



Automatic powder coating gun



Training -Sales



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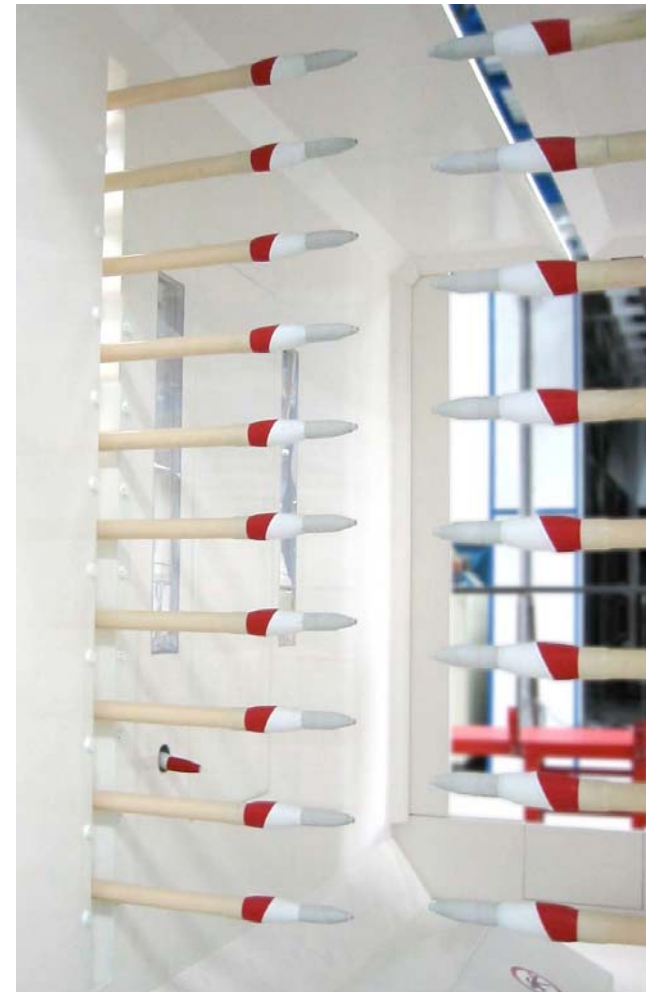


Introduction Reliability Benefits Characteristics References

- **The new gun is called the Auto Mach-jet.** Of the same technology as the handgun, this applicator too, is controlled from the CRN 457 controller:

- Reliability
- Time saving
- Robustness
- Comfort of use
- Transfer efficiency

are the features offered by the Auto Mach-Jet. The installation of Auto Mach-jet systems is easy and affords our customers the best application results.



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Introduction Reliability Benefits Characteristics References

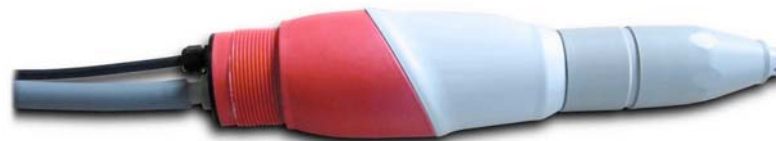
**Gun - 1/4
Controller**

Auto-Mach-Jet comes in two versions:

Auto-Mach-Jet



Auto-Mach-Jet FCC*



(*) FCC = Fast Colour Change – Version for fast color changes



Introduction Reliability Benefits Characteristics References

**Gun - 2/4
Controller**

Auto-Mach-Jet:

Mounted on a metal rod, it permits easy and quick replacement in all existing systems, and obviously adapts easily to new systems.
Installing the gun on the arm avoids unwanted loosening of bolts.





Introduction Reliability Benefits Characteristics References

**Gun - 3/4
Controller**

Auto-Mach-Jet FCC*:

This is a version specially designed for quick color change booths. Its design allows a perfect cleaning, in the shortest period of time. The gun's back body is screwed on the support tube. The same diameter along its whole length helps enhance the efficiency of the cleaning at time of color change. The tube helps routing the supply hose and LV connecting cable easily and cleanly to the rear of the gun. By which, the operator may easily access his connections from outside the booth.



(*) FCC = Fast Colour Change.



