ServiceCentre

TheLabModularSystem

EasyNavigationConcept

EQUIPMENTS

centrostyle®
around people

4.0 EQUIPMENTS AND APPLIANCES

4.1 Frame Heaters

4.2 Germicidal Lamp for frames

4.3 Ultrasonic Cleaners

4.4 Testers

4.5 Hand Edgers and Bench Polisher

4.6 Drills and Millers

4.7 Soldering Units

4.8 Tinting units

4.1 FRAME HEATERS

Frame heaters for the practice

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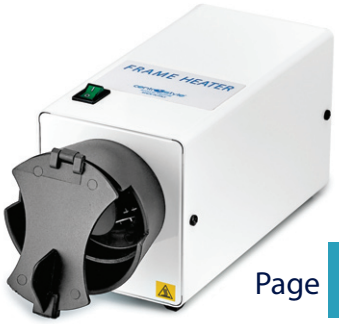

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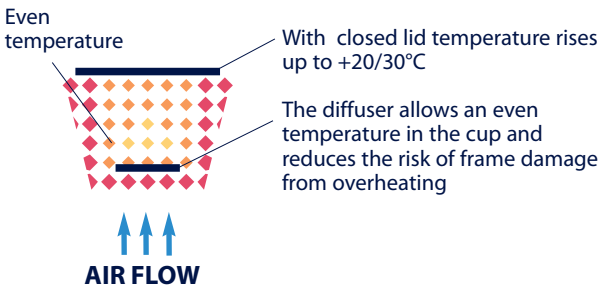

FRAME HEATERS

4.1

Frame heaters for the practice and the lab

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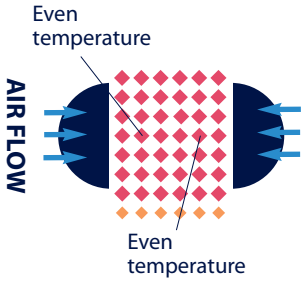
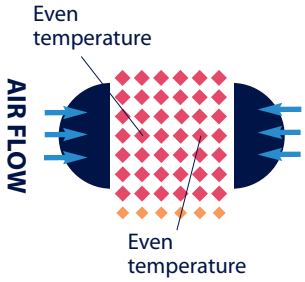
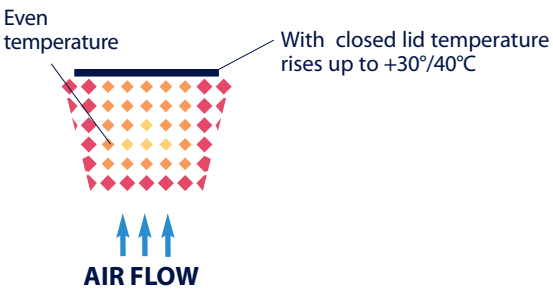
Heater systems, more commonly called frame heaters, are used with plastic frames to make them malleable and modifiable, both to facilitate the insertion of the lenses, and to adjust temple tips, temples and fronts based on the facial features of the person who will then be wearing the glasses.
The adjustment of the frame will make the glasses more stable and more comfortable by ensuring the correct positioning of the optical centre of the lenses on the face.
There are various types of frame heaters: laboratory or bench and vertical or horizontal, depending on the habits and needs of the user. The units take advantage of a single or double airflow to ensure greater heating uniformity of the frame to be adjusted.
Sometimes it may be useful to be able to concentrate the heat at a more specific point such as the bridge of the glasses. To do this, there is an accessory called a heat concentrator that can be easily applied to the frame heater when needed.

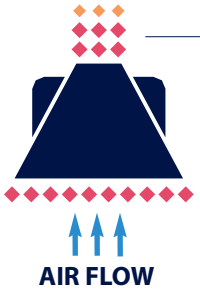




4.1 ALUMINIUM FRAME HEATER

Single air flow - Multiple temperature setting





- Designed to direct the hot air onto a specific part of the frames, e.g. the bridge

FRAME HEATER HORIZONTAL

Ref. 05017

Constant air temperature, controlled by variable thermostat with one cooling setting

- Heat concentrator included.
- Internal temperature regulator.
- Heat resistant plastic cup and lid.

Air temperature:
with open lid 150°C
with closed lid 190°C

Overall measurements:
116x150x300 mm
Weight: 1.8 kg

SPARE PARTS

Ref. 05020.3
Heat concentrator

PLUG SUPPLIED

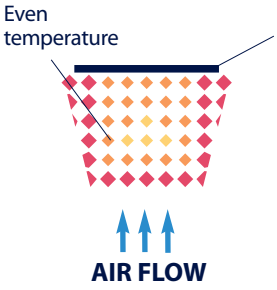
Ref. 05017	230V AC
Ref. 05017CH	230V AC
Ref. 05017GB	230V AC
Ref. 05017AUS	230V AC

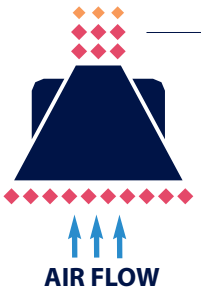
COLD AIR	HOT AIR	TEMPERATURE RANGE	POWER CONSUMPTION	FRAME HEATED UP IN
		~150° ~190°	350 WATT	40"

ALUMINIUM FRAME HEATER

4.1

Single air flow - Multiple temperature setting





- Designed to direct the hot air onto a specific part of the frames, e.g. the bridge

FRAME HEATER UPRIGHT

Ref. 05019

Constant air temperature, controlled by variable thermostat with one cooling setting

- Heat concentrator included.
- Internal temperature regulator.
- Heat resistant plastic cup and lid.

Air temperature:
with open lid 150°C
with closed lid 190°C

Overall measurements:
152x180x322 mm
Weight: 1.8 kg

SPARE PARTS

Ref. 05020.3
Heat concentrator

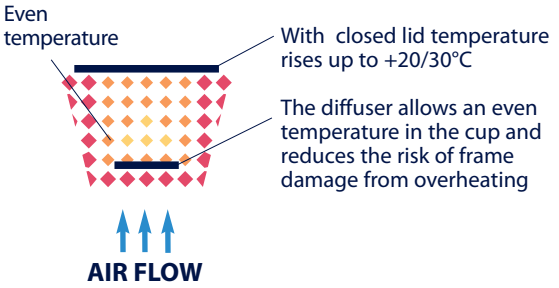
PLUG SUPPLIED

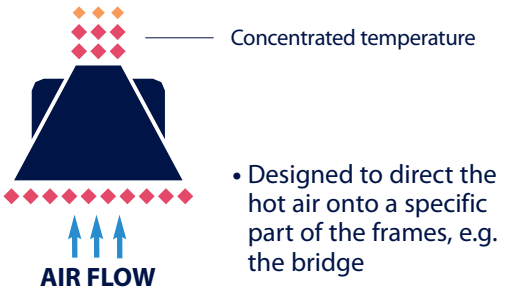
Ref. 05019 230V AC
Ref. 05019CH 230V AC
Ref. 05019GB 230V AC
Ref. 05019AUS 230V AC

COLD AIR	HOT AIR	TEMPERATURE RANGE	POWER CONSUMPTION	FRAME HEATED UP IN
		~150° ~190°	350 WATT	40"

4.1 FRAME HEATER

Single air flow - One temperature setting





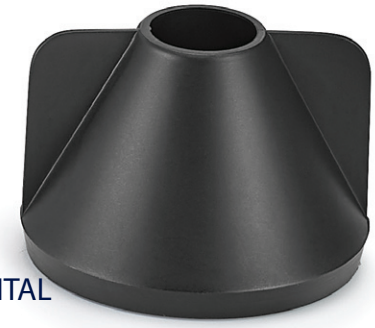
- Designed to direct the hot air onto a specific part of the frames, e.g. the bridge

- Heat concentrator included.
- Internal temperature regulator.
- Heat resistant plastic cup and lid.

Air temperature:
with open lid 120°C
with closed lid 140°C

SPARE PARTS

Ref. 05020.3 Heat concentrator
Ref. 05020.1 Heating element
Ref. 05020.5 Switch ON/OFF

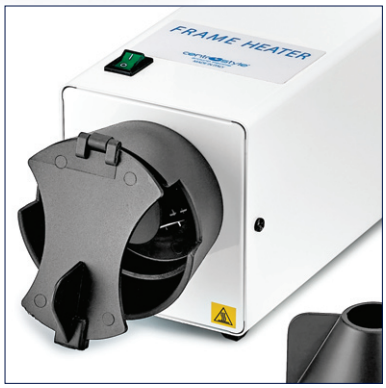


FRAME HEATER UPRIGHT

Ref. 05022
Overall measurements:
140x140x300 mm
Base: 140x140 mm
Weight: 1.8 kg

FRAME HEATER HORIZONTAL

Ref. 05020
Overall measurements:
110x110x250 mm
Weight: 1.8 kg



TEMPERATURE RANGE	POWER CONSUMPTION	FRAME HEATED UP IN
~120° ~140°	450 WATT	40"

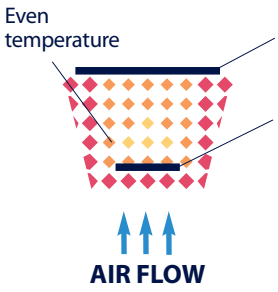
PLUG SUPPLIED

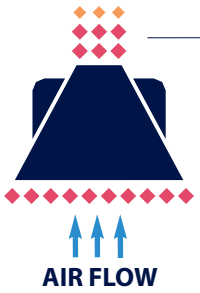
Ref. 05020/05022	230V AC
Ref. 05020/05022CH	230V AC
Ref. 05020/05022GB	230V AC
Ref. 05020/05022AUS	230V AC

FRAME HEATER

4.1

Single air flow - Multiple temperature settings





- Designed to direct the hot air onto a specific part of the frames, e.g. the bridge

FRAME HEATER MULTIPLE TEMPERATURE

Ref. 05030

- Variable electronic temperature control from 75°C to 180°C.
- Constant air stream.
- Heat concentrator.
- Heat diffuser cup with lid.

Size: 105x160x255 mm
Weight: 1.5 kg.

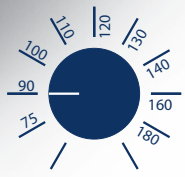
SPARE PARTS

Ref. 05030.1 - Heating element
Ref. 05030.2 - Heat diffuser cup with lid
Ref. 05030.3 - Heat concentrator

PLUG SUPPLIED

Ref. 05030	230V AC
Ref. 05030CH	230V AC
Ref. 05030GB	230V AC
Ref. 05030AUS	230V AC

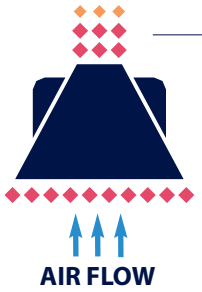
TEMPERATURE RANGE	POWER CONSUMPTION	FRAME HEATED UP IN
~75° ~180°	300 WATT	40"



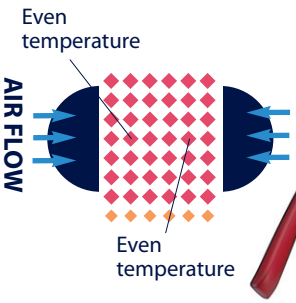
Multiple temperature setting

4.1 FRAME HEATER

Dual air flow - Two temperature settings 75°C and 140°C



- Designed to direct the hot air onto a specific part of the frames, e.g. the bridge



FRAME HEATER
Ref. 05024

- Constant air temperature controlled by internal thermostat.
- Two temperature settings, 75°C and 140°C.
- Heat resistant plastic vents and lid.
- Heat resistant plastic heat concentrator included.
- Incorporates safety thermal cut-out switch.

Size: 200x144x213 mm
Weight: 1.6 kg.

PLUG SUPPLIED

Ref. 05024 230V AC
Ref. 05024CH 230V AC
Ref. 05024GB 230V AC
Ref. 05024AUS 230V AC

SPARE PARTS

Ref. 05024.3 Heat concentrator
Ref. 05024.1 Heating element
Ref. 05020.5 Switch ON/OFF
Ref. 05024.6 SPDT Switch

TEMPERATURE RANGE	POWER CONSUMPTION	FRAME HEATED UP IN
~75° ~140°	900 WATT	30"

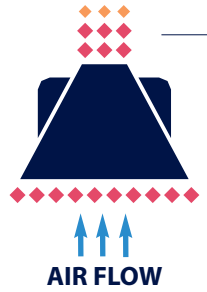
LOW TEMPERATURE 75°C:
for polycarbonate and special frame materials e.g. optyl, polyamide, compounds.

MEDIUM/HIGH TEMPERATURE 140°C:
for traditional materials.

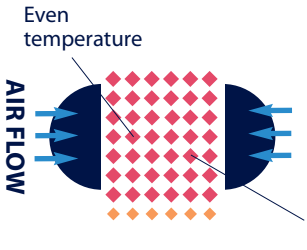
FRAME HEATER

4.1

Dual air flow - Multiple temperature settings



- Designed to direct the hot air onto a specific part of the frames, e.g. the bridge



Dual air streams, even temperature on rim without having to move frame

MULTIPLE TEMPERATURE SETTING

Ref. 05015

Constant air temperature, controlled by variable thermostat.

Two heat and one cooling settings:

1. **Using the 1st heat setting:**
   - Middle temperature 75°C – 100°C (167-212°F), controlled by variable thermostat.
2. **Adding the 2nd heat setting:**
   - High temperature 120°C -160°C (248-320°F), controlled by variable thermostat.
3. **Cooling setting:**
   - Separate cooling setting for cool air.
   - Heat resistant plastic concentrator included Ref. 05014.
   - Incorporates safety thermal cut-out switch.

