

# Metso:Outotec

Seals for Rotary Equipment

## Superdeal<sup>®</sup> and Goodeal<sup>™</sup>



Metso Outotec is the leading supplier of Leaf Type Seals for Rotary Kilns, Dryers and Coolers with over 400 installations of it's Superdeal and Goodeal air seal systems in a wide variety of Pyro Processing related applications.



The patented Superdeal Air Seal and the Goodeal Air Seal can be effectively applied to all existing Rotary Kilns, Dryers and Coolers, regardless of manufacturer of the equipment.

### Superdeal seal

The patented SUPERDEAL<sup>®</sup> seal has applications for rotary kilns, dryers and coolers, where low leakage characteristics are important. It is a cost effect solution for most applications.

Increased fuel efficiency, reduced off gas volumes and environmental compliance requirements are typical considerations for selecting this seal design.

### Goodeal seal

The GOODEAL<sup>™</sup> seal is utilized for less demanding conditions - where some air leakage is acceptable or in some applications desirable for optimised process performance

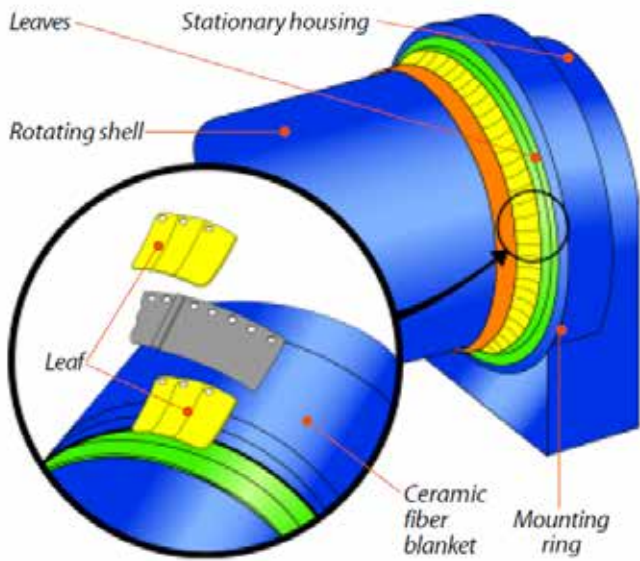
### Benefits

- Reduced maintenance
- Lower operating costs
- Reduced air leakage
- Reduced power consumption
- Increased fuel efficiency

