

# User manual

## E-SERIES Cart with vibrating table

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## E-SERIES

### Cart with vibrating table

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## 1. Health and safety instructions



**WARNING :** This manual contains links to the following user manual

- [see RT Nr 7079 S](#) for MG 400-AG 400 spray guns and CGU 400 control module.

**Note:** This device complies with the ATEX directive. It may be dangerous if it is not used in compliance with the safety regulations specified in this manual.



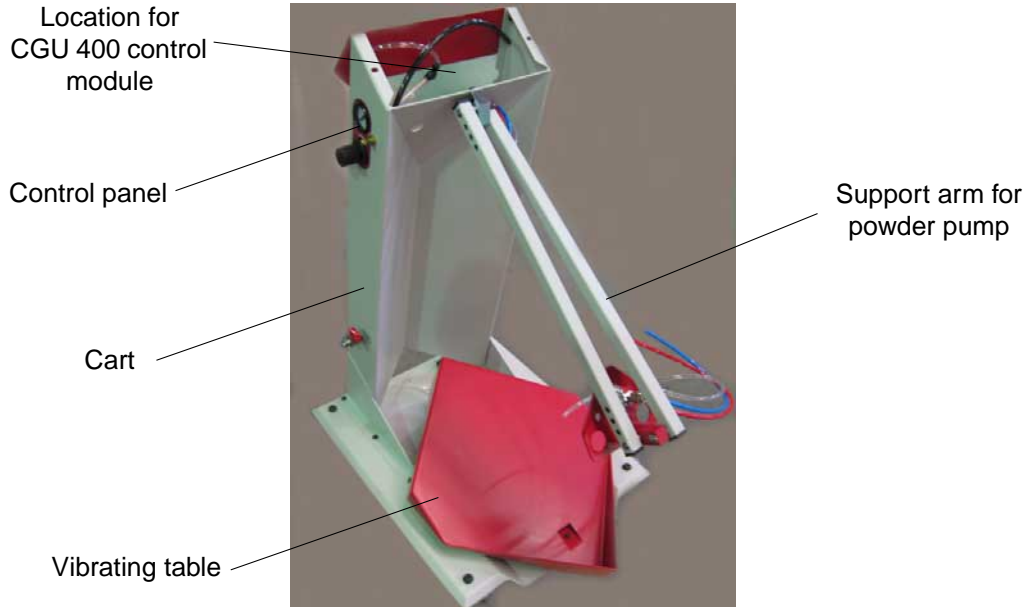
**WARNING :** This cart is intended for use with powder-paint spraying apparatus only (MG 400 manual spray gun and AG 400 automatic spray gun).

- This device must only be used by personnel trained and accredited by SAMES Technologies. Operating staff must first read the user manual and the user manuals for any peripheral electrical equipment present in the spraying area. The workshop manager must ensure this is the case.
- The cart must always be installed and used in areas where there is no risk of explosion.
- It is essential to connect the bonding strip under the vibrating table and to connect the CGU 400 control module to the ground to guarantee the safety of operators and correct operation of the powder-coating equipment.
- When a vibrating table is used, the plastic bag containing the powder must be tightly wrapped around the plunger tube to avoid any escape of powder, which could create an explosive atmosphere.
- The box must be filled in a ventilated area designed for the purpose and under no circumstances anywhere near the cart.
- Under no circumstances may the cart be used to carry or transport loads other than the powder tank or a powder box with a maximum weight of 30 kg on the vibrating table.
- Ambient temperature must not exceed 40 °C (104°F).
- The spraying area must be kept clean and clear of any unnecessary items.
- The floor on which the operator works must be anti-static (bare concrete or metal duckboard). Never use an insulating floor covering.
- Powder spraying must be carried out in front of a ventilated booth designed for the purpose. Start-up of the CGU 400 control module must be interlocked with operation of the ventilation system.
- Skin-contact with or inhalation of products used with this equipment may be dangerous for personnel (cf.: Safety sheets for products used).
- The parts to be painted must have a resistance with respect to ground that is less than or equal to 1MΩ.
- Powder-spraying equipment must be maintained regularly according to the instructions laid out in this manual.
- Only genuine Sames Technologies spare parts can guarantee operating safety for the equipment.
- Genuine SAMES hoses must be used to connect the powder pump.