Dimensions:
190x300x200 mm - Weight: 2.4 kg

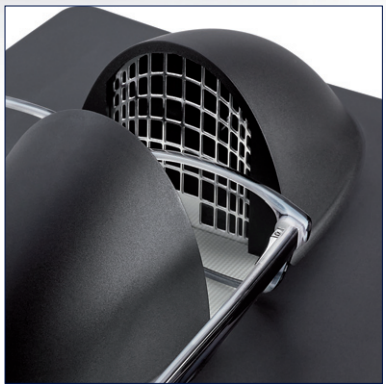
PLUG SUPPLIED

Ref. 05015 230V AC
Ref. 05015CH 230V AC
Ref. 05015GB 230V AC
Ref. 05015AUS 230V AC

SPARE PARTS

Ref. 05011
Heating element
Ref. 05014
Heat concentrator

COLD AIR	HOT AIR	RANGE 1 °C	RANGE 2 °C	POWER CONSUMPTION	FRAME HEATED UP IN
❄	☀	~75° ~100°	~120° ~160°	750 MIN. 1500 MAX. WATT	25"



4.2 GERMICIDAL LAMP FOR FRAMES

Germicidal device with UVC rays 253.7 nm with timer

8 frames

Page 14

15 frames

Page 15

30 frames

Page 15

- This machine has a special germicidal lamp powered with 253.7 nm UVC rays that quickly remove every single micro-organism.
- Frames and tools once disinfected can be kept for a long time, enabling them to be stored and ready for use. The treatment does not generate heat.
- Ideal for the treatment of frames, test lenses and flippers.
- The inside shelf keeps the items away from the reflective surface in order that the rays uniformly coat the products, so as to optimize germicidal action. For a better result we suggest you do not place items on top of each other.
- The security of the operator is guaranteed by a micro-switch that switches off the lamp whenever the door is open.
- Solidly built, the external metal parts have a coated surface whilst the inside is shiny stainless steel with the viewing door fitted to protect from the UVC rays.
- We suggest you disinfect any frames chosen by your customer prior to fitting/wearing.
- For frames with ophthalmic and special treatment lenses we suggest you remove the lenses first.
- A continuous treatment can cause the lenses to yellow.

4.2 GERMICIDAL LAMP FOR FRAMES

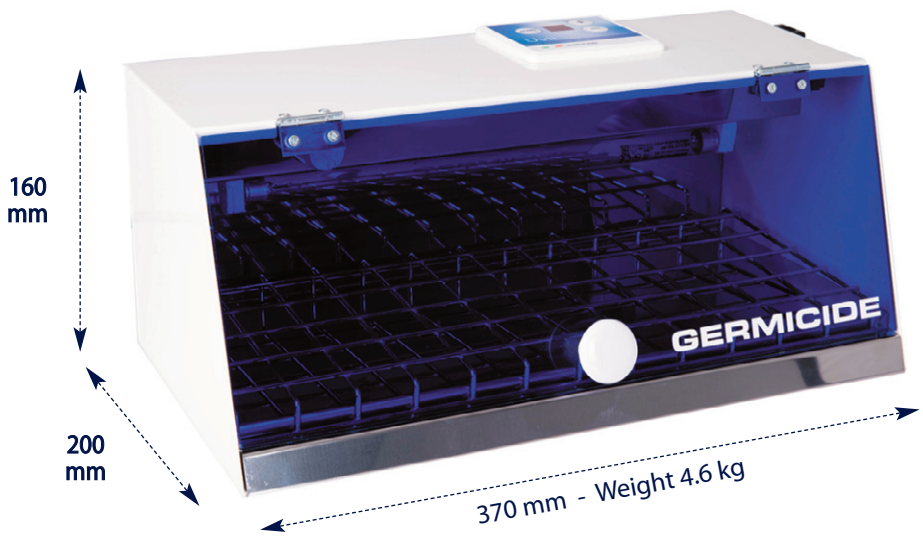
Germicidal device with UVC rays 253.7 nm with timer

8 FRAMES
Ref. 05040
It can holds up to 8 frames.
Accessories included:
• 1 Spray Clean 60 ml **antibacterial**
• 3 microfibre gloves

TECHNICAL FEATURES	
Energy consumption:	10W
Power consumption:	8W
Power Supply:	230V/50 Hz

PLUG SUPPLIED	
Ref. 05040	230V AC
Ref. 05040CH	230V AC
Ref. 05040GB	230V AC
Ref. 05040AUS	230V AC

Smaller dimensions, ideal for a practice with limited space.



VIDEO

Time for bacteriological load reduction from 60 to 90 seconds
Complete germicidal action: 5 minutes
We suggest you do not leave the frames for longer than suggested, and insert them with open temples.

SPARE PARTS

Ref. 05040.1
Germicidal lamp 8W
L = 28.5 cm
Ref. 05041.1
Germicidal lamp 15W
L = 43.5 cm
Ref. 05042.1
Germicidal lamp 30W
L = 89.5 cm
For Ref. 05040, 05041, 05042.

TIMER INCLUDED

CE EUROPEAN DIRECTIVE 2014/35/EU, 2014/30/EU, 2011/65/EU
IT IS NOT A MEDICAL DEVICE

GERMICIDAL LAMP FOR FRAMES

4.2

Germicidal device with UVC rays 253.7 nm with timer

15 FRAMES

Ref. 05041

It can holds up to 15 frames.
Accessories included:
• 1 Spray Clean 60 ml **antibacterial**
• 3 microfibre gloves

TECHNICAL FEATURES	
Energy consumption:	18W
Power consumption:	15W
Power Supply:	230V/50 Hz

PLUG SUPPLIED

Ref. 05041	230V AC
Ref. 05041CH	230V AC
Ref. 05041GB	230V AC
Ref. 05041AUS	230V AC

30 FRAMES

Ref. 05042

It can holds up to 30 frames.
Accessories included:
• 1 Spray Clean 60 ml **antibacterial**
• 3 microfibre gloves

TECHNICAL FEATURES	
Energy consumption:	35W
Power consumption:	30W
Power Supply:	230V/50 Hz

PLUG SUPPLIED

Ref. 05042	230V AC
Ref. 05042CH	230V AC
Ref. 05042GB	230V AC
Ref. 05042AUS	230V AC

4.3 ULTRASONIC CLEANERS

Digital Ultrasonic Cleaners

0,6 litres

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0,8 litres

Page 19

1,4 litres

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ULTRASONIC CLEANERS

4.3

Stainless Steel Ultrasonic Cleaners (Made in Germany)

0,8 litres

Page **21**

0,8 litres
with heating

Page **22**

2,75 litres
with heating

Page **23**

Ultrasonic cleaners employ high frequency energy generated electronically by a transmitter in the unit. The electrical energy generated is transformed into sound waves by a device known as “transducer”. Ultrasonic cleaners are easy to operate, require no maintenance and are economical to utilize due to the semiconductors technology. They are the ideal equipment for the cleaning of frames and parts.
The use of antibacterial detergent Active Liquid Ref. 06859 is recommended.

4.3 ULTRASONIC CLEANER

Digital setting - Continuous vibrations - **0,6 litres**

DIGITAL ULTRASONIC CLEANER - 0,6 LITRES

Ref. 05443

Ultrasonic cleaner with stainless steel 0,6 l tank
ideal for the cleaning of frames.

- Programming of 5 washing cycles from 90 to 480 seconds.
- Automatic stop at the end of the cycle.
- Transparent cover with automatic opening.
- Internal blue led illumination.

Accessories included:

- Plastic mesh basket.
- Watch, jewellery and CD holders.
- **Antibacterial detergent Active Liquid 150 ml**
  (for re-orders Ref. 06859 1 litre).

Dimensions:
External: 158x210x125 mm.
Basket: 122x144x42 mm.
Weight: 1,10 kg

PLUG SUPPLIED	
Ref. 05443	230V AC
Ref. 05443GB	230V AC
Ref. 05443AUS	230V AC

POWER CONSUMPTION	CAPACITY	FREQUENCY
50 WATT	0,60 LITRES	42 KHZ

ULTRASONIC CLEANER

Digital setting - Continuous vibrations - **0,8 litres**

DIGITAL ULTRASONIC CLEANER - 0,8 LITRES

Ref. 05448

Ultrasonic cleaner with stainless steel 0,8 l tank
ideal for the cleaning of frames.

- Programming of 5 washing cycles from 60 to 300 seconds.
- Automatic stop at the end of the cycle.
- Transparent cover.

Accessories included:

- Plastic mesh basket.
- Watch and jewellery.
- **Antibacterial detergent Active Liquid 150 ml**
  (for re-orders Ref. 06859 1 litre).

Dimensions:
External: 220x138x141 mm.
Basket: 160x95x55 mm.
Weight: 1,60 kg

POWER CONSUMPTION	CAPACITY	FREQUENCY
55 WATT	0,80 LITRES	40 KHZ

PLUG SUPPLIED	
Ref. 05448	230V AC
Ref. 05448GB	230V AC

4.3 ULTRASONIC CLEANER

Digital setting - Continuous vibrations - **1,4 litres**

DIGITAL ULTRASONIC CLEANER 1,4 LITRES

Ref. 05446

Ultrasonic cleaner with stainless steel 1,4 l tank:

- Programming of the washing cycles from 90 to 480 seconds.
- Memorization up to 5 washing programs.
- Automatic stop at the end of the cycle.

Accessories included:

- Plastic mesh basket.
- **Antibacterial detergent Active Liquid 150 ml** (for re-orders Ref. 06859 1 litre).

Dimensions:
External:180x230x160 mm.
Tank:140x170x160 mm.
Weight: 1,75 kg

PLUG SUPPLIED

Ref. 05446 230V AC
Ref. 05446GB 230V AC
Ref. 05446AUS 230V AC

POWER CONSUMPTION	CAPACITY	FREQUENCY
100 WATT	1,4 LITRES	42 KHZ

STAINLESS STEEL ULTRASONIC CLEANER 4.3

Variable timer switch - **0,8 litres**

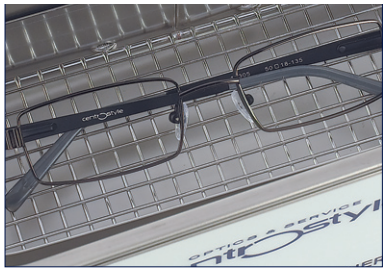
ACCESSORIES

Ref. 05451
Stainless steel mesh basket
for ultrasonic cleaner Ref. 05450
and Ref. 05456.

ULTRASONIC CLEANER - 0,8 LITRES

Ref. 05450
Stainless steel ultrasonic cleaner:

- Variable ± timer switch 0-30 min.
- Sweep function for optimised sound field distribution in the cleaning liquid
- Degas function for the efficient degassing of the cleaning liquid and for laboratory purposes
- Plastic lid included
- Powerful cleaning action.
- **Antibacterial detergent Active Liquid 150 ml.** (for re-orders Ref. 06859 1 litre).
- Made in Germany.



PLUG SUPPLIED

Ref. 05450	230V AC
Ref. 05450CH	230V AC
Ref. 05450GB	230V AC
Ref. 05450AUS	230V AC

Dimensions:
External: 206x116x178 mm.
Tank: 190x85x60 mm.
Weight: 2.0 kg.

POWER CONSUMPTION	CAPACITY	FREQUENCY
30 WATT	0,8 LITRES	37 KHZ

4.3 STAINLESS STEEL ULTRASONIC CLEANER

With adjustable heating - **0,8 litres**

ULTRASONIC CLEANER - 0,8 LITRES

Ref. 05456

Stainless steel ultrasonic cleaner:

- Variable ± timer switch 0-30 min.
- Adjustable temperature range from 30°C to 80°C
- Sweep function for optimised sound field distribution in the cleaning liquid
- Degas function for the efficient degassing of the cleaning liquid and for laboratory purposes
- Plastic lid included
- **Antibacterial detergent Active Liquid 150 ml** (for re-orders Ref. 06859 1 litre).
- Made in Germany.

Dimensions:
External: 206x116x178 mm.
Tank: 190x85x60 mm.
Weight: 2.0 kg.

PLUG SUPPLIED	
Ref. 05456	230V AC
Ref. 05456CH	230V AC
Ref. 05456GB	230V AC
Ref. 05456AUS	230V AC

ACCESSORIES

Ref. 05451

Stainless steel mesh basket for ultrasonic cleaner Ref. 05450 and Ref. 05456.

POWER CONSUMPTION	CAPACITY	TEMPERATURE RANGE	FREQUENCY
90 WATT	0,8 LITRES	~30° ~80°	37 KHZ

STAINLESS STEEL ULTRASONIC CLEANER 4.3

With adjustable heating - **2,75 litres**

ACCESSORIES

Ref. 05461

Stainless steel mesh basket for ultrasonic cleaner Ref. 05470

ULTRASONIC CLEANER - 2,75 LITRES

Ref. 05470

Stainless steel ultrasonic cleaner:

- Variable ± timer switch 0-30 min.
- Adjustable temperature range from 30°C to 80°C
- Sweep function for optimised sound field distribution in the cleaning liquid
- Degas function for the efficient degassing of the cleaning liquid and for laboratory purposes
- Plastic lid included
- **Antibacterial detergent Active Liquid 150 ml** (for re-orders Ref. 06859 1 litre).
- Made in Germany.

Dimensions:
External: 300x179x214 mm.
Tank: 240x137x100 mm.
Weight: 3.3 Kg.

POWER CONSUMPTION	CAPACITY	TEMPERATURE RANGE	FREQUENCY
275 WATT	2,75 LITRES	~30° ~80°	37 KHZ

PLUG SUPPLIED	
Ref. 05470	230V AC
Ref. 05470CH	230V AC
Ref. 05470GB	230V AC
Ref. 05470AUS	230V AC

4.4 TESTERS

Marking Identifier

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Strain Gauge

Page 27

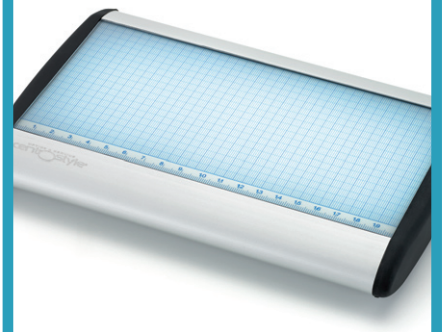
Photochromic Lens Tester

Page 28

Polarized Test

Page 29

Light Pad



Page 30

Innovative equipment with long-lasting and low-consumption LED technology. Specifically designed to help opticians check lenses or sunscreens.

- Led light marking identifier to check the markings on progressive lenses.
- Led strain gauge to detect stress in fitted lenses.
- Photochromic test to demonstrate the photochromic properties of the lenses and verify the correct colour shade.
- UV & Visible Spectrotester for UV % and visible transmittance analysis %.
- Light pad to faithfully display the tint of the sun lenses.

