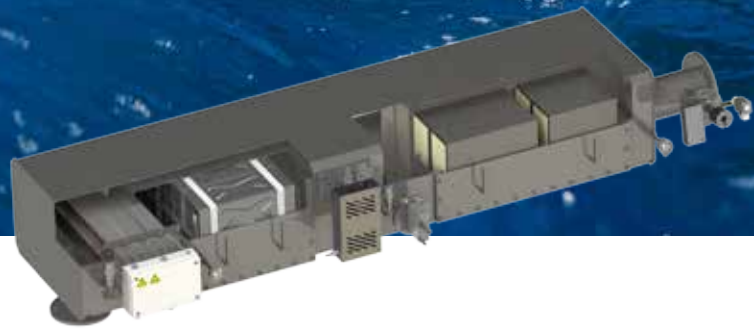




XEAMOS

Clean Air Engineering



Dual Exhaust After Treatment System with Electric Heater

XEAMOS SUPPORTS YACHTS TO BE FUTURE PROOF

Harmful NO_x emissions in diesel exhaust gases are limited by the IMO Tier III legislation that is mandatory in NO_x Emission Control Area's (NECA's). The coastal waters of North America and the Caribbean are designated NECA's for yachts above 500 GT when the ship's keel is laid after January 1st, 2016. More NECA's are expected in the near future.

Our unique "All-in-one" DEATS system consists of a combined silencer/catalyst housing with an integrated DPF and SCR system.

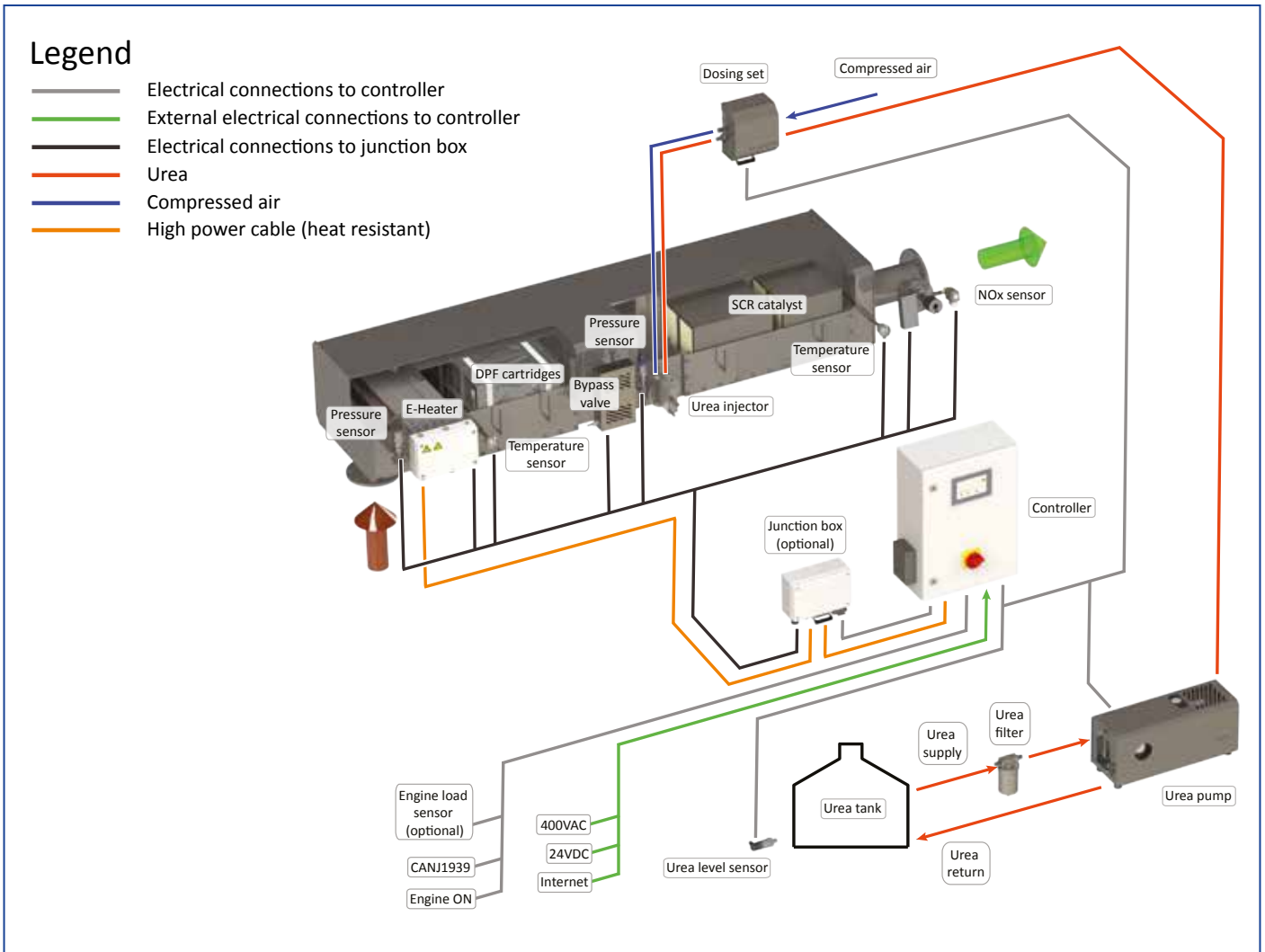
- IMO Tier III certified in combination with various engines, for both refit and new build.
- An automatic safety bypass allows 100% engine availability.
- In practice VIP guests will not experience particulates on deck, common diesel fuel in swimming water and the smell of diesel fuel.
- Compact size. As the urea injector and mixer are integrated in the catalyst housing, the overall installation length is much shorter than any other DPF/SCR combination.
- In-house designed electric heater for regeneration of DPF.
- The intelligent PLC controlled regeneration system ensures a trouble-free operation of your filter system.

