



DIESEL DEFENCE DDF SYSTEM

DIESEL DEFENCE DDF SYSTEMS

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. A varying range of pump options from 150L/pm to 500L/pm means the DDF units are suitable for total tank capacities from 20,000L to 500,000L*

The system builds on IPU Group's extensive expertise in fuel management and brings together a high-performance fuel polishing unit with an intelligent HMI control panel. The DDF Systems delivers an exceptional cleaning capability that is 87% higher than the industry standard, achieving a 13/11/18 level of Cleanliness.

It's the perfect polisher to ensure your stored fuel remains in its best condition

Larger fuel tanks need a special kind of fuel polisher. They need a high flow rate that can both process a large volume of fuel and disturb settled contaminants, driving them into the filters. They also need a filtration system that devours large quantities of water, particulates and diesel bug. The Diesel Defence DDF series is that polisher.

Its multi-stage filtration** can be split between water and particulate removal or dedicated to one or the other.

System flexibility is essential when operating in a diverse range of applications and so

monitoring is highly adaptable whether using the programmable time control function, manual control or expanded further to manage communication remotely via BMS input or Serial Communications.



Typical examples of DDF3 and DDF6 models.

If the system senses a fault, the alarm becomes activated, and in standard operation, alerts to the cause of the shutdown. In addition, the control panel incorporates overload protection for pumps, and monitors feedback alerting the user to a pump fault which would prevent the fuel from being properly maintained.

The system can be supplied either a frame mounted unit or housed in a IP55 rated GRP, complete with louvre vents to prevent condensation build up.

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

**The DDF series have different numbers of filters to tackle specific application requirements:

DDF3 Models: 1 parallel run of 2 filter housings

DDF6 Models: 2 parallel runs of 3 filter housings

Special arrangements available on request.

DDF4 Models: 2 parallel runs of 2 filter housings

DDF3

FEATURES



Multi stage filtering solution for particulate and water removal

- Stage 1 – FiltaSolid - 10µm at 99.9% efficiency
- Stage 2 – FiltaSolid - 1µm at 99.9% efficiency
- Stage 3 - FiltaSorb - water removal, achieving 100ppm or less.
(Factory standard supplied media)

High-Capacity Size 2 Filters

- Nominal Dimensions: 7.06 in. (17.93 cm) x 32.0 in. (81.28 cm)
High Flow Rate Performance
- Differential Pressure Sensor monitoring clogged state
- Stainless Steel Construction

IP65 Control Panel Enclosure

- Full Colour, glove touch compatible 5" HMI Display
- Event Recording for last 20,000 system events and alarms
- System diagnostics for all connected sensors

Visual Alert to System Alarms

Programmable Run Timer

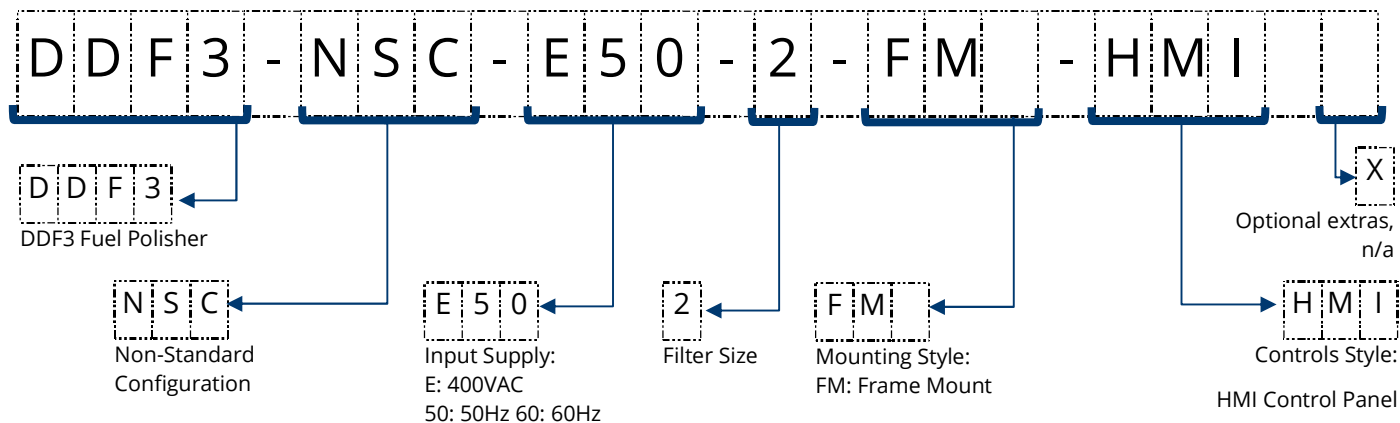
Integration into Building Management Systems

