

# VISY-X

## The Highly Accurate Tank Level Gauge

The VISY-X system supplies information on tank levels. As an electronic dip system it serves for the protection of people and the environment. Due to its integrated water recognition device it creates quality assurance. In combination with the cash system it supplies a running quantity and loss control. With the help of telemetry it is a highly valuable and versatile tool.

### Application

VISY-X the highly accurate tank level gauge is especially designed for application in gas stations. Due to its modular structure it can also serve as a management system for tank contents for those industries where mineral oil products are stored.

The Highly Accurate  
Tank Level Gauge VISY-Stick  
with VISY-Command



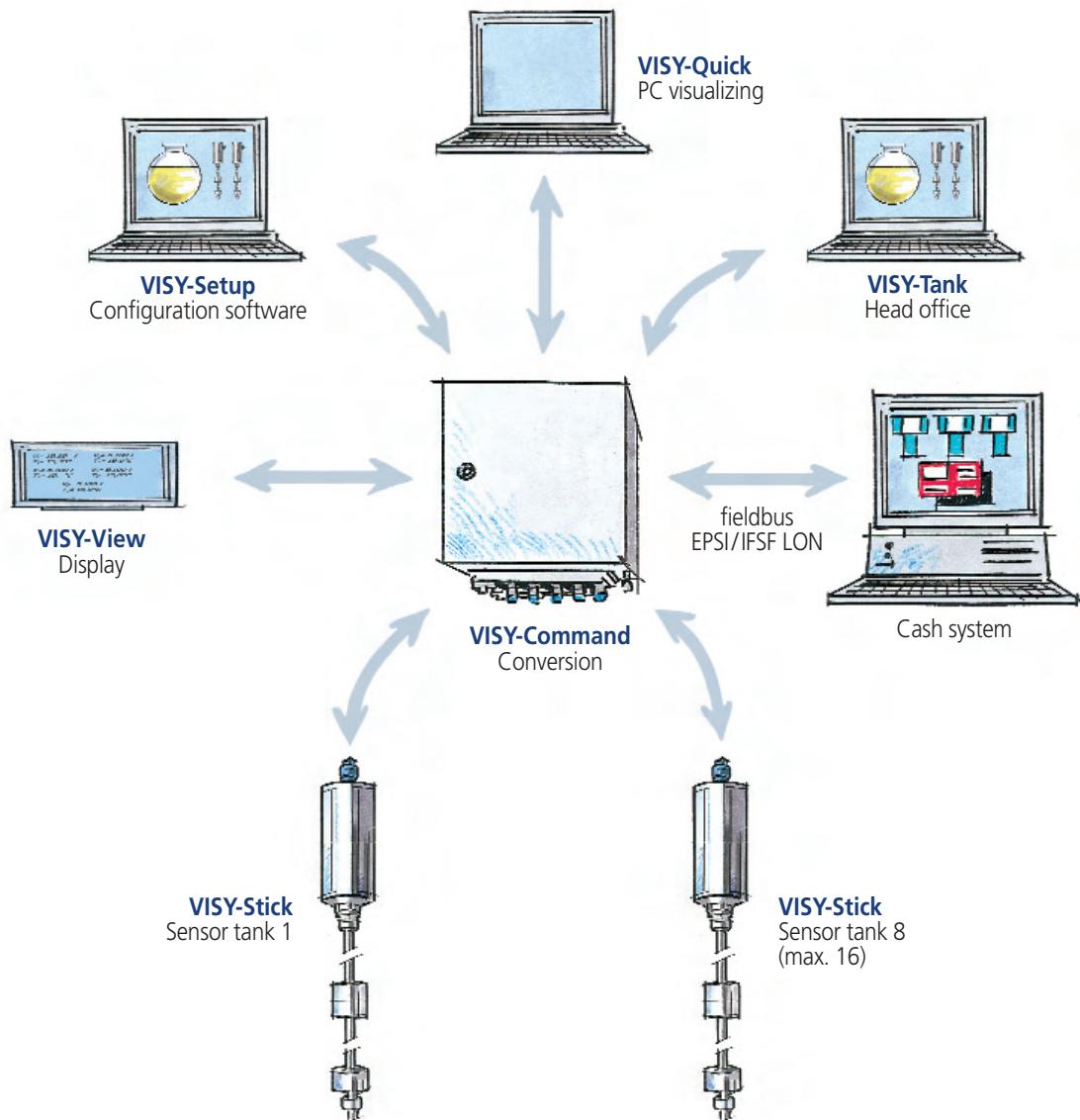
### Advantages of FAFNIR's Technology

- Substitute for manual dipping
- Continuous display of water levels
- Permanent presentation of tank contents
- Control of supplied quantities
- An efficient and versatile tool in combination with telemetry
- Linked to a multitude of POS with proprietary interfaces
- Optional with IFSF-LON or with EPSI fieldbus technology
- Easy start-up
- Highly accurate tank level gauge according to the magnetostrictive measuring principle
- All parts with media contact made from top-grade stainless steel
- One sensor for all media
- ATEX, NEPSI, IECEx and UL approval

### Function

Each VISY-X system consists of 1 to 16 sensors VISY-Stick and the conversion system VISY-Command. The magnetostrictive level sensor VISY-Stick gives a highly accurate measurement of the product filling level, the product temperature and the water level. The conversion system VISY-Command contains the power supply for the VISY-Stick sensors and serves as interface to the outside world. There are various possibilities for connecting cash systems, PC, display, modem, alarm systems etc.

# VISY-X System



## System Design

Level Gauge	Conversion	Display	Software
<b>VISY-Stick</b> Magnetostrictive level gauge	<b>VISY-Command 2</b> <b>VISY-Command 4</b> <b>VISY-Command 8</b> <b>VISY-Command 16</b> Conversions for 2, 4, 8 or 16 VISY-Stick probes	<b>VISY-View</b> Display	<b>VISY-Setup</b> Configuration software  <b>VISY-Quick</b> Visualizing of the actual state
