

Continuous Oil Content Meter

Type OWF-100

This meter can continuously measure oil content in water, such as plant effluent, by means of an ultraviolet fluorescent method.

This measurement method directly radiates ultraviolet ray to sample water, which is overflowed from a measurement tank, and measures the oil content by identifying a specific wavelength of fluorescence amount, which emits from the sample water.

Characteristics

■ Continuous measuring device

This device adopts an ultraviolet fluorescent method, and no extraction operations are required. Therefore, there is no influence of turbidity. This makes the continuous measurement possible.

■ No risk of the secondary pollution

This device does not use any extract agent or addition agent, and there is no risk of any secondary pollution.

■ No influence of dirt on a cell

The overflow measurement method does not use glass windows. Therefore, unlike a traditionally cell method, there is little influence of dirt.

■ Easy maintenance

Maintenance is very easy because there are no moving parts.

Standard Specifications

Product Name	: Continuous Oil Content Meter
Type	: OWF-100
Measuring Object	: Oil content in water (Mineral oil)
Measuring Method	: Ultraviolet fluorescent method
Measuring Range	: 0~2.0mg/L, 0~10.0mg/L
Repeatability	: ±7%FS (80%FS Uranine solution)
Stability	: Zero drift...±5%FS/day (with purified water) Span drift...±7%FS/day (with 80%FS Uranine solvent)
Response	: 90% response for approx. 3 minutes (when sample flow is 2L/min)
Ambient Temperature	: 0~45°C
Sample Water Conditions :	
Temperature	...0~45°C (unfrozen)
Pressure	...0.02~0.3MPa
Consumption Amount	...2~7L/min



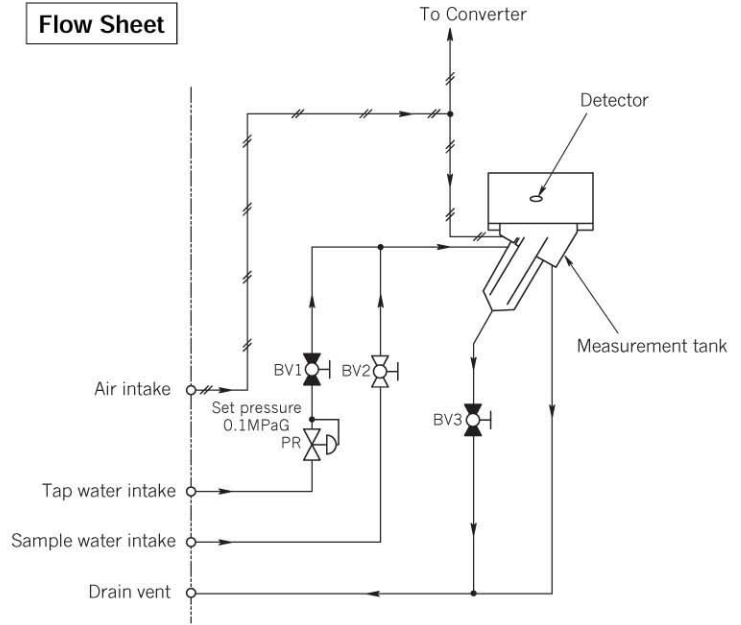
Tap water (*1)	: Pressure...0.1~0.5Mpa Consumption Amount... Approx. 0.5L/min (for washing) *1 Used when washing the device manually.
Transmission Output	: Measured output...DC 4~20mA Load resistance value 600Ω or less
Power Source	: AC 100V±10% 50/60Hz
Power Consumption	: 50VA (55VA with an air curtain option at the detection part)
Structure	: Indoor Self-Sustained Type
Material	: Detection part...Black AS resin (ASA), SPCC metallic silver printing Counter...A5052P (corrosion aluminum plate), equivalent to Mansel N6 Converter...ADC12 (aluminum die cast), equivalent to Mansel 5PB8/1
Wetted material	: Black AS, SUS, Soft rubber tube
Dimension	: Mainframe... 380(W)×1500(H)×500(D)mm
Mass	: Approx. 40kg
Pipe Joint Part	: Intake of sample water, Intake of tap water ...VP16 Drain vent...VP25 Air intake ...VP16 (for air purge at a converter part)
Wire hole	: Intake for electricity power cable, etc. ...Water-proof plug for cables with external diameter 12mm
Accessories	: Lens cleaner, fuses, a brush, Uranine (for correction)

Operation Principle

Sample water passes through the sample water adjustment valve and it is defoamed in a defoaming tank inside the double-structured measurement tank. Some of the sample water will be discharged there, but sufficient defoamed sample water at the bottom will inflow into the measuring tank. The structure of this tank, the overflow type, makes it possible to obtain a stable water surface with little waves.

