

FORSCHUNGSINSTITUT FÜR KLINISCHE MEDIZINTECHNIK

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Certification

Nebulizer Performance Test Result

Brand: Vivocare / Type: Breathy

OBL Manufacturer: TRIMPEKS ITH. IHR. TUR. ve TIC. A.S., Istanbul, Turkey

It is hereby certified, that the above named piston type nebulizer, **Vivocare Breathy**, has been tested by Rossmax Int. Ltd, TPE, ROC, under the subsequent review of the FIMT (Asperg, Germany) regarding

- (1) the aerosol particle size distribution
- (2) nebulization output rate (including medication delivery)
- (3) effective residual volume.

Tests have been provided according to the standards and regulations given with EN13544 – 2009 (Respiratory Therapy Equipment-Part 1: Nebulizing Systems and their Components) and the FDA Reviewer Guidance for Nebulizers, Metered Dose Inhalers, Spacers and Actuators-1993.

The aerosol particle size was tested by two independent methods, the Malvern Spraytec Reflectometry Technique (A), as well as the Marble 298 Cascade Impactor Method (B).

The nebulizer **Vivocare Breathy** complied with the medically required median aerodynamic diameter MMAD < 5 [μm] as well as with the tightened specification of MMAD < 3 [μm]: In (B) MMAD is found as being 2.19 [μm] with a fine particle dose FPD of 80.75 %.

The nebulization rate, including the application of ipratropium bromide, flixotide, terbutaline sulphate and salbutamol resulted in a flow > 0.6 [ml/min] in open valve condition and a flow of > 0.2 [ml/min] in closed valve condition.

The residual volume has been < 0.7 [ml] in both, closed as well as open valve status.

The nebulizer **Vivocare Breathy** fully qualifies for a medical application consistent with the clinically approved purposes.

Asperg, January 26, 2015.

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The Director of the FIMT (Asperg).