	<b>VISY-Command XL</b> Conversions for 2, 4, 8 or 16 VISY-Stick probes incl. a 10" touchscreen		<b>VISY-Tank</b> Central software for remote reading of gas stations  <b>VISY-Monitor</b> Visualizing of the database driven interpretation

# VISY-Stick

## The Highly Accurate Tank Level Gauge according to the Magnetostrictive Measuring Principle

VISY-Stick is a highly accurate tank level gauge which is especially suitable for the application in highly accurate stock and loss control.



### Advantages of FAFNIR's Technology

- Monitors product filling level, product temperature and water level
- Highly accurate tank level gauges according to the magnetostrictive principle
- All parts in contact with media made from top-grade stainless steel
- One float set for all media
- Optional with 1" floats

### Function

The sensor VISY-Stick functions according to the magnetostrictive measuring process. A wire made from magnetostrictive material is integrated into the probe tube. Pulses are transmitted through the wire by means of the sensor electronics which create a circular magnetic field. Magnets are built into the floats which magnetize the wire at the float position. Due to the superposition of the two magnetic fields a torsional pulse is created which propagates towards the probe head. The running time thus created is captured and converted by the electronics.

### Design

VISY-Stick contains of:

- Stainless steel sensor housing
- Stainless steel probe tube
- Screw-in unit (height adjustable) brass
- Stainless steel product float
- Stainless steel water float

## Technical Data

### VISY-Stick

#### Standard Design:

- Measuring accuracy:  $\pm 0.5$  mm
- Reproducibility: 0.05 mm
- Resolution: 0.01 mm
- Measuring accuracy temperature:  $\pm 0.3$  °C
- Operating temperature: -25°C ... +75 °C
- Water recognition: continuous (from 30 mm)

- Float: 1.5", Ø 43 mm
- Process connection: R1½ screw-in unit, stepless height adjustment
- Electrical connection: M 12 plug-and-socket connector
- Housing protection type: IP68
- Sensor material: 1.4571 / 316TI
- Approval: ATEX, NEPSI, IECEx, UL

