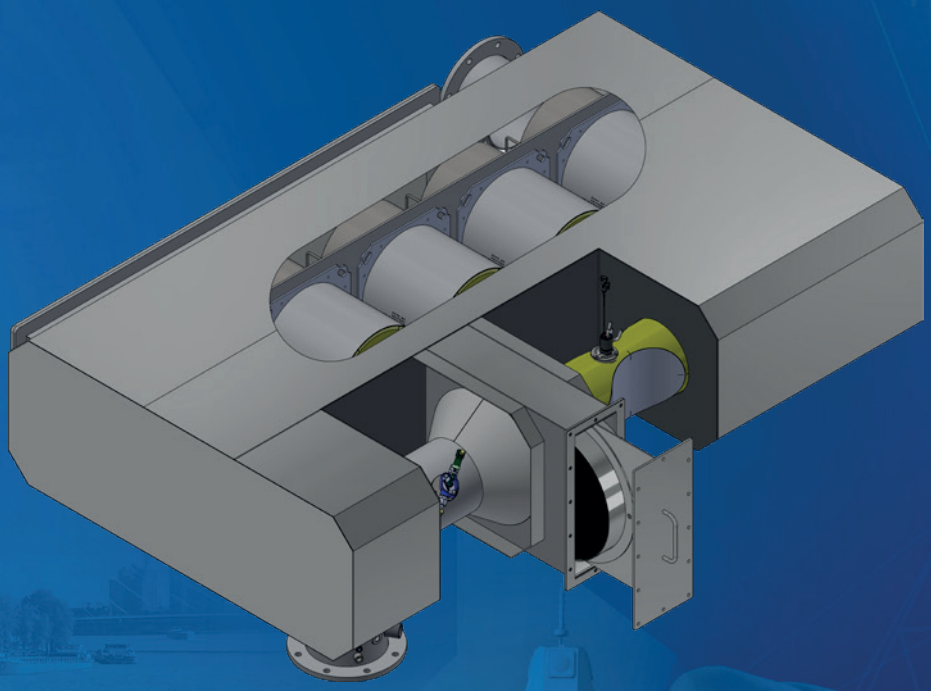
BLUECAT®

Exhaust Gas Aftertreatment



discom

EXHAUST TECHNOLOGY

Solutions **for a better world**

The Discom aftertreatment system allows vessels to be compliant in NOx emission control areas (ECA) and inland waterways.

Our low back-pressure and airless system can be executed as a compact all-in-one box technical solution with integrated diesel particle filter (DPF), diesel oxidation catalyst (DOC), mixing pipe and SCR/ASC blocks. Its design is suitable for limited space on board and intended for both vertical and horizontal installation.

Any SCR-reactor of our reliable system can be equipped with extra absorptive chamber to improve sound attenuation and certified spark-arresting device.

The BlueCAT® system can be applied for the IMO Tier III approval guided by Scheme A or Scheme B (MARPOL 73/78, Annex VI).

MAIN FEATURES

- Compact modular or all-in-one design
- Airless urea injection
- Integrated sound attenuation chamber
- Easy maintainable system with replacable blocks
- Suitable for ULS, LS, MGO and MDO fuel
- Compatible with both AUS32 and AUS40
- Independent closed coolant loop or combined with engine cooling circuit (depending on customer preferences)
- Remote control and adjusting as an option

STANDARD SCOPE OF SUPPLY

- Level sensors for urea main tank
- Urea delivery pump as well as urea primary filter
- Coolant tank made of stainless steel
- Urea buffer tank made of stainless steel
- Mixing pipe made of stainless steel with built-in airless nozzles
- SCR-reactor made of S235 or S355 steel grades (other materials upon request)
- Control box with intelligent PLC
- Pre-fabricated piping and wiring harness (any lengths upon request of customer)
- NOx sensors, exhaust temperature & pressure differential sensors
- Urea quality sensor (ultrasonic), urea pressure & temperature sensors

