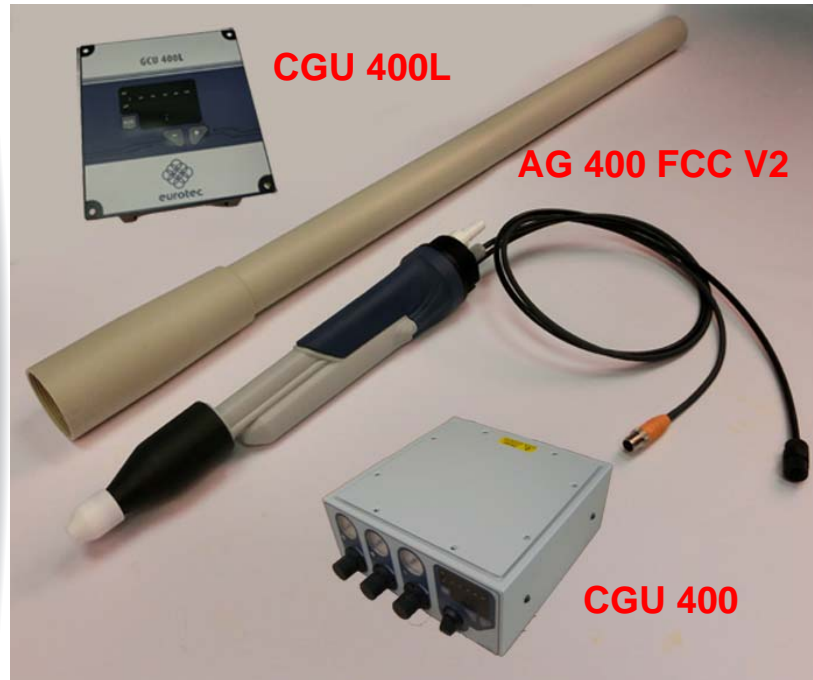




From February 1st, 2017 SAMES Technologies SAS becomes SAMES KREMLIN SAS
A partir du 1/02/17, SAMES Technologies SAS devient SAMES KREMLIN SAS

SAMES  **KREMLIN**



User manual

Eurotec AG 400 FCC V2 GCU 400 and GCU 400L modules

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Eurotec AG 400 FCC V2

GCU 400 and GCU 400L modules

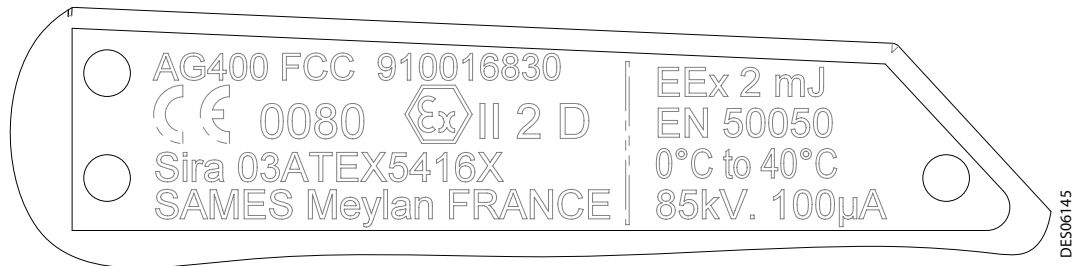
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1. Health and safety instructions



1.1. Markings

1.1.1. On the AG 400 FCC spray gun



1.1.2. On the GCU 400 and GCU 400L control modules

GCU 400

 	WARNING	INPUT:- 100 - 240 VAC 50/60 SINGLE PHASE 400mA AT 115V 200mA AT 230V 45 VA (FULL LOAD POWER CONSUMPTION)	CE 0080 Ex II (2) D EEx 2 mJ EN 50050 Sira 03ATEX5416X IP54 T 50°C
	THIS EQUIPMENT MUST BE EARTHED	OUTPUT:- 13.5VDC (MAX) 800mA (MAX) GUN OUTPUT:- 10 - 85kV 0 - 100µA SAMES, Meylan, France	Part No: EU72024002S S/N :

GCU 400L

 	WARNING	THIS EQUIPMENT MUST BE EARTHED
	Input Voltage: 24 VDC Input Power: 25 VA Output Voltage: 13.5 VDC Output Current: 0 - 800 mA SAMES, MEYLAN, FRANCE	CE 0080 Ex II (2) D EEx 2 mJ EN 50050 Sira 03ATEX5416X GCU400L Part No: 910016783 YEAR-S/N :

1.2. Precautions for use

This document contains information that all operators should be aware of before using this equipment. These informations include indications of situations potentially resulting in severe damage and of the preventive precautions to be taken.

The equipment must be used only by the staff trained by SAMES Technologies.

1.3. Warnings



WARNING : This equipment may be dangerous if it is not used, disassembled and reassembled in compliance with the regulations specified in this manual and in all applicable European standards or national safety regulations.



WARNING : Equipment performance is only guaranteed if original spare parts distributed by SAMES Technologies are used.

DO NOT permit untrained or unauthorised personnel to maintain or adjust this equipment. All other user manuals concerning the installation must be also followed.

- The GCU 400 and GCU 400L control modules must never be installed where there is a risk of explosion.
- The electrostatic paint spraying equipment must only be used by qualified personnel fully informed of rules no. 1 to 12 as follows:
 - 1 Shoes intended for operator use must be dissipator and comply with the ISO 2251 publication. If gloves are used, only dissipator gloves or gloves ensuring grounding of the operator may be worn.
 - 2 The floor in the area in which the operator works must be dissipator (ordinary bare concrete floors are dissipator).
 - 3 Powder spraying must be carried out in front of a ventilated booth designed for the purpose. Start-up of the GCU 400 ou GCU 400L must be interlocked with operation of the ventilation system.
 - 4 Skin-contact with or inhalation of products used with this equipment may be dangerous for personnel (cf. Safety sheets for products used).
 - 5 All conducting structures such as floors, walls of powder-spraying booths, ceilings, barriers, parts to be painted, powder distribution tank, etc., that are inside or near the work station and the earth terminal on the electro-pneumatic control module must be electrically connected to the ground system protecting the electrical power supply.
 - 6 Parts to be painted must have a resistance in relation to the ground system that is less than or equal to 1 MΩ. Ensure that the equipment is properly grounded.
 - 7 Powder-spraying equipment must be maintained regularly according to the manufacturer's instructions. Repairs must be carried out in strict compliance with these instructions.
 - 8 Before cleaning the spray gun or carrying out any other work in the spraying area, the high-voltage power supply must be switched off in such a way that it can not be switched back on.

- 9 Ambient Temperature-range for use 0 and 40°C.
- 10 Switch off the electrical supply of the GCU 400 or GCU 400L module before connecting or disconnecting the gun.
- 11 The equipment operates by electrostatically charging the powder by means of a high voltage corona discharge at the nozzle of the spray gun. This electrostatic discharge can seriously damage other electronic equipment if it is sited in close proximity and not suitably protected.
- 12 Ensure the air supply is clean and dry.



WARNING : This equipment is intended for spraying powder paint only.

2. Description

2.1. AG 400 FCC (Fast Color Change) automatic powder spray gun

The AG 400 FCC spray gun is built to a robust and compact design. A high efficiency corona discharge is used to charge the powder coating material.

It incorporates a high voltage unit charging system which converts the governed low voltage dc. power supply received from control module to a maximum output voltage of 85kV negative and a maximum output current of either 50 μ A (mode 1) or 100 μ A (mode 2) at the single point corona needle.

The gun nozzle may be fitted with a variety of powder deflectors and slotted caps which, combined with a forward air supply to the nozzle, enable the operator to control the spray pattern to suit the components being sprayed.

The power connection to the gun is via a screened highly flexible cable.



The AG 400 FCC gun is mounted on a hollow support arm allowing a fast and easy cleaning. All the connections are deported on the rear of the arm to facilitate the removal of the whole during the maintenance.

2.2. GCU 400 and GCU 400L control modules

2.2.1. General

The Gun Control Unit provides all the control functions necessary to charge powder using the AG 400 FCC automatic powder coating spray gun.

They contain a control P.C.B. which provides a checked low voltage d.c. power supply to the spray gun. The operator may adjust the spray gun output to a maximum output voltage of 85kV negative and a maximum output current of either 50 μ A (mode 1) or 100 μ A (mode 2) using the control unit.

The set value of kV (mode 1) or μ A (mode 2) is displayed on a numerical led display.

Separate led bar graph displays enable the operator to monitor the electrostatic charge supplied to the gun either in terms of the voltage or current.

Led indicators on the front panel show whether the unit is set the type of gun (automatic) and it's also the unit is operating in mode 1 (TEC (Total Energy Control) 1) or mode 2 (TEC (Total Energy Control) 2).

In opposite of the GCU 400 control module, the GCU 400L module requires an external DC power supply +24V / +5V.

2.2.2. Specificities of the GCU 400 control module

The unit has 3 regulated pneumatic outlets, the pressure regulators and gauges being mounted on the front panel.

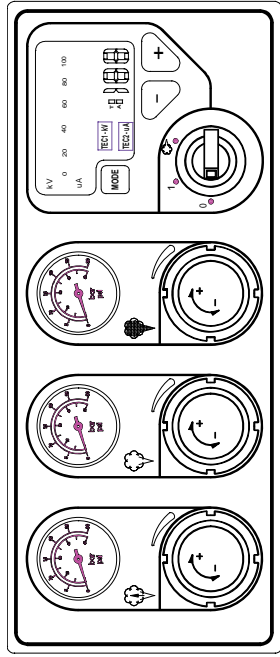
Two of these supply air to the venturi powder air and dilution air ports for pumping and controlling the supply of powder fed to the gun. The third is used to supply air to the nozzle of the spray gun.

The mains electrical supply to the unit is provided via. a sealed connector.

A non-switched electrical outlet is provided to enable the electrical supply to be linked through to other units, for example when situated in an automatic system console.

Circuit protection is by means of miniature circuit breakers.

The unit is mounted by means of 2 x M6 screws in each side, and on the rear panel.



