INSTRUCTION MANUAL
SERIES 6000 MANUAL SYSTEM

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Version 7/2017

Series 6000 Powder Application System

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Series 6000 Powder Application System

1. Forward

Thank you for purchasing an **eic** electrostatic powder application system. The Series 6000 manual system is designed to apply enamel powder (non-flammable) and organic powders. It is a very efficient system and offers many features to simplify the process of changing kv, powder output, cleaning air and mode setting from one part to the next utilizing the memory provided in the system. The Series 6000 will also allow you to apply powder to the most difficult parts and generate savings by controlling film thickness on a constant basis. In order to receive the most from your equipment, please take a moment to become acquainted with the different functions, as described in this manual.

Please note that **eic Group** or its representatives can take no responsibility if the equipment is used outside its specification, or for uses other than those described in this manual.

2. Version Information

Version of the document	1
Date of last modification	7-25-2017

3. Safety-regulations concerning Electrostatic Application

This confirmation that the powder equipment (MX-II & STE MX-II) have passed the examination according to the regulation EN 50050 and ATEX (94/9/EG), UL

All electrostatically conductive parts within a reach of 5 m from the spray area have to be grounded.

The floor of the room containing the spray area has to be electrostatically conductive. (Concrete is usually conductive)

The personnel should wear shoes with electrostatically conductive shoes. The personnel must handle the gun either with bare hands or with electrostatically conductive gloves.

The grounding wire (green/yellow) is connected to the ground screw on the back of the electrostatic manual powder coating module. The ground wire must have a solid metallic connection to your ground used with the booth, the recovery system and the conveyor chain as well as the objects to be coated.

The electric cables as well as the powder hoses leading to the gun have to be handled in such a way that they are protected against mechanical damage.

Only after the recovery system has been put into operation may the powder coating unit be switched on.

Electric wires as well as the powder hoses have to be checked and cleaned at a minimum daily.

Safety-regulations concerning Electrostatic Application-Continued

The grounding of all electrostatically conductive parts and equipment within the reach of 5m from the spray area should be checked at least once per week.

The control module must be switched off when cleaning the gun or when changing nozzles or extensions.

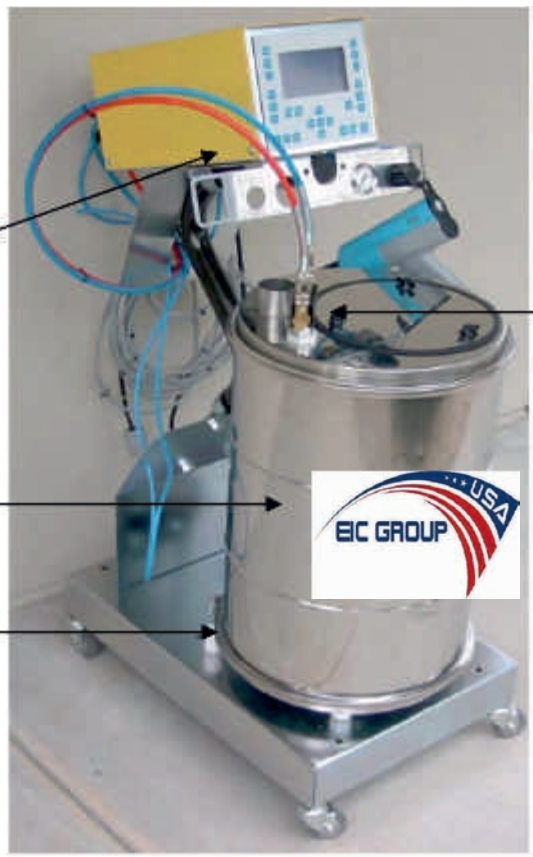
Organic powders are flammable. Powder can catch on fire if there is an arc or flame in the atmosphere where powders are sprayed. If the density of the powder output to the available air volume is high an explosion and/or fire can become primed in the atmosphere of the powder spray. A typical density of the powder in the air that may create a danger of explosion is 15 to 20 grams/cubic meter. To prevent fire observe the following:

Do not allow any origin of fire such as cigarettes in the booth area.
Do not do any tasks such as welding in the area of the booth.

4. Installation & Assembly of Series 6000 System

The Series 6000 system is delivered with the stand assembled, control module, hopper, injector block assembly, and hand gun.

Place control module on stand top and install holding bolts from the bottom of the stand top



Attach Injector Block Assembly to Hopper Lid

Place hopper on stand

Connect 6mm hose to fitting on bottom of hopper from regulator

Series 6000 Powder Application System

Installation & Assembly of Series 6000 System-Continued

When all components are mounted to stand attach hoses and cables to the back of the control module as described below.

Plug in Power Cord

Plug in Gun Cable

Set Voltage Selector to 110 V

Attach 6mm Hose to fitting (Gun Cleaning Air)

Attach 8mm Blue Hose to Connection (Dosing Air)

Compressed Air Connection for Incoming Air - Max. 100 PSI

Attach 8mm Black (or Red) Hose to Connection (Conveying Air)

Hopper models will have an additional connection with a "T" to accommodate a 6mm Hose from the control module to the regulator mounted below the control module on the stand. "T" will be located at the compressed air connection.

