# The science behind Brink®

## How big is mist?

**Human Hair**
approximate size: 100µ

1 micron = 0.000039 inches
(0.001 mm)

If a human hair was this size, then mist would be this size.

**Mist**

| mean size 2.5µ | mean size 1.5µ | mean size 1.0µ | mean size 0.3µ |
|---|---|---|---|

- Mechanical
  Mist mean size
  is 2.5 micron (0.0025 mm)
- Condensation
  Mist mean size
  is 1.0 micron (0.001 mm)
- Chemical Reaction
  Mist mean size
  is 0.3 micron (0.003 mm)

### Collection Efficiency vs Particle Size

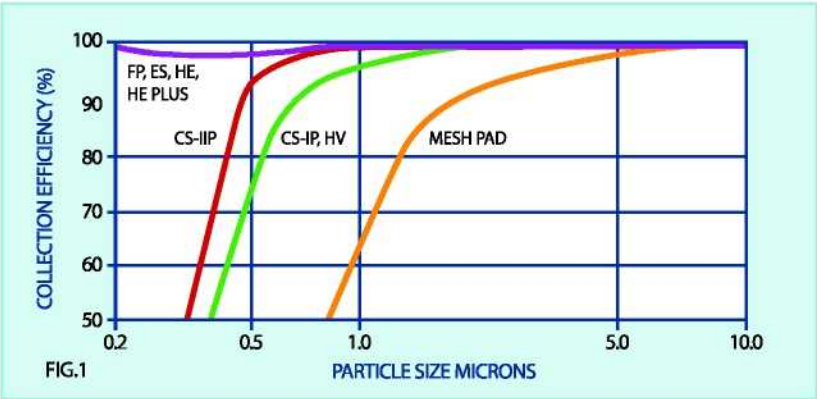

FIG.1

### Turndown
Flow Rate vs Efficiency

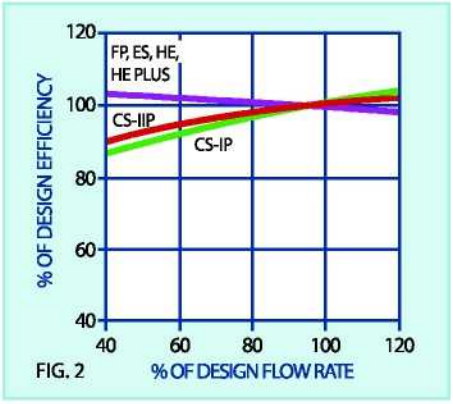

FIG. 2

### Flow Rate vs Pressure Drop

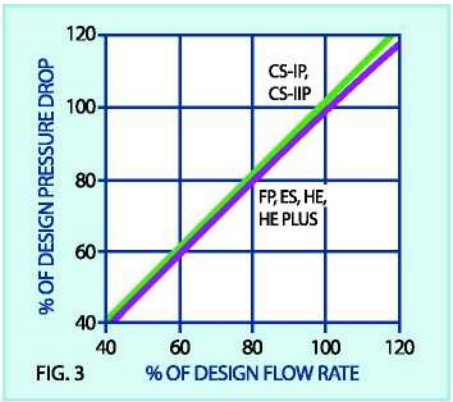

FIG. 3

## Performance comparison

For high efficiency Brownian Movement based products collection efficiency actually increases with reduced flow rate.

For impaction based products collection efficiency, especially on small particles, decreases with reduced flow rate. (Fig. 2)

For all element types, pressure drop is linearly proportional to flow rate. (Fig. 3)

NOTE: Data shown is expected performance based on particle specific gravity of 1.8.