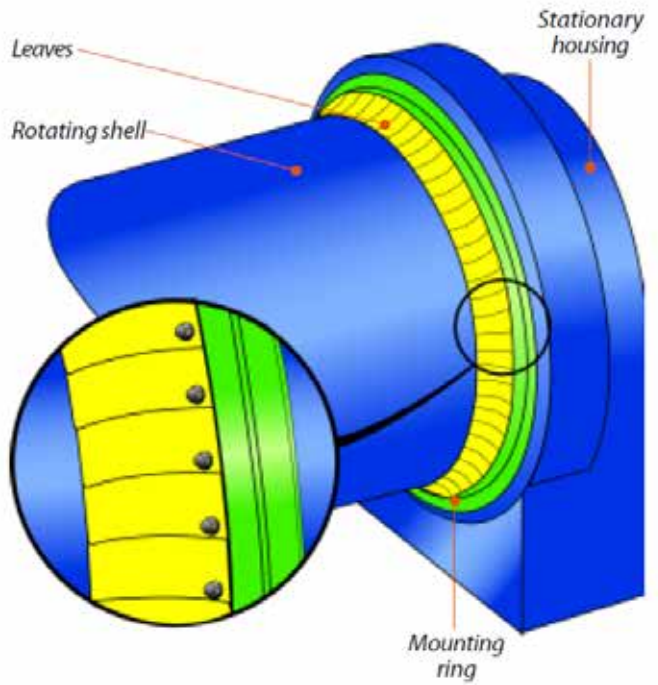
Superdeal and Goodeal seal

# Simplified representation

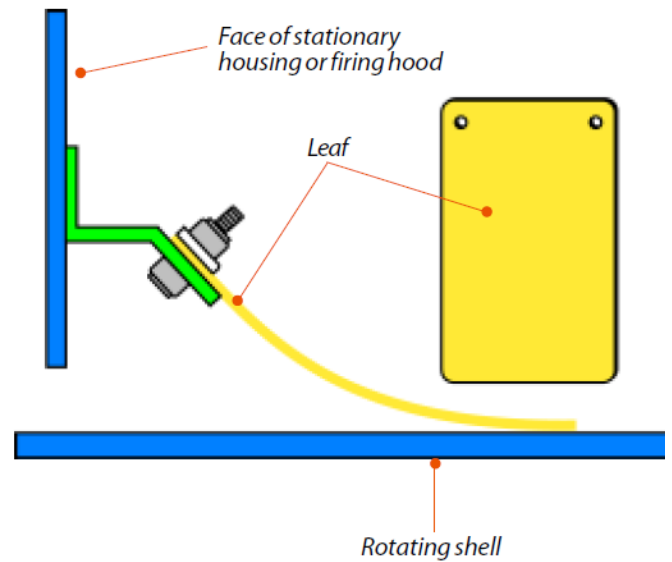
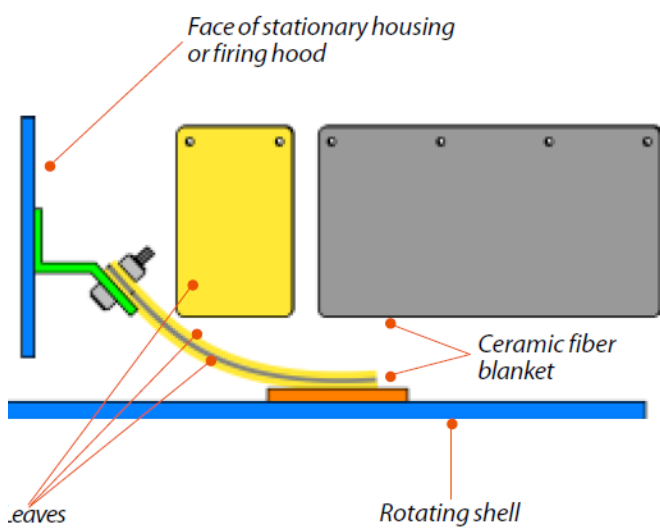
**Superdeal Seal®**



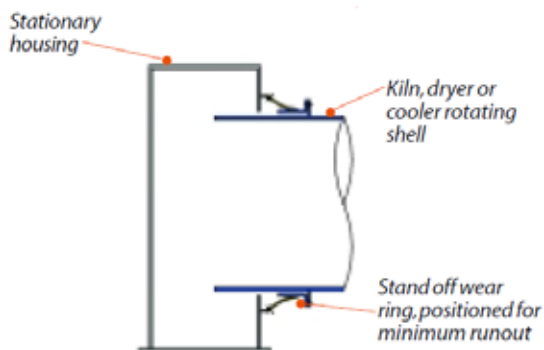
**Goodeal Seal™**



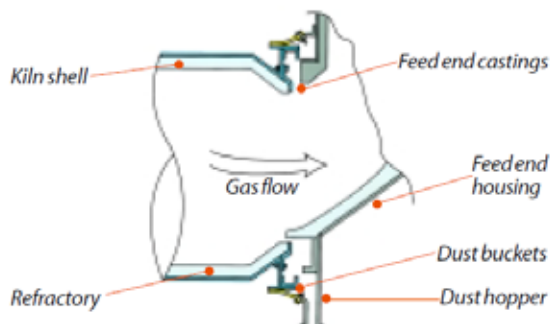
## Sectional View



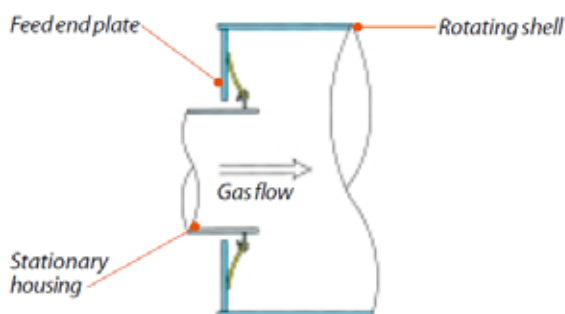
# Wide variety of configurations



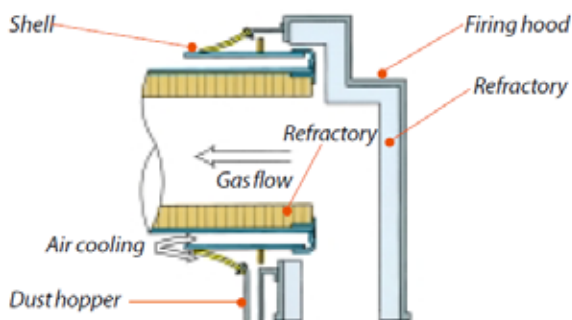
**Radial seal with stand off wear ring**



