



Engine Protection Partner AS

Schaller Automation Scandinavia & Baltics

-OUR KNOWLEDGE IS YOUR SAFETY-



Visatron[®] VN2020 Quick Guide



Note: The Oil Mist Detector is a critical alarm component - do not ignore an Oil Mist Alarm/shutdown of the engine!

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WARNING:

Do never ignore or try to restart the engine after an High Oil Mist Concentration Alarm/ Shutdown of the engine, before the cause of overheating has been found and corrected! Otherwise you risk an heavy engine damage or a oil mist explosion! When the engine has been overheated, crankcase doors and other hand hole covers must remain closed for a minimum of 10 minutes after the engine is shut down!

About this quick guide

This book is a quick guide of the oil mist detector manufacturers manual- and therefore not a complete operation manual! The quick guide contains information for handling, operation and maintenance of the Oil Mist Detector Visatron series VN2020. The original manual by Schaller Automation shall follow the scope of supply of the oil mist detector. The original manual is intended for all those who work/will work on/with the system described here. They require knowledge of this operating manual to avoid faults in the system and to operate the system without issues. They must therefore have knowledge of this operating manual. This quick guide is valid for: Visatron® VN2020

The operating manual is part of the information for users when the system is placed on the market and must be kept so that it is accessible to the operating company and the operator. If the system are relocated, the operating manual and/or the operating manuals (including those of suppliers) must be provided at the new location.

In all phases of life, all the information in the operating manual and/or the operating manuals (including those of the suppliers) must be observed. Please read the application sections in the operating manual carefully before starting work.

We accept no liability for damage or malfunctions that are the result of failure to comply with this operating manual. You must specify clearly who is responsible for the machine /the operating company) and who may work on the machine (the operator). The responsibilities of personnel involved in transport, installation, setup, adjustment, operation, care, maintenance and servicing must be clearly defined. The original Operation Manual written by Schaller Automation can also be downloaded at: www.epp.no

Intended use



The task of the oil mist detector is to prevent explosions in the crankcase of large engines caused by a high concentration of oil mist, such as can occur in the event of bearing damage within the large engine. The oil mist detector may only be used for the detection of oil mist in crankcases and to protect against oil mist explosions on large engines (gas, diesel and duel fuel). When used on large motors that require explosion protection, an oil mist detector with explosion protection marking must be used. When used on large engines with mandatory approval by shipping classification societies, an oil mist detector with corresponding class approval must be used. The safety instructions must be observed.

Foreseeable misuse

The oil mist detector must not be installed without the use of suction funnels. Unauthorized persons must not maintain the oil mist detector. The oil mist detectors must not be used in potentially explosive atmospheres without ATEX approval. The installation kit components must not be installed other than as shown in this operating manual and the applicable installation kit drawing. Should you encounter any interruption or breakdown of your Visatron Oil Mist Detector device during operation, please contact Engine Protection Partner AS at: <http://www.epp.no>. Service and repairs of VN2020 oil mist detector can be carried out by an Schaller authorized partner only! Warranty will be avoid if any unauthorized personnel carrying our service repairs or use of un-original parts!

Safety instructions.

The VN2020 are manufactured according to the high quality standards of Schaller Automation and must pass stringent factory test. In order to keep the device in a smooth and problem free operation, the user has to take note of the safety hints and warnings. In the instruction manual they are marked with the following symbols:

Used symbols:	
	CAUTION! Do not ignore this text in this box. Personnel safety can be endangered or the device can be damaged.
	WARNING! The marked text contains important information.

Introduction of VN2020 oil mist detector

The VISATRON® VN2020 oil mist detector from SCHALLER AUTOMATION is designed to protect large engines (gas, diesel and dual fuel) from oil mist explosions caused by the spontaneous development of oil mist in the crankcase. It is part of the safety system to protect the life and health of operating personnel and it prevents serious consequential damage.

The oil mist detector has been developed by SCHALLER AUTOMATION according to the guidelines of the International Association of Classification Societies (IACS) IACS UR M10. The oil mist detector works on the Venturi principle to draw the oil mist atmosphere out of the crankcase. Monitoring is implemented via an optical measuring track in the device's measuring head.

The active and permanent suction of the crankcase atmosphere ensures that there are short response times between the formation of the oil mist and the start of the oil mist alarm.



To avoid false alarms from spray oil, the intake system uses special Schaller Automation suction funnels that can be used regardless of the direction of rotation of the motor. One suction funnel is always required per suction point. This protects the system from the ingress of splash oil.

During normal engine operation, the oil mist detector draws in any existing oil mist. This oil mist can settle in the suction pipes. Schaller Automation uses a drainage concept at this point and returns the excess oil back to the engine crankcase. Additional draining components ensure that the system operates correctly under all operating conditions.

This includes deployment in stationary power plants, as well as on ships with their static or dynamic inclination angles. The device can be connected directly to the engine's safety system. The interface contains two oil mist alarm outputs, a pre-alarm output and a Ready signal. During normal operation, the crankcase atmosphere is drawn in simultaneously at all suction points and tested in the measuring head.

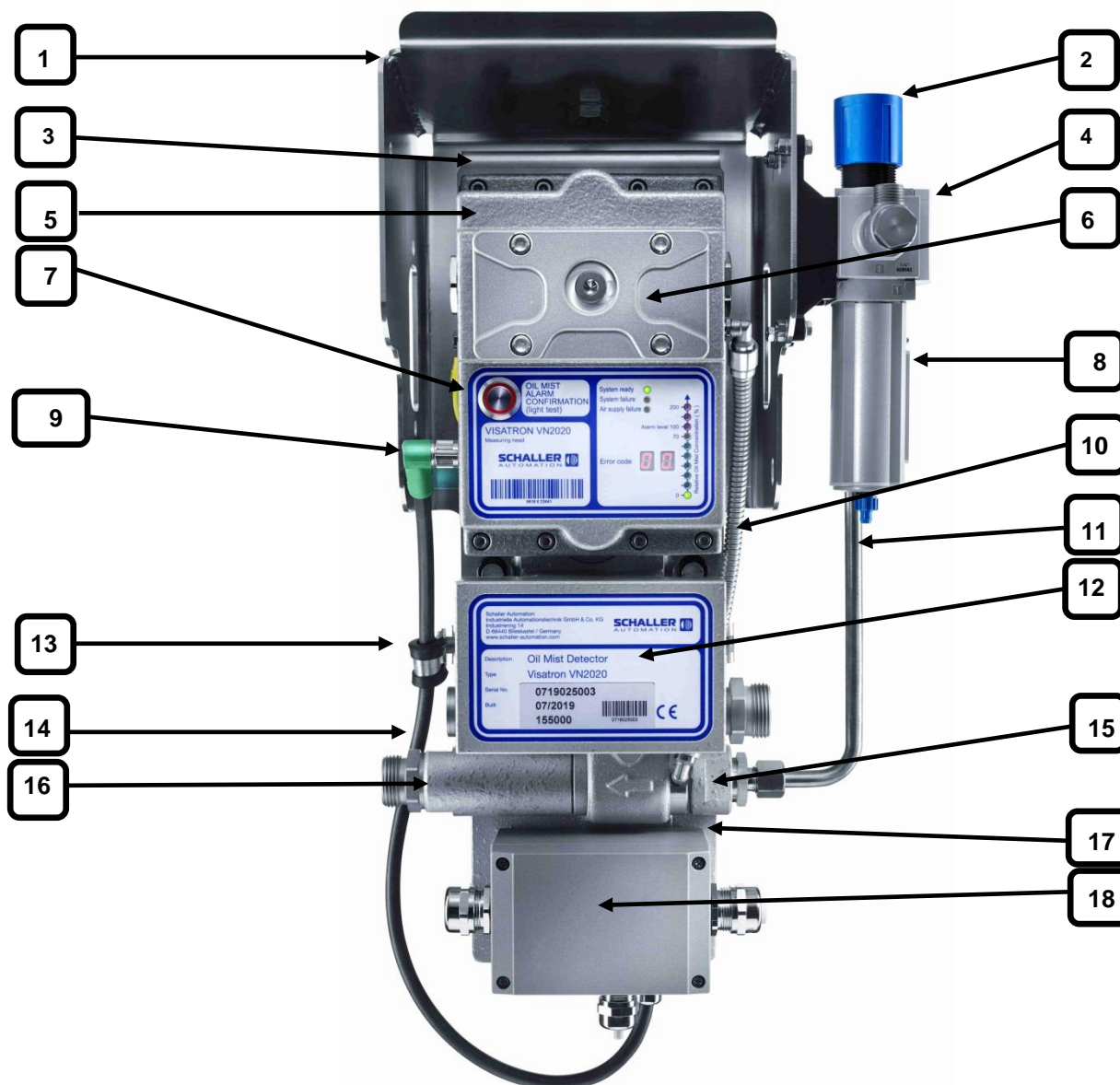
There are two alarm thresholds. The main alarm threshold can be parameterised using software via the USB interface in the measuring head. The pre-alarm can also be parameterised. Using the factory setting, it is activated at 70% of the main alarm threshold.



	<p>Reset of Oil Mist Alarms</p> <p>CAUTION! Ensure that the oil mist concentration inside the engine has fallen under the Lower Explosion Level (LEL), and the cause of overheating the engine has been found and corrected- before acknowledging an oil mist alarm by pressing the Oil- Mist- Alarm button. Otherwise you risk an oil mist explosion!</p> <p>Follow the instructions of engine builder, shipyard and ship owner! Use a monitoring device at a safe location (e.g. ECR) to check for the actual oil mist concentration. At an Oil Mist Alarm, Schaller Automation strongly recommends to approach the engine only after indicated oil mist concentration (LED Chain) has lowered to half of its bar indication (Visatron device and Remote Indicator II)</p>
	<p>CAUTION! Unplug the OMD during welding process at the engine!</p>

