

Vibration monitoring for paper machines

Every minute of unplanned downtime for a paper machine represents lost revenue. Maintenance and reliability engineers monitor vibration to avoid costly repairs and breakdowns by detecting early warnings of faults such as imbalance, misalignment, looseness, and lubrication issues.



Paper machine section	Forming / Press	Dryer	Calendering
Production assets	<ul style="list-style-type: none"> Fan pump Breast roll Couch roll Suction pick-up roll Table roll 	<ul style="list-style-type: none"> Dryers Dryer can Felt roll Ventilation fan Combustion fan Vacuum pump 	<ul style="list-style-type: none"> Nip roll Calender drive system Reel
Environment	<ul style="list-style-type: none"> Caustic chemicals High moisture 	<ul style="list-style-type: none"> High temperature High moisture 	<ul style="list-style-type: none"> High temperature
Accelerometer considerations	<ul style="list-style-type: none"> Wide bandwidth for accurate low and high frequency detection Hermetically sealed 316L stainless steel to resist corrosion, inhibit moisture ingress, protect internal electronics, and prevent premature sensor failure 	<ul style="list-style-type: none"> Low frequency, low signal-to-noise ratio to capture low amplitudes at slow speeds Hermetically sealed 316L stainless steel High temp operation to 165°C 	<ul style="list-style-type: none"> High temp operation to 165°C with extended range components for continuous operation in hot environments without degradation
Data processing considerations	<ul style="list-style-type: none"> Continuous monitoring to detect transient conditions Identifying process-related machine damage Tracking machine health over time 	<ul style="list-style-type: none"> Analyzing vibration measurements on slow speed bearings requires granular data resolution and high frequency enveloping 	<ul style="list-style-type: none"> Processing data integration to correlate process variables, such as speed and product type, with machine health