***Attach Compressed Air**

***Plug Unit Into 110v Outlet**

***Add Powder**

***Review Following Instruction**

***System Ready for Operation**

Series 6000 Powder Application System

Installation & Assembly of Series 6000 System-Continued

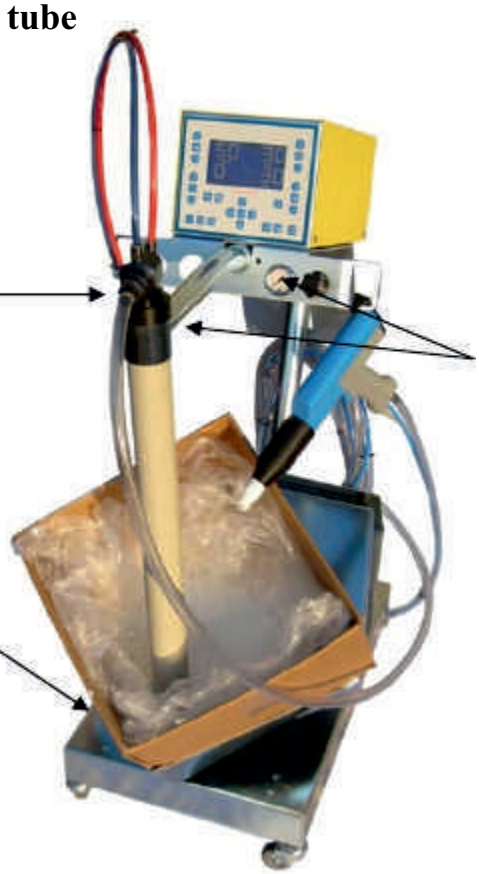
Box Vibrator System

Follow previous instructions with three additional and/or different connections:

Plug vibrator motor into 110 V Outlet

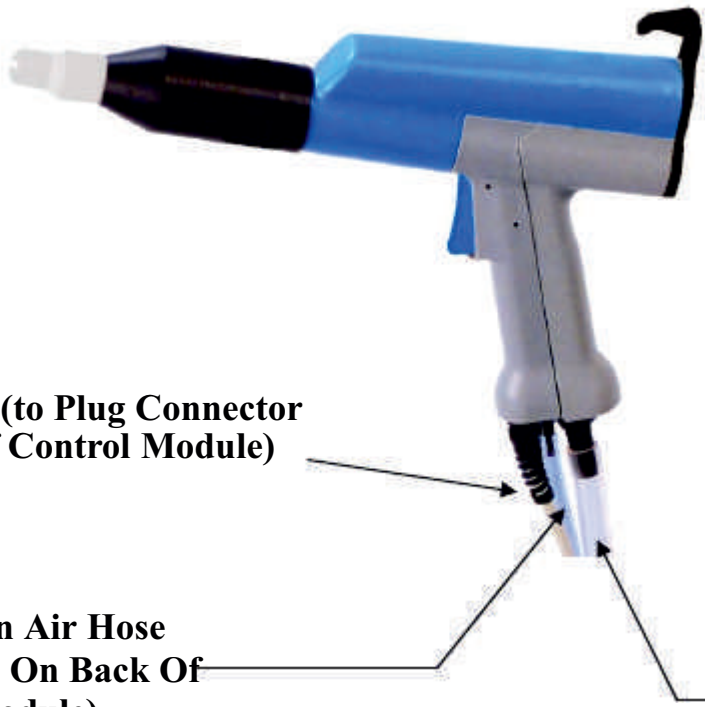
Connect 6mm hose from regulator into fitting on powder suction tube for fluidization of powder at end of tube