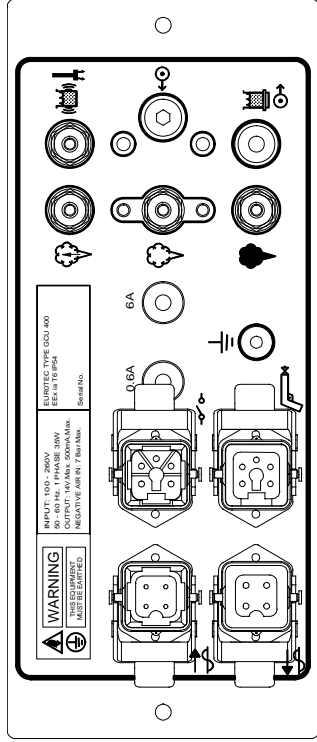
- Gun air supply
- Powder dilution air supply
- Powder delivery air supply
- UNIT OFF

- UNIT ON - Powder & Electrostatics on when gun trigger switch operated
- UNIT ON - Powder without Electrostatics on when manual gun trigger switch operated and Remote control for automatic gun

- Bar graph display of discharge Kilo volts
- Bar graph display of discharge Kilo amps
- Set value of electrostatic discharge - kV (TEC 1) or μ A (TEC 2)
- Illuminated when total energy control mode 1 selected operator control of kW
- Illuminated when total energy control mode 2 selected operator control of μ A

- Illuminated when unit triggered by manual gun or remote PLC
- Illuminated when auto gun connected
- Push button selector switch for TEC 1 or TEC 2
- Push button switch to reduce electrostatic output
- Push button switch to increase electrostatic output

DES0442



- Gun air supply outlet
- Powder dilution air supply outlet
- Powder delivery air supply outlet
- Mains electrical input (arrow points towards connector)
- Mains electrical output (arrow points away connector)
- Electrical output to gun
- Electrical input from remote trigger
- Earth connection point
- Circuit breaker - generator supply
- Circuit breaker - slave output
- Main air supply in (arrow points towards connections)
- Fluid bed / Aux air supply out (arrow points away from connection)
- Vibrator / Fluidising pad air supply out (arrow points away from connection)


3. Characteristics

3.1. Characteristics of the GCU 400 control module

Electric datas	
Input Voltage	100-240 Volts 50 / 60 Hz single phase
Power Consumption (full load)	45 VA
Input Current (max.)	400 mA at 115 V 200 mA at 230 V
Electrostatic output voltage (max.)	10 - 85 kV negative
Electrostatic output current	Mode 1; 0 - 50 μ A Mode 2; 0 – 100 μ A

Electric Controls		
Mains Switch	Rotary 3 positions	OFF/ON/REMOTE (AUTO)
Mode Selection	Push Button LED's display mode selected	TEC 1 (mode 1) / TEC 2 (mode 2)
Charge Control	Push Buttons +/- to increase or decrease	Sets the maximum level of kV (Mode1) Sets the maximum level of μ A (Mode2)
Set Value Display	Numerical LED Indicator	Displays set max. kV. (Mode1) TEC 1 Displays set max. uA. (Mode2) TEC 2
Electrostatic Charge Indicators	LED Bar Graphs	0 to 100 μ A / 0 to 100 kV

Auto-Manual Selection: GCU 400 control module automatically detects which type of gun is connected

Auto gun connected LED displays "A" Auto selected LED Indicator at "A" LED Indicator at "T" when triggered	Unit triggers automatically when main switch is turned to On position. (1) Unit triggers via remote 24V dc. supply when switch is turned to Remote position 
--	---

Mains Input	Via connector on rear panel	
Mains Output Socket	Non switched 6A max.	-may be used to connect additional control units.
Remote Trigger	24 V dc. Supply from Remote PLC	-connected through plug and socket on rear of control unit.

Circuit Protection		
Miniature circuit breakers	Mains input Mains output	0.6A 6A

Pneumatic Data	
Input air pressure	7.0 bar (102.9 p.s.i.) max
Air consumption (Nominal)	400EA 10.0 cubic m/h. (6.0 c.f.m.) Auto Unit
Input connection	8mm. OD tube air fitting.

Pneumatic Controls (Pressure regulators and gauge) These control the air supply pressure to the following		
i) Powder delivery	4 bar (60 psi)	controls delivery of powder from the venturi to the gun.
ii) Dilution ratio	2 bar (30 psi)	controls mixture ratio of powder to air from venturi to gun.
iii) Gun-Forward air	2 bar (30 psi)	controls mixture ratio of powder to air from venturi to gun.

3.2. Characteristics of the GCU 400L control module

Electric datas	
Input Voltage	24 Volts / +5V DC
Power Consumption (full load)	45 VA
Input Current (max.)	300 mA at 5 V
	600 mA at 24 V
Electrostatic output voltage (max.)	10 - 85 kV negative
Electrostatic output current	Mode 1; 0 - 50 μ A Mode 2; 0 – 100 μ A

Electric Controls		
Mode Selection	Push Button LED's display mode selected	TEC 1 (mode 1) / TEC 2 (mode 2)
Charge Control	Push Buttons +/- to increase or decrease	Sets the maximum level of kV (Mode1) Sets the maximum level of μ A (Mode2)
Set Value Display	Numerical LED Indicator	Displays set max. kV. (Mode1) TEC 1 Displays set max. μ A. (Mode2) TEC 2
Electrostatic Charge Indicators	LED Bar Graphs	0 to 100 μ A / 0 to 100 kV

Auto gun connected LED displays "A" Auto selected LED Indicator at "A" LED Indicator at "T" when triggered	The module starts automatically via an outside control by a dry contact.
--	--

Entrée tension externe 24V / +5V	Via connector on rear panel
Remote Trigger	The module starts automatically via an outside control by a dry contact.

3.3. Compressed air quality

Required characteristics for 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 pollutants	Class 3, i.e. 5 µm
Maximum oil concentration	Class 1, i.e. 0.01 mg/m ³ *
Maximum concentration of solid pollutants	Class 3, i.e. 5 mg/m ³ *

*: Values are given for a temperature of 20°C (68°F) at an atmospheric pressure of 1,013 mbar.

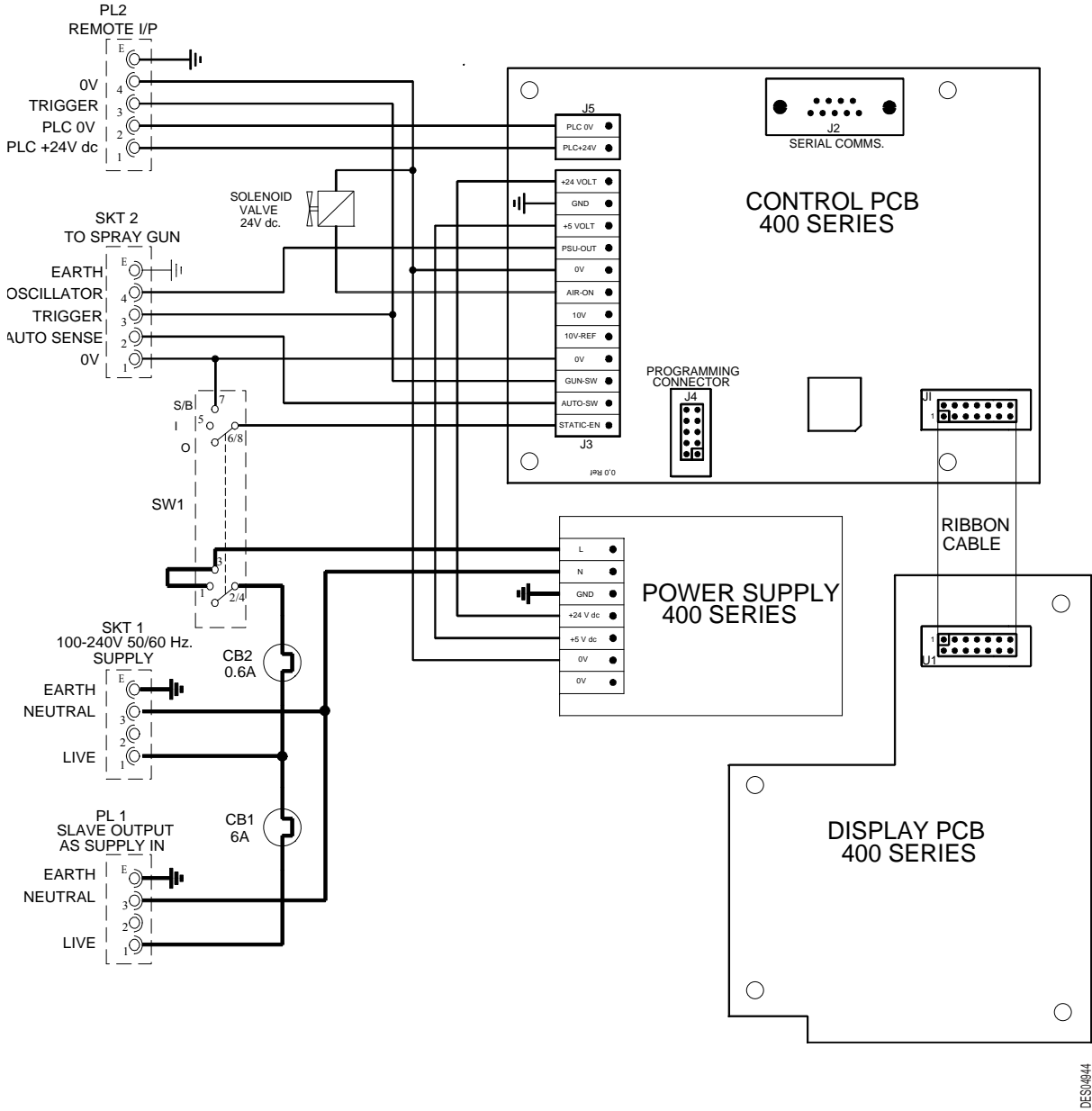


WARNING : Non-compliance with these characteristics may result in incorrect operation of the control module.

