OFFICIAL MANUFACTURER'S TECHNICAL CLARIFICATION AND DECLARATION

Manufacturer: Vaisala Oyj
Product: Vaisala OPTIMUS™ OPT100 – 9-Gas Online DGA Monitor

We, **Vaisala Oyj**, as the manufacturer of the above-mentioned equipment, hereby confirm and clarify the following technical characteristics of the offered instrument, in response to the observations raised during the tender evaluation.

1. Confirmation of Technical Parameters

1. **Nitrogen (N_2):** We confirm that the offered instrument supports N_2 concentration monitoring with a specified range of **0–150,000 ppm**, using the manufacturer's calculation method.
2. **Oxygen (O_2):** We confirm that the offered 9-gas configuration supports an oxygen measurement range of **0–50,000 ppm**.
3. **Enclosure material and protection:** We confirm that the equipment enclosure is manufactured from **Marine aluminum (EN AW-5754) (DGA Monitor), stainless steel AISI 316 (OPTPSU)** and has a certified protection rating of **IP66**

2. Supporting Technical Documentation

We confirm that the following documents are provided as annexes to this declaration:

- **Annex 1:** Latest official technical datasheet and complete technical manual.
- **Annex2:** Test report example
- **Annex 6:** EU Declaration of Conformity (CE).

For and on behalf of Vaisala Oyj

Name: Eliel Kouvalainen

Position: Senior Sales Manager

Date:26.10.2026



Signature and company stamp:



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TEST REPORT

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Test Report Number: HEL241210804

Vaisala Optimus DGA Monitor

Instrument: OPT100-OPTIMUS
Serial Number W1151032
Manufacturer: Vaisala Oyj
Test Date: 2024-03-18

Approved by:

Digitally signed by: Lassi Parne
Date: 2024-03-18 14:26:27 (+02:00)
Location: Vaisala Oyj, Finland

The Vaisala Optimus DGA Monitor OPT100 was tested by running a sequence of test for all sub components and by running an oil measurement cycle.

Test results:

Test	Result
Functional test	Pass
Leak test	Pass

In addition, the following modules have been calibrated and tested separately:

Module	Serial Number
ASM211829 Optical Measurement Module	V0540228
MHT411 Moisture and Hydrogen Measurement Module	W0212113

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TEST REPORT

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Test Report Number: HEL241210804

Optical Measurement Module

Instrument: ASM211829
Serial Number V0540228
Manufacturer: Vaisala Oyj
Calibration Date: 2023-12-20

The optical module of OPT100 was calibrated by measuring reference gases at controlled pressure and temperature. The concentrations of the reference gas cylinders have been analyzed and certified by the gas supplier; the balance gas was nitrogen. For each gas, several gas samples were measured at each concentration.

The observed reading was calculated as the average of repeated gas samples and compared to the reference concentration. The observed variation was calculated as the standard deviation of the readings multiplied by a coverage factor of 2. The conversion factors from gas concentration readings to gas-in-oil concentrations depend on operating conditions. Typical values were used in this report.

Gas calibration results:

Gas	Reference concentration ppm_oil	Observed concentration, average ppm_oil	Concentration difference ppm_oil	Permissible concentration difference ± ppm_oil	Observed variation of reading, 2 * StDev ppm_oil	Permissible variation of reading ± ppm_oil	Number of measured samples
Methane	0.0	-0.5	-0.5	4.0	1.3	10.0	14
Methane	72.0	72.9	0.9	4.0	0.9	10.0	14
Methane	724.4	719.7	-4.7	36.2	2.1	36.2	14
Ethane	0.0	-1.3	-1.3	10.0	4.8	10.0	14
Ethane	212.3	210.8	-1.4	10.6	4.0	10.6	14
Ethane	838.0	837.3	-0.7	41.9	6.4	41.9	14
Ethylene	0.0	-1.1	-1.1	4.0	2.0	10.0	14
Ethylene	110.0	109.8	-0.2	5.5	2.4	10.0	14
Ethylene	734.2	740.0	5.8	36.7	4.2	36.7	14
Acetylene	0.0	0.0	0.0	0.5	0.5	1.0	14
Acetylene	17.0	16.9	-0.1	0.8	0.2	1.0	14
Acetylene	71.9	71.5	-0.4	3.6	0.4	3.6	14
Carbon monoxide	0.0	0.4	0.4	4.0	1.9	10.0	14
Carbon monoxide	142.6	140.0	-2.6	7.1	2.2	10.0	14
Carbon monoxide	1416.9	1393.2	-23.7	70.8	14.1	70.8	14
Carbon dioxide	0.0	0.5	0.5	4.0	0.3	10.0	14
Carbon dioxide	1400.4	1355.0	-45.4	70.0	5.1	70.0	14
Carbon dioxide	6047.3	6022.4	-24.9	302.4	33.4	302.4	14