Mount Injector Block Assembly to the top of the suction tube



Installation & Assembly of Series 6000 System-Continued

Hose & Cable Connections At Gun



5. Series 6000 Powder Application System

Easy To Operate – Optimizes Powder Application Efficiency

Digitized Air Volume Valves For Exacting Powder Output And Powder Pattern

Adjust Powder Output Volume

Adjust Electrostatic Charge Setting 10-100 KV

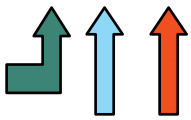
Charging Modes

Low Amp Output

and Medium Amp Output Are For Difficult Faraday Areas

Adjust Powder Flow to Gun

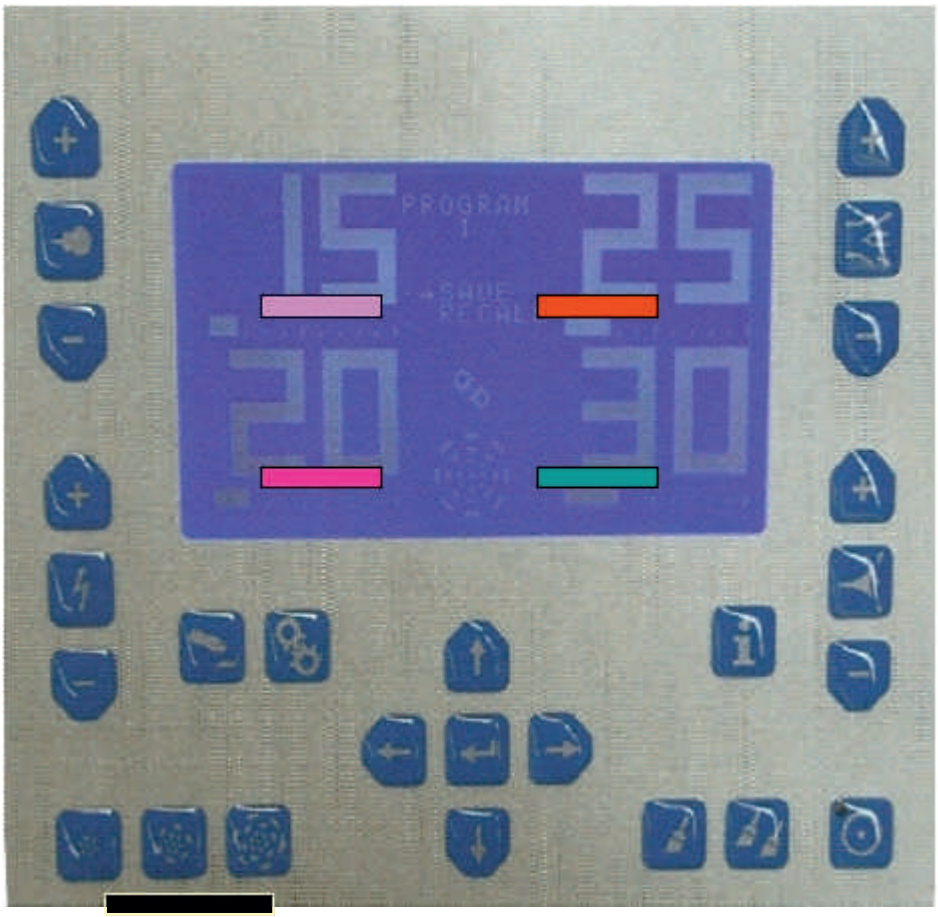
Adjust Cleaning Air



High Amp Output Is Used For Flat, Square, or Round Surfaces

Series 6000 Powder Application System

The Series 6000 Control Module allows you to save up to 10 Part Programs.



Each Program includes:

Powder Output Setting

Powder Flow Setting

KV Setting (up 100 KV)

Cleaning Air Setting

Charging Mode

6. Series 6000 Powder Application System

Saving A Program

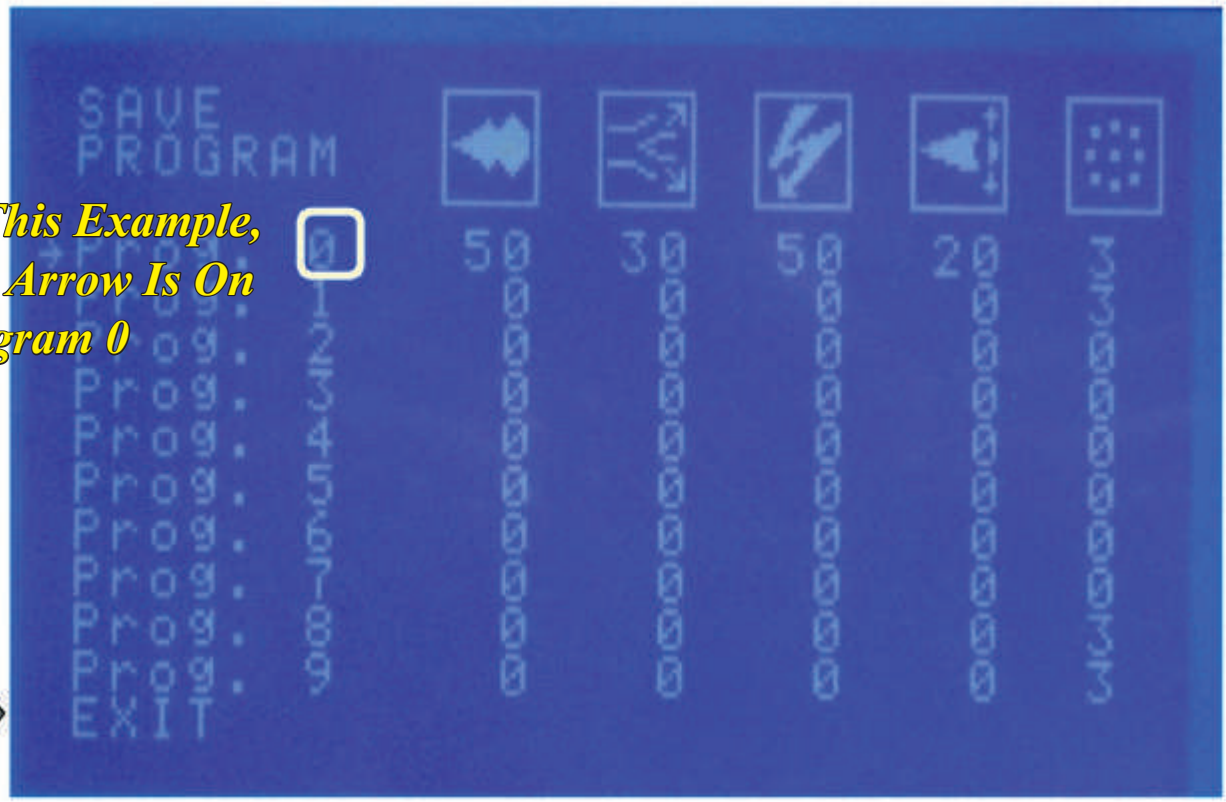
When All The Parameters Are Set As You Require

