Serial number 000-000000

USER MANUAL

MFV

Active carbon Mobile unit

CE

Motor

INTRODUCTION

Par	Description
1	**Scope of the operating and maintenance manual**

This instruction manual is an integral part of the machine and has the purpose of providing all the necessary information for the following purposes:

- Raise the awareness of operators as regards safety matters;
- Safe handling of the machine when packaged and unpackaged;
- Correct installation of the machine;
- Thorough knowledge of the machine's operations and limits;
- Correct use in total safety;
- Correct and safe maintenance;
- Dismantling of the machine in total safety, in compliance with the regulations in force on the health and safety of workers and the environment.

The people in charge of the company's departments in which this machine will be installed must, according to the regulations in force, carefully read the content of this Operating Manual and ensure that operators and maintenance staff operating and working on the machine read the relevant parts.

The time dedicated to this will be fully rewarded by the correct and safe operation of the machine.

This document is based on the assumption that the systems in which the machine is to be installed are in compliance with the health and safety at work regulations in force.

The instructions, drawings and documentation contained in this Manual are of a technical confidential nature and are property of the manufacturer; they may not be reproduced in any way, in part of fully.

If this manual is amended by the manufacturer, the Customer has the responsibility of ensuring that only the updated versions are available in the points of use.

INTRODUCTION

Par	Description
2	**Storage of the instruction manual**

The instruction manual must be kept safely and must be handed over to new owners in case of sale throughout the lifecycle of the machine.
To help preserve the manual in good condition it must be handled with care and with clean hands, and it must not be placed on dirty surfaces.
It is forbidden to remove, tear out or arbitrarily modify any parts of the manual.
The manual must be stored in an environment away from humidity and heat, in a position near the machines to which it refers.
Upon the User's request the Manufacturer shall supply other copies of the machine's instruction manual.

INTRODUCTION

Par	Description
3	**Updating of the Instruction Manual**

The manufacturer reserves the right to modify the project and improve the machine without informing customers and without updating the manual already delivered to the User.

If modifications are made to a machine installed at the customer's premises, in agreement with the manufacturer, and which entail the amendment of one or more chapters of the manual, the manufacturer shall send the amended chapters to the holders of the Instruction Manual and its new overall revision.

According to the instructions that will accompany the updated documentation, the User shall replace the old chapters in the copies held with the new ones, as well as the first page and table of contents with the new revision level.

The manufacturer shall be responsible for the descriptions in Italian; translations cannot be thoroughly checked therefore if there is a difference the Italian version must be considered correct; if this should occur please contact our sales office that shall make the necessary amendments.

INTRODUCTION

Par	Description
4	**Glossary and pictograms**

This paragraph lists some terms which are not commonly used or with a meaning different from the common one. The meaning of the abbreviations and pictograms used is described below. The abbreviations and pictograms are used to indicate operator qualifications and state of the machine; they provide, in a quick and univocal manner, the information necessary for the correct and safe use of the machine.

GLOSSARY (Annex I point. 1.1.1 Dir. 2006/42/EC)

HAZARD
A potential source of injury or damage to health.

DANGER ZONE
Any zone within and/or around machinery in which a person is subject to a risk to his health or safety.
EXPOSED PERSON
Any person wholly or partially in a danger zone.

OPERATOR
The person or persons installing, operating, adjusting, maintaining, cleaning, repairing or moving machinery.

RISK
A combination of the probability and the degree of an injury or damage to health that can arise in a hazardous situation.

GUARD
A part of the machinery used specifically to provide protection by means of a physical barrier.

PROTECTIVE DEVICE
A device (other than a guard) which reduces the risk, either alone or in conjunction with a guard.

INTENDED USE
The use of machinery in accordance with the information provided in the instructions for use.

REASONABLY FORESEEABLE MISUSE
The use of the machinery in a way not intended in the instructions for use, but which may result from readily predictable human behaviour.

OTHER DEFINITIONS
MAN-MACHINERY INTERACTION
Any situation in which the operator interacts with machinery in any of the operating phases during the lifecycle of the machinery.
OPERATOR QUALIFICATIONS
Minimum level of skill that an operator must have to carry out the described operation.

NUMBER OF OPERATORS
The suitable number of operators, able to carry out the operation described in an optimal way, as established by a careful manufacturer analysis, whereby a different number of operators might not make it possible to obtain the expected result or might endanger the safety of the personnel involved.

STATE OF THE MACHINE

The state of the machine includes operating modes, for example automatic running mode, jog command, stop, etc., the condition of the safety devices on the machines such as protection devices provided (or not provided), pressed emergency button, type of isolation from energy sources, etc.

