



# PM1 Pachymeter

Ophthalmic Series



## PM1 Pachymeter

The first of Occuity's revolutionary handheld optical ophthalmic devices, the PM1 Pachymeter allows central corneal thickness measurements to be taken in seconds.

To take a measurement, the operator simply touches the screen to put the pachymeter in scanning mode and holds it up to the patient's eye. The PM1's advanced Precision Optical Technology provides feedback to help the operator to position the device correctly. Once aligned the PM1 captures data hundreds of times per second before calculating and displaying a precise CCT measurement.

There is no need to anaesthetise or touch the eye, reducing the risk of infection transmission and making the whole process quick and safe for both the operator and subject.

Measure **corneal thickness...**  
*in seconds*

### Non-contact

No need to anaesthetise or touch the eye  
- improving patient experience

### Handheld

Desktop capability, handheld utility

### Easy to Operate

The PM1 requires no training

### Reduced Chair Time

Results in just a few seconds

### Safe

Significantly reduced risk of disease transmission and injury

### Accurate

Measure corneal thickness accurately, reliably and repeatably

### Cost Effective

Desktop performance, handheld pricing

### Wireless Charging

Ready when you need it

### No Consumables

No waste, no waiting



## Features & Benefits

### Non-contact

#### A great clinician and patient experience

The PMI's non-contact capabilities make it totally pain-free, requiring no anaesthetic drops and delivering a comfortable experience for both the clinician and the patient.

### Accurate

#### Measure corneal thickness, accurately, reliably and repeatably

The PMI delivers reliable, repeatable CCT measurements with a target accuracy of  $\pm 10$  microns.

*The PMI is currently undergoing CE certification and FDA approvals.*

### Handheld

#### Desktop capability, handheld utility

Weighing 345g and measuring just 17.5cm in length, the PMI's compact, ergonomic design ensures it is comfortable to operate whilst offering convenient portability and storage.



### Reduced Chair Time

#### Results in just a few seconds

As the PMI is non-contacting, there is no need to wait for anaesthetic eye drops to take effect. This significantly reduces the overall time it takes to make a measurement.

### Easy to Operate

#### Intuitive design means no training is required

The PMI's touchscreen interface has been thoughtfully designed making it easy and intuitive to use. Clinical staff and technicians can become proficient with just a few minutes of practice.

### Safe

#### Reduced risk of disease transmission and injury

With its generous working distance, the PMI never needs to touch the eye - significantly reducing the potential risk of cross infection and accidental damage to the cornea. In particular, the PMI's non-contact capability enhances COVID-19 safety.



## No Consumables

### No waste, no waiting

Removing the need to contact the eye, removes the need for anaesthetic eye drops, waiting and cleaning times. This reduces costs, waste, downtime, and the risk of damaging equipment through cleaning. The PMI was designed with sustainability in mind.

## Wireless Charging

### Ready when you need it

The Occuity PMI will always be ready thanks to the innovative wireless charging cradle. Once placed back on the cradle, the battery will charge automatically. The cradle also contains a built-in reference artefact so the device can automatically perform a self-check when required giving confidence in its reliable operation.

## Cost Effective

### Desktop performance, handheld pricing

Enjoy the accurate measuring and non-contact capabilities of expensive optical desktop devices at a price point comparable to existing contacting ultrasound devices.



# Precision Optical System

The Occuity PMI utilises confocal microscopy to project a diffraction-limited spot of light into the eye. An intensity peak is generated when the spot passes through and interacts with either the anterior or posterior cornea. By analysing the distance between the intensity peaks the PMI can accurately calculate the thickness of the cornea.

To ensure precision, the PMI takes 200 scans per second. Following these scans, it presents the measurement with an accompanying confidence percentage, indicating the reliability of the data. The operator then takes two additional measurements, before the PMI displays an average measurement and its standard deviation.