Introduction Reliability Benefits Characteristics References

**Gun - 4/4
Controller**

New: Powder connector

:: The « FCC » version on its 60mm Dia. holder arm features a quick disconnection of the powder tube (optional):

- Reduces maintenance downtime
- If needed, permits quick exchange of powder tubes



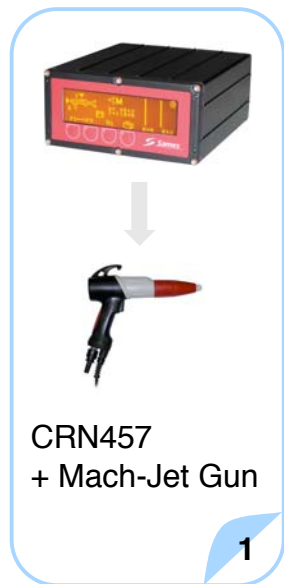


Introduction Reliability Benefits Characteristics References

**Gun
Controller 2/2**

The CRN 457 may be installed in three different ways:

- 1 • Connected directly to the Mach-Jet gun
- 2 • Local mode wiring: parameters are accessible on screen, and trigger control is automatic (for instance: REV600)
- 3 • Remote mode wiring: Serial link with another control system



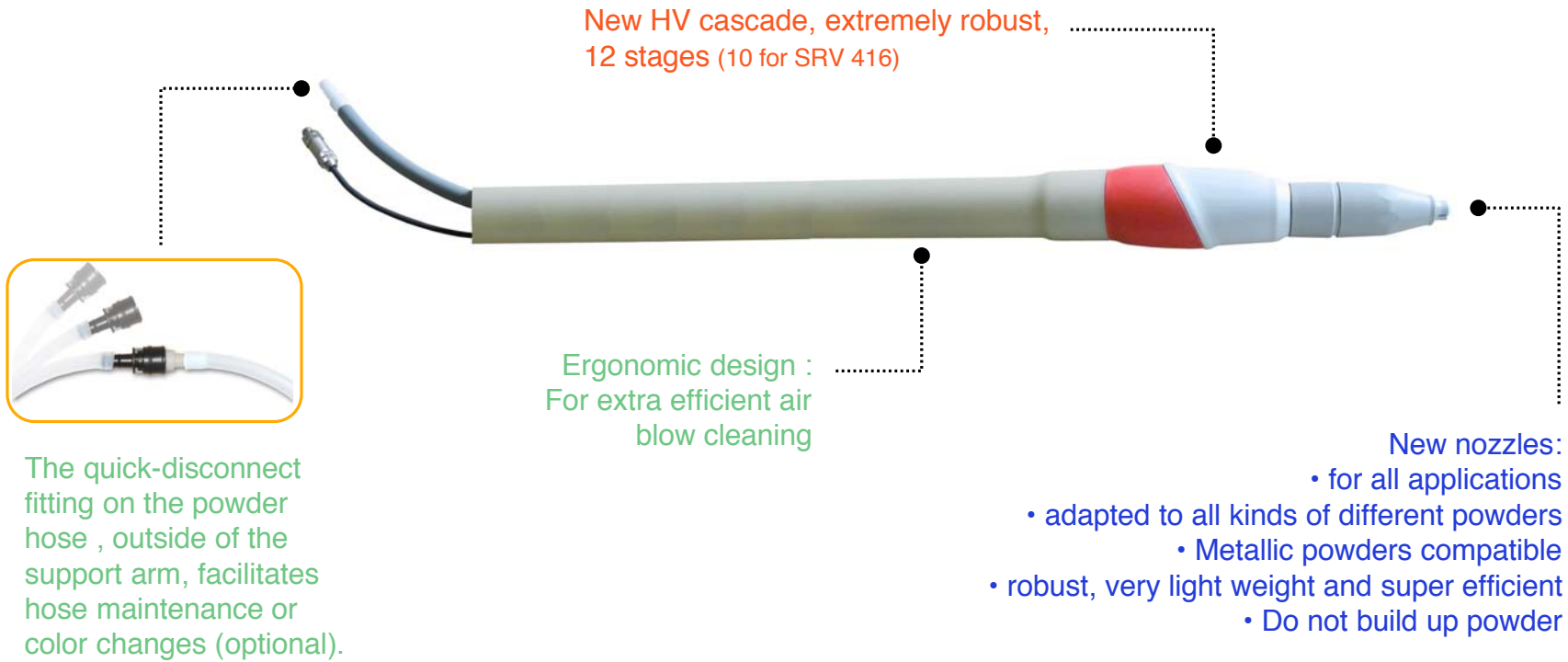
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Introduction	Reliability	Benefits	Characteristics	References
	Gun			