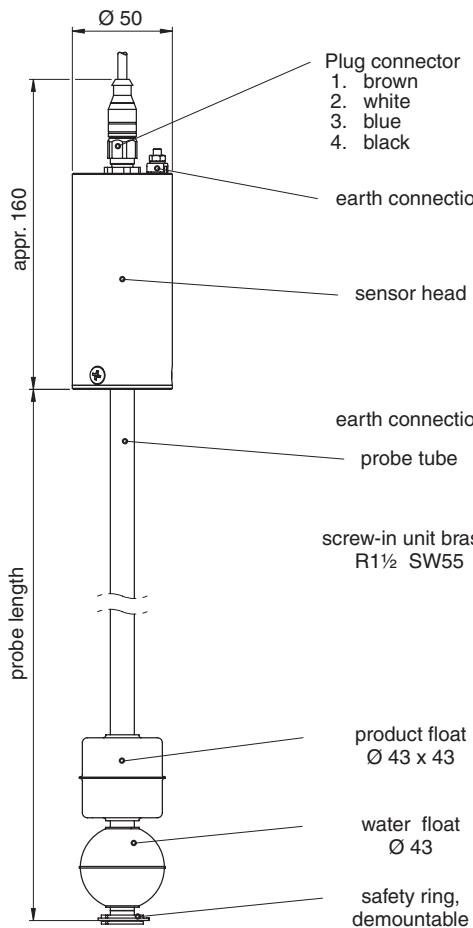
### VISY-Stick

#### Options:

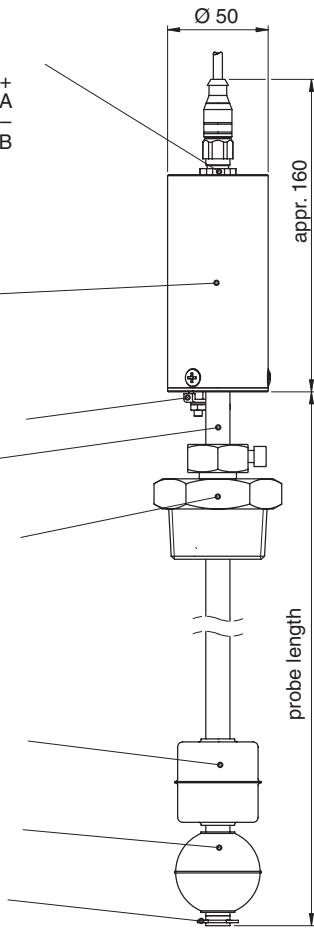
- 1" float set
- LPG installation kit
- Tube installation (riser)
- VISY-Stick V M12
- Installation with screw-in unit
- Battery operating sensor with radio link to VISY-Command

## Tank Level Gauge

**VISY-Stick V M12**



**VISY-Stick M12**



Dimensions in mm

# VISY-Command / VISY-Command XL

## The Conversion Systems



The conversion systems  
VISY-Command and  
VISY-Command XL

### Advantages of FAFNIR's Technology

- Modular structure
- IFSF-LON and  
EPSI-fieldbus compatible
- Easy start-up
- Option:  
wireless communication  
with VISY-Stick

### Function

Via VISY-Command (XL) the tank level gauges VISY-Stick are supplied with electricity and the data transmitted by them are converted. VISY-Command (XL) receives the measured values from the VISY-Stick sensors, stores them temporarily and transmits them to a superior system (e.g. central computer). The communication with a gas station computer system or a PC – depending on the design of the interface – is carried

out via different interfaces, e.g. via RS232-C (V24). Different logs for the standard gas station computers are available for the conversions. Additional computer links are available on request. All parameters are set on the conversion system VISY-Command via PC with the easy to use PC programme VISY-Setup. Besides the PC connection a link to the host computer (e.g. gas station computer) or to a fieldbus is also possible.

## System Designs

	VISY-Command	VISY-Command XL
<b>Housing</b>	for 8 Tanks 300 x 300 x 175 [mm] for 16 Tanks 300 x 400 x 175 [mm]	for 8 Tanks 300 x 450 x 145 [mm]
<b>Protection type</b>	IP55	IP20
<b>Ambient temperature</b>	0 °C ... + 40 °C	0 °C ... + 40 °C
<b>Supply</b>	230 V ±10%; ca. 2 VA	100 - 240 V, 6 VA
<b>Number VISY-Stick connections</b>	2, 4, 8 or 16	2, 4 or 8
<b>Display</b>	○ VISY-View	● 10" colour touchscreen
<b>IFSF-LON</b>	○	○
<b>EPSI</b>	○	X
<b>Printer</b>	○ only in connection with VISY-View	○
<b>RS232</b>	●	●
<b>RS485</b>	●	○
<b>LAN</b>	○	●
<b>Modem</b>	○	○
<b>Wireless communication with VISY-Stick</b>	○	○

