



# Instant Detection

# Thoroughly prevent metal contamination

**Early Observer** detects the instant of blade chipping to thoroughly prevent foreign matter contamination.



**F&B Projec**

## Early Observer MEL-E Series

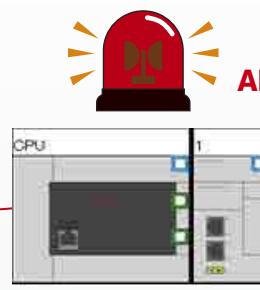
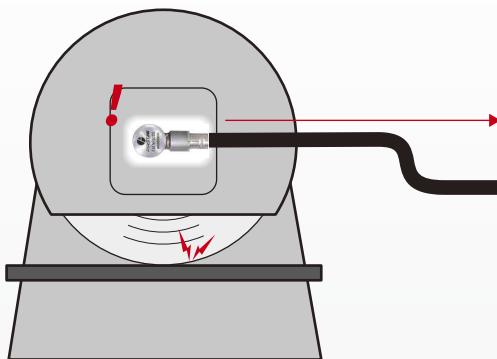
Blade damage

**Real-time monitoring**

Damage Signal

**Instant Detection**

**Instant Line Stop**



Alarm signal

Exceed threshold  
Abnormality Determination



### Benefits of Real-Time Detection

#### Food Loss Reduction

Reducing the search area for fragments.  
Significantly reduces waste volume.

#### Consumer Damage Prevention

Prevent the leakage of metal fragments into the market and safeguard social trust.

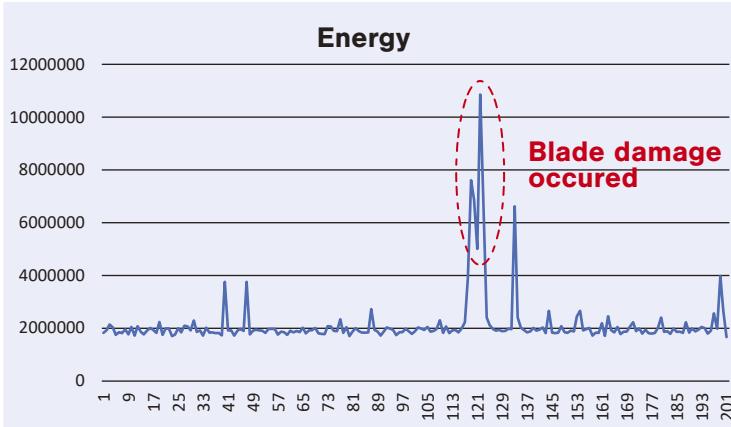
#### Maintaining Productivity

Preventing reduced production efficiency due to prolonged line stoppages.

Foreign object contamination due to blade damage is a critical control point in **HACCP**.

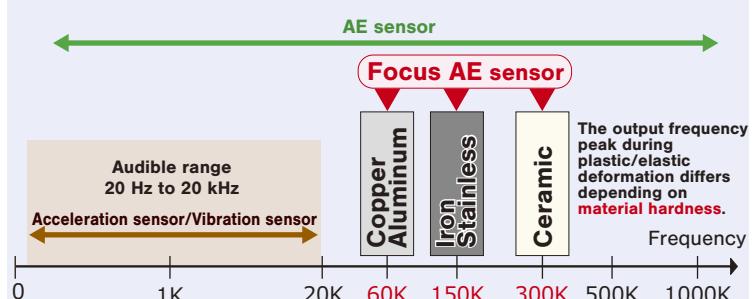
**JCC Co., Ltd.**

# Energy Measurement During Blade Chipping (Ex.)

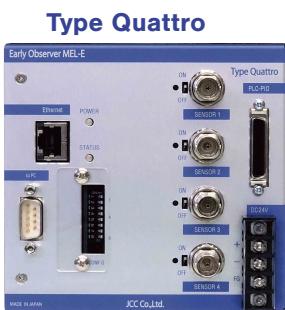


**Early Observer** is a unique sensor system that measures the high frequency energy generated during blade breakage.

## <Focus AE sensor measurement range>



## Mitsubishi Electric MELSEC compatible MEL-E series



**Freddo\***

**Freddo Plus\***

**Type Uno**

**Type Quattro**

## Freddo

**-Measurement performance:** Sampling frequency 10 MHz, min. edge processing speed 1 ms

**-Filter feature:** HPF/LPF switch selection

**-Fail-safe feature:** Breaking/short/abnormal voltage

**-Sensor signal check feature:** Compare sensor signal levels to verify reliability

## Freddo Plus (Specialized Features)

**-Threshold alarm feature:** Set 8 threshold patterns and output alarms

**-Logging feature:** Equipped with microSDHC slot for logging measurement data

## Type Uno/Quattro

**-Measurement performance:** Sampling frequency 10 MHz, min. edge processing speed 10 ms

**-Filter feature:** HPF switch selection / LPF Fixed at 1000 kHz

**-Fail-safe feature:** Breaking/short/abnormal voltage

**-Sensor signal check feature:** Compare sensor signal levels to verify reliability

## 4-sensor switching measurement feature:

4 sensors connected/swapping measurement (Type Quattro only)

\* The Freddo series can only communicate with MELSEC iQ-R and PC software.

## Chemical-Resistant Waterproof Focus AE Sensor

### -Specifications-



#### Sensor Specifications

**Model:** FAEN-S150WI-HRB-5 (for stainless steel)  
FAEN-S300WI-HRB-5 (for ceramic)

**Size:** φ22×30 mm (excluding protruded part)

**Waterproof protection:** IP67

**Operating temperature:** -20 to 80 °C

**Material:** SUS304

**Cable:** Environment-resistant robot cable (length 5 m)

#### Environmentally resistant robot extension cable

**Model:** EO-HRB-BNC-[ ] m

**Diameter:** φ4

**Ambient operating temperature:** -253 to 200 °C

**Bend resistance:** Valid

**Acid resistance:** Valid

**Alkali resistance:** Valid

**Sheath:** Fluorinated ethylene propylene

\* The maximum cable length of the system is 20 m.

\* To extend the cable, use the waterproof relay connector set (EO-CONCT-BNC-W).

# JCC Corporation

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