

# COMBUSTION SYSTEMS





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# Escher Process Modules

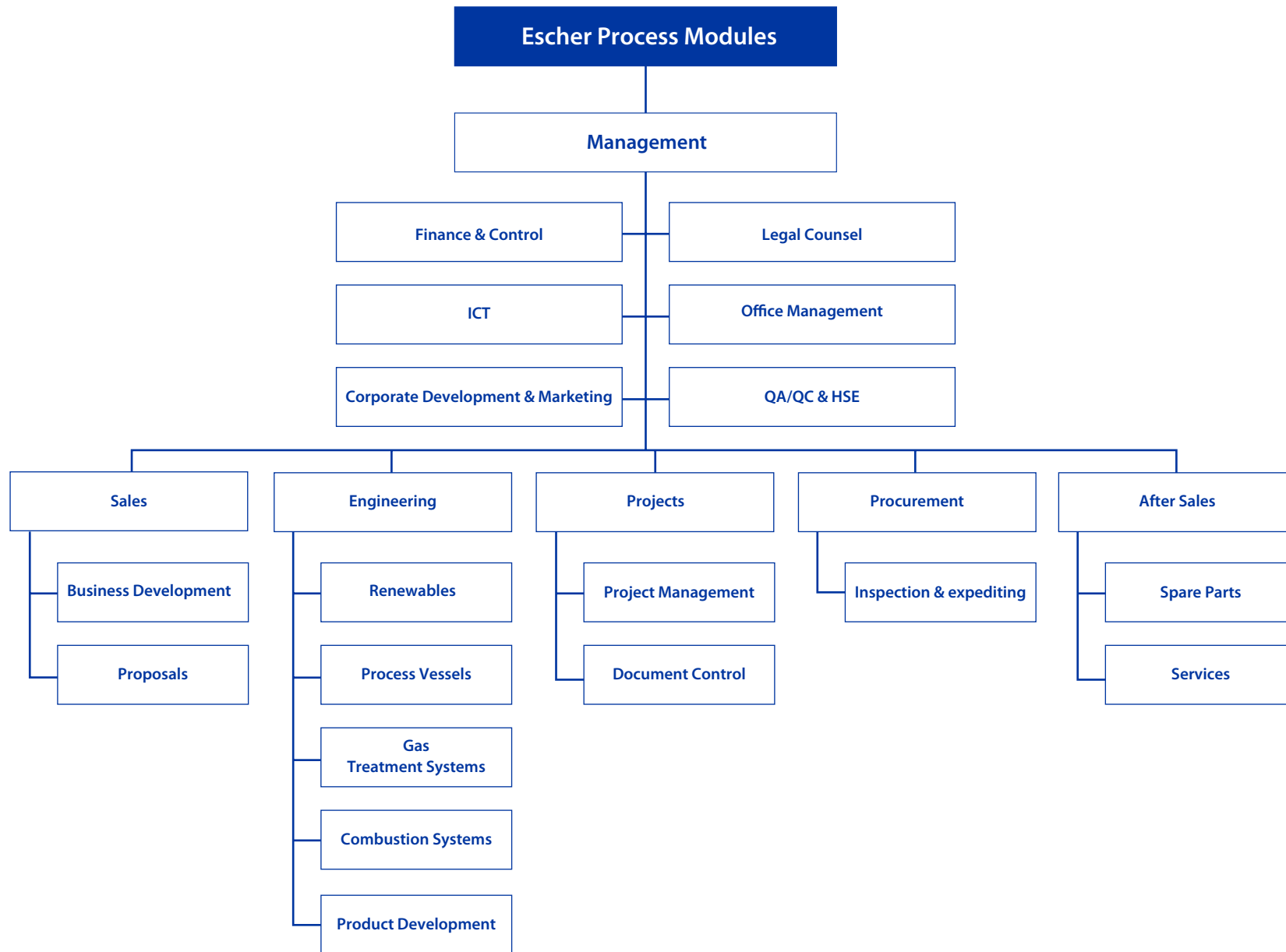
Escher Process Modules is a leading global Process Technology House and provider of process solutions since 1925. Being part of Iy, a worldwide operating engineering company listed in the top 10 of Dutch engineering companies.