## 2. Description

### 2.1. General presentation

The convenient, compact size of the cart makes it easy to manoeuvre and move, with four freely-steerable wheels. The MG 400 manual spray gun is fixed to the cart by a hook. The cart also includes the CGU 400 control module.



#### 2.1.1. Vibrating table

This component enables standard powder boxes of up to 30 kg to be easily used.

It is fitted on the cart at a slight angle, in order to ensure the powder is fully taken up, even from the bottom of the box.

A high-performance pneumatic vibrator is used to vibrate the powder and minimise compaction. Vibration frequency can be adjusted according to the type of powder used and level of product remaining. Vibrator operation is activated with the spray gun trigger.

#### 2.1.2. Support arm for powder pump

Integrated into the cart, it supports one or two powder pumps. It ensures a correct positioning in the powder box.

Gradually, the tube of the powder pump slides at the same time as the level of powder comes down in the box.

In order to facilitate the replacement of the powder box, the arm is locked in a high position releasing sufficient space.

#### 2.1.3. Control panel

Item	Function
1	Vibrator air supply pressure adjustment and reading (for vibrating table)
2	Fluidisation air flow-rate adjustment (plunger tube)



### 3. Characteristics

#### 3.1. General characteristics

Because of the structure of the cart:

- a box with a weight of approximately 30 kg (66 lb) and with maxi. dimensions of 430 x 430 x 430 of powder can be placed on a vibrating table.

Cart dimensions (h x w x d)	1080 x 450 x 620 mm
Approximate weight (without powder)	40 kg.
Operating temperature	from 0°C to 40°C (32°F to 104°F).

#### 3.2. Pneumatic characteristics

Characteristics of the compressed-air supply according to standard NF ISO 8573-1:

Maximum dew point at 6 bar (87 psi)	class 4, i.e. + 3 °C (37 ° F)
Maximum particle size of solid contaminants	Class 3, i.e. 5 µm.
Maximum oil concentration	Class 1, i.e. 0.01 mg/m <sup>3</sup> *
Maximum concentration of solid contaminants	5 mg / m <sup>3</sup> *

\* : Air flow-rate values are given for a temperature of 20° C (68 °F) at an atmospheric pressure of 1013 mbar.

Cart air supply pressure	7 bar max (101.5 psi)
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Powder maximum flow-rate: variable until 500g/min

"Fluidisation" air: until 4 bar (58,8 psi) max.

### 4. Operation

The powdered paint remains in its original box. The box is placed on the vibrating table.

The vibrator vibrates the table and enables the fluidisation head to reach the bottom of the powder box.

The fluidisation nozzle, with its compressed air supply, "fluidises" the powdered paint.

The powdered paint, fluidised in this way, is then carried by an air jet from the powder pump to the spray gun to which it is connected by a powder-carrying hose.

### 5. Tools

No specific tools.

## 6. Installation



**WARNING :** This equipment must be imperatively connected to the ground.


- Carefully remove units and components from packaging, and check contents against packing list.
- Install the cart in a secure manner and placed at least 1,5 m of any opening of the booth ([see RT Nr 7079 S](#)). Secure the CGU 400 control module on the cart using the two M6 x 10 screws and the two locking washers with a 5mm allen wrench.
- Connect the airlines to the outlet ports of the rear panel of the Gun Control Unit as follows : ([see RT Nr 7079 S](#) for the rear panel illustration and key to symbols).
  - 1 Red airline from Venturi Jet to the 'Powder Delivery Air Supply Output'.
  - 2 Blue airline from Venturi Dilution Port to the 'Powder Dilution Air Supply Output'.
  - 3 Black airline from the Guns to the 'Gun Air Supply Output'.

**Equipment with vibrating table**, connect the colorless airlines from the vibration control regulator and the Fluidising Pad (which are joined with a “T” connector) to the ‘Vibrating Box Air Supply Output’ at the top right hand corner of the control unit.

