VAPORIX

VAPORIX-Flow and VAPORIX-Control
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1 Properties of the VAPORIX system

The VAPORIX system (vapor recovery information system) is an automatic monitoring device to check the function of the vapor recovery systems (Stage II) at filling stations. The VAPORIX system is approved in compliance with the German 21th Federal Immission Control Ordinance (BImSchV) and the European Directives 2009/126/EC and 2014/99/EU.

During the fuelling process the vapour flow is registered together with the fuel flow of the according fuelling point. The fuel flow data is taken over from the pulse outputs of the dispenser computer. After the fuelling process has been completed, an evaluation is performed and the status of the vapour recovery system is signalled with two LEDs.

A VAPORIX system consists of two VAPORIX-Flow transmitters for monitoring both sides of the dispenser and one evaluation unit VAPORIX-Control. The VAPORIX-Flow transmitter is fitted into the vapour recovery pipe. The evaluation unit VAPORIX-Control is mounted in the computer head of the dispenser. The transmitters, pulse inputs and auxiliary power supply are connected to the evaluation unit. Finally, the maintenance-free system must be configured.

In addition, the evaluation unit can be extended by the following VAPORIX components:

- **SECON with SECON-Vap**
  Signalling device to indicate the function status of the vapour recovery and the VAPORIX system (displays faults, saves and acknowledges);
  (see technical documentation SECON Client, art. no. 350076; technical documentation SECON-Vap User guide, art. no. 350113; and technical documentation SECON-Vap Administrator, art. no. 350134)

- **VAPORIX-PCM**
  Module for corrective control of active vapour recovery systems
  (see technical documentation VAPORIX-PCM, art. no. 350102)

- **VAPORIX-Service-Dongle**
  Access protection, user identification, and ease of service functions of the VAPORIX system
  (see technical documentation VAPORIX-Service-Dongle, art. no. 207082)

- **VAPORIX-Diagnostic**
  Excel-based program for automatic reading and graphical representation of the VAPORIX history data of both dispenser sides
  (see technical documentation VAPORIX-Diagnostic, art. no. 207155)
2 Safety instructions

The VAPORIX system is designed for measuring and evaluating the vapour flow of vapour recovery systems at petrol stations. The system must be used exclusively for this purpose. The manufacturer accepts no liability for any form of damage resulting from improper use.

The transmitter and the evaluation unit have been developed, manufactured and tested in accordance with state-of-the-art technology and with recognised safety rules and regulations. Nevertheless, hazards may arise from their use.

For this reason, the following safety instructions must be observed:

- Do not change or modify the system or add any equipment without the prior consent of the manufacturer.
- Only use original spare parts. These comply with the technical requirements specified by the manufacturer.
- The installation, operation and maintenance of the transmitter and the evaluation unit as well as configuration of the system must only be carried out by expert, authorised personnel. Specialised knowledge must be acquired by regular training.
- Operators, installers and service technicians must observe all applicable safety regulations. This also applies to any local safety and accident prevention regulations which are not stated in this user guide.
- VAPORIX-Flow and VAPORIX-Control are subject to explosion protection and environmental approvals and are therefore only allowed to be repaired by FAFNIR or companies authorized by FAFNIR. In case of failure, always the entire transmitter or the entire evaluation unit must be replaced.
- The evaluation unit VAPORIX-Control is exclusively intended for mounting in the protective casing of the dispenser computer and not to be used in hazardous areas. It is only intended for use within the VAPORIX system.

The safety instructions in this user guide are marked as follows:

⚠️ If these safety instructions are not observed, it may result in the risk of accident or damages to the VAPORIX system.

📝 Useful information which ensures continued and correct operation of the system and makes your work easier.
3  VAPORIX-Flow transmitter

3.1  Design and function

The VAPORIX-Flow is a calorimetric flow transmitter with integrated vapour concentration sensor, which supplies accurate results even in case of changing vapour concentrations. VAPORIX-Flow consists of a measuring tube with inlet section (1), outlet section (2) and side-fitted sensor support (3) (see Figure 1).

In the sensor support (3) there are three sensors. A temperature sensor to measure the vapour temperature, a heat dissipating sensor to determine the flow and a heat dissipating sensor to measure the vapour concentration.
The measurement of flow rate and vapour concentration is based on the calorimetric principle. Here, the heat dissipation of the electrically heated sensor into the flowing medium is utilized as a measuring effect. The vapour concentration is required for precise evaluation of the flow rate.

![Function principle of the VAPORIX-Flow](image)

Figure 2: Function principle of the VAPORIX-Flow

The grey tail represents the heat dissipation into the flowing medium.

### 3.2 Installation

⚠️ *When working with the transmitters, the national safety and accident prevention regulations and safety instructions in this manual must be observed.*

⚠️ *When installing and operating the transmitters, the national requirements of Explosion Protection Regulations, Industrial Health and Safety Regulations and Equipment Safety Regulations as well as generally accepted rules of engineering and these operating instructions must be observed.*

⚠️ *VAPORIX-Flow and VAPORIX-Control are subject to explosion protection and environmental approvals and are therefore only allowed to be repaired by FAFNIR or companies authorized by FAFNIR. In case of failure, always the complete transmitter must be replaced.*
3.2.1 Installation of VAPORIX-Flow in the dispenser

When installing the VAPORIX-Flow the following installation conditions must be fulfilled (see Figure 3):

- The installation of the VAPORIX-Flow is done in the vapour recovery pipe upstream of the pump and any existing control valve.
- The mounting position is vertical with the inlet section on top. The flow direction is embossed on the sensor casing.

⚠️ *The flow direction arrow must point from the top to the bottom.*
• In front of the transmitter a straight vapour pipe (inlet section), smooth or corrugated, is required with a length of minimum 50 mm and an inner diameter of 8 ... 12 mm.
• The inflow into the inlet section may be done with a minimum radius of 50 mm.
• The inlet section can be connected using a standard fitting.
• The connection to the outlet section of the transmitter can be done in any form. The direct mounting of a 90° degree fitting is also permitted.
• The casing of the VAPORIX-Flow is to be attached vertically in the dispenser with the help of clamps.

⚠️ Different installation conditions are permitted only after prior review and written approval by FAFNIR.

⚠️ The VAPORIX-Flow is not allowed to be operated with low-volatile media.
3.2.2 Measures in case of pulsation

Due to the pumping process, most vapour recovery pumps in vapour recovery systems produce pressure surges which result in a pulsating flow behaviour. This pulsation is very prominent in piston and diaphragm pumps. With dual-piston pumps, these effects are much smaller than with single-cylinder piston or single-cylinder diaphragm pumps. With vane pumps, the pulsation is usually negligible.

Within the pipeline system, the pressure surges result in reflections and thus can cause resonances. The accuracy of the VAPORIX system is affected by the pulsation. The magnitude of a possible effect depends on the pulsation amplitude, the average flow velocity and the vapour concentration.

To guarantee the accuracy of VAPORIX system, the following additional installation steps for the vapour recovery system must be carried out:

- Diaphragm or piston pumps with proportional valve control
  The pulsation is largely shielded by the proportional valve. However, a minimum pipe volume of approximately 50 cc should be provided. This corresponds to a total pipe length of approximately 80 cm between sensor and vapour recovery pump, with an inner diameter of 9 mm.

