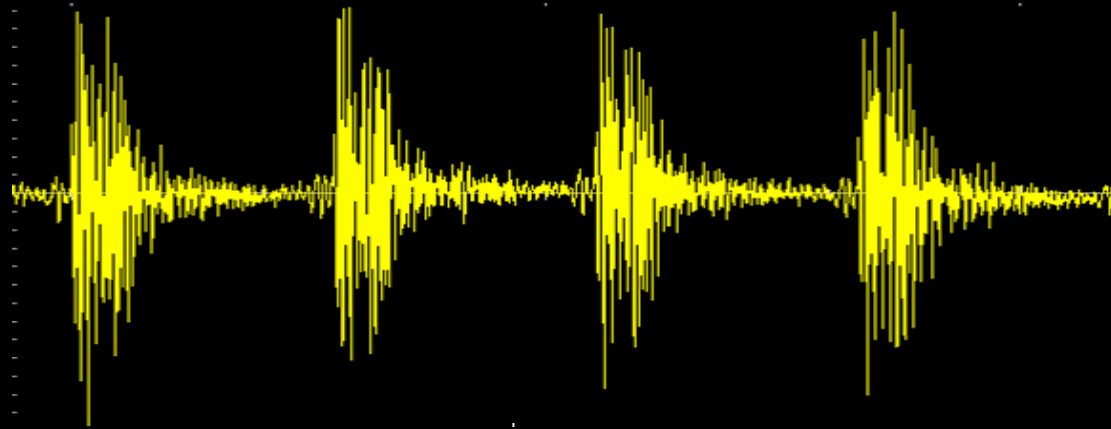
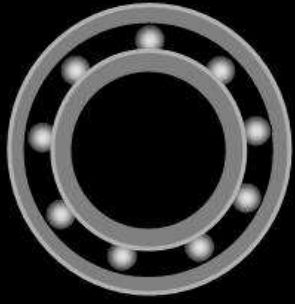


Bearing LifeGuard[©]

"This changes everything"



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Hamden, CT, USA. All rights reserved.
Patent# 6,763, 312, B1. Other Patents pending**



Bearing LifeGuard[®]

Asks:

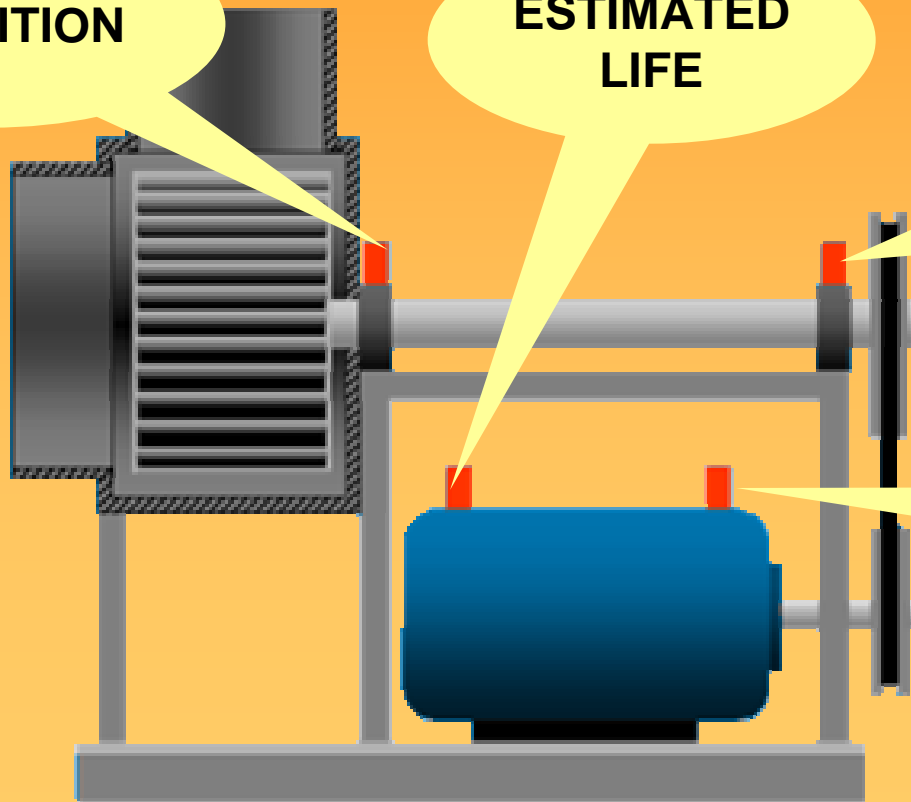
What can your machine tell you?

