

# FLEXIBLE PROTECTION OPTIONS FOR DAY TANKS AND SMALLER STORAGE TANKS



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

Fuel quality may vary but the importance of diesel-powered equipment is constant. To keep your equipment running reliably, you need a polishing unit that can cope with everything from cleaning-up after a contaminated delivery to redressing a minor water infiltration.

The Diesel Defence DDF2 meets that challenge. It handles a broad spectrum of contamination types and severities simply by changing the filter element. These range from 800 micron FiltaSolid elements for large particulate contamination to 1 micron FiltaSorb elements to remove water and tiny particulates.

The on-tank DDF2 continuously circulates the fuel in your storage tanks, halting the spread of damaging contaminants. It tackles the three main forms of diesel contamination:

- Solid particulates.
- Water.
- Microbial growth.

## Stored fuel is under attack

Modern diesel degrades. Fuel suppliers advise that within 6 to 12 months, water, particulates and microbial growth can render it unusable.

## Versatile and compact

A range of filter cells allow the DDF2 to adapt to varying scenarios. One unit can cope with heavy contamination or final polishing.

## Telecoms and railways

Telecoms towers and railway signal boxes provide critical services. Their emergency generators need dependable fuel.

**Let's talk**

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# CRITICAL POWER NEEDS CLEAN FUEL

A site's power generation infrastructure includes redundant hardware to reduce the chance of a critical failure. Most designs risk disaster by failing to treat their shared fuel stock as a single point of failure.



## The backup behind emergency power

Hospitals, banks, datacentres, telecoms sites, retail outlets and government offices have to run 24/7. The country relies on their availability.

Emergency generators ensure they have electrical power even if grid power fails but emergency generators need clean fuel.

IPU safeguards that clean fuel.

## One less problem to fix

IPU helps you meet your business objectives. You do not want to be worried about contaminated fuel or unreliable power. Let IPU remove one weakness in your power infrastructure so you can concentrate on what makes your business a success.

## Professional service

IPU's services range from supplying an economical and standard fuel polishing system to manufacturing a bespoke unit to suit your site, staff and environment. These services can include:

- Site survey.
- Consultancy with site stake-holders.
- Physical, electrical and mechanical assessment.
- Detailed general assembly (GA) drawings.

## Fuel management professionals

IPU are a single-source provider for all aspects for fuel management and maintenance:

- On-site or lab-based fuel testing.
- Fuel cleaning or replenishment.
- Mobile and fixed fuel polishing units.
- Out-sourced fuel management service.

## Engine and fuel suppliers

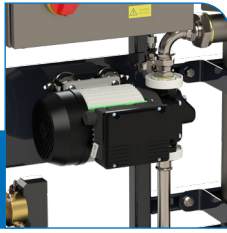
Engine manufacturers and fuel suppliers have tightened their approach to fuel contamination.

Standard warranties on all major engine brands exclude damage caused by contaminated fuel. This damage can be deep within the engine on components such as fuel injectors. It is inevitably expensive to repair and the cost falls on the operator - you.

Fuel suppliers advise any organisation storing fuel to employ appropriate measures to maintain the condition of their fuel. These measures include a fuel polishing system.

# PRODUCT HIGHLIGHTS

## High flow rate pump



The DDF2 uses an ultra-reliable 100lpm (litres per minute) self-priming vane pump. Such a high flow rate offers numerous advantages, including:

- Outstanding cleanliness levels. The DDF2 delivers ISO 4409 cleanliness codes of 18/16/13 or better.
- Better cleaning. The DDF2's flow rate induces enough turbulence to drive contamination into the filter.

## Simple control

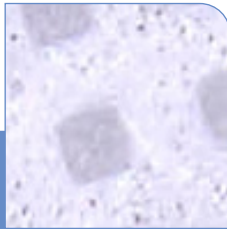


The DDF2's push-button control panel uses clear labels that any service engineer or technician can understand. No specialist expertise is required.

The control panel includes alarm and status indicators to alert operators to conditions such as 'no flow', 'filter change' or 'bund alarm'.

The unit can be rapidly reset, turned off and on or switched into manual mode.

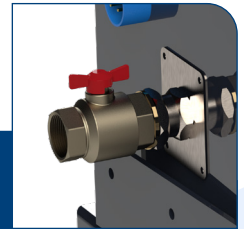
## Exceptional filtration



The DDF2 is equipped with a single filter cell housing that can be fitted with an extensive selection of media to suit every clean-up application.

FiltaSolid media can remove particulates down to 1µm (micron) at 99.9% efficiency. FiltaSorb media is equally efficient at water removal, bringing contamination down to 100ppm (parts per million) or less.

## Connectors



1.25" BSP Female connectors are used for both the input and output connectors on the DDF2.

The connectors are attached to anti-rotation fittings so over-tightening will not damage the unit or piping.

Mapress pipe connections are used to ensure the unit is leak-free.

## RELATED PRODUCTS

### FiltaSolid



FiltaSolid filter elements remove particulates from your fuel. The 800, 900 and 999 series offer 80.0%, 90.0% and 99.9% efficiency on particles between 1 and 800µm (microns).

