



DIESEL DEFENCE MOBILE DDF SYSTEM

DIESEL DEFENCE DDF SYSTEMS – DDF2-2-50-FM-GRP-EKO

The DDF Systems are a high-performance fuel polishing range that represents a major step forward in protecting diesel fuel from harmful contaminants in storage tanks. With a pump capacity of 100L/pm the DDF2 units are suitable for total tank capacities up to 30,000 Litres*

Harnessing IPU Group's extensive expertise in fuel management, our system combines a high-performance fuel polishing unit with a cutting-edge HMI control panel. The DDF Systems delivers unparalleled cleaning capability, outperforming the industry standard by 87% and achieving a remarkable cleanliness level of 13/11/18. Experience the ultimate in fuel management efficiency and reliability with DDF Systems – your solution for cleaner, more efficient fuel.

A versatile unit for everything from initial cleans to final polishes.

Diesel quality may vary, but the importance of diesel-powered equipment remains constant. To ensure your equipment runs reliably, you need a polishing unit capable of handling everything from cleaning up after a contaminated delivery to addressing minor water infiltration.

The Diesel Defence DDF2 rises to this challenge, effectively managing a wide range of contamination types and severities with ease. By simply changing the filter element, you can tackle large particulate contamination with 800 micron FiltaSolid elements or remove water and tiny

particulates with 1 micron FiltaSorb elements.



The on-tank DDF2 system continuously circulates fuel within your storage tanks, effectively halting the spread of harmful contaminants. It addresses the three primary forms of diesel contamination:

- Solid particulates
- Water
- Microbial growth

Choose the DDF2 system for superior protection and reliability, ensuring your diesel-powered equipment runs smoothly and efficiently.

*Tank Capacity sizes are dependent upon duty rate selected. Consult with IPU Group when sizing polisher.

**The DDF series have different sizes of filters to tackle specific application requirements.

Special arrangements available on request.

DDF2-2-50-FM-TS



FEATURES

Dual stage filtering solution for particulate and water removal

- One stage filtration:
 - Stage 1 – FiltaSolid - 1µm at 99.9% efficiency
(Factory standard supplied media)

High-Capacity Size 1 Filters

- Nominal Dimensions: 1412MM (L) X 470MM (D) X 1477MM (H)
High Flow Rate Performance
- Differential Pressure Sensor monitoring clogged state
- Stainless Steel Construction

Kapture Control Panel

- Multi-Line LCD Display with Membrane Overlay
- Event Recording for last 250,000 system events and alarms
System diagnostics for all connected sensors

Visual Alert to System Alarms

Programmable Run Timer

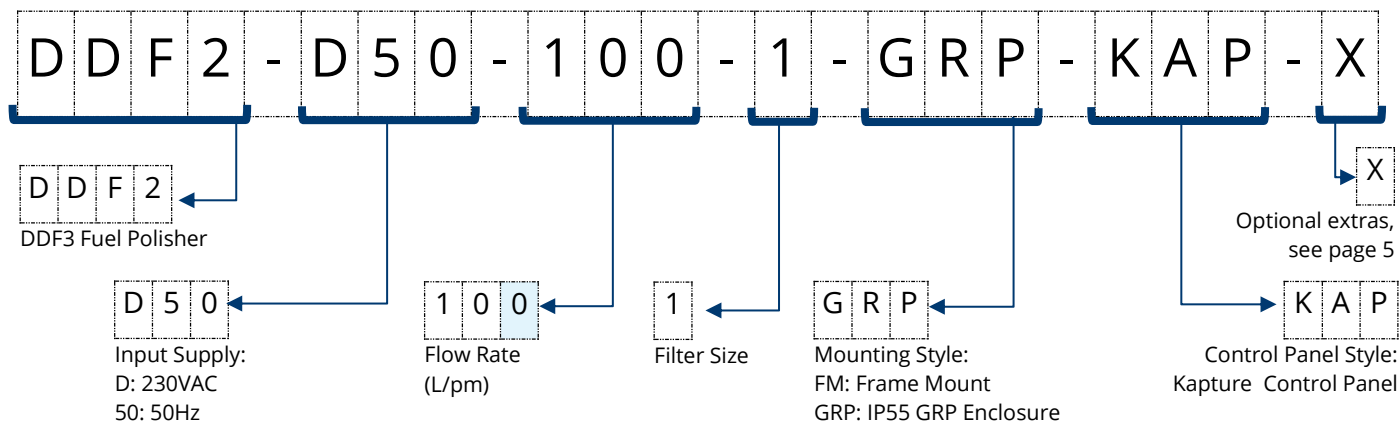
Integration into Building Management Systems