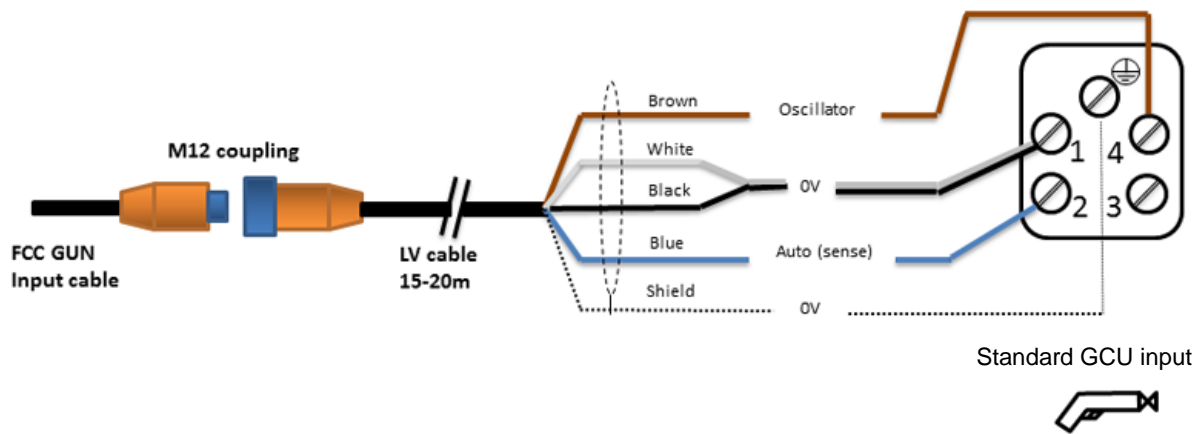
4. Diagrams

4.1. With a GCU 400 control module

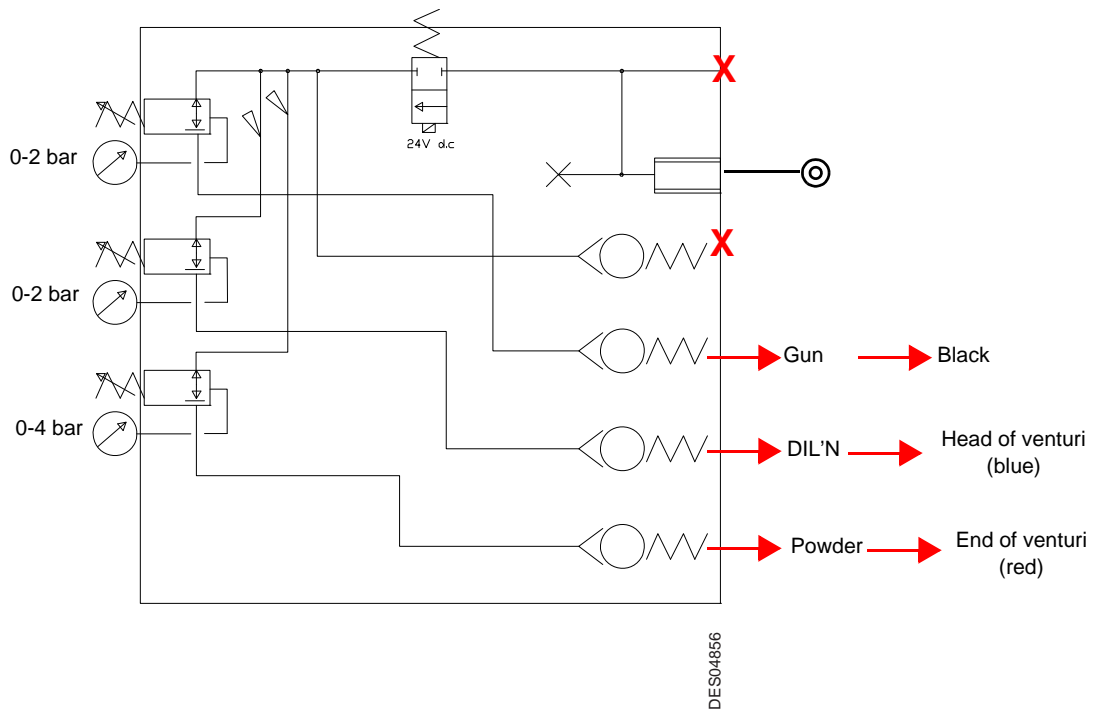
4.1.1. Connecting diagrams



4.1.2. Connecting diagram: AG 400 FCC gun with standard GCU 400 control module

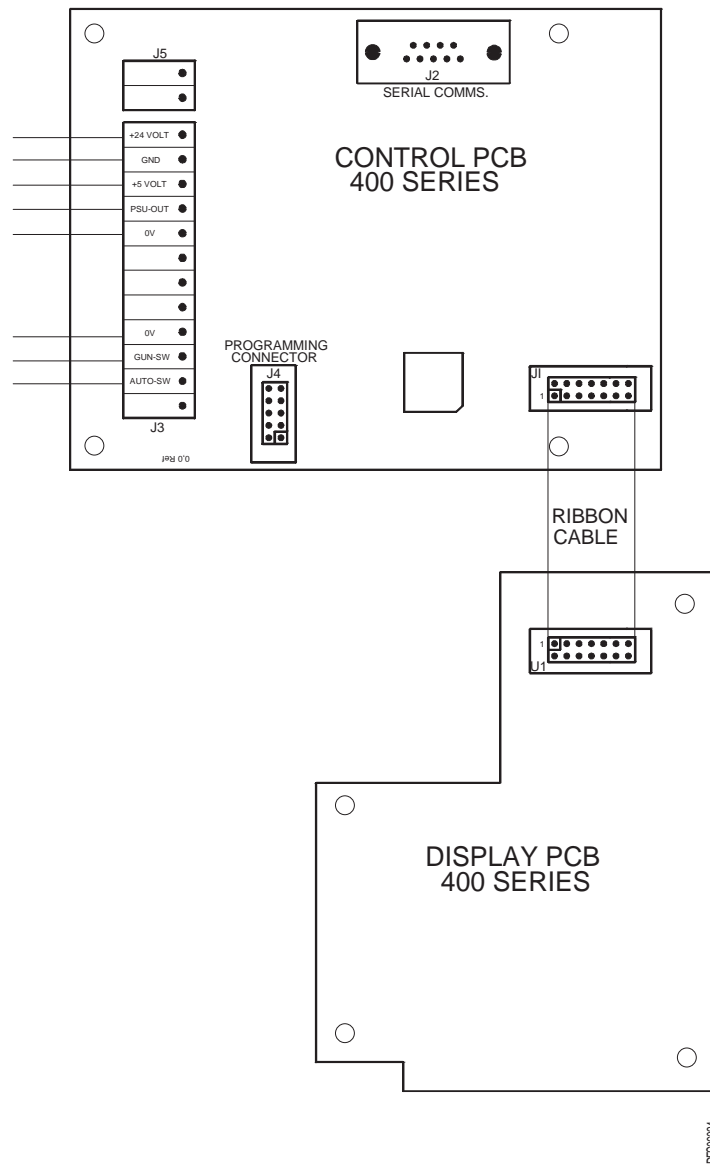


4.1.3. Pneumatic diagram

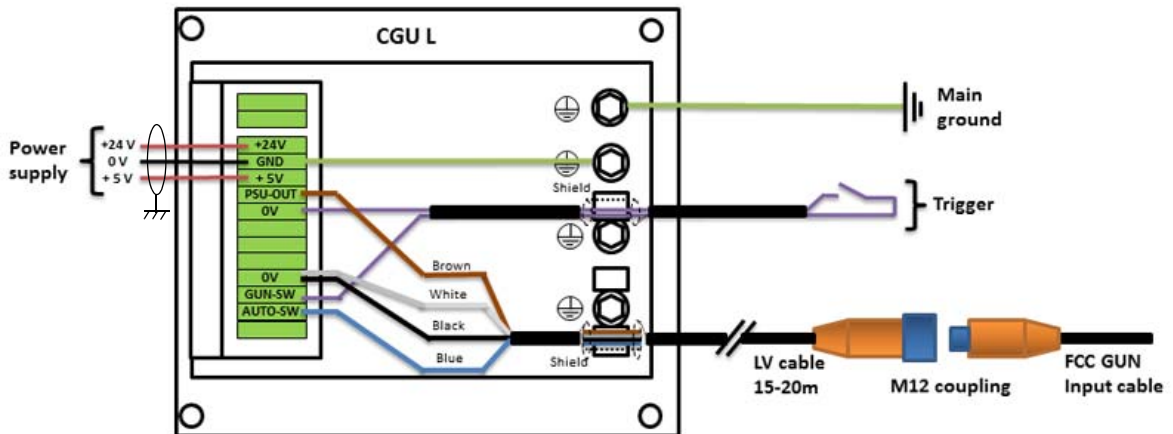


4.2. With a GCU 400L control module

4.2.1. Connecting diagrams

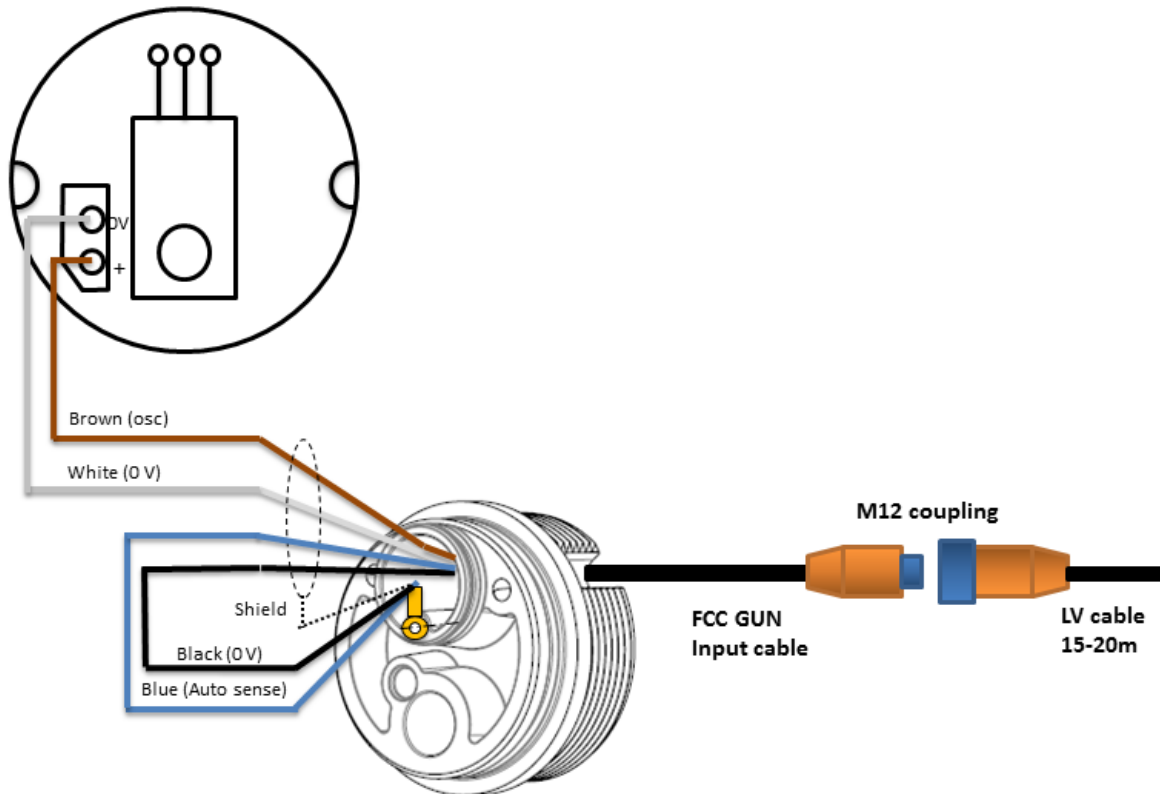


4.2.2. Connecting diagram of the CGU 400L control module



4.3. AG 400 Wiring diagram, Oscillator PCB

AG 400 automatic powder gun,
Oscillator PCB



5. Installation



WARNING : This equipment must be earthed.

- Carefully remove units and components from packaging, and check contents against packing list.
 - Install the Gun Control Unit in a secure manner and placed at least 1m to any opening of the booth.
 - **GCU 400:** connect the cables (main power supply, low voltage connecting the module to the gun and trigger) on their respective connector.
GCU 400L: connect the wires (external supply, low voltage connecting spray gun and trigger), ([see § 4.2.2 page 18](#)).
- Remarks:** The low voltage cable connecting the spray gun to the module is different according the module ([see § 10.4 page 40](#)).
Connect the shield of all the cables using cable-clamps on the back face.
- Connect the ground terminal of the module to the ground.

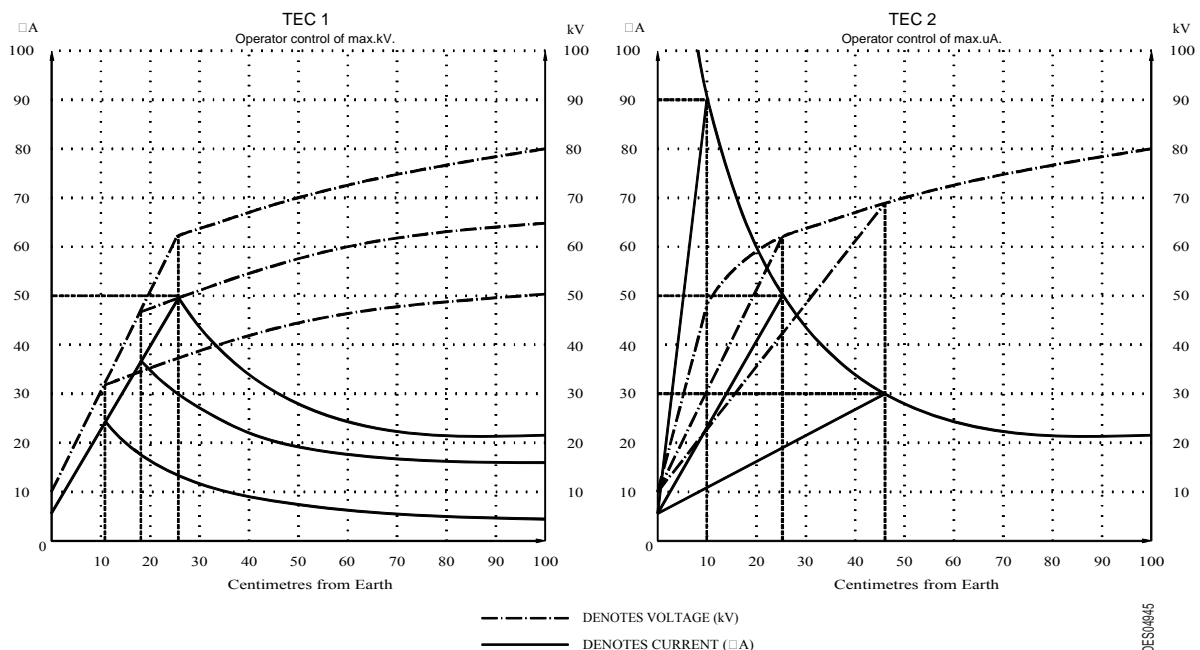


WARNING : Under no circumstances should this equipment be connected to a external supply which does not include a grounding wire and contacts.

Note: Switch off the control module before carrying out any operation on the connector.

6. Operating instructions

- Step 1:** Ensure that all switches are in the OFF position and that all pressure regulators are closed (The knobs should be turned fully anticlockwise). The knobs of the pressure regulators are released by pulling upwards and locked by pressing inwards.
- Step 2:** With the spray gun pointing into an extracted spray booth, turn the main electrical switch to the "On" position.(1)
 When used with automatic spray guns the mains electrical switch will also trigger the electrostatic generator and air supplies.
- Step 3:** Adjust the volume of powder necessary for the gun; the air of injection allows to adjust the flow and the air of dilution optimizes the transport.
 With the gun pointing into an extracted spray booth, trigger the unit and slowly move the nozzle of the gun progressively closer to an earth point or the product. It will be seen that as the nozzle moves closer; the current will rise progressively to a maximum of 50 μ A in mode 1 (TEC 1) or 100 μ A in mode 2 (TEC 2). As the nozzle continues to be moved closer, the discharge current and voltage then falls progressively to very low levels as the nozzle touches the earth.



The discharge current and voltage will be dependent on the proximity of the spray gun discharge needle to earth. When setting the maximum discharge voltage, the spray gun discharge needle should be placed at least 300 mm from earth.

General Observations:

- Higher powder emissions do not necessarily mean faster coating or better penetration into corners and recesses. In practice it can often cause the opposite effect and produce products with a poor finish.
- Similarly, high electrostatic discharge currents or voltages do not necessarily mean faster or more efficient coating. Again, in practice, they can cause the opposite effect and produce products with a poor finish.

6.1. DO's

- 1 Ensure that the operator wears suitable respiratory equipment and or protective clothing. All personnel working in a powder-laden atmosphere should wear similar equipment.
- 2 Avoid skin contact with powders where possible as some powders may cause skin irritation.
- 3 Wash hands and face after work and prior to eating or drinking.
- 4 Keep floors and equipment within 5 metres of the spray area clean using a suitable industrial vacuum cleaner.
- 5 Regularly check the effectiveness of dust/powder extraction filters and that recycled air is clean.
- 6 Regularly check the earthing of electrical equipment and manually operated spray guns.
- 7 Regularly check the earth bonding of all conductive electrical enclosures and all conductive structures such as floors, walls, ceilings, fences, conveyors, powder containers etc. within the vicinity of the spray area. These shall be bonded together with the earth terminal of the high voltage generator to the protective earth system of the electrical supply. Electrostatic grounding should comply with EN 50053 or equivalent.
- 8 Ensure that correct cleaning procedures are followed ([see § 6.3 page 22](#)).
- 9 Ensure that powders are processed in compliance with the powder manufacturers instructions. Special care should be taken with powders containing metallic pigments.



WARNING : The working zone must be enlightened well, tidied up and well organized to reduce the risk of accidents.



WARNING : Before starting to clean the spray gun or carrying out any other work in the spraying area, the high voltage supply shall be switched off in such a manner that it cannot be re-energized by operating the trigger of the spray gun.

6.2. DONT's

- 1 Do not eat or drink in areas where powder coating is being carried out or in dust-laden atmospheres.
- 2 Do not use compressed air for cleaning skin and clothing as powder can penetrate the skin causing embolisms. Use a suitable industrial vacuum cleaner for clothing and wash skin with water.
- 3 Do not point compressed air clean down guns towards body orifices such as mouth, ears etc.
- 4 Do not enter spray booths when in operation.
- 5 Do not operate fluidized beds without connecting a suitable vent hose from its lid to an extracted area such as a spray booth.

GCU 400 ou GCU 400L control modules are not permitted inside the hazardous area. Only the gun units are designed to be used in hazardous zone.

6.3. Changing colour

In order to prevent contamination of the part to be painted from a previous colour, it is essential to remove all traces of the previously sprayed powder from the application equipment. i.e.. Powder container, suction tubes, Venturies, Powder hoses and Spray guns. Also any other surfaces where powder may become dislodged and cause contamination of the product or new powder. If the powder is to be reclaimed, then the spray booth, ductwork and recovery equipment must also be thoroughly cleaned.



WARNING : Whenever compressed air is used for cleaning equipment. This operation must be carried out in an extracted spraybooth.



WARNING : During the cleaning phases, it is necessary to switch off the high voltage and ensure that a third person cannot activate it remotely.

7. Cleaning



WARNING : All cleaning operations must be done only with depressurized compressed air with a 2,5 bar maximum pressure, a cloth or possibly a brush. Never use water or solvents to clean equipment.

Fouling and wear of the AG 400 FCC gun caused by the passage of powder vary according to operating conditions and the type of powder used.

For this reason, the maintenance frequency indicated here is given as a guide only. With a little experience of using EUROTEC equipment, the user will be able to draw up his own maintenance schedule.

Nevertheless, as an initial guide, the following maintenance programme is recommended:

Frequency	Action
Before starting work	Check the safety regulations. see § 1 page 5.
Every 8 hours	Clean the outside of the gun and the tube support with compressed air.
	Switch off the high-voltage power supply, disassemble and clean the nozzle using compressed air. Make sure that there is no accumulation of powder. Clean the powder ducts by blowing compressed air.

8. Maintenance



WARNING : Switch off the electrical supply of the GCU 400 or GCU 400L module before connecting or disconnecting the gun.

8.1. Removing the AG 400 FCC gun from its support tube

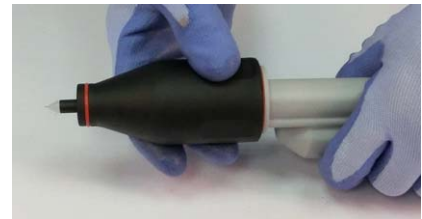
- Disconnect the powder supply hose.
- Unscrew the electric connector.
- Disconnect the gun air supply.
- Remove the back plug of the tube
- Unscrew the support tube from the gun.

8.2. Nozzle and Electrode

- Remove the nozzle.



- Unscrew manually the nut of the nozzle and Remove the electrode.



- **For reassembling:** proceed in reverse order by having beforehand, checked and cleaned et the different components, replace if necessary.

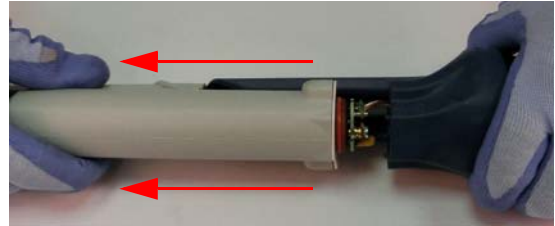
8.3. Rear plug

Removal:

- Unscrew the two glass fiber nylon screws using a 3mm allen wrench.



- Slide slightly the front part of the barrel to have access to the connector.



- Disconnect delicately the connector.



- Separate the both parts.



- Unscrew manually the powder duct, verify the wear of the powder duct and the seal, replace if necessary. Clean it with compressed air before reassembling. Check the seal of the air conduct.



- Extract the rear plug from the rear body.

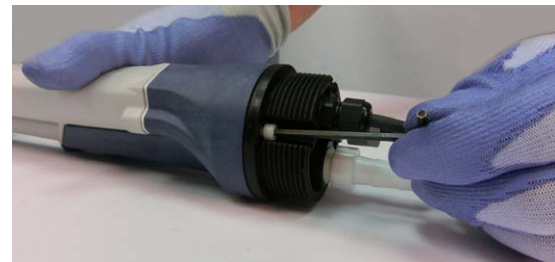
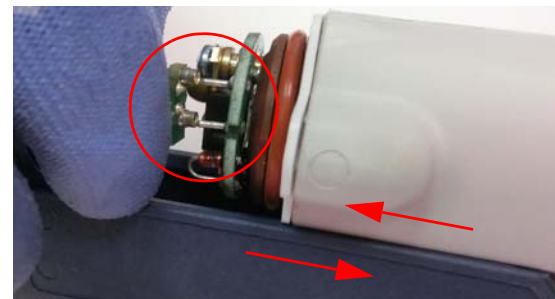
Rear body

Reassembling:

- Place the powder duct into the rear plug, do not screw completely.
- Position the powder duct / air conduct and the electric connector in their respective places in the rear body. Push up the rear plug until it stops.
- Slide the rear body on the barrel at the middle, connect the connector on the auto-oscillator (cylindrical alignment pin) then close the set up to stop on the flat joint.
- Coat the extremity of the 2 glass fiber nylon screws with vaseline then screw using a 3mm allen wrench, then tighten with a torque of 0,2 N.m.



WARNING : The two no-conductive nylon screws must not be necessarily replaced by another type screw.



9. Troubleshootings

Symptoms	Remedies
<p>No high voltage The control module GCU 400 is switched OFF (No LED's will illuminate)</p>	<p>GCU 400: Check that mains connector is fitted to rear panel of control module.</p> <p>GCU 400L: Check that module is connected to a suitable mains electrical supply and in operation (the electrical supply should be interlocked with the booth extraction system)</p>
<p>No high voltage The control unit GCU 400 is switched ON (LED's will illuminate)</p>	<p>Verify that the led is switched on on "T", when there is a HV request. If not, verify the connection trigger.</p> <p>Check that the automatic gun is detected well (led switched on) on "A" when there is no HV request. If not, verify the cable and its connectors and possibly verify the low-voltage connections in the gun.</p> <p>Check that the low voltage cable and its connection are not damaged. Replace if necessary.</p> <p>Verify the low-voltage internal connection on the HV cascade</p> <p>Check the conditions of the auto-oscillator (contact Sames Technologies).</p> <p>Check the high voltage cascade (contact Sames Technologies).</p>

No powder delivery	Check air supply to unit.
	Check that the powder container is not empty .
	Check that the powder in the powder container has no rat holes or voids around the suction or induction point - increase fluidization / vibration or agitate powder cup Check that powder is not damp.
	Check for kinked or blocked powder hose.
	Check for blockage in suction tube,ventury body and gun.
	Check that the internal solenoid valve is operating, an audible click should be heard from inside the control unit. If it is not, check the gun trigger connection on the rear panel of the control unit.
Powder delivery	Check ratio of dilution air to powder air and adjust if necessary.
	Check for any kinks or partial blockages in the powder hose, venturi suction tube and body, or gun.
	Check that the venturi body is seating firmly on the mounting spigot and that o-rings are not damaged.
	Check condition of the PTFE insert in the venturi for signs of wear-replace as necessary.
	Check that there is sufficient powder in the box
	Check that the induction holes in the bottom of the suction tube are fully immersed in the box.
Powder does not adhere to workpiece	Check that the workpiece is properly earthed/grounded.
	Check that the setting of the charge control (kV et μ A). and that an electrostatic charge is present at the discharge electrode needle of the gun.
	If no charge (or very poor charge) is present, then check that there is no water present from the compressed air supply or from condensation. Check that the gun barrel is not contaminated with metallic particles from bright unbonded metallic powders.

Defaults on finished product

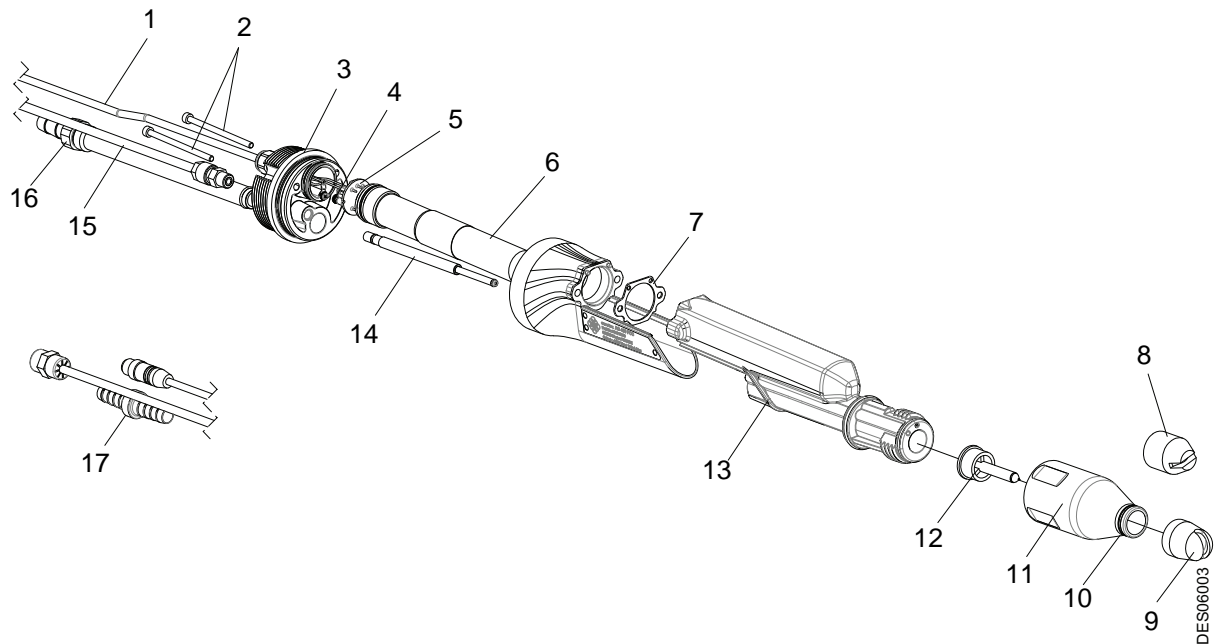
Symptoms	Remedies
Contamination of surface with specks of other colours	Application equipment inadequately cleaned after using previous powder.
	Airborne powder of different type within a contaminated spray booth, or sucked in from dirty surroundings.
	Reclaimed powder contaminated within other powders from within the reclaim system e.g. ductwork, cyclone, booth etc...
	Airborne contamination within the oven.
	Dust or dirt dislodged from jigs or conveyor.
	Dusty environment before or after coating.
Lumps or protrusions on surface	Dirty or contaminated powder
	Dirty or contaminated substrate (workpiece)
	Rusty substrate
	Dusty environment before or after coating.
	Dust or dirt in oven
Heavy "orange peel"	Applied coating is too thick
	Incorrect cure cycle and/or temperature
	Inferior quality of powder
Fish eyes	Contamination of substrate
	Contamination of powder
	Contamination of compressed air supply e.g. Silicone
Craters and voids	Poor cleaning of substrate e.g. trapped oils or solvents
	Wet components e.g. water trapped in corners or joints
	Contamination of powder
	Contamination of substrate
Pin- holing and bubbles	Porous substrate e.g. expansion or air or solvents from porosity or cavities in castings during curing cycle. Pre-heating of the workpiece may help.
	Excessive electrostatic load; activate the mode TEC1 or increase the distance of spraying.
	Rusty substrate
	Contamination of substrate, powder, air supply or from dirty surroundings.
	Excessive moisture in compressed air supply (see § 3 page 11)

Note 1: Contamination may be caused by airborne vapour such as wet paint, airline or conveyor oil or stripping facilities.

