August 2012

Newsletter

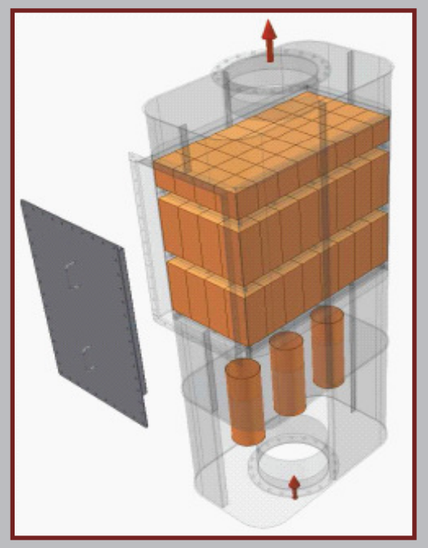
‘Axces succesfull introduces integrated emission technology in exhaust systems’

An unique combination is introduced, by complete design, production and installation of fully-integrated packages consists of soot filters, catalysts, SCR systems and exhaust silencers.

Offering the market an all-inclusive producer which is able to design and produce an integrated combination of both emission control and noise reduction in one package, according the future requirements, creates an enormous added value for the market and the end-users.

As part of its mission to introduce a complete integrated solution both on emission and noise control, Axces made an important step offering the market an all-inclusive exhaust system. It will result in an enormous improvement on effectiveness in achieving efficient engine performance, by way of an optimum balance in the output of flue gasses related to emission reduction and noise & vibration control.

Strict regulations starting from 2016 will prevent harmfull exhaust polution in the shipping industry.



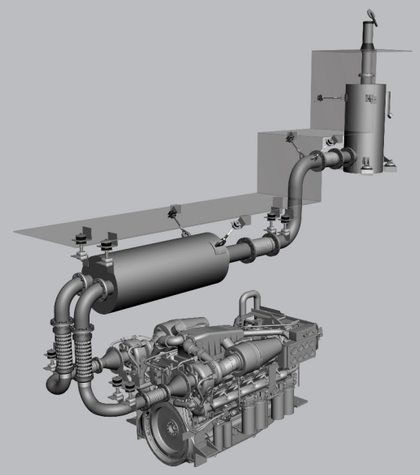
Exhaust silencers and SCR with removable catalyst reducing noise and harmfull NOx emissions.

In order fulfill to increasing international emission requirements, there is a rising demand of customized solutions in emission after-treatment and related noise control in exhaust gas systems. Due to this stringent emission requirements there will be the need of related matching built-in situations, fulfill to maximum back pressure values and strict noise reductions in the exhaust systems.
Axces therefor introduces the complete in-house design, production and installation of fully-integrated packages of both soot filters, catalysts, SCR systems and exhaust silencers.

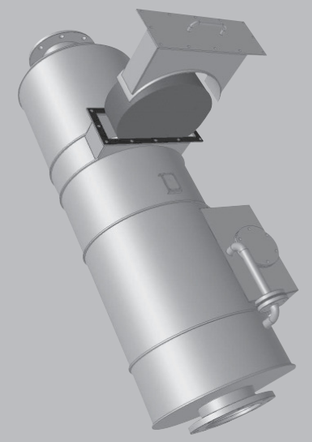
Effective reducing harmfull exhaust pollution and exhaust gas noise

AXCES consists of a group of companies that provide fully-integrated exhaust systems, with silencers, catalysts, soot filters, SCR-systems and stacks as its core-business.

The company’s clear mission sounds: ***“Achieving the most efficient engine performance , by way of an optimum balance in the output of flue gasses related to emission reduction and noise & vibration control”***



Production of complete exhaust systems



Silencer with an integrated removable catalyst

By facilitating a ***‘comprehensive emissions management system’*** clearness is created into the tuning of all related components in the exhaust system.

Offering the market a producer which is able to design and produce a customized integrated combination of noise and emissions in one system creates an enormous added value for the engine suppliers, builders of power plants, ships and off-road equipment as well for the end-users.

General Manager: Kjelt Remmen

This summer **Kjelt Remmen** and **Axces** agreed on an employment as a General Manager in **emission technology for industrial combustion engines.**

For Axces, Kjelt Remmen will be active to work out the development of this technology. During the last 10 years, Kjelt works in the exhaust after treatment system market and is very closely involved as a technological specialist in a wide range of developments regarding custum made emission technology in relation to:

- Reduction of carbon (PM)
- Reduction of nitrogen oxides (NOx)
- Reduction of hydro carbons (CO and HC)

With Kjelt Remmen as our team member, we see hugh challenges and the opportunity to be prepared for the growing international stringent emission requirements for combustion engines.

Kjelt Remmen

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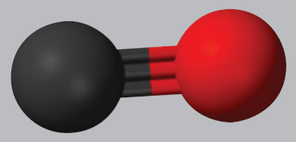
The combustion proces and the related harmfull polution

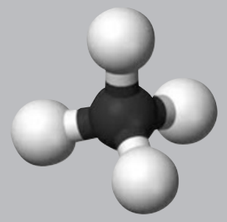
During the combustion proces, exhaust polution occurs. Engine exhaust gas contains pollutants which are harmful to man and the environment, known as carbon monoxide (CO), hydrocarbons (HC) and nitrogen oxide (NOx).