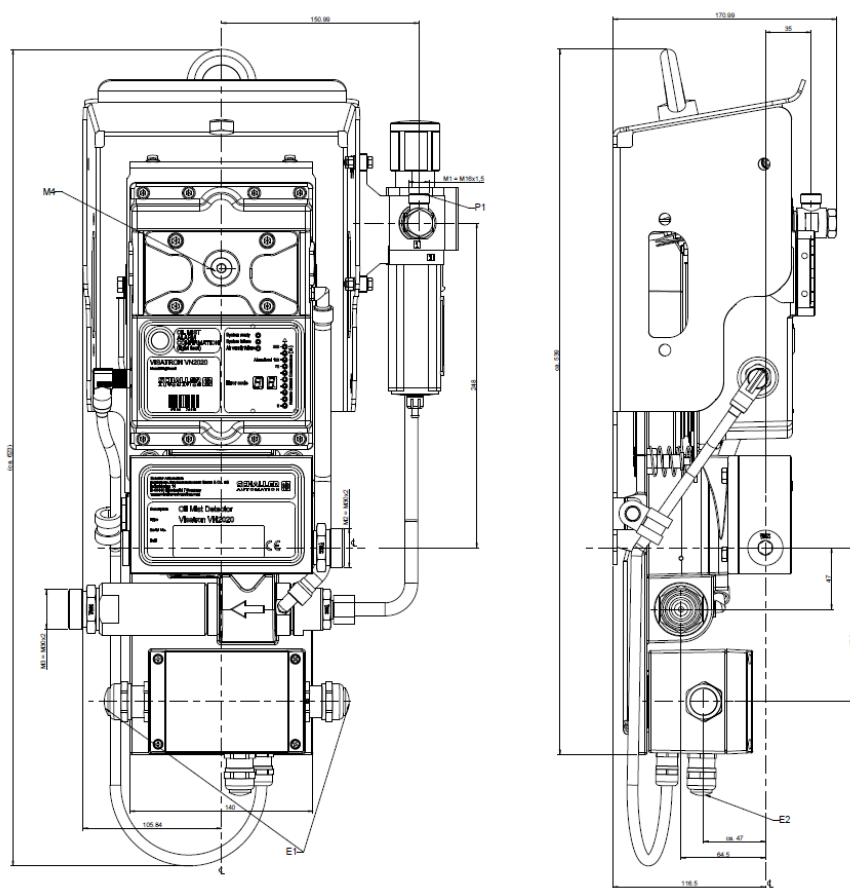
The main parts on the VN2020

The oil mist detector VN2020 consist of several main parts with each specified names. This quick guide reefers to and using these technical names in the different process descriptions.



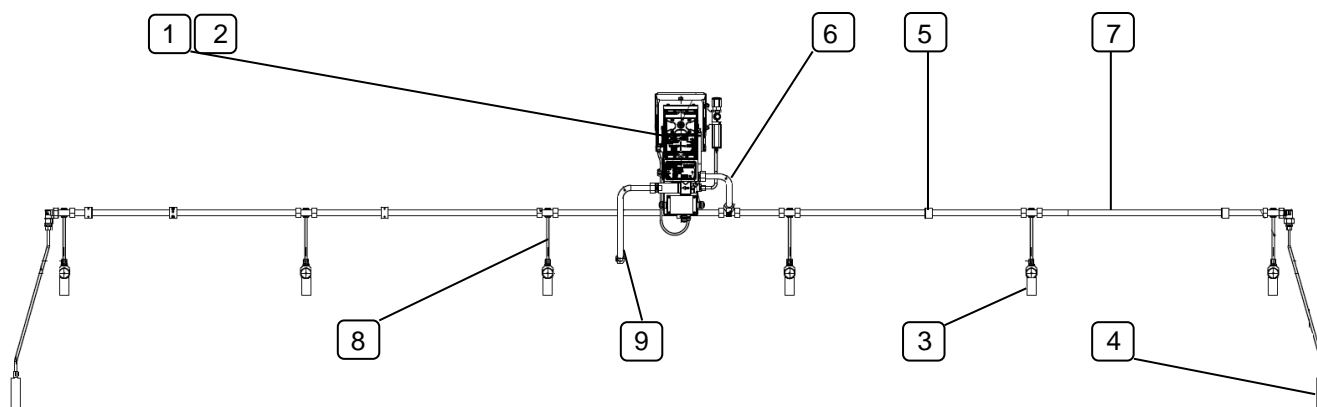
1	Protection cover	10	Fresh air pipe
2	Pressure regulator switch	11	Pressure regulator pipe
3	Measuring head damping plate	12	Pipe connection box
4	Pressure regulator	13	Cable clamp
5	Measuring head	14	Measuring head cable
6	Inspection cover	15	Ejector input
7	Reset button	16	Ejector output
8	Water separator	17	Baseplate
9	Measuring head contact	18	Connection box

Dimensional drawing of VN2020



Oil mist detection system

An oil mist detector system referred to as an installation kit, usually consists of the following for delivery and is configured to customer specifications. The figure shows the typical installation setups for a VN2020 installation kit for a six-cylinder engine.

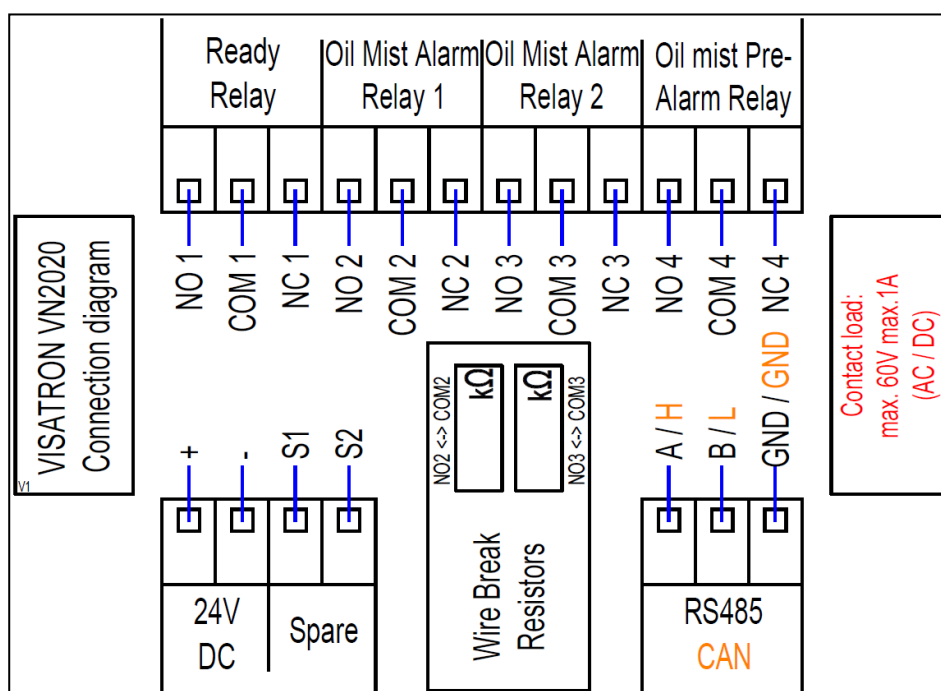


1. Oil mist detector
2. Bracket
3. Engine wall connection
4. Pipe siphon
5. Pipe support
6. Suction line for connection box
7. Header pipe
8. Suction pipe
9. Exhaust pipe

Mechanical information

Mechanical interfaces	
Dimensions:	Approx. 543 x 298 x 171 mm
Weight:	12,41 Kg
M1	External thread M16x1.5 Pipe connection, Ø10
M2	External thread M30x2 Pipe connection, Ø22
M3	External thread M30x2 Pipe connection, Ø22
M4	Internal thread G1/4
M5	4x through holes for screws M8
Electrical interfaces	
Power supply	18 – 31,2 V DC
Nominal voltage	24 V DC
Current consumption	Maximum 2A
Supply E1	24 V DC M25: Cable diameter 8 – 16 mm Grounding via holes in base plate during installation
Supply E2	M20: Cable diameter 5 – 13 mm
Relay outputs	2 x “High Oil Mist Alarm” 1 x “Ready” (ready for operation) 1 x “Oil Mist Pre-Alarm” (max. 60 Volt AC/DC, 1A)
Communication interface with monitoring device	3-wire RS485, electrically isolated/CANopen, electrically isolated
Recommended communication cable	LAPP UNITRONIC-FD CP (TP) plus UL-CSA CABLE
Pneumatic interfaces	
P1	External thread M16x1.5 Pipe connection, Ø10
Compressed air supply	Min. 2 bar Max. 14 bar
Compressed air consumption	1.2 nm ³ /h ± 10% Value may vary depending on customer solution
Negative pressure	Position M4 Measure and adjust negative pressure Min. -55mmWc (-5.5 mbar) Nom. -60mmWc (-6 mbar) Max. -65mmWc (-6.5 mbar)
Air quality	ISO 8573-1:2010 – 6-4-4
Environmental conditions	
Operating temperature	5 to 70 °C
Storage temperature range	-25 to 80 °C
Relative humidity	Up to 95%
Protection rating	IP 54
Vibrations	5 – 25 Hz: 1.6mm peak 25 – 100 Hz: 40m/s ² peak