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TEST REPORT

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Test Report Number: HEL241210804

Moisture and Hydrogen Measurement Module

Instrument: MHT411
Serial Number W0212113
Manufacturer: Vaisala Oyj
Humidity and Temperature Calibration Date: 2024-01-19
Hydrogen Calibration Date: 2023-12-05

The humidity sensor of MHT411 transmitter was calibrated by comparing the transmitter readings to the generated reference humidity readings.

Humidity calibration results:

Observed humidity %RH	Reference humidity %RH	Humidity difference %RH	Permissible difference ± %RH
0.02	0.02	0.00	2.0
14.74	14.99	-0.25	2.0
32.98	33.21	-0.22	2.0
53.90	54.29	-0.39	2.0
75.26	75.26	0.00	2.0

The temperature sensor of MHT411 transmitter was calibrated by comparing the transmitter readings to a reference thermometer.

Temperature calibration results:

Observed temperature °C	Reference temperature °C	Temperature difference °C	Permissible difference ± °C
21.23	21.23	0.00	0.2

The MHT411 transmitter was calibrated in mineral oil against accurate hydrogen gas concentrations. The gases are traceable to SI base unit (kg). Oil temperature was measured using Vaisala PTU30T pressure and temperature transmitter.

Hydrogen calibration results:

Reference in gas ppm	Oil temperature °C	Reference in oil* ppm	Observed reading in oil ppm	Difference ppm	Permissible difference ± ppm
1252.7	24.5	59.2	68.0	8.8	25
12481.9	24.1	588.8	601.0	12.2	117

*Calculated value.

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TEST REPORT

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Test Report Number: HEL241220229

Vaisala Optimus DGA Monitor

Instrument: OPT100-OPTIMUS
Serial Number W1151030
Manufacturer: Vaisala Oyj
Test Date: 2024-03-19

Approved by:

Digitally signed by: Lassi Parne
Date: 2024-03-19 08:59:44 (+02:00)
Location: Vaisala Oyj, Finland

The Vaisala Optimus DGA Monitor OPT100 was tested by running a sequence of test for all sub components and by running an oil measurement cycle.

Test results:

Test	Result
Functional test	Pass
Leak test	Pass

In addition, the following modules have been calibrated and tested separately:

Module	Serial Number
ASM211829 Optical Measurement Module	V4610336
MHT411 Moisture and Hydrogen Measurement Module	W0454872

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Test Report Number: HEL241220229

Optical Measurement Module

Instrument: ASM211829
Serial Number V4610336
Manufacturer: Vaisala Oyj
Calibration Date: 2023-12-27

The optical module of OPT100 was calibrated by measuring reference gases at controlled pressure and temperature. The concentrations of the reference gas cylinders have been analyzed and certified by the gas supplier; the balance gas was nitrogen. For each gas, several gas samples were measured at each concentration.

The observed reading was calculated as the average of repeated gas samples and compared to the reference concentration. The observed variation was calculated as the standard deviation of the readings multiplied by a coverage factor of 2. The conversion factors from gas concentration readings to gas-in-oil concentrations depend on operating conditions. Typical values were used in this report.

Gas calibration results:

Gas	Reference concentration ppm_oil	Observed concentration, average ppm_oil	Concentration difference ppm_oil	Permissible concentration difference ± ppm_oil	Observed variation of reading, 2 * StDev ppm_oil	Permissible variation of reading ± ppm_oil	Number of measured samples
Methane	0.0	-0.5	-0.5	4.0	1.2	10.0	14
Methane	71.9	72.8	0.9	4.0	1.0	10.0	14
Methane	723.5	721.9	-1.6	36.2	1.7	36.2	14
Ethane	0.0	-2.1	-2.1	10.0	4.5	10.0	14
Ethane	212.6	218.7	6.1	10.6	4.4	10.6	14
Ethane	840.3	858.7	18.4	42.0	6.3	42.0	14
Ethylene	0.0	0.5	0.5	4.0	2.0	10.0	14
Ethylene	110.3	111.6	1.2	5.5	1.8	10.0	14
Ethylene	733.3	750.8	17.5	36.7	2.7	36.7	14
Acetylene	0.0	0.0	0.0	0.5	0.2	1.0	14
Acetylene	17.0	17.2	0.3	0.8	0.4	1.0	14
Acetylene	71.8	73.2	1.3	3.6	0.9	3.6	14
Carbon monoxide	0.0	0.5	0.5	4.0	2.2	10.0	14
Carbon monoxide	142.2	140.5	-1.7	7.1	2.0	10.0	14
Carbon monoxide	1415.2	1406.7	-8.5	70.8	13.3	70.8	14
Carbon dioxide	0.0	2.3	2.3	4.0	1.1	10.0	14
Carbon dioxide	1396.1	1453.2	57.1	69.8	6.9	69.8	14
Carbon dioxide	6039.9	6322.2	282.2	302.0	33.8	302.0	14

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Test Report Number: HEL241220229

Moisture and Hydrogen Measurement Module

Instrument: MHT411
Serial Number W0454872
Manufacturer: Vaisala Oyj
Humidity and Temperature Calibration Date: 2024-01-30
Hydrogen Calibration Date: 2023-12-18

The humidity sensor of MHT411 transmitter was calibrated by comparing the transmitter readings to the generated reference humidity readings.

Humidity calibration results:

Observed humidity %RH	Reference humidity %RH	Humidity difference %RH	Permissible difference ± %RH
0.02	0.02	0.00	2.0
14.70	15.00	-0.30	2.0
32.93	33.24	-0.31	2.0
53.88	54.33	-0.45	2.0
75.34	75.34	0.00	2.0

The temperature sensor of MHT411 transmitter was calibrated by comparing the transmitter readings to a reference thermometer.

Temperature calibration results:

Observed temperature °C	Reference temperature °C	Temperature difference °C	Permissible difference ± °C
21.22	21.21	0.01	0.2

The MHT411 transmitter was calibrated in mineral oil against accurate hydrogen gas concentrations. The gases are traceable to SI base unit (kg). Oil temperature was measured using Vaisala PTU30T pressure and temperature transmitter.

Hydrogen calibration results:

Reference in gas ppm	Oil temperature °C	Reference in oil* ppm	Observed reading in oil ppm	Difference ppm	Permissible difference ± ppm
1191.5	24.7	56.3	58.0	1.7	25
11832.0	24.6	559.0	573.0	14.0	117

*Calculated value.

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TEST REPORT

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Test Report Number: HEL241220752

Vaisala Optimus DGA Monitor

Instrument: OPT100-OPTIMUS
Serial Number W1151031
Manufacturer: Vaisala Oyj
Test Date: 2024-03-19

Approved by:

Digitally signed by: Lassi Pärne
Date: 2024-03-19 13:08:54 (+02:00)
Location: Vaisala Oyj, Finland

The Vaisala Optimus DGA Monitor OPT100 was tested by running a sequence of test for all sub components and by running an oil measurement cycle.

Test results:

Test	Result
Functional test	Pass
Leak test	Pass

In addition, the following modules have been calibrated and tested separately:

Module	Serial Number
ASM211829 Optical Measurement Module	U3150559
MHT411 Moisture and Hydrogen Measurement Module	W0212118

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Test Report Number: HEL241220752

Optical Measurement Module

Instrument: ASM211829
Serial Number U3150559
Manufacturer: Vaisala Oyj
Calibration Date: 2023-12-20

The optical module of OPT100 was calibrated by measuring reference gases at controlled pressure and temperature. The concentrations of the reference gas cylinders have been analyzed and certified by the gas supplier; the balance gas was nitrogen. For each gas, several gas samples were measured at each concentration.

The observed reading was calculated as the average of repeated gas samples and compared to the reference concentration. The observed variation was calculated as the standard deviation of the readings multiplied by a coverage factor of 2. The conversion factors from gas concentration readings to gas-in-oil concentrations depend on operating conditions. Typical values were used in this report.

