

Instructions Manual

GALILEO PLUS

Note

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1. General information

1.1. Manual use

Before undertaking any equipment assembly or maintenance operation on the air filter carefully read the instructions provided in this manual.

WARNING!



The word "WARNING" indicates those procedures for which the partial or total failure to comply may cause damages to the air filter unit or to the machine tool connected to it.

1.2. Warranty

DANGER!



The word "DANGER" indicates those procedures for which the total or partial failure to comply may cause injury to the operator.

NOTE!



LOSMA INDIA. does not accept any responsibility for any direct or indirect damage to persons or things resulting from incorrect or different use of the air filter, than that which is described in the present manual.

1.2.1. General conditions

Losma India Pvt. Ltd. (hereinafter known as *Supplier*) undertakes to deliver to the purchaser products conforming to the agreement which are exempt from defects such as to make them unsuitable for the use to which products of the same type are employed and guarantees the products sold for 365 days from the date of delivery with an hourly limit of use equal to 2000 hours.

The guarantee ex-*Supplier's* works is limited to the replacement or repair of the products which, in the unquestionable opinion of the *Supplier*, are defective.

Components not directly constructed by the *Supplier* will be the subject of a guarantee according to the conditions used by his supplier to the *Supplier*.

It remains understood that all the components replaced shall be the property of the *Supplier* or his supplier.

1.2.2. Notification of non-conformity to guarantee or defective product

The notification of non-conformity or defect of the product must be communicated in writing to the *Supplier* with a clear indication of its nature within 15 days of the date it was found or could have been found following a thorough examination of the product.

In addition, the purchaser, against *Supplier's* request, must place at the disposal of the *Supplier*, the product deemed non conforming and/or allow people assigned by the *Supplier* to carry out all the checks that the *Supplier* deems suitable in order to ascertain the effective non conformity or defect of the product.

The lack of communication of the potential non-conformity or fault of the product in the times indicated and/or if the latter is not made available shall cause the immediate termination of the guarantee. The purchaser also forfeits the guarantee if, the supplier has requested the faulty piece to be returned at his expense and the purchaser omits to return such piece within a short period of the request.

1.2.3. Repairs or replacements

The *Supplier* shall fulfill the obligations set out in the guarantee by repairing or replacing the non-conforming or defective parts. In order to fulfil the guarantee the *Supplier* can choose:

To carry out the repairs at his factory; in this case the purchaser is obliged to send at his expense, the products to the factory indicated by the *Supplier* and to collect them ex-factory, after the execution of the guarantee.

To carry out or have carried out by third parties the repairs and/or replacements in the place where the products are located. In this case the travelling costs, board and lodgings shall be at the expense of the purchaser;

To have the repair and/or replacement carried out by the purchaser supplying the relative instructions and possibly supplying free of charge, ex the *Supplier's* factory or reimbursement of the spare parts.

The guarantee for the pieces replaced or repaired terminates on the same day as the guarantee of the product.

1.2.4. Exclusions

The *Supplier* shall not be held liable for defects or faults pertaining to the product which are directly or indirectly attributable to information, data, projects, materials and to any other tangible or intangible good supplied, indicated or requested by the purchaser or by third parties acting in whatever role, in the name and on behalf of the latter.

Not covered by this guarantee are all the defects directly or indirectly attributable to incorrect, excessive or improper use of the equipment and including all the times the equipment is used in a manner different from that described in the technical documentation accompanying the product. In addition excluded from the guarantee are all the parts normally subject to wear and tear such as filters, seals, fuses etc.

The guarantee shall terminate if the product is tampered with, modified, repaired by service centres other than that of the *Supplier* and by personnel not directly employed or authorised by the *Supplier* himself and/or in the case of the use of non-original components or consumables (filters, seals etc).

The *Supplier* does not guarantee the inexistence of claims or rights based on industrial or intellectual property of third parties, relating to the product or documentation transmitted to the purchaser.

1.2.5. Limitations of the Supplier's responsibility (responsibility for damages)

Except in the case of malice or serious malpractice of the *Supplier* the possible reimbursement of any damage to the purchaser cannot however exceed the value of the product relating to the defective part.

The guarantee as per this article includes and replaces the guarantees or responsibilities provided by the law and excludes all other responsibilities of the *Supplier* not originated by the products, in particular the purchaser cannot advance other requests for compensation for damage, price reduction or termination of the contract.

Once the guarantee has expired no claims shall be made to the supplier.

1.3. Manufacturer identification data

Headquarters and production plant:

Losma India Pvt. Ltd.
Plot no. 12, Gat No.63,
Shindewadi, Tal Bhor
Dist: Pune 412205
India
Tel. +91-8956564871
e-mail: info@losma.in

1.4. Air filter identification data

The air filter is provided with an identification plate positioned on the support frame. We recommend registering the identification data in the following table, as they are needed for spare-parts requests.



Fig. 1- Serial number

1.5. General safety information

In the design and construction of this unit, priority has been given to criteria and adaptations suitable to meet the essential safety requirements, as prescribed by the European Directives 2006-42-CE and applicable regulations. Please note that, in accordance with the provisions of the machine directive 2006-42-CE the air filter is to be considered as **partly completed machine**. Therefore, in countries where the machine directive 2006-42-CE is adopted, the air filter cannot be put into operation until the machine, of which it is an integral part (and component), is declared in conformity with the provisions of the directive 2006-42-CE. Qualified staff, according to the instructions provided in the present manual in any way by respecting the corresponding rules and laws, must carry out installation and electrical connection operations.

