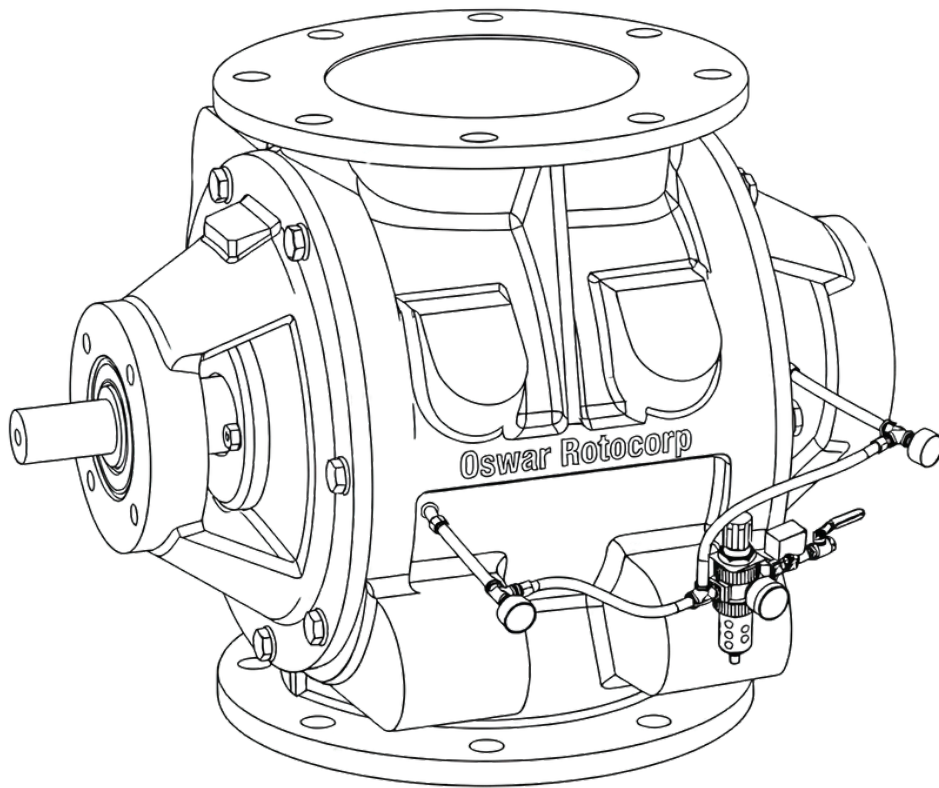



# ROTARY AIR LOCK

## ENGINEERING HANDBOOK



**OSWAR**  
rotocorp



A Rotary Valve is a precision-engineered device used for controlled discharge of bulk materials while maintaining an airlock between two pressure zones. It is widely applied in pneumatic conveying systems, dust collection units, silo discharge, and continuous feeding operations.

The primary function of a Rotary Valve is to regulate volumetric flow while preventing air leakage between upstream and downstream systems. Performance depends on rotor geometry, internal clearances, sealing design, material characteristics, and operating pressure.

## CORE COMPONENTS

ROTOR WITH  
MULTIPLE VANES

END COVERS &  
SEALING  
ARRANGEMENT

DRIVE SYSTEM  
(MOTOR &  
GEARBOX)

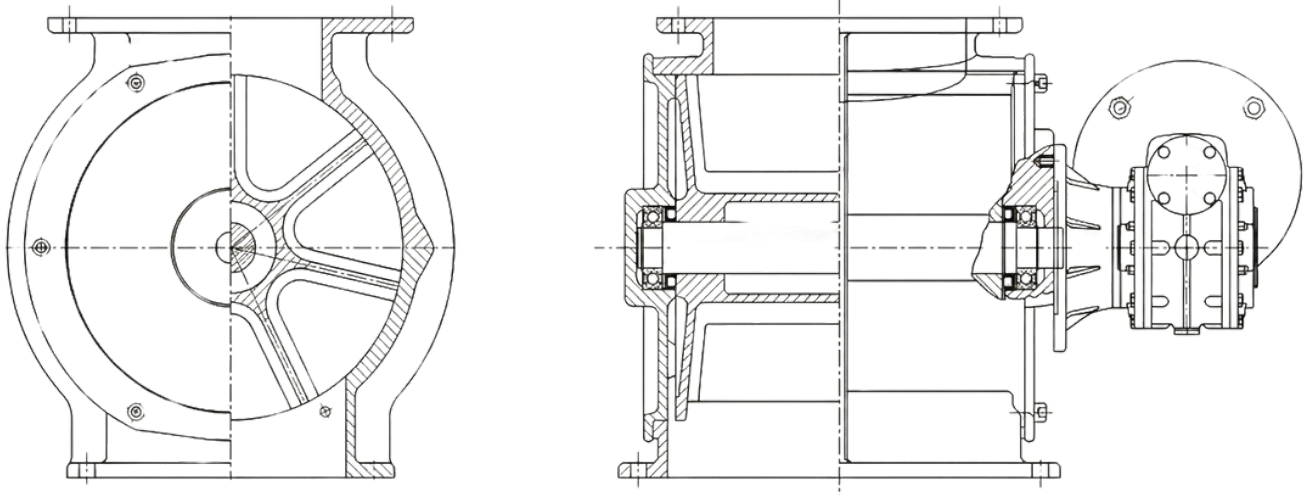
BEARINGS &  
SHAFT ASSEMBLY

# KEY DESIGN CONSIDERATIONS

Technical Paragraph:

Selection of a Rotary Valve requires evaluation of several engineering parameters to ensure optimal performance:

- Bulk density of material
- Particle size & abrasiveness
- Operating temperature
- Differential pressure across the valve
- Required throughput capacity
- Type of conveying system (Pressure / Vacuum)



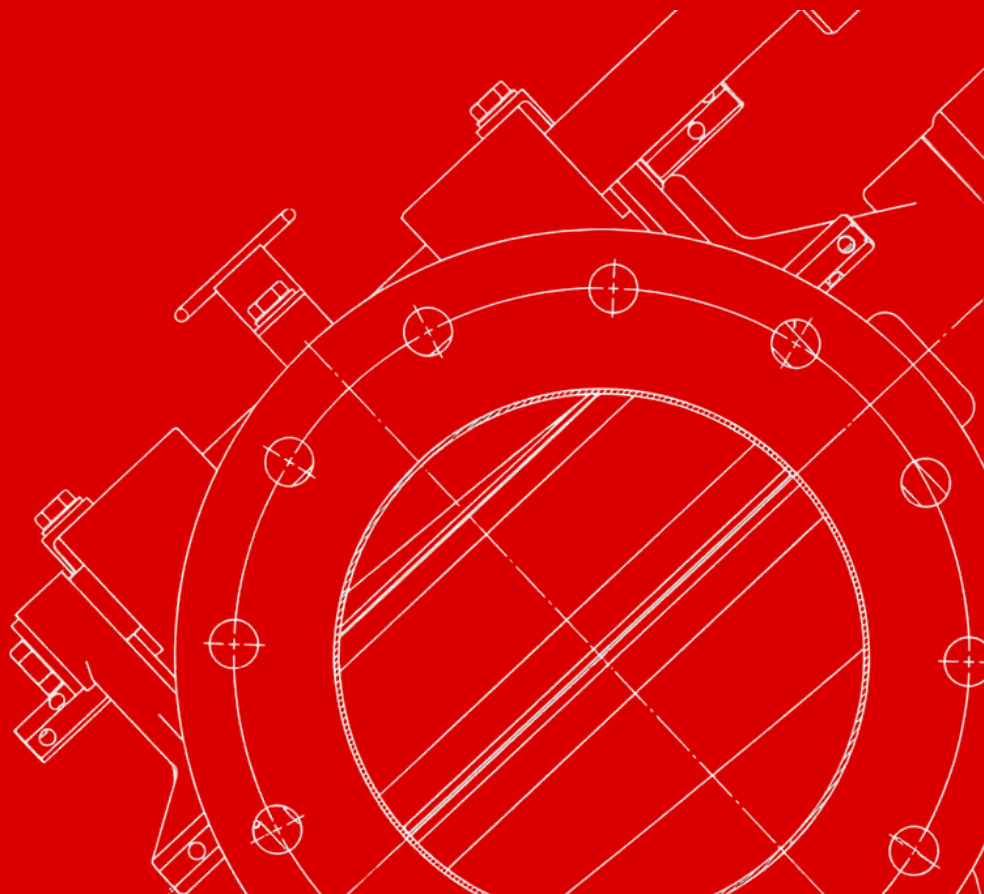
## PERFORMANCE FACTORS

- Air Leakage Control
- Volumetric Efficiency
- Wear Resistance
- Torque Requirements
- Maintenance Accessibility
- Service Life Optimization

# ENSURING LONG-TERM PERFORMANCE & RELIABILITY

## Operational Guidelines:

- **Maintain recommended rotor tip clearance**
- **Ensure proper alignment during installation**
- **Monitor bearing temperature & lubrication**
- **Avoid foreign object entry into rotor chamber**
- **Select appropriate rotor type for material characteristics**
- **Implement regular inspection schedules**



# OSWAR

## rotocorp

### **Corporate Office**

Jaipur, Rajasthan India  
Nagpur, Maharashtra India

### **Sales Inquiries**

[info@oswarrotocorp.com](mailto:info@oswarrotocorp.com)

### **Helpline**

[+44 7917 128505](tel:+447917128505) | +91 77422 36474

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