Check To See That The Arrow Is Pointed To SAVE

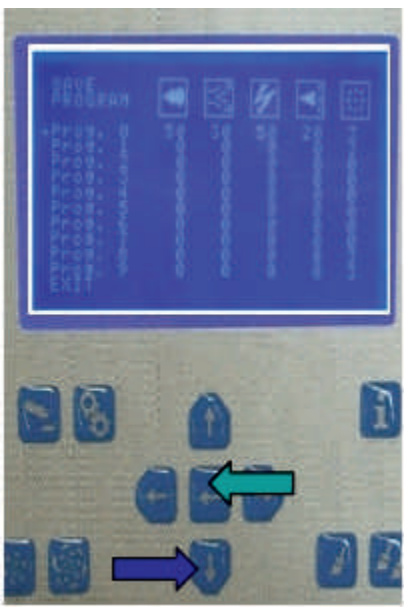
Push The Enter Key To Move To The Save Program Screen

Series 6000 Powder Application System

Save Program Screen



In This Example, The Arrow Is On Program 0

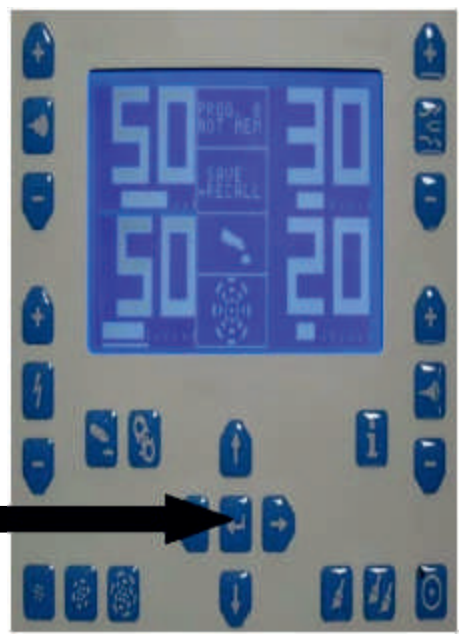


Push The Enter Key To Save The Program

Using The Down Arrow Key

Scroll Arrow To Exit

Push Enter Key To Return To Main Screen



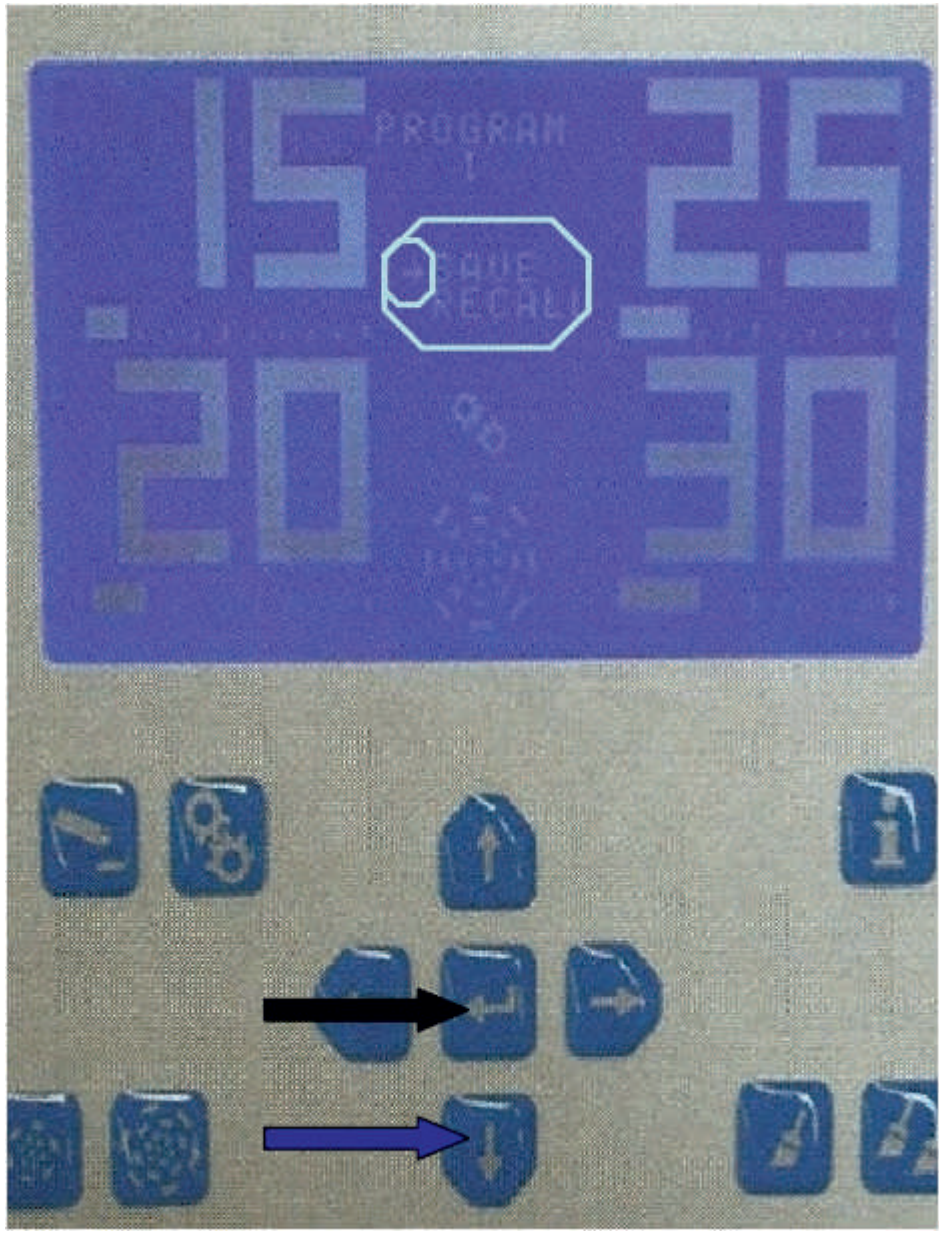
7. Series 6000 Powder Application System

Recalling A Program

Recalling A Program Is Very Easy.