SYSTEM CERTIFICATION

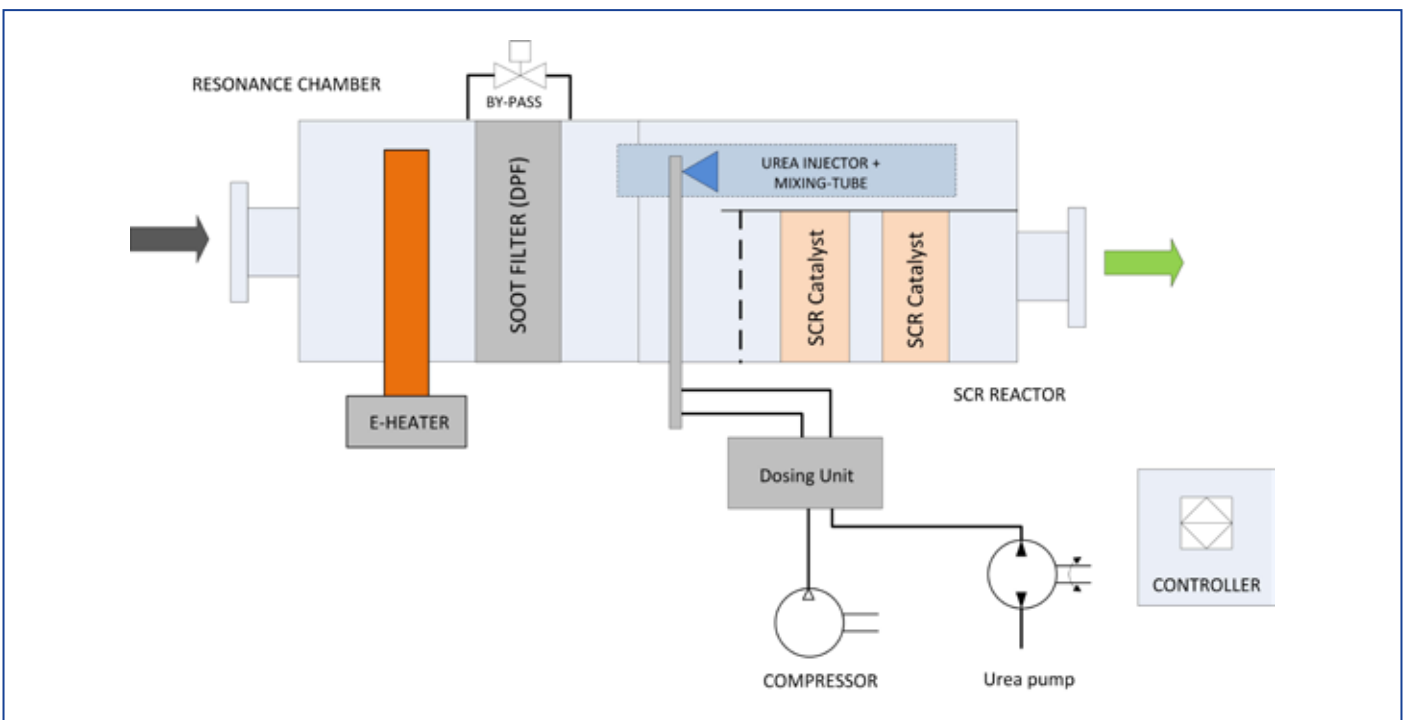
XEAMOS systems are supplied with the required GDA and IMO Tier III EIAPP certificates. We hold and maintain multiple IMO Tier III certificates for various engine types. Please consult Xeamos for available certificates.

