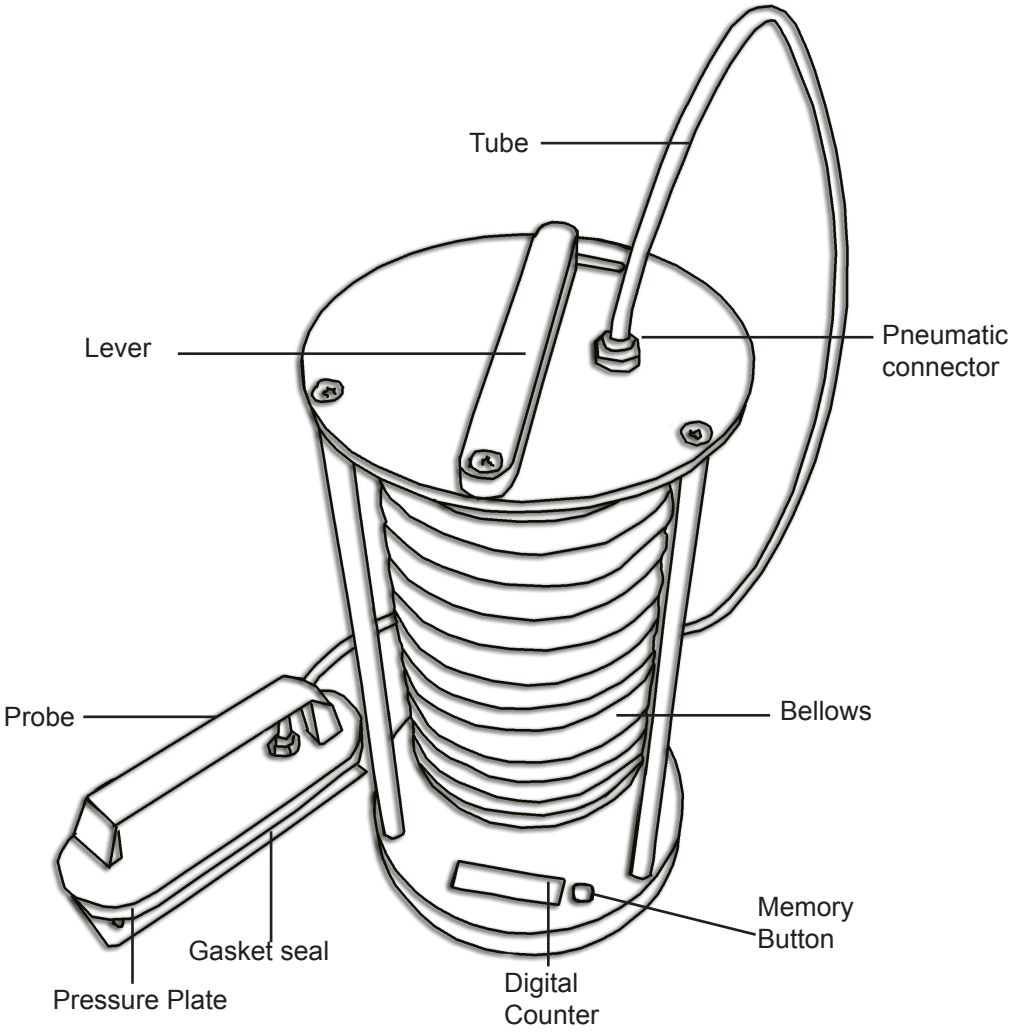
POROSIMETER JDC MK2

Instructions for use



SWISS MADE

Developed and manufactured by:
JDC ELECTRONIC SA
Avenue des Sports 42
1400 Yverdon-Les-Bains
Switzerland

Phone +41 (0)24 445 21 21
www.jdc.ch info@jdc.ch

CE

POROSIMETER JDC MK2

A Professional Instrument From JDC ELECTRONIC SA

PURCHASE OF THE DEVICE:

Enable an air volume to go through a fabric in order to measure its porosity.

APPLICATION :

1° Quick test of fabric porosity used for exemple in paraglider manufacture.

2° Measures a fabric degradation in order to warn the pilot of properties and security decrease of its canopy

3° Evaluation of the actual and resale value of second-hand paragliders.

4° Laboratory study of fabric wear (coating adherence, etc...).

PRINCIPLE:

Measures the necessary time for 0.25 liter of air under 10 mbar pressure to go trough 40cm^2 of fabric.