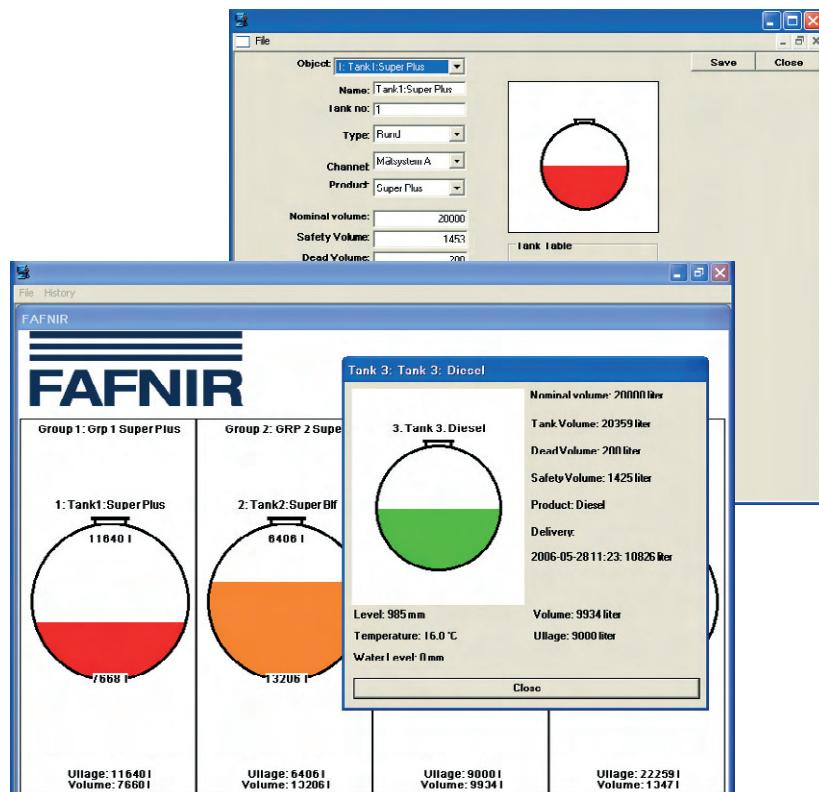
## Functions

<b>Cash connection</b>	●	●
<b>Automatic tank calibration</b>	○ only in connection with VISY-Monitor or a suitable cash system	○
<b>Automatic filling recognition</b>	●	●
<b>Loss control</b>	○ only in connection with VISY-Monitor or a suitable cash system	●
<b>History data</b>	○ only in connection with VISY-Monitor or a suitable cash system	●

● series    ○ optional    X not available

# VISY-Quick / VISY-Tank / VISY-Monitor

VISY-Quick, VISY-Tank and VISY-Monitor are different software packages for running VISY-X. They visualize the tank data and are the work platforms for managing tank contents and they can transmit the data to the central computer.



## Advantages of FAFNIR's Technology

- Constant monitoring of tank contents at the gas station
- Comfortable visualizing of tank contents with useful extra data
- Display of tank contents in litres
- Presentation of product temperature and water level
- Communication with VISY-Command
- Automatic tank calibration
- Automatic loss control
- Operational on Windows NT / 2000 / XP

## Function

### VISY-Quick:

VISY-Quick contains the complete data of your tanks. The filling level data from the VISY-X system (VISY-Stick and VISY-Command) are transmitted to your PC and visualized by VISY-Quick.

Different tank data are presented by the software VISY-Quick. This comprises all relevant data concerning the tank (tank number and contents) and the product (filling degree, water level and product temperature) as well as various additional data (free volume, temperature compensated volume).

The displayed tank information is always up to date and available at all times.

### VISY-Tank:

VISY-Tank is the optimal central software. It combines all information from the different gas stations. This can be done via LAN, GSM or modem.

### VISY-Monitor:

Besides the VISY-Quick functions VISY-Monitor has a great number of additional features such as the possibility for automatic tank calibration, optimal loss control, history data.

## Data Management

	VISY-Quick	VISY-Monitor	VISY-Tank
Volumetric presentation of tank contents	●	●	●
Temperature compensated volume	●	X	X
Product temperature	●	●	●
Free volume	●	●	●
Tank and product names	●	●	●
Water level	●	●	●
Tank presentation variable in numbers	●	●	●
Automatic tank calibration	X	●	X
Automatic loss control	X	●	X
Recording of histories	X	●	●
Management of gas stations	X	X	●

● series    ○ optional    X not available

## Minimum System Requirements

### VISY-Monitor

- CPU 700 MHz
- RAM 512 MB
- Free hard disc memory for VISY-Monitor software: 30 MB
- Windows 2000 Professional with SP4 or
- Windows XP Professional with SP2
- Microsoft.NET 2.0 Framework

