



## Lattice supported single shell damper blade DBP for a new generation of large isolation Dampers

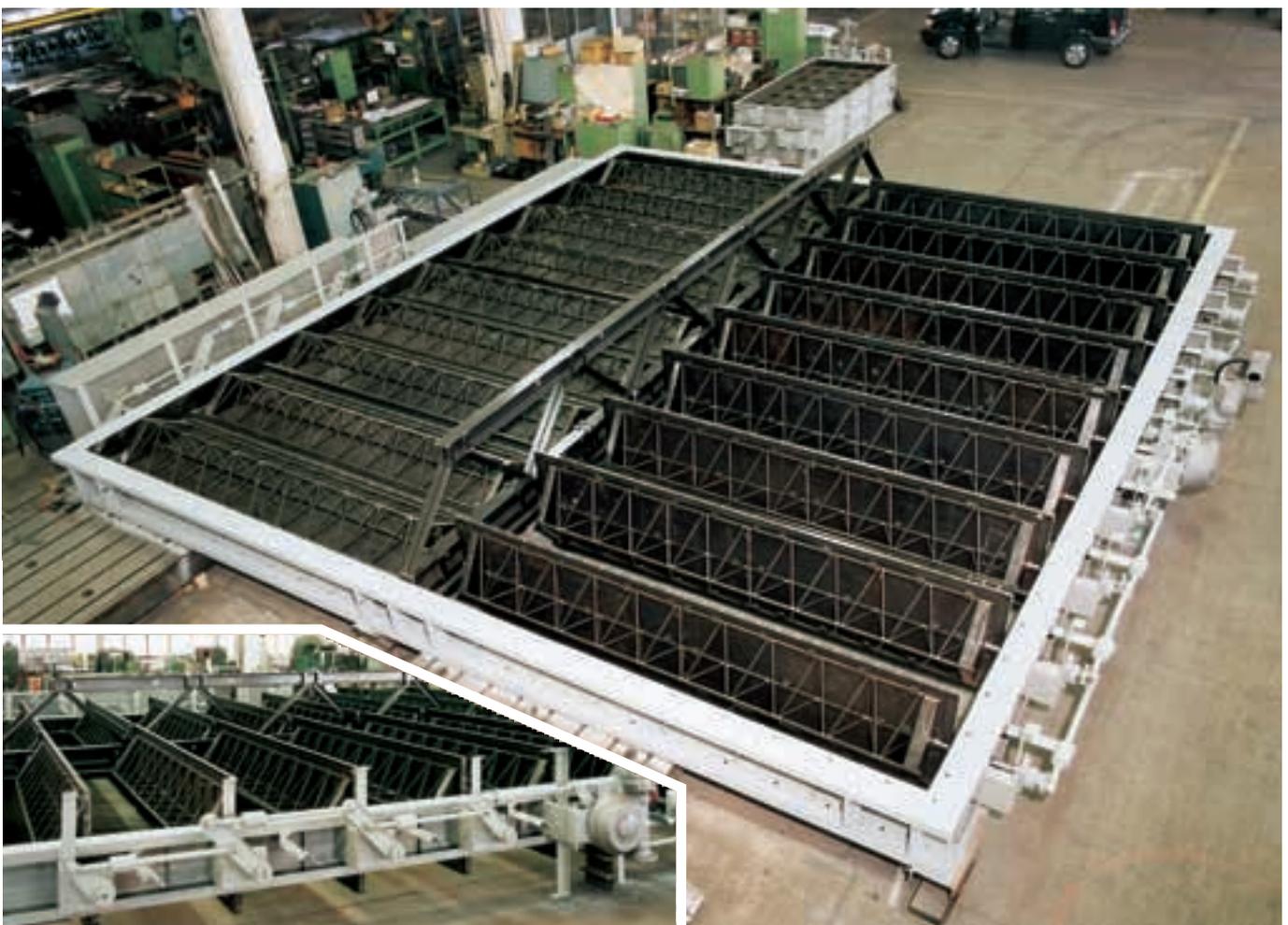
For the FGD and DeNox plant of the Austrian THEISS 2000 Powerstation, RAUMAG-JANICH GmbH & Co. KG supplied all flue gas-modulation and shut off dampers. The supply included Tandem dampers for 100% gas tight isolation of flue gas ducts as well as several Louver dampers DBP with lattice supported, single shell damper blades.

