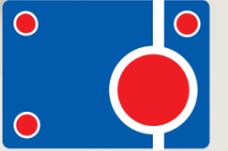


Mould manufactured with 80% reclaimed sand.



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Transition of 100% reclaimed sand – 100% new sand

### Technical Datas Reibregenerator

(Pat. EP2666562 / PCT/EP/2013/003548)

Type: MRR 1-40, mobile version  
 Operating mode: batchwise  
 Performance: 200-300 kg/h  
 Batch size: 40-50 kg/batch  
 Batch time: 5 – 14 minutes  
 Power: 18 kW  
 Size: 1.600 \* 1.600 \* 2.950 mm high  
 Transport size: 1.600 \* 1.600 \* 2.450 mm high  
 Transport weight: 950 kg

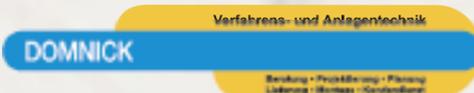
Other Types:

- RR 2-85 with a output of approx. 1200 kg/h
- RR 2-120 with a output of approx. 2000 kg/h
- Further models on request



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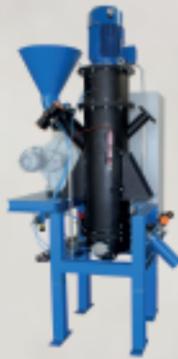
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(Pat. EP2666562 / PCT/EP/2013/003548)

# Reibregenerator

**The Reibregenerator** (Pat. EP2666562 / PCT/EP/2013/003548) was developed in cooperation of **Domnick Verfahrens- und Anlagentechnik** and **Technofond Gießereihilfsmittel GmbH** from 2008 to 2012.



### Construction and description of the Reibregenerators

The main components are:

- The grinding chamber
- The drive shaft with agitation kits
- The air cell with fluidization bed
- The fan
- The power control system
- The exhaust ventilation (on site)



### Cleaning process

The crushed and foreign material free sand is filled via a buffer into the grinding chamber.

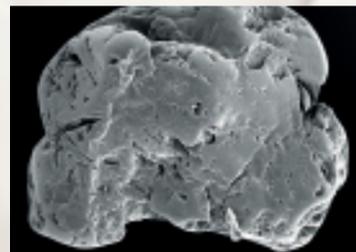
The drive shaft, fitted with agitation kits, accelerates the sand and starts the grinding process.

#### There are three types of friction

- Sand/Sand
- Sand/Casing
- Sand/Friction tool

The duration of the sand treatment depends on the sand impurity level and can be set to the respective requirements and operational conditions. The cleaning intensity is variable and cleaning takes place gently without destroying the sand.

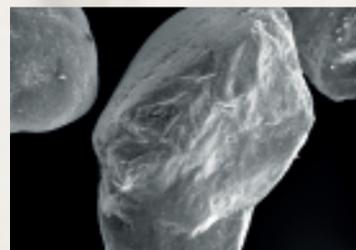
The abraded binder residues are sucked out during the cleaning process.



H33, new sand



After Pre attrition in feed tank



After final treatment in the Reibregenerator

### Grain size distribution of the reclaimed sand

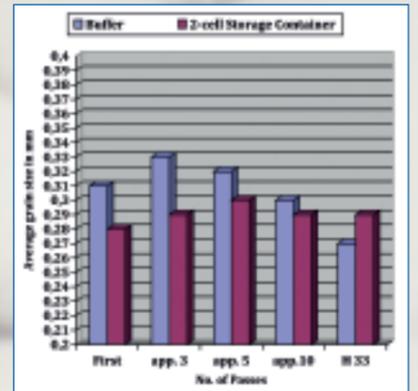
#### Granulometric analyses versus reclaiming cycles (dry screening)

For the used sand H33, the actual value of the average grain size from the suppliers product data is shown (0,27 mm), and the value measured at the mixer outlet (0,29 mm) during moulding.

Overall, only negligible fluctuations in the average grain size in the reclaimed sand were noted in the period from the end of 2010 until today. The average grain size always was about 0,29 mm.

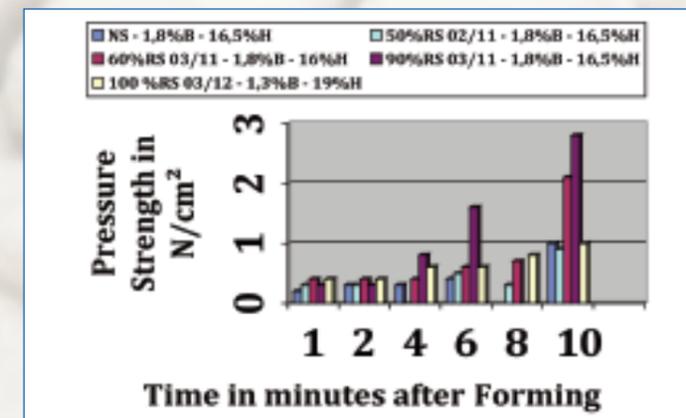
In the feed vessel, prior to final reclamation, the average grain size was about 0,01 to 0,04 mm higher than after the final grinding process.

The total loss during reclamation is since 2010 always at about 7,0 %.



### Compressive strength

#### Compressive strength of various sand mixtures and different reclamation levels



Adjacent figure of the compressive strength shows the bench life of the sand mixture.

From past experience we know that there should be a maximum pressure strength of about 1,0 N/mm<sup>2</sup> without sustainable harming the binder bridges by manipulations or moulding material movements.

Important for the evaluation of the reclaimed sand for moulding are electrical conductivity (recommended < 800 µS, see

literature) and the soda content (max. 0,15 , see general literature). Both, the samples of the electrical conductivity of less than 500 µS and the sodium content to 0,15%, showing values among the recommended data.

#### With the sand cleaned by Reibregenerator, moulds as well as cores can be manufactured with up to 100% amount of reclaimed sand.

The left picture on the last page shows a mould, which was made with 100% reclaimed and was completed in the upper region with 100% new sand.

The right picture on this page shows a detail of a foundry mould of a large AL-casting, manufactured with 80% reclaimed sand.

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# Reibregenerator