

VDS Diagnostics

Types of Diagnostics

Auto-diagnosis tools

- Machine builder
- Forcing Orders
- Machine Speed
- Baselines (Averages)

Auto diagnostic features come from the machine class. Machine class holds information such as machine elements (mechanical parts) forcing orders, speed/RPM and data collection points. Information on machine class construction can be found here: [VDS Machine Builder](#)

Alarms

Alarms are a tool directly tied to a measurement entry, the rms and crest factor values are manually set for the entry

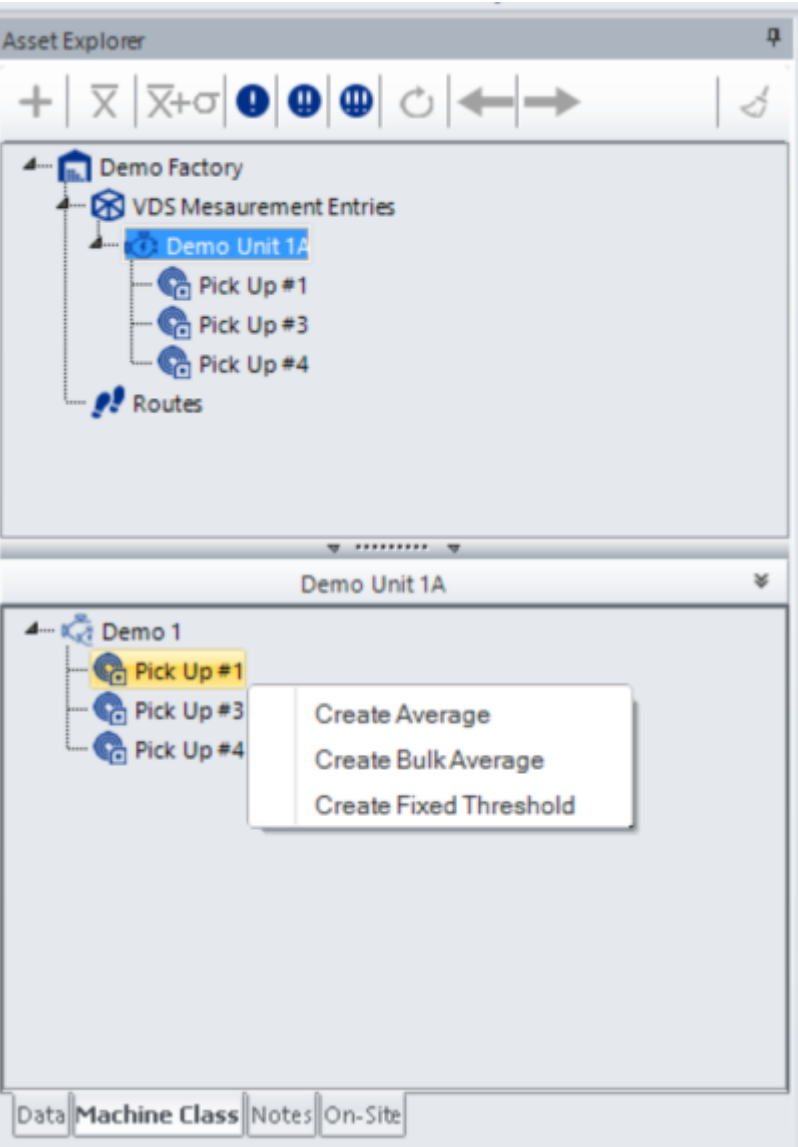
The screenshot shows the 'Measurement Entry' dialog box with the 'Alarm' tab selected. The dialog has tabs for 'Orientation', 'Parameter', 'Alarm', 'Sensor', and 'Data'. The 'Alarm' tab contains the following sections:

- Pick from the Alarm Library:** A text box with the instruction 'Pick an Alarm set up to fill in the values below. You will be able to modify the values.' and a button labeled 'Pick from the Alarm Library'.
- Link to the Alarm Library:** A text box with the instruction 'Link this entry to the selected Alarm set, such that any changes to the alarm set will be applied to this measurement entry.' and a checkbox labeled 'Link to Parameter Library'.
- Current alarm set:** A text box.
- Alarm Setup:** A section with two columns: 'Signal Level' and 'Crest Factor'. Each column has a 'Unit' dropdown (set to 'm/s' and 'RMS' respectively) and a table with three rows (Radial, Axial, Tangential) and three columns (Warn, Alarm, Danger). Each cell in the table contains a numeric input field.
- Save these setting in the Alarm Library:** A checkbox.
- Save the Setup:** A button.
- Make default for this point:** A checkbox.
- Ok** and **Cancel** buttons.