Terminal plan

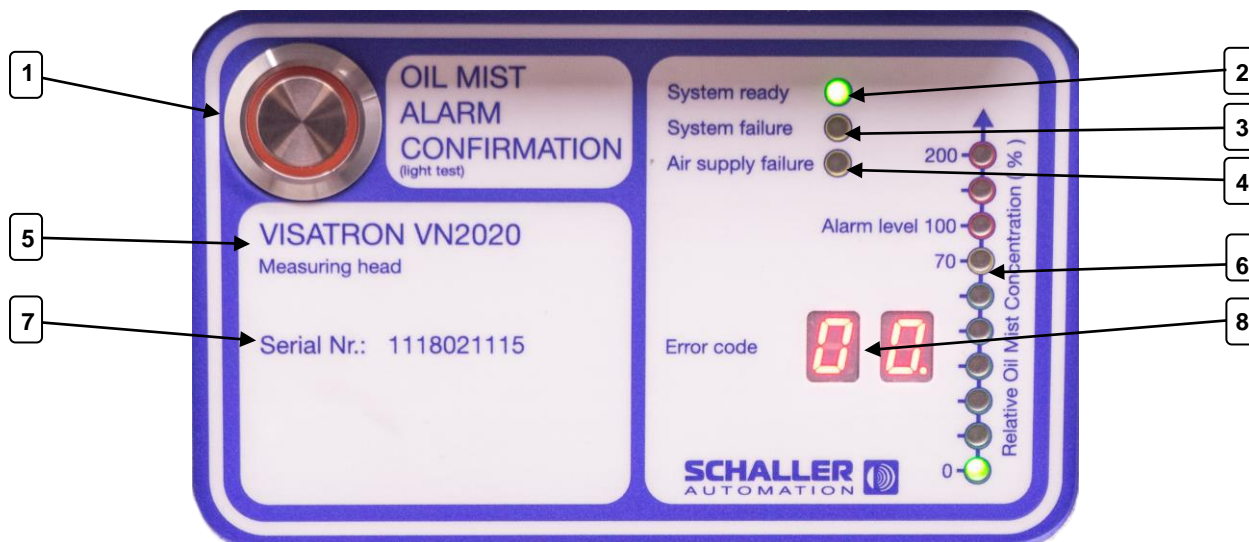


Wiring diagram of the terminal blocks

Clamp no:	Designation:	Connect to:	Note/ action:
1	24 V DC +	Power supply	Voltage range: 18- 31.2 V
2	24 V DC -	Power supply	Voltage range: 18- 31.2 V
3	Spare S1		Reserve
4	Spare S2		Reserve
5	A / H	Remote indicator	RS485 A/CAN H
6	B / L	Remote indicator	RS485 B/CAN L
7	GND	Remote indicator	RS485 GND/CAN GND
8	NC1	Alarm system/ Safety system	Contacts COM1 and NO1 close in Ready Mode
9	COM1	Alarm system/ Safety system	Contacts COM1 and NO1 close in Ready Mode
10	NO1	Alarm system/ Safety system	Contacts COM1 and NO1 close in Ready Mode
11	NC2	Alarm system/ Safety system	Contacts COM2 and NO2 close in the events of an oil mist alarm (High oil mist alarm)
12	COM2	Alarm system/ Safety system	Contacts COM2 and NO2 close in the events of an oil mist alarm (High oil mist alarm)
13	NO2	Alarm system/ Safety system	Contacts COM2 and NO2 close in the events of an oil mist alarm (High oil mist alarm)
14	NC3	Alarm system/ Safety system	Contacts COM3 and NO3 close in the event of an oil mist alarm (High oil mist alarm)
15	COM3	Alarm system/ Safety system	Contacts COM3 and NO3 close in the event of an oil mist alarm (High oil mist alarm)
16	NO3	Alarm system/ Safety system	Contacts COM3 and NO3 close in the event of an oil mist alarm (High oil mist alarm)
17	NC4	Alarm system/ Safety system	Contacts COM4 and NO4 close on pre-alarm (Oil mist pre-alarm). Pre-alarm is triggered from 70% of the high oil mist alarm threshold
18	COM4	Alarm system/ Safety system	Contacts COM4 and NO4 close on pre-alarm (Oil mist pre-alarm). Pre-alarm is triggered from 70% of the high oil mist alarm threshold
19	NO4	Alarm system/ Safety system	Contacts COM4 and NO4 close on pre-alarm (Oil mist pre-alarm). Pre-alarm is triggered from 70% of the high oil mist alarm threshold

Display unit on VN2020

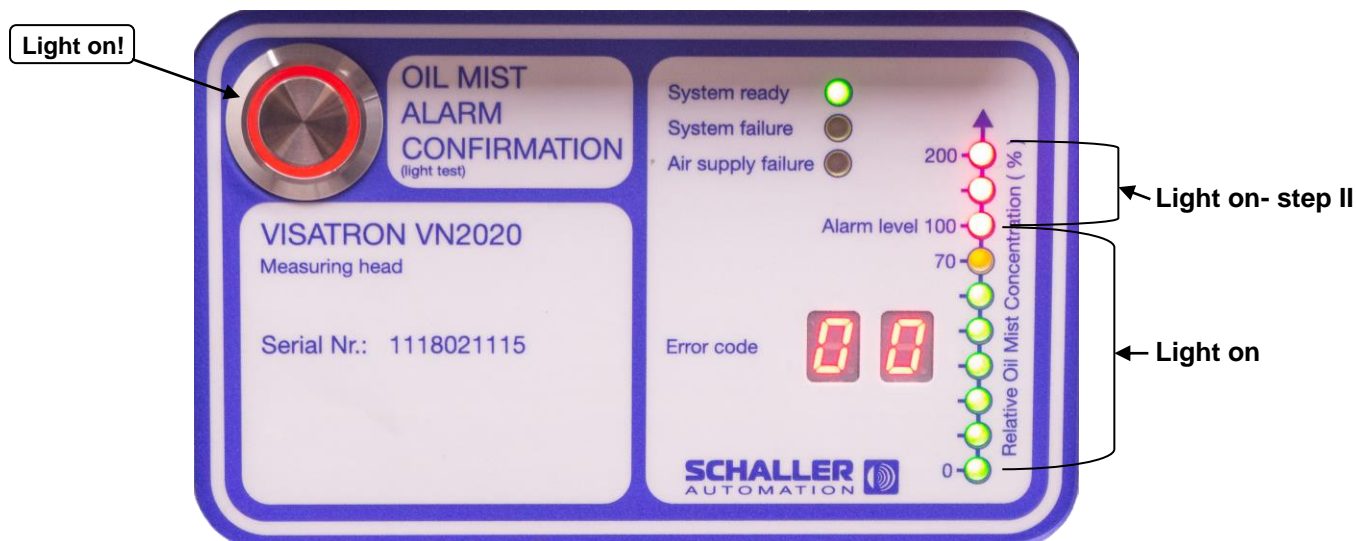
The display on VN2020 shows information about oil mist concentration level, error codes, system information. The display is designed as follows:



- | | | |
|---------------------------------|-------------------------------|-------------------------------------|
| 1. Reset button | 2. System ready indicator | 3. System failure indicator |
| 4. Air supply failure indicator | 5. Type description | 6. Oil mist concentration indicator |
| 7. Serial number | 8. Error code panel indicator | |

High oil mist concentration alarm:

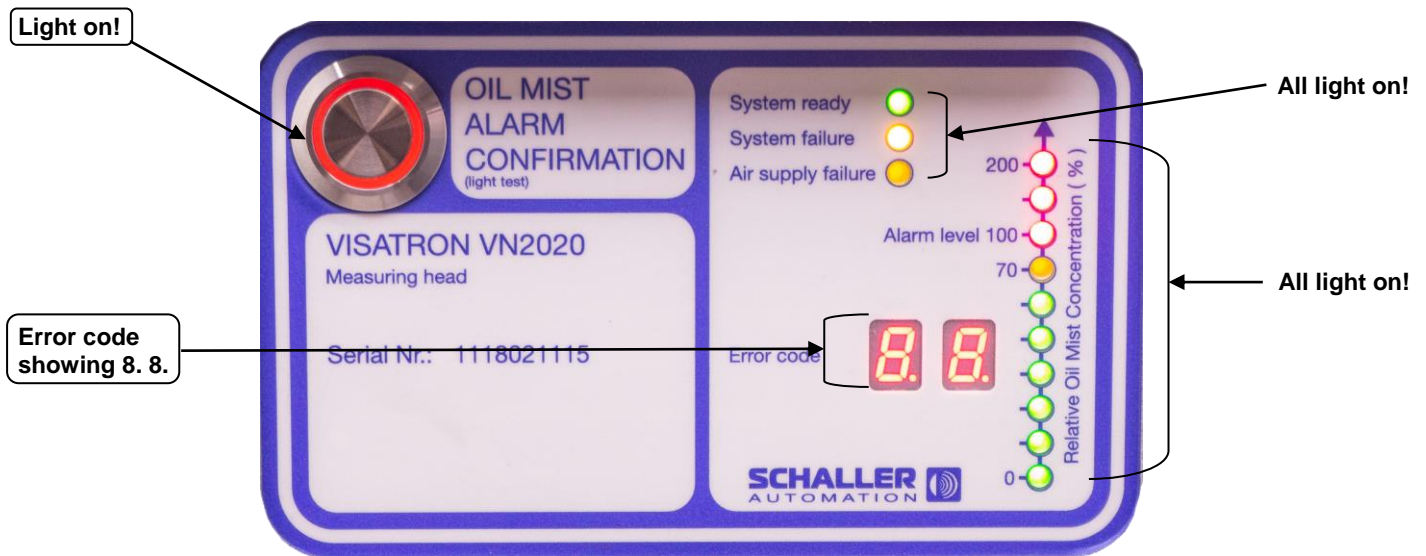
If the oil mist concentration is high, the LED indicator will increase and at 70% opacity of the set alarm threshold, the "Oil Mist Alarm" LED comes on. At 100% opacity relative to the set alarm threshold, the "Oil Mist Alarm" LED will start flashing. If the opacity subsequently decreases, the alarm status is saved.



The opacity is displayed on the LED level indicator on the right. If the top LED comes on, the opacity has reached/exceeded the oil mist alarm threshold. The alarm condition can only be reset by pressing the oil mist alarm reset button.

Test of display:

To make a test of the LED display unit on the oil mist detector- you can press in the reset button for 1 second when the unit are in operation mode. All LED will start lighting up.

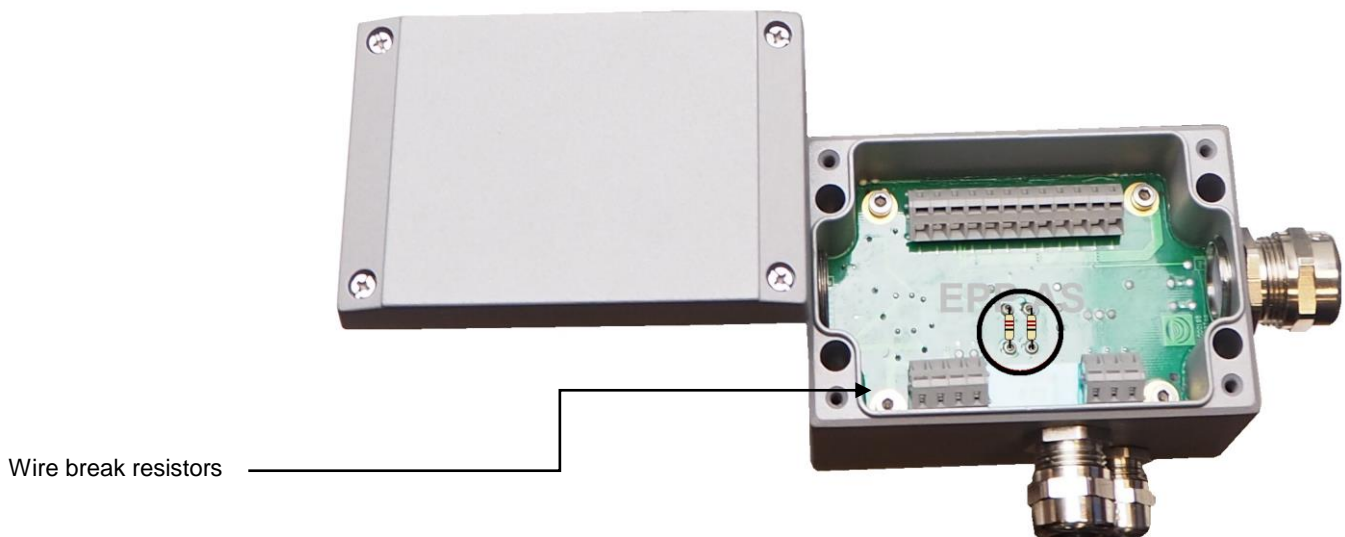


Wire break resistance for oil mist alarm

All Visatron oil mist detectors are equipped with wire break resistance for oil mist alarm. The wire break resistance is a set resistance value for the oil mist alarm (High oil mist alarm) It is important to ensure that the wire break resistance is correct according to the required resistance for the alarm shut down function of the engine.

