



Sentinam:
Fuel Filtration
and Process Management
GT1 to GT5 Skid Systems

Sentinam's Expertise

for Fuel Oil Filtration

Who we are :

Sentinam Liquid Movement Solutions is a UK-based company headquartered in Leeds. We are a leading provider of advanced liquid handling and fluid management technologies, from pump equipment supply to full process and filtration equipment solutions.

Specialising in the design, manufacture, and integration of cutting-edge process systems, we deliver tailored process fuel oil filtration, utilising high quality and performance pump and valve solutions to industries including pharmaceuticals, food and beverage, oil and gas, lubrication and discharge metering systems.



Our mission is to optimise the quality of stored diesel and ensure that all contaminants including solid particulates, water contamination and microbial growth are removed in a controlled and sustainable solution. We are committed to ensuring ISO 4406 and EN590 compliance requirements are met by offering quality, operational and product design excellence built on trust and technical expertise.

Technical Solution Support:

- Product back-up and worldwide installation technical teams.
- Equipment design / sizing and specification support engineers.
- Technical drawings (2D/3D) and schematics.
- Automation control and system design packages.
- Alliance agreements for the best-fit technical industry solution support.

Tailored Filtration Solutions

for Your Industry

Fuel Conditioning and Management Sector Services:

At Sentinam, we specialise in delivering tailored fuel filtration equipment solutions for both transport and stored land-based applications. With years of experience in the fluid pumping industry, we work closely with our clients to design, size, and implement the most suitable filtration equipment solution to ensure fuel quality exceeds ISO4406 and EN590 standards, ensuring the design and delivery of systems that meet your plant and performance needs.

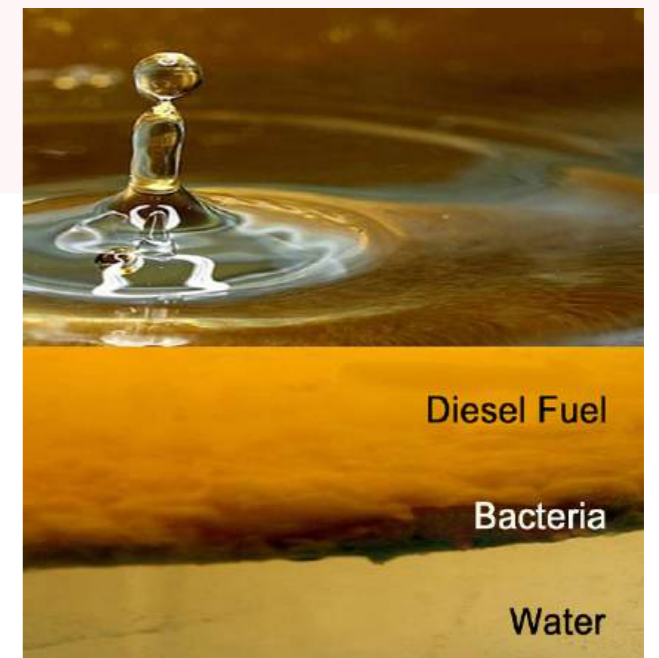
Ensuring fuel reliability is critical for transportation, emergency backup power systems including data centres and critical infrastructure facilities, transportation and industrial markets. Sentinam's GT range of fuel filtration skid systems provide scalable, efficient, and automated solutions to ensure stored diesel meets ISO 4406 and EN590 compliance standards.

Our filtration equipment targets a standard of fuel cleanliness level of 18/16/13 per ISO 4406, with performance data of 12/9/6 through our kidney loop process system.

Why Reliable Fuel Matters

Stored diesel is at constant risk of particulate, water, and microbial contamination. Our Fuel Conditioning and Management Programme removes contaminants and ensures uninterrupted, clean fuel delivery.

We tackle the three main forms of diesel contamination: Solid particulates, water and microbial growth.



