Nederman®

Improving your workspace

INSTRUCTION MANUAL

ENGLISH

CE

FILTERMAX

C 25

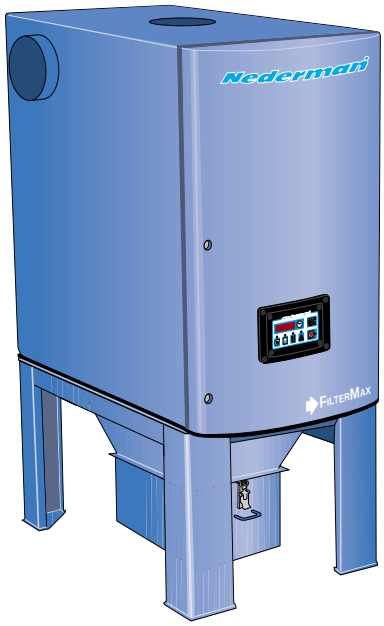
CAPTURE AT SOURCE

NR. 148443/01
2001-10-01

List of contents

Nederman®

This product is designed to meet the requirements of the relevant EC directives. To maintain this status all installation, repair and maintenance work must be carried out by qualified personnel using only original spare parts. Contact your nearest authorised dealer or AB Ph. Nederman & Co. for advice on technical service or if you require spare parts.



Declaration of conformity

We, AB Ph. Nederman & Co., declare under our sole responsibility that the Nederman product:
- FilterMax C 25 serial 667 with accessories
to which this declaration relates, are in conformity with the following standards or other normative documents:
98/37/EC, 73/23/EEC, 89/336/EEC and
87/404/EEC - EN 286-1

AB Ph. Nederman & Co.
Sydhamnsgatan 2
S-252 28 Helsingborg Sweden
2001-10-01

Alf Jonasson, Product Manager

IMPORTANT! SAFETY INFORMATION

Nederman FilterMax C 25 is designed for collecting and filtering fume and non-explosive dry dust.

To guarantee the correct function and a minimal service FilterMax C 25 must only be used for these purposes and according to the instructions in this manual. The manual contains important warning directions which have to be read and followed.

Any functional disorders, especially those affecting the safety of the machine, should be rectified immediately.

For safe and reliable results assembling work, electrical installation, use, service and trouble-shooting should be performed by qualified personnel. Special training may also be necessary.

Please contact your nearest authorised dealer or AB Ph. Nederman & Co. for technical advice.

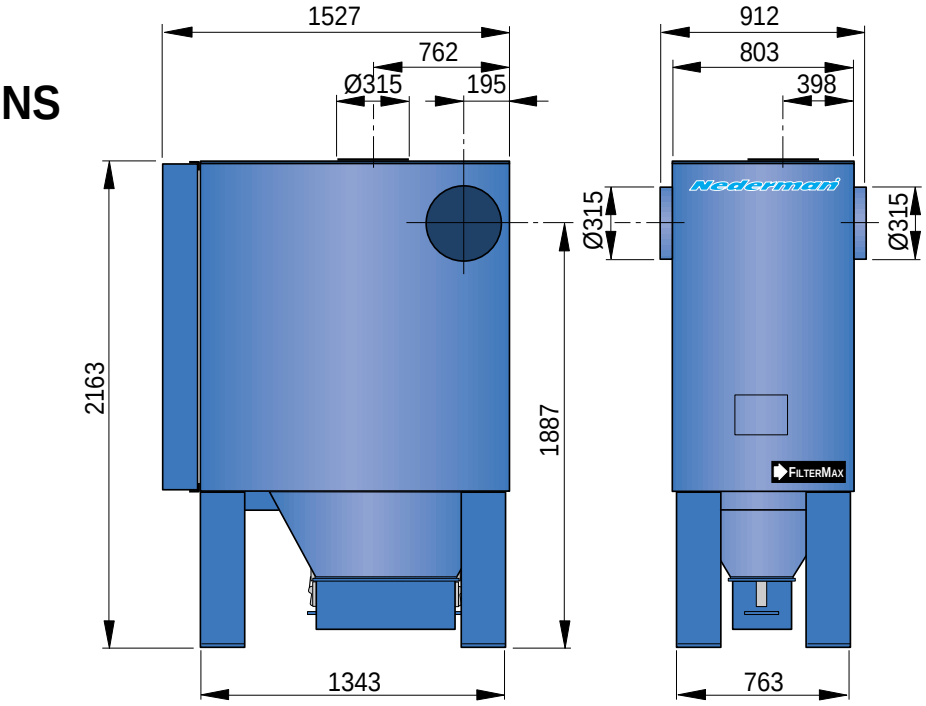
DELIVERY CHECK

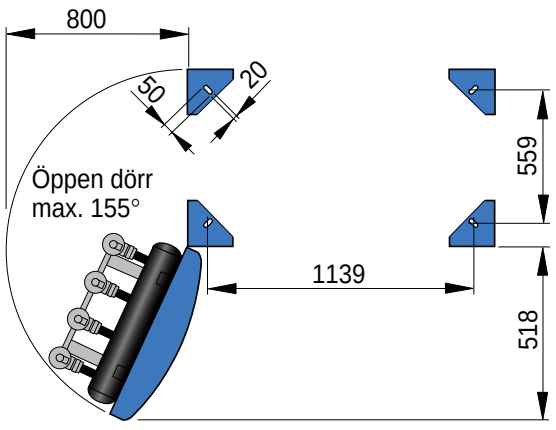
FilterMax C 25 should be checked for any damage that may have occured during transport. If there is damage the carrier and your local Nederman representative should be notified immediately.

TECHNICAL DATA

Filtration	99% or 99,9 % (PTFE-filter) at 0,5 µm (after some time in operation)
Filter area	4 x 12 = 48 m² (Basic and Poly Web filter) 4 x 10 = 40 m² (Poly Web antistatic filter)
Filter material	2 layer cellulose/polypropylen (Basic filter) Spun bound polyester (Poly Web filters)
Operating airflow	1500 - 3000 m³/h (depending on load and application)
Operating temperature	-20 °C to +50 °C
Process air (dry) temperature	0 °C to +60 °C, not condensing
Material description	3 mm painted steel plate
Compressed air requirements	> 0,6 MPa (6 bar, 87 psi), water and oil free
Compressed air consumption	32 N-litres / cleaning pulse at 0,6 MPa (6 bar, 87 psi)
Compressed air connection	R 1/2" (DN 15)
Voltage supply	400 V, 50 Hz, 3-phase (Europe) 220-240 V, 50 Hz, 3-phase (Norway) 200 V, 50/60 Hz, 3-phase (Japan) 208-220 V, 460 V, 60 Hz, 3-phase (UL, CSA)
Protection class	IP 54
Relay voltage, accessory	24 V AC, maximum 60 VA
Working pressure	0 to -5 kPa, not overpressure
Pulse noise	Lp Aeq, 30 s, 50 dB
Noise level	66 dB(A)
Weight	454 kg

DIMENSIONS





MOUNTING INSTRUCTION

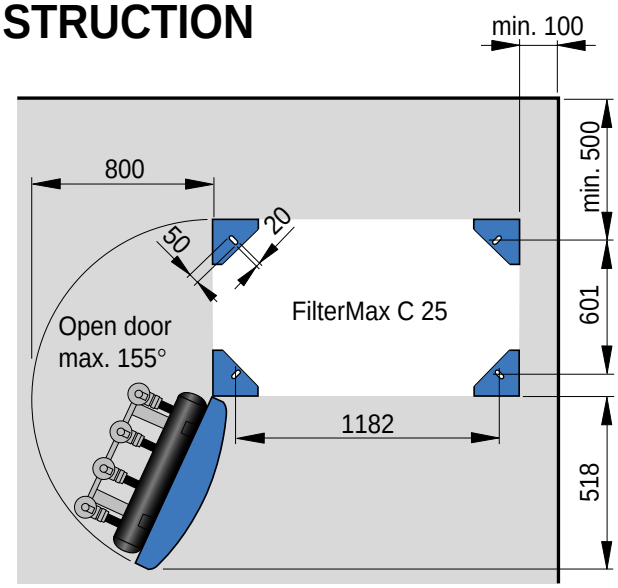
FilterMax C 25 should be installed indoors. It should be located with consideration for easy handling of the collected dust and for convenience of service and maintenance.

FilterMax C 25 is usually installed on a reinforced concrete foundation. However, installation on another structure is also possible. When calculating for foundation or supporting structure the following factors should be taken into consideration (see technical data page 4):

- Total weight of FilterMax
- Max. weight of collected contamination

IMPORTANT! Location must be clear of all obstructions such as utility lines etc. Pay particular attention to the anchor bolt location. Anchor bolts (M16) must extend at least 60 mm above foundation. If you intend to secure the unit by using expansion bolts or equivalent fittings, the concrete floor must be prepared accordingly.

Use adjusting pieces, if necessary, to get the filter unit in level. Check with a spirit level.

