



## PRODUCT INFORMATION

## Model 135—Mini-MOUDI™ Impactor

*A 2 L/min precision cascade impactor for collecting size-fractionated particle samples for gravimetric and/or chemical analyses*

**INTRODUCTION**

Model 135 cascade impactors are designed for sampling and collecting size-fractionated aerosol particle samples for gravimetric and/or chemical analyses. The various versions of the Model 135 impactors differ only by the number of stages, the last stage's cutpoint size, and the type of inlet.

**DESCRIPTION**

The Model 135 Mini-MOUDI impactors can have 6, 8 or 10 stages, operating at a sampling flow rate of 2 L/min for a variety of sampling applications. The Mini-MOUDI impactor has stages available with cut-point diameters of 0.056, 0.10, 0.18, 0.32, 0.56, 1.0, 1.8, 3.2, 5.6 and 10  $\mu\text{m}$ .

For a Model 135 stage, half of the area is the impaction plate for the stage above while the other half contains the nozzles for that stage. Subsequent stages alternate in orientation so that there is always an impaction surface below each set of nozzles. This arrangement allows for a very compact cascade impactor design (Figure 2).

The Model 135 impactors can accept a variety of sampling substrates, including aluminum foils, thin plastic films and membrane filters. The substrates are 37-mm in diameter with a semicircular hole in one half of the substrate (Figure 3).

The stages are designed to prevent cross-flow interference between adjacent nozzles. The result is sharp cut-size characteristics not available with other cascade impactors that are less well designed aerodynamically (Figure 3).

The Models 135-6 and 135-8 can be used with personal sampling pumps since they have a low pressure drop. The Model 135-10 requires a vacuum pump due to the larger pressure drop associated with the last two stages.



**Figure 1. Stage body design**



**Figure 2. Impaction substrate**

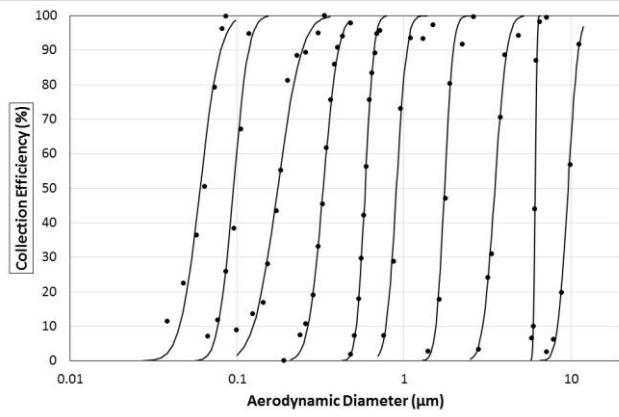


Figure 3. Impactor efficiency curves

## FEATURES

- 2-L/min sampling flow rate
- Up to 10 impactor stages with nominal cutpoints at 0.056, 0.10, 0.18, 0.32, 0.56, 1.0, 1.8, 3.2, 5.6 and 10 µm, plus a final filter
- 37-mm diameter semicircular impaction substrates
- 37-mm final filter
- Impactor is made of anodized aluminum for light weight, durability and nozzle dimensional stability
- Low pressure drop
- Sharp cut-off characteristics
- Open Inlet or Inlet Cone
- Low inter-stage losses

## SPECIFICATIONS\*

\*Specifications are subject to change without notice

	Model 135-6	Model 135-8	Model 135-10
Impactor Stages	6	8	10
Pressure Drop, kPa (w/o final filter)	2.5	10	40
Cut-point diameters, µm	0.56, 1.0, 1.8, 3.2, 5.6, 10	0.18, 0.32, 0.56, 1.0, 1.8, 3.2, 5.6, 10	0.056, 0.10, 0.18, 0.32, 0.56, 1.0, 1.8, 3.2, 5.6, 10
Dimensions (D x H)	66 x 62 mm	66 x 77 mm	66 x 85 mm
Weight (total)	0.225 kg (0.50 lb.)	0.325 kg (0.72 lb.)	0.415 kg (0.91 lb.)
Vacuum Pump	4.8V, 2.15 A-h NiMH battery	4.8V, 2.15 A-h NiMH battery	115 or 230 VAC, 50-60Hz, 0.07 kW

**Environmental Operating Conditions**      10–50 °C (50–122 °F)  
 0%-90% RH (non-condensing)



Distributed by: Kenelec Scientific Pty Ltd | 1300 73 22 33 | sales@kenelec.com.au | www.kenelec.com.au

## MSP Corporation

5910 Rice Creek Parkway, Suite 300  
 Shoreview, Minnesota 55126, U. S. A.  
 Phone: 651.287.8100; Fax: 651.287.8140  
[sales@mspcorp.com](mailto:sales@mspcorp.com); [www.mspcorp.com](http://www.mspcorp.com)

Copyright© 2017 MSP Corporation (MSP-PI-135 Rev. A – A4). All rights reserved.

The MSP logo is a registered trademark and MOUDI is a trademark of MSP Corporation. TSI and the TSI logo are registered trademarks of TSI Incorporated.

## APPLICATIONS

- Personal exposure particle monitoring
- Work place aerosol analysis
- Cigarette and E-Cig smoke characterization
- Indoor residential aerosol studies

## TO ORDER

### Mini-MOUDI Impactors:

Specify	Description
135-6A	Mini-MOUDI Impactor, 6 Stage
135-6B	Mini-MOUDI Impactor, 6 Stage, Inlet Cone
135-8A	Mini-MOUDI Impactor, 8 Stage
135-8B	Mini-MOUDI Impactor, 8 Stage, Inlet Cone
135-10A	Mini-MOUDI Impactor, 10 Stage
135-10B	Mini-MOUDI Impactor, 10 Stage, Inlet Cone

### Accessories:

Specify	Description
0135-75-5007	Vacuum Pump, 135-6,135-8, 110V charger
0135-75-5008	Vacuum Pump, 135-6,135-8, 220V charger
0135-01-0100	Vacuum Pump, 135-10 , 110V
0135-01-0101	Vacuum Pump, 135-10 , 220V, EU
0135-01-0102	Vacuum Pump, 135-10 , 220V, UK
0135-01-0014	Al Foil Substrates, Pkg 500
0135-01-5203	Glass Fiber Filters, 37-mm, Pkg 100