- Double piston pumps with speed control
  Here, a minimum pipe volume of approximately 50 cc should also be provided. This corresponds to a total pipe length of approximately 80 cm between sensor and vapour recovery pump, with an inner diameter of 9 mm.

- Diaphragm or piston pumps with speed control
  Here, the pulsation directly affects the VAPORIX-Flow. Therefore, a pulsation damper should be mounted in the line between sensor and pump. Approximately 10 times of the displacement volume of the pump should be used as pulsation damper, which is typically 250 cc. This can easily be realized by a damper pot. The FAFNIR condensate separator is a well-proven pulsation damper.

- Pump systems with liquid-controlled proportional valve integrated in the nozzle
  The pulsation of the pump running at full speed directly affects the VAPORIX-Flow. Therefore, a pulsation damper should be mounted in the line between sensor and pump. Approximately 10 times of the displacement volume of the pump should be used as pulsation damper, which is typically 250 cc. This can easily be realized by a damper pot. The FAFNIR condensate separator is a well-proven pulsation damper.
3.2.3 Connection of the VAPORIX-Flow to the VAPORIX-Control

The 8-core connecting cable (4 m long, Ø approx. 6 mm) is an integral part of the transmitter. To pull the cable through suitable cable glands up to the installation point of the VAPORIX-Control in the head of the dispenser, the plug must be disconnected first and then fitted again as shown in the figure below.

![Diagram of pin assignment of the connecting cable for VAPORIX-Flow - VAPORIX-Control]

Figure 4: Pin assignment of the connecting cable for VAPORIX-Flow - VAPORIX-Control

⚠️ The cable must not be shortened.

⚠️ The cable of the VAPORIX-Flow, which is installed in the vapour recovery pipe of the dispenser with the lower fuelling point number, should be labelled with letter A for easy identification at the upper end and should be connected accordingly to the side A of the evaluation unit. Equally, mark the cable of the second VAPORIX-Flow with the letter B for connection to the site B.

⚠️ After installation and before first use, please read our tips and recommended actions from chapter "Error prevention and troubleshooting".
3.3 Technical Data

Explosion protection:  II 1 G Ex ia IIB T4 Ga
                      II 1/2 G Ex ia IIB T4 Ga/Gb
Approval:            TÜV 99 ATEX 1509,
                      IECEx TUN 08.0008
Index of protection  IP68
Perm. ambient temperature: -40 °C to +65 °C
Perm. operating pressure: max. ATM
Max. test pressure:     300 kPa
Connection:            Only to the evaluation unit VAPORIX-Control
Connecting thread:     3/8” internal thread
Connection cable:      PVC - partly fuel resistant
Length:               269 mm
Weight:               approximately 1100 g
Material of media      Brass, stainless steel 1.4401 and 1.4436, steel zinc plated
wetted parts:
4 VAPORIX-Control evaluation unit

4.1 Design and function

The VAPORIX-Control is used as supply and evaluation unit for two transmitters of the type VAPORIX-Flow.

The VAPORIX-Control determines temperatures, gas concentrations and gas flow rates of the fuelling points from the measured values of VAPORIX-Flow.

The dispenser computer delivers pulse frequencies proportional to the fuel flow as reference values.

The VAPORIX-Control compares the fuel flow with the vapour flow with these data and outputs a status signal. The status of the vapour recovery and the monitoring system is signalled by one tricolour LED per fuelling point B/A (see Figure 6).
4.1.1 Status indication

The status of the vapour recovery and of the monitoring system is indicated with different colours and blink codes of the LED’s (see Figure 6).

Figure 6: VAPORIX-Control LEDs

**Colour codes**

- If the LED is blinking green, the respective vapour recovery system and the monitoring system are intact. There are no faults.
- If the LED is blinking green and orange alternately, the vapour recovery rate of the respective system was outside the permissible tolerance during the last refuelling.
- If the LED is blinking orange, an alarm signal is output and there is a fault in the respective vapour recovery system which must be repaired within a fixed period of time depending on local regulations (typically 3 days).
- If the LED is blinking red, the period of time has expired and a signal is output that switches off the respective dispenser.

**Blink codes**

<table>
<thead>
<tr>
<th>Blink code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED is blinking slowly</td>
<td>System is ready for operation</td>
</tr>
<tr>
<td>LED is blinking quickly</td>
<td>Fuel flow is indicated</td>
</tr>
<tr>
<td>LED is blinking very quickly</td>
<td>Vapour flow is indicated even though no fuel flow is present (transmitter is connected to the wrong side A/B). Immediately patch the fault, otherwise an alarm is triggered after 10 refuellings.</td>
</tr>
<tr>
<td>LED is blinking (long on / short off)</td>
<td>Transmitter is defective or connection fault at the connector. Immediately repair the fault or replace the sensor, otherwise an alarm is triggered after 10 refuellings.</td>
</tr>
</tbody>
</table>
If the VAPORIX-Control operates in conjunction with a DOMS Site Controller PSS5000 (see TÜV certificate 12.4), the signalling (visual/audible) in case of vapour recovery faults is done on the alarm panel of the DOMS Controller. In this case, the respective orange or red blinking of the VAPORIX-Control does not appear (see above).

4.2 Installation

⚠️ When installing and operating the evaluation unit, the national requirements of Explosion Protection Regulations, Industrial Health and Safety Regulations and Equipment Safety Regulations as well as generally accepted rules of engineering and these operating instructions must be observed.

⚠️ The evaluation unit is built into a casing with the minimum degree of protection IP20. It is not suitable for outdoor installation.

⚠️ The VAPORIX-Control is subject to national construction approvals (in Germany DIBT) and therefore only allowed to be repaired by FAFNIR or companies authorized by FAFNIR. In case of failure, always the complete evaluation unit must be replaced.

The evaluation unit must be placed outside the potentially explosive area in the dispenser head in a suitable position, screwed or clipped onto a DIN rail.

⚠️ When installing the evaluation unit, note that all plug-in connectors, LEDs and the service interface are fully visible and accessible for any service work.

Connect the transmitters, the pulse inputs and auxiliary power to the VAPORIX-Control interface (see Figure 7) and as well the data line of the SECON or the dispenser, if available. For connecting the switching off outputs, please refer to the specifications by the manufacturers of the respective dispensers.

⚠️ Only transmitters certified by a recognized European inspection authority may be connected.

⚠️ After installation and before first use, please read our tips and recommended actions from chapter "Error prevention and troubleshooting".
The VAPORIX-Control may only be operated in atmospheric environments. The operation in flame proof enclosures, such as natural gas dispensers is not allowed.

Figure 7 VAPORIX-Control Connections
4.3 Technical Data

Explosion protection: II (1) G [Ex ia Ga] IIB

Approval: TÜV 99 ATEX 1508 X, IECEx TUN 08.0007

Protection class: IP20

Perm. ambient temp.: -20 ... +65 °C

Auxiliary Power (L, N, PE) 115/230 VAC, ±10 %, 50 ... 60 Hz, appr. 18 VA
max. Voltage: $U_m = 130$ V at 115 VAC
max. Voltage: $U_m = 253$ V at 230 VAC

Connection data with ignition protection class Ex ia IIB per sensor circuit:
- $U_0 \leq 23.9$ V
- $I_0 \leq 325$ mA
- $P_0 \leq 1.9$ W
- $L_0 \leq 300$ µH
- $C_0 \leq 530$ nF

The intrinsically safe circuits are safely galvanically isolated from the supply circuit (power supply) up to a peak value of nominal voltage of 375 V.