TECHNICAL SPECIFICATON:

Dimension: diameter 150 x 300 mm

Weight: 2.06 kg (with the probe)

Power supply: 2 x LR6

Warranty: 2 years

Accurancy: Factory calibration is performed using a test nozzle giving a response time of 90 sec +/- 0.5 seconds of repetitiveness about 23°C, pressure 950 mbar and 50% humidity.

Influence of temperature :
About 13°C : increasing the time of 1.5 %
About 33°C : decreasing the time of 1.5 %

Influence of humidity : negligible

Influence of the pressure : increasing the measuring time of 1.1% for a decrease in atmospheric pressure of 50 hPa (approx. 500m).

If the porosimeter is handled carefully risk of losing calibration are minimal.

The counter is in the tenth of seconds until 999.9,and in the second until 9999 seconds. Power supply 2 batteries LR6 located under the base of the porosimeter into a smaller case.

SWISS MADE

Developed and manufactured by:
JDC ELECTRONIC SA
Avenue des Sports 42
1400 Yverdon-Les-Bains
Switzerland

Phone +41 (0)24 445 21 21
www.jdc.ch info@jdc.ch

POROSIMETER JDC MK2

A Professional Instrument From JDC ELECTRONIC SA

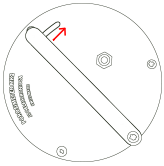
FIRST STARTING:

Upon receiving the porosimeter, it is advised to make a tightness test to which read:

1° Place the bellows up with the red lever positioned at the center

2° Plug the tube on the pneumatic connector (if you have not done this already)

3° Pinch a plastic film within the probe



4° Initiates measuring by moving the red lever. The bellows should not getting down or take hours to stop the counter.

5° If a leak is detected, please make sure that:
a) The rubber seal of the probe is clean and without scratch.
b) The support plate is properly flat, without wrinkling.
c) The black tube, and especially the part entering into the pneumatic connector are in good conditions. If not, cut the last centimeter.

Note : It can be useful to grease the extremity of the tube (fat or silicon oils)

MAKE A MEASURE:

The started of the counter is automatic, it lights and begins the counting during the trigger of the measure by the red lever and stops during the activation of the switch int the center of the base.

1° Put the red lever in a central position and raise the bellows up.

2° Plug the black tube if you have not done this already.

3° Place the fabric (without wrinkling) on the rubber of the probe and apply the spring steel counter plate on the other side. You can swipe it to make sure that it recovers properly the gasket seal.

4°Initiates measuring by moving the red lever on the right.

5° Read the time on the counter.

6° Remove the fabric.

7° Start a new measurement according to the point 1°

Note : If you have forgotten to read a value you can find the last three memorized values by pressing the button on the right of the display.

JDC INSTRUMENTS

SWISS MADE

Developed and manufactured by:
JDC ELECTRONIC SA
Avenue des Sports 42
1400 Yverdon-Les-Bains
Switzerland

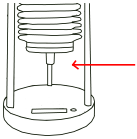
Phone +41 (0)24 445 21 21
www.jdc.ch info@jdc.ch

CE

POROSIMETER JDC MK2

A Professional Instrument From JDC ELECTRONIC SA

REMARKS:



1° The material of the bellows having a slight memory effect, it's important to keep the bellows in low (release) position, the factory calibration having been made under this condition.

2° The calibration bolt situated under the bellows closing the switch of the base should never be unsettled.

CONVERSTION FORMULA:

The measuring pressure of the MK1 is 10 mm of water (10 mbar)

Result is given in seconds (necessary time for 0.25 liter of air to go through 40 cm^2 of fabric under a pressure of 10 mbar)

Formula to convert POROSIMETER JDC MK2:

1. Industry standard #1 (liter per m^2 per min) (pressure of 200 mm of water)

$$\frac{\textbf{5400}}{\textbf{time in second*}}$$

**Divide 5400 by the time displayed on the MK2*

1. Industry standard #2 (cm^3 per cm^2 per sec) (pressure of 200 mm of water)

$$\frac{\textbf{9000}}{\textbf{time in second*}}$$

**Divide 9000 by the time displayed on the MK2*

DIFFERENCES BETWEEN MK1 & MK2

The graphic in the following explain the differences in measurment between the porosimeter Mk1 and the new porosimeter Mk2 and its remote probe.

INFLUENCE OF THE COATING'S SIDE

a) This part shows you the influence of the direction the air is passing through the fabric. The error margin change according to the fabric type and the coating. That can be until 20% of the measured value.