1.5.1. General safety provisions

- Cut off the power by turning the main switch on "OFF". To prevent any sudden starting up, it is advisable to fasten the switch with a padlock.
- Turn the main switch (positioned on the machine switch-board) to "OFF" and fasten it with a padlock.
- Disconnect the control device from the plug and socket of the air filter.
- Wait at least 5 minutes in order to allow the air filter rotor to come to a complete stop.
- Check that the external PE protective conductor of the air filter is correctly earthed.
- Wear suitable accident prevention clothing during the assembly and maintenance operations.

DANGER!



To reach the unit for assembly or maintenance operations, use only ladders and/or gangways conforming to current accident prevention regulations.

NOTE!



LOSMA INDIA does not accept any responsibility for any direct or indirect damage to persons or things resulting from incorrect or different use of the air filter than those prescribed in the present manual.

1.5.2. Position of "danger and warning labels"

Some of the adhesive labels applied to the machine complete and repeat the instructions of this manual. Should the wear and tear of time make them illegible, replace them with new ones.

1.5.3. Noise level

Noise level data, for each model, is indicated in enclosure "Technical Specifications" – Paragraph 2.2.. and 2.3..

NOTE!

The noise level data has been recorded with free inlet.
These data may change according to the installation conditions of the air filter.



1.6. Personnel qualification

Qualified personnel must undertake installation, maintenance and use of the air filter unit. Exclusively qualified electricians should carry out electrical connection of the unit.

1.7. Requests for technical assistance

For technical assistance, please contact:

Losma India Pvt. Ltd.

Plot no. 12, Gat No.63,
Shindewadi, Tal Bhor
Dist: Pune 412205
India
Tel. +91-8956564871
e-mail: info@losma.in

2. Description

2.1. Function and field of application

Galileo is equipped with a turbine specifically designed for the aspiration of oil mist and other airborne pollutants present in the working area. Due to the effect of centrifugal force created by the coalescence, the oil mist will be converted into oil in liquid form and sent back to the machine through the drainage tube appropriating for reuse.

The filtering material disposed in the rear part captures trapping pollutants of smaller dimensions prevent it from being dispersed into the environment.

This machine can be used for suction and purification of air containing mists. By adding G Clipper post filter cartridge it is also possible to purify air from micro-mists, vapors and smoke from oil. Many areas of employment: machining with lathes, machining centers, grinding machines, gear cutting, milling, threading, etc..

WARNING!



The air filters are not suitable for dry dust. In case of production generating dry dust, the air filter is not effective, disconnect it or use suitable air filter.

2.2. STANDARD VERSION

2.2.1. Technical characteristics

TECHNICAL CHARACTERISTICS (STANDARD VERSION)								
MODEL	FLOW RATE* [m ³ /h]		NOISE [dBa]		Ø ENTRANCE [mm]	RPM [rotation/min]		NET WEIGHT** [kg]
	50 Hz	60 Hz	50 Hz	60 Hz		50 Hz	60 Hz	
GP 250 IE1 Power 0.09/0.12 kW	325	450	58	60	80	2900	3450	10
GP 500 IE2 Power 0.25/0.29 kW	700	850	68	69	100	2900	3450	14
GP 500 IE3 Power 0.25/0.3 kW	720	850	68	70	100	2840	3410	14
GP 1000 IE2 Power 0.55/0.63 kW	1520	1550	71	71	150	2800	3450	29
GP 1000 IE3 Power 0.55/0.66 kW	1570	1650	71	72	150	2860	3430	28
GP 2000 IE2 Power 1.1/1.3 Kw	1580	1655	71	74	150	2880	3440	33
GP 2000 IE3 Power 1.1/1.27 kW	2160	2230	74	73	150	2900	3450	34
GP 3000 IE2 Power 1.5/1.75 kW	3400	3500	71	75	200	2900	3500	54
GP 3000 IE3 Power 1.5/1.75 kW	3500	3600	73		200	2900	3500	54

* FLOW RATE AT FREE INLET.

** TOLERANCE ±1 kg.

Tab. 1 – Technical characteristics

ELECTRIC CHARACTERISTICS (STANDARD VERSION)

ELECTRIC MOTOR: 3PHASE – 2 POLES – PROTECTION CLASS IP55 – INSULATION CLASS F

POWER 50/60 Hz					
MODEL	POWER [kW]	EFFICIENCY CLASS	VOLTAGE [V]	FREQUENCY[Hz]	CURRENT [A]
GP 250	0.09 / 0.12	IE2	230	50	0.69
			400	50	0.4
			260	60	0.4
GP 500	0.25 / 0.29	IE2	240	50	1.09
			415	50	0.63
			480	60	0.63
GP 500	0.25 / 0.3	IE3	240	50	1.1
			415	50	0.6
			498	60	0.6
GP 1000	0.55 / 0.63	IE2	240	50	2.1
			415	50	0.2
			498	601	1.2
GP 1000	0.55 / 0.66	IE3	240	50	2.1
			415	50	1.25
			498	60	1.25
GP 2000	1.1 / 1.3	IE2	240	50	4.06
			415	50	2.34
			480	60	2.34
GP 2000	1.1 / 1.27	IE3	240	503	3.9
			415	50	2.26
			480	60	2.4
GP 3000	1.5 / 1.75	IE2	240	50	5.36
			415	50	3.09
			480	60	3.09
GP 3000	1.5 / 1.75	IE3	240	50	5.24
			415	50	3.02
			480	60	3.02

2.2.2. Conditions and limits of function

For optimal function, the GALILEO Plus series should operate between the following physical characteristics of the air intake:

- Temperature: 5 ° C to 40 ° C.
- Relative Humidity: 30% to 85%.

NOTE!

LOSMA INDIA. does not accept any responsibility for any direct or indirect damage to persons or things resulting from incorrect or different use of the air filter than those prescribed in the present manual.