Pulse inputs: Rectangular signal with 5 V (1 mA) to 24 V (6 mA), max. 1 kHz, duty cycle 20 ... 80%, potential-free, reverse polarity protection

Pulse valency: 100 impulses/litre set by default, other values (33.3 - 50 - 132 - 200) can be set in the configuration

Switching outputs (Out A / Out B):
- Optocoupler 1 ... 30 V, max. 100 mA potential-free, short circuit at reverse polarity connection:
  - OutX1 closed: Fuelling point released
  - OutX1 open: Fuelling point locked
  - OutX2 closed: Alarm (residual time < 72 h)
  - OutX2 open: no alarm
Service interface: RS-232, 8N1, 9600 baud,
maximum safety Voltage: $U_m = 30$ V

RS-485 2-wire: Data bus for up to 32 fuelling points, 8N1, 9600 baud
Pin assignment:
Pin 1 = Ground (G)
Pin 2 = B
Pin 3 = A

RS-485 4-wire: RS-422 for dispenser communication, 8E1, 9600 baud
Pin assignment:
Pin 1, 2, 9, 10: not used
Pin 3: TxD B
Pin 4: TxD A
Pin 5: RxD B
Pin 6: RxD A
Pin 7: Supply (-)
Pin 8: Supply (+)

5-V output: max. 50 mA

Casing dimensions: 149 x 80 x 117 mm

Weight: approximately 750 g

Casing material: Polycarbonate, glass fibre reinforced
5 Fault prevention and troubleshooting (after installation)

FAFNIR recommends carrying out the following measures before the automatic monitoring system is put into operation.

5.1 Checking the dispenser settings

The fuel flow speed must not exceed the maximum gas flow speed specified in the certificate of the vapour recovery system.

Consider in this context that, after replacing a fuel filter the fuel flow speed can increase.

5.2 Checking the vapour recovery system

Make sure that:

- the vapour recovery system is gas-tight (pressure test according to the manufacturer’s specification)
- there is no fluid leakage to the vapour recovery system
- at MPDs (Multi Product Dispenser) the open-close valves for selection of the vapour channel open and close correctly under all circumstances
- the pulse valency (impulses per volume unit) of the fuel flow counter of the dispenser must comply with those of the vapour recovery system and the automatic monitoring system
- at MPDs the assignment of the vapour recovery is properly adjusted (vapour recovery pump must start for all Petrol fuels, but must not start for Diesel fuel)

5.3 Check measurements with monitoring system

FAFNIR recommends carrying out the following measures after installation of the automatic monitoring system:

- Adjust the vapour recovery system (dry adjustment according to manufacturer’s specifications). Use only properly maintained instruments, which are in perfect condition. For dry adjustment, the vapour recovery system must be free of hydrocarbons.
- Check the adjustment by means of a simulation measurement.
- By means of the status indicator on the VAPORIX-Control (LED blink and colour-codes) check the function of the automatic monitoring system and the vapour recovery system (see section "Design and function" in chapter "VAPORIX-Control evaluation unit").
Carry out some sample fillings (> 20 s and > 25 l/min) or wait for some customer fillings and then check the history data using the SECON or the VAPORIX-Diagnostic program (see separate manual).

5.4 Troubleshooting
To facilitate the troubleshooting and fault analysis, FAFNIR recommends using the FAFNIR PC program "VAPORIX-Diagnostic" together with the FAFNIR-Diagnostic-Compendium.
6  Maintenance

6.1  Return shipment

Before returning any FAFNIR equipment the Return Material Authorization (RMA) by the FAFNIR customer support is required. Please contact your account manager or the customer service to receive the instructions on how to return goods.

» The return of FAFNIR equipment is possible only with authorization by the FAFNIR customer care.
EU-Konformitätserklärung
EU Declaration of Conformity
Déclaration UE de Conformité

FAFNIR GmbH
Schnackenburgallee 149 c
22525 Hamburg
Deutschland / Germany / Allemagne

erklärt als Hersteller in alleiniger Verantwortung, dass das Produkt
declares as manufacturer under sole responsibility that the product
declare sous sa seule responsabilité en qualité de fabricant que le produit

Messwertgeber / Transmitter / Capteur de mesure

VAPORIX-Flow

den Vorschriften der europäischen Richtlinien
complies with the regulations of the European directives
est conforme aux réglementations des directives européennes suivantes

durch die Anwendung folgender harmonisierter Normen entspricht
by applying the harmonised standards
par l’application des normes

RoHS / RoHs / RoHS
EMV / EMC / CEM
ATEX / ATEX / ATEX
EN 50581:2012
EN 61326-1:2013
EN 60079-0:2012 + A11:2013
EN 60079-11:2012
EN 60079-26:2015

Das Produkt ist bestimmt als Elektro- und Elektronikgerät der RoHS-
The product is determined as electrical and electronic equipment of RoHS
Le produit est déterminé comme des équipements électriques et électroniques de RoHS

Kategorie / Category / Catégorie

Überwachungs- und Kontrollinstrumenten in der Industrie /
Industrial Monitoring and Control Instruments /
Instruments de contrôle et de surveillance industriels

Das Produkt entspricht den EMV-Anforderungen
The product complies with the EMC requirements
Le produit est conforme aux exigences CEM

Störaussendung / Emission / Émission
Störfestigkeit / Immunity / D’immunité
Klasse B / Class B / Classe B
Grundlegende elektromagnetische Umgebung /
Basic electromagnetic environment /
Environnement électromagnétique ordinaire

Die notifizierte Stelle TÜV NORD CERT GmbH, 0044 hat eine EU-Baumusterprüfung durchgeführt und folgende Bescheinigung ausgestellt
The notified body TÜV NORD CERT GmbH, 0044 performed a EU-type examination and issued the certificate
L’organisme notifié TÜV NORD CERT GmbH, 0044 a effectué examen UE de type et a établi l’attestation

VAPORIX-Flow
TÜV 99 ATEX 1509

Hamburg, 14.05.2018
Ort, Datum / Place, Date / Lieu, Date

Geschäftsführer / Managing Director / Géant: René Albrecht

Seite / Page / Page 1/1
Translation

EU-Type Examination Certificate

Equipment and protective systems intended for use in potentially explosive atmospheres, Directive 2014/34/EU

Certificate Number: TÜV 99 ATEX 1509  issue: 00

for the product: Transmitter type VAPORIX-Flow

of the manufacturer: FAFNIR GmbH

Address: Schnackenburgallee 149 c, 22525 Hamburg, Germany

Order number: 8000482538

Date of issue: 2018-02-27

The design of this product and any acceptable variation thereto are specified in the schedule to this EU-Type Examination Certificate and the documents therein referred to.

The TÜV NORD CERT GmbH, Notified Body No. 0044, in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential ATEX Assessment Report No. 18 203 218423.

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:


except in respect of those requirements listed at item 18 of the schedule.

If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions for Use specified in the schedule to this certificate.