The oil content of the sample water will emit fluorescence when ultraviolet ray is radiated from an excitation light source to the surface. The detection part detects the emission amount, and the indication converter converts the density after photoelectric transfer.

Flow Sheet



Notes

Points to be noted

This device detects materials, such as crude oil, which emit fluorescence when ultraviolet ray is radiated. However, ingredients of these organic materials are not constant depending on places of origins, and therefore they cannot be treated as standard materials. To solve this problem, this device uses Uranine solvent, a chemical material that has constant fluorescence intensity.

Strictly speaking, the device is Uranine Conversion Oil Content Meter. Users must use this device by assuming that there is a constant correlation between measuring targets.

Effect of Interfering Substance

There are some materials, such as turbidity and fluorescence detergent, which cause errors when measuring oil content in water.

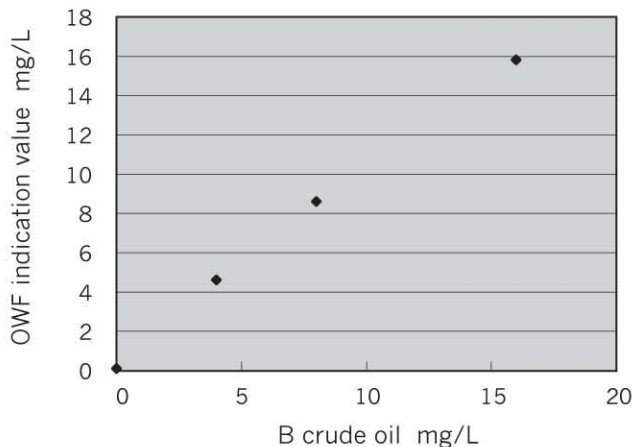
Theoretically speaking, if the wave length of the fluorescence material is same as the wave length that is used for measurement, the result includes plus errors. In case of turbidity components, minus errors will be generated.

If these materials are included in measuring target, please contact us.

Option : Air curtain

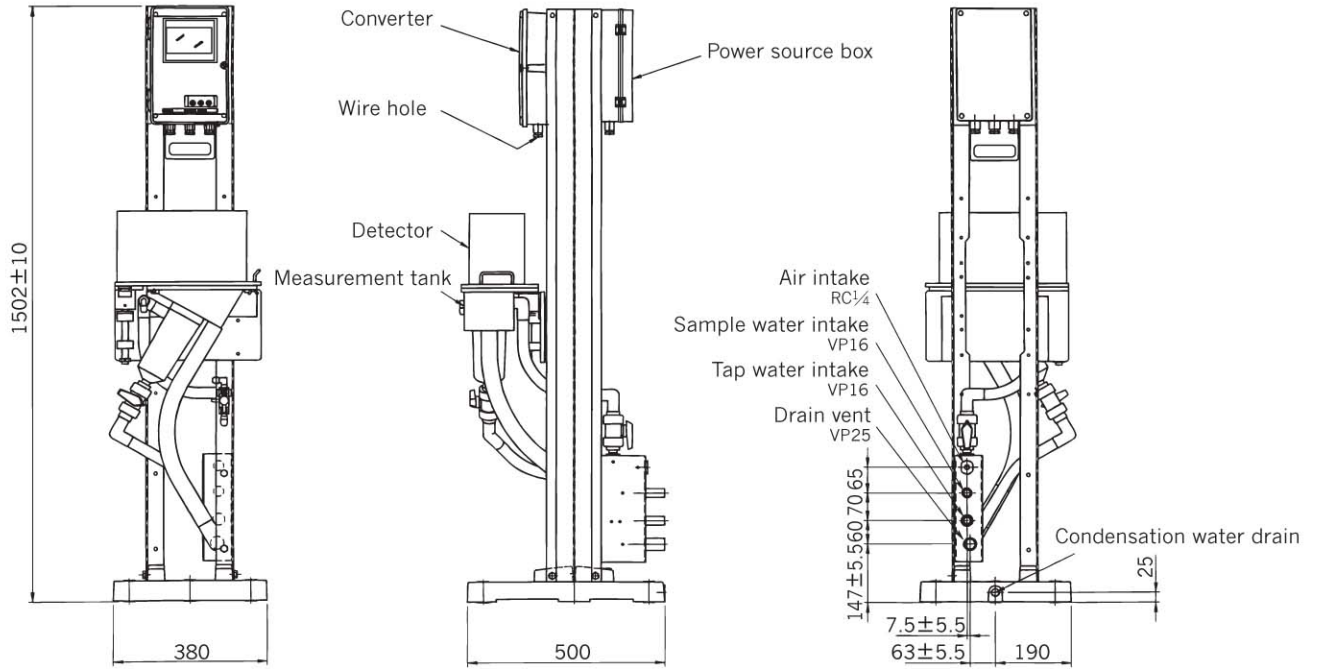
Some measurement errors may be identified if condensation occurs due to a difference between the water and air temperatures. In such a case, you can use an air curtain that is an option part.