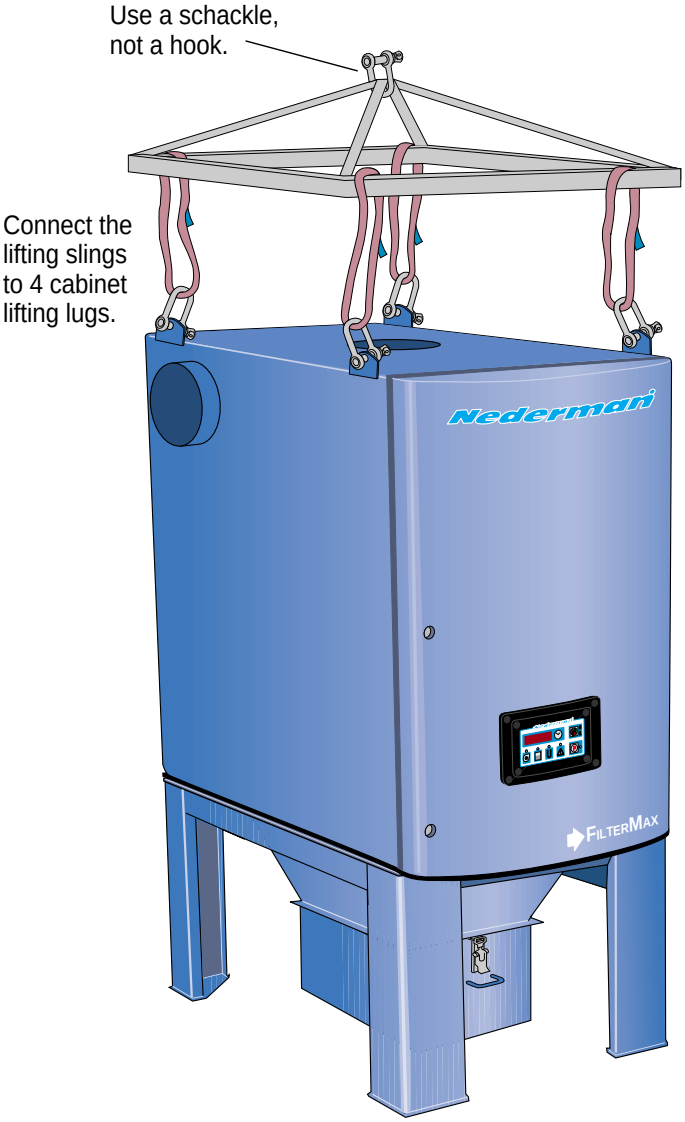


WARNING!

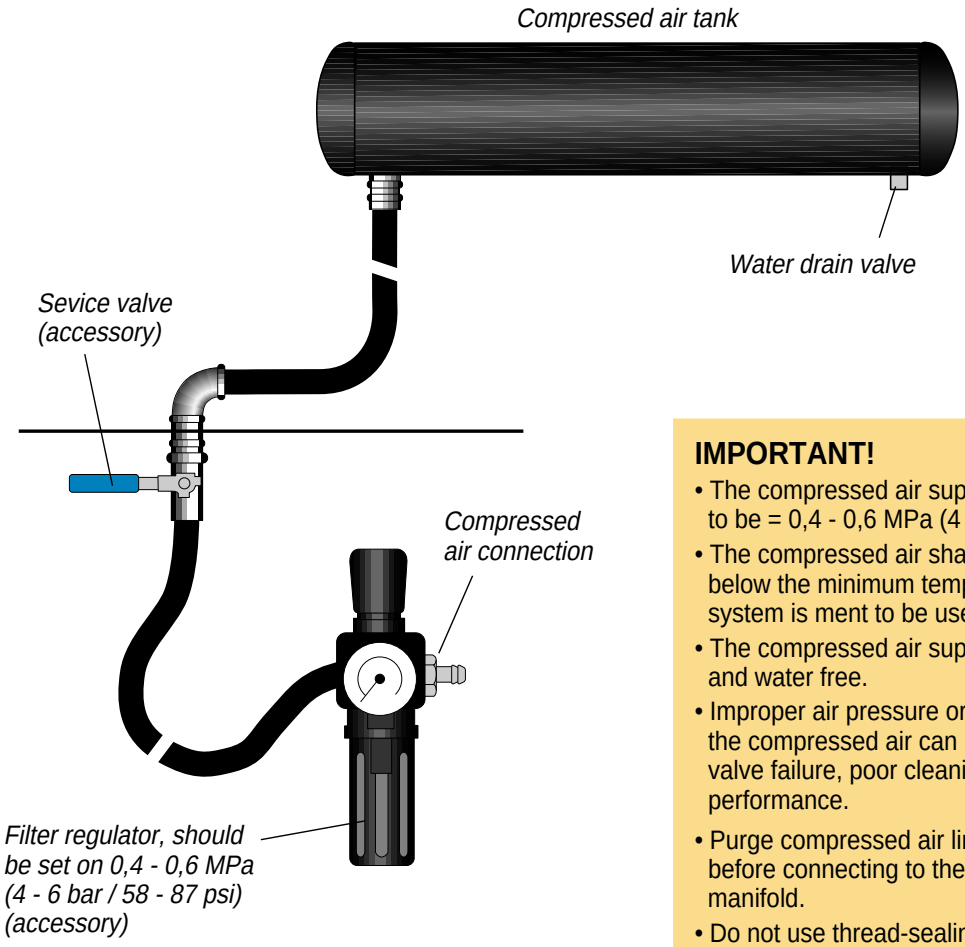
Risk of personal injuries and/or product damages!

Use approved lifting equipment for unloading, assembly and installation of the FilterMax C 25.

When FilterMax C 25 has been installed an earth control measuring must be done (see page 9).



COMPRESSED AIR CONNECTION



Connect the compressed air supply line to the compressed air connection of the filter. Use pipe sealant on all compressed air connections.

Compressed air components

(accessories, see page. 22)

A shut off valve for service work and a filter regulator should be installed in the compressed air pipe line (NB the flow direction during the installation).
Important! the filter regulator must be positioned in a frost free environment.

Recommended connection size: minimum 1/2".

IMPORTANT!

- The compressed air supply pressure has to be = 0,4 - 0,6 MPa (4 - 6 bar / 58 - 87 psi).
- The compressed air shall have a dew point below the minimum temperature at which the system is ment to be used.
- The compressed air supply must be both oil and water free.
- Improper air pressure or contamination in the compressed air can result in cleaning valve failure, poor cleaning and filter performance.
- Purge compressed air lines to remove debris before connecting to the compressed air manifold.
- Do not use thread-sealing tape after the filter regulator.
- Quick couplings throttle the air too much and are not recommended.
- Turn off and bleed off compressed air supply before doing any service work.
- Do not pressurise the system if the air temperature is below the minimum operating temperature, that is -20 °C. At lower air temperature the process could be started and be in operation for a while (approx. 15 min.) after which the system can be pressurised.

ELECTRICAL INSTALLATION

WARNING!

Risk of personal injury!

Disconnect the electrical power before servicing any electrical component.

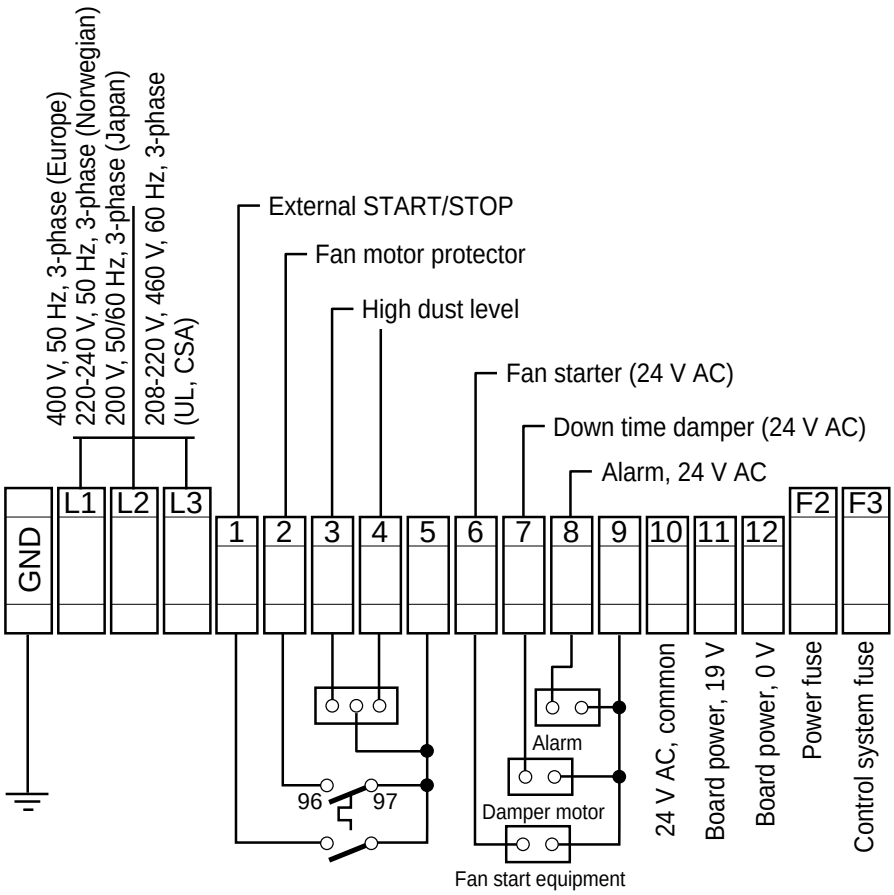
All exposed conductive parts of the electrical equipment and the machine shall be connected to the protective earthing (see wiring diagram).

IMPORTANT!

All electrical work must be done by a qualified electrician according to local regulations.

Connect FilterMax C 25 to the mains and connect other components and accessories according to wiring diagrams on page 7 and 9.

A lockable safety switch should be fitted on the mains connection cable.



Connecting FilterMax C 25 and accessories to the mains must be done by a qualified electrician.

The accessories must be equipped with a potential free contact

A safety switch should be connected to the power supply cable to FilterMax C 25.

Inputs / outputs

ACTIVATING THE MENU

Push the **P**-button more than 2 seconds.

ACTIVATING INPUTS AND OUTPUTS

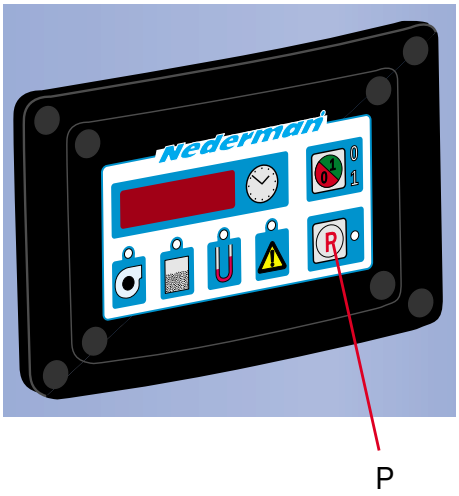
The inputs or outputs should be activated when accessories have been connected. Push the **P**-button to activate actual input/output. The LED's indicate, where appropriate, with red blinking lights.