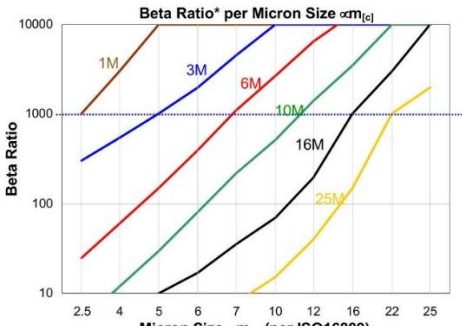
- Signal Inputs for control
- Volt-Free Outputs for feedback
- Modbus RTU over RS485



DIESEL DEFENCE DDF SYSTEM

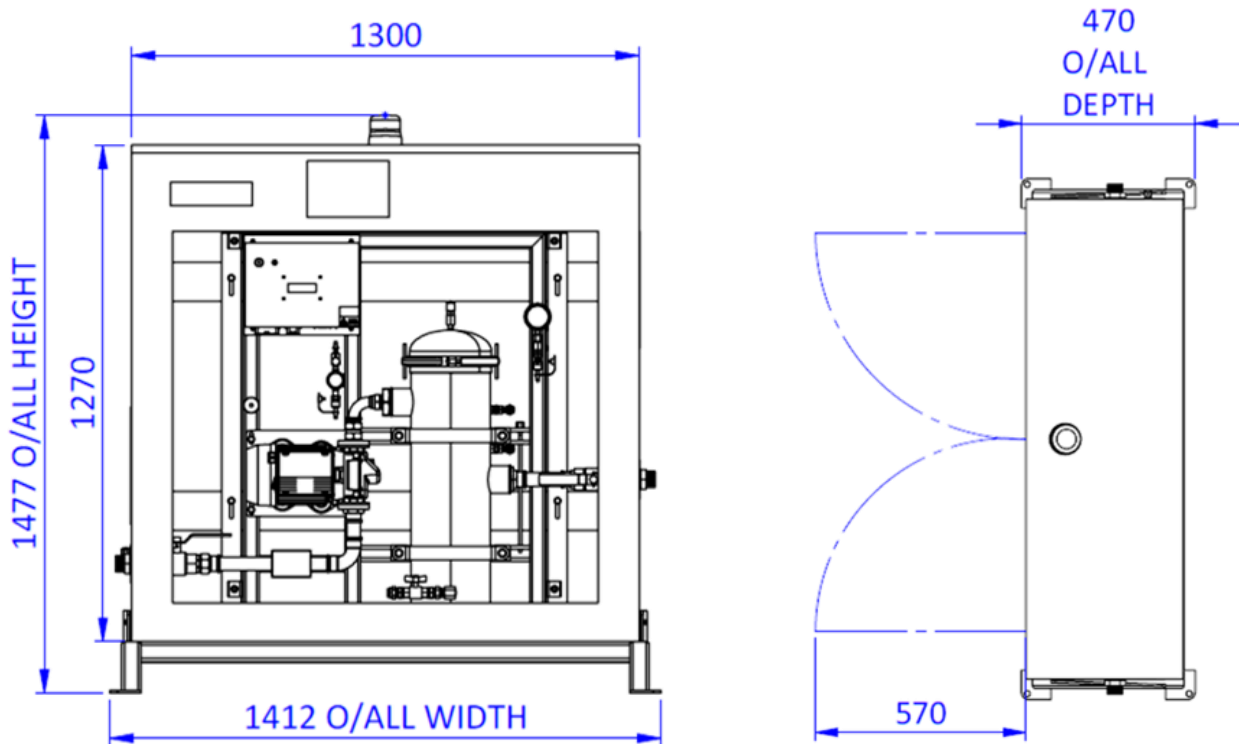
HOW TO ORDER



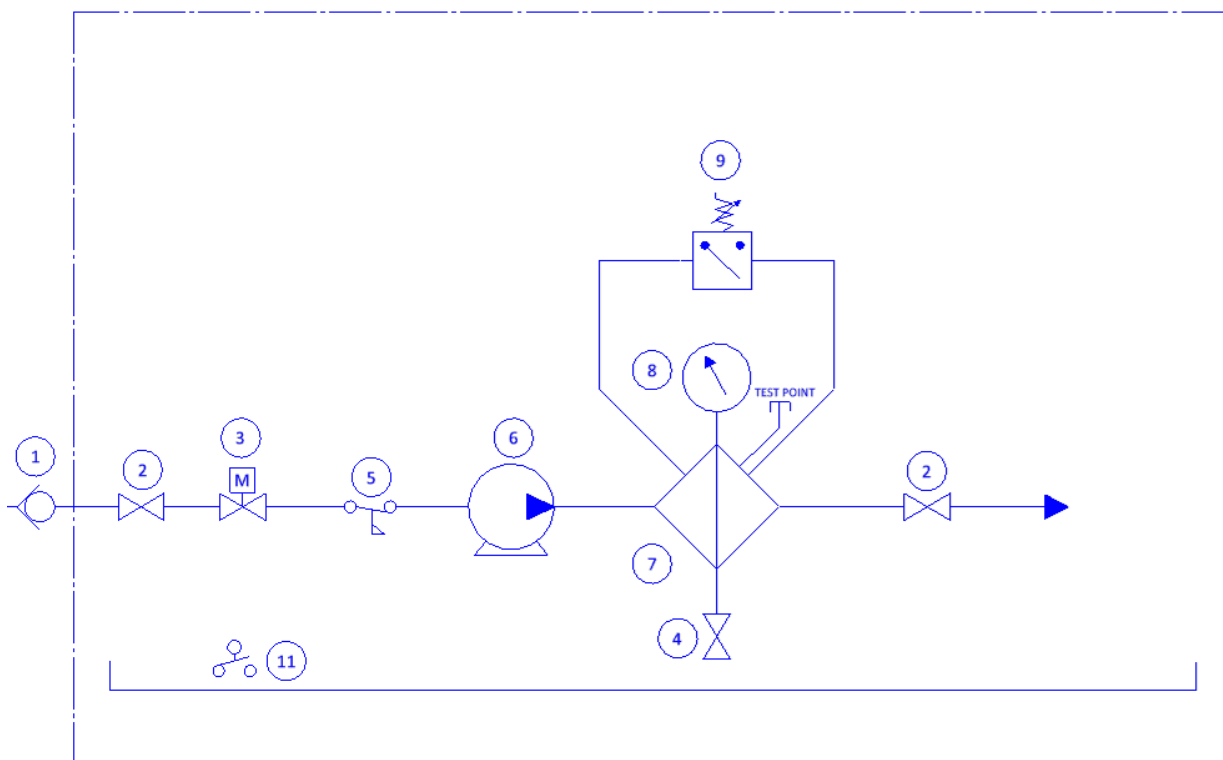
SYSTEM			
Model Number	DDF2-2-50-FM-TS		
Dimensions (H) x (W) x (D)	1087mm x1100mm x 388mm		
Weight	100Kg		
Finish	Power Coated: RAL5004 Blue Black		
Operating	-20°C - +60°C		
Conditions	<90% RH		
Environment	Control Panel only – IP65		
Connections	Inlet: 1 1/4” BSPP Male		
	Outlet: 1 1/4” BSPP Male		
FILTRATION			
Fluid Compatibility	Diesel & mineral oils		
Media	STAGE 1 FILTER – 1µm Absolute (Z1)		
			
Dirt Holding Capacity (grams)	1 µm 488	3 µm 610	>=5 µm 910
Filter Clogged Indicator	Electronic via Control Panel		
ELECTRICAL			
Voltage/Frequency	230V (±10%) / 50Hz supplied with 3-Pin Blue Industrial Plug (3M)		
Motor Current	5.7A		
Motor Protection	Monitored Overload Protection		

PUMP	
Flow	Max 100L/pm
Type	Self-priming Vane
Duty Cycle	Continuous
Noise Level	<85dB @ 1M
Pump Performance Curve	
ALARMS	
Filter Clogged	1 off Differential Pressure Transmitter
Flow Detection	1 off N/O switch
Leak Detection	1 off N/O switch
Motor Overload	1 off N/O switch, internally resettable
BMS CONNECTIVITY (*Configurable from HMI)	
Volt-Free Outputs* (3 Available)	System Common Alarm System Running Alarm Filter Clogged Alarm
Inputs* (2 Available)	Remote Reset Remote Run
Serial Communication	Modbus RTU over RS485

LAYOUT DRAWINGS



P & ID



TRUSTED KNOWLEDGE. TAILORED SOLUTIONS.

How well you understand a problem defines how well you solve it. Speak to an IPU technical specialist about fuel polishing and, after asking some astute questions, they'll provide a tailored solution you can trust - backed by years of industry experience and engine know-how.

DIESEL DEFENCE DDF SYSTEM

SYSTEM ADD-ONS

Inline Contamination Monitor (ICM).

The ICM automatically measures particulate contamination, moisture, and temperature



levels in various hydraulic fluids. It is designed specifically to be mounted directly to systems, where ongoing measurement or analysis is required, and where space and costs are limited. The device is calibrated to relevant ISO standards.