4.4 LED LIGHT MARKING IDENTIFIER

To check manufacturer's markings on progressive lenses

Long lasting LED technology
White light
Low power consumption

Ref. 05054
The LED technology marking identifier has:
- High luminosity LED illumination
- Adjustable inclination for improved reading
- Pre-printed background to highlight contrast

On progressive lenses this instrument allows identification of:
- Manufacturer's markings
- Lens type ID
- Added power

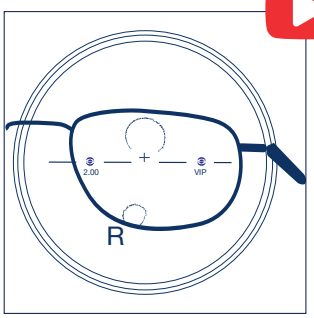
This instrument is suitable to check the values of a lens or to redefine the centres of a progressive lens for re-glazing.

How to use:
- Place the lens or the frame with the lens onto the contrast base and approach it to the magnifier until you can read the manufacturer's markings.

Size: 143 x 145 x 220 mm
Maximum height (at highest extension): 255 mm
Weight: 0.66 kg
Power supply: 230V AC
(12V 1A with transformer)

PLUG SUPPLIED	
Ref. 05054	230V AC
Ref. 05054GB	230V AC
Ref. 05054AUS	230V AC
Ref. 05054USA	115V AC

VIDEO



POWER CONSUMPTION

12 WATT

LED STRAIN GAUGE

4.4

To detect stress in fitted lenses

Long lasting LED technology
White light
Low power consumption

Ref. 05057
This instrument shows:
- Stress in fitted lenses, usually in the parts of the lens with the highest curvature or pressure
- Chips in glass lenses
- Tempering treatment of a glass lens (shown by a cross shaped shadow in the centre of the lens)

The strain gauge has:
- High luminosity large diffusion LED illumination for better contrast
- Adjustable inclination for improved reading

Size: 143 x 145 x 145 mm
Maximum height (at highest extension): 200 mm
Weight: 0.6 kg
Power supply: 230V AC
(12V 1A with transformer)

PLUG SUPPLIED

Ref. 05057	230V AC
Ref. 05057GB	230V AC
Ref. 05057AUS	230V AC
Ref. 05057USA	115V AC

VIDEO

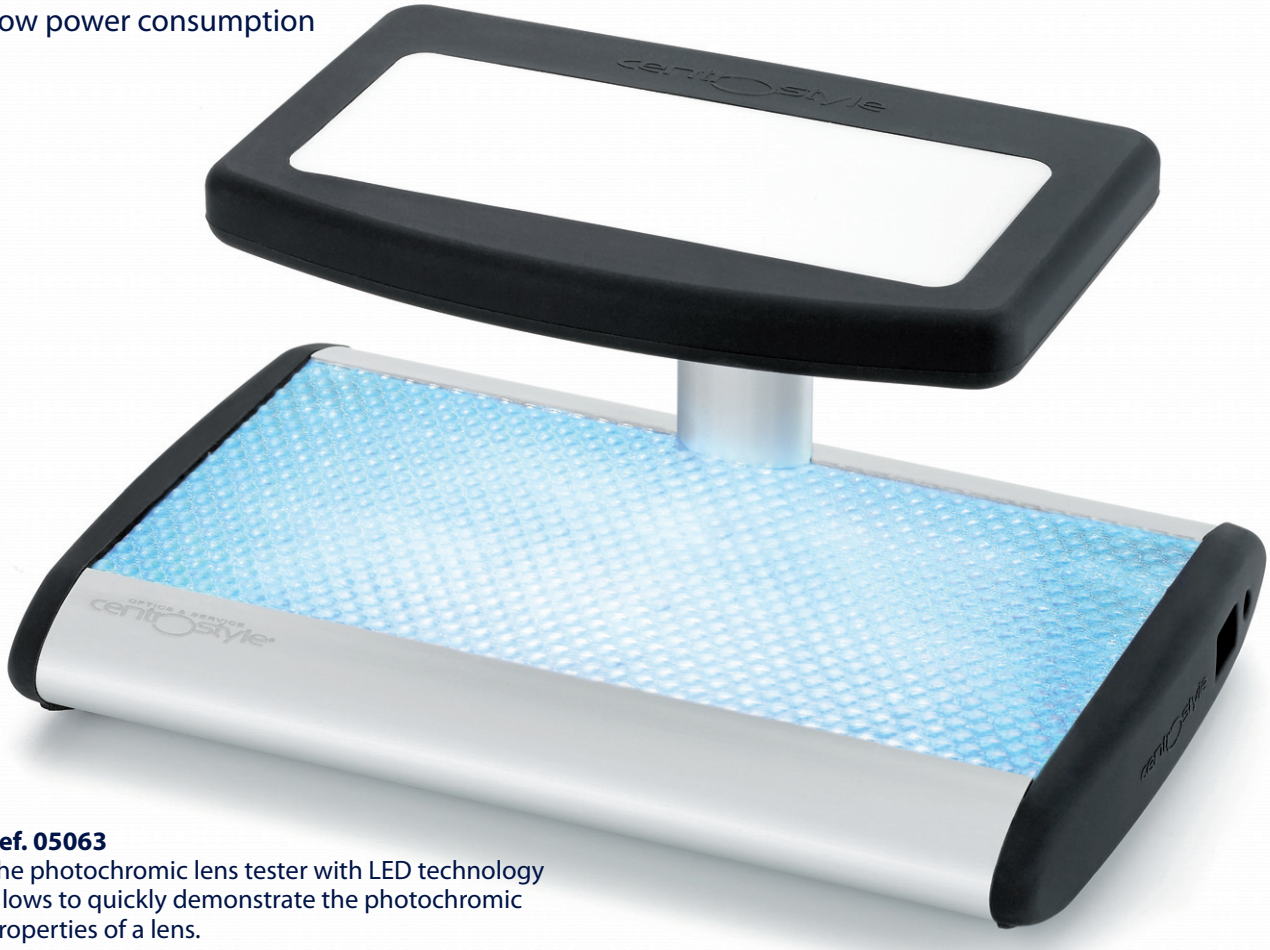
POWER CONSUMPTION

12 WATT

4.4 PHOTOCHROMIC LENS TESTER WITH LED LIGHT PAD

To test and demonstrate the photochromic properties of a lens

Long lasting LED-technology
UV-LED for photochromic testing
Light pad with white LED light (5350 K)
Low power consumption



Ref. 05063
The photochromic lens tester with LED technology allows to quickly demonstrate the photochromic properties of a lens.

- Place the lens onto the lower surface under the UV LED lamps.
  The lens will darken in approx. 10 sec.
  The UV LED light does not alter the lens's photochromic properties.
- Place the lens onto the upper light pad to check the colour intensity.

The white LED light simulates sunlight and allows to show the colour shade of a sunlens in a realistic way. It avoids colour alteration caused by artificial light.

Power supply: 230 V AC
(12V 2A with transformer)
Dimensions: 220x145x210 mm.
Weight: 0.80 kg.

PLUG SUPPLIED	
Ref. 05063	230V AC
Ref. 05063GB	230V AC
Ref. 05063AUS	230V AC
Ref. 05063USA	115V AC

POWER CONSUMPTION

24 WATT

VIDEO

POLARIZED TESTS

4.4

To simulate polarized vision

IDEAL TEST TO HIGHLIGHT THE ADVANTAGES OF A POLARIZED VISION USING GLASSES WITH POLARIZED LENSES.

NEW

Vision with polarized lenses.

NEW

Ref. 06596
Plexiglass display with road safety-oriented graphics.
Dim.: Display: 170x160 mm - Imagine: 150x100 mm
Weight: 110 gr.
1 pc.

NEW

Vision with polarized lenses.

NEW

Ref. 06597
Plexiglass display with graphics to highlight the contrast of colors in full sun.
Dim.: Display: 170x160 mm - Imagine: 150x100 mm
Weight: 110 gr.
1 pc.

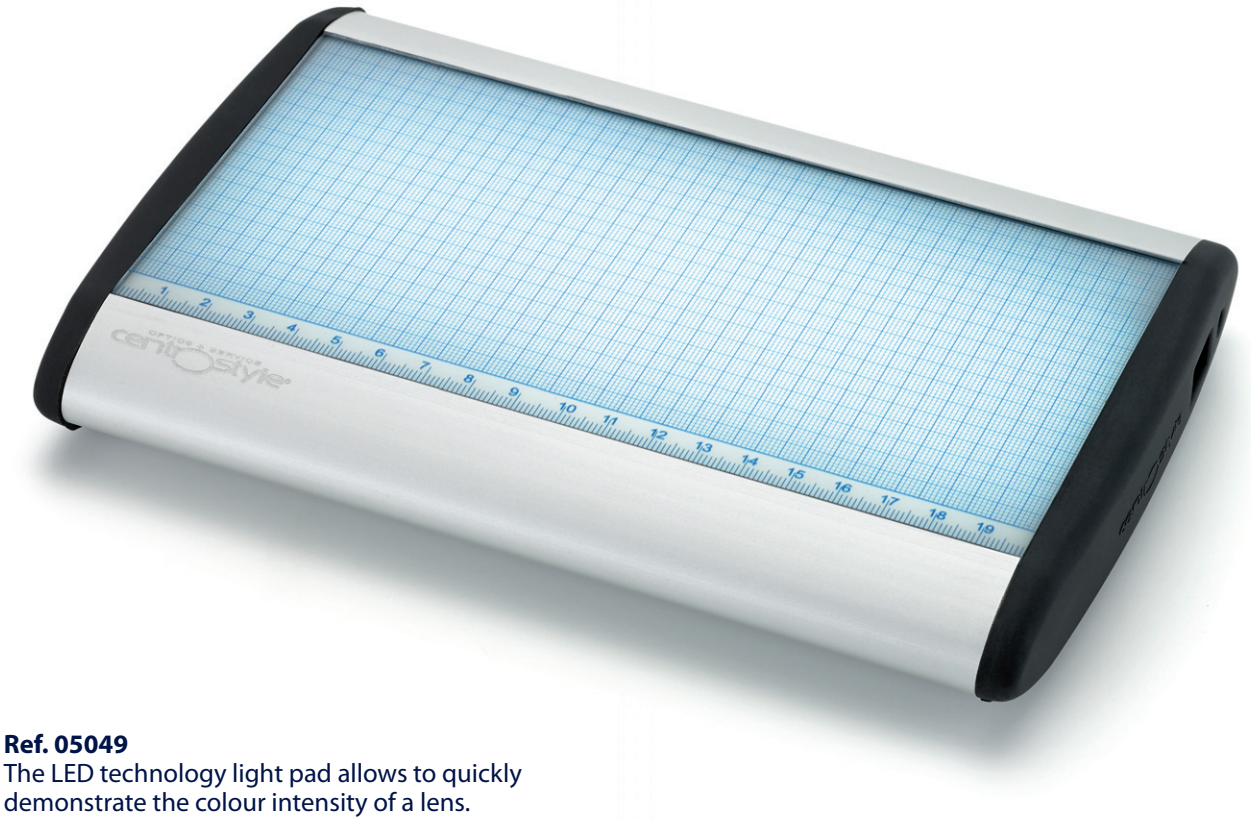
NEW

Ref. 06598
PVC Card with color effect for a quick polarized vision test.
Dim.: Card: 85x55 mm - Imagine: 50x20 mm
Weight: 5 gr.
10 pcs.

4.4 LIGHT PAD

White LED 5350 Kelvin sunlight

Long lasting LED technology
White LED light 5350 Kelvin
Low power consumption



Ref. 05049
The LED technology light pad allows to quickly demonstrate the colour intensity of a lens.

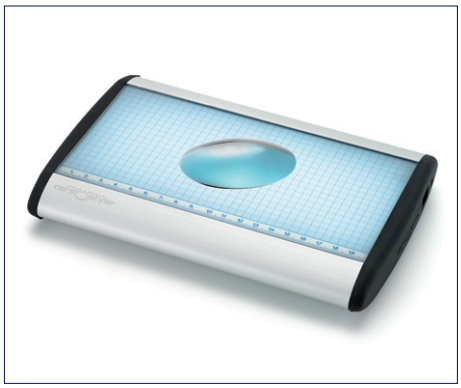
The white LED light simulates sunlight and allows to show the colour shade of a sunlens in a realistic way. It avoids colour alteration caused by artificial light.

Power supply: 230 V AC
(12V 0.3A with transformer)
Dimensions: 220x145x31 mm.
Weight: 0.60 kg.

