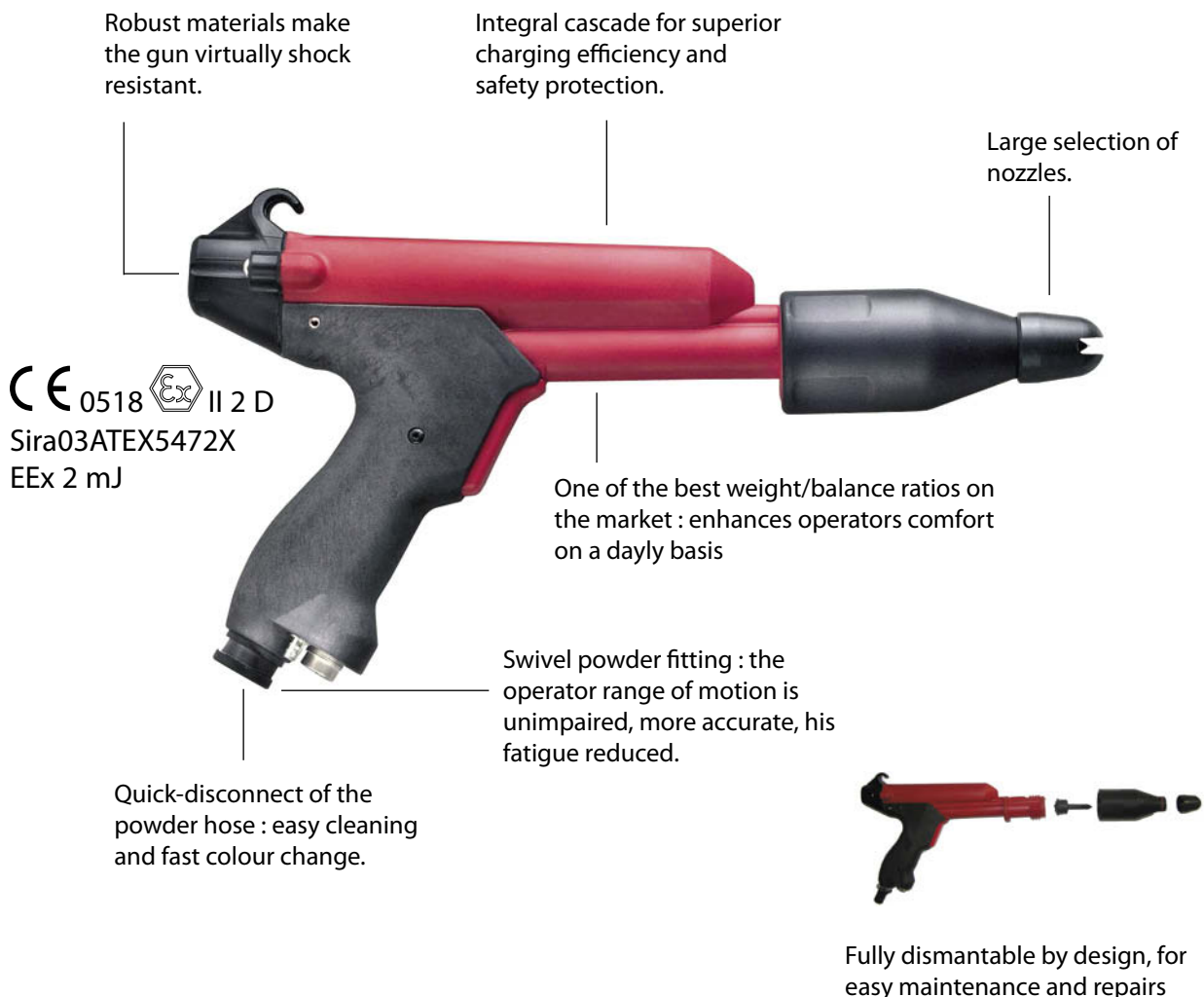
19**Description of E-Series electrostatic equipment**

The E-Series gun is designed for spraying powder paint. It can come with either of two powder supply systems: fluidised hopper and vibrating table.

The gun has a built-in cascade which gets its low voltage signal from the GCU400 module, via a low voltage electrical connection that activates the high voltage when the trigger is pressed.

Powder is fed to the gun via a venturi powder pump, and a pickup (suction) tube. The powder is fluidised in the hopper or box before being sent to the spray gun by the venturi.

It should be noted that the pump holder is designed to receive two pumps side-by-side, thus allowing two guns to be simultaneously fed from one box.



E-SERIES

Manual Corona electrostatic powder spray gun

GCU 400 control module

TEC system

The GCU400 module is equipped with the "Total Energy Control" (TEC) system. This system automatically limits the current according to the target distance, constantly providing the maximum electrostatic charge. Simply press the button to select one of the pre-set modes TEC1 and TEC2.

:: TEC1 (initial mode):

This operating mode features operator adjustment of the voltage up to 85 kV and a 50 μ A current threshold. It is suitable for:

- > most applications (in particular over-coating)
- > the majority of powders on the market:

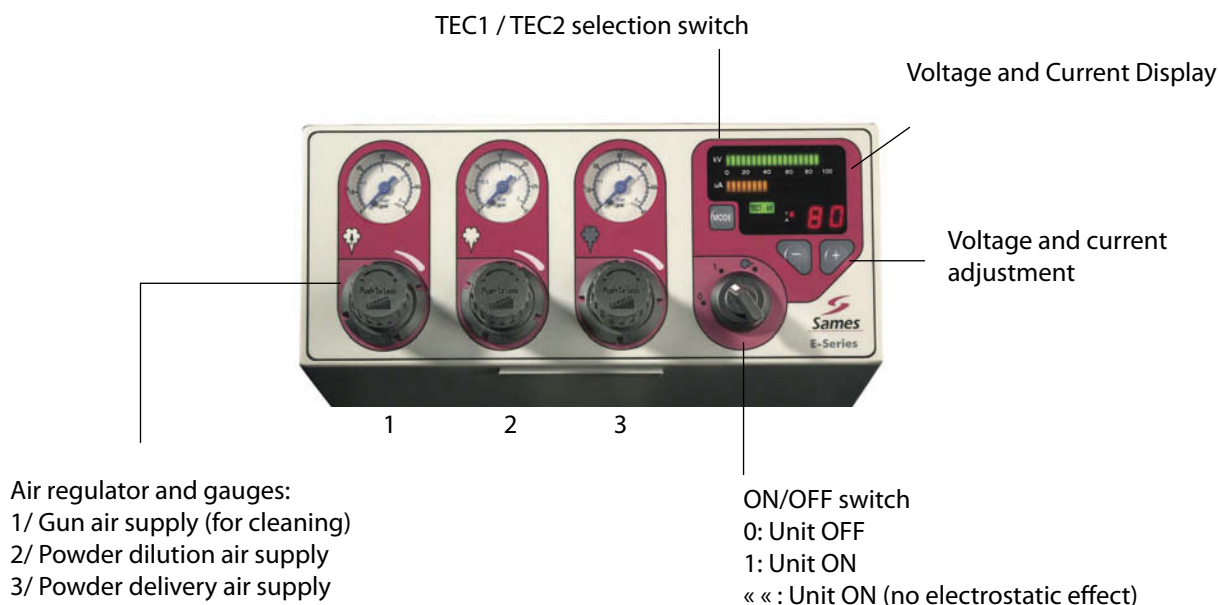
:: TEC2:

Provides operator adjustment of the output current up to a maximum threshold of 100 μ A.

This operating mode is specially intended for:

- > the application of metallic and/or difficult to spray powders
- > powder coating complex shapes (cavities)

Pneumatic and high voltage adjustment controls: GCU 400



The E-series Gun can apply a wide variety of powders

:: organic powders

:: thermosetting powders: epoxy, epoxy-polyester, polyester, polyurethane, acrylic.

:: thermoplastic powders: polyamide, polyethylene, PVC.

E-SERIES

Manual Corona electrostatic powder spray gun

21**Technical Data**

Hand gun		MG 400	
Weight, without cable or hose (g)		495	
Actual weight carried(1) (g)		660	
Length (mm)		330	
Powder flow rate up to (kg/h)		30	
Standard powder hose (m)		6 (12 mm internal diameter)	
Operating temperature (°C)		0 to 40 °C (32 to 104° Fahrenheit)	

Air supply	GCU 400	Vibrating table	Hopper
Main air (bar)	7 +/-1 (105 psi)		
Air consumption (Nm3/h)	10	15	15

Controller	GCU 400	hand gun MG 400
Max. output voltage	40 V rms	85 kV
Max. output current	110 mA rms	100 µA
Electrical power supply (V AC)	100 à 240	
Single phase (Hz)	50 / 60	
Power consumption (VA)	45	
IP	54	

Connection	GCU 400
Main air supply hose ø (mm)	8

(1): weight measured with 1.20 m of cables and hoses

Marking for GCU 400⁽²⁾

(2) : this control module is the only one allowing the manual powder paint set E-series/MG400 to be ATEX certified. Installation outside from the explosive area.

CE 0518  II (2) D
Sira03ATEX5472X
[EEx 2 mJ]

"E-Series": a complete manual range

The E-Series cart has been designed to meet industrial requirements:

- ⚙ compact cart size and 4 castor wheels for great manoeuvrability,
- ⚙ Improved powder pick-up ensured by:
 - > Tilting the vibrating table and installation of a "high efficiency vibrator", to minimise powder packing.
 - > The storage capacity of the fluidised hopper (25 Kg ≈ 50 liters)

E-Series vibrating table
version



E-Series fluidised hopper
version



E-SERIES

Manual Corona electrostatic powder spray gun

E-series equipment configurations

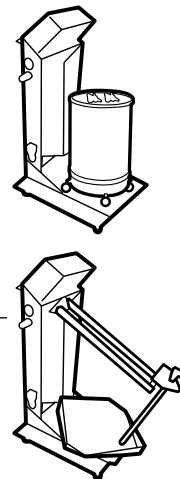
Cart-mounted version

Description	P/N
E. E-Series - vibrating table	F3P PER 001
E. E-Series - fluidised hopper	F3P PER 002
E. E-Series - vibrating table (double operator)	F3P PER 198
E. E-Series - fluidised hopper (double operator)	F3P PER 199

All standard equipment configurations comprising one spray gun come complete with:
a 5m long powder supply hose ø12x17 mm, a fan spray tip. (6mm and 4mm) and 3 round spray deflector (small, medium and wide).

Without cart version

Description	P/N
Mini E-series (handgun + control module + pump for 100L hopper)	F3P PER 210
Mini E-series (handgun + control module + pump for 50L hopper)	F3P PER 211
Mini E-series (handgun + control module + pump for vibrating table)	F3P PER 212



Basic components

Description	P/N
Handgun MG400	F3P PER 003
Module GCU 400	F3P PER 005
50L fluidised hopper (single outlet)	F3P PER 004
Electrode assembly	F3P BPU 206

Powder hoses

Description	P/N
Cable + powder hose assembly, 5m	F3P PER 140
12/17 dia. powder hose (per meter)	F6T COM 061

Part numbers of round spray deflectors

Description	P/N
Round deflector - Small	F3P ACC 175
Round deflector - Medium	F3P ACC 174
Round deflector - Large	F3P ACC 234

Part numbers of fan spray nozzles

Description	Slotted opening	P/N
Fan spray cap	6 mm	F3P PER 047
Fan spray cap	4 mm	F3P PER 060

MACH-JET

Remote control Corona electrostatic spray gun



MACH-JET
DPCS Digital Preselect Coating System

The new Mach-Jet gun is a manual powder gun for use in general industrial applications.

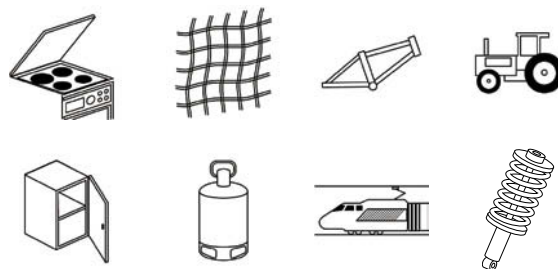
The gun and its exclusive DPCS system coupled with the CRN 457 module, guarantee a superior powder charge. The operator easily selects the program suiting the shapes of the parts, thus ensuring a perfect finish and a significant saving of powder.



Areas of application

The Mach-Jet Gun is used to coat a wide range of parts in all types of industrial applications:

- :: Garden furniture
- :: Motorbikes and bicycles
- :: Railway equipment
- :: Farm machinery
- :: Fire extinguishers
- :: Fencing posts, gates
- :: Aluminium profiles
- :: Hand and guard rails
- :: Powder-paint decorated glass
- :: Automotive spare parts (mouldings, frames, rear-view mirrors, rims, etc.)
- :: Non destructive metals inspection (NDT)



MACH-JET

Remote control Corona electrostatic spray gun

25**Benefits****Comfort of use**

- :: One of the best weight/balance ratios on the market, reduces operator fatigue
- :: Quick-disconnect of the powder hose allows quick colour changes and easy cleaning
- :: Swivelling powder hose for easy wrist action
- :: Choice of 2 soft, interchangeable grips on the back of the handle for operator comfort
- :: Controls on the gun allow speedier adjustment of settings during spraying and a consequent saving of time (adjustment of powder flow rate and 4 U&I presets)
- :: Customized adjustment of settings for an optimum electrostatic charge regardless of the type of powder or the shape of the part to be painted

Complies with the industry requirements

- :: Easy application of metallic powders (standard nozzle)
- :: New nozzles provide an excellent spray pattern
- :: Abrasion-resistant nozzles
- :: Sturdy components (gun, cart)

Sécurité optimale

- :: Meets the new standard EN50050: 2001
- :: CE, ATEX and FM approved



For any further information, visit:
www.mach-jet.com

Manual application with Mach-Jet equipped with a 150mm long extension

MACH-JET

Remote control Corona electrostatic spray gun

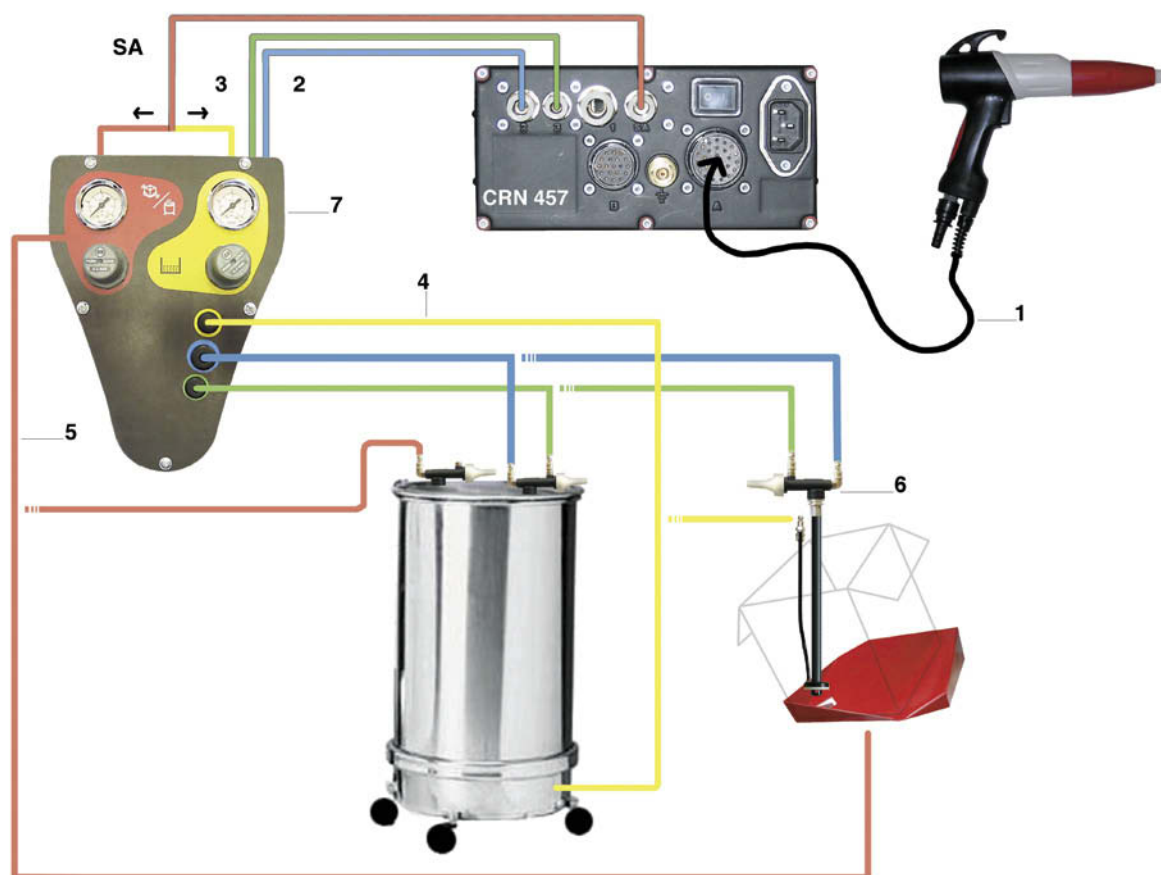
Description of the electrostatic MACH-JET equipment

The Mach-Jet Gun is designed for spraying powder paint.

Various powder supply systems can be used, such as a circular hopper, a vibrating table or a pressure tank.

The gun has a built-in cascade and gets its LV signal from the CRN 457 module via a low voltage electrical connection (1) that activates the high voltage when the trigger is pressed.

Powder is fed to the gun via a venturi powder pump (6), and a suction tube. The powder is fluidized (4) in the hopper or box before being delivered to the spray gun by the venturi. The air supplies for adjusting the powder flow (2&3) are automatically controlled by the CRN 457 module.



- 1: Low-voltage connection
- 2: Injection air
- 3: Dilution air
- 4: Fluidisation air
- 5: Vibration or fume extraction air
- 6: Powder pump (CS127/237)
- 7: Air controls
- SA: Auxiliary air (4 + 5)

MACH-JET

Remote control Corona electrostatic spray gun

27**The gun is designed to ensure easiest use**

The MACH-JET is a very lightweight gun. Controls are incorporated on the handle to allow the operator to select one of 4 pre-programmed settings : or to instantly and single-handedly adjust the powder flow without interrupting his coating. LEDs display details of the program currently in use. This exclusive feature is available only on the MACH-JET gun.

Customized adjustment of settings for an optimum electrostatic charge regardless of the type of powder and the shape of the part to paint.

Very sturdy materials make the gun very shock-resistant.

Large choice of nozzles.



One of the best weight/balance ratios on the market: operator comfort in everyday use.

The rear part of the handle integrates a removable grip of 2 interchangeable models : easy comfortable grip adapting to the shape of the operator's hand.

Quick-disconnect powder coupling: fast colour changes, and easy cleaning.

Swivelling powder fitting : provides more motion freedom, accuracy, and reduced operator fatigue.

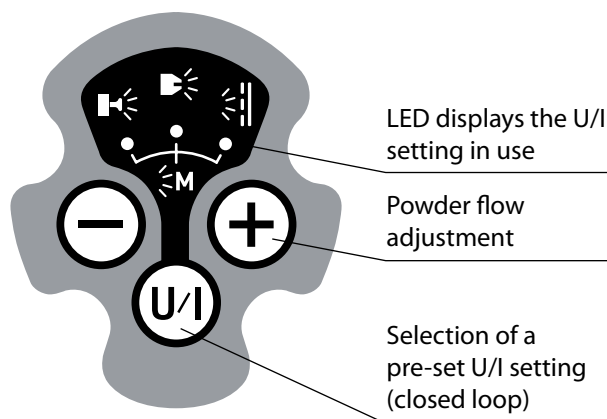
MACH-JET

Remote control Corona electrostatic spray gun

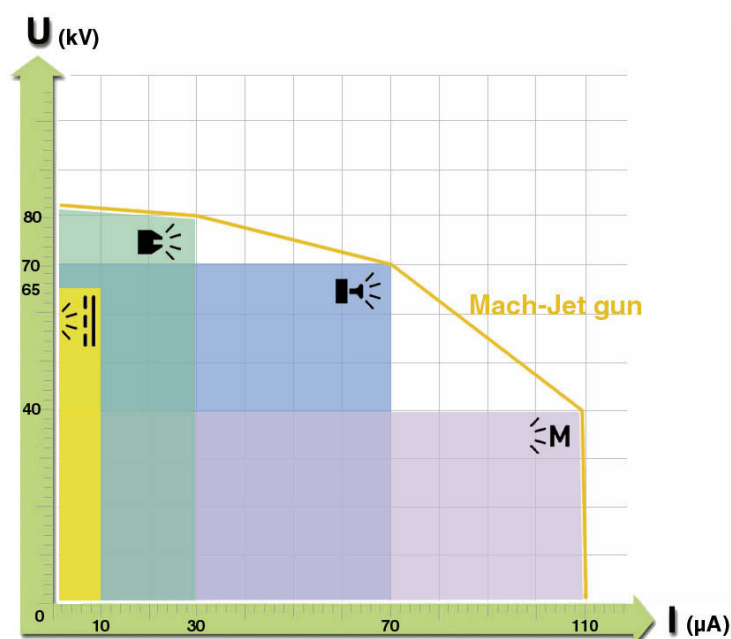
Exclusive DPCS (Digital Preset Coating System)

The controls are accessible on the back of the gun, allowing speedier adjustment of settings during application and a saving of time:

- ⌘ Powder flow rate adjustment
- ⌘ Selection of one of 4 pre-programmed U & I settings



Differences between electrical parameter presets



Application with a round spray nozzle:

- Increased particle charge
- Better wraparound and higher transfer efficiency
- very homogeneous pattern on complex or simple-shaped parts



Tailored application using Round or Fan spray nozzle:

- Re-coating
- Thick coatings (> 100 μm)
- Low conductivity materials (glass, wood, etc.)



Application with a fan spray nozzle:

- Very good coverage and efficiency on flat parts
- Easy coating of cavities
- Very good penetration on both complex and simple parts



Tailored application using Round or Fan spray nozzle:

- Metallic powder
- the voltage (U) can be increased to improve the transfer efficiency

These parameters can be adjusted by the operator to obtain the maximum electrostatic efficiency.

