

Rivertrace Engineering Limited

	Measuring cell	Motor/Pump bulkhead penetration?	Flowmeter	Hydraulic panel	Detergent required?
Rivertrace Smart ODME	Intrinsically safe multi sensor	Not required	Paddle wheel	One valve	No
Seil-Seres S-3000	Fibre optics 2 sensor	Required	Differential pressure transmitter	Four valves	No
Brannstroms Cleantrack	Intrinsically safe sensors	Required	Differential pressure transmitter	One valve	Yes

Advantages of Smart ODME installation

- One penetration through bulkhead between engine room and pump room using Class Approved bulkhead penetration.
- Measuring cell electronics are intrinsically safe.
- Computer module has been designed to be fitted in a 3U high 19-inch rack.
- IMO download data is able to be retrieved and viewed on the computer screen.
- IMO download data is able to be retrieved and printed using either USB or serial output to a computer.
- Simple cable installation between computer module located in cargo control room and engine room.
- All air control piping 8mm.
- All sample piping 10 mm.
- Simple diagnostics and testing of all inputs and outputs by user.
- Measuring cell contains the calibration data, only part that is replaced at time of IOPP renewal survey.

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Title: Benefits & Advantages of Smart ODME installation

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Advantages and Disadvantages of GF Signet Paddle Wheel Flowmeter and Orifice plate DP flowmeter

- Orifice plate can restrict the flow
 - Orifice plate can cause considerable pressure drop
 - Orifice plate can erode over time which will change flow rate. Complete orifice plate will require replacing. Difficult job to carry out at sea
 - Orifice plate needs to be sized for pipe size and flow
 - Orifice plate needs replacement if calculations that the orifice plate was cut to is wrong
 - More parts to fail over time
 - Quality of air supply can affect cause corrosion over time
 - Two pressure switches that can fail
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- Paddle wheel flowmeter can work over pipe sizes of between 3 – 30 inches
 - Turn down ratio of paddle wheel means that same paddle wheel can be used over a large flow rate
 - Installation of the paddlewheel sensor is straightforward and easy, specifically designed tee fitting can be welded into existing pipe
 - Few parts that require replacing – if the paddle wheel is damaged then it is relatively easy to replace at sea
 - Paddle wheel is intrinsically safe which allows working in hazardous area (deck)
 - Lower cost to replace parts
 - Easy to adjust calibration of flowmeter – user buttons on sensor head enable user to access menus
 - Sensor head is located inside accommodation thereby protecting it from damage
 - Sensor head parameters are easily reprogrammed without need to enter hazardous areas.