MAIN FEATURES

- Compact design.
- Active regeneration by electric heater.
- Load bank function.
- Harbour mode function for maximum HC reduction (diesel smell) even at low generator loads.
- Lloyd's Register approved.
- Safety By-pass valve for 100% engine availability.
- Integrated sound attenuation function.
- Advanced controller.



Lay-out of an DEATS-EH system.



Process schematic of a DEATS-EH system.

OPERATIONAL CONDITIONS

Application	Super yachts, other high end applications
Exhaust system	Suitable for dry or wet systems
Environment	Engine room, clean
Ambient Temperature	-20 + 55°C
Degree of Protection	IP55
Relative humidity	5 to 95% Non-condensing
Inspection & service interval	Approximately 1x per year (normal conditions)
Compressed air for urea atomizer	8-12 Nm ³ /h @ min. 6 barg
Urea nozzle type	2-phase nozzle, compressed air atomization
Urea specification	AUS32 or AUS40 or equivalent

SUPPLIES

Fuel	EN590 (Diesel), DMA, DMX, max 2000 ppm sulphur
AC Power supply	3 x 400 VAC (4 wire)
DC Power supply	24 VDC - 10A (uninterrupted)

DESIGN DATA

Materials	Reactor housing: Alloy steel Burner tube and shields: High heat resistant steel
Surface treatment	High temperature coating
Max system pressure	150 mbar (reactor design) - design temperature 520°C
Pressure drop (ΔP)	Approximately 30-40 mbar, clean without soot and ash
DPF type	SiSiC
Coating	SX, ZX (ULSF only)
Emission reduction	NOx ca. 80% to reach IMO III Tier limit of 2 g/kWh
Operational temperature	>220°C (EN590 fuel) >250°C (max 2000 ppm sulphur)
Control strategy	Closed loop with NOx sensor
Supports	Bottom - standard, optional top
Thermal insulation	Blankets or cladded insulation (by customer)

LEGAL REQUIREMENTS AND STANDARDS

Standards	EMC directive 2014/30/EU Machinery directive 2006/42/EC Low voltage directive 2014/35/EU Thermo processing EN 746-2
Classification	Lloyds Register

SYSTEM PARTS

Controller	PLC with full colour HMI, super yacht standard (acc. to LR requirements) Inputs: engine load signal, engine on Outputs: System ON, Alarm, MOD bus
Datalogging	Yes
Remote access	Prepared
Communication with engine	J1939 or analogue
Reactor Housing	Flat rectangular shape to reduce overall volume
Blower unit	Blower with 3 phase motor with FC drive, air filter, check valve, filter service switch
Burner	Fuel burner with flame detection and ignition
Fuel set	Fuel pump with shut-off valves
Urea dosing unit	Controls urea and air flow
Urea pump set	Pressurizes urea. Can feed multiple dosing systems
Urea injector	2-phase urea injector, air assisted
Sensors	Temperature & pressure transmitter
Wiring	Wiring by yard on terminals and connectors