### VISY-Tank

- CPU 133 MHz
- RAM 64 MB
- Free hard disc memory for VISY-Tank software: 50 MB
- Windows 98 or higher

### VISY-Quick

- CPU 133 MHz
- RAM 64 MB
- Free hard disc memory for VISY-Quick software: 5 MB
- Windows 98 or higher
- Connections:
  - USB for parallel printer connection for Dongle copy protection
  - RS232 connection or USB/RS232 adapter for the link to VISY-Command

# Accessories and Extras

## VISY-View

VISY-View is a display which operates in connection with the tank level gauge VISY-X. It is a visualizing system and work platform for managing tank contents at gas stations.

### Application

The display VISY-View is used wherever there is no cash system at gas stations or it cannot or should not be used for displaying tank content data. Furthermore it is also an excellent display for the truck driver for reading the filling levels before deliveries.



The Display  
VISY-View

### Advantages of FAFNIR's Technology

- Constant monitoring of tank contents at gas stations
- Communication with VISY-Command
- Comfortable visualizing of tank contents with useful additional data
- Optional printer connection
- Display of tank contents in litres
- Presentation of product temperature and water level
- Display of various history data

### Display Features

#### Tank visualizing comprises:

- Display of tank contents in litres
- Product temperature
- Temperature compensated volume
- Free volume
- Tank and product names
- Water level
- Alarms for water and product
- Supply history for all tanks

## Technical Data

### Dimension:

- H 110 x W 210 x D 105 [mm]

### Display:

- LCD with large display  
(4 x 20 characters,  
character height 9 mm,  
background illuminated)

### Foil keyboard:

- 5 keys, 1 x operating LED,  
1 x alarm LED

### Plug-in power supply:

- 100-240 V AC; 47-63 Hz; 400 mA  
(available for plug standard:  
Europe, UK, USA, Australia)

### Ambient temperature:

- 0 °C to +40 °C

### Inputs:

- 1 x RS485 communication interface  
with VISY-Command
- 1 x input for remote switch

### Outputs:

- 1 x RS232 (printer output)
- 2x galvanic separated (1kV DC)  
transistor alarm outputs, with  
 $U \leq 36 \text{ V}$  and  $I \leq 0.2 \text{ A}$  load capacity

### Housing protection:

- IP20

### Delivery includes:

- Display
- Plug-in power supply

### Accessories:

- Thermotransfer printer
- Remote switch for truck driver

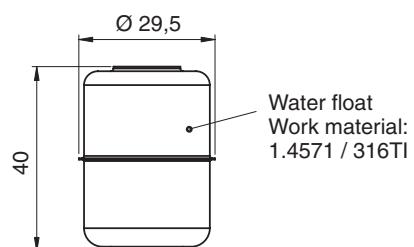
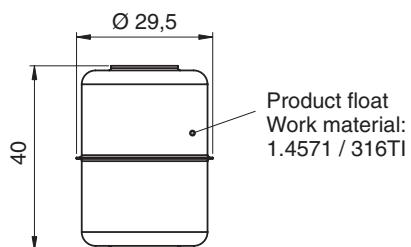
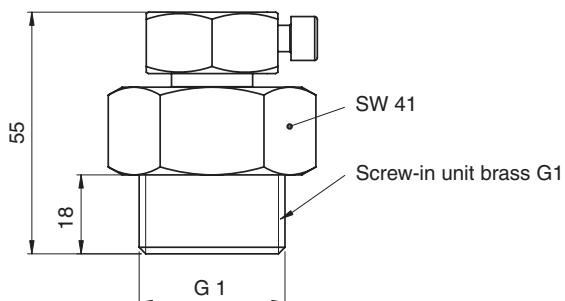
# Accessories and Extras

## 1" Installation Kit

The optional installation kit consists of product and water float as well as a screw-in unit. It makes possible the installation of a VISY-Stick by means of a R1 threaded sleeve.



