Micro Separator

Fuel-water separator for diesel, petrol and aviation fuel

Fuel-water separator for diesel, petrol and aviation fuel

Fuel may contain free water, sediment, sludge and contaminating particles resulting from transport, storage and tank conditions.

Installed upstream of the main fuel filter, the Micro Separator promotes the physical separation of water and contaminants before they reach filters, pumps and injection systems.

A first line of defence against water and contaminants in fuel.

Separation upstream of the filter
Helps reduce the amount of free water, sludge and particles reaching downstream components.

No moving parts
The separation process is achieved through the internal movement of the fuel flow.

No replacement filter cartridges
The unit does not use internal filter elements requiring periodic replacement.

Simple maintenance
Collected water and residues are removed through the lower drain valve.

Typical installation: between the fuel tank and the engine's main fuel filter.

Available in different models, flow capacities and connection sizes.

Water and contaminants

During transport and storage, fuel may become contaminated by water, sediment and residues. The presence of water can also encourage microbial growth, particularly at the interface between water and fuel.

These contaminants may circulate through the system and reach filters, pumps and injectors, increasing the risk of clogging, wear and irregular operation.

Water in the tank

Water may enter the tank through condensation, leakage, contaminated fuel deliveries or unsuitable storage conditions.

Sludge and sediment

Sludge and solid residues may accumulate at the bottom of the tank and later be drawn into the fuel circuit.

Microbial contamination

In the presence of water, microorganisms may develop and form deposits that contribute to clogged filters and restricted fuel lines.

Fuel quality has a direct impact on the reliability of the fuel supply system.

Possible effects of fuel contamination

Uneven combustion
Poor or irregular atomisation may reduce combustion quality and engine efficiency.

Component damage
Contamination and incorrect combustion may contribute to wear, overheating and damage to fuel-system and engine components.

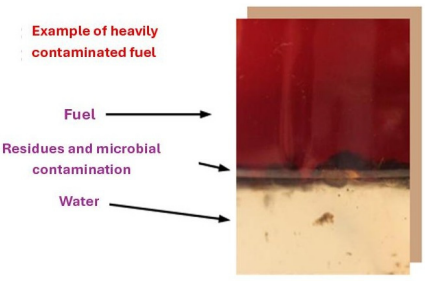
Water and microbial contamination
Water in the tank promotes the accumulation of residues and the development of microbial contamination.

Separating water and contaminants before the main filter helps protect the most sensitive components of the system.

Uneven combustion

Poor or irregular atomisation may reduce combustion quality.

Component damage



How the Micro Separator works

The Micro Separator is installed in the fuel line between the tank and the main fuel filter.

Fuel passes through the unit following an internal path designed to promote the separation of free water, sludge and heavier particles.

Its operating principle can be summarised in four stages:

1. Fuel inlet
Contaminated fuel enters the separator and is directed into a rotating flow.

2. Separation
Centrifugal action promotes the separation of water and heavier particles from the fuel.

3. Coalescence and collection
Small water droplets gradually combine and, together with residues, are collected in the lower section of the unit.

4. Periodic draining
Accumulated water, sludge and contaminants are removed through the drain valve.

.

The Micro Separator does not replace the fuel filter: it operates upstream of the filter and helps reduce the amount of free water and contaminants reaching downstream components.

