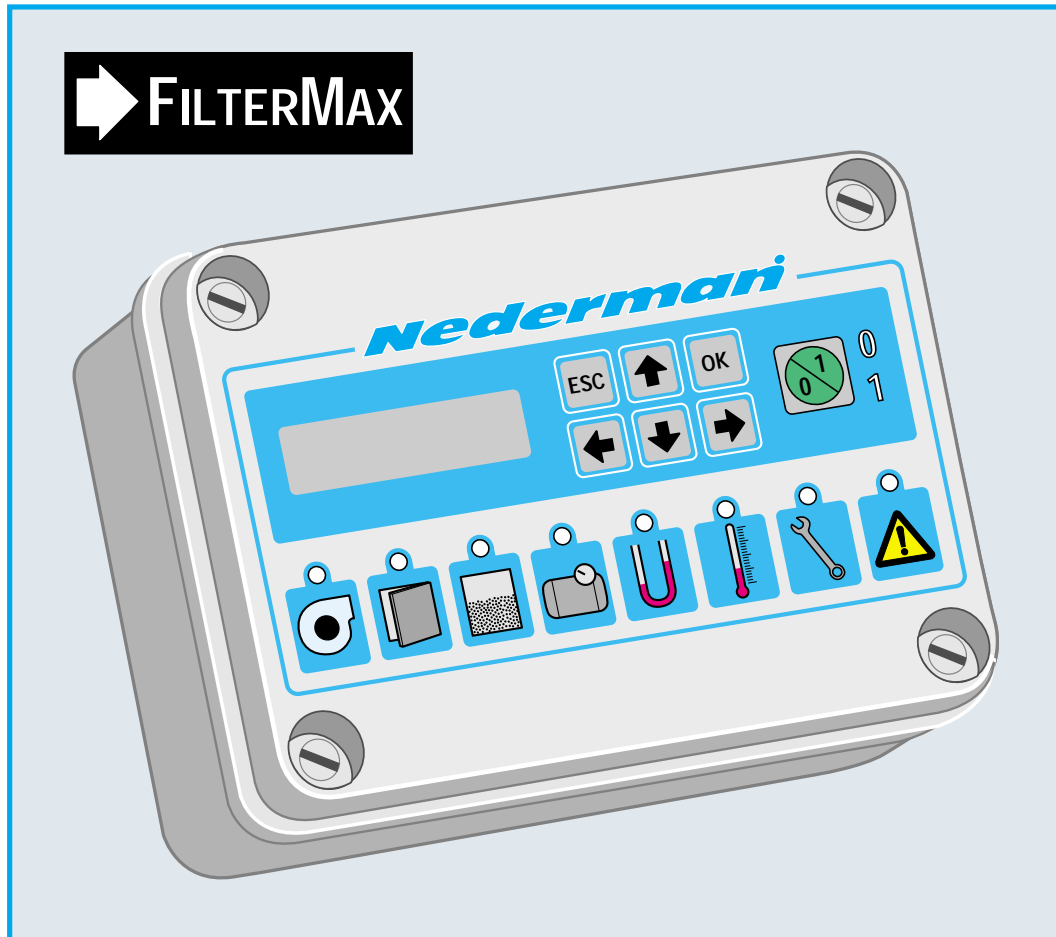


▶ FILTERMAX



INSTRUCTION MANUAL

ADVANCED CONTROL AND MONITORING SYSTEM

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:

- Advanced Control and Monitoring System for FILTERMAX serial 667

to which this declaration relates, are in conformity with the following standards or other normative documents: EN 286-1 following the provisions of Directive 89/392/EEC, 89/336/EEC.

AB Ph. Nederman & Co.

Sydhamnsgatan 2
S-252 28 Helsingborg Sweden
2000-03-01

A handwritten signature in black ink, appearing to read 'Alf Jonasson', is written over a horizontal line. The signature is stylized with a large initial 'A' and a long horizontal stroke.

