

THE FUTURE IS POWDER

TIME TO GO
SCRUBBER-FREE

SodaFlexx 
clean exhaust from ships

SOLVAIR[®] | by SOLVAY



NEXT GENERATION SOLUTION

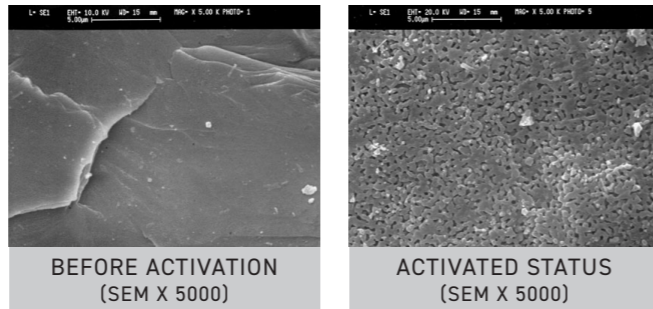
Did you know there's a powder absorbent that reduces SO_x emissions close to zero? You can use it as an alternative to a wet scrubber or as an add-on to make your existing scrubber hybrid.

This powder absorbent is safe to store, easy to handle and environmentally friendly. It has been approved by environmental agencies and flag states. So, your ship can travel in ports and restricted Emission Control Area zones.

A PROVEN SOLVAY TECHNOLOGY

Our exhaust gas desulphurization system is patented and known as N-Flexx[®]. It is based on SOLVAir[®], a Solvay technology that has been used in land-based applications. In the last 30 years, over 500 customers have used this powder absorbent to treat flue gasses and reduce SO_x, NO_x and HCl emissions.

Solvay, the pioneering chemical firm, developed a Sodium based sorbent for SOLVAir[®]. By injecting this directly into the existing exhaust gas piping with our N-Flexx[®] system, the sulphur component is neutralized.



Source: Solvay

GREEN AND COST EFFECTIVE

Together with Solvay, we offer the most environmentally friendly and cost effective exhaust gas cleaning solution. Save up to 40% on fuel costs while reducing SO_x emissions close to zero. You can receive an ample supply of the Sodium based sorbent – when and where you need it.

SodaFlexx International and Solvay are both approved by IACS members, several flag state authorities and environmental agencies.



SIX WAYS YOU BENEFIT

1

Comply with IMO regulations while reducing emissions (SO_x close to zero).

2

Easy to install.
No need to modify exhaust gas piping or funnel.

3

Average installation time is only 48 hours.
No dry-dock needed.

4

No use of seawater.
Operate in ports and restricted waters with no pollution.

5

Our powder absorbent is safe to store and transport.
Receive an ample supply – when and where you need it.

6

Save up to 40% on fuel costs.

THE N-FLEXX COMPONENTS

1. STORAGE

The SO_x - Neutralizer (NaHCO₃) is stored in a fit-for-purpose silo.

2. DOSING TANK

The main storage silos automatically fill the dosing tank, which is fitted with an agitator. This ensures the SO_x - Neutralizer flows freely to the dosing auger.

3. INJECTION BLOWER

A continuous air stream transfers the powder absorbent to the injection nozzle. This is supplied by a high performance triple stage blower.

4. DOSING DEVICE

This device efficiently doses the NaHCO₃ directly into the airstream.