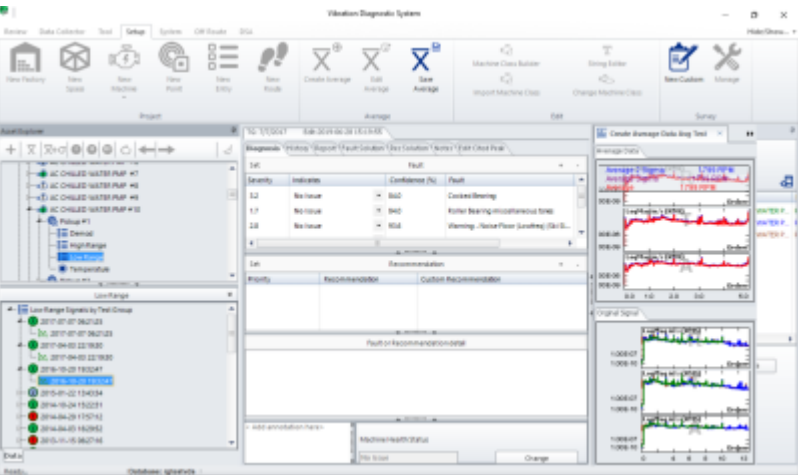
Fixed Thresholds & Baselines

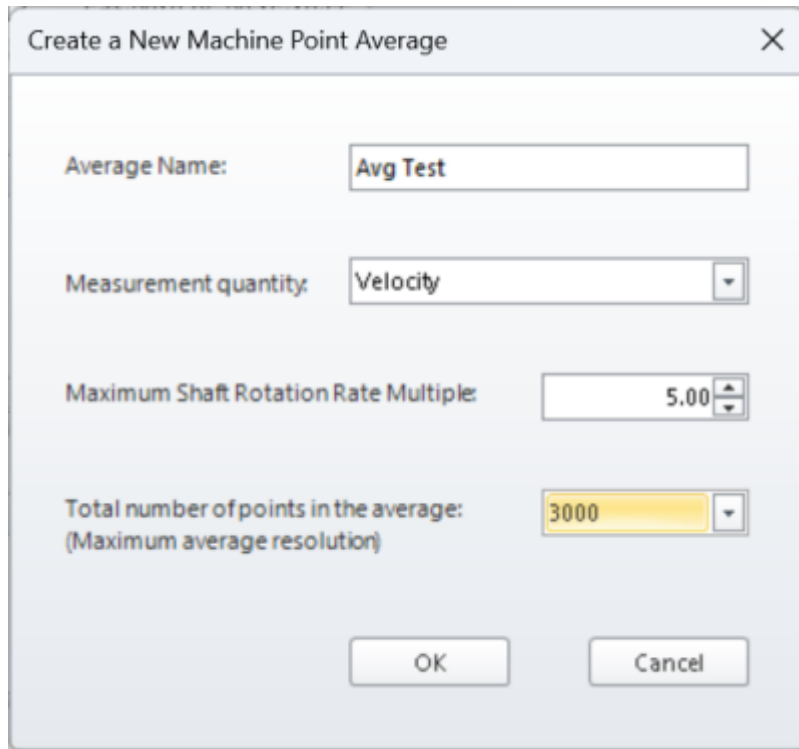
Creation

Fixed thresholds and baselines are both created by selecting a point or machine class in the asset explorer and then navigating to the machine class page in the data explorer. Then right click on the pickup point you would like to create the baseline for and select average for a baseline or fixed threshold for a fixed threshold.



To create an average/baseline you will need to give the average a name order and # of points.



