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Equipment classification: Industrial vacuum cleaners



DM 40 OIL



Operator's and maintenance manual
Original and official manual
Rev. 02/12/2020

Read this manual carefully before using the vacuum cleaner

**AZIENDA CON SISTEMA
DI GESTIONE QUALITÀ
CERTIFICATO DA DNV**

= ISO 9001 =



This manual provides all the information needed to use and service your vacuum cleaner. Good operation and durability depend on proper maintenance and careful use.

Before leaving the factory, this particular model has undergone stringent tests to ensure utmost reliability. Always check however to make sure the vacuum cleaner has not been damaged during transport in such a way as to affect operation and safety.

This manual should be considered an integral part of the vacuum cleaner and must be kept together with the unit until this is scrapped. In case of loss of or damage to the manual, ask **DELFIN** for a new copy.

The technical details contained in this manual are the property of **DELFIN** and should be deemed of a confidential nature.

Even partial reproduction of the graphic project, the text and the illustrations is legally forbidden.

Some details shown in the illustrations in this manual may be different from those of your vacuum cleaner. Some component parts may have been removed for greater clarity.

For easier reference, this manual is split into sections, identifiable by specific graphic symbols.

The subjects dealt with in this manual are those expressly required by "**Machine Directive 2006/42/CE**" and the technical details shown are those provided by the manufacturer at the time of compilation. For ATEX Vacuums, the reference directive is the 2014/34/EU.

This manual must be kept in a place accessible to all the personnel charged with operating and servicing the vacuum cleaner.

In case of any doubts, always immediately phone the **After-Sales Service**.

The competent Law Court for all disputes is that of TURIN (Italy).

TECHNICAL SERVICE

Our engineers are available to help you in case any problem occurs.

Please call +39 011. 8005500

The manual must be kept with the vacuum cleaner in case of resale!

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1.1 Identification of main parts



- 1) Motor head
- 2) Vacuum meter
- 3) Start/Stop switches
- 4) Release fastening
- 5) Push handle
- 6) Filter chamber
- 7) Suction point
- 8) Removable vacuumed material container
- 9) Release lever
- 10) Fixed wheels
- 11) Castors

1.2 Accessories provided



FI.0175.0000- Ø500 H100 POLYESTER FILTER

(ONLY SPARE PART)



FI.0437.0000 - PPL 300 MICRON D480 H265 FILTER

(ONLY SPARE PART)

Remark: these filters must be checked every six months. In case they are worn it will be necessary to replace them with new ones, to be requested as spare parts to ***DELFIN S.r.l.***

DELFIN S.r.l. will accept no responsibility in case of use of ***NON-ORIGINAL*** filters.



| ACCESSORI OPZIONALI/OPTIONAL ACCESSORIES | MODELS DM40OIL |
|--|--------------------------|
| EL/SYST – Remote control/avviamento locale remoto | |
| PN/SYST – Pneumatic control/Avviamento locale pneumatico | |
| M – Class M filter/Filtro classe M | |
| H- Absolute heap filter/ filtro assoluto Hepa | |
| ANT M – Antistatic filter class M/filtro antistatico classe M | |
| PTFE – PTFE coated filter calss M/filtro PTFE classe M | |
| NOMEX- Heat resistant filter (up to 200°C)/Filtro resistente alte temperature (fino a 200°C) | |
| CA – Activated carbon filter – Filtro carboni attivi | |
| CA+H - Activated carbon filter and absolute filter/ filtro carboni attivi con filtro assoluto | |
| X – Stainless steel tank/Contenitore Inox | ✓ |
| XX – Stainless steel tank and filter chamber/ Contenitore e camera inox | ✓ |
| XXX - Stainless steel tank, filter chamber,cover and frame in stainless steel AISI304/ Contenitore , camera filtrante e struttura Inox | |
| CHX – Stainless steel chassis/ Carrello Inox | |
| CTX – Stainless steel sieve grid/Cestello grigliato Inox | |
| FLT- Floating device/Galleggiante | |
| MT – Earth grounding/Messa a terra | |
| LONGOPAC – Longopac bagging system- Sistema insaccamento Longopac | |
| CIC – Cyclone for filter protection/Ciclone per protezione filtro | |
| SGB – Sieve grid basket/ Cestello grigliato | ✓ Stainless Steel |
| CHASSIS-Chassis with castors and push handle/Carrello con route e manico di spinta | |
| HDX-Hardox abrasion plate/piastra Hardox | |
| IP – Internal polishing for filter chamber and tank/lucidatura a specchio interno per camera e contenitore | |
| BSK- Abs accessory basket and doublebend holder/cesta per accessori e clip per doppia curva | ✓ |
| GR/VA- sieve grid and discharge valve/Cestello grigliato e valvola di scarico | |
| PUMP- Elettrical discharge pump/Pompa elettrica di scarico | |



