

Presentation of

OPAL

On line water analyser

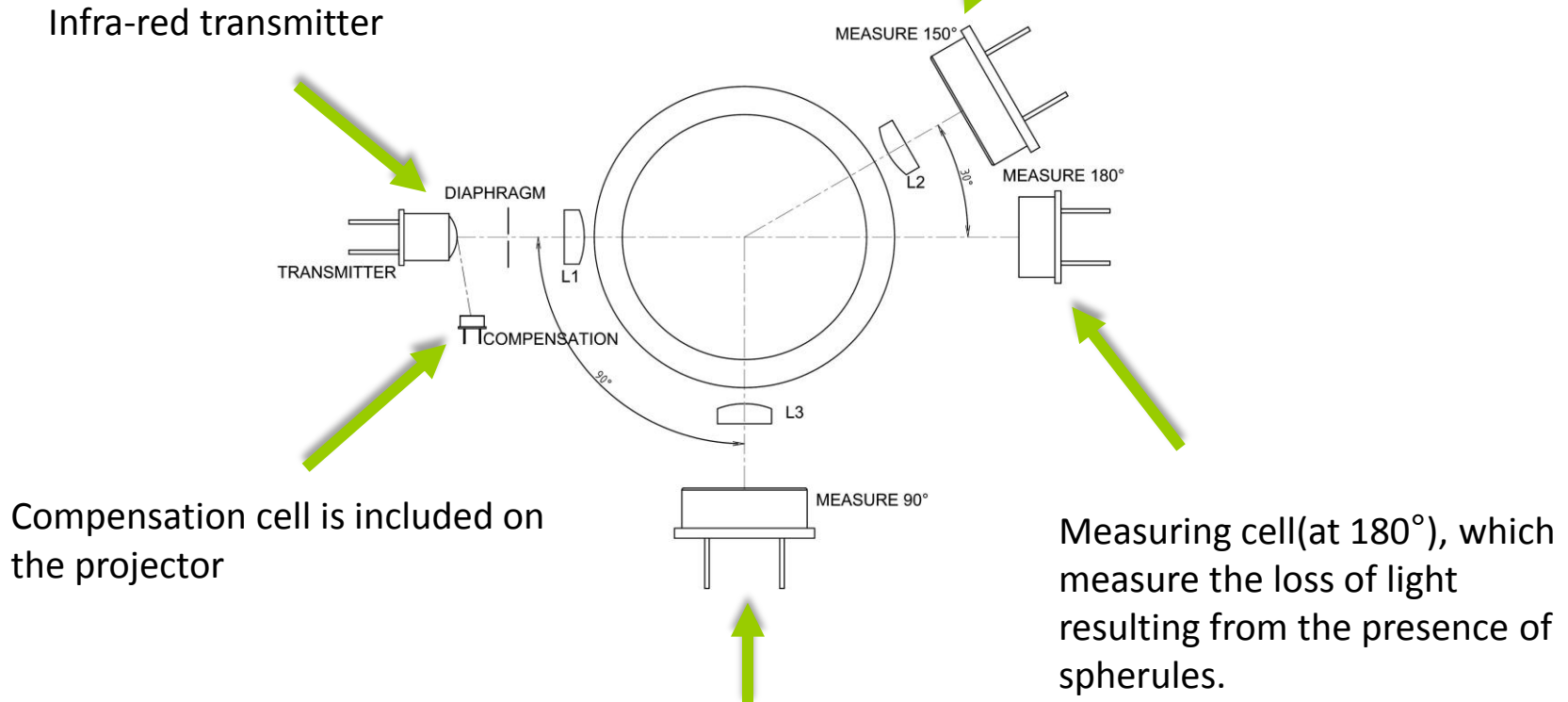


OPAL :Oil Pollution ALarm

- Instantaneous detection of undissolved hydrocarbons in water
- Infrared measurement with automatic compensation,
- Measuring ranges from 0 – 10 to 0 – 1000 ppm.
- Limit of detection: 1 ppm.
- This sample water then circulates through a measuring vessel consisting of a glass cylinder.
- This quantity of energy, proportional to the quantity of oil particles in the sample, is converted into the corresponding hydrocarbon ppm content.
- An alarm, with an adjustable threshold warns the user that the preselected set point has been passed.

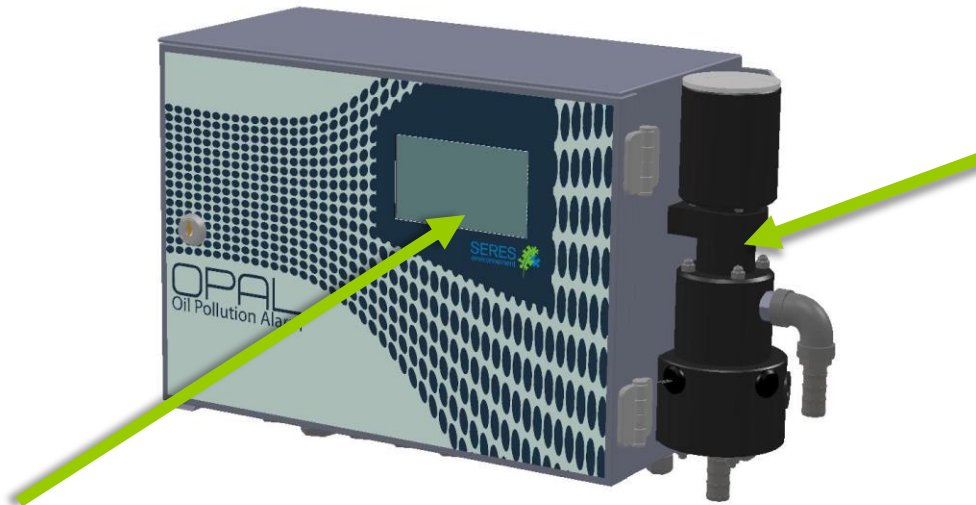
Measuring Principle

A measuring cell (at 150°), receives part of the energy emitted by the infra-red transmitter and reflected by the oil particles.



Measuring cell (at 90°) allows the turbidity measurement up to 100 NTU

OPAL IMO MEPC07(49)



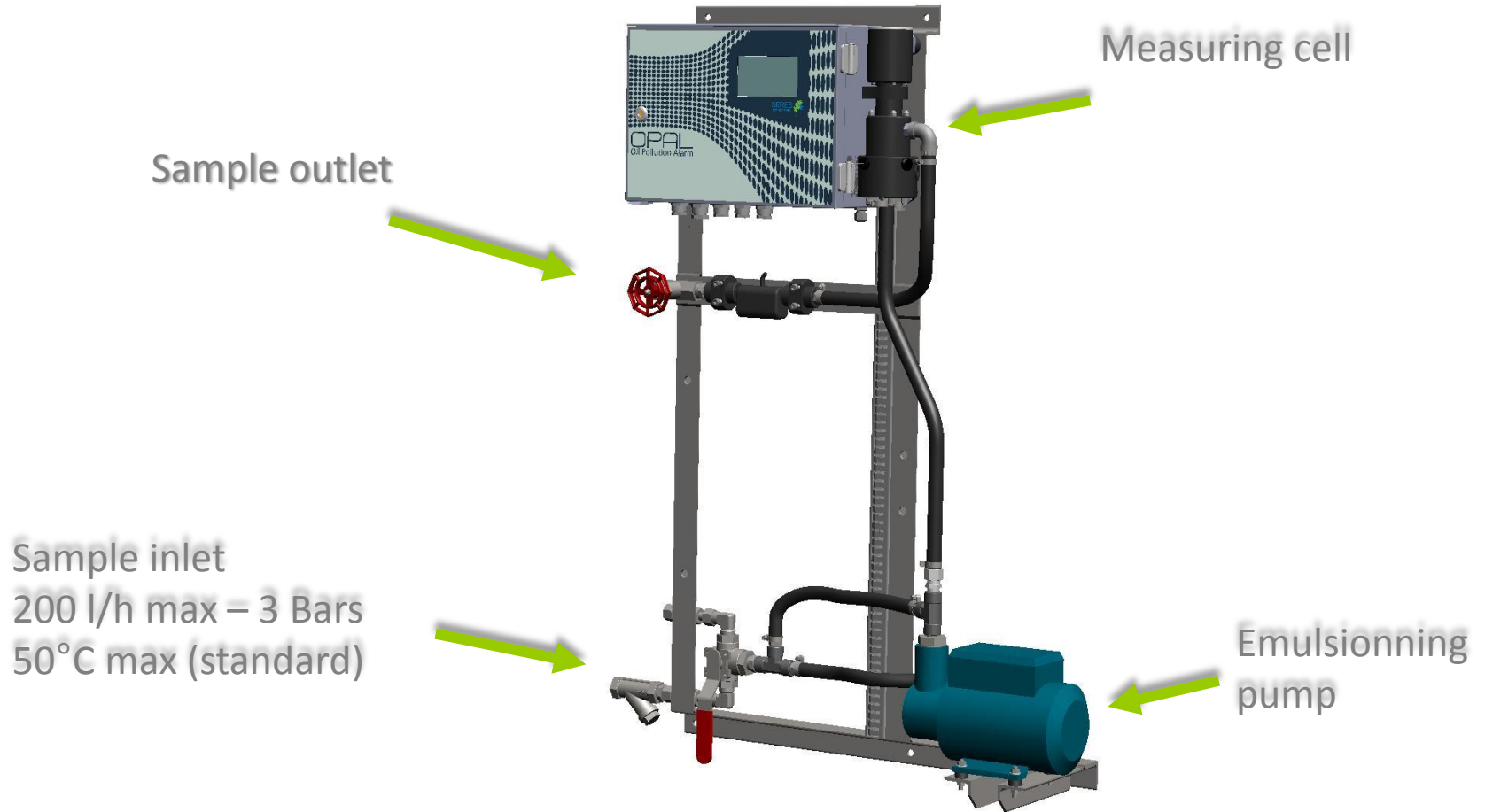
COLOUR LCD GRAPHIC DISPLAY 4x3 inches
TOUCH SCREEN