This EU-Type Examination Certificate relates only to the design, and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

The marking of the product shall include the following:

Ex II 1 G Ex ia IIB T4 Ga II 1/2 G Ex ia IIB T4 Ga/Gb

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Identi. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Identi. Nr. 0032

The head of the notified body

Roder

Hanover office, Am TÜV 1, 30519 Hannover, Tel. +49 511 998-61455, Fax +49 511 998-61590

This certificate may only be reproduced without any change, schedule included. Excerpts or changes shall be allowed by the TÜV NORD CERT GmbH
(13) **SCHEDULE**

(14) EU-Type Examination Certificate No. TÜV 99 ATEX 1509 issue 00

(15) **Description of product**

The transmitter is used to measure gas flow as part of an automatic monitoring device to check the function of the vapour recovery systems at filling stations.

The transmitter type VAPORIX-Flow may in future also be manufactured in accordance with the test documents listed in the ATEX test report. The changes concern the change of temperature class, the marking as well as the change of the address of the manufacturer.

**Type designation:**

VAPORIX-Flow Transmitter for connection to VAPORIX-Control ...

**Technical data:**

Sensor circuits “1” to “8” in type of protection “Intrinsic Safety” Ex ia IIB only for the connection to the associated evaluation unit type VAPORIX-Control ... according to EU-type examination certificate No. TÜV 99 ATEX 1508 X

**Permissible ambient temperature range:**

-40 °C to +65 °C

(16) **Drawings and documents are listed in the ATEX Assessment Report No. 18 203 218423**

(17) **Specific Conditions for Use**

none

(18) **Essential Health and Safety Requirements**

no additional ones

- End of Certificate -
Instructions in accordance with directive 2014/34/EU

Transmitter type VAPORIX-Flow

I Range of application

The transmitter is used to measure gas flow as part of an automatic monitoring device to check the function of the vapour recovery systems at filling stations.

II Standards

The equipment is designed in accordance with the following European standards:

- EN 60079-0:2012 + A11:2013: Equipment – General requirements
- EN 60079-11:2012: Equipment protection by intrinsic safety "i"
- EN 60079-26:2015: Equipment with Equipment Protection Level (EPL) Ga

III Instructions for safe...

III.a use

The transmitter serves as intrinsically safe apparatus and is suitable for use in potentially explosive atmospheres. The transmitter is suitable for gases of groups IIA and IIB with temperature classes T1, T2, T3 and T4.

The transmitter may only be connected to the evaluation unit type VAPORIX-Control... (TÜV 99 ATEX 1508 X).

III.b assembling and dismantling

Disassembly of the transmitter is not intended. A disassembly would also damage the transmitter and the certificate expiry!

III.c installation

The wiring may only be done de-energized. Special regulations i. a. EN 60079-14 or the local installation regulations must be observed.

The pipe threads are to be provided with suitable sealing material and inserted into the pipe system.

When wiring from the transmitter to the evaluation unit (preferably blue cable), the permissible inductance and capacity of the evaluation unit must not be exceeded.

Connector pin assignment:

![Connector pin assignment diagram]

General remark (see also EN 60079-14:2014, Clause 6.4.1):

Exposed conductive parts need not be separately connected to the equipotential bonding system if they are firmly secured to and are in conductive contact with structural parts or piping which are connected to the equipotential bonding system.
III.d … adjustment
For the operation of the transmitter, no Ex-relevant adjustments are necessary.

III.e … putting into service
Before putting into service, all devices must be checked for correct connection and installation. The electrical supply, including the connected devices, must be checked.

III.f … maintenance (servicing and emergency repair)
The apparatus is generally maintenance-free. In the case of a defect, this must be returned to the manufacturer FAFNIR or one of its representatives.

It is in conformance with the dielectric strength requirements between the intrinsically safe circuit and the chassis of the transmitter with 500 V_AC in accordance with EN 60079-11, Clause 6.3.13.

IV Equipment marking
1 Manufacturer: FAFNIR GmbH, 22525 Hamburg
2 Type designation: VAPORIX-Flow
3 Certificate number: TÜV 99 ATEX 1509
4 Ex marking: II 1 G Ex ia IIB T4 Ga
               II 1/2 G Ex ia IIB T4 Ga/Gb
5 CE marking: 0044
6 Technical data: $T_a = -40 \, ^\circ C \ldots +65 \, ^\circ C$

V Technical data
The transmitter must only be connected to the certified evaluation unit type VAPORIX-Control ... in accordance with the EU-type examination certificate TÜV 99 ATEX 1508 X. The electrical input data of the transmitter are adapted to the evaluation unit and are not listed here.

The transmitter may be used in the following ambient temperature range:

$T_a = -40 \, ^\circ C \ldots +65 \, ^\circ C$

General remark (see also EN 60079-0, Clause 1):

Zone 0 is given only under atmospheric conditions:

- Temperature range: -20 °C ... +60 °C
- Pressure range: 0,8 bar ... 1,1 bar
- Oxidant: Air (oxygen content approx. 21 %)

The transmitter achieves a degree of protection of:

Degree of protection: IP68

VI Special conditions of use
None.
EU-Konformitätserklärung
EU Declaration of Conformity
Déclaration UE de Conformité

FAFNIR GmbH
Schnackenburgallee 149 c
22525 Hamburg
Deutschland / Germany / Allemagne

erklärt als Hersteller in alleiniger Verantwortung, dass das Produkt
declares as manufacturer under sole responsibility that the product
déclare sous sa seule responsabilité en qualité de fabricant que le produit:

Messauswertung / Evaluation Unit / Unité d’analyse

VAPORIX-Control ...

den Vorschriften der europäischen Richtlinien
complies with the regulations of the European directives
est conforme aux réglementations des directives européennes suivantes

| 2011/65/EU | Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten | RoHS |
| 2011/65/EU | Restriction of the use of certain hazardous substances in electrical and electronic equipment | RoHS |
| 2011/65/UE | Limitation de l'utilisation de certaines substances dangereuses dans les équipements électriques et électroniques | RoHS |
| 2014/30/EU | Elektromagnetische Verträglichkeit | EMV |
| 2014/30/EU | Electromagnetic compatibility | EMC |
| 2014/30/UE | Compatibilité électromagnétique | CEM |
| 2014/34/EU | Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen | ATEX |
| 2014/34/EU | Equipment and protective systems intended for use in potentially explosive atmospheres | ATEX |
| 2014/34/UE | Appareils et systèmes de protection destinés à être utilisés en atmosphères explosibles | ATEX |

Durch die Anwendung folgender harmonisierter Normen entspricht
by applying the harmonised standards
par l’application des normes

RoHS / RoHS / RoHS
EMV / EMC / CEM
ATEX / ATEX / ATEX

EN 50581:2012
EN 61326-1:2013
EN 60079-0:2012 + A11:2013
EN 60079-11:2012

Das Produkt ist bestimmt als Elektro- und Elektronikgerät der RoHS.
The product is determined as electrical and electronic equipment of RoHS.
Le produit est déterminé comme des équipements électriques et électroniques de RoHS.

Kategorie / Category / Catégorie

Überwachungs- und Kontrollinstrumenten in der Industrie /
Industrial Monitoring and Control Instruments /
Instruments de contrôle et de surveillance industriels

Kategorie / Category / Catégorie

Störaussendung / Emission / Émission
Störfestigkeit / Immunity / D’immunité

Störaussendung / Emission / Émission
Störfestigkeit / Immunity / D’immunité

Die notifizierte Stelle TÜV NORD CERT GmbH, 0044 hat eine EU-Baumusterprüfung durchgeführt und folgende Bescheinigung ausgestellt.
The notified body TÜV NORD CERT GmbH, 0044 performed a EU-type examination and issued the certificate.
L’organisme notifié TÜV NORD CERT GmbH, 0044 a effectué examen UE de type et a établi l’attestation.