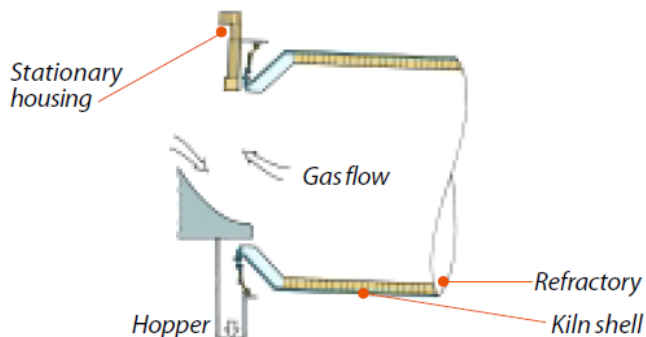
**Radial seal (typical feed end of preheater cement kiln)**



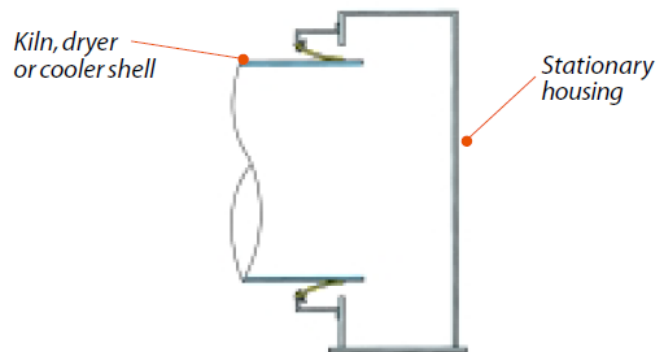
**Inward axial seal installed inside dryer to minimize material and air leakage**



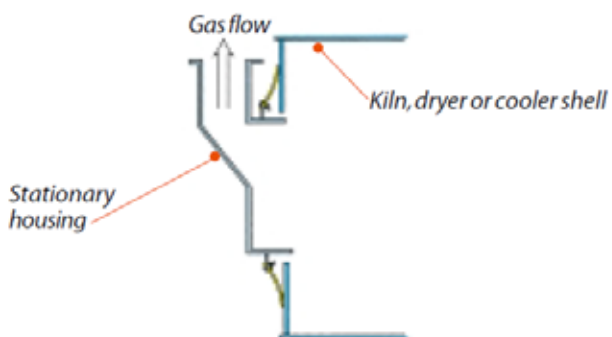
**Radial seal discharge end with air cooling, dust hopper and heat shield**



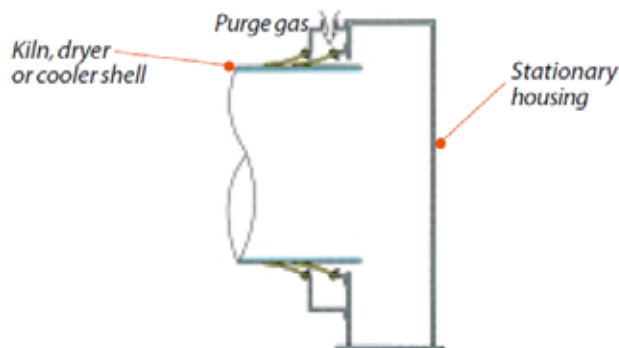
**Inverted axial seal**



**Inward radial seal**



**Axial seal**



**Double radial seal with purge gas**

## Unique features and benefits

- Our Seals are hands off, self adjusting, and shell runout compensating
- Reduced Seal maintenance, results in lower operating costs
- Our Seals can be retrofitted to all existing Rotary Kilns, Dryers and Coolers regardless of manufacturer or application
- Our seals show greatly reduced air leakage when compared to other conventional seals
- Lower air leakage reduces power consumption and increases process efficiency
- Our Seals increase the fuel efficiency of any operating kiln
- Installation and replacement of our Seals is quick and simple, leading to lower maintenance costs
- Heat resistant Leaf Springs accommodate high temperatures and axial Shell movement
- Seals minimize escape of hot dust and gases which can be a safety concern

## Applications

- Cement Making
- Chemical Production
- Iron Ore Pelletizing
- Pulp Mill Lime Recovery
- Pebble Lime Production
- Drying of Bulk Granular Materials
- Coke Calcining
- Hazardous Waste
- Aggregate

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Metso Outotec 10' test unit used for the development and continued improvement in air seal design