NOTE: The powder pump is identified by a Red washer & the Dilution Port by a Blue washer.

- Connect the black airline (Dia: 8mm) to the centre right hand air fitting on the rear of the gun control module ([see RT Nr 7079 S](#)).
- Insert the suction tube on the front bracket of the articulated arm until it latches into position.
- Ensure that the three airlines which exit the front of the articulated arm are connected as follows:
  - 1 Red airline to “Powder delivery” air fitting at the top rear of the powder pump (the sealing washer of this fitting is red).
  - 2 Blue airline to “Powder dilution” air fitting at the top centre of the powder pump (the sealing washer of this fitting is blue).
  - 3 Black airline to the “Fluidising pad” coupling fitting on the top of the powder pump mounting bracket.
- Secure the gun hook to the side of the cart using the M 6x 50 socket cap head screw.
- Connect the powder hose to the powder pump.
- Connect an air supply hose to the ball valve mounted on the side of the cart.

## 6.1. Set up procedure

- **Step 1:** Ensure that all switches are in the OFF position and that all pressure regulators are closed, (the knobs should be turned fully anti-clockwise). The knob of the pressure regulators are unlocked by pulling outwards and locked by pressing inwards.
- **Step 2:** Lift the articulated arm to its maximum height and push down on the front of the powder pump support brack to lock the arm into a parked position.
- **Step 3:** Place an open box of powder onto the vibrating table.
- **Step 4:** Lift the front of the powder pump support bracket and lower the articulated arm and suction tube so that the fluidized suction head is lowered onto the powder. The tube enters the powder during the application and digs into the powder towards the front corner of the box.
- **Step 5:** Turn on the "Mains Electrical" (third on the right) switch of the control module to the position marked  The numerical display of set value and the mode indicator lights.  
High voltage is enabled.
- **Step 6:** In the spraying booth, press the trigger of the spray gun. A red LED lights next to the "T" symbol on the display.
- **Step 7:** With the trigger still pressed, open the flow regulator to approximately 2 bars (29.4 psi) on the side of the cart. Then open the flow adjuster by turning the knob anti-clockwise until a slight disturbance of powder is noticed around the fluidizing pad at the bottom of the suction tube. This air supply should be kept to a minimum consistent with smooth powder flow to prevent powder from being ejected from the box into the surrounding air.  
The flow adjuster, equipped with a lock nut, may be used to lock the fluidisation setting.

