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Certificate of Performance of Hydrocyclone Separators

(Ref: IITD/IRD/CW16791/488405 dated 3rd Feb 2026)

This is to certify that **CbS Technologies Private Limited**, Greater Noida, India, submitted their few **Hydrocyclone Sand & Silt Separators** manufactured by them under the “**Make in India**” initiative and developed under the technical transfer from **ECE, Netherlands**, for performance evaluation under the technical supervision of **Indian Institute of Technology Delhi (IIT Delhi)**, New Delhi, India.

The performance evaluations were carried out experimentally at the CbS Technologies’ testing facilities using the precision and calibrated instruments. The pressure drops and efficiency variations of hydrocyclone separators with flow rates were measured according to the **IS 14743:1999 recommendations (Bureau of Indian Standards 1999)** using different concentrations of SAE J726 coarse dust particles in the feed water at different operating parameters. Based on the experimental investigations, the following performances have been found:

- Separation efficiency > 98% for particles size $\geq 70 \mu\text{m}$
- Separation efficiency > 90% for particles size varying in the range of 40 -70 μm
- Separation efficiency > 65% for particles size < 40 μm
- Pressure drop < 1.0 bar for all the tested cases/conditions

The hydrocyclone separators demonstrated stable and consistent performance and can be considered an **efficient single-pass technology for separation of solids/silt/algae from liquid streams**. Based on the performance observations, the hydrocyclone separators have been found efficiently satisfactory and these can be **used in the solid-liquid separation in the fields of cooling water treatment, irrigation, industrial processes** etc.

This certificate is issued based on measured performances during the tests of hydrocyclone separators and it is nothing to do with commercial endorsement beyond the scope of experimental evaluation and reporting of same. A detailed report covering all the investigations has also been submitted to all the concerned namely IRD, IIT Delhi, India and CbS Technologies Private Limited, Greater Noida, India, for their records.

Signature of investigator with seal

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