PLUG SUPPLIED	
Ref. 05049	230V AC
Ref. 05049GB	230V AC
Ref. 05049AUS	230V AC
Ref. 05049USA	115V AC

POWER CONSUMPTION

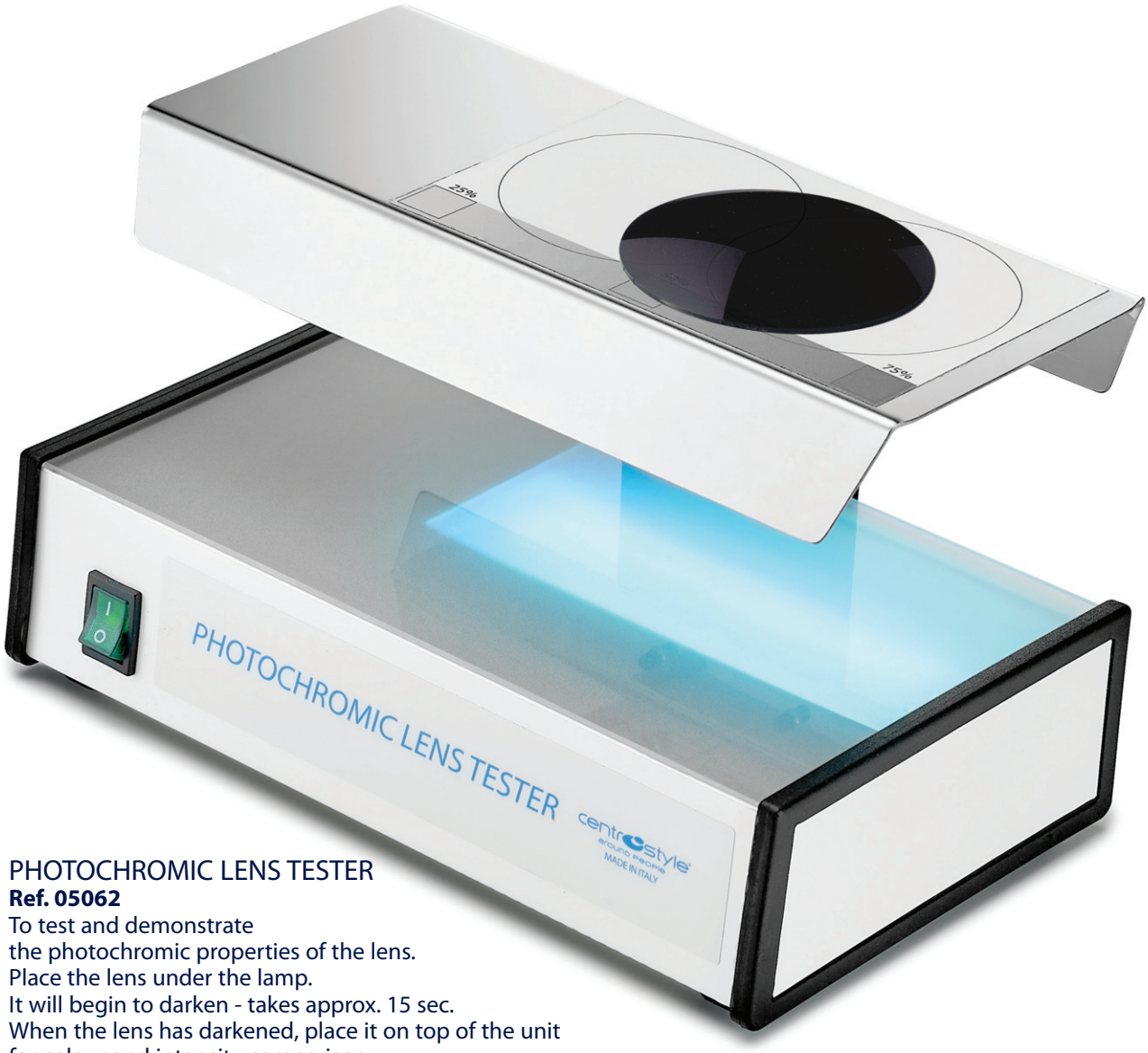
12 WATT



PHOTOCHROMIC TESTER

4.4

To test and demonstrate the photochromic properties of the lens



PHOTOCHROMIC LENS TESTER
Ref. 05062
To test and demonstrate
the photochromic properties of the lens.
Place the lens under the lamp.
It will begin to darken - takes approx. 15 sec.
When the lens has darkened, place it on top of the unit
for colour and intensity comparison.
The lamp does not damage
the photocromic properties of the lens.
Size: 210x130x130 mm
Weight: 1.75 kg.

SPARE PARTS

Ref. 05060.1
UV lamp

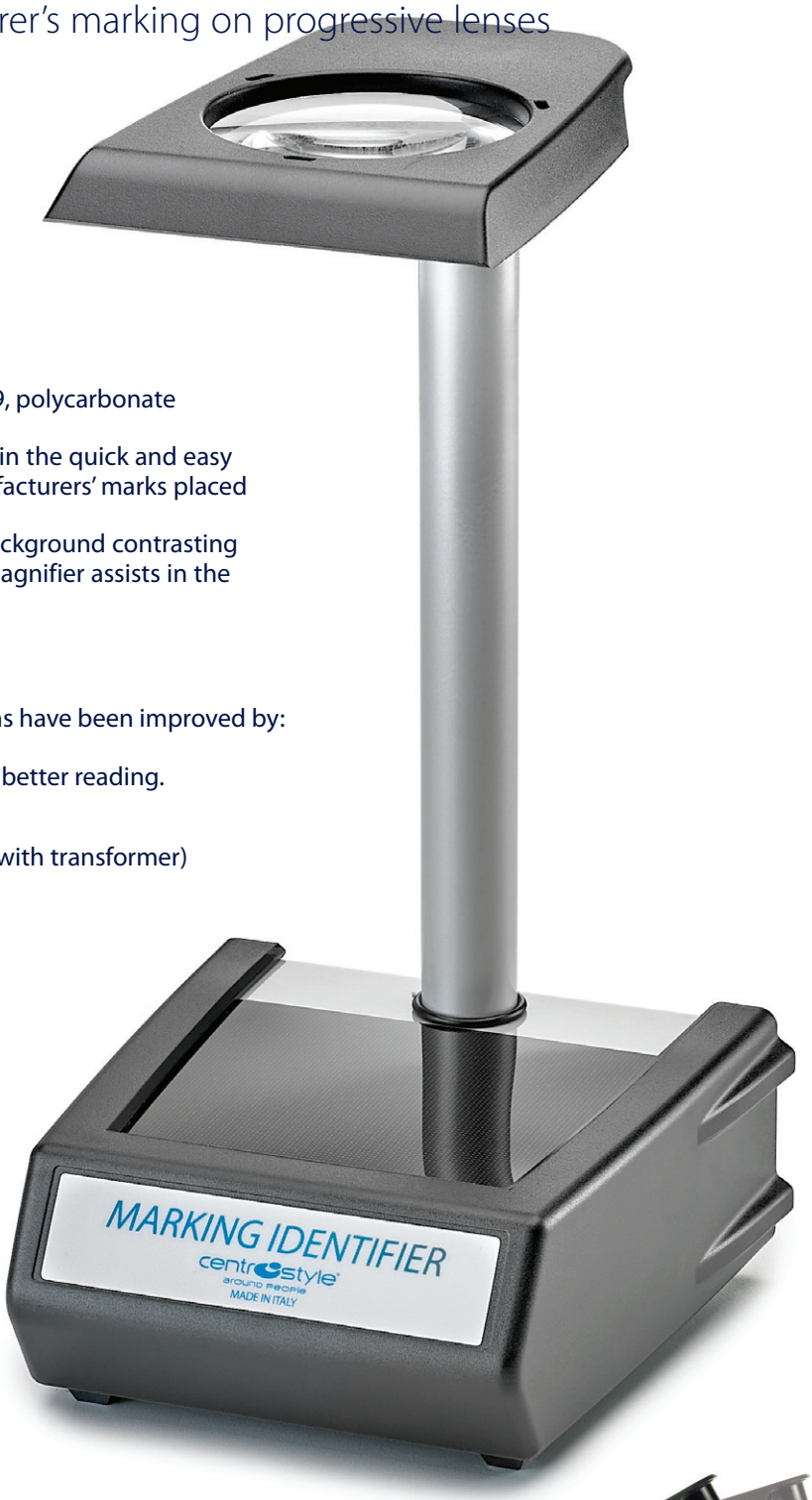
PLUG SUPPLIED

Ref. 05062 230V AC
Ref. 05062CH 230V AC
Ref. 05062GB 230V AC
Ref. 05062AUS 230V AC

POWER CONSUMPTION
15 WATT

4.4 LED LIGHT MARKING IDENTIFIER

To check manufacturer's marking on progressive lenses



NEW

MARKING IDENTIFIER

Ref. 05065

Instrument for checking CR39, polycarbonate and high index lenses.
This device will greatly assist in the quick and easy location of the various manufacturers' marks placed on progressive lenses.
This is achieved by special background contrasting and lighting. The mounted magnifier assists in the reading of these marks.

- manufacturer's markings.
- lens type ID.
- added power.

These markings identifications have been improved by:

- 5000°K led illumination.
- Adjustable inclination for a better reading.

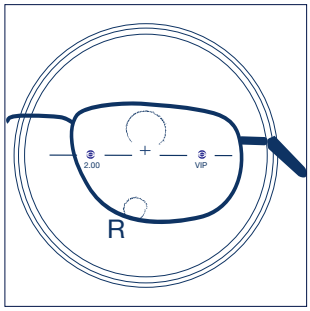
Power supply: 230 V AC (12V with transformer)
Size: 155x135x270 mm
Weight: 0.9 kg

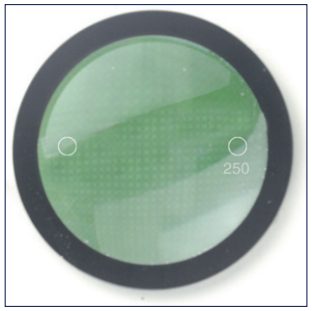
PLUG SUPPLIED

Ref. 05065 230V AC
Ref. 05065CH 230V AC
Ref. 05065GB 230V AC
Ref. 05065AUS 230V AC

POWER CONSUMPTION

4,5 WATT





LED STRAIN GAUGE

4.4

To detect stress in fitted lenses

STRAIN GAUGE

Ref. 05068

To detect stress in fitted lenses. Fitting lenses into frames always produces stress in lenses. Identifying the stress quickly with the help of this Strain Gauge will prevent chipping and breaking of glass lenses and distortions in organic lenses.

This instrument has been improved by:
- 5000°K led illumination.
- Adjustable inclination for a better check.

The Strain Gauge will also indicate if a lens has been toughened by the heat method. This is shown by a "cross" shadow in the lens. We recommend that you test the lens stress using our Size Testing Plier Ref. 03330 before assembly.

Power supply: 230V AC (12V with transformer)
Size: 155x135x167 mm.
Weight: 0.8 kg.

PLUG SUPPLIED

Ref. 05068	230V AC
Ref. 05068CH	230V AC
Ref. 05068GB	230V AC
Ref. 05068AUS	230V AC

POWER CONSUMPTION

4,5 WATT

4.5 HAND EDGERS

- Automatic Lens Groover
- Hand Edgers

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Hand Edger

Page 40

Bench Polisher

Page 41

4.5 AUTOMATIC LENS GROOVER

Lens groover for supra frames

FOR LENSES
FROM Ø 22 TO 54 MM
Ref. 05083

Automatic lens groover:
- Non corrosive machine body.
- Suitable for plastic and glass lenses.
- Adjustable groove position (front-central-rear).
- Two independent motors for turning the lens and for turning the groove cutting wheel.
- No water system required.
- Accurate on all profiles.
- Diamond groove cutter (Ref. 05081) suitable for glass and CR39 included.
- Adjustable groove depth: from 0.0 to 0.7 mm
- Groove width: 0.65 mm.
- Lens thickness: from 1.5 to 11 mm

Size: 170x220x205 mm
Weight: 2.7 kg

PLUG SUPPLIED	
Ref. 05083	230V AC
Ref. 05083CH	230V AC
Ref. 05083GB	230V AC
Ref. 05083AUS	230V AC

GROOVE LOCATOR
To set the position of the groove on the lens (front - centre - rear)

GROOVE DEPTH
Dial for setting groove depth in 0.1 mm increments

DIAMOND GROOVE CUTTING WHEEL
0.65 mm
for glass and CR39

KNOB
For the precise positioning of the groove

POWER CONSUMPTION
95 WATT

Diamond Groove Cutting Wheel

Ref. 05081 included
Diamond groove cutting wheel 0.65 mm for glass and CR39 (made in France)

Ref. 05084
Diamond groove cutting wheel 0.65 mm for polycarbonate (made in France)

Ref. 05087
Diamond cutting wheel 1,0 mm for glass and CR39, complete with safety cover (made in France)
Ref. 05088
Diamond cutting wheel 1,2 mm with safety cover for glass and CR39 (made in France)

AUTOMATIC LENS GROOVER

4.5

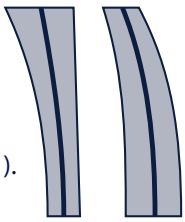
Instructions for use

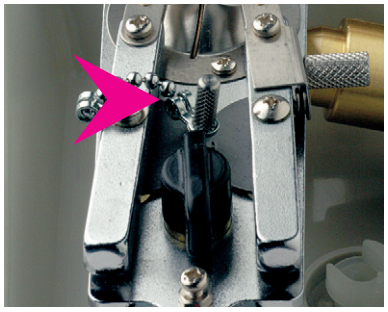
		05083	05085B
Ref. 05085A.63A	Centring piece with chain	✓	✓
Ref. 05085.62	Spring	✓	✓
Ref. 05085.79	Driving belt for diamond wheel	✓	✓
Ref. 05085A.19	Driving belt for lens rotation shaft	✓	✓
Ref. 05085B.17B	Lens turning engine	✓	✓
Ref. 05087.2	Safety cover 1,0-1,2 mm		✓
Ref. 05086	Safety cover 0.65 mm		✓
Ref. 05085.26A	Silicone support Ø 20 mm - 2 pcs.		✓
Ref. 05085.26B	Silicone support Ø 13,5 mm - 2 pcs.		✓
Ref. 05089	Half-eye frame adapter		✓

Adjusting the groove position

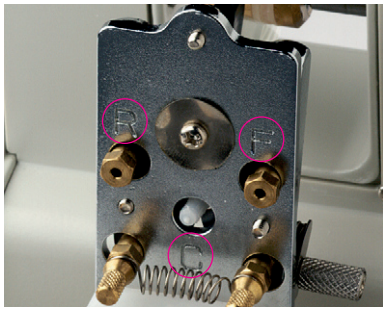
CENTRE GROOVE
Groove follows centre of edges.

- Insert the centre pin between the two guide arms (Picture 1).
- Lift setting plate.
- Insert the setting pins as illustrated.
- Set groove locator to centre position.





CENTRING PIN
Insert the centring pin between the two guide arms so they move simultaneously. The groove will now be cut in the centre of the lens edge. When the pin is removed the two guide arms will move independently.

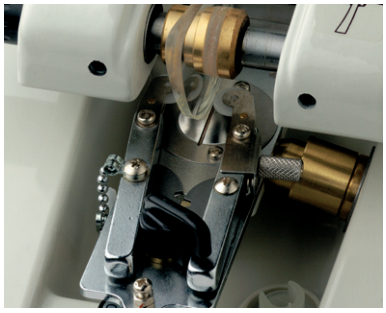


SETTING PINS C/R/F
By changing the position of the setting pins to the "R" and "F" guides it is possible to move the groove position to follow the front or the rear lens edge.

FRONT CURVE GROOVE:
The groove will follow the front curve of the lens.

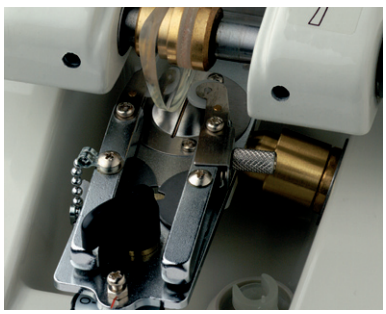
- Remove the centre pin.
- Lift the settings plate.
- Remove the right setting pin and re-insert it into the setting guide marked "C/F" as illustrated.
- Rotate the groove locator counter clockwise.
- The distance from the edge depends on the setting of the groove locator.

