



A predictive machine-health monitor

Machine Diagnostics System

AUTOMATED . AFFORDABLE



What We Do

Enabling Data-Flow . Interpret Data .
Present Data for Business

Growth Enabler

Dataflow with Machines

DataFlow@Machine = Health@Machine

- ✓ The World's First Affordable Machine Diagnostics System with Actionable Intelligence For Non-Technical Experts
- ✓ "Wellai" Machine monitor and predicts the health of Machine and its components and provides detailed health report .



Benefits

Operational and Financial Benefits with Wellai Machine Diagnostic Solution

✓ **PRODUCTIVITY ANALYTICS**

Analyze production reports

Production is directly proportional to revenues and thus it is important to analyze production dependencies while we help you proactively monitor machine health

✓ **PREDICTIVE ANALYTICS**

Solution helps you Predict Health Quotient

At Wellai we know that a specific part has been replaced on specific day and life of this part depends on heat ratios or oil density or other.

✓ **ENERGY ANALYTICS**

Impact of Energy Variance and Consumption ratios

Energy consumption and variance report in conjunction with production can help in savings cost of operations

✓ **PREVENTIVE ANALYTICS**

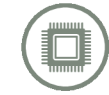
It's like we go for annual health check-up

Solution helps in defining Preventive Activity Schedules and monitor the same with respect to operational efficiencies



Features

**Enabling Data-Flow . Interpret Data .
Present Data for Business**



Microprocessor controlled, Multiple sensors, to monitor and predict multiple failure points in the equipment



