

# A SENSOR FOR EVERY ASSET

## YOUR ASSETS ARE DIVERSE. SO ARE OUR SENSORS.



### PUMPS

**Function and Types:** fluid Transfer (Centrifugal, Reciprocating, Diaphragm, Submersible, Vacuum, Drum, Peristaltic)  
**Measurement Points:** 2, Pump Drive End, Pump Non Drive End  
**Potential Failure Modes:** Imbalance, Misalignment at the coupling with the Motor, Bearings deterioration, Cavitation.



### CENTRIFUGES

**Function and Types:** Density Separation  
**Measurement Points:** 2, Centrifuge Drive End, Centrifuge Non Drive End  
**Potential Failure Modes:** Imbalance, Bearings deterioration.



### FANS

**Function and Types:** Air Movement (Centrifugal, Axial)  
**Measurement Points:** 2, Fan Drive End, Fan Non Drive End  
**Potential Failure Modes:** Imbalance, Bearings deterioration, Rotor mechanical degradation, Resonance.



### MIXERS

**Function and Types:** Material Blending  
**Measurement Points:** 2, Mixer Drive End, Mixer Non Drive End  
**Potential Failure Modes:** Imbalance, Bearings deterioration.



### COMPRESSORS

**Function and Types:** Gas Pressure (Centrifugal, Axial, Reciprocating, Rotary Screws)  
**Measurement Points:** 2/4, Compressor Drive End, Compressor Non Drive End  
**Potential Failure Modes:** Misalignment at the coupling with Motor, Bearings deterioration, Screw mechanical degradation, Piston rings, seals degradation, Damaged Pistons or Cylinders.



### CHILLERS

**Function and Types:** Heat Removal  
**Measurement Points:** 4/7, Motor Drive End, Motor Non Drive End, Main Fan Bearing housing, Compressor body if any.  
**Potential Failure Modes:** Motor and Main Fan Bearings deterioration, Rotor Fan Imbalance, Piping Leakages.



### ELECTRIC GENERATORS

**Function and Types:** Electricity Production  
**Measurement Points:** 2, Motor Drive End, Motor Non Drive End  
**Potential Failure Modes:** Imbalance, Bearings deterioration, Rotor Bars mechanical degradation, Resonance, Soft Foot, Electrical Problems.



### COOLING TOWERS – HEAT REJECTION

**Function and Types:** Heat Rejection  
**Measurement Points:** 2, Motor Non Drive End Side, Motor Drive End Side (Fan Main Bearing)  
**Potential Failure Modes:** Imbalance, Bearings deterioration.



### TURBINES

**Function and Types:** Energy Conversion (Gas, Steam)  
**Measurement Points:** 2/4, Turbine Drive End, Turbine Non Drive End  
**Potential Failure Modes:** Imbalance, Bearings deterioration, Blades mechanical degradation, Resonance, Soft Foot.



### BALL MILLS

**Function and Types:** Material Grinding  
**Measurement Points:** 2, Mill Drive End, Mill Non Drive End  
**Potential Failure Modes:** Imbalance, Bearings deterioration.



## MOTORS

**Function and Types:** Power Conversion (Electrical, Hydraulic)  
**Measurement Points:** 2, Motor Drive End, Motor Non Drive End  
**Potential Failure Modes:** Imbalance, Bearings deterioration, Rotor Bars mechanical degradation, Resonance, Soft Foot, Electrical Problems.



## ROTARY KILNS – THERMAL PROCESSING

**Function and Types:** Thermal Processing  
**Measurement Points:** 8, Motor Drive End, Motor Non Drive End, Gearbox high speed drive end, Gearbox low speed drive end, Gearbox high speed non drive end, Gearbox low speed non drive end, Kiln bearing drive end, Kiln bearing non drive end.  
**Potential Failure Modes:** Bearings deterioration, Resonance, Soft Foot, Motor Electrical Problems and Gearbox tooth mechanical degradation.



## ROTARY DRYERS

**Function and Types:** Material Dryer  
**Measurement Points:** 2, Dryer Drive End, Dryer Non Drive End  
**Potential Failure Modes:** Imbalance, Bearings deterioration.



## GEARBOXES

**Function and Types:** Speed modification  
**Measurement Points:** depending on the number of reduction shafts. Minimum 4, Gearbox high speed drive end, Gearbox low speed drive end, Gearbox high speed non drive end, Gearbox low speed non drive end.  
**Potential Failure Modes:** Bearings deterioration, Resonance, Soft Foot, and Gearbox tooth mechanical degradation.



## CRUSHERS

**Function and Types:** Size Reduction  
**Measurement Points:** 2, Crusher Drive End, crusher Non Drive End  
**Potential Failure Modes:** Imbalance, Bearings deterioration.



## BLOWERS

**Function and Types:** air Pressure Air Flow (Centrifugal, Axial)  
**Measurement Points:** 2, Blower Drive End, Blower Non Drive End  
**Potential Failure Modes:** Imbalance, Bearings deterioration, Main Rotor damaged.



## CYLINDERS

**Function and Types:** Material movement, utilized in Paper Mills, Steel Mills, Conveyors.  
**Measurement Points:** 2, Cylinder Drive End, Cylinder Non Drive End  
**Potential Failure Modes:** Imbalance, Bearings deterioration, Resonance, Bending.



## CONVEYORS

**Function and Types:** Material Transport  
**Measurement Points:** 2/4, Motor + Gearbox, rolling shaft when requested.  
**Potential Failure Modes:** Bearings deterioration, Resonance, Motor and Gearbox mechanical degradation.



## EXTRUDERS

**Function and Types:** Profile Shaping  
**Measurement Points:** 2/4, Motor + Gearbox.  
**Potential Failure Modes:** Bearings deterioration, Resonance, Motor and Gearbox mechanical degradation.



## CYCLONE SEPARATOR

**Function and Types:** Particulate Removal  
**Measurement Points:** 2, Cyclone main bearings housing  
**Potential Failure Modes:** Imbalance, Bearings deterioration.



## ROTARY SCREENS

**Function and Types:** Material Separation  
**Measurement Points:** 2, Screen Drive End, Screen Non Drive End  
**Potential Failure Modes:** Imbalance, Bearings deterioration.



## VIBRATING SCREEN

**Function and Types:** Particle Separation  
**Measurement Points:** 4, on both screen body sides  
**Potential Failure Modes:** screen overload, screen shading, screen frame damage and inconsistent material flow.



## TURBO EXPANDERS

**Function and Types:** Gas Pressure Decrease  
**Measurement Points:** 2, Bearing Drive End, Bearing Non Drive End  
**Potential Failure Modes:** Shaft Imbalance, Bearings deterioration, Centrifugal Wheel mechanical degradation.



## HAMMER MILLS

**Function and Types:** Crushes aggregate material into smaller pieces.  
**Measurement Points:** 4, Motor Drive End, Motor Non Drive End, Bearing Drive End, Bearing Non Drive End  
**Potential Failure Modes:** Shaft Misalignment, Bearings deterioration, Hammers mechanical degradation, Soft Foot.