CONDITION

**ESTIMATED
LIFE**

**PROBABILITY
OF FAILURE**

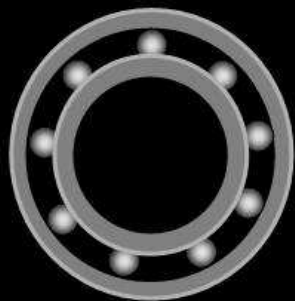
**FINANCIAL
RISK**



Are you listening?

Provides Three Levels of Password Protection!

- **Technician**
- **Engineer/Analyst**
- **Supervisor**



Bearing LifeGuard[®]

Calculates:

Bearing Information for AssemblyID = [BRG 5]

Settings | Processed Data | Reading: 5 | Spectrum

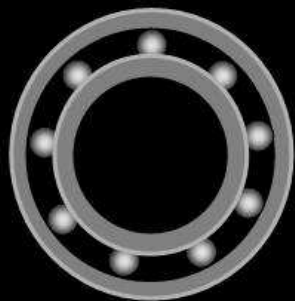
Timestamp = 10/16/2006 9:14:15

Forecast period (days)	90	3600
Estimated MTTF (hours)	2236	
Estimated Life (hours)	2236	
Probability of Failure in forecast period	61.3 %	
Short term Probability (14 day)	5.7 %	
Risk Estimate (Forecast Period)	\$6128	CoAF \$10000

Factors | Discriminants | MTTF

Expected life of your machine if no action is taken

Bearing service recommended



Bearing LifeGuard[®]

Calculates:

Bearing Information for AssemblyID = [BRG 5]

Settings | Processed Data | Reading: 5 | Spectrum

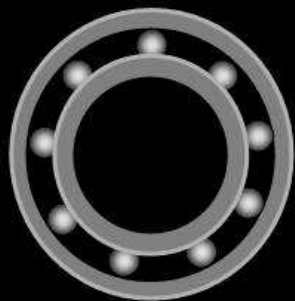
Timestamp = 10/16/2006 9:14:15

Forecast period (days)	90	MTTF	3600
Estimated MTTF (hours)	2236		
Estimated Life (hours)	2000		
Probability of Failure in forecast period	61.3 %		
Short term Probability (14 day)	5.7 %		
Risk Estimate (Forecast Period)	\$6128	CoAF	\$10000

Factors | Discriminants | MTTF

Reduced machine life caused by excessive dynamic loads!

Bearing service recommended



Bearing LifeGuard[®]

Determines:

Bearing Information for AssemblyID = [BRG 5]

Settings | Processed Data | Reading: 5 | Spectrum

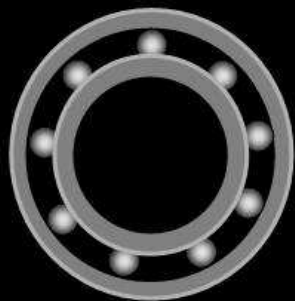
Timestamp = 10/16/2006 9:14:15

Forecast period (days)	90	3600
Estimated MTTF (hours)	2236	
Estimated Life (hours)	2236	
Probability of Failure in forecast period	61.3 %	
Short term Probability (14 day)	5.7 %	
Risk Estimate (Forecast Period)	\$6128	CoAF \$10000

Factors | Discriminants | MTTF

Probability of failure within a pre-determined period of time

Bearing service recommended



Bearing LifeGuard[®]

Measures:

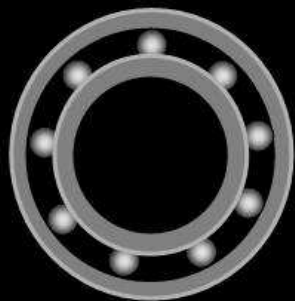
Current financial risk as a function of cost of unscheduled failure or scheduled repair.

Parameter	Value
Timestamp	10/16/2012
Forecast period (days)	30
Estimated MTTF (hours)	2236
Estimated Life (hours)	2236
Probability of Failure in forecast period	61.3 %
Short term Probability (14 day)	5.7 %
Risk Estimate (Forecast Period)	\$6128
CoAF	\$10000

FINANCIAL RISK EXCEEDS COST OF REPAIR.

