

# PARA PARTICLE AERODYNAMIC SIZE SEPARATOR MODEL PPASS-01



Para Particle Aerodynamic Size Separator Model **PPASS-01** is designed and developed for measurement of the size distribution in a host of applications such as pollution and atmospheric studies, inhalation hazard evaluation, characterizing lung delivery systems, material synthesis, etc.

**PPASS-01** is based on the principle of inertial impaction and separates particles according to their aerodynamic diameters in the range of 0.53 to 10  $\mu\text{m}$  in seven class intervals. It has a special feature that it can be used with the number of stages less than the maximum of seven.

**PPASS-01** is manufactured under license from Bhabha Atomic Research Centre, Mumbai. The design/technical knowhow transferred to Para Electronics- Manufacturing Division of Electronic Enterprises (India) Pvt. Ltd., is the product of developmental work by Environmental Assessment Division of BARC.

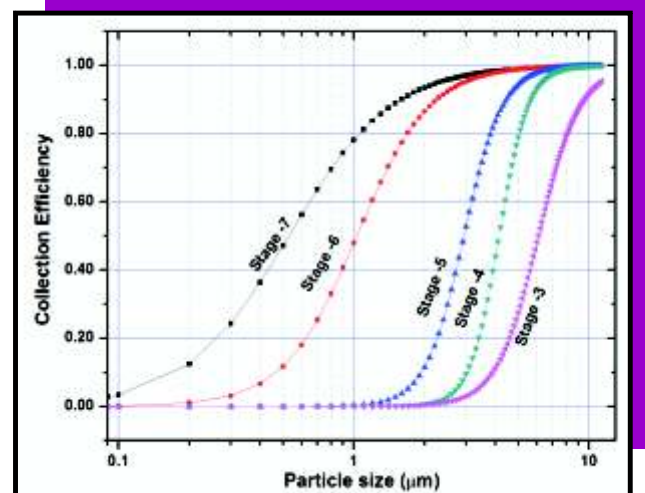
The **PPASS-01** is useful for occupational monitoring of radioactive and non-radioactive environments, arising in the context of material processing, metal cutting, powder handling, etc. It is useful for air quality regulators as well as for researchers engaged in various aspects of air pollution and aerosol research. It can also be used by the pharmaceutical industries for characterising the lung aerosol delivery systems such as nebulisers and metered dose inhalers.

Some important features of **PPASS-01** are

- higher flow rate of 45 lpm, enabling a quicker collection of samples for analysis
- load any number of stages other than the maximum seven, depending upon the requirement
- new design of collection plates reduces inter-stage losses and ensures uniform particle deposits
- assembly or disassembly made easy by the use of stud and wing nut arrangement
- low internal wall losses

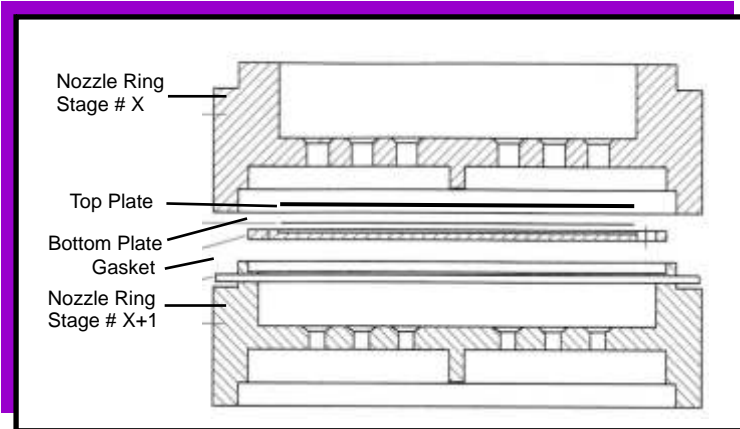
The adjoining graph shows the response functions for the impaction stages of **PPASS-01** indicating the collection efficiency variation with particle size.

To standardize cut-off characteristics, a very simple and easy calibration method using well characterized, nebuliser generated polydisperse aerosols has been evolved. Each unit is tested for its stage response as per BARC test procedures.





## Typical Stage



A typical stage is shown alongside. Nozzle rings are made of aluminium alloy of grade 6061, collection and impaction plates are of stainless steel, connecting adapters and fasteners are of brass. The unit is made leakproof with the use of neoprene gaskets

## Specifications

<b>Impactor Stages</b>	Nos.	7
<b>Operating Flow rate</b>	lpm	45
<b>Cut-off Diameters</b>	µm	8.95, 7.91, 6.09, 4.15, 2.94, 1.03, 0.53.
<b>Collection Plate Holder</b>	Dia mm	82
<b>Collection Substrate</b>	Dia mm	70
<b>Inlet Cone</b>	Dia mm	25
<b>Unit Dimensions</b>	Dia mm x Ht mm	96 x 230
<b>Weight</b>	Kg	2.5

### Accessories Available

1. Monoblock Dry Vacuum Pump 100 lpm with ¼ hp motor, 230V, 50Hz operation, 1440 rpm, 0-100 lpm Rotameter or Electronic Flow Transducer and Digital Indicator, Flow Adjust Bleed Valve
2. Carrying Case for **PPASS-01** and the pump.

Due to continuous R&D, specifications are likely to change without notice

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