HYDRO CARBONS (CO/HC)



Carbon monoxide (CO)

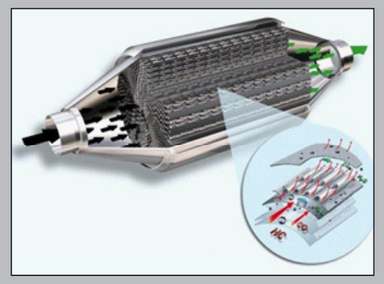
Carbon monoxide is a colourless, odourless and tasteless gas. The compound, consisting of carbon and oxygen, is formed during incomplete combustion of carbon-containing substances and is very poisonous to the respiratory system. As soon as it is inhaled and enters the bloodstream it prevents the bonding of oxygen to the red corpuscles. A concentration of 1.28 percent carbon monoxide in the air will cause death from suffocation within 1 to 2 minutes.



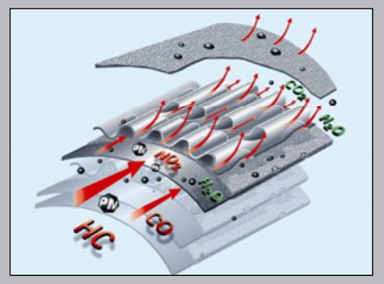
Hydrocarbon (HC)

Hydrocarbons are chemical compounds which consist only of carbon (C) and hydrogen (H). They can be found in large quantities in crude oil, natural gas and coal, where they are the actual "fuel". Some hydrocarbon compounds cause cancer. When exposed to sunlight, hydrocarbons and nitrogen oxide react to form ozone. In the lower layers of the atmosphere this is a hazardous substance.

HYDRO CARBONS (CO/HC) and Oxidation Catalysts



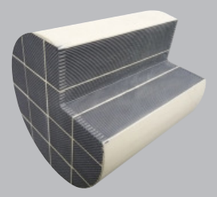
Oxidation PM Catalysts reducing CO/HC/PM



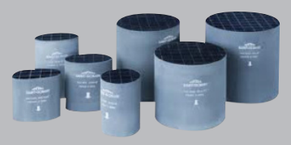
Inside construction of the PM filter

PARTICULATE MATTER (PM) DIFFERENT FILTERS

Soot filter in a housing

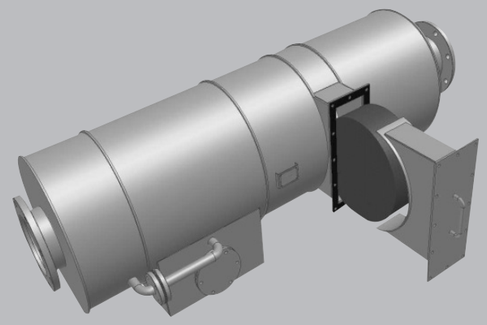


A honeycomb principal

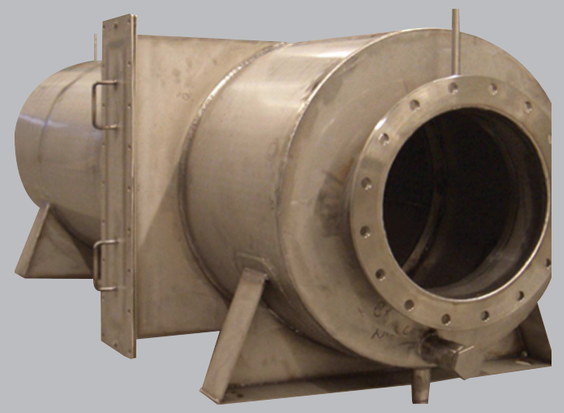


Ceramic soot filter

HYDRO CARBONS (CO/HC) and removable Oxidation Catalysts integrated in silencers

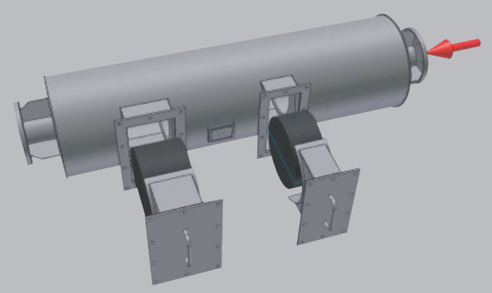


Removable catalysts into an exhaust silencer



Catalytic silencers reducing CO/HC/PM

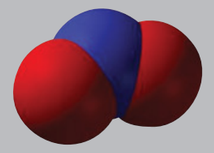
NITROGEN OXIDES (NOx) - SCR Selective Catalytic Reducers



Example of a SCR system reducing also NOx: soot filters with burners and catalysts with urea injection

NITROGEN OXIDES (NOx)

Nitrogen oxides are the gaseous oxides of nitrogen (N). They are abbreviated NOx because of the various possible compounds with different numbers of atoms: N2O, NO, N2O3, NO2, etc. If they come into contact with water (also in the form of fog), acids are formed, which irritate the mucous membranes and can even cause lung damage. There is one exeption: Nitrogen monoxide (N2O), also known as "laughing gas". However, this is a greenhouse gas, which damages the protective ozone layer in the upper atmosphere.



Nitrogen oxides (NOx)

PARTICULATE MATTER (PM)

Atmospheric particulate matter - also known as particulates or particulate matter (PM) - are tiny pieces of solid or liquid matter associated with the Earth's atmosphere. They are suspended in the atmosphere as atmospheric aerosol, a term which refers to the particulate/air mixture, as opposed to the particulate matter alone. Sources of particulate matter can be man made or natural.
They can adversely affect human health and also have impacts on climate and precipitation. Subtypes of atmospheric particle matter include suspended particulate matter (SPM), respirable suspended particle (RSP; particles with diameter of 10 micrometres or less), fine particles, and soot.