| ACCESSORI OPZIONALI/OPTIONAL ACCESSORIES | DM40OIL |
|---|---------|
| AUT/PUMP- Automatic discharge with pump/ scarico automatico con pompa a contenitore pieno | |
| C/INFORC- Fork lift intakes / Inforcabile con muletto | |
| SIL/SUP- Additional silencer/Silenziatore addizionale | |
| C/COMP- compressor installed on board/ con compressore installato a bordo | |
| LOC/REM- Remote control/ avviamento locale-remoto | |
| SP- single phase vacuum unit/unità aspirante monofase | |
| BAG- Dust bagging system/ Sistema insaccamento | |
| SD- Sliding damper for Dustop/ Valvola a ghigliottina per systema Dustop | |
| DEPR – Pressure differential kit for use of disposable bag/ kit depressore sacchetto monouso | |
| PPL300-PPL oil filtration kit 300 micron/Kit filtro PPL olio 300 micron | |
| PPL100- PPL oil filtration kit 100 micron/kit filtro PPL olio 100 micron | |
| OWR – Oil and water proof cartridge/cartuccia idro-olio repellente | |
| OMK – Oil Mists filter kit/Kit filtro nebbie oleose | |
| PR.DIFF-pressure differential switch/Pressostato differenziale | |
| INVERTER- Equipped with inverter/Equipaggiato con inverter | |
| MANUAL / Manual shaker/scuotifiltro manuale | |
| SELF CLEAN- Filter shaker with push button/scuotifiltro con pulsante | |
| DUSTOP- Filter cleaning system using differential pressure/ Sistema di pulizia filtro tramite pressione differenziale | |
| AUT – Automatic filter shaking cleaning for pocket filter/Scuotifiltro automatic per filtro a tasche | |
| PN- Automatic pneumatic filter cleaning system/Sistema di pulizia automatico in controcorrente d'aria | |



1.3 Identification details of manufacturer

Delfin S.r.l.

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10036 Settimo Torinese (TO) Italy
Tel. +39 011-8005500
Fax +39 011-8005506
www.delfinvacuums.it
delfin@delfinvacuums.it

1.4 Marking plate

In compliance with the **Machine Directive 2006/42/CE** on vacuum cleaners, the machine is fitted with **CE** plates.



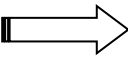


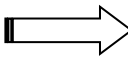




When contacting the manufacturer or dealer, always quote the details shown on the vacuum cleaner plate.

| | | |
|--|--|--|
|  | <small>Strada della Merla, 49/a I-10036 Settimo Torinese (TO) - ITALY Ph. +39 011 800 55 00 F. +39 011 800 55 06 delfin@delfinvacuums.it www.delfinvacuums.it</small> |  |
| MOD. <input type="text"/> | S/N <input type="text"/> | |
| DESC. <input type="text"/> | YEAR <input type="text"/> | |
| 50 Hz <input type="text"/> | FILTER <input type="text"/> | |
| 60 Hz <input type="text"/> | <input type="text"/> | |
| www.delfinvacuums.it | Made in Italy | |





Make sure the power supply corresponds to the voltage and frequency indicated on the vacuum cleaner plate. For AIR SERIE vacuums, please check the vacuum's operating values

| | |
|-----------|---|
| STANDARD | <div><div>Strada della Merla 49/a I-10036 Settimo Torinese (TO) - ITALY Ph. +39 011 800 55 00 F. +39 011 800 55 06 delfin@delfinvacuums.it www.delfinvacuums.it</div></div> <div>MOD. <input type="text"/> S/N <input type="text"/></div> <div>DESC. <input type="text"/> YEAR <input type="text"/></div> <div> 50 Hz <input type="text"/> FILTER <input type="text"/></div> <div>60 Hz <input type="text"/> <input type="text"/></div> <div>www.delfinvacuums.it Made in Italy</div> |
| SERIE AIR | <div><div>Strada della Merla 49/a I-10036 Settimo Torinese (TO) - ITALY Ph. +39 011 800 55 00 F. +39 011 800 55 06 delfin@delfinvacuums.it www.delfinvacuums.it</div></div> <div>MOD. <input type="text"/> S/N <input type="text"/> FILTER <input type="text"/></div> <div>DESC. <input type="text"/> YEAR <input type="text"/></div> <div> OPERATING PRESSURE <input type="text"/> AIR SUPPLY <input type="text"/></div> <div>MAX VACUUM <input type="text"/> MAX AIR FLOW <input type="text"/></div> <div>www.delfinvacuums.it Made in Italy</div> |
| ATEX | <div></div> <div>MOD. <input type="text"/> S/N <input type="text"/></div> <div> <input type="text"/></div> <div> <input type="text"/></div> |

Warning!