PERFORMANCE

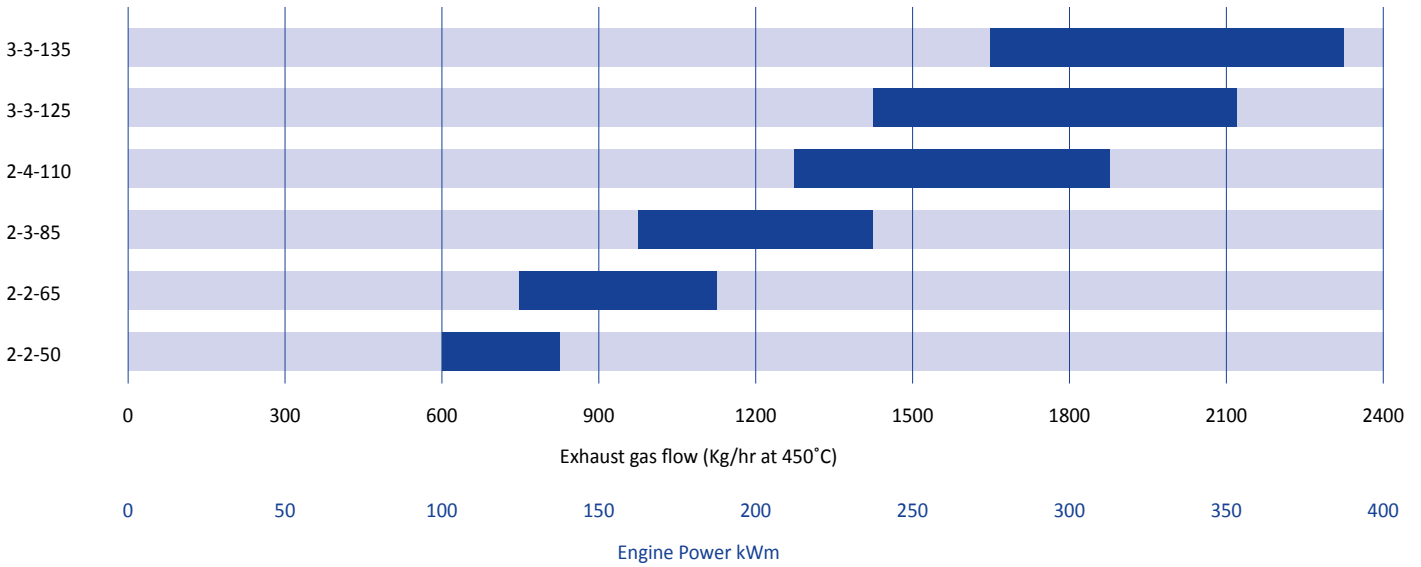
NOx - Nitrogen oxides	> 80 - 90% reduction
PM (measured as PM 10)	> 97% reduction
Sound attenuation	35 - 40 dB(A)

OPTIONAL

- Various catalytic coating for increased HC reduction at low exhaust temperatures
- Remote access via LAN accessible for diagnostics/remote Services
- Alternative power supplies
- Alternative in- and outlet positions and flanges

* Ask Xeamos for advice regarding available catalytic DPF coatings

DUAL EXHAUST AFTER TREATMENT SYSTEM - ELECTRIC HEATER



*For indication only, please contact us for exact unit selection or custom solutions.
Please consult Xeamos for system sizes 2-4-110 and larger. Application is limited by engine type and fuel type.*

SYSTEM SELECTION

To configure your system we ask you to submit the following information.

