



From February 1st, 2017 SAMES Technologies SAS becomes SAMES KREMLIN SAS
A partir du 1/02/17, SAMES Technologies SAS devient SAMES KREMLIN SAS



User manual

e - Jet - R
e - Jet - R2

e-Jet

DPCS Digital Preset Coating System

SAS SAMES Technologies. 13 Chemin de Malacher 38243 Meylan Cedex
Tel. 33 (0)4 76 41 60 60 - Fax. 33 (0)4 76 41 60 90 - www.sames.com

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Tel. 33 (0)4 76 41 60 04

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The French version is deemed the official text and Sames will not be liable for the translations into other languages.

e - Jet - R

e - Jet - R2

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1. Safety Regulations



WARNING : This document contains links to the following user manuals:

- [see RT Nr 6368](#) for CS 237 powder pump.
- [see RT Nr 6336](#) for the “Mach-Jet” spray gun and “CRN 457” control module.
- [see RT Nr 6410](#) for the Fast Clean.

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



WARNING : The “e-Jet” is intended for use with powder-paint spraying apparatus only.

- 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 “e-Jet” cart must always be installed and used in areas where there is no risk of explosion
- It is essential to connect the ground terminal on the cart to the ground system terminal of the powder-coating installation (or powder-coating booth) to guarantee the safety of operators and correct operation of the powder-coating equipment.
- In case of use of the tank, it is imperative to evacuate fumes in a zone where air charged with powder is filtered.
- The tank 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 20 kg. The tank normally is used installed on the lower part of the cart. It is imperative electrically to connect the tank to the ground with the provided ground cable.
- 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 CRN 457 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. If the semi conductor black hoses must be changed, it is imperative to replace them by hoses of identical nature ([see § 9.1 page 15](#)).

Nota: there is a ground braid, secured under the lower body of the cart, to ensure flow of electrical charges in the case of accidental non-compliance of the connection with the cart’s grounding system. Under no circumstances must this safety device must be substituted for the “e-Jet” ground terminal connection.

2. Description

2.1. General presentation

The convenient, compact size of the “e-Jet” cart makes it easy to manoeuvre and move, with four freely-steerable wheels.

The cart includes the CRN 457 control module in front of the operator, at an angle that is optimised for comfort in use.

Main components:



1	CRN 457 control module
2	“Mach-Jet gun”
3	Tank
4	CS 127 powder pump
4'	Fume extraction pump
5	Connection to the ground
6	Control panel
7	Cart

2.1.1. Tank

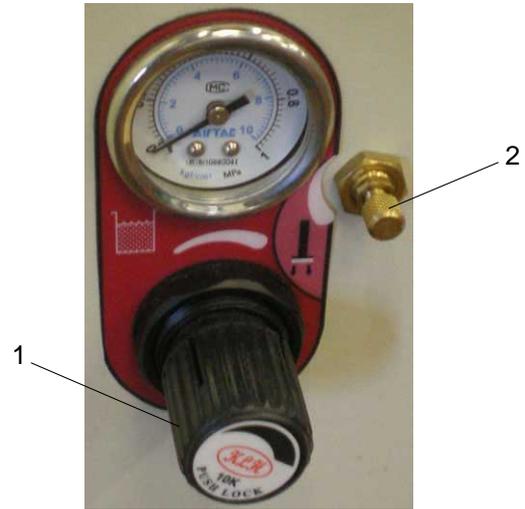
It is designed to supply powder to one or two powder spray guns. Its maximum capacity is 35l useful or 20kg of powder.

2.1.2. CS 127 powder pump

A powder pump enables suction of the powder directly from the powder tank.
This “e-Jet” device also exists with a second powder pump (option).

2.1.3. Control panel

Item	Function
1	Fume extraction air supply pressure adjustment and reading (tank)
2	Fluidisation air flow-rate adjustment (plunger tube)



2.1.4. "Fast Clean" (Option)

[see RT Nr 6410.](#)

- This equipment is designed to clean the inside of the powdered paint circuit using compressed air, from the CS 237 powder pump up to the spray gun.



