



# SEPARIX

The alarm system for oil and light fluid separators



## 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



SEPARIX-Control CT



Separating layer sensor  
SEPARIX-C H



High-level sensor  
SEPARIX-T H



Separating layer sensor  
SEPARIX-C L



High-level sensor  
SEPARIX-T L

## 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 0
- 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

## 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  $\epsilon_r$  of the medium, which encloses the sensor. Since the dielectric constant  $\epsilon_r$  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
- » media connected parts  
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:  $\leq 250 \text{ V}, \leq 5 \text{ A}, \leq 100 \text{ VA}$ ;
- » DC:  $\leq 30 \text{ V}, \leq 5 \text{ A}, \leq 150 \text{ W}$

#### Sensor connection:

- » SEPARIX-C H
- » SEPARIX-C L
- » SEPARIX-T H
- » SEPARIX-T L

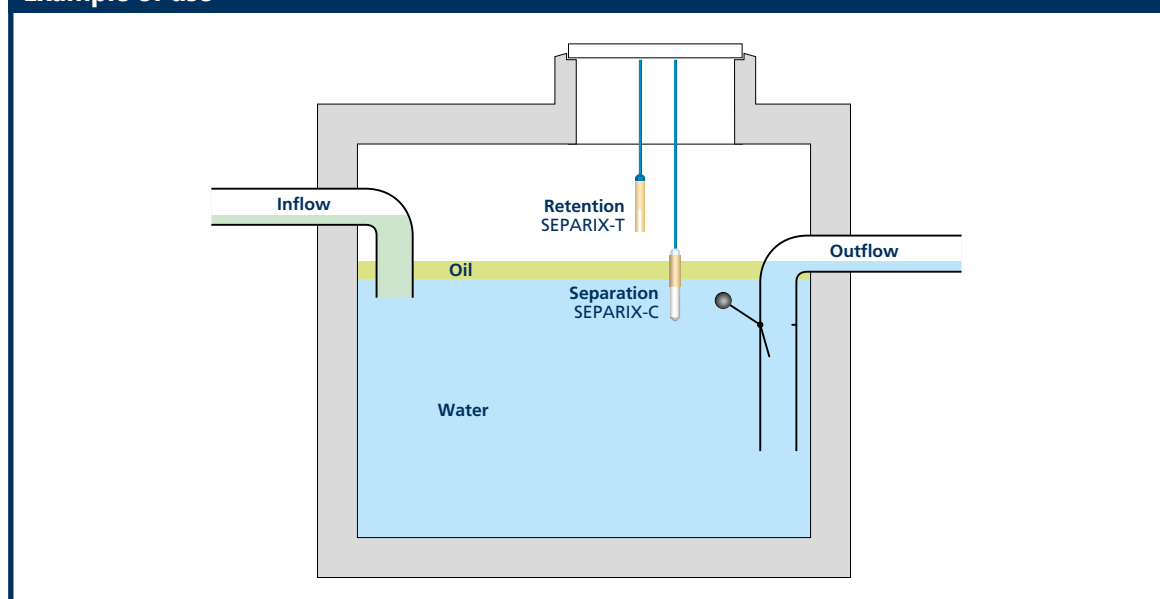
#### Dimensions (h x w x d):

