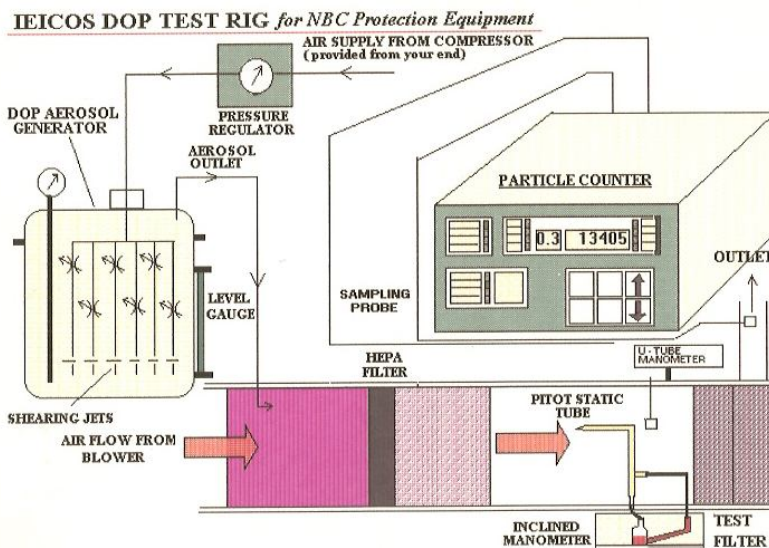
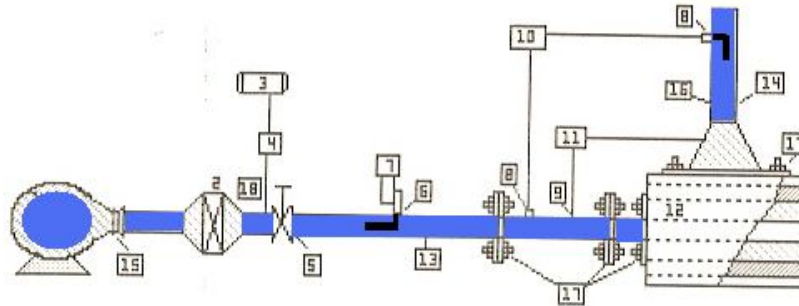




IEICOS D.O.P. TEST RIG For NBC Filter and NBC Canister

**for qualifying Particulate collection efficiency of
NBC Filter and NBC Canister (used in Respiratory mask)**



TECHNICAL DETAILS:

The main components of the Test setup are:

- | | |
|----------------------|----------------|
| a. Blower | e. Pitot Tube |
| b. Aerosol Generator | f. Manometer |
| c. Particle counter | g. HEPA Filter |
| d. Compressor | h. Ducts |

A blower of capacity 425 cubic meter/hr is used to deliver air through NBC Filter & Ducts. HEPA filter installed ensures complete removal of atmospheric particles from the air stream so that only test aerosol of DOP is introduced & mixed with air stream. The test aerosol of DOP is generated by an Aero generator by compressed air stream. The test generator when operated at an air pressure of 1.78 Kg/cm² ensures production of DOP aerosol in the submicron range with MMD of 0.3 micron. The air flow through the duct is adjusted with the help of Pitot tube, manometer & control valve. Samples of air stream drawn through upstream & downstream sampling points are analyzed for aerosol concentration by particle counter.

TECHNICAL SPECIFICATIONS:

1. **COMPRESSOR:** Suitable for delivering required volume of undiluted DOP smoke at a supply pressure of not more than 10 Kg/cm² at flow of 47.5cubic/meter/Hr.

2. **BLOWER:**
Type : Direct drive centrifugal blower
Capacity: 425 m/hr.
Static head : 500mm wg.
Discharge : Top Horizontal
Motor : Provided starter & overload protection

3. **AEROSOL GENERATOR:**
Type : Pneumatically Operated
Output Mass Connection : 5 mg/ltrs.
Undiluted smoke Volume : 85 – 510 LPM.
No. of Jets : 6 with individual control valves
Test smoke : To Inject with air stream to produce uniform test smoke of 80 Microgram of DOP per liter in Air Volumes from 280 – 1700 cubic meter/hr.
Smoke Material : Dioctyl phthalate.
Mean particle size : 0.3 Micron Diameter.

4. **HEPA FILTER:**
Capacity: 425 m³/hr.
Size: 381x381x228mm including 6mm thick gasket on both faces of the filter.
Pressure Drop: < 25 mm wg at 425 m³/hr.
Efficiency: > 99.97% for sub micron Aerosol
Frame: Epoxy coated mild steel.
Medium: 100% micro glass fiber (Water repellent type)
Gasket: Soft closed pose Neoprene (One spare set will be supplied)

5. **PITOT TUBE:**
Type: Concentric tube type.
Size: 3mm Dia
Insertion Length : 150mm
Indication: Insertion depth markings in mm
Mounting: For direction mounting on duct for permanent installation.

6. **MANOMETER:**
Type: Combined inclined vertical
Indication: Direct reading of velocity on calibrated Manometer scale.
Range: 0 – 150mm of WG

The supply will be complete with 1 litre of Manometric red oil, 10m of rubber, 4.76 OD.

7. **PARTICLE COUNTER:**
Principle of operation: Light scattering
Lowest size sensitivity: 0.3 Micron Diameter
Range: 0.3 to 5 micron in steps of 0.3, 0.5, 1.0, 2.0, & 5.0 micron
Sampling rate: 250 – 500cc/min with preset timer 284cc & 2840cc.
Max concentration: 10 particles per litre of particle size over 0.3 micron
Display : Front panel digital
Power Supply : 220V 50 Hz.

This instrument will be complete with all accessories like sensors, pump suitable for drawing samples from ducts at Pressure head of ±125mm H₂O.

8. **SPARES:**
8.1 **PITOT TUBE:**
Type: Concentric tube type.
Size: 3mm
Insertion length : 150mm
Indication: Insertion depth markings in mm.
Mounting: For Direction mounting on duct for permanent installation.

8.2 **MANOMETER:**
Type: Combined inclined/vertical
Indication: Direct reading of Velocity calibrated Manometer scale
Range: 0 – 150 mm of WG.

The supply will be complete with 1 litre of Manometric red oil, 10m of rubber tube, 4.76 mm od.

9. **TOOLS:**
1. Set of spanners mm – set of 12 Nos.
2. Set of screwdrivers – set of 8 Nos.
3. Adjustable spanner.
4. Hammer
5. Pipe wrench.
6. Set of spanners – set of 12 Nos.
7. Digital Multimeter 3½ Digit – 1 No.
8. Brush – 2” – 1 No.
9. Metal Tool Box – to keep above tools.



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Due to continuous improvement, specifications, dimensions, look, color, feel and features subject to change without notice.