The closest setting from the edge is 0.7 mm.



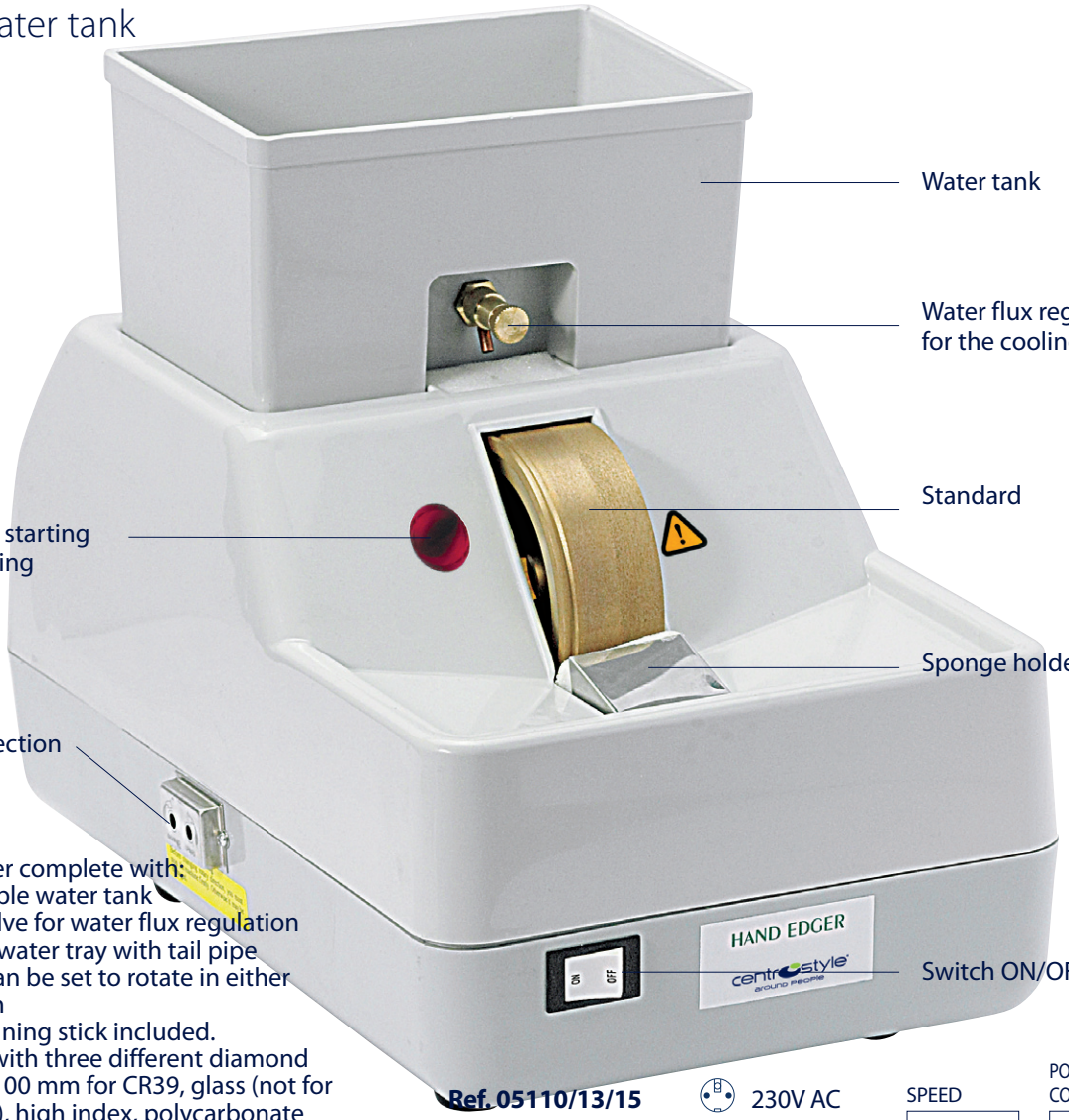
BACK CURVE GROOVE:
The groove will follow the back curve of the lens.

- Remove the centre pin.
- Lift the setting plate.
- Remove the left setting pin and re-insert into the setting guide marked "C/R" as illustrated.
- Rotate the groove locator clockwise.
- The distance from the edge depends on the setting of the groove locator.



4.5 HAND EDGER

With water tank

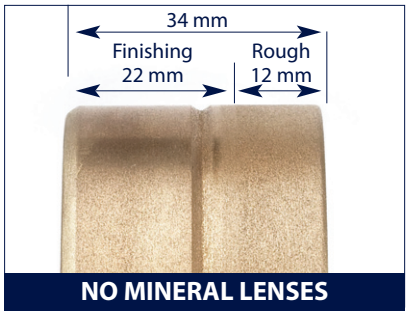


Hand edger complete with:
- Removable water tank
- Hand valve for water flux regulation
- Internal water tray with tail pipe
- Wheel can be set to rotate in either direction
- One cleaning stick included.

Available with three different diamond wheels Ø 100 mm for CR39, glass (not for Ref. 05110), high index, polycarbonate lenses.
Power supply: 230V AC - 50Hz
Size: 220x360x280 mm
Weight: 8 kg

		SPEED	POWER CONSUMPTION
Ref. 05110/13/15	230V AC	2.000 RPM	120 WATT
Ref. 05110/13/15CH	230V AC		
Ref. 05110/13/15GB	230V AC		
Ref. 05110/13/15AUS	230V AC		

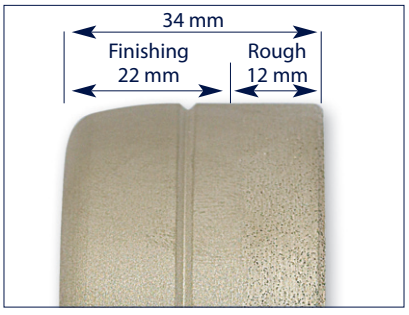
ROUGH AND FINISHING



NO MINERAL LENSES

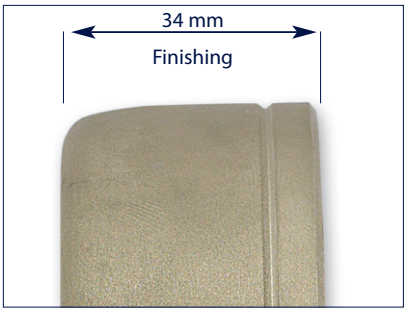
Hand edger with standard diamond wheel Ref. 05116 for rough and finishing.
Cleaning sticks Ref. 07300 included.

ROUGH AND FINISHING



Hand edger with special diamond wheel Ref. 05117 for rough and finishing.
Cleaning sticks Ref. 07300 included.

FINISHING



Hand edger with special diamond wheel Ref. 05118 for finishing.

HAND EDGER WITH SENSOR FOR AUTOMATIC STARTING AND STOPPING OF DIAMOND WHEEL

Ref. 05110 with diamond wheel Ref. 05116 **Ref. 05113** with diamond wheel Ref. 05117 **Ref. 05115** with diamond wheel Ref. 05118

Ref. 05111.1 Driving belt

HAND EDGER

4.5

With diamond wheel - Main water supply cooling system

Compact design and very quiet running

Long life ABS casing and non-corroding metal parts

Infra-red sensor for automatic starting and stopping

Wheel can be set to rotate in either direction

TWO DIFFERENT COOLING OPTIONS

- From the main water supply incorporating automatic cut-off valve when not in use (frequently use).
- An internal water tank (for light duty work)

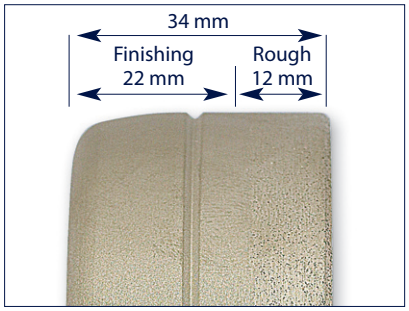
Avalaible with three different diamond wheels
Ø 110 mm for CR39, glass, high index, polycarbonate lenses

Ref. 05070/05072/05073/05077	230V AC
Ref. 05070/05072/05073/05077CH	230V AC
Ref. 05070/05072/05073/05077GB	230V AC
Ref. 05070/05072/05073/05077AUS	230V AC

Size: 180x299x178 mm
Weight: 7 kg

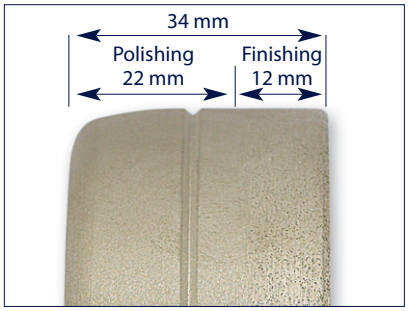
SPEED	POWER CONSUMPTION
2.750 RPM	180 WATT

ROUGH AND FINISHING



FINISHING

FINISHING AD POLISHING



HAND EDGER - COOLING SYSTEM: MAIN WATER SUPPLY

Ref. 05070
Hand edger with special diamond wheel for rough and finishing

Ref. 05073
Hand edger with special diamond wheel for finishing

Ref. 05077
Hand edger with special diamond wheel for finishing and polishing

HAND EDGER - COOLING SYSTEM: INTERNAL WATER TRAY

Ref. 05072
Hand edger with special diamond wheel for finishing

4.5 HAND EDGER

With front facing diamond wheel - For finishing

HAND EDGER

With front facing diamond wheel
Technical features:

- Surface of the wheel with increased area of finishing, provided with V profile for chamfering.
- Wheel can be set to rotate in either direction.
- Internal tank can be easily removed for cleaning or for replacement of the refrigeration sponge.

Available with two different finishing wheels for CR39, glass, high index, polycarbonate lenses.

Ref. 05121
Frontal Hand Edger with Standard diamond wheel for finishing

Ref. 05122
Frontal Hand Edger with High Quality diamond wheel for finishing.

Complete with:
- Removable internal tank
- Water-bottle for cooling diamond wheel
- Spare sponge
- One cleaning stick.

PLUG SUPPLIED

Ref. 05121/05122 230V AC
Ref. 05121/05122CH 230V AC
Ref. 05121/05122GB 230V AC
Ref. 05121/05122AUS 230V AC

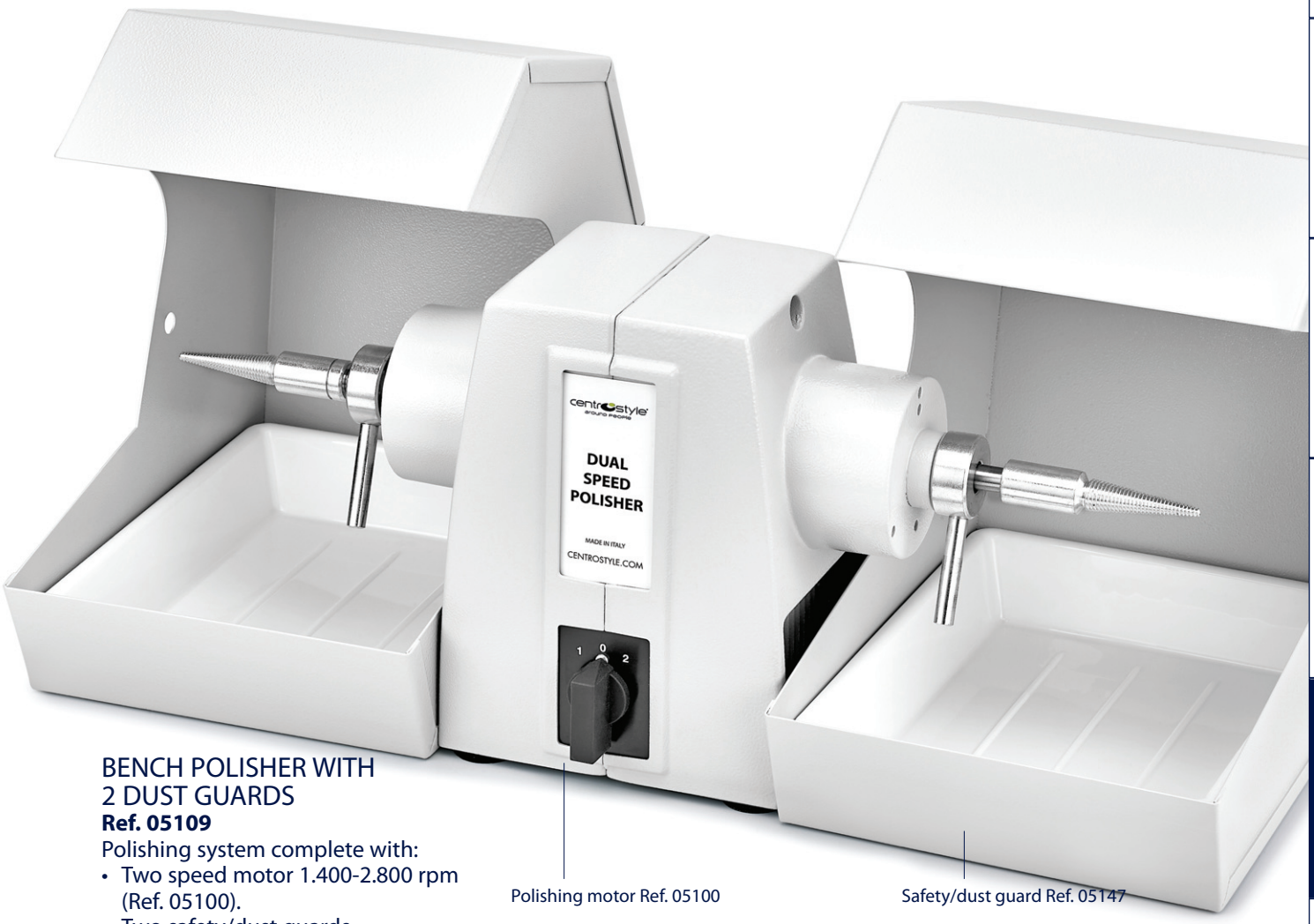
Size: 175x 175x260mm
Weight: 7 kg

POWER CONSUMPTION	SPEED
120 WATT	3000 RPM

BENCH POLISHER

4.5

Dual speed 1.400-2.800 rpm



Polishing motor Ref. 05100

Safety/dust guard Ref. 05147

BENCH POLISHER WITH 2 DUST GUARDS

Ref. 05109

Polishing system complete with:

- Two speed motor 1.400-2.800 rpm (Ref. 05100).
- Two safety/dust guards with removable plastic trays
- Twin taper spindles for "quick" mount and removal of brush chucks
- Two threaded "quick mount" brush chucks, left and right handed threads
- One "quick mount" wheel chuck.