RESIDUAL RISK

Risks that persist despite the adoption of the protective measures included in the design of the machine and despite the additional protective devices and measures adopted.

SAFETY DEVICE

Device:

- That carries out a safety function;
- which, when faulty and/or broken, endangers the safety of people.

(e.g. lifting equipment; fixed, mobile, adjustable protective device, etc., electric, electronic, optical, pneumatic, hydraulic device interlocking a protection device, etc.).

PICTOGRAMS

The descriptions that follow this pictogram contain:
very important information/instructions, in particular as regards safety.
Failure to respect them may lead to:

- danger for the safety of the operators;
- loss of contractual guarantee;
- waiver of the manufacturer's liabilities.

PICTOGRAMS CONCERNING OPERATOR QUALIFICATIONS

Symbol	Description
	**Unskilled worker:** operator without specific skills that can only carry out simple tasks following the instructions of qualified technicians.
	**Driver of lifting and handling means:** operator qualified to use machines and material handling and lifting equipment (strictly following the manufacturer's instructions), according to the laws in force in the country of use of the machine.
	**Mechanical service man:** a qualified technician that can manage the machine in normal conditions, operate in jog mode with the protection devices disabled and work on its mechanical parts to make the necessary adjustments, repairs and maintenance. **Usually he is not qualified to work on live electrical systems.**
	**Electrical service man:** a qualified technician that can use the machine in normal conditions, operate in jog mode with the protection devices disabled and work on electrical parts to make the necessary adjustments, repairs and maintenance. **He can work on live cabinets and junction boxes.**
	**Manufacturer's technician:** qualified technician provided by the manufacturer to carry out complex operations in particular situations, or in any case as agreed with the user. According to the situation the technician will have mechanical and/or electrical and/or electronic and/or software skills.

Table 0 - 4.1

PICTOGRAMS CONCERNING THE STATE OF THE MACHINE

Pictograms inside a square/rectangle provide INFORMATION.

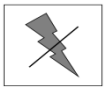
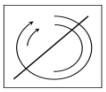
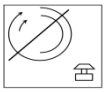
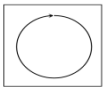
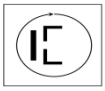
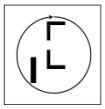
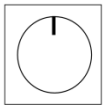
Symbol	Description
	**Machine off:** with hydraulic or electric power supply disconnected.
	**Machine on:** with hydraulic or electric power supply connected and in safe stop condition with open mobile protective devices (specifying which); JOG disabled; fixed protection devices closed.
	**Machine on:** with hydraulic or electric power supply connected and in safe stop condition with emergency mushroom button pressed or other control with the same function activated, positioned near the intervention area (specifying the mushroom button or the device to be used).
	**Machine moving:** in automatic mode, with mobile protection devices closed, the relevant interlocking devices activated, and the fixed protection devices closed.
	**Machine moving:** in JOG mode, with mobile protection devices closed, the relevant interlocking devices activated, and the fixed protection devices closed.
	**Machine moving:** in JOG mode, with one or more mobile protection devices, that can be disabled, open (specifying which) with the relevant interlocking devices activated and fixed protection devices closed.
	**Machine on:** in stand-by and waiting for functional consent to start (e.g. presence of product), mobile protection devices closed with safety device closed, and fixed protection devices closed.

Table 0 - 4.2

SAFETY SIGNS

- **The pictograms inside a triangle indicate DANGER.**
- **The pictograms inside a circle mean PROHIBITION/OBLIGATION.**

Symbol	Description
	Dangerous electrical voltage
	Danger of crushing of upper limbs
	Danger of entanglement
	Danger of being dragged by machine parts
	General hazard

	Danger of entanglement in transmission belt
	Hot surfaces; danger of burning
	Danger of being dragged by impellers or rotating parts
	No access to unauthorised people
	Do not remove safety devices
	Do not manually clean, oil, grease, repair of adjust moving parts
	Do not carry out any work without disconnecting the power
	Protective gloves must be worn
	Safety footwear must be worn
	Safety helmets must be worn

Table 0 - 4.3

GENERAL INFORMATION

Par	Description
1	**Manufacturer's identification data**

MANUFACTURER

SECURE AIR® by GAMMA IMPIANTI S.r.l.

REGISTERED OFFICE – ADMINISTRATIVE OFFICE

VIA STROPPIANA,15 10071 BORGARO T.SE (TO) ITALY

TEL +39 0114502031 – FAX +39 0114703927

E-mail: info@secureair.it

GENERAL INFORMATION

Par	Description
2	**Machine identification data and plates**

Each machine is identified by an EC plate on which the reference data of the same are indelibly indicated. For any communication with the manufacturer or service centers, always mention these references.