Note 2: Silicones and acrylic paints are the worst offenders and can contaminate the powder and / or substrate.

10. Spare parts

10.1. AG 400 FCC automatic spray gun, version 2



Item	Part Number	Description	Qty	Sale Unit	Level for spare part (*)
	910016830	AG 400 FCC spray gun version 2	1	1	3
1	910016832	Low voltage input cable	1	1	3
2	250000210	Glass fiber nylon Chc M4x65 screw	2	1	3
3	910016831	Rear plug (see § 10.1.1 page 30)	1	1	3
4	EU9000511	Screw, M3 x 12	1	1	3
5	EU73019008	Oscillator	1	1	3
6	EU73019007	High voltage cascade	1	1	3
7	900011928	Flat seal	1	1	1
8	EU3022019	4mm fan spray nozzle, white	1	1	1
9	EU3019017	6mm fan spray nozzle, black	1	1	1
10	EU9001856	Red o-ring	1	1	1
11	EU3019013	Nozzle nut	1	1	3
12	EU73016185	Electrode assembly	1	1	1
13	EU73019005	Barrel assembly (see § 10.1.6 page 32)	1	1	3
14	910016833	Air supply channel (see § 10.1.2 page 30)	1	1	3
15	910017818	Air hose assembly (see § 10.1.3 page 31)	1	1	3
16	910017819	Powder supply channel (see § 10.1.4 page 31)	1	1	2
17	1315394	Dual Powder fitting	1	1	2

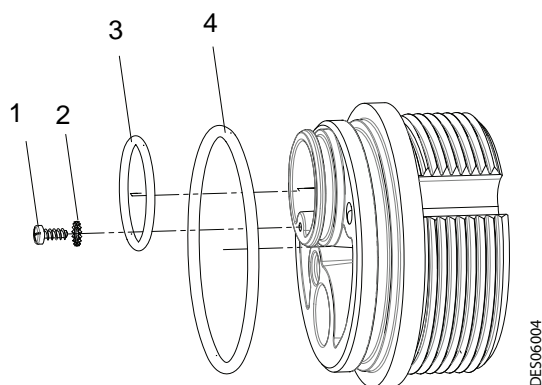
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Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

10.1.1. Rear plug



Item	Part Number	Description	Qty	Sale Unit	Level for spare part (*)
	910016831	Rear plug	1	1	3
1	X3GJCP004	Zinc coated PT K25X6 screw	1	1	3
2	X2BDVX003	Fan washer Dia: 3	1	1	3
3	J2FTDF279	O-ring, viton black	1	1	1
4	J2FTDF480	O-ring, viton black	1	1	1

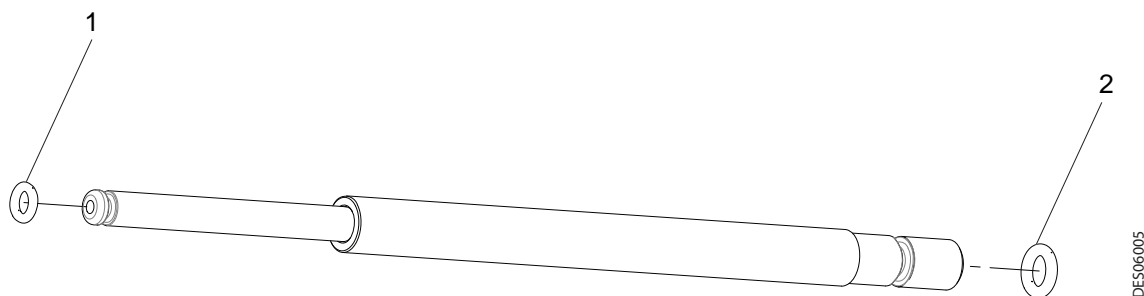
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Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

10.1.2. Air supply channel



Item	Part Number	Description	Qty	Sale Unit	Level for spare part (*)
	910016833	Air supply channel	1	1	3
1	J2FTDF027	O-ring, viton black	1	1	3
2	J2FTCF449	O-ring, viton black	1	1	3

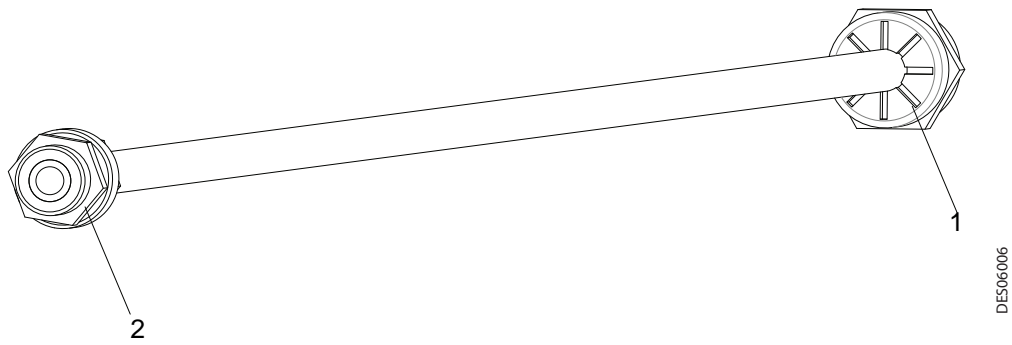
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Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

10.1.3. Air hose assembly



Item	Part Number	Description	Qty	Sale Unit	Level for spare part (*)
	910017818	Air hose assembly	1	1	3
1	EU9000116	Union double 6mm	1	1	2
2	F6RPUK316	1/8 male union	1	1	2

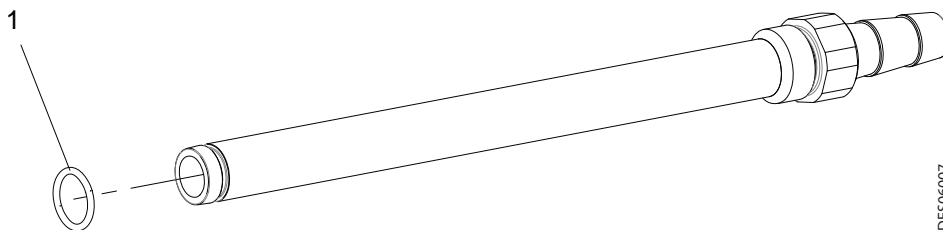
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Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

10.1.4. Powder supply channel



Item	Part Number	Description	Qty	Sale Unit	Level for spare part (*)
	910017819	Powder supply channel	1	1	2
1	J2FTDF155	O-ring, viton black	1	1	1

(*)

Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

10.1.5. Nozzles

Item	Part Number	Description	Qty	Sale Unit	Level for spare part (*)
	EU3019017	6mm fan spray nozzle, black	1	1	1
	EU3022019	4mm fan spray nozzle, white	1	1	1
	EU3016200	Round spray nozzle, small	Option	1	1
	EU3016201	Round spray nozzle, medium	Option	1	1
	EU3016202	Round spray nozzle, large	Option	1	1

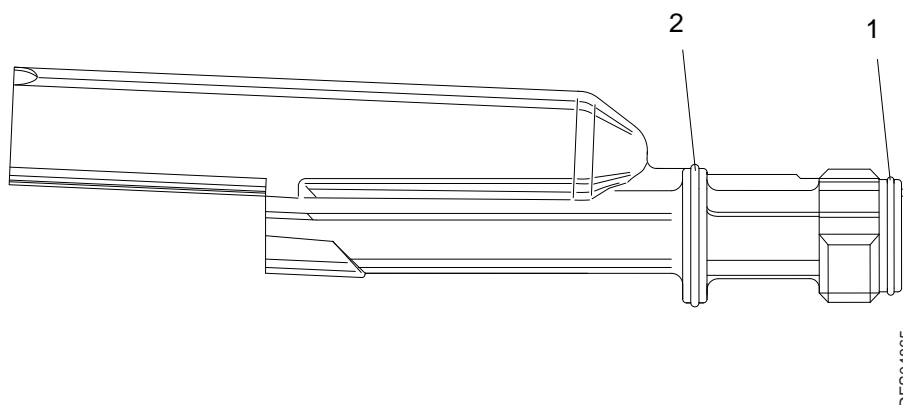
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Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

10.1.6. Barrel assembly



Item	Part Number	Description	Qty	Sale Unit	Level for spare part (*)
	EU73019005	Barrel assembly	1	1	3
1	EU9001917	Red o-ring	1	1	1
2	EU9001865	Red o-ring	1	1	1

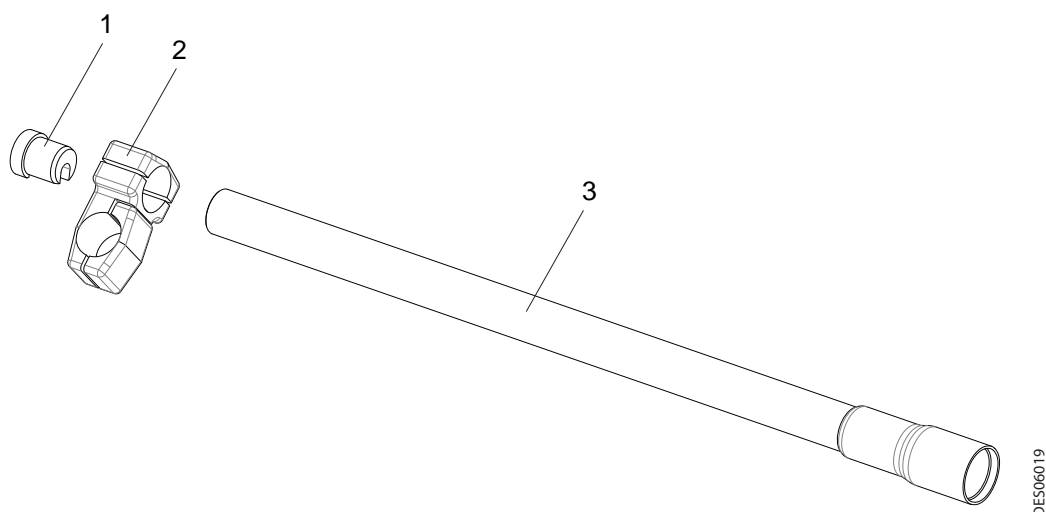
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Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

10.1.7. AG 400 FCC applicator supporting



Item	Part Number	Description	Qty	Sale Unit	Level for spare part (*)
		50 mm supporting	-	-	-
1	900011244	Plug for 50mm-tube	1	1	3
2	429104	50/50 fixing nut	1	1	3
3	900011196	Support tube, Dia: 50 mm	1	1	3
		60 mm supporting	-	-	-
1	1315630	Plug for 60mm-tube	1	1	3
2	1204441	50/60 fixing nut	1	1	3
3	1411605	Support tube, Dia: 60 mm	1	1	3

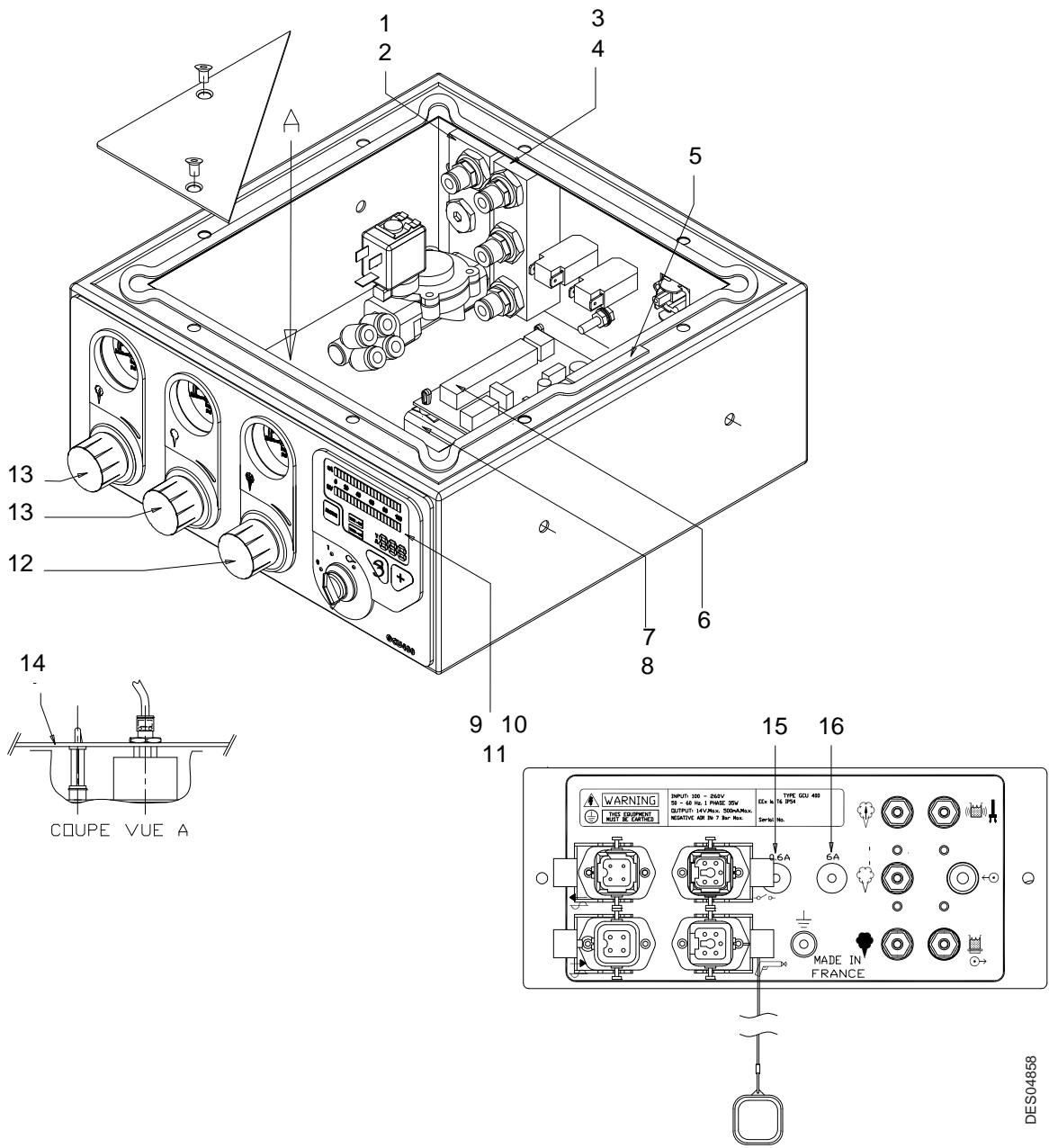
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Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

10.2. GCU 400 Control module



DES04858

Item	Part Number	Description	Qty	Sale Unit	Level for spare part (*)
	EU72024002	GCU 400 Module	1	1	3
1	EU72024009	Air input block assembly (see § 10.2.1 page 36)	1	1	3
2	EU2020060	Flat seal, air input block assembly	1	1	2
3	EU72024021	Air output block assembly (see § 10.2.2 page 37)	1	1	3
4	EU2020061	Flat seal, air output block assembly	1	1	2
5	EU9000063	Self-adhesive foam seal	1	1	3
6	EU2024006	Control PCB	1	1	3
7	EU9001882	Supply block	1	1	3
8	EU9001847	Plastic pillar 6.4 mm	4	1	3
9	EU2024005	Display PCB	1	1	3
10	EU9001849	Plastic pillar 9.5 mm	3	1	3
11	EU9001898	Nut M4 plastic	3	1	3
12	EU72010018	Regulator assembly 4 bar (see § 10.2.3 page 38)	1	1	3
13	EU72000026	Regulator assembly 2 bar (see § 10.2.3 page 38)	2	1	3
14	910009000	Pressure gauge assembly (see § 10.2.4 page 39)	1	1	3
15	EU9000016	Circuit breaker 0,6A	1	1	3
16	EU9000018	Circuit breaker 6A	1	1	3

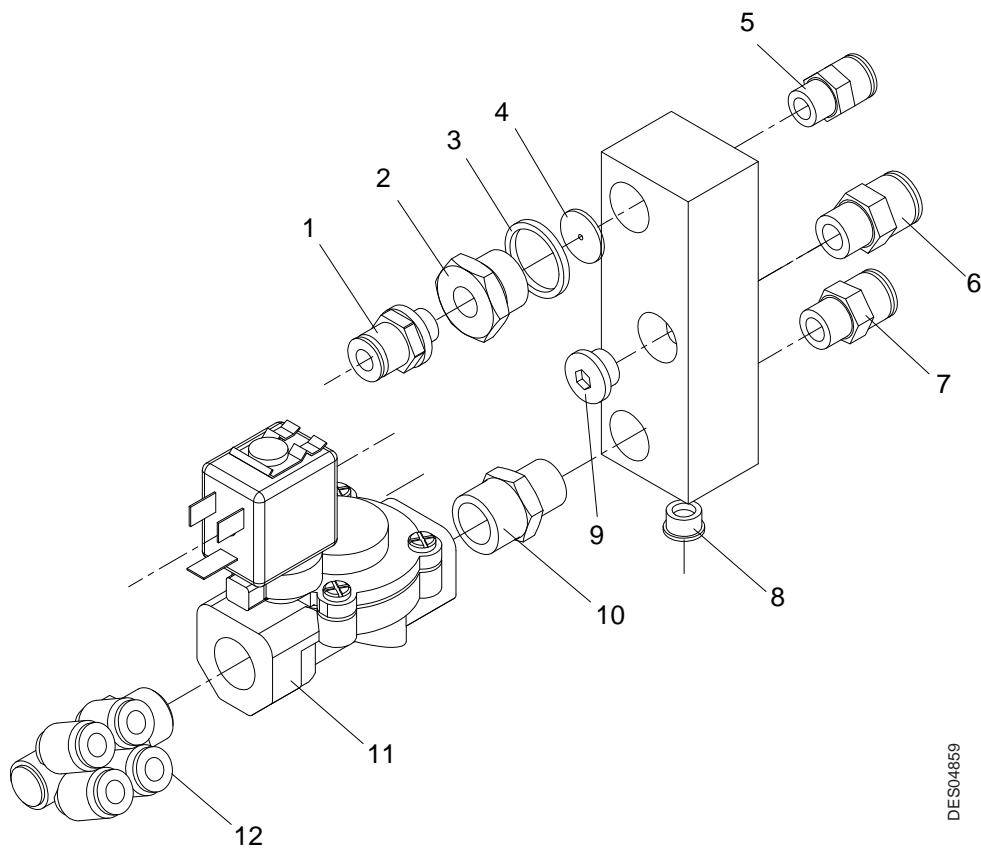
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Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

10.2.1. Air Input block assembly



DES04859

Item	Part Number	Description	Qty	Sale Unit	Level for spare part (*)
	EU72024009	Air input block assembly	1	1	3
1	EU9000041	Straight fitting 1/8BSPM Dia: 6 plastic	1	1	2
2	EU2000031	Valve, Non return	1	1	3
3	EU9000042	Washer 3/8BSP	1	1	2
4	EU2000037	Seal, non return valve	1	1	2
5	EU9001889	Straight fitting 1/8BSPMT Dia: 6 metal	1	1	3
6	EU9001891	Straight fitting 1/4BSPMT Dia: 8 metal	1	1	3
7	EU9001890	Straight fitting 1/4BSPMT Dia: 6 metal	1	1	3
8	EU9001874	Plug 1/8 BSPMP	1	1	3
9	EU9001880	Plug 1/4 BSPMP	1	1	3
10	EU9000032	Male-male fitting 1/4 BSPMT 3/8BSPMT	1	1	3
11	EU9000038	Solenoid valve 2/2 3/8 BSP 24V DC	1	1	2
12	EU9001746	Banjo 3/8	1	1	3

