

## OxyPilot 4.22A

### Description

The OxyPilot 4.22A system is a pilot scale Membrane Aerated Biofilm Reactor (MABR) that comes complete with the necessary equipment, valves, and instrumentation for fully automated operation. The system includes a touchscreen Human Machine Interface (HMI) and an intuitive Graphical User Interface (GUI) for easy control of the operating parameters. The HMI also records all process data which is accessible and downloadable via USB flash drive. The OxyPilot is easy to install and can be running within minutes.

### Features and Benefits

- Variable scouring frequencies, biofilm thickness is controllable which promotes simultaneous nitrification and denitrification (SND).
- Dual control of process air delivery for added process stability.
- Fully automated for less operator intervention.
- Variable feed pump control, timer or continuous, for a wide range of feed water concentrations.
- Complete accessible data recording, data trends can be viewed on the Human Machine Interface (HMI) and all data is downloadable via USB.
- Plug and play, quick start and intuitive to the user.
- Equipment interlocks and alarming included to promote process safety.

The OxyPilot is typically used in municipal wastewater treatment plants where the operators would like to trial and assess the MABR technology on their wastewater.

### Applications

- Municipal and industrial wastewater treatment trials

### Industries

- Municipal
- Microelectronic
- Ground runoff water
- Food and beverage
- Pharmaceutical
- Chemical

### Product Properties

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#### Membranes

Number of Bunches	25
Membranes per Bunch	540
Length	0.85 m
Surface Area	19.47 m <sup>2</sup>

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#### Reactor

Dimensions	0.23 x 0.255 x 1.26 m (W x D x H)
Volume	64.9L (excluding pipework)

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#### Main Equipment

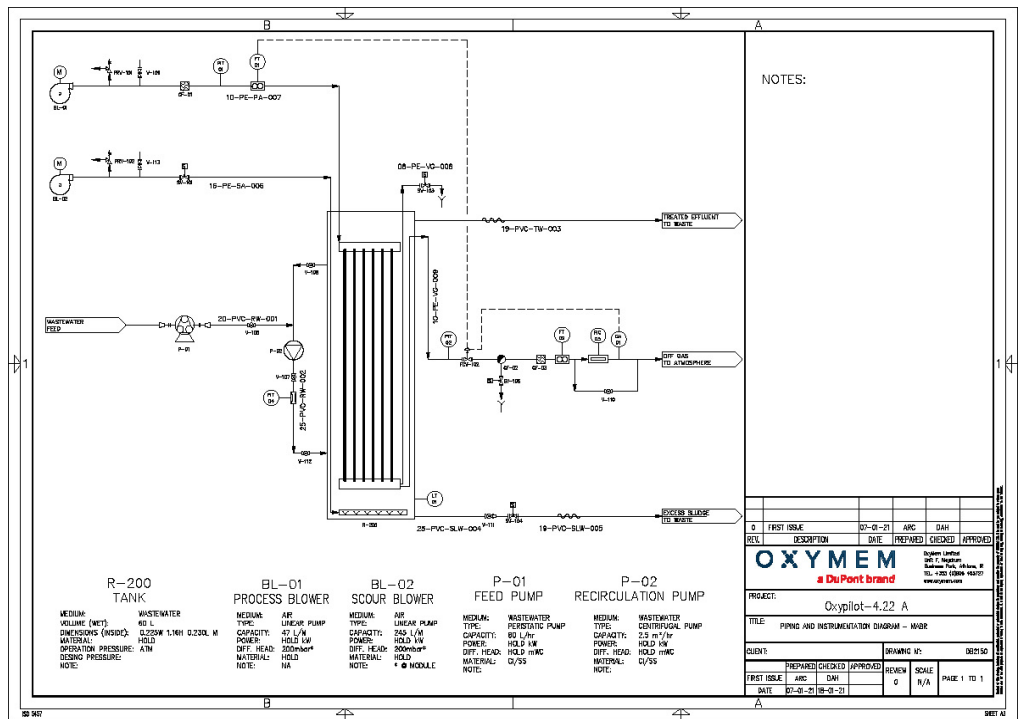
Process Blower	Gardner Denver AP-60N (47 L/min @ 200 mbar)
Scour Blower	Gardner Denver LW-240 (245 L/min @ 200 mbar)
Feed Pump	Watson Marlow Qdo 60 (60 L/hr, max)
Circulating Pump	Verder VMD-40 (38 L/min @ 1.5 mwc)

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# Suggested Operating Conditions

<b>Feed Wastewater</b>	
Flowrate	1,320 L/day
<b>Wastewater Characteristics</b>	
COD	250 mg/L
NH <sub>4</sub> -N	10 mg/L
PO <sub>4</sub> -P	2.5 mg/L (min)
TSS	0...100 mg/L
pH	6.8...8.3
Temperature	6...35 °C
<b>Mixing</b>	
Flowrate	1,400 L/hr
<b>Process Air</b>	
Flowrate	3.0 L/min
Humidity	up to 95 % rel.
<b>Scour</b>	
Duration	1 min
Frequency	1,439 min
<b>Sludge Extraction</b>	
Duration	10 sec
Frequency	86,390 sec

# P&ID



Note: P&ID is for illustrative purposes only

# What Is Included in This Product

OxyPilot with control-4.22A			
Sl.No.	Tag ID	Description	Qty
<b>Blowers</b>			
1	BL-01	Process Blower	1
2	BL-02	Scour Blower	1
<b>Pumps</b>			

OxyPilot with control-4.22A			
Sl.No.	Tag ID	Description	Qty
3	P-01	Feed pump	
4	P-02	Recirculation Pump	1
<b>Valves</b>			
5	PRV-101	Pressure Relief Valve	1
6	PRV-102	Pressure Relief Valve	1
7	V-109	Needle valve	1
8	V-113	Needle valve	1
9	V-106	Ball valve	1
10	V-108	Ball valve	1
11	V-112	Ball valve	1
12	V-107	Ball valve	1
13	V-111	Ball valve	1
14	V-110	Ball valve	1
15	SV 101	Scour air solenoid valve	1
16	SV-104	Desludge solenoid valve	1
17	SV-103	Condensate solenoid valve	1
18	SV-106	Purge solenoid valve	1
<b>Instrumentations</b>			
19	PIT-01	Pressure indicator transmitter	1
20	PIT-02	Pressure indicator transmitter	1
21	FIC-05	Variable area flow meter	1
22	LT-01	Level Transmitter	1
23	GA-01	Oxygen Analyser	1
24	FT-01	Mass flow meter	1
25	FT-02	Mass flow meter	1
26	FCV-102	Flow control valve	1
27	FIT-04	Magnetic-inductive flow meter	1
<b>Misc. Items</b>			
28	GF-01	Air filter	1
29	GF-02	Desiccant Compressed Air Dryer	1
30	GF-03	Air filter	1
31	R-200	MABR Reactor	1
32	PLC	Programmable logic controller	1
33	Frame	Aluminium frame	1
34	Bunchs	Half length bunch	25

**Have a question? Contact us at:**

<https://www.oxymem.com/contact-us>

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