Gas calibration results:

Gas	Reference concentration ppm_oil	Observed concentration, average ppm_oil	Concentration difference ppm_oil	Permissible concentration difference ± ppm_oil	Observed variation of reading, 2 * StDev ppm_oil	Permissible variation of reading ± ppm_oil	Number of measured samples
Methane	0.0	-0.3	-0.3	4.0	0.6	10.0	14
Methane	72.0	72.8	0.9	4.0	0.9	10.0	14
Methane	724.4	722.0	-2.4	36.2	1.8	36.2	14
Ethane	0.0	1.2	1.2	10.0	3.3	10.0	14
Ethane	212.3	213.7	1.4	10.6	3.6	10.6	14
Ethane	838.0	840.0	2.0	41.9	7.5	41.9	14
Ethylene	0.0	0.6	0.6	4.0	1.4	10.0	14
Ethylene	110.0	109.6	-0.4	5.5	1.4	10.0	14
Ethylene	734.2	740.2	6.0	36.7	3.9	36.7	14
Acetylene	0.0	0.3	0.3	0.5	0.4	1.0	14
Acetylene	17.0	16.7	-0.3	0.8	0.5	1.0	14
Acetylene	71.9	70.8	-1.1	3.6	1.0	3.6	14
Carbon monoxide	0.0	0.3	0.3	4.0	1.4	10.0	14
Carbon monoxide	142.6	143.6	0.9	7.1	2.1	10.0	14
Carbon monoxide	1416.9	1393.5	-23.4	70.8	8.2	70.8	14
Carbon dioxide	0.0	0.3	0.3	4.0	0.4	10.0	14
Carbon dioxide	1400.4	1350.4	-50.0	70.0	5.4	70.0	14
Carbon dioxide	6047.3	6022.4	-25.0	302.4	25.8	302.4	14

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Test Report Number: HEL241220752

Moisture and Hydrogen Measurement Module

Instrument: MHT411
Serial Number W0212118
Manufacturer: Vaisala Oyj
Humidity and Temperature Calibration Date: 2024-01-18
Hydrogen Calibration Date: 2023-12-05

The humidity sensor of MHT411 transmitter was calibrated by comparing the transmitter readings to the generated reference humidity readings.

Humidity calibration results:

Observed humidity %RH	Reference humidity %RH	Humidity difference %RH	Permissible difference ± %RH
0.02	0.02	0.00	2.0
14.80	14.99	-0.20	2.0
33.08	33.21	-0.13	2.0
54.02	54.35	-0.33	2.0
75.25	75.25	0.00	2.0

The temperature sensor of MHT411 transmitter was calibrated by comparing the transmitter readings to a reference thermometer.

Temperature calibration results:

Observed temperature °C	Reference temperature °C	Temperature difference °C	Permissible difference ± °C
21.22	21.22	0.01	0.2

The MHT411 transmitter was calibrated in mineral oil against accurate hydrogen gas concentrations. The gases are traceable to SI base unit (kg). Oil temperature was measured using Vaisala PTU30T pressure and temperature transmitter.

Hydrogen calibration results:

Reference in gas ppm	Oil temperature °C	Reference in oil* ppm	Observed reading in oil ppm	Difference ppm	Permissible difference ± ppm
1252.7	24.5	59.2	61.0	1.8	25
12482.5	24.1	588.8	604.0	15.2	117

*Calculated value.

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TEST REPORT

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Test Report Number: HEL253430321

Vaisala Optimus DGA Monitor

Instrument: OPT100-OPTIMUS
Serial Number X3252829
Manufacturer: Vaisala Oyj
Test Date: 2025-08-20

Approved by:

Digitally signed by: Jani Pesonen
Date: 2025-08-20 09:52:42 (+03:00)
Location: Vaisala Oyj, Finland

The Vaisala Optimus DGA Monitor OPT100 was tested by running a sequence of test for all sub components and by running an oil measurement cycle.

Test results:

Test	Result
Functional test	Pass
Leak test	Pass

In addition, the following modules have been calibrated and tested separately:

Module	Serial Number
ASM211829 Optical Measurement Module	X2146115
MHT411 Moisture and Hydrogen Measurement Module	X2636220

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Test Report Number: HEL253430321

Optical Measurement Module

Instrument: ASM211829
Serial Number X2146115
Manufacturer: Vaisala Oyj
Calibration Date: 2025-06-11

The optical module of OPT100 was calibrated by measuring reference gases at controlled pressure and temperature. The concentrations of the reference gas cylinders have been analyzed and certified by the gas supplier; the balance gas was nitrogen. For each gas, several gas samples were measured at each concentration.

