

INDUSTRIAL STACKS



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AXCES

IT'S TIME TO BREAK THE SILENCE ON AXCES

Axces consists of a group of companies that provide fully-integrated exhaust systems for combustion engines with exhaust silencers as its core-business. Anything installed after the outlet connection of a diesel engine, Axces delivers. Fully customized to individual ships, propulsion systems or industrial machines.

Specialized in the complete process of design, engineering, manufacturing and supply Axces offers total exhaust system supply solutions. Relatively basic solutions can be found in its wide range of standard products. Axces is also the technical and acoustical partner that meets the most challenging noise requirements and specific silencer configurations against minimum back pressure results. Axces meets custom needs with a clear focus on output, efficiency and reliability.

ACOUSTICAL XCELLENCE IN COMPETENT EXHAUST SYSTEMS

AXCES represents: Acoustical Xcellence in Competent Exhaust Systems. Added value is offered by translating the results of extensive scientific research into practical, cost and time saving solutions. Combining intelligence with clearness. It is a philosophy that is proven to be very successful. In a few years time literally thousands of exhaust silencers have been installed both in inland and sea-going vessels, operating daily all over the world.

Within AXCES, high-level scientists, team up, with field-experts to develop exhaust silencers and complete exhaust gas system for diesel engines that help our clients outperform competition.

FULLY-INTEGRATED EXHAUST SYSTEMS

Axces' working field is defined within the framework regarding everything installed after the exhaust turbo of a combustion engine. Delivery of Fully-Integrated Exhaust Systems customized to individual requirements, is our key.

DESIGN Axces is guaranteed to meet any noise requirement with tailor-made silencer solutions. With strong expertise both in acoustics and physics, Axces specializes in custom engineering.

MANUFACTURING Axces' knowledge centre, sales and distribution is based in the Netherlands. Axces production in Poland produces top quality solutions at a very competitive price.

SUPPLY Axces can provide you with everything you need. Axces is able to deliver most common used accessories within 24 hours. Every part or system comes with full-service and full technical support.



INDUSTRIES

CHEMICAL/INDUSTRIAL PLANTS

Axces delivers worldwide and in many industries, one of the specialties are exhaust systems for chemical/industrial plants.

POWER STATIONS

Axces is leading the way when it comes to exhaust solutions. From basic part that keep temporary power supplies running to essential parts for safe, efficient and clean generators.

INCINERATION PLANTS

Axces engineers offers a wide range of integrated silencer-stack exhaust systems.

REFINERY

Axces specializes in exhaust systems for heavy-duty machinery that has to keep going, no matter what.



TYPES OF CHIMNEYS

Axces designs custom made chimneys for each project in types;

- ✓ **Single wall free standing.**
- ✓ **Single wall guided.**
- ✓ **Double wall free standing.**
- ✓ **Double wall guided.**
- ✓ **Several flues in outer shell.**
- ✓ **Several flues satellite type with bearing mast.**
- ✓ **Several flues in steel constructions.**

In order to design a chimney Axces uses data and information which are determined together with the client. Design criteria can be based on location, with its own wind characteristics, architectural or clients personal wishes on the visual aspect, the process(es) which create the exhaust, flue or process gasses, chemical data on which Axces determines the materials and corrosion allowance, technical data such as flow, temperature, pressure drop, heat balances, and emissions height.

For each complicated emission problem Axces has an answer available.



DESIGN AND CODES

Chimneys and constructions are designed according to design codes and standards. Lots of countries have their own regulation and code we know our way in the web of regulations and codes. Examples of different design codes which can be used are:

- ✓ National codes and standards.
- ✓ The Euro code (new code for Europe).
- ✓ The DIN 4133 (German design code free standing chimneys).
- ✓ The CICIND (International Committee on Industrial chimneys).

Axces designs on above standing codes a safe design and a suitable chimney for your project.

EARTHQUAKE DESIGN

In many places, stacks have to be calculated taken earthquake risk into consideration. In this case Axces checks if the stack silencer combination for the overturning moment does not exceed the bending moment due to the wind. Axces adapts the design to the outcome of the earthquake calculation if necessary.

CERTIFICATION EN 13084-7 & CE MARKING

Axces is certified by Lloyds to give CE marking on each chimney and also on each chimney/silencer combination. In this combination Axces Industrial Stacks is the only company in Europe allowed to give CE marking on the complete system. The EN 13084-7 is the guideline for design and construction for chimneys which ensures that the design is correct.



SPECIALISM

Axces has lots of experience in all sorts of silencer/stack combinations, freestanding, within a steel construction or combined exhaust on a central column. The costs of a project can be dominated by transport costs. Axces designs system silencers and stacks exactly to dimensions so that an optimum is found for:

- ✓ The best technic for low engine sound level, with dimensions limited to fit container size.
- ✓ The right dimensions to make sure the velocity in the chimney and at outburst will not exceed the maximum pressure drop.
- ✓ Unlimited possibility's in carbon steel and stainless steel combinations.
- ✓ Complete dynamic behavior calculations and foreseen with a dynamic shock absorption.
- ✓ Materials for different circumstances to avoid condensate or corrosion problems.
- ✓ Solutions to prevent corrosion or incoming rain, which can lead to corrosion due to the acidulous gasses.
- ✓ Platforms and ladders can be pre-mounted to ensure perfect fitting.
- ✓ Easy to handle parts on sliding frames to unload containers with only a forklift and a small crane.
- ✓ Maximum deadweight of the parts can be adapted to the available crane in the project.