Selecting OFF, nC or nO

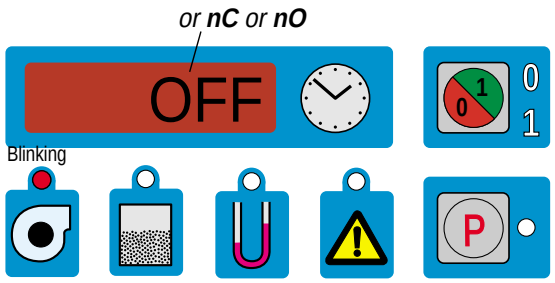
Push the **0/1**- button and **OFF**, **nC** or **nO** comes up on the display.

OFF The selected input is not activated.
nC Normally closed: The selected input is activated.
nO Normally opened: The selected input is activated.

Select nC or nO depending on type of contact on the connected accessory. Make a note of the setting which has been selected.



A



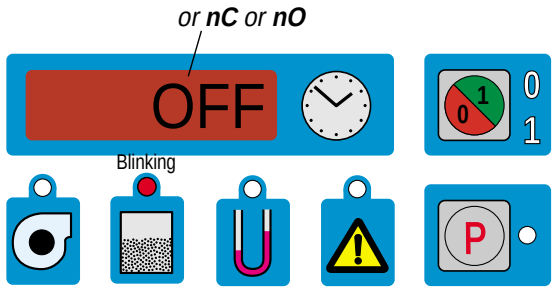
Motor protector, fan

Push the **P**-button.
Activated input: no. 2
Set **OFF**, **nC** or **nO** with the **0/1**-button.

☐ **OFF** ☐ **nC** ☐ **nO**

NO is preset at delivery.

B



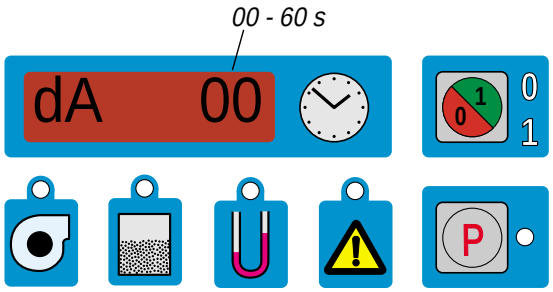
High dust level

Push the **P**-button.
Activated input: no. 3
Set **OFF**, **nC** or **nO** with the **0/1**-button.

☐ **OFF** ☐ **nC** ☐ **nO**

OFF is preset at delivery.

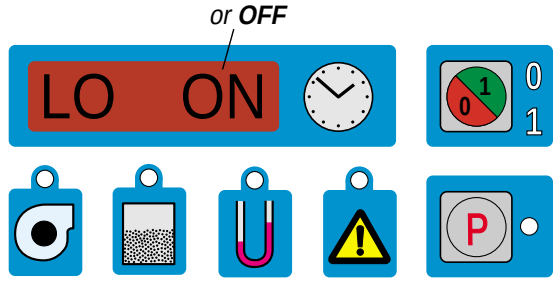
C



Down time damper delay

Push the **P**-button.
Activated output: no. 7
24 V AC supply for opening a damper motor with spring return or magnetic valve for compressed air. Is used to reduce the starting current at fan start. Delay time for opening the down time damper: 10 - 60 s after fan start. Set the required delay time with the **0/1**-button.

D



Local START/STOP

Push the **P**-button.
Inactivates the start/stop button on the control box.
Only remote start is possible in **OFF**-position.
Set **On** or **OFF** with the **0/1**-button.

☐ **On** ☐ **OFF**

Setting the pause time

(**pt**) see page 12.

EARTH CONTROL MEASUREMENT

Earth control measuring must only be done by a person with necessary knowledge.

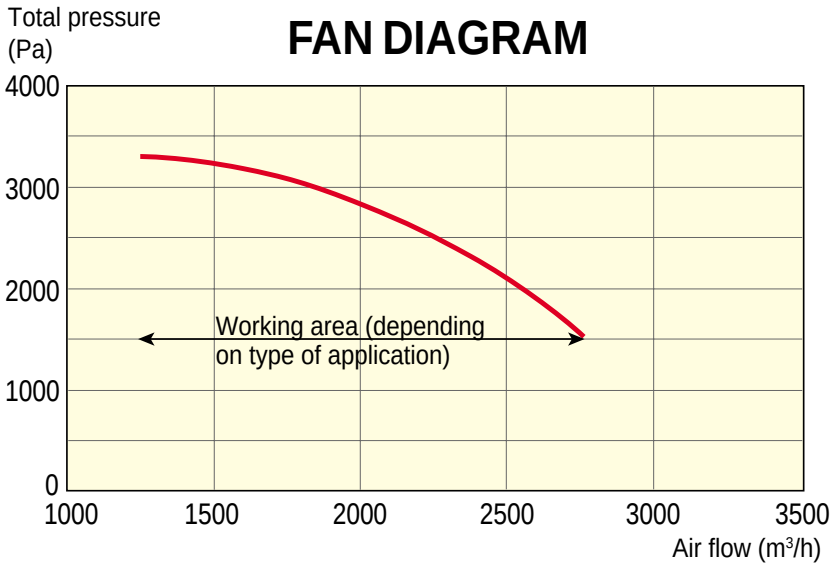
IMPORTANT!
All metal parts of the filter unit must be earthed reciprocally and connected to earth.

When the FilterMax C 25 has been installed and during maintenance work the earthing shall be measured.

The measuring is done between GND (see page 7) and the following components on FilterMax C 25. Disconnect protection earth from GND before measuring.
1. Filter module
2. Door
3. Dust container
4. Filter cartridges (only antistatic Poly Web filter)

Reconnect protection earth to GND.

FAN DIAGRAM



APPLICATIONS

Nederman FilterMax C 25 separates for instance welding fume, metal oxides, talcum, lime stone, paint powder and grinding dust.

FilterMax C 25 must not be used for separating explosive contaminations.

Explosive dusts are dry organic dusts and some metallic dusts. The metallic dusts are, for example, aluminium, magnesium, titanium, chromium and fine virgin dusts of other metals. Welding fumes from these metals are not explosive, but grinding dust is a problem. Please contact your Nederman representative in case of doubts.

Various combinations of semi combustible fumes/dusts (oil, grease) and sparks can cause fires when grinding or welding. The most important action is to prevent sparks from entering the extraction devices. Secondly it is very important to perform regular cleaning of the extraction arms/devices and the duct system.

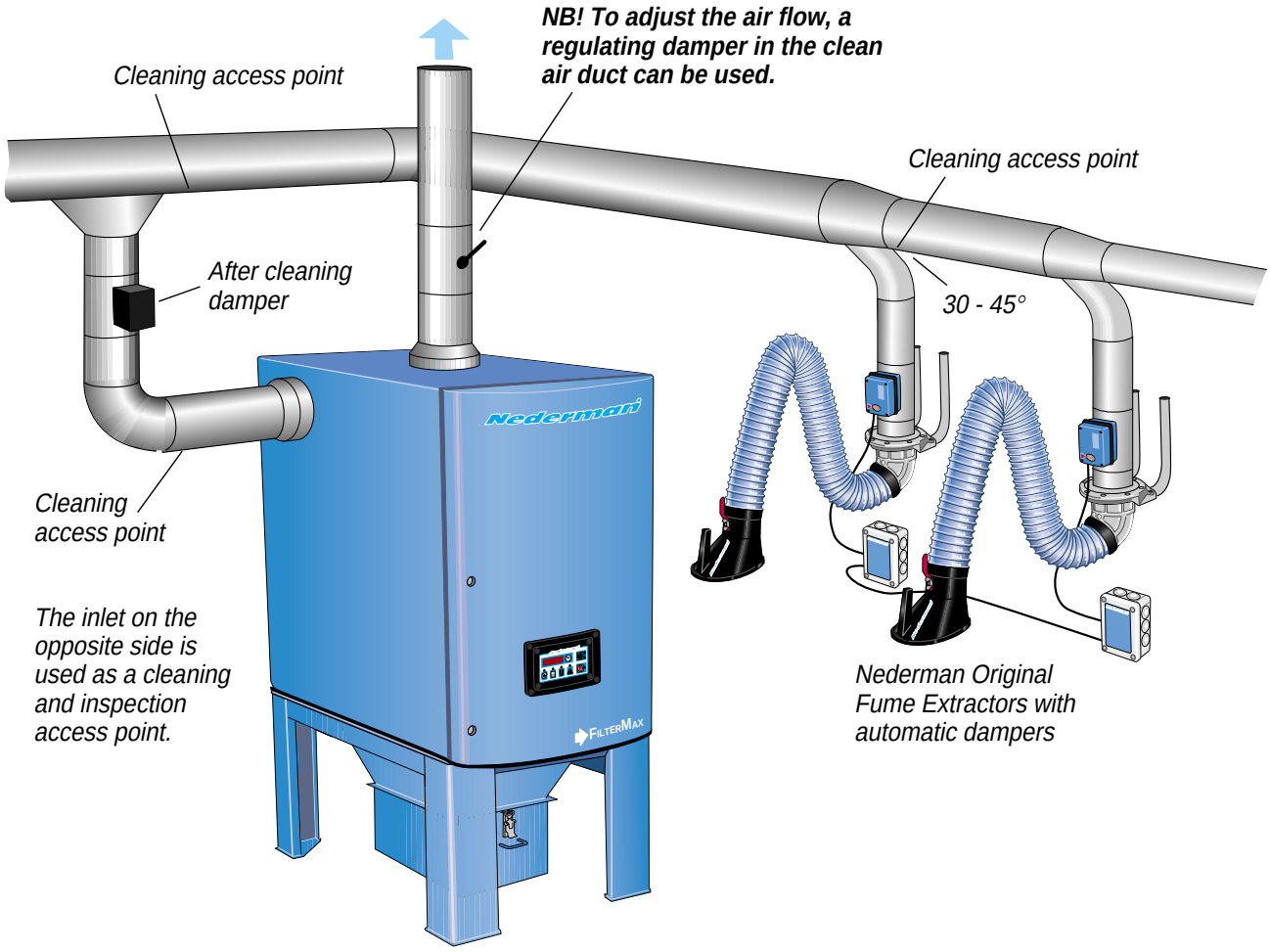
FilterMax C 25 does not separate gases.