Do not fit the plug in the power socket with wet hands.

In the event of an extension being used, make sure this is in perfect condition, in compliance with **CE** standards and with cable cross section suitable for the power input of the vacuum cleaner.



3.2 Description of controls



- 1) **START/STOP button**
- 2) **Orange BLOCKED FILTER indicator light**
- 3) **Vacuum meter**
- 4) **Green POWER ON indicator light**
- 5) **Max level indicator light**



3.3 Work cycle

Warning!

Before fitting the plug, make sure the power voltage corresponds to that on the CE marking plate.

- Make sure the power plug is correctly fitted in the power socket.
- Make sure the flexible hose is properly fitted and locked in the vacuum pipe union.
- Make sure the power cable and any extension used are integral and in perfect condition.
- Block the vacuum cleaner by means of the retainer provided.



- Grip one end of the flexible hose complete with selected accessory.
- Press the **Start** button and start vacuuming.
- To stop the vacuum cleaner, press the **Stop** button.

Warning!

Before switching the vacuum cleaner back on, make sure the motors have come to a complete halt.

- After finishing work, disconnect the vacuum cleaner from the power socket.



To move the vacuum cleaner, use the large handle.



Warning!

The vacuum can be moved only on flat ground!

If the vacuum is moved on inclined grounds, you can risk to lose the control, because of the weight and to damage persons or things.

Warning!

During vacuuming, avoid rolling up or bending the flexible hose.

Warning!

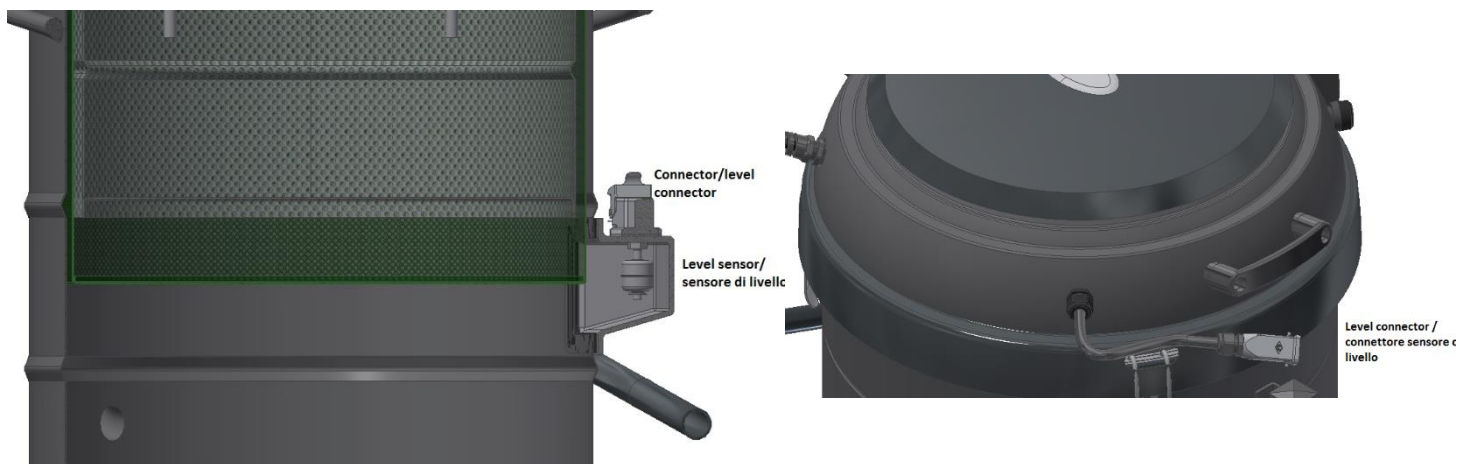
The vacuum cleaner must always be equipped with a PPL filter, without this filter the vacuum cleaner cannot function properly.

Level sensor.





- When the maximum level is reached, the red light indicating the maximum level is switched on.
- In order to restart the suction you need to press the green reset button.
- If the connector is not connected to the vacuum head, the machine does not start and marks maximum level.
- To restart the machine close the container against the filter chamber by means of the leverage, connect the connector and press reset.