Size: 540 x 270 x 280 mm
Weight: 12 kg

PLUG SUPPLIED

Ref. 05109	230V AC
Ref. 05109CH	230V AC
Ref. 05109GB	230V AC
Ref. 05109AUS	230V AC
Ref. 05100	230V AC
Ref. 05100CH	230V AC
Ref. 05100GB	230V AC
Ref. 05100AUS	230V AC

POWER CONSUMPTION	SPEED
300 WATT	1.400 2.800 RPM

POLISHING MOTOR

Ref. 05100

Two speed motor 1.400-2.800 rpm, complete with two threaded "quick mount" brush chucks and one "quick mount" wheel chuck.

Size: 440x130x210 mm
Weight: 6.4 kg

SAFETY / DUST GUARD

Ref. 05147

Safety / dust guard with removable tray - 1 pc.

Size: 190x270x280 mm
Weight: 2.6 kg

SPARE PARTS

TAPER BRUSH CHUCKS AND WHEEL MANDREL

Ref. 05104

Pair of threaded "quick mount" brush chucks, left and right handed threads.

Ref. 05105

Taper wheel mandrel Ø 8 mm.

Suggested polishing speed (r.p.m.)

Material	Hard polishing	Fine polishing	Glossing
Acetate frame	2.800	1.400	2.800
White metal frame	1.400	1.400	2.800
Gold metal frame	1.400	1.400	2.800
Glass lens		2.800	2.800
Organic lens		1.400	2.800
Polycarbonate lens		1.400	2.800

4.6 DRILLS

Hand drill

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Bench drill

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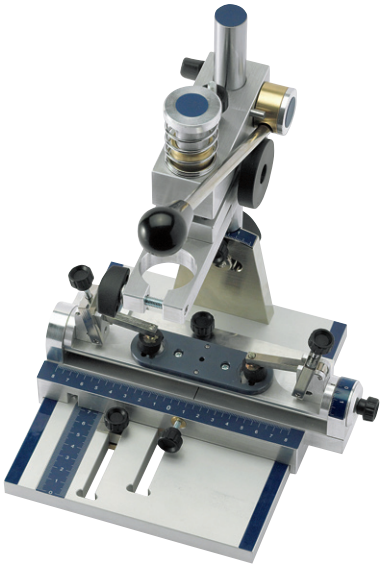
Lens Hole Drilling System



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4.6 HAND DRILL

Low voltage hand drill

TRANSFORMER
Ref. 05520
Low voltage
Size: 130x145x65 mm

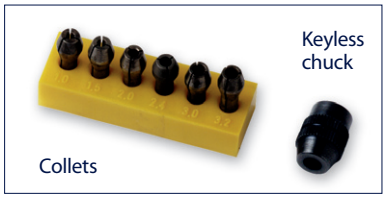
MINIMOT DRILL AND TRANSFORMER
Ref. 05511
Variable speed drill from 5.000 to 20.000 rpm
Ref. 05512 with transformer Ref. 05520.
- High torque at low speeds.
- Safe to use with coolants.

Accessories included:
- Keyless chuck (0.5 ÷ 3.2 mm)
- 6 collets with keyless chuck Ref. 05518.

MINIMOT 40 DRILL
Ref. 05512
Variable speed drill.
5,000 - 20,000 rpm.
Transformer not included.
Size: 230 mm - Ø 35 mm
Weight: 230 gr

PLUG SUPPLIED	
Ref. 05520	230V AC
Ref. 05520GB	230V AC
Ref. 05520AUS	230V AC
Ref. 05520USA	115V AC

INCLUDED



NEW

DRILL STAND
Ref. 05525
Column with vertical adjustment by means of a rack rod with return spring.
Connection for drill Minimot Ø 20 mm.
90° tiltable head on both sides with dovetail guides.
Practical indication of the drilling depth with adjustable end stop.
Maximum stroke 40 mm.
Rectified worktop with millimetre scale.

Size: 120x220x280 mm.
Weight : 2.2 kg

SPEED	POWER CONSUMPTION
5.000 20.000 RPM	40 WATT

BENCH DRILL

Bench Press Drill

BENCH PRESS DRILL

Ref. 05530

- 3-spindle speed belt driven drill (1.800 - 4.500 - 8.500 rpm.).
- Throat distance 140 mm.
- Drill stroke 30 mm.
- Adjustable working column height 280 mm and depths stop.

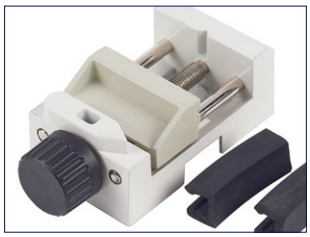
Accessories included:

- Chuck Ref. 05532 with key.
- Machine vice (Ref. 05535)
- 6 individual collets (Ref. 05518).

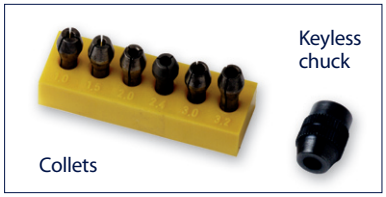
Size: 120x225x340 mm
Weight: 3.2 kg

Ref. 05530 230V AC
Ref. 05530GB 230V AC
Ref. 05530AUS 230V AC

Ref. 05532
Chuck with key
0,0 ÷ 5,0 mm



Ref. 05535
Machine vice.
50x10 mm jaws
34 mm clamping width



Ref. 05518
Set 6 collets, keyless chuck included

3 SPEED RPM	POWER CONSUMPTION
1,800 4,500 8,500	85 WATT

SPARE PARTS

Ref. 05530.2
Driving belt

4.6 LENS DRILLING SYSTEM

With double inclination: pantoscopic angle and convergence of sides

DRILL STAND AND LENS CLAMPING SYSTEM

- Pantoscopic inclination.
- Sides convergence inclination.
- Milling notches device.
- Milling slots and Air-T slots device.
- Precision scale.
- Complete range of suction cup centring devices: Weco-Topcon, Essilor, Indo-Hoya-Nidek.

LENS DRILLING SYSTEM

Ref. 05592

- Lens-clamping assembly.
- Slide with graduated scale.
- Variable speed drill Minimot (Ref. 05512).
- Transformer 230V AC a.c. for Minimot (Ref. 05520).

Centring device not included.

Dimensions: 220x230x400 mm
Weight: 4.8 Kg

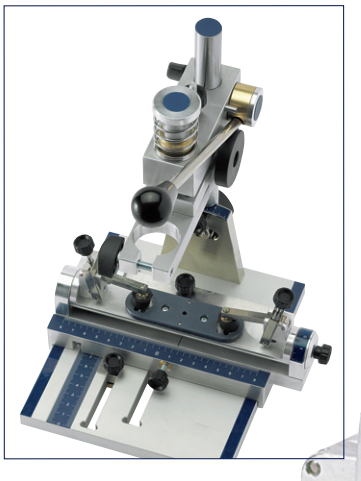
DRILL STAND

Ref. 05594

Drill stand with clamp for drill Ref. 05512 (Ø 34 mm), complete with:

- Lens-clamping assembly
- Slide with graduated scale.

Drill and centring device not included.



CENTRING DEVICE (to be ordered separately)

Ref. 05601
W - For Weco, Briot, Topcon suction cups

Ref. 05602
E - For Essilor suction cups

Ref. 05604
I - For Indo, Hoya, Nidek suction cups

ACCESSORIES

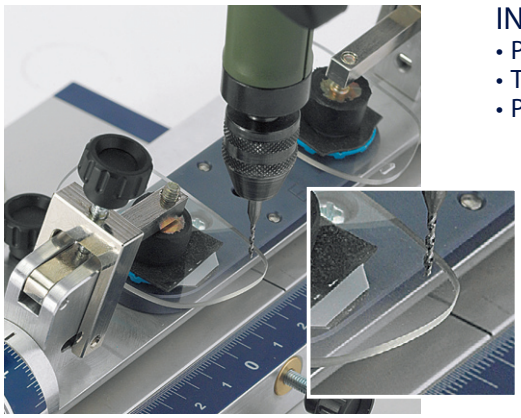
Ref. 02399
Assortment of 11 special hard metal drills from 0,8 to 2,2 mm

POWER CONSUMPTION	VARIABLE SPEED
40 WATT	5.000 20.000 RPM

LENS DRILLING SYSTEM

4.6

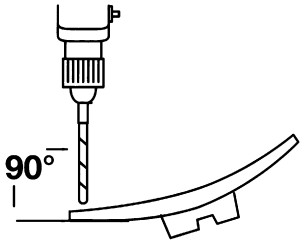
For precise lens hole placement

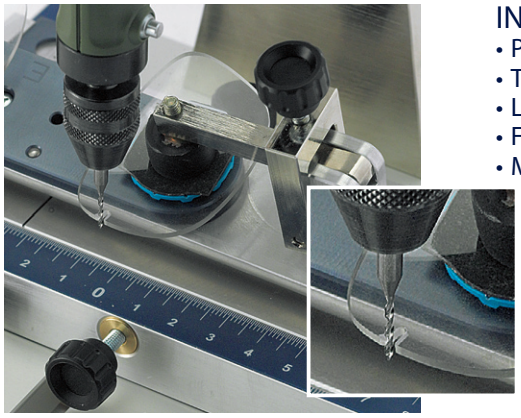


INCLINATION FOR HOLES

- Position lenses with suction cups on to the centring device
- Turn the clamp until the lens surface is at 90° to the drill
- Proceed with drilling.

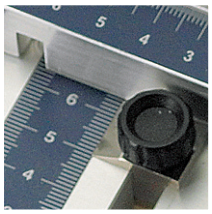
Rotational clamp



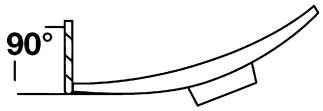


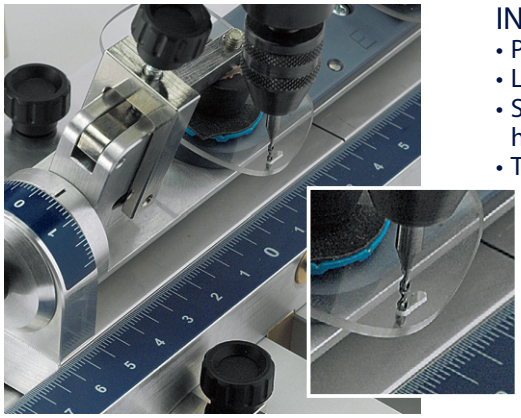
INCLINATION FOR NOTCHES

- Position lenses with suction cups on to the centring device
- Turn the clamp until the lens surface is at 90° to the drill
- Lower miller into position and clamp
- Fasten the limit stop to determine the depth of the notch
- Move the lens-clamping assembly until it hits against the limit stop.



Limit stop





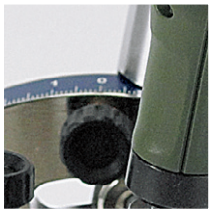
INCLINATION FOR SLOTS

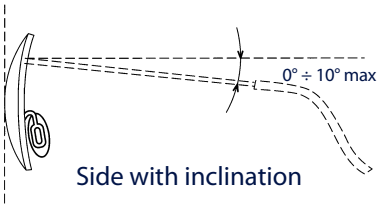
- Position lenses with suction cups on to the centring device
- Lower miller to commence cutting the slot, starting at the centre
- Slide the lens-clamping assembly slightly to the left, cutting the first half of the slot
- Then slide the lens-clamping assembly slightly to the right, cutting the second half of the slot
- For 5 mm slots use the pattern blank (located on the back of the lens-clamping assembly)
- For the right lens, place the pattern blank on the right, for the left lens on the left, and use the 1,2 mm drill.

Pattern blank for slots

PANTOSCOPIC INCLINATION

- Position lenses with suction cups on to the centring device
- Loosen the stand and choose the pantoscopic inclination
- Fasten the stand and proceed with drilling.
- Change inclination for the other lens.