Escher has all disciplines in-house for complete project execution. Our strength is our genuine passion for technology which results in unique and specialist know-how of the markets in which we operate, and enables us to be constantly at the forefront of advanced process solutions. We design and engineer process vessels in accordance with industry design codes to meet the quality and efficiency requirements of our customers. Our product range includes:

- ▶ Renewable systems (such as Ammonia Cracking, Hydrogen Treatment, and Carbon Capture)
- ▶ Process Vessels (such as Separators and PX Crystallizers)
- ▶ Gas Treatment Systems (such as CO<sub>2</sub> and Gas Dehydration, and Fuel Gas Treatment)
- ▶ Combustion Systems (such as Flare and Vent systems)

Our engineers are technicians of the highest level who think outside the box and translate even the most complex issues into solutions that meet the strictest criteria of product integrity and safety. In each project we strive to exceed the expectations of our clients where possible. Escher is recognised for its adherence to SHE and QMS systems (ISO 9001 & ISO 14001), highlighting our reliability, capability and commitment to social responsibility.







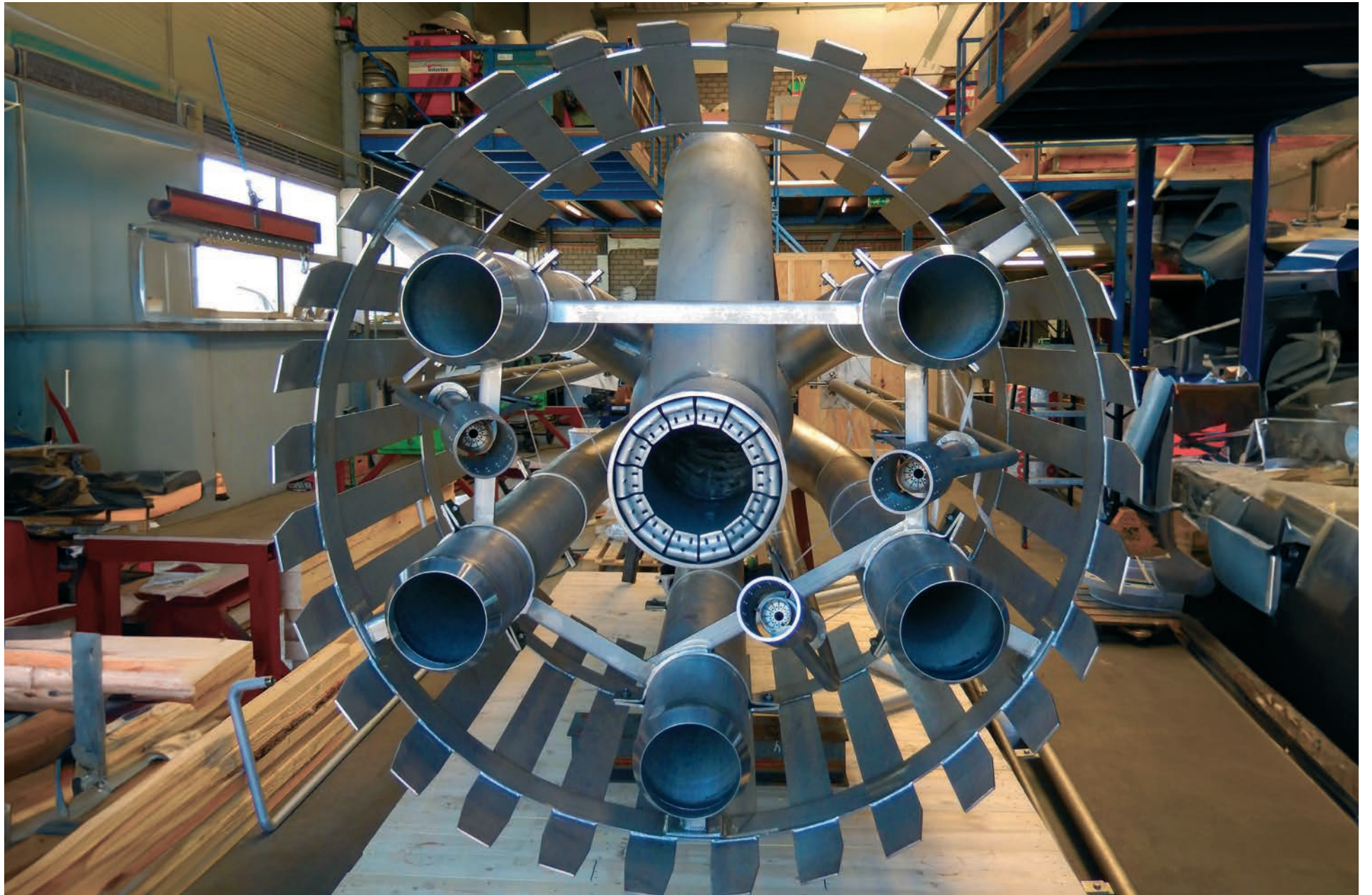


# Combustion Systems

Combustion systems are integral to a wide range of industrial processes. The market for combustion systems is continuously evolving, driven by the increasing demand for efficient and environmentally friendly solutions. Escher Process Modules (Escher) has over six decades of experience in combustion systems, applied to both onshore and offshore installations.