Warning!

The vacuum cleaner must always be equipped with a PPL filter, without this filter the vacuum cleaner cannot function properly.

Warning!

**Periodically verify that the inside of the box in which the level sensor is housed is free from impurities.
Check that the metal sensor cylinder runs frictionless along the rod.**



3.4 Releasing and removing the removable container

Stop the vacuum motors by pressing the relevant **STOP** buttons.

Warning!

Disconnect the plug from the power socket.

- Lift the lever located in the bottom part of the cleaner.
- Release and remove the container.
- Remove the sieve grid.



- Empty the contents of the container and of the sieve grid into a special waste disposal container in accordance with laws applicable in the country where the vacuum cleaner is used.



Warning!

While performing these operations, it is best to wear a dust protection mask.



Operation Section

To prevent having to use a dust protection mask and for greater convenience, before starting vacuuming operations, it is best to fit a nylon bag inside the container and to fasten this in place with the special accessory available on request.

Warning!

Perform the container release operation by means of the levers located on the sides or on the handle with BOTH HANDS!

Danger of crushing upper limbs when fitting and locking the container on the vacuum cleaner.



4.1 Informative notes

This section describes the control and special maintenance operations crucial for keeping the vacuum cleaner in perfect working condition.

FOR ATEX VACUUMS

Attention!

All the transport and handling's operations described in this section must be done in NOT CLASSIFIED zone, which means in an area with non potentially explosive atmosphere.

Any other jobs which might be necessary to eliminate operating faults must be expressly authorised by the manufacturer. In such cases, always notify the identification details of the cleaner. In the case of major repairs, it is best to contact an authorised dealer, whose skilled personnel, backed by all the technological experience relating to the original factory construction methods, are always available and ready to promptly intervene.

4.2 General safety warnings

Maintenance jobs must always be performed by skilled technicians, trained to carry out their specific jobs. In the case of this machine, these are:

- Mechanical maintenance
- Electrical maintenance (***)

The Safety Manager has the precise duty of determining the professional capacities and skills of such persons.

Before doing any maintenance job, the safety manager must:

- Make sure there are no unauthorised persons in the work area.
- Make sure the necessary tools are on hand and that these are in good condition.
- Make sure that lighting is adequate and, if necessary, provide 24-V portable lamps.
- Make sure the maintenance engineer is equipped with all approved individual protection devices needed for the specific operation (gloves, eyewear, shoes, etc.).
- Make sure the maintenance engineer has carefully read the instructions contained in this manual and knows how the vacuum cleaner works.

Before carrying out a maintenance job, the maintenance engineer must:

- Disconnect the plug from the power socket. (***)
- **For ATEX Vacuums: Execute such operation in NON CLASSIFIED atmosphere, which means in an area with non potentially explosive atmosphere.**

Work done on motors or other electrical component parts must only be performed by a specifically trained electrician, authorised by the Safety Manager.



Always use tools that are in perfect condition and specifically made for the operation to be done. The use of unsuitable tools or tools not in good condition could cause serious damage.

(***) *For Air Series Vacuums, do not consider.*

4.3 Maintenance operations

Attention!

All the described operations must be done with the plug disconnected from the power socket.

Before starting any maintenance or cleaning job, always wear adequate protective clothing, eyewear and/or gloves according to the type of job to be done.

For smooth vacuum cleaner operation, a number of controls are best made periodically:

- Check to see whether the filter is worn or has become too permeable.
- Make sure the sealing gaskets of the motor head base, of the filter-holder ring and of the container are working efficiently.
- The electrical parts (plugs, switches, cables, etc.) must not be faulty.
- The screws and nuts must always be tight.
- Make sure the container is not overfull. This should be emptied when the vacuumed material has reached 3/4 of maximum capacity.
- Check the integrity of the flexible vacuum hose and accessories to be used.
- If the flexible hose is perforated, the power of the cleaner will be reduced and dust and liquids will leak into the environment.
- For vacuums with electric panel: A qualified operator must periodically verify the cables' tightening in the electric components of the electric board: with prolonged use of the vacuum, the vibrations can loosen the tightenings and cause important damages to components.
- For vacuums with compressor:

For maintenance operations of the compressor, see the specific manual.

However, it is necessary to check the oil level of the compressor periodically, the absence of oil in the compressor will damage it.

ATTENTION!

Periodically check the compressor's air filter integrity (1) and the shape of compressor's shelter.



