

Facet MAS Series oil water separators are designed to treat hydrocarbon water both by gravity or pumping. These units perform the separation by physical means, do not require any consumables and have no mobile parts, so no maintenance is needed and their operation is free of failures.

Inside are housed the coalescing doubly corrugated plates Facet MPak®, which are supplied in modular packages installed within the separators together with an adjustment device which ensures that all of the fluid to be treated flows through the plates.

Each MAS Series oil water separator can be equipped with an oil storage chamber and/or with adjustable skimmers for removing the separated hydrocarbons.

### Standard Features

- Access covers for easy adjustment of oil skimmers
- Epoxy coating interior and exterior
- MPak® plate packs: frame in steel and plastic hardware media is oleophilic polypropylene
- Clean plate packs in place (no need to remove from unit)
- Solids collection connections built into all units
- ¾", ¼" or ½" MPak® coalescing plate spacing
- Computerized effluent predictions for accurate sizing
- Skid in carbon steel

### Engineering Specifications

- Flanges: ANSI B16.5
- Material of construction: carbon steel
- Hydrostatically tested for ½ hour
- Welding in accordance with the latest edition of A.W.S.

### Standard Connections

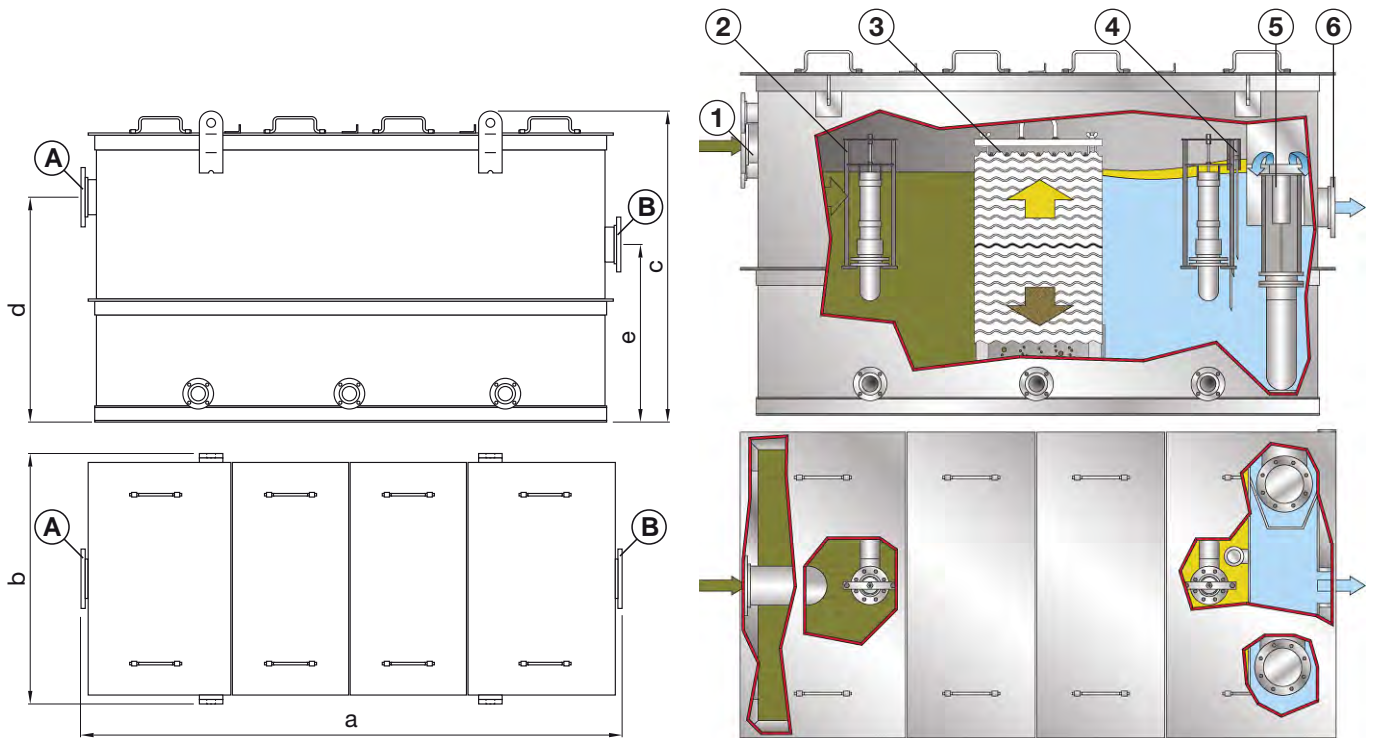
- Inlet and outlet: 150# R.F.S.O.
- Solids cleanout: 150# R.F.S.O.
- Drain: 150# R.F.S.O.
- Heater: 2 ½" NPT coupling (heaters optional)