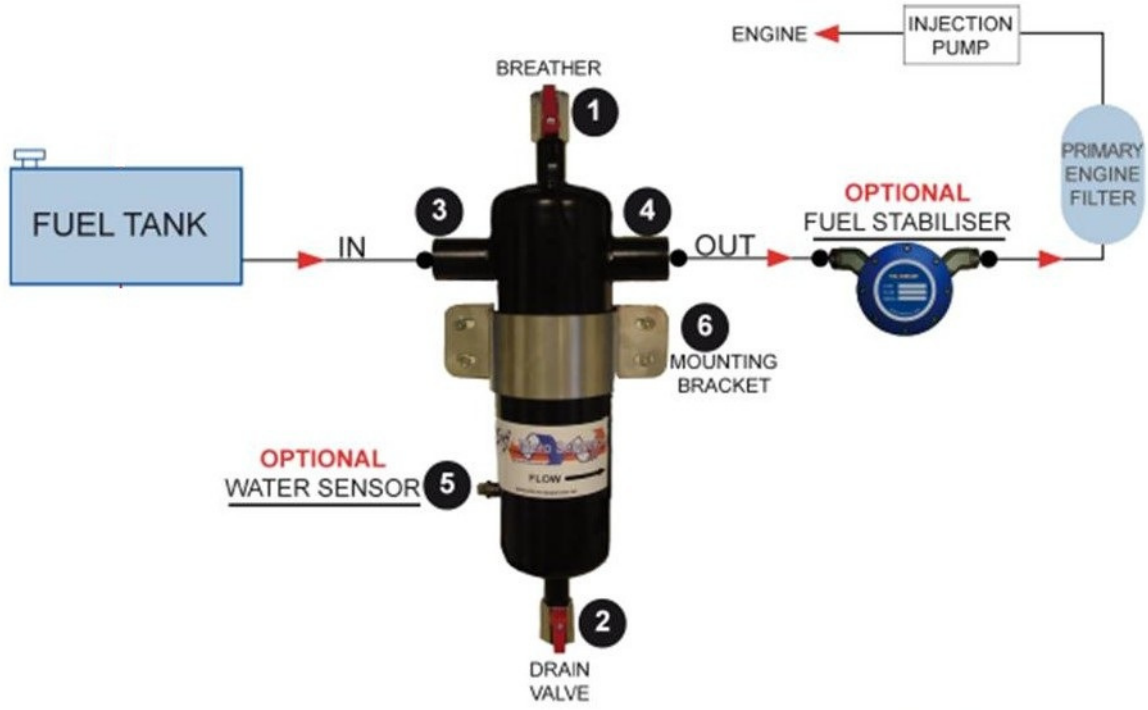
Key system features

- no mechanically moving parts;
- no internal filter cartridge;
- contaminants collected in the lower section;
- maintenance limited to periodic draining;
- models available for different flow rates.

Typical installation layout

The Micro Separator is installed in the fuel line between the fuel tank and the engine's main fuel filter.

Depending on the system requirements, it may be combined with a **Fuel Stabiliser**, installed downstream as an optional complementary component.



Fuel from the tank first passes through the **Micro Separator**, which promotes the separation of free water, sediment and contaminants.

When required, the **Fuel Stabiliser** is installed downstream of the separator and upstream of the engine fuel filter.

The layout is indicative: the actual configuration must be verified according to the fuel type, total circuit flow rate and installation requirements.

Main installation points

- follow the flow direction indicated on the unit;
- install the separator in an accessible position;
- leave sufficient space for draining water and residues;
- verify the connection size and type;
- allow for periodic inspection of the lower section;
- consider the optional water sensor where required.

Correct sizing depends on the total circuit flow rate, not only on the engine's actual fuel consumption.
Model selection should take account of the flow rate, tank volume, engine type and any combination with a Fuel Stabiliser.

Micro Separator range

Micro Separator units are available in different models, flow capacities, dimensions and connection sizes.

The correct model must be selected according to the total circuit flow rate, tank volume, engine type and any combination with a Fuel Stabiliser.

Main table

Model	BSP connection	Maximum flow rate	Dimensions Ø × H	Weight
MFC-60	1/4"	100 L/h	76 × 160 mm	1.5 kg
MFC-110	1/2"	750 L/h	76 × 305 mm	2.5 kg
MFC-750	3/4"	1,900 L/h	120 × 390 mm	7 kg
MFC-1900	3/4"	3,600 L/h	135 × 590 mm	13 kg
MFC-5600	1 1/2"	9,000 L/h	190 × 660 mm*	24 kg
MFC-9000	2"	9,000 L/h	190 × 1,600 mm*	34 kg
MFC-12000	2"	17,500 L/h	190 × 1,400 mm*	40 kg

For modern engines, the total circuit flow rate may be significantly higher than actual fuel consumption because of fuel recirculation and cooling requirements.

The model should therefore not be selected on engine power alone

The information in this document is for general guidance and is based on the manufacturer's technical documentation. Specifications, dimensions, flow rates and system suitability must be verified before ordering and installation.

The Micro Separator does not replace the fuel filter, regular tank maintenance or the inspections required by the system manufacturer.

Separating water and contaminants before the main filter helps protect the fuel system.

SCANDIESEL S.r.l.

Registered Office: Corso della Vittoria, 5 28100 – NOVARA

Operational Headquarters: Via Possessione, 25 28100 NOVARA (Italy)

Phone: (+39)348 2213126 – (+39) 346 0933830 – Fax: (+39) 0321 637227

e-mail: a.origo@scandiesel.biz – WEB: www.scanditaly.it

VAT: IT 01170600033