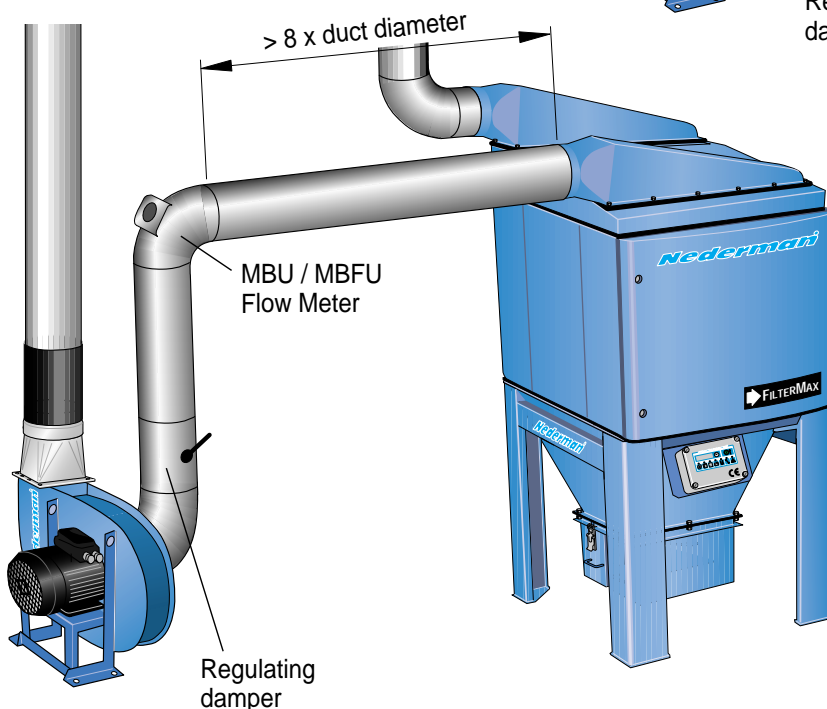
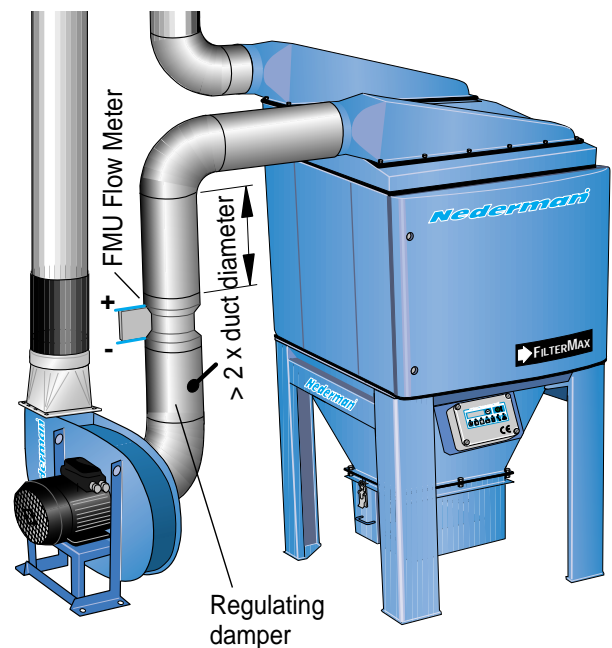
Alf Jonasson, Product Manager

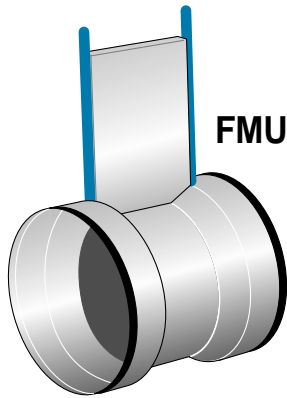
DELIVERY

- Control terminal with pre-assembled control cable, art. no. 34375
- Sensor and communications card, art. no. 34378
- Temperature sensor with cable, art. no. 34379
- Fixing and assembly kit, art. no. 34377
 - 4 plastic tubes
 - 4 bulkhead connector
 - 3 fixing screws for sensor and communications card
 - 2 cable glands PG9
 - 2 Wall brackets with screws for the control terminal
 - 2 M4 screws for mounting of the temperature sensor

RECOMMENDED FLOW METERS

A Flow meter is necessary for the function of the advanced controller. The flow meter shall be placed between the FilterMax and the fan according to the pictures. It's important to follow the manufacturers recommendations regarding the installation of the flow meter. Best results will come if it is installed according to the instructions for 5% error. Nederman recommends that you use some flow meters from LINDAB (www.lindab.com). See next page.





FMU 1 / FMU 2

MBU / MBFU



Table of recommendations FMU 1, FMU 2, MBU, MBFU

Model	Application	Airflow range, m ³ /h	K1, m ³ /h	Recommended device
FilterMax 3000	Heavy load constant airflow	1000 – 1500 – 1800	96	FMU 2 – 250 mm
FilterMax 3000	Constant airflow	2100 – 3000 – 3600	264	FMU 1 – 315 mm
FilterMax 3000	Constant airflow	2100 – 3000 – 3600	234	MBU – 315 mm
FilterMax 3000	Fume extractors varying airflow	1000 – 3000	150	FMU 2 – 315 mm
FilterMax 6000	Heavy load constant airflow	2100 – 3000 – 3600	150	FMU 2 – 315 mm
FilterMax 6000	Heavy load constant airflow	2100 – 3000 – 3600	234	MBU – 315 mm
FilterMax 6000	Constant airflow	4200 – 6000 – 7200	235	FMU 2 – 400 mm
FilterMax 6000	Fume extractors varying airflow	2000 – 6000 – 7200	235	FMU 2 – 400 mm
FilterMax 9000	Heavy load constant airflow	3100 – 4500 – 5400	371	FMU 2 – 500 mm
FilterMax 9000	Constant airflow	6300 – 9000 – 10000	688	FMU 1 – 500 mm
FilterMax 9000	Constant airflow	6300 – 9000 – 10000	644	MBFU – 500 mm
FilterMax 9000	Fume extractors varying airflow	3000 – 10000	371	FMU 2 – 500 mm