5. INJECTION POINT

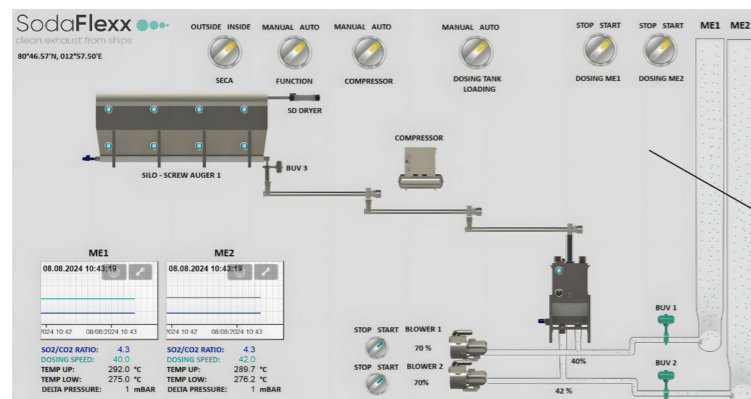
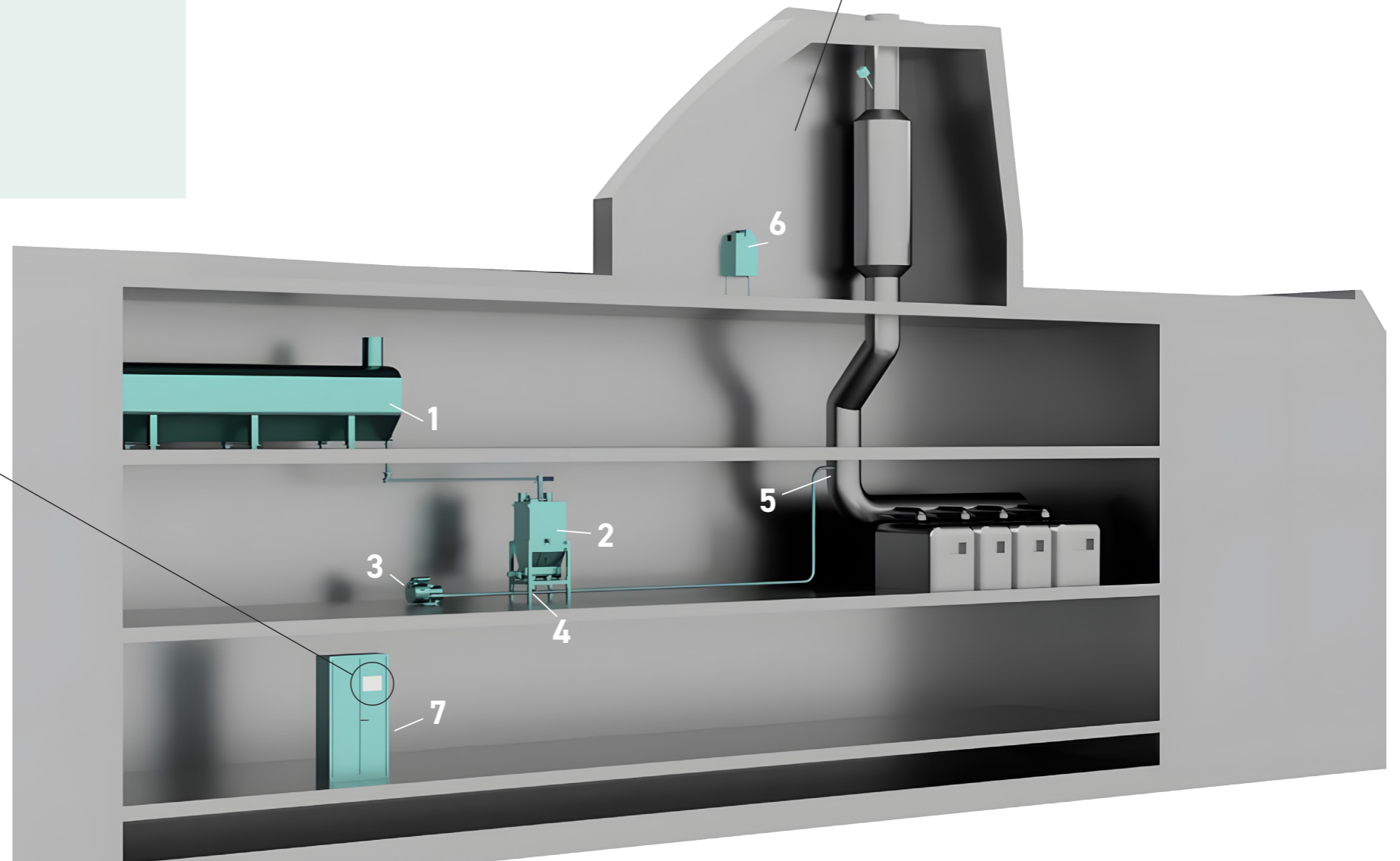
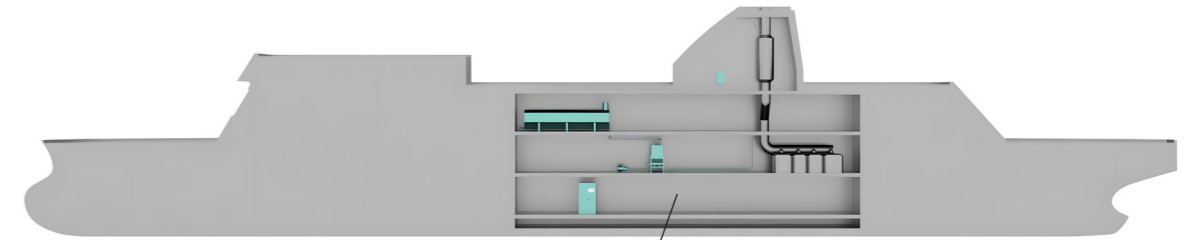
The NaHCO₃ is injected via an injection nozzle directly into the exhaust gas stream.