2.2.3. Dimensions

DIMENSIONS	GP 250 0.09/0.12 kW IE2	GP 500 0.25/0.29 kW IE2	GP 500 0.25/0.3 kW IE3	GP 1000 0.55/0.63 kW IE2	GP 1000 0.55/0.66 kW IE3	GP 1000 1.1/1.3 kW IE2	GP 2000 1.1/1.27 kW IE3	GP 3000 1.5/1.75 kW IE3	DESCRIPTION
Ø A	330	400	400	490	490	490	530	560	DRILLING HOLE DIAMETER
∠ B°	120	120	120	120	120	120	120	90	ANGLE HOLE
Ø C	78	98	98	148	148	148	148	198	FLUID ENTRY DIAMETER
D	98	98	98	88	88	88	88	88	FLUID ENTRY HEIGHT
E	388	418	418	508	508	508	558	658	MANTLE HEIGHT
Ø F	25	25	25	25	25	25	25	25	OIL DISCHARGE DIAMETER
Ø G	254	315	315	380	380	380	380	460	CLIPPER PLASTIC DIAMETER
H	314	314	314	435	435	435	435	350	CLIPPER PLASTIC HEIGHT
I*	698	731,5	731,5	940	940	940	990	1024	HEIGHT WITH CLIPPER PLASTIC
J	93	113	113	163	163	163	163	218	MINI GUARD HEIGHT
K**	22	26	40	75	80	75	33	24,6	MOTOR HEIGHT

* This dimension (I) changes with amount of compression of sealing material.