VAPORIX-Control ...

TÜV 99 ATEX 1508 X

Hamburg, 25.08.2016

Ort, Datum / Place, Date / Lieu, Date

Geschäftsführer / Managing Director / Gérant: René Albrecht
Translation

EU-Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, Directive 2014/34/EU

(3) Certificate Number TÜV 99 ATEX 1508 X issue: 00

(4) for the product: Evaluation Unit type VAPORIX-Control ...

(5) of the manufacturer: FAFNIR GmbH

(6) Address: Schnackenburgallee 149 c, 22525 Hamburg, Germany
Order number: 8000 460585
Date of issue: 2016-05-25

(7) The design of this product and any acceptable variation thereto are specified in the schedule to this EU-Type Examination Certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH, Notified Body No. 0044, in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive. The examination and test results are recorded in the confidential ATEX Assessment Report No. 16 203 181780.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
except in respect of those requirements listed at item 18 of the schedule.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions for Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design, and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the product shall include the following:

Ex II (1) G [Ex ia Ga] IIB

TÜV NORD CERT GmbH, Langenmarckstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZVS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body

Karl-Heinz Schwedt

Hanover office, Am TÜV 1, 30519 Hannover, Tel. +49 511 998-61455, Fax +49 511 998-61590

This certificate may only be reproduced without any change, schedule included. Excerpts or changes shall be allowed by the TÜV NORD CERT GmbH
SCHEDULE

EU-Type Examination Certificate No. TÜV 99 ATEX 1508 X issue 00

Description of product

The evaluation unit is a part of an automatic monitoring device to check the function of the vapour recovery systems at petrol stations. The evaluation unit must only be installed outside of potential explosive atmosphere. Two intrinsic safety sensors as maximum can connected to every evaluation unit.

The evaluation unit type VAPORIX-Control ... may also be manufactured according to the ATEX test documents listed in the test report.

The changes concern the extension of type VAPORIX-Control II as well as the change of the manufacturer address.

Type designation:
VAPORIX-Control Evaluation unit in a top hat rail enclosure
VAPORIX-Control Basic Evaluation unit in a top hat rail enclosure without RS-485 communication
VAPORIX-Control II Evaluation unit in a built-on enclosure

Technical data:

Type VAPORIX-Control and Type VAPORIX-Control Basic
Supply circuit „230V~“
(terminals L, N, PE)
U = 115/230 V a. c. ± 10 %, 50 ... 60 Hz, about 18 VA
U_m = 130 V at 115 V a. c.
U_m = 253 V at 230 V a. c.

Sensor circuits „B“ and „A“
in type of protection “Intrinsic Safety” Ex ia II B
(terminals 1 to 8)
Maximum values per circuit:
U_o = 23.9 V
I_o = 325 mA
P_o = 1.9 W
R = 76 Ω
Characteristic line: linear
L_o = 380 μH
C_o = 480 nF

Aforementioned maximum values are valid at coincidental appearance of concentrated capacitance and inductance.

Clock input „Pulse“
(terminals -B+, -A+)
U = 5 V ... 30 V
U_m = 134 V

Control outputs „Out B“ and „Out A“
(terminals -2+, -1+)
U ≤ 30 V
I ≤ 200 mA
U_m = 134 V

Voltage output „5V“
(terminals –, +)
U = 5 V
I ≤ 50 mA

Two-wire RS-485 „RS485“
(terminals G, B, A)
U < 12 V
U_m = 134 V

Four-wire RS-485 „RS485-4“
(plug connector)
U < 12 V
U_m = 134 V

RS-232 interface „Service“
(Sub D socket)
U ≤ 12 V
U_m = 134 V
Schedule to EU-Type Examination Certificate No. TÜV 99 ATEX 1508 X issue 00

Type VAPORIX-Control II
Supply circuit „24V=“
(terminals +, -)
Sensor circuits „A“ and „B“
(terminals 1 to 8)

U = 24 V d. c. ± 5 %, ca. 9 W
U_m = 253 V

in type of protection “Intrinsic Safety” Ex ia IIB

Maximum values per circuit:
U_o = 22.2 V
I_o = 371 mA
P_o = 2.1 W
R = 60 Ω
Kennlinie: linear
L_i = 10 μH
C_i = 200 nF
L_o = 440 μH
C_o = 510 nF

Aforementioned maximum values are valid at coincidental appearance of concentrated capacitance and inductance.

RS-422 „RS422“
(plug connector)
RS-485 „RS485“
(terminals A, B, G)

U < 12 V
U_m = 134 V
U < 12 V
U_m = 134 V

Permissible ambient temperature range:
-20 °C to +65 °C

All further data are valid unchanged.

(16) Drawings and documents are listed in the ATEX Assessment Report No. 16 203 181780

(17) Specific Conditions for Use

1. The evaluation unit type VAPORIX-Control II must installed in an enclosure with a degree of protection provided by enclosure according to IEC 60529 of at least IP20.

2. The potential equalization terminal (PA) on the evaluation unit type VAPORIX-Control II must bonded to the potential equalization system of the potential explosive area.

(18) Essential Health and Safety Requirements

no additional ones

- End of Certificate -
Instructions in accordance with directive 2014/34/EU

Evaluation Unit type VAPORIX-Control ...

I  Range of application
The evaluation unit is a part of an automatic monitoring device to check operation of vapour recovery systems at petrol stations.

II  Standards
The evaluation unit is designed in accordance with the following European standards
- EN 60079-0:2012 + A11:2013  Equipment – General requirements
- EN 60079-11:2012  Equipment protection by intrinsic safety "i"

III  Instructions for safe ...

III.a  ... use
The evaluation unit serves as associated equipment and is not approved for use in potentially explosive areas. The intrinsically safe electric circuits of the evaluation unit may be routed to Zone 0 and can be used for gas groups II A and II B.

The approval is valid for the device versions
- VAPORIX-Control  Evaluation unit in DIN rail housing
- VAPORIX-Control Basic  Evaluation unit in DIN rail housing without RS-485 communication
- VAPORIX-Control II  Evaluation unit in modular housing

III.b  ... assembling and dismantling
The assembly and disassembly must solely be carried out with the power disconnected!

The housing of the top hat rail enclosure must not be opened!

The evaluation unit type VAPORIX-Control II can be operated in a modular housing. Then there must be an equipotential terminal on the board. Should the board be fixed on another bracket/housing a secure connection must be established for potential equalization on at least one of the three PA connections.
III.c ... installation

Wiring work may only be performed with the power disconnected. Special rules and regulations, including EN 60079-14 and local installation regulations, must be observed.

The evaluation unit in DIN rail housing is suitable for DIN rail and wall mounting. The evaluation unit in modular housing must be installed in a housing with a degree of protection of at least IP20. The evaluation unit must be installed outside potentially explosive atmospheres/areas. If the evaluation unit is mounted outdoors, the casing protection class must be at least IP54.

The wiring from the sensor (VAPORIX-Flow) to the evaluation unit (preferably blue coloured cable) must not exceed the permissible inductance and capacitance according to section V.

Terminal designation:

<table>
<thead>
<tr>
<th>Connection</th>
<th>Terminal</th>
<th>Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auxiliary power</td>
<td>230V~</td>
<td>PE, N and L</td>
</tr>
<tr>
<td>Sensor circuits</td>
<td>B resp. A</td>
<td>1 to 8 as appropriate</td>
</tr>
<tr>
<td>Pulse input</td>
<td>Pulse</td>
<td>-B+ resp. -A+</td>
</tr>
<tr>
<td>Control outputs</td>
<td>Out B resp. Out A</td>
<td>-2+ resp. -1+ as appropriate</td>
</tr>
<tr>
<td>Voltage output</td>
<td>5V</td>
<td>- and +</td>
</tr>
<tr>
<td>RS-485 two-wire cable</td>
<td>RS485</td>
<td>G, B and A</td>
</tr>
<tr>
<td>RS-485 four-wire cable</td>
<td>RS485-4</td>
<td>(Cradle connector)</td>
</tr>
<tr>
<td>RS-232 interface</td>
<td>Service</td>
<td>(Sub D jack)</td>
</tr>
</tbody>
</table>

Table III.c1: Terminal labelling on the evaluation unit VAPORIX-Control

<table>
<thead>
<tr>
<th>Connection</th>
<th>Terminal</th>
<th>Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auxiliary power</td>
<td>24V=</td>
<td>- and +</td>
</tr>
<tr>
<td>Sensor circuits</td>
<td>A resp. B</td>
<td>1 to 8 as appropriate</td>
</tr>
<tr>
<td>RS-422</td>
<td>RS422</td>
<td>(Cradle connector)</td>
</tr>
<tr>
<td>RS-485</td>
<td>RS485</td>
<td>A, B and G</td>
</tr>
<tr>
<td>Equipotential bonding</td>
<td>PA</td>
<td>PA</td>
</tr>
</tbody>
</table>

Table III.c2: Terminal labelling on the evaluation unit VAPORIX-Control Basic

<table>
<thead>
<tr>
<th>Connection</th>
<th>Terminal</th>
<th>Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auxiliary power</td>
<td>24V=</td>
<td>- and +</td>
</tr>
<tr>
<td>Sensor circuits</td>
<td>A resp. B</td>
<td>1 to 8 as appropriate</td>
</tr>
<tr>
<td>RS-485</td>
<td>RS485</td>
<td>A, B and G</td>
</tr>
<tr>
<td>Equipotential bonding</td>
<td>PA</td>
<td>PA</td>
</tr>
</tbody>
</table>

Table III.c3: Terminal labelling on the evaluation unit VAPORIX-Control II

The evaluation unit VAPORIX-Control II must be bonded in the potential equalization of the hazardous area.
III.d  ... adjustment
To operate the evaluation unit no safety-related facilities are required.

III.e  ... putting into service
Before putting into service, all devices must be checked for correct connection and installation. The electrical supply, including the connected devices, must be checked.

III.f  ... maintenance (servicing and emergency repair)
In general, the evaluation unit is maintenance-free. If there is a defect, it must be sent back to the manufacturer FAFNIR or one of its representatives.

The evaluation units VAPORIX-Control and VAPORIX-Control Basic are in compliance with the requirements for dielectric strength according to EN 60079-11, Clause 6.3.13 between the intrinsically safe sensor circuits and the power supply, the communication terminals and the outputs.

The evaluation unit VAPORIX-Control II is in compliance with the requirements for dielectric strength according to EN 60079-11, Clause 6.3.13 between the intrinsically safe sensor circuits and the communication terminals. No compliance is between the intrinsically safe sensor circuits and the power supply.

IV  Equipment marking
1  Manufacturer: FAFNIR GmbH, Hamburg
2  Type designation: VAPORIX-Control ...
3  Certificate number: TÜV 99 ATEX 1508 X
4  Ex marking: Ex II (1) G [Ex ia Ga] II B
5  CE marking: CE 0044
6  Technical data:

<table>
<thead>
<tr>
<th>VAPORIX-Control</th>
<th>VAPORIX-Control Basic</th>
</tr>
</thead>
<tbody>
<tr>
<td>U_o ≤ 23.9 V</td>
<td>U_o ≤ 22.2 V</td>
</tr>
<tr>
<td>I_o ≤ 325 mA</td>
<td>I_o ≤ 371 mA</td>
</tr>
<tr>
<td>P_o ≤ 1.9 W</td>
<td>P_o ≤ 2.1 W</td>
</tr>
<tr>
<td>L_o ≤ 380 µH</td>
<td>L_o ≤ 440 µH</td>
</tr>
<tr>
<td>C_o ≤ 480 nF</td>
<td>C_o ≤ 510 nF</td>
</tr>
<tr>
<td>T_a ≤ +65 °C</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VAPORIX-Control II</th>
</tr>
</thead>
<tbody>
<tr>
<td>U_o ≤ 23.9 V</td>
</tr>
<tr>
<td>I_o ≤ 325 mA</td>
</tr>
<tr>
<td>P_o ≤ 1.9 W</td>
</tr>
<tr>
<td>L_o ≤ 380 µH</td>
</tr>
<tr>
<td>C_o ≤ 480 nF</td>
</tr>
<tr>
<td>T_a ≤ +65 °C</td>
</tr>
</tbody>
</table>
V  Technical data

The power supply for the evaluation unit, depending on model

<table>
<thead>
<tr>
<th>Power Supply</th>
<th>VAPORIX-Control</th>
<th>VAPORIX-Control Basic</th>
<th>VAPORIX-Control II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage ( U )</td>
<td>115 V ( \text{AC} ) ± 10 % resp. 230 V ( \text{AC} ) ± 10 %</td>
<td>24 V ( \text{DC} ) ± 5 %</td>
<td></td>
</tr>
<tr>
<td>Frequency ( F )</td>
<td>50 Hz ... 60 Hz</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Input Power ( P )</td>
<td>≈ 18 VA</td>
<td>-</td>
<td>&lt; 9 W</td>
</tr>
<tr>
<td>Maximum Safety Voltage ( U_m )</td>
<td>134 V @ ( U = 115 \text{ V}<em>{\text{AC}} ) 253 V @ ( U = 230 \text{ V}</em>{\text{AC}} )</td>
<td>253 V</td>
<td></td>
</tr>
</tbody>
</table>

The evaluation unit VAPORIX-Control II may only be connected to power supply networks, where the expected AC does not exceed a value of 1.5 kA.

The electric circuits of the sensors have "Intrinsic safety" [ia] ignition protection class with a linear output characteristic. Output values per electric circuit are:

<table>
<thead>
<tr>
<th>Sensor circuit</th>
<th>VAPORIX-Control</th>
<th>VAPORIX-Control Basic</th>
<th>VAPORIX-Control II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Voltage ( U_o )</td>
<td>≤ 23.9 V</td>
<td>≤ 22.2 V</td>
<td></td>
</tr>
<tr>
<td>Output Current ( I_o )</td>
<td>≤ 325 mA</td>
<td>≤ 371 mA</td>
<td></td>
</tr>
<tr>
<td>Output Power ( P_o )</td>
<td>≤ 1.9 W</td>
<td>≤ 2.1 W</td>
<td></td>
</tr>
<tr>
<td>Inner Capacitance ( C_i )</td>
<td>-</td>
<td>-</td>
<td>&lt; 200 nF</td>
</tr>
<tr>
<td>Inner Inductance ( L_i )</td>
<td>-</td>
<td>-</td>
<td>&lt; 10 µF</td>
</tr>
</tbody>
</table>

The permissible external inductance and capacitance are:

<table>
<thead>
<tr>
<th>IIIB</th>
<th>VAPORIX-Control / VAPORIX-Control Basic</th>
<th>VAPORIX-Control II</th>
</tr>
</thead>
<tbody>
<tr>
<td>( L_o )</td>
<td>≤ 380 µH</td>
<td>200 µH</td>
</tr>
<tr>
<td>( C_o )</td>
<td>≤ 480 nF</td>
<td>620 nF</td>
</tr>
</tbody>
</table>

The maximum values of the parameter pairings may simultaneously be used as concentrated capacitance (minus \( C_i \)) and concentrated inductance (minus \( L_i \)).

The values written in bold can be found also in the equipment marking.

The intrinsically safe sensor circuits of the evaluation units type VAPORIX-Control and type VAPORIX-Control Basic are safely galvanically isolated from the power supply circuit up to a peak value of a nominal voltage 375 V.

The intrinsically safe sensor circuits, if available, are galvanically isolated from the pulse inputs, control outputs, communication interfaces, and voltage output safely up to a peak of 190 V nominal voltage.
As a reference, the corresponding pulse output of the fuel dispenser computer must be connected to the pulse inputs (Pulse). The admissible voltage signal is between
\[ U = 5 \text{ V} \ldots 30 \text{ V} \]
The control outputs (Out) can be loaded with following electrical values
\[ U = 30 \text{ V} \]
\[ I = 200 \text{ mA} \]
The admissible voltage signal of the communication interfaces (RS-422, RS-485, RS-485-4 and Service) is
\[ U \leq 12 \text{ V} \]
The maximum safety voltage of the pulse inputs, the control outputs, the voltage outputs and the communication interfaces is
\[ U_m = 134 \text{ V} \]
The signal voltage of the communication interfaces is
\[ U \leq 12 \text{ V} \]
The voltage output supplies the following electrical values
\[ U = 5 \text{ V} \]
\[ I \leq 50 \text{ mA} \]
The evaluation unit can be used in the following ambient temperature range:
\[ T_a = -20 \degree \text{C} \ldots +65 \degree \text{C} \]
The evaluation unit achieves a protection rating of
- VAPORIX-Control IP20
- VAPORIX-Control Basic IP20
- VAPORIX-Control II IP00

**VI Special conditions of use**

1. The evaluation unit type VAPORIX-Control II must installeed in an enclosure with a degree of protection provided by enclosure according to EN 60529 of at least IP20.
2. The potential equalization terminal (PA) on the evaluation unit type VAPORIX-Control II must bonded to the potential equalization system of the potential explosive area.
Zertifikat Nr. / Certificate No / Certificat N° / Certificato n.
Z-VRMS-01
FAFNIR GmbH
Schnackenburgallee 149 c
22525 Hamburg
Deutschland / Germany / Allemagne / Germania

bestätigt, dass die
confirms that the
conferme que
conferma che il

automatische Überwachungseinrichtung
automatic monitoring system
l'appareil de surveillance automatique
dispositivo di monitoraggio automatico

VAPORIX

für Gasrückführsysteme auf die Einhaltung der Anforderungen in EN 16321-1:2013, Anhang D von der Prüfstelle
for vapour recovery systems has been tested for compliance with the requirements in EN 16321-1:2013, Annex D by the testing laboratory
pour les systèmes de récupération des vapeurs pour la conformité aux exigences de la norme EN 16321-1:2013, annexe D a été testé par le laboratoire d'essai
per i sistemi di recupero dei vapori è stato testato dal laboratorio di prova

TÜV SÜD Industrie Service GmbH, Westendstraße 199, 80686 München, Deutschland / Germany / Allemagne / Germania
gemäß Zertifikat AM VR2-1507-137 EU überprüft wurde. Das System mit den Systemkomponenten
in accordance with certificate AM VR2-1507-137 EU. The system with the system components
conformément au certificat AM VR2-1507-137 EU. Le système avec ses composants
in conformité ai requis della norma EN 16321-1:2013, allegato D, in conformità al certificato AM VR2-1507-137 EU. Il sistema con il
Messwertgeber / Transmitter / Capteur de mesure / Trasduttore di misura
Messauswertung / Evaluation Unit / Unité d'analyse / Unità di analisi delle misure
VAPORIX-Flow
VAPORIX-Control

ist für alle Arten von Gasrückführsystemen geeignet. Die Systemkomponenten werden hergestellt von
is suitable for all types of vapour recovery systems. The system components are manufactured by
est adapté à tous les types de systèmes de récupération des vapeurs. Les composants du système sont fabriqués par
a tutti i tipi di sistemi di recupero dei vapori. I componenti del sistema sono prodotti da

VAPORIX-Flow
VAPORIX-Control

Alle Bewertungen werden von VAPORIX-Control ausgeführt.
All assessments are performed by VAPORIX-Control.
Toutes les évaluations sont effectuées par VAPORIX-Control.
Tutte le valutazioni sono eseguite da VAPORIX-Control.

Die Abschaltung, ausgelöst durch VAPORIX-Control und eingestellt durch dessen Hersteller, beträgt
The deactivation, triggered by VAPORIX-Control and set by its manufacturer, is at
L'arrêt, déclenché par le VAPORIX-Control et réglé par son fabricant, est
Lo spegnimento, innescato da VAPORIX-Control e impostato dal produttore, è

mindestens / least / d'au moins / almeno
maximum / maximum / au maximum de / al massimo a
72 h
168 h

Die Abschaltzeit in Stunden und der Ländercode sind dauerhaft auf dem Gehäuse vom VAPORIX-Control gekennzeichnet.
The deactivation time in hours and the country code are permanently marked on the housing of the VAPORIX-Control.
Le temps d'arrêt en heures et le code du pays sont marqués en permanence sur le boîtier du VAPORIX-Control.
L'ora di spegnimento in ore e il codice paese sono contrassegnati in modo permanente sull'alloggiamento del VAPORIX-Control.

Cet appareil de surveillance automatique est conforme à la directive 2009/126/CE modifiée en dernier lieu par la directive 2014/99/UE.

Hamburg, 27.06.2019
Ort, Datum / Place, Date / Lieu, Date / Luogo, data
Geschäftsführer / Managing Director / Gérant / Direttore Generale: René Albrecht

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Zertifikat Nr. / Certificate No / Certificat N° / Certificato n. Z-VRMS-02
FAFNIR GmbH
Schnackenburgallee 149 c
22525 Hamburg
Deutschland / Germany / Allemagne / Germania

bestätigt, dass die
confirm that the
conferma che il

automatische Überwachungseinrichtung mit Korrekturfunktion
automatic monitoring system with corrective adjustment
l'appareil de surveillance automatique avec fonction de correction
dispositivo di monitoraggio automatico con funzione di correzione

VAPORIX + PCM

für Gasrückführsysteme auf die Einhaltung der Anforderungen in EN 16321-1:2013, Anhang D von der Prüfstelle
for vapour recovery systems has been tested for compliance with the requirements in EN 16321-1:2013, Annex D by the testing laboratory
pour les systèmes de récupération des vapeurs pour la conformité aux exigences de la norme EN 16321-1:2013, annexe D a été testé par le laboratoire d'essai
per i sistemi di recupero dei vapori è stato testato dal laboratorio di prova