WARNING!

Risk of personal injury!
- In some countries the purified air must not be recycled in the workshop if FilterMax C 25 is used to separate welding fume or some contaminations that may be a health hazard.

Risk of fire or explosion!
- Do not use FilterMax C 25 to separate explosive fume or dust.
- Grinding, welding or other hot works on the filter exterior or inlet must not be done without cleaning and stopping the operation.
- Connect a fire alarm to FilterMax C 25, which means the filter will stop at a possible fire.
- Care should be taken when working with painted or oiled material. Consult your Nederman representative for advice.
- FilterMax C 25 must not be exposed for burning/glowing material.
- At high risk of fire a fire extinguisher should be installed.

DUCT DIMENSIONING AND SYSTEM INSTALLATION



Recommendations

• To avoid pressure losses and dust deposits in the system it is important to use the correct duct diameter. The transport velocity shall be at least 10 - 12 m/s for fume and 15 - 20 m/s for dust. Take velocity in to account when choosing the duct diameters. The velocity should never decrease en route to FilterMax C 25. The following duct diameters can be used for the connection to FilterMax C 25: Ø 250 mm for the inlet and Ø 315 mm for the outlet.

• Use long radius bends and no t-pieces.

• Install plenty of cleaning access points in the ducting system before FilterMax C 25.

WARNING!
Fire risk!

• Grinding, welding or other hot works on the filter exterior or inlet must not be done without cleaning and stopping the operation.
• Connect a fire alarm to the filter controling processor, which means the filter will stop at a possible fire.
• Care should be taken when working with painted or oiled material. Consult your Nederman representative for advice.
• FilterMax C 25 must not be exposed for burning/glowing material.

• If the dust is abrasive it may be necessary to use thick walled (or rubber coted) material in bends and other exposed areas.

• To avoid pressure losses the ducting system should be as short as possible and designed with two or more branches.

• Use larger diameters on the clean side to reduce pressure losses.

• Use fire dampers when the duct system is passing from one fire zone to another. **NB! Fire dampers do not stop explosions!**

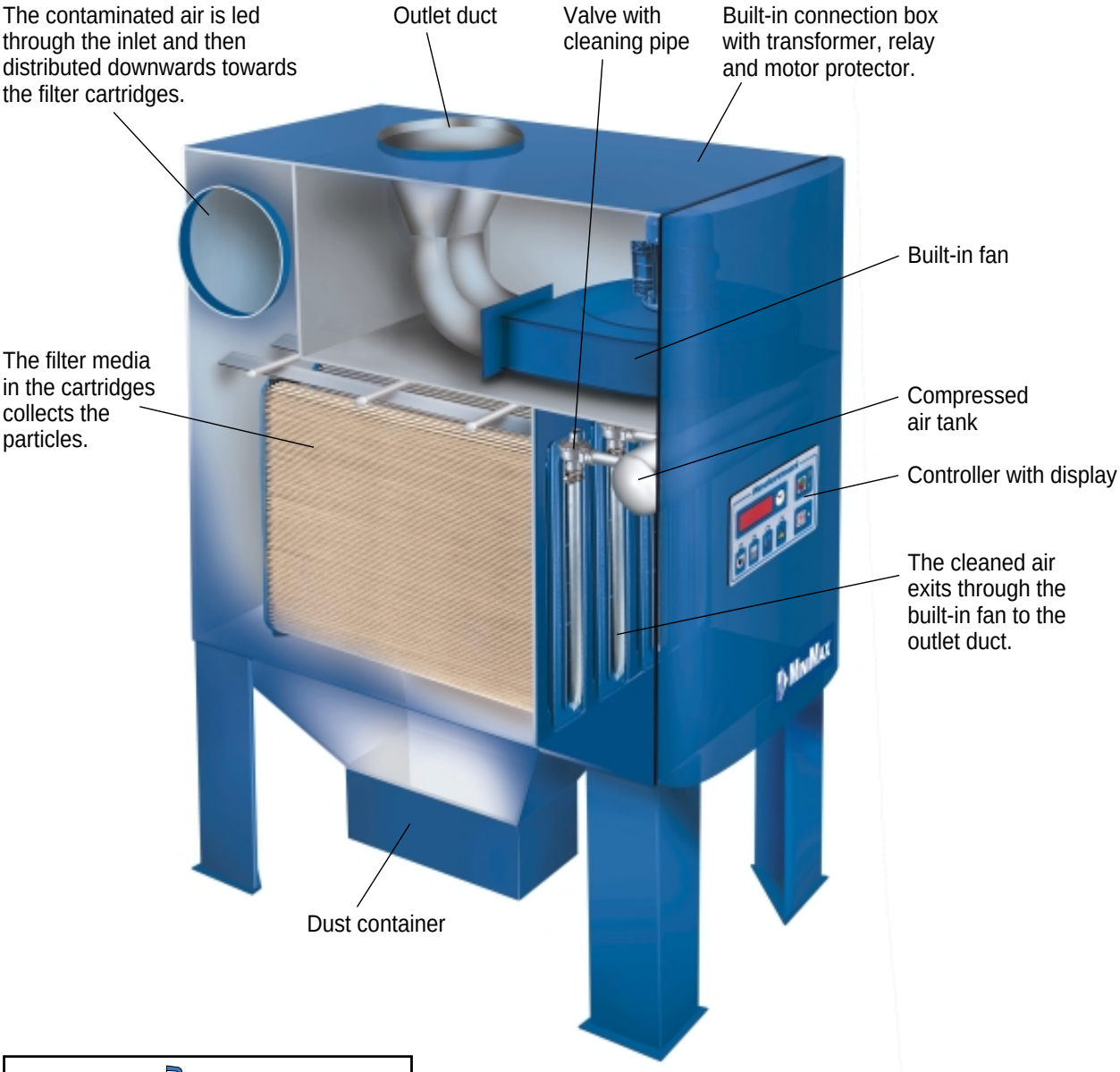
• Install a flow meter in the outlet duct (at least 3 m from the filter outlet).

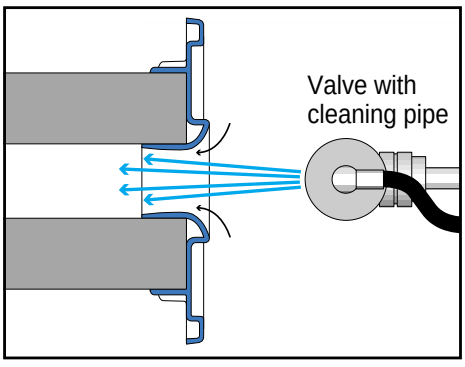
• If there is a significant fire risk, it is better to install several small systems then one large system.

• Install a sparktrap to prevent sparks or burning/glowing material from entering the FilterMax C 25.

• At welding work on oiled material the filter cartridges should be treated with fine lime powder (approx. 60 g) before the first start.

OPERATING DESCRIPTION





The filter cartridge seen from above

The filter cartridges are cleaned one by one with powerful air pulses. The air pulses are distributed into the slot shaped outlet of the filter cartridges. This generates a quiet and efficient cleaning pulse.

The filter controller controls the cleaning process.

STARTING THE SYSTEM

1. Turn on the compressed air supply to FilterMax C 25. Adjust to 0,4 - 0,6 MPa (4 - 6 bar, 58 - 87 psi) of pressure.

2. Close the regulating damper halfway.

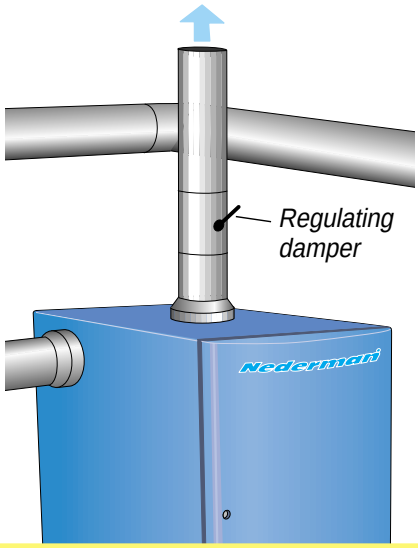
3. Important! Check fan impeller rotation direction in the following way:
- Loosen the fixing screws on the access door.
- Start the FilterMax C 25.
- Stop the FilterMax C 25.
- Open the access door and check through the fan inlet the impeller rotation direction.

Contact a qualified electrician if the impeller rotation must be reversed.

4. Adjust the fan for the proper system airflow that is desired by adjusting the regulating damper. The air flow can be measured with a fixed airflow meter (or a pitot tube) and a micro-manometer.

IMPORTANT! Too much airflow can dramatically reduce the life of the filter element.

5. All the solenoid valves should open and close continuously with a set interval time between each cleaning pulse (factory set of 60 seconds). Check operation of the solenoid valves in the following way: Set the pause time on **tst** (see below). **NB!** This is only a control setting and should not be used for normal operation. Start the system and count the number of air pulses. It should be 4 pulses.



WARNING!
Risk of personal injury!
If outlet duct is not mounted, stand clear of blower fan exhaust area as debris can be exhausted and cause injury.

MONITORING SYSTEM, SETTINGS

CLEANING DURING OPERATION

FilterMax C 25 is in its standard design equipped with a fully automatic compressed air cleaning of the filter cartridges. A piping system directs, by a system of solenoid valves, air pulses of 100 ms into the filter cartridges. The pause time between the air pulses is factory set at 60 s, but can be set between 5 s and 90 s.