3. Characteristics

3.1. General characteristics

e-Jet cart dimensions (h x w x d)	1020 x 440 x 640 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 ³ *
Maximum concentration of solid contaminants	5 mg / m ³ *

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

The filter installed on the “e-Jet Cart” is used to ensure correct operation of the device in the event of accidental non-compliance with compressed-air filtering recommendations.

e-Jet Cart air supply pressure	7 bar +/- 1 bar (*)
Maximum flow-rate	18 m ³ /h



WARNING : (*) Pressure in excess of 8 bar may cause malfunctions.

Maximum flow-rate:

Air flow-rate supplied by CRN 457 control module	Tank 1 powder pump + 1 fume extraction
“Fluidisation” and fume extraction air supply flow-rate	12 m ³ /h maximum of which 6 m ³ /h for fume extraction
Powder feed air flow-rate	6 m ³ /h maximum

4. Operation

Powder contained in the tank is fluidized by means of an ascending current, distributed in a homogeneous way from the porous plate located at the bottom of the tank.

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. A powder pump is also fitted to extract the fumes produced by fluidization of the powder.

5. Tools

No specific tools

6. Installation

6.1. Connecting the cart to ground system



WARNING : The ground cable must be connected to the ground terminal of the powder-coating installation (see figure below).

There is a ground braid, secured under the lower body of the “e-Jet cart,” to ensure flow of electrical charges in the event of accidental non-compliance of the connection with the cart ground system.

Under no circumstances must this safety device must be substituted for the “e-Jet” ground terminal connection.



Wire to be connected to the ground

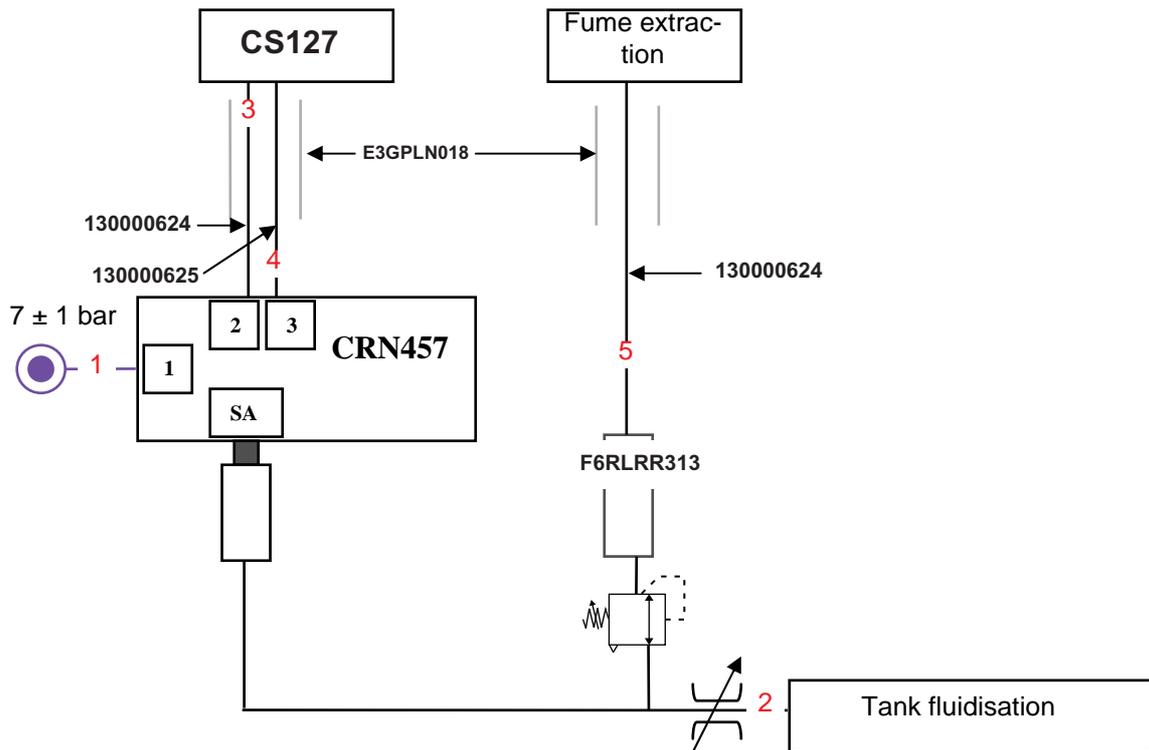
6.2. Installing the CRN 457 on the cart

Place control module CRN 457 in the specially designed housing and attach with the securing screw.