155 mm x 180 mm x 60 mm

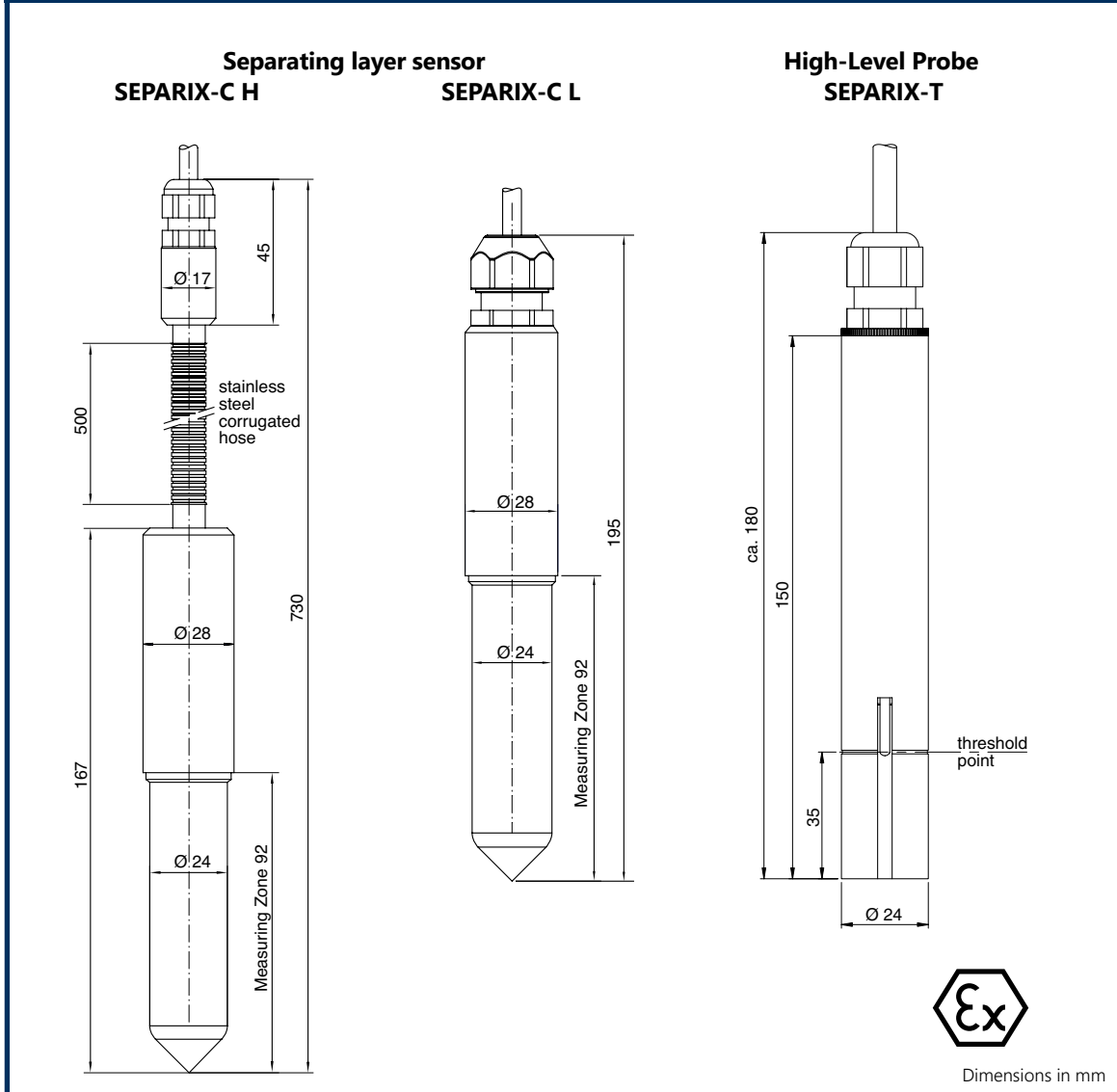
#### Explosion protection:

- » sensor input intrinsically safe  
ATEX

## Example of use



### Technical drawing



### Installation-Kit



## SEPARIX – Purchase Order Codes

Appellation	Specification	Order number
<b>SEPARIX Set C L</b>		
1 unit SEPARIX-Control CT 1 unit SEPARIX-C L 1 unit Installation-Kit 1	Conversion for connecting SEPARIX-C and/or SEPARIX-T Capacitive layer thickness sensor made of PE and brass	910023
<b>SEPARIX Set C H</b>		
1 unit SEPARIX-Control CT 1 unit SEPARIX-C H 1 unit Installation-Kit 1	Conversion for connecting SEPARIX-C and/or SEPARIX-T Capacitive layer thickness sensor made of PE with stainless steel protection for especially aggressive media	910025
<b>SEPARIX Set T L</b>		
1 unit SEPARIX-Control CT 1 unit SEPARIX-T L 1 unit Installation-Kit 1	Conversion for connecting SEPARIX-C and/or SEPARIX-T Calorimetric high-level sensor made of brass	910026
<b>SEPARIX Set T H</b>		
1 unit SEPARIX-Control CT 1 unit SEPARIX-T H 1 unit Installation-Kit 1	Conversion for connecting SEPARIX-C and/or SEPARIX-T Calorimetric stainless steel high-level sensor for especially aggressive media	910045
<b>SEPARIX Set CT L</b>		
1 unit SEPARIX-Control CT 1 unit SEPARIX-C L 1 unit SEPARIX-T L	Conversion for connecting SEPARIX-C and/or SEPARIX-T Capacitive layer thickness sensor made of PE and brass Calorimetric high-level sensor made of brass	
Optionale Installation: 2 unit Installation-Kit 1 1 unit Installation-Kit 5	for 5-wire installation for 4-wire installation	910028 910038
<b>SEPARIX Set CT H</b>		
1 unit SEPARIX-Control CT 1 unit SEPARIX-C H 1 unit SEPARIX-T H 2 unit Installation-Kit 1	Conversion for connecting SEPARIX-C and/or SEPARIX-T Capacitive layer thickness sensor made of PE with stainless steel protection for especially aggressive media Calorimetric high-level sensor made of stainless steel for especially aggressive media	910034

## Single Parts

Appellation	Specification	Order number
SEPARIX-Control CT	Conversion for connecting SEPARIX-C and/or SEPARIX-T	910029
SEPARIX-C L	Capacitive layer thickness sensor made of PE and brass	910021
SEPARIX-C H	Capacitive layer thickness sensor made of PE with stainless steel protection for especially aggressive media	910024
SEPARIX-T L	Calorimetric high-level sensor made of brass	910027
SEPARIX T H	Calorimetric high-level sensor made of stainless steel for especially aggressive media	910033

## Accessories

Appellation	Specification	Order number
Installation-Kit 1	to install SEPARIX-Sensors in the separator	910031
Installation-Kit 5	for 4-wire installation for 2 SEPARIX-Sensors	910037
Cable gland Ø 23 mm	for cable Ø 3.6 to 11 mm	910039
Cable LiY2Y 4 x 0.75 mm <sup>2</sup>		904108
Cable LiY2Y 3 x 0.75 mm <sup>2</sup>		904106





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