Name of the Technology: High-Volume PM2.5 Sampler

Summary: A high-volume PM2.5 impactor sampler is developed. This impactor can segregate particulate matter >2.5 micron size and facilitate to collect ≤ 2.5 micron size particles suspended in ambient air on filter size (8 × 10) inch. The impactor is designed for sampling air with a high flow rate (1.13 m^3/min, i.e. 40 CFM). Also, the design of this impactor is made such as a retrofit on the filter holder of conventional high-volume total suspended particulate matter (TSPM) sampler to make it high-volume PM2.5 sampler.

Applications: Ambient $PM_{2.5}$ mass, extensive chemical analyses, perfect sampler for source apportionment studies.

Novelty features: 140 nozzle impactor design, no cutoff shift even at high particle mass loading and humidity condition, consistent sampling flow even after 24 hours sampling.

Advantages: Simple design, No cutoff shift even at high particle mass loading and humidity condition, consistent sampling flow even after 24 hours sampling.

Readiness level of the Technology:

Idea	Concept Definition	Proof of Concept	Prototype	Lab Validation	Technology Development	Technology Demonstration	Technology Integrated	Market Launch

IPR related details: Patent filed in India and USA

Whether patent(s) has already been granted for this technology/process (Yes/No): Yes
If Yes, please provide the following details

Patent No: US 10,782,212 B2
Patent Title: Particulate Matter Sampler
Country(s): USA
Application Number(s) and Date(s):15/954097 and 16.04.2018
Publication Date(s):18.10.2018
Grant Date(s): 22.09.2020

Whether patent(s) has already been filed for this technology/process (Yes/No): Yes
If Yes, please provide the following details

Patent Application Title: Particulate Matter Sampler
Country(s): India
Application Number(s) and Date(s): 201711013523, 17.04.2017
Publication Date(s) (if applicable): 08.03.2019

Related Patents (if any): Nil

Year of Introduction of the technology: 2018

User Industries: Air monitoring instrument manufactures, air monitoring device manufacturers