VISY-X System for Shell Petrol Stations

HSSE

Installation guide

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Imprint
1 Introduction

1.1 General Description

The VISY-X System is designed for petrol station monitoring.

It consists of probes for level gauging and environmental pollution control.
1.3 Safety Requirements

Preconditions

- **Product training**
  - Regularly

- **Safety helmet**

- **Safety vest**

- **Safety shoes (S3)**
  - Anti-static, oil/petrol-resistant

- **Gloves**
  - Cut-resistant
1 Introduction

1.3 Safety Requirements

**Rules and Regulations**

- **EX-approved tools**
- **Check tools for malfunctions**
- **Register with the operator**
- **Observe installation instructions**
- **Observe local safety and accident prevention regulations**
- **Entry in the Safety Book**
- **Fire, ignition sources, smoking prohibited**
1.3 Safety Requirements

- Security zones (red, green, emergency)
- Check delivery
- Protect installation site
- Disconnect power supply and secure against reactivation
- 2 persons at manhole of depth > 1.25m
- Drain and degas manhole
- Establish potential equalization
- Check wiring and cable connections
1 Introduction

1.3 Safety Requirements

- Safety helmet
- Safety vest/clothes
- Safety shoes (S3)  
  Anti-static,  
  oil/petrol-resistant
- Gloves  
  Cut-resistant
Register with the operator
1 Introduction

1.3 Safety Requirements

Observe local safety and accident prevention regulations

Observe installation instructions

Entry in the Safety Book
Security Zones

- RED ZONE
- GREEN ZONE
- EMERGENCY ASSEMBLY POINT

Site preparation

VISY-X System for Shell Petrol Stations

1 Introduction
1.3 Safety Requirements
EX-approved tools
Check delivery

Controller

Environmental sensors

Probes
1 Introduction
1.3 Safety Requirements

Fire, ignition sources, smoking prohibited

Protect installation site
Protect installation site
1 Introduction
1.3 Safety Requirements

Disconnect power supply and secure against reactivation

2 persons at manhole of depth > 1.25m
Drain and degas manhole
Drain and degas manhole
Establish potential equalization (PE)

Check wiring and cable connections
Connections to VISY-Command

1. Level gauging with “VISY-Stick”
2. Manhole monitoring with “VISY-Stick Sump Manhole”
3. Leak detection with “VIMS Tank”
2.1 Level Gauging (VISY-Stick)

Sample installation with VISY-Stick “screw-in” version!

VISY-Stick (Riser version)

VISY-Stick (Screw-in version)
Unscrew ... and remove flange.

Unscrew ... and remove blind plug.
Seal the reducer thread

Reducer  2” x 1½” (optional)

Screw the reducer into the flange

Relocate the flange ...

and lock it.
Connect PE cable (green/yellow)
Probe Unpacking

Pull out the probe
Probe Unpacking

2 Tank Monitoring
2.1 Level Gauging (VISY-Stick)

Remove the shipping protection
Move the floats to the end ...

... to protect against damages
Attention: The probes must not be bended!
Screw-in unit sealing

Attention: The probes must not be bended!

Seal the thread of screw-in unit

Probes

Roughen

Sealing strip

Sealing compound

Roughen
2 Tank Monitoring
2.1 Level Gauging (VISY-Stick)

Transport ...

... to the manhole.

Fill in the FAFNIR ATG Details
(see annex)
### FAFNIR ATG Details

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**Form attached to Annex**

**Installation Offset**  
see next page!
**Position Offset**

**Offset = Vertical Distance (b) + Safety Distance**

The “Vertical Distance (b)” can be read out from the drawing below. The “Safety Distance” is the mounting distance to the tank bottom and should be 10 mm.
Fixing

2 Tank Monitoring
2.1 Level Gauging (VISY-Stick)

Screw the screw-in unit into the flange (resp. reducer)

Insert probe until bottom is reached

Mark this “Bottom Position”
Mark the “Bottom Position” and pull out the probe.

Mark the “Safety Distance” 10 mm below, press the probe down to this point.

Tighten the gland bolt at this “Safety Distance.”
2 Tank Monitoring
2.1 Level Gauging (VISY-Stick)

Fixing VISY-X System for Shell Petrol Stations

Fix the locking screw with hexagon socket key

Unscrew yellow cap

Connect the probe cable

and the PE cable

Fix the plug

1 handtight

2 180°

Probe installation complete!
2 Tank Monitoring
2.1 Level Gauging (VISY-Stick)
2.2 Sump Control (Sump Manhole)

VISY-Stick Sump Manhole

Sump Installation-Kit (optional)
Remove shipping protection

PE cable connector

Sump Installation-Kit (optional)

Mounting example
Mounting example with washer welding by installer

Unscrew yellow cap and connect the plug

Fix the plug

1. Handtight
2. 180°

Probe installation complete!
2.3 Probe Wiring (Junction Box)

Up to three different types of VISY-X probes (e.g. VISY-Stick, VISY-Stick Sump, VIMS) can be connected to VISY-Command via one intrinsically safe cable.

VISY-Stick

To the Command

Sump Manhole

VIMS

Close the Junction Box

Probe wiring complete!

VISY-Command

+ A B -

Probe 1

brown (+)
white (A)
black (B)
blue (-)

Probe 2

brown (+)
white (A)
black (B)
blue (-)

Probe 3

brown (+)
white (A)
black (B)
blue (-)

Junction Box
**Sump monitoring under the dispenser with “VISY-Stick Sump Dispenser”**
3.1 Sump Control (Sump Dispenser)

VISY-Stick Sump Dispenser

Sump Installation-Kit (optional)

ca. 425

Φ 65

Φ 47,2

red

59

105

425
3.1 Sump Control (Sump Dispenser)

1. Un螺丝黄色帽并连接插头
2. 用手拧紧

180°
Connect the wires using

FAFNIR Junction Tube (optional)

Mounting example

Insert the probe into an existing open tube

Mounting example

Sump Installation-Kit (optional)

Probe installation complete!
4 Pipe Monitoring

4.1 Leak Detection of Tank Pipes (VIMS Tank)
4.2 Leak Detection of Dispenser Pipes (VIMS Dispenser)

For installation instructions of the Leak Detection system “VIMS” please see the separate user guide.
5 Controller Units
5.1 Mounting

Electrical Switchboard (example)

Wall mounted (example)
5.2 VISY-Command Connections

Wiring Overview

VISY-Command with opened cabinet door

- Input and Output
- Host
- VISY-View Touch
- Power supply
- Probes
VISY-Command Connections

VISY-Command

Interface VI

ICl

Display:
Status of probes

+5V

Host

RxD

RxD Host

RxD Service

Tx D Service

Service 2: TxD
3: RxD
5: TxD Host

Tank

- TxD Expansion

- TxD Host

Reset

VP Board

Connect Host (PoS) and Expansion (e.g. VISY-View Touch) with the terminal

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Terminal assignment

VISY-X System for Shell Petrol Stations
5.2 VISY-Command Connections

Connect the probes to the VP Board according to the FAFNIR ATG form.

Connect power supply

VISY-Command Connections

VISY-Command

ICI

Interface VI

VP Board

to Interface VI-4

+ AB - Probe 1
+ AB - Probe 2
+ AB - Probe 3
+ AB - Probe 4
+ AB - Probe 5
+ AB - Probe 6
+ AB - Probe 7
+ AB - Probe 8

VISY-Command

ICI

Connect the probes to the VP Board according to the FAFNIR ATG form.

Connect power supply

Tank 1
Connect VISY-Input 8 and VISY-Output 8 with the VISY-ICI screw terminal.
5.3 VISY-Input Connections

VISY-Input 8

from alarm detectors

to ICI

Power supply
5.4 VISY-Output Connections

VISY-X System for Shell Petrol Stations

5 Controller Installation

5.4 VISY-Output Connections

VISY-Output 8

to ICI

Power supply

to alarm indicators or safety equipment
Connect VISY-Command to PC ...

... with serial RS-232 cable

The software VISY-Setup is required for the configuration of VISY-Command. It can be downloaded from the site www.fafnir.com
END
### Annex: FAFNIR ATG Details

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## FAFNIR ATG Details

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FAFNIR VISY-X system architecture including environmental sensors

- VISY-Command GUI RF
- Optional Printer
- RS232/485 host interface for Point of Sale, site controller or IFSF (with optional IFSF-LON converter) connection. FAFNIR VISY-Quick protocol with ATG and environmental alarm data. IFSF and third party protocols with ATG data only.
- BOS Back Office System
- VISY-Monitor Software
- VISY-View Touch with optional printer with indication of environmental alarm
- VISY-X Printer
- VISY-RFT Transmitter
- VISY-Stick Sump Discriminating manhole sump sensor
- VISY-Stick Automatic Tank Gauging level sensor
- External Antenna
- STP Submersible Turbine Pump
- VISY-RFT Transmitter
- VISY-Stick Intestinal (Liquid)
- Electrical-switch board
- STP-Controller
- VISY-Output Configurable multipurpose relay outputs for alarm indication and/or device shutdown
- VISY-Input To connect non VISY-X components
- External third party device sending alarms to VISY-Input
- VISY-Stick Sump Discriminating dispenser sump sensor
- External Antenna
- VISY-X System for Shell Petrol Stations

Annex
7.3 VISY-X System, RF Version
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Article no.: 350016

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