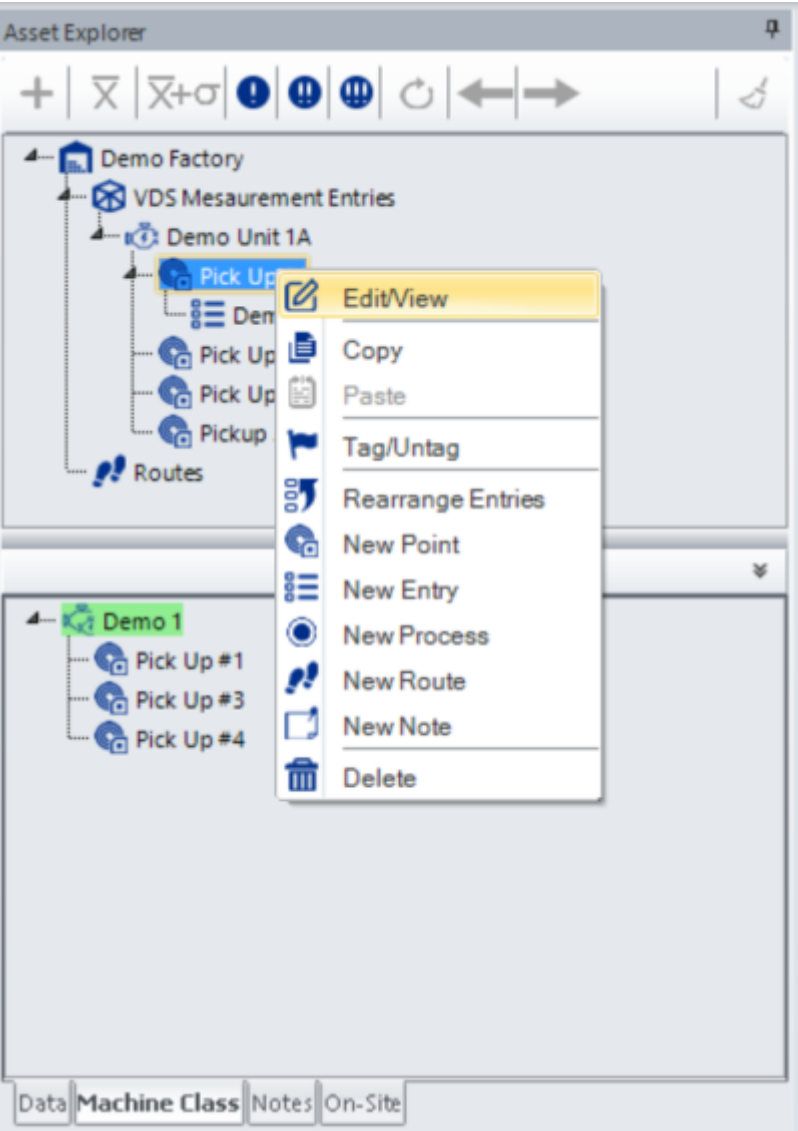


The image shows a dialog box titled "Create a New Machine Point Average" with a close button (X) in the top right corner. The dialog contains four input fields and two buttons at the bottom.

Field Label	Value
Average Name:	Avg Test
Measurement quantity:	Velocity
Maximum Shaft Rotation Rate Multiple:	5.00
Total number of points in the average: (Maximum average resolution)	3000

Buttons: OK, Cancel

You can attach the threshold or baseline to a pickup point by right clicking the pickup point in the asset explorer.



Point

Name:

Pick Up #1

Short Name

Description

Choose Averages and Fixed Thresholds

Notes

Averages

Click Modify to edit average or Right Click an average to Swap Average

Modify

Name	Frequency Span	Lines	Unit

Fixed Thresholds

Click Modify to edit fixed threshold

Modify

Name	Measurement Quantity	Threshold Type	Unit	Octave	Axis

☐ Apply to all tagged machines or points in Machine Class

☐ Apply to all machines in Machine Class

OK

Cancel

Diagnosis

Diagnostic information will be processed for the test group when route data is collected and uploaded to VDS if the option for auto-diagnostic processing is checked. Otherwise, the data can be processed by right clicking the data under the data explorer in selected point and clicking create diagnosis.

Report

Diagnostic information can be viewed in the review panel by selecting the View Diagnosis feature or by exporting the information from the tool page and selecting Diagnosis. Information includes fault diagnosis, severity, confidence interval, and recommended action

TG: 7/7/2017 Edit:2019-06-28 15:19:55

Diagnosis History Report Fault Solution Rec Solution Notes Edit Cited Peak

Set

Fault

Severity	Indicates	Confidence (%)	Fault
3.2	No Issue	84.0	Cocked Bearing
1.7	No Issue	84.0	Roller Bearing miscellaneous tones
2.8	No Issue	93.6	Warning - Noise Floor (Lowfreq) (Ski SL...

Set

Recommendation

Priority	Recommendation	Custom Recommendation
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Fault or Recommendation detail

< Add annotation here>

Machine Health Status

No Issue Change

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Diagnosis History Report Fault Solution Rec Solution Notes Edit Cited Peak

WATER SERVICE

BUILDING A

Machine: AC CHILLED WATER PMP #10

Serial Number:

Class: A/C CHL WTR PMP (388) OV

Test Group: 07/07/2017 06:21

Reference Shaft: 1787.07

Max Amplitude: Pickup #1 [T] 5.00x (149.06 Hz) 97.6% VDB [+3.61]

Health Status: No Issue

Recommendations:

No Recommendations

Diagnosis:

No Issue:	MOTOR BEARING	Cocked Bearing
No Issue:	MOTOR BEARING	Roller Bearing miscellaneous tones
No Issue:	MOTOR BEARING	Warning - Noise Floor (Lowfreq) (Ski Slope
No Issue:	MOTOR BEARING	Roller Bearing miscellaneous tones
No Issue:	MOTOR BEARING	Warning - Noise Floor (Lowfreq) (Ski Slope

Show Supporting Data

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