The position of the plate on the Machine may vary .

GENERAL INFORMATION

Par	Description
3	**Declarations**

The machine is manufactured in accordance with the relevant Community Directives applicable at the time of its placing on the market.

ANNEX IV Directive 2006/42/EC

The machine is not one of those mentioned in All. IV of Directive 2006/42/EC.

EC DECLARATION OF CONFORMITY

(All. IIA DIR. 2006/42/CE)

MANUFACTURER

Gamma impianti S.r.l.
Company

Via Stroppiana, 15 | 10071 | TO
Address | Postal code | Province

Borgaro T.se | Italia
City | Nation

DECLARES THAT THE MACHINE

Mobile purifier for suction retouches and fumes | MFV
Decription | Model

000-000000 | 2024
Serial number | Year of manufacture

MFV19
Trade name

Extraction and purification of welding fumes for non-heavy processes in the absence of oil or grease
Intended use for the equipment

COMPLIES WITH THE DIRECTIVES

Directive 2006/42/EC of the European Parliament on machinery and amending Directive 95/16/EC.

Directives 2014/30/EC and 2014/35/EC

ATEX 94/9/CE D EEx

Riferimento norme armonizzate:

EN 349:1993+A1:2008, EN 614-1:2006+A1:2009, EN 614-2:2000+A1:2008, EN 626-1:1994+A1:2008, EN 626-2:1996+A1:2008, EN 842:1996+A1:2008, EN 894-1:1997+A1:2008, EN 894-2:1997+A1:2008, EN 894-3:2000+A1:2008, EN 953:1997+A1:2009, EN 1005-2:2003+A1:2008,
EN 1037:1995+A1:2008, EN 1037:1995+A1:2008, EN 1093-1:2008, EN 1093-4:1996+A1:2008, EN 13478:2001+A1:2008, EN ISO 13849-1:2008,
EN ISO 13849-2:2008, EN ISO 13850:2008, EN ISO 13857:2008, EN ISO 14121-1:2007, EN ISO 14159:2008

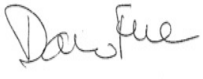
DECLARES THAT THE TECHNICAL FILE

It was formed by the same manufacturer and the same is produced at the registered office.

Place and date of document

Borgaro T.se,
07/2024

The manufacturer



GENERAL INFORMATION OF THE MACHINE

Par	Description
1	**General description of the machine**

The mobile unit is the ideal solution for vacuuming and filtering the fumes that develop during paint, roller or can retouches or during other operations that produce CVO-SOV fumes and/or bad odours. To avoid its diffusion in the working environment, the sucked air is adequately filtered and recycled inside the working area with consequent energy savings.

MACHINE CHARACTERISTICS

The portable unit is fitted with a high efficiency suction fan in a negative pressure sound-insulated compartment which acts as flow calming plenum to reduce the turbulent flow of the treated air before it goes out through the special output grilles.

An electric control panel with IP65 protection is supplied as standard and consists respectively of:
- on-off switch;
- magnetic - thermal protection (for electric motor);
- differential pressure switch with pre-filter clogging level control;
- power supply signal on the machine (green light);
- machine ignition signal (green light);
- filter clogging signal (yellow light).
- timer for maintenance register and filter change

The filtration section is made up as follows:

FILTRATION LEVEL	
1	CORRUGATED FILTER
2	ACTIVATED CARBON S1
3	ACTIVATED CARBON S2

Suction accessories

The suction mouth of the machine can be connected to different collection systems depending on the user's needs:

- Connections for flexible pipes, single or multiple diam.150, up to a maximum of three 100mm diameter connections

- 360-degree adjustable self-supporting suction arms

WARNING: THE MACHINE MUST NOT BE USED FOR THE EXTRACTION OF FUMES AND METAL DUST A SPARK COULD CAUSE FIRES AND/OR EXPLOSIONS. USE ONLY FOR THE GENERAL PURPOSE OF SUCTION BY RETOUCHING.

GENERAL INFORMATION OF THE MACHINE

Par	Description
2	**Technical data of the unit**

Power supply voltage	V	400
Network frequency	Hz	50
Installed power	kW	1.5
Maximum suction capacity	m^3/h	2500
Negative pressure extractor	Pa	1400
Machine air flow-rate	m^3/h	1500
Filtration efficiency Acc. EN 779 (G2-G4) Acc. EN 1822 (H12)	% Carb	G4 70% attivo
Sound pressure level	dB(A)	73

Non-sparking and fire protection equipment for maximum work safety

- The electric motor is ATEX certified
- The fan is equipped with non-sparking parts

INITIAL START-UP

Par	Description
1	**Electrical connections**

The mobile purifier is supplied with a power cable to be connected to a three-phase plug (not supplied) by a specialized and licensed electrician.