Simply Move Arrow To RECALL By Touching The Down Arrow Key

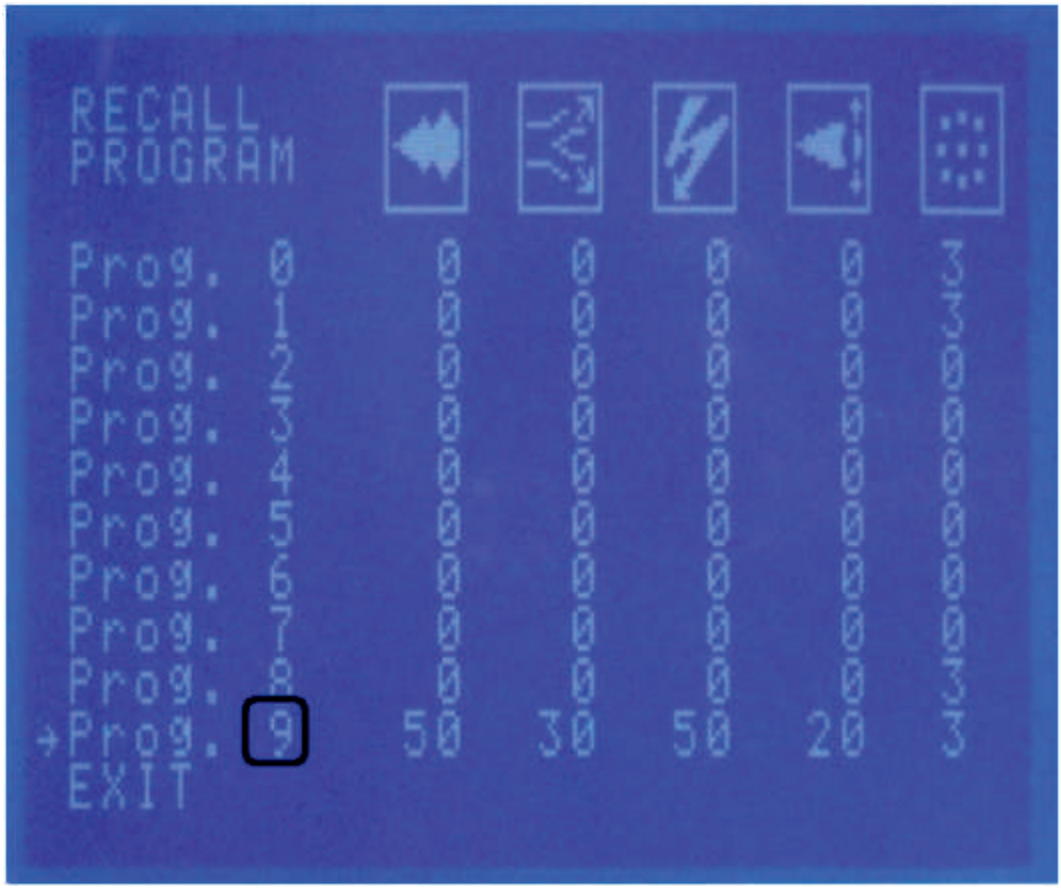
Then Push The Enter Key To Move To The Recall Program Screen

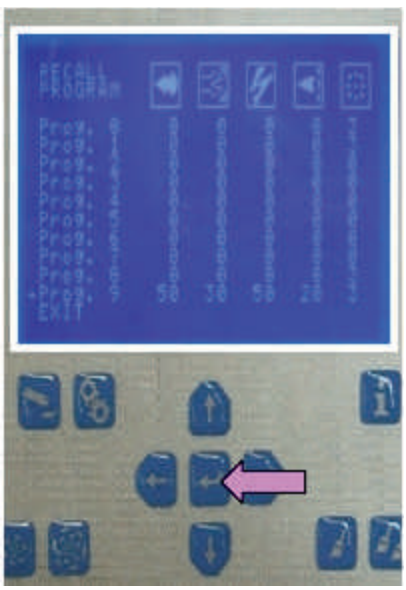


Series 6000 Powder Application System

Recall Program Screen

In This Example, The Arrow Is At Recall Program 9





By Pressing The Enter Key You Are Returned To The Main Screen With The Recalled Program Ready To Use

8. Series 6000 Powder Application System

Maintenance, Troubleshooting, and Repair

Caution - Before opening the casing, switch off the electrical voltage and disconnect the electric cable.

