

MicroRPM

Respiratory Pressure Meter

The MicroRPM (Respiratory Pressure Meter) brings together the measurements of Maximum Inspiratory and Expiratory Mouth Pressures (MIP/MEP) with Sniff Nasal Inspiratory Pressure (SNIP) in one instrument.

These simple non-invasive tests of respiratory muscle strength are essential in monitoring patients with COPD who are undergoing a program of lung rehabilitation and are also valuable in the detection of other diseases affecting the function of the respiratory muscles.

Simple and easy to use, the pocket-sized, battery operated MicroRPM features a clear digital display of the results in cmH₂O and comes complete with all accessories in a sturdy carrying case.

Also offered, as an optional extra with MicroRPM is Puma a comprehensive analysis and database software package.



Micro

Medical

MicroRPM Cat. No. RPM01

Features

- Combined, mouth and nasal pressure measurements
- Clear digital display of the results
- Small, portable and lightweight
- Latest piezo resistive pressure sensing technology
- Optional Puma, PC software package
- Battery operated and complete with all accessories in a sturdy carrying case
- Easy to use and competitively priced



Puma

Respiratory Pressure Database and Analysis Software

Micro Medical

Puma is an optional 32 bit software package (which is compatible with all the latest Windows operating systems) for displaying the pressure wave forms developed during

testing with the MicroRPM.

Additionally the measurements of the Maximal Rate of Pressure

Development (MRPD) and

Maximal Rate of Relaxation

(MRR) can be made.

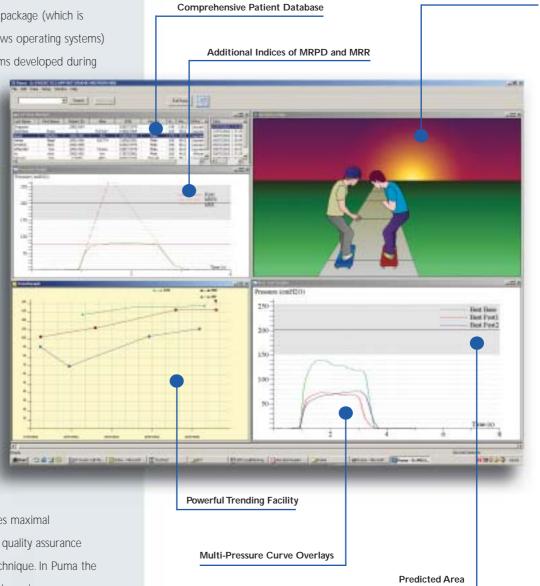
Puma has a user friendly, modern, multi-window visual interface which can display and store waveforms and results from both mouth and nasal pressure measurements.

Patient databases are easily created, a powerful search facility and the long term trending of results are also possible.

An animated incentive device ensures maximal co-operation from children and test quality assurance measures encourage correct test technique. In Puma the printout format is also selectable and previous pressure curves can be overlayed. Different sets of predicted normal values are also included.

PC System requirements

- Pentium processor or higher
- 32 MB RAM
- 4 MB hard disc space
- One free serial port
- Micro Medical Spirometry serial cable



Child Incentive Device

Puma Cat. No. PU1000

Features

- Multi-window layout for ease of use
- Real-time pressure curves for mouth and nasal pressures
- The overlaying of previous curves is possible
- Choice of predicted values
- Animated child incentive device
- Pre and post medication or exercise facility
- Calculates MRPD and MRR

Specifications

Measurements	Maximum Expiratory Pressure (PE max) Maximum Inspiratory Pressure (PI max) Sniff Nasal Inspiratory Pressure (SNIP)
With Puma	Maximum Rate of Pressure Development (MRP Maximum Rate of Relaxation (MRR)
Operating pressure	±300 cmH ₂ O (±5PSID)
Burst Pressure	±700 cmH ₂ O (±20PSID)
Resolution	1 cmH ₂ O
Accuracy	±3%
Power Supply	Single 9V PP3
Dimensions	170x60x26mm
Weight	175g (unit); 750g (complete)
Operating temperature	0°C - 40°C
Operating humidity	30% - 90% RH
Storage temperature	-20°C - +70°C
Storage humidity	10% - 90% RH

Micro Medical Limited

PO BOX 6, Rochester,

Kent, ME1 2AZ, UK

Telephone 01634 360044
Fax 01634 360055
International +44 1634 360044
Email sales@micromedical.co.uk
www.micromedical.co.uk







Bibliography

- 1 On the capacity of the lungs and on the respiratory functions. Hutchinson J. Med Chir Trans 1846; 29: 137-252
- 2 Maximal Respiratory Pressures: Normal Values and relationship to Age and Sex Leo F. Black and Robert E. Hyatt. American Review of Respiratory Disease, Volume 99, 1969
- 3 Predicted normal values for maximal respiratory pressures in Caucasian adults and children. S H Wilson, N T Cooke, R H T Edwards, S G Spiro. Thorax 1984: 39.535-538
- 4 Tests of Respiratory Muscle Function. Dudley F. Rochester, Clinics in Chest Medicine-Vol. 9. No.2. June 1988
- 5 Inspiratory Muscle training combined with general exercise reconditioning in patients with COPD. Paltiel Weiner, Yair Azgad, Rasem Ganam. Chest 1992;102:1351-1356
- 6 Resistive Inspiratory Muscle training in subjects with chronic cervical spinal cord injury. Alyssa Rutchik, Ann R. Weissman, Peter L. Almenoff, Ann M. Spungen, William A. Bauman, David R. Grimm Arch Phys Med Rehabil Vol 79, March 1998
- 7 Respiratory muscle disease: worth buying some equipment ? M.I. Polkey. Respiratory muscle laboratory, Royal Brompton Hospital. London
- 8 Dependence of maximal sniff generated mouth and transdiaphragmatic pressures on lung volume. Wanke, T., Schenz, G., Zwick, H., Popp, W., Ritschka, L., Flicker, M. (1990) Thorax. 45(5): pp 352-355.
- 9 Maximal Values of sniff nasal inspiratory pressure in healthy subjects.. Uldry, C., Fitting, J-W. (1995) Thorax. 50: pp. 371-375.
- 10 Sniff nasal inspiratory pressure. A non-invasive assessment of inspiratory muscle strength. Heritier, F., Rahm, F., Pasche, P., Fitting, J.W. (1994) American Journal of Respiratory Care Medicine. 150: pp. 1678-1683.
- 11 Respiratory Muscle Testing. Moxham, J. (1996) Monaldi Arch Chest Dis. 51(6): pp 483-488. Review.
- 12 Sniff nasal inspiratory pressure: reference values in Caucasian children. Stefanutti, D., Fitting, J-W. (1999). American Journal Respiratory Care Medicine. 159: pp 107-111.
- 13 ATS/ERS Statement on Rerspiratory Muscle Testing Am J Respir Crit Care Med Vol 166. pp 518-624, 2002