Bearing service recommended

Factors | Discriminants | MTF



Bearing LifeGuard[®]

Recommends:

Bearing Information for AssemblyID = [BRG 5]

Settings | Processed Data | Reading: 5 | Spectrum

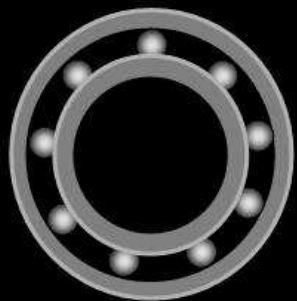
Timestamp = 10/16/2006 9:14:15

Forecast period (days)	90	RPM	1000
Estimated MTTF (hours)	2236		
Estimated Life (hours)	2236		
Probability of Failure in forecast period	61.3 %		
Short term Probability (14 day)	5.7 %		
Risk Estimate (Forecast Period)	\$6128	CoAF	\$10000

Factors | Discriminants | MTTF

Corrective action

Bearing service recommended



Bearing LifeGuard[®]

Finds Machines with:

Review Latest Warnings

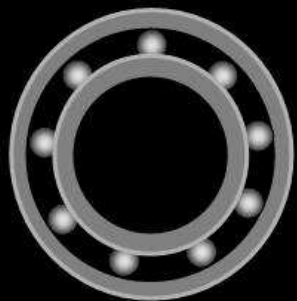
Forecast period (days)	90
Probability of Failure in forecast period	50.0
DFF Level	3.0
\$ Value	15,000

Search

High Probability of Failure!

High Dynamic Forces!

High Financial Risk!

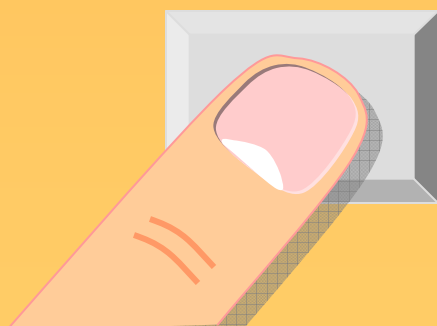


Bearing LifeGuard[®]

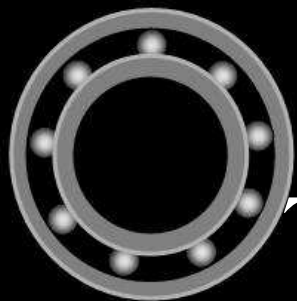
Does it for you:

Gives immediate information

- Financial Risk vs. time
- Equipment Life vs. time
- Mean Time To Failure
- Dept. 'A' vs. Dept. 'B'
- Diagnostic trends



...at the touch of a button!

