

Optimec[®] Chiltern

Soft contact lens metrology

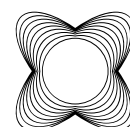


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Optimec Document No D20152-00

User Manual & Operating Instructions

- *Diameter*
- *BCOR*
- *Centre Thickness*
- *Surface/Edge Inspection*
- *Quick & Easy to Operate*
- *Compact Dimensions*
- *Small Footprint*



OPTIMEC[®]

ENGLAND

www.lenser17.com

User Manual & Operating Instructions

Contents

Front Cover - Photograph of Chiltern Instrument

Page 1 - Contents

Page 2 - Cell Details: Cell Front View

Page 3 - Cell Details: Cell Side View

Page 4 - Cell Details: Cell Top View

Page 5 - Instrument Set-Up Details

Page 6 - Instrument Operating Instructions

Page 7 - Instrument Operating Instructions

Page 8 - Users Information

Page 9 - Technical Specifications

Page 10 - Guarantee Conditions

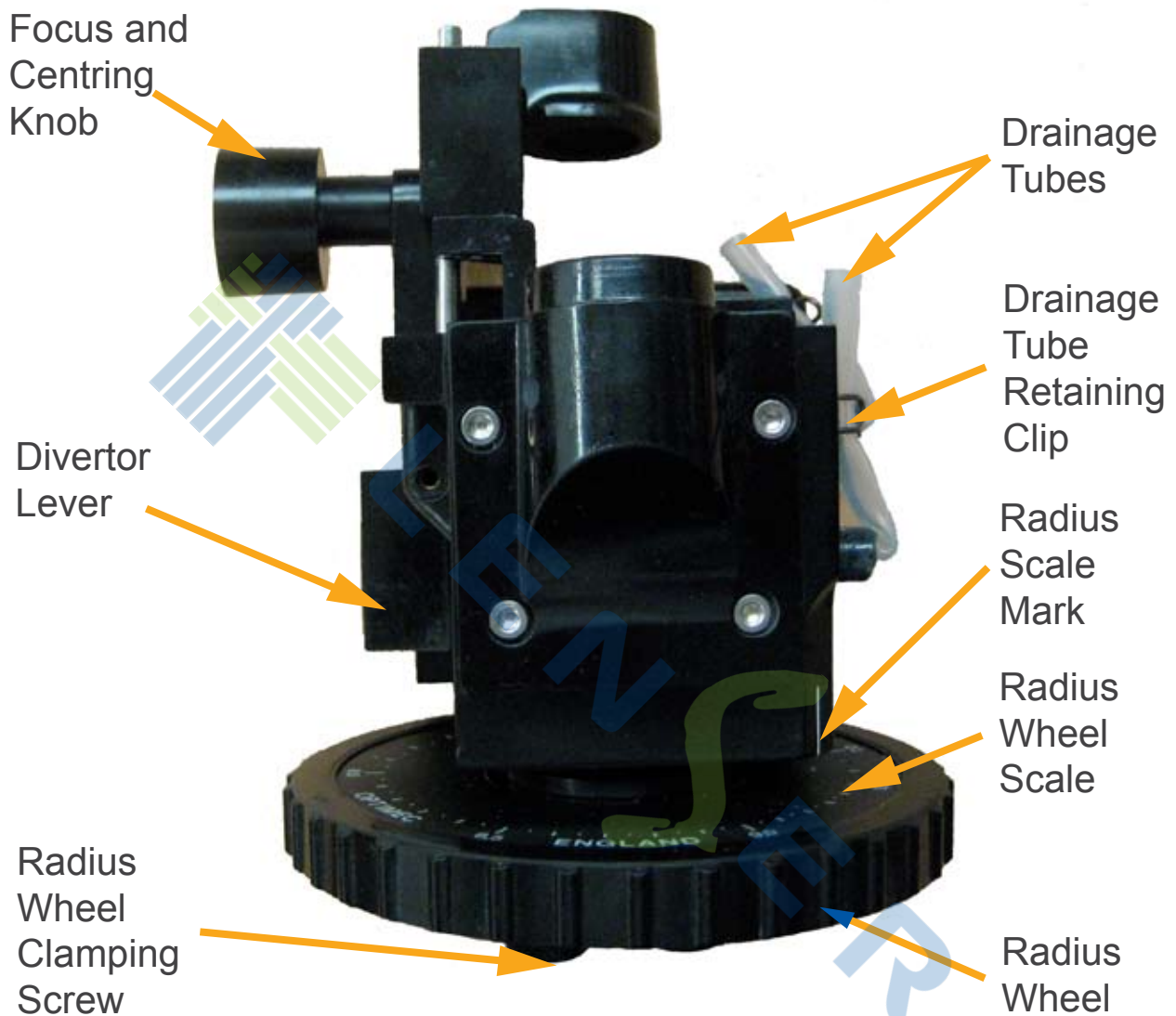
Page 11 - Certificate of Conformity

Page 12 - 14 Notes

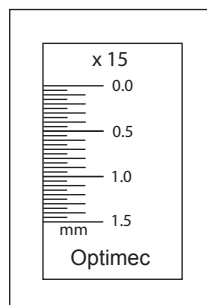
Back Cover - Contact Details

Chiltern Cell Details

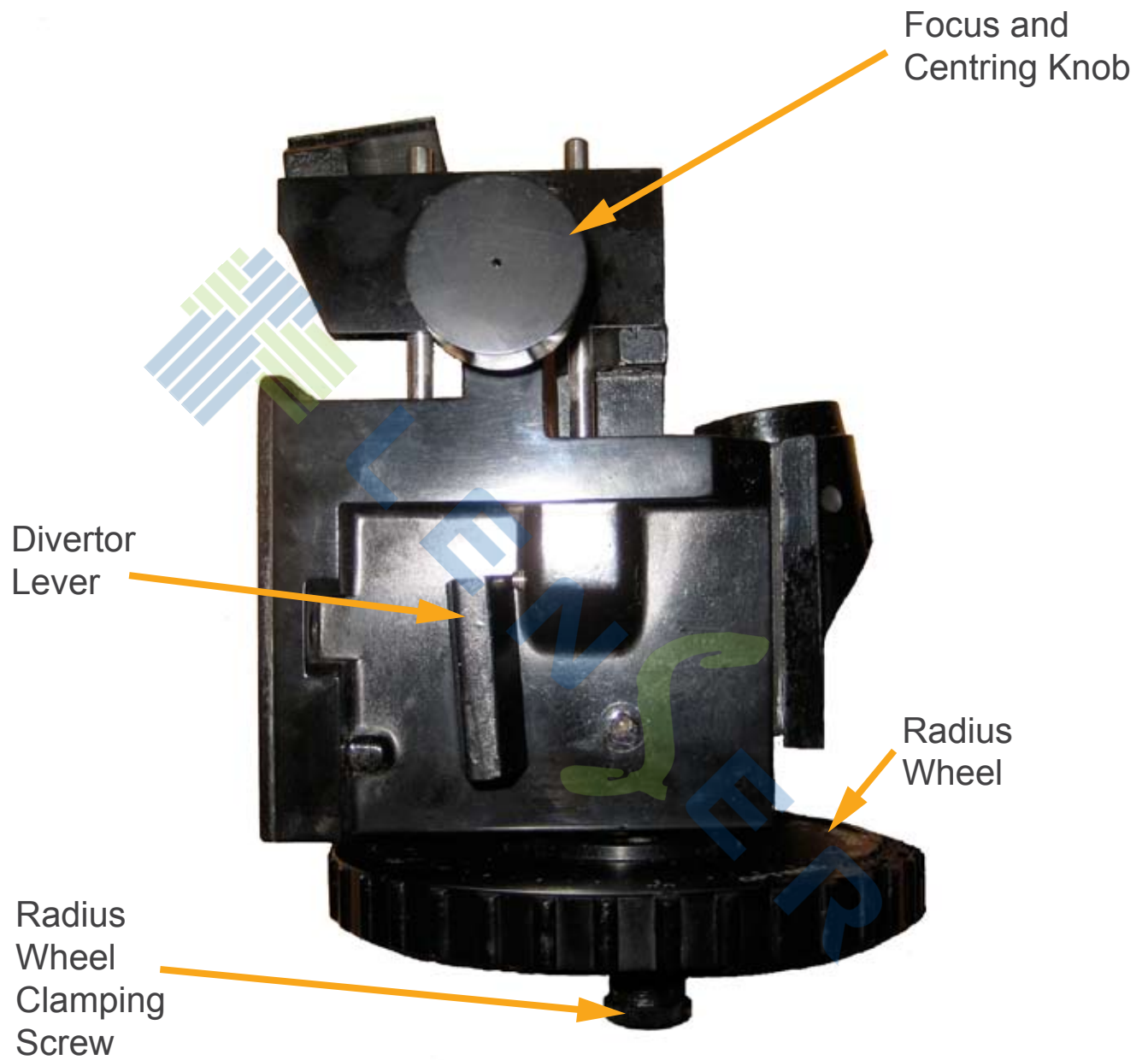
Cell Front View



Centre Thickness Scale

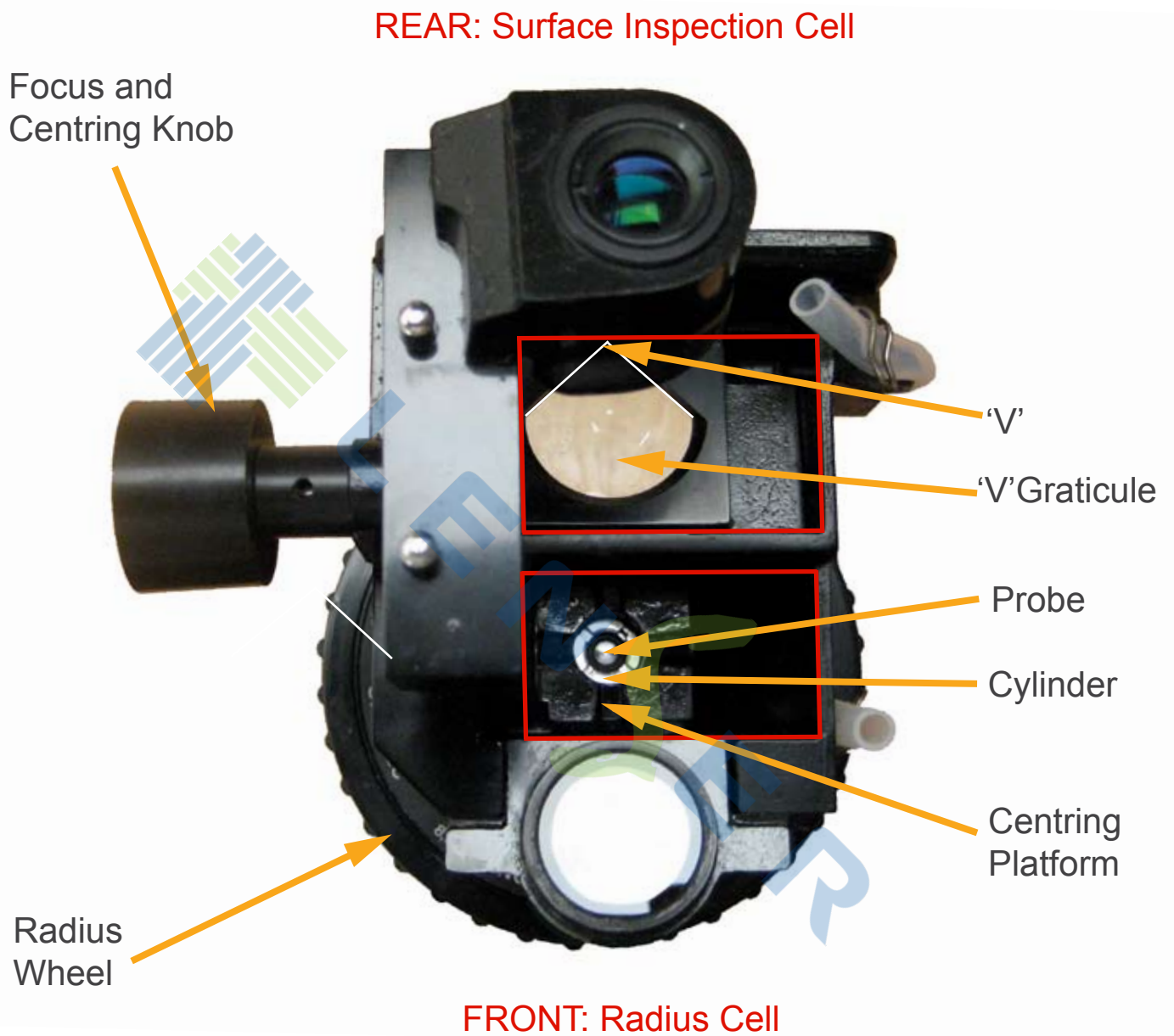


Cell Side View



Chiltern Cell Details

Cell Top View