INITIAL START-UP

Par	Description
2	**Electrical panel**

The machine is equipped with an electrical panel positioned on the front side

GREEN LIGHT ON : UNIT ON

HOUR COUNTER: FOR FILTERS REPLACEMENT REGISTER

INITIAL START-UP

Par	Description
3	**Use of suction arm (if applicable)**

Depending on the model, the machine can be equipped with one or two suction arms, which must be assembled separately using the instructions in the package.

It is necessary to fix the flange of the arm on the perforated plate of the purifier. The suction arm can be used during rotation on the whole central axis allowing a rotation of 360 º. The arm opening and/or closing operations must be carried out only in front of the machine and the operator must therefore face towards the control panel.

MACHINE MAINTENANCE

Par	Description
1	**Replacing the filters**

The replacement of filters can vary in frequency and duration depending on the type of use.

To replace the filters it is necessary to use the key that is supplied to the machine, by which you can intervene on the lock of the filter inspection door. Opening it you have direct access to the filtered section and pulling one filter at a time outwards you can extract all filters.

It is important to consider that the filter section may be difficult to extract due to the seals present along the perimeter of the filters and weight. These gaskets (which are put under pressure) allow the maximum hermetic tightness of the entire filter section and therefore give the guarantee that all the particulates sucked are filtered through the entire section.

The extraction of the filters must be done paying attention to the weight of the filters and having prepared special bags/ safety containers where to store the clogged filter.

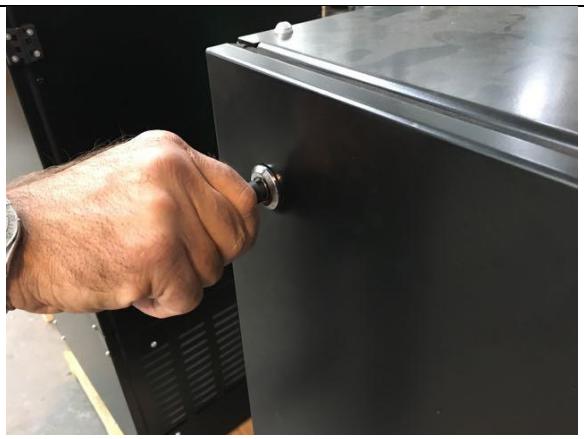
To extract the filters you need:

1) lock the wheels of the machine so that it does not move

2) open the door using the key

3) Use the filter frame to grip and pull them out.

ATTENTION TO THE WEIGHT OF THE HIGH CARBON MODULE: THIS CHANGE MUST BE DO WITH TWO PEOPLE

	
OPENING AND CLOSURE	FILTERS

It is recommended to replace at least 1 time a year all the filters present in the equipment to maintain the maximum performance of both suction and filtration.

In the event of a fresh smell of pollutant escaping from the side grilles, activated carbon filters must be replaced immediately.

MACHINE MAINTENANCE

Par	Description
2	**Detail of the filters in the rigid pocket purifier**

1- FIRST STAGE FILTRATION

Corrugated filter cell

Filter code: ACCRICFILTMFV1

Filter material	Polyester fiber
Regeneratability	no
Flame behaviour	DIN 53438 F1

2- SECOND STAGE FILTRATION

Metal container with activated carbon

Filter code: ACCRICFILTMFV2

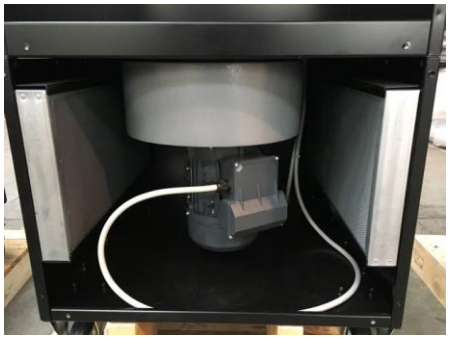
Type of carbons	Vegetable, cylindrical
Regeneratability	No

3- THIRD STAGE FILTRATION

Active carbon panels (n. 2 in the fan compartment, behind the grilles)

Filter code: ACCRICFILTMFV3

Type of carbons	Vegetable, cylindrical
Regeneratability	No



Activated carbons are materials, consisting mainly of carbon in the form of micro graphite crystals, treated to obtain a porous structure with a large internal surface area. Thanks to these characteristics they have great adsorbent capacities and are able to absorb, during the contact phase, many types of substances, attracting the molecules in their internal surface. The absorbency of the filter is given by the types of pollutants and their combination.

