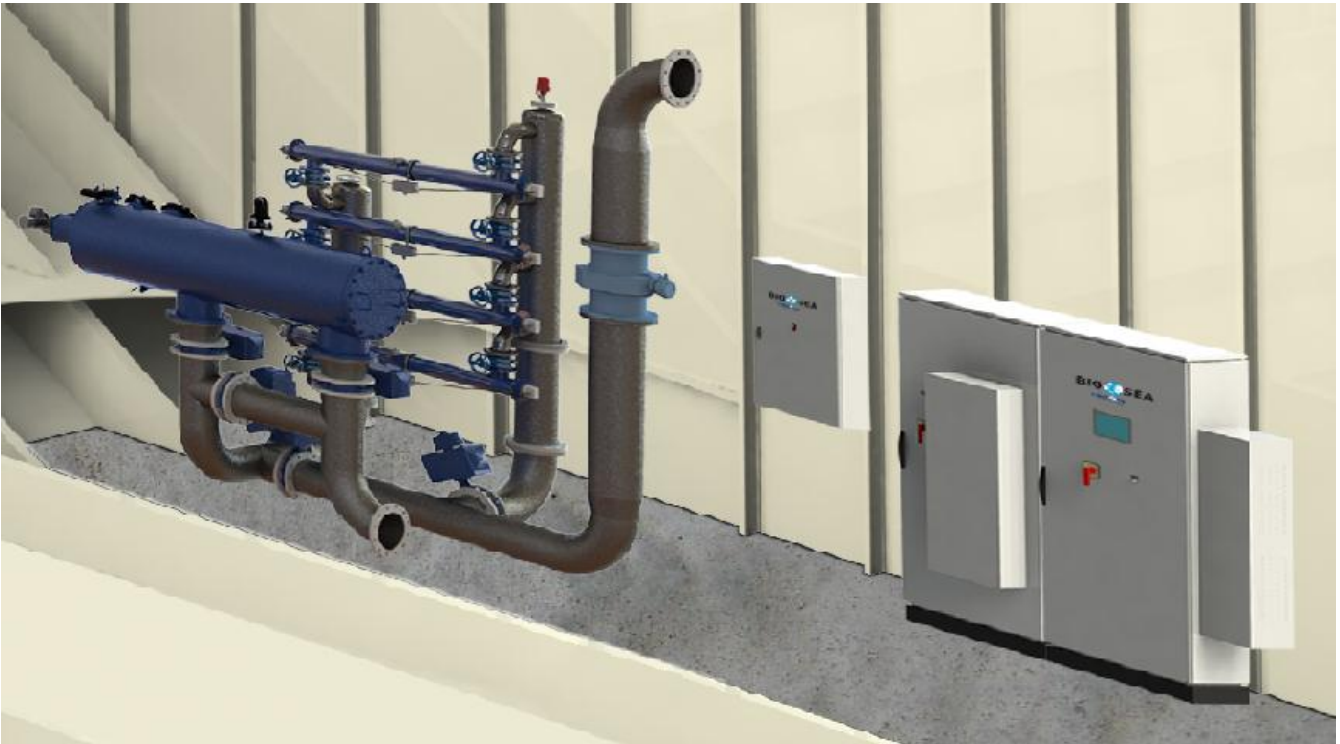


TECHNICAL DATA: BIO-SEA 400



Installation and configuration example

DESCRIPTION		QUANTITY FOR 400 M ³ /H MODULE	CONNECTIONS	TOTAL WEIGHT (kg)
a	FILTER BS-200 (w suction pump)	1	TBD	H :616kg/V :646kg
b	UV REACTORS	4	DN 100	100
c	POWER CABINET	1	Power supply: 380 – 440 V 50-60 Hz	440
d	POWER CABINET + HMI	1		440
e	CONTROL CABINET	1		60
f	FLOWMETER (to be located on the piping after the system)	1	230 V ; 50-60 Hz	80
g	PNEUMATIC VALVES (for by-passes of filter and/or UV)	6	24 VDC	
h	Cleaning pump	2	2x 6 KW	
i	Manifold	2*	*	*

OPERATING CONDITIONS

- Maximum treated flow rate: 400 m³/h
- Head loss in dirty filter situation: < 0,7 bars*
- Operating pressure Min/ Max: 1,6 bars/10 bars
- Total electric power: 108 kW

ENVIRONMENT OF USE/Engine room

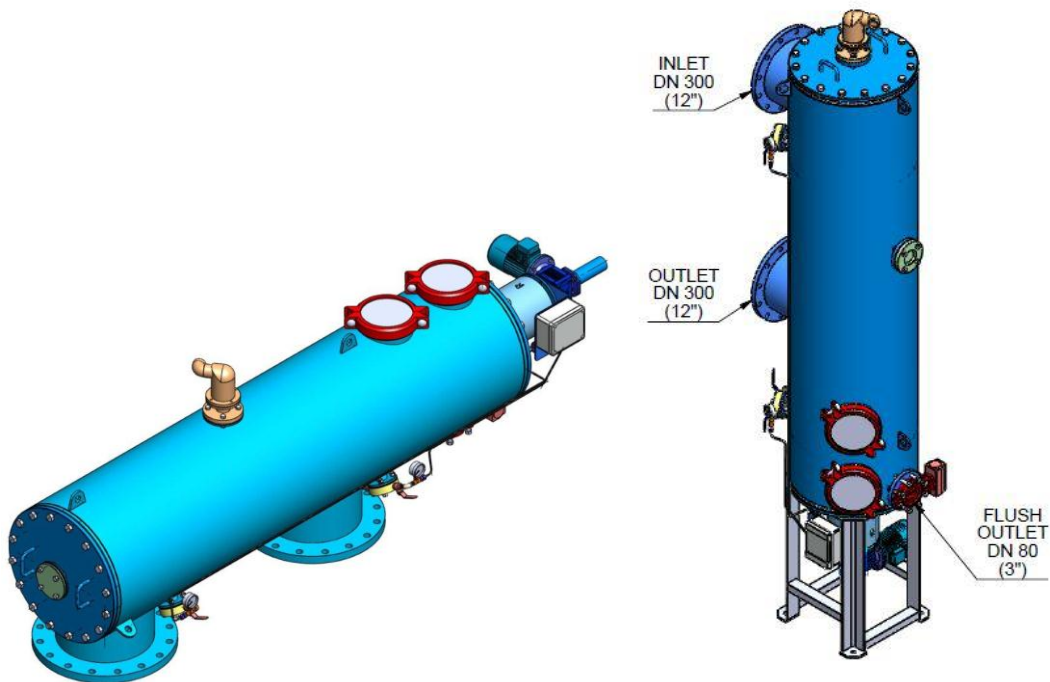
- Ambient T° min/max: 0°C /55C
- Humidity: max 90%

*Manifolds and supplementary elements (as new valves needed on the existing pipe) depending on the technical option chosen for installation on board.

* Head loss in dirty filter situation in the present configuration.

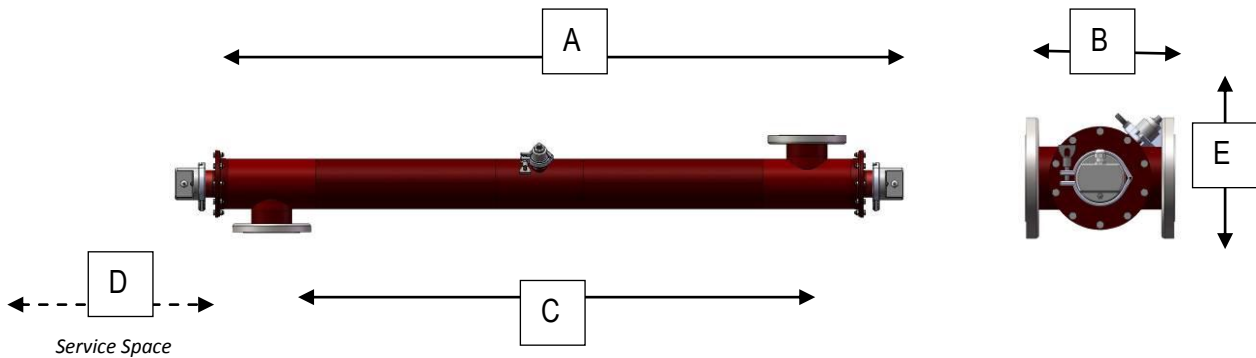
FILTER (a)