If you are replacing the Connection box – you need to check the documented wire break resistance on the “old” Connection box. Check if it is the same wire break resistance value on the new device before starting up the engine. If the wire break resistance is different between the devices, you can transfer the wire break resistances (2 pc. presented inside the connection box) from the “old” device to the new device. Always make a proper test of your system when replacing measuring head, connection box or complete oil mist detector! Please check the engine manual for further information!

Position of wire break resistors in the Connection box



How check & test the system

It is important to test your oil mist detector system regularly to ensure that the oil mist detector works according the functionality instructions and that the alarm signal from the oil mist detector reaches the shutdown/ reduced RPM function at the engine during an alarm situation!

How to do it:

Needed parts for this chapter:

1 x Test kit 1 P/n.: 100160



Maintenance work have to be done when engine is stopped!



1. Open the plug at the cover on the measuring head...



2. install the quick connection...



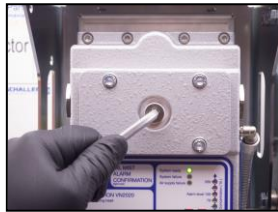
3. fill in slacked water into the u- tube manometer...



4. fill up to marked line on the u- tube manometer...



5. the negative pressure into the measuring head should be 60.00 mmWC. Adjust if necessary!...



6. disconnect the u- tube manometer, and install the plug for inspection cover...



7. break the A and B part into the smoke tube...



8. connect the smoke tube to the smoke test pump...



9. install the test connection into the inspection cover..



10. and connect the smoke pump....push test smoke into the measuring head until the Oil Mist Alarm are getting activated!



CAUTION!

The oil mist alarm will now be triggered, showing Alarm LED lighting up and the engine will be shutting down/ reducing the RPM!

After the test is performed, push the RESET button- and the oil mist detector is ready for operation.

End of procedure!

Recommended maintenance Schedule:

Maintenance

It's a good solution to maintenance your Visatron VN2020 Oil Mist Detector system with a view to be precautionary in relation to technical problems. This eliminates the risk of downtime of the oil mist detector and the engine. The following table lists the maintenance cycles for the VN2020 oil mist detector.

By conducting regular maintenance, the product will have a long service life. If the maintenance intervals are not observed, the oil mist detector may fail prematurely. It is essential that you follow the given sequence for the work.

Interval: (Month/ hours)	What to do:	Step:	Part kit:
1 <i>Performed every 6 months or every 4 000 operating hours!</i> <i>(whatever comes first)</i>	<ul style="list-style-type: none"> Clean infrared filters in measuring head and replace seal on inspection cover Exchange seal on connection box and check bellows and suspension system between measuring head and base plate for damage Exchange filter in pressure regulator and check negative pressure in measuring head Clean suction/ pipe system with compressed air Functional test with smoke test to be carried out 	Step M1 Step M2 Step M3 Step M4 Step M5	Test kit 1 100160 + Maintenance kit 2 100161
2 <i>Performed every 12 months or every 8 000 operating hours!</i> <i>(whatever comes first)</i>	<ul style="list-style-type: none"> Clean infrared filters in measuring head and replace seal on inspection cover Exchange seal on connection box and check bellows and suspension system between measuring head and base plate for damage Exchange filter in pressure regulator and check negative pressure in measuring head Clean suction/ pipe system with compressed air Functional test with smoke test to be carried out 	Step M1 Step M2 Step M3 Step M4 Step M5	Test kit 1 100160 + Maintenance kit 2 100161
3 <i>Performed every 18 months or every 12 000 operating hours!</i> <i>(whatever comes first)</i>	<ul style="list-style-type: none"> Clean infrared filters in measuring head and replace seal on inspection cover Exchange seal on connection box and check bellows and suspension system between measuring head and base plate for damage Exchange filter in pressure regulator and check negative pressure in measuring head Clean suction/ pipe system with compressed air Functional test with smoke test to be carried out 	Step M1 Step M2 Step M3 Step M4 Step M5	Test kit 1 100160 + Maintenance kit 2 100161
4 <i>Performed every 24 months or every 16 000 operating hours!</i> <i>(whatever comes first)</i>	<p>Main two-year service (2 years) by authorized and certificated Schaller personnel only!</p> <ul style="list-style-type: none"> Service and test of complete Oil Mist Detector installation incl. software check and upgrade if necessary Replacement of mayor part kit for VN2020. Service certificate to be approved by authorized personnel! <p>Please contact us for authorized personnel at: epp@epp.no</p>		Test kit 1 100160 + Maintenance kit 3 100162

Authorized service personnel to carry out main service

According to maker's operation manual, an inspection of the entire OMD installation on board has to be executed by authorized service staff every 2- years or 16 000 operation hours- whatever comes first!

**Step M1:** Clean infrared filters in measuring head and replace gasket for inspection cover:

1. Loosen the captive screws on the inspection cover...



2. open the inspection cover...



3. use the cleaning fluid and cotton sticks....



4. clean the glass on the transmitter diode on the right side until it is clean...



5. and clean the photo diode until the glass are clean...



6. clean the surface and replace the gasket for inspection cover...



7. close the inspection cover. and hand tight the captive screws

Step M2: Replace seal on connection box and check flexible bellows and upper and lower suspensions:

1. Disconnect the measuring from the base plate...



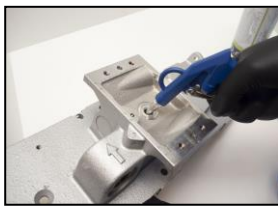
2. remove the base plate from protection cover base...



3. unscrew the 4 pc. mounting bolts on the pipe connection box...



4. clean the base plate for oil and dirt...



5. use compressed air to the air channels into the base plate...



6. and into the ejector inlet and outlet chamber...



7. clean the ejector in and out nozzle free for oil and dirt...



8. replace the valve box gasket...



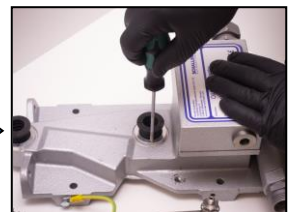
9 install the pipe connection box...



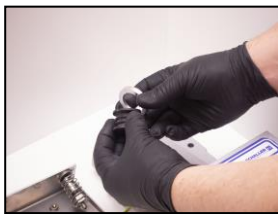
10. unscrew the 2 pc. screws... and remove the fastening ring for the upper bellow...



11. check the upper bellow for damage- replace if necessary...



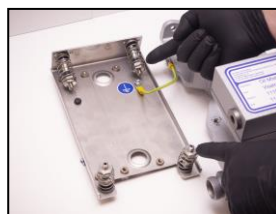
12. unscrew the 2 pc. screws... and remove the fastening ring for the lower bellow...



13. check the lower bellows for damage- replace if necessary...



14. re- install the fastening ring and ensure correct position of the bellows...



15. check the upper and lower suspensions for any damage- replace if necessary...



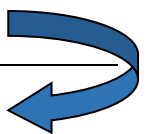
16. re-install the vibration damping plate...



17. ensure that position of the flexible bellows are correct!



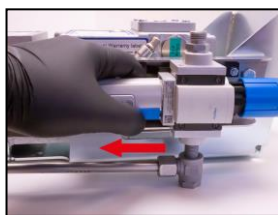
18. install the measuring head and tighten the captive screws with a torque of 4.5 Nm.



Step M3: Replace filter in pressure regulator and check/ adjust negative pressure in measuring head:



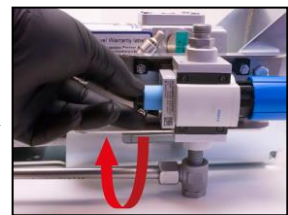
1. Close the air pressure...



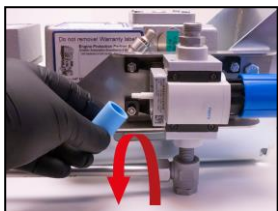
2. hold the filter cage one hand and pull the blue tab down horizontally with your thumb...



3. turn the filter cage clockwise and pull out downwards...



4. unscrew the black plastic disc and remove the dirty filter...



4. screw in the new filter anticlockwise and make sure that is is aligned for installation...



5. re-install the filter cage...



6. install the quick connection...



7. fill in slacked water in the u- tube manometer...



8. to the middle line...



9. install the u- tube manometer



10. adjust the air pressure to 60.00 mmWC...



11. disconnect the u- tube manometer and install the plug for inspection cover.

Step M4: Clean suction/ pipe system with compressed air:



1 Loosen the main pipe connection...



2. remove the pipe from oil mist detector...



3. blow compressed air into the main pipe for few seconds-so collected oil will drain back to the engine!

The procedure to be done on the right and left side!

Step M5: Functional test with smoke test to be carried out:



CAUTION!
The oil mist alarm will now be triggered, showing Alarm LED lighting up and the engine will be shutting down/ reducing the RPM!



1. Remove the plug in the inspection cover...



2. install the test plug at the inspection cover...



3. bend the smoke house until tube content break...

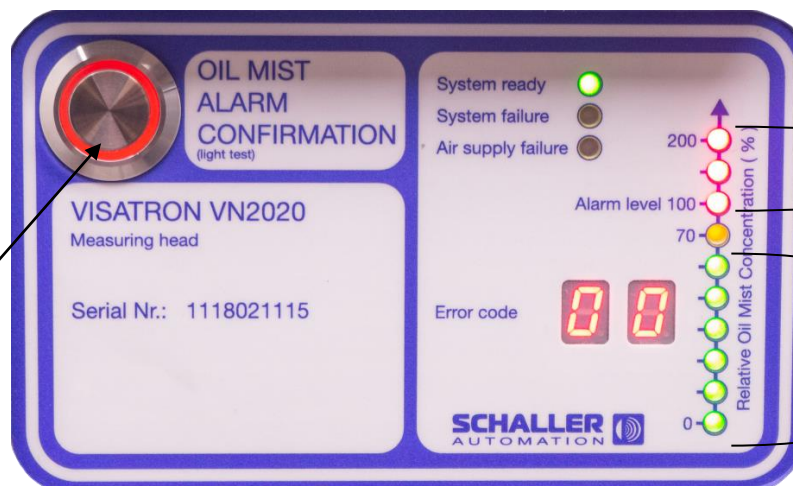


4. pull the hose into the test pump...



9. pump smoke until the oil mist alarm are realised....

Light on!



Light on Step II

Light on Step I

10. When the oil mist concentration is high, the LED indicator will increase and at 70% opacity of the set alarm threshold, the "Oil Mist Alarm" LED comes on. At 100% opacity relative to the set alarm threshold, the "Oil Mist Alarm" LED will start flashing. If the opacity subsequently decreases, the alarm status is saved. The opacity is displayed on the LED level indicator on the right. If the top LED comes on, the opacity has reached/exceeded the oil mist alarm threshold. The alarm condition can only be reset by pressing the oil mist alarm reset button...