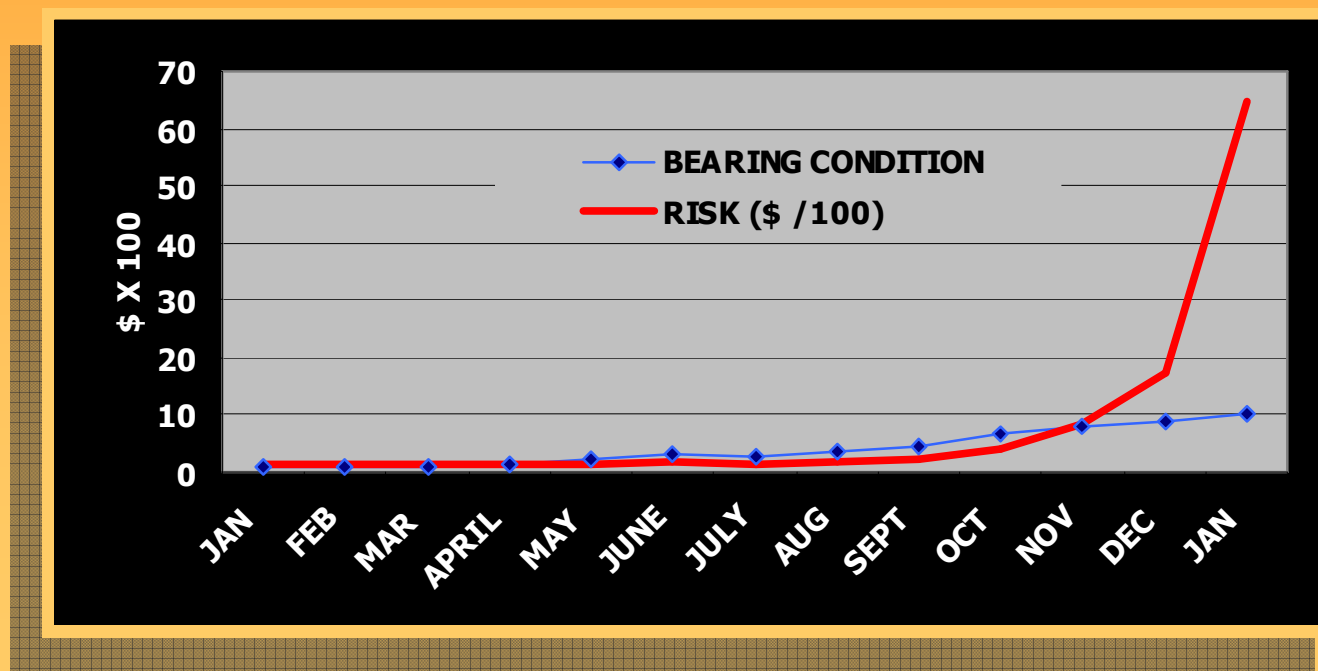


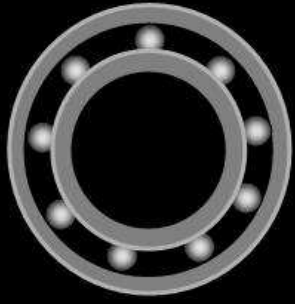
Bearing LifeGuard[®]

Takes PdM to a new level:

Gives advanced information

Financial Risk vs. Condition

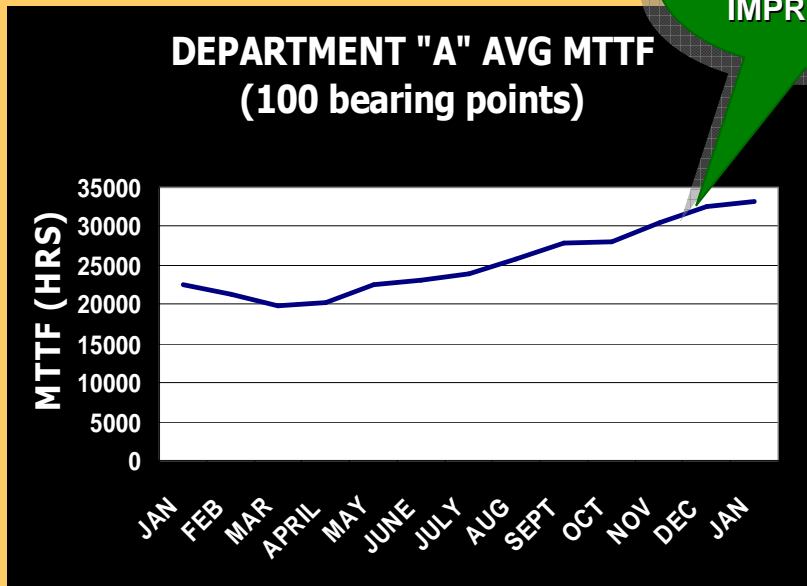




Bearing LifeGuard[®]

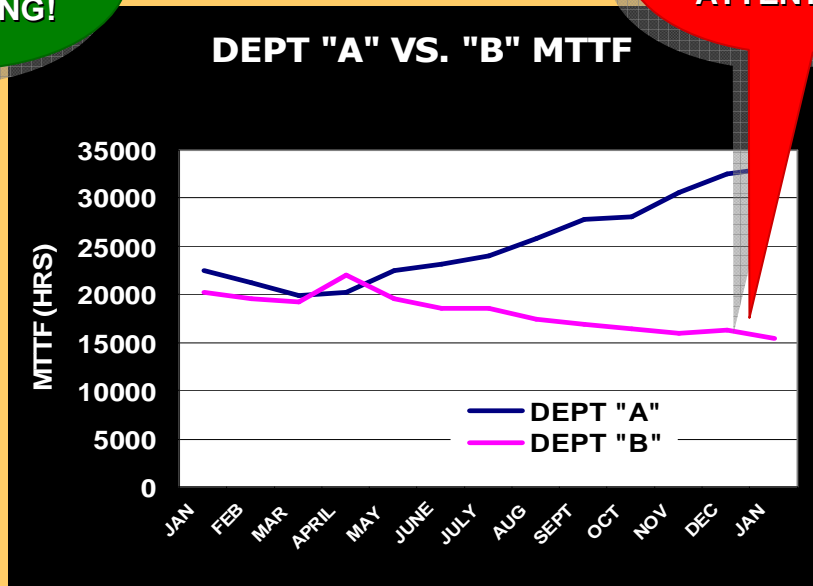
Delivers better metrics:

Data suitable for trending



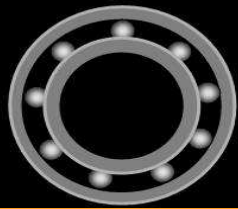
DEPT. "A"
IS
IMPROVING!

ONE DEPARTMENT



DEPT. "B"
NEEDS
ATTENTION!

BENCHMARKING
TWO DEPARTMENTS



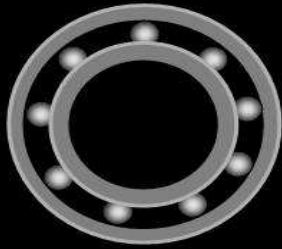
Bearing LifeGuard©

Recommends:

Bearing Analysis-Do's & Don'ts.

- Hand Held Probe-----**Don't!**
- Horseshoe Magnet-----**Don't!**
- Mount on bracket-----**Don't!**
- Mount on motor shell-----**Don't!**
- Bonded mount----**Caution! (Contact Tech support.)**
- Super Magnet—**use thin film of silicone grease on stud mounted machined bushing -----OK!**
- Properly stud mounted accelerometer with thin film of silicone grease.----**Best!**
- Mount on bearing housing near load zone----**Best!**

See the Four Step Tutorial on the web site.



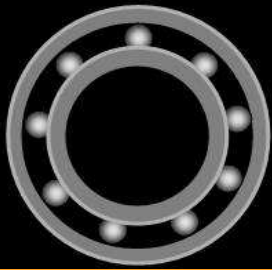
Bearing LifeGuard©

Recommends:

IMPORTANCE OF ACCELEROMETER MOUNTING IN OBTAINING RELIABLE BEARING DATA.

- The use of stud mounted accelerometers is recommended -20 kHz *fn*-for good high frequency response.
- Do not use hand probes! (See next slide.)
They are not repeatable and filter out high frequencies.
- Do not use horseshoe magnets.
They are only useful for measurement of balance, alignment and low frequency bearing components.
- Use only carefully bonded accelerometers.
Difficult to verify quality of a bond. (Check Tech Support.)

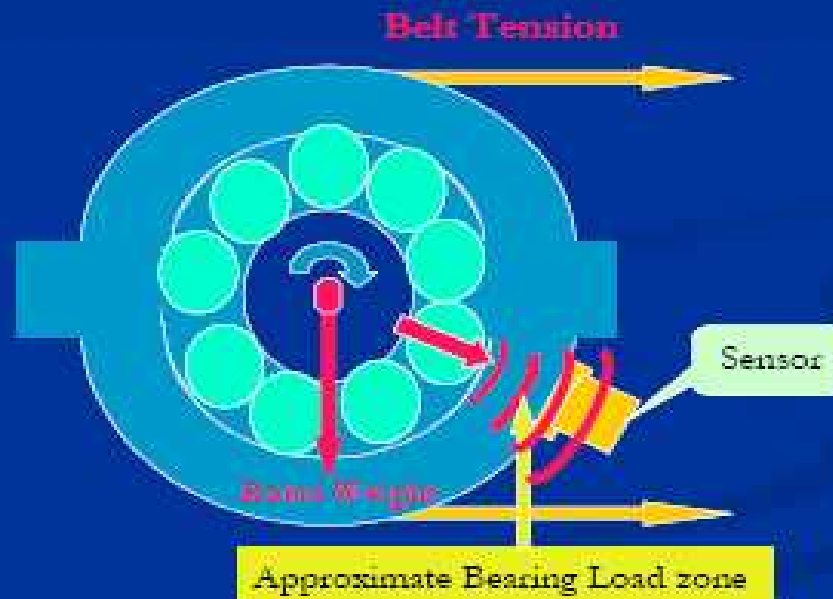
See the Four Step Tutorial on the web site.

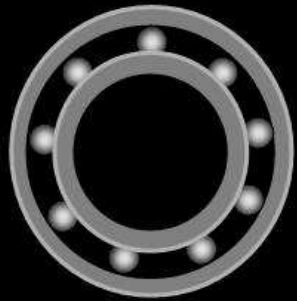


Bearing LifeGuard©

Recommends:

Mount Sensor Close to Load Zone.





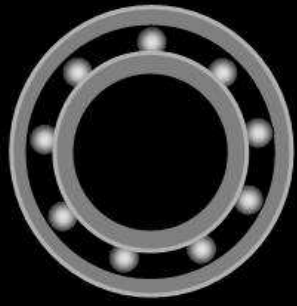
Bearing LifeGuard[®]

Suitable for:

- ✓ **Monthly Reports**
- ✓ **Dashboard Reports**
- ✓ **CMMS Integration**
- ✓ **Commissioning**
- ✓ **Facility Audits**



**... move PdM beyond diagnostics
and into financial management!**

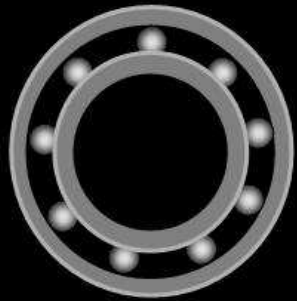


Bearing LifeGuard[®]

Proven technology:

Industry-accepted analysis

1. High Frequency acceleration
2. Peak acceleration
3. Crest Factor
4. Kurtosis
5. Envelope Demodulation
6. Dynamic Force level



Bearing LifeGuard[®]

Simple to use:

Data collection fast and easy

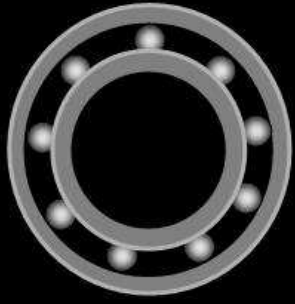
1. Service person can collect data with handheld collector during a routine visit and...
2. Get answers on the spot and if there is trouble...
3. Upload to central PC for detailed analysis or...
4. Bring tablet on site to collect data and do complete evaluation and analysis.



MDA-3 400 HANDHELD



MDA-3 100 TABLET



Bearing LifeGuard[®]

Simple to analyze:

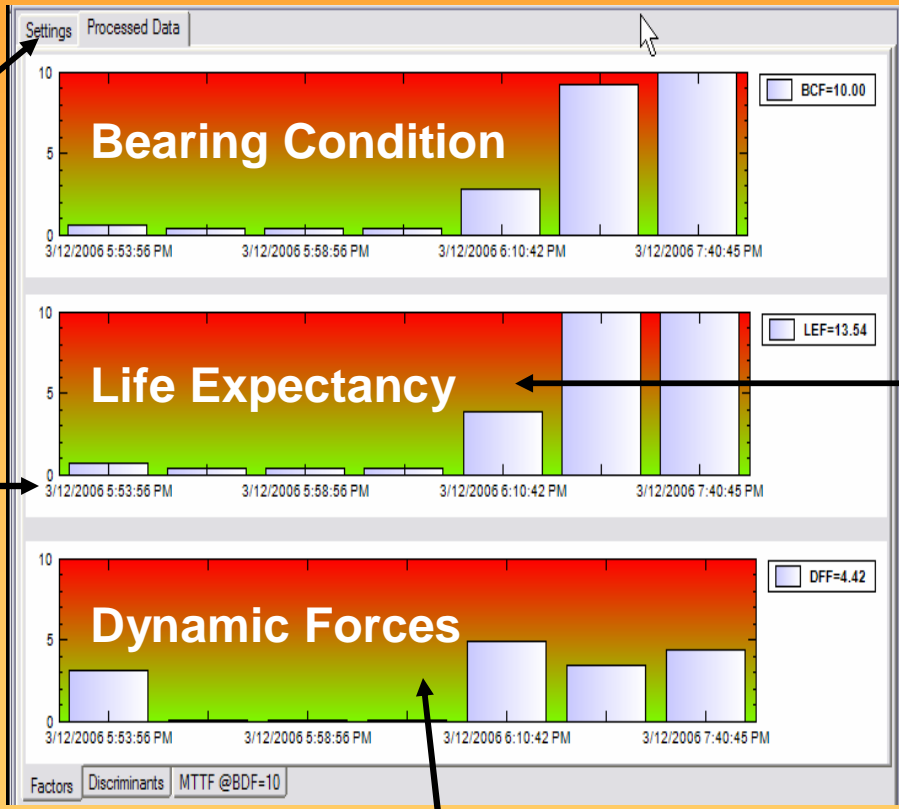
Data concentration for quick analysis

Selectable readings

- Last 5
- Last 14
- Last 24
- All prev

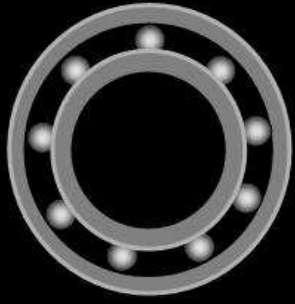
Date & Time

Intuitive Scale
<0.5 Optimum
>10 Near Failure



Color coded
GREEN - Optimum
YELLOW - Caution
RED - Danger

Click on graph to expand

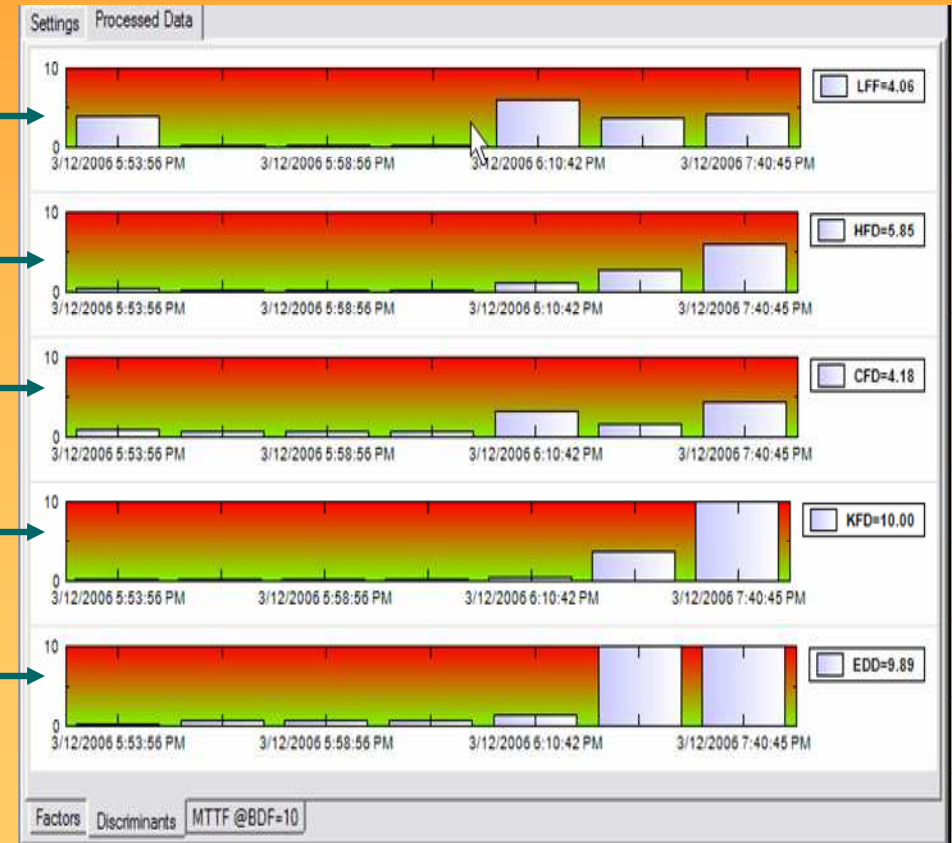


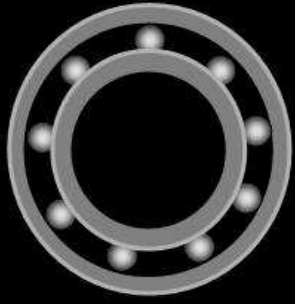
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Simple to drill-down:

Data concentration for deeper analysis

- **LOW FREQUENCY (LFF)** →
Imbalance, misalignment
- **HIGH FREQUENCY (HFD)** →
Surface roughness
- **CREST FACTOR (CFD)** →
Peak impacts/surface roughness
- **KURTOSIS FACTOR (KFD)** →
Surface roughness and impacts
- **ENVELOPE DETECTION (EDD)** →
Short duration impacts.