Monitor, prevent, predict & Analyze



Easy installation



One machine, multi functions



Centralized Management Console

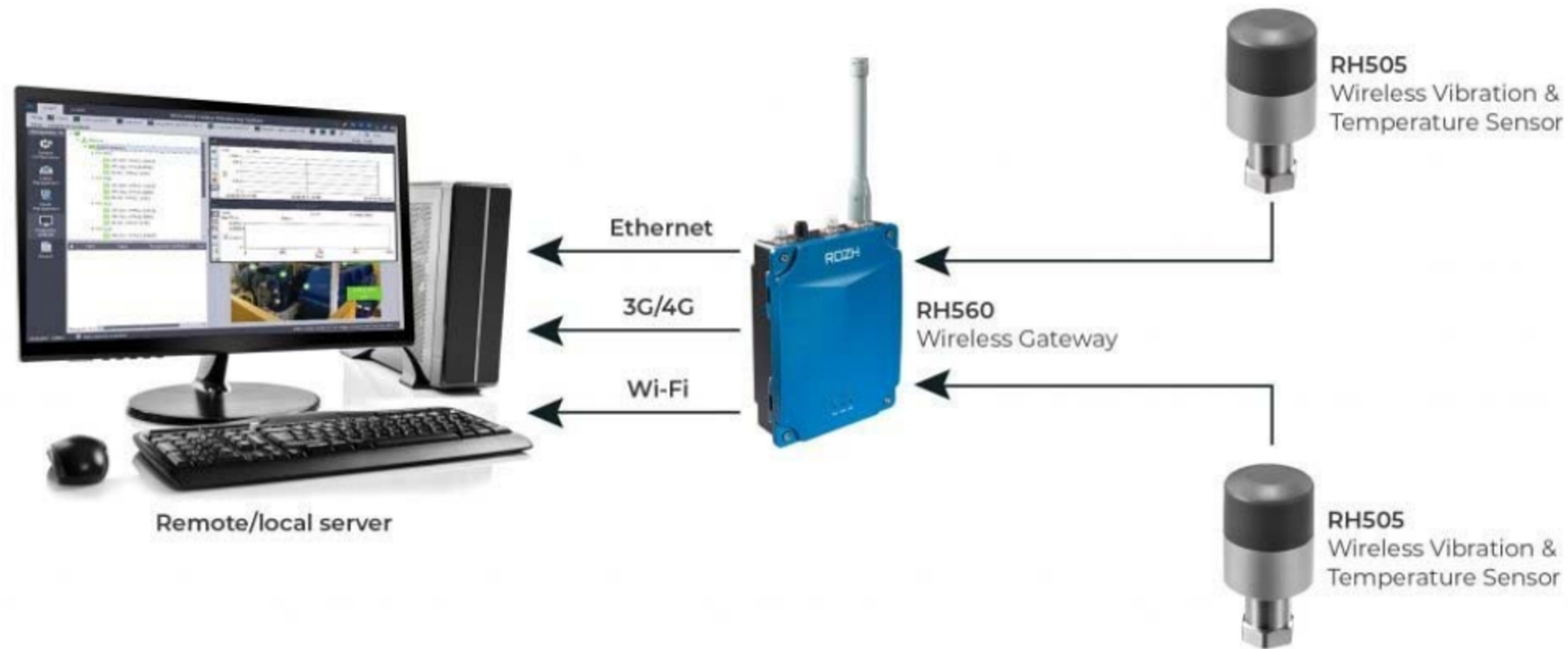