11. Each extraction point is now checked individually. To do this, hold the smoke tube directly under the suction funnel of the individual extraction point and perform at least 3-5 pumping strokes. The resulting smoke should now be drawn out directly via the suction funnels. After no more than 10 seconds, the oil mist detector should indicate an alarm on the measuring head display. The time to display varies depending on the engine type and the installation kit.

If an internal device error or system error occurs, the diagnostic system indicates the error status with flashing LED on the LED level indicator. A detected oil mist alarm is indicated at this point by the "Test" LED. In this case, the alarm relay or shutdown relay is not turned on. The following error codes may occur on your VN2020 oil mist detector:

Error code:	Error description:	Trouble shooting section:
----	All LEDs off	TS 01
02	Electronic module faulty	TS 02
03	Airflow sensor faulty	TS 03
04	Optical sensor faulty	TS 04
05-07	Internal error	TS 05
08	Electronics temperature too high (> 75 °C)	TS 06
09	Electronics temperature too low (< 0 °C)	TS 07
10	Ambient temperature too high (> 70 °C)	TS 08
11	Ambient temperature too low (< 0 °C)	TS 09
12	Internal memory checksum error	TS 10
13	Optical sensor dirty – cleaning required	TS 11
14	Supply pressure not within permissible range	TS 12
15	Optical sensor very dirty– cleaning must be carried out	TS 13
16	Optical sensor faulty	TS 14
17	Internal memory checksum error	TS 15
18	Battery voltage too low	TS 16
19	Reset button faulty	TS 17
20-31	Internal error	TS 18
32	Power supply not within permissible range	TS 19
33	Supply pressure too high	TS 20
34	CANopen initialization failed	TS 21

The following warning and safety instructions must always be observed for all maintenance and repair work.



WARNING!

Severe injury due to hot atmosphere escaping from crankcase

Risk of burns

Only carry out maintenance and repair work when the engine is at a standstill.



WARNING!

Hazard from pressure in the device

Risk from escaping compressed air

Switch off the compressed air supply during maintenance and repair work and check the negative pressure in the measuring head (see Section XX) after completing work.



WARNING!

Explosion of the crankcase

Serious injury, including death

Do not confuse mix up any parts between the standard version (VN2020) and the Ex version (VN2020 Ex).



WARNING!

Explosion of the crankcase

Serious injury, including death

The oil mist detector must not be cleaned with a steam cleaner, high pressure cleaner or similar device.

Fault location of VN2020:

Error codes/
fault location

The displayed faults can be resolved by the customer or alternatively by an authorized Schaller service partner. The error codes and troubleshooting steps are listed in their order of priority below. The specified work steps must be carried out one after the other, if the first work step in each case has not resolved the error code.

Error code: -- --

All LED's off

Trouble shooting section: TS 01

Short description:

1. Check power supply
2. Replace fuse in measuring head
3. Replace measuring head

Step 1:



1. Unscrew the four screws on the connection box...



2. open the cover on the on the connection box...



3. use a voltmeter to measure 24 V DC power...



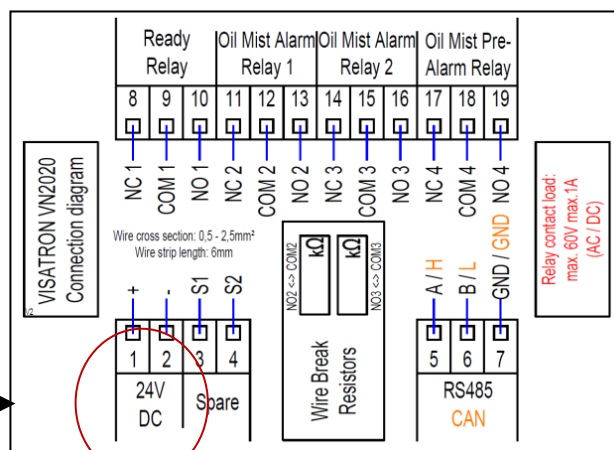
4. over pin +/- at 24 V DC... (see wiring diagram under)



5. check if you get 24 V DC...

*If these steps do not solve the technical problem
...go to step 2!*

Wiring diagram



Step 2:



1. Turn of the power to the oil mist detector...



2. remove the measuring head...



3. check the fuse. If broken- replace the fuse...



4. install the measuring head. Tighten the captive screws crosswise with torque of 4.5 Nm.



5. turn on the power to the oil mist detector...

*If these steps do not solve the technical problem
...go to step 3!*

Step 3

1. Turn of the power to the oil mist detector...
2. remove the measuring head...
3. replace the measuring head. Tighten the captive screws crosswise with torque of 4.5 Nm.
4. Turn on the power again...
5. install the inspection cover...
6. connect the quick connection....
7. connect the U- tube manometer and adjust the negative pressure to 60 .00 mmWC
8. remove the quick connection, and the oil mist detector are ready for operation!
End of procedure!

If this step do not solve the technical problem,
contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220

Error code: **02**

Electronic module faulty

Trouble shooting section: **TS 02**

Short description: 1. Replace measuring head

Step 1:

1. Turn of the power to the oil mist detector...
2. remove the measuring head...
3. replace the measuring head. Tighten the captive screws crosswise with torque of 4.5 Nm
4. Turn on the power again...
5. install the inspection cover...
6. connect the quick connection....
7. connect the U- tube manometer and adjust the negative pressure to 60 .00 mmWC
8. negative pressure to 60 .00 mmWC
The detector are ready for operation
End of procedure!

If this step do not solve the technical problem,
contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220

Short description: 1. Replace measuring head

Step 1

1. Turn of the power to the oil mist detector...



2. remove the measuring head...



3. replace the measuring head. Tighten the captive screws crosswise with torque of 4.5 Nm



4. Turn on the power again...



6. connect the quick connection....



7. connect the U- tube manometer and adjust the



8. negative pressure to 60 .00 mmWC
The detector are ready for operation

End of procedure!

If this step do not solve the technical problem,
contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220

Short description: 1. Clean infra red sensor track
2. Replace measuring head

Step 1:

1. Unscrew the four bolts on on the inspection cover...



2. open the inspection cover...



3. use cleaning fluid and cotton sticks....



4. to clean the infra red sensor on left side...



5. and right side until no dirt shown on the cotton sticks...



6. close the inspection cover
End of procedure!

If these steps do not solve the technical problem
...go to step 2!

Step 2



1. Turn of the power to the oil mist detector...



2. remove the measuring head...



3. replace the measuring head.
Tighten the captive screws crosswise with torque of 4.5 Nm.



4. Turn on the power again...



6. connect the quick connection....



7. connect the U- tube manometer and adjust the



8. negative pressure to 60 .00 mmWC
The detector are ready for operation

End of procedure!

If this step do not solve the technical problem,
contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220

Error code: **05- 07**

Internal error

Trouble shooting section: **TS 05**

Short description:

1. Replace measuring head

Step 1



1. Turn of the power to the oil mist detector...



2. remove the measuring head...



3. replace the measuring head.
Tighten the captive screws crosswise with torque of 4.5 Nm



4. Turn on the power again...



6. connect the quick connection....



7. connect the U- tube manometer and adjust the



8. negative pressure to 60 .00 mmWC
The detector are ready for operation

End of procedure!

If this step do not solve the technical problem,
contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220

Short description:

1. Remove or relocate objects nearby emitting heat
2. Install metallic heat shields to shield against heat radiation
3. Replace measuring head

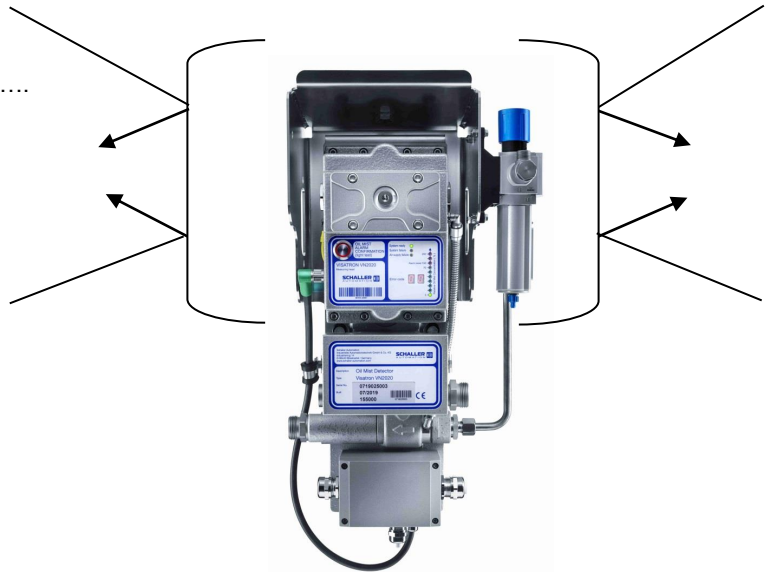
Step 1:

Remove or relocate objects nearby emitting heat...

*If these steps do not solve the technical problem
...go to step 2!*

**Step 2:**

Install metallic heat shields to shield against heat radiation....



*If these steps do not solve the technical problem
...go to step 3!*

**Step 3:**

1. Turn of the power to the oil mist detector...



2. remove the measuring head...



3. replace the measuring head.
Tighten the captive screws crosswise with torque of 4.5 Nm



4. Turn on the power again...



6. connect the quick connection....



7. connect the U- tube manometer and adjust the



8. negative pressure to 60.00 mmWC
The detector are ready for operation
End of procedure!

If this step do not solve the technical problem,
contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220

Short description:

1. Remove or relocate objects nearby that are cooling
2. Replace measuring head

Step 1:

Remove or relocate objects nearby that are cooling...

*If these steps do not solve the technical problem
...go to step 2!*



Step 2:



1. Turn of the power to the oil mist detector...



2. remove the measuring head...



3. replace the measuring head.
Tighten the captive screws crosswise with torque of 4.5 Nm.



4. Turn on the power again...



6. connect the quick connection....



7. connect the U- tube manometer and adjust the



8. negative pressure to 60 .00 mmWC
The detector are ready for operation
End of procedure!