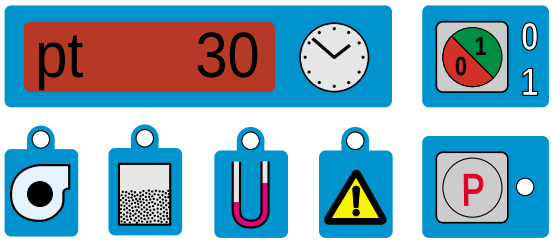
RECOMMENDATIONS FOR PAUSE TIME SETTINGS

The pause time setting depends on the load at which the filter is working.
Light load - A dust that is easy to clean off the filter cartridges, such as dry stone dust or grinding dust.
Normal load - Applications such as welding fume or light dusts in heavy concentrations.
Heavy load - Typically metal cutting with laser or plasma and heavy welding.

With light load the cleaning pressure could be reduced to 0.5 MPa (5 bar). Check that the filter pressure drop does not rise too quick. If so, the pause time could be reduced with one step and the cleaning pressure could be increased, but maximum to 0.6 MPa (6 bar).

Load		
Light	Normal	Heavy
90 s	60 s	30 s

The paus time is factory set at 60 s.



Setting the pause time

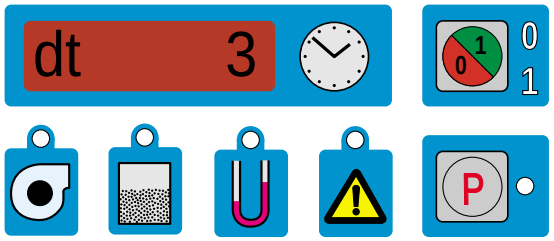
Push the **P**-button until **pt** is shown in the display. Set one of the following values for pause times with the **0/1**-button. **tst** = test position, all valves will be opened 1 time with 1 s interval.

- ☐ tst
- ☐ 10 s
- ☐ 15 s
- ☐ 20 s
- ☐ 30 s
- ☐ 45 s
- ☐ 60 s
- ☐ 90 s
- ☐ - No cleaning during operation

CLEANING AFTER OPERATION

It is possible to choose cleaning after operation, that is when the fan has stopped. **This is more efficient than cleaning during operation and is therefore recommended.** The pause time at cleaning after operation is always 15 s.

If cleaning after operation has been chosen, one has to set the desired number of cleaning cycles, where one cycle means the cleaning of all filter cartridges. 2 - 3 cycles are recommended depending on the dust load (light - normal) When cleaning after operation it is recommended to use an after cleaning damper (see accessories page 22).



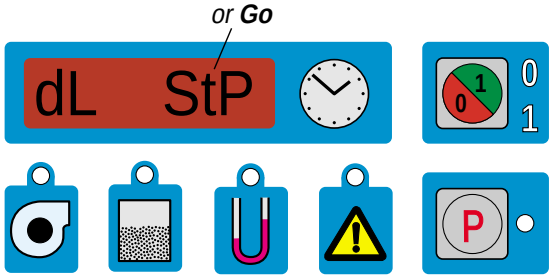
Setting the cleaning cycles

Push the **P**-button until **dt** is shown in the display. Set the desired number of cleaning cycles with the **0/1**-button.

- ☐ 0
- ☐ 1 cycle
- ☐ 2 cycles
- ☐ 3 cycles
- ☐ 4 cycles
- ☐ 5 cycles

ALARM FUNCTION

The alarm-function is always ON when the system operates, which means if there are negative influences on the function during operation, the A-alarm will release, that is LED no. 4 will show a red fixed light.



Setting the alarm-function

Push the **P**-button until **dL** is shown in the display. Choose any of the functions **Go** or **StP** with the **0/1**-button. For fume/dust generating processes that can't be stopped immediately when a fault accurs it is recommended to set **Go** and that a clearly visible alarm device is installed.

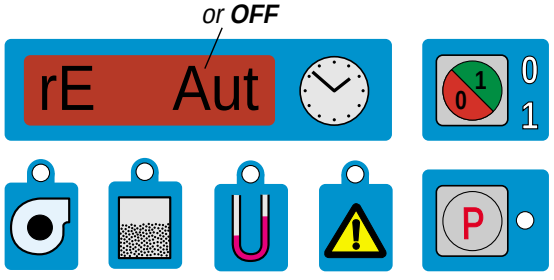
Go: The system does not stop when the alarm is activated, with exception for motor protection and with the access door open.

StP: The system stops automatically when the alarm is activated.

REMOTE START

It is possible to choose the functions **Aut** or **OFF** with the **0/1**-button. For most filters that are remotly started from a machine or a process eg. it is convenient to choose **Aut**.

The remote start control should be connected to strip no. 1 and 5 (see page 7). If remote start is used, the system can not be stopped with the **0/1**-button. The text **rE** is shown in the display for a short time.



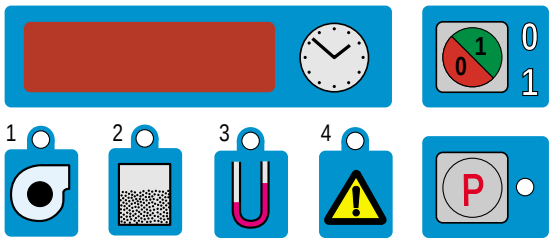
Remote start, setting

Push the **P**-button until **rE** is shown in the display. Choose **Aut** or **OFF** with the **0/1**-button.

OFF: When using remote start there is **no** automatic restart when a fault has been rectified. The remote started mashine must be stopped and the FilterMax C 25 must be reset by one push on the start button before a new remote start can be done.

Aut: When using remote start there is automatic restart when a fault has been rectified or after a power failure.

MONITORING SYSTEM, GENERAL DESCRIPTIONS



The display on the control box gives information about the number of operating hours, cleaning process, alarm functions and possible faults.

The LED:s can indicate the following:

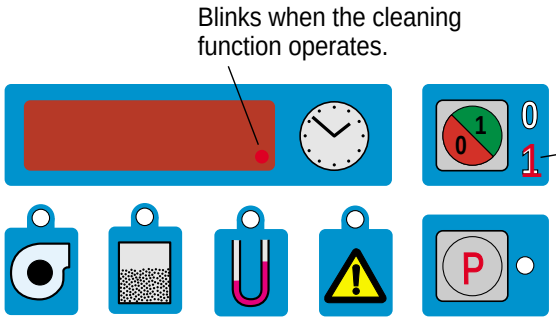
1, 2, 3 _____ green fixed light: All functions normal and correct

1, 2, 3 _____ green fixed light alternating with blinking red: The system operates. Incorrect function has been rectified (alarm memory)

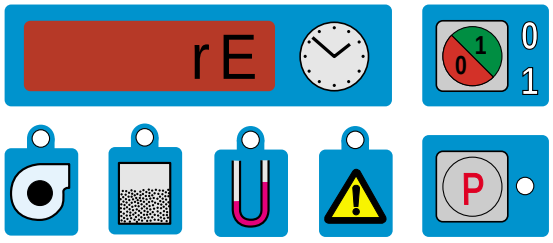
1, 2, 3 _____ red fixed light: Incorrect function which requires investigations.

4 _____ red blinking light: Incorrect function which requires immediate investigations.

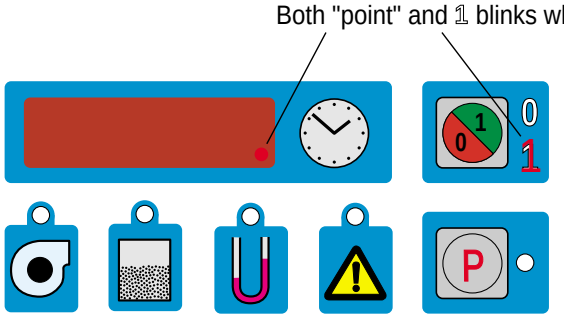
1, 2, 3 _____ is only active after the inputs for the accessories has been activated (see page 7).



The total number of operating hours are displayed.

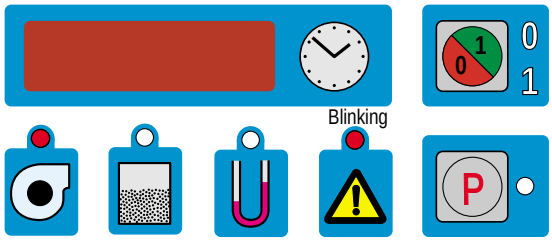


r E is displayed when trying to stop the system from the control box when the system is remote started.

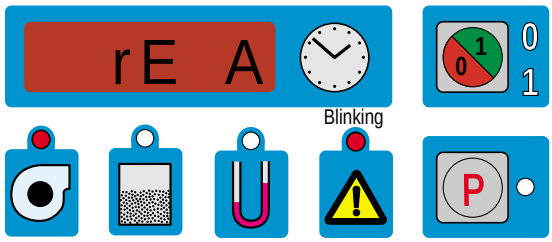


The system has stopped and the cleaning after operation is active. If the **0/1**-button is pressed once more the cleaning after operation is stopped immediately.

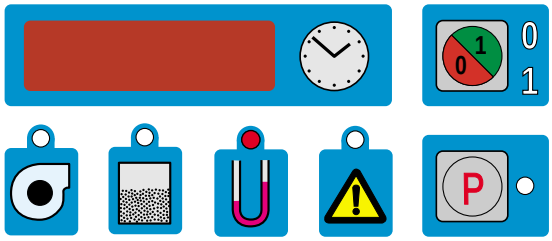
MONITORING SYSTEM, FAULT INDICATIONS



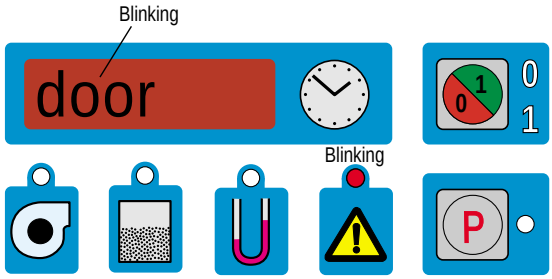
The fan motor overload protector is released. Check the cause. Rectify the fault and reset the motor protector. FilterMax C 25 always stops when the motor protector is released.