### 1" Installation Kit



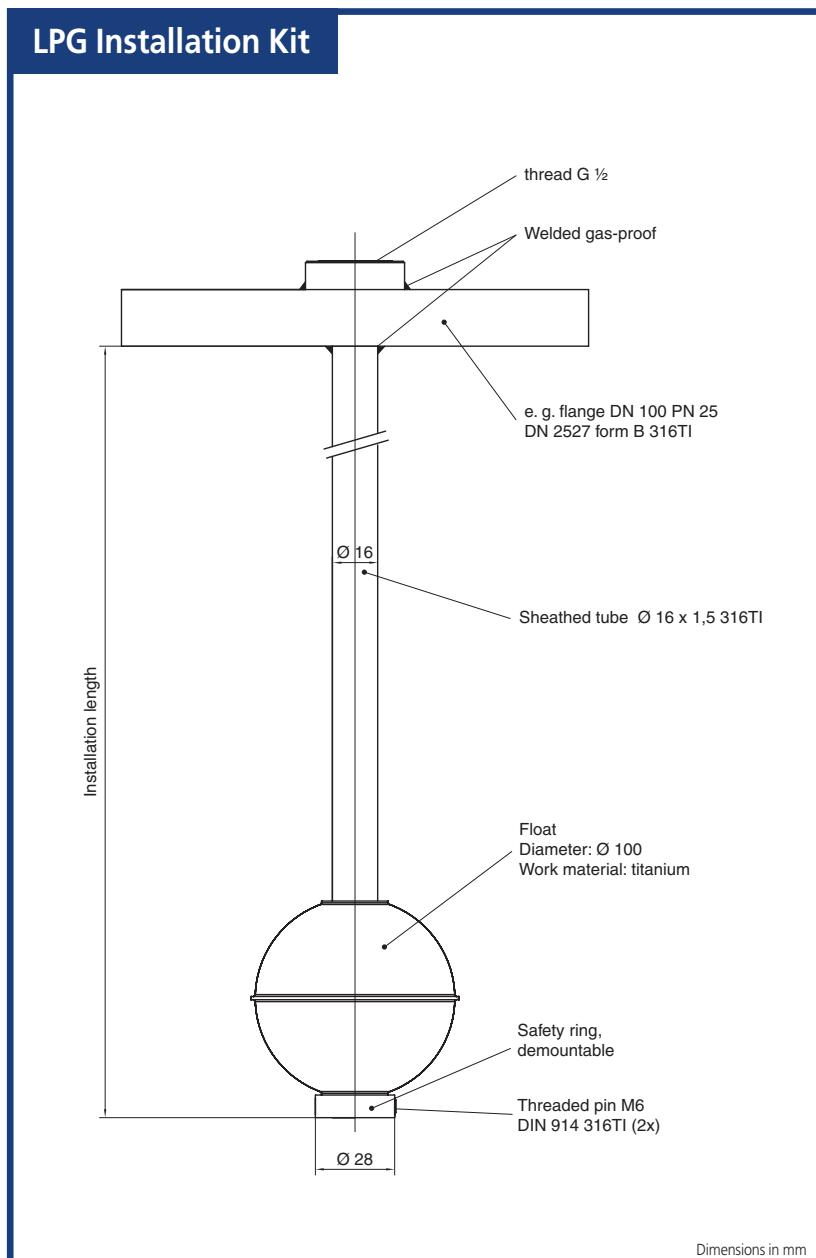
Dimensions in mm

# Accessories and Extras

## LPG Installation Kit

The optional installation kit consists of a built-in tube (riser) with a flange and a special LPG float. After the LPG kit has been installed in the tank, the tank level gauge

VISY-Stick is inserted into the tube (without float) and screwed together. This way a sensor can be exchanged without opening the tank.



# Accessories and Extras

## VISY-RFT

A wireless operation of the tank level gauge VISY-Stick is possible with the VISY-RFT module. The tank data are wirelessly transmitted to the VISY-Command system which has been fitted with the suitable receiver (VISY-RFT).

### Application

The VISY-RFT module is used wherever the laying of cables is very complex and thus cost-intensive.

The VISY-RFT module is suitable for all above-ground and underground storage tanks.



VISY-RFT for  
mounting in the manhole

### Advantages of FAFNIR's Technology

- Compatible with all VISY-X components
- Very easy start-up
- Long running battery (up to 5 years)
- High data availability

### Technical Data

#### Dimension:

■ H 80 x W 80 x D 55 [mm]

#### Housing protection:

■ IP68

#### Ambient temperature:

■ Ta = -20 °C to +60 °C

#### Radio frequency :

■ 433 MHz

#### Max. coverage

■ 200 m in open field

#### Battery running time:

■ 5 years for transmission every 12 minutes



#### UK Distributor

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