An optimum design to fit your containers results in the lowest costs per project. In budget stage of the project Axces can determine the number of containers to use so there won't be any surprises after the order.

BUILD YOUR OWN STACK

The Axces BYOS (Build Your Own Stack) program is especially for those clients who have the capability and equipment to build chimneys, but lack in special knowledge. Axces Industrial Stacks can be your solution; Axces can provide all the knowledge to Build Your Own Stack.

BYOS 1

What Axces supplies:

- ✓ The calculation of the loadings on the foundation.
- ✓ The static dynamic calculation of the stack, which indicates all necessary details to roughly build the stack.
- ✓ Anchorbasket design.

This program can be used by customers who build stacks before, used for stacks without Tuned Mass Dampers.

BYOS 2

What Axces supplies:

- ✓ The calculation of the loadings on the foundation.
- ✓ The static dynamic calculation of the stack, which indicates all necessary details to roughly build the stack.
- ✓ Anchorbasket design.
- ✓ Tuned Mass Damper design, and delivery of essential parts.

This program can be used by customers who build stacks before, used for stacks with Tuned Mass Dampers.

BYOS 3

What Axces supplies:

- ✓ The calculation of the loadings on the foundation.
- ✓ The static dynamic calculation of the stack, which indicates all necessary details to build the stack.
- ✓ Anchorbasket design.
- ✓ Tuned Mass Damper design, and delivery of essential parts.
- ✓ Flange and bolted connection details.
- ✓ Re-inforcement selection for apertures.
- ✓ All documents as sketches.

This program can be used by customers who want to build their own stack.

BYOS 4

What Axces supplies:

- ✓ The complete design and engineering of the stack is performed.
- ✓ All calculations, detailed drawings and digital information.
- ✓ All welding details and special attention points are indicated.
- ✓ Tuned Mass Damper design, and delivery of essential parts.

With this program a shop familiar with handling rolled steel plates can build its own stack.



INDUSTRIAL STACKS

ELEMENT SYSTEM CHIMNEYS

Element system chimneys are used in systems with low underpressure or overpressure, small diameters, for boilers heaters diesel engines and hot air. Axces has systems for wet fluegas and systems for hot fluegasses for engines and special purposes. All types are easy to fit, less weight and simply to order, most parts Axces has on stock.

The diameter range is starting with 100 mm next 130. 150. 180. 200. 250. 300. 350. 400. 450. 500. 600 and the biggest 700 mm. Length of parts are standard 1 m, intermediate pieces, T-piece, segmented elbow, reducers, cones on request.

- ✓ Double-walled stainless steel chimney system.
- ✓ Element construction with spigot and socket connection, CE certified.
- ✓ Consisting of inner tube, stainless steel material no. 1.4404.
- ✓ T = 0.5 mm, 25 mm mineral fiber insulation and
- ✓ Stainless steel outer tube, material no. 1.4301. t = 0.6 mm, including necessary fittings and connections.

AXCES ONLINE ACCESSORIES WEBSHOP

You can find all of our products in the "Complete Exhaust System and Emission Technologies Webshop". This online facility gives Axces' clients direct access to more than 2,500 parts related to the exhaust gas system. Fast delivery from large stock.

COMPENSATORS • FLEXIBLE HOSES • ROOF TRANSITS • WALL TRANSITS • SUPPORTING POINTS



RAIN CAPS • MOUNTING SETS • FLANGES • GASKETS • NUTS AND BOLTS • COATINGS



STEEL TUBES • THIN-WALLED TUBES • THIN WALL INSULATED SYSTEMS • INSULATION



WET EXHAUST SYSTEMS • THIN WALL MODULAR SYSTEMS • MEASURING INSTRUMENTS

INDUSTRIAL STACKS

AXCES PRODUCT RANGE

DRY EXHAUST SILENCERS

WET EXHAUST SYSTEMS

EMISSION - CATALYSTS

EMISSION - SCRUBBERS

INDUSTRIAL STACKS

PRODUCTION FACILITY

PRODUCT CATALOGUE

VISIT OUR ONE-STOP-SHOP WEBSITE

- ✓ Huge selection from small parts to complete exhaust systems
- ✓ Fast delivery
- ✓ top quality solutions at very competitive prices
- ✓ Every part with full-service and full technical support



WWW.SHOP.AXCES.COM



INDUSTRIAL STACKS



THE AXCES GROUP

The Axces Group designs and manufactures industrial exhaust systems, silencers and chimneys including flue gas cleaning systems as well as acoustic enclosures, steel structures and steel products.

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