Low TCO and higher ROI



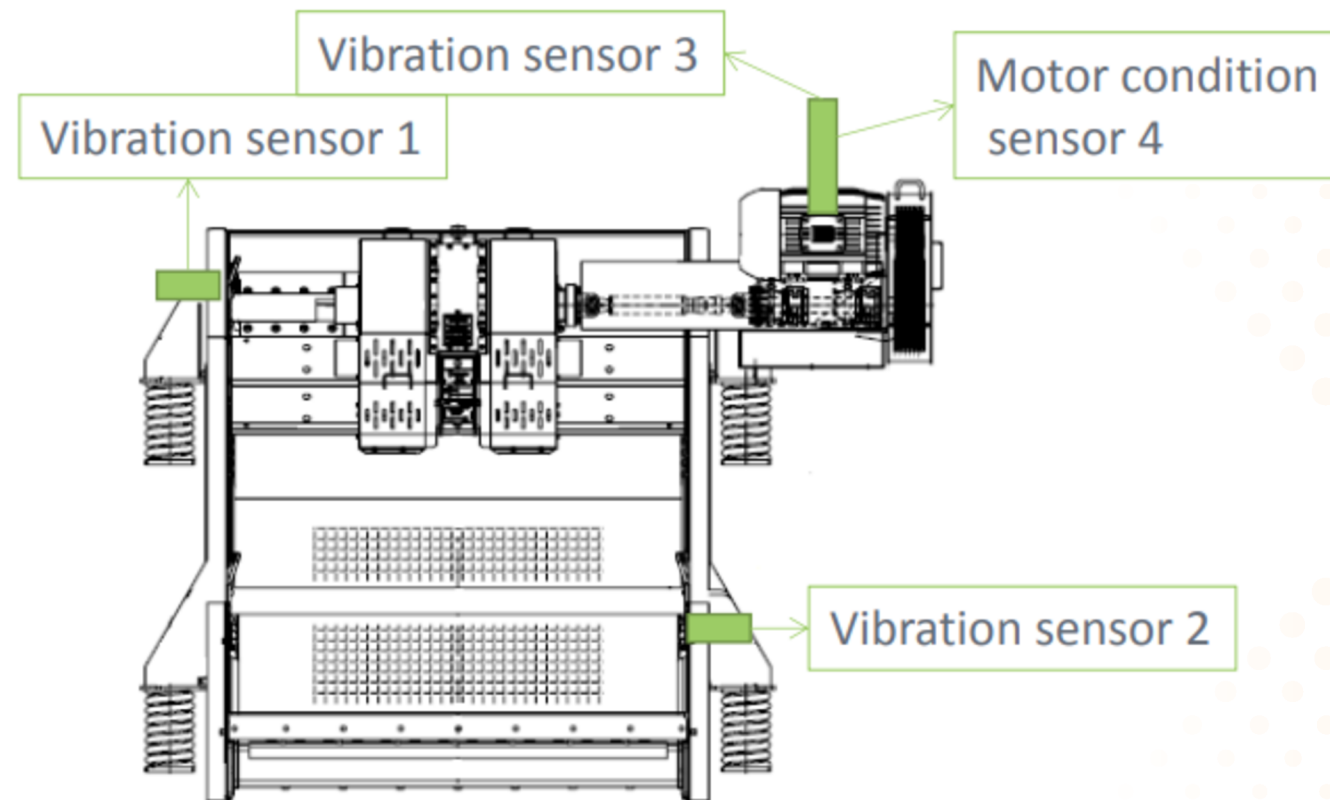
Manage 99% uptime of equipment by preventive maintenance and predictive analysis