Securing screws

6.3. Connecting the hoses

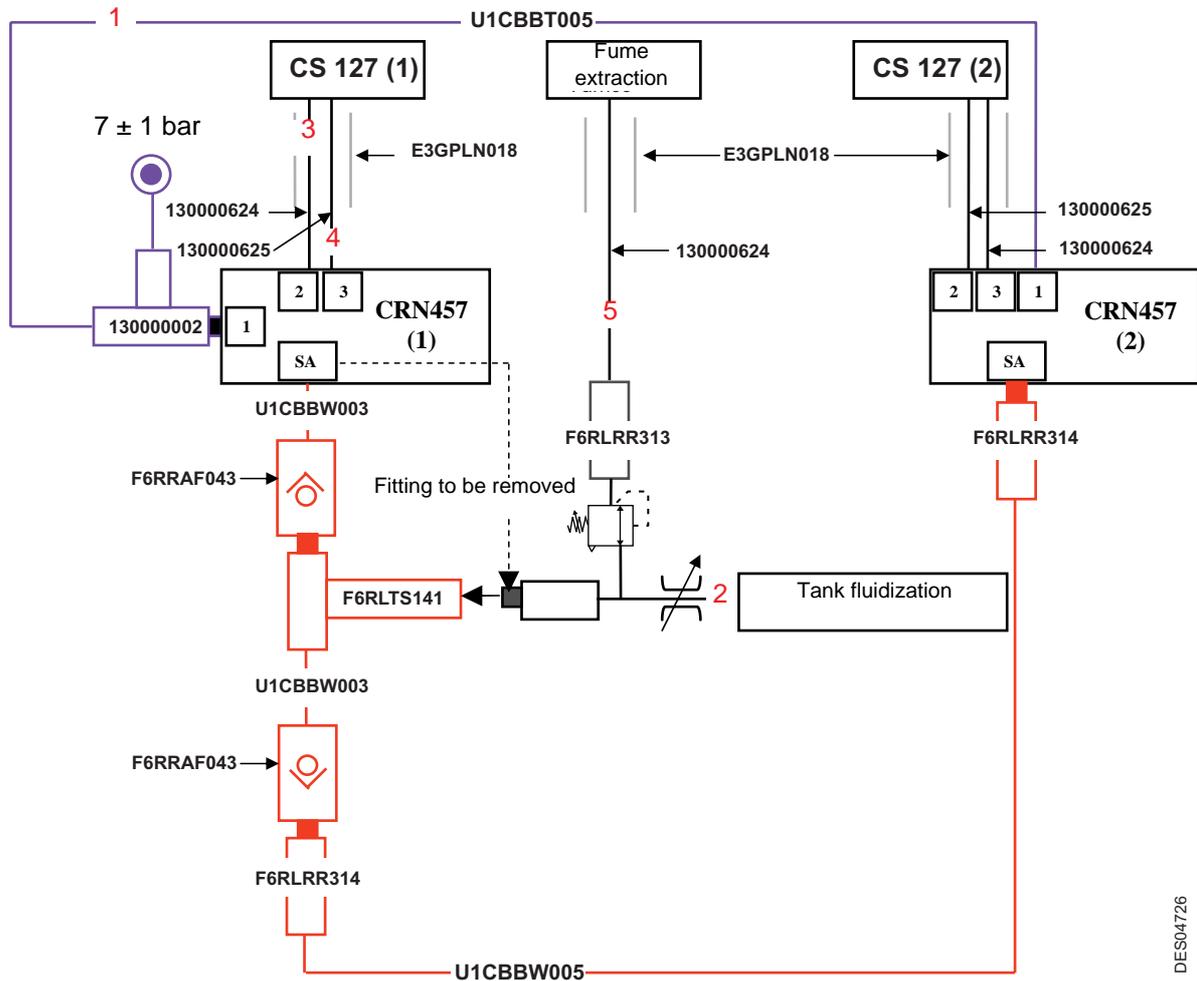


DES04725

Item	Hose description	Hose characteristics
1	General air supply	Blue polyamide hose - Dia: 10
2	Fluidisation air	Clear polyurethane hose - Dia: 6
3	Injection air	Black semiconductor polyurethane hose - Dia: 8
4	Dilution air	Black semiconductor polyurethane hose - Dia: 6
5	Fume extraction air supply	Black semiconductor polyurethane hose - Dia: 8