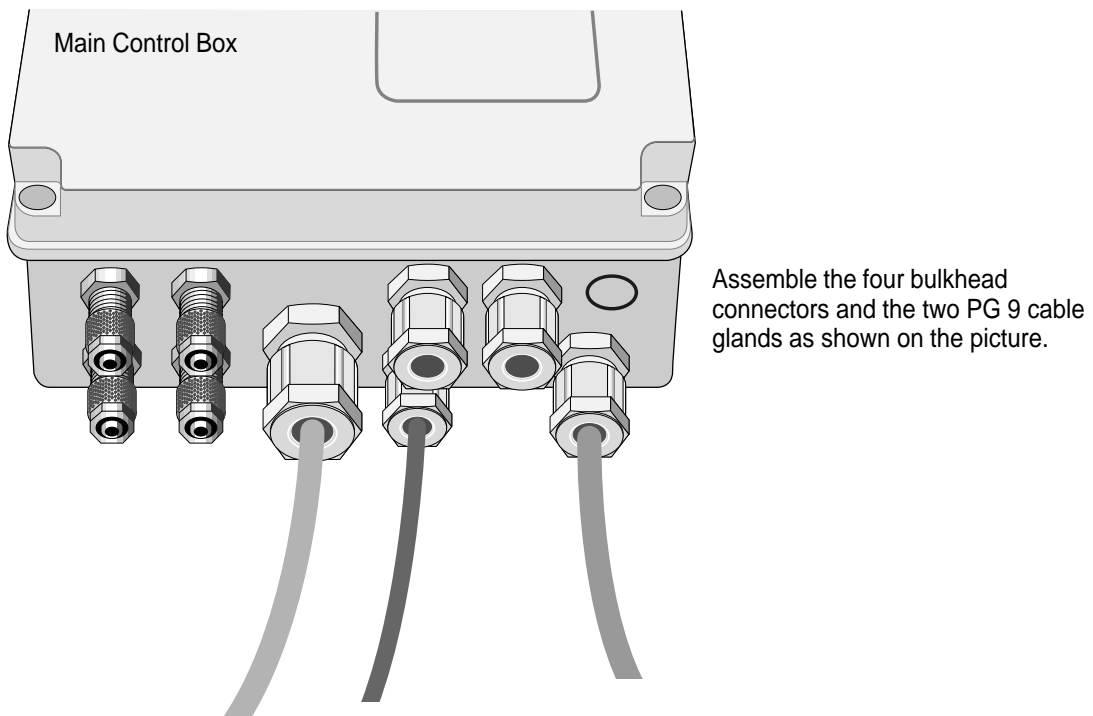
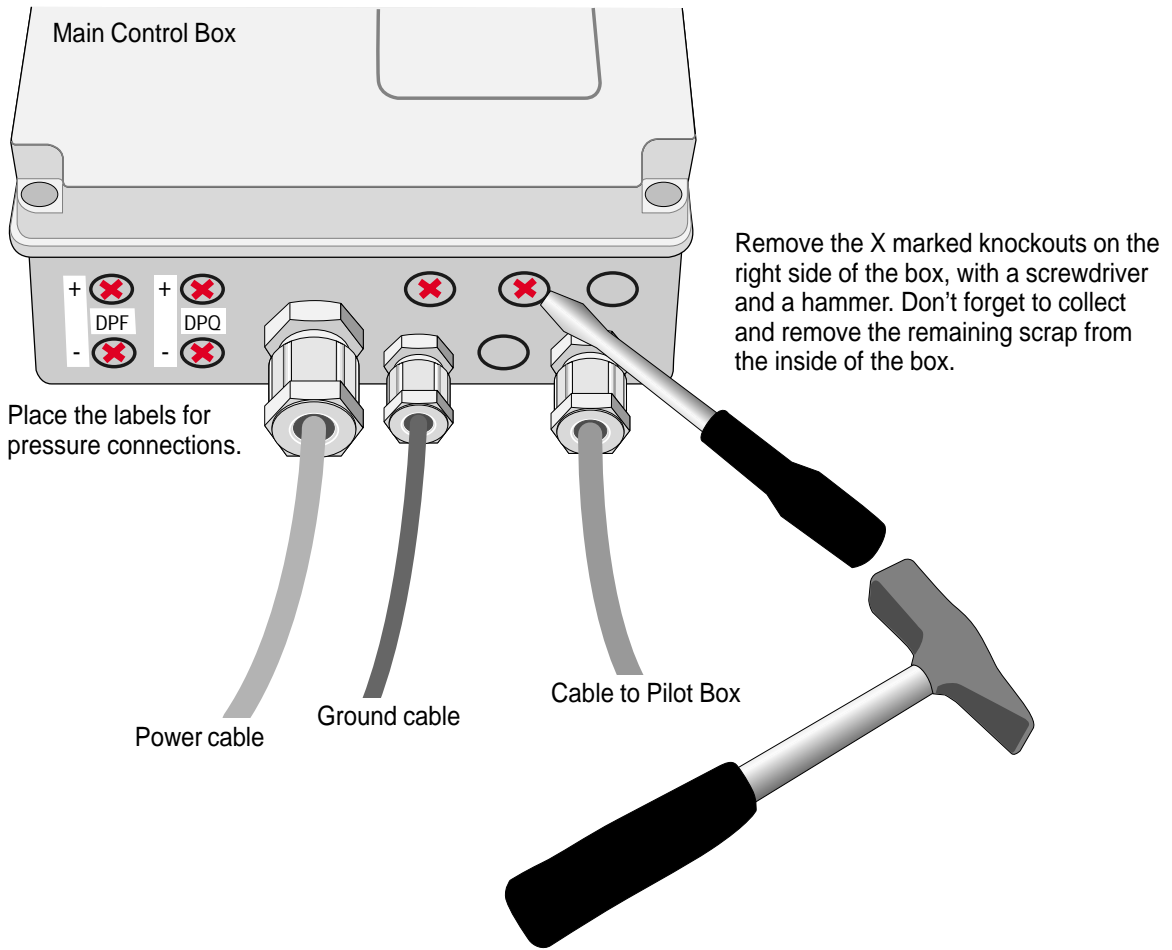
NB! The K2 factor is always 0.5

