



History Report

Device Type: VSE153 - IP-Address: 172.142.0.21

Name	B.M. Obereith
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Asset Information

Asset Name	HVAC II RO EG 0.21
Manufacturer	
Model No.	VM2991
Year of Manufacture	01-Jan-1992
Last Service	21-Apr-2021
Op. Hours Since Last Service	4221 hr
Next Planned Service	04-Feb-2025
Application Type	fan
Application Power	< 300 kW
Foundation	rigid
ISO-Classification	0.0045
Measurement Reasons	
Machine Risk	





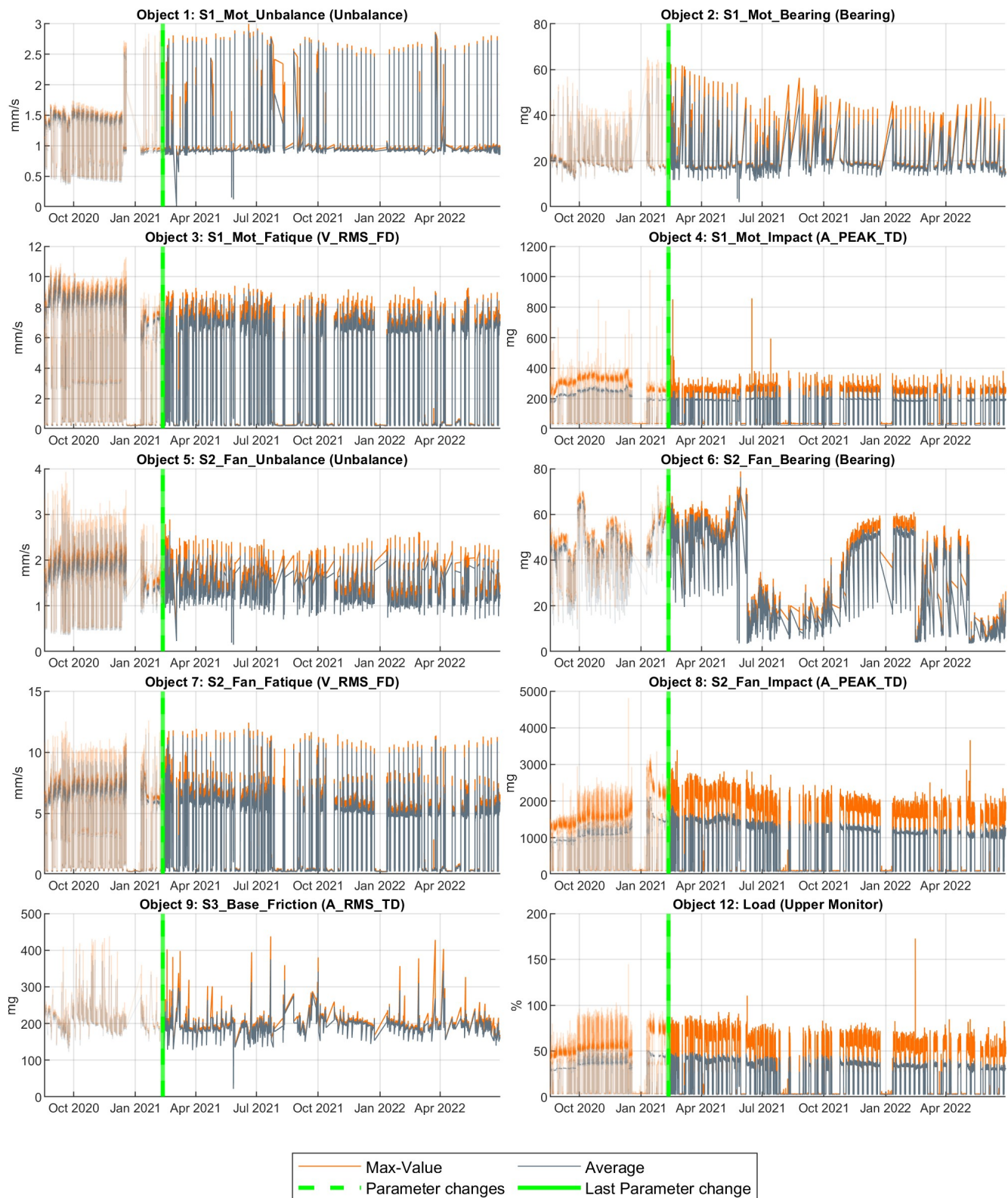
Overview Table

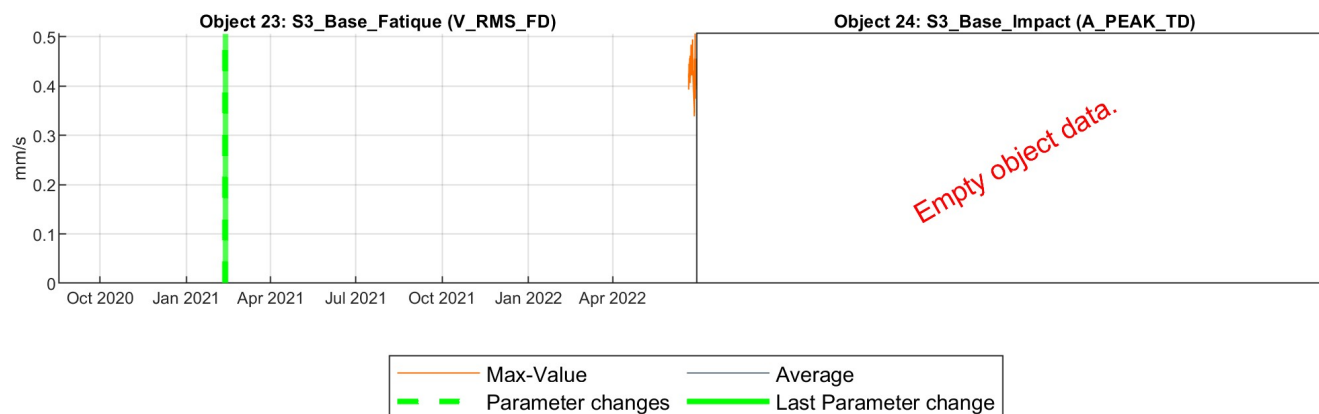
Object Information									Current Limits		Proposed Limits		
ID	Sensorname	ObjectType	ObjectName	History interval [hh:mm]	Avg	Rot	Ref	Unit	Current Warning	Current Alarm	Proposed Warning	Proposed Alarm	Data Validity
1	Sensor 1	Unbalance	S1_Mot_Unbalance	00:30	X	X		[mm/s]	4.5	7.1	1.7	2.2	✓
2	Sensor 1	Bearing	S1_Mot_Bearing	00:30	X	X		[mg]	250	450	50	70	✓
3	Sensor 1	V_RMS_FD	S1_Mot_Fatigue	00:30	X			[mm/s]	4.5	7.1	9.6	13.0	⚠
4	Sensor 1	A_PEAK_TD	S1_Mot_Impact	00:30	X			[mg]	2000	4000	400	550	✓
5	Sensor 2	Unbalance	S2_Fan_Unbalance	00:30	X	X		[mm/s]	4.5	7.1	2.4	3.3	✓
6	Sensor 2	Bearing	S2_Fan_Bearing	00:30	X	X		[mg]	250	450	130	170	⚠
7	Sensor 2	V_RMS_FD	S2_Fan_Fatigue	00:30	X			[mm/s]	4.5	7.1	8.8	11.9	⚠
8	Sensor 2	A_PEAK_TD	S2_Fan_Impact	00:30	X			[mg]	2000	4000	2800	3700	⚠
9	Sensor 3	A_RMS_TD	S3_Base_Friction	02:31	X	X		[mg]	2000	4000	250	340	⚠
12	Sensor 4	Upper Monitor	Load	00:30	X			[%]	85.0	95.0	-	-	⚠
23	Sensor 3	V_RMS_FD	S3_Base_Fatigue	00:30		X		[mm/s]	4.5	7.1	0.9	1.2	⚠
24	Sensor 3	A_PEAK_TD	S3_Base_Impact	N/A				[mg]	0	0	-	-	⚠

