SEPARIX
The alarm system for oil and light fluid separators

Sensors & Systems Worldwide: www.fafnir.com
FAFNIR – Quality and Satisfaction

Company:
FAFNIR GmbH, based in Hamburg, Germany, has over 45 years of experience in the development and production of filling safety devices, overfill prevention solutions, limit signal controllers and continuous level gauging solutions for all types of liquid. The optimisation of process controls, improvements in cost efficiency and the protection of people and the environment are at the heart of our business. Our close and trusting relationship with our customers is a key factor in the practice-oriented implementation of innovative ideas and the functionality of our products.

Quality for your satisfaction:
To provide all customers with products of consistently high quality, FAFNIR has for many years operated an internationally recognised, comprehensive quality management system that meets the requirements of ISO 9001:2008 (EN 29001). Our expertise in the development and manufacture of explosion-proof equipment is certified by an independent body. All our products are subject to strict FAFNIR quality requirements. We are committed to meeting international standards and applicable EU directives.
SEPARIX
The alarm system for oil and light fluid separators

Product information
Oil and light fluids present a huge danger potential for ground and waste water. The alarm system SEPARIX is the ideal sensor technology to alert the operator of separators to these dangers in good time.

Application
The separator alarm system SEPARIX is suitable for all kinds of light fluids, especially for petrol, mineral oil components as well as oil of vegetable and animal origin. SEPARIX-C, the separation layer sensor for detecting layer thicknesses, and the high-level sensor SEPARIX-T ensure an optimal monitoring and safeguarding of all separators. By means of the conversion SEPARIX-Control C the alarm is acoustically and visually indicated.

Features of FAFNIR technology
- Suitable for all oil and light fluid separators
- ATEX approval for zone O
- Modular system with separation layer sensor and high-level sensor
- Functional check of internal and external alarm by push-button
- No mechanically moving parts
- Compact and robust design
- Easy installation

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**Function**

**SEPARIX-C H and SEPARIX-C L**
A cylindrical capacitor is situated in the measuring range of the separation layer sensor. The capacity C of this capacitor is altered by the relative dielectric constant $\varepsilon_r$ of the medium, which encloses the sensor. Since the dielectric constant $\varepsilon_r$ varies strongly between water and the layer to be measured in the separator, the separating layer can be measured unambiguously.

All oils and light fluids which form a separating layer in the separator can be measured. Light fluids have a lower density than water and are not or only slightly soluble and not saponifiable such as benzines, Diesel, heating oils, filter oils (white oils) as well as other oils of mineral origin. Water emulsions cannot be detected.

**SEPARIX-T H und SEPARIX-T L**
On the threshold point of the high-level sensor is an encapsulated PTC-resistor. The PTC-resistor is a variable resistance whose resistance value increases according to the rising temperature. Since liquids have a better thermal conductance than air or gas the PTC-resistor heats up more strongly in an air or gas space. When it is immersed into liquid the PTC-resistor cools down. The changing resistance value is then evaluated by SEPARIX-Control. The correct functioning of the high-level sensor is permanently monitored with a scanner function.

**System Design**

**SEPARIX-Control**
SEPARIX-Control CT
» Conversion for connecting a calorimetric high-level sensor and a capacitive separating layer sensor

**SEPARIX-Sensor**
SEPARIX-C H
» Capacitive separating layer sensor from PE with stainless steel protection for especially aggressive media for application in zone 0

SEPARIX-C L
» Capacitive layer thickness sensor from PE and brass for application in zone 0

SEPARIX-T H
» Calorimetric high-level sensor from stainless steel for especially aggressive media for application in zone 0

SEPARIX-T L
» Calorimetric high-level sensor for application in zone 0

**Installation Instructions**
The transducer SEPARIX-Control C must be installed outside the explosionendangered area. The separating layer sensors SEPARIX-C H and SEPARIX-C L as well as the high-level sensors SEPARIX-T H and SEPARIX-T L are constructed for application in light fluid separators. They are not suitable for use in heavily flowing liquids (e.g. in pipelines or agitators).
Technical Data

Separating layer sensor
SEPARIX-C:
Operating data:
» Ambient temperature:
  ~ 20 °C to + 60 °C (for use in ex-zone)
  ~ 20 °C to + 70 °C
» Medium temperature:
  0 °C to + 60 °C (for use in ex-zone)
  0 °C to + 70 °C
» Protection class: IP68

Materials of media connected parts:
» SEPARIX-C H: stainless steel;
  SEPARIX-C L: brass
» PE-HD (polyethylene of high density)

Dimensions:
» Diameter: 28 mm
» Length:
  SEPARIX-C H: 725 mm;
  SEPARIX-C L: 195 mm
» Cable length: 4.5 m (extendable to 250 m)
» Further data: see drawing

Explosion protection:
» ATEX zone 0

High-Level Probe SEPARIX-T:
Operating data:
» Product temperature:
  ~ 25 °C to + 50 °C
» Ambient temperature:
  ~ 25 °C to + 70 °C
» Threshold switch-on delay: <2 sec
» Protection class: IP68

Materials:
» media connected parts
  SEPARIX-T H: stainless steel
  SEPARIX-T L: brass, stainless steel,
  spring steel zinc-coated, viton,
  ultradur

Dimensions:
» Tube diameter:
  SEPARIX-T H stainless steel 24 x 1;
  SEPARIX-T L brass 24 x 2
» Probe lengths: 180 mm
» Further data: see drawing

Conversion
SEPARIX-Control CT:
Operating data:
» Auxiliary energy: 230 V; 50 Hz
» Power consumption: 8 VA
» Ambient temperature: 0 °C to + 40 °C
» Protection class: IP67

Signal output:
Relay: change-over contact, floating
Load:
» AC: ≤ 250 V, ≤ 5 A, ≤ 100 VA;
  DC: ≤ 30 V, ≤ 5 A, ≤ 150 W

Sensor connection:
» SEPARIX-C H
  SEPARIX-C L
  SEPARIX-T H
  SEPARIX-T L

Dimensions (h x w x d):
155 mm x 180 mm x 60 mm

Explosion protection:
» sensor input intrinsically safe
  ATEX

Example of use

Inflow
Retention SEPARIX-T
Outflow
Water
Oil
Separation SEPARIX-C

Example of use

Technical drawing

Separating layer sensor
SEPARIX-C H
SEPARIX-C L

High-Level Probe
SEPARIX-T

Installation-Kit

Dimensions in mm

date of issue 05/16   Subject to technical change
## SEPARIX – Purchase Order Codes

<table>
<thead>
<tr>
<th>Appellation</th>
<th>Specification</th>
<th>Order number</th>
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<tbody>
<tr>
<td><strong>SEPARIX Set C L</strong></td>
<td>1 unit SEPARIX-Control CT Conversion for connecting SEPARIX-C and/or SEPARIX-T Capacitive layer thickness sensor made of PE and brass</td>
<td>910023</td>
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<td>1 unit SEPARIX-C L</td>
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<td>1 unit Installation-Kit 1</td>
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<tr>
<td><strong>SEPARIX Set C H</strong></td>
<td>1 unit SEPARIX-Control CT Conversion for connecting SEPARIX-C and/or SEPARIX-T Capacitive layer thickness sensor made of PE with stainless steel protection for especially aggressive media</td>
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<td><strong>SEPARIX Set T L</strong></td>
<td>1 unit SEPARIX-Control CT Conversion for connecting SEPARIX-C and/or SEPARIX-T Calorimetric high-level sensor made of brass</td>
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<td>1 unit SEPARIX-C L</td>
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<td>1 unit SEPARIX-T L</td>
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<td>Optionale Installation:</td>
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<td>2 unit Installation-Kit 1</td>
<td>for 4-wire installation</td>
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<td><strong>SEPARIX Set CT H</strong></td>
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### Single Parts

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<td>SEPARIX-C L</td>
<td>Capacitive layer thickness sensor made of PE and brass</td>
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<td>SEPARIX-C H</td>
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<td>SEPARIX-T L</td>
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<td>SEPARIX T H</td>
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### Accessories

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<td>Installation-Kit 1</td>
<td>to install SEPARIX-Sensors in the separator</td>
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<td>Installation-Kit 5</td>
<td>for 4-wire installation for 2 SEPARIX-Sensors</td>
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<td>Cable gland Ø 23 mm</td>
<td>for cable Ø 3.6 to 11 mm</td>
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<td>Cable LiY2Y 4 x 0.75 mm²</td>
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<tr>
<td>Cable LiY2Y 3 x 0.75 mm²</td>
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