Failure	*Causes of failure*	*How to repair*
No voltage supply to gun/magnetic valve will not open	- control module power button not pushed to ON position - broken cable - loose wire in gun socket	- push button to ON position - replace - remove cover and solder wire to pin
No light on main switch/no voltage	- lamp defect - power not connected to unit - main power button on lower right front of panel has not been pushed to turn unit ON - face board non-functional	- replace - plug incoming electrical cable to power supply - push fo ON position - replace face board

Maintenance, Troubleshooting, and Repair - Continued

Failure	*Causes of failure*	*How to repair*
No high Voltage	- KV board defective - gun cascade defect - gun switch defect - cable broken - connect spare gun to control module - connect gun to spare control module	- replace - replace - replace - replace - if spare gun operates as normal then the gun in question is non-functional (see above) - take the gun in question and connect to a spare control module, if gun in question functions as normal then the problem is with the control module
Powder poorly charged	- no high voltage - electrode covered with powder - electrode worn out - parts ot grounded - faulty cascade	- follow above mentioned advice - clean powder from electrode - replace - connect to ground - replace

Maintenance, Troubleshooting, and Repair Continued

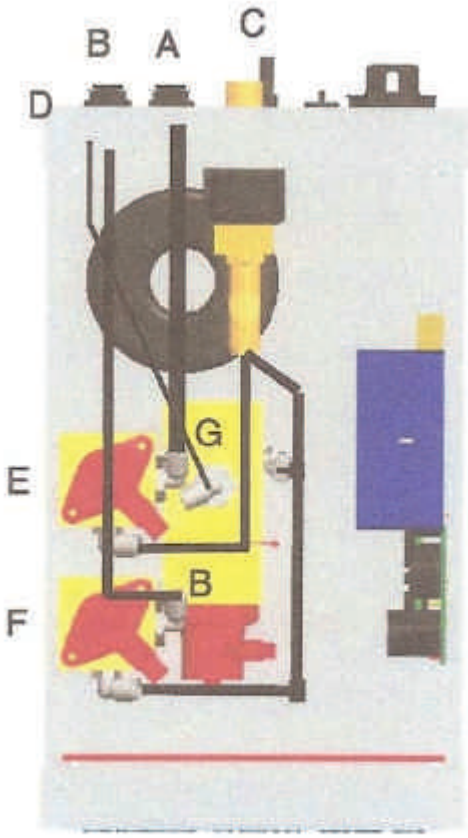
-

Failure	*Causes of failure*	*How to repair*
No powder flow	- examine the input pressure - defective solenoid valve - KV board defect - injector clogged - check insert sleeve	- adjust a needed - replace - replace - clean as needed - replace as needed
Insufficient coating in corners	- powder output speed to high - voltage setting to gun set to high	- adjust incoming air volume lower - adjust powder volume to higher percentage setting located on control module front upper left and then lower air percentage for dosing air upper right hand on front of control module - adjust kv to lower setting

9. Series 6000 Powder Application System

System Schematics

Pneumatic Schematic



Pos. A) **Conveying Air (to injector block assembly)**

Pos. B) **Dosing Air (to injector block assembly**

Pos. C) **Main Air Supply**

Pos. D) **Cleaning Air (to gun)**

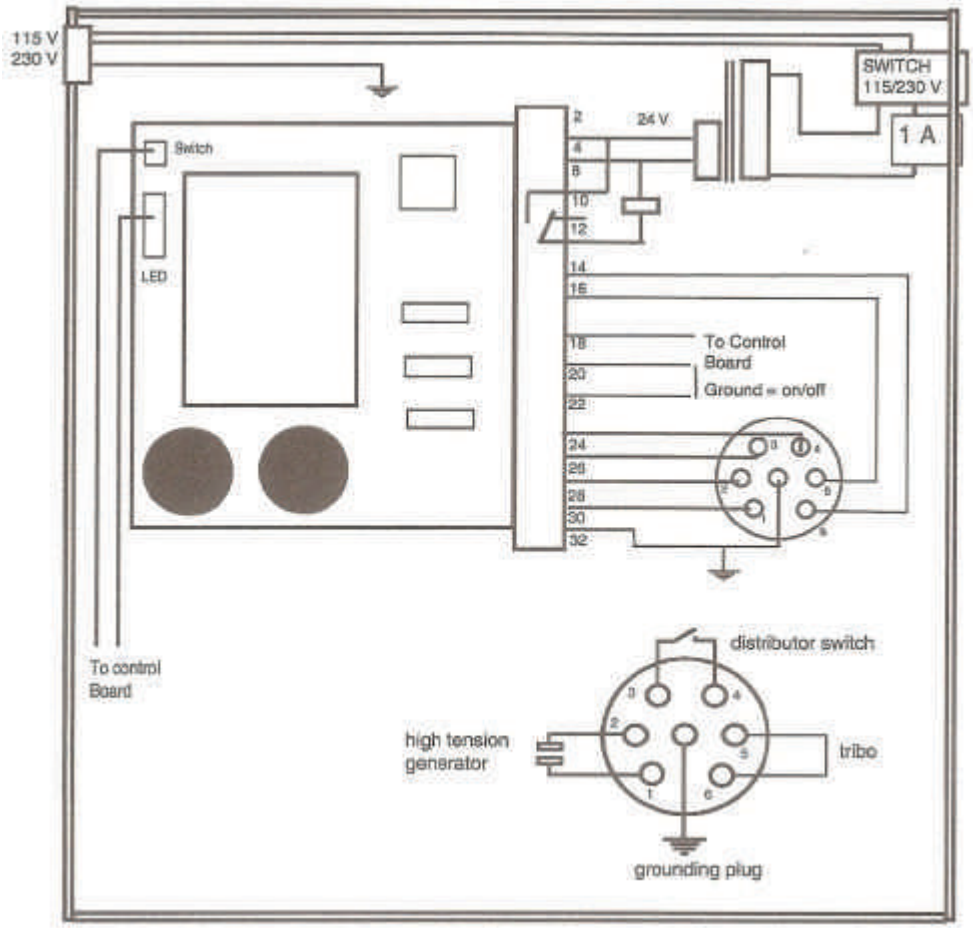
Pos. E) **Digital Stepmotor Valve – Conveying Air**