** This dimension (K) changes according to the size of the motor.

Tab. 3 – Dimensions of Galileo

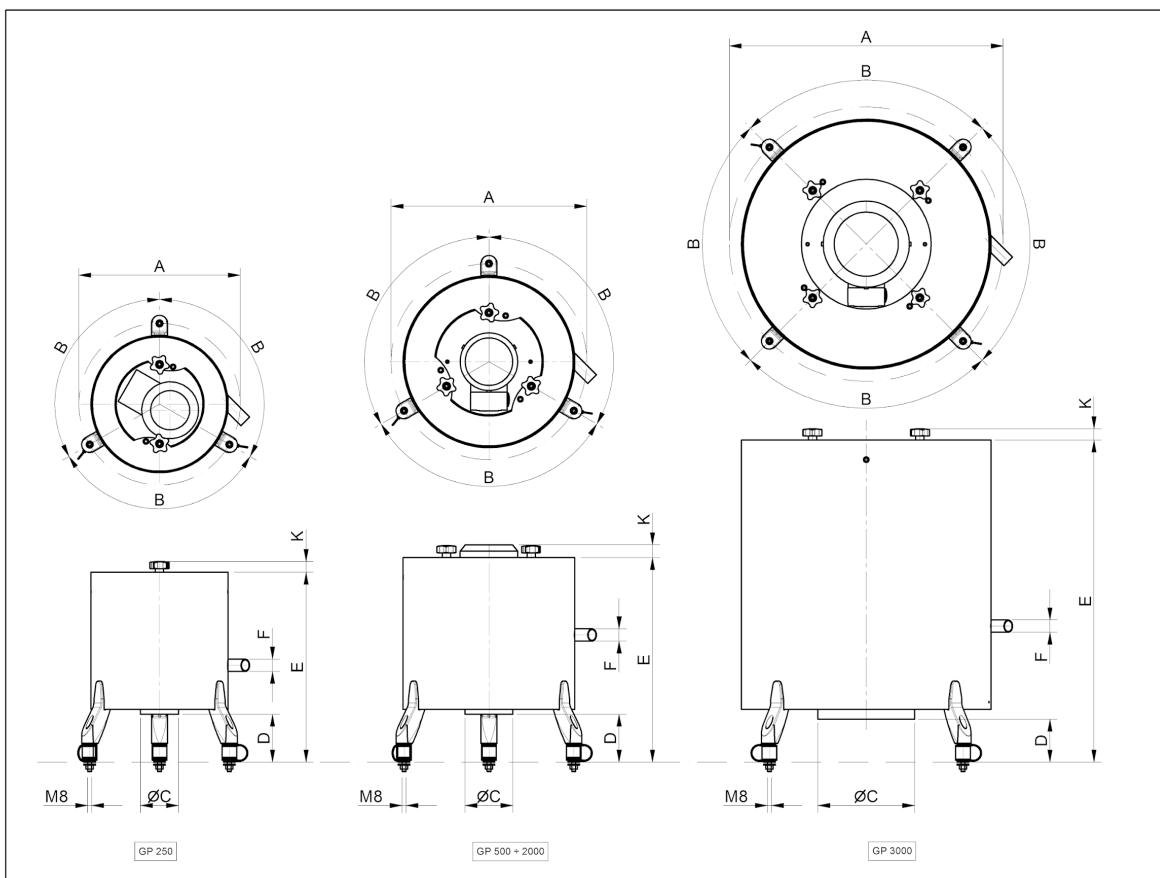


Fig.2 – Dimensions of Galileo Plus

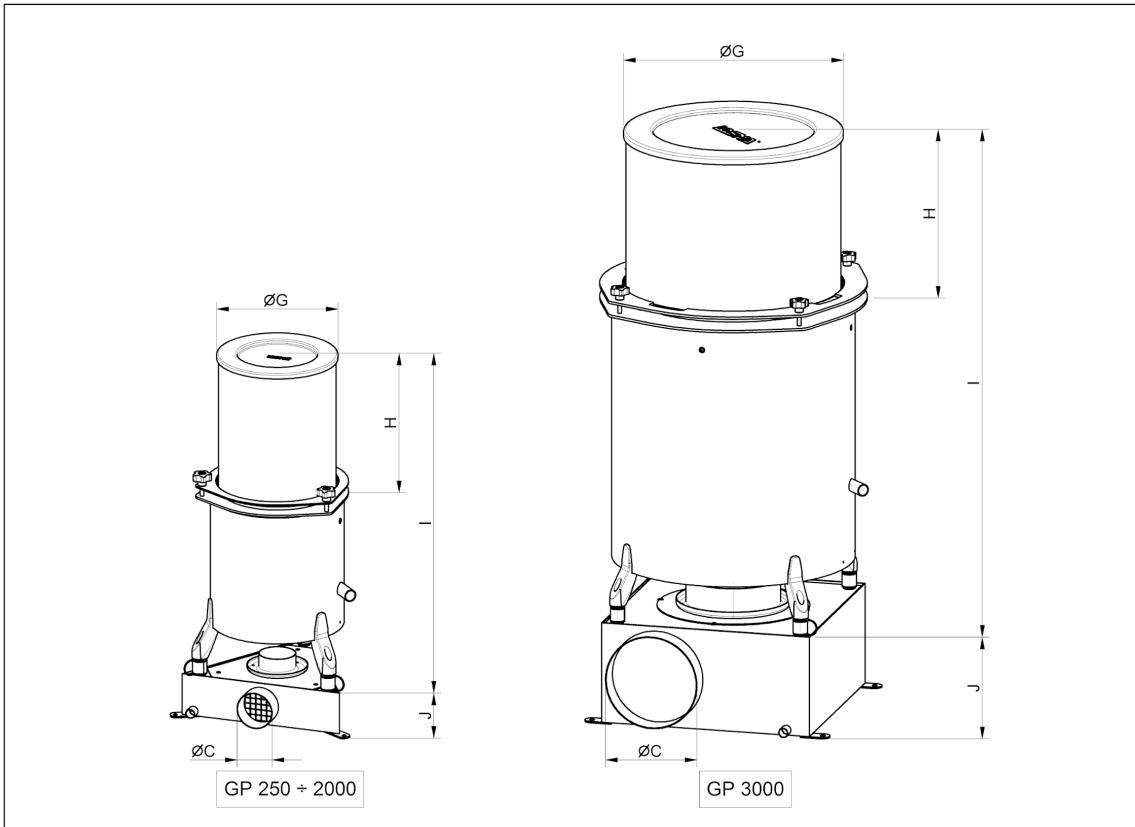


Fig.3 – Dimensions of Galileo Plus with optionals

3. Handling and storage

3.1. Handling of packed units

Every unit is packed in highly resistant carton boxes provided with handles. When the shipment consists of more boxes, they are placed on EUR pallets, firmly tied up with hoops and fully wrapped in polyethylene film.

DANGER!

The handling and transportation of the air filter units must to be undertaken by adequately trained personnel and in security conditions.



3.2. Storage

The air filter unit must be stored in a dry place protected from the atmospheric elements and dust. The following environmental features must also be respected:

- Permitted temperature: from 0°C to 40°C ±5°C.
- Permitted relative humidity: from 30% to 80% ± 5%.

4. Installation

WARNING!

The installation of air filters must to be exclusively undertaken by specialized personnel.



4.1. Air Filter + POST- Filter (option)

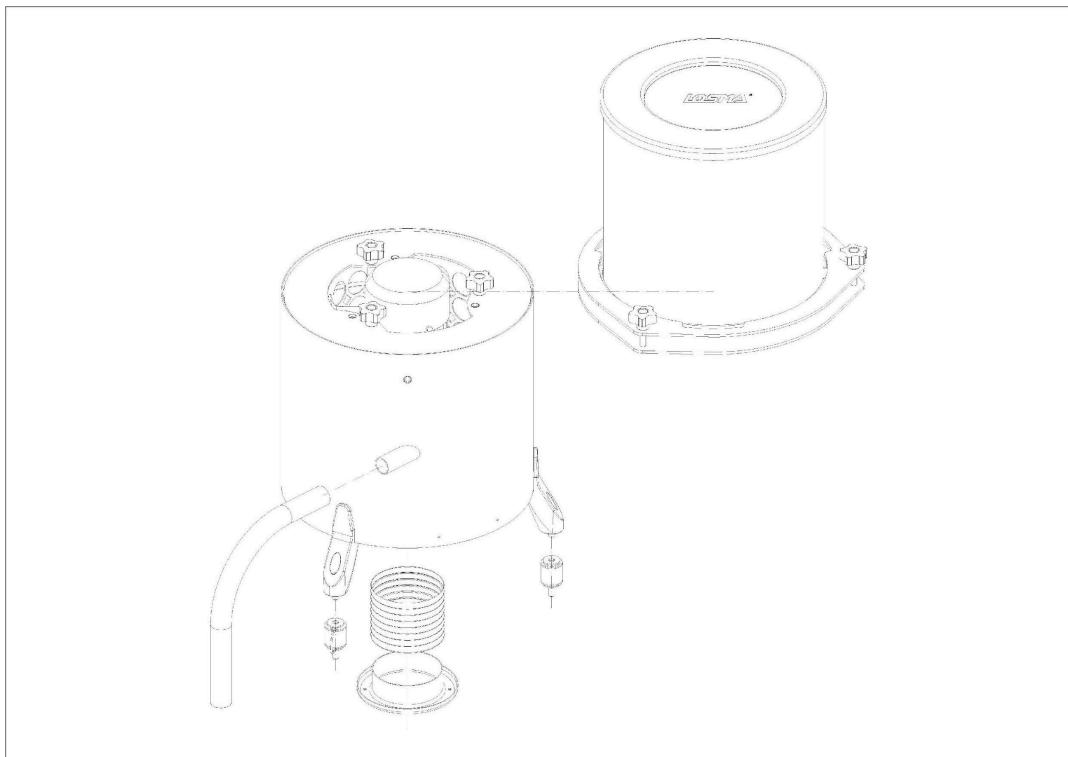


Fig. 6 – Complete Galileo Plus

4.2. Installation

4.2.1. GALILEO PLUS handling

The Galileo air filter is supplied with a lifting plate in position.



4.2.2. GALILEO PLUS installation

To mount the air filter, as well as the material supplied in the assembly kit, the following components are also necessary:

- Flexible suction hose **TFM** of adequate length + 2 hose clamps
- Flexible drain hose diam. 25 mm, **TFD** of adequate length + 1 hose clamp
- In case the machine is enclosed, **PRT** pipe connection plate, nuts and bolts.
- Find a suitable position for the installation of the air filter (on the machine tool or immediate close to it) and decide
 - the position of the air filter (vertical only) according to the available space or the shape of the machine cabin.
- Drill the necessary holes to position the air filter on the machine cabin, as illustrated in the drilling schemes Fig. 8.
- If the PRT pipe connection plate is necessary, drill the 6 holes, diam. 5, on the machine cabin, as illustrated in the drilling schemes Fig. 8.

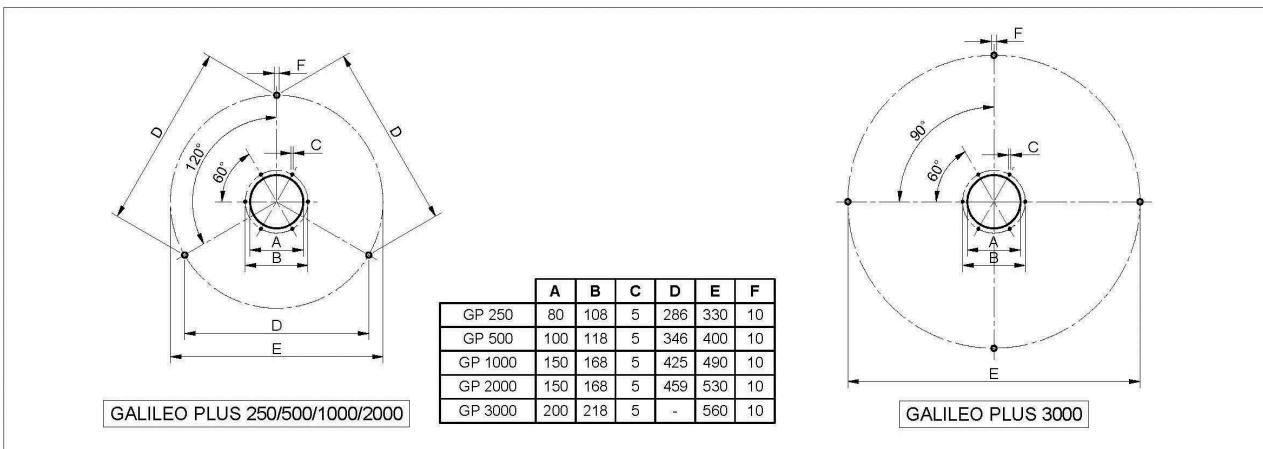


Fig. 8 – Drilling schemes

WARNING!



In order to improve the aspiration of oil mist and smoke from the machine, it is advisable to keep the suction hose away from areas with a pipe with a maximum length of 2 metres. Furthermore, to prevent liquid stagnation inside the flexible pipes, avoid depressions when positioning it.

4.3. Safety cable

Follow the indications for installation of the cable as outlined in Fig 9.
For other anti-vibration follow the indications as outlined in Fig 10.

DANGER!

In order to guarantee the safety of each air filter must to be fixed on machine tools with safety cable supplied with anti-vibration kits.