Occuity's patented optical technology ensures that in addition to being accurate, the PMI is also compact and very cost-effective, making it an advanced yet accessible tool in eye health diagnostics.

## Clinically Proven

*"The PMI pachymeter shows excellent precision for CCT measurements across a range of corneal thicknesses in normal eyes and provides a safe and easy-to-use alternative to ultrasound pachymetry."*

**Ophthalmic and Physiological Optics  
Journal of the College of Optometrists**

**View  
Clinical Trial**







## Watch Video

Visit the Occuity website for more



The Occuity PMI Pachymeter makes it easier and safer to measure central corneal thickness in just a few seconds.

# Comparison

	Occuity PM1	Ultrasound Pachymeters
<b>Technology</b>	Optical	Ultrasound
<b>Contact</b>	Non-contact	Multiple contacts of the cornea
<b>Total Measurement Time</b>	Full measurement in seconds	Full process takes several minutes
<b>Risk</b>	Significantly reduced risk of disease transmission and injury	Risk of accidental corneal damage & infection transmission
<b>Cleaning/Disinfecting</b>	Minimal cleaning required	Disinfecting is required between every patient
<b>Consumables</b>	None	Anaesthetic drops, cleansing wipes, replacement probes
<b>Operators</b>	Healthcare professionals	Specialist trained clinicians only
<b>Training</b>	Intuitive design with limited training required	Specialist device and anaesthetic training required
<b>Display</b>	TFT touchscreen display	Generally basic LCD screens

## Technical Specification\*

<b>Model</b>	PM1
<b>Device Type</b>	Pachymeter
<b>Overall dimensions</b>	17.5 cm x 15 cm x 4.5 cm
<b>Weight</b>	345 g
<b>Display</b>	3.46" Colour LCD
<b>Laser source</b>	Group 1 (BS EN 15004-2:2007)
<b>Measurement units</b>	µm
<b>CCT measurement range</b>	300 µm to 800 µm
<b>CCT measurement accuracy</b>	± 10 µm
<b>Scanning frequency</b>	200 scans per second
<b>Measurement time</b>	< 10 s
<b>Measurement resolution</b>	1 µm
<b>Battery</b>	Li-ion 7.4 V 1050 mAh
<b>Charger</b>	Input: 100-240 V at 50/60 Hz (Universal)
<b>Charging Time</b>	Up to 4 hours
<b>Auto power-off when idle</b>	20 minutes

\*This technical information is for guideline purposes only and is subject to change pending regulatory approval and CE marking. For more information please contact us.

# About Occuity

Founded in 2019, Occuity is a UK-based medical technology company specialising in the research, design, and production of handheld non-contact optical instruments for use in healthcare, diagnostics, and monitoring.

## Optometry & Ophthalmology

Occuity are developing a range of devices within our Ophthalmic series and our first device, the Occuity PM1, is the world's first handheld, non-contact, optical pachymeter. Building upon the underlying technology in the PM1, our pipeline of future products will enable other measurements within the eye including axial length, pupillometry and keratometry for use in both human and veterinary optometry.

## Disease Screening

Building upon our existing technology, Occuity's disease screening products are planned to make it easier and cheaper to screen for diseases such as diabetes and Alzheimer's in non-clinical settings such as high street opticians and care homes.

## Disease Monitoring

Occuity plan to deliver the Occuity Indigo - the world's first non-invasive, non-contact glucose meter which can determine blood glucose levels by measuring subtle changes within the anterior chamber of the eye.

Find Out More - [www.occuity.com](http://www.occuity.com)

## Find Out More:

[www.occuity.com/pm1](http://www.occuity.com/pm1)



### Please note:

The PMI is currently undergoing CE certification and is not yet available for sale.

### Contact Details

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MAR/PM1/BRO - 001.4

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Product: PMI Pachymeter  
The availability of products and features may vary by country. Occuity reserves the right to change product specifications and design. All information is valid at the time of production (01/23).

EN ISO 13485:2016 Certified

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