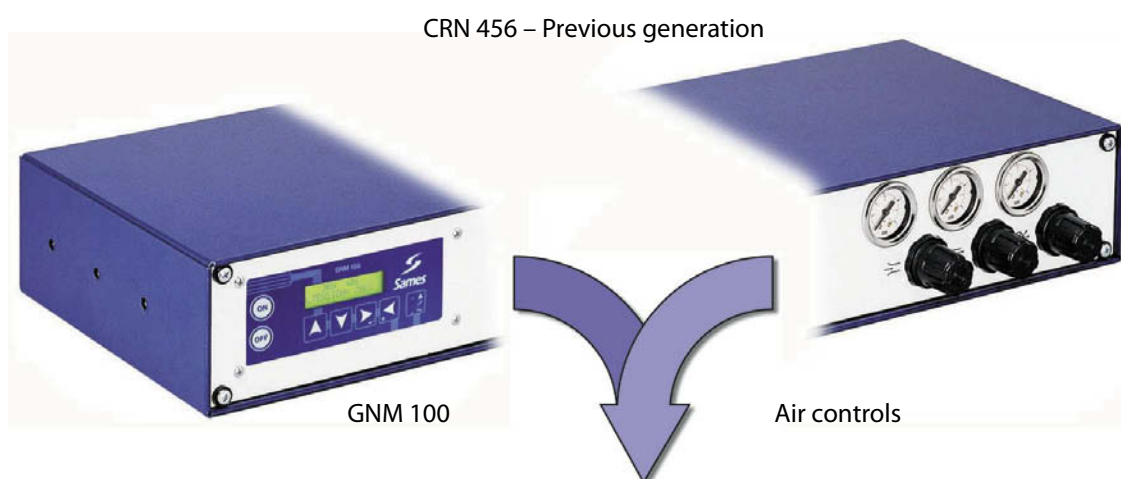
MACH-JET

Remote control Corona electrostatic spray gun

29**The pneumatic and high voltage controls are incorporated within the CRN 457 module**

This controller is very user-friendly and easy to operate. It can be used immediately, simply by selecting one of the pre-programmed settings. Obviously, the operator can easily adjust these programs to suit his own needs at a later stage.

The complete module is incorporated in the front of the cart. It is angled for ease of reading by the operator. The screen is back-lit and provided with a brightness control.



CRN 457 – New generation



The dimensions of the enclosure are those of a GNM100: Compact and Convivial

The CRN 457 module is very simple to use.

A large screen and highly visual, universally understandable graphic icons make the module very easy to use: the risk of error is very low, the system is very intuitive and the learning time is therefore very short.



MACH-JET

Remote control Corona electrostatic spray gun

Nozzles for every application

The Mach-Jet can cover everything from conventional spraying applications (tubular parts, automotive accessories, aluminium profiles, large flat surfaces and iron work items) to more specific requirements (coating of complex or bulky shapes, coating of cavities, penetration in recesses).

The newly designed nozzles, with their soft homogeneous pattern, are suitable for use with all types of powder, even including metallic powders

Round spray nozzle



Deflectors



Ø12mm Ø16 mm Ø20 mm Ø25 mm

Fan Spray Nozzle



Tips



Narrow Standard Medium Wide

Nozzle types and applications:

Nozzle type	Name	Recommendations for use
Round spray nozzle (Ø in mm)	12	Ideal for small parts, pre-touch or touch up in difficult areas.
	16	Ideal for all kind of parts, in particular for coating large flat surfaces, tubular furniture and wire-made items.
	20 and 25	Particularly suitable for large parts.
Fan Spray Nozzle	Narrow	Pre-touch and touch-up.
	Standard & Medium	Most versatile : excellent penetration into the folds of sheets, cavities, plane furniture. Ideal for job coaters (large variety of parts). Can be used away from the part if necessary.
	Wide	Avoids problems with blowing the powder from the part. Can be used at shorter distances if necessary. Suitable for items such as fencing, welded connections and large, flat parts.
Extension (mm)	Version 150 mm, 250mm (JR/JP) and 300 mm (JP)	For coating bulky, complex shapes. Can access the inside of the part (tubular parts, cavities, etc.)

JR: for round spray nozzle

JP: for fan spray nozzle

MACH-JET

Remote control Corona electrostatic spray gun

31

The Mach-Jet Gun can apply a very wide range of powders

:: Thermosetting powders: epoxy, epoxy-polyester, polyester, polyurethane, acrylic.

:: Thermoplastic powders: polyamide, polyethylene, PVC.

Technical Data

Hand gun	Mach-Jet Gun		
Actual weight carried (g)	660 ⁽¹⁾		
Length (mm)	305		
Débit de poudre (tuyau ø11 mm) jusqu'à	24 kg/h		
Standard powder hose (m)	6 (int. dia. 11mm)		
Operating temperature (°C)	0 to 40		

Air supply	CRN 457	CS127/237	CSV 427
Supply air pressure (bar)	7 +/-1(105 psi)		
Air consumption (Nm ³ /h)	15	2 to 6	3 to 6

Controller	CRN 457	Mach-Jet Gun
Max. output voltage	40 V rms	80 kV (+ 5kV ; - 9kV)
Max. output current	110 mA rms	110 µA (± 10µA)
Electrical power supply (V AC)	90 to 270	
Single phase (Hz)	50 / 60	
Maximum power (VA)	60	
IP	20	

Connection	CRN 457
Main air supply hose ø (mm)	10 OD. (ref. 1)
Injection air supply hose ø (mm)	8 OD. (ref. 2)
Dilution air supply hose ø (mm)	6 OD. (ref. 3)
Auxiliary air supply hose ø (mm)	8 OD. (ref. SA)
Plunger fluidisation or fume extraction air supply hose ø (mm)	8 OD.
Hopper fluidisation or vibrating table air supply hose ø (mm)	6 OD.

(1): Weight including 1.2 m of cable and power hose

Marking for Mach-Jet

CE 0080 Ex II 2 D
ISSeP04ATEX119
EEx 2 mJ



When configured
according to #800000045
For Electro. Fin. Appl. CL. II, Spray Matl.

Marking for CRN 457⁽²⁾

(2) : this control module is the only one allowing the manual powder paint set Mach-Jet to be ATEX certified. Installation outside from the explosive area.

CE 0080 Ex II (2) D
ISSeP04ATEX119
[EEx 2 mJ]



MACH-JET

Remote control Corona electrostatic spray gun

"MACH-JET": a comprehensive line of manual equipment

MACH-JET: That's a new cart with a revolutionary shape allowing easy assembly and providing ample storage space. It incorporates a particle filter on the main air line, a hose storage and a blow gun for cleaning. It is very sturdy and runs easily on all types of floor, grating included. Its plastic body makes it very easy to clean.

Mach-Jet Vibrating table



Vibrating table **CSV467** can accommodate standard powder boxes available on the market, ideal for frequent colour changes.

Mach-Jet Fluidised hopper



Hopper **CSV 427** has a 50 liters capacity, ideal for high output applications with infrequent colour changes.

Mach-Jet Pressure tank



Hopper **CSV 217** has a 24 liters capacity. As it allows to coat with very high or small powder flows, CSV 217 is ideal for non destructive inspection of metals. This is also the system that provides the best quality and uniformity of coating thickness.

General description of the Mach-Jet Cart

A roomy space , to tuck away your accessories: nozzles, deflectors.... hand (nozzles, deflectors, etc.)

A hose reel at the back of the cart, and an air gun to help with cleaning.



Powder pump with handy quick disconnect fittings for fast colour changes and cleaning.

The bottom end of the suction tube ensures an efficient fluidisation inside the powder box.

Integrated particle filter.

The brand new manual equipment: "e-JET"

e-JET is the SAMEs' brand new manual powder equipment. Ergonomic, efficient and reliable, this solution is the best of two others technologies : E-Series (for trolley) and Mach-Jet (for gun and control module). The reduced size of trolley helps moving the equipment as required.

e-Jet Vibrating table

e-Jet Fluidised hopper



MACH-JET

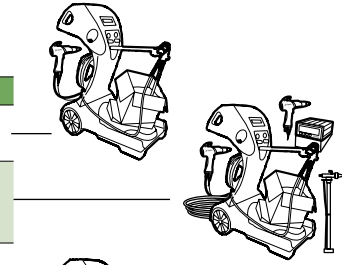
Remote control Corona electrostatic spray gun

Equipment packages

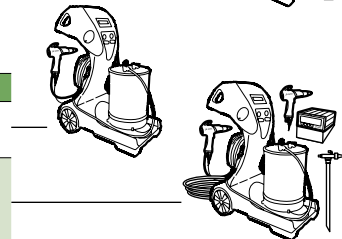


Cart-mounted version

Description	Version ⁽¹⁾	Length ⁽²⁾	P/N
E. Mach-Jet vibrating table (CSV467 + Fluidised pick-up tube + CRN 457 + Handgun + Mach-Jet Cart)	1 gun	6 m	1 526 212
	2 guns	6 m and 12 m	1 526 212 + 910 000 189
(CSV467 + Fluidised pick-up tubes + 2x CRN 457 + 2x Handguns + Mach-Jet Cart)			



Description	Version ⁽¹⁾	Length ⁽²⁾	P/N
E. Mach-Jet fluidised hopper (CSV427 + CRN 457 + Pistolet + Mach-Jet Cart)	1 gun	6 m	1 526 213
	2 guns	6 m and 12 m	1 526 213 + 910 000 190
(CSV427 + CS 127 + 2x CRN 457 + 2x Handguns + Mach-Jet Cart)			



(1): For the 2 guns version, the plunger arm or the hopper are outfitted with 2 powder outlets.

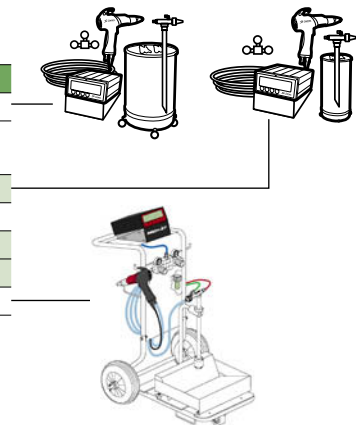
(2): length of low voltage cable and powder hose (dia 11 x 15mm).

Description	P/N
E. Mach-Jet pressure tank table (Pressure tank CSV 217 + CRN 457 + Handgun + Mach-Jet Cart)	910 000 194

NEW

Packages without cart

Description	Length ⁽³⁾	Version	P/N
E. Mini Mach-Jet [CSV 427] - 50 liters	6 m	1 gun	1 526 446
	6 m and 12m	2 guns	1 526 446 + 910 000 190
E. Mini Mach-Jet [CSV 137] - 5 liters	6 m		1 526 447
E. Mini Mach-Jet Gun + CRN 457 + CS206	6 m		1 526 448
E. Mini Mach-Jet Gun + CRN 457 + CS127	6 m		1 527 296
	12 m		1 527 297
Upgrade Kit JRN 406 --> Mach-Jet	6 m		910 000 122



(3): length of low voltage cable.

Equipment packages



Cart-mounted version

Description	Version	Length ⁽⁴⁾	P/N
E. e-Jet vibrating table	1 gun	6 m	910 001 273
		12 m	910 002 352
	2 guns	6 m and 12m	910 001 273 + 910 002 368
E. e-Jet fluidised hopper	1 gun	6 m	910 002 611
		12 m	910 002 612
	2 guns	6 m and 12m	910 002 611 + 910 002 613

NEW



(4): length of low voltage cable and powder hose (dia 11 x 15mm).

MACH-JET

Remote control Corona electrostatic spray gun

Individual components

Description	length ⁽¹⁾	P/N
Mach-Jet handgun	6 m	1 524 463
	12 m	1 524 463-12

(1): length of low voltage cable and powder hose (dia 11 x 15mm)

Description	P/N
CRN 457 module	1 523 297

Description	P/N
CSV427 Hopper (50 L.)	1 526 208

Description	P/N
CSV137 Hopper (5 L.)	1 526 440

Description	P/N
Pressure tank (24 L.)	1 504 721

Description	P/N
CS 127 Suction plunger assembly	1 526 400 ⁽²⁾
Powder pump CS127 only	1 526 398
Pick-up tube CS127 only	1 526 399

(2) : used for round hopper

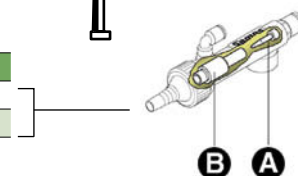
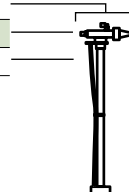
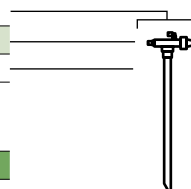
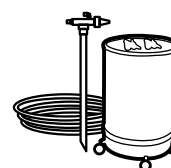
Description	P/N
CS 237 Fluidised suction plunger	1 526 401 ⁽³⁾
Powder pump CS 237 only	1 526 202
Pick-up tube CS 237 only	1 526 203

(3) : used for vibrating table

Description	Set of	P/N
Air injector for CS127/CS237 (A)	5	544 808#
Venturi air tube for CS127/CS237 (B)	10	547 880#

Description	assembling for	P/N
Metal connection kit CS127	powder pump for vibrating table	910 000 804
	powder pump for hopper	910 000 805

NEW



MACH-JET

Remote control Corona electrostatic spray gun

35

Powder hoses

Description	P/N
ø11x15mm powder hose	U1F GBA 092
ø12x17mm powder hose	U1F GBA 034

Hoses sold by the meter

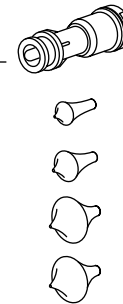
Part numbers of round spray nozzles

Description	Unit	Set of 10	P/N
Round spray nozzle body			1 525 493 ⁽¹⁾
Deflector	Ø 12 mm		1 411 500
	Ø 16 mm		1 409 259 ⁽¹⁾
	Ø 20 mm		1 409 260
	Ø 25 mm		1 411 993
		Ø 12 mm	1 411 500#
		Ø 16 mm	1 409 259#
		Ø 20 mm	1 409 260#
		Ø 25 mm	1 411 993#

A complete nozzle consists of a nozzle support and a choice of deflector

= set containing 10 units = cheaper

(1): supplied with Mach-Jet handgun or with a complete equipment



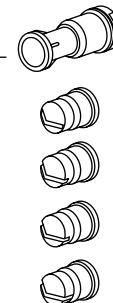
Part numbers of fan spray nozzles

Description	Unit	Set of 10	P/N
Fan spray nozzle support			1 525 492 ⁽¹⁾
Tips	Narrow (grey)		1 311 409
	Standard (Yellow)		1 315 957 ⁽¹⁾
	Medium (White)		1 313 519
	Wide (Red)		1 311 793
		Narrow	1 311 409#
		Standard	1 315 957#
		Medium	1 313 519#
		Wide	1 311 793#

A complete nozzle consists of a nozzle support and a choice of tip

= set containing 10 units = cheaper

(1): supplied with Mach-Jet handgun or with a complete equipment



Part numbers of extensions

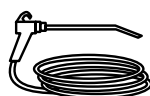
Description	Version (mm)	P/N
Extension with integrated fan spray tip ⁽²⁾	150	910 004 126
	300	910 004 125

(2): tip for fan spray, similar to the standard (yellow)



Blow gun

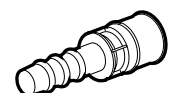
Description	P/N
Mach-Jet Blow gun assembly	1 315 013



Quick-release fitting

Description	Quantity	P/N
Powder connector assembly	1	1 411 501
	Set of 10	1 411 501#

= set containing 10 units = cheaper



LABO-SERIES

36

Powder coating handheld equipment, with gravity feed cup



The LABO-SERIES package includes an E-Series handgun and its controller. The lightweight and robust equipment permits to spray powder fed by gravity from a cup. Ideal concept for test labs, or minor touch ups on a production line, or even to coat one or two parts only.

Usage

The LABO-SERIES package was designed to spray small amounts of powder. To provide powder manufacturers and other end users with a test tool for the shop or the lab: it is ideal to test samples, for customers assistance, coat pre-series, etc...

Benefits

- :: Economical and fast colour changes:**
 - > Removable and stackable cup to increase the powder hopper capacity.
 - > Powder pump integral with the gun, and disconnectable for easy maintenance.

- :: Easy to carry around** The soft hold-all bag helps carry the package easily around the shop, or to go on a demo.

- :: Well-known performances and reliability:**
 - > The cup is well sealed.
 - > The integral cascade is a warrant of the best electrostatic efficiency.
 - > Accurate and easy handling of HV, through the numerical display of the controller GCU 400.
 - > Spraying any shape of parts, simple or complex, and inside cavities, is made easy with the HV control TEC 1.
 - > Spraying metallics and hard to use powders made easier with current control TEC 2.

LABO-SERIES

Powder coating handheld equipment, with gravity feed cup

37**Equipment description**

A case (1) contains the following:

- :: the E-Series handgun (2)
- :: A standard 0.5L cup (3), possibility of a Removal and stackable cup to increase the powder hopper capacity.
- :: The cup is assembled either on a side or the other of the gun in order to allow a use either of a left-handed or right-handed person.
- :: the GCU 400 (4) controller
- :: one vortex nozzle with 2 deflectors, and one flat spray nozzle
- :: an air gun (5)
- :: all cables and tubing needed for the operation of the package(6)

The handgun has an integral cascade which gets its LV signal from the GCU 400 controller via a cable.

The powder supply system is made of the gravity cup screwed on the powder pump and disconnectable from the back of the handgun.

HV is actuated every time one presses the trigger, which also opens up the air.

Powder flow is adjusted via:

- :: Injection air valve "A"
- :: Dilution air valve "B"
- :: Air valve "C", which adjusts the air that blows the electrode of the nozzle.



LABO-SERIES

Powder coating handheld equipment, with gravity feed cup

The E-SERIES Gun can apply a very wide range of powders

- :: Thermosetting powders: epoxy, epoxy-polyester, polyester, polyurethane, acrylic.
- :: Thermoplastic powders: polyamide, polyethylene, PVC.
- :: organic powders : starch, CMC

Technical data

Hand gun	E-SERIES	Transport Case
weight (g)	495 (without cables nor hoses)	9 kg
length (mm)		380
width (mm)		250
Height (mm)		350
Capacity cup (liter)	0.5	

Pneumatic data	Transport Case
Input air pressure (bar)	7 max. (105 psi)
Nominal air consumption (Nm ³ /h)	15
Input air:	
Air de-oiled at	0.1 ppm
dried to	1.3 g/Nm ³

Electrical data	GCU 400
Electrostatic voltage output (kV)	85
Electrostatic current output (μA)	TEC 1 : 0 to 50 TEC 2 : 0 to 100
Input voltage (V)	100 / 260
Single phase (Hz)	50 / 60

Connection	Transport Case
Air supply connection	1/4 BSP

Marking for E-series

CE 0518  II 2 D
Sira03ATEX5472X
EEx 2 mJ

Marking for GCU 400⁽¹⁾

(1) : this control module is the only one allowing the manual powder paint set E-series/MG400 to be ATEX certified. Installation outside from the explosive area.

CE 0518  II (2) D
Sira03ATEX5472X
[EEx 2 mJ]

LABO-SERIES

Powder coating handheld equipment, with gravity feed cup

Equipement LABO-SERIES

Description	P/N
Labo-Series (Hand gun E-SERIES + Transport case + GCU400 controller + Cup)	F3P PER 213
Cup capacity : 0.5 L.	

The equipment is supplied with a fan spray tip. (6mm and 4mm) and 3 round spray deflector (small, medium and wide)



Basic components

Description	P/N
Handgun MG400 only	F3P PER 003
Module GCU 400	F3P PER 005
Cup extension	F3P PER 219
Electrode assembly (Allows tips or deflector connections)	F3P BPU 206



Part numbers of round spray deflectors

Description	P/N
Round deflector - Small	F3P ACC 175
Round deflector - Medium	F3P ACC 174
Round deflector - Large	F3P ACC 234

Part numbers of fan spray nozzles

Description	Slotted opening	P/N
Fan spray cap	6 mm	F3P PER 047
Fan spray cap	4 mm	F3P PER 060

ENAMEL JET M

40

Manual electrostatic spray gun for enamel powders



Enamel Jet M
(Manual)

The ENAMEL JET M is a manual frit powder gun for general industrial applications.

Spraying powder enamel does not create ATEX.

The gun design is derived from that of the Stajet 406 and is available in a number of equipment (packages) configurations.

Description of gun

The ENAMEL JET M gun is designed for spraying frit powder. Powder is supplied by either a circular hopper or a vibrating table supply system.

Alterations made to the equipment allow the same operating principles as with a standard STAJET 406 system (conventional powder system):

- :: Management of controls (air supplies, trigger, low voltage, etc.) by the CRN 456 module.
- :: Corona-type electrostatic charge
- :: Powder supplied via a powder pump (Venturi)

Components in contact with the powder are designed with a simple shape and offer very good resistance to wear.

The JRN 406E gun is used in two different equipment configurations:

ENAMEL JET M Vibrating table



The cart is able to accommodate all types of powder boxes.

ENAMEL JET M Fluidised hopper



The hopper has a capacity of 50 liters (16gal).

ENAMEL JET M

Manual electrostatic spray gun for enamel powders

41**Technical adaptations**

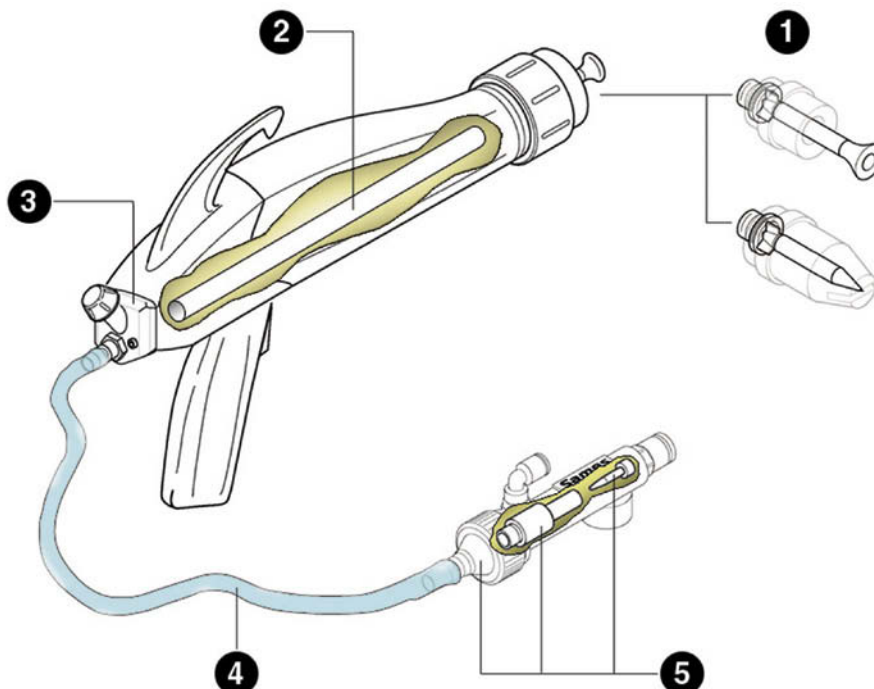
1 - The two nozzles supplied (RS-ø20mm and FS) are identical to those of the conventional powder version. However, the types of material used for their supports and for the upper body of the electrode have been changed.

2 - The powder tube consists of a single element. It is moulded with the barrel and non replaceable. It ensures, among other things, that the grains of certain enamel powders do not lose their coatings, which might then agglomerate and cause blemishes.

3 - The powder hose connects at the rear of the handle to a beefed up coupling for a 12 mm internal dia hose. The powder is carried in a straight line, thus reducing wear.

4 - The powder supply hose has been adapted to provide good resistance to wear and has a diameter of ø12 x 17mm (vs ø11x15mm for conventional powders).

5 - The construction of the Venturi powder pump remains unchanged. Only those components in contact with the powder have been strengthened: the air injector, the powder ejector (venturi tube) and the powder end-piece. The porous ring remains unchanged. The name of the pump changes to "CS 126 E".

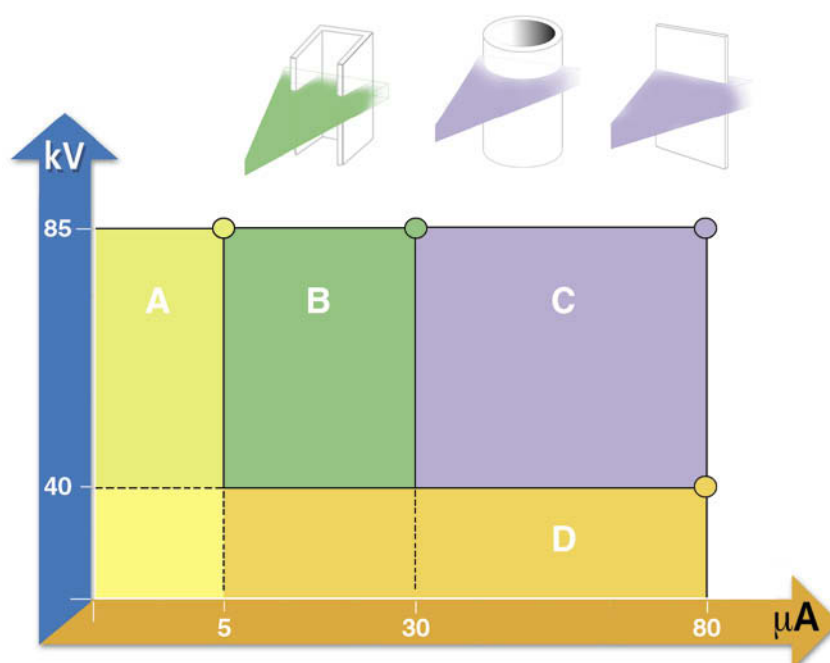


ENAMEL JET M

Manual electrostatic spray gun for enamel powders

Optimum High Voltage configuration

The GNM 100 high voltage generator has a rectangular Voltage/Current characteristic that allows it to provide the highest electrostatic charge, whatever the shape of the part, the type of powder, or the target distance. These parameters are operator controllable, who sets up his maximum electrostatic efficiency.



A:

- Re-coating
- thick coatings (>100 μm)
- low conductivity materials

B: Easier coating of cavities

C:

- Increased particle charge (round spray)
- better wraparound.
- Increased transfer efficiency (round spray)

We recommend a max. current of 30 μA when using a fan spray nozzle.

D: Facilitates the application of metallic powders

Powder pump adjustment tips

Recommended settings for a 12 mm int. dia hose

Injection air pressure (bar)	Dilution air pressure (bar)
0 to 0.5	1.5
0.5 to 1	1
1 to 1.5	0.5
1.5 to 3	0

The air pressure settings are adjusted according to the diameter of the powder hose. It is recommended not to exceed an injection air pressure of 2.5 bar (38psi) to avoid premature wear of the venturi tube and of non-ceramic parts (powder end-piece, hose etc.)

ENAMEL JET M

Manual electrostatic spray gun for enamel powders

Consequences of adjustments

Action	Result
Increasing injection air pressure	increases the flow rate
Increasing dilution air pressure	increases the flow rate
Increasing the length of the powder hose	decreases the flow rate
Increasing the internal dia. of the powder hose	increases the flow rate
Increasing the height of powder in the cup	increases the flow rate

The injection air sets desired powder flow, while the dilution air assists with the transport of the powder. When the injection air is increased, the dilution air diminishes. Too much dilution air can be detrimental for application, with the risk of pulsing. In certain situations (e.g.: very long hose) it will, nevertheless, be necessary to increase the dilution.

Technical Data

Handgun	Email Jet M
Handgun (without hoses and according to nozzle) (g)	670
Powder flow rate (12 mm dia hose) up to	500 - 550 g/min max. (recommended)
Standard powder hose Ø (mm)	12x17 mm - 6 meters

Air supply	CRN 456 ⁽¹⁾	Enamel Jet M	CS126E/236E	CSV 426E
Max. inlet air pressure (bar)	10 (150 psi)			
Min. inlet air pressure (bar)	4 (60 psi)			
Air consumption (Nm ³ /h)	17 to 5 bar	0 to 8	2 to 6	3 to 6

Controller	GNM 100
Max. voltage (kV)	85
Max. current (µA)	80
Electrical power supply (V)	110 / 220
Single phase (Hz)	50 / 60
IP	64

Connection	CRN 456 ⁽¹⁾	CS 206
Main air supply hose Ø (mm)	10 OD.	10 OD.
Injection air supply hose Ø (mm)	8 OD.	
Dilution air supply hose Ø (mm)	6 OD.	
Vortex air supply hose Ø (mm)	8 OD.	
Plunger fluidising or fume extraction air supply hose Ø (mm)		8 OD.
Hopper fluidising or vibrating table air supply hose Ø (mm)		6 OD.

(1): this equipment is marked ATEX even if this is not necessary with a ENAMEL JET M equipment spraying powder enamel. In fact, spraying powder enamel does not create any ATEX.

ENAMEL JET M

Manual electrostatic spray gun for enamel powders

ENAMEL JET M packages configurations

Description	Voltage (V)	P/N
Enamel Jet equip. (JRN406 E + CRN456	220	1 523 945
+ CSV426E + RFV476 + CS206)	110	1 523 946

Capacity: 50 liters of fluidised powder

Description	voltage (V)	P/N
Enamel Jet equip. (JRN406 E + CRN456	220	1 523 947
+ CSV466E + RFV476 + CS206)	110	1 523 948

the equipment is supplied with:

a ø12x17mm powder supply hose 6 m long,

a fan spray jet and a vortex round spray jet (ø20mm)



Handgun

Description	P/N
Enamel Jet M	1 521 884
Barrel assembly	1 521 887
ø12x17mm powder hose (25m spool)	F6T COM 063
Round spray nozzle	1 313 560
Fan Spray Nozzle	1 313 559

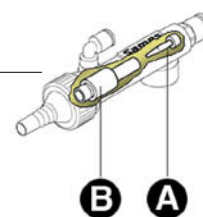


Powder hoppers and pumps

Description	P/N
Hopper: CSV 426 E	1 523 951
Vibrating table: CSV 466 E	1 523 952
Powder pump only: CS 126 E	1 522 747
Powder pump + suction tube: CS 126 E	1 523 953 ⁽¹⁾
Powder pump + fluidisation tube: CSV 236 E	1 523 954 ⁽²⁾
Frit powder air injector (A)	1 410 371
Frit powder venturi tube (B)	1 410 369

(1): powder pump for CSV 426E fluidised hopper only

(2): powder pump for CSV 466E vibrating table only



JR 106**Tribo electrostatic spray gun**

The JR 106 is a Tribo-electric (friction charging) powder coating gun .

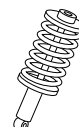
It is particularly suitable for general industrial applications involving complex surfaces or re-coating.

The range is called the TRIBOJET 106 and features the gun in a variety of packages configurations.

Areas of application

The JR 106 gun can be used to coat a diverse range of shapes in any industrial application:

- :: Garden furniture
- :: Motorbikes and cycles
- :: Railway equipment
- :: Farm machinery
- :: Extinguishers
- :: Fencing posts, gates
- :: Aluminum profiles
- :: Hand and guard rails
- :: Powder-paint decorated glass
- :: Automotive spare parts (mouldings, frames, rear-view mirrors, rims, etc.)
- :: Non destructive metals inspection

**Benefits**

- :: Lightweight, good balance and excellent grip provide improved manoeuvrability.
- :: Spray control knob at the back of the handle ensures easy spray adjustment.
- :: Fully demountable for ease of maintenance.
- :: Highly shock resistant.
- :: Very wide powder flow range: 2 kg/h (4.4lbs/mn) to 15 kg/h (33lbs/mn).
- :: Excellent air and powder adjustment providing a very smooth spray.
- :: Very good powder charging capacity.

JR 106

Tribo electrostatic spray gun

47**Description of TRIBOJET 106 package components**

The JR 106 is a gun especially designed to apply so-called "Special Tribo" powders.

Various powder supply systems can be used (hopper, vibrating table or pressure tank).

Powder is fed to the gun via a powder pump outfitted with a venturi tube (5), and a suction tube. The powder is fluidised in the hopper or box (7) before being sent to the gun (6) by the venturi tube, by adjusting air pressures (3&4).

The GNM 100 power supply and pneumatic controls are built in the CRN 456 module, installation outside from the explosive area.

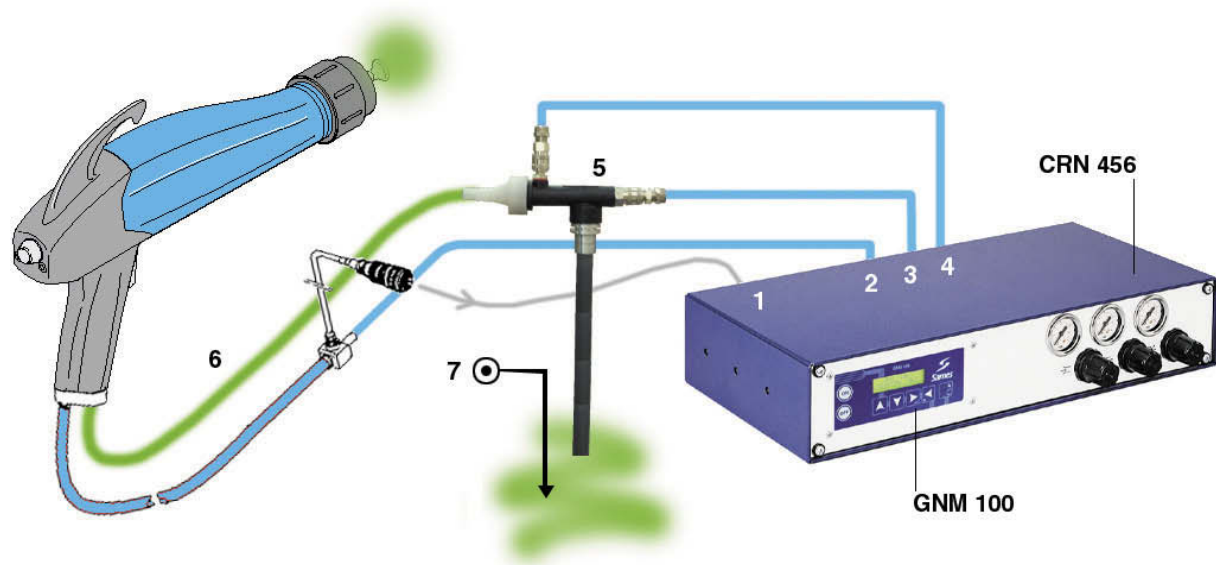
The GNM 100 automatically identifies the gun that is connected.

The powder is charged by friction inside the internal tubes of the gun and nozzle, resulting in a uniform electrostatic charge of the powder particles, and allowing high productivity and penetration into recesses.

Tribo charge overcomes the main disadvantage associated with Corona charge, which is the Faraday Cage.

Coating requires an additional air (2) which directs the powder towards the parts, and also varies the speed of the particles inside the gun, and thus their level of charge.

The particle is then attracted by the grounded part through the field created by the powder cloud ("wraparound" phenomenon).



- 1: Low-voltage connection (L.V.)
- 2: Additional air
- 3: Injection air
- 4: Dilution air
- 5: Powder pump (CS127/236)
- 6: Powder supply hose
- 7: Fluidisation air

JR 106

Tribo electrostatic spray gun

Technical Data

Handgun	JR 106			
Handgun (without hoses) (g)	690			
Length (mm)	330			
Powder flow rate (11 mm dia. hose) up to (kg/h)	15			
Standard powder hose (m)	6 (int. dia. 11mm).			
Air supply	CRN 456	JR 106	CS127/236	CSV 427
Max. inlet air pressure (bar)	10 (150 psi)			
Min. inlet air pressure (bar)	4 (60 psi)			
Air consumption (Nm ³ /h)	17	0 to 8	2 to 6	3 to 6
Controller	GNM 100			
Electrical power supply (V)	110 / 220			
Single phase (Hz)	50 / 60			
IP	64			
Connection	CRN 456	CS 206		
Main air supply hose ø (mm)	10 OD.	10 OD.		
Injection air supply hose Ø (mm)	8 OD.			
Dilution air supply hose Ø (mm)	6 OD.			
Additional air supply hose Ø (mm)	8 OD.			
Hopper fluidising or vibrating air supply hose Ø (mm)		8 OD.		
Hopper fluidising or vibrating table air supply hose Ø (mm)		6 OD.		

CE ...  II 2 D

homologation in progress

"TRIBOJET": a complete manual range

The JR 106 gun may come in 2 types of configurations

TRIBOJET Vibrating table



Vibrating table CSV466 can accommodate all kinds of powder boxes, ideal for frequent colour changes.

TRIBOJET Fluidised hopper



Hopper CSV 427 has a capacity of 50 liters of fluidised powder, ideal for high production volume applications with infrequent colour changes.

JR 106

Tribo electrostatic spray gun

TRIBO 106 packages configurations

Fluidised hopper with cart

Description	Voltage (V)	P/N
Tribojet 106 (JR 106 + CRN456	220	1 502 409
+ CSV427 + RFV476 + CS206)	110	1 505 484

Capacity: 50 liters of fluidised powder



Vibrating table with cart

Description	Voltage (V)	P/N
Tribojet 106 (JR 106 + CRN456	220	1 502 410
+ CSV466 + RFV476 + CS206)	110	1 505 485



JR 106

Tribo electrostatic spray gun

Basic TRIBOJET components

Description	Nozzle type	P/N
JR 106 gun, comes with either:	Round spray (ø 20 mm)	1 502 408
	Multijet	1 508 071

Multijet = rake nozzle



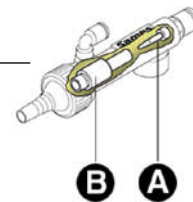
Description	Voltage (V)	P/N
Controller: CRN 456	220	1 500 050
	110	1 503 099
Mano-relief valve for cart: CS 206		1 502 844
Set of air hoses for cart-mounted equipment		1 502 847
Cart: RFV 476		1 100 599
Wall support for module CRN 456:	CGR 436	1 504 266

Part numbers of powder hoppers and pumps

Description	Set of	P/N
Hopper CSV427 (50 liters)		1 526 208
Vibrating table CSV466		1 501 856
Vibrating table CSV 496 (2 outlets : CS236)		1 508 777
Powder pump CS127 only		1 526 398
Powder pump and tube CS127		1 526 400 ⁽¹⁾
Powder pump and fluidisation CS236		1 500 105 ⁽²⁾
Injector for CS 127 (A)	5	544 808#
Ejector tube for CS 127 (B)	10	547 880#

(1): used for circular hopper

(2): used for vibrating table



Powder hoses

Description	P/N
ø9x13mm powder hose	U1FGBA104
ø11x15mm powder hose	U1FGBA092
ø12x17mm powder hose	U1FGBA034
+ 13 mm dia. powder end piece	1400552

Hoses ordered by the meter

Part numbers of nozzles (alone)

Description	Nozzle type ø(mm)	P/N
Round spray nozzle	20	1 301 181
Multijet nozzle	8 outlets	1 505 132

Description	ø (mm)	P/N
Deflector	16	1 505 129
	20	1 505 128
	27	1 505 127

Auto Mach-Jet

Automatic electrostatic powder coating with Corona charge

The brand new Auto Mach-Jet applicator is suitable for general industrial applications.

It is generally installed on a reciprocator (RFV2000) or stationary in a powder booth such as PVV EasyCompact quick colour change booth.



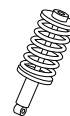
AUTO/MACH-JET



Area of application

The Auto-Mach-Jet can be used for all industrial applications, on parts of all shapes:

- :: Metallic furniture
- :: Profiles
- :: Bikes and motor-bikes
- :: Railway equipment
- :: Agricultural equipment
- :: Fencing, railings and gates
- :: Glassware
- :: Automobile wheel rims
- :: Penetrant testing
- :: Wood
- :: MDF



Auto Mach-Jet

Automatic electrostatic powder coating with Corona charge

Customer benefits

:: Applicator

- > High transfer efficiency
- > Easy maintenance, the gun is easy to dismantle
- > Q/D on powder connection (option)
- > High resistance to shocks
- > Large choice of nozzles
- > Quick disconnect counter electrode
- > Improved finish

:: Electrostatic Efficiency

- > The controller provides accurate and fine setting of high voltage (KV) and current (microAmps): by adapting easily these parameters to the site conditions (parts shape, target distance, powder flow), the Auto-Mach-jet + CRN 457 package will allow you to improve on powder penetration into complex parts, on wraparound when needed, on touching up or re-coating parts, to ultimately always offer you the best finished product.
- > When pushed to high powder throughputs (>20 kg/h), the applicator still delivers its charging of the powder is maintained, the transfer efficiency is excellent because of the high power of its electrical characteristics.



Quick connector for powder hose

:: Batching management

- > While in manual mode, the controller can store up to 9 spray tables, without the need for a PLC. Big time and money saviour for production management.
- > 5 electrical pre-set settings, adjustable by the operator:
 - round spray
 - flat spray
 - re-coating
 - metallics
 - counter electrode

:: Maximum safety

The applicator meets the requirements of:

- EN 50050: 2001
- CE, ATEX and FM

:: Adapts to industrial needs

- > Sprays metallic powders easily with the standard nozzle.
- > New nozzles with an excellent homogeneity of the pattern:
 - Can be used for all kinds of applications
 - Compact, robust and lightweight
 - Do not build up powder
 - Option: A swivel nozzle may be installed (see next page)
- > Nozzles are highly resistant to abrasion.
- > The profiled design of the gun permits to blow it clean easily for automatic color changes.

:: Management of the powder flow

- > The CRN 457 controller handles the air supply to the powder pump (from 5.5 to 8 bar). By which the hose length and the mains air pressure do not affect the powder output.

This results in a very regular level of quality as powder thickness is perfectly controlled.

- > The digital management of the powder flows permits to make the adjustments simpler, thus ensuring the repetitiveness of your results.

Auto Mach-Jet

Automatic electrostatic powder coating with Corona charge

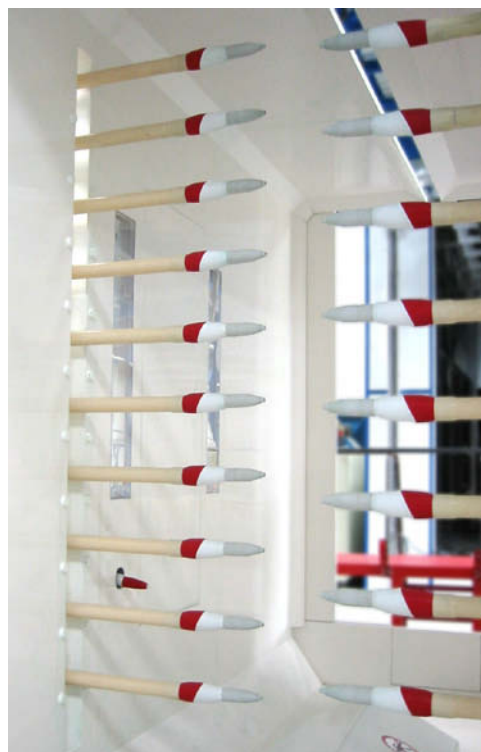
Description of the Auto Mach-Jet equipment

Auto-mach-jet provides coating performance, ease of cleaning, simplicity, to allow you to increase your productivity and color change even faster.

:: The applicator Auto-Mach-Jet easily applies all types of powders on all types of parts. Combine it with the new CRN 457 controller, and the package will allow you to better handle your coating parameters, and provide you with one of the best transfer efficiencies available on the market place.

:: Because of its design, Auto-Mach-Jet can easily and quickly be cleaned, using minimal compressed air to blow it clean, which allows for faster color changes, and an enhanced production throughput.

:: The electric and pneumatic controls are integral with the CRN457 controller, which makes the system compact. On its large screen, the adjustments are done following icons instructions that are easy to understand by everybody: the learning is intuitive, and the training of the operator is extremely quick.



Two type of applicator:

:: Auto Mach-Jet

It comes fixed on a metallic support rod and is secured in place by a nut which permits to replace it quickly and easily on existing systems, or to install it on new ones.



:: Auto Mach-Jet FCC*

This version is dedicated to fast color change booths (PVV Easycolor). The profiled assembly is designed for a cleaning in a short time frame. The rear section of the applicator is screwed on the support rod, which is of the same diameter as the gun. Having the same diameter all along makes the cleaning fast and complete. The rod also routes the electrical, air, and powder liaisons directly and cleanly to the back of the gun.



*FCC: Fast Colour Change

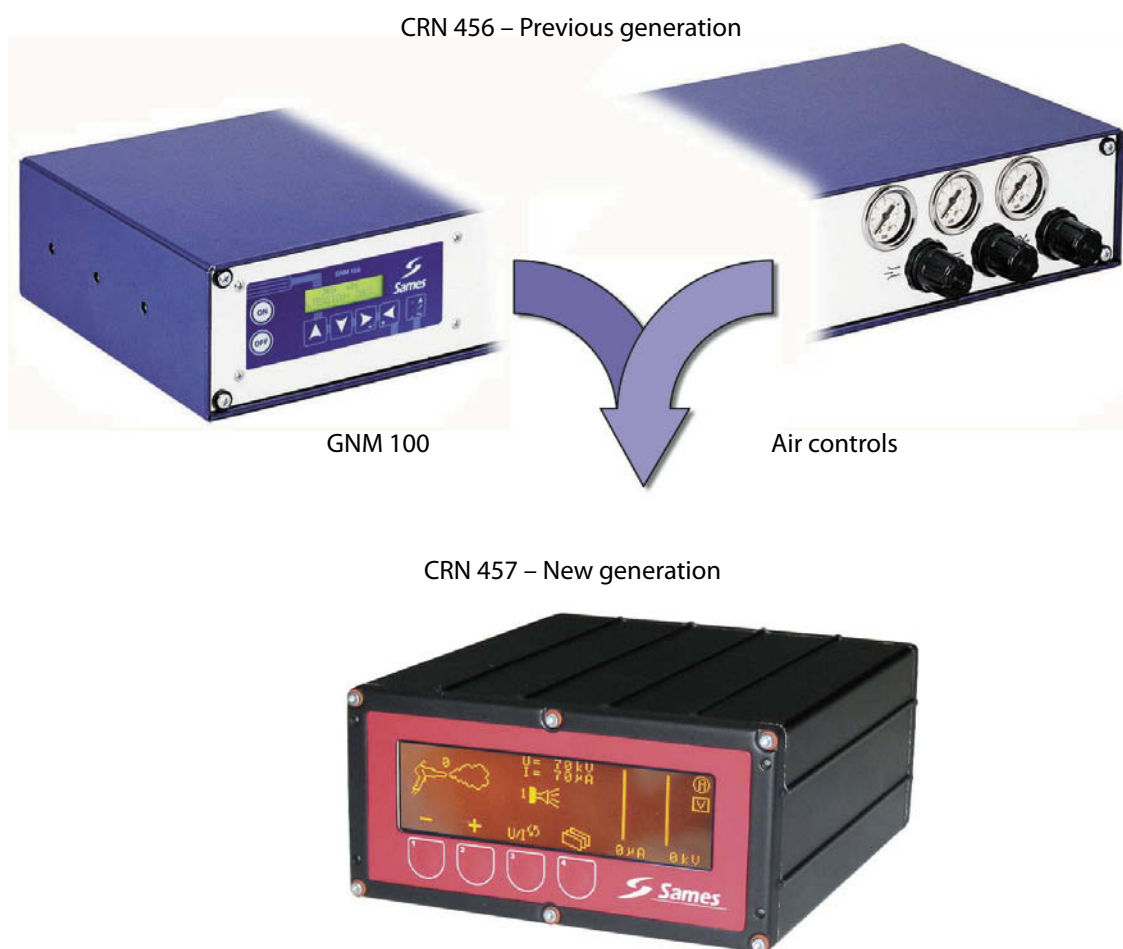
Auto Mach-Jet

Automatic electrostatic powder coating with Corona charge

55

The pneumatic and high voltage controls are incorporated within the CRN 457 module

This controller is very user-friendly and easy to operate. It can be used immediately, simply by selecting one of the pre-programmed settings. Obviously, the operator can easily adjust these programs to suit his own needs at a later stage.



The dimensions of the enclosure are those of a GNM100: Compact and Convivial.

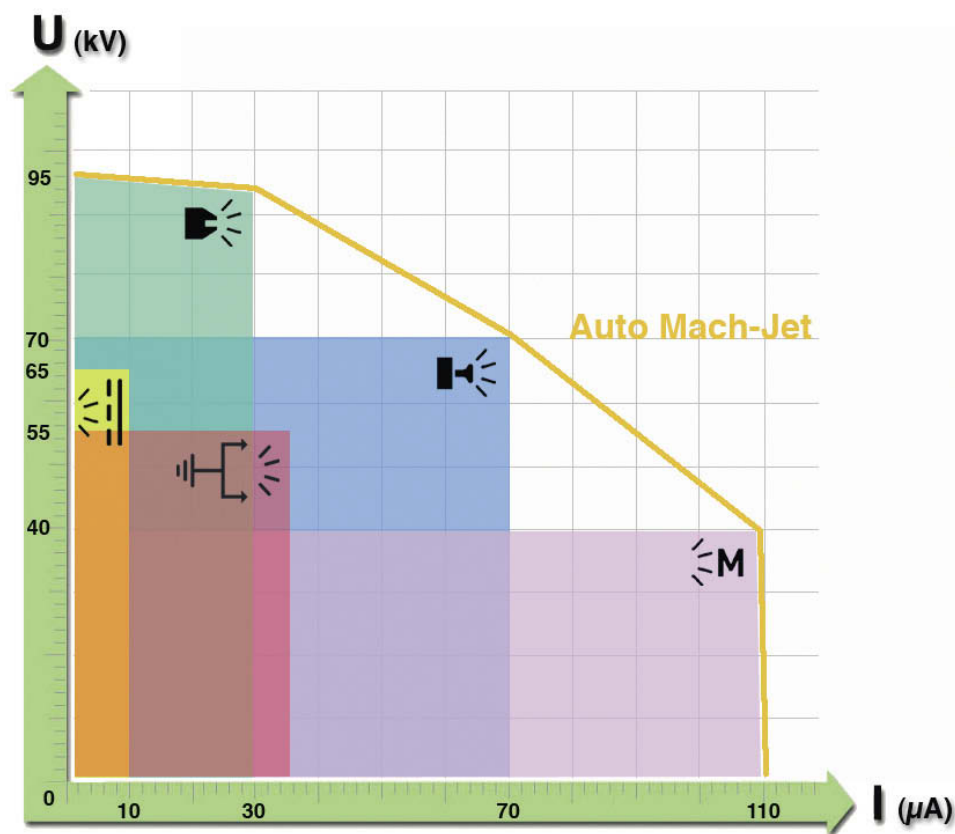
The CRN 457 module is very simple to use.

A large screen and highly visual, universally understandable graphic icons make the module very easy to use: the risk of error is very low, the system is very intuitive and the learning time is therefore very short.

Auto Mach-Jet

Automatic electrostatic powder coating with Corona charge

Differences between electrical parameter presets:



Coating with round nozzle:

- Increases particles charge
- Better wrap-around and higher transfer efficiency
- Very homogeneous pattern on complex or simple shaped parts



Coating with fan nozzle:

- Very good coverage and efficiency on flat parts
- Easy coating in hollows
- Very good penetration in complex parts



Other applications for round or fan nozzle:

- Re-coating
- High thickness of powder (> 100 μm)
- Coating of low conductive parts (glass, wood, ...)



Additional feature : coating with round or fan spray nozzle:

- Metallic powder
- The voltage (U) can be increased to improve the transfer efficiency



Special feature with fan spray nozzle:

- Counter electrode

These parameters can be adjusted automatically or manually to obtain the maximum electrostatic efficiency.

Auto Mach-Jet

Automatic electrostatic powder coating with Corona charge

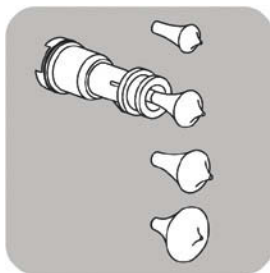
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Nozzles for every applications

The Auto-Mach-Jet can cover everything from conventional spraying applications (tubular parts, automotive accessories, aluminium profiles, large flat surfaces and iron work items) to more specific requirements (coating of complex or bulky shapes, coating of cavities, penetration in recesses).

The newly designed nozzles, with their soft homogeneous pattern, are suitable for use with all types of powder, even including metallic powders.

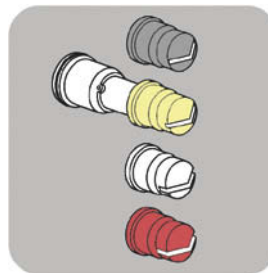
Round spray nozzle



Deflectors

Ø 12mm
Ø 16 mm
Ø 20 mm
Ø 25 mm

Fan Spray Nozzle



Tips

Narrow
Standard
Medium
Wide

OPTION

:: Swivel nozzle



:: Counter-electrode



The grounded counter-electrode attracts almost all free ions from the electric field, thus permitting to prevent Faraday cage and orange peel. This device improves the finish.

:: Quick release fitting



Nozzle types and applications

Nozzle type		Recommendations for use
Round spray nozzle (Ø in mm)	12	Ideal for small parts, pre-touch or touch up in difficult areas.
	16	Ideal for all kind of parts, in particular for coating large flat surfaces, tubular furniture and wire-made items.
	20 and 25	Particularly suitable for large parts.
	Narrow	Pre-touch and touch-up.
Fan Spray Nozzle	Standard & Medium	Most versatile : excellent penetration into the folds of sheets, cavities, plane furniture. Ideal for job coaters (large variety of parts). Can be used away from the part if necessary.
	Wide	Avoids problems with blowing the powder from the part. Can be used at shorter distances if necessary. Suitable for items such as fencing, welded connections and large, flat parts.
Extension (mm)	Version 150 mm, 250mm (JR/JP) and 300 mm (JP)	For coating bulky, complex shapes. Can access the inside of the part (tubular parts, cavities, etc.)

JR: for round spray nozzle

JP: for fan spray nozzle

Auto Mach-Jet

Automatic electrostatic powder coating with Corona charge

Technical data

	Auto Mach-Jet	CRN 457
Weight (w/o hoses)	850	
In a rack (2 modules on front face)		19" / 2U
Powder throughput (Dia. 11mm ID hose): Up to	24 kg/h	
LV cable to CRN 457	18 and 30 ⁽¹⁾	
Nbr of applicator per installation	12	

(1): for Auto Mach-Jet FCC

Air supply	CRN 457	CS 127
Air supply pressure (bar)	7 +/-1 (105 psi)	
Air consumption (Nm ³ /h)	8	2 to 6

Controller	Auto Mach-Jet	CRN 457
Max. output voltage	95 kV (+ 5kV ; - 9kV)	40 V rms
Max. output current	110 μ A (+ or - 10 μ A)	110 mA rms
Electrical power supply (V AC)		90 to 270
Single phase (Hz)		50 / 60
Maximum power (VA)		60
IP		20

Connection	CRN 457
Main air supply hose $\varnothing$ (mm)	10 OD. (ref. 1 on CRN457)
Injection air supply hose $\varnothing$ (mm)	8 OD. (ref. 2 on CRN457)
Dilution air supply hose $\varnothing$ (mm)	6 OD. (ref. 3 on CRN457)
Auxiliary air supply hose $\varnothing$ (mm)	8 OD. (ref. SA on CRN457)
Plunger fluidisation or fume extraction air supply hose $\varnothing$ (mm)	8 OD.
Hopper fluidisation or vibrating table air supply hose $\varnothing$ (mm)	6 OD.

Marking for Auto Mach-Jet/FCC

CE 0080 Ex II 2 D
ISSEP04ATEX119
EEx 2 mJ

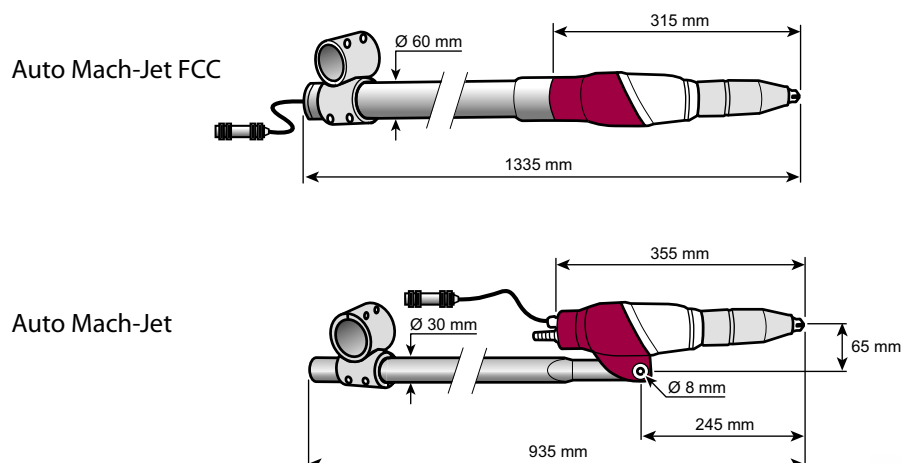


When configured
according to #800000045
For Electro. Fin. Appl. CL. II, Spray Matl.

Marking for CRN 457⁽¹⁾

(1) : this control module is the only one allowing the automatic powder paint set Auto Mach-Jet/FCC to be ATEX certified. Installation outside from the explosive area.

CE 0080 Ex II (2) D
ISSEP04ATEX119
[EEx 2 mJ]

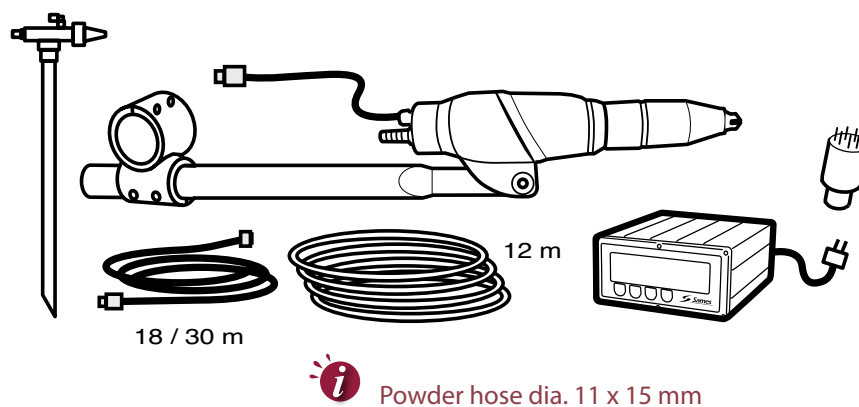


Auto Mach-Jet

Automatic electrostatic powder coating with Corona charge

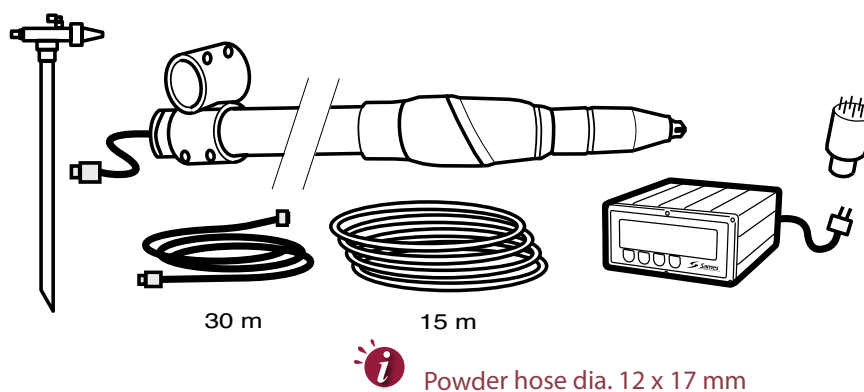
Auto Mach-Jet Equipment

Description	length (m)	Reference
Auto Mach-Jet Equipment	18	1 527 386
	30	Ask us



Description	length (m)	Reference
Auto Mach-Jet FCC Equipment ⁽¹⁾	30	1 527 382

(1): FCC = Fast Colour Change



References of hopper and fumes extraction pump

Description	Reference
Hopper CSV 600 (120 L.)	752 894
Fumes extraction pump	455 455 ⁽²⁾

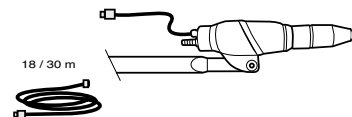
(2): this item comes with the CSV600

Auto Mach-Jet

Automatic electrostatic powder coating with Corona charge

Basic equipment : AUTO MACH-JET

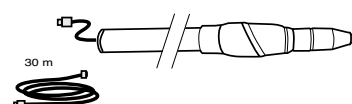
Description	Lenght ⁽¹⁾	Reference
Auto Mach-Jet applicator	18 m	1 527 340
	30 m	910 000 100



Description	Lenght ⁽¹⁾	Reference
Auto Mach-Jet FCC applicator ⁽²⁾	30 m	1 527 318

(1): length of low voltage cable

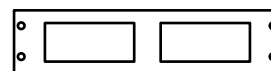
(2): FCC : Fast Colour Change



Description	Reference
CRN457 controller	1 523 297
Cable for driving the trigger (5 meters)	910 000 092



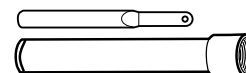
Description	Reference
Front face in rack (1 module on front face)	1 526 286
Front face in rack (2 modules on front face)	1 526 284



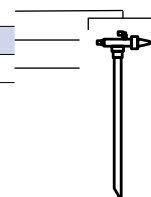
Description	Reference
Bracket ø 50 x 30 mm	749 805
Bracket ø 50 x 60 mm	1 204 441



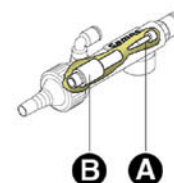
Description	Reference
Metallic support rod ø 30 mm	1 527 291
Tubular support ø 60 mm	1 411 605



Description	Reference
CS127 sunction plunger assembly	1 526 400
Powder pump CS127 only	1 526 398
Pick-up tube CS127 only	1 526 399



Description	Set of	Reference
Air injector for CS127 (A)	5	544 808#
Venturi air tube for CS127/CS237 (B)	10	547 880#



Description	Reference
Counter electrode	1 527 017



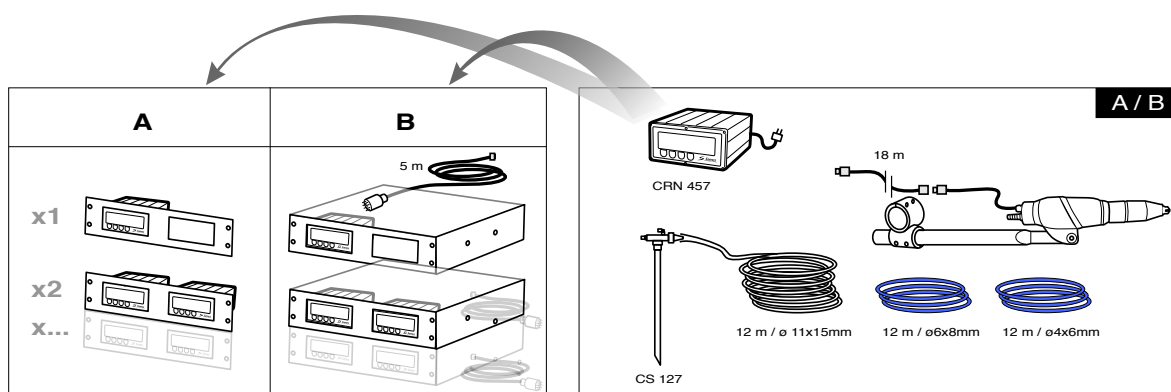
Auto Mach-Jet

Automatic electrostatic powder coating with Corona charge

AUTO MACH-JET SETS

Description	Number of applicators	Reference depending on configuration	
		A	B ⁽¹⁾
Set Auto Mach-Jet	1	910 001 276	910 000 797
	2	910 001 001	910 000 798
	4	910 001 002	910 002 354
	6	910 001 003	910 002 355
	8	910 001 004	910 002 356
	10	910 001 005	910 002 357
	12	910 001 006	910 002 358

(1): one 5 m cable for driving the trigger comes with each applicator, only in **B** configuration (see below).



Configurations:

A= packages in rack (CRN457 for front face)

B= package in box (front faces + metal box 2U + cable for the trigger/applicator)



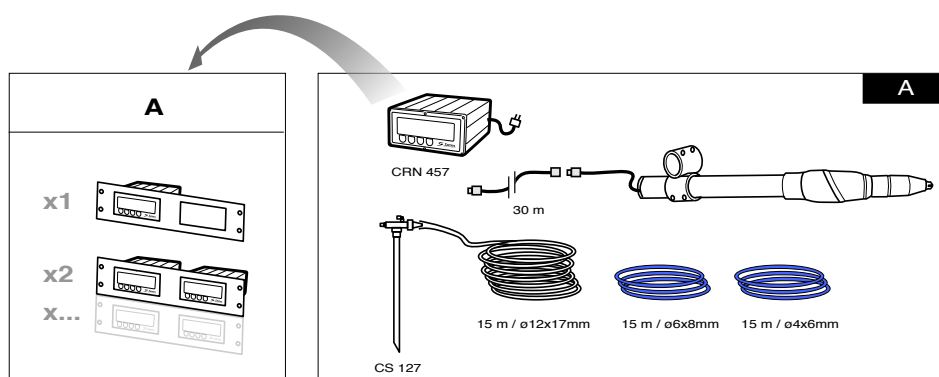
One kit allows the power supply with 24V in B configuration.

It can supply up to 12 modules CRN457.

P/N: 910 000 129

AUTO MACH-JET FCC SETS

Description	Number of applicators	Reference for configuration	
		A	
Set Auto Mach-Jet FCC	1	910 001 277	
	2	910 001 007	
	4	910 001 008	
	6	910 001 009	
	8	910 001 010	
	10	910 001 011	
	12	910 001 012	



A Configuration = packages in rack (CRN457 for front face)

Auto Mach-Jet

Automatic electrostatic powder coating with Corona charge

Powder hoses

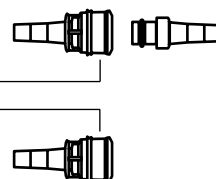
Description	Reference
ø 11 x 15 mm Powder hose	U1F GBA 092
ø 12 x 17 mm Powder hose	U1F GBA 034

Hoses sold by the meter

Quick-release fitting

Description	Reference
Powder connector assembly	1 527 393
Powder connector	1 411 501#

set containing 10 units = cheaper

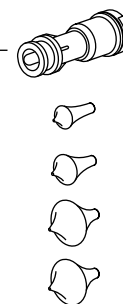


Part number of round spray nozzles

Description	Unit	Set of 10	Reference
Round spray nozzle body			1 525 493
Deflector	Ø 12 mm		1 411 500
	Ø 16 mm		1 409 259
	Ø 20 mm		1 409 260
	Ø 25 mm		1 411 993
		Ø 12 mm	1 411 500#
		Ø 16 mm	1 409 259#
		Ø 20 mm	1 409 260#
		Ø 25 mm	1 411 993#

A complete nozzle is composed of a nozzle support and a choice of deflector

set containing 10 units = cheaper



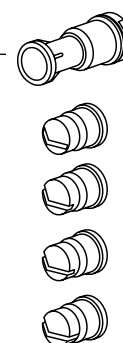
Part number of fan spray nozzles

Description	Unit	Set of 10	Reference
Fan spray nozzle body			1 525 492 ⁽¹⁾
Tips	Narrow (grey)		1 311 409
	Standard (Yellow)		1 315 957 ⁽¹⁾
	Medium (White)		1 313 519
	Wide (Red)		1 311 793
		Narrow	1 311 409#
		Standard	1 315 957#
		Medium	1 313 519#
		Wide	1 311 793#

A complete nozzle is composed of a nozzle support and a choice of a tip

set containing 10 units = cheaper

(1): supplied with Auto Mach-Jet sprayer or with a complete equipment

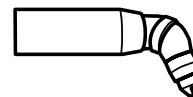


Auto Mach-Jet

Automatic electrostatic powder coating with Corona charge

63**Part number of swivel nozzle**

Description	Reference
Swivel nozzle	1 527 292

**Part numbers of extension**

Description	Version (mm)	P/N
Extension with integrated fan spray tip ⁽¹⁾	150	910 004 126
	300	910 004 125

(1): tip for fan spray, similar to the standard (yellow)

*Primer coating on aluminium wheels with Auto-Mach-Jet sprayer.*

ENAMEL JET A

64

Automatic electrostatic spray gun for enamel powders



The ENAMEL JET A is an automatic frit (porcelain) powder gun for general industrial applications. Spraying powder enamel does not create ATEX.