TÜV SÜD Industrieservice GmbH, Westendstraße 199, 80686 München, Deutschland / Germany / Allemagne / Germania

gemäß Zertifikat AM VR2-1507-138 EU überprüft wurde. Das System mit den Systemkomponenten
in accordance with certificate AM VR2-1507-138 EU. The system with the system components
conformément au certificat AM VR2-1507-138 EU. Le système avec ses composants
in conformità ai requisiti della norma EN 16321-1:2013, allegato D, in conformità al certificato AM VR2-1507-138 EU. Il sistema con il

Messwertgeber / Transmitter / Capteur de mesure / Trasduttore di misura
Messauswertung / Evaluation Unit / Unité d'analyse / Unità di analisi delle misure
Korrektursteuersmodul / Correcting Control Module / Module de commande corrective / Masculo di controllo della correzione
VAPORIX-Flow
VAPORIX-Flow
VAPORIX-Control
VAPORIX-Control
VAPORIX-PCM
VAPORIX-PCM

ist für alle Arten von Gasrückführungsanlagen geeignet. Die Systemkomponenten werden hergestellt von
is suitable for all types of vapour recovery systems. The system components are manufactured by
est adapté à tous les types de systèmes de récupération des vapeurs. Les composants du système sont fabriqués par
a tutti i tipi di sistemi di recupero dei vapori. I componenti del sistema sono prodotti da

VAPORIX-Flow FAFNIR GmbH
VAPORIX-Control FAFNIR GmbH
VAPORIX-PCM FAFNIR GmbH

Alle Bewertungen werden von VAPORIX-Control ausgeführt. Das Korrektursteuersmodul VAPORIX-PCM ist ein Zusatzgerät.
All assessments are performed by VAPORIX-Control. The correction control module VAPORIX-PCM is an auxiliary device.
Toutes les évaluations sont effectuées par VAPORIX-Control. Le module de commande de correction VAPORIX-PCM est un dispositif auxiliaire.
Tutte le valutazioni sono eseguite da VAPORIX-Control. Il modulo di controllo della correzione VAPORIX-PCM è un dispositivo ausiliario.

Die Abschaltung, ausgeführt durch VAPORIX-Control und eingestellt durch dessen Hersteller, beträgt
The deactivation, triggered by VAPORIX-Control and set by its manufacturer, is at
L'arrêt, déclenché par le VAPORIX-Control et réglé par son fabricant, est
Lo spegnimento, innescato da VAPORIX-Control e impostato dal produttore, è

mindestens / least / d'au moins / almeno 72 h
maximal / maximum / au maximum de / al massimo a 168 h

Die Abschaltzeit in Stunden und der Ländercode sind dauerhaft auf dem Gehäuse vom VAPORIX-Control gekennzeichnet.
The deactivation time in hours and the country code are permanently marked on the housing of the VAPORIX-Control.
Le temps d'arrêt en heures et le code du pays sont marqués en permanence sur le boîtier du VAPORIX-Control.
L'ora di spegnimento in ore e il codice paese sono contrassegnati in modo permanente sull'alloggiamento del VAPORIX-Control.

Cet appareil de surveillance automatique est conforme à la directive 2009/126/CE modifiée en dernier lieu par la directive 2014/99/EU.
Questo dispositivo di monitoraggio automatico è conforme alla direttiva 2009/126/CE modificata da ultimo dalla direttiva 2014/99/UE.

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Zertifikat Nr. / Certificate No / Certificat N° / Certificato n.
Z-VRMS-03

FAFNIR GmbH
Schnackenburgallee 149 c
22525 Hamburg
Deutschland / Germany / Allemagne / Germania

bestätigt, dass die
confirms that the
confirme que
conferma che il

automatische Überwachungseinrichtung mit zentraler Auswertung
automatic monitoring system with central evaluation
l’appareil de surveillance automatique avec évaluation centrale
dispositivo di monitoraggio automatico con valutazione centrale

VAPORIX + PSS 5000

die Gasrückführsysteme auf die Einhaltung der Anforderungen in EN 16321-1:2013, Anhang D von der Prüfstelle
for vapour recovery systems has been tested for compliance with the requirements in EN 16321-1:2013, Annex D by the testing laboratory
pour les systèmes de récupération des vapeurs pour la conformité aux exigences de la norme EN 16321-1:2013, annexe D a été testé par le laboratoire d’essai
per i sistemi di recupero dei vapori è stato testato dal laboratorio di prova

TÜV SÜD Industrie Service GmbH, Westendstraße 199, 80686 München, Deutschland / Germany / Allemagne / Germania

gemäß Zertifikat AM VR2-1507-139 EU überprüft wurde. Das System mit den Systemkomponenten
in accordance with certificate AM VR2-1507-139 EU. The system with the system components
conformément au certificat AM VR2-1507-139 EU. Le système avec ses composants
in conformità ai requisiti della norma EN 16321-1:2013, allegato D, in conformità al certificato AM VR2-1507-139 EU. È sistema con il

Messwertgeber / Transmitter / Capteur de mesure / Trasduttore di misura VAPORIX-Flow
Messauswertung / Evaluation Unit / Unité d’analyse / Unità di analisi delle misure VAPORIX-Control
Vorplatzsteuerung / Forecourt Controller / Contrôleur d’avant-cour / Unità di controllo del piazzale PSS 5000

ist für alle Arten von Gasrückführsystemen geeignet. Die Systemkomponenten werden hergestellt von
is suitable for all types of vapour recovery systems. The system components are manufactured by
est adapté à tous les types de systèmes de récupération des vapeurs. Les composants du système sont fabriqués par
a tutti i tipi di sistemi di recupero dei vapori. I componenti del sistema sono prodotti da

VAPORIX-Flow FAFNIR GmbH
VAPORIX-Control FAFNIR GmbH
PSS 5000 DOMS ApS

Alle Bewertungen werden von PSS 5000 ausgeführt. VAPORIX-Control liefert Daten an PSS 5000.
All assessments are performed by PSS 5000. VAPORIX-Control delivers data to PSS 5000.
Toutes les évaluations sont effectuées par PSS 5000. VAPORIX-Control fournit les données au PSS 5000.
Tutte le valutazioni sono eseguite da PSS 5000. VAPORIX-Control fornisce i dati a PSS 5000.

Die Abschaltung, ausgelöst durch PSS 5000 und eingestellt durch dessen Hersteller, beträgt
The deactivation, triggered by PSS 5000 and set by its manufacturer, is at
L'arrêt, déclenché par le PSS 5000 et réglé par son fabricant, est
Lo spegnimento, innescato da PSS 5000 e impostato dal produttore, è

mindestens / least / d’au moins / almeno 72 h
maximal / maximum / au maximum de / al massimo a 168 h

Die Abschaltzeit in Stunden und der Ländercode sind dauerhaft auf dem Gehäuse vom PSS 5000 gekennzeichnet.
The deactivation time in hours and the country code are permanently marked on the housing of the PSS 5000.
Le temps d’arrêt en heures et le code du pays sont marqués en permanence sur le boîtier du PSS 5000.
L’ora di spegnimento in ore e il codice paese sono contrassegnato in modo permanente sull’alloggiamento del PSS 5000.

Cet appareil de surveillance automatique est conforme à la directive 2009/126/CE modifiée en dernier lieu par la directive 2014/99/EU.

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