IMPORTANT!

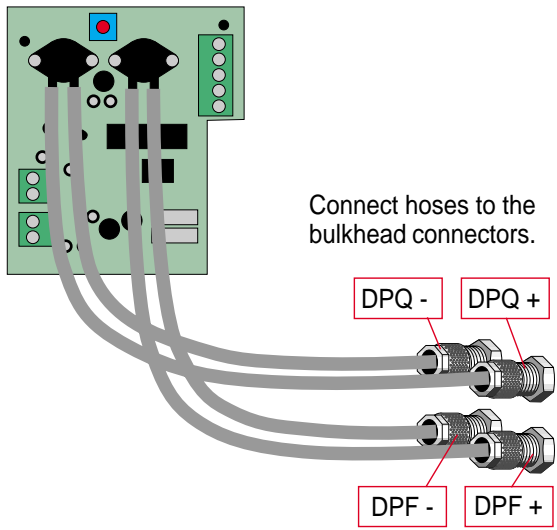
The value of the K1 factor for the used flow meter shall be input into the Service menu, sub menu Parameters, see last page.

For other brands of flow meters we recommend that you choose the device in such a way that the minimum airflow give at least 50 Pa pressure difference. The dimensioned airflow times 1.3 shall not give more then 1000 Pa pressure signal.