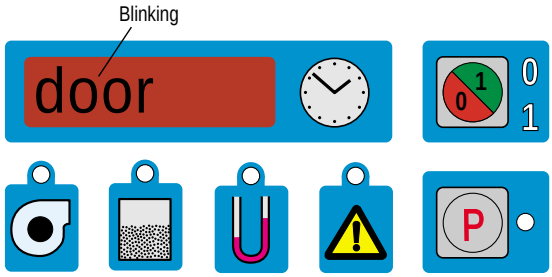
r E A is diplayed (alternating with the number of operating hours) in combination with a motor error and a desplayed alarm at remote controlling.



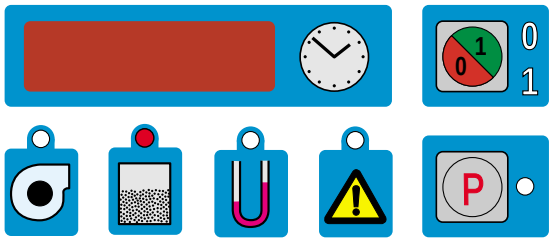
The pressure drop over the filter is too high.
- Check that the cleaning system is fully functioning.
- Check the compressed air. The pressure should be 0.4 - 0.6 MPa (4 - 6 bar / 58 - 87 psi).
- Check the pause time (factory set at 60 s, see page 12).



The door has been opened during system operation. Shut the door.



The door is open and FilterMax C 25 will not start.



The dust container is full. Empty the container.

SERVICE INSTRUCTIONS

In order to ensure that the system continues to operate correctly, the following should be checked at periodic intervals depending on what kind of contaminations that are separated and the amount of use. Defective and worn parts should be replaced immediately. Also see Service Protocol, page 23 - 27.

WARNING!

Risk of personal injury!

Use protective goggles, breathing mask and gloves when doing servicing and repairing work inside the system, specially when replacing the filter cartridges and emptying the dust container.

Avoid contact or exposure to dust as much as possible during servicing or maintenance.

Shut-off and bleed compressed air supply before opening the inspection door and servicing any compressed air components.

Disconnect electrical power before servicing.

EMPTYING THE DUST CONTAINER

IMPORTANT!

Empty the dust container when it is approximately 70 % full. Do not let it overfill. It can cause poor filter performance and cause an extensive clean up work due to overflow of dust when removing the container.

Normal working light is required for emtying the container.

Inspect how much the container has been filled in the beginning of the filtering process, to make it possible to estimate a normal emptying interval.

1. Switch off the FilterMax C 25.

2. Put a pallet, which can be operated by a lift truck, under the dust container.

3. Loosen the dust container by realising the excentric locks. Let the container down to the pallet.

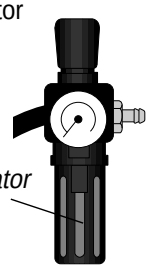
4. Empty the dust container. Disposal of dust should be in accordance with local regulations.

5. Check that the gasket between the filter and dust container not is damaged.

6. Put the dust container back under the filter and fit it with the excentric locks, Check that the gasket between the filter and container is correctly fitted and seals after locking.

CHECK WHEN EMPTYING THE DUST CONTAINER

Check if there is water (or oil) in the filter regulator. In that case, the compressed air is not dry enough and there is a risk of damage to the filter cartridges. Check that the pressure is set to 0.4 - 0.6 MPa (4 - 6 bar, 58 - 87 psi). If there is water in the filter regulator container, check that there is no water in the pressure tank, by opening the drain nipple on the right bottom side of the tank.



Filter regulator container

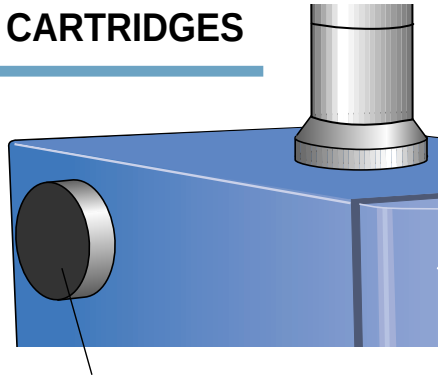
SERVICE AFTER 1000 OPERATION HOURS, BUT AT LEAST ONCE EVERY 6TH MONTH

- Check that all valves in the cleaning system operate properly. Set the pause time on **tst**. Start the system and count the number of air pulses, 4 per cycle.
- Remove dust collections from the lower part of the clean air room.

SERVICE AFTER 2000 OPERATION HOURS, BUT AT LEAST ONCE A YEAR OR WHEN REPLACING FILTER CARTRIDGES

- Open the inspection cover on the opposite side of the inlet. Clean when necessary.
- Check that there is no water in the pressure tank, by opening the drain nipple on the right bottom side of the tank.
- Check the filter cartridges. They should be replaced if the outer surfaces are damaged or if the air flow through FilterMax is insufficient due to saturation of the filter cartridges despite repeated cleaning.
- Earth control measurement (see page 9)

GND - Filter unit
GND - Dust container
GND - Filter cartridges (only on Poly Web antistatic filter)
GND - Doors



Inspection cover

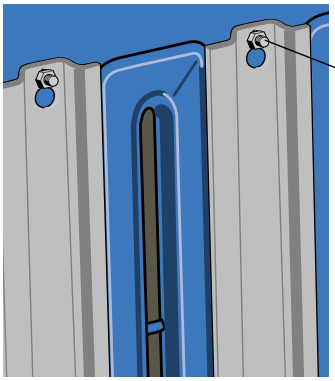
REPLACING THE FILTER CARTRIDGES AT DAMAGE OR INSUFFICIENT FILTER FUNCTION, BUT AT LEAST AFTER 6000 OPERATION HOURS

The filter cartridges are replaceable. They should be replaced if the outer surfaces are damaged or if the air flow through FilterMax C 25 is insufficient due to saturation of the filter cartridges despite repeated cleaning.

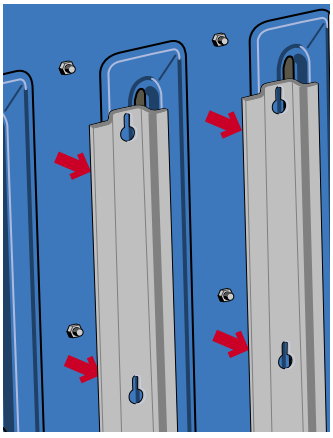
1. Switch off the FilterMax C 25.

2. Shut off and bleed the compressed air.

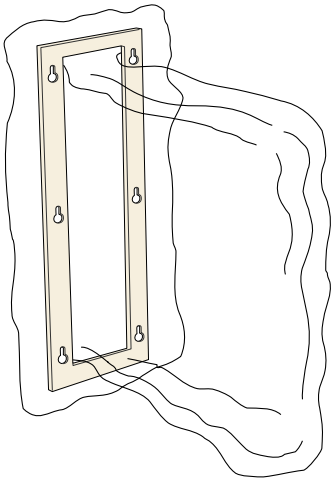
3. Unscrew the two fixing screws on the access door. Use the enclosed T-key or a 10 mm standard hexagon key. Open the door.



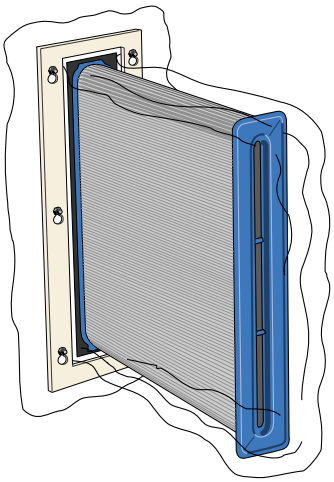
4. Loosen the nuts on the filter holders but don't screw them off completely.



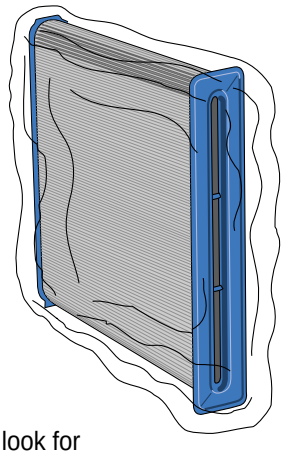
5. Remove the filter holders.



6. Draw an antistatic plastic bag through the opening in the enclosed mounting frame, as the picture shows.



7. Hang the mounting frame with the plastic bag over the plastic end of the filter cartridge. Draw the whole cartridge in to the plastic bag.



8. Remove the mounting frame and fold the plastic bag in a way that the filter cartridge will be completely enclosed and sealed.

9. Proceed in the same way with the remaining filter cartridges.

10. Inspect the filter housing and look for damage, dust layers etc. Clean inside the filter housing. A vacuum cleaner is recommended.

11. Handle the new filter cartridges carefully to avoid damage.

12. Insert the new filter cartridges. **NB!** The mark on the back end of the filter cartridge should be put on the angled sheet-metal plate just inside the filter housing.

