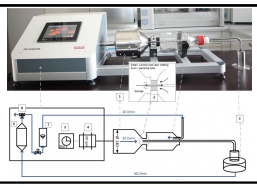
Product Specification

DMT modified Heubach procedure II - as a variant of DIN 55992-1

TÜV NORD Systems GmbH & Co. KG
Plant & Product Safety
Refrigeration & Air Quality

Am TÜV 1
45307 Essen, Germany



1. General description:

For further informations click the link below:

particle and fiber analytics | DMT Group (DMT-Group.com)

Determination of the inhalable, thoracic, and respirable dust fractions according to DIN 481

DMT conducts investigations of dusting indicators using three variants with a rotating drum. The basic structure and processes are analogous in all three methods. A sample of the bulk material is set in motion within a drum of diameter d and at a rotational speed of n for a defined time t using entrainment plates. Airborne particles from the cascading bulk material are discharged from the drum by an axial imposed air flow V□. The discharged particles are quantified in the subsequent analysis, and optionally, the particle fractions are determined. The process parameters d, n, t, and V□ are specified in the respective standards and are specific to the standard, as is the particular analysis method.

d = 14 cm	n = 30 min^{-1}
t = 300 s	$V\square_{Trommel}$ = 20 l/min

The discharged loaded air flow is channelled via a probe into a seven-stage cascade impactor. A continuous curve is generated numerically from the particle size base points determined in this way as a particle size distribution of the aerodynamic diameter of the airborne particles. For the evaluation of the impactor, the material density is determined using helium pycnometry before the actual test (Micromeritics Accu Pyk II; included in the price; result sheet is provided to the customer).

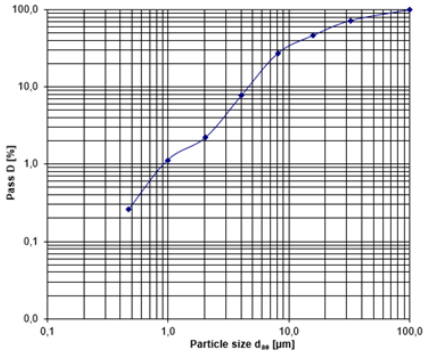


Figure 4: Exemplary illustration from the modified Heubach Method 2

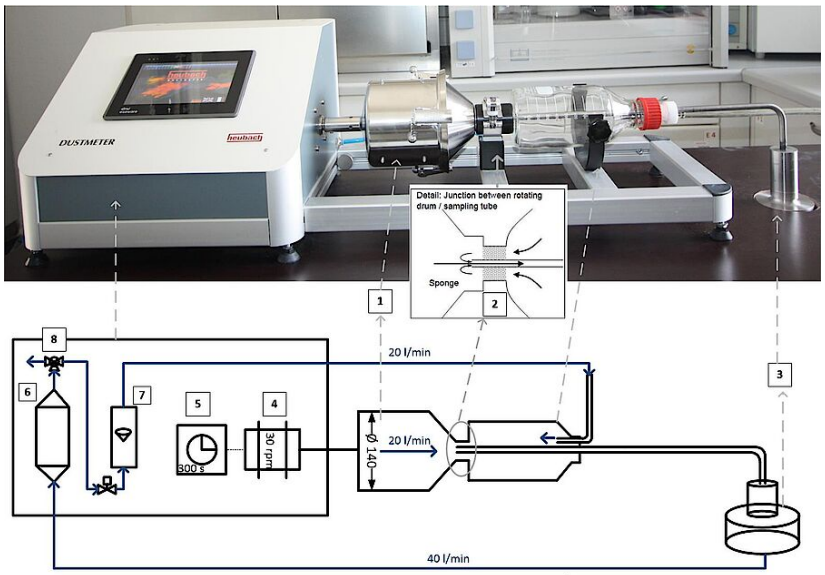


Figure II: Structure and diagram of the modified Heubach Method 2 as a variant of DIN 55992-1

Legend:
1. Dust generation unit
2. Detail: Sampling current + bypass current to obtain 40 l/min in total for (3)
3. Seven stage cascade impactor
4. Motor (30 rpm)
5. Timer (300 s – 5 min)
6. Vacuum pump
7. Rotameter
8. Three-way-valve