MOUNTING INSTRUCTION

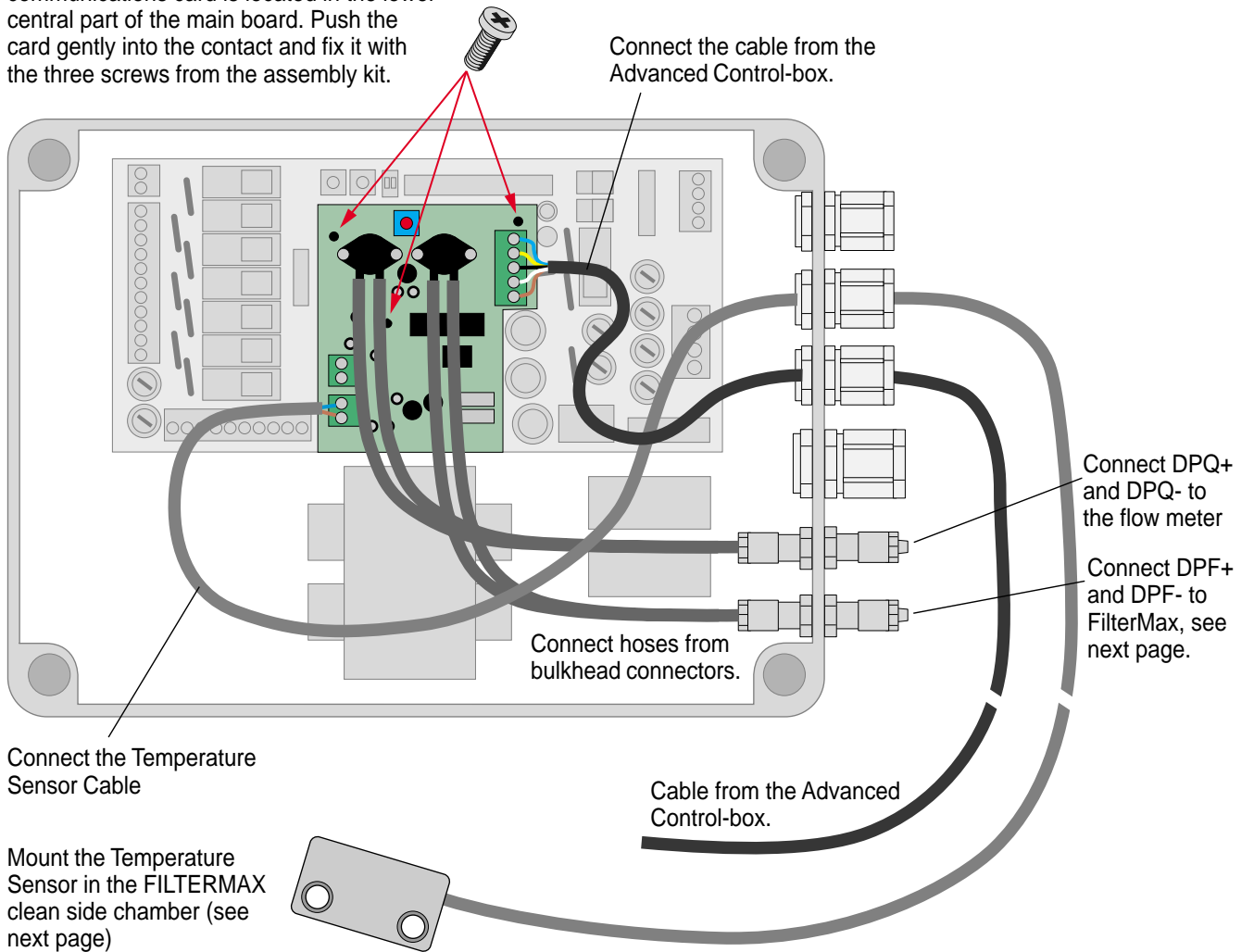


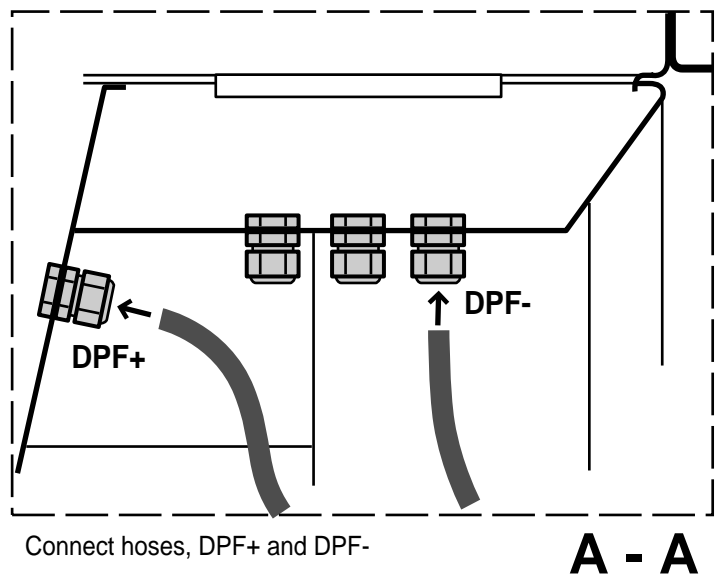
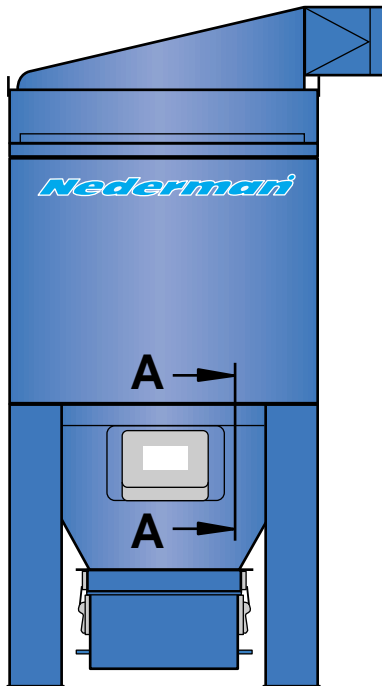
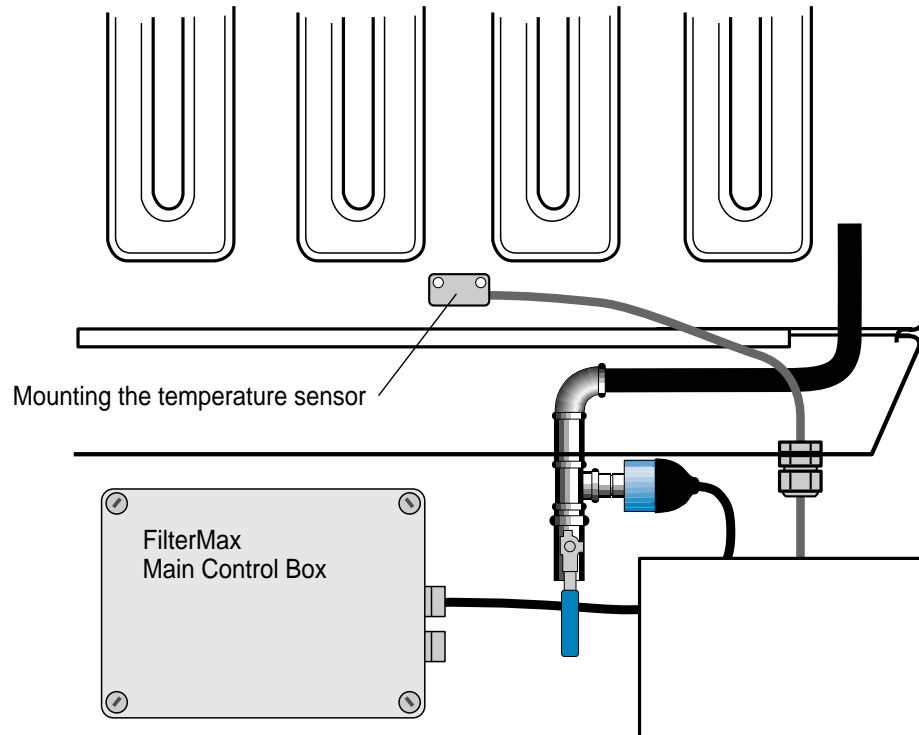
FITTING THE SENSOR AND COMMUNICATIONS CARD



WARNING!
Risk of personal injuries!
Switch off the power and
open the main control-box.