Pos. F) **Digital Stepmotor Valve – Dosing Air**

Pos. G) **Digital Stepmotor Valve – Cleaning Air**

System Schematics - Continued

Electrical Schematic



10. Series 6000 Powder Application System

Technical Specifications

Series 6000 Control Panel

General Information:

Type:	**IN STE 1**
Incoming Voltage:	**220v/110/v**
HV Reading:	**Graphical Display**
Temperature Range:	**+10 degrees C to +40 degrees C**
Licence:	**EN 50 050 / UL**
Examination n:	**BVS 05 ATEX E051**
Min. Air Input:	**45 psi**
Max. Air Input:	**100 psi**
Max. Water Content Inlet Air:	**1.3 g/m3**
Max. Oil Content Inlet Air:	**0.1 mg/kg**
Max. Air Consumption:	**7 cfm**
Dimensions	
Length:	**Approx. 330 mm**
Height:	**Approx. 180 mm**
Width:	**Approx. 200 mm**
Weight:	**Approx. 9 kg**

The license is only valid when the electronic control unit and the powder gun are used in combination with each other. Products have been manufactured according to EN 50050, EN50050, EN50081-2, EN50082-2,73/23/EWG, 98/37/EG the UL rules and according to the CE standards.

Technical Specifications

Series MGX-900 Manual Electrostatic Gun

Weight:	**480 grams**
Polarity:	**Negative**
Input Voltage:	**0 to 9.8 V eff. AC**
Frequency:	**18,000 HZ +/- 1%**
Output Voltage	**up to 100kv**
Max. Current	**140 micro A**

11. Series 6000 Powder Application System

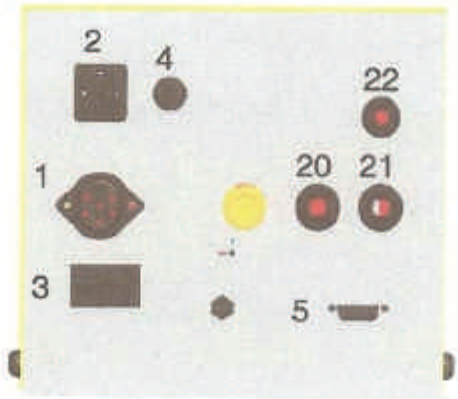
Spare Parts

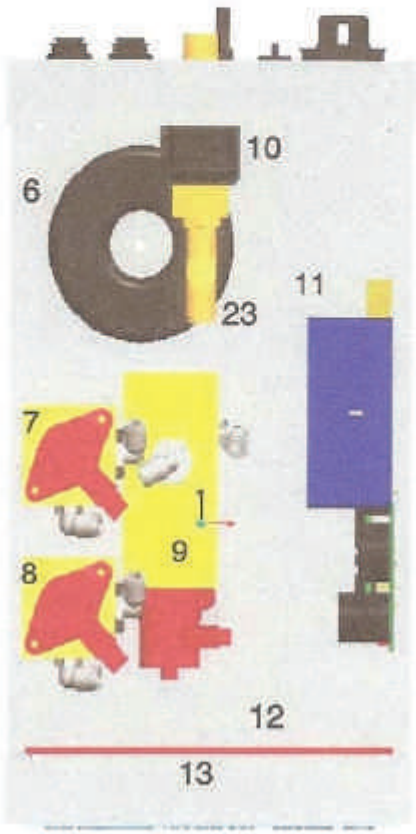
Pos:	*Code:*	*Part Description:*	*Quantity:*
1		Connecting Socket 7-pole	
2		Inline 3-pole	
3		Switch 115/230 V	
4		Fuse 1A (Only Ver 01)	
5		CAN-Bus (automatic only)	
6		Transformer	
7		Stepmotor kpl. 0.3	
8		Stepmotor kpl. 0.2	
9		Stepmotor kpl. 0.2	
10		Solenid valve	
11		HV - Board	
12		Control Board	
13		Graphical Display	

Spare Parts

Pos:	*Code:*	*Part Description:*	*Quantity:*
20		Pneumatic connector 8 mm	
21		Pneumatic connector 8 mm	
22		Pneumatic connector 6 mm	
23		Y - Connector 8 mm	