**If this step do not solve the technical problem,
contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220**

Short description:

1. Remove or relocate objects nearby emitting heat
2. Install metallic heat shields to shield against heat radiation
3. Replace measuring head

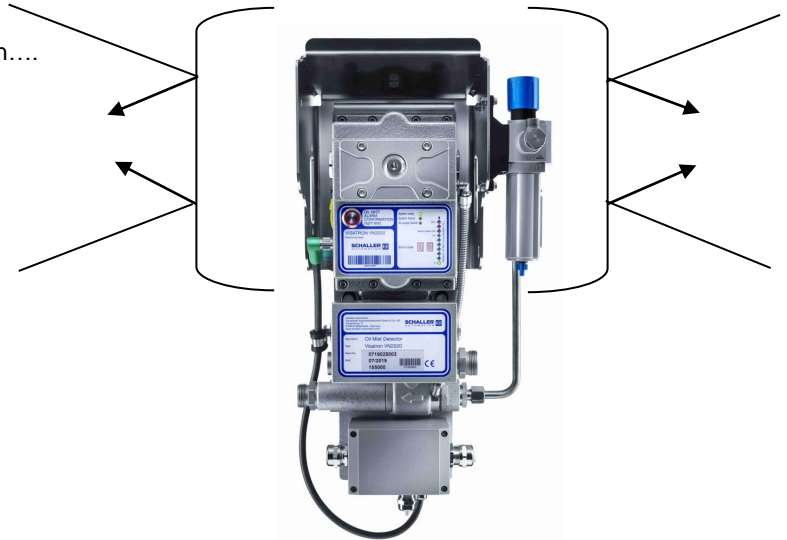
Step 1:

Remove or relocate objects nearby emitting heat ...

*If these steps do not solve the technical problem
...go to step 2!*

**Step 2:**

Install metallic heat shields to shield against heat radiation....



*If these steps do not solve the technical problem
...go to step 3!*

**Step 3:**

1. Turn of the power to the oil mist detector...



2. remove the measuring head...



3. replace the measuring head.
Tighten the captive screws crosswise with torque of 4.5 Nm.



4. Turn on the power again...



6. connect the quick connection....



7. connect the U- tube manometer and adjust the



8. negative pressure to 60 .00 mmWC
The detector are ready for operation
End of procedure!

**If this step do not solve the technical problem,
contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220**

Short description:

1. Remove or relocate objects nearby that are cooling
2. Replace measuring head

Step 1:

Remove or relocate objects nearby that are cooling...

*If these steps do not solve the technical problem
...go to step 2!*

**Step 2:**

1. Turn of the power to the oil mist detector...



2. remove the measuring head...



3. replace the measuring head.
Tighten the captive screws
crosswise with torque of 4.5 Nm.



4. Turn on the power again...



6. connect the quick connection....



7. connect the U- tube
manometer and adjust the



8. negative pressure to 60 .00 mmWC
The detector are ready for operation
End of procedure!

**If this step do not solve the technical problem,
contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220**

Short description: 1. Replace measuring head

Step 1:



1. Turn of the power to the oil mist detector...



2. remove the measuring head...



3. replace the measuring head.
Tighten the captive screws crosswise with torque of 4.5 Nm.



4. Turn on the power again...



6. connect the quick connection....



7. connect the U- tube manometer and adjust the



8. negative pressure to 60 .00 mmWC
The detector are ready for operation
End of procedure!

**If this step do not solve the technical problem,
contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220**

Short description: 1. Clean infra-red sensor track
2. Replace measuring head

Step 1:

1. Unscrew the four bolts on the inspection cover...



2. open the inspection cover...



3. use cleaning fluid and cotton sticks...



4. to clean the infra red sensor on left side...



5. and right side until no dirt shown on the cotton sticks...



6. close the inspection cover
End of procedure!

**If these steps do not solve the technical problem
...go to step 2!**

Step 2

1. Turn of the power to the oil mist detector...



2. remove the measuring head...



3. replace the measuring head.
Tighten the captive screws crosswise with torque of 4.5 Nm.



4. Turn on the power again...



6. connect the quick connection....



7. connect the U- tube manometer and adjust the



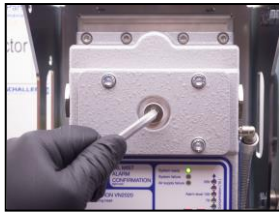
8. negative pressure to 60.00 mmWC
The detector are ready for operation!
End of procedure!

**If this step do not solve the technical problem,
contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220**

Short description:

1. Adjust negative pressure
2. Replace filter for pressure regulator
3. Check suction system
4. Replace bellows
5. Replace measuring head

Step 1:



1. Open the plug at the cover on the measuring head...



2. install the quick connection...



3. fill in slacked water into the u- tube manometer...



4. fill up to marked line on the u- tube manometer...



5. the negative pressure into the measuring head should be 60.00 mmWC. Adjust if necessary!...



6. disconnect the u- tube manometer, and install the plug for inspection cover...



7. loosen the 4 pcs. Bolt for inspection cover...



8. open the inspection cover...

**If these steps do not solve the technical problem
...go to step 2!**

Step 2



1. Close the air pressure...



2. pull the blue tap down...



3. turn the filter housing to the left and pull the housing down...



4. unscrew the blue filter and replace it...



5. re-install the housing...



6. Turn up the air pressure....



7. and adjust the pressure to 60.00 mmH2O...



8. install the plug and the detector are ready for operation!
End of procedure!

**If these steps do not solve the technical problem
...go to step 3!**

Step 3 and 4:



1. Turn off the power ...



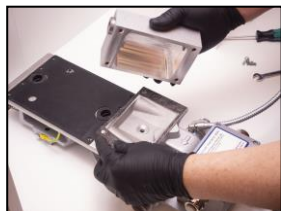
2. disconnect the measuring from the base plate...



3. disconnect the base plate from the protection cover...



4. loosen the bolts for pipe connection box...



5. replace the valve box gasket...



6. clean the large hole in the base plate with cleaning fluid and cotton pins...



7. use the cleaning needle to open the small hole for dirt and oil...



8. re- install the pipe connection box...



9. disconnect the upper and



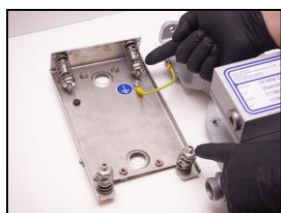
10. lower position flexible bellows...



11. check the flexible bellows...



12. replace if necessary...



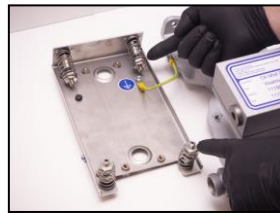
13. check the lower and upper measuring head suspensions for damage



14. replace the suspensions if necessary. Install the flexible damping plate back on the base plate...



15. ensure that position for the flexible bellow is correct.



16. Check that grounding cable is connected at the flexible damping plate and the base plate...



17. install the base plate to the protection cover....



18. Install the measuring head on the base plate...



19. unscrew the 4 pcs. bolts on the inspection cover...



20. open the inspection cover



21. replace the inspection seal...



22. use the cleaning liquid and cotton sticks...



23. clean the infrared sensor glass on the right side...



24. and left side...



25. install the inspection cover...



26. connect the quick connection....



27. connect the U- tube manometer and adjust the negative pressure to 60 .00 mmWC



28. remove the quick connection, and the oil mist detector are ready for operation!
End of procedure

If these steps do not solve the technical problem
...go to step 5!



Step 5:



1. Turn of the power to the oil mist detector...



2. remove the measuring head...



3. replace the measuring head.
Tighten the captive screws crosswise with torque of 4.5 Nm.



4. Turn on the power again...



6. connect the quick connection....



7. connect the U- tube manometer and adjust the



8. negative pressure to 60 .00 mmWC
The detector are ready for operation
End of procedure!

If this step do not solve the technical problem,
contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220

Short description:

1. Clean infra red sensor track
2. Replace measuring head

Step 1:

1. Unscrew the four bolts on the inspection cover...



2. open the inspection cover...



3. use cleaning fluid and cotton sticks....



4. to clean the infra red sensor on left side...



5. and right side until no dirt shown on the cotton sticks...

6. close the inspection cover
End of procedure!

If these steps do not solve the technical problem
...go to step 2!

**Step 2**

1. Turn of the power to the oil mist detector...



2. remove the measuring head...

3. replace the measuring head.
Tighten the captive screws crosswise with torque of 4.5 Nm.

4. Turn on the power again...



6. connect the quick connection....



7. connect the U- tube manometer and adjust the

8. negative pressure to 60.00 mmWC
The detector are ready for operation!
End of procedure!

If this step do not solve the technical problem,
contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220

Short description: 1. Clean infra red sensor track
2. Replace measuring head

Step 1:

1. Unscrew the four bolts on the inspection cover...



2. open the inspection cover...



3. use cleaning fluid and cotton sticks....



4. to clean the infra red sensor on left side...



5. and right side until no dirt shown on the cotton sticks...



6. close the inspection cover
End of procedure!

**If these steps do not solve the technical problem
...go to step 2!**

Step 2

1. Turn of the power to the oil mist detector...



2. remove the measuring head...



3. replace the measuring head.
Tighten the captive screws crosswise with torque of 4.5 Nm



4. Turn on the power again...



6. connect the quick connection....



7. connect the U- tube manometer and adjust the



8. negative pressure to 60.00 mmWC
The detector are ready for operation!
End of procedure!

**If this step do not solve the technical problem,
contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220**

Short description: 1. Replace measuring head

Step 1



1. Turn of the power to the oil mist detector...



2. remove the measuring head...



3. replace the measuring head. Tighten the captive screws crosswise with torque of 4.5 Nm.



4. Turn on the power again...



6. connect the quick connection....



7. connect the U- tube manometer and adjust the



8. negative pressure to 60.00 mmWC
The detector are ready for operation!
End of procedure!

If this step do not solve the technical problem,
contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220

Short description: 1. Replace memory battery

Step 1



1. Turn of the power to the oil mist detector...



2. remove the measuring head...



3. the memory battery is located in left higher corner inside the measuring head. Disconnect the battery connector from the circuit board...



4. loosen the screw of the security clamp, turn the security clamp to the side...



6. and remove the battery...



7. install new battery in correct position. Connect the battery connector to the plug at the circuit board...



8. position the securing clamp over the battery. Tighten the screw connection to 2.5 Nm...



9. install the measuring head



10 open the plug at the cover on the measuring head...



11. install the quick connection...



12. fill in slacked water into the u- tube manometer...



13. fill up to marked line on the u- tube manometer...



14. the negative pressure into the measuring head should be 60.00 mmWC. Adjust if necessary!...



15. Remove the quick connection and re-install the plug. The oil mist detector are ready for operation!
End of procedure!



Dispose of the battery properly in accordance with local regulations!

If this step do not solve the technical problem, contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220

Error code: 19

Reset button faulty

Trouble shooting section: TS 19

Short description:

1. Replace measuring head

Step 1



1. Turn of the power to the oil mist detector...



2. remove the measuring head...



