सीएसआईआर-एनपीएल भारत प्रमाणन योजना
CSIR-NPL India Certification Scheme
(NPLI CS)

(सीएसआईआर-राष्ट्रीय भौतिक प्रयोगशाला: राष्ट्रीय मापन संस्थान, भारत)
डॉ. के.एस. कृष्णन मार्ग, नई दिल्ली-110012, भारत
(CSIR-National Physical Laboratory: National Metrology Institute of India)
Dr. K. S. Krishnan Marg, New Delhi-110012, India

VERIFICATION CERTIFICATE

Application No.: 25100905
Certificate No.: NPLI CS/ CEMS/ VC-2025-01S

Date of issue: 05/12/2025
Valid up to: date of renewal of the original certificate

This is to certify that the

Continuous Emission Monitoring System
Model: AR602Z (UV)/NHg/N
Make: OPSIS

Manufactured by:

Opsis AB
P.O. Box 244 S-244 02 Furulund, Sweden

Issued to:

Nevco Engineers Pvt. Ltd.
90A-2nd Floor, Amritpuri B, East of Kailash, Opposite Iskon Temple, New Delhi-110065

Previously Certified by:

MCERTS (Certificate no. Sira MC020011/08) & TÜV RHEINLAND (Certificate No. 0000040333_04)

has been verified under CSIR-NPL India Certification Scheme (NPLI CS) and found suitable as per the defined guidelines of CPCB. This certificate is valid up to the next renewal date as mentioned in the previously issued certificate or any change notified by the CPCB in its Guideline, which will be applicable to this product or any part of this product. This certificate holder must have to submit the "Annual Surveillance Test" report to NICB for annual performance validation of this product.

Rajiv Kr Singh

Chairman Certification Committee
(NPL India Certification Scheme)

NPLI CS, CSIR-National Physical Laboratory
(National verification agency for certifying instruments and equipment for monitoring emissions and ambient air)
Dr. K. S. Krishnan Marg, New Delhi-110012, India

Fax	: 91-11-45609310	E-mail	: cfct.nplindia@csir.res.in
NPLI CS	: 91-11-45608287		: ics.nplindia@csir.res.in
General Enquiry	: 91-11-45608650	Website:	www.nplindia.org

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1. Details of Verified Parameter:

1.1 The product 602Z (UV) verified after assessment of previously issued "Product Conformity Certificate" by MCERTS (Certificate no. Sira MC020011/08) & TÜV RHEINLAND (Certificate No. 0000040333_04) for the following certification ranges:

Sr. No.	Component	Certified Range	Supplementary Range
1	SO_2	0 to 75* mg/m³	0 to 500* mg/m³
2	NO_2	0 to 20* mg/m³	0 to 500* mg/m³
3	NH_3	0 to 10* mg/m³	0 to 50* mg/m³
4	NO	0 to 150* mg/m³	0 to 500* mg/m³
5	Formaldehyde	0 to 20 mg/m³	
6	Phenol	0 to 20 mg/m³	
7	H_2O	0 to 30 mg/m³	
8	Hg	0 to 45 µg/m³	0 to 100 µg/m³

*** at a measurement path length of 1.0 meter**

Table 1

1.2 The MCERTS certificate no. Sira MC020011/08 & TÜV RHEINLAND Certificate No. 0000040333_04 issued for the Product 602Z is only valid with the following components:

1.2.1 Receiver unit (Model RE062)
1.2.2 Transmitter unit (Model EM 062-A)
1.2.3 Control unit (analyser)
1.2.4 Analyser (AR602Z/N)
1.2.5 The module for measuring Hg comprises:
- 1.2.5.1 Sample Gas probe SP2000 (Opsis Yellow)
- 1.2.5.2 10 meter Heated sample gas pipe (internl diameter 6mm)
- 1.2.5.3 Heated sample gas cell (active measuring path length 2.0 m)
- 1.2.5.4 Multiplexer (MX004)

1.3 The certified operational conditions of the Product 602Z are

1.3.1 Ambient Temperature Range: Stack components -30°C to +60°C
1.3.2 Control unit +5°C to +35°C
1.3.3 Ambient Temperature Range (as per TUV): +5°C to +40°C
1.3.4 IP rating: IP20: Analyser, must be placed in a protected area
IP54: Duct mounted parts (transmitter & receiver unit)