It is the automatic equivalent of the manual frit powder gun (see chapter on ENAMEL JET M).

Description of applicator

The ENAMEL JET A gun is designed for spraying frit powders.

⚙️ Modifications are made to the equipment but it still retains the same operating principles as the standard SRV 416 (conventional powder):

- > Management of controls (air supplies, trigger, low voltage, etc.) by the CRN 456 controller
- > Corona charge
- > Powder conveyed by a venturi powder pump

⚙️ Components in contact with the powder and serving to transport it are designed to have a simple shape and offer very good resistance to wear.

A match for complex parts

The gun's built-in cascade guarantees a high electrostatic efficiency. The current drawn varies in function of the voltage value. The current can also be limited, without loss of electrostatic performance, in any conditions of application (distance, type of parts, powder flow).

With its ENAMEL JET A equipment and complete standardised packages, SAMES offers a complete, dedicated frit powder coating solution.

Technical adaptations

1 - The types of material used for the electrode support and upper body have been changed.

2 - The powder tube is made in one piece, and is moulded with the barrel and cannot be changed.

It ensures, among other things, that the grains of certain porcelain powders do not lose their coatings, which might result in agglomerates and cause blemishes.

3 - The powder hose is connected to the rear of the handle on a reinforced coupling for a hose of 12mm ID. The powder flows straight through, thus reducing wear.

4 - The powder hose has been adapted to guarantee good resistance to wear and a long service life. It has a diameter of $\varnothing 12 \times 17\text{mm}$ (against $\varnothing 11 \times 15\text{mm}$ for conventional powders).

5 - The construction of the "Venturi" powder pump remains unchanged. Only those components in contact with the powder have been strengthened: the air injector, the venturi tube and the powder end piece.

The porous ring remains identical.

The pump description changes to "CS 126 E".

ENAMEL JET A

Automatic electrostatic spray gun for enamel powders

65

Technical Data

Gun	Enamel Jet A		
Gun (without hoses and depending on nozzles type) (g)	670		
Powder flow rate (12 mm dia hose) up to	500 - 550 g/min (recommended max.)		
Standard powder hose	12x17 mm - 6 metres		
Air supply	CRN 456 ⁽¹⁾	Enamel Jet A	CS126E
Main supply air pressure (bar) max	10 (150 psi)		
Main supply air pressure (bar) min.	4 (60 psi)		
Air consumption (Nm ³ /h)	17 to 5 bar	0 to 8	2 to 6
Controller	GNM 100		
Max. voltage (kV)	85		
Max. current (μA)	80		
Electrical power supply (V)	110 / 220		
Single phase (Hz)	50 / 60		
IP	64		
Connection	CRN 456 ⁽¹⁾		
General air hose supply ø (mm)	10 OD.		
Injection air hose supply ø (mm)	8 OD.		
Dilution air supply ø (mm)	6 OD.		
Vortex air supply ø (mm)	8 OD.		

(1): this equipment is marked ATEX even if this is not necessary with a ENAMEL JET A equipment spraying powder enamel. In fact, spraying powder enamel does not create any ATEX.

Gun and Components

Description	Voltage (v)	P/N
Enamel Jet A		1 521 121
Enamel Jet A + CRN 456 + CS126E	220	1 523 949
+ cables & hoses	110	1 523 950
Gun Barrel assembly		1 521 887
ø12x17mm powder hose (25m spool)		F6T COM 063
Round spray nozzle		1 313 560
Fan Spray Nozzle		1 313 559

Powder hoppers and pumps

Description	P/N
Hopper: CSV 426 E	1 523 951
Vibrating table: CSV 466 E	1 523 952
Powder pump only: CS 126 E	1 522 747
Powder pump + pick-up tube: CS 126 E	1 523 953 ⁽¹⁾
Powder pump + fluidisation tube: CS 236 E	1 523 954 ⁽²⁾
Air injector for CS126E	1 410 371
Air ejector for CS126E	1 410 369

(1): dedicated powder pump for a type CSV 426E fluidised hopper

(2): dedicated powder pump for a type CSV 466E vibrating table

ENAMEL JET A

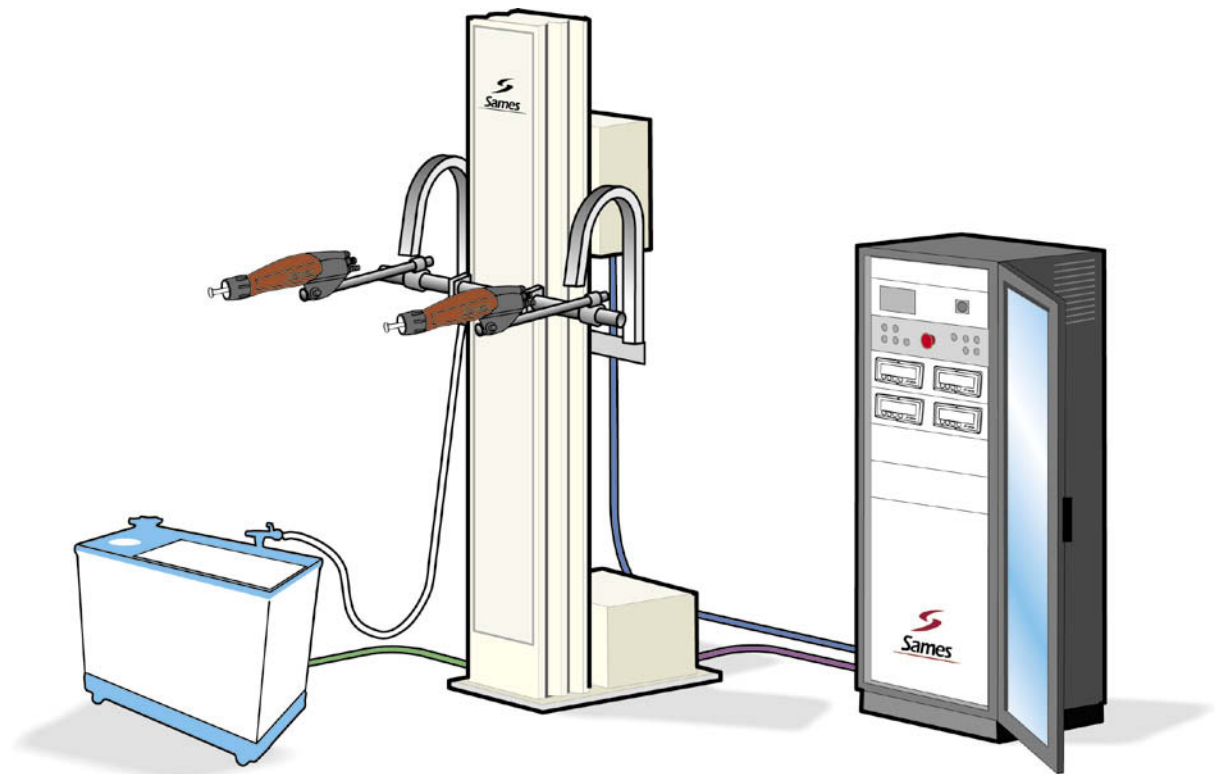
Automatic electrostatic spray gun for enamel powders

Customised frit powder packages

The ENAMEL JET A is intended to be installed on a RFV 2000 reciprocator. The system is controlled by the REV 600 module (see "Peripheral equipment").

A reciprocator RFV 2000 can take 8 x ENAMEL JET A guns in its standard configuration. This can be increased to a maximum of 12 spray guns, if required, with a simple modification. SAMES meets the productivity requests of even the most demanding producers.

A typical system is shown below:



A system of this type is very simple to implement and can be installed in only a few hours. The customer shall pay particular attention to the booth, which must be able to withstand the particularly abrasive porcelain powders.

TRV 117

Tribo automatic spray gun



TRV 117 tribo gun electrically charges the powder by friction.

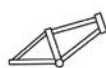
It is particularly suitable for the automatic coating of complex surfaces and re-coating in general industrial systems.

It is generally installed on a reciprocator (RFV 2000 or similar) or installed stationary.

Areas of application

TRV 117 gun is used in automatic powder coating systems in many sectors:

- :: Radiators
- :: Extinguishers
- :: Valve bodies
- :: Gates/Fencing
- :: Surfacing and clear coating of wheel rims
- :: Compressors
- :: Bicycles / motorcycles



Benefits

:: Swivel connection for easy application:

TRV 117 gun can be provided with a swivel fitting allowing a 90° inclination of the rake nozzle, which can then be used for any application.

:: Good powder charging capacity:

The longer body gives a higher electrostatic charge than that of conventional Tribo guns. The gun speeds up the powder application process and improves the quality of the coating on the parts. The electrostatic field produced by the tribo-electric gun is almost non-existent, allowing the powder to penetrate in cavities and folds, a great uniformity of film build and a perfect distribution of powder on the part as well as a very good quality of re-coating, eliminating the need for manual touch-up.

:: Easy to maintain:

The design of the TRV 117 has been optimised to reduce maintenance time. It features tool-free removal of the rear body from the outside of the booth.

:: Good wear resistance:

Friction parts, such as the "Vortex diffuser" are very durable.

TRV 117

Tribo automatic spray gun

69

Description of the equipment

TRV 117 is a powder coating gun for applying so-called "Special Tribo" powders. Appreciated by the most demanding manufacturers.

The powder is charged by friction through the internal tubes of the gun and nozzle, producing a uniform electrostatic charge on the powder particles, and allowing high productivity and better penetration than that achieved with traditional Tribo equipment.

Tribo technology overcomes the main disadvantage associated with the Corona charge guns, which is the Faraday Cage Effect.

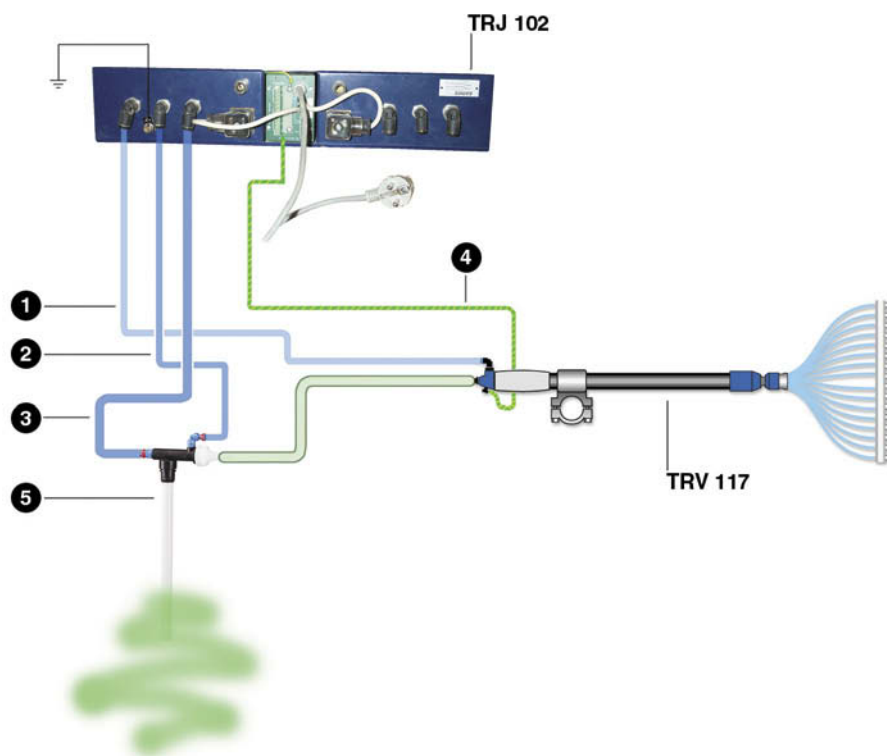
Powder application requires air to direct the powder towards the parts (additional air supplied to the gun), which also changes the speed of the particles in the gun, and thus their level of charge.

The particle is then attracted by the grounded part through the field created by the powder cloud ("wraparound" phenomenon).

TRV 117 tribo gun is used with the TRJ 102 module: This module can control one or two TRV 116 or TRV 117 tribo-electric gun(s). In a rack, it is 19 inches long, 2U (90 cm) high and 240 mm deep. Installation outside from the explosive area. The power is fed to the gun by a CS 127 Venturi pump (5).

The pneumatic controls are located on the front face:

- :: injection air (3) to pump CS 127 (controls powder flow)
- :: dilution air (2) to pump CS 127 (to obtain an even pattern at low flows)
- :: additional air (1) to the sprayer (controls powder charge)
- :: measurement of charging current by a cable (4) connecting the TRJ 102 module to the TRV 117 gun
- :: safety control.
- :: remote control of trigger

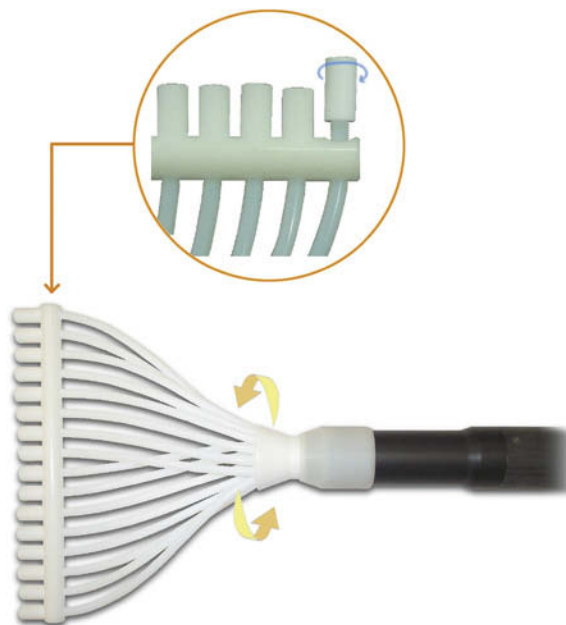


TRV 117

Tribo automatic spray gun

New rake nozzle

The new rake nozzle is unique. Supplied with the spray gun, it can be used in-line with the gun body or can rotate about its axis. Its design ensures a good pull-off resistance as the end of each tube is screwed in place and the nozzle is securely held by a tightening nut.



The spray gun can also come with a swivel fitting that can angle the pattern of the rake nozzle. The swivel fitting on its own performs the same functions as the entire previous TRV 116 range of nozzles as far as inclination is concerned.

The new straight nozzle and swivel fitting can easily be installed on the old TRV116 gun with an adaptor ring.

TRV 117

Tribo automatic spray gun

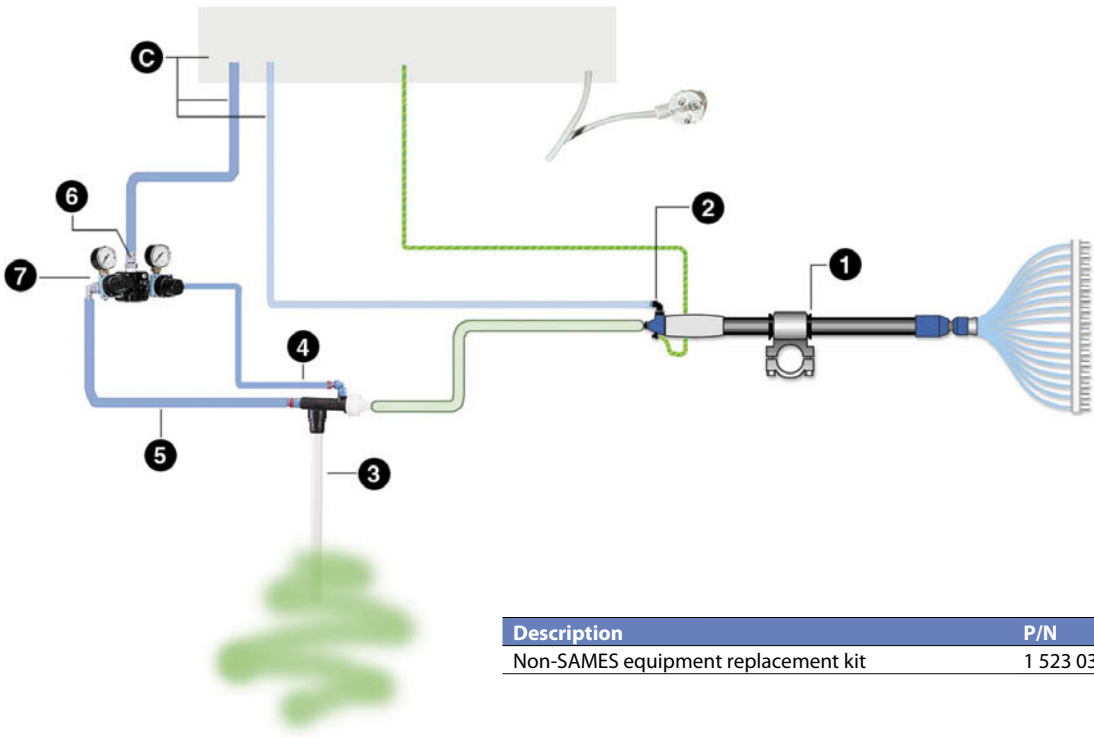
71

TRV 117 fitting on an existing «non SAMES» system

A conversion kit permits to install the TRV 117 to fit an existing "non SAMES" system.
Some of our competitors powder pumps do not use dilution air ;that may adversely affect the quality of application and the tribo-electric charge. That is why SAMES includes its own CS127 powder pump and additional elements required for dilution air in this kit.

- The kit therefore comprises:
- (1) - A $\varnothing 50 / 55$ mm adaptor ring for attaching the bracket.
 - (2 & 6) – Two reducers ($\varnothing 8$ mm male - $\varnothing 6$ mm snap-on are installed if necessary on the gun's additional air fitting and on the air inlet of the CS206 (if necessary).
 - (3) - A CS127 powder pump with pick-up tube.
 - (4) - A dilution air hose (10 m - 4/6) Polyurethane.
 - (5) - An injection air hose (10 m -5,58). Polyurethane.
 - (7) - A CS206 (modified with 2 air regulators connected in series with the (C) injection air of the existing controller.
 - An instruction notice

i (C): tair from the existing controller must be adjusted at the maximum setting to allow control of the dilution and injection air via the CS 206.



Description	P/N
Non-SAMES equipment replacement kit	1 523 036

TRV 117

Tribo automatic spray gun

TRJ 102 electrical connections**:: Terminal block A: Current measurement input**

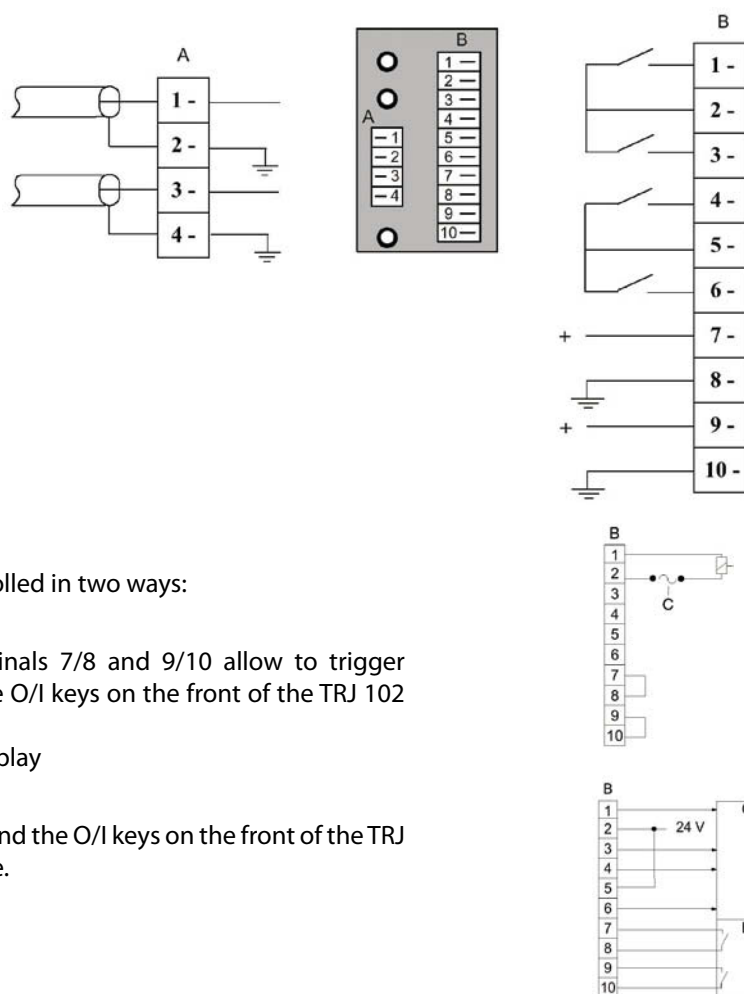
The 4 pin female connector is supplied with the module. The connecting cable is supplied with the spray gun

- 1: current return, gun 1
- 2: cable shield, gun 1
- 3: current return, gun 2
- 4: cable shield, gun 2

:: Terminal block B:

The 10 pin female connector is supplied with the module. (electric cable(s) not supplied by SAMES).

- 1: N.C. contact (OK no current threshold fault) Spray gun no.1
- 2: Common
- 3: N.C. contact (OK no current threshold fault) Spray gun no.2
- 4: Spray status (copy of trigger gun 1)
- 5: Common
- 6: Spray status (copy of trigger gun 2)
- 7 & 8: gun 1 trigger control
- 9 & 10: gun 2 trigger control



The spray guns can be controlled in two ways:

:: Manually

The jumpers between terminals 7/8 and 9/10 allow to trigger spray by hand only using the O/I keys on the front of the TRJ 102 module.

C = "Return current" fault display

:: From a PLC

Guns are triggered by a PLC and the O/I keys on the front of the TRJ 102 module are always active.

C = Input terminals

D = Output terminals

TRV 117

Tribo automatic spray gun

73

Technical Data

Gun	TRV 117
Gun (with straight nozzle and without union) (kg)	3.36
Gun (with swivel nozzle and without union) (kg)	3.56
Length (with nozzle) (mm)	1210
Max. recommended powder flow (11 mm dia. hose) up to (kg/h)	11
Rake Nozzle	16 tubes
Controller	TRJ 102
Max. air pressure (bar)	10 (150 psi)
Min. air pressure (bar)	4 (60 psi)
Total air consumption (Nm ³ /h)	20
Height (mm)	100 (2U)
Depth (mm)	240
Electrical power supply (V)	90 to 250
Single phase (Hz)	50 / 60
Power (VA)	35
Display	from 1 to 99 units (charging current threshold setting)
Low threshold detector alarm	Detects if the ground cable is connected
Connection	TRJ 102
Main air supply hose Ø (mm)	10 OD.
Injection air supply hose Ø (mm)	8 OD.
Dilution air supply hose Ø (mm)	6 OD.
Additional air supply hose Ø (mm)	6 OD.

CE...  II 2 D

homologation in progress

TRV 117

Tribo automatic spray gun

TRV 117 Packages configurations

Description	Voltage (V)	P/N
TRV 117 + TRJ 102 + CS127 + hose & cables	220	1 523 038
	110	Ask us

Description	Voltage (V)	P/N
2x TRV 117 + TRJ 102 + 2x CS127 + hose & cables	220	1 523 037
	110	Ask us

The packages come with : (for each gun)

1 straight nozzle and fitting +

1 current measurement cable +

Rilsan hose ø 4 x 6 Qty: 12m (dilution air)

Rilsan hose ø 6 x 8 Qty: 24m (Injection air and Additional air)

Powder hose ø 11X15 Qty: 12m

1 orthogonal union ø 50 x 50 mm

P/N

U1C BBS 001

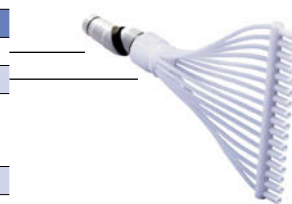
U1C BBS 003

U1F GBA 092

429 104

Nozzles

Description	P/N
Swivel fitting (for straight nozzle) only	1 521 188
Straight nozzle (without nut)	1 520 108
Adaptor ring only (to install the straight nozzle and/or the swivel fitting on a TRV 116)	1 522 684
Swivel nozzle (nozzle + swivel fitting)	1 523 694
Adaptation of straight nozzle for TRV116 (nozzle + ring)	1 523 696
Adaptation of swivel nozzle for TRV116 (nozzle + swivel fitting + ring)	1 523 697



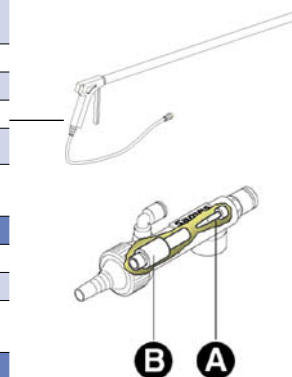
Gun and peripheral equipment

Description	Voltage (V)	P/N
TRV 117 gun (with straight nozzle and nut)		1 520 376
TRJ 102 module	220	857 485
	110	1 504 158
ø50x50mm Bracket		429 104
Current measuring cable		643 230
Powder hose ø 11x15 mm (ordered by the metre)		U1F GBA 092
Powder hose ø 9x13 mm (ordered by the metre) - option		U1F GBA 104
Plunger pump CS 127 + tube		1 526 400
Plunger pump CS 127 only		1 526 398
Blow (air) gun		1 521 664
Powder hopper CSV 600		752 894



Description	Set of	P/N
Air injector for CS127 (A)	5	544 808#
Venturi tuber for CS127 (B)	10	547 880#

Description	P/N
Non-SAMES equipment replacement kit	1 523 036



SRV 038

Automatic rotating bell electrostatic spray gun



SRV 038 is an automatic powder coating rotary applicator. Specially designed for coating flat surfaces, this bell can apply a variety of powders with a film build regular within 5 microns. It is generally installed on a reciprocator or stationary.



Areas of application

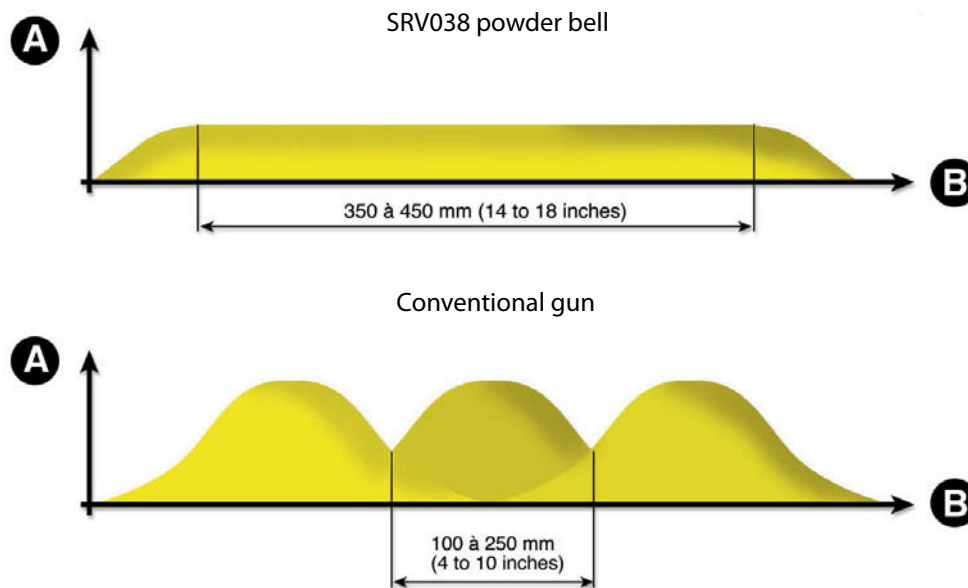
SRV 038 powder bell is used in automatic powder coating systems on large flat surfaces. It is particularly suited to the following sectors:

- :: Coil coating
- :: Metallic furniture
- :: Wood, MDF furniture
- :: Drop-ceiling panels
- :: All kinds of flat areas requiring a surface treatment
- :: Bicycles / engines
- :: Radiators
- :: Fencing, gates
- :: Aluminium Profiles
- :: Automotive industry, wheel rims



Customer Benefits

:: The technology: Rotary (bell) atomisers combine an enhanced electrostatic charge with a wide, enveloping pattern. The quality of finish meets the strictest smoothness and D.O.I. (reflection) criteria.



A: Coating thickness

B: Length of part

:: High flow rates and less applicators: in many cases, one powder bell can replace two guns as it can efficiently apply powder at flows in excess of 500 g/min (30 kg/h).

:: Reduced powder losses:

The electrostatic forces imparted to the particles are more efficient due to the low axial velocity of the powder. The powder particle spends more time in the ionised area created at the front of the bell and in doing, so receives a better charge. The transfer efficiency is therefore very high, in the order of 85% on vertical flat surfaces and up to 95% on horizontal flat surfaces.

:: Easy to maintain:

The components can be separated in a few seconds without any special tools and are easily cleaned with an air gun. The bellcup is very resistant to wear and can easily last for more than one year under normal conditions of use.

SRV 038

Automatic rotating bell electrostatic spray gun

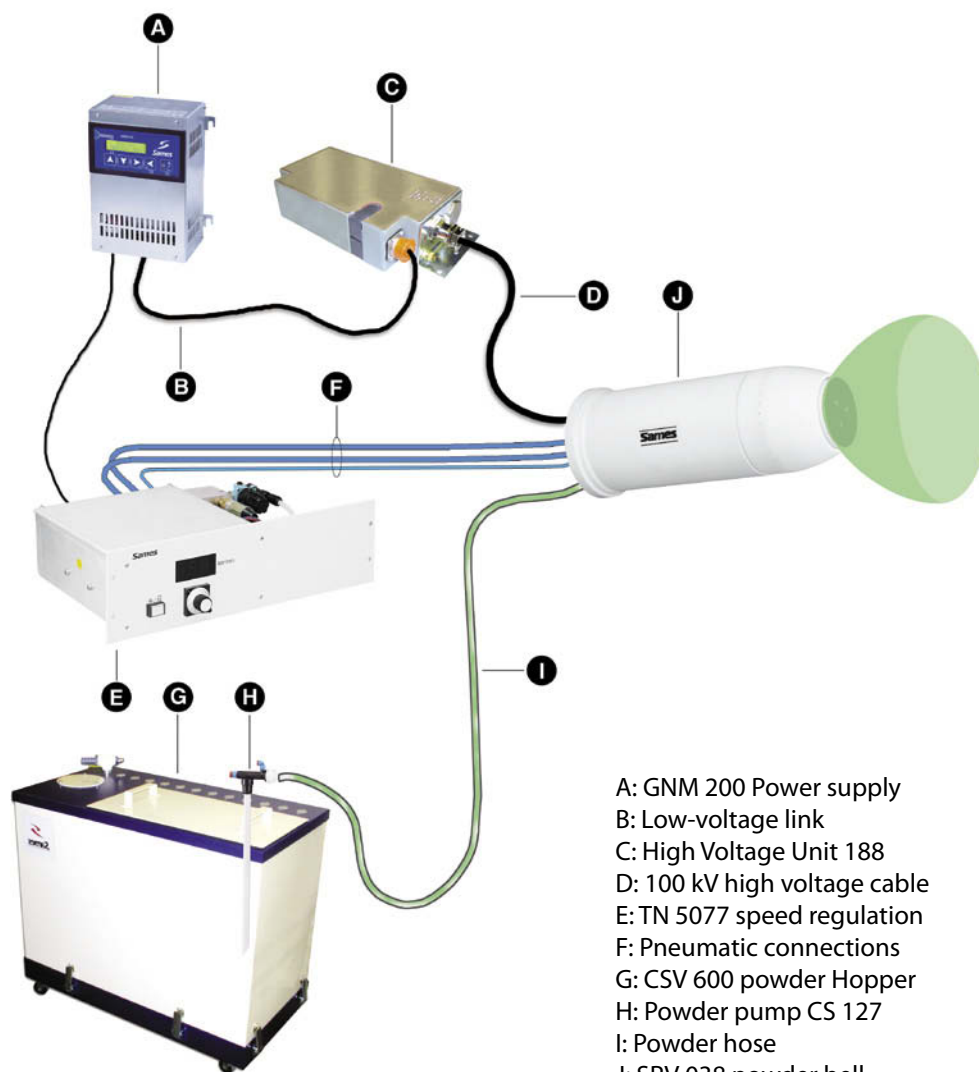
General description

:: SRV 038 powder bell is fitted with a mechanical bearing turbine. It is mostly installed on a reciprocator but its wide pattern also makes it suitable for stationary use.

:: The bell is controlled from the TN 5077. Module (E) which serves to display and adjust the speed of the turbine. The rotation speed is constantly indicated on the digital display on the front of the module. This module is fitted with a ground cable, a connection for local (manual) mode, a set of liaisons to pilot the bell functions (F) and a sensor for measuring the rotation speed.

:: Powder is fed via a CS 127 venturi pump (H).

:: The powder is charged in the bellcup by contact, via a remote high voltage cascade (C). High voltage is connected to the bell (J) via a special cable (D) from the UHT 188 to the HV well of the SRV038.

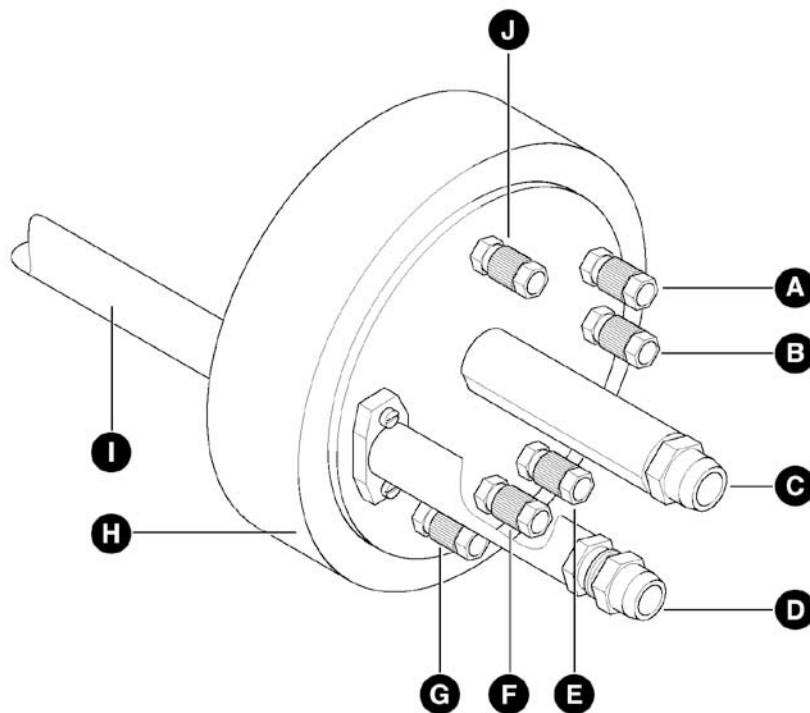


- A: GNM 200 Power supply
- B: Low-voltage link
- C: High Voltage Unit 188
- D: 100 kV high voltage cable
- E: TN 5077 speed regulation
- F: Pneumatic connections
- G: CSV 600 powder Hopper
- H: Powder pump CS 127
- I: Powder hose
- J: SRV 038 powder bell

The TN5077 speed regulation module supplies the air necessary for running the bell. The turbine rotation speed can be adjusted via the TN5077 module, from 2000 to 10,000 rpm. Speed adjustments can be made in two ways: either manually, using the adjustment knob on the front of the console, or by a PLC.

The module also supplies air to:

- :: the counter-electrode blow-off
- :: the microphone (turbine speed regulation)
- :: the air seal



- A: Counter-electrode air supply
 B: Turbine air supply
 C: Powder supply hose
 D: High voltage cable connector
 E: Microphone "In", air supply
 F: Air seal supply
 G: Microphone "out" air exhaust
 H: Quick-Disconnect Plate Assembly
 I: HV well
 J: Shaping air supply hose

hose $\varnothing$ 8 mm OD.
 hose $\varnothing$ 8 mm OD.

$\varnothing$ 8 mm OD.
 $\varnothing$ 8 mm OD.
 $\varnothing$ 6 mm OD.

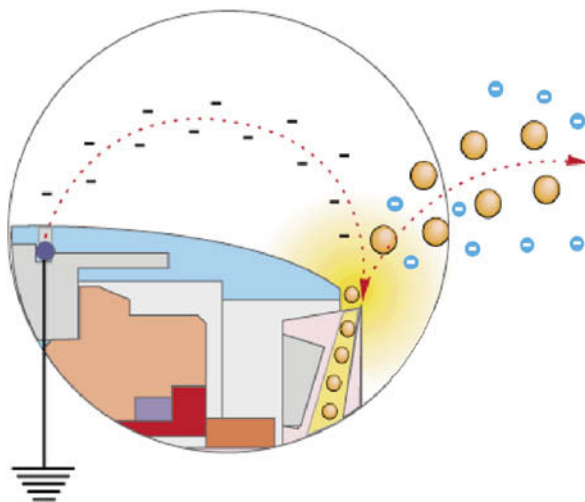
$\varnothing$ 8 mm OD.

SRV 038

Automatic rotating bell electrostatic spray gun

Advantages of the rotating bell

The powder is delivered via a central tube and put into rotation by the bellcup. It is electrically charged when it leaves the bell and makes its way towards the object to be coated in a very wide, enveloping spray. The powder is both electrically charged and sprayed by this very flat-shaped bell rotating at high speed. The bell itself acts as an electrode, bombarding the powder particles with ions and thus giving them a high charge.



The combination rotating bell and high voltage guarantees:

- :: A high level of productivity (powder flow in excess of 500 g/min).
- :: Uniform coating (applicator is generally installed on a reciprocator).
- :: A steady pattern.
- :: Superior coverage of parts (the wraparound ensures that powder is applied on the back of the part).
- :: Powder savings (the transfer efficiency can exceed 80%).

The bell includes a passage for the microphone air supply: With each bellcup rotation, an air pressure variation is directed to the microphone which translates it into electrical variations for the regulation board.

Because the bell can precisely control the coating thickness, the orange peel (a blemish due to excessive thickness) no longer exists. Pitting, which is one of the more common defects in powder coating, is eliminated by means of a counter-electrode incorporated within the applicator that avoids excessive generation of ions. The final appearance of the part is thus improved.

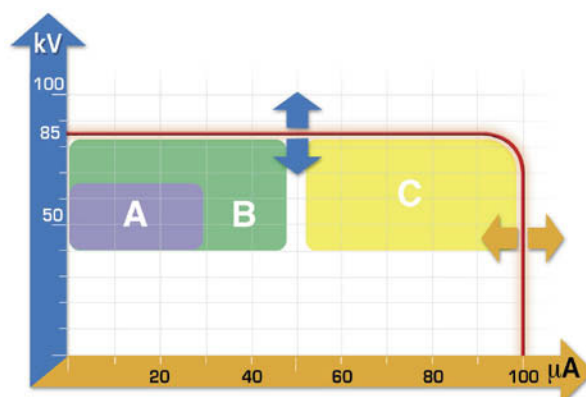
The advantages of the high voltage generator

The power supply provides flexibility of use for the following cases:

A = re-coating

B = coating complex shapes

C = applications requiring very high transfer efficiency, regardless of the powder flow rate.



SRV 038

Automatic rotating bell electrostatic spray gun

81

Technical Data

	SRV 038	TN 5077
Bell (without hoses) (kg)	3	
Diameter (mm)	106	
Length up to Quick-disconnect (mm)	300	19 pouces
Plate (mm)		270
Height		3 U
Recommended powder flow rate up to (kg/h)	30	
Recommended rotation speed (rpm)	7500	
Pattern diameter (mm)	aprox. 500	
Uniformity of film build to within	10 (%)	
Bellcup diameter (standard) (mm)	70	

Air supply	SRV 038
Max. air pressure (bar)	10 (150 psi)
Min. air pressure (bar)	4 (60 psi)
Minimum operating air flow (Nm ³ /h)	3
Shaping air flow (Nm ³ /h)	0 to 5
Microphone "in" air flow (Nm ³ /h)	1.9
Air seal flow (Nm ³ /h))	2.4
Counter-electrode blow-off (Nm ³ /h)	1.9

Controller	GNM 200	TN 5077
Power consumption (VA)		40
Electrical power supply (V)	110 / 220	115 / 230
Single phase (Hz)	50 / 60	50 / 60
IP	20	
Max. voltage (kV)	100	
Max. current (μA)	200 (UHT 188)	

Connection	SRV 038	Engraving on Q/D	TN 5077
Main air supply hose Ø (mm)		T1	10 OD.
Shaping air supply hose ø (mm)	8 OD.	SA	
Counter-electrode air supply hose Ø (mm)	8 OD.	AGW	
Turbine air supply hose Ø (mm)	8 OD.	DT	
microphone "In" air supply hose Ø (mm)	8 OD.	MI	
microphone "out" air hose Ø (mm)	6 OD.	MO	
Air seal supply hose Ø (mm)	8 OD.	BA	

SRV 038

Automatic rotating bell electrostatic spray gun

ATEX certified equipment - SRV 038

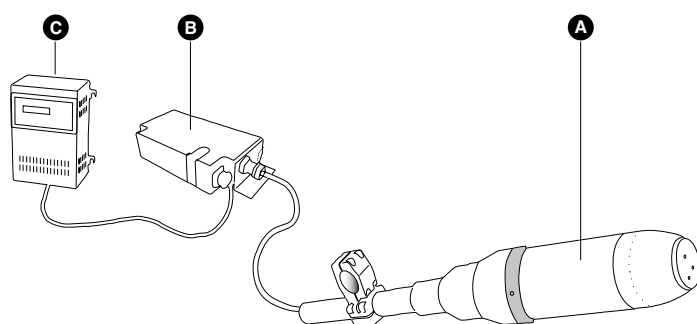
Description	Version	P/N
E. SRV 038	single = 1 x SRV038 with a 9 meters long high voltage cable	910 003 842
E. SRV 038	double = 2 x SRV038 each with a 4.25 meters long high voltage cable	910 003 843

The package comprises bell single or double version (mark **A**), a GNM 200 power supply (cascade identification by circuit), a UHT 188 high voltage cascade, single HV outlet, a Ø 50/50 mm fixation bracket, a TN 5077 speed regulation, a low voltage connection between power supply/cascade, a high voltage cable (1x 9 meters or 2x 4.25 meters), a 12 m long Ø11x15 mm powder hose and a CS127 powder pump.

Air hoses are included (dia.4/6mm, dia.6/8mm and 8/10mm).

The CSV 600 powder hopper is not included.

In the double version, all components are duplicated with the exception of the GNM 200 controller that controls the same UHT 188 HV cascade, outfitted with 2 HV outlets (mark **J**).



C : GNM 200⁽¹⁾

CE 0080 Ex II (2) GD
[EEx > 350 MJ]
ISSeP05ATEX032X
ISSeP06ATEX032X
ISSeP07ATEX001X

B : UHT 188 EEx e

Ex II 2 GD
EEx e II
ISSeP01ATEX002U

A : SRV 038

CE 0080 Ex II 2 D
ISSeP07ATEX001X
EEx > 350 mJ

(1) : this control module is the only one allowing the automatic powder paint set to be ATEX certified.

Installation outside from the explosive area.



Caution : It is compulsory to follow the rules about recommended spraying distances corresponding to the tension.

Those distances are indicated in the user's manual.