3. replace the measuring head. Tighten the captive screws crosswise with torque of 4.5 Nm.



4. Turn on the power again...



6. connect the quick connection....



7. connect the U- tube manometer and adjust the



8. negative pressure to 60 .00 mmWC The detector are ready for operation!
End of procedure!

If this step do not solve the technical problem, contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220

Short description: 1. Replace measuring head

Step 1



1. Turn of the power to the oil mist detector...



2. remove the measuring head...



3. replace the measuring head.
Tighten the captive screws
crosswise with torque of 4.5 Nm.



4. Turn on the power again...



6. connect the quick connection....



7. connect the U-tube manometer and adjust the



8. negative pressure to 60 .00 mmWC
The detector are ready for operation!

End of procedure!

**If this step do not solve the technical problem,
contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220**

Short description:

1. Check power supply
2. Replace measuring head

Step 1:



1. Unscrew the four screws on the connection box...



2. open the cover on the on the connection box...



3. use a voltmeter to measure 24 V DC power...



4. over pin +/- at 24 V DC...
(see wiring diagram under)

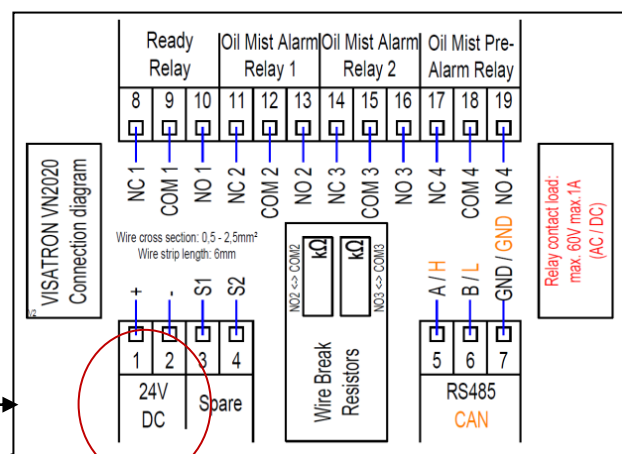


5. check if you get 24 V DC...

If the measured power are not in the permissible range between 18.00 31.20 VDC- replace the power supply!

**If these steps do not solve the technical problem
...go to step 2!**

Wiring diagram



Step 2:



1. Turn of the power to the oil mist detector...



2. remove the measuring head...



3. check the fuse. If broken- replace the fuse...



4. install the measuring head. Tighten the captive screws crosswise with torque of 4.5 Nm.



5. turn on the power to the oil mist detector...

*If these steps do not solve the technical problem
...go to step 3!*



Error code: **33**

Supply pressure too high

Trouble shooting section: **TS 33**

Short description:

1. Check negative pressure
2. Replace filter kit for pressure regulator
3. Replace pressure regulator

Step 1:



1. Open the plug at the cover on the measuring head...



2. install the quick connection...



3. fill in slacked water into the u- tube manometer...



4. fill up to marked line on the u- tube manometer...



5. the negative pressure into the measuring head should be 60.00 mmWC. Adjust if necessary!...



6. disconnect the u- tube manometer, and install the plug for inspection cover...



7. loosen the 4 pcs. Bolt for inspection cover...



8. open the inspection cover...

*If these steps do not solve the technical problem
...go to step 2!*



Step 2



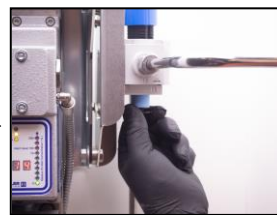
1. Close the air pressure...



2. pull the blue tap down...



3. turn the filter housing to the left and pull the housing down...



4. unscrew the blue filter and replace it...



5. re-install the housing...



6. turn up the air pressure....



7. and adjust the pressure to 60.00 mmH₂O...



8. install the plug and the detector are ready for operation!
End of procedure!

*If these steps do not solve the technical problem
...go to step 3!*



Step 3



1. Replace the pressure regulator.

**If this step do not solve the technical problem,
contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220**

Short description: 1. Replace measuring head

Step 1



1. Turn of the power to the oil mist detector...



2. remove the measuring head...



3. replace the measuring head.
Tighten the captive screws crosswise with torque of 4.5 Nm.



4. Turn on the power again...



6. connect the quick connection....



7. connect the U- tube manometer and adjust the

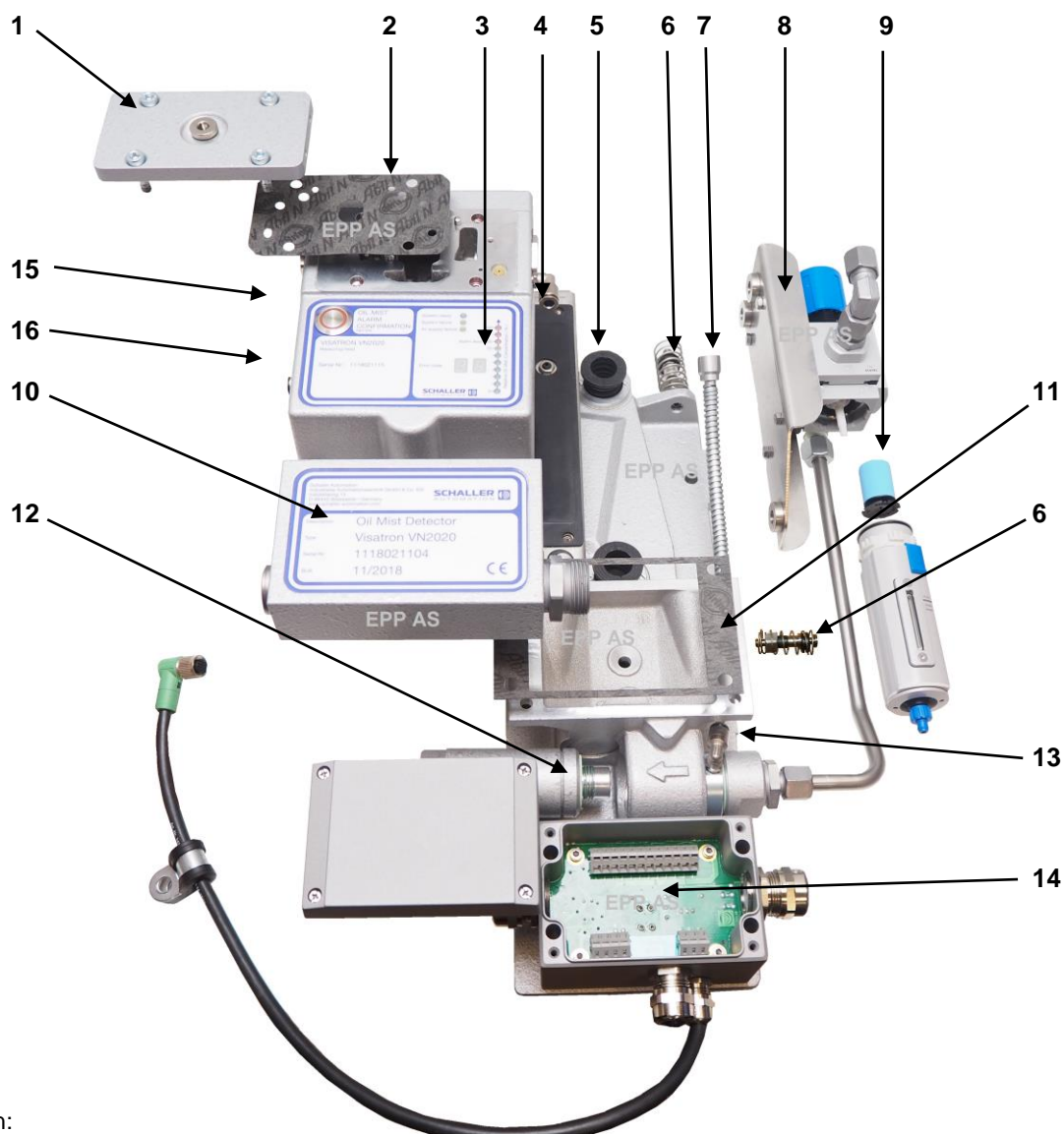


8. negative pressure to 60.00 mmWC
The detector are ready for operation!

End of procedure!

If this step do not solve the technical problem,
contact authorized service personnel at: www.epp.no or service phone: +47 9246 3220

General Spare parts overview:



Part identification:

Position:	Part name:	Position:	Part name:
1	Inspection cover for measuring head	9	Filter element for pressure regulator
2	Gasket for inspection cover	10	Connection casing
3	Measuring head VN2020	11	Valve box gasket
4	Gasket for measuring head	12	Ejector in/ output system
5	Flexible bellow- upper and lower position	13	Base plate device VN2020
6	Suspension- upper and lower position	14	Terminal box including measuring head cable
7	Flexible scavenging hose system	15	Lithium battery for memory system
8	Pressure regulator	16	Fuse

Overview of maintenance and part kits

Maintenance & test kits:

Test and cleaning of infra- red sensor kit.

Part no.: 100160

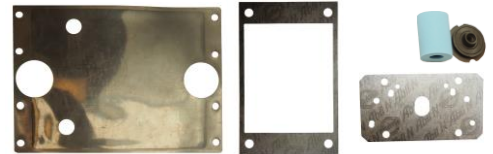
- | | |
|--|-------------|
| • Complete analogue u- tube manometer | x 1 |
| • Slacked water for analogue u- tube manometer | x 100 ml. |
| • Cotton sticks for cleaning of infra- red sensor track | x 30 |
| • Quick connection for analogue u- tube manometer incl. gasket | x 1 |
| • Smoke ampulla tubes for oil mist alarm test. – 272059- | x 3 |
| • Smoke ampulla pump | x 1 |
| • Cleaning needle | x 1 |
| • Cleaning fluid for infra- red sensor track- 10035- | x 2/ 20 ml. |
| • Quick guide | x 1 |



Maintenance kit-2

Part no.: 100161

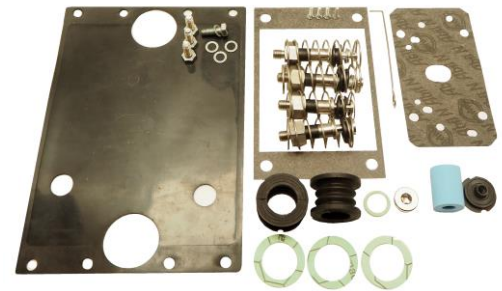
- | | |
|---|-----|
| • Gasket for inspection cover | x 1 |
| • Gasket for valve box | x 1 |
| • Filter element for pressure regulator | x 1 |
| • Gasket for measuring head | x 1 |
| • Quick guide | x 1 |



Maintenance kit-3


Part no.: 100162


- | | |
|---|----------|
| • Measuring head gasket | x 1 |
| • Flexible bellows | x 2 |
| • Valve box gasket | x 1 |
| • Lower flexible suspension for damping plate | x 2 |
| • Upper flexible suspension for damping plate | x 2 |
| • Gasket for inspection cover | x 1 |
| • Ejector input & output gasket | x 3 |
| • Plug R1/4" | x 1 |
| • Gasket for plug R1/4" | x 1 |
| • Filter element for pressure regulator | x 1 |
| • Element unit | x 1 |
| • Cleaning fluid for infrared sensor track | x 10 ml. |
| • Cotton sticks for cleaning infra red sensor glasses | x 10 |
| • Bolts for pipe connection box | x 4 |
| • Fastening rings for pipe connection bolts | x 4 |
| • Screws for flexible bellow fastening ring | x 4 |
| • Quick guide | x 1 |



Only performed by authorized service personnel every 2-year or every 16 000 operation hours!