Single Configuration



option code

A single ICM is installed at the inlet side of the polisher, providing information on the quality of fuel pre filtration.

INLINE CONTAMINATION MONITOR	
Technology	Precision LED Based Light Extinction Automatic Optical Particle Analyser
Particle Sizing	>4,6,14,21,25,38,50,70 µm(c) to ISO 4406:1999 Standard
Reporting Formats	ISO 4406:1999 (ICM Default) NAS1638 AS4059E Table 2 AS4059E Table 1 ISO 11218
Accuracy	±½ ISO code for 4,6,14µm(c) ±1 code for 21,25,38,50,70 µm(c)
Moisture & Temperature Measurement	% saturation (RH) and fluid temperature(°C)
Viscosity Range	<1000 cSt
Data Storage	Up to 4000 timestamped tests in the integral ICM memory. Up to 20,000 timestamped

Dual Configuration



option code

An ICM is installed as both the inlet and outlet side of the polisher, providing information on the quality of fuel both pre and post filtration.

Flow Transmitter

The Turbine Digital Fuel Flow Transmitter is designed to be installed inline to the polisher. These turbine flow meters have rugged housing, and a sealed electronic board make it a durable meter for use in many conditions.

- Accuracy: +/-3%
- Repeatability: 0.5%
- Nylon turbine measuring system
- Aluminium/plastic body
- +24Vdc Operated, powered from control panel

These devices provide indication back to the systems control panel and allow measuring and recording of flow rate and total flow to the targeted tank.



option code



Sight glass

With the flap and easy to read scale, the sight flow indicator is used to check the flow rate of a liquid in a pipeline. It can be used in vertical or horizontal lines and is ideal for checking the fuel flow from the polisher. Signs of inconsistent flow from the polisher can indicate pressure losses in the system which not only reduce the energy performance of the pump but also lead to larger more systematic failures. A sight glass aids visual inspection of the quality and consistency of flow from the system.



Simplex Strainer



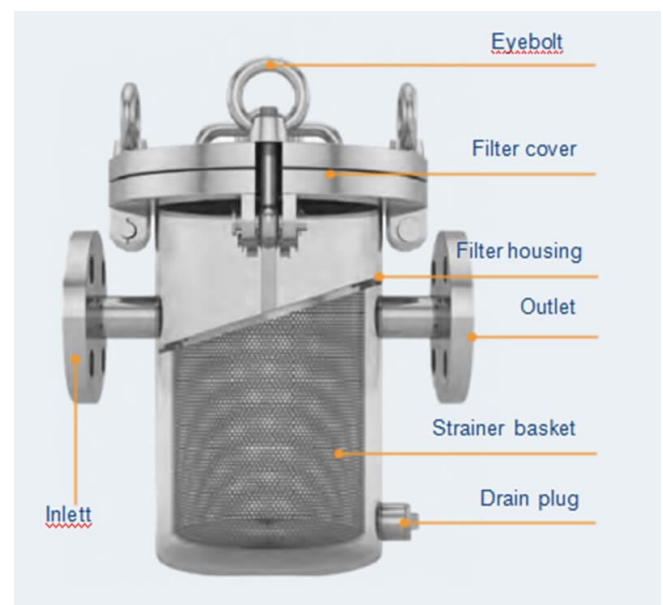
Simplex strainers are used to remove foreign particles from pipelines. They provide inexpensive protection to pumps, valves, and everything in between. The fluid flows through the inlet of the simplex strainer and enters the single strainer basket. The strainer basket is typically made of a perforated or mesh-like material that traps solid particles and debris, preventing them from passing through and causing potential issues downstream.

Advantages of the Simplex Strainers:

- **Easy Installation:** The simplicity of the design allows for easy installation.
- **Effective Particle Removal:** Simplex strainers are effective in capturing solid particles and debris, safeguarding downstream equipment and maintaining fluid quality.
- **Versatility:** Simplex strainers can be used in a wide range of industries and applications, including water treatment, industrial processes, and pipelines, where the flow can be temporarily

interrupted for maintenance without causing significant disruptions.

- **Customizable Filtration:** Strainer baskets can be customized with different mesh or perforation sizes to suit specific filtration requirements and particle sizes.



Typical construction of simplex strainers.

TRUSTED KNOWLEDGE. TAILORED SOLUTIONS.

How well you understand a problem defines how well you solve it. Speak to an IPU technical specialist about fuel polishing and, after asking some astute questions, they'll provide a tailored solution you can trust - backed by years of industry experience and engine know-how.