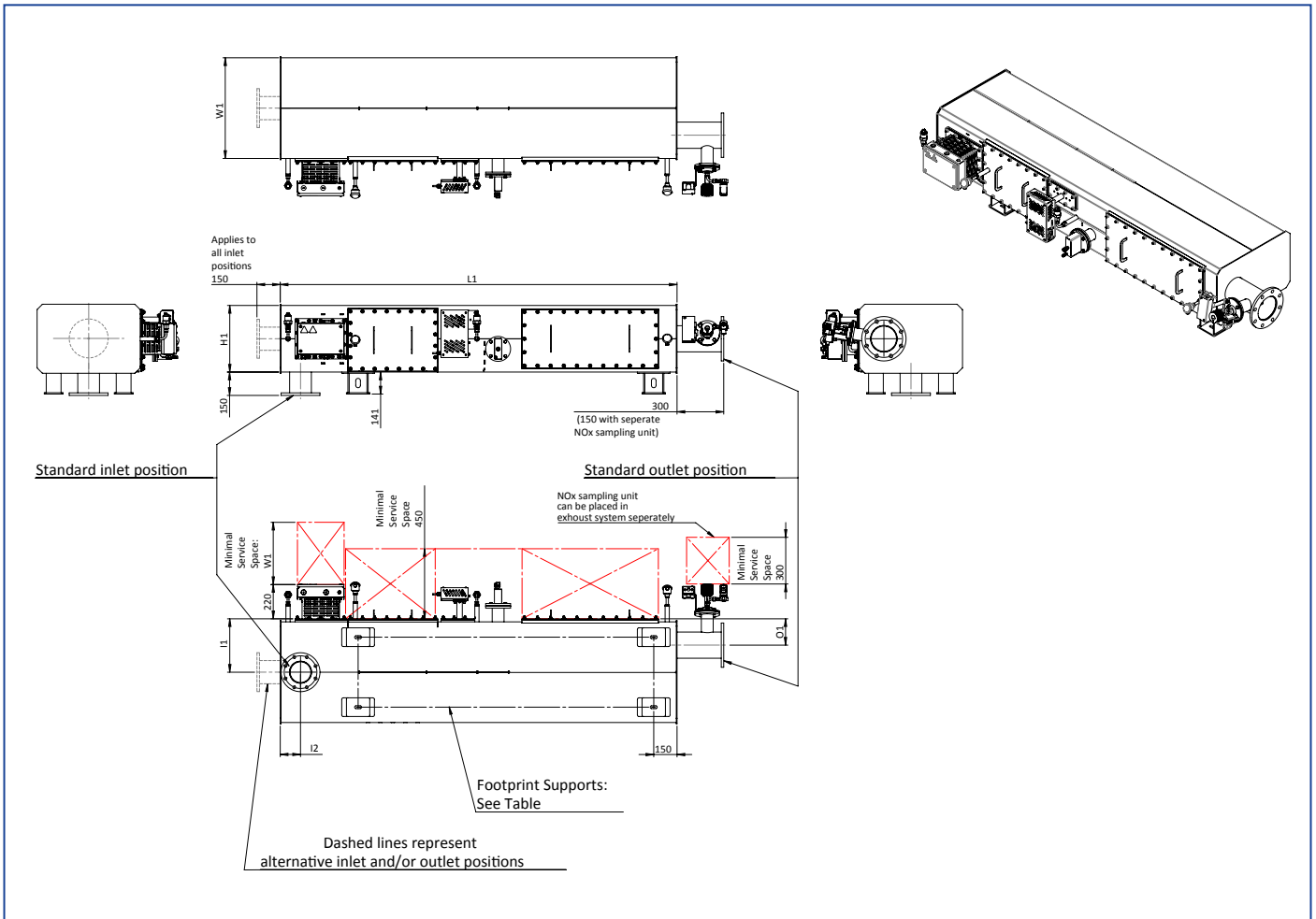
- Engine model and power kW
- Engine certification IMO I / II / other
- Exhaust system wet / dry
- Available backpressure mbar
- Running hours per year hours
- Average engine load %
- Lube oil consumption l/h
- Fuel type

SEPARATE DPF AND SCR UNITS

In case a compact solution does not fit in your engine room, a more traditional system can be offered. A separate Zero Soot DPF unit and a Zero NOx SCR unit are then installed in line, connected by the exhaust piping.

DIMENSIONS & OPTIONS DEATS-EH SYSTEM

Type	DPF Volume liter	E-Heater kW	Flanges In	EN1092-1 PN6 Out	Hot Surface m ²	L1 mm	L2 mm	H1 mm	W1 mm	I1 (standard) mm	I2 (standard) mm	O1 (standard) mm	Weight mm
2-2-50	50	30	DN150	DN150	5,6	2700	2550	435	570	290	130	175	400
2-2-65	66	40	DN150	DN150	6,4	2700	2550	435	705	360	130	175	480
2-3-85	83	50	DN200	DN200	7,4	2700	2550	435	875	445	160	255	600
2-4-110	108	60	DN200	DN200	8,9	2700	2550	435	1120	570	160	335	780
3-3-125	124	60	DN200	DN200	9,7	3100	2950	590	875	445	160	255	910



Note: This drawing is preliminary & provided for reference only and is not intended for installation purpose. Contact us either your local distributor for detailed information.

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with Electric Heater

Powered by: Solfic | NPS Diesel

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