PERFORMANCE DATA

- Exhaust gas operating temperature +230...+600C (other temperatures upon special request)
- NOx conversion ratio 80...85% or 85...95% with optional DOC
- CO conversion ratio up to 95% with optional DOC
- HC conversion ratio up to 90% with optional DOC
- PM conversion ratio up to 99% with optional DPF
- Sound attenuation 20...25 dB(A) or 35...45 dB(A) with optional integrated silencer
- Reference value of system pressure drop 30...35 mbar

OPTIONS

- Diesel oxidation catalyst (DOC) for NO2/NOx ratio adjustment
- Diesel particle filter (DPF) with active regeneration by diesel fuel post injection or electrical heater or passive regeneration
- Remote control & telemetry unit
- Integrated sound attenuation chamber (silencer or silencer/spark-arrestor)
- MAP/TIN sensor for mechanically controlled engines
- Easily removable external thermal insulation or lagging & cladding made of galvanized mild steel, stainless steel or aluminum
- Infra-red gas analyzer

APPLIED EMISSION REDUCTION LIMITS

- IMO Tier III, EPA Tier IV, EU Stage V, CCR-II, Natura 2000 or any other

CERTIFICATION

- It is possible to apply for a technical file & EIAPP certificite issued by LR, BV, RS in cooperation with engine manufacturer/supplier

Fig. 1. General layout of BlueCAT® SCR-system with diesel oxidation catalyst (DOC).