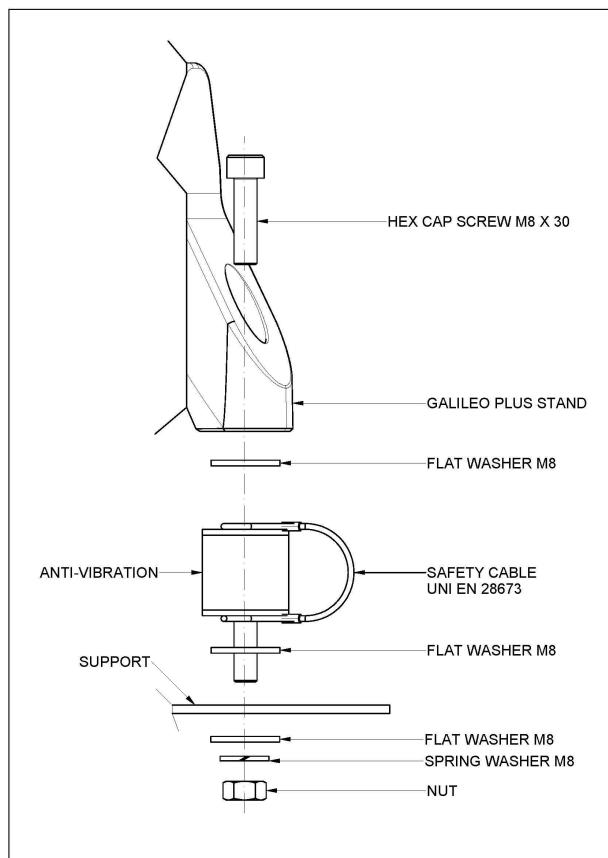


Fig. 9. – Anti-vibration with safety cable installation scheme

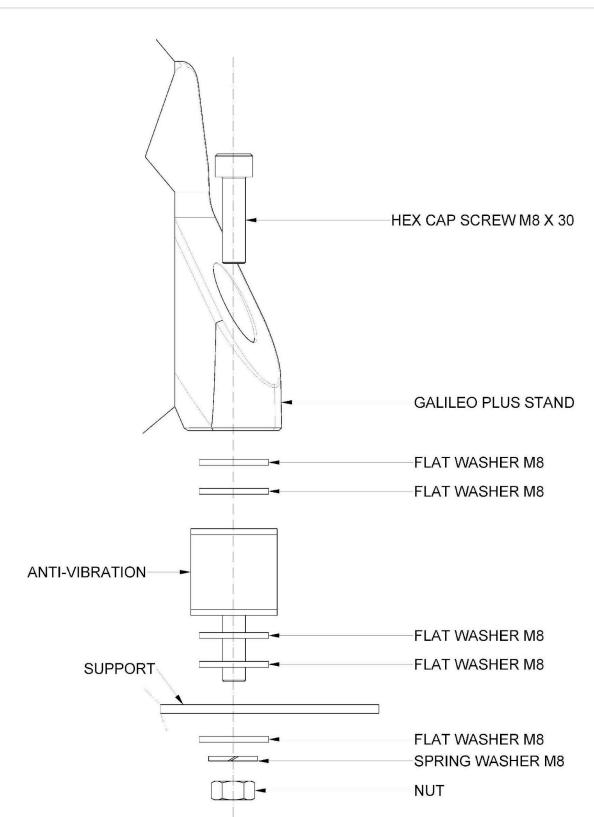


Fig. 10. – Anti-vibration without safety cable installation scheme

4.4. Installation in vertical position (Fig. 11)

- Insert the pipe **TFM** on the connection plate **PRT** and secure it using a hose clamp. In alternative, the pipe can be inserted directly into the hole made on the machine tool cabin.
- Insert the other end of the pipe into the suction mouth of the **GALILEO** and secure it using a hose clamp.
- Insert the oil drainage pipe **TFD** in the oil discharge pipe of the **GALILEO** and secure it using a hose clamp.
- Insert the other end of the drainage pipe into the hole made on the machine tool cabin. In alternative, in case it is preferred not to re-use the re-condensed oil, insert the other end of the drainage pipe into an open container to be regularly emptied.

NOTE!

If rear filter will clog, ejecting air flow from drainage pipe will increase.
Please attend to this point when you install the drainage pipe. There is a possibility that trapped coolant is blown off by air.



VERTICAL INSTALLATION

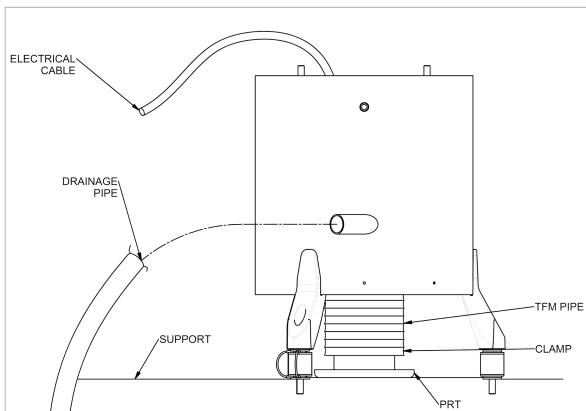


Fig. 11 – Installation example

4.5. Electrical connections

WARNING!



Before making the electrical connection of the air filter cut off the power supply (main switch). Exclusively qualified electricians must carry out all operations.

The **GALILEO PLUS** air filter in its STANDARD configuration is supplied with power cable and multi-polar plug and socket. The last one simplifies the disassembling operations of the rear filter during regular maintenance operations.

Electrical connection:

- Check that the connection voltage indicated on the test sheet on the unit corresponds to that of the power supply network.
- Read the motor plate information to select the correct connection materials (cable section, fuses, magneto thermal switch, etc.)
- Make the electrical connection from the electric switchboard of the machine tool to the **GALILEO** power cables (Fig.12) inserting the multi-polar socket/plug. This will speed up and facilitate future maintenance operations.
- Assemble the chosen motor protection device inside the machine tool switch-board (magneto thermal switch for starting the motors or fuses for starting motor).
- Electrical connections must be carried out as illustrated in fig.12 and, in any case, in compliance with applicable norms in order to carry out a professional installation.
- Start up the air filter, following the applicable safety regulations.

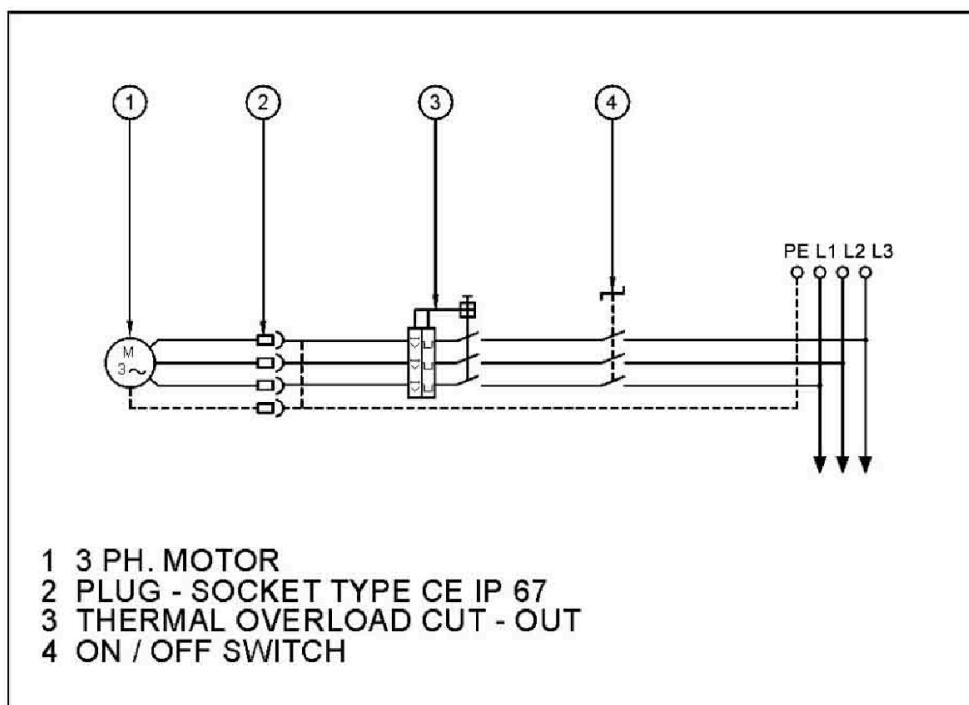


Fig.12 – Electrical connection

5. Use

DANGER!

