

Standard Mode

Standard mode is a powerful way of processing the minor clicks and crunches associated with the earliest stages of mechanical deterioration in machinery rotating down to ~ 35 rpm. dB Level and Distress® values take just 15 seconds and there's no need to enter any information about the machine (such as bearing type, size or number) or even shaft speed.

Usual interpretation :

Distress®	Interpretation
0-5	very good condition
5-10	satisfactory condition
10+	suspect condition

Distress® is so sensitive it will even detect inadequate lubrication giving you the opportunity to remedy the problem before any permanent damage has occurred.

Super Slo Mode

Super Slo mode makes quick work of sensitively monitoring machinery rotating as slowly as 0.25 rpm (4 minutes per rev !). The only information needed is the number of seconds per revolution and the patented Super Slo method does the rest.

In just 9 revolutions you'll get the dB Level, Peak, Intensity and Extent® signal characterisations. Each of these has its role to play but for spreading damage (the most usual form of deterioration) it's the Extent reading that is the most powerful.

Usual interpretation :

Extent®	Interpretation
0-5	very good condition
5-10	satisfactory condition
10+	suspect condition

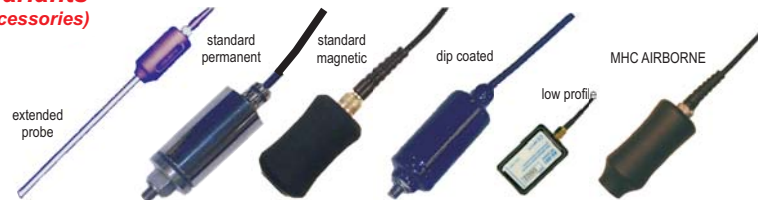
Capture Spectrum

When used in conjunction with the supplied AE Lab software, Capture Spectrum lets you view and analyse the envelope spectrum to reveal repetition (defect) frequencies. If, for example, you need to know whether its an inner race or outer race defect that's causing the increased Distress® then this is the feature for you. (Note : Capture Spectrum is only suitable for machinery rotating above 120 rpm.)

AutoLog

A time sequence up to 2340 of successive readings taken immediately one after the other. Can be a sequence of Standard mode or a sequence of Super Slo mode readings

● Sensor variants (optional accessories)



exclusive sales distributor for India, Bangladesh, Bhutan, Nepal and Sri Lanka

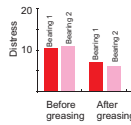


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Finding lubrication problems



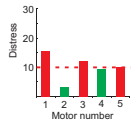
Distress readings are taken every month. When items are found with a value greater than 10 its time to re-grease. The reduction in Distress confirms the improvement. No need to know speed, bearing type etc.



Instant "health" checking



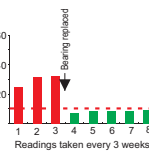
3 of the 5 motors have a Distress > 10. No need for calculations or previous machine knowledge - it's instant. Since re-greasing gave no improvement its clear there is permanent damage.



Confirming repair success



Measurements were taken to reveal a developing problem. When the bearing was replaced the reduced Distress value immediately confirms a successful repair.



Find leaks FAST !

Save energy & money! Simply plug the airborne sensor (optional accessory) into one of the portable products shown and listen on the headphones - you now have a sensitive leak detector for compressed air. Be surprised how quickly and easily you'll find leaks that you never knew were there.



see a video demonstration at www.holroyd-instruments.com/video.html

real life data shown in examples

Portable Products Guide

MHC-Instruments



- Quick and Easy to use
- Unparalleled detection capability
- Applicable to most rotating machines
- Rugged, Reliable & Field proven
- Standard mode down to 35 rpm
- Super Slo mode down to 0.25 rpm
- Data logging versions
- Several upgrade options

Introduction

The MHC (Machine Health Checker) portable instrument range is based on the detection of high frequency activity which is naturally generated by deterioration in rotating machinery. Our unique way of detecting and processing these signals gives you condition related information in the easiest possible form. Do not be misled by their speed of use and apparent simplicity, they are state of the art Condition Monitoring instruments with extreme sensitivity to developing faults. With thousands of MHC portables in use worldwide and countless successes on ball, roller, white metal and journal bearings, this is no hollow claim.

How do they work ?

As the mechanical condition of machinery deteriorates energy loss processes such as impacts, friction and crushing generate sound wave activity that spans a broad range of frequencies. By detecting only the high frequency part of this signal with special Acoustic Emission (AE) sensors it is possible to detect minuscule amounts of activity (e.g. a slight rub, a brief impact or the crushing of a single particle in the lubricant). The patented Holroyd Instruments sensor design gives improved repeatability and is remarkably rugged. With its magnetic front face it's also quick to use.

A crucial step is to process these signals so that faults can be easily detected at an early enough stage to allow maintenance actions to be planned but not to be constantly giving false alarms. This is where the Standard and Super Slo methods come into their own.

Headphones (with built-in ear defence) :

Irrespective of whether you are in Standard or Super Slo mode you can listen to the nature of the signals in the headphones. The special audio circuitry filters out normal vibrations and audible sounds to let you clearly hear rubs, impacts etc. as they happen. Different fault types sound like isolated clicks, once per rev scuffing or frying food. The combination of the headphones and the optional MHC-Airborne sensor provides a powerful detection capability for air and vacuum leaks.

How do MHC Instruments compare to Simple Vibration Meters ?

It is important not to confuse our MHC instruments with simple vibration meters. The high frequency detection of MHC instruments provides an inherently better Signal to Noise Ratio (SNR). It is this fundamental characteristic combined with our patented signal processing methods gives exceptional sensitivity to developing faults without the need to enter machine or bearing details.



Distress® increased from 4 to 26 however FFT Vibration MISSED this !!

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MHC-Instruments - Leaders in versatility, ease of use & instant interpretation



MHC - Classic
Instant Machine Health Checker

Based on the original MHC-Machine Health Checker, the MHC-Classic features Standard mode with a 4 measurement point hold and temporary store feature. Press the ON button, couple the magnetic sensor to the machine and you're away. It couldn't be easier. The Hold and Store function let's you compare readings on different machines (or parts of the same machine) to home in on the problem and the headphones are a great help in identifying the type of activity.



MHC - Classic Plus
Instant & Versatile Machine Health Checker

If you like the simplicity of the MHC-Classic but in addition to Standard mode you need Super Slo mode then the MHC-Classic Plus is simplicity itself. In addition the MHC-Classic Plus has a 32 measurement point non-volatile memory which is ideal for comparing Standard or Super Slo readings on similar machines or keeping track of developments on a machine of current concern.



MHC - Memo Lite
Simplified Data Collecting Machine Health Checker

If you need to keep records of Standard and Super Slo readings on a larger number of fixed machines but don't want to get bogged down on learning a high functionality software package then the MHC-Memo Lite is as simple as it gets. Its easy to compare current readings at a measurement point with previous values and even add new measurement points whilst on the shop floor. Its PC interface and basic software let you simply download readings look at them as a list and reveal all the historic readings for an individual measurement point. These can be easily exported to your familiar spreadsheet or notepad software. Each of the 300 measurement points can be named (up to 16 alphanumeric characters) and are memorised as Standard or Super Slo prior to the first measurement at a point.



MHC - Memo Pro
Route Mode Data Collector with PC Analysis Software

The MHC-Memo Pro is able to monitor an unlimited number of machines on a periodic basis. In addition to storing Standard and Super Slo modes within its walk around routes the MHC-Memo Pro can also store manually input values from any other device (e.g. a pressure gauge, kVA meter etc.). The MHC-Memo Pro can hold up to 6 routes at a time, each having up to 435 measurement points within a Site, Area, Machine & Point hierarchy. After download all readings are stored in a machine database in the supplied Analysis Pro software. The software incorporates features like Trend plots, Alarm Levels, Exception Reports, Missed Points List and User Notes. The addition of Capture Spectrum and AutoLog functions make the MHC-Memo Pro the ultimate tool for the Condition Monitoring specialist.

product comparison

FEATURE	Classic	Classic Plus	Memo Lite	Memo Pro
Headphones	X	X	X	X
Standard Mode	X	X	X	X
Super Slo mode	-	X	X	X
Manually Input measurements	-	-	-	X
Capture Spectrum (inc AE Lab S/W)	-	-	-	X
AutoLog	-	-	-	X
Measurement memory (Volatile)	4	-	-	-
Measurement memory (Non-Volatile)	-	32	300	2610
Naming Hierarchy within route	-	-	1 level	4 levels
Compare previous to current values	-	-	X	X
Real Time Clock	-	-	-	X
Sealed Membrane keypad	5 keys	10 keys	10 keys	10 keys
PC Interface	-	-	X	X
Basic software	-	-	X	-
Full Trend Analysis software	-	-	-	X

*refer to individual product data sheets for more information



accessory kit supplied at no extra cost

Features common to the range :

- Sensor Operating Temperature : 0 to +70 deg C
- Sensor Attachment : magnetic front face
- Instrument dynamic range : 92 dB (40,000 to 1) in 1 range
- Instrument Operating Temperature : 0 to +50 deg C
- Alphanumeric Display : 2 x 16 characters, LED backlight
- Backlight auto shut off : After 8 seconds
- Instrument auto shut off : After 8 minutes unused
- Headphones with built in ear defence
- Carry Case

- **Equal performance across the range**
- **Same rugged housing**
- **Simple interpretation**
- **Very fast in use**

NOTE : These products are not certified for use in Hazardous / Explosive environments