Side with inclination

4.7 HINGE EMBEDDING - WELDING UNITS

Hinge Embedding Unit

Page 50

Electric Soldering Welding Units

Page 51

Professional Soldering Machine

For laboratory

Page 52

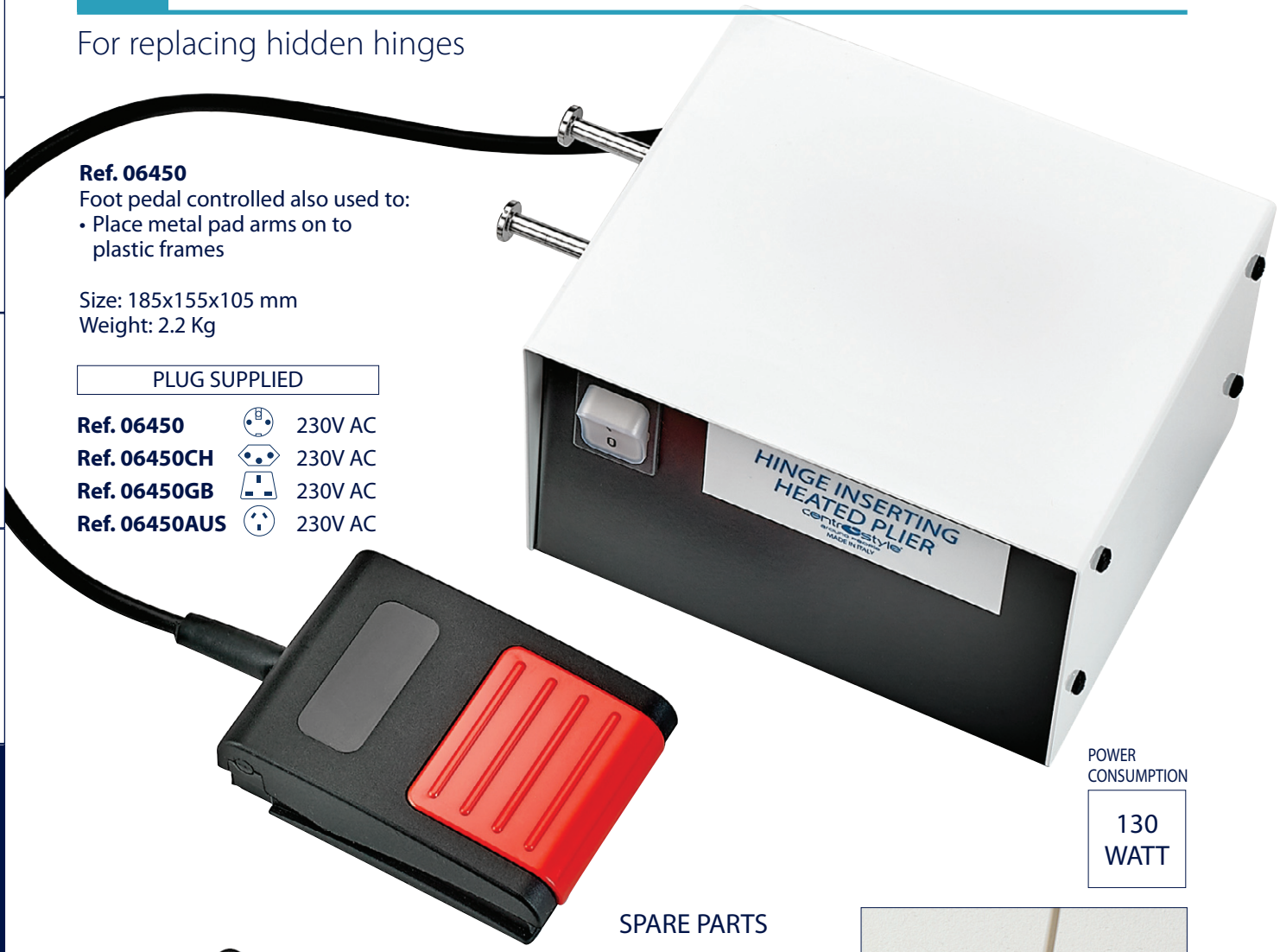
Miniflam Solder Torch

For occasional use

Page 54

4.7 HINGE EMBEDDING UNIT

For replacing hidden hinges



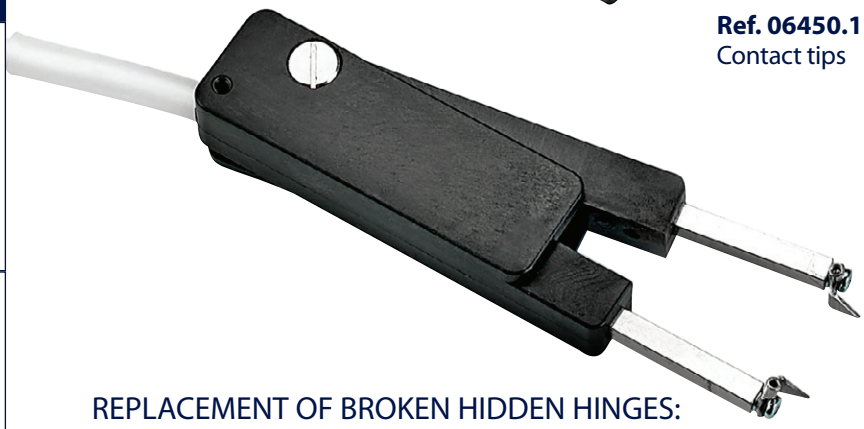
Ref. 06450
Foot pedal controlled also used to:
- Place metal pad arms on to plastic frames

Size: 185x155x105 mm
Weight: 2.2 Kg

PLUG SUPPLIED	
Ref. 06450	230V AC
Ref. 06450CH	230V AC
Ref. 06450GB	230V AC
Ref. 06450AUS	230V AC

POWER CONSUMPTION

130 WATT

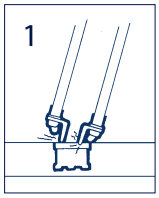


SPARE PARTS

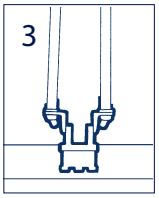
Ref. 06450.1
Contact tips

Heat up and loosen screws stuck with glue or thread lock.

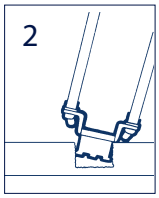
REPLACEMENT OF BROKEN HIDDEN HINGES:



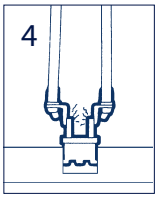
Press the two tips on to the plate of the broken hinge and press the foot pedal to start.
Keep a gap between the tips.



Hold new hinge into position and press the foot pedal to heat.
As soon as the plastic begins to melt, stop heating and gently press on the hinge with the plier so that the hinge sinks into the frame.



When the plastic around the hinge begins to soften release the foot pedal and quickly remove hinge.



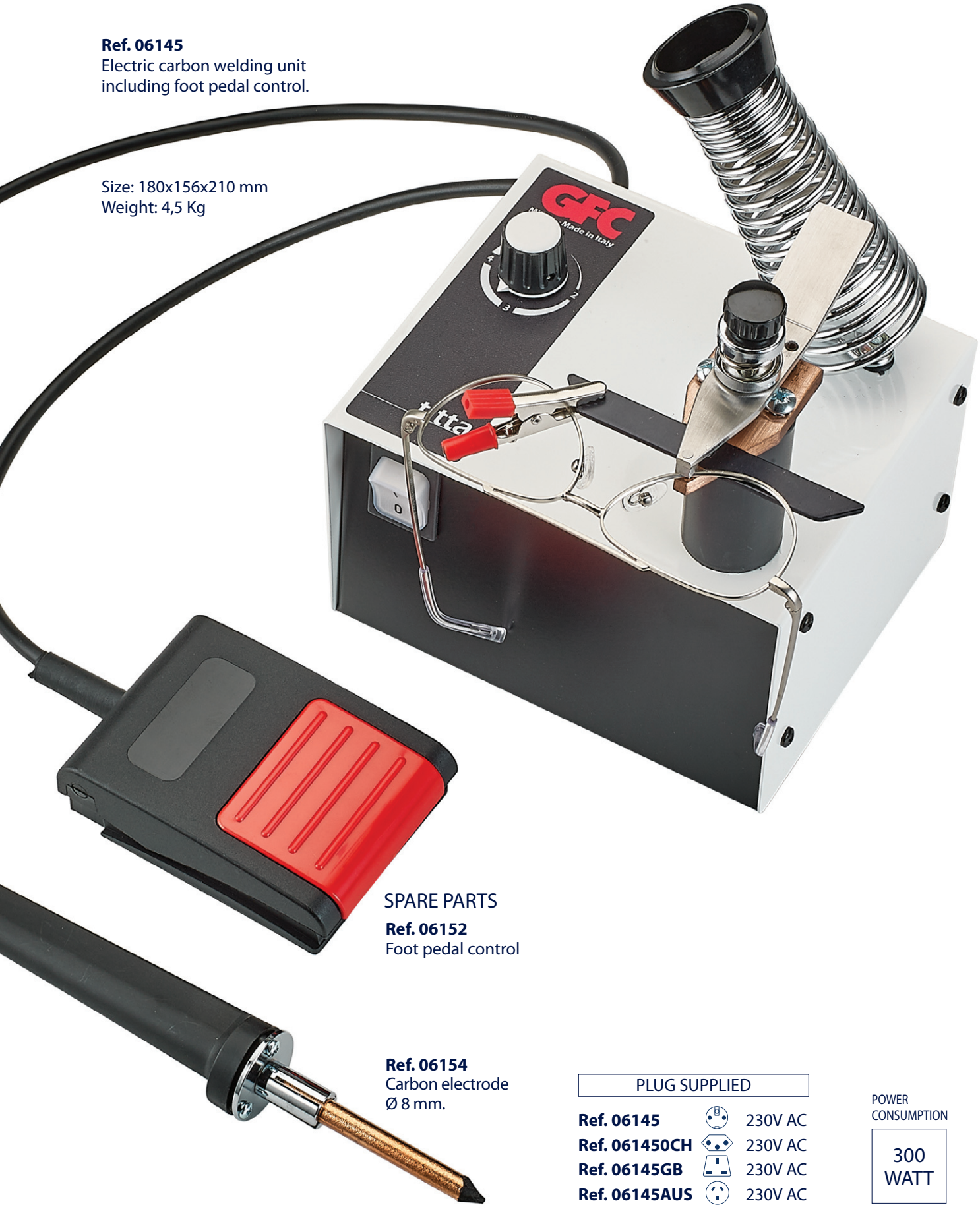
Correctly position the new hinge and release the foot pedal.
Keep holding the hinge in position for a few seconds until plastic hardens.

ELECTRIC CARBON WELDING UNIT

Electric carbon welding unit

Ref. 06145
Electric carbon welding unit
including foot pedal control.

Size: 180x156x210 mm
Weight: 4,5 Kg



SPARE PARTS

Ref. 06152
Foot pedal control

Ref. 06154
Carbon electrode
Ø 8 mm.

PLUG SUPPLIED	
Ref. 06145	230V AC
Ref. 061450CH	230V AC
Ref. 06145GB	230V AC
Ref. 06145AUS	230V AC

POWER CONSUMPTION
300 WATT

4.7 SOLDERING UNITS

Water electrolisys system

Hydrogen soldering unit suitable for:
- Hard and soft soldering
- Soldering metal frames quickly and with very good results

3000°C

Ref. 06051
Micro-soldering unit complete with:
- soldering tips Ø 0.7 - 0.8 - 0.9 mm.
- Boric acid solution Ref. 06022.
- Caustic solution electrolyte Ref. 06020 liquid for Europe, Ref. 06054 in grains for overseas shipments.

Size: 280x235x290 mm;
Weight: 14 kg.

PLUG SUPPLIED

Ref. 06050/06051	230V AC
Ref. 06050/06051CH	230V AC
Ref. 06050/06051GB	230V AC
Ref. 06050/06051AUS	230V AC

Ref. 06050
Micro-soldering unit Ref. 06051 with soldering set Ref. 06058.

SPARE PARTS

Ref. 06065	Soldering tip Ø 0.7 mm (4 pcs.)
Ref. 06066	Soldering tip Ø 0.8 mm (4 pcs.)
Ref. 06067	Soldering tip Ø 0.9 mm (4 pcs.)
Ref. 06051.3	Plastic tube 1,5 mt.
Ref. 06051.50	Set of 4 rubber gaskets
Ref. 06056	Check valve
Ref. 06053	Hand piece

FLAME TEMP. C°	POWER CONSUMPTION
~3000°	300 WATT

SOLDERING UNITS

Soldering set and consumables

Ref. 06058
Soldering set complete with:
- Soldering tweezers Ref. 03730,
- Third hand table Ref. 06195,
- Solder wire Ø 0.5 mm Ref. 06200,
- Solder wire Ø 0.3 mm Ref. 06202,
- Powder borax flux 100 gr. Ref. 06208,
- 3 solder rods with flux core Ref. 06210,
- Heat-shielding paste Ref. 06221.

Tray included suitable for the new LMS Cube.

Ref. 06195
Third hand soldering table with two clamps connected to universal joints.
Size: 305x195x90 mm.

SPARE PARTS

Ref. 06199
Clamp with extended universal joint.

Consumables

Ref. 06020
Caustic solution - for Europe electrolyte 0.5 lt. - 2 pcs.

Ref. 06022
Boric Acid solution - flux 0.5 lt.

FOR SHIPMENTS BY AIR
Ref. 06055
Boric Acid in grains
25 g

4.7 MINIFLAM

Soldering torch

1.600°C

MINIFLAM
Ref. 06101
Miniflam soldering torch.
Size: 205 mm - Ø 25 mm
Weight: 130 gr

Refill with quality butane only (Ref. 06108).

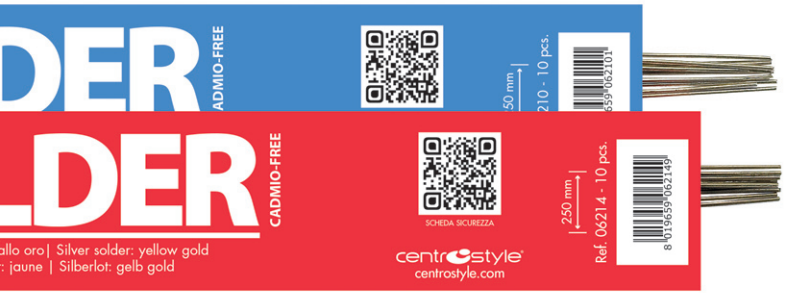
Ref. 06108
Butane gas. 400 ml bottle

SOLDERING CONSUMABLES

Choosing the right alloy

SOLDER RODS WITH FLUX CORE

CADMIUM FREE



Ref. 06210
Soft yellow solder. Melting range: 655°C - 680°C
Pack of 10 rods - 250 mm each Ø 1,15 mm
Ref. 06214
Yellow gold solder. Melting range: 605°C- 635°C
Pack of 10 rods - 250 mm each Ø 1,15 mm

Heat the parts to be soldered together. As the metal is heated keep touching the parts to be soldered with the solder rod. Be very careful not to heat the soldering rod directly with the flame. The solder will melt when the temperature of the two parts reaches the critical soldering temperature.

SOLDER WIRE

All-purpose soldering wire in silver alloy (40%).
Easy flowing, suitable for nickel silver and monel metal.
Melting range: 610°C - 650°C.
Ref. 06200 Ø 0,5 mm.
Ref. 06202 Ø 0,3 mm.
Length: 2,5 mt

Solder wire is used for soldering small parts, where little solder is required. Heat the area to be soldered first, then dip into borax flux paste (borax flux powder Ref. 06208 mixed with some drops of distilled water).
Protect those parts that are close to the area being heated with ISOFLAM heat shielding paste (Ref. 06221).