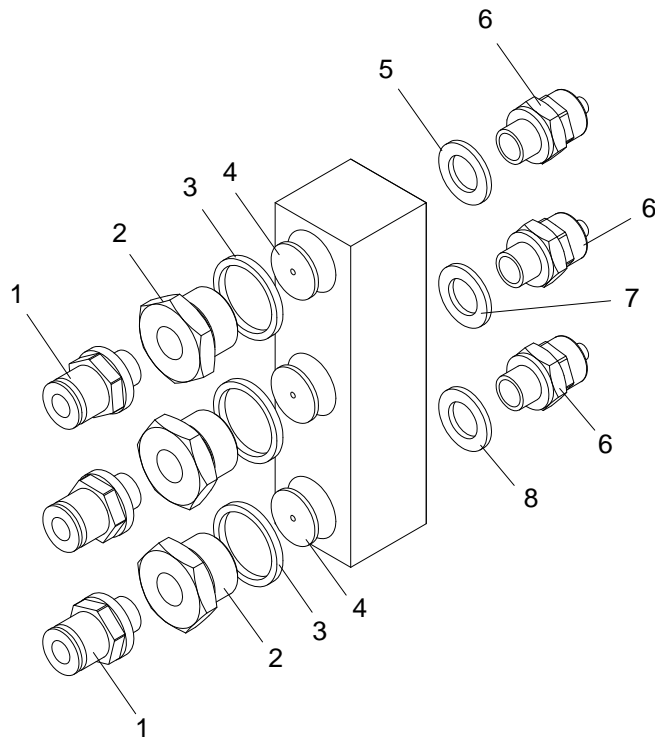
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Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

10.2.2. Air output block assembly



DES04860

Item	Part Number	Description	Qty	Sale Unit	Level for spare part (*)
	EU72024021	Air output block assembly	1	1	3
1	EU9000041	Straight fitting 1/8BSPM Dia: 6 plastic	3	1	2
2	EU2000031	Valve, Non return	3	1	3
3	EU9000042	Washer, sealing, 3/8BSP, nylon	3	1	2
4	EU2000037	Seal, non return valve	3	1	2
5	EU9000855	Washer 1/8BSP nylon black	1	1	2
6	EU9001045	Straight fitting 1/8BSP Dia: 6 metal	3	1	3
7	EU9001854	Washer, 1/8BSP nylon blue	1	1	2
8	EU9000853	Washer 1/8BSP nylon red	1	1	2

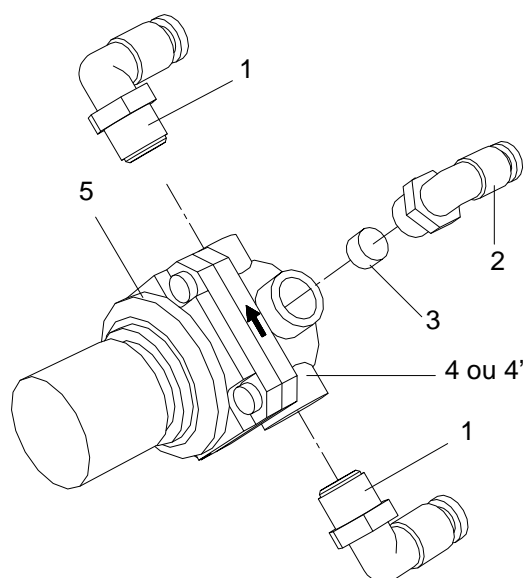
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Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

10.2.3. 2 and 4 bar Regulators



DES04861

Item	Part Number	Description	Qty	Sale Unit	Level for spare part (*)
	EU72010018	Regulator assembly 4 bar	1	1	3
	EU72000026	Regulator assembly 2 bar	1	1	3
1	EU9000033	1/4" elbow fitting for hose Dia: 6	2	1	3
2	EU2000062	1/8" elbow fitting for hose Dia: 4	1	1	3
3	EU5000050	Porous disc Dia: 8 thickness: 3.2 mm	3	1	2
4	EU9000112	Regulator 4 bar	1	1	2
4'	EU9000111	Regulator 2 bar	1	1	2
5	EU2024015	Regulator seal	1	1	1

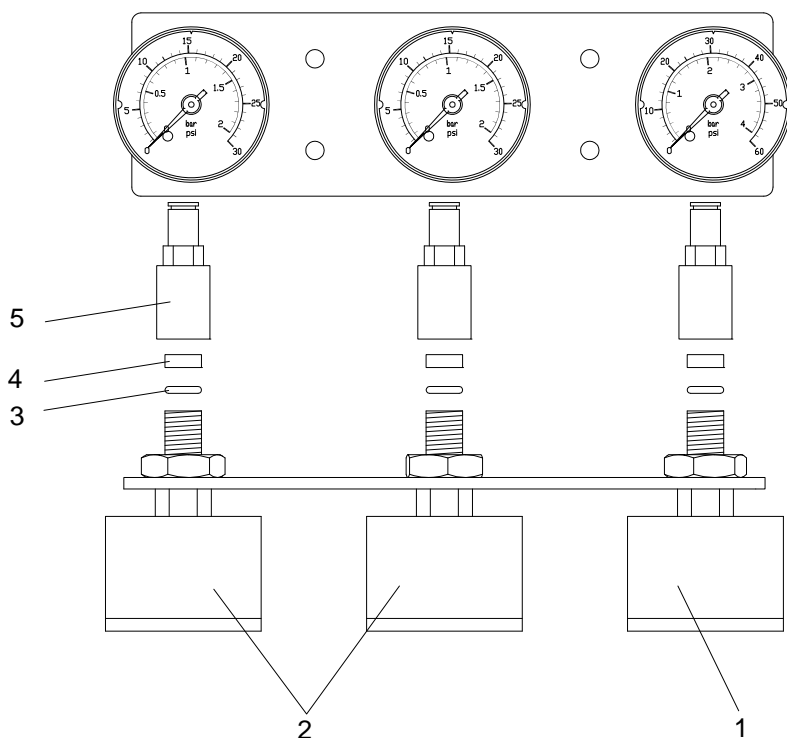
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Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

10.2.4. Pressure gauge assembly



DES04862

Item	Part Number	Description	Qty	Sale Unit	Level for spare part (*)
	910009000	Pressure gauge assembly	1	1	3
1	EU2024020	Pressure gauge - 4 bar	1	1	3
2	EU2024019	Pressure gauge - 2 bar	2	1	3
3	EU9000071	O-ring	3	1	2
4	EU5000040	Porous disc - Dia: 8 thickness: 4.7	3	1	2
5	EU9000052	Quick release female union	3	1	1

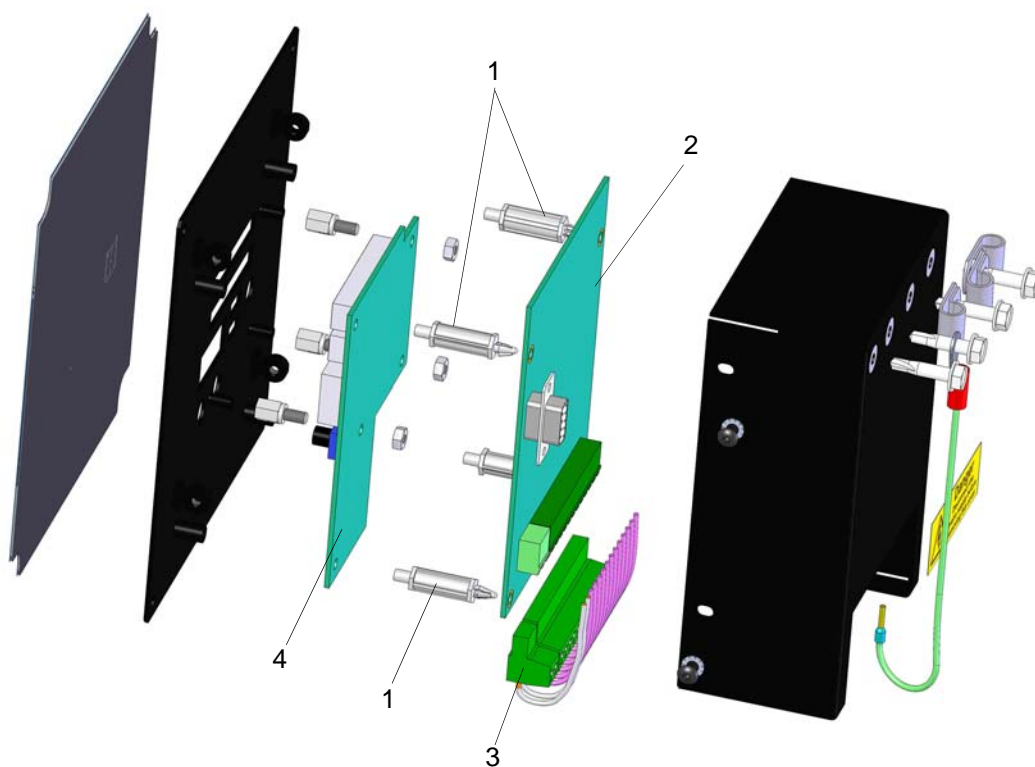
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Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

10.3. GCU 400 L Control module



Item	Part Number	Description	Qty	Sale Unit	Level for spare part (*)
	910016783	GCU 400 L Control module	1	1	3
1	EU9001848	22.2 mm plastic pillar	4	1	3
2	EU2024006	Control PCB	1	1	3
3	110001831	Connector	1	1	3
4	EU2024005	Display PCB	1	1	3

(*)

Level 1: Standard preventive maintenance

Level 2: Corrective maintenance

Level 3: Exceptional maintenance

10.4. Low voltage cables

Part Number	Description	Qty	Sale Unit	Level for spare part (*)
910019188	Low voltage cable, length: 20 m, AG400FCC / GCU	1	1	3
910018707	Low voltage cable, length: 20 m AG400FCC/ GCU L	1	1	3