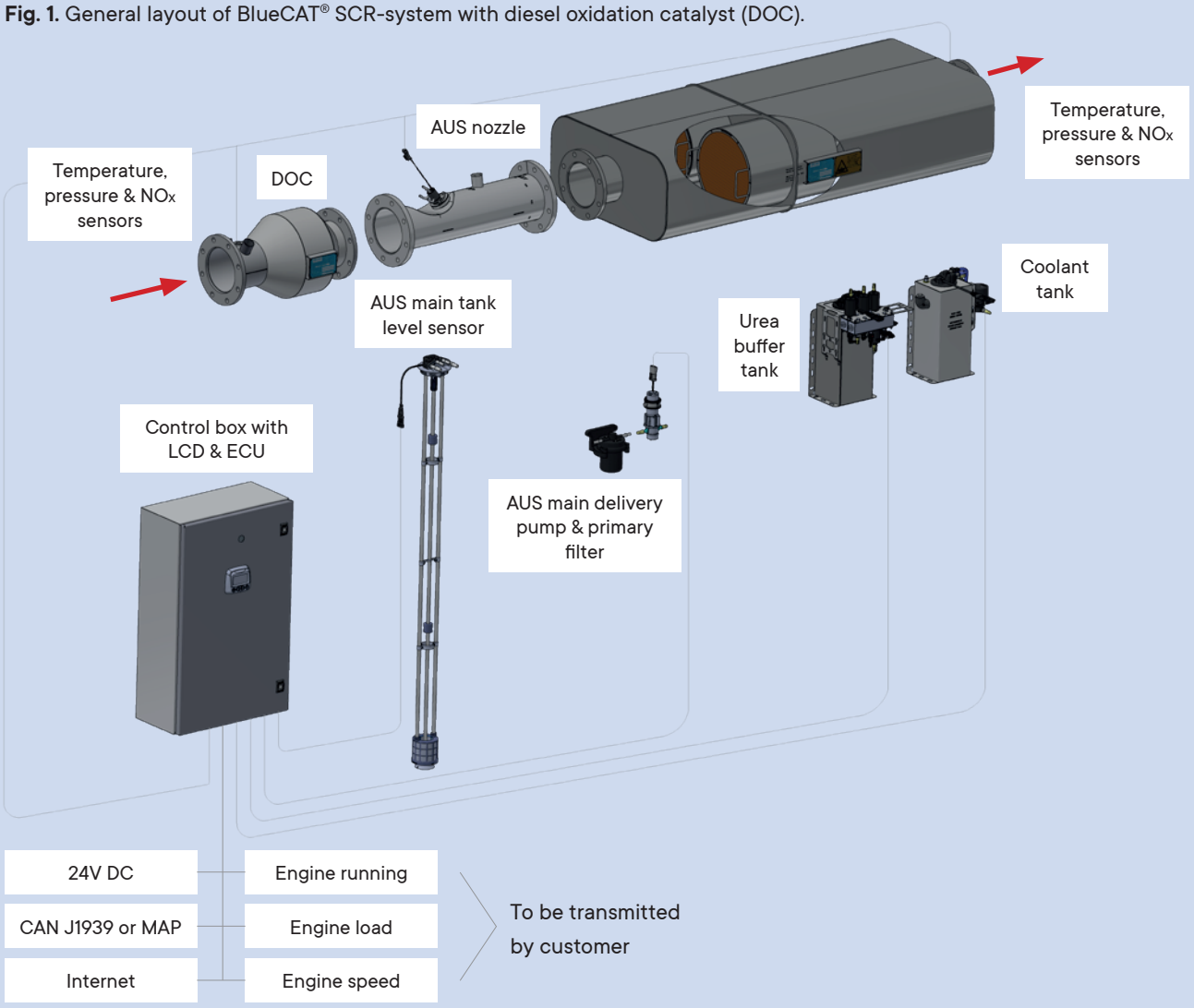


Fig. 2. Process diagram.

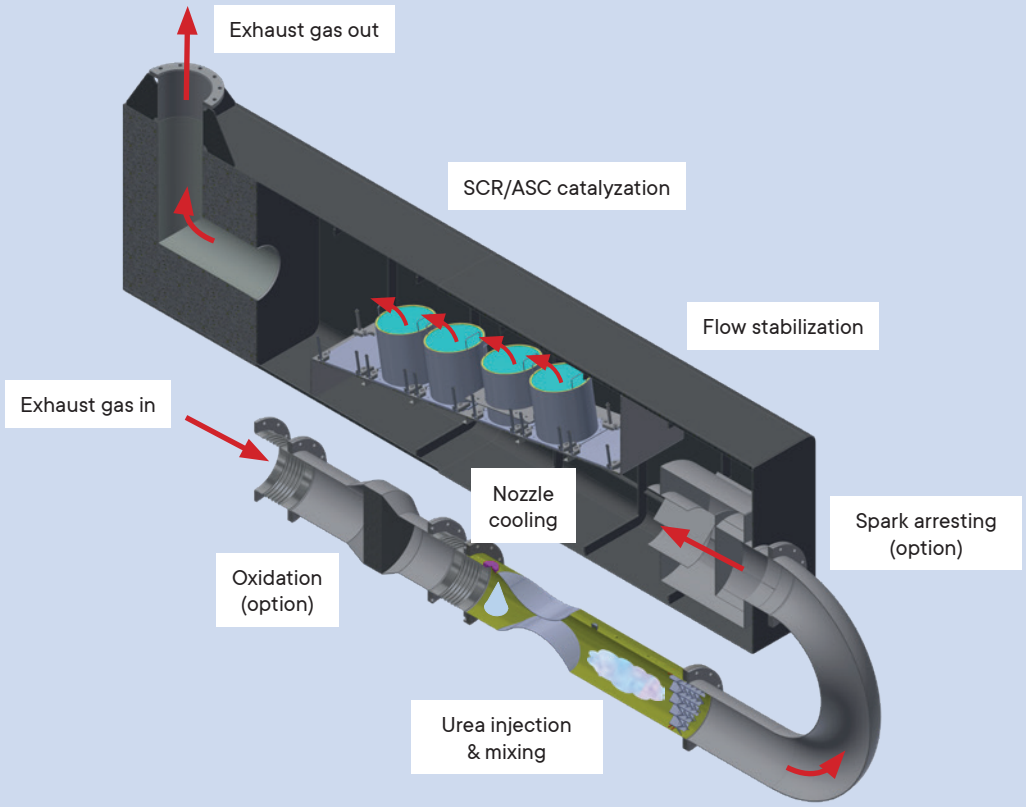


Table 1. Example of general arrangment of SCR-reactor or a combination of DPF & SCR-reactor.