MEASURING CELL
Automatic cleaning
(electric actuator)

FOR MARINE APPLICATION

15 ppm Bilge Alarm according to IMO Resolution MEPC.107 (49)

Basic assembly on wall mounted skid

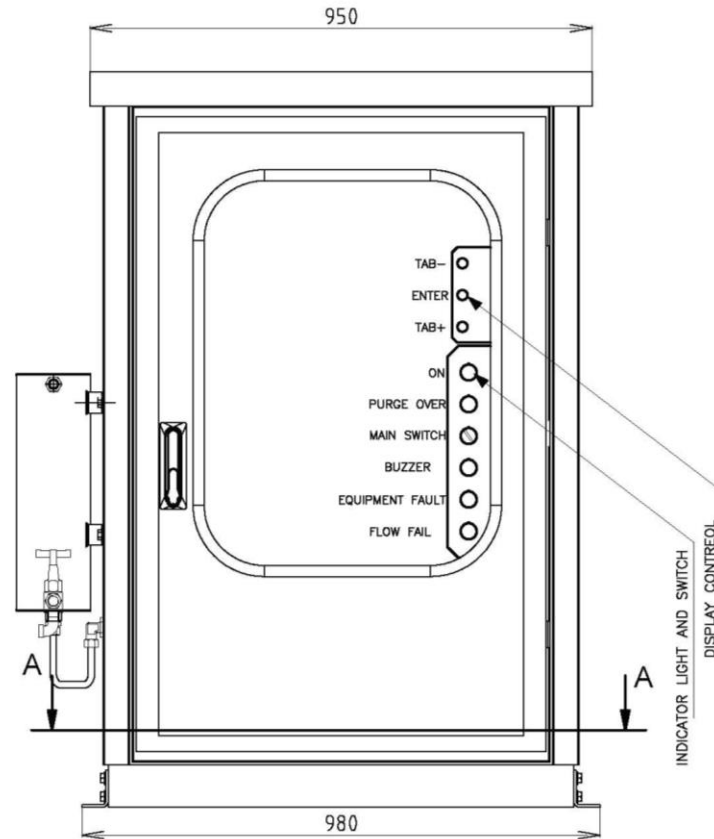


Cooler option

COOLER SYSTEM IF
SAMPLE
TEMPERATURE
EXCEEDS 50 °C
(MAXIMUM 90 °C)



ALSO POSSIBLE :STEAM COOLER
ON REQUEST (OEM SUPPLY)



Other option available

PRESSURIZED CABINET:

For installation of equipment in hazardous area zone 1 or 2, group IIC, T4 including:

- Pressurized cabinet
- Air purge unit (ATEX)
- Air control unit
- Optional cabinet cooler
- Integration work
- Set of certificates

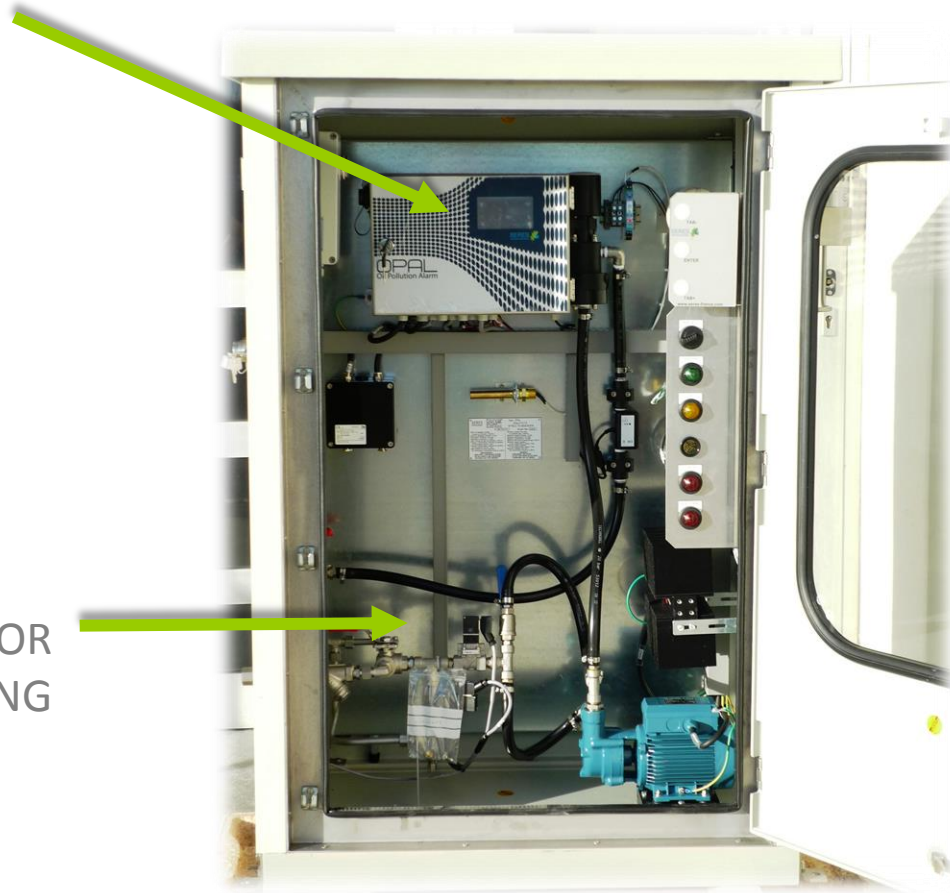


Hazardous area and -40°C ambient

Ex PURGE CONTROLER

PROTECTED FROM
FROST

2 SOLENOID VALVES FOR
BACKFLUSHING



Examples of applications

MAIN APPLICATIONS:

Drilling or deck water on oil rigs and oil fields :

Petrobras, Total, BP, Natco, ...

Discharge to sea from FPSOs, drillships :
SHI / Korea for Stena,

Process / Condensate water in power plants : EDF

Cooling or waste water in refineries, petrochemical and other industrials plants : Total, Nis Naftagas, Sollac, LBC Tank Terminal, VaTech,,...



OPAL certifications

o **QUALITY MANAGEMENT /SYSTEM CERTIFICATES**

- o ISO 9001-2008 : Bureau Veritas
- o LCIE 09 ATEX Q4012 System
- o for BRASIL : INMETRO
- o IEC EX
- o Marine applications : IMO type C SYSTEM

o **OPAL PRODUCT CERTIFICATES**

- o ATEX : LCIE 12 ATEX 3078 OPAL
- o for BRASIL : INMETRO
- o for RUSSIA : GOST metrologic and TC-RU for hazardous areas
- o Marine applications : IMO MEPC07(49)

ON REQUEST Design and Manufacturing

PRESSURIZED OPAL
IN GFR
CABINETS
OR MARINE
OPAL



OPAL ON SKID
WITH OEM
SENSORS
(T,pH,O₂,C)



Refinery references of SERES Environnement



ExxonMobil



ROSNEFT
TECHNOLOGY OF ALL-RUSSIAN SCALE

vatech



PETROBRAS



TOTAL



PetroChina



IndianOil



BASHNEFT



Slovnaft





360 rue Louis de Broglie
BP 20087 – La Duranne
13793 AIX EN PROVENCE Cedex 3
France

Tel : +33 (0)4 42 97 37 37

Fax : +33 (0)4 42 97 30 30

seres-france@seres-france.com

www.seres-france.com

