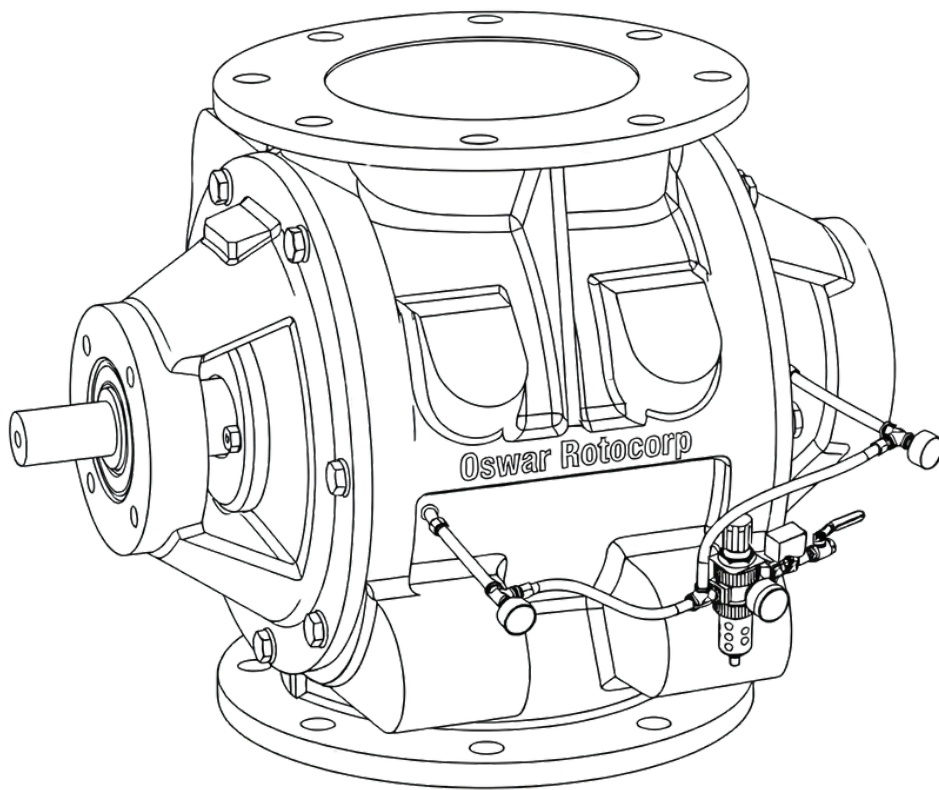


# ROTARY AIR LOCK

## ABRASIVE MATERIAL HANDLING GUIDE



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### Executive Overview

Industries such as cement, mining, ceramics, glass, and mineral processing handle materials with high silica content, sharp particle edges, and elevated hardness levels. These abrasive characteristics accelerate wear in material handling equipment.

## TYPICAL HIGH-TEMPERATURE APPLICATIONS

CEMENT &  
CLINKER

FLY ASH

ALUMINA &  
MINERAL  
POWDERS

GLASS CULLET

# THERMAL EXPANSION & STRUCTURAL INTEGRITY

## Technical Analysis:

### 1. Material of Construction

Use of hardened steels, alloy castings, and wear-resistant liners improves service life.

### 2. Rotor Design Optimization

Thicker rotor vanes and reinforced tips reduce deformation and wear.

### 3. Replaceable Wear Components

Modular wear parts allow economical maintenance without full valve replacement.

### 4. Surface Hardening & Coatings

Specialized coatings increase resistance to erosion and particle impact.

### 5. Clearance Management

Controlled internal tolerances balance airlock performance and wear allowance.

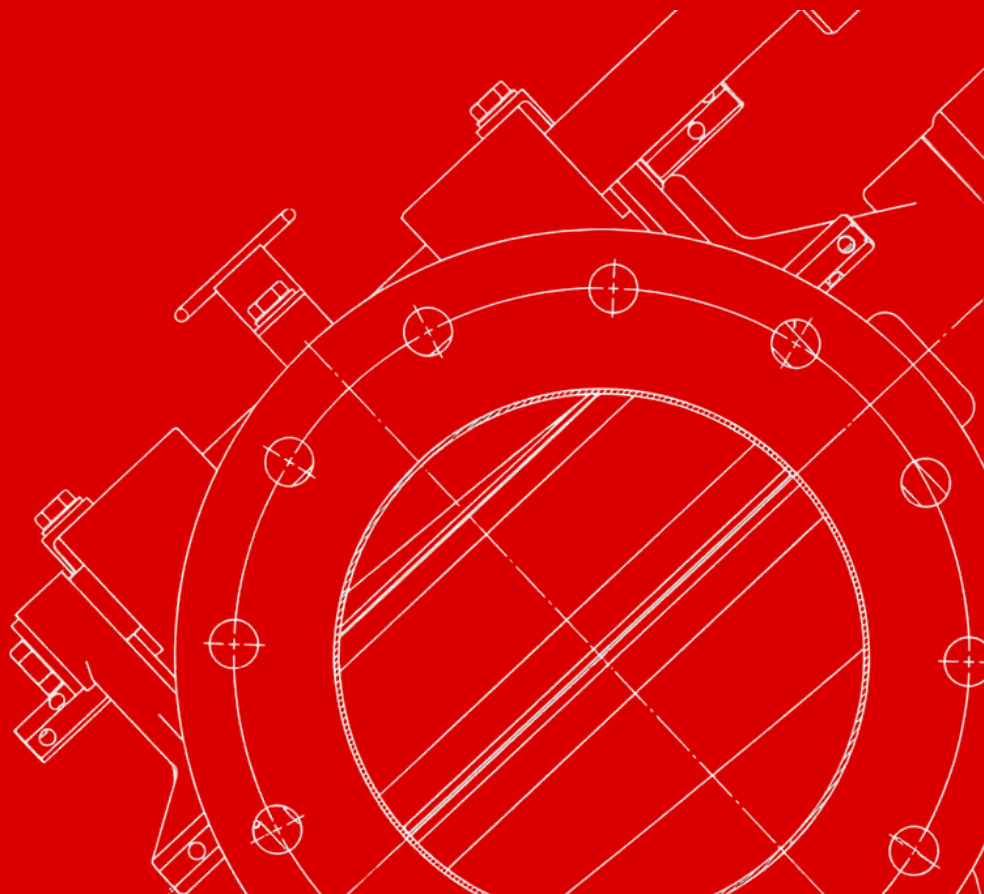
## DESIGN OBJECTIVES

- Maintain airlock integrity
- Prevent rotor binding
- Ensure structural rigidity
- Minimize thermal distortion
- Extend operational lifespan

# MAXIMIZING SERVICE LIFE IN ABRASIVE APPLICATIONS

## Engineering Solutions:

- Application-specific material selection
- Reinforced housing construction
- Hard-facing of high-wear surfaces
- External bearing configurations
- Scheduled inspection of rotor clearances
- Predictive maintenance planning



# OSWAR

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