SRV 038

Automatic rotating bell electrostatic spray gun

83

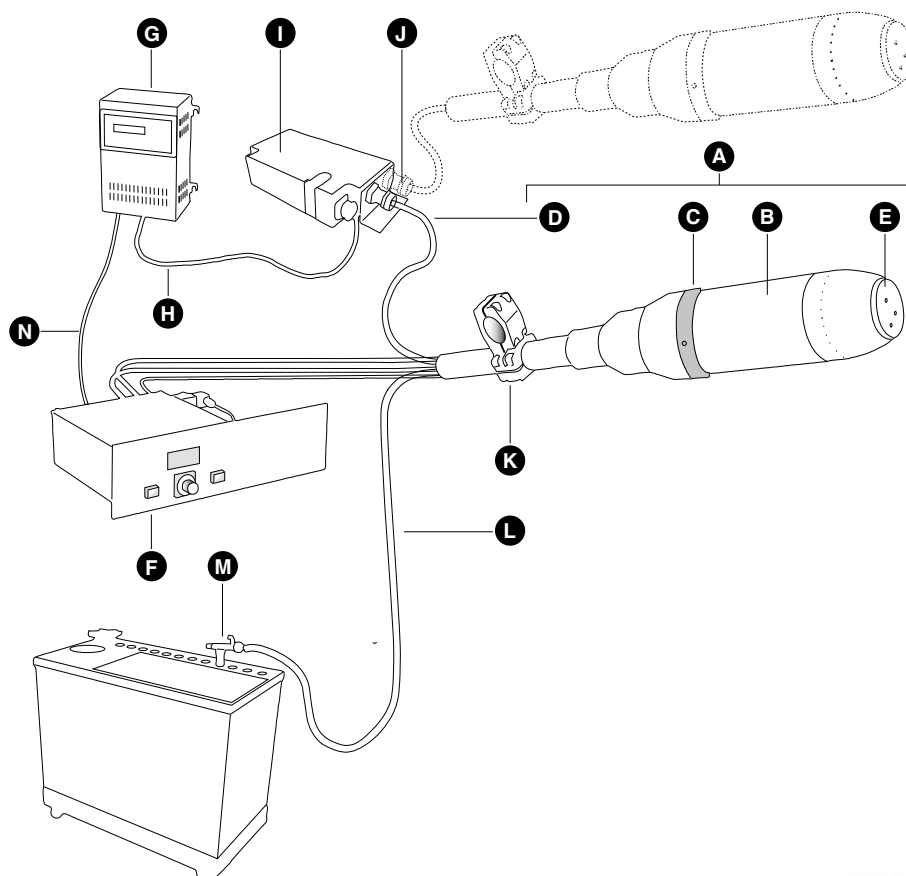
Main components

Description	Mark	Version ⁽¹⁾	length	P/N
SRV038 bell assembly (B + C + D + E)	A	single	9 meters	910 003 431
		double	4.25 meters	910 003 760
SRV038 bell without Q/D	B			910 003 433
Quick-disconnect Plate Assembly	C			910 003 402
High Voltage Assembly	D	single	9 meters	910 003 403
		double	4.25 meters	910 003 495
Powder bellcup	E		ø 70 mm	858 989
			For other bellcups	Ask us
TN 5077 speed regulator module	F			851 668
Module GNM200 - 220V (recognition by built-in circuit)	G			1 517 071
GNM -> UHT LV link	H			1 514 591
LV link GNM200/TN5077 for high voltage safety	N			Ask us
UHT 188 - 1 output (100 kV / 200 µA)	I			910 001 759
UHT 188 Kit 2 outlet	J			910 001 986 ⁽²⁾
Powder pump and suction tube CS127	M			1 526 400
Powder pump CS127 only	M			1 526 398
Powder hose (by the meter)	L		ø9 x ø13 - option	U1F GBA 104
	L		ø10 x ø14 - option	U1G MBS 163
	L		ø11 x ø15 mm	U1F GBA 092
ø 50/50mm fixation bracket	K			429 104

(1): Single version is a configuration of one SRV038 equipped with a 9 m long high voltage cable.

(1): Double version is a configuration of two SRV038, each equipped with a 4.25 m long high voltage cable.

(2): To power up a second applicator mark A in double version from the UHT188 cascade, the high voltage cable is not part of this kit.



AS 100

Powder fluidity meter

Use

AS 100 fluidimeter has been designed for the specific purpose of determining the capabilities of powder to be fluidised. In the powder coating process the powder is transported and projected on the part by suspending it in air. However, powders react very differently to this suspension depending on their grain size, degree of humidity, formula, etc.

The AS100 fluidimeter demonstrates this behaviour and indicates immediately whether a powder is suitable for spraying purposes. It is a valuable aid in product quality control for both powder paint manufacturers and other laboratories. This is the first electrostatic powder coating apparatus to be covered by a registered French standard (T 30 A doc 396).



Warning: the operator must collect a sample of paint so as to control it obligatory outside from the ATEX zone.

Description

The apparatus comprises:

- ⌘ A 100 mm diameter porous-bottomed powder fluidising cylinder with a calibrated opening on the side, through which the powder flows.
- ⌘ A container to receive the powder drawn off through the orifice of the cylinder.
- ⌘ A control box comprising:
 - > a valve
 - > an air regulator
 - > a flow meter
 - > a manometer

Characteristics

- ⌘ Min. supply pressure: 1 bar
- ⌘ Max. air flow rate: 500 l/h
- ⌘ Inlet air connection: Barbed fitting ø4 mm
- ⌘ Weight: 5 kg

Operation

The powder is fluidised in the porous-bottomed cylinder by means of a controlled flow of air. Measurements are taken in turn of: the height of fluidised powder (H1), the height at rest (H0) and the weight (P) of fluidised powder that flows in 30 seconds out of the calibrated opening. It is thus possible to define a "projectability" factor (R) that is characteristic to the powder:

$$R = P \times (H1 / H0)$$

As an indication, experience has shown that, for epoxy powders with a density of between 1.3 and 1.6, the projectability characteristics for different values of R are as follows:

R	Projectability
> 140	Very good
120 to 140	Good
80 to 120	Mediocre
< 80	Bad

Description	P/N
Fluidimeter AS 100	451 195

HVP 125

High voltage meter

Description	P/N
HVP 125	R9K VXM 030

This meter accurately measures in kV the high voltage at the end of the spray gun. First ensure that the electrical connection is earthed, then place the spherical end of the meter in contact with the bellcup (SRV 038 bell), or with the electrode at the nozzle tip (manual or automatic guns: E-series, Auto Mach-Jet, etc.).

This meter is not suitable for use with Tribo equipment.



To use only in no explosive atmospheres.

CSV 600**Powder distribution tank****Use**

CSV 600 powder hopper is designed to supply powder to the SAMES range of automatic powder guns, and in particular the Auto Mach-Jet, TRV 117 and SRV 038 in all automatic electrostatic powder coating systems. The CSV 600 can operate either with new powder only or with a mixture of new and recycled powders, in which case it is designed to receive a complete sieving system.

Description and operation

CSV 600 powder hopper consists mainly of a wheel-mounted mobile fluidised bed. A porous plate at the bottom of the hopper ensures an excellent distribution of air over its entire surface, to ensure a perfectly homogeneous powder bed.

Its lid can receive CS 127 powder pumps, which draw the fluidised powder and deliver it to the automatic guns (Auto Mach-Jet, TRV 117, etc.)

Each pump is fitted with two air intakes corresponding to:

- ⚙️ an injection circuit that doses and carries the powder,
- ⚙️ a dilution circuit that ensures a uniform spray of powder over the complete allowable flow range.

A suction venturi fitted on the lid, draws off fluidised powder from inside the hopper. This creates a slight negative pressure, which prevents powder leakage.

The pneumatic settings are adjusted from the installation's main control cabinet.

CSV 600

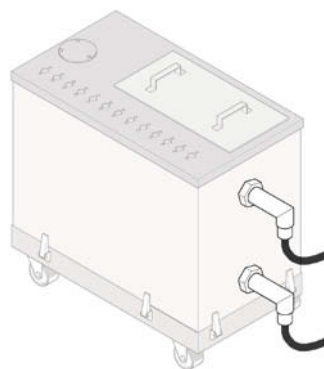
Powder distribution tank

87

Additional optional equipment

⌘ High and low powder level detectors

E.g.: for the supply of new powder, the detection system can be composed of either a single high level detector or else include a delay timer (alarm) activated by a low level powder detector.



⌘ Powder recycling equipment with vibrating sieve and recycling hopper

The recycling hopper (A) is supplied with compressed air (H: pneumatic control) via a porous bottom. The air rising from the porous bottom fluidises the powder contained in the tank. The lid of the tank receives a pump (B) that delivers the powder through the mini cyclone (C) to the sieve. The sieve (D), which is fixed to the mobile stand via rubber mounts, is shaken by the vibrator (see wiring

diagrams on next page). The powder recycled by the mini cyclone (C) enters the sieving machine (D) via a flexible sleeve. The powder exits the sieve after having passed through one screen (400 μm standard) and is then recovered in the CSV 600 hopper (F) that supplies the guns via the CS 127 pump (G).

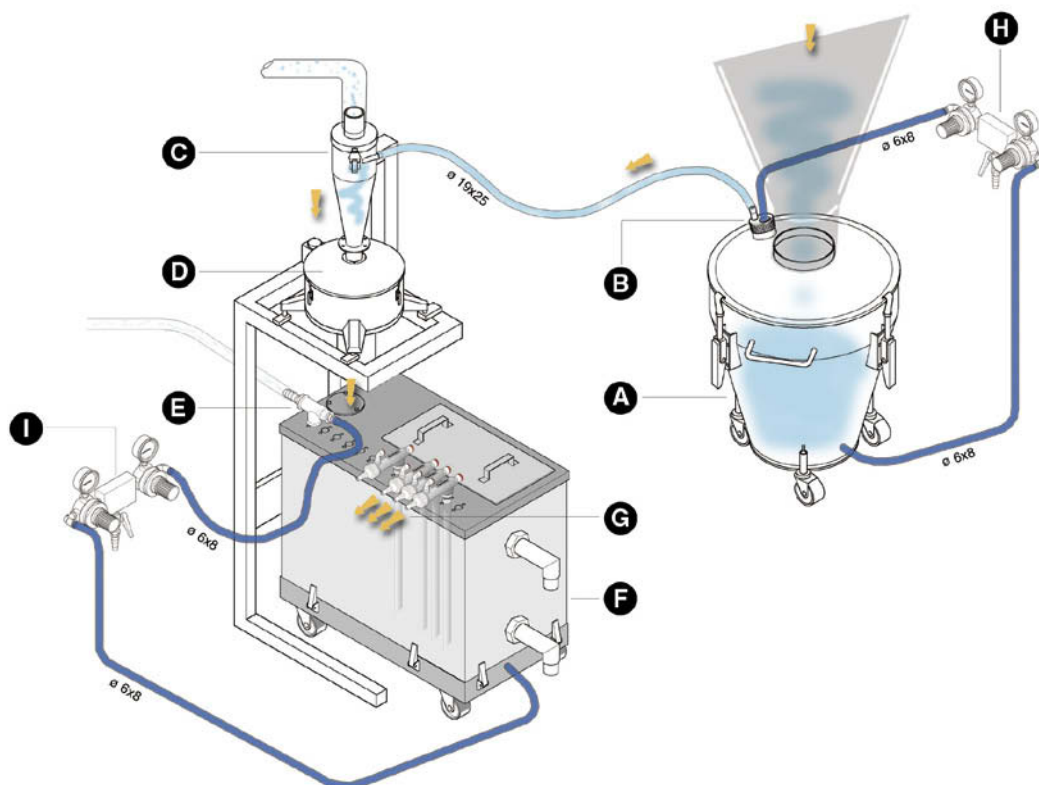


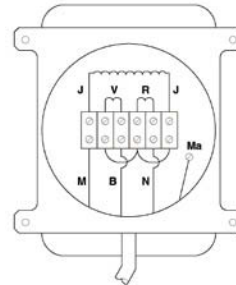
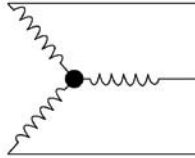
Diagram 1

CSV 600

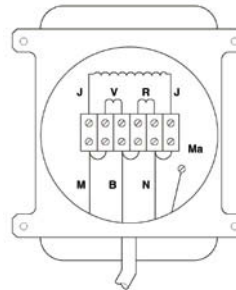
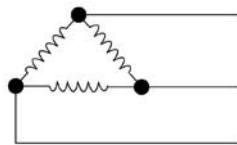
Powder distribution tank

Wiring of sieve vibrator

star connection - 380 V three phase



delta connection - 380 V three phase



Technical Data

	CSV 600	Recycling hopper
Weight (without equipment) (kg)	50	
Length (mm)	810	
Width (mm)	410	
Height (mm)	700	460
Effective volume (litres)	120 (i.e. approx. 60 kg/133 lb of fluidised powder)	
Max. no. of plungers (CS 127)	12	

Air supply	CSV 600	Fume suction venturi
System air supply pressure (bar)	5 (75 psi)	
Settings air pressure (bar)	0.5 to 1	1
Air consumption (Nm ³ /h)	12 to 15	5 to 7

Connection	CSV 600	Mini cyclone	Recycling hopper
Fluidisation supply hose (mm)	ø 6/8		ø 6/8
Powder supply hose (mm)		ø 19 / 25	
Fumes extraction venturi			
Pump supply (mm)	ø 6/8		
Recycling hopper powder			
Pump supply (mm)			ø 6/8

Connection	Level detector
Power supply voltage (V AC/DC)	20 - 250
Holding output current (mA AC)	350 (+50 °C(+122 °F))
(mA DC)	100
Maximum output current (mA)	5
Residual current	< 2.5 mA / 250 V AC
	< 1.3 mA / 110 V AC
	< 0.8 mA / 24 V CC
Switching frequency	25 Hz AC / 30 Hz DC
Ambient Temperature (°C)	-25 to +80 (+176 °F)
Sealing code	IP 65

CSV 600

Powder distribution tank

89

Part numbers of hopper and powder pumps

Description	Item	Set of	P/N
Hopper CSV 600 (120 L.)	A		752 894
Fumes extraction pump	B		455 455 ⁽¹⁾
Powder pump and suction tube CS127	C		1 526 400 ⁽²⁾
Injector for CS127		5	544 808#
Air ejector for CS127		10	547 880#
CS 206	D		1 502 844 ⁽³⁾
Level detector kit - optional	E		855 392 ⁽⁴⁾

(1): this item comes with the CSV 600

(2): these items do not come with the CSV 600. The desired number of pumps must be specified at the time of ordering your CSV 600

(3): this CS 206 pneumatic control supplies the CSV 600 fluidisation and fumes extraction pump

(4): the kit includes one sensor

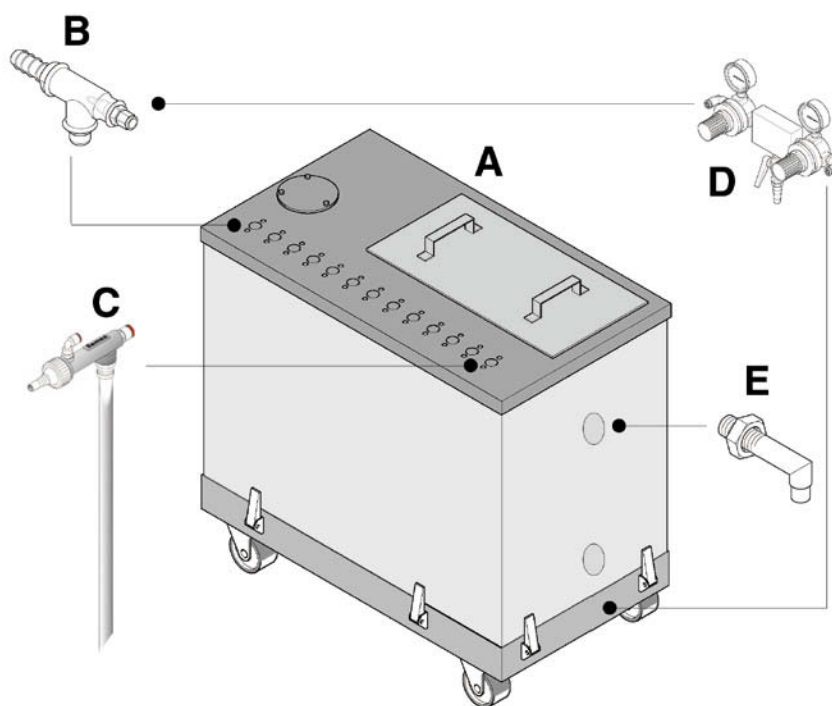


Diagram 2

Powder sieve and recycling system

Description	Mini cyclone	Hopper ⁽⁵⁾	P/N
Siever 1501 + Stand assembly +	-	-	1 508 692 ⁽⁶⁾
	1 inlet	-	1 508 695 ⁽⁶⁾
	2 inlets	-	1 508 694 ⁽⁶⁾
	1 inlet +	1 hopper	1508693 ⁽⁶⁾⁺⁽⁷⁾

(5): recycling hopper 1601 under cyclone (see diagram 3, item H)

(6): the units are supplied with cables and air hoses

(7): powder pump (ref: F4S PDR 019) on the recycling tank as well as the pneumatic control(ref: 458 532) are supplied with this package.

CSV 600

Powder distribution tank

Powder sieve and recycling system components

Description	Item	P/N
Sieve 1501	F	V4T TAM 062 ⁽¹⁰⁾
Sieve stand (for CSV 600 only)	G	V4T TPR 063
Recycling hopper 1601	H	F4S STV 018
Recycling hopper powder pump	I	F4S PDR 019
One inlet mini cyclone	J	V5D ETL 006
Two inlets mini cyclone	J	V5D ETL 007 ⁽⁸⁾
Pneumatic hopper control	-	458 532 ⁽⁹⁾

(8): a second input allows the CSV 600 to be supplied with new and/or recycled powder.

(9): this pneumatic control supplies fluidising air to the hopper as well as to the pump that delivers powder to the mini cyclone. (see diagram 1, item H)

(10): 380 V or 230 V three phase, to be specified at time of ordering

Description	Mesh size	P/N
Sieve synthetic screen (µm)	125	V5T TPR 013
	160	V5T TPR 029
	200	V5T TPR 033
	250	V5T TPR 014
	400	V5T TPR 015 ⁽¹¹⁾

(11): standard screen, comes with item F in diagram 3

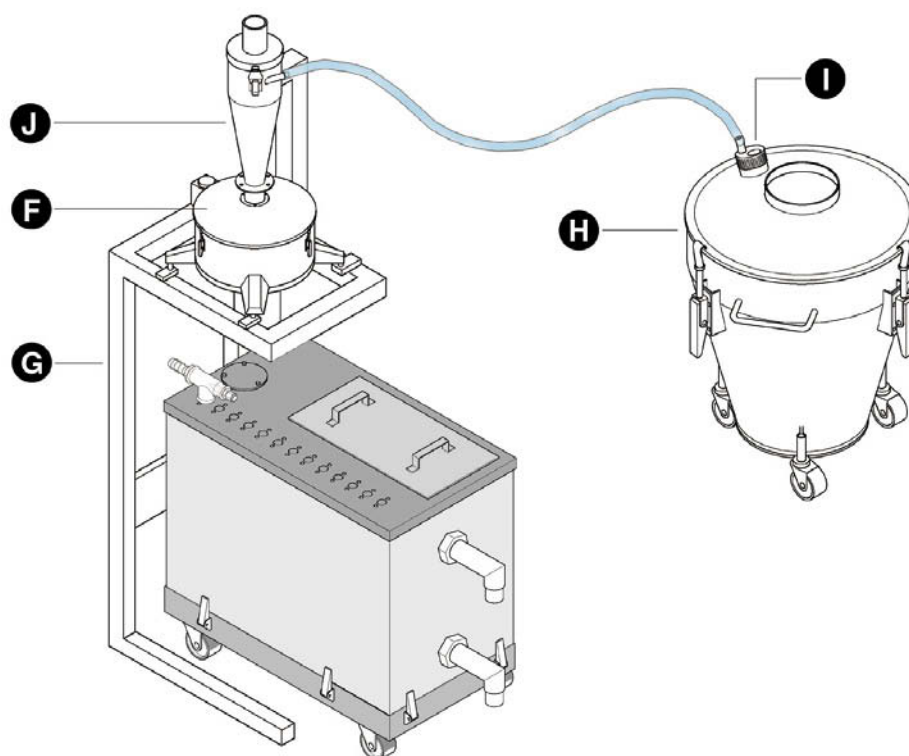


Diagram 3

RFV 2000

Electronically-controlled reciprocator



The RFV 2000 reciprocator drives the movement of all automatic spray guns produced by SAMES and other manufacturers.

Customer advantages

- :: Extremely simple construction and operation (very long service life).
- :: Sweeping stroke and speed adjustable remotely over a very wide range.
- :: Optimum safety: the reciprocator is CE, Ex and FM approved.
- :: Reduced maintenance: limited to cleaning the chains and transmission devices.
- :: Installation requiring no special provision (the robot can be positioned or displaced manually without effort).

RFV 2000

Electronically-controlled reciprocator

93

Use

:: The RFV 2000 is intended for use automatic powder and paint installations.

There are 2 models of reciprocators in accordance with ATEX directive:

1 > For **liquid application:**

the reciprocator mechanism is usually installed in zone 1, which determines the approval category: 2.

It is used to drive vertical reciprocal movements of powder and paint spray guns such as:

- 2 PPH 308 bell paint automatic spray
- 4, 6 or 8 TRP 501 paint spray guns
- 2, 4 or 6 PRT 101 paint spray guns

2 > For **powder coating:**

the reciprocator mechanism is placed in zone 22.

So that, it is classified in the category: 2

- 4, 6 or 8 Auto Mach-Jet powder spray guns
- 2 or 4 SRV 038 turbine powder spray guns
- 2, 4 or 6 TRV 117 powder spray guns

:: The RFV 2000 is controlled via:

- a control module REV 600
- or a programmable logic controller for the most complex automated installations

Description and Operation

The RFV 2000 reciprocator comprises a vertical frame set into a horizontal base on wheels for ease of movement along the ground. Two optional rails can be added to improve guiding, for displacement perpendicular to the conveyor belt axis or for use over grating.

The frame constitutes a vertical rolling track along which the carriage holding the powder or paint spray guns and the balancing counter-weight moves. The carriage is driven by a transmission chain, an asynchronous electric motor and a reduction gear located on the base.

A potentiometer is used to link the sweeping movement to the control devices. All the controls are grouped in the REV 600 box which can be located remotely from the robot.

A second version is available as an option with a second motorised axis (RFV "forward-back" positioning).



RFV 2000

Electronically-controlled reciprocator

Technical characteristics

Characteristics	RFV 2000 for liquid paint	RFV 2000 for powder paint
Effective stroke (mm) - Mark: A	1000 to 3000 depending on the version	
Sweeping speed (m/minute) at 50 Hz	adjustable up to 60	adjustable up to 25
Power motor (w)	750	375
Robot weight (kg)	approx. 250	
Single phase supply	220 V / 50-60 Hz	

CE 0080  II 2 G c
Technical file RFV

CE 0080  II 2 D c
Technical file RFV

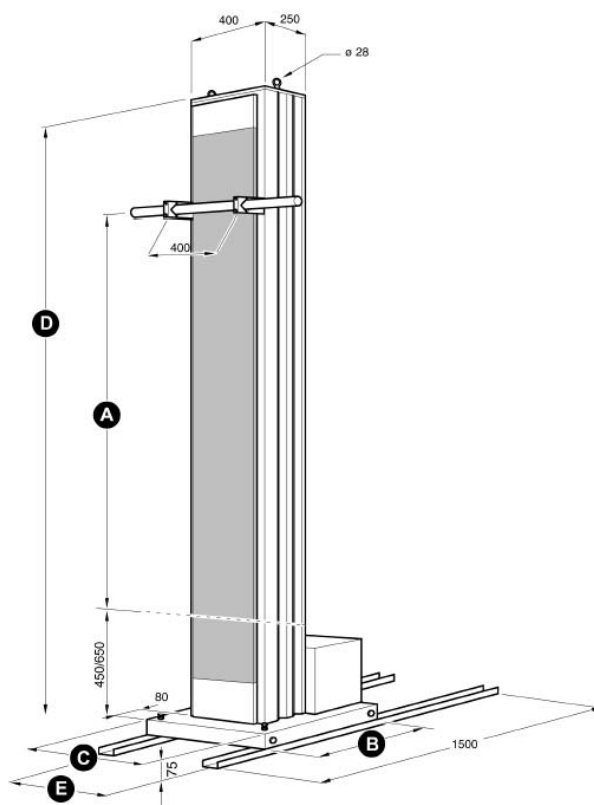
Choice of RFV external dimensions

It is preferable to choose a standard robot, even if the sweeping stroke is well above the height of the items for painting as this can be adapted as the process develops. Conversely, the choice will be based on environmental constraints (example: booth height under 3.1 m) or because of heights in excess of 2 m of items for painting.