NB, mm	Max. exhaust gas flow, kg/h	A, mm	B, mm	C, mm	D, mm	E, mm	F, mm	J, mm	Flange connection	Total pressure drop @ 100% load, mbar	Overall length if integrated 30 dB(A) silencer, mm
150	1100	1000	760	448	450	450	168.3	750	DIN2573	15.0	A + 350
200	2000	1480	1090	448	900	450	219.1	1080	DIN2573	18.0	A + 500
250	3000	1480	1090	763	1100	450	273.0	1080	DIN2573	16.0	A +500
300	4200	1880	1450	763	1100	450	323.9	1440	DIN2573	18.0	A + 630
350	6000	2200	1810	763	1100	900	355.6	1800	DIN2573	20.0	A + 730
400	8000	1880	1450	1144	1100	900	406.4	1440	DIN2573	20.0	A + 630
450	10000	2200	1810	1144	1100	900	457.2	1800	DIN2573	20.0	A + 730
500	12500	2560	2170	1144	1300	900	508.0	2160	DIN2573	25.0	A + 850

Note: casing shape and dimensions are indications. These are adjustable to your application. DPF-blocks pressure drop is not counted.

Fig. 3. Example of general arrangment of BlueCAT® SCR-reactor.

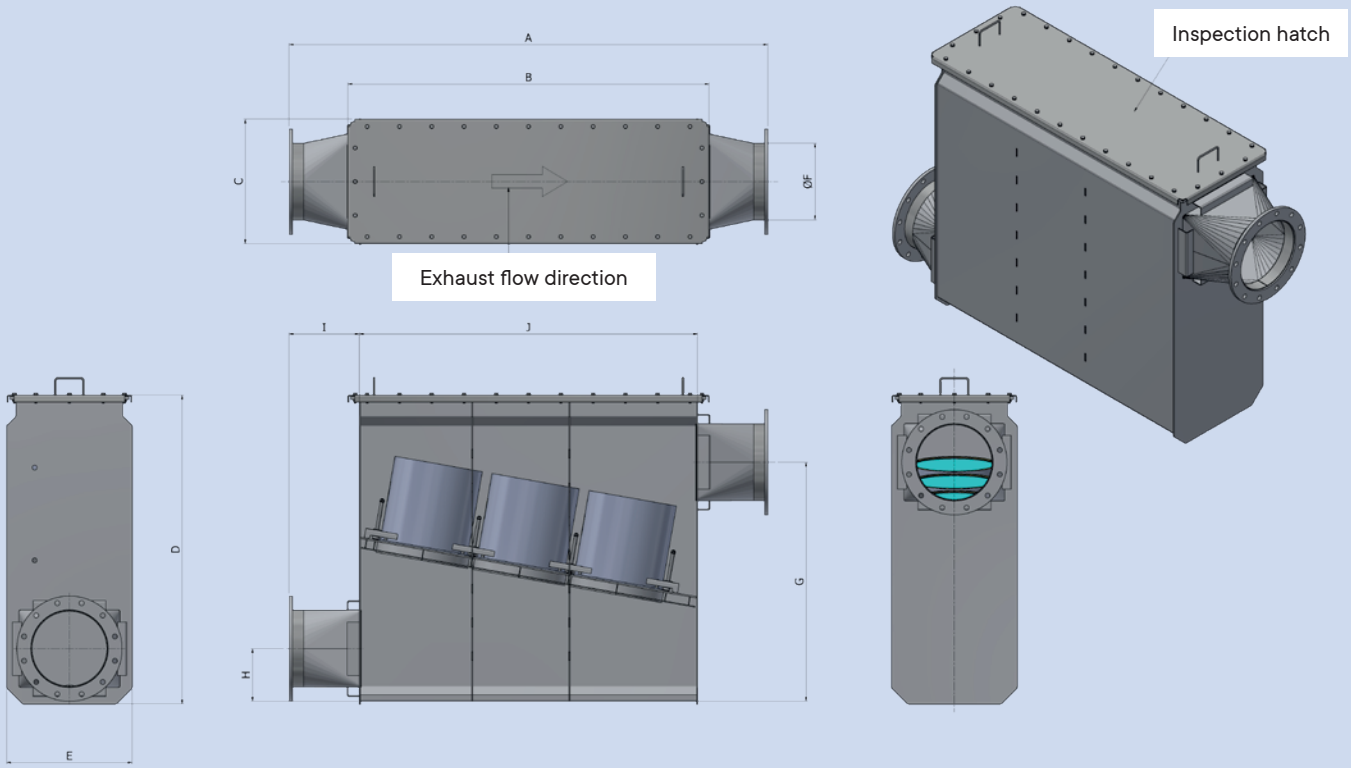


Table 2. Example of typical dimensions of urea mixing pipe.

NB, mm	Max. exhaust gas flow, kg/h	L, mm	d, mm	D, mm	Nozzles qty. per pipe, pcs.	Flange connection	Pressure drop @ 100% load, mbar
150	1100	680	168.3	265	1	DIN2573	6.0
200	2000	900	219.1	320	2	DIN2573	6.0
250	3000	1125	273.0	375	2	DIN2573	6.3
300	4200	1350	323.9	440	2	DIN2573	6.5
350	6000	1575	355.6	490	2 or 3	DIN2573	8.8
400	8000	1800	406.4	540	3	DIN2573	9.5
450	10000	2025	457.2	595	3	DIN2573	9.5
500	12500	2250	508.0	645	3	DIN2573	10.0
600	16500	2700	609.6	754	3 or 4	DIN86044	9.3

Note: any other NB or overall dimensions are upon customer request.

Fig. 4. Example of general layout of BlueCAT® mixing pipe.

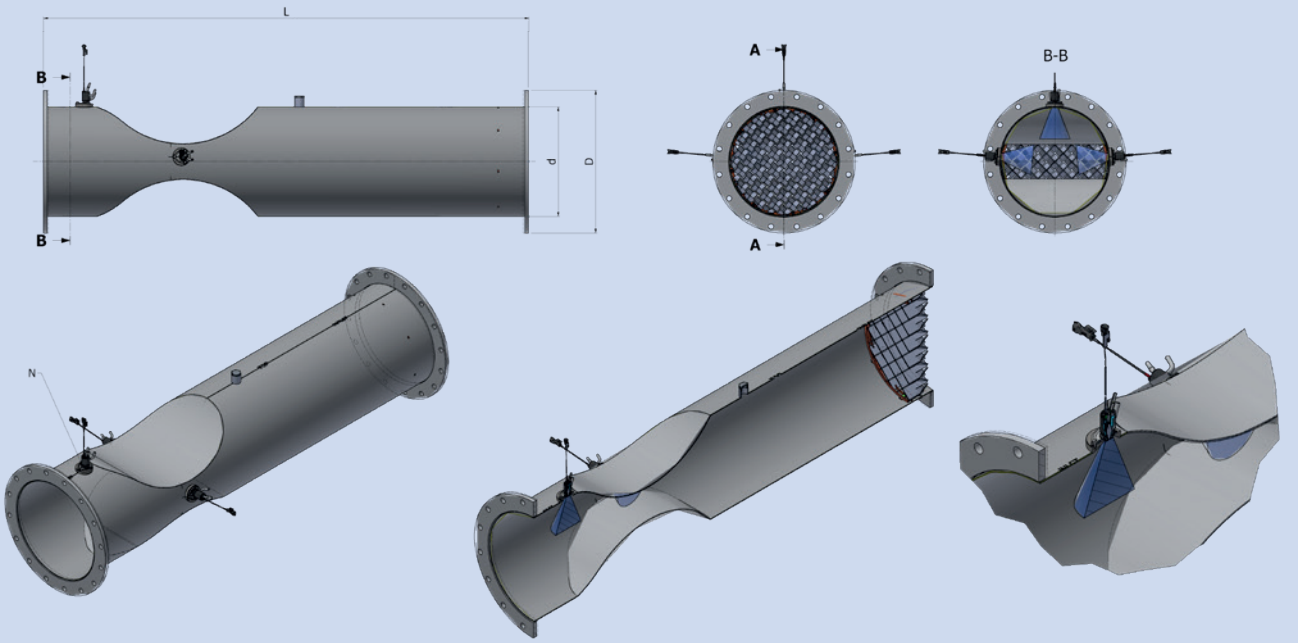
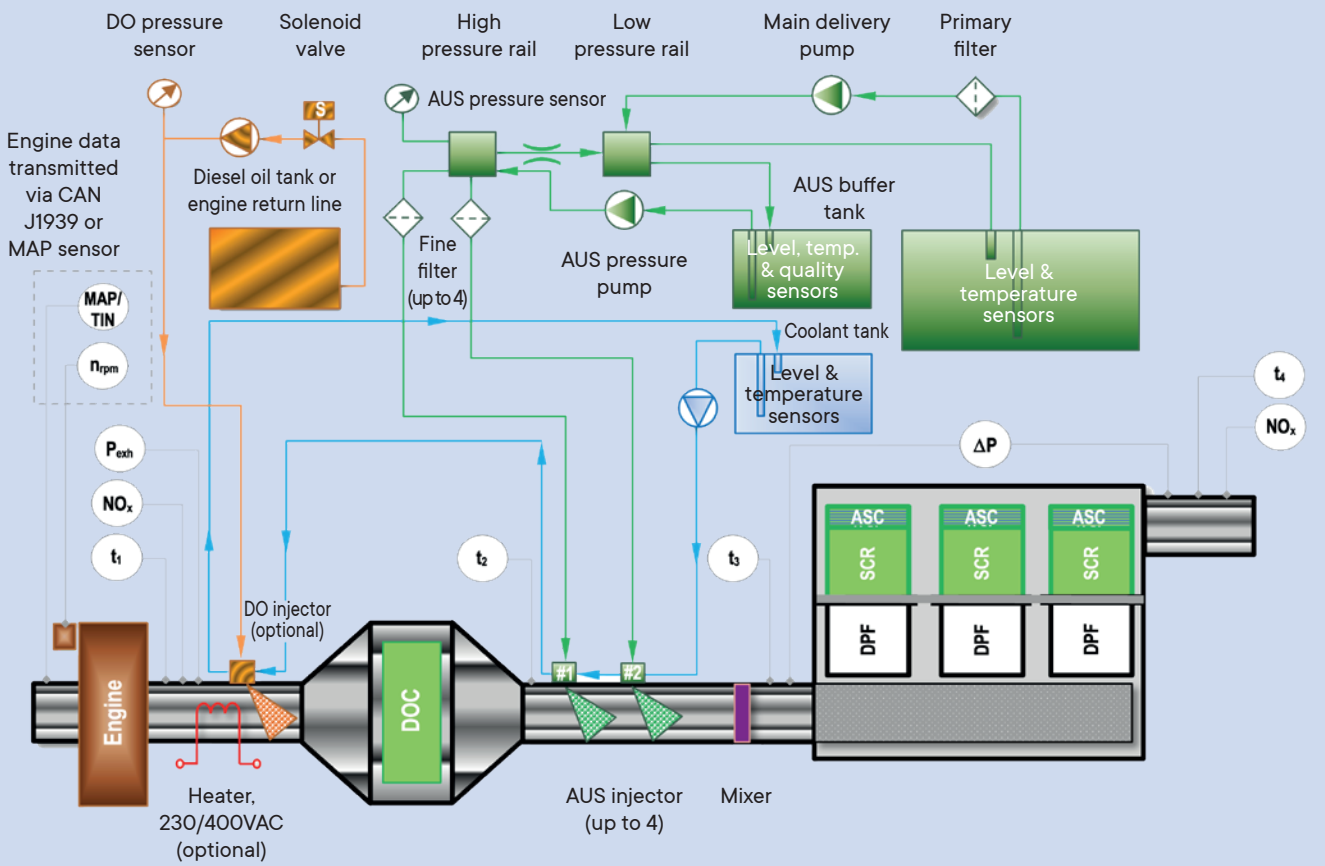


Fig. 5. System PID with optional DOC and DPF with active regeneration by diesel oil injection or AC heating.



Note: all mentioned drawings, diagrams & other graphic data in this document are provided for the reference and can be used as preliminary information only! Please contact us if detailed information is required.

MORE INFORMATION?

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