

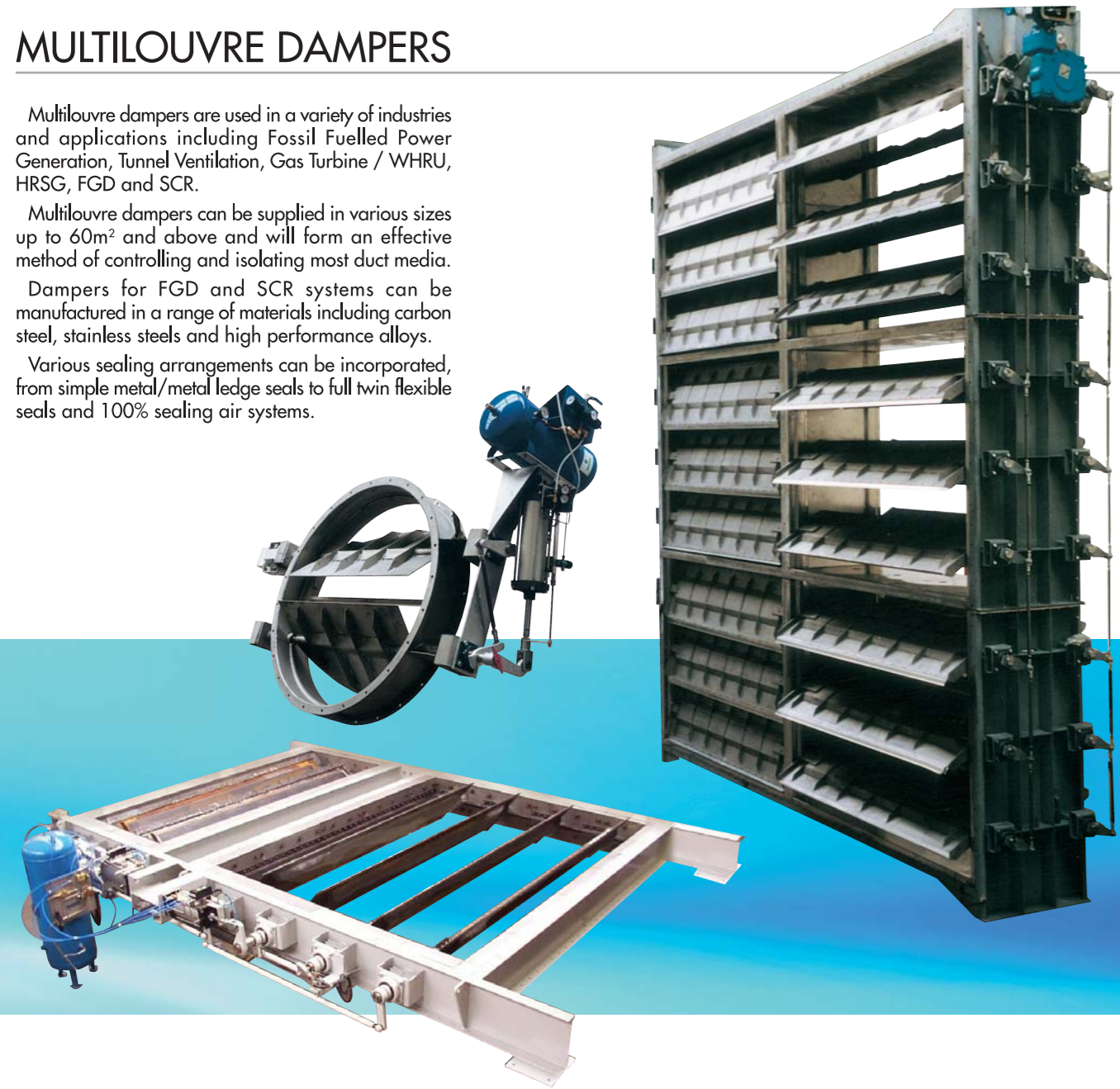
## MULTILOUVRE DAMPERS

Multilouvre dampers are used in a variety of industries and applications including Fossil Fuelled Power Generation, Tunnel Ventilation, Gas Turbine / WHRU, HRSG, FGD and SCR.

Multilouvre dampers can be supplied in various sizes up to 60m<sup>2</sup> and above and will form an effective method of controlling and isolating most duct media.

Dampers for FGD and SCR systems can be manufactured in a range of materials including carbon steel, stainless steels and high performance alloys.

Various sealing arrangements can be incorporated, from simple metal/metal ledge seals to full twin flexible seals and 100% sealing air systems.



## STACK DAMPERS



To minimise heat loss from the boiler and to prevent the ingress of rain water ORBINOX have a range of stack isolating dampers which are designed for use with stacks from 300mm diameter to in excess of 7m diameter.

The stack isolating damper can be of the butterfly, twin louvre, multilouvre or twin flap design and can incorporate an automatic pressure relieving system to prevent over pressurisation and damage to the turbine or boiler.



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5/10



DAMPERS

During its more than 45 years of activity, Orbinox has sought, with the cooperation of its customers, to develop innovative and competitive products which provide solutions for very demanding applications and sectors.

Orbinox offers a wide range of Dampers which has been recently upgraded with the acquisition of Damper Technology Limited in UK. The product ranges illustrated in this catalogue are designed and manufactured to suit many different applications.

Orbinox uses the latest 3D CFD Finite Element software to constantly review and adapt the Damper designs to suit your specific requirements.