The observed reading was calculated as the average of repeated gas samples and compared to the reference concentration. The observed variation was calculated as the standard deviation of the readings multiplied by a coverage factor of 2. The conversion factors from gas concentration readings to gas-in-oil concentrations depend on operating conditions. Typical values were used in this report.

Gas calibration results:

Gas	Reference concentration ppm_oil	Observed concentration, average ppm_oil	Concentration difference ppm_oil	Permissible concentration difference ± ppm_oil	Observed variation of reading, 2 * StDev ppm_oil	Permissible variation of reading ± ppm_oil	Number of measured samples
Methane	0.0	-0.2	-0.2	4.0	0.9	10.0	14
Methane	71.6	72.0	0.4	4.0	0.9	10.0	14
Methane	721.1	717.0	-4.1	36.1	1.8	36.1	14
Ethane	0.0	2.1	2.1	10.0	2.4	10.0	14
Ethane	211.2	212.4	1.2	10.6	4.3	10.6	14
Ethane	847.6	849.3	1.7	42.4	4.9	42.4	14
Ethylene	0.0	0.4	0.4	4.0	2.0	10.0	14
Ethylene	109.5	108.7	-0.8	5.5	1.7	10.0	14
Ethylene	730.8	732.2	1.4	36.5	3.8	36.5	14
Acetylene	0.0	0.1	0.1	0.5	0.3	1.0	14
Acetylene	16.3	15.6	-0.7	0.8	0.5	1.0	14
Acetylene	71.6	69.8	-1.8	3.6	0.6	3.6	14
Carbon monoxide	0.0	-0.1	-0.1	4.0	1.3	10.0	14
Carbon monoxide	142.0	141.0	-1.0	7.1	1.0	10.0	14
Carbon monoxide	1410.4	1378.4	-32.0	70.5	11.6	70.5	14
Carbon dioxide	0.0	0.2	0.2	4.0	0.6	10.0	14
Carbon dioxide	1394.4	1395.0	0.6	69.7	6.1	69.7	14
Carbon dioxide	6019.5	6195.7	176.2	301.0	37.8	301.0	14

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TEST REPORT

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Test Report Number: HEL253430321

Moisture and Hydrogen Measurement Module

Instrument: MHT411
Serial Number X2636220
Manufacturer: Vaisala Oyj
Humidity and Temperature Calibration Date: 2025-07-04
Hydrogen Calibration Date: 2025-06-18

The humidity sensor of MHT411 transmitter was calibrated by comparing the transmitter readings to the generated reference humidity readings.

Humidity calibration results:

Observed humidity %RH	Reference humidity %RH	Humidity difference %RH	Permissible difference ± %RH
0.04	0.04	0.00	2.0
14.91	15.03	-0.12	2.0
33.06	33.02	0.04	2.0
53.89	54.04	-0.14	2.0
75.18	75.18	0.00	2.0

The temperature sensor of MHT411 transmitter was calibrated by comparing the transmitter readings to a reference thermometer.

Temperature calibration results:

Observed temperature °C	Reference temperature °C	Temperature difference °C	Permissible difference ± °C
22.54	22.54	0.00	0.2

The MHT411 transmitter was calibrated in mineral oil against accurate hydrogen gas concentrations. The gases are traceable to SI base unit (kg).
Oil temperature was measured using Vaisala PTU30T pressure and temperature transmitter.

Hydrogen calibration results:

Reference in gas ppm	Oil temperature °C	Reference in oil* ppm	Observed reading in oil ppm	Difference ppm	Permissible difference ± ppm
1224.9	24.7	62.1	66.0	3.9	25
12352.6	24.8	626.6	636.0	9.4	117

*Calculated value.

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TEST REPORT

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Test Report Number: HEL253430877

Vaisala Optimus DGA Monitor

Instrument: OPT100-OPTIMUS
Serial Number X3252828
Manufacturer: Vaisala Oyj
Test Date: 2025-08-20

Approved by:

Digitally signed by: Jani Pesonen
Date: 2025-08-20 15:32:15 (+03:00)
Location: Vaisala Oyj, Finland

The Vaisala Optimus DGA Monitor OPT100 was tested by running a sequence of test for all sub components and by running an oil measurement cycle.