Use
Reliability
Safety

Applicator design for the best results





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 Controller in local mode
 High voltage

Auto-Mach-Jet Gun

Weight (w/o hoses):	Approx. 850 g
Powder flow (hose ø12):	Up to; 30 kg/h (65lbs/h)
LV cable CRN to gun:	18 m, 30 m(FCC)
Max HV output:	95 kV
Max current output:	110 µA

CRN 457 Controller

Dimensions

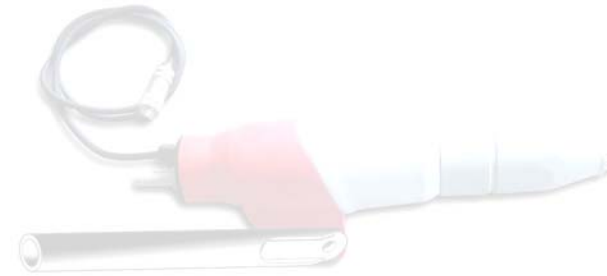
in rack: 19" / 2U two controllers per rack

Pneumatics

Max. Inlet pressure:	10 bar (150 psi)
Min. inlet pressure:	5,5 bar (82,5 psi)
Max air flow:	8 Nm3/h (4.71 cfm)

Electrical

Max voltage output:	40 V rms
Max current output:	110 mA rms
Electrical supply:	90 through 270 V
Single phase:	50 / 60 Hz
Max power:	60 VA
Sealing rating:	IP 54

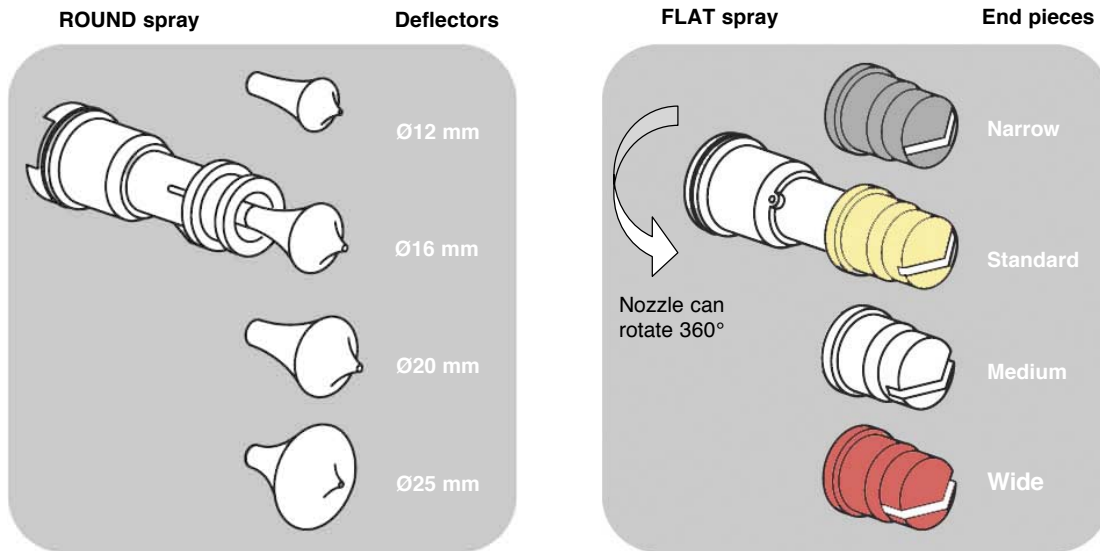




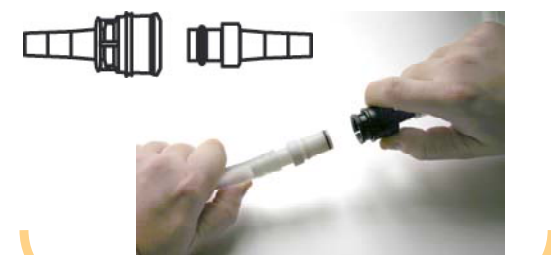
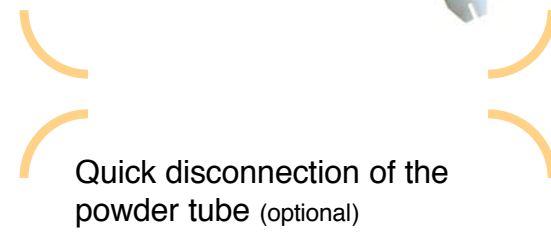
Introduction Reliability Benefits Characteristics References