Chiltern Set Up Details

Fitting the Cell

1. Unpack carefully and place the Cabinet Assembly on a firm worktop.
2. Unpack the Cell Assembly.
3. Align the Cell Assembly with the Cabinet Face Plate.
4. Attach using the two Allen Screws and tighten with the Allen key provided.
5. Unpack the mains lead and power supply and plug into the socket which is mounted at the rear of the Cabinet.
6. Fit the Dust Cover whilst not in use.
7. The assembly is now complete.

Start Up Procedure

1. Unpack carefully and place the Cabinet Assembly on a firm worktop.
2. Unpack the Cell Assembly.
3. Align the Cell Assembly with the Cabinet Face Plate.
4. Attach using the two Allen Screws and tighten with the Allen key provided.
5. Unpack the mains lead and power supply and plug into the socket which is mounted at the rear of the Cabinet.
6. Fit the Dust Cover whilst not in use.
7. The assembly is now complete.

Chiltern Operating Instructions

Front: Radius Cell

1. The contact lens is supported convex side up on a vertical Cylinder 10mm in diameter and a cross section of the contact lens is projected onto the screen.
2. Turn the Divertor Lever to the horizontal position.
3. Turn the Radius Wheel clockwise to retract the Probe.
4. Turn the Focus and Centring Knob to raise the Centring Platform level with the top of the Cylinder.
5. Place the contact lens convex side up on the Centring Platform over the Cylinder.
6. Use the Focus and Centring Knob to raise and lower the contact lens until it rests symmetrically on the Cylinder.
7. Examine the edge profile of the contact lens.

Radius Measurement

1. With the contact lens in position on the Cylinder place the Centre Thickness Scale on to the projected image of the contact lens.
2. Rotate the Radius Wheel anti clockwise to raise the Probe up the centre of the Cylinder until the tip of the Probe just touches the back (concave) surface of the contact lens. In practice the Probe is raised and lowered slightly a couple of times until the smallest movement of the contact lens front surface, relative to the lines on the Centre Thickness Scale, is just visible.
3. Read the BCOR directly (in mm) from where the Radius Scale Mark meets the Radius Wheel Scale.

Centre Thickness

1. Do not move the Probe from its position following the BCOR measurement.
2. With the Probe Tip still touching the back (concave) surface of the contact lens, line up the zero on the Centre Thickness Scale with the front surface image of the lens.
3. Leaving the Probe and Centre Thickness Scale in position, transfer the contact lens into the REAR: Surface Inspection Cell, convex side up.
4. Read the centre thickness directly (in mm) from the Centre Thickness Scale at the image of the Probe tip.

Rear: Surface Inspection Cell

1. The contact lens is placed convex side up on a 'V' Graticule which slopes 10 degrees allowing the contact lens to slide into position against the 'V', and a plan view image of the whole contact lens is projected on to the screen.
2. Raise the Divertor Lever on the left side of the Cell Assembly to allow the projection of the contact lens plan image.
3. Ensure the contact lens rests against the 'V'.

Diameter Measurement

1. With the contact lens in position use the Focus and Centring Knob to bring the outside edge image of the contact lens, and the two diameter scale images, into focus.
2. Read the two diameter measurements directly (in mm).
3. A comparison of these two measurements will show any eccentricity of the contact lens.

Surface Inspection

1. With the outside edge of the contact lens in focus the complete edge can be inspected.
2. Using the Focus and Centring Knob, focus through the whole depth of the contact lens for a full surface inspection.