Equipment Portfolio:

- IPI Group Distribution Agreement: UK, Ireland, Nordics, and North America including :
- Pollard Positive Displacement Pumps.
- Sapag Process Valves.
- Complete skid packages with pumps, motors, filtration, and control solutions.
- PLC process control equipment design and dial in worldwide technology support.
- Fuel and oil filtration equipment skid process including GT range of products from mechanical to fully automated control solutions.
- Turnkey skid manufacturing design and fuel storage solutions.

GT Stand Fuel Filter Design

Sentinam offers modular stand-alone filtration systems to suit all requirements:

Model	Flow Rate	Indicative Tank Size (Litres)
GT1 Stand Filter	10 l/min (600 l/hr)	5,000
GT2 Stand Filter	30 l/min (1,800 l/hr)	10,000
GT3 Stand Filter	60 l/min (3,600 L/hr)	10-15,000

GT1-GT5 Series Fuel Filtration Skid System Range

Sentinam offers modular complete filtration systems to suit all requirements:

Model	Flow Rate	Indicative Tank Size (Litres)
GT1	30 L/min (1,800 L/hr)	10,000
GT2	60 L/min (3,600 L/hr)	10-15,000
GT3	90 L/min (5,400 L/hr)	30,000
GT4	120 L/min (7,200 L/hr)	50,000
GT5	150 L/min (9,000 L/hr)	80-100,000

Sentinam's GT Series offers modular and scalable fuel filtration skid systems to suit all storage and generator requirements.

GT Skid Design Features:

- Bunded skid with enclosure.
- Kidney loop offline solution.
- Single channel:
10 - 150 L/min (1,800 - 9,000 L/hr).
- Dual channel:
30 - 150 L/min (1,800 - 9,000 L/hr).
- GT Mechanical Design: Manual hand-lever ball valves.
- GT Standard Design: PLC + HMI with automation and electric ball valves.
- Filtration stages: Bolt catcher > Magnetic filter > 3 micron > Coalescer.
- Particle counter: MP Filtri integrated.
- HMI Control Panel (door-mounted).
- Portable (trailer) or fixed solutions.
- **Optional Enhancements:**
 - Multi-port output for multi-asset filtration.
 - Fuel additive injection system.

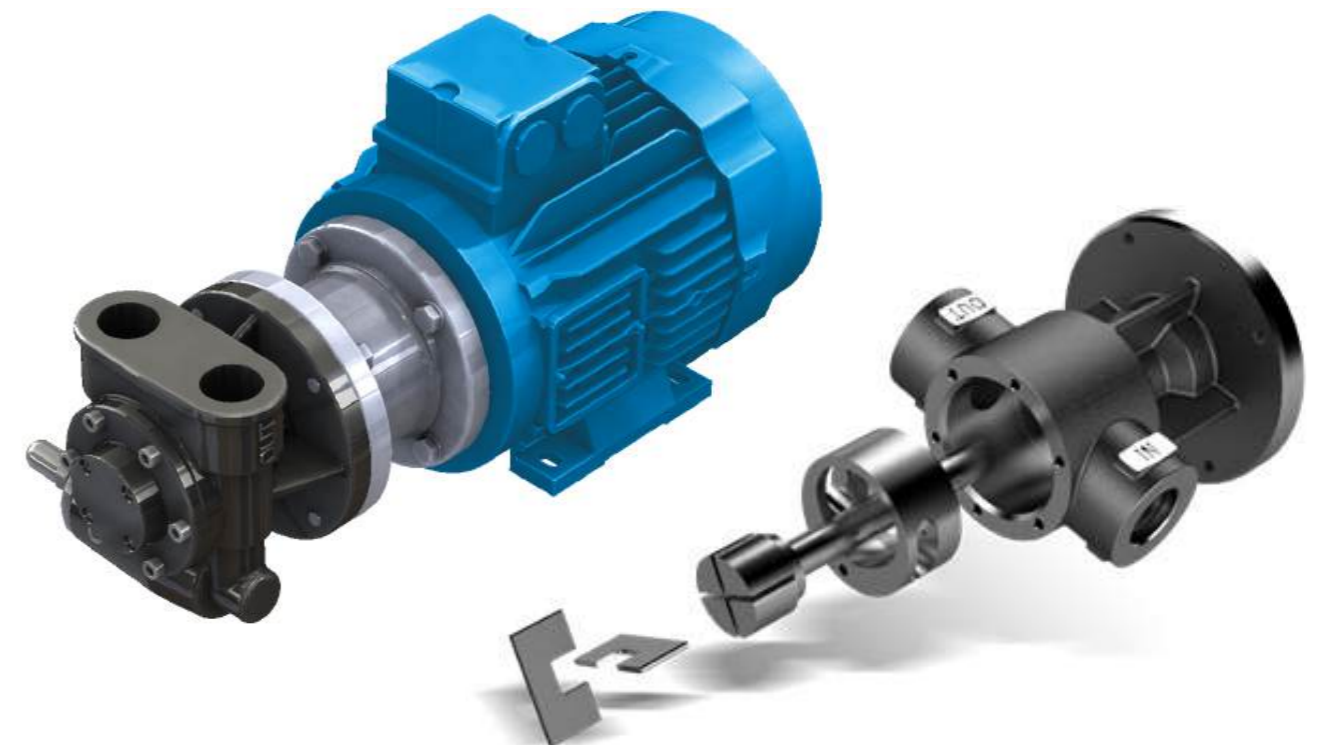
Pump Equipment Specification:

Here at Sentinam, we truly believe in supplying the highest level of quality and performance pump units in the industrial marketplace. In many applications, the pump is the heartbeat of the process.

We have a long working history with Pollard Pumps and this partnership allows the highest application and key performance life expectancy equipment to be specified and used on our designs. Our fuel oil pumps are rated for continuous use and are specifically designed for the demanding requirements of fuel transfer, loading, and unloading applications.

Key features and benefits of the Pollard pump range:

- **Exceptional suction:** Pollard Pumps excel at drawing fuel oil from tanks located several meters below the ground, even through complex filtration systems.
- **High volumetric efficiency:** Despite diesel's low viscosity, Pollard Pumps deliver superior performance compared to competitors.
- **Versatile applications:** The pumps can handle a wide range of viscous products from 1-10,000 cst with limited change in flow rates.
- **Robust and reliable:** Built to withstand severe conditions, with units built with integrated safety bypass to ensure pressure build up protections.
- **CMtec technology:** Pollard's CMtec pumps redefine efficiency. Their unique, non-circular design, combined with specially designed vanes, ensures superior performance and self-starting capabilities. This innovative approach delivers significant advantages over traditional pump designs.



GT Filtration Skid Design Overview:



GT "Stand Filter" Design:

- Single channel offline filtration channel design.
- 304 stainless steel vessel and mounting plate.
- Open / close process valves option with manual control of ball valves.
- Ultimate Filtration PowerGuard Element, Dual Phase Microglass Media, 6 Micron Beta 1000, Water Absorptive Media, Buna to offer optimal fuel ISO / EN standards.
- Multi flow rate options with positive displacement pump with high range of CST fluid handling capacity:
 - 10l/min (600 l/min) flow rate.
 - 30l/min (1800 l/min) flow rate
 - 60 l/min (3600 l/min) flow rate.
- Control panel control with start / stop and emergency stop function including visual control signal for full filter notification.
- Fully portable system and IP65 rated.
- 1" inlet / outlet pipe.



GT "Single Channel" Design:

- Single channel offline filtration design.
- Open / close process valves option with manual or automatic control of ball valves.
- Filtration media of 200 micron pre filter, Ultimate Filtration PowerGuard Element, Dual Phase Microglass Media, 3 Micron Beta 1000, Water Absorptive Media, Buna then coalescer filter to ensure optimal fuel ISO / EN standards.
- Multi flow rate options with positive displacement pump with high range of CST fluid handling capacity.
- Control panel control with start / stop and emergency stop function including visual and shut off control signal for full filter notification.
- Fully portable system and IP65 rated.
- 1" inlet / out pipe to 2" inlet / outlet pipe depending on flow rate specification.



GT "Dual Channel" Design:

- Single to dual channel offline filtration design using an additional channel to allow continuous use / automation control of process. If the channel lane (A) filters become inactive / blocked the flow of the filtration unit can be changed to the alternative channel (B). This maximises the performance and continuous use.
- Open / close process valves option with manual or automatic control of ball valves.
- Filtration media of 200 micron pre filter, 3 micron post filter then coalescer filter to ensure optimal fuel ISO / EN standards.
- Multi flow rate options with positive displacement pump with high range of CST fluid handling capacity.
- Control panel control with start / stop and emergency stop function including visual and shut off control signal for full filter notification.
- Fully portable system and IP65 rated.
- 1" inlet / out pipe to 2" inlet / outlet pipe depending on flow rate specification.

Our Approach

We ensure a meticulous approach with the utilisation of state-of-the-art equipment with time-tested techniques to deliver exceptional results.

Here's a step-by-step breakdown of our comprehensive and suggested fuel polishing implementation process route.

Our fieldbased engineering teams can provide full onsite project work for all applications.

Step 1:

Sampling

Before beginning, we request that precise fuel samples from your storage tank to assess contamination levels. Our analysis covers:

- **Particulate Contamination:** Identifies debris and particles that could clog fuel system components to ISO4406 ratings.
- **Microbial Contamination:** Detects harmful microorganisms like diesel bug.
- **Water Content:** Measures moisture levels to prevent corrosion and microbial growth.
- **FAME Levels:** Assesses the percentage of Fatty Acid Methyl Esters in biodiesel blends, ensuring compliance with equipment manufacturer recommendations.
- **Sulphur Content:** Verifies sulphur levels align with regulatory limits and environmental requirements.

This enables a detailed and accurate analysis report on the quality of fuel and suggested targeted remedial actions if required. This is the most commercially viable and precise way on establishing fuel quality specifications.

If it's not broke: we don't fix it.

Step 2:

Analysis

From the fuel sample testing and analysis report outcome, we welcome your team to communicate with our independent laboratory technicians to evaluate the report, we then work with the end customer to determine the best remedial course of action if needed.

We suggest a visual tank inspection to identify any structural issues or contaminants (e.g., sludge or rust) that could impact the fuel. If necessary, from inspection, we recommend or provide additional services such as tank cleaning to ensure optimal performance.

Our goal is to provide a long-term high-performance solution.

Step 3:

Implementation

Implementation of a correctly sized fuel filtration system.

Ensuring the filtration skid is sized correctly for the application, using high quality pumps and technically advanced multi-stage filtration system with pre filter, 3 micron then coalescer filtration units, we circulate your fuel through our GT filtration skids. These units can be portable or a fixed design for long term use.

This step removes contaminants such as:

- **Water:** Extracted to prevent corrosion and microbial growth.
- **Particulates:** Eliminated to avoid injector and fuel system blockages.
- **Microbial Contamination:** Addressed to restore fuel integrity.

Our equipment operates at high efficiency, ensuring even large volumes of fuel are processed quickly and effectively.

Step 4:

Review

After the fuel polishing process is complete, we again complete analysis tests to verify that your fuel meets or exceeds industry standards, including:

- **Particulate Contamination Levels (ISO 4406):** Ensures fuel cleanliness.
- **Microbial Levels:** Confirms eradication of harmful organisms.
- **Water Content:** Ensures minimal moisture remains.
- **FAME and Sulphur Levels:** Verifies compliance with environmental and operational requirements.

We provide full, detailed reports so you can have complete confidence in the integrity and quality of your fuel.

Additional Alliance Company Services we offer :

- Storage tank OFTEC inspection, testing and calibration.
- Tank cleaning and fuel sampling/testing.
- Metering equipment solutions.
- Site installation and service agreements.



*Visit our website
to find out more.*



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