Nozzles
 Controller in local mode
 High Voltage

:: New nozzles, with homogeneous patterns:



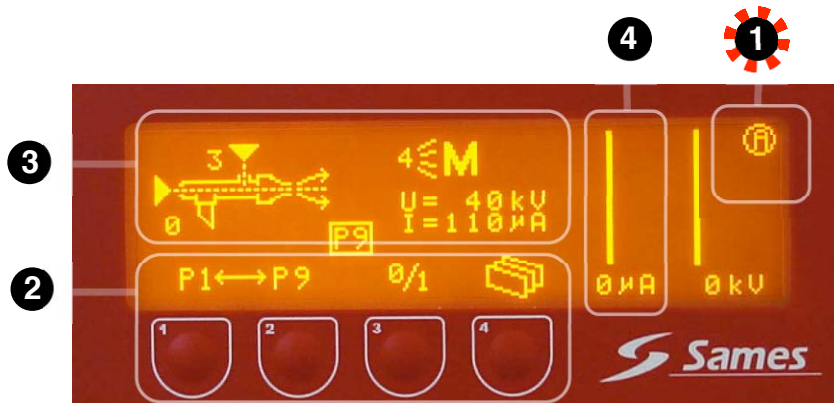
Auto Mach-Jet comes with flat spray nozzle and standard flat end piece. All others flat end-pieces, round spray and deflectors are optional.



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Nozzles
 Controller in local mode 2/11
 High voltage

Screens are identified with a letter displayed top right of the screen =



1 Once powered up, either in local or in remote modes, the main menu screen “ H ”comes on. It permits to set up the communication parameters. Then, six screens from **A** to **H** are accessible by the operator when the CRN457 is configured in **LOCAL** mode:

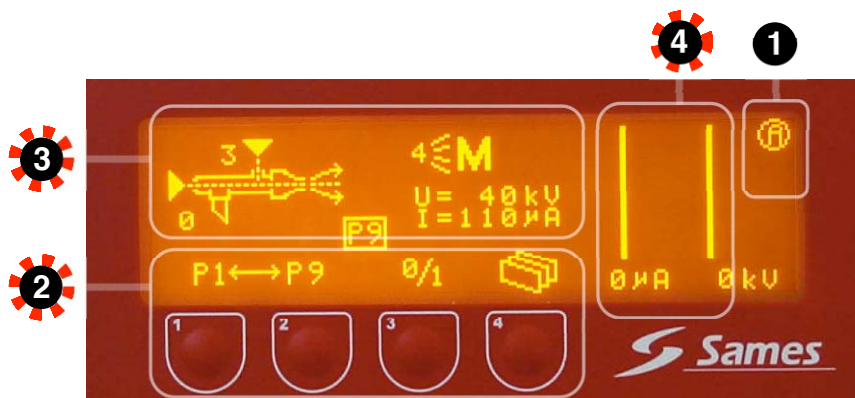
- A** = Adjustment of the powder flow, and selection of a pre-set U/I combo
- B** = Adjustment of the dilution air, and selection of a pre-set U/I combo
- C** = Manual adjustments (U/I)
- E** = History of faults (only if a fault occurs)
- F** = Screen adjustment (contrast)
- H** = For information only, Remote mode menu

• When in **Remote** mode, the keyboard is disabled (The CRN 457 is driven by PLC)

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Introduction Reliability Benefits Characteristics References



Nozzles
 Controller in local mode 3/11
 High voltage

2 The front keyboard has 4 keys.
 They are identified with an icon located above each of them.

3 This display shows the status of changed functions, with keys from zone 2
 ex: On screen « **A** », the program is the n°9 with following parameters:

- powder flow: 0 for the injection air and 3 for dillution air.
- an high voltage pre-set feature dedicated for metallic powders

When the gun is triggered, a flashing logo (arrow) displays HV in zone 1(here, not activated).

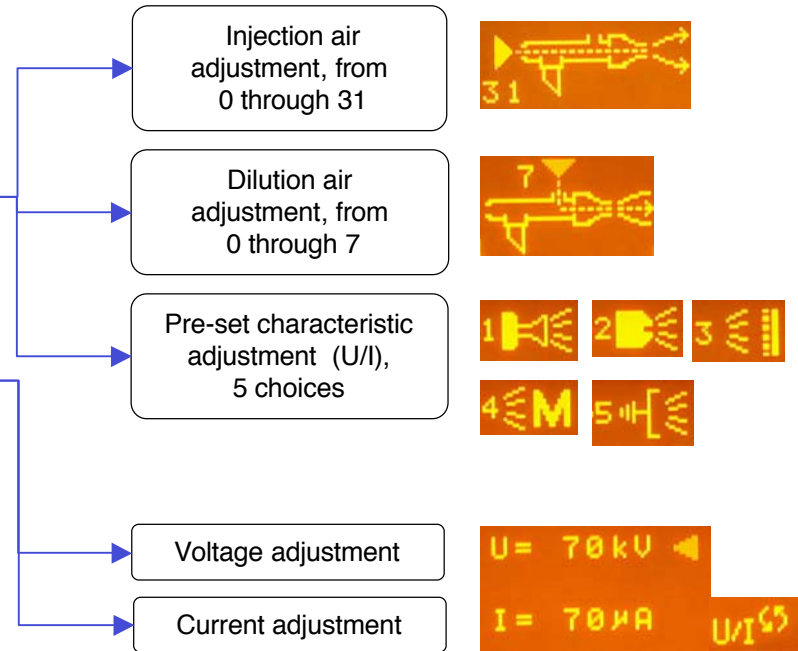
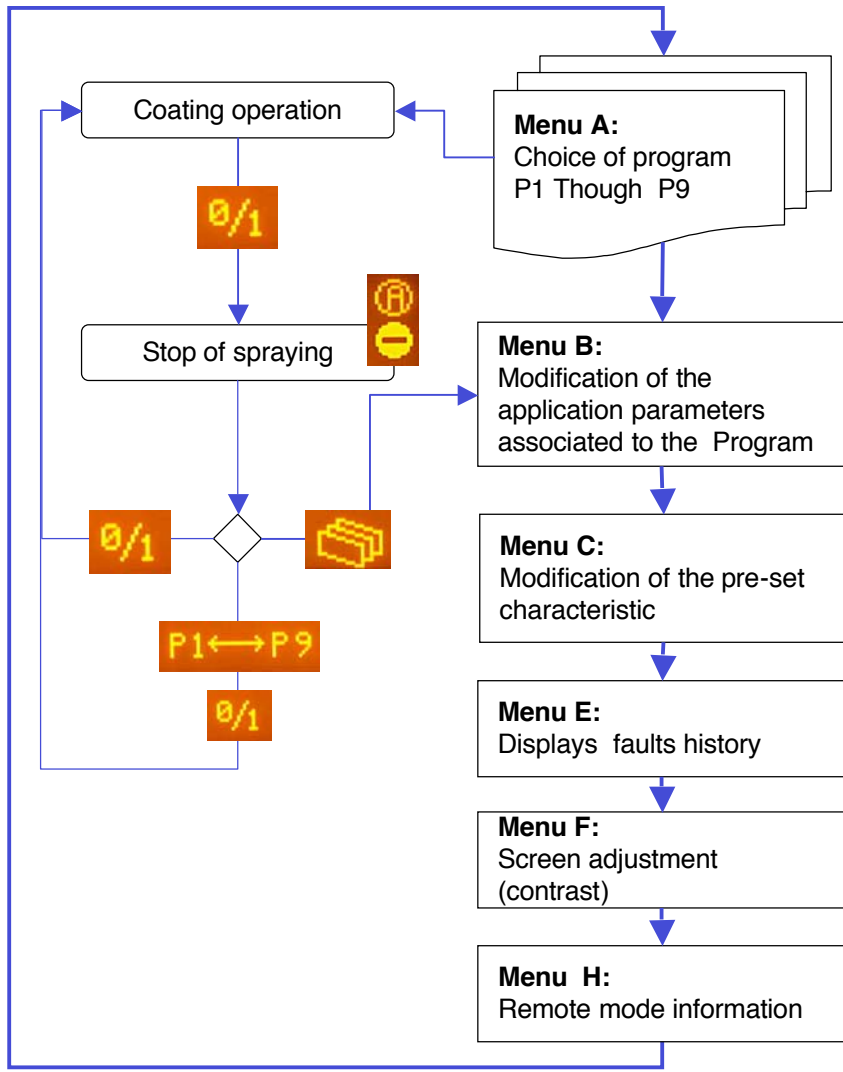
4 This displays a bar graph indicating voltage and current values during coating operations.