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



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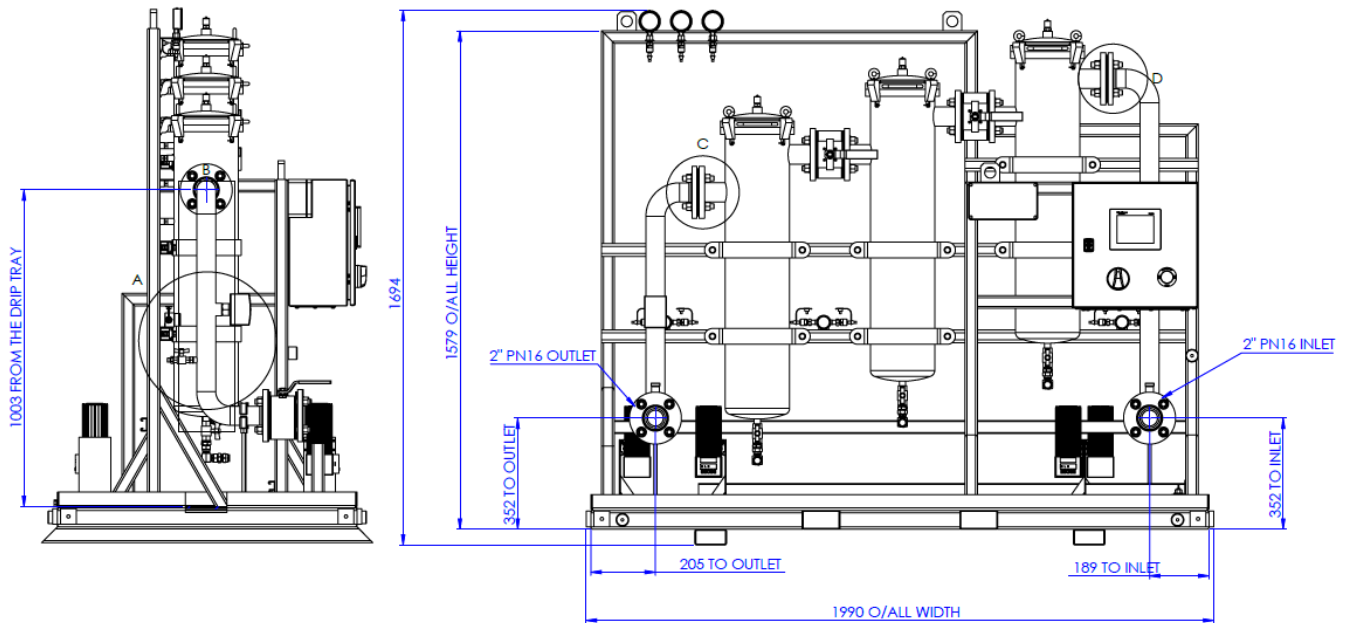
HOW TO ORDER



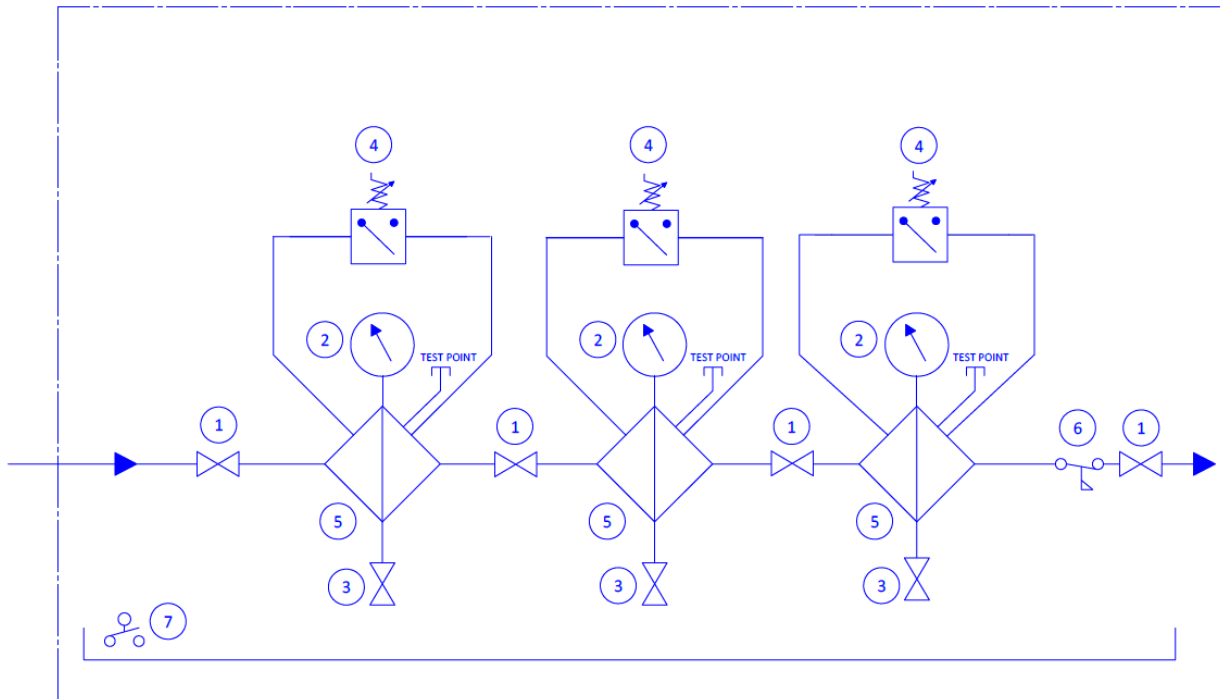
SYSTEM																																																																																
Model Number	DDF3-NSC-E50-2-FM-HMI																																																																															
Dimensions (H) x (W) x (D)	1694mm x 1990mm x 1010mm																																																																															
Weight	210Kg																																																																															
Finish	Power Coated: RAL5004 Blue Black																																																																															
Operating	-20°C - +60°C																																																																															
Conditions	<90% RH																																																																															
Environment	Control Panel only – IP65																																																																															
Connections	Inlet: 2" PN16																																																																															
	Outlet: 2" PN16																																																																															
FILTRATION																																																																																
Fluid Compatibility	Diesel & mineral oils																																																																															
Media	Stage 1 – 10 micron* Stage 2 – 1 micron* Stage 3 – Water* (*Factory supplied standard)																																																																															
<div><table><caption>Beta Ratio* per Micron Size $\alpha m_{[\epsilon]}$</caption><thead><tr><th>Micron Size $\alpha m_{[\epsilon]}$ (per ISO16889)</th><th>1M</th><th>3M</th><th>6M</th><th>10M</th><th>16M</th><th>25M</th></tr></thead><tbody><tr><td>2.5</td><td>1000</td><td>300</td><td>25</td><td>-</td><td>-</td><td>-</td></tr><tr><td>4</td><td>10000</td><td>1000</td><td>100</td><td>10</td><td>-</td><td>-</td></tr><tr><td>5</td><td>-</td><td>10000</td><td>1000</td><td>100</td><td>10</td><td>-</td></tr><tr><td>6</td><td>-</td><td>-</td><td>10000</td><td>1000</td><td>100</td><td>10</td></tr><tr><td>7</td><td>-</td><td>-</td><td>-</td><td>10000</td><td>1000</td><td>100</td></tr><tr><td>10</td><td>-</td><td>-</td><td>-</td><td>-</td><td>10000</td><td>1000</td></tr><tr><td>12</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>10000</td></tr><tr><td>16</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>22</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>25</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr></tbody></table></div>				Micron Size $\alpha m_{[\epsilon]}$ (per ISO16889)	1M	3M	6M	10M	16M	25M	2.5	1000	300	25	-	-	-	4	10000	1000	100	10	-	-	5	-	10000	1000	100	10	-	6	-	-	10000	1000	100	10	7	-	-	-	10000	1000	100	10	-	-	-	-	10000	1000	12	-	-	-	-	-	10000	16	-	-	-	-	-	-	22	-	-	-	-	-	-	25	-	-	-	-	-	-
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Dirt Holding Capacity (grams)	1 μ m 488	3 μ m 610	$\geq 5 \mu$ m 910																																																																													
Filter Clogged Indicator	Electronic via Control Panel																																																																															

ELECTRICAL	
Voltage/Frequency	400V (±10%) / 50Hz supplied with 5-Pin Blue Industrial Plug (3M Cable)
Motor Current	n/a
Motor Protection	Monitored Overload Protection Device Fitted in Panel
PUMP	
Flow	n/a
Type	n/a
Duty Cycle	n/a
Noise Level	n/a
N/A	
ALARMS	
Filter Clogged	3 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, front panel resettable
BMS CONNECTIVITY (Front Panel Screw Terminals)	
Volt-Free Outputs*	System Common Alarm System Running Alarm Filter Clogged Alarm
Inputs*	Remote Reset/Inhibit Remote Run
Serial Communication	Modbus RTU over RS485 Modbus TCP/IP Ethernet

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.