BORAX

Ref. 06208
Borax flux powder to be mixed with hot distilled water to make a paste. Promotes quick and easy flow of solder between the surfaces being soldered.
Melting range: 500°C - 700°C.
Essential when using soldering wire (Ref. 06200 - 06202).
100 g

ISOFLAM

Ref. 06221
Heat shielding paste. It will protect the non-soldered area by dissipating heat for temperatures up to 3,000°C 5,432°F.
It isolates parts close to the soldering point and reduces the risk of damage to plastic and painted parts.
It does not stain and washes off in water.
50 g

SOLDERING SET

Ref. 06058
Soldering set complete with:
- Soldering tweezers Ref. 03730,
- Third hand table Ref. 06195,
- Solder wire Ø 0.5 mm Ref.06200,
- Solder wire Ø 0.3 mm Ref.06202,
- Powder borax flux 100 gr. Ref. 06208,
- 3 solder rods with flux core Ref. 06210,
- Heat-shielding paste Ref. 06221.

Tray included suitable for the new LMS Cube.

4.7 SOLDERING STEPS

PREPARATION

- Always wear safety glasses.
- First, remove any parts that will be affected by heat, e.g. pads, rim cover, temple tips.
- Before heating, it may be necessary to apply a large amount of protective heat shield paste ISOFLAM (Ref. 06221) over those parts that are close to the area being heated.
- Next, remove broken part by heating the area until it becomes detached.
  Use tweezers Ref. 03730 to help.

POLISHING

- Always prepare the surfaces to be soldered first by using the rubber abrasion wheels (Ref. 02444 - Ref. 02447).
  A clean, smooth surface ensures a good result.
- Alternatively use a file.

PROTECTION OF THE PARTS CLOSE TO THE SOLDERING POINT

- Apply ISOFLAM protection paste (Ref. 06221) around the soldering point and on any components (nose pads, enamelled parts, etc.).
- After soldering, the paste can be recovered and reused by adding a few drops of distilled water.

POSITIONING OF THE FRAME

- Place the frame on the soldering table (Ref. 06195) to give easy access to the part being soldered.
  The clamps should be kept away from the soldering area to avoid overheating.
- Rest your elbows to support the hands.
- The parts to be soldered should not be close to the table top.

PLANNING THE SOLDER

- If you are not using SOLDER rods (Ref. 06210-6214), prepare the solder wire (Ref. 06200-06202) in advance by wetting it and dipping it in borax flux powder (Ref. 06208).
- Always heat first the thicker surface as it reaches the melting point in longer time by absorbing more heat.
- Dip the soldered part in water.
- Use protective goggles during all soldering steps.

SOLDERING STEPS

Use of the different solder alloys

FRONT HINGE PLATE

The part connecting the temple hinge to the eye wire rim is subject to great stress. Having a large supporting surface it is recommended to use the solder rods Ref. 06210 - Ref. 06214, or the 0.5 mm solder wire Ref. 06200.

RIM CLOSING BLOCK

When soldering the closing block to the rim, as the surface area is quite small, it is recommended that a small amount of solder is carefully placed. Recommend 0.3 mm wire Ref. 06202.

HINGES

Part of the frame that allows the temple to pivot.
Recommended to use the solder rods Ref. 06210 and Ref. 06214, or the 0.5 mm solder wire Ref. 06200.

POLISHING

After de-scaling remove and smooth residues of solder with rubber abrasion wheels (Ref. 02444 -Ref. 02447).
Alternatively, use the brass (Ref. 02421) or steel brushes (Ref. 02422).
Next polish with silicone wheels (Ref. 02442) or hard felt brushes (Ref. 02429).

CLEANING

For best results clean the frame with an ultrasonic cleaner using concentrated detergent for ultrasonic cleaners, not to damage the frames and any type of lenses.
High cleaning capacity enhanced by the mechanical action of the ultrasonic cleaner.

FINISHING

To touch-up soldered parts use these coloured lacquers. Ideal for individualising or personalising frame parts.

ACTIVE LIQUID
WITH ANTIBACTERIAL PROPERTIES
Thanks to its active enzymes, this detergent can also be used without ultrasonic cleaner, just with lukewarm water. Its antibacterial properties sanitize the spectacles.
Ref. 06859 1litre bottle
Add one/two cupfuls of detergent to 1 litre of water. 100% NO ALCOHOL

TOUCH-UP BRUSH KIT
Ref. 07100 - 07104 - 07106 - 07109 - 07110 - 07111 - 07112 - 07116 - 07117 - 07120 - 07121.

Ref. 07118
Set of 12 lacquers.
(Ref. 07100 Shiny Black - 2 pcs.)

4.8 TINTING UNITS

Two and four plates

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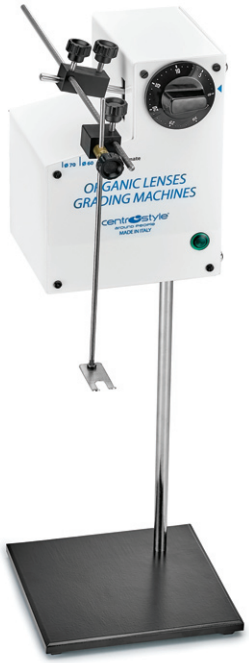
Automatic Gradient Unit



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Accessories

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Lens tinting is a treatment carried out for sun protection, medical and aesthetic reasons.
Tinting techniques depend on the material with which the lens is made.
The technique commonly used for plastic materials in CR39, Polycarbonate and High Index is by immersion into hot tinting liquid.

4.8 TINTING UNIT

Two plates

TWO PLATE TINTING UNIT

Ref. 06520

- Thermostat for temperature control
- Timer for regulation of the pre-heating phase

Dye pots not included.
Plates Ø 120 mm.
Power consumption:
450 W each plate

Size: 155x415x210 mm
Weight: 4.2 kg.

Ref. 06518
Complete with:

• Two plate tinting unit	Ref. 06520
• 2 stainless steel dye pots with lids	Ref. 06529
• 1 stainless steel lens holder	Ref. 06525
• 1 package of 12 clear plano lenses	Ref. 06660
• 1 celsius thermometer	Ref. 23564
• 1 litre neutralising solution	Ref. 06850
• 10 assorted dyeing powders	

PLUG SUPPLIED

Ref. 06518/06520	230V AC
Ref. 06518/06520CH	230V AC
Ref. 06518/06520GB	230V AC
Ref. 06518/06520AUS	230V AC

SPARE PARTS

Ref. 06511
Heating element

Ref. 05012
Switch on-off

POWER CONSUMPTION
900 WATT

TINTING UNIT

4.8

Four plates with thermostat for temperature control

FOUR PLATE TINTING UNIT

Ref. 06505

Four plate tinting unit.
Operates as two independent tinting units with two plates per unit.
- Thermostat for temperature control.
- Timer with alarm.

Dye pots not included.
Plates: Ø120 mm
Power consumption: 900 W /double plates
Size: 345x440x215 mm
Weight: 8.9 kg.

PLUG SUPPLIED

Ref. 06505/06507	230V AC
Ref. 06505/06507CH	230V AC
Ref. 06505/06507GB	230V AC
Ref. 06505/06507AUS	230V AC

Ref. 06507

Complete with:

• Four plate tinting unit	Ref. 06505
• 4 stainless steel dye pots with lids	Ref. 06529
• 1 stainless steel dual lens holder	Ref. 06525
• 1 package of 12 clear plano CR39 lenses	Ref. 06660
• 1 celsius thermometer	Ref. 23564
• 1 neutralising solution	Ref. 06850
• 10 assorted dyeing powders	

SPARE PARTS

Ref. 06511
Heating element

Ref. 05012
Switch on-off

POWER CONSUMPTION

1800 WATT

4.8 AUTOMATIC GRADATION UNIT

With timer

AUTOMATIC GRADATION UNIT WITH TIMER

Ref. 06580

Allows to gradate all plastic lens types gradually.
Incorporates a 30 minutes timer.

A mechanical arm allows alternate dipping of the lens into the bath in order to reach identical graduation on all plastic lenses.
The oscillation time is programmed by the operator.
The graduated effect on the lens can be adjusted.

Size: 150x150x455mm
Weight: 4.1 kg.

PLUG SUPPLIED

Ref. 06580	230V AC
Ref. 06580CH	230V AC
Ref. 06580GB	230V AC
Ref. 06580AUS	230V AC

POWER CONSUMPTION

30 WATT

ACCESSORIES FOR TINTING

Free-standing lens holder

Ref. 06525
Holds one or two lenses of the same size under spring pressure. A large base keeps the stand free in the pot.
Stainless steel.

Ref. 06527
Holds one or two lenses of the same size under spring pressure.
Made of s/steel and heat resistant plastic.

Dye pot and thermometer

Ref. 06529
Stainless steel pot with lid, large heat proof knob.
Capacity 1 litre - Ø 120 mm
The special bottom allows for a uniform heat distribution and maintains the temperature constant.
Suitable for tinting units Ref. 06505-06520.

Ref. 06547
Stainless steel pot with lid.
Capacity 1 litre - Ø 120 mm
Suitable for oil bath tinting units.

Ref. 23564
Celsius thermometer
-10 °C / +150 °C.

4.8 DO'S AND DON'TS OF TINTING

CLEANLINESS

The biggest problem in tinting is contamination. The pot must be absolutely clean before fresh tints are mixed. Any residual colour remaining in the pot will affect the new colour. Boil neutralizer in the pot to ensure perfect cleanliness. Thoroughly rinse with clean water.

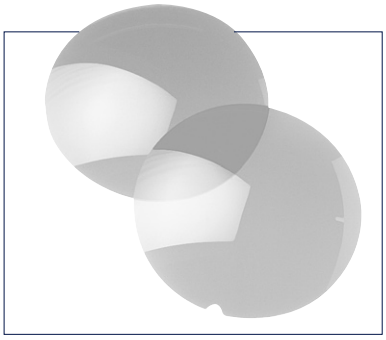
PREPARING THE TINT

Half fill the pot with distilled water and heat to 60°C (140°F) then add dye powder. Stir mixture until dye is completely dissolved.
For liquid dyes shake the bottle well before adding hot water. Add some distilled water and flush tint pot to ensure all the contents are being used.
If required add more water to make up 1 litre of dye solution.
USE DISTILLED WATER
Limestone, chlorine and water impurities can often cause inconsistencies in dye properties. Impurities can cause colour "haloes" when tinting lenses.
FLUSH THE BOTTLES WELL
Make sure the tint pot is completely emptied of dye and dye sediment when mixing as it affects the composition of the colour.
DO NOT MIX DYE WITH COLD WATER
Often dyes will not dissolve easily in cold water and deposits may form in the bottom of the pot. Conversely, if the dye concentrate is left to settle, the high hot plate temperature may cause crystallisation which will also affect colour consistency. Stir dyes regularly during preparation.
DO NOT MIX THE DYE WITH WATER OVER 90°C (194°F)
The dye may crystallise and will not mix evenly. This could affect colour consistency.
ADVANTAGES OF MIXING THE COLOUR AT 60°C (140°F)
The colour mixes homogenously as it gradually reaches the temperature of 92°C-95°C (198 - 203°F). Mixing and stirring the dyes at 60°C for 10-15 minutes makes it very stable and ensures a homogenous colour mix.

HEATING AND WATER LOSS REPLACEMENT

Slowly heat the solution for about 20 minutes until it reaches 92°C-95°C (198 - 203°F). Do not heat with a flame as that tends to concentrate the heat whereas it should be evenly spread around the dye pot. During tinting water is lost through evaporation. It is recommended that small quantities of distilled water be added to the bath to compensate for this loss. It should be at the same pot temperature when added.
DO NOT HEAT QUICKLY
The temperature on the bottom and around the sides of the container is usually higher than in the centre. Fast heating may cause crystallisation which effects a colour consistency and dye life.
WATER REPLENISHEMENT
Add small quantities of distilled water regularly to overcome loss due to evaporation. Wait until the dye temperature has recovered to 92°C -95°C (198°F -203°F). As more water is added, colour strength will change. A top-up of dye may also be necessary from time to time.
MIXING AND CORRECTING COLOURS
When mixing and correcting colours ALWAYS rinse the lenses and lens holder in clean water before proceeding to the next colour. Contamination is the quickest and the most common way of spoiling colour consistency.
This rule also applies when adding other properties like hard coatings and when neutralising or bleaching out colour. The rule is - thoroughly wash the lens and lens holder in clean water before transferring them to another colour or process.

TINTING STEPS



PREPARING THE LENS

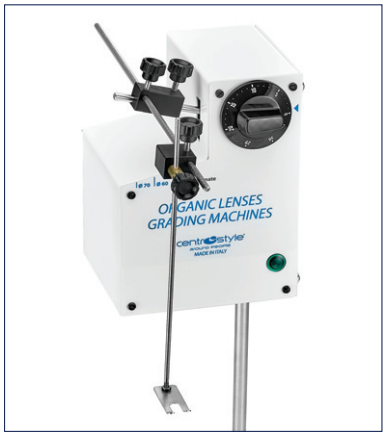
Lenses should be edged first before tinting.
Thoroughly cleaning and degreasing the lens before tinting allows for rapid and uniform tinting.
Slowly immerse the lens into the hot tint bath: do not rush as a sudden temperature change may affect the lens surface. Keep the temperature at 92°C-95 °C (198 - 203°F).

TINTING

Slowly immerse the lenses in holder into the hot tinting liquid to avoid splashing and lens strain.
DYE BATH SHOULD ALWAYS BE BETWEEN 92°C - 95°C (198 - 203°F)
At these high temperatures, the tint and CR39 molecules bond to form part of the lens structure. The lens continues to cure in the dyeing process and has a more scratch resistant surface. At a lower temperature the dyeing cycle is longer and there is difficulty in obtaining dark tints, this increases the possibility of inferior and unstable tinting of the lens.
DO NOT DYE AT A HIGHER TEMPERATURES ABOVE 95ºC (203°F)

- There is a greater water loss through evaporation.
- Crystallisation of the dye will occur and colour consistency will fail.
- Higher exposure to fumes in the working area.
- Possible softening of the lens may require more careful handling.
- More power used unnecessarily.

HOW TO OBTAIN GRADIENT LENSES
If you do no have a gradient unit use the lens holder.
Prepare the lens as previously described. For prescription lenses, turn them upside down when placing them in the lens holder so the top of the lens is closest to the bottom of the tint pot. Immerse the holder until the dye covers the lens. Move the lens holder up and down and at the same time gradually withdrawing it from the solution until the lens has been completely withdrawn. With practice a perfect gradient will be achieved. The starting depth determines the start of the gradient line.



COLOUR CORRECTION

BROWN LENSES	
Too much	*Dