Rotary Dryer – Small Series

The smart drying solution

Proven design – highest process flexibility – low maintenance

Rotary dryers are used in the minerals industry for drying wet and/or abrasive materials. They are designed for very high throughputs and can process materials with diverse granulometric properties.

A rotary dryer consists of an inclined rotating cylinder with internal lifter or blades, where the process material is dried through direct contact with the hot gases.

The thyssenkrupp Industrial Solutions direct fired drying drums are heated with coal, oil, gas and/or waste heat. The continuously operating rotary dryers are designed for co-current or counter-current operation with single or variable speed drive.

Different sealing systems for dryer feed end and discharge end are available for most economic operating conditions, in order to avoid emissions and false air intake.

Depending on the material characteristics, different shapes of blades/internals such as a scoop lifter can be selected for higher heat transfer between hot gas and material.

In combination with rotating screen, hot gas generator and off-gas system, the rotary dryers can be individually designed for various applications and demands, thereby achieving the best solution for our clients.

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Fields of application

- Drying of various ores and concentrates such as nickel, iron, zinc, vanadium
- Drying limestone and lightweight aggregates
- Drying of phosphates and fertilizers
- Drying of other materials

Main features

- Controlled drying process while maintaining low fuel consumption
- Rugged design with high availability and low maintenance cost
- High throughput
- High flexibility for drying materials varying in material size and moisture
- Delivery in one pre-assembled piece on a base frame

Design parameters*

<table>
<thead>
<tr>
<th>Filling degree: 15%</th>
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<tbody>
<tr>
<td>Variable rotational speed: max. 3.5 rpm (FC)</td>
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<tr>
<td>Capacity: 30 – 200 t/h (depending on material)</td>
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<tr>
<td>Fuels such as coal, oil, gas and/or waste heat with hot gas temperatures up to 1000 °C</td>
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<tr>
<td>Internals 3 zones: spiral, straight and angled lifters</td>
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</tbody>
</table>

*Modifications are possible depending on product

<table>
<thead>
<tr>
<th>Type (Size)</th>
<th>ø inner shell (m)</th>
<th>Length (m)</th>
<th>L/D</th>
<th>RPM (1/min)</th>
<th>Drive (kW)</th>
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</thead>
<tbody>
<tr>
<td>RDS34.21</td>
<td>3.4</td>
<td>21.1</td>
<td>6.2</td>
<td>2.5 / 3.5</td>
<td>110</td>
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<tr>
<td>RDS30.18</td>
<td>3.0</td>
<td>18.6</td>
<td>6.2</td>
<td>2.5 / 3.5</td>
<td>75</td>
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<tr>
<td>RDS26.16</td>
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<td>16.1</td>
<td>6.2</td>
<td>2.5 / 3.5</td>
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Further sizes are possible on request, series are continuously in development

Contact

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