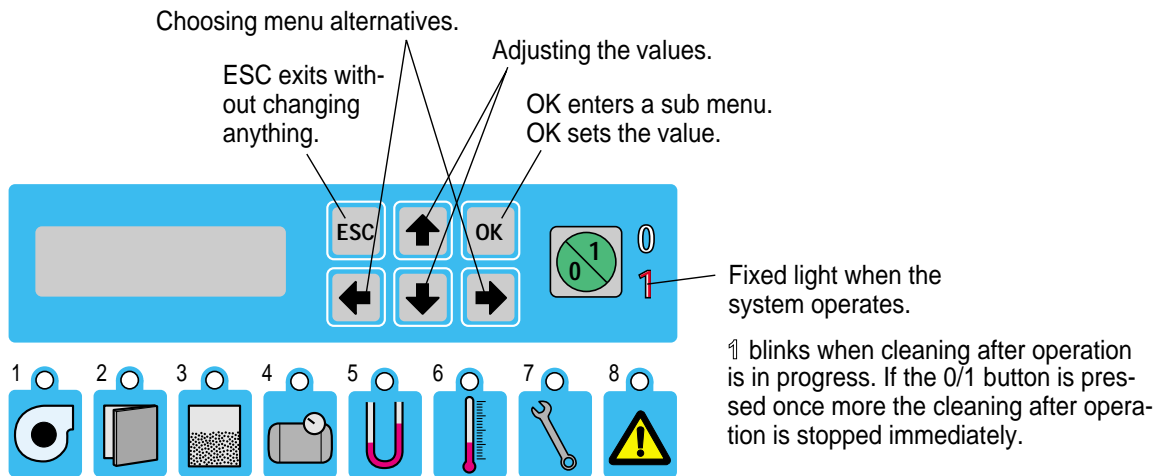
The contact for the Sensor and communications card is located in the lower central part of the main board. Push the card gently into the contact and fix it with the three screws from the assembly kit.





MONITORING SYSTEM, GENERAL DESCRIPTIONS

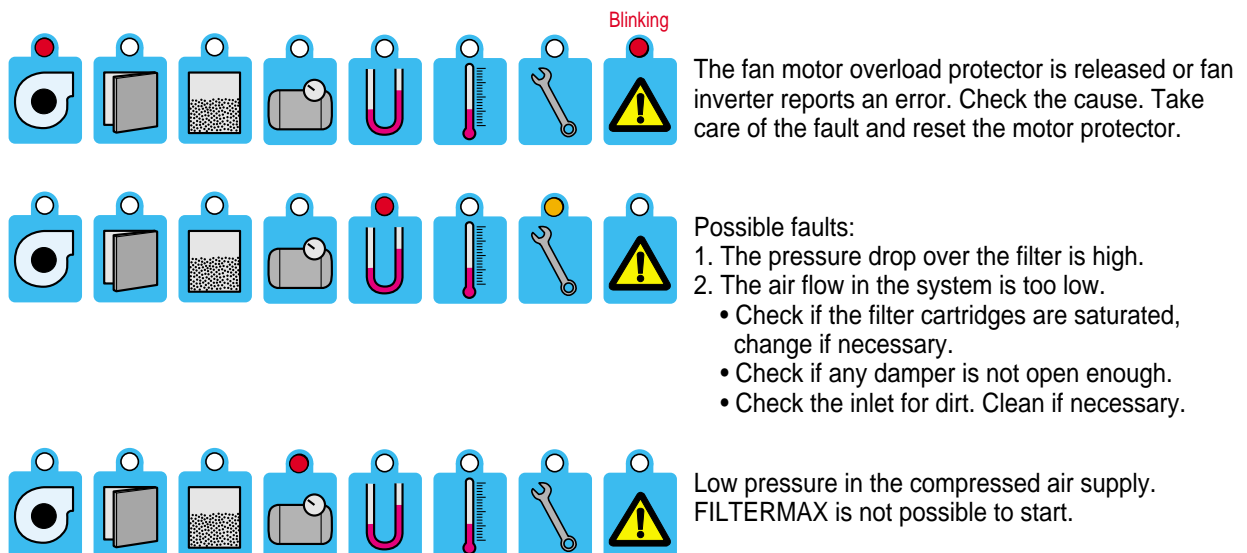
The display gives information about the number of operating hours, cleaning process, alarm functions and possible faults.



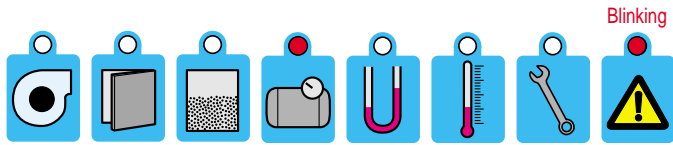
The LED:s can indicate in the following way:

- 1, 2, 3, 4, 5, 6 ___ green fixed light: Intended function operates in a proper way.
- 1, 2, 3, 4, 5, 6 ___ green fixed light switching with blinking red: The system operates. Incorrect function has been taken care of (alarm memory)
- 1, 2, 3, 4, 5, 6 ___ red fixed light: Incorrect function which demands measures.
- 7 ___ yellow fixed light: Incorrect function which demands attention.
- 8 ___ red blinking light: Incorrect function which demands immediate measures.
- 1, 3, 4, 5 ___ is only active after the inputs for the accessories has been activated.

MONITORING SYSTEM, FAULT INDICATIONS

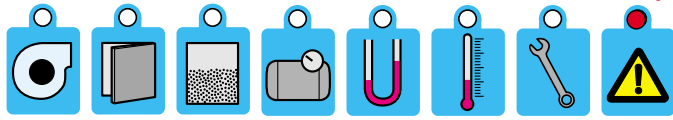


ADVANCED CONTROL AND MONITORING SYSTEM



Blinking

FILTERMAX has stopped due to low compressed air pressure (less than 4 bar). FILTERMAX is not possible to start until the pressure returns.

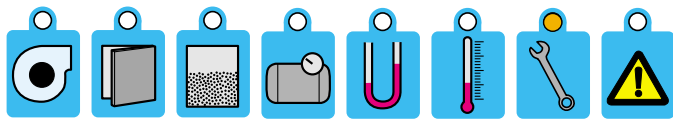


Blinking

A-alarm! Means acute problems which could disturb the function of the system. Should be taken care of soonest possible. *Call for a service technician.*

Example:

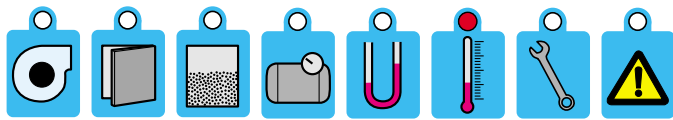
- More than 1 valve are defect or do not work. It is displayed what valves that are defect (**Err 1, 2, 3, 4, 5** or **6** are displayed, switching with the number of operating hours).
- Electronic faults on the circuit card.



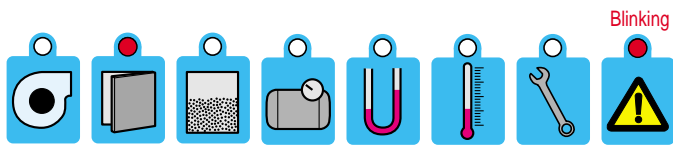
Service requirements! Should be taken care of as soon as possible.

Example:

- **One** valve is defect or does not work. It is displayed what valve that is defect (**Err 1, 2, 3, 4, 5** or **6** is displayed, switching with the number of operating hours).

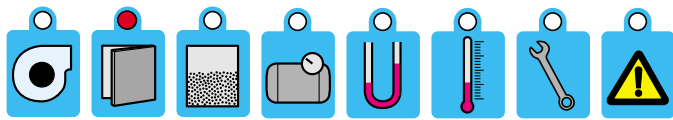


The air temperature is too high.

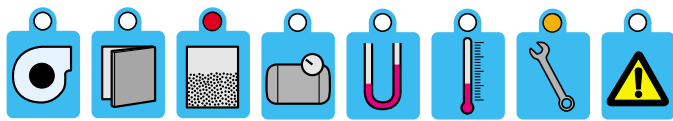


Blinking

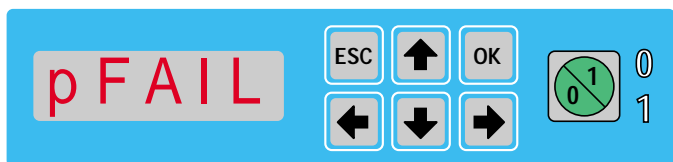
The door has been opened during system operation. Shut the door.



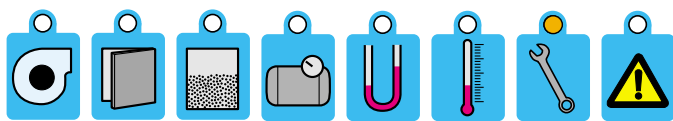
The door is open and FILTERMAX is not possible to start.



The dust container is full. Empty the container.



There has been a power failure. Reset by pressing the 0/1 button.



PRINCIP OF OPERATION

The sensors continuously measure the pressure difference across the filter cartridges and the installed flow meter. The air temperature is also continuously measured. If the pressure values are larger than pre-set minimum values and the system is running, flow and pressure drop values will be calculated and processed by the control algorithm.

Advanced mode

In advanced mode the controller starts the cleaning if there is a significant amount of incoming dust/fume. The cleaning intensity i.e. the pause time is continuously adapted to the level of contamination. The cleaning stops when there is no incoming dust and the cleaning no longer affects the pressure drop of the filter cartridge.

DP mode

In DP mode the controller starts the cleaning at the user pre-set value and stops at the desired stop value. The pause time is automatically shortened when the pressure drop reaches high levels.

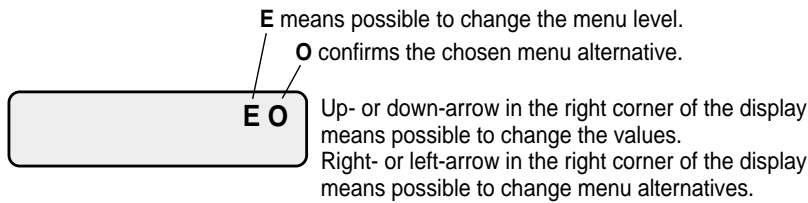
Continuous mode

In continuous mode the controller runs the cleaning continuously. The user can set the pause time.

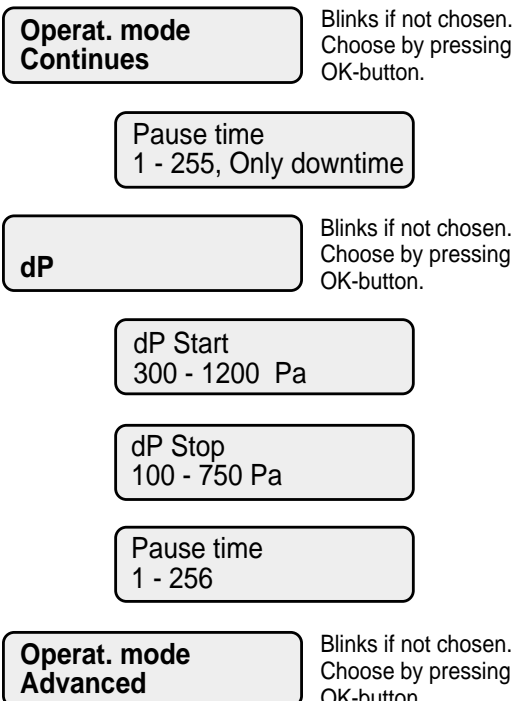
During operation the controller logs Airflow, pressure drop, air temperature and the number of hours since last service. If errors occurs the error condition and the time is stored. At normal log-rate the values can be viewed in memory for up to 3 months back in time. At fast log-rate the memory can hold 1 month of data.

USER MENU

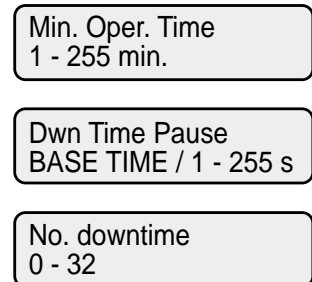
The user menu is activated by pressing ESC + OK for 1,5 s.



1 Cleaning control



2 Down time parameters



3

Alarms

- Alarm temp
OFF, 1, 2, ...60 C
- Alarm high dP
OFF, 100 ...2000
- Low dP
OFF, 50 ...1200
- Low airflow
OFF, 200 ...9000
- Hi dP dust
OFF, 50 ...1200
- Service inter
OFF, 8, 16, ...200
- Time reset
RESET? 0 = YES

4

Set Clock

- Seconds set
0 - 60
- Minutes set
0 - 60
- Hours set
0 - 24
- Day setting
1 - 31
- Week day set
mon - sun
- Month set
1 - 12
- Year setting
2000 - 20xx

5

Dust Feeder Intermitt.

- func. dust f
dust f. OFF / ON
- func. dust f
dust f. INT 1
- int. time off
1 - 99 min
- int. time on
1 - 99 min
- func. dust f
dust f. INT 2
- int. time off
1 - 99 min
- int. time on
1 - 99 min
- delay dust f
0 - 99 min

6

Timer

- Timer
ON / OFF
- TUE: * ON: xx.xx
OP 1/0 OFF: xx.xx

Totally 8 operations can be chosen

Blinking colon means changing the OFF-value.

Blinking asterisk shows the operation which will be done.

SERVICE MENU

The service menu is activated by pressing + for 1,5 s and enter password

PARAMETER MENU

Parameters		Min dP pause 5 - 10 s
Response Time NORMAL/SLOW/FAST		N. of Modules
K1 xxx	Adjust with	On A-alarm STOP/CONTINUE
K2 0,5	Should normally not be adjusted	Auto restart ON/OFF
Base Time 30 s		Language
ON Time 100 ms		Unit system ISO/US
Log rate NORMAL/FAST/SLOW		Damper delay OFF/10.....60 s
dP threshold 900 Pa		User m. pass. OFF/ON

Changes the language in the User Menu. English, german, french, spanish, italian, portuguese, dutch, finnish, swedish, danish or norwegian.

ZERO PRESSURES

Zero dP Filter ?	Press OK Regret by pressing ESC	Puts the pressure sensor into zero position. Must only be done when the system is shut off and no airflow is passing through.	Reset Service Alarm
Is the dP F zero ?	Press OK Regret by pressing ESC		Service Alarm RESET ? 0 = YES
Zero dP Q	Press OK Regret by pressing ESC		
Is the Airflw zero ?	Press OK Regret by pressing ESC		

Nederman[®]
Improving your workspace

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