Analytics with Mobility



**Customized data monitoring software with
customizable warning set points.**

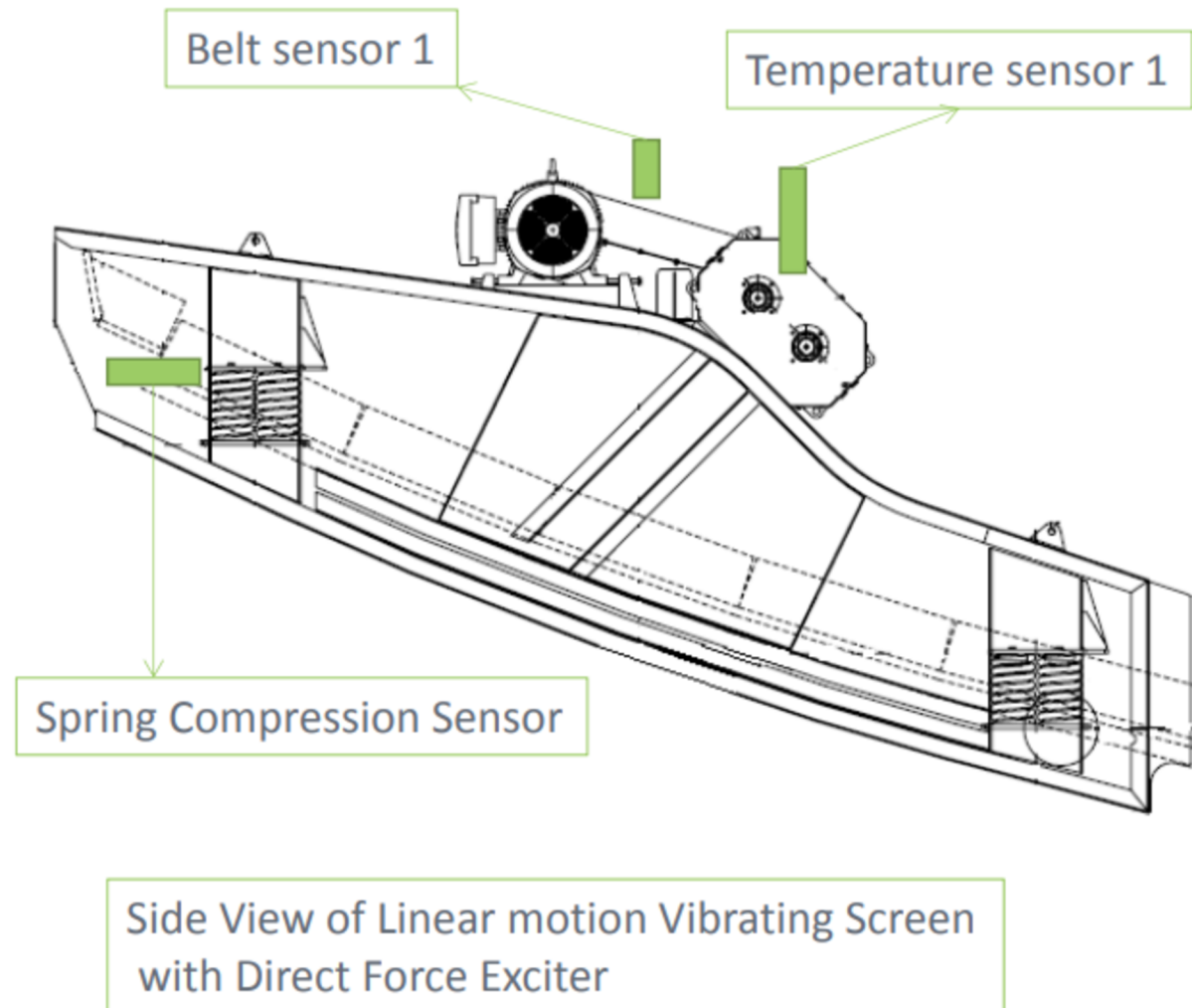
Analytics for Vibrating Screens



Top View of Linear motion Vibrating Screen with Direct Force Exciter

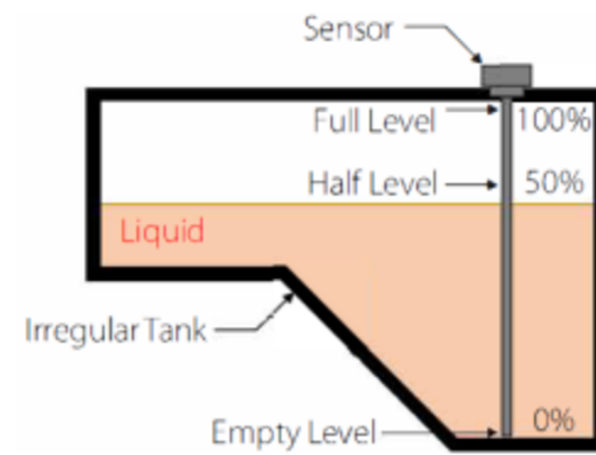
- 1** Monitor Vibration and Side Sway Using 2 cross plate vibration sensors. Can detect differential G force in side plate. Resonance in screen, and any crack in cross member
- 2** Monitor Un-natural noise continuous or intermittent vibration on motor end.
- 3** Motor Condition Sensor – Current sensor + bearing Temperature sensor for motor health monitoring.
- 4** Motor rotation direction as well as health detection