MACHINE MAINTENANCE

Par	Description
4	**Malfunctions**

FAULT TYPE	CAUSE	ACTION
STARTING PROBLEMS	Low voltage supply	Check the motor dataplate and the mains power supply
	No power supply	Check the connection of the plug and/or socket
FAILURE TO START	No power supply	Check the connection of the plug and/or socket
	Motor burn out	Replace extractor fan
	The safety microswitch is open or damaged	Check that the door is closed and that the microswitch is activated; if necessary replace the part.
FILTER CLOGGED INDICATOR LIGHT ON	Filters are clogged beyond the limit set	Clean filters with compressed air
		Replace filters
		Replace pressure switch device
MAINS INDICATOR LIGHT OFF	Incorrect plug connection	Check all connections
	Power supply line to the electrical panel is faulty	Check line connections
	Connections inside the machine have gone off.	Open the electrical panel and check the connections
	Burnt out indicator light	Replace LEDs
THE POWER ABSORBED IS GREATER THAN THE ONE INDICATED ON THE IDENTIFICATION LABEL AND/OR MOTOR PLATE	The motor rotates below its normal rotation speed	Check power supply. Check for faults in the motor windings and if necessary replace it.
EXCESSIVE VIBRATIONS	Unbalanced rotating parts	Check balancing of rotating parts
	Loose or unsuitable antivibration devices	Check the tightness of the antivibration and their good condition
REDUCED SUCTION	Incorrect rotation of the electric motor	Invert the electrical connections on the plug in case of three-phase power supply or on the motor in the case of single-phase power supply.
	Clogged filters	Check the condition of the filters and the signal on the electrical panel; if necessary replace with a new set of filters.
	Air leaks	Check the casing for strange openings or air passages. If possible try to seal everything with silicone.
	Unbalanced impeller	Check the condition of the impeller and check for damaged parts or dirt on the blades. Remove the fan unit and thoroughly clean the impeller.

MACHINE MAINTENANCE

Par	Description
5	**Maintenance programme**

ROUTINE CHECKS

	TYPE OF CHECK OR MAINTENANCE	METHOD	FREQUENCY	DATE OF CHECK AND NAME OF MAINTENANCE OPERATOR				
				1	2	3	4	5
1	GENERAL CHECK OF THE CONDITION OF THE AIR CLEANER	VISUAL	DAILY					
2	CLEANING	MANUAL	See note A					
3	CHECK OF THE CONDITION OF THE SEALS	VISUAL	150 HOURS					
4	CHECK OF TIGHTNESS OF NUTS AND BOLTS	MANUAL	150 HOURS					
5	CHECK OF FILTER CLOGGING	VISUAL OR MANUAL	600 HOURS See note B					
6	CHECK OF EXTRACTOR FAN	MANUAL	See note C					
7	REPLACEMENT OF BEARINGS	MANUAL	40000 HOURS See note D					

NOTE A

The cleaning intervals vary according to the type of fluid conveyed and its concentration and according to the type of work environment in which it is used. The end user must therefore define a cleaning interval suitable to always keep the machine perfectly clean; the accumulation of material on the fixed parts must not be more than 5 mm thick.

NOTE B

A special device fitted on all equipment signals the need to replace the filters. It is however recommended to check whether the filters are clogged for maximum suction and machine efficiency; for this reason, the cleaning interval described in the filter paragraph should be respected and the entire filter set should be replaced at least once a year. The filters deteriorate even if they are not used very often.

NOTE C

The fan extractor must be monitored at intervals established by the user to check that it is good working order, to check for faults or damage to the impeller and to check that the electric motor is in good condition.

NOTE D

This is the lifecycle defined for the bearings, however due to external factors such as increased vibrations for a certain period the replacement of the bearings may have to be carried out at shorter intervals. At the end of their lifecycle, the bearings should be replaced even if apparently, they seem in good condition.

OPERATOR'S NOTES

Par	Description
8	**Details of maintenance operations**

The following table must be filled in by a qualified technician authorised by GAMMA IMPIANTI SRL.

It is of fundamental importance to keep these notes updated to keep track of the problems and maintenance carried out; in this way future problems can be solved in a shorter time with cost savings.

DATE	COMPANY NAME	CONTACT PERSON	OPERATION CARRIED OUT
			First start-up

MFV19 user manual

By GAMMA IMPIANTI s.r.l

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