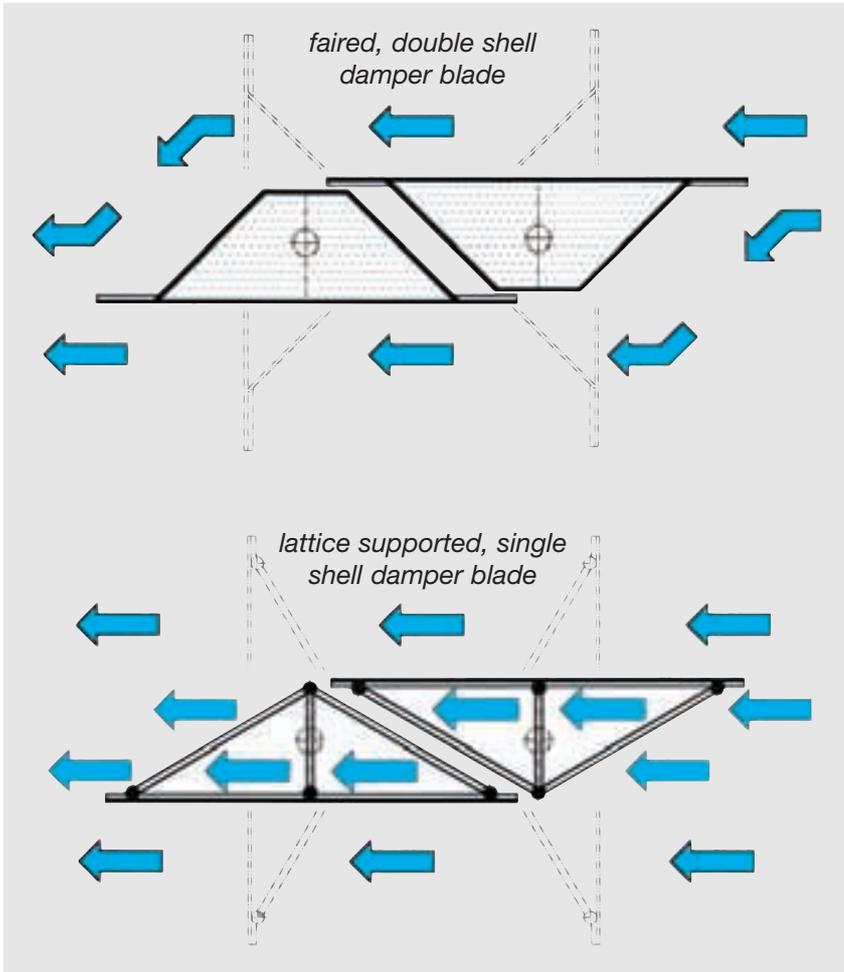
1981 JANICH developed the faired, double shell damper blade DBP, which, in combination with the NICROFLEX sealing technique, made it possible to design dampers with fewer, very much larger blades and yet high sealing efficiencies. In fully open position, a loss of free area in excess of 25% was a com-

mon feature of those dampers and for very large blade dimensions, heat distortion could not be entirely ruled out. 1994 RAUMAG-JANICH introduced the lattice supported, single shell damper blade DBP which featured a loss of free area of approx 7% only, thereby halving the permanent pressure drop of the fully open damper.

When the damper is open flue gas can pass freely through the lattice support structure (see sketch) which explains the considerable reduction of pressure drop across the damper. Irrespective of this, the lattice support structure accommodates high twisting and bending moments, making it possible to construct very long blades without problems.

*Louver damper  
DN 10000 x 9000 mm,  
with lattice supported,  
single shell blade design,  
supplied for the isolation  
of the DeNOx plant at the  
THEISS 2000 Powerstation.*





The illustrations on this page depict the flow pattern of a double louver damper with a faired, double shell blade as compared to a lattice supported single shell blade.

In "open" position, the faired double shell blades act as a severe flow restriction, by blanking off nearly 1/3 of the damper area. By contrast, flue gas can fairly freely flow through the support frame work of the single shell blades, causing only minimal loss of pressure.

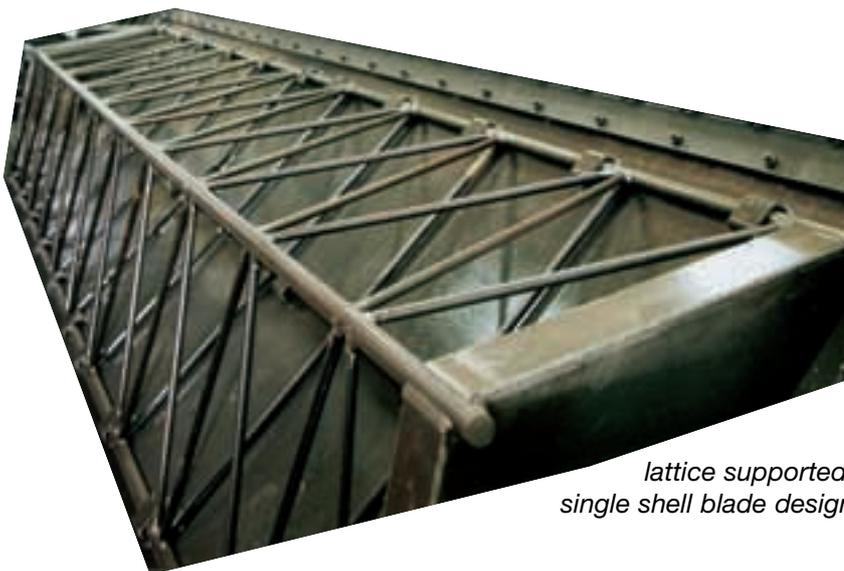
The lattice supported blade is also very well suited for high temperature applications due to the fact that the whole blade structure is at all times evenly heated up. The attachment of blade to support structure allows the blade shell to float when exposed to heat and differential thermal expansion, and thereby remains free of distortions.

Any sealing system can be fitted to the blade. However, for large blades and/or high temperature service the NICROFLEX MLS type (metal leaf seal) and especially the NICROFLEX MLO type (metal loop seal) are the preferred sealing systems due to their high resilience (30 mm).

Double seals with seal air application can also be advantageously used.

### Low transportation costs

For **transport by stackable container** (2,3 m x 2,3 m x 12 m) a modular design is available. If interested in this method, please call us for special information.



*lattice supported, single shell blade design*

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