



OIL WATER SEPARATOR - FEED AND DISCHARGE DATA SHEET

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Oil Water Separator (OWS) Feed Conditions:

The following feed conditions shall be used in the design of the OWS.

A1	Water Density	kg/m ³		ASTM 2520
A2	Water Dissolved Solids:	mg/l		ASTM 2540
A3	Biological matter:			ASTM 10010: E.coli:
A4	Max. OWS pH:	pH		ASTM 4500
A5	Min. OWS pH:	pH		ASTM 4500
A6	Max. Water Temperature:	oC		ASTM 5540C
A7	Min. Water Temperature:	oC		ASTM 5540C
A8	Largest solid particle:	mm		Largest solid particle OWS must handle:
A9	Average suspended solids density:	kg/m ³		ASTM 2520
A10	Max. suspended solids concentration:	mg/l		ASTM 2540 A, B, C, D, E, and F
A11	Design suspended solids concentration:	mg/l		ASTM 2540 A, B, C, D, E, and F
A12	Average solid particle size:	micron		This is the mean particle size that will enter the OWS
A13	Design Oil Spill load:	L		See notes below
A14	Separated oil collection tank volume:	L		
A15	Design Oil Concentration:	mg/l		APHA 5520 A to G; USEPA Method 1644; or ASTM Method D7066-04
A16	Oil & Grease or TPH Interference:	List		Chemicals likely to interfere with TPH or Oil and grease analysis. See note below.
A17	Oil Density:	kg/m ³		ASTM 2520
A18	Design mean oil droplet size:	micron		See notes below
A19	Hydrocarbons, oils, fats & greases:	List		See notes below
A20	Degree of oil weathering:			See notes below



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Notes:

A14: The Oil Spill Load is the instantaneous oil spill upstream of the effluent collection pits that the OWS is to be designed for under normal operating conditions. Oil Spills larger than this will be treated as an incident, and the spill manually dealt with.

A17: Chemicals can interfere with the oil and grease or hydrocarbon laboratory analysis and are likely to be seen as 'hydrocarbons' or 'oil & grease'. This will lead to errors and incorrect false high reading. Performance assessments will be determined after correcting and adjusting results to take account of all interfering substances.

A19: This is a critical OWS design parameter. Mechanical action from pumps and other items of equipment; as well as emulsifying chemicals (such as glycol, detergents, cleaners and other surfactants) that enter the water system will cause emulsification of oil droplets to the extent shown for the mean particle size in the table. The OWS design shall assume standard deviation of 1/3 the mean

A20: List all the hydrocarbons, oils, fats and greases that may be present in the water. This is required for material compatibility and OWS design.

A21: Fats, Oils, greases and hydrocarbons will change over time and when exposed to the elements. Describe the degree of oil weathering prior to separation. For example exposure to sunlight, and how long it sits before treatment.

OWS Treatment Flows: List of all Oily water sources:		Peak hourly (m3/hr)	Daily (m3/day)	Description of this oily water source:
F1				
F2				
F3				
F4				
F5	OWS Peak Hourly design flow:	m3/h:		Assumed, typical
F6	OWS Design daily flow:	m3/day		



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OWS Required Performance:

Based on the OWS Design Feed Conditions Data Sheet & other process design requirements, the OWS must conform to the following requirements.

B1	Water color, density, salinity, pH, dissolved solids, temperature, biological matter, chemicals:	Unless otherwise specified the OWS is not required to change any of these parameters. These parameters are provided for proper design of the OWS materials and functionality purposes only.		
B2	Average OWS treated water discharge oil and grease concentration:	mg/l		APHA 5520 or USEPA Method 1644 or ASTM Method D7066-04. See notes below.
B3	Average OWS Treated Water discharge petroleum hydrocarbons concentration:	mg/l		APHA 5520 or USEPA Method 1644 or ASTM Method D7066-04. See notes below.
B4	Average suspended solids discharge concentration:	mg/l		ASTM 2540 A, B, C, D, E, and F.
B5	Other requirements:			Specify Test Standards to be used
B6	Other requirements:			Specify Test Standards to be used

Notes:

B2, B3: Laboratory results will be corrected for substances that are not oil or hydrocarbons and interfere with the relevant test standards.

OWS Vendor Data:

Vendor is required to complete the following section.

V1	OWS Performance curve:	Suppliers must include a guaranteed oil separation performance curve that is modeled on the information in this data sheet. This curve is to include: <ul style="list-style-type: none"> • Feed design assumptions - that <u>must</u> match those in the OWS Feed Data sheet. • Horizontal axis - Oil droplet size range 0 to 100 micron • Vertical Axis - % oil droplet size removal 		
V2	Oil droplet particle measuring instrument used in proving and establishing the claimed performance:			Droplet measuring device model number:
V3				Droplet measuring device manufacturer:
V4	Guaranteed OWS Oil separation efficiency (%)	At Design		At design OWS Feed conditions and mean oil droplet size.
V5	Guaranteed OWS Oil separation efficiency (%)	At 15 micron		At design OWS Feed conditions
V6	Guaranteed OWS Oil separation efficiency (%)	At 25 micron		At design OWS Feed conditions
V7	Guaranteed OWS Oil separation efficiency (%)	At 45 micron		At design OWS Feed conditions.

Notes:

V2: It is essential that the vendor establish their own instrumentation and expertise to establish oil droplet size based performance claims. Standardized testing or standardized certificates (for example from European or British Standard BS/EN 858-1: 2002) are not acceptable. The purchaser will require proof and may request a demonstration of the instrument.