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Nozzles
 Controller in local mode 4/11
 High Voltage

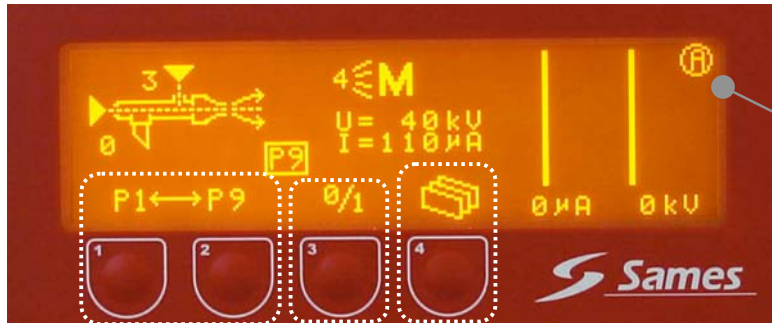
Flow chart






Introduction Reliability Benefits Characteristics References


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Screen « A », choice of one of 9 pre set coating packages.


>This zone permits to choose between 9 pre-selected programs, each with their own coating set-ups (powder flow, electrical settings), for different batches of parts.

 Choice of pre-programmed coating selections inferior to 9

 Choice of pre-programmed coating selections superior to 1


> During coating, (HV is on and powder is flowing), pushing this key permits to de-activate manually the operation of the applicator connected to the CRN457.

the screen displays:



Then, one can modify the parameters entered into programs 1 through 9. Pushing the key, reactivates the applicator within the selected coating program.

> Push this key to access the next menu.



- Pushing the key maintains the selection of program (P1 à P9) and accesses the next menu « B ».




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Screen « B » = Shows your own settings in one of the pre-selected programs (P1 to P9) Injection and dilution air and selection of a preset (U/I) package.
 The venturi powder pump settings are independant and included in the powder flow.

> This zone permits to change the entered adjustments, from key No 3:



- for programs No 1 et 2: decrementation of the rev.
- for program No 3: decrementation of U/I characteristics

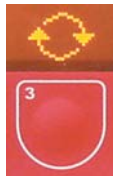


- For programs No 1 et 2: incrementation of the rev.
- For program No 3: incrementation of U/I characteristics

> This key permits to select one of 3 programs:


- 1° - Adjust the Injection air between 0 and 31
- 2° - Adjust the Dilution air between 0 and 7
- 3° - Choose one pre-set (U/I) package: 5 choices

- Pushing this key brings up an arrow which indicates the setting to change



> Push this key to go to the next menu.

- Pushing this key permits to validate parameters. The U/I characteristic remains unchanged and one accesses the next menu « C ».



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Nozzles
 Controller in local mode 7/11
 High Voltage




Screen « C », displays your personal settings of HV and current, from the package selected from menu « B ».


>This key is to change HV or current:

 HV or current setting goes down when the flashing cursor is in front of the parameter to change.


 HV or current setting goes up when the flashing cursor is in front of the parameter to change. When changing values, a hand appears next to U or I.

If reinstating the original value,  the hand goes away.


> This key to select (U ou I) For modification =



The screen displays:



> Push this key to go to the next menu.

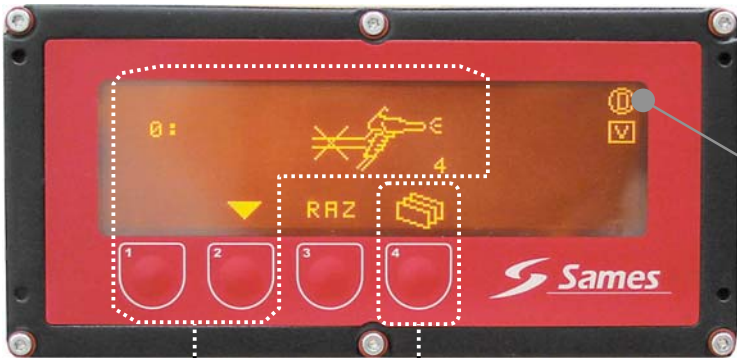


- Pushing this key permits to validate parameters, and access the next menu « E », in case of a history of faults or « F », if none.



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Nozzles
Controller in local mode 8/11
 High Voltage




Screen « E », displays the history of faults.

> This zone displays the history of faults. The screen shows the last of the occurred faults, with on its left an aging level which commences with « 0 ».

Pushing the keys:

-  Displays faults from the most recent to the oldest.
-  Displays faults from the oldest to the most recent .

>Push this key to go to the next menu.

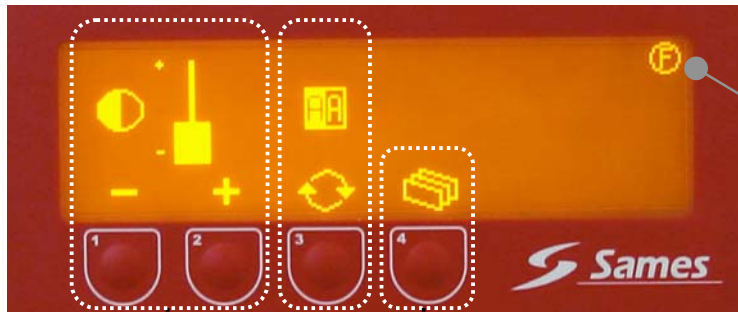


When there are no faults logged in , screen « E » does not come on. When a fault is logged in, HV and powder flow are deactivated. A screen displays which fault happened. The operator must validate with key « 3 » to acknowledge his reading.




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Nozzles
Controller in local mode 9/11
 High Voltage



Screen « F », Screen adjustment (contrast)

> This zone permits to modify the contrast on screen.
 Pushing the keys results in:



 Reducing the contrast, the screen gets clearer

 Augmenting the contrast, the screen gets darker

> This zone permits to change the colors on screen


- pushing this key results in reversing colors on the display

either orange over a black background or black over an orange background

 or 

> Push this key to go to the next menu

- Pushing the key validates the settings and accesses the next menu "H".



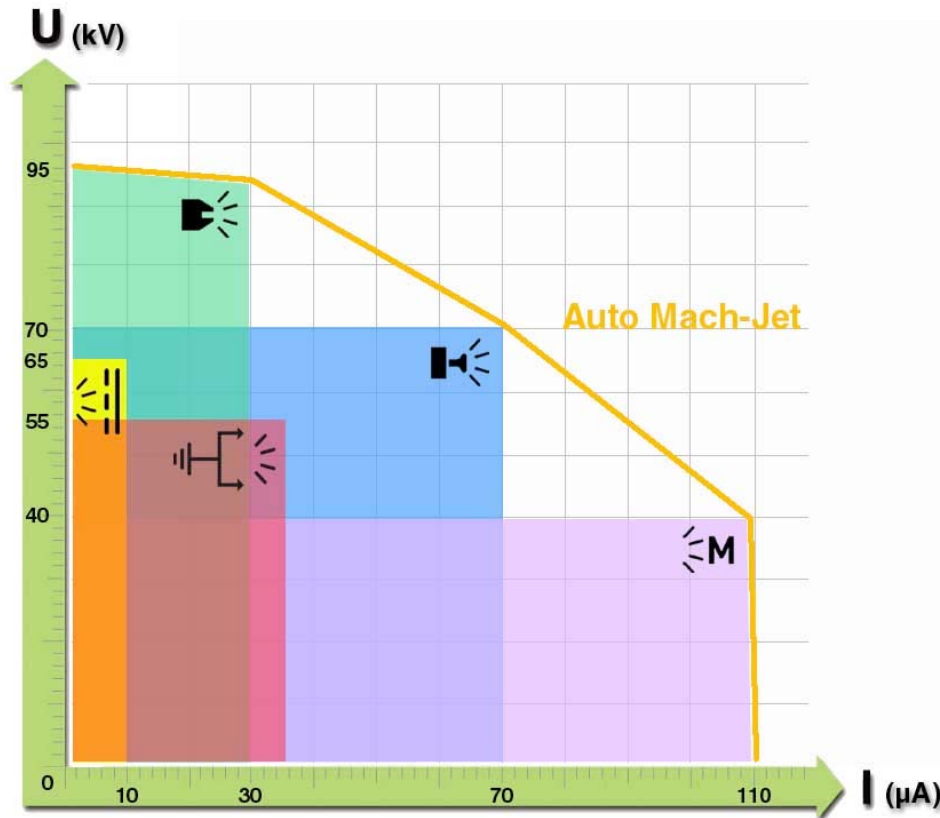
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


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Technologies
 Nozzles
 Controller in local mode
 High Voltage

:: Mapping of the electrical performances of SAMES equipment:

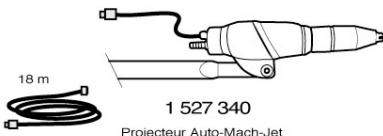

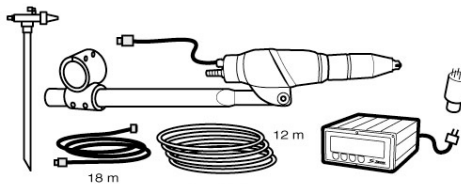
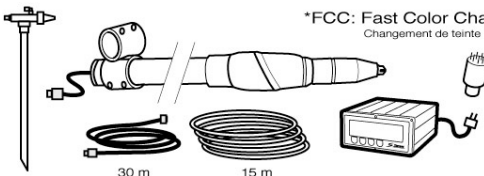




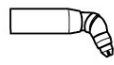

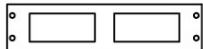










	Coating with round nozzle: <ul style="list-style-type: none"> • Increases particles charge • Better wrap-around and higher transfer efficiency • Very homogeneous pattern on complex or simple shaped parts
	Coating with fan nozzle: <ul style="list-style-type: none"> • Very good coverage and efficiency on flat parts • Easy coating in hollows • Very good penetration in complex parts
	Other applications for round or fan nozzle: <ul style="list-style-type: none"> • Re-coating • High thickness of powder (> 100 μm) • Coating of low conductive parts (glass, wood, ...)
	Additional feature ;coating with round or fan spray nozzle: <ul style="list-style-type: none"> • Metallic powder
	Special feature with fan spray nozzle: <ul style="list-style-type: none"> • Counter electrode








Introduction Reliability Benefits Characteristics References

**The Mach-jet line
Contacts**

 <p>18 m 1 527 340 Projecteur Auto-Mach-Jet Auto-Mach-Jet sprayer</p>		 <p>30 m 1 527 318 Projecteur Auto-Mach-Jet FCC* Auto-Mach-Jet FCC* sprayer</p>	
 <p>18 m 12 m 1 527 386 Equipement complet Auto-Mach-Jet Complete Auto-Mach-Jet equipment</p>		 <p>*FCC: Fast Color Change Changement de teinte rapide 30 m 15 m 1 527 382 Equipement complet Auto-Mach-Jet FCC* Complete Auto-Mach-Jet FCC* equipment</p>	
 <p>749 805 Noix Ø 50 / 30 Ø 50 / 30 nut</p>	 <p>1 204 441 Noix Ø 50 / 60 Ø 50 / 60 nut (FCC)</p>	 <p>L: 0.6 m 1 527 291 Bras support métallique Ø 30 Metallic support arm Ø 30</p>	 <p>L: 1 m 1 411 605 Bras support plastique Ø 60 (FCC*) Plastic support arm Ø 60 (FCC*)</p>
 <p>1 527 292 Buse orientable Orientable nozzle</p>	 <p>1 526 398 1 526 399 1 526 400 CS 127 / Powder pump CS 127</p>	 <p>1 526 284 Platine 19" pour 2 CRN457 19" Plate for 2 CRN457</p>	 <p>1 526 286 Platine 19" pour 1 CRN457 19" Plate for 1 CRN457</p>
 <p>1 523 297 Module de cmde CRN 457 CRN 457 control module</p>	 <p>1 527 393 Union poudre rapide Fast connector</p>	 <p>1 411 501# [x10]</p>	 <p>1 527 017 Contre électrode Powder hose Counter electrode</p>

Round spray nozzle / Buse jet rond			
	1 525 493	x1	x10
Ø 12 mm		1 411 500	1 411 500#
Ø 16 mm		1 409 259	1 409 259#
Ø 20 mm		1 409 260	1 409 260#
Ø 25 mm		1 411 993	1 411 993#

Fan spray nozzle / Buse jet plat			
	1 525 492	x1	x10
Etroit Narrow		1 311 409	1 311 409#
Std		Nous consulter / Consult us	
med		1 313 519	1 313 519#
Large Wide		1 311 793	1 311 793#

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Introduction Reliability Benefits Characteristics References

The Mach-jet line

Contacts

All part numbers for ordering purposes are available from the SAMES Sales Department and from the Marketing & Communication Department.

For any inquiry, please contact:

- Sales Department: + 33 4 76 41 60 91
- Marketing & Communication Department: + 33 4 76 41 61 09
- Web site: www.sames.com
- Web Contact: info@sames.com
- User manual number: 6366



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