### FiltaSorb



FiltaSorb filter elements deliver unbeatable performance in water absorption. FiltaSorb cells also remove solid particulates down to 1µm (micron).

### DieselCheck



The DieselCheck portable diesel analyser quickly, accurately and economically checks a sample's water and particulate content and fuel density.

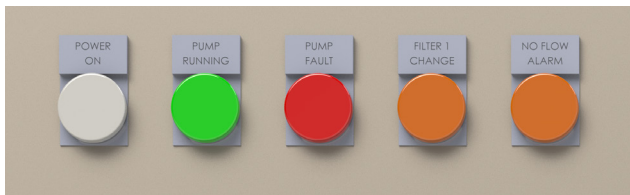
### DDF1



The DDF1 is our entry-level on-tank fuel polishing cabinet, capable of processing a 2,000 litre tank in 40 minutes and offering high flow rates of 50lpm.

## OPTIONS

### Enhanced Alarms



A standard DDF2 has two status indicators: 'system running' and 'alert'.

Optional alert indicators such as 'no flow', 'filter change' and 'bund alarm' can help operators quickly identify the specific nature of a fault.

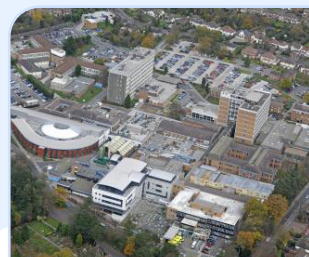
## CASE STUDIES



### Canary Wharf, London

Replaced high-maintenance, ineffective polishing unit; brought fuel into compliance with EN590.

[www.ipu.co.uk/case1001](http://www.ipu.co.uk/case1001)



### Good Hope Hospital

Fuel cleaning brought fuel into compliance with ISO 4406 and EN590; no man-entry was required.

[www.ipu.co.uk/case1002](http://www.ipu.co.uk/case1002)





# IMPECCABLE DESIGN GENERATES SUPERIOR PERFORMANCE

IPU's high-performance fuel polishing units have evolved through years of real world use. Our impeccable design and manufacturing processes deliver superior results for our customers.

## Integrated components

IPU's Diesel Defence range are integrated systems. Each component is designed or selected to work harmoniously with the rest of the unit.

Our pumps, for example, are selected to deliver a flow rate that produces optimum performance from our FiltaSorb and FiltaSolid filter elements.

## Adhering to standards

Diesel Defence fuel polishers bring your stored fuel into specification with international standards.

Particulates are removed so fuel exceeds the 18/16/13 cleanliness standard specified by ISO4406:2017.

Water is extracted from fuel to below the 200ppm (parts per million) level mandated by EN590.

Search our website ([www.ipu.co.uk](http://www.ipu.co.uk)) for "ISO 4406" and "EN 590" for more details on fuel cleanliness standards.

# SPECIFICATIONS

	DDF2
<b>PERFORMANCE</b>	
Flow rate <sup>1</sup> (lpm)	Up to 100lpm
Indicative tank size (l)	30,000
Filtration Efficiency (max.)	99.9%
Particulate Removal (min) (µm)	1

<b>BASIC SPECIFICATIONS</b>	
Filter housing(s)	1
Filter size and type	Size 1
Enclosure	None / GRP
Control System	Push-Button / Touch-Screen
Pump Type	Self Priming Vane
Maximum system pressure (bar)	3
Remote Emergency Stop	Yes with Enclosure Option
Differential Pressure Indicator	Electrical
Float Switch	Yes

## Notes

- Flow rates are maximum rates. Fuel cleanliness, fuel viscosity, distance and other conditions may affect actual performance in the field. Please contact IPU to ensure we offer the correct unit for your application.

# SPECIFICATIONS

## DDF2

### ELECTRICAL

Voltage (V)	230
Frequency (Hz)	50

### ENVIRONMENTAL

Noise Level (dBA @ 1m)	< 85
Operating Temperature (°C)	0 to 50°C
Environmental Protection	IP66

### PHYSICAL

Size (hwd) (mm)	1430 x 1320 x 440 (Frame mounted) / 1600 x 1600 x 550 (GRP enclosure)
Dry weight (kg)	110 (Frame mounted) / 155 (GRP enclosure)

### PIPEWORK & CONNECTIVITY

Inlet Connections	1.25" BSP
Outlet Connections	1" BSP
BMS Output	Yes



## THE COMPANY YOU WANT TO DO BUSINESS WITH

IPU helps businesses reach the profitability and efficiency they seek.

For nearly sixty years, we have delivered the expert assistance and customer service that lets our domestic and international customers excel in their industries.

We support businesses in sectors including power-generation, oil & gas, marine, IT & telecoms, manufacturing and government.

Our industry experience, competitive pricing and superb support let us evolve from a regular supplier to become the company our customers *want* to do business with.



For further details, please visit:

[IPU.CO.UK/FUEL](http://IPU.CO.UK/FUEL)

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