

Automatic Dewatering of Storage Tanks by Seres OL Pautbac II

Challenge

The Problem

The presence of water in hydrocarbon storage tanks is costly and unfortunately unavoidable. It reduces storage capacity, contaminates the oil with bacteria and corrodes the tank interiors.

Manual Purging

The common method of removing water from inside the tank is manual draining. This drainage can take up to several hours depending on the volume of the tank, the drainage rate and the amount of water in the hydrocarbon. Manual water removal can result in excessive loss of valuable hydrocarbons, in addition to significant labor hours and cost as well as environmental liabilities.



Manual Purging

Our Solution

Our solution is an explosion-proof in-line system for the automation of water drainage from petroleum storage tanks. The detector is simple to install without having to make any modifications to the tank and allows automatic draining operation or manual operation (semi-automatic) through a push button.



For all type of hydrocarbons: Crude oils, light oils, diesel, jet fuels, etc.

Components of the PAUTBAC II

Principle of Operation

- The start of the cycle is initiated by an action of the purge operator, a remote control or timing. All this can be configured via the control box.

Cycle Procedure

- Opening of the valve (supplied locally). The sample flows through the circulation chamber.
- Delay time before measurement, allowing to rinse out what is left in the tubing and the circulation chamber.
- Start of the measurement and display of the value in % of hydrocarbon in water.
- The end of the cycle is indicated by a closed valve when:
 - either the detection threshold is exceeded
 - or the measurement is smaller than the threshold and the maximum purge time is reached (The different times can be set via the control box.).

Measurement Principle

- A Teflon-coated capacitive probe is mounted in the measuring chamber (circulation chamber) which is installed in the tank discharge line.
- The probe measures the dielectric constant and detects the water-hydrocarbon ratio.
- The control unit controls the opening and closing of the purge valve depending on the threshold values set.



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Advantages with the Seres OL Automatic System

Improved Efficiency

- Pautbac II can be used for a wide range of different media without any need of adjustment / verification

Improved Efficiency

- Fully automates the purging process
- Saves fuel inventory from waterborne bacterial contamination
- Improves tank capacity rating
- Easily installed without having to empty the tank

Saves Money

- Reduces hydrocarbon loss from waste

- Reduces the cost of wastewater treatment
- Greatly reduces staff time spent monitoring manual purging
- Prevents tank corrosion

Reduces Environmental Liabilities

- Reduces the risk of human error
- Reduces the risk of oil spills
- Reduces emissions and operator exposure to volatile organic compounds
- Reduced volume of hydrocarbons in wastewater and lessen the load on water treatment plants.

ATEX Installation in Zone 2

Control Cabinet

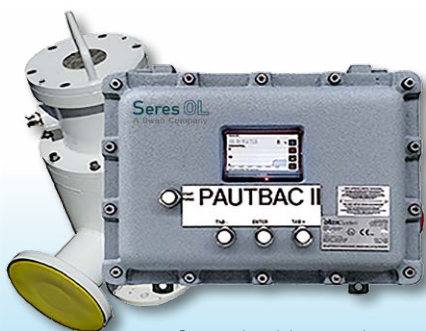
ATEX INERIS 15ATEX0010X, II 2GD, Ex d IIB + H2 T4 Gb

Measuring Chamber Vessel

LCIE 04 ATEX 6073, II 2 G, Ex d IIC T6 Gb

Complete System

EAC Cert.: No. RU C-FR.AX 58.B.01320/21,
(1 Ex d IIC T6 Gb)



Control cabinet and measurement cell ATEX



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