6.4. Second powder pump kit

6.4.1. Connecting the hoses



DES04726

Item	Hose description	Hose characteristics
1	General air supply	Blue polyamide hose - Dia: 10
2	Fluidisation air	Clear polyurethane hose - Dia: 6
3	Injection air	Black semiconductor polyurethane hose - Dia: 8
4	Dilution air	Black semiconductor polyurethane hose - Dia: 6
5	Fume extraction air supply	Black semiconductor polyurethane hose - Dia: 8

Note: An additional “CRN 457” control module for controlling the second Mach-Jet Gun is connected to the second powder pump. This module is wall-mounted on a bracket at a maximum distance of 10 metres from the cart.

6.5. Connecting the “Mach-Jet Gun” and the mains plug

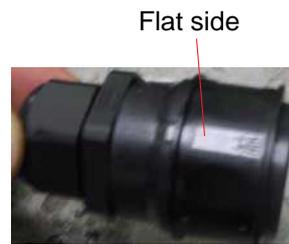
Connect the spray gun to plug “A” on the back of the control module ([see RT Nr 6336](#)).



WARNING : To avoid damaging the plug, make sure that the spray gun positioning device is opposite the positioning device on the CRN 457 base plate.

The plug is locked by pushing it into the socket; comply with positioning devices: The flat side of the spray gun cable plug must be at the top. **“Click” it into place. The click indicates that the plug is correctly locked in position.**

The plug is unlocked by pulling it out of the socket.



Positioning devices



WARNING : Hold the front of the control module when connecting hoses or cables.

The mains power cable is connected to the back of the CRN 457 (see figure below).



Mains power cable

Spray gun plug “A”

7. Settings and start-up

Once the equipment has been installed in accordance with the safety regulations ([see § 1 page 4](#)) and instructions ([see § 6 page 9](#)), follow the steps described below.

- **Step 1:** Switch on the CRN 457 control module ([see RT Nr 6336](#)) (switch located on back of module).
- **Step 2:** Configure the CRN 457 control module ([see RT Nr 6336](#)), fonctionnement avec réservoir.

After pressing the spray gun trigger:

- **Step 3:** Adjust the regulator of fume extraction air so as to avoid that the powder goes out of the tank.
- **Step 4:** Set the adjustable fluidisation air flow-rate restrictor so that the powder fluidization is homogeneous (small air bubbles distributed on all the surface of the tank).



- **Step 5:** ([see RT Nr 6336](#)) to adjust the required powder flow-rate on the spray gun or control module.

8. Maintenance

8.1. Maintenance and periodic checks



WARNING : Cleaning operations must only be carried out using compressed air of maximum pressure 2.5 bar and a cloth. Water and solvents must not be used to clean the equipment. The equipment must be cleaned at the end of each shift.

- The air filter cartridge must be replaced regularly, approximately every 6 months ([see § 8.1.1 page 14](#)).
- If there is water or oil in the filter, drain the tank and check the device's air dryer or oil remover. To drain the tank, simply unscrew the black plastic part located underneath the filter bowl.

8.1.1. Filter cartridge

Disassembly

- Disconnect the general power supply.
- Unscrew the union filter with a 14 mm open-ended spanner to remove the full filter assembly.
- Place the filter in a vice, holding it in position by its metal part.
- Carefully unscrew the filter bowl (transparent part) using tongue and groove (slip joint) pliers. Clean it with a neutral detergent.
- Unscrew the central screw retaining the filter cartridge using a Phillip's screwdriver.

Reassembly

- Fit a new filter cartridge and moderately tighten the retaining screw.
- Place the O-ring at the bottom of the base.
- Install the filter bowl and hand-tighten.
- Seal the union and re-fit the filter.
- Re-connect the general power supply.

