

Quark PFT

Flowmeters

Validation of the COSMED Quark PFT with X9 PNT for Spirometry & DLco measurements

Third party validation by Hans Rudolph, inc. performed in HRI facility Shanssee Kansas (US) on April 25-26-27 2012

24 Standard Volume-Time Waveforms

All data collected for the COSMED X9 Quark system resulted in acceptable performances per the criteria established for Accuracy and Precision when tested with the standard 24 Volume-Time waveforms:

FVC-FEV1 Accuracy & Precision = $\pm 3.5\%$ or ± 0.100 l whichever is greater.

FEF25-75% Accuracy & Precision = $\pm 5.5\%$ or ± 0.250 l/s whichever is greater.

PEF Accuracy & Precision = $\pm 12\%$ or ± 25 l/min whichever is greater.

MVV Sinusoidal Waveform Testing

All data collected for the COSMED X9 Quark system resulted in acceptable performances per the criteria established for the MVV testing for Accuracy and Precision = $\pm 10.5\%$ or ± 20 l/min whichever is greater.

DLco Simulator Testing

The performance data collected for DLco units for the COSMED UUT are well within the ± 3 DL units accuracy.

Overall Summary

The COSMED Quark PFT with X9 PNT tested well within acceptable accuracy ranges for Spirometry and DLco performances when tested with the Hans Rudolph FVS and DLco Simulator with the exception of slight deviation outside of accuracy limitations for waveforms 1 & 2 tested at BTPS conditions.

Validation of the COSMED turbine flowmeter for Spirometry measurements

Third party validation performed by Robert O. Crapo, LDS Hospital Salt Lake City Utah (US) on April 24 2004

"The COSMED turbine flowmeter meets ATS recommendations for accuracy and precision in measuring FVC, FEV1, FEF25-75% and peak expiratory flow under ambient and BTPS conditions."

Useful Links

COSMED Homepage

<http://www.cosmed.com>



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