FILTER BS-200	
Housing material	Filter housing of carbon steel 37-2
Coating	zinc-phosphate + 250 µm phenol epoxy coating (exterior and interior)
Filtration screen	Stainless steel 904L
Filtration degree (screen aperture rating)	40 µm
Length in mm	Horizontal : 3210mm/vertical:1045mm
Service space in mm	1700 mm
Diameter in mm	600mm
Footprint	Horizontal :2,00mm Vertical : 0,32 m2
Weight in kg (Dry/filled)	Horizontal: 616 kg /1176kg vertical:646kg/1206kg
Automatic Backwash By DP measure	Motor, suction pump and flush valve, differential
Connection inlet/outlet	Flanges 14",16"
Flushing outlet	3" / 80 mm
Available connection (inch/DIN)	12"(300);14"(350);16"(400)



UV REACTOR (b)

UV REACTOR	
Material	STAINLESS STEEL 316L + anti-corrosion coating
Weight (dry/filled)	25 kg/55kg
Connection type Ø	Flanges / DN 100
Orientation	Horizontal
Number of lamp per reactor	1
Power consumption per lamp	14 to 22 kW depending on water transmittance- automatic power regulation
Lamp type	Medium pressure
Lamp lifetime (average)	3 000 h / 2 to 5 years according the operations



Description	A	B	C	D	E	Footprint
BIO-SEA UV REACTOR A0361	2 051	274	1 508	1 810	567	0,56m2

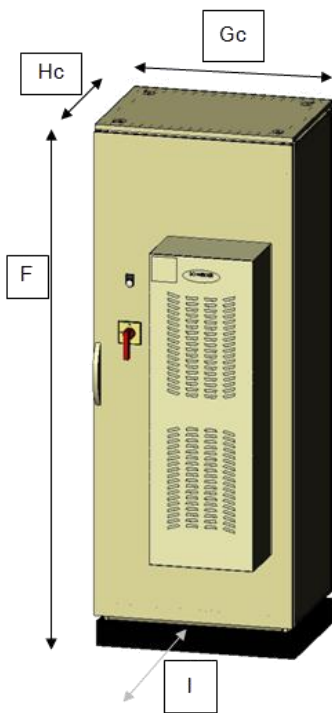
CONTROL CABINET (e)

CONTROL CABINET : ONLY ONE PER COMPLETE BALLAST WATER TREATMENT SYSTEM	
Material	Painted steel
Dimensions	1 000 x 600 x 250 mm
Service Space	Door opening : 1 000
Footprint	0,19m2
PLC	SIEMENS ET200S
Weight	60 kg
Protection index	IP54

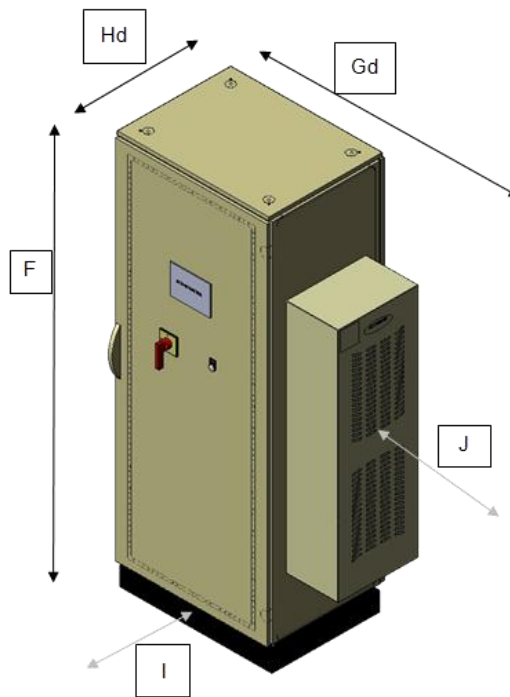


POWER CABINET (c & d)

POWER CABINET	For 2 reactors
Material	Painted steel
Cable length between cabinet and reactor(s)	10 to 35 m
Weight	440 kg
Display and control for HMI cabinet	HMI (touch screen) Inputs and outputs for control and alarms
Protection index	IP54



POWER CABINET (c)



POWER CABINET w HMI (d)

Description		F	G	H	I	J	Footprint
c	POWER CABINET	2 200	800	900	1 000	-	0,72m2
d	POWER CABINET + HMI	2 200	1 100	600	1 000	1 000	0,66m2