***In case of shelter's damage, the filtration isn't guaranteed.
The blockage or not correct working of these components can make incorrect working of the compressor and oil's outflow.***

- For ATEX Vacuums with anti-spark deflector: please check periodically its condition. In case it's too worn, it's not guarantee the required ATEX protection.

Warning!
All maintenance and repair jobs must be performed directly by DELFIN or its authorised dealers.



4.4 Replacing the filters

To replace the filters, proceed as follows:

- Turn off the vacuum cleaner by pressing the motor **STOP** buttons.
- Disconnect the vacuum cleaner plug from the power socket.

Important!
Wear individual protection devices.

- Release the stops that hold the motor head.

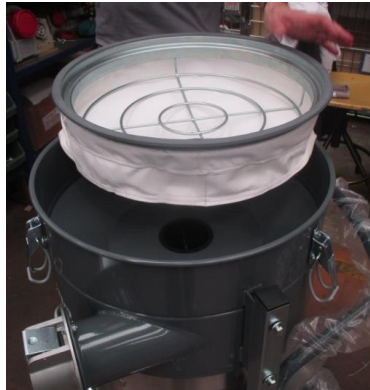


- Lift the motor head and rest this on a support bench. When resting the head on the support, be careful not to damage the power cable.

Warning!
To lift the motor head, two people are required.



- Lift the filter with its support.



- Loosen the clamp and remove the support ring with seal.



- Fit the new filter and put everything back in place, locking the cap.

Loosen the clamp and remove the polypropylene filter for vacuuming liquids. Fit the new filter and tighten with the clamp.

Important!

All the material trapped by the filter and the filter itself must be disposed of through authorised channels in the country where the vacuum cleaner is used.



4.5 Troubleshooting

| <i>Fault found</i> | <i>Possible fault</i> | <i>Recommended remedy</i> |
|---|--|--|
| <i>The cleaner fails to start</i> | No power | Check the power mains supply Check the integrity of the plug and power cable |
| | Thermal magnetic switch tripped | Reset the thermal magnetic switch |
| <i>Dust is leaking out</i> | Perforated vacuum pipe | Replace the pipe |
| | Perforated filter | Replace the filter |
| | Filter unsuitable for type of job | Fit a suitable filter for the type of material to be vacuumed |
| <i>The vacuum cleaner does not work as it should</i> | Pipe perforated or blocked | Check the pipe and, if necessary, replace it |
| | Container full | Empty container |
| | Filter blocked | Clean the filter and if necessary change it. |
| | Seals worn | Check the seals and, if necessary, replace it |
| | Air leak | Check for any air leaks out of closing fasteners, tightening screws, container or filter chamber |
| <i>Motor very noisy.</i> | <i>Contact DELFIN after-sales</i> | |

Warning!
For any other problems, contact the DELFIN after-sales service.

**Pump**

| <i>Fault found</i> | <i>Possible fault</i> | <i>Recommended remedy</i> |
|---|--|--|
| <i>Pump not operating motor fails to start</i> | No power | Power the machine |
| | Automatic switch tripped or fuse burnt out | Reset the switch or replace the fuses with other suitable ones. |
| | Overload switch tripped | |
| | Faulty condenser | Resets automatically after cooling in single-phase version |
| | Impeller blocked | Change the condenser Foreign bodies between the fixed and rotating parts of the pump |
| <i>Pump not operating motor starts</i> | Liquid level dropped and bottom valve no longer under water | Be careful, the mechanical seal could be damaged. |
| | Pump not filled with liquid or drained due to leaks | Be careful, the mechanical seal could be damaged |
| <i>Pump operates at reduced flow rate</i> | Difference in pumping level above pump capacity or flow resistance too high during suction | Replace the suction pipe with one of bigger diameter. Reduce elbow bends to a minimum. Eliminate deposits. |
| | Pump or pipe blockages | Clean or remove blockages |
| <i>Pump stops after short periods</i> | Overload switch tripped | Pump not turning freely. Viscous liquid. |



5.1 Recommended spare parts

| Code | Description |
|----------------------------|--|
| <i>FI.0175.0000</i> | D500 H100 POLYESTER CYLINDRICAL FILTER |
| <i>FI.0437.0000</i> | PPL 300 MICRON D480 H265 FILTER |
| <i>GI.0054.0000</i> | OIL PROOF FILTER GASKET |
| <i>SL.0793.0020</i> | H105 TCN150 FILTER HOLDER RING |
| <i>SL.0223.0000</i> | FILTER CLAMP Ø 500 |

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