### Options

- Two adjustable oil skimmers for oil removal
- Safety closure device in the outlet
- Oil storage tank
- Oil pump control station: includes pump and motor, control panel, high and low level float switches
- Immersion heater: Available in various ratings
- Gasketed covers
- Access ladder
- Handrail

# MAS Series

## Oil Water Separators - Steel Construction



MODEL	DIMENSIONS (mm)					EMPTY WEIGHT (Kg)	FLOW (m³/h)	CONNECTIONS	
	a	b	c	d	e			A (Inlet)	B (Outlet)
MAS 22.1	2800	860	1563	1180	813	1052	15-23	DN150	DN150
MAS 22.2	3400	860	1563	1180	813	1323	15-23	DN150	DN150
MAS 22.3	4300	860	1563	1180	813	1601	15-23	DN150	DN150
MAS 32.1	2800	1190	1563	1180	813	1449	20-35	DN150	DN150
MAS 32.2	3400	1190	1563	1180	813	1824	20-35	DN150	DN150
MAS 32.3	4300	1190	1563	1180	813	2170	20-35	DN150	DN150
MAS 52.1	2820	1747	1838	1185	910	1784	35-55	DN150	DN150
MAS 52.2	3420	1747	1838	1185	910	2314	35-55	DN150	DN150
MAS 52.3	4320	1747	1838	1185	910	2841	35-55	DN150	DN150
MAS 53.1	2820	1747	2144	1525	1185	2105	50-85	DN200	DN200
MAS 53.2	3420	1747	2144	1525	1185	2698	50-85	DN200	DN200
MAS 53.3	4320	1747	2144	1525	1185	3290	50-85	DN200	DN200
MAS 64.1	3620	2250	2274	1752	1302	3463	80-135	DN250	DN250
MAS 64.2	4230	2250	2274	1752	1302	4402	80-135	DN250	DN250
MAS 64.3	4670	2250	2274	1752	1302	5344	80-135	DN250	DN250
MAS 74.1	3930	2411	2274	1752	1302	3845	95-160	DN250	DN250
MAS 74.2	4230	2411	2274	1752	1302	4869	95-160	DN250	DN250
MAS 74.3	4750	2411	2274	1752	1302	5893	95-160	DN250	DN250
MAS 75.1	3930	2411	2520	2057	1607	4150	120-200	DN250	DN250
MAS 75.2	4230	2411	2520	2057	1607	5298	120-200	DN250	DN250
MAS 75.3	4750	2411	2520	2057	1607	6447	120-200	DN250	DN250
MAS 76.1	3930	2411	3050	2452	1985	4547	140-235	DN300	DN300
MAS 76.2	4230	2411	3050	2452	1985	5847	140-235	DN300	DN300
MAS 76.3	4750	2411	3050	2452	1985	7146	140-235	DN300	DN300

ITEM	DESCRIPTION
1	Inlet
2	Skimmer (optional)
3	Facet MPak® Plates
4	Oil level probe (optional)
5	Automatic closure device
6	Outlet

## FACET Coalescing-Plate-Separators

### GENERAL INFORMATION

Always with industry requirements in mind, FACET has been developing a great variety of coalescing-plate-separators qualified to fight against water pollution without cartridges or back-flushing.

Main characteristics of these FACET units are:

- Simple concept.
- Capability to achieve an effluent with less than 5 ppm of free hydrocarbons avoiding the use of non re-usable coalescing elements.
- Possible installation inside already existing APIs to improve both capacity and quality of the effluent.
- Its efficiency can be accurately predicted with computer programs.

### ADVANTAGES

- Capable to offer an effluent with less than 5 ppm of hydrocarbons
- Compact design.
- 2 - 12 pH range.
- Simple improvement of existing systems.
- No moving parts.
- No energy consumption.
- No chemicals.
- No absorbents.
- No filtration processes.
- Minimum maintenance, only occasional plate-pack cleaning.
- Able to treat high flow rates.

### COALESCING PLATES-WORKING PRINCIPLE

Facet Coalescing-Plate-Separators reinforce separation by gravity, using the density differences between the immiscible components of the liquid mixtures to be detached. Arrangement and spacing of the plates as well as the material they are built in, allow an increase of efficiency of separation by gravity.

### DESING AND CONSTRUCTION

FACET coalescing plate systems may be used in pressurized and/or open units. Open non pressurized units can be installed in steel tanks, pre-fabricated concrete pits or site built concrete pits.

The sizing of separators is dependant upon flow rate, oil density and operational conditions. FACET has developed a computer program to predict the efficiency of separators for a given set of operational conditions.

FACET coalescing plate separators are highly efficient and extremely compact. They are design to produce

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effluents with an oil content lower than 5 ppm. under the following influent conditions:

- a) Oil content up to 5 % (50 000 ppm) of free oils
- b) Oil entry at 100 % for a max. of 4 minutes
- c) Oil density up to 0.96 g/ml
- d) Suspended solids content up to 1000 ppm
- e) Detergent content lower than 100 ppm
- f) pH range: 2 to 12
- g) Temperature range: 4 to 98 °C (40 to 208 °F)

FACET guarantees removal of all droplets bigger than 20 microns at nominal flow rate, 20° C and a difference in specific gravity between the fluids of 0.15 g/ml. Output can be accurately predicted by a computer whenever separator inlet conditions are known.

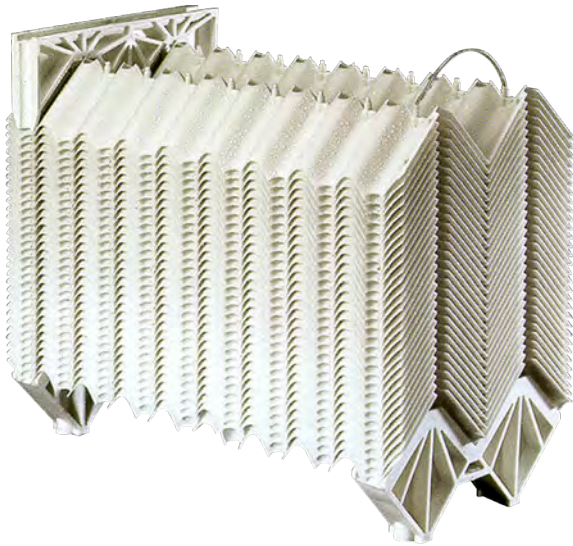
Under certain influent conditions, FACET separators can treat flow rates of up to 600 % of the nominal flow rate.

#### TEST AND APPROVALS

Apart from intensive laboratory and field testing, many of our installed systems are subject to continual inspection by different environmental agencies. They have successfully passed the German DIN 1999 Part 3 test procedure. They also meet EN 858 as Coalescing Separator Class I (certificate no. CO-3387/01).

Our separators also meet IMO and US Coast Guard test criteria and received the approval of national authorities all over the world.

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Facet's NEW HIGH-PERFORMANCE MPak® COALESCING PLATES PROVIDE SUPERIOR PERFORMANCE IN REAL-WORLD ENVIRONMENTAL CLEAN-UP.

Facet's patented MPak® coalescing plates are designed to separate oil and solids from water using the differences in their specific gravities. The plates MPak® are installed in packages with a predetermined spacing therebetween, so as to enable the space required for retention of solids.

The adaptability of the plates makes of them the most appropriate system for both the conversion of existing devices and for new facilities.

### Features

- Reduces oil contamination to limits as low as 5 ppm
- Virtually self-cleaning -solids fall to the bottom, oil weeps to the top
- Modular construction -retrofits existing API separators and tanks
- New support system that allows access for solids removal
- ¾", ¼" and ½" spacing
- Computer sizing —guarantees effluent quality
- Operating temperature 40° F to 208° F
- pH range from 2 to 12
- Oleophilic material
- Surface area per 2 ft<sup>3</sup>: 186 ft<sup>2</sup> is greater than any competitor

### Applications

Facet's MPak® coalescing plates have hundreds of environmental applications, including:

- Rainwater run-off clean-up
- Maintenance washdown clean-up
- Heavy equipment and transportation washdown facilities
- Groundwater remediation clean-up
- Machine tool coolant recovery
- Manufacturing facility effluent water
- Oil refinery/storage terminal effluent water
- Offshore and onshore oil production facilities
- Marine applications
- General industry