

Combustion Systems



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The experience of Escher Process Modules (Escher) with combustion systems spans more than six decades. This experience is employed in Escher's combustion systems of today for onshore and offshore installations. The types of combustion solutions provided range from emergency flare systems to continuous combustion systems. Escher's scope of services includes EPIC supply (Engineering, Procurement, Installation and Commissioning) of combustion systems which are all based on client requirements and local regulations.

Emergency flare systems

Flare tip solutions

For each individual emergency case (throughput, pressure fluctuation, H₂S, multiple streams, variable compositions), Escher designs the most suitable and effective flare tip to meet customer requirements. These requirements include, among others, smokeless combustion, low NO_x and low noise.

Escher's flare tip solutions include:

- 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

Depending on the process condition and flare tip size, the flares are provided with a burn back protection and a purge gas reduction device.

Stack support systems

Contingent upon the space, weight, radiation, accessibility and maintenance requirements, Escher designs and delivers the following stack support systems:

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

Continuous combustion systems

When continuous combustion of disposal of off gases from the process is required, Escher offers a ground flare and an enclosed combustion chamber solution. The ground flare is applied for large flow rates of waste gases with a wide range of pressures. The system can be delivered as a staged system to be able to handle a wide flow range. The enclosed combustion system is applied when low emissions are required and when heat can be reused.

Ignition systems

For both emergency flare and continuous combustion systems, Escher designs and supplies the following ignition systems depending on requirements:

- Flame Front Generation (FFG)
- High Energy Ignition (HEI)
- Combined FFG and HEI
- Continuous spark ignition

Installation, start-up and training

Escher has over six decades of experience with worldwide installation of combustion solutions. The design engineers are committed to achieving a good end result and are therefore involved in the start-up of the installation as well as the training of operating and maintenance personnel.

More than six decades of experience with combustion systems for onshore and offshore installations

Product guarantee

We offer product warranties and aftersales service to give our customers the comfort they need. Escher's Product Guarantee consists of a process and a mechanical guarantee, as well as a guaranteed availability of spare parts during the lifetime of the product.

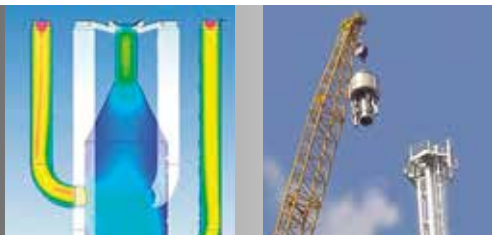




Escher is recognised as the co-developer of the derrick supported (multiple) retractable gas riser system. This system offers a unique operational advantage allowing any one flare tip or riser to be removed for maintenance or inspection whilst the other flares remain in operation.



Continuously committed to improving the quality of our combustion products

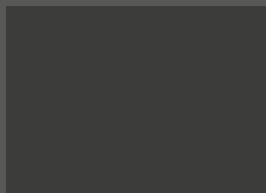
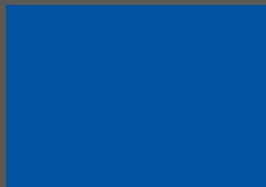


Quality of design and manufacturing

It is our goal to guarantee our customers the quality of the combustion solution that they expect. We are continuously committed to improving the quality of our combustion products. This is secured via our Quality Management System (QMS) which is ISO 9001:2008 certified.

We use up-to-date simulation and modeling tools such as FlareSim and Computational Fluid Dynamics (CFD) to optimise our flare designs. Our certified manufacturing facilities comply with the highest quality standards in the oil and gas industry.





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