6. CONSTANT GAS MEASUREMENT

The CEMS constantly monitors the ratio between SO_x and CO₂. This system self-adjusts to ensure IMO Compliance.

7. CONTROL SYSTEM

For optimum dosing, the system takes inputs from the engine fuel rack and the CEMS. Data is securely stored.



HOW OUR TECHNOLOGY WORKS

Step 1 - Storage of sodium bicarbonate

A storage tank for the powder absorbent can be integrated onboard your ship or placed in a 20-foot container outdoors.

Step 2 - Dry powder injection

By injecting the Sodium based sorbent directly into your existing exhaust gas piping with our N-Flexx® exhaust desulphurization system, the sulphur component is neutralized (SO_x).

Step 3 - Chemical reaction

A chemical reaction occurs, which converts SO_x into a highly stable non-toxic salt – Sodium Sulphate (Na₂SO₄). This salt can be safely released into the air or captured and valorized ashore.

Step 4 - Gas measurement

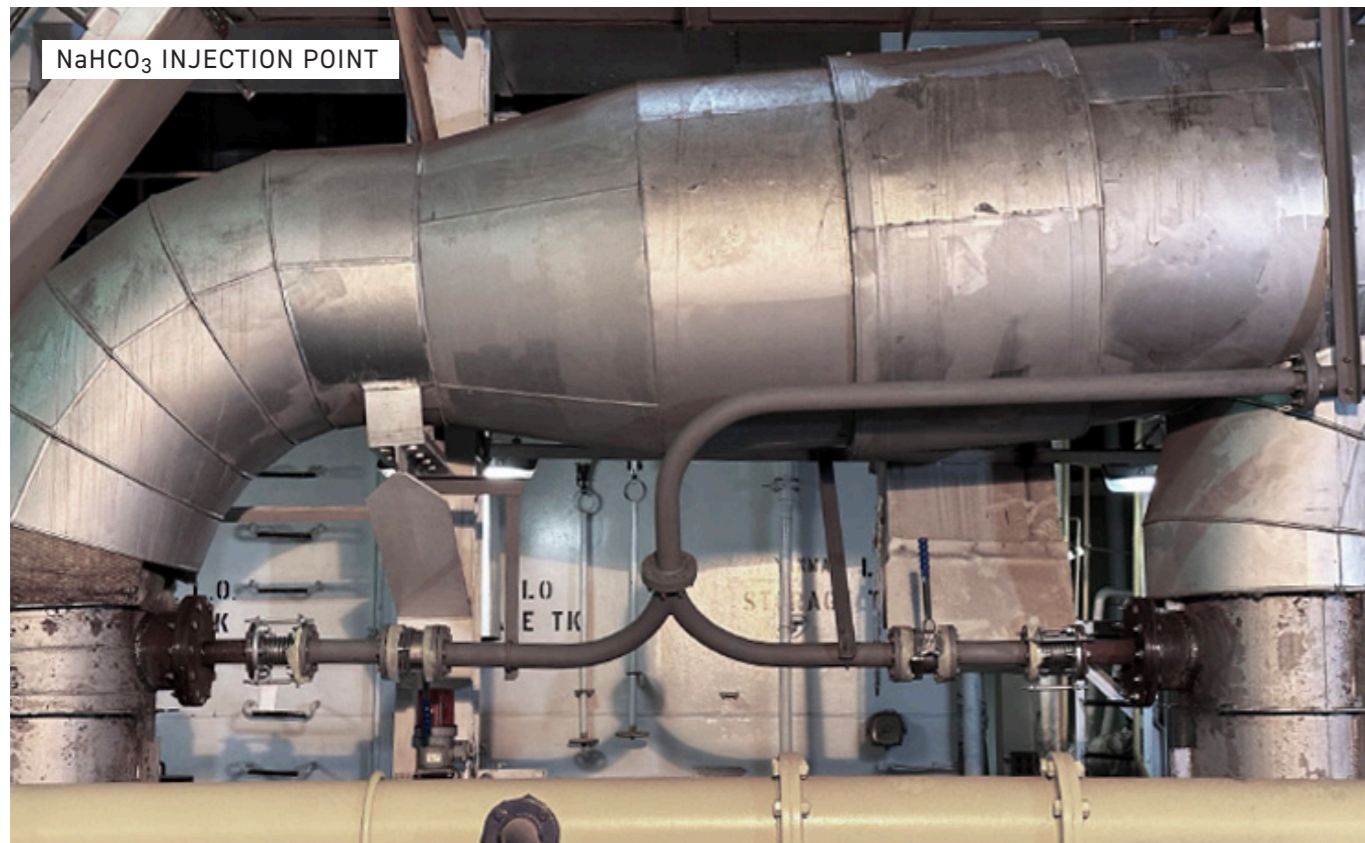
SodaFlexx International provides a Continuous Emission Monitoring System, which measures the ratio between SO_x and CO₂. This system self-adjusts to ensure that exhaust gasses comply with IMO Regulations.

powder storage

dry powder injection

chemical reaction

gas measurement



EASY TO INSTALL