9. Spare Parts

9.1. e-Jet with Tank



Europe version

Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
	910008308	e-Jet equipped with a Mach-Jet Gun (6 m)	1	1	3
	910008309	e-Jet equipped with a Mach-Jet Gun (12 m)	1	1	3
1	1523297	CRN 457 control module (see RT Nr 6336)	1	1	3
2	1524463	Mach-Jet Gun (6 m) (see RT Nr 6336)	1	1	3
	1524463-12	Mach-Jet Gun (12 m) (see RT Nr 6336)	1	1	3
3	E3GPLN018	18/19 black PVC sheath	1.6	m	3
4	130000624	Black polyurethane semiconductor hose 5.5/8 (injection)	2.8	m	2
5	910008396	Equipped tank (see § 9.2 page 18)	1	1	2
6	130000625	Black polyurethane semiconductor hose 4/6 (dilution)	1.4	m	2
7	-	e-Jet cart (see § 9.4 page 21)	1	Not sold separately	-
Not shown					
	842635	5-m ground cable, lug dia.: 6	1	1	3
	E4PCAL206	Mains power cable 10A 250V	1	1	3
	F6RLRR313	Quick release increaser	1	1	2

Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
	910008310	e-Jet equipped with 2 pumps	1	1	3
	910008308	e-Jet equipped with a Mach-Jet Gun (6 m)	1	1	3
	910008395	Kit e-Jet 2nd pump (see § 9.3 page 19)	1	1	3

(*)

Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

USA version

Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
	910008311	e-Jet equipped with a Mach-Jet Gun (6 m)	1	1	3
	910008312	e-Jet equipped with a Mach-Jet Gun (12 m)	1	1	3
1	1523297	CRN 457 control module (see RT Nr 6336)	1	1	3
2	1524463	Mach-Jet Gun (6 m) (see RT Nr 6336)	1	1	3
	1524463-12	Mach-Jet Gun (12 m) (see RT Nr 6336)	1	1	3
3	E3GPLN018	18/19 black PVC sheath	1.6	m	3
4	130000624	Black polyurethane semiconductor hose 5.5/8 (injection)	2.8	m	2
5	910008396	Equipped tank (see § 9.2 page 18)	1	1	2
6	130000625	Black polyurethane semiconductor hose 4/6 (dilution)	1.4	m	2
7	-	e-Jet cart (see § 9.4 page 21)	1	Not sold separately	-
Not shown					
	842635	5-m ground cable, lug dia.: 6	1	1	3
	E4PCAL459	US Mains power cable	1	1	3
	F6RLRR313	Quick release increaser	1	1	2
	910007107	Air supply kit (see § 9.6 page 23)	1	1	3

Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
	910008313	e-Jet equipped with 2 pumps	1	1	3
	910008311	e-Jet equipped with a Mach-Jet Gun (6 m)	1	1	3
	910008395	Kit e-Jet 2nd pump (see § 9.3 page 19)	1	1	3

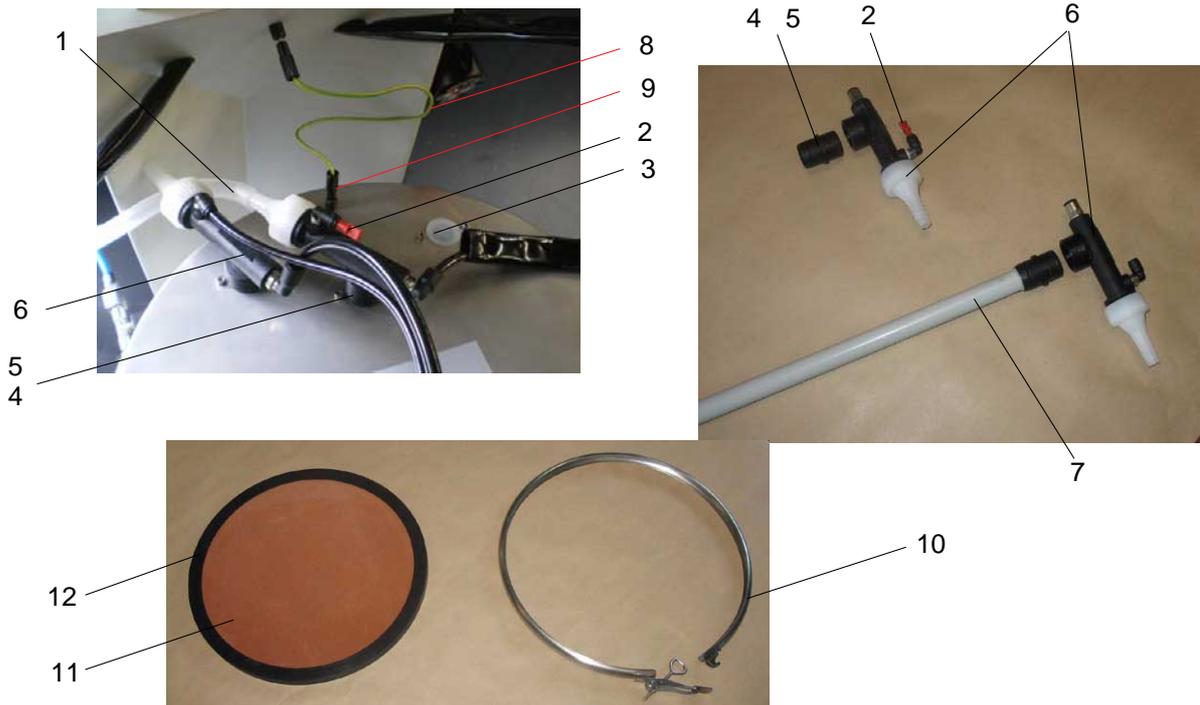
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Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