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1.4 The certified performance of Product 602Z

Sr. No.	Test Parameters	SO_2	NO_2	NH_3	NO	Formaldehyde	Phenol	H_2O	Hg
1	Response time	< 180 s	< 180 s	< 180 s	< 180 s	< 180 s	< 180 s	< 180 s	Not provided
2	Repeatability standard deviation at zero point	0.1	0.3	0.8	0.1	0.5	0.1	0.2	Not provided
3	Repeatability standard deviation at reference point	0.1	0.2	1.2	0.2	0.4	0.5	0.3	0.450
4	Lack-of-fit	0.63	0.70	0.70	-0.73	1.00	0.5	1.00	0.404
5	Influence of ambient temperature zero point	-0.20	0.20	0.10	-0.10	-0.40	0.10	0.20	
6	Influence of ambient temperature reference point	0.50	-0.50	-1.00	0.10	-0.50	0.50	0.30	0.153
7	Influence of sample gas pressure	-0.49	-0.67	1.21	0.33	-0.50	-0.50	0.11	-0.049
8	Influence of voltage variations 190 to 250V	0.20	0.50	-1.00	0.10	0.90	0.20	0.70	0.208
9	Cross-sensitivity at zero with interferents: O2, H2O, CO, CO2, CH4, N2O, NO, NO2, NH3, SO2, HCl	-1.21	2.60	2.00		0.40	2.00		
10	Cross-sensitivity at reference with interferents: O2, H2O, CO, CO2, CH4, N2O, NO, NO2, NH3, SO2, HCl	-1.96	-2.85	2.30		0.50	1.35		0.694

1.5 The instrument exhibited some moderate resonances. Some resonances caused the light source to go out. The effect was only temporary, and the system functioned correctly once restored.
1.6 All deviations below 0.5% are considered to be negligible and not reported.
1.7 Based on the field calibration function test and the laboratory lack-of-fit test. The lack of fit in the field must be verified during every check of the installation of the CEM.
1.8 During the performance testing the response time is not met the requirement of EN 15267-3 for Hg.
1.9 The enclosure not fulfil the requirement of EN 15267-3.

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2. Acceptability of the product for use in Indian Conditions:

2.1 The measuring instrument AR 602Z (UV) complies with the Indian environmental conditions.
2.2 The AR 602Z (UV) system is a cross-stack flue gas measurement system.
2.3 The uses of AR602Z (UV), depending on the parameter-specific Emission Standards for Indian industries as described in Table 8 of the 1st Revised Guidelines for Continuous Emission Monitoring Systems, August 2018 published by CPCB.
2.4 The use of AR602Z (UV) technology for measurement of flue gases, depending on "Technical Selection & Suitability for Gaseous CEMS" as described in Table 5 of the 1st Revised Guidelines for Continuous Emission Monitoring Systems, August 2018 published by CPCB.

3. General Note:

After assessment of the MCERTS (Certificate no. Sira MC020011/08) & TÜV RHEINLAND (Certificate No. 0000040333_04), the Certification Committee (NPLI CS) reconfirmed that the product passed the acceptability criteria for Indian uses and is eligible for this Verification Certificate.

It is the responsibility of M/s Nevco Engineers Pvt. Ltd., 90A-2nd Floor, Amritpuri B, East Of Kailash, Opposite Iskon Temple, New Delhi-110065 (On behalf of Opsis AB, P.O. Box 244 S-244 02 Furulund, Sweden) to inform CSIR-NPL about the manufacturing modifications in the model no. AR602Z (UV).

It is also the responsibility of M/s Nevco Engineers Pvt. Ltd., 90A-2nd Floor, Amritpuri B, East Of Kailash, Opposite Iskon Temple, New Delhi-110065 (On behalf of Opsis AB, P.O. Box 244 S-244 02 Furulund, Sweden) to provide the list of installation of this equipment (with geographic coordinates) to CSIR-NPL for surveillance.

This Verification Certificate is only valid for the **Model No. AR602Z (UV)/NHg/N.**

The validity of this Verification Certificate is bound to the renewal date of the original Certificate no. Sira MC020011/08 & & TÜV RHEINLAND Certificate No. 0000040333_04.