13. Hang the filter holders on the screws and fasten the nuts.

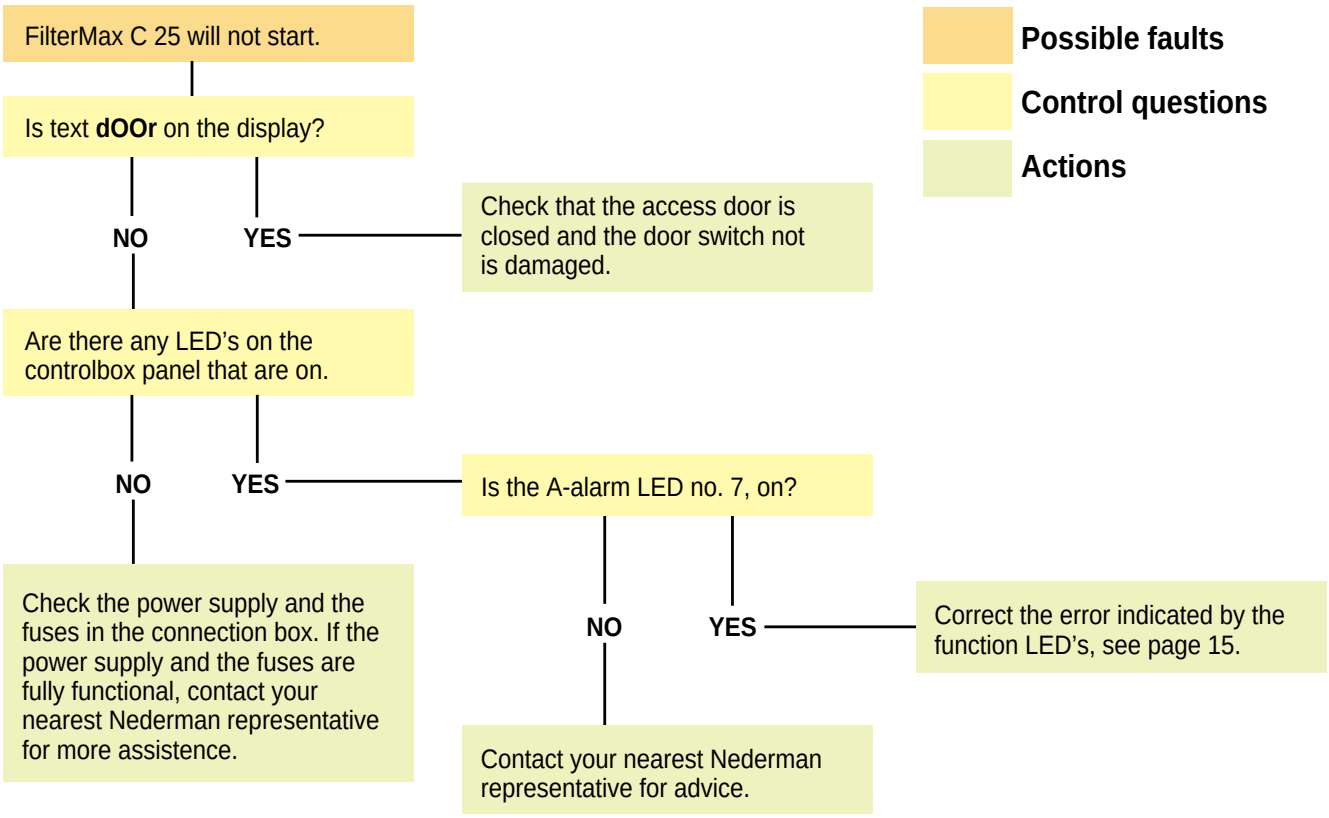
14. Check the access door seal. Shut the door and fasten the two fixing screws.

15. Turn on the compressed air supply.

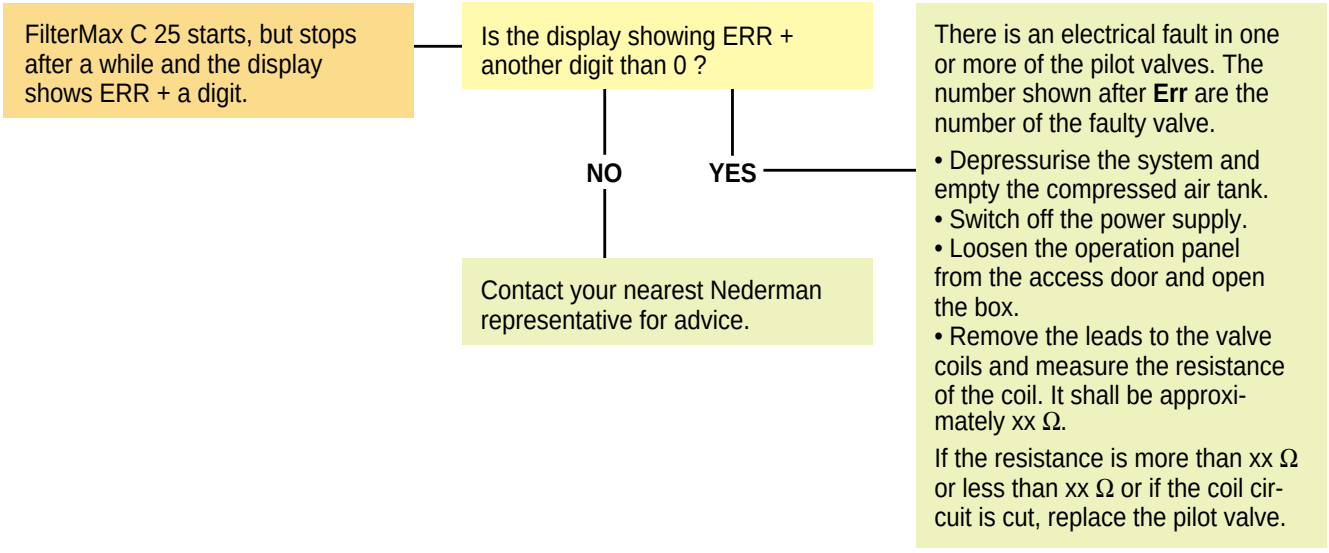
TROUBLE-SHOOTING SCHEDULE

IMPORTANT!
• Turn off the compressed air supply with the service valve before doing any work on the cleaning system.
• Do not pressurise the system if the air temperature is below the minimum operating temperature (= -20 °C). At lower air temperatures the process can be started and operated for a while (approx. 15 min.) whereafter the system can be pressurised.

A



B



C

The FilterMax C 25 pressure resistance is high.

Is the cleaning system fully functioning?

NO

YES — Check the pressure of the compressed air. It should be 0.4 - 0.6 MPa (4 - 6 bar, 58 - 87 psi).

Are there some valves that are functioning?

NO — Go to B

YES — Go to E

If a dP-control is installed, see instructions for this product regarding the adjustment of cleaning the system.

Otherwise, check the pause time set on the timer (see page 12). The default value is 60 s. A heavy application will require shorter times. A very light application can use longer times.

If the cleaning has been adjusted previously you may have to replace the filter cartridges.

D

The airflow is insufficient.

Is the pressure resistance high (>1000-1500 Pa)?

YES — Go to C

NO — Has the airflow been satisfactory?

YES

- Check if the system contains any dampers and the position of these. Open dampers to adjust the flow, but don't exceed the dimensioned airflow for the filter unit.
- Check that the filter unit's inspection cover is closed.
- Check the fan for blocked outlet or other damage.
- Clean the inlet duct.
- Check that the dust container is tight.
- Check that the duct system not has any other opening beyond the inspected ones.

NO — Is the fan operating correctly? **Does the impeller rotate in the right direction?**

YES — Contact your nearest Nederman representative for advice.

NO — Check the rotating direction of the fan impeller. **It is very important that the rotation direction is right**. If the impeller rotates in the wrong direction, the fan gives only 40 % of its possible air volume. Check in the following way:

- Loosen the fixing screws on the access door.
- Start the FilterMax C 25.
- Stop the FilterMax C 25.
- Open the access door and check through the fan inlet the impeller rotation direction.

Contact a qualified electrician if the impeller rotation must be reversed.

A valve is not operating correctly (but there are functioning valves).

F

Does the display on the control box show ERR + a digit?

YES — Go to **B**

NO — Is the air temperature below 0 °C ?

NO — Check which pulse-jet valve is malfunctioning by listening. The valve sequence is 1, 2, 3, 4 (where 1 is to the left when the door has been opened).

Dismantle the valve housing and check that the little air hole in the diaphragm not is blocked.

Change defective valves (spare part) or repair them with a repair set (spare part). Mounting/repairing instructions comes with the spare parts.

YES — If you have compressed air with a dew point close to or higher then the air temperature, the pilot valve may freeze. An indication is that the valve starts operating again when the temperature increases.

IMPORTANT!
Turn off the compressed air supply with the service valve (accessory) before doing any work on the cleaning system.

IMPORTANT!
Do not pressurise the system if the temperature is below the minimum operating temperature (= -20 °C). At lower air temperatures the process can be started and operated for a while (approx. 15 min.) whereafter the system can be pressurised.

G

Leaking compressed air system (notified by sound)

Are the external connections leaking?

YES — Repair the external connections.

NO — Stop the system. Decrease the system pressure to < 1 bar. Open the access door and find the leak.

Shut off the pressure and drain the tank.

Is a pulse-jet valve leaking ?

YES — Dismantle the valve and check for contamination or damaged parts. Clean and/or replace damaged parts.

NO — Replace other damaged parts.

H

Abnormal dust levels in the exhaust air.

Stop the system! Shut off the compressed air and drain the tank.

Are all cartridges properly installed (check packings)?

NO — Install them properly.

YES — Look into the cartridges and check if there are any traces of dust. Dust on the clean side indicates a leak. Replace damaged cartridges.

