

pMDI Guidance System Mouthpiece



Data Specifications

PROTOCOL: Aerosol Performance of the QVAR MDI in Various Configurations including use with the InFloCone and the AeroChamber Plus Z Stat

RESULTS:

Aerosol Performance

| | Particle Size (MMAD) | Geometric Standard Deviation | Total Dose Delivered by Device | Total Respirable Dose (0.5-5 µm) | Coarse Particle Dose (>4.7 µm) | Fine Particle Dose (<4.7 µm) | Ultra-Fine Particle Fraction (<1.0 µm) as Percent of Valve Label |
|---|----------------------|------------------------------|--------------------------------|----------------------------------|--------------------------------|------------------------------|--|
| Configuration 1: MDI alone, aligned and sealed to throat inlet | | | | | | | |
| 1 | 0.6 | 3.8 | 33.3 | 12.9 | 10.0 | 23.3 | 15.9 |
| 2 | 0.5 | 3.6 | 32.4 | 10.1 | 10.8 | 21.6 | 16.0 |
| 3 | 0.5 | 3.3 | 32.7 | 10.3 | 11.2 | 21.5 | 16.9 |
| Mean | 0.50 | 3.58 | 32.8 | 11.1 | 10.7 | 22.1 | 16.2 |
| Std Dev | 0.05 | 0.24 | 0.4 | 1.6 | 0.6 | 1.0 | 0.6 |
| Configuration 2: MDI alone, ten degrees off angle and sealed to throat inlet | | | | | | | |
| 1 | 0.6 | 2.9 | 31.6 | 11.4 | 8.7 | 22.9 | 16.8 |
| 2 | 0.6 | 3.6 | 35.5 | 12.1 | 11.2 | 24.2 | 17.5 |
| 3 | 0.5 | 3.0 | 35.3 | 10.5 | 13.4 | 21.9 | 16.8 |
| Mean | 0.53 | 3.18 | 34.1 | 11.4 | 11.1 | 23.0 | 17.0 |
| Std Dev | 0.03 | 0.40 | 2.2 | 0.8 | 2.3 | 1.2 | 0.4 |
| Configuration 3: MDI alone, aligned and spaced two inches away throat inlet | | | | | | | |
| 1 | 0.4 | 3.8 | 15.3 | 4.9 | 3.8 | 11.5 | 9.2 |
| 2 | 0.4 | 3.8 | 12.9 | 4.6 | 1.5 | 11.4 | 9.2 |
| 3 | 0.3 | 4.7 | 12.9 | 4.4 | 1.3 | 11.6 | 9.6 |
| Mean | 0.37 | 4.06 | 13.7 | 4.6 | 2.2 | 11.5 | 9.3 |
| Std Dev | 0.06 | 0.53 | 1.4 | 0.2 | 1.4 | 0.1 | 0.2 |
| Configuration 4: MDI used with InFloCone | | | | | | | |
| 1 | 0.6 | 2.8 | 27.6 | 12.3 | 6.0 | 21.6 | 15.4 |
| 2 | 0.5 | 3.6 | 26.3 | 9.9 | 5.6 | 20.8 | 15.1 |
| 3 | 0.4 | 3.8 | 24.7 | 7.9 | 6.6 | 18.1 | 14.2 |
| Mean | 0.50 | 3.39 | 26.2 | 10.0 | 6.1 | 20.2 | 14.9 |
| Std Dev | 0.10 | 0.49 | 1.4 | 2.2 | 0.5 | 1.8 | 0.6 |
| Configuration 5: MDI used with Aerochamber | | | | | | | |
| 1 | 0.5 | 2.7 | 29.5 | 12.5 | 2.1 | 27.4 | 22.4 |
| 2 | 0.5 | 2.8 | 28.8 | 13.4 | 1.1 | 27.7 | 21.9 |
| 3 | 0.4 | 2.5 | 25.9 | 9.1 | 3.3 | 22.6 | 19.4 |
| Mean | 0.45 | 2.66 | 28.1 | 11.7 | 2.2 | 25.9 | 21.2 |
| Std Dev | 0.05 | 0.15 | 2.0 | 2.3 | 1.1 | 2.9 | 1.6 |

Table showing the aerosol performance of the five configurations. All doses in micrograms.

Clinical Data: Piper Medical, Carmichael, CA

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