Test results:

Test	Result
Functional test	Pass
Leak test	Pass

In addition, the following modules have been calibrated and tested separately:

Module	Serial Number
ASM211829 Optical Measurement Module	X1552889
MHT411 Moisture and Hydrogen Measurement Module	X2636224

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TEST REPORT

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Test Report Number: HEL253430877

Optical Measurement Module

Instrument: ASM211829
Serial Number X1552889
Manufacturer: Vaisala Oyj
Calibration Date: 2025-06-17

The optical module of OPT100 was calibrated by measuring reference gases at controlled pressure and temperature. The concentrations of the reference gas cylinders have been analyzed and certified by the gas supplier; the balance gas was nitrogen. For each gas, several gas samples were measured at each concentration.

The observed reading was calculated as the average of repeated gas samples and compared to the reference concentration. The observed variation was calculated as the standard deviation of the readings multiplied by a coverage factor of 2. The conversion factors from gas concentration readings to gas-in-oil concentrations depend on operating conditions. Typical values were used in this report.

Gas calibration results:

Gas	Reference concentration ppm_oil	Observed concentration, average ppm_oil	Concentration difference ppm_oil	Permissible concentration difference ± ppm_oil	Observed variation of reading, 2 * StDev ppm_oil	Permissible variation of reading ± ppm_oil	Number of measured samples
Methane	0.0	0.1	0.1	4.0	0.7	10.0	14
Methane	71.4	72.5	1.1	4.0	1.1	10.0	14
Methane	719.2	717.7	-1.5	36.0	1.7	36.0	14
Ethane	0.0	-0.3	-0.3	10.0	3.6	10.0	14
Ethane	211.0	210.0	-1.0	10.6	3.2	10.6	14
Ethane	843.7	843.3	-0.4	42.2	5.9	42.2	14
Ethylene	0.0	0.6	0.6	4.0	2.0	10.0	14
Ethylene	109.4	108.8	-0.5	5.5	3.1	10.0	14
Ethylene	729.0	732.4	3.4	36.4	3.1	36.4	14
Acetylene	0.0	0.0	0.0	0.5	0.4	1.0	14
Acetylene	16.2	15.8	-0.4	0.8	0.3	1.0	14
Acetylene	71.4	70.9	-0.5	3.6	0.7	3.6	14
Carbon monoxide	0.0	-0.3	-0.3	4.0	1.7	10.0	14
Carbon monoxide	141.6	142.7	1.2	7.1	1.2	10.0	14
Carbon monoxide	1406.9	1388.4	-18.5	70.3	16.1	70.3	14
Carbon dioxide	0.0	0.2	0.2	4.0	0.5	10.0	14
Carbon dioxide	1389.6	1359.7	-29.9	69.5	4.8	69.5	14
Carbon dioxide	6004.5	6066.1	61.7	300.2	32.6	300.2	14

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TEST REPORT

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Test Report Number: HEL253430877

Moisture and Hydrogen Measurement Module

Instrument: MHT411
Serial Number X2636224
Manufacturer: Vaisala Oyj
Humidity and Temperature Calibration Date: 2025-07-07
Hydrogen Calibration Date: 2025-06-23

The humidity sensor of MHT411 transmitter was calibrated by comparing the transmitter readings to the generated reference humidity readings.

Humidity calibration results:

Observed humidity %RH	Reference humidity %RH	Humidity difference %RH	Permissible difference ± %RH
0.04	0.04	0.00	2.0
14.92	15.01	-0.10	2.0
33.08	33.01	0.07	2.0
53.91	54.02	-0.11	2.0
75.23	75.23	0.00	2.0

The temperature sensor of MHT411 transmitter was calibrated by comparing the transmitter readings to a reference thermometer.

Temperature calibration results:

Observed temperature °C	Reference temperature °C	Temperature difference °C	Permissible difference ± °C
22.74	22.74	0.00	0.2

The MHT411 transmitter was calibrated in mineral oil against accurate hydrogen gas concentrations. The gases are traceable to SI base unit (kg). Oil temperature was measured using Vaisala PTU30T pressure and temperature transmitter.

Hydrogen calibration results:

Reference in gas ppm	Oil temperature °C	Reference in oil* ppm	Observed reading in oil ppm	Difference ppm	Permissible difference ± ppm
1226.5	25.0	62.3	61.0	-1.3	25
12229.9	24.9	620.7	632.0	11.3	117

*Calculated value.

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