9.2. Equipped tank



Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
	910008396	Equipped tank	1	1	3
1	U1FGBA092	11/15 EAV hose	12	m	3
2	F6RLZX396	Quick release plug	1	1	3
3	F6NPBA097	Tank plug	1	1	3
4	547866	Tube support for fume extraction plunger	1	1	3
5	J2CTPB253	O-ring	2	10	2
6	1526202	CS 237 powder pump without tube	2	1	2
7	910008159	Tube of powder pump	1	1	2
		On tank			
8	130000744	Ground cable	1	1	2
9	130000745	Ground connection	2	1	2
10	130000741	Tank collar		1	3
11	130000742	Fluidization plate	1	1	1
12	130000743	Seal of fluidization plate	1	1	1
		Not shown (in lid)			
	J2CTCN052	O-ring	3	10	3
	444507	O-ring holder	3	1	3

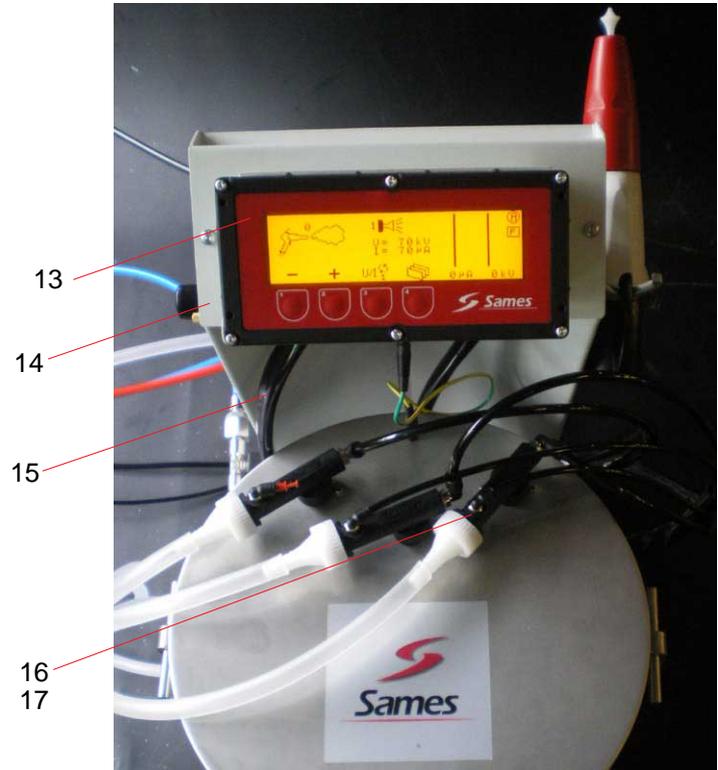
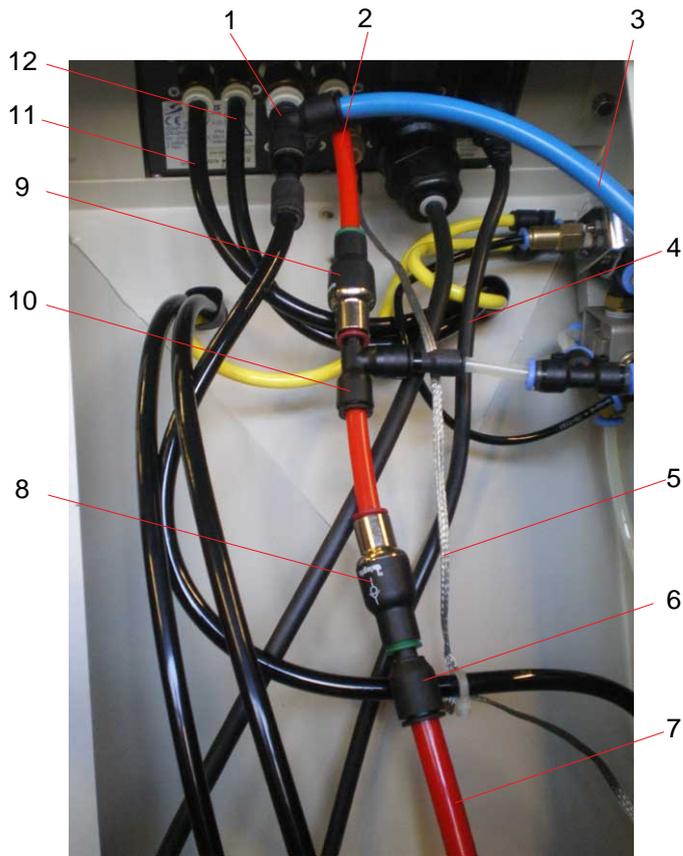
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Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