Spare part kits:


Suspension and flexible bellow kit.	Part no.: B100163	Part position on: General spare part overview	
<ul style="list-style-type: none"> Upper suspension Lower suspension Upper flexible bellow Lower flexible bellow Mounting screws for fastening rings 	<ul style="list-style-type: none"> x 2 x 2 x 1 x 1 x 4 	<ul style="list-style-type: none"> Position no. 6 Position no. 6 Position no. 5 Position no. 5 ----- 	
Terminal box kit.	Part no.: 100164	Part position on: General spare part overview	
<ul style="list-style-type: none"> Complete terminal box with main cable and socket Quick guide 	<ul style="list-style-type: none"> x 1 x 1 	<ul style="list-style-type: none"> Position no. 14 ----- 	
Assembly unit Oil mist detector VN2020	Part no.: 155000	Part position on: General spare part overview	
<ul style="list-style-type: none"> Complete Oil mist detector VN2020 Pressure regulator Protection cover Quick guide 	<ul style="list-style-type: none"> x 1 x 1 x 1 x 1 		
Measuring head VN2020	Part no.: 155001	Part position on: General spare part overview	
<ul style="list-style-type: none"> Complete measuring head VN2020 Quick guide 	<ul style="list-style-type: none"> x 1 x 1 	<ul style="list-style-type: none"> Position no. 3 ----- 	
Cleaning kit	Part no.: 100165	Part position on: General spare part overview	
<ul style="list-style-type: none"> Slacked water for analogue u- tube manometer 100 ml. Cotton sticks for cleaning of infra- red sensor track Cleaning fluid for infra- red sensor track 10 ml. Quick guide 	<ul style="list-style-type: none"> x 1 x 30 x 1 x 1 	<ul style="list-style-type: none"> ----- ----- ----- ----- 	
Smoke test box	Part no.: 100166	Part position on: General spare part overview	
<ul style="list-style-type: none"> Test pump Smoke ampulla tubes for oil mist alarm test Complete box with quick guide 	<ul style="list-style-type: none"> x 1 x 3 x 1 	<ul style="list-style-type: none"> ----- ----- ----- 	
Smoke ampulla kit	Part no.: 100167	Part position on: General spare part overview	
<ul style="list-style-type: none"> Smoke ampulla tubes for oil mist alarm test 	<ul style="list-style-type: none"> x 6 	<ul style="list-style-type: none"> ----- 	

Pressure regulator	Part no.: See under!	Part position on: <i>General spare part overview</i>	
<ul style="list-style-type: none"> Schaller pressure regulator Schaller pressure regulator- opposite flow direction 	Part no: 100168 Part no. 100169	Position no. 8	

Pressure regulator filter kit	Part no.: 100170	Part position on: <i>General spare part overview</i>	
<ul style="list-style-type: none"> Filter element kit Quick guide 	x 1 x 1	Position no. 9 -----	

Complete gasket kit VN2020	Part no.: 100171:	Part position on: <i>General spare part overview</i>	
<ul style="list-style-type: none"> Gasket for inspection cover Gasket for measuring head Upper & lower flexible bellows Valve box gasket Upper & lower suspensions Quick guide 	x 1 x 1 x 2 x 1 x 4 x 1	Position no. 2 Position no. 4 Position no. 5 Position no. 11 Position no. 6 -----	

Digital u- tube manometer kit VN2020	Part no.: 100138	Part position on: <i>General spare part overview</i>
<ul style="list-style-type: none">Digital u- tube manometer kit VN2020Quick guide	<div>x 1</div> <div>x 1</div>	<div>-----</div> <div>-----</div>
<p>The digital u- tube manometer is easy to use for checking the negative pressure in your oil mist detector. The digital u- tube manometer shows the value in mmH2O- the same as mmWC. Recommended pressure is 60.00 mmWC/ mmH2O.</p>		



Quick connection for u- tube manometer	Part no.: 10053	Part position on: <i>General spare part overview</i>	
<ul style="list-style-type: none"> Quick connection incl. gasket 	x 1	-----	

Lithium battery VN2020 package	Part no.: 100172	Part position on: <i>General spare part overview</i>	
<ul style="list-style-type: none"> Lithium battery 	x 1	Position no. 15	

Fuse kit	Part no.: 100173	Part position on: <i>General spare part overview</i>	
<ul style="list-style-type: none"> Fuse for measuring head system 	x 1 box	Position no. 16	

Remote indicator II- Additional equipment!

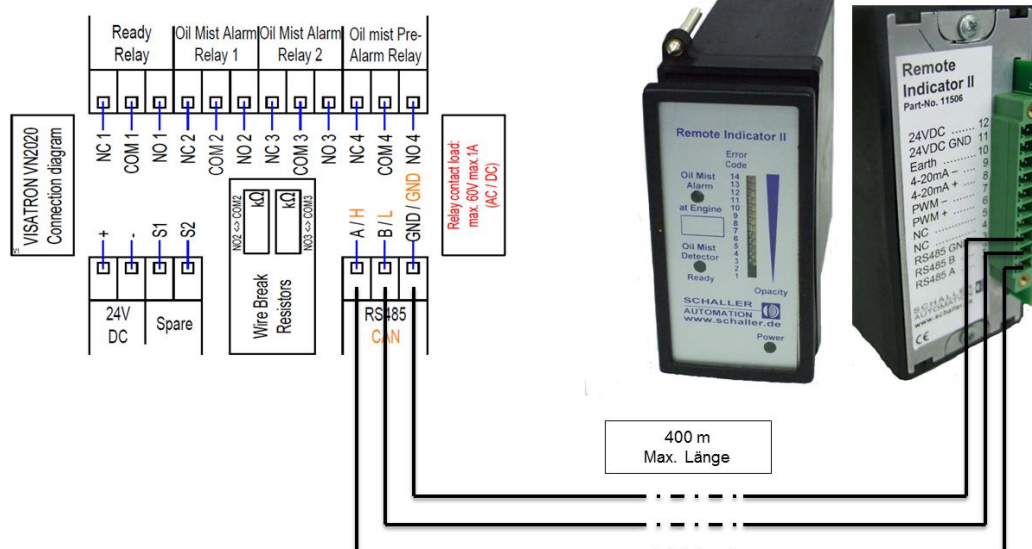
As requires by IACS UR M10, the oil mist detector can be connected to the Schaller Remote Indicator II to monitor the oil mist concentration and the status of the oil mist detector from a safe location.

A monitoring device must be used from a safe location (e.g. machine control room) to check the current oil mist concentration, as required bu IACS M10. In the event of an oil mist alarm, Schaller Automation strongly recommends that you do not approach the engine until the oil mist concentration that is displayed has dropped to half the value of the LED level indicator (VISATRON® device or Remote Indicator II).

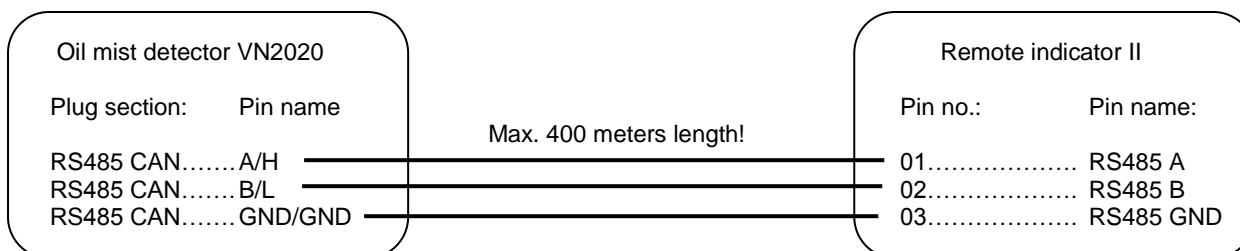
The monitoring devices are connected via a RS485 bus line. If a Remote Indicator II is used, the connection only consists of a two-point connection. The bus system on the oil mist detector must be terminated with a resistor. This is integrated in the measuring head with switch



Connection diagram for remote indicator II to VN2020:



The wiring connections between Remote indicator II and the oil mist detector VN2020



Exchange Pool (EXP)

Every year increasingly more customers discover the advantages of entering the Exchange Pool thanks to the time and cost saving benefits combined with high quality products.

It's all about planning

Requirements to reduce engine downtime, and less engine operator's resources, means reduced capacity to undertake regular engine maintenance and oil mist detector maintenance as well. We have therefore built up an exchange pool of already overhauled oil mist detector components at fixed prices- to save valuable time and money for our customers.

You can order the necessary part from the EXP, and replace the used components once the exchange pool components have arrived. This way engine and oil mist detector downtime is reduced to a minimum.

Quality

The exchange oil mist detector components are fully stripped mechanical and cleaned, complete part kit replaced, electronic module POLAR tested, repaired and re-calibrated with latest software update (if necessary), and finally main climate tested for 23 hours. The components are also updated to the latest version, in compliance with relevant regulations.

Warranty

Using the exchange pool is an ideal way to reduce oil mist detector and engine downtime- with 12 months warranty time for oil mist detector components.

60 day open return

After the Exchange Pool components have been delivered, you have 60 days to return the used component. Additional days can be purchased upfront. All returned items should be accompanied by a Return Form Sheet (RFS)



Oil mist detector VN2020 exchange pool parts

Part no:	Product:	Other information:
155000EXP	Exchange oil mist detector VN2020	Complete oil mist detector VN2020
155001EXP	Exchange measuring head VN2020	Measuring head VN2020

Authorized service personnel to carry out main service

According to the makes manual- an inspection of the entire OMD installation on board has to be executed by authorized service staff every 2- years or 16 000 operation hours- whatever comes first!



Engine Protection Partner AS

Schaller Automation Scandinavia & Baltics

-OUR KNOWLEDGE IS YOUR SAFETY-



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