Chiltern Users Information

Best Practice

1. Replace contact lenses into original containers.
2. At end of day empty the cells through the drain tubes, rinse thoroughly with distilled water before drying the instrument.
3. When the Chiltern is not in use, always turn off the power and fit the dust cover.
4. Use lens cloths only for cleaning Chiltern optics.
5. If saline is spilled, disconnect the power supply and mop up with a clean damp cloth.

IMPORTANT: DO NOT USE ABRASIVE CLEANERS, METAL INSTRUMENTS, SOLVENTS OR DISINFECTANTS EXCEPT HYDROGEN PEROXIDE 3%

Calibration

1. Set the supplied 8.5mm BCOR Radius Calibration Button into the FRONT: Radius Cell centrally on the Cylinder.
2. Turn the Radius Wheel anti clockwise to raise the Probe until it just touches the back surface of the Radius Test Button.
3. Read the scale on the face of the Radius Wheel. If the reading is the same as the Radius Calibration Button dimension, the instrument calibration is correct.
4. If the Chiltern requires adjustment; with the Radius Calibration Button still in position, slightly loosen the two Wheel Clamping Screws on the underside of the Radius wheel.
5. Turn the Radius Wheel until the Radius Scale is at the correct reading and retighten the Wheel Clamping Screws.
6. Recheck the calibration.

Maintenance

1. To change an OPTIMEC LED light engine, ENSURE THE INSTRUMENT HAS COOLED DOWN AND IS DISCONNECTED FROM THE POWER SUPPLY.
2. Remove the Rear Cover Plate Screw and then the Rear Cover Plate. Disconnect the two bullet wiring connectors from the existing LED light engine and, holding the LED light engine tube, pull it rearwards and away from the instrument light tube.
3. Push the new light engine tube fully over the instrument light tube and refit the bullet wiring connectors. Replace Rear Cover Plate and reconnect to the power supply.
4. Keep the CHILTERN clean and dry at all times, this will dramatically improve the life of the instrument. Most repairs required of the CHILTERN are due to saline contamination and associated corrosion.

Chiltern Instrument Specification

Technical Specification

Height (mm)	Width (mm)	Depth (mm)	Weight (kg)	Electrical Options	Projection Lamp	Approx Power Consumption (watts)
485	296	374	11	100 - 230 Volts 50-60Hz	12V 6.6W LED Light Engine <small>Colour temperature 4350K (+/- 650K)</small>	15

BCOR Range (mm)	Accuracy (mm)	Diameter Range (mm)	Accuracy (mm)	Saggital Height Range (mm)	Control Temperature °C	Variable Temp. Range °C	Magnification Side Elevation	Magnification Plan View
6.9 - 9.5 <small>0.05mm Divisions</small>	(+/-) 0.02	6 - 16 <small>0.1mm Divisions</small>	(+/-) 0.025	N/A	N/A	N/A	x 17	x 16

Important

The CHILTERN utilises a Universal power supply that will run from a 100 - 230 Volts AC, 50 - 60 Hz supply.

The power inlet to the CHILTERN is supplied with 12 Volts DC from the power supply. The Universal power supply is not fused as it is designed to shut down if a fault condition occurs.

Should you find any problems regarding the power supply or failure of the projection lamp to light, please contact Optimec urgently and refrain from using the instrument until guidance is received from Optimec Limited.

IMPORTANT FOR SAFETY AND OPTIMUM INSTRUMENT LIFE IT IS ESSENTIAL TO ALWAYS USE:

12V 6.6W OPTIMEC LED light engine.

Replacements may be obtained from Optimec Limited.