The operational range of Orbinox Dampers is between  $-50^{\circ}\text{C}$  and  $1100^{\circ}\text{C}$  for pressures up to 5000mmWG (500mbar). Other temperatures and pressures are available by request.



- CHP, WHRU and HRSG Systems
- Offshore / Oil & Gas
- Gas Turbine Exhaust
- Power Generation
- Gas Cleaning (FGD/SCR/DENOX/DESOX)

- Stack Isolation
- Cement & Metallurgical
- Tunnel Ventilation
- Gas & Diesel Engine Exhaust
- Fan Inlet Control
- General Industrial

## T-DUCT DAMPERS

As an alternative to a flap diverter, multilouvre dampers can be built into a T-Duct section and linked to provide an effective inlet/bypass solution.

These can be incorporated with a guillotine to provide a fully integrated inlet/bypass/isolation solution. Seal air systems can be added to any of our diverters to provide 100% sealing efficiency.



## GUILLOTINE DAMPERS

Guillotine dampers and blanking plates can be used in any application where a positive isolation is required for routine maintenance and/or personnel safe entry to a duct behind a media source.

Our guillotine designs have a record of proven reliability on major south Europe and overseas power stations as well as offshore installations.

Actuation can be manual, pneumatic, hydraulic or electric, with various designs to suit all budgets and specifications.



## DIVERTER DAMPERS

Flap diverters allow the user to control the flow of TEG to the HRSG (WHRU) and to positively isolate the HRSG (WHRU) so that routine maintenance can be carried out during normal operating periods.

Each unit is custom designed to suit the exact operational requirements in accordance with the relevant specification.

Flap diverters have been developed over a number of years using Finite Element Model Analysis to ensure that the thermal and mechanical stresses are evenly distributed throughout the unit.

The same degree of quality engineering has been applied to the tube design, shafts and actuation systems.

The internal insulation minimises external thermal growth, frame distortion and thermal stresses. The retainer plates are allowed to expand independently of each other in all directions.

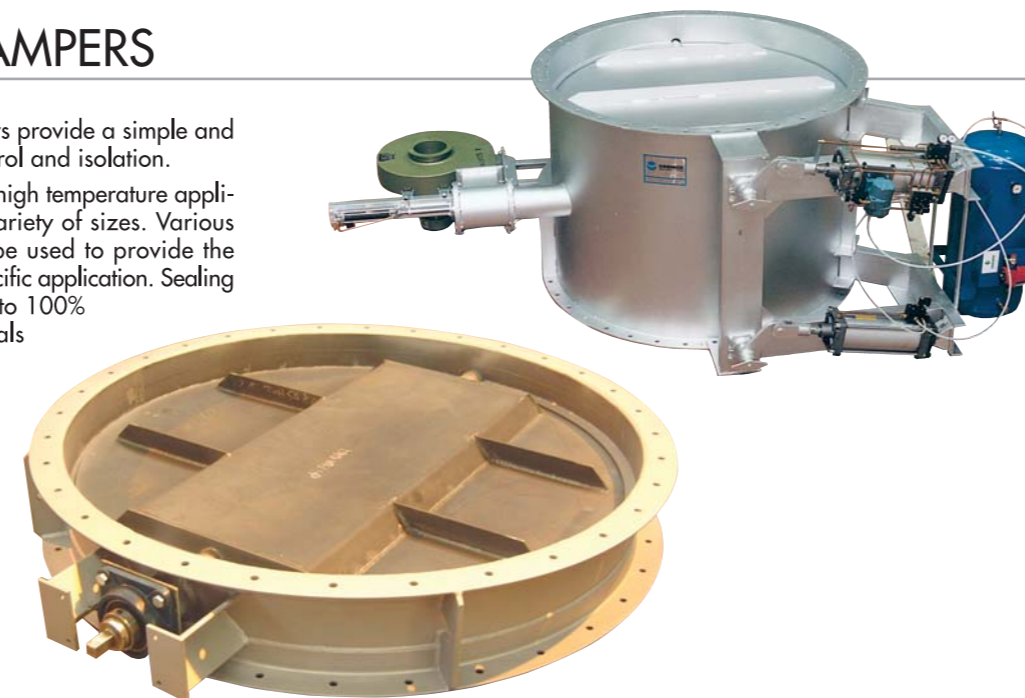


## BUTTERFLY DAMPERS

ORBINOX Butterfly dampers provide a simple and cost effective method of control and isolation.

Stainless steel dampers for high temperature applications are available in a variety of sizes. Various sealing arrangements can be used to provide the correct efficiency for your specific application. Sealing efficiency can be increased to 100% with the addition of twin seals and a sealing air fan.

Butterfly dampers can be actuated pneumatically, electrically or manually by a simple hand lever.



## GOGGLE DAMPERS

Goggle Dampers are designed as a safety device for gas transport installations to provide a completely tight seal during maintenance. They can handle gases with differential pressures up to 200mbar, temperatures up to  $200^{\circ}\text{C}$  and dust concentrations of up to  $1000\text{mg}/\text{Nm}^3$ .

The Goggle Dampers have specially designed retractable seats. The seats allow axial movement of the damper into the open or closed position thanks to the incorporation of two metallic bellows in the valve discs. All damper actuation is hydraulic.

The Goggle Dampers can be bonneted in order to guarantee zero emissions of gas to the atmosphere while the damper is being operated.

The dampers are ATEX certified.