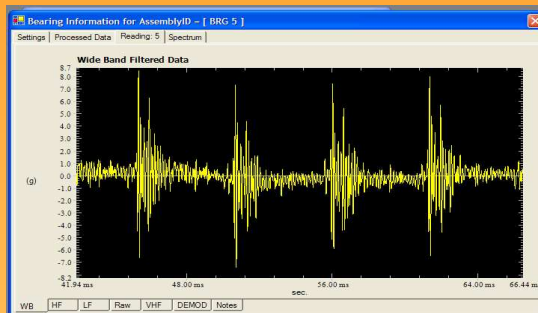




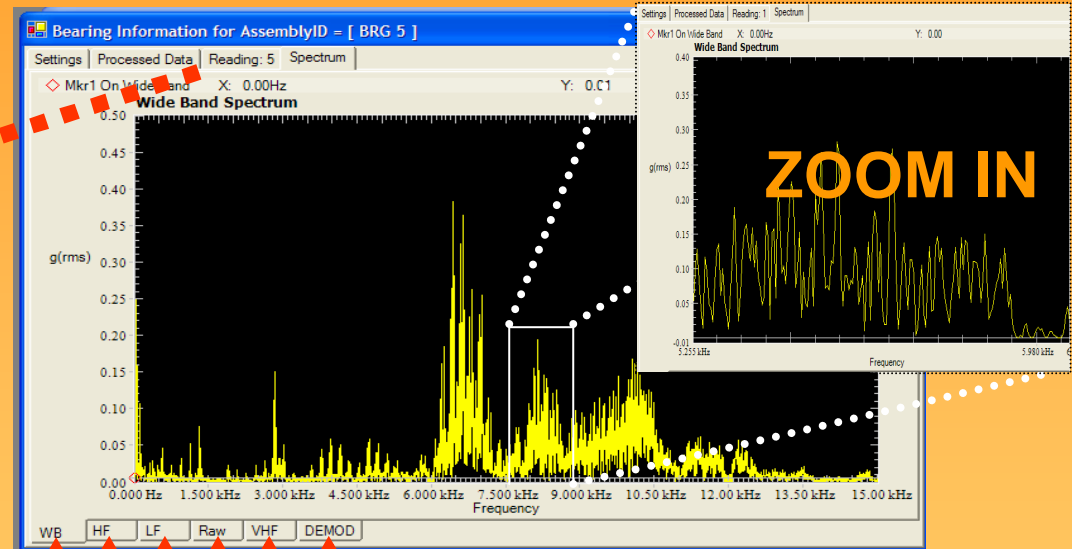
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Robust:

Spectra available for confirmation



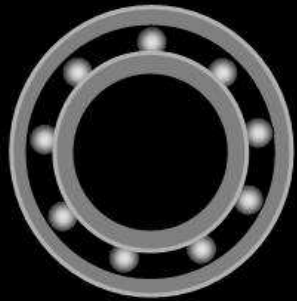
**Time Waveform
Wide Band Display**



**Acceleration
Wide Band Display**

DISPLAY OPTION TABS

- 3 Hz to 15 k Hz
- 4 x rotational to 15 kHz
- 3 Hz to 4x Rotational
- Raw unfiltered input < 40 kHz
- 15kHz to 40 kHz
- Demodulated spectra < 1kHz



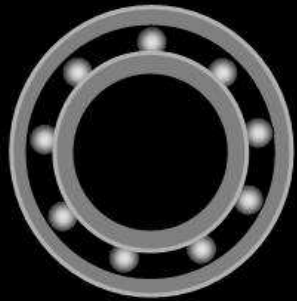
Bearing LifeGuard[®]

Supported:

How to analyze your data

1. Use the built in analysis capability
2. Transfer data to your own consultant.
3. Contact support:

techsupport@bearinglifeguard.com



Bearing LifeGuard[®]

Appreciates your interest:

If you need more information

website: www.bearinglifeguard.com

email: sales@bearinglifeguard.com

This information was last updated on
12-18-2006

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Patent# 6,763, 312, B1. Other Patents pending**