Analytics for Vibrating Screens

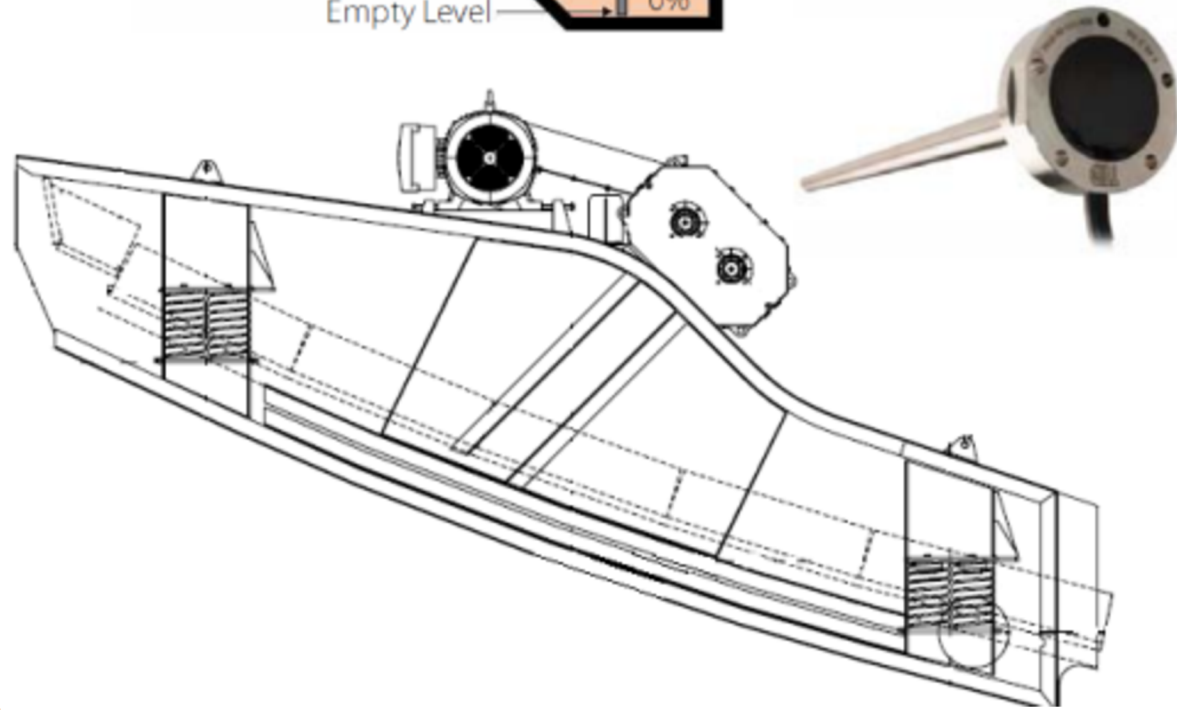


- 1** Belt sensor for monitoring single belt damage in multi belt system.
- 2** Monitor Exciter Temperature to detect damage symptoms.
- 3** Monitor Intermittent Cardan Shaft Breakage / rapture detection.
- 4** Monitor Screen Loading through spring compression data and Motor current data.
- 5** Loose bolt / loose deck detection.

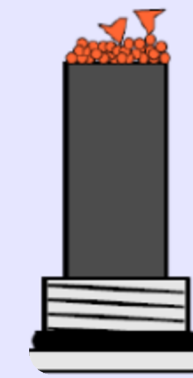
Gear Box Monitoring for Vibrating Screens



Gearbox Oil Level Sensor



Gearbox Oil Condition Sensor

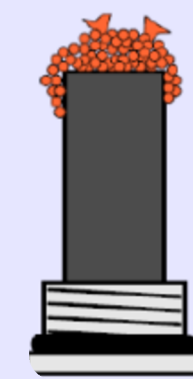


Both reported but coarse debris may be to a lesser extent if held off probe face by fine debris.

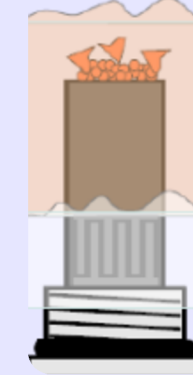


Debris on sides will not be reported.

Only the debris on the probe face will be reported.

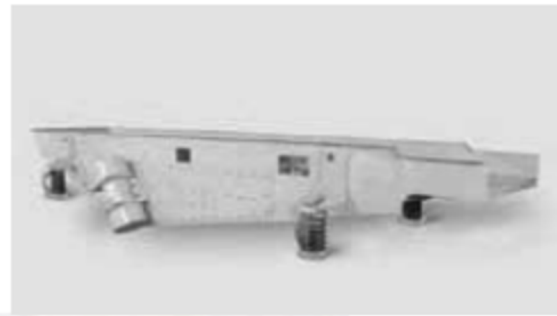


> 0.5 g will overload the sensor; Coarse debris will not be reported if there is excessive debris on the probe face.



Oil dielectric sensor in lower 12mm will detect significant change in oil quality, such as water in the oil or if no oil is present.

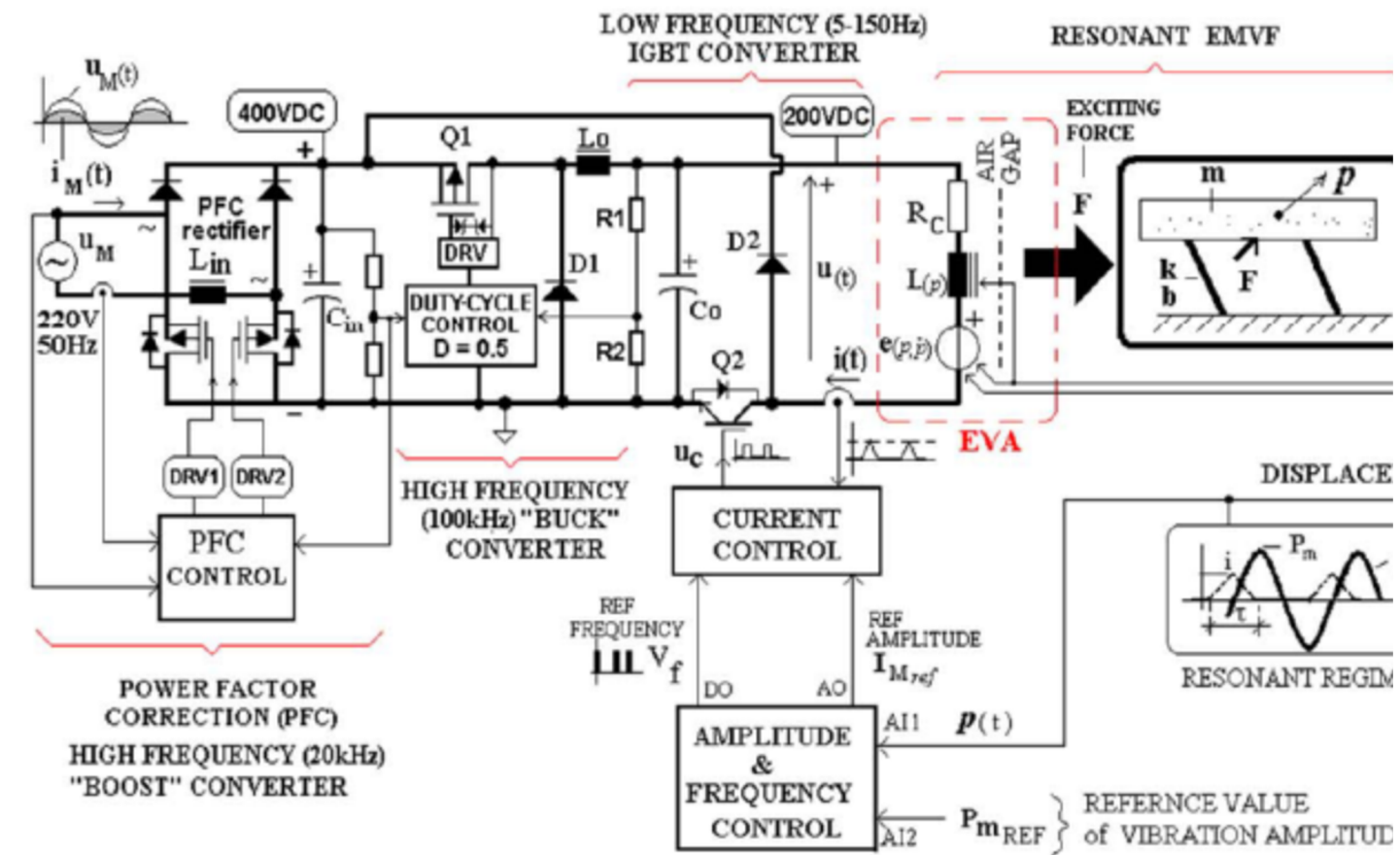
Feeder Controller



Mechanical Feeder



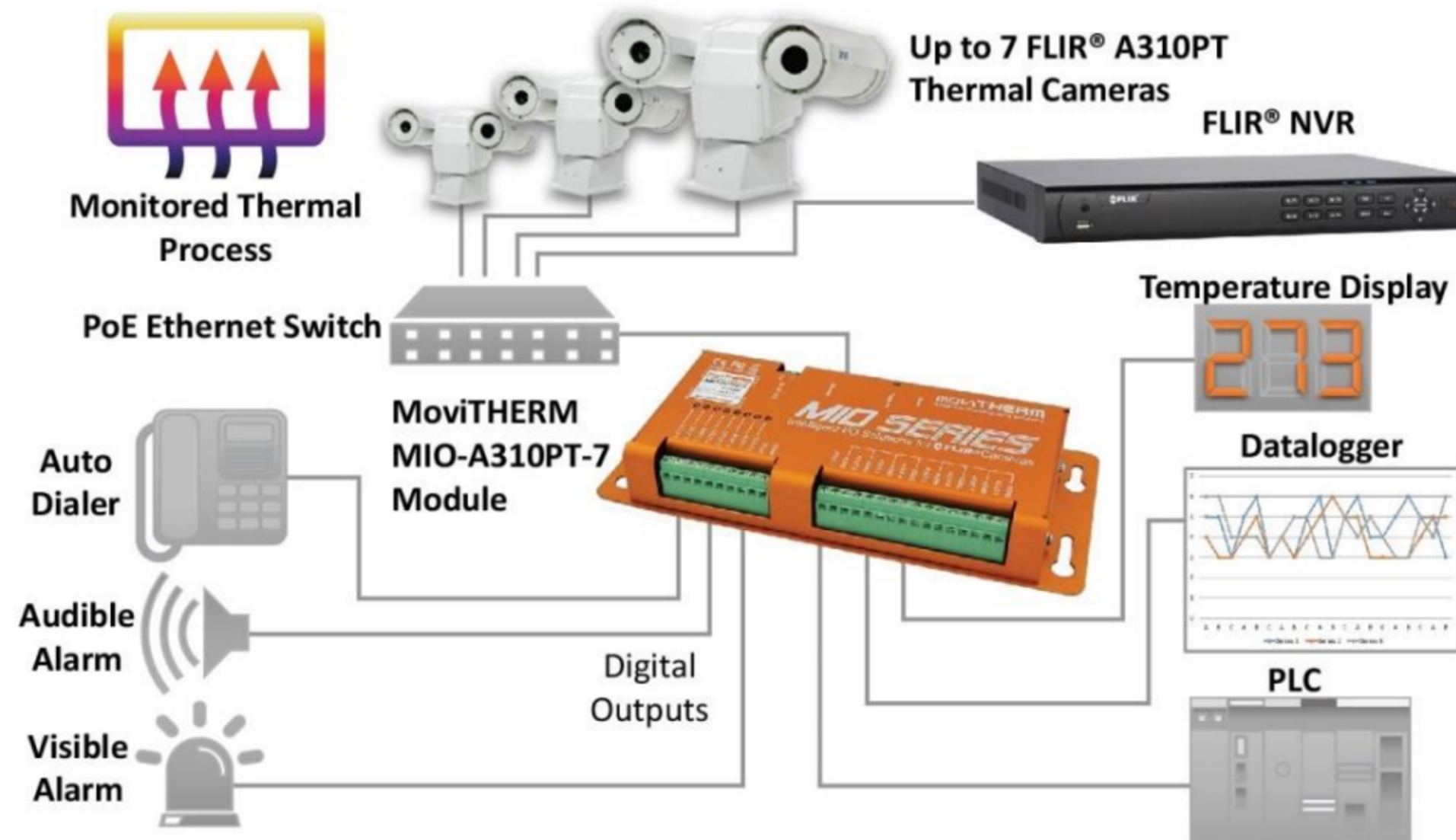
Electromagnetic Feeder



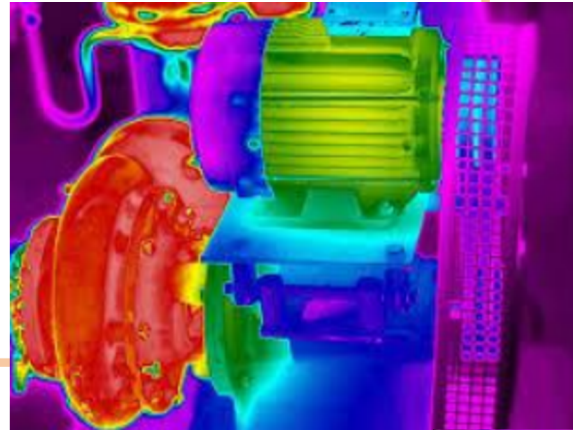
- Feeder controller with feedback system to keep feed rate constant
- As this is vector control input change input line frequency will not effect the feed rate.
- Temporary overload can be taken care of. And in case of non discharging feeders fault alarm can be generated