Escher's wide range of combustion solutions includes emergency flare systems and continuous combustion systems. Our services include the complete EPIC process (Engineering, Procurement, Installation, and Commissioning), offering tailor-made process solutions that comply with local regulations.

The integration of renewable energy sources into combustion systems is becoming increasingly important. Escher has developed flares and vents systems for oxygen (O<sub>2</sub>) and hydrogen (H<sub>2</sub>), which are crucial for safely managing and utilising renewable gases. These advancements align with the latest environmental standards and sustainability goals. By integrating renewable gasses, Escher continues to support the energy transition and helps clients reduce their environmental impact.



# Products

- ▶ **Emergency Flare Systems**

Flare tip Solutions

- ▶ Open pipe flare tips, steam/air/fuel gas assisted flare tips
- ▶ Sonic (multi-arm) flare tips
- ▶ HP-LP combined flare tips with internal gas injectors

- ▶ **Stack Support Systems**

- ▶ Self-supported stacks and flare booms
- ▶ Guyed wired stacks
- ▶ Derrick supported multi stacks (fixed or retractable gas risers)



▶ **Continuous combustion systems**

For continuous combustion of process off-gases, Escher offers ground flares and enclosed combustion chambers. Ground flares handle large flow rates and various pressures, and can be staged to accommodate a wide range of flows. Enclosed combustion chambers are ideal for low emissions and heat reuse, making them more environmentally friendly.

▶ **Ignition Systems**

Escher designs and supplies various ignition systems, including Flame Front Generation (FFG), High Energy Ignition (HEI), combined FFG and HEI, and continuous spark ignition, for emergency flare and continuous combustion systems.

▶ **Drone inspection**

Our drone inspections enable precise examination of operational flares, eliminating shutdowns, saving costs, enhancing reliability, and allowing for better maintenance planning and budgeting.



# Key Benefits

## **Advantages of Escher Combustion Systems**

- ▶ For the safe discharge of flammable and toxic gases
- ▶ Ensuring pollutants are destroyed and harmful emissions are eliminated
- ▶ Fully responsible during engineering, procurement, and construction
- ▶ Customised to meet customers' specifications
- ▶ Designed in accordance with international standards
- ▶ Capable of providing transport services, on-site supervision, and training





# Main Components

- ▶ Flare Tips
- ▶ Pilot Burners
- ▶ Purge Gas Reduction Devices
- ▶ Flare Risers
- ▶ Flare Supporting Systems
- ▶ Water Seal Drums
- ▶ Knock-Out Drums
- ▶ Ignition Panels
- ▶ Instruments
- ▶ Valves
- ▶ Piping



# Scope of Supply

- ▶ Detailed Design
- ▶ Engineering
- ▶ Procurement
- ▶ Construction
- ▶ Testing
- ▶ Transportation
- ▶ Installation Supervision
- ▶ Operational Support
- ▶ Maintenance Services
- ▶ Spare Parts



# Operational Support

Escher provides life cycle support and around-the-clock assistance, ensuring the quick delivery of essential spare parts to minimise potential downtime. We cover everything from spare parts to support during commissioning, start-up, and normal operations. Upon request, Escher can facilitate Warehouse Services, keeping dedicated critical spares in stock, ready for your immediate needs. Our other services include inspections, maintenance support, and lifetime extension programmes for optimal performance.

For any queries or urgent needs, reach us at [aftersales@escher.nl](mailto:aftersales@escher.nl) or **+31 88 943 3600**.

# Would you like to know more about the possibilities?

Our specialists will be pleased to share ideas and thoughts about Combustion Systems.

E-mail Maarten Brandenburg and/or Martijn In der Maur:  
[sales@escher.nl](mailto:sales@escher.nl) or call **+31 88 943 3600**.



# Contact

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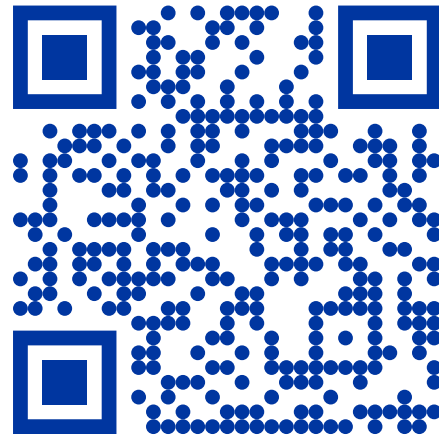
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