N-Flexx® is easy to install. Since installation requires only minor modifications, you can avoid long engineering and approval processes. The average installation time is 48 hours. No dry-dock is needed. Ours is the only system that lets you choose between an Integrated or Modular System.

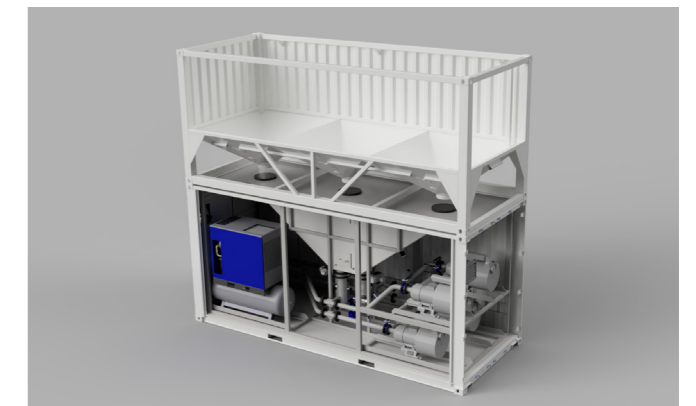
Integrated System

All equipment comes "plug and play." Connect the piping between the dosing system and exhaust piping. And then connect the electric cabling between the control cabinet and switchboard.



Modular System

The equipment comes in a 20 ft container. Connect the twist locks on the deck and the piping between the dosing system and exhaust line. And then connect the electric cabling between the control cabinet and the switchboard.



WE ARE THERE FOR YOU

As part of our paid service plan, SodaFlexx International will do a maintenance check on your installation twice a year. Need a spare part? We can send one within 24 hours. Need a service engineer? We will put you in contact with one right away.

SodaFlexx International is there for you. Tell us, how we can help.

Learn about SOLVAir® Marine innovations
www.solvairsolutions.com/en/solvair-marine

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the power of powder

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