Thermal Image Monitoring for Critical Application

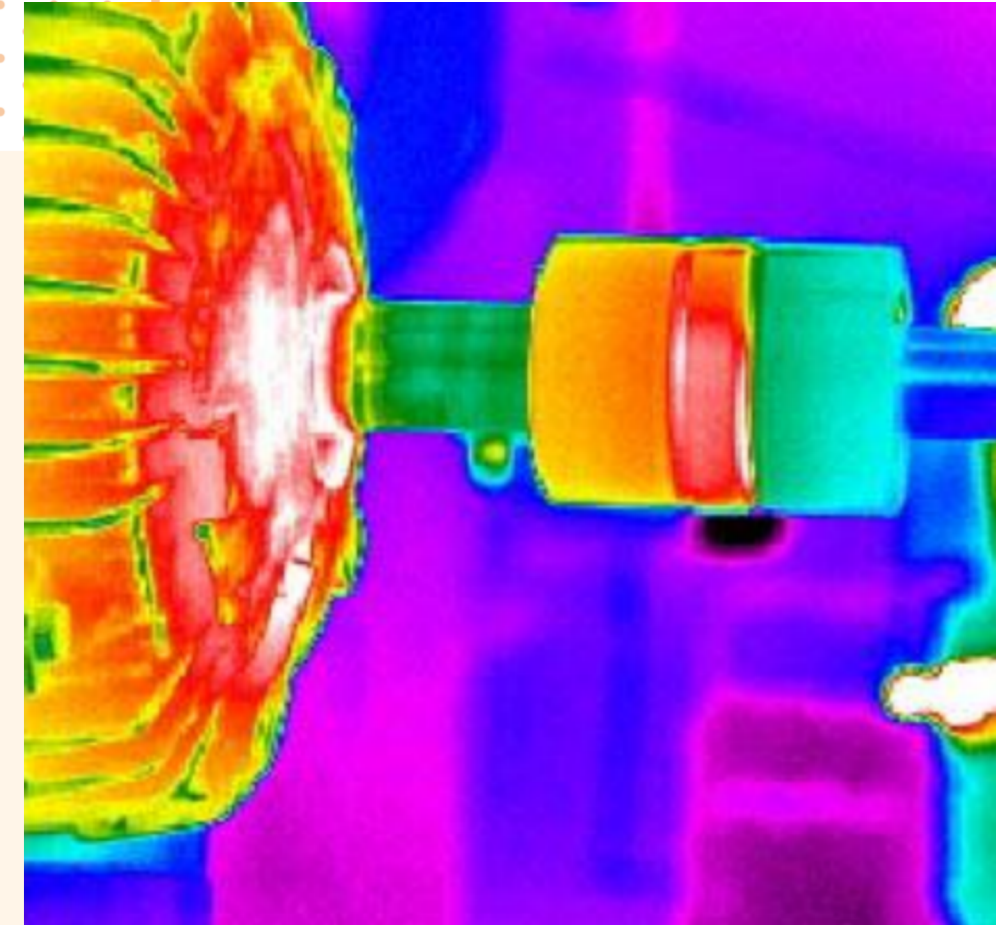
Multi Camera Setup Example with FLIR® NVR



Thermal Image Monitoring for Critical Application



**Detect failures
Months before
they may
happen**



**We provide thermal imaging
and analysis in AMC format**





Thank You