Spare Parts





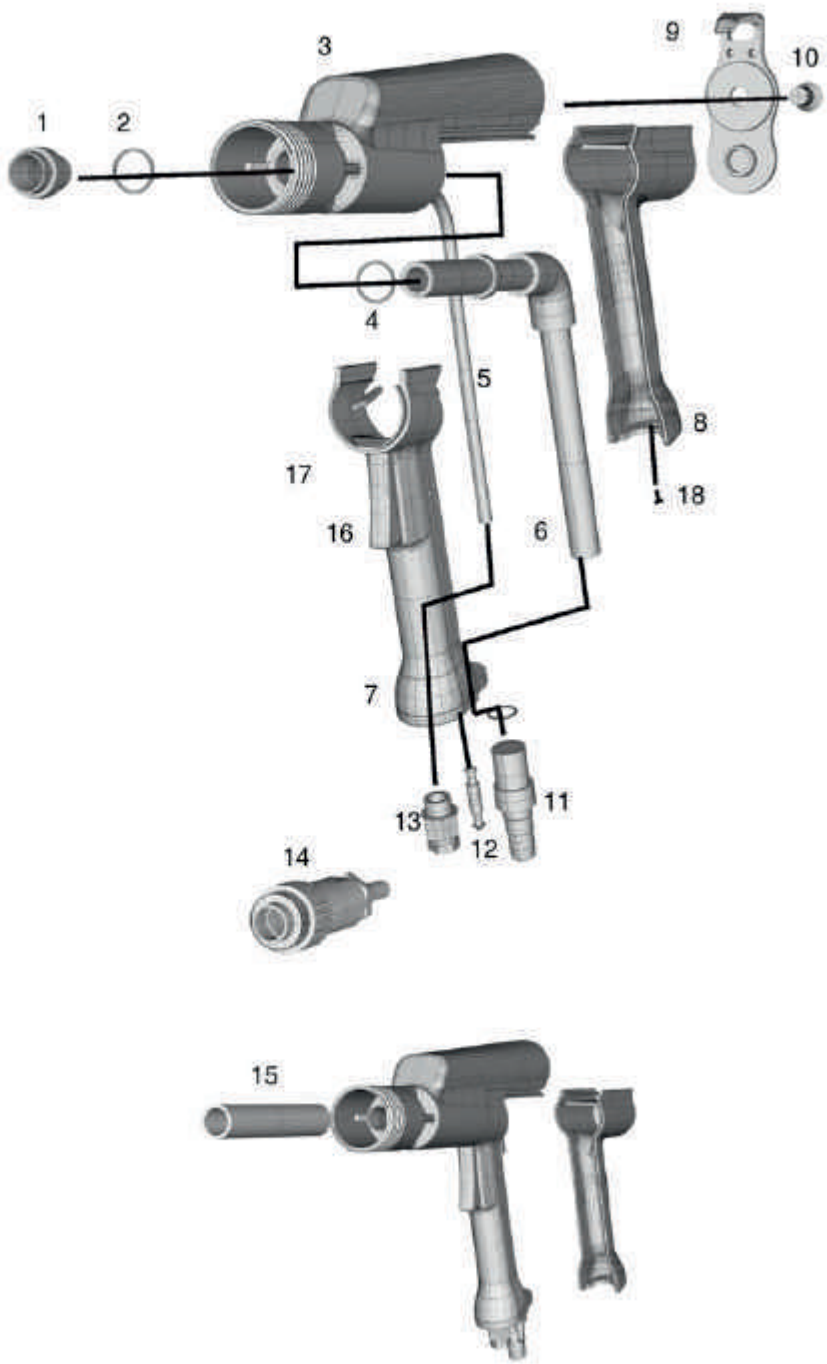
Spare Parts

Series MGX-900 Manual Gun

Pos:	*Code:*	*Part Description:*
1	4.000 001.01	Venturi nozzle
2	4.100 120.01	O-Ring 14x1
3	4.100 121.01	HV-Unit
4	4.100 120.02	O-Ring 16x1
5	4.100 123.01	Air hose 4 x 6
6	4.100 122.01	Powder Tube Manual
7	4.000 007.01	Front handle
8	4.000 005.01	Back handle
9	4.100 124.01	End Hook Manual yellow
10	4.100 125.01	Fixing bolt M10
11	4.100 126.01	Powder transport hose joint
12	4.100 185.01	Air hose joint «manual»
13	4.100 128.01	PG7 cable fixing
14	4.100 129.01	Distributor plug
16	4.100 130.01	Trigger
17	4.100 131.01	Switch
18	4.100 132.01	Fixing screw M4

Spare Parts

Series MGX-900 Manual Gun



Spare Parts

Series MGX-900 Manual Gun

Pos:	*Code:*	*Part Description:*
41	4.100 134.01	Electrode holder 100 mm «aut»
	4.100 134.02	Electrode holder 200 mm «manual»
	4.100 134.03	Electrode holder 300 mm
42	4.100 135.01	Muzzle 100 mm «automatic»
	4.100 135.02	Muzzle 200 mm «manual»
	4.100 135.03	Muzzle 300 mm
43	4.000 019.01	Front fixing sleeve
44	4.002 001.01	Flat jet nozzle
45	4.100 136.01	Defector Ø 16 mm
46	4.100 136.02	Defector Ø 24 mm
47	4.100 136.03	Defector Ø 32 mm
48	4.100 166.01	Short fixing
49	4.100 167.01	Fixing sleeve for long holder
50	4.100 139.01	Venturi Nozzle key
51	4.100 140.01	Cleaning Brush
52	4.100 170.01	Long holder 1 = 350. D = 11
53	4.100 169.01	Fixing
54	4.100 168.01	Adapter M16/1 D=11
55	4.100 186.01	PG7 cable fixing with cable + plug
56	4.100 126.01	Powder transport hose joint
57	4.100 187.01	Air hose joint «automatic»

Spare Parts

Series MGX-900 Manual Gun