Do not start the air filter if the synthetic rear filter is missing.



5.1. Starting up and Stopping

Verify that the machine has been installed according to instructions in this manual.

Start the machine and check on the motor the correct direction of rotation. **IMPORTANT: the motor rotation direction is indicated by an arrow shown on the motor.**

After a few minutes of functioning verify if any discrepancy occurs.

NOTE!

The direction of rotation of rotor is of vital importance to the correct functioning of the air filter.



Switch off the machine tool in order to stop the air filter. Wait that the rotor stops.

NOTE!

Stop the air filter only during the pauses of shift changes, with the machine tool off.



Every 1000 hours of operation, and more often if the working conditions require it, clean the exterior and the suction

DANGER!

Once the air filter is turned-off, wait for about 5 mins before undertaking any operation on it.



mouth of the GALILEO PLUS.

WARNING!

Respect the frequency of maintenance intervals and replacement reported in present manual.
Use only original spare parts.



6.2. Programmed maintenance

In order to ensure the maximum efficiency of the air filter it is necessary to undertake a preventive programmed maintenance at regular intervals.

The programmed and preventive maintenance operations consist in the periodic cleaning or substitution of filters, seals, etc.

6.2.1. Programmed maintenance list

DANGER!



Before working on air filter, wearing protective clothing that comply with the current accident prevention regulations
Cut off power before turning on air filter.

GALILEO

NECESSITY

FILTERS KIT

Clean / Replacement

NOTE!



The filters can be cleaned instead of replaced at indicated interval as long as their structure is intact.
In case of installation in smaller working places, undertake more frequent maintenance.

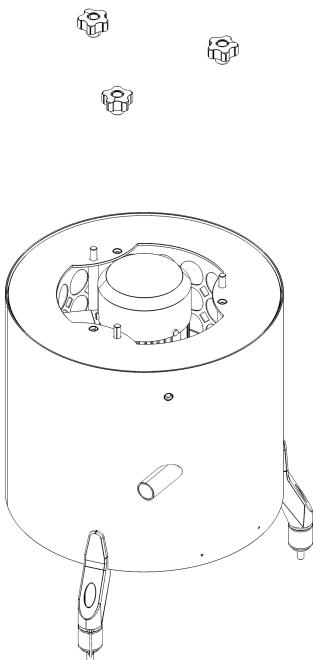
WARNING!



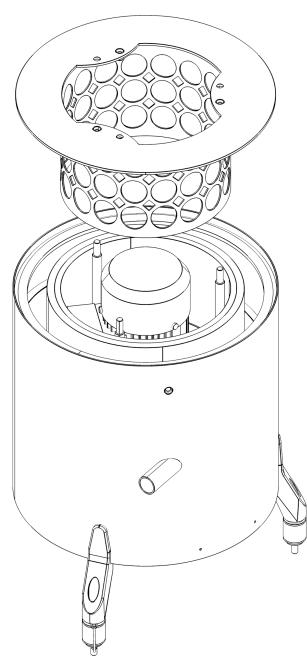
Don't forget any objects or tools in air filter.

6.2.2. Filter, seals and rotors maintenance

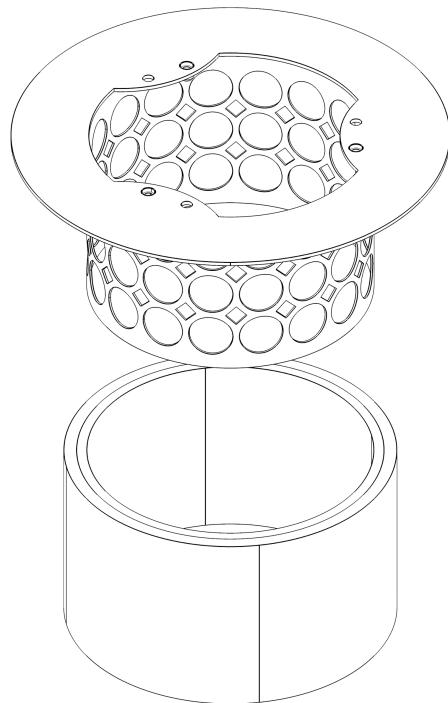
Filters replacement



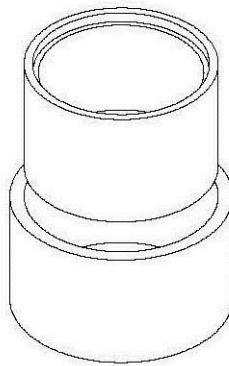
1) Unscrew the handles.



2) Take off the rear cover.



3) Take off the filters.



4) Put on the filters one inside the other taking care.

6.2.3. Filter cleaning

NOTE!

The used filters and seals are special waste. For storage and the disposal follow the norms in force.



It is advisable to regularly replace the synthetic filters as indicated in the Programmed Maintenance Table (item **6.2.1**). If the filters' structure is fully intact, it is possible to regenerate them (instead of replacing them) by putting them into a solution of industrial detergent and water for about 12 hours. Before re-assembling the filters, dry them with a jet of compressed air or leave them to dry naturally.

6.2.4. Internal cleaning

Careful and regular cleaning of all the internal parts (shell, drainage pipe, drainage ring, etc.) ensures high performance and long life of the air filter.