9.3. e -Jet with tank and 2 pumps



Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
	910008395	Kit e-Jet 2nd pump	1	1	3
1	130000002	Tee union	1	1	3
2	U1CBBW003	6/8 red polyamide hose	0.2	m	2
3	U1CBBT005	8/10 blue polyamide hose	10	m	2
4	E4PCAL206	Mains power cable 10A 250V	1	1	3
5	842635	5-m ground cable, lug dia.: 6	1	1	3
6	F6RLRR314	Quick release increaser	2	1	3
7	U1CBBW005	8/10 red polyamide hose	10	m	2
8	F6RRAF043	Dual check union	2	1	3
9	F6RLTS416	Tee union	1	1	3
10	130000624	Black semiconductor polyurethane hose 5.5/8	10	m	2
11	130000625	Black semiconductor polyurethane hose 4/6	10	m	2
12	1523297	CRN 457 control module (see RT Nr 6336)	1	1	3
13	-	e-Jet cart (see § 9.4 page 21)	1	not sold separately	-
14	E3GPLN018	Black PVC sheath	0,8	m	2
15	1526202	CS 237 plunger (see RT Nr 6368)	1	1	1
16	910008159	450 mm -tube for CS 237	1	1	2
Not shown					
	1524463-12	Mach-Jet Gun (12 m) (see RT Nr 6336)	1	1	3
For 2nd CRN 457					
	F6RLDS408	Quick release bracket Dia: 8	2	1	3
	F6RLDS207	Quick release bracket Dia: 6	1	1	3
	F6RLDS145	Quick release bracket Dia: 10	1	1	3
	822542	Support bracket assembly for 2nd CRN 457	1	1	3

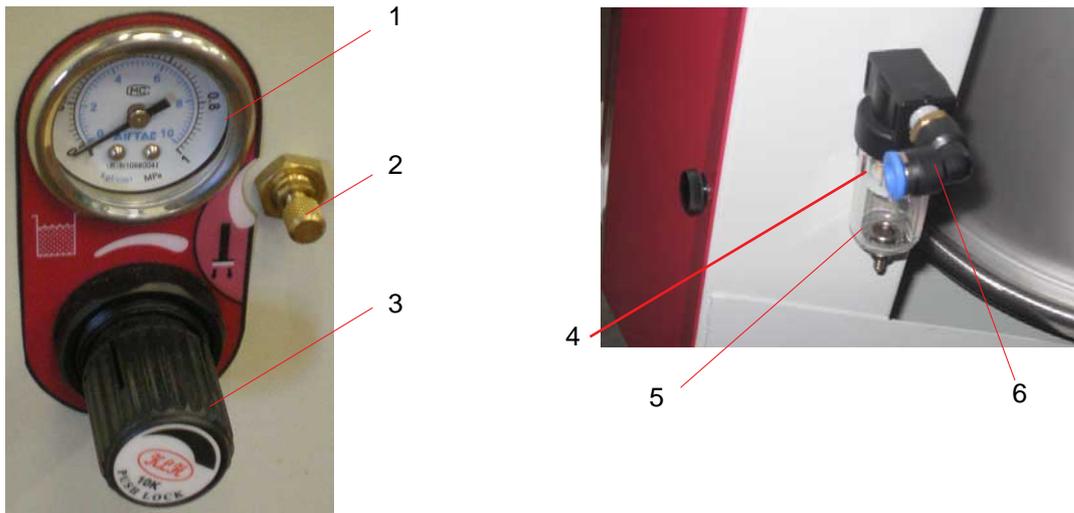
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Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

9.4. E-Jet cart



Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
	-	e-Jet Cart	1	not sold separately	-
1	R7MCAD061	Pressure gauge	1	1	3
2	220000145	Adjustable flow-rate restrictor	1	1	3
3	R4DREG029	Regulator	1	1	3
4	R4DFCM199	Filter cartridge	1	1	3
5	R4DACC200	Manual flush filter	1	1	1
6	F6RLCS204	Male union	1	1	3
Not shown					
-	130000747	Pivoting roller	4	1	3
-	130000746	Hook of gun fixing	1	1	3

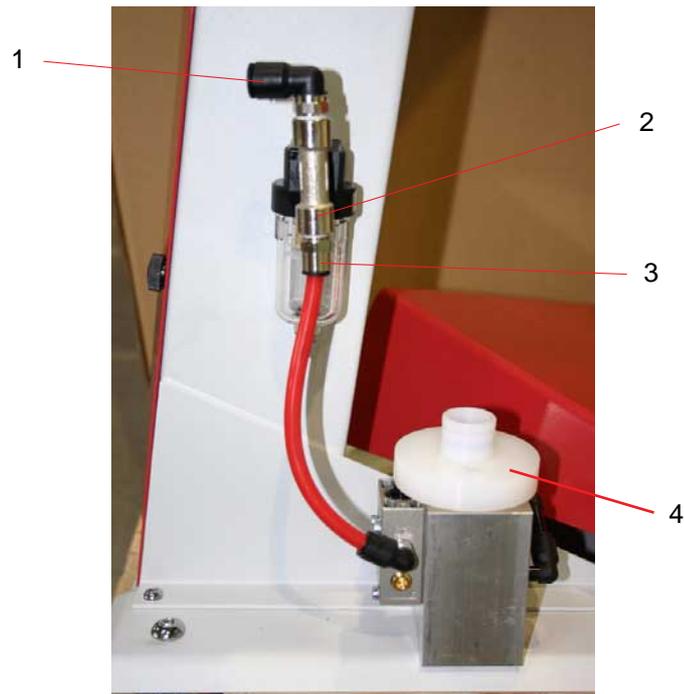
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Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

9.5. Option Fast Clean



Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
1	F6RLCS204	Male union	1	1	3
2	130000674	2x 1/4 BSP female - 1/4 BSP male nickel plated branch tee	1	1	3
3	F6RLUS199	Male union	1	1	3
4	1527409	Fast Clean (see RT Nr 6410)	1	1	3

(*)

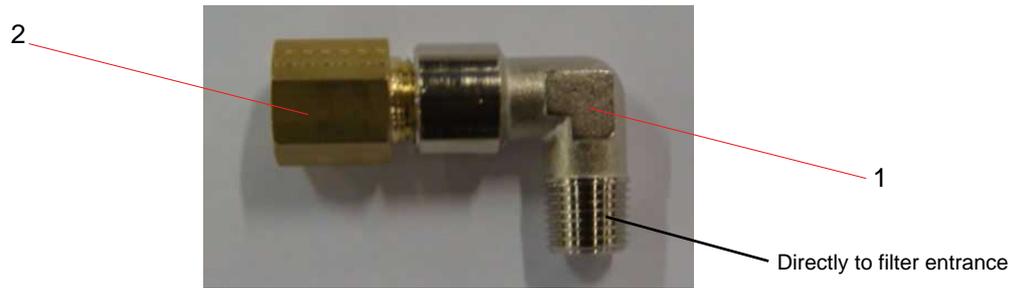
Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

9.6. Air supply kit intended for the Canadian and American market

This kit is optional for Europe market



Item	Part number	Description	Qty	Unit of sale	Spare Part Level (*)
	910007107	Air supply kit	1	1	3
1	220000120	1/4 male/female union	1	1	3
2	F6RLHG362	NPT 1/4 conical adapter	1	1	3

(*)

Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

Fitting with the Fast Clean option

