

Plant equipment and components

Vølund grate bar and grate block



 VØLUND SYSTEMS

New generation of Vølund grate bar

New, wider grate bars with improved durability

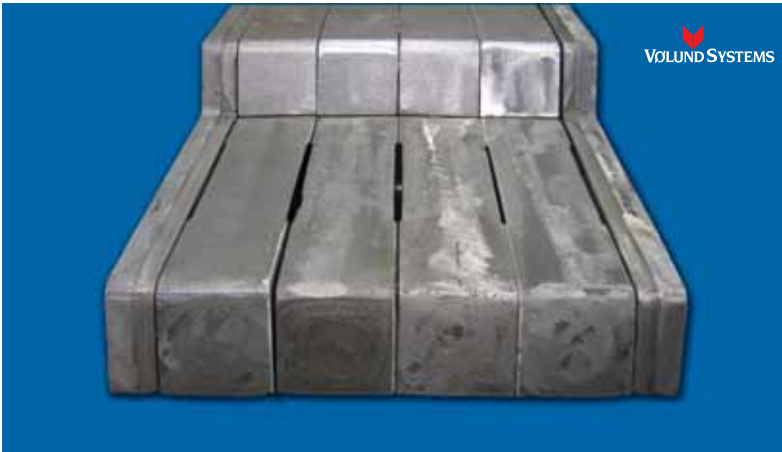
In recent years, Babcock & Wilcox Vølund has worked to develop a new generation of grate bars and blocks for our air-cooled Vølund grate. This development results from the collaboration between our customers and our Research and Development Department.

In collaboration with an operational plant, we were able to perform long-term testing and make various registrations to document the grate casting's durability.

The results of the testing were extremely satisfactory, as we were able to document the improved durability of the new grate casting.

These developments have allowed for the grate to be equipped with fewer, but wider grate bars which decreases the work time involved in replacing the grate bed.





The new grate block design

The new grate cladding concept consists of four 60 mm-wide grate bars per 300 mm grate block, instead of eight 30 mm-wide grate bars as before.

The new grate replaces the special grate bar with cooled nose, so that only one type of grate bar will be available from now on.

Due to the new and lower number of grate bars, the air gaps have been reduced to approximately 2%, which, in practice, only has very little influence on the pressure conditions and the flow of primary air.

The product range also includes a 70 mm bar, which has been developed for 340 mm blocks. A 340 mm block is generally fitted with nine 30 mm bars, and one 25 mm bar. By using the 70 mm bar, only four bars are needed.

Reduced risk of breakdown

The newly developed grate bars are characterised by their sturdy, wide front piece and a solid top plate, which strengthens the primary areas of wear and tear. The construction provides the bar with improved durability and greater strength, compared with the conventional 30 mm bar.

The new, wide grate bar meets the requirements for uniform thermal expansion of items, protection against geometric changes of the blocks, fast and easy replacement of individual pieces and a reduced risk of breakdown.

The weight of the new, wide bars is reduced by 15% compared to conventional bars, and the grate bed is likewise lighter than before. This reduces the strain on moving parts and increases the service life.

New design based on thoroughly tested quality

The grate blocks also feature a new design without ventilation holes, and the shape of the top blocks has been modified to tighten the seal between the grate transition plate and the grate.

The grate transition plate design has also been modified and now provides an improved seal against the grate blocks. The number of assembly holes has been doubled to ensure correct adjustment of the seal. In addition, the design provides increased durability and overall weight reduction.

The new generation of grate elements are cast in the well known and thoroughly tested VM6 Ni-Cr alloy, which is noted for its ability to preserve ductility and its wear resistance at temperatures of up to 500° C.

Savings for the customer

For our customers the new modifications equate to savings in the form of:

- Shorter replacement times
- Reduced wear
- Fewer spare parts
- Increased durability of the grate bed
- Increased operational reliability

For further information please contact our service department.

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