A	B	C	D	E
1000	700	550	2100	510
1200	700	550	2300	510
1400	700	550	2500	510
1600	700	550	2700	510
1800	700	550	2900	510
2000 ⁽¹⁾	700	550	3100	510
2200	850	750	3300	660
2400	850	750	3500	660
2600	850	750	3700	660
2800	850	750	3900	660
3000	850	750	4100	660

(1): standard robot with effective stroke of 2000 mm.

We can supply a height for a specific installation on request.

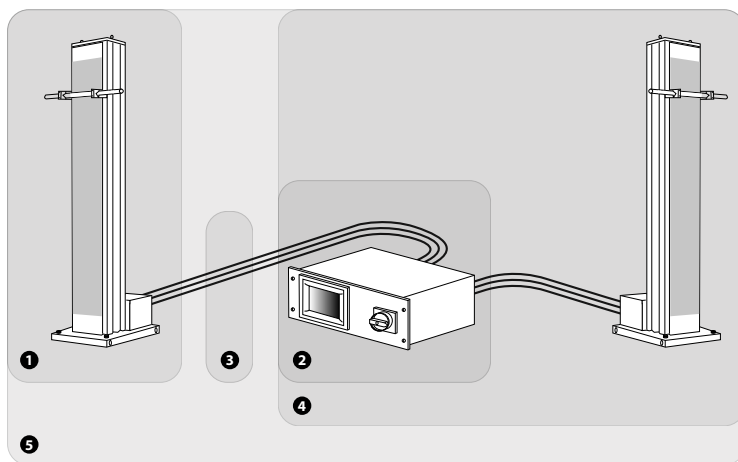


- A: effective stroke (mm)
- B: base length (mm)
- C: base width (mm)
- D: total height (mm)
- E: distance between rails (mm)

$$D = A + 1100$$

RFV 2000

Electronically-controlled reciprocator



- 1** = Zone 1 (RFV for liquid paint)
Zone 22 (RFV for powder paint)
- 2** = REV 600: External to ATEX zone or zone 1/2 and 22 with explosion proof module (1 524 220)
- 3** = Motor control reciprocator:
motor cable: 1 411 222 (4G1,5mm²)
sensor cable: 1 411 223 (2x1mm²)
potentiometer cable: 1 409 971 (4G0,75mm²)
- 4** = REV 611 (RFV 2000 + REV 600)
- 5** = REV 621 (2 x RFV 2000 + REV 600)

ATEX certified "RFV 2000" reciprocator mechanism

Description	Mark	Number of axes	Height = A (mm)	Reference
RFV 2000 for liquid paint	1	1	2000	910 002 075-200
			100 < xx0 < 300	910 002 075-xx0
RFV 2000 for powder paint	1	1	2000	910 002 076-200
			100 < xx0 < 300	910 002 076-xx0

RFV 2000 reciprocator mechanism + REV 600 control module

The assembly includes the electrical control cables (approx. 30 m) and the REV 600 (delivered as a rack version)

Description	Mark	Number of RFV	Number of axes	Application for	Height = A (mm)	Reference
REV 611	4	1	1	liquid	2000	910 002 370
				powder	2000	910 002 373
REV 621 ⁽¹⁾	5	2	1	liquid	2000	910 002 371
				powder	2000	910 002 374
REV 611 + kit PPH405 ⁽²⁾	4	1	1	liquid	2000	910 002 372

(1): REV 600 module is used to drive two RVF robots on one axis.

(2): Configuration for use with PPH 405 vertical disk spray gun.

RFV 2000 robot components

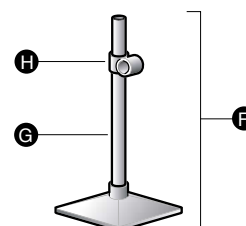
Description	Length (mm)	Reference
Unwinder kit	hoses < 2000	1 514 325
	hoses > 2000	1 525 208

The reference includes a single unwinder (provide for 2 unwinders per reciprocator)



Components for fixed spraying

Description	Mark	Length (mm)	Reference
Fixed foot (base + pipe)	F	1500	459 127
Pipe only	G	1200	744 097
		1500	1 410 592
Nut ø 50x50 mm	H	-	429 104



REV 600

Installation application management



Customer advantages

- ⌘ The REV 600 module allows the operator to run his installation extremely simply:
- ⌘ Very user-friendly: the learning process is quick and intuitive - graphic icon display.
- ⌘ System reliability: the system is managed by a programmable logic controller (PLC).
- ⌘ Easy to use: the intuitive interface simplifies the selection from each menu to the maximum.
- ⌘ Time saving: easy calibration of the high and low points and the robot axis. The table parameter choice can be made on line during production, without stopping the conveyor belt.
- ⌘ Ergonomics: touch screen controls make action inputting simple and fast.

Use

The REV 600 module is intended to drive an automatic powder or electrostatic paint installation. It can operate:

- ⌘ the "raise and lower" axis or one or two robot(s) type SAMES RFV 2000
- ⌘ spray gun activation and the input/output interfacing with the installation.
- ⌘ The REV 600 also manages the parts parameters required by the application via an integrated PLC. sweeping movement with parameters set for one to three zones: reversing points and speed change points
- ⌘ zone speeds adjustable from 0 to 60 m/min.
- ⌘ Stop/start running up to six spray guns per robot
- ⌘ management of ten memorised programmes (production runs for parts for painting)
- ⌘ The REV 600 module is interfaced with the installation to:
- ⌘ detect the presence of parts
- ⌘ detect external faults
- ⌘ detect that the booth is operating correctly: conveyor belt and ventilation
- ⌘ manage faults: signalling system and external output authorising start up (eg.: conveyer belt).
- ⌘ manage timeouts for the application between parts, between two robots and three spray gun configurations.

REV 600

Installation application management

97

Technical characteristics

The REV 600 integrates the basic functions of an application process:

- :: 2 "raise and lower" type reciprocators - 1 axis
- :: 3 sweeping zones per reciprocator
- :: 6 spraying controls/reciprocator
- :: 10 parts production runs/reciprocator

The 19 inch standard dimensions of the REV 600 module allows easy integration into a SAMES CGR 200 modular cabinet and connection to the various SAMES spray gun control modules.

An autonomous, box version of the REV 600 is also available.

With the following functionalities, the REV 600 module interfaces easily with an industrial application:

- :: Possible automated spraying by detecting parts for painting using sensors or photo-electric cells.
- :: Emergency stop input
- :: External fault input
- :: External fault output
- :: Ventilation input during operation
- :: Conveyor input during operation
- :: Authorisation output for conveyor belt operation

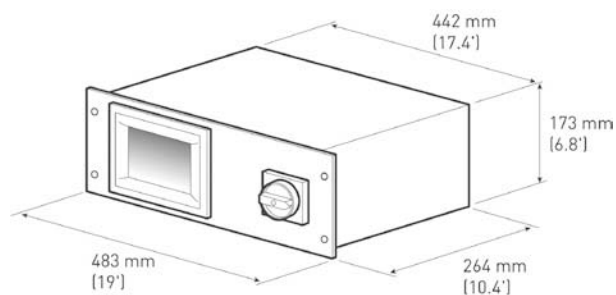


Supply	REV600
Input voltage (V)	230 single or three-phase
Input frequency (Hz)	47 - 63
Input current (A)	16
API supply (V)	24
Dimensions	REV600
Weight (kg)	11.2
Height (U)	4
Width (in)	19
Protection level	REV600
Rack version	IP65 (front face) IP20 (rear face)
Box version	IP54
Control screen	REV600
Screen	backlit 5.6 inches
Display	resistive, analogue, touch display, for finger, (unpointed) object and glove control.
Conditions of use	REV600
Ambient temperature (°C)	< 45
Ambient humidity	< 85% without condensation
Installation	in non-explosive zone

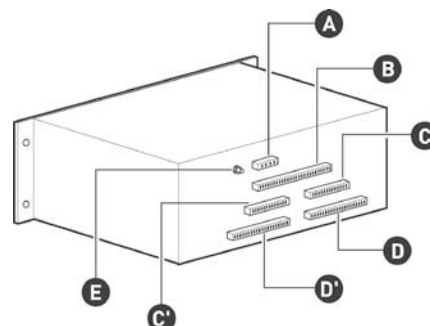
REV 600

Installation application management

REV 600 outline drawing



Connecting diagram



Description	Mark	Function	Section (mm2)	P/N
Electrical supply	A		4G1.5	E2C DKR 004
Inputs	B	Emergency stop	2 x 1	E2L AAB 100
		Conveyor belt running	2 x 1	E2L AAB 100
		Fan operating	2 x 1	E2L AAB 100
		External faults	2 x 1	E2L AAB 100
		Parts detection	3G0.75	E2L DAC 075
Outputs	B	Conveyor belt authorisation	2 x 1	E2L AAB 100
		Function OK	2 x 1	E2L AAB 100
Spray gun control on reciprocator 1 and/or 2	C-C'		2 x 1 (1)	E2L AAB 100
Motor control reciprocator 1 and/or 2	D-D'	Motor	4 G 1.5 shielded	E2B AAD 150
			pre-cabled, length = 30 m	1 411 222
		Temperature sensor	2 x 1	E2L AAB 100
			pre-cabled, length = 30 m	1 411 223
		Potentiometer	4G0.75 shielded	E2B AAD 075
			pre-cabled, length = 30 m	1 409 971
Earth	E	via supply cable		

(1): cable by the metre necessary for one spray gun, the C-C' connection can run 6 spray guns/reciprocators

Control module REV 600 for RFV 2000

Description	P/N
REV 600 rack for modular cabinet	1 523 227
REV 600 in sealed enclosure (for explosive zone)	1 524 854
Sealed enclosure only (for explosive zone)	1 524 220
Safety screen shield (x10)	E1A AUZ 090

MANUCOMPACT

100

Modular manual electrostatic powder booth



The MANUCOMPACT is a powder coating booth that is able to extract and filter the powder-laden air

Use

The MANUCOMPACT booth is intended for use in manual powder coating systems. Ideal for use in restricted spaces, this booth is perfect for small and medium production series.

It can be used for powder coating a prototype or samples and can also be adapted for use with a conveyor.

The booth can cater for parts or objects up to 1.2 m high, 1m wide and 0.65m deep.

MANUCOMPACT

Modular manual electrostatic powder booth

101

Customer benefits

Seeking to satisfy your every need, we propose you a compact booth, mobile booth that can be adapted for use on an automatic production line.

Optimum safety and comfort

:: The perfectly smooth cross-draft and the low noise of the installation ensure a nuisance free environment in the working zone.

:: The control panel incorporates all the pneumatic, electrical, pressure-drop monitoring and filters back-pulsing functions for ease of use.

:: The purified air must be rejected outside the building where the cabin is installed, while complying with the rules of environmental protection.

Meticulous construction and appropriate technology

:: The booth is very compact and has been designed to make best use of the space available in the workshop and to be incorporated within an automatic coating line. The footprint of the booth is small.

:: The mobility and ease of connection of the booth allow it to be quickly integrated into your production line.

:: With its stainless steel design, this booth requires only reduced maintenance.

:: When using the MANUCOMPACT for single-colour coating, you are able to recover the powder that is not deposited on the parts.

Technical Data

Technical Data	MANUCOMPACT	Parts to be painted
Overall height (mm)	3117	1200
Working height (mm)	460	
Width (mm)	2240	1000
Depth with table closed (mm)	1500	650
Depth with table open (mm)	1900	
Weight (kg)	env. 450	30
Cartridge filter (number)	4	
Filtering surface of one cartridge (m ²)	80	

Air supply	
Ventilation air flow rate (Nm ³ /h)	4500
Average air consumption (back-pulsing) (Nm ³ /h)	18 at 5 bar
Solenoid valve supply hose (mm)	ø 10 OD.

Electrical power supply	
Fan rating (kW)	3
Fan electrical power supply (V)	240 V / 400 V

MANUCOMPACT

Modular manual electrostatic powder booth

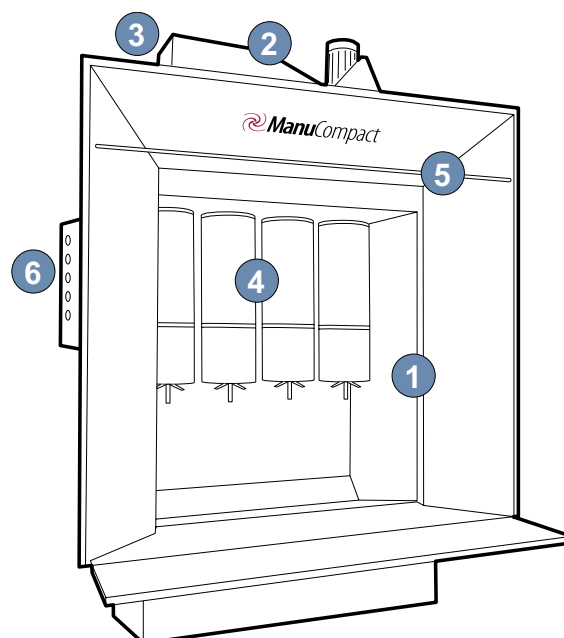
Description and operation

MANUCOMPACT booth comprises a powder coating enclosure (1), a ventilation-filtration system (2), a filter cleaning system (3) and cartridge filters (4) for recovering the over-spray that is not deposited on the workpieces. These elements create the environment that is essential for utilising power coating equipment.

The parts or sets of parts are hung from a bar in front of the booth (5) then coated with powder in the centre section. A horizontal flow of air prevents pollution by the powder of the air outside the coating enclosure. Over-sprayed powder is recovered by four cartridge filters. These filters are cleaned at regular intervals by blowing pressurised air in the opposite direction to the direction of flow of the ventilation system.

The powder is recovered in a large capacity plastic, that pulls out from the side of the machine. The booth's control box (6) thus enables cartridge activation and cleaning.

This box can be located on either the right or the left-hand side of the booth. Electrical and pneumatic lines are quickly connected.



CE Ex II 3 D
IP65 T200°C
-10°C < Ta < 40°C

Manual booth

Description	Reference
Booth MANUCOMPACT CVM-4	130 000 277
Cylindrical filter	ask us

MANUCOMPACT

Modular manual electrostatic powder booth

103

PVV EasyCompact

Powder-coating booth with fast colour change system



Productivité, Productivity, Economy, Compact Size and Ergonomics are the key words that sum up requirements in the surface treatment business today.

To meet these criteria and satisfy the most demanding customers, Sames has developed EasyCompact, its new automatic powder-coating system, built around a new booth for even faster colour change!



For any further information, visit:
www.easycompact.com

More Compact:

> EasyCompact, the most compact booth on the market, with dimensions reduced to the absolute minimum:

- The ventilation system is connected via an duct with lateral, overhead outlet to save floor space.

- **Manual operating positions for pre-touch or touch-up are integrated to the booth, there is no exterior platform.**

More Efficient:

> Uniform ventilation flow throughout the booth:

- The bottom of the automatic zone is specially shaped to guarantee high-performance application and reduced powder retention.

- A floor slot in the manual zones makes for more effective powder removal.

- The automatic zone is closed off by deflectors, meaning that the rest of the booth remains powder-free during application.

- The operator cleans the entire booth from the outside using an ultra-light blow gun designed for effortless cleaning.

More Ergonomic:

> The system design has given priority to the operator's health and comfort:

- The flat floor makes it easy for the operator to move freely near the parts being painted.

> Every effort has been made to provide the operator with as healthy a working environment as possible:

- Side deflectors provide protection against the automatic spray guns.

- If the manual spray gun moves away from the part being painted, the new "clean hands" electrical feature ensures that no paint is sprayed back onto the operator.

- The remote controls at the back of the Mach-Jet spray gun can be used to adjust powder flow and the high-voltage supply without leaving the booth.

- Low noise (< 80 dB) under normal operating conditions (except for cleaning phase).

PVV Easycolor

Quick colour change automatic powder booth

The PVV Easycolor booth is an entirely modular type booth.

Made of composite materials, its structure offers an ideal combination of very rapid colour changing (6 to 12 min) and application quality as demanded by our customers.

- :: Downdraft design
- :: Automatic compressed air cleaning system for:
 - > venturi feed pumps
 - > powder hoses and inside of spray guns
 - > reclaim powder hose
- :: Outside of spray guns are cleaned inside the booth
- :: Flat floor for easy clearing and maintenance access
- :: Fully automatic powder supply centre PCE 2500
- :: Control cabinet containing internal PC with colour touch-screen control
- :: Cyclone with integral sieve and filter preventing polymerisation of powder
- :: Part detection system (portico mount) is an option

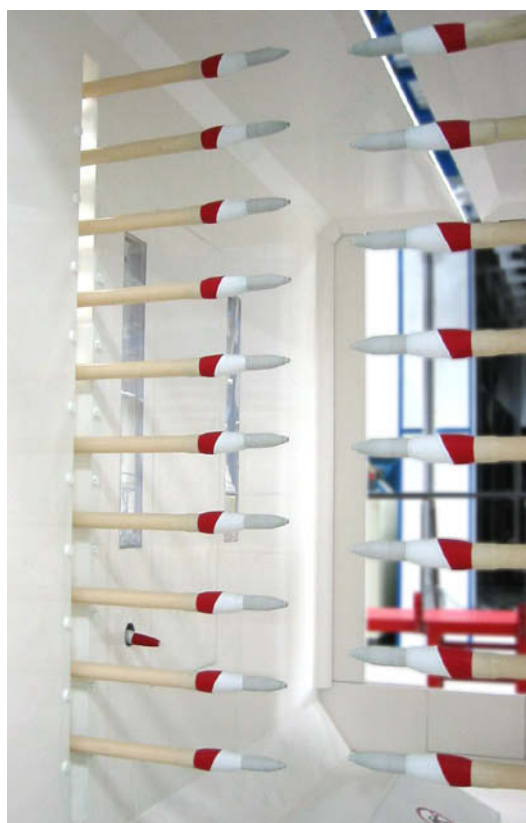


SAMES Technologies has developed its engineering solutions in close collaboration with our customers to meet their specific needs: studied and developed for each individual case, they respond accurately to the expectations of the most exacting users. Reliability, application quality, increased productivity are constantly sought.

The SAMES engineering teams share the fruit of their experience with our customers, by offering them all their know-how and making themselves available. The SAMES men and women have gained their experience in the most advanced technical sectors such as the automobile and plastics processing industries. Our customers benefit from up-to-the-minute electrostatic painting techniques thanks to the skills acquired in these industries and the latest innovations.

All our customers are guaranteed technical and commercial follow-up in the operation and evolution of their painting processes and our staff are always available for rapid assistance and advice.

SAMES commits to the quality and reliability of its solutions and departments through all these services.



Additional accessories for paint operators

Cotton cap, grey (one size)



(2)

Particulate proof respirator

(4)



The respirator meets the requirements of EN149 :2001 (FFP2 class). It should be used to protect the wearer from mechanically and thermally produced particulates. The respirator can be used in concentrations of contaminants up to 10 x Exposure Standard.



(1)

Anti-static work-suit, size 2 to 6.. Grey. Extremely sturdy suit, recommended for both liquid and powder coatings. Easy wearing, double zip, double opening.

Gas/Vapour particulate proof respirator

(5)



This respirator meets the requirements of EN405: 2001 and can be used to protect wearer against combination gas/vapour and particulate contaminants, such as :

- organic vapour/ inorganic gas / acid gas concentrations 1000 ppm or 10 x Exposure Standard whichever is the lower.
- Particulate concentration upto 10 x Exposure Standard.

(3)

Shoes' protection (one size): also suitable for the floor protection of plastic powder coating booth (PVV Easycolor and EasyCompact).

Nitrile gloves (one size)

(6)



Gloves for protection against numerous chemicals such as alcohols, petroleum, aromatic and chlorinate solvents according to the recommendations given in the chemical resistance chart.

Gloves conforming to the provisions of Directive 89/686/CEE.

(8) Everclean Hand



Handgun protection, spined paper. Very resistant, perfect protection.

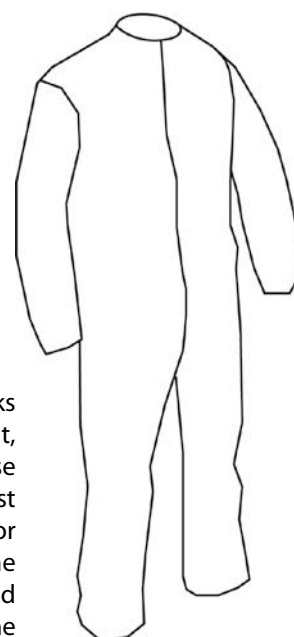
Neoprene gloves (one size)

(7)



Neoprene glove, inside cotton flocked, 0,7 mm thick and 38 cm long. Safety glove which protects against mechanical hazards, chemical and micro-organics risks intended for a reinforced protection for general cleaning use. These gloves fulfill the requirements of the European Directive 89/686 and fulfill the requirements of the standard EN420 (dexterity 5), EN388 et EN374.

(9)



Light work-suit

Protection against dirty marks spined paper. Very resistant, perfect protection (one size). The use is designed for protection against fine particules, liquid splashes or liquid spray, depending on the potential risk of the chemical and the circumstances of exposition. The product specification correspond to the protection types of the European standards (EN13982/1 and EN13034). Offer protection of type 5 and type 6.

N°	Reference	
1	(T2) W5G MAS 059	
	(T3) W5G MAS 060	
	(T4) W5G MAS 061	
	(T5) W5G MAS 062	
	(T6) W5G MAS 063	
2	W5G MAS 070	
3	W5G MAS 071 = x10	
4	W5G MAS 018	
5	W5G MAS 035	
6	W5G GAM 039	
7	W5G GAM 040	
8	1 202 466 = x10	
9	W5G MAS 024	

T2, T3, T4, T5, T6: Sizes

Notes

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Notes

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