✓ OK: data valid, proper proposed limits ⚠ Warning: data suspicious, use proposed limits with caution ⚠ Error: data invalid, no limit proposal possible



Object History Overview







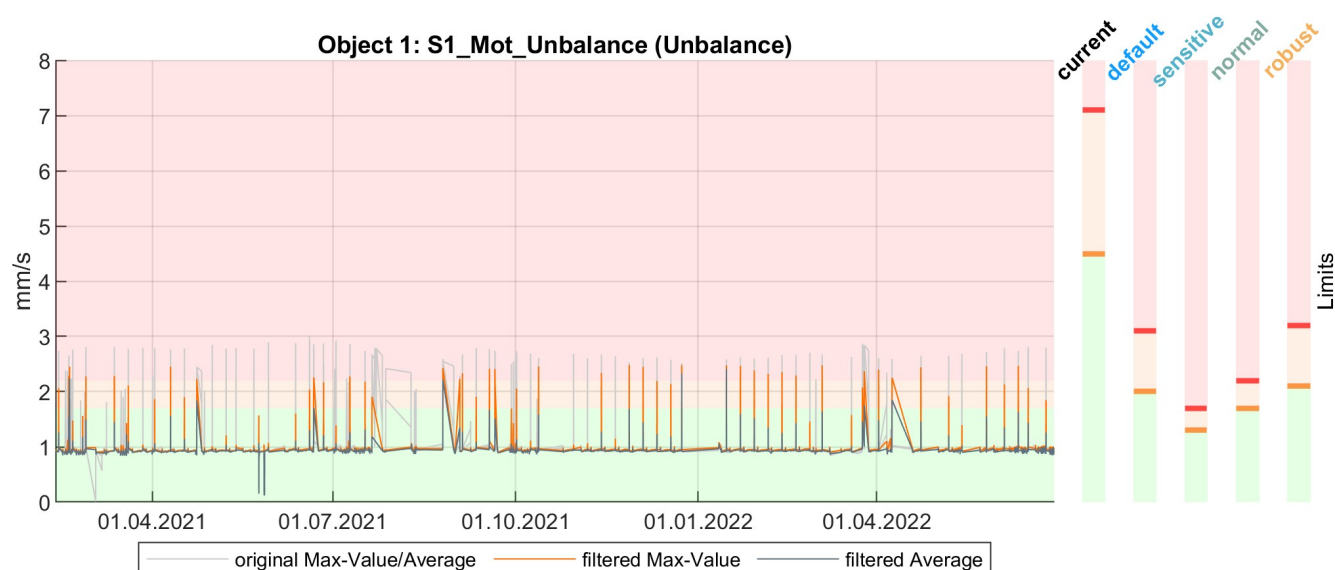
General Messages

- **Recommendation to add a speed or process value information:**
Add a speed or reference information for the Sensor(s) 'Sensor 4' to increase the runtime filter performance of this machine on the measurement point(s).
- **History setting improvement required: high history storage interval:**
History interval of object 9 (S3_Base_Friction) seems insufficient and may significantly reduce the runtime filter quality. An increase of the history interval is recommended. Recommended history interval: 30 mins.



Object ID 1

Object ID	1
Object Name	S1_Mot_Unbalance
Object Type	Unbalance
Sensor Name	Sensor 1
Unit	[mm/s]
History Interval	30 min/sample
History Duration	680 days (17559 samples)
History Duration since Parameter Change	503 days (12587 samples) (11.02.21 - 29.06.22)
Estimated OEE	51.3 % detected runtime



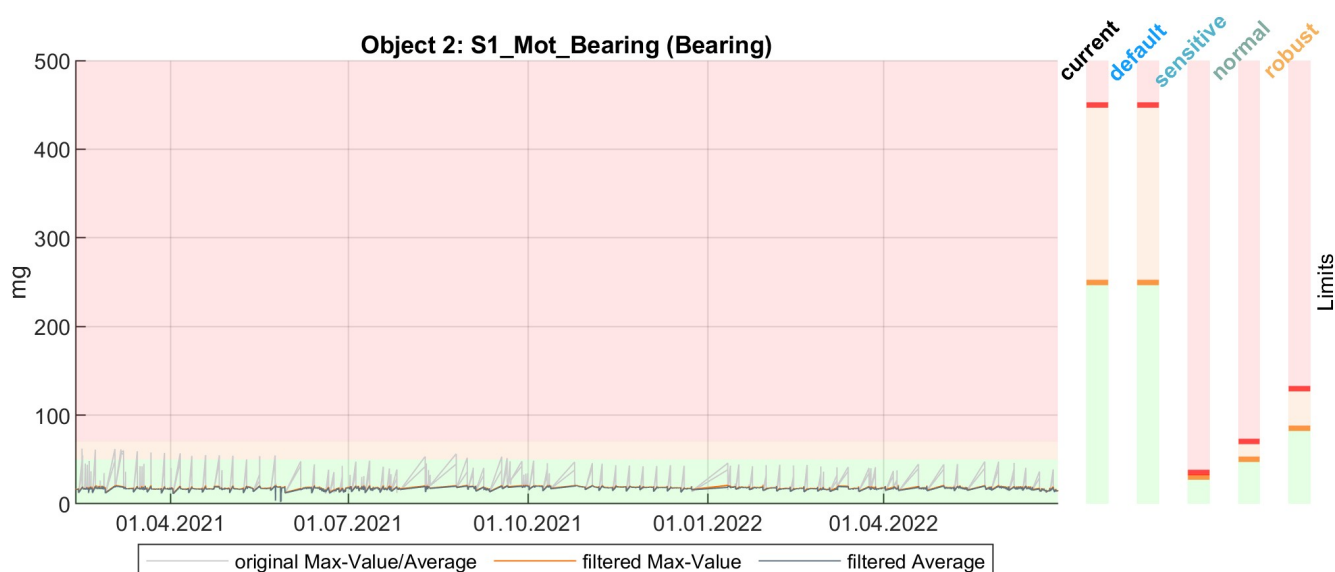
		Limits		Violations		
		Value	Unit	Count	Percentage	Composition
Current Limits	Warning	4.5	[mm/s]	0	0.0 %	
	Alarm	7.1	[mm/s]	0	0.0 %	
Default Limits	Warning	2.0	[mm/s]	344	2.7 %	
	Alarm	3.1	[mm/s]	0	0.0 %	
Sensitive Limits	Warning	1.3	[mm/s]	404	3.2 %	
	Alarm	1.7	[mm/s]	372	3.0 %	
Normal Limits	Warning	1.7	[mm/s]	372	3.0 %	
	Alarm	2.2	[mm/s]	322	2.6 %	
Robust Limits	Warning	2.1	[mm/s]	331	2.6 %	
	Alarm	3.2	[mm/s]	0	0.0 %	





Object ID 2

Object ID	2
Object Name	S1_Mot_Bearing
Object Type	Bearing
Sensor Name	Sensor 1
Unit	[mg]
History Interval	30 min/sample
History Duration	680 days (17554 samples)
History Duration since Parameter Change	503 days (12581 samples) (11.02.21 - 29.06.22)
Estimated OEE	51.3 % detected runtime



		Limits		Violations		
		Value	Unit	Count	Percentage	Composition
Current Limits	Warning	250	[mg]	0	0.0 %	
	Alarm	450	[mg]	0	0.0 %	
Default Limits	Warning	250	[mg]	0	0.0 %	
	Alarm	450	[mg]	0	0.0 %	
Sensitive Limits	Warning	30	[mg]	151	1.2 %	
	Alarm	35	[mg]	125	1.0 %	
Normal Limits	Warning	50	[mg]	27	0.2 %	
	Alarm	70	[mg]	0	0.0 %	
Robust Limits	Warning	85	[mg]	0	0.0 %	
	Alarm	130	[mg]	0	0.0 %	

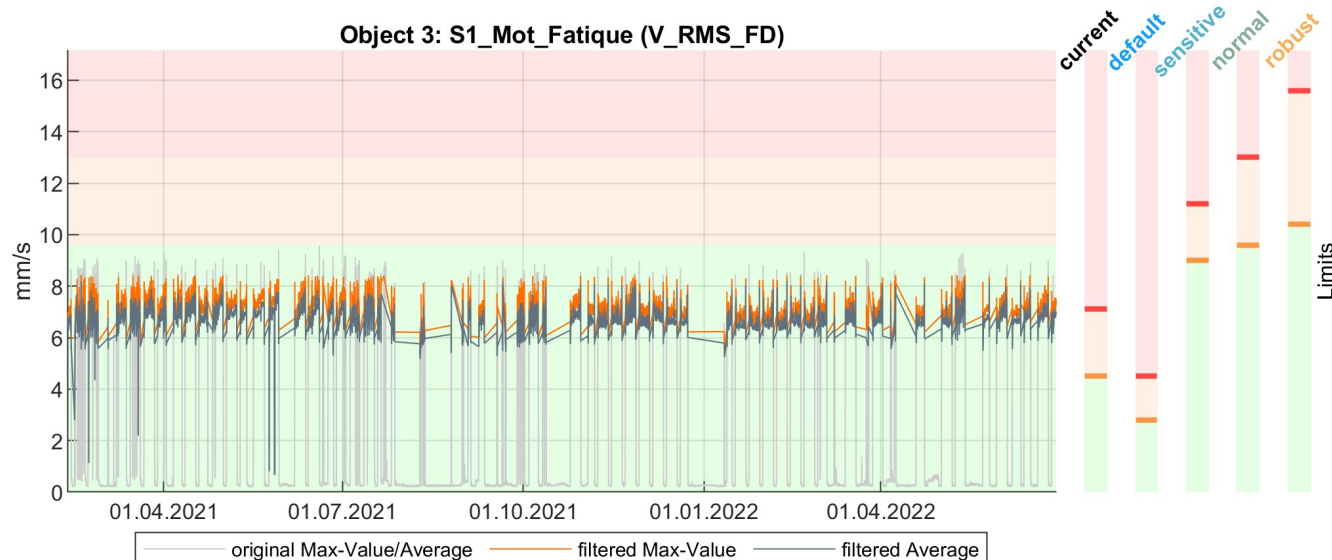




Object ID 3

Warning present!

Object ID	3
Object Name	S1_Mot_Fatigue
Object Type	V_RMS_FD
Sensor Name	Sensor 1
Unit	[mm/s]
History Interval	30 min/sample
History Duration	680 days (32579 samples)
History Duration since Parameter Change	503 days (24111 samples) (11.02.21 - 29.06.22)
Estimated OEE	51.3 % detected runtime



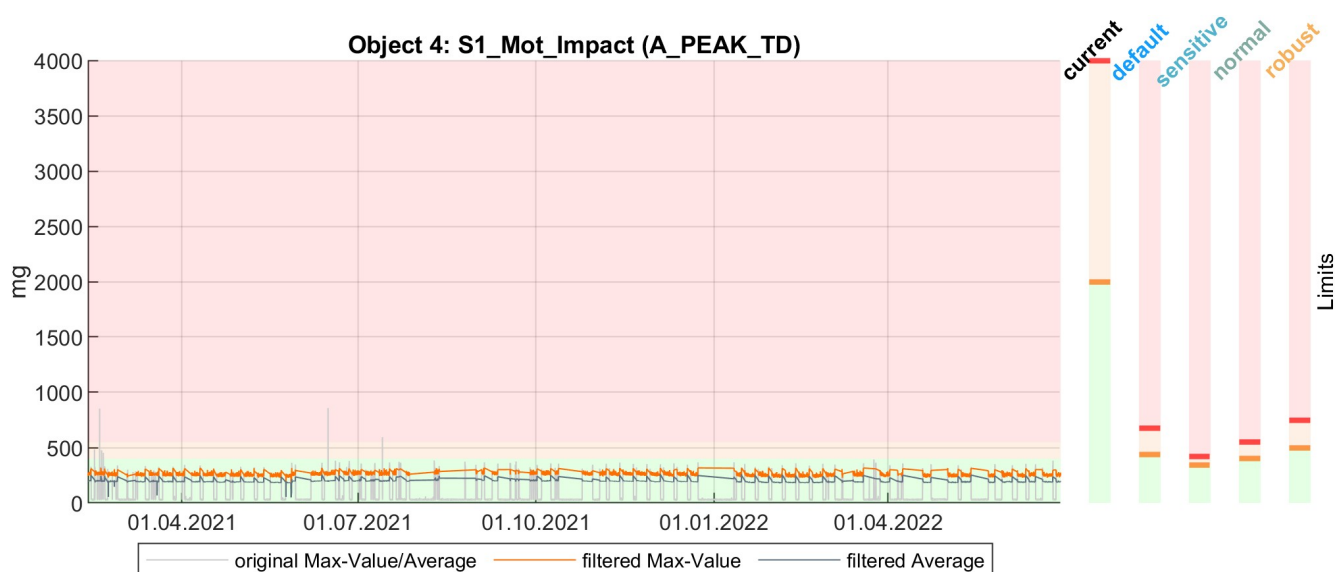
		Limits		Violations		
		Value	Unit	Count	Percentage	Composition
Current Limits	Warning	4.5	[mm/s]	12565	52.1 %	
	Alarm	7.1	[mm/s]	6137	25.5 %	
Default Limits	Warning	2.8	[mm/s]	12573	52.1 %	
	Alarm	4.5	[mm/s]	12565	52.1 %	
Sensitive Limits	Warning	9.0	[mm/s]	36	0.1 %	
	Alarm	11.2	[mm/s]	0	0.0 %	
Normal Limits	Warning	9.6	[mm/s]	0	0.0 %	
	Alarm	13.0	[mm/s]	0	0.0 %	
Robust Limits	Warning	10.4	[mm/s]	0	0.0 %	
	Alarm	15.6	[mm/s]	0	0.0 %	





Object ID 4

Object ID	4
Object Name	S1_Mot_Impact
Object Type	A_PEAK_TD
Sensor Name	Sensor 1
Unit	[mg]
History Interval	30 min/sample
History Duration	680 days (32579 samples)
History Duration since Parameter Change	503 days (24111 samples) (11.02.21 - 29.06.22)
Estimated OEE	51.3 % detected runtime



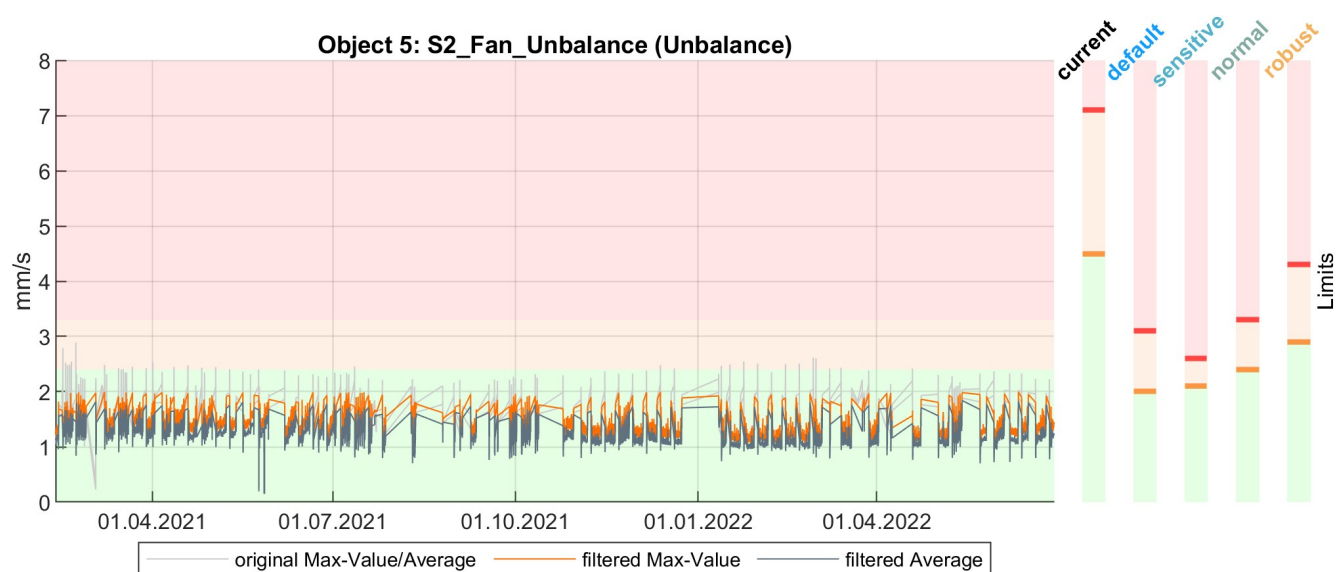
		Limits		Violations		
		Value	Unit	Count	Percentage	Composition
Current Limits	Warning	2000	[mg]	0	0.0 %	
	Alarm	4000	[mg]	0	0.0 %	
Default Limits	Warning	440	[mg]	6	0.0 %	
	Alarm	675	[mg]	2	0.0 %	
Sensitive Limits	Warning	340	[mg]	164	0.7 %	
	Alarm	420	[mg]	6	0.0 %	
Normal Limits	Warning	400	[mg]	6	0.0 %	
	Alarm	550	[mg]	3	0.0 %	
Robust Limits	Warning	500	[mg]	3	0.0 %	
	Alarm	750	[mg]	2	0.0 %	





Object ID 5

Object ID	5
Object Name	S2_Fan_Unbalance
Object Type	Unbalance
Sensor Name	Sensor 2
Unit	[mm/s]
History Interval	30 min/sample
History Duration	680 days (17559 samples)
History Duration since Parameter Change	503 days (12585 samples) (11.02.21 - 29.06.22)
Estimated OEE	51.2 % detected runtime



		Limits		Violations		
		Value	Unit	Count	Percentage	Composition
Current Limits	Warning	4.5	[mm/s]	0	0.0 %	
	Alarm	7.1	[mm/s]	0	0.0 %	
Default Limits	Warning	2.0	[mm/s]	361	2.9 %	
	Alarm	3.1	[mm/s]	0	0.0 %	
Sensitive Limits	Warning	2.1	[mm/s]	246	2.0 %	
	Alarm	2.6	[mm/s]	6	0.1 %	
Normal Limits	Warning	2.4	[mm/s]	40	0.3 %	
	Alarm	3.3	[mm/s]	0	0.0 %	
Robust Limits	Warning	2.9	[mm/s]	0	0.0 %	
	Alarm	4.3	[mm/s]	0	0.0 %	

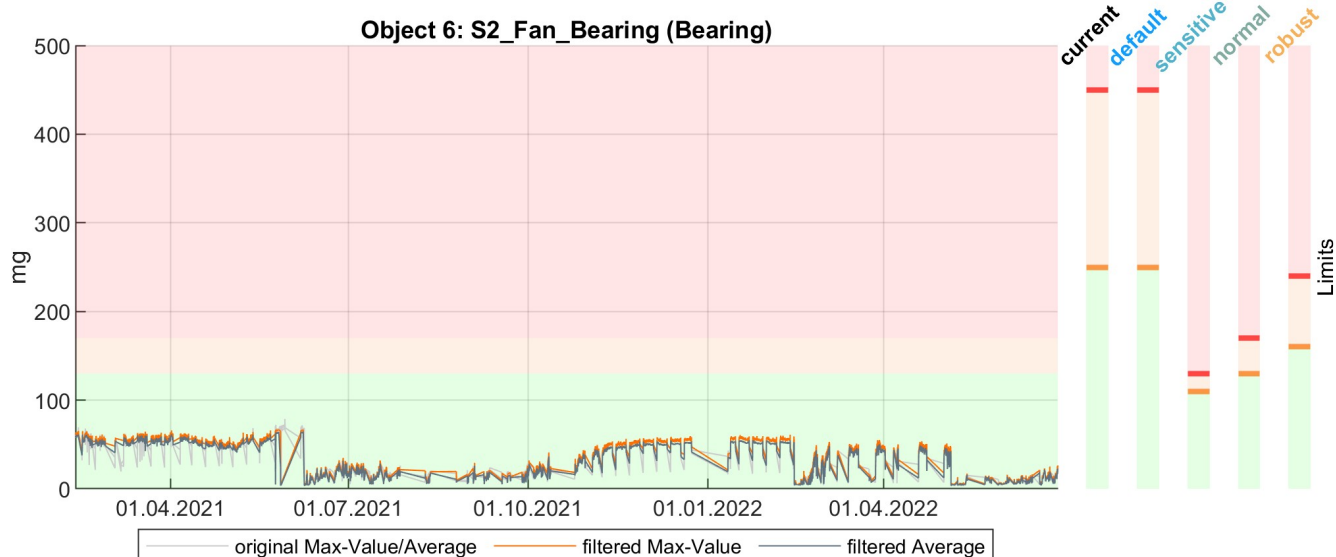




Object ID 6

Warning present!

Object ID	6
Object Name	S2_Fan_Bearing
Object Type	Bearing
Sensor Name	Sensor 2
Unit	[mg]
History Interval	30 min/sample
History Duration	680 days (17553 samples)
History Duration since Parameter Change	503 days (12581 samples) (11.02.21 - 29.06.22)
Estimated OEE	51.2 % detected runtime

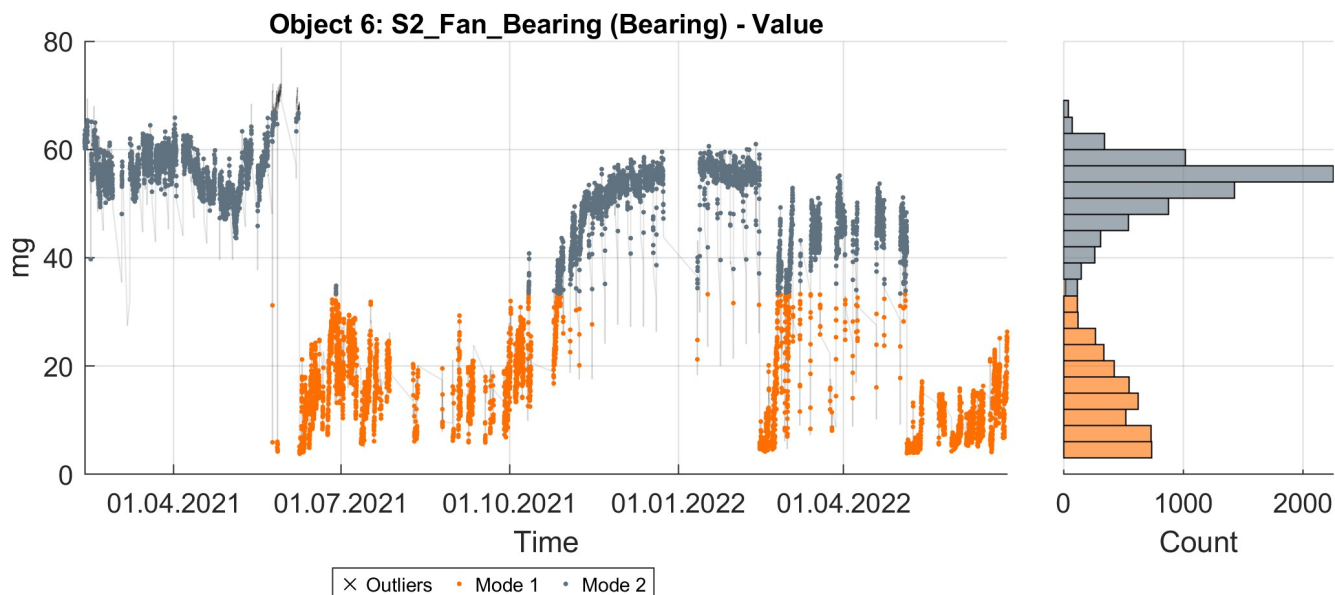


		Limits		Violations		
		Value	Unit	Count	Percentage	Composition
Current Limits	Warning	250	[mg]	0	0.0 %	
	Alarm	450	[mg]	0	0.0 %	
Default Limits	Warning	250	[mg]	0	0.0 %	
	Alarm	450	[mg]	0	0.0 %	
Sensitive Limits	Warning	110	[mg]	0	0.0 %	
	Alarm	130	[mg]	0	0.0 %	
Normal Limits	Warning	130	[mg]	0	0.0 %	
	Alarm	170	[mg]	0	0.0 %	
Robust Limits	Warning	160	[mg]	0	0.0 %	
	Alarm	240	[mg]	0	0.0 %	



Multiple Operation Modes found

Multiple clusters were found in analyzed data. The patterns suggests that the data does not originate from a single homogeneous operating state. Possible causes include different operating modes, abrupt changes in the operating conditions or trends within data. The proposed limits in the [Overview Table](#) are based on the highest detected operating mode, ensuring that the thresholds remain valid across all operating modes. The found modes are indicated in the graph below.



The time series of the provided data is shown on the left, while the corresponding data distribution is displayed on the right. The color coding and legend entries indicate the identified operating modes as well as any detected outliers.

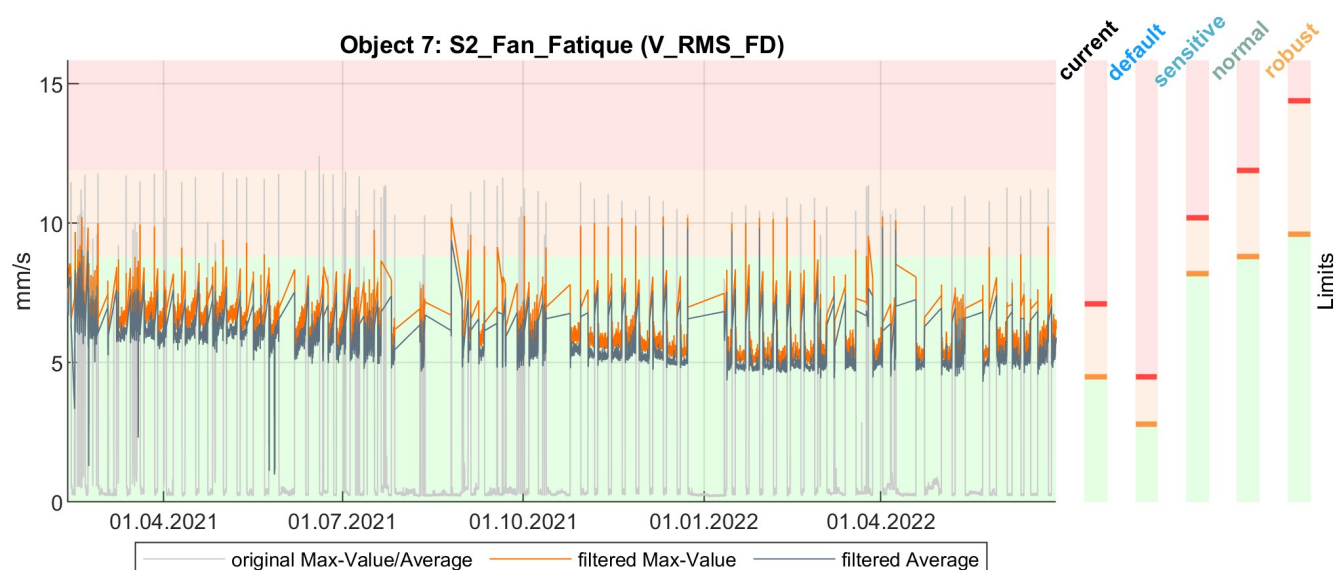




Object ID 7

Warning present!

Object ID	7
Object Name	S2_Fan_Fatigue
Object Type	V_RMS_FD
Sensor Name	Sensor 2
Unit	[mm/s]
History Interval	30 min/sample
History Duration	680 days (32579 samples)
History Duration since Parameter Change	503 days (24111 samples) (11.02.21 - 29.06.22)
Estimated OEE	51.2 % detected runtime



		Limits		Violations		
		Value	Unit	Count	Percentage	Composition
Current Limits	Warning	4.5	[mm/s]	12570	52.1 %	
	Alarm	7.1	[mm/s]	1247	5.2 %	
Default Limits	Warning	2.8	[mm/s]	12577	52.2 %	
	Alarm	4.5	[mm/s]	12570	52.1 %	
Sensitive Limits	Warning	8.2	[mm/s]	473	2.0 %	
	Alarm	10.2	[mm/s]	279	1.2 %	
Normal Limits	Warning	8.8	[mm/s]	353	1.5 %	
	Alarm	11.9	[mm/s]	2	0.0 %	
Robust Limits	Warning	9.6	[mm/s]	314	1.3 %	
	Alarm	14.4	[mm/s]	0	0.0 %	

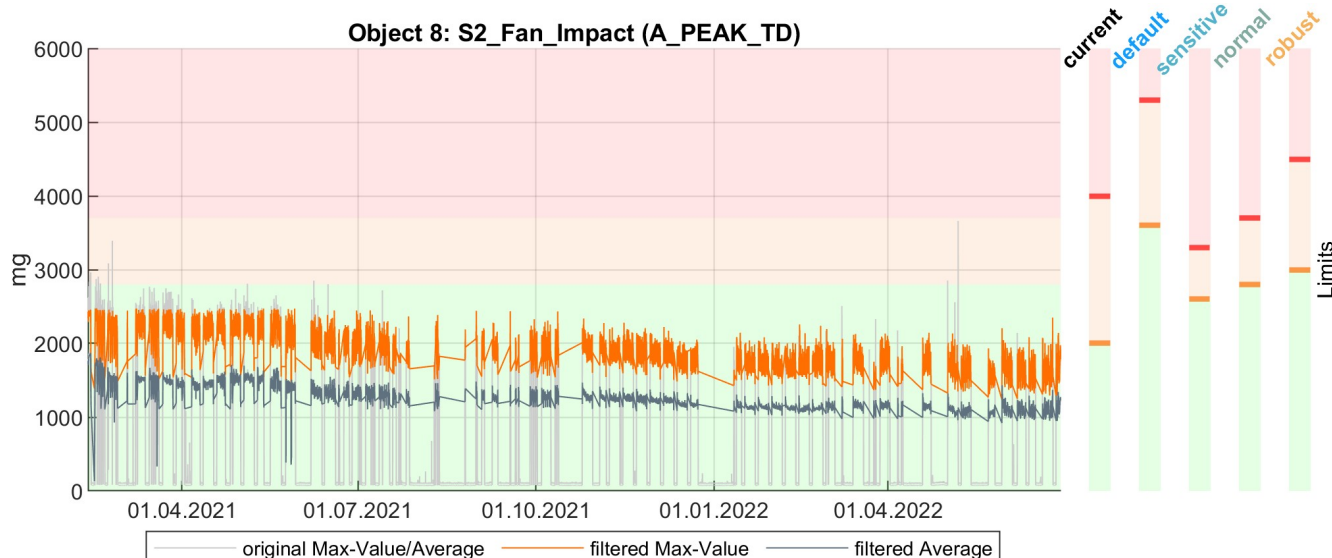




Object ID 8

Warning present!

Object ID	8
Object Name	S2_Fan_Impact
Object Type	A_PEAK_TD
Sensor Name	Sensor 2
Unit	[mg]
History Interval	30 min/sample
History Duration	680 days (32579 samples)
History Duration since Parameter Change	503 days (24111 samples) (11.02.21 - 29.06.22)
Estimated OEE	51.2 % detected runtime



		Limits		Violations		
		Value	Unit	Count	Percentage	Composition
Current Limits	Warning	2000	[mg]	4247	17.6 %	
	Alarm	4000	[mg]	0	0.0 %	
Default Limits	Warning	3600	[mg]	1	0.0 %	
	Alarm	5300	[mg]	0	0.0 %	
Sensitive Limits	Warning	2600	[mg]	82	0.4 %	
	Alarm	3300	[mg]	2	0.0 %	
Normal Limits	Warning	2800	[mg]	16	0.1 %	
	Alarm	3700	[mg]	0	0.0 %	
Robust Limits	Warning	3000	[mg]	3	0.0 %	
	Alarm	4500	[mg]	0	0.0 %	

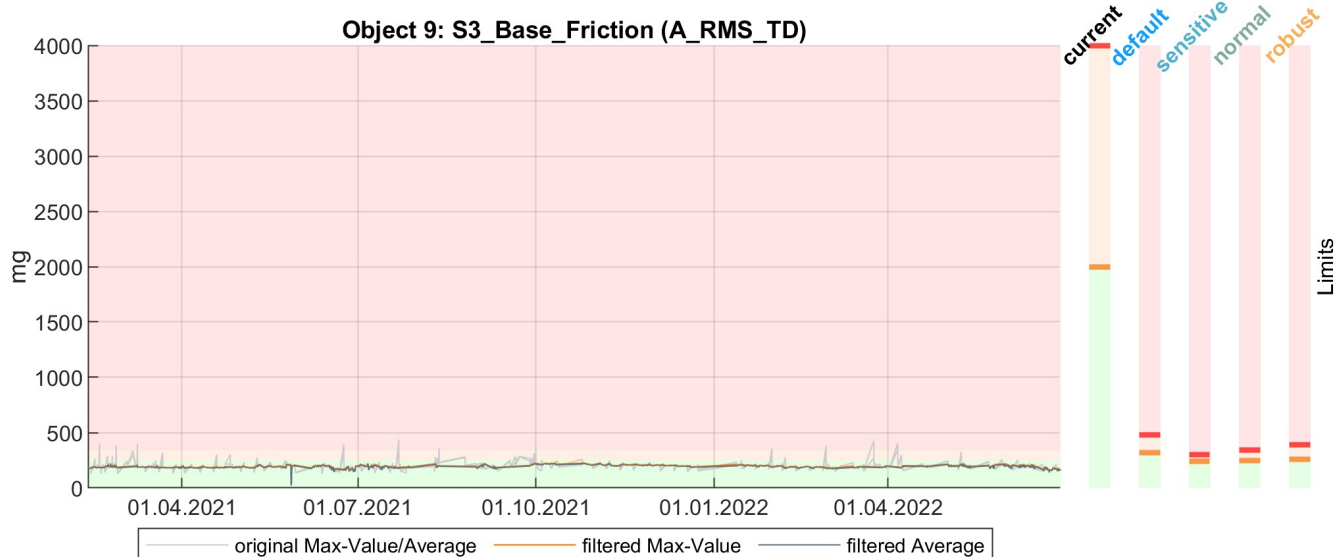




Object ID 9

Warning present!

Object ID	9
Object Name	S3_Base_Friction
Object Type	A_RMS_TD
Sensor Name	Sensor 3
Unit	[mg]
History Interval	151 min/sample
History Duration	680 days (3511 samples)
History Duration since Parameter Change	503 days (2516 samples) (11.02.21 - 29.06.22)
Estimated OEE	48.4 % detected runtime



		Limits		Violations		
		Value	Unit	Count	Percentage	Composition
Current Limits	Warning	2000	[mg]	0	0.0 %	
	Alarm	4000	[mg]	0	0.0 %	
Default Limits	Warning	320	[mg]	13	0.5 %	
	Alarm	480	[mg]	0	0.0 %	
Sensitive Limits	Warning	240	[mg]	60	2.4 %	
	Alarm	300	[mg]	17	0.7 %	
Normal Limits	Warning	250	[mg]	46	1.8 %	
	Alarm	340	[mg]	11	0.4 %	
Robust Limits	Warning	260	[mg]	33	1.3 %	
	Alarm	390	[mg]	6	0.2 %	

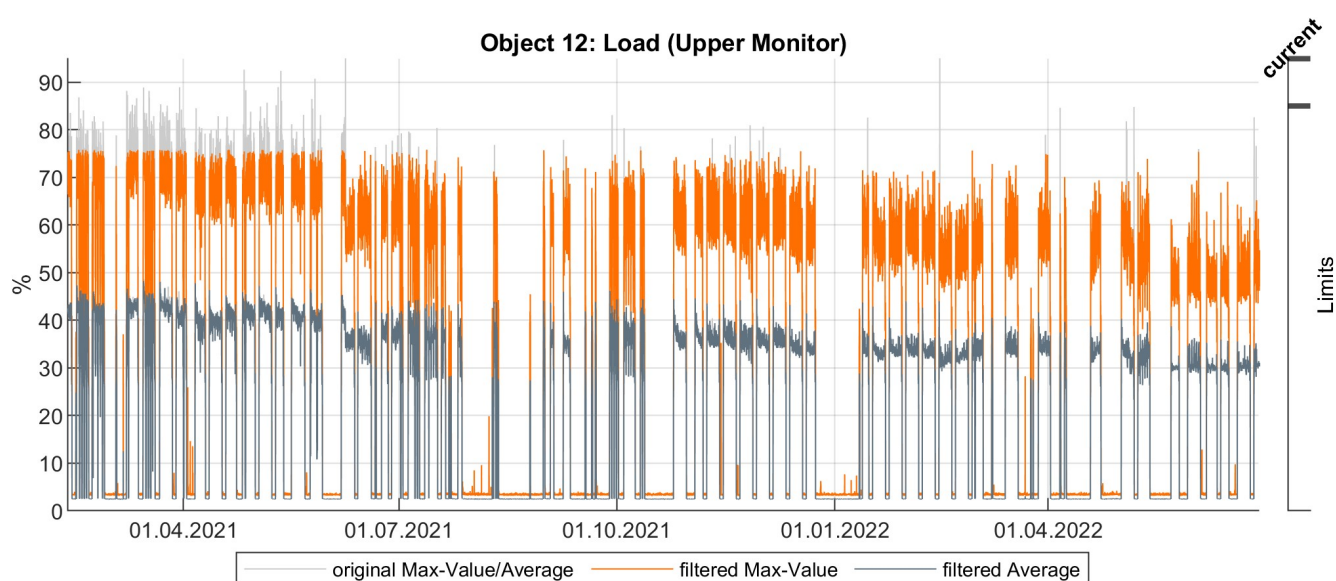




Object ID 12

RESULT INVALID!

Object ID	12
Object Name	Load
Object Type	Upper Monitor
Sensor Name	Sensor 4
Unit	[%]
History Interval	30 min/sample
History Duration	680 days (32579 samples)
History Duration since Parameter Change	503 days (24111 samples) (11.02.21 - 29.06.22)
Estimated OEE	100.0 % detected runtime



		Limits		Violations		
		Value	Unit	Count	Percentage	Composition
Current Limits	Warning	85	[%]	23	0.1 %	
	Alarm	95	[%]	2	0.0 %	



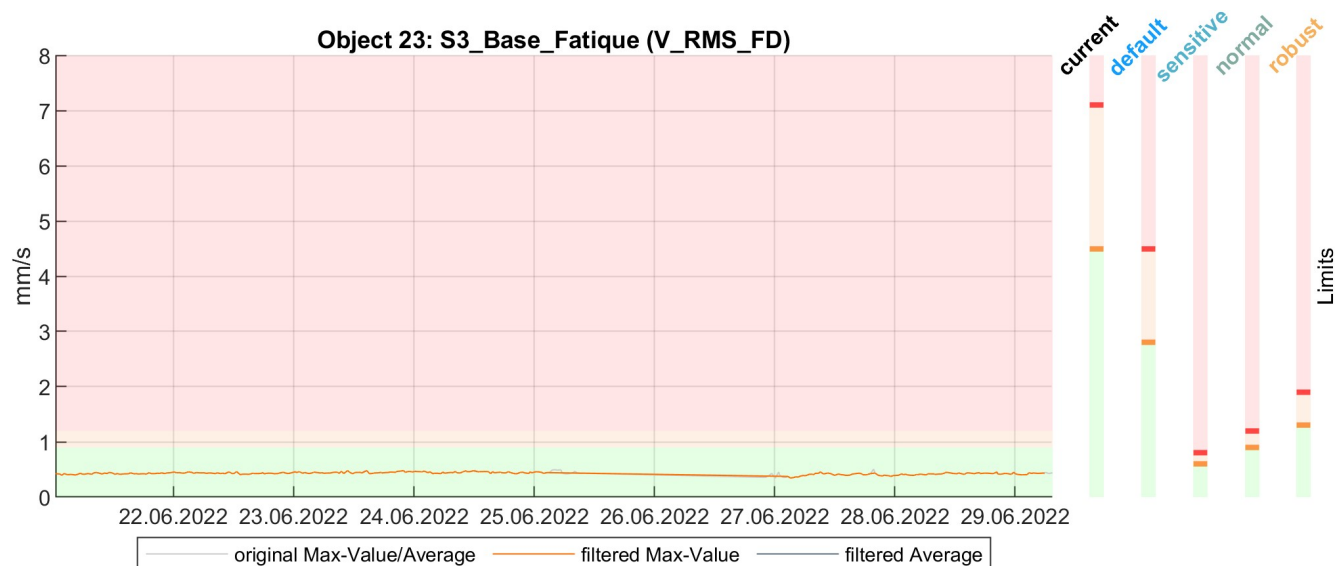


Object ID 23

Warning present!



Object ID	23
Object Name	S3_Base_Fatigue
Object Type	V_RMS_FD
Sensor Name	Sensor 3
Unit	[mm/s]
History Interval	30 min/sample
History Duration	8 days (328 samples)
History Duration since Parameter Change	503 days (328 samples) (11.02.21 - 29.06.22)
Estimated OEE	48.4 % detected runtime



		Limits		Violations		
		Value	Unit	Count	Percentage	Composition
Current Limits	Warning	4.5	[mm/s]	0	0.0 %	
	Alarm	7.1	[mm/s]	0	0.0 %	
Default Limits	Warning	2.8	[mm/s]	0	0.0 %	
	Alarm	4.5	[mm/s]	0	0.0 %	
Sensitive Limits	Warning	0.6	[mm/s]	0	0.0 %	
	Alarm	0.8	[mm/s]	0	0.0 %	
Normal Limits	Warning	0.9	[mm/s]	0	0.0 %	
	Alarm	1.2	[mm/s]	0	0.0 %	
Robust Limits	Warning	1.3	[mm/s]	0	0.0 %	
	Alarm	1.9	[mm/s]	0	0.0 %	





Object ID 24

RESULT INVALID!



Object ID	24
Object Name	S3_Base_Impact
Object Type	A_PEAK_TD
Sensor Name	Sensor 3
Unit	[mg]
History Interval	N/A
History Duration	N/A - Data table is empty
History Duration since Parameter Change	N/A - Data table is empty.
Estimated OEE	NaN % detected runtime



DISCLAIMER

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Glossary

Term	Meaning
Version	Internal version reference of the report
Report Type	Type of report with different levels of information detail. Compact: Standard report containing the most relevant key figures; Development Report: Extended report with additional features (e.g. limit values for short histories, additional charts)
Avg	Indicator showing whether the averaged object value is available.
Rot	Indicator showing whether rotational speed information is available.
Ref	Indicator showing whether reference information (e.g. process data) is available
Current Warning	Currently configured warning limit that applies to the history used in the report.
Current Alarm	Currently configured alarm limit that applies to the history used in the report.
Proposed Warning	Proposed warning limit for the used history, determined based on internal ifm algorithms.
Proposed Alarm	Proposed alarm limit for the used history, determined based on internal ifm algorithms.
History Interval	Time interval from which raw data is used to calculate the object values.
Value	Maximum value of the object value calculated within the history interval.
Average	Arithmetic mean of the object value calculated within the history interval.
OEE / runtime	estimated runtime of the machine.
ISO classification	ISO standard machine classification based on user input (machine type, foundation, machine speed, power).

Messages

Icon	Type	Headline	Description
	WARNING	Limit only for highest operation mode	Multiple operating modes have been identified. The proposed threshold values apply only to the highest detected operating mode.
	WARNING	History interval too high	The sampling interval of the recorded values is too large, which may result in inaccurate proposed threshold values.
	WARNING	History recording duration insufficient	The recording period is too short, which may prevent all operating modes from being captured and can lead to inaccurate proposed threshold values.
	WARNING	Suspiciously high values	The object values are suspiciously high and an error may be taught-in. An expert for verification should be consulted.
	STOP	Missing data	The timeframe data of the object is empty. Please check your data.

Continued on next page





(Continued)



STOP

Non-vibrational object

No threshold value can be determined for the object type "Upper Monitor", as it represents a non-vibration-related process value. Please consult a domain expert to define appropriate threshold values.