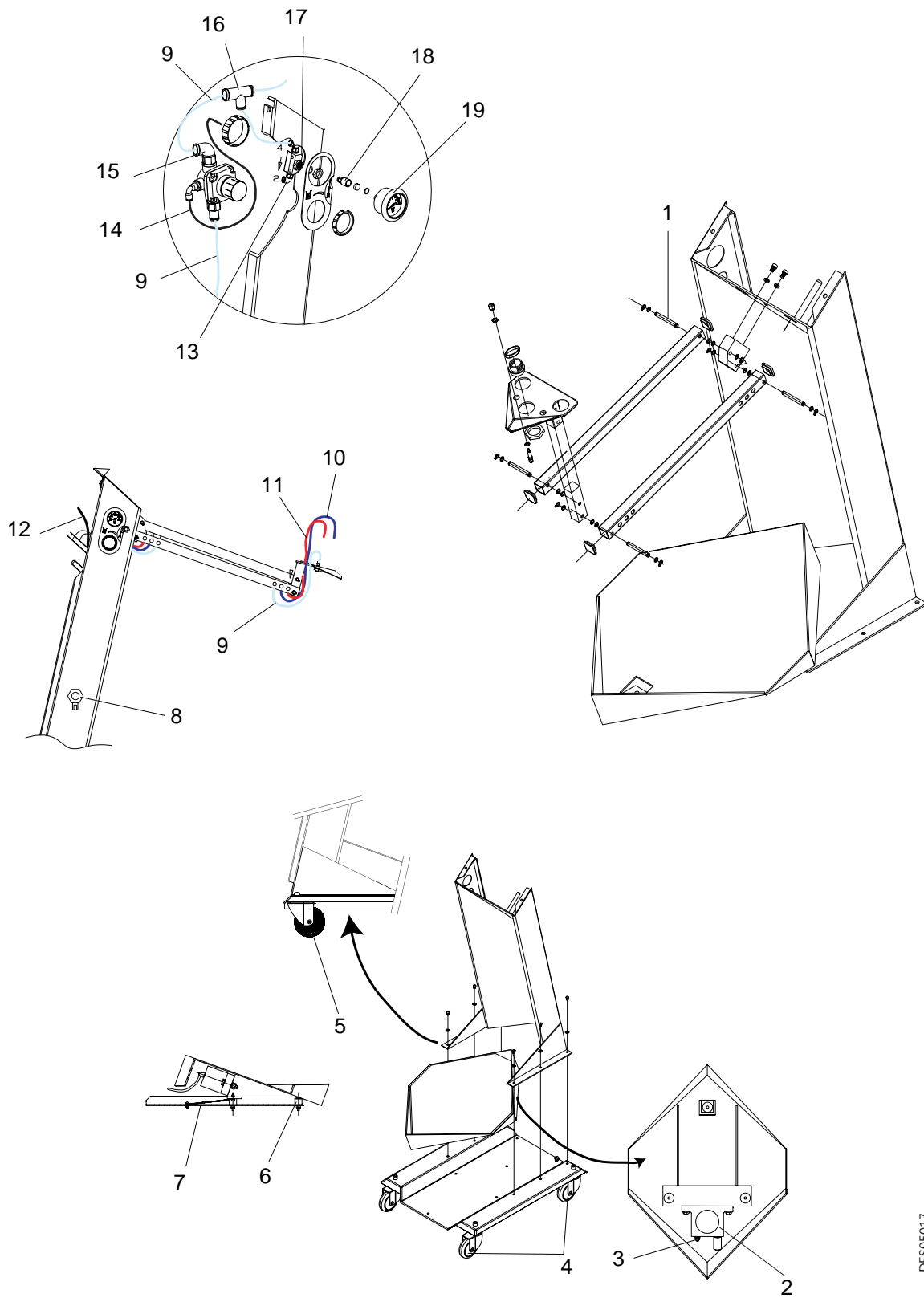
To set up the spraying: [see RT Nr 7079 S](#).

## 7. Troubleshootings

[see RT Nr 7079 S](#)



## 8. Spare parts



Item	Part Number	Description	Qty	Sale Unit	Spare Part Level (*)
	<b>EU75009004S</b>	<b>E-Series Cart with vibrating table</b>	<b>1</b>	<b>1</b>	<b>3</b>
1	EU5009010	Pivot axle	4	1	3
2	EU9001031	Pneumatic vibrator	1	1	2
3	EU9000105	Male straight union 1/4 D6	1	1	3
4	EU9000065	Rubber pivoting roller - Dia:75	3	1	3
5	EU9000064	Conductive rubber pivoting roller Dia:75	1	1	3
6	EU9000355	Damper	1	1	3
7	EU9001064	Bonding strip - 30A	1	1	3
	E4CSPR085	Blue lug - Dia: 6	1	1	3
8	EU9001892	Mini Ball valve 1/4	1	1	3
9	EU9000170	Colorless polyurethane 4x6 hose	2,5	m	3
10	U1GLBT152	Blue polyurethane 4x6 hose	1,25	m	3
11	U1GRBW198	Red polyurethane 4x6 hose	1,25	m	3
12	EU9000171	Black polyurethane 5.5x8 hose	0,75	m	3
13	F6RLCS508	Cylindrical male union bracket M5 D6	1	1	3
14	EU9000203	Black polyurethane 2.5x4 hose	0,25	m	3
15	EU75009007	Regulator 4 bar	1	1	3
16	F6RLTS485	Equal Tee Dia: 6	1	1	3
17	EU9000363	Flow adjuster	1	1	3
18	EU9000052	Female straight union 1/8 D4	1	1	3
19	EU9001879	Pressure gauge (4 bar)	1	1	3

(\*)

**Level 1: Standard preventive maintenance**

**Level 2: Corrective maintenance**

**Level 3: Exceptional maintenance**