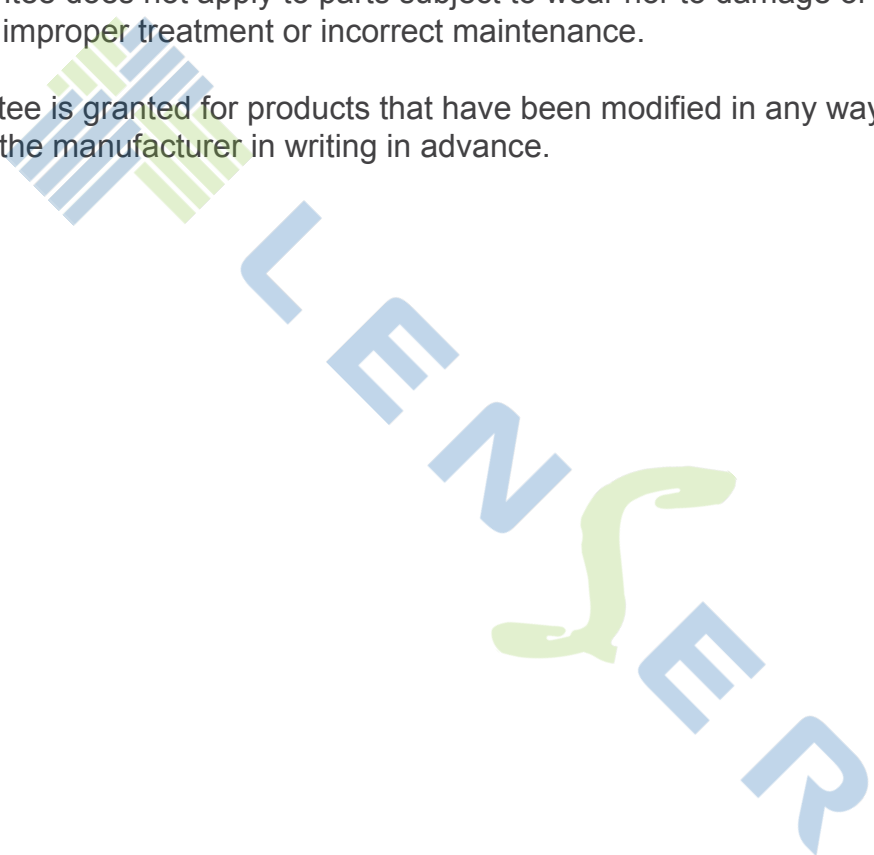
Guarantee Conditions

The conditions and performance of Optimec instruments are guaranteed for a period of one year. The guarantee period commences from the date of sale.

We guarantee the elimination of all faults arising from materials or manufacture. The guarantee will be fulfilled either by repair or replacement of faulty parts at our option.

The guarantee does not apply to parts subject to wear nor to damage or defects caused by improper treatment or incorrect maintenance.

No guarantee is granted for products that have been modified in any way unless agreed by the manufacturer in writing in advance.



EC Declaration of Conformity

EC Declaration of Conformity

In accordance with BS EN ISO/IEC 17050-1:2010

We: Optimec Limited

Of: Unit B3, Haysfield Business Centre, Spring Lane North, Malvern, Worcestershire, WR14 1GF, UK

declare that:

Equipment: Contact Lens Inspection Instrument
Model name/number: CHILTERN

The following CE Marking Directives are applicable:

- | | |
|-------------|--|
| 2006/42/EC | Conforms with the essential health and safety requirements of the Machinery Directive and its amending Directives |
| 2004/108/EC | Conforms with the essential protection requirements of the Electromagnetic Compatibility Directive and its amending Directives |

and has been designed and manufactured to the following standards:

- | | |
|-------------------------------|---|
| EN 61326-1:2006 | Electrical equipment for measurement, control and laboratory use — EMC requirements — Part 1: General requirements |
| EN 61000-3-2:2006
+A2:2009 | Electromagnetic compatibility (EMC). Limits. Limits for harmonic current emissions (equipment input current ≤ 16 A per phase) |
| EN 61000-3-3:2008 | Electromagnetic compatibility (EMC). Limits. Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection |

I hereby declare that the equipment named above has been tested and found to comply with the relevant sections of the above referenced specifications. The unit complies with all essential requirements of the Directives.

Signed by: 

Name: Andrew Perkins

Position: Director

Done at: Optimec Limited

On: 19 SEPTEMBER 2013



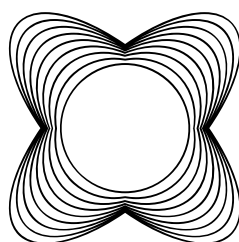






Contact Details

**Designed
and
Manufactured
by**



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Optimec is accredited to
BS EN ISO 9001:2008
For the provision of lens measuring
and lens inspection instruments
Certificate No. GB2002543



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