INFLUENCE OF THE SIDE LEAK

b) This part shows you the influence of the side leak between the two porosimeter. The Mk2 brings about a clear improvement in the high values. The fabric is better stuck on the rubber seal, decreasing the potential of leaks.

Remarks: It should be noted that up to hundred of seconds the leaks have a negligible effect , and that the Mk1 and the Mk2 give very similar results.

JDC INSTRUMENTS

SWISS MADE

Developed and manufactured by:

JDC ELECTRONIC SA
Avenue des Sports 42
1400 Yverdon-Les-Bains
Switzerland

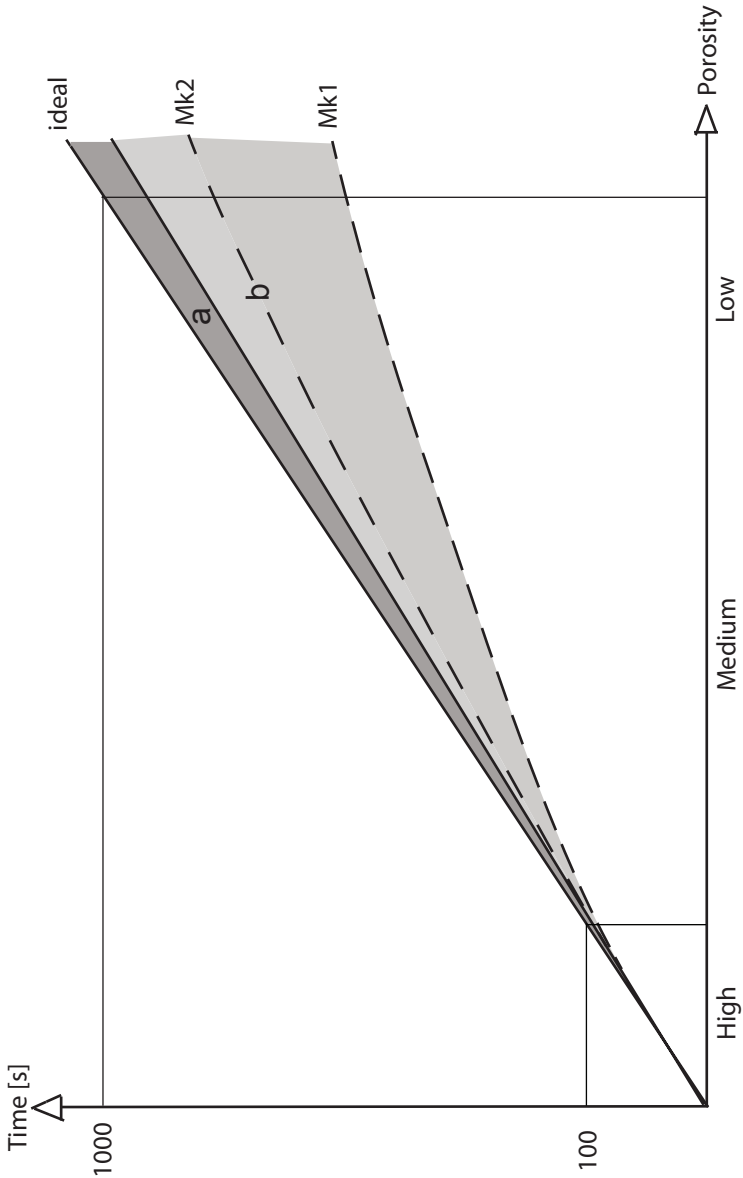
Phone +41 (0)24 445 21 21
www.jdc.ch info@jdc.ch

CE

POROSIMETER JDC MK2

A Professional Instrument From JDC ELECTRONIC SA

GRAPHIC
DIFFERENCE
POROSIMETER Mk1 &
POROSIMETER Mk2



SWISS MADE

Developed and manufactured by:

JDC ELECTRONIC SA
Avenue des Sports 42
1400 Yverdon-Les-Bains
Switzerland

Phone +41 (0)24 445 21 21
www.jdc.ch info@jdc.ch

POROSIMETER JDC MK2

A Professional Instrument From JDC ELECTRONIC SA

Developed and manufactured by:

JDC ELECTRONIC SA
Avenue des Sports 42
1400 Yverdon-Les-Bains
Switzerland

Phone +41 (0)24 445 21 21
www.jdc.ch info@jdc.ch

SWISS MADE