SPARE PARTS

Ordering Instructions

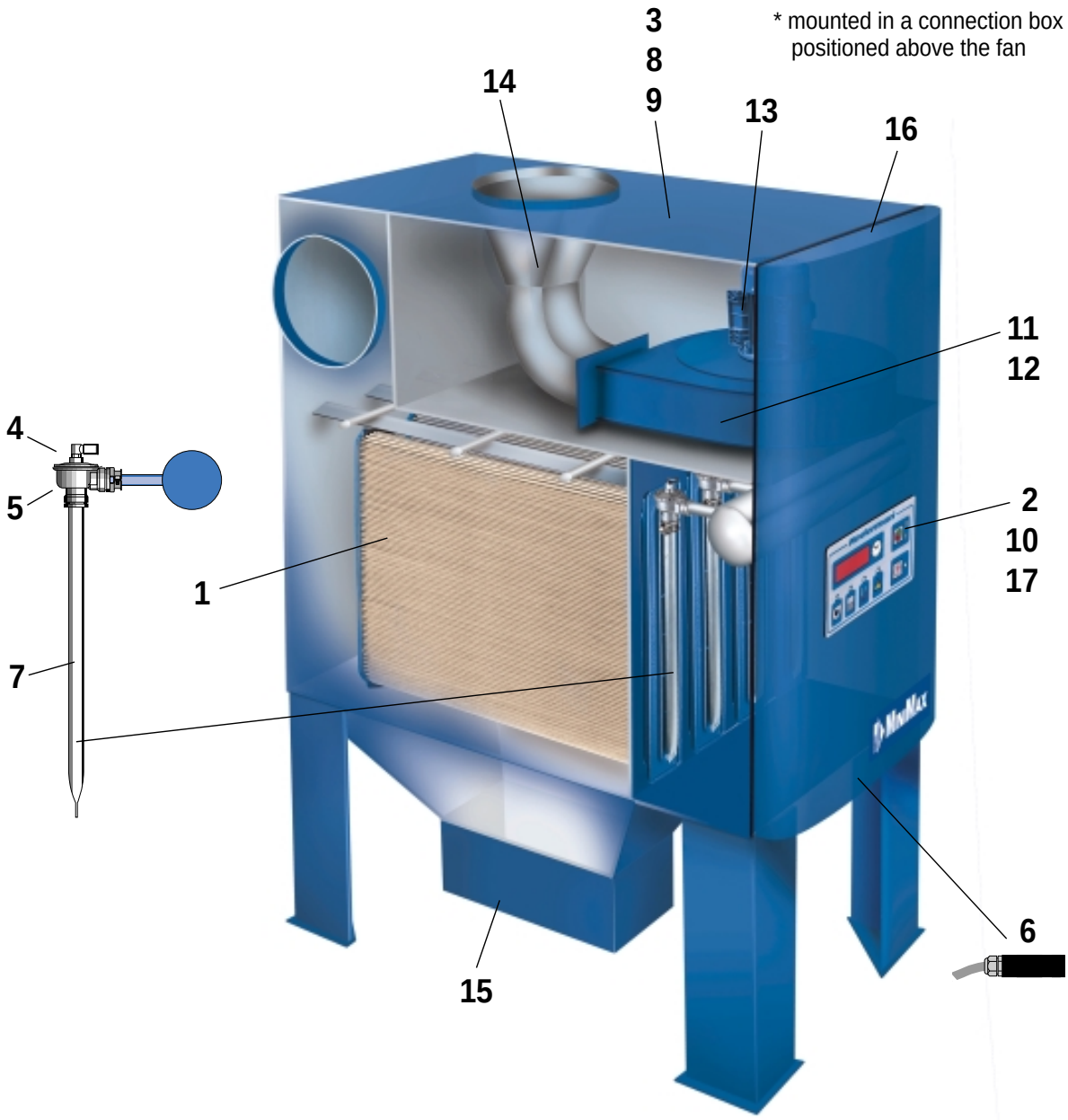
When ordering spare parts always indicate the following.
A. Part No. and Control No.
(see FilterMax C 25 identification plate)
B. The spare part's name and number
(see Spare Parts List)
C. Quantity of parts required.

Spare Parts List

Name

1 Filter cartridges, 4-pack (Basic, Spider Web, Poly Web or Poly Web antistatic)
2 Cover with display and circuit card
3 Relay*
4 Repair set for pulse jet valve
5 Pulse jet valve
6 Door switch
7 Cleaning pipe
8 Transformer*
9 Motor protector*
10 Pilot valve
11 Fan, complete
12 Fan impeller
13 Fan motor
14 Outlet
15 Dust container
16 Door gasket
17 Pilot valve coil card

* mounted in a connection box positioned above the fan



ACCESSORIES

FILTER CARTRIDGES

Basic
Dual layer cellulose/polypropylen.
Suitable for fumes and fine particles.
Efficiency: 99 % at 0,5 µm (after some time in operation)
Filter area: 12 m^2
BIA class C
Part no. 12373300

Poly Web
Spun bound polyester.
Suitable for medium to coarse particles.
Efficiency: 99 % at 0,5 µm (after some time in operation)
Filter area: 12 m^2
Washable
BIA class C
Part no. 12373323

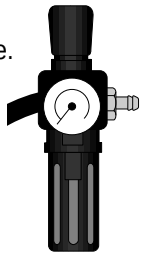
Poly Web PTFE
PTFE membrane, laminated to spun bound polyester.
Suitable for fine to medium particles.
Efficiency: 99,9 % at 0,5 µm (after some time in operation)
Filter area: 12 m^2
Washable
BIA class C
Part no. 12373325

Poly Web antistatic and Poly Web antistatic PTFE
Aluminium coated spun bound polyester.
Suitable for ignition sencitive, medium to coarse particles.
Efficiency: 99 % at 0,5 µm / 99,9 % at 0,5 µm (PTFE)
Filter area: 10 m^2
Washable
BIA class C
Part no. 12373303
Part no. 12373335 (PTFE)

AFTER CLEANING DAMPER

(Not a Nederman product) The damper closes the duct when FilterMax C 25 is shut off, which will prevent dust from being transported back into the workshop by the air pulses from the down time cleaning. The damper should be mounted close to the FilterMax C 25 inlet (see page 7 and 10).

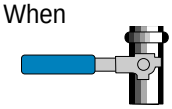
FILTER REGULATOR



Is used for setting the correct air pressure. Separates dust in the pressured air why it also protects the valves. Should be installed in the compressed air pipe line.
Must be positioned in a frost free environment
Part no. 12372064

SHUT OFF VALVE FOR COMPRESSED AIR

An air venting type. Should be installed in the compressed air pipe line. Is used to turn off the compressed air supply before any service on the system is done. When ordered connected to delivery this accessory is mounted on factory.

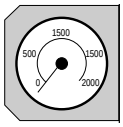


Part no. 12372083

dP-CONTROL

Is used for controlling the cleaning more efficiently and with better supervision. Saves pressured air in some applications with intermittent load. Equipped with alarm functions for high fall of pressure for filter.
Part no. 12373321

PRESSURE GAUGE KIT



Measures the pressure drop over the filter cartridges. Is mounted on the FilterMax' stand. Can be combined with a pressure switch to get LED no. 3 indicated, which indicates time to change filter cartridges. When ordered connected to delivery this accessory is mounted on factory.
Part no. 12372063

SAFETY SWITCH

For FilterMax C 25. **Part no.** 12372076

INSTALLATION PROTOCOL

If controls give results (for example measured values) which differ much from earlier results, this must be understood as a warning signal and lead to more careful investigations.

FilterMax C 25 No.	Date			
	Performed by			
Control points	**Result**	**Result**	**Result**	**Note**
1. Delivery control				
A. Missing components				
B. Transport damage				
2. Installation control (page 5)				
A. Safe mounting / foundation				
B. Fixing bolts / Traction forces				
C. Weight FilterMax / collected dust				
D. Screw fittings				
E. Dust container				
F. Filter cartridges				
3. Compressed air connection (page 6)				
A. Service valve				
B. Filter regulator				
C. Pressure 0,4 - 0,6 MPa (4 - 6 bar)				
D. Dew point				
E. Oil / Moisture				
F. Cleaning compressed air connections				
5. Electrical installation (page 6-8)				
A. Overload protector				
B. Safety switch				
C. After cleaning damper				
D. Fan				
E. Y/D- Start				
F. Extern START/STOP				
G. Alarm				
H. Activating, in/outputs				

INSTALLATION PROTOCOL

FilterMax C 25 No.	Date			
	Performed by			
Control points	**Result**	**Result**	**Result**	**Note**
6. Earth control measurement (page 9)				
GND - Filter unit				
GND - Door				
GND - Dust container				
GND - Filter cartridges (only antistatic)				
4. Duct dimensioning (page 10)				
A. Duct diameters				
B. Inlet duct				
C. Cleaning access covers				
D. Fire damper				
E. After cleaning damper				
F. Flow meter				
G. Extraction arms				
7. Monitoring system, settings (p. 12-13)				
A. Cleaning during operation				
B. Pause time setting				
C. Cleaning after operation				
D. Alarm function				
E. Remote control				
F. ΔP-control				

SERVICE PROTOCOL 1 (page 9, 16 - 17)

FilterMax C 25 No.	Date					
	Operating hours					
	Performed by					
Control points		Result	Result	Result	Result	Result
1. Dust container / Filter regulator						
A. Empty the dust container (when 70 % full)						
B. Water check filter regulator						
C. Water check pressure tank						
2. Pulse jet valves, function check	every 1000 h *					
3. Remove dust, clean air room	every 2000 h *					
4. Cleaning access cover, cleaning	every 6000 h *					
5. Checking the filter cartridges						
6. Earth control measurement (page 9)						
A. GND - Filter unit						
B. GND - Door						
C. GND - Dust container						
E. GND - Filter cartridges (support baskets, only on Poly Web antistatic filter)						
8. Replacing the filter cartridges (page 17)						
9. Check that the cables not are damaged or connected incorrectly						

*****
Every 1000 hours or at least once every 6th month.
Every 2000 hours or at least once a year or when replacing filter cartridges.
Every 6000 hours or at damage or insufficient filter function.

SERVICE PROTOCOL 1 (page 9, 16 - 17)

FilterMax C 25 No.	Date					
	Operating hours					
	Performed by					
Control points		Result	Result	Result	Result	Result
1. Dust container / Filter regulator						
A. Empty the dust container (when 70 % full)						
B. Water check filter regulator						
C. Water check pressure tank						
2. Pulse jet valves, function check	every 1000 h *					
3. Remove dust, clean air room	every 2000 h *					
	every 6000 h *					
4. Cleaning access cover, cleaning						
5. Checking the filter cartridges						
6. Earth control measurement (page 9)						
A. GND - Filter unit						
B. GND - Door						
C. GND - Dust container						
E. GND - Filter cartridges (support baskets, only on Poly Web antistatic filter)						
8. Replacing the filter cartridges (page 17)						
9. Check that the cables not are damaged or connected incorrectly						

*****
Every 1000 hours or at least once every 6th month.
Every 2000 hours or at least once a year or when replacing filter cartridges.
Every 6000 hours or at damage or insufficient filter function.

FilterMax C 25 No.

SERVICE PROTOCOL 2

Point no.	Date	Note

Nederman®

Improving your workspace

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Accredited to ISO 9001 and ISO 14001

The majority of Nederman's products are manufactured within ISO 9001 and ISO 14001-certified Quality- and Environmental system. For more detailed information please contact us.