It is of fundamental importance to periodically check the inside of the centrifuge or the blades of the turbine to eliminate eventual deposits of metal particles, sludge or other material which could cause loss of balance of the centrifuge or of the turbine.

For the internal cleaning of the air filter and the rotors (either turbine or centrifuge) use a clean brush saturated in a mild industrial detergent solution. Alternatively standard liquid soaps can be used.

Should the dirt be very resistant, it is advisable to remove the rotor and use alternative cleaning solution of an industrial detergent solution in water, soaking the rotor for at least 12 hours.

Allow the centrifugal device to dry in the open air or dry with a jet of compressed air.

6.3. Structural checks

- **Each year:**

Check that the nuts of the anti-vibration joints are firmly tightened.

- **Every 2 years:**

Check the condition of the steel safety cables.

Check the good condition of the GALILEO shell.

- **Every 4 years:**

Replace the anti-vibration joints.

7. Disposal

DANGER!



Only adequately trained and equipped personnel must carry out the machine disconnection and disposal functions.

The used filters, the internal parts in rubber and all components with oil residuals are special waste to be disposed through authorized organizations.

To allow for the reutilization of the raw materials it is also advisable to separate:

- The metal parts.
- The electric motor.
- The rubber parts.
- The synthetic material parts.

NOTE!



LOSMA INDIA. does not assume any responsibility for damage to persons or things resulting from reutilization of individual parts of the machine for operations or in assembly condition others than the original ones for which the machine was designed.

8. Contingencies and solutions

PROBLEM		REASON	SOLUTION
1	The motor doesn't start	No power	Power availability.
		Motor blown	Check continuity of the phases and verification phases in short-circuited.
2	Motor working and rotor not rotating	Object wedged between the rotor and the fixed part of the machine.	Disassemble the motor support and clean the rotor Verify intactness
3	Motor overheats	Motor forces	Disassemble the motor support and clean the rotor Verify intactness
		Wrong voltage, wrong connections.	Verify voltage, frequency and connections.
		Clogged filters or no air circulation	Verify intactness of filters and free inlet aspiration.
		Motor bearings damaged.	Replace motor
4	The machine vibrates excessively	Rotor excessively dirty	Disassemble the motor support and clean the rotor Verify intactness
		Rotor broken	Disassemble the motor support and replace the rotor Verify intactness
		Anti-vibration broken	Verify intactness of anti-vibration and eventually replace
5	Little or no air-flow	Motor does not work	See point 1
		Suction inlet obstructed.	Check suction piping. Eventually remove dirty particles
		Clogged filters	Replace filters.
6	Absence or poor drainage	Motor does not work	See point 1
		Suction inlet obstructed	Check suction piping. Eventually remove dirty particles
		Little or no air-flow	See point 5
7	Not sufficient filtration	Clogged filters	Replace filters
		Little or no air-flow	See point 6.
		Wrong functioning	Contact service assistance
			Add pre or post filter

9. Residual risks list

Inside and outside of GALILEO PLUS there are no moving parts, so the only remaining risk for operators could be of electrical type.

NOTE!

Any personnel delegated to use of the filtration unit must be informed and instructed as to operational and maintenance procedures!



A) In case of absence of one or more protections		
Type of risk	Condition of risk	Consequences for personnel
Electric	<ul style="list-style-type: none"> • Failure to comply with safety standards • Personnel not trained • Voluntary actions. 	Electrocution
Mechanic	<ul style="list-style-type: none"> • Failure to comply with safety standards • Personnel not trained • Voluntary actions. • Rotor working without rear cover. 	Injury
B) In case of presence of all of the protections		
None	None	Not present

NOTE!

The person responsible for Safety Procedures in your company must take note of the contents of this manual and inform/instruct operators and any personnel delegated to the unit's maintenance.



List of persons trained and instructed on the content of the manual			
Progressive n°	Name	Date	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

10. GALILEO stickers / labels legend

	Pericolo / fare attenzione Danger / take care Gefahr / Vorsicht Peligro / Prestar atención Danger / faire attention 危険 / 注意
	Obbligo utilizzo guanti Gloves must be worn Handschutz tragen Uso obligatorio de guantes Obligation d'utiliser des gants 手袋着用 手套配戴
	Obbligo utilizzo occhiali protettivi Safety glasses must be worn Augenschutz tragen Uso obligatorio de gafas de protección Obligations d'utiliser des lunettes de protection 安全メガネ着用 安全眼鏡配戴
	Obbligo di lettura del manuale Read and understand the operating instruction manual before use Gebrauchsweisung lesen Lectura obligatoria del manual Obligation de lire le manuel 使用前に取扱説明書を読んで理解 使用之前請務必正確閱讀理解操作手冊
	Obbligo di scollegamento elettrico per manutenzione Disconnect the power supply before carrying out maintenance Vor Wartung Netzstecker ziehen Desconexión eléctrica obligatoria para mantenimiento Obligation de couper le courant pour la maintenance メンテナンス時は電源プラグを抜く 維護作業之前請中斷電源供應
	Senso rotazione motori Rotation direction of the motor Drehrichtung der Motoren Sentido de rotación de los motores Sens rotation moteurs モータ回転方向 馬達正確轉向
	Punto di sollevamento Lift point Hebepunkt Punto de elevación Point de levage 吊り位置 吊環位置
	Massa netta apparecchiatura Net mass of the device Nettomasse Ausrüstung Masa neta del equipo Poids net appareillage 重量
	Tensione di alimentazione Power supply Elektrische Versorgung Alimentación electrica Tension 供給電源
	Scarico tubo drenaggio Drainage hose position Dränage Rohr Position Posición tubo drenaje Position tuyau de drénage ドレンホース先端の処理方法