Correlation Data

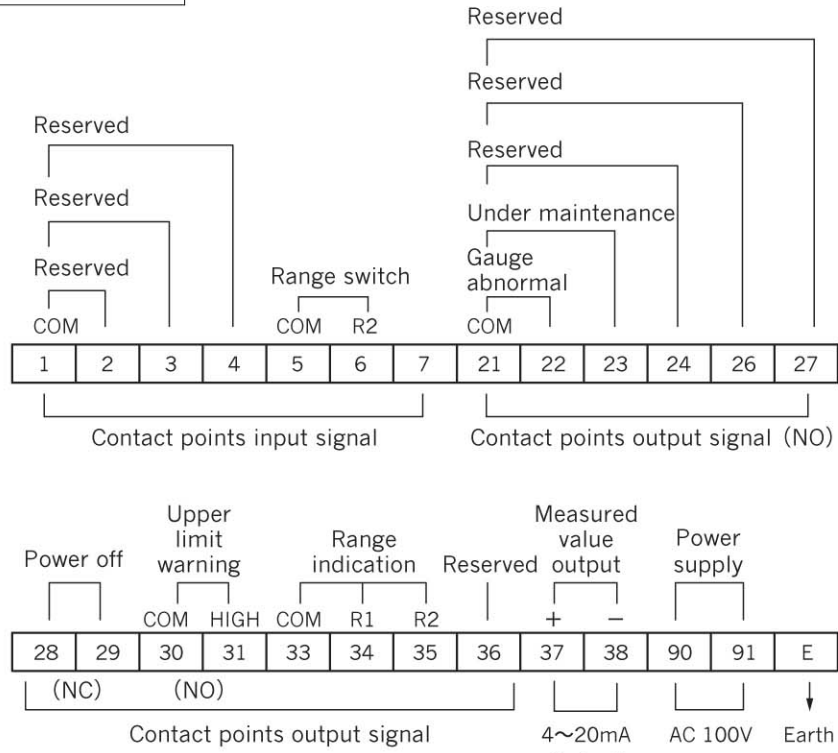


External Size

Unit : mm



External Connection Terminals



Product Codes

OWF100-0-	□□□□	
		Power voltage *1
A	.....	AC 100V 50/60Hz
B	.....	AC 110V 50/60Hz
C	.....	AC 115V 50/60Hz
D	.....	AC 120V 50/60Hz
E	.....	AC 200V 50/60Hz
F	.....	AC 220V 50/60Hz
G	.....	AC 240V 50/60Hz
Z	.....	Special
		Transmission output
1	.....	DC 4~20mA
9	.....	Special
		Measuring range
1	.....	0~2, 0~10mg/L (2 ranges manual switching)
9	.....	Special
		Air curtain and Air purge *2
A	.....	None
B	.....	With air curtain for a detector
C	.....	With converter air purge
D	.....	With air curtain + air purge
Z	.....	Special
		Indicated modes
1	.....	Normal
2	.....	English
9	.....	Special

Codes for special specs
 Digits of numbers : 9
 Digits of alphabets : Z

*1. If power voltage is other than AC 100V, a step-down transformer unit is built-in.

*2. Detector air curtain : Air pump included

Converter air purge : Instrumentation air supplied



DKK·TOA CORPORATION

Company DKK-TOA Corporation
 Headquarters: 29-10,1-Chome,Takadanobaba,Shinjuku-ku,
 Tokyo 169-8648 Japan
 Tel : +81-3-3202-0211 Fax : +81-3-3202-0220

International DKK-TOA Corporation
 Operations: 29-10,1-Chome,Takadanobaba,Shinjuku-ku,
 Tokyo 169-8648 Japan
 Tel : +81-3-3202-0225 Fax : +81-3-3202-5685

Representative Office
 (Europe) : DKK-TOA European Representative
 St.Johns Innovation Centre,Cowley Rd.,
 Cambridge CB4 0WS United Kingdom.
 Tel : 01223-526471 Fax : 01223-709239

<http://www.toadkk.co.jp/>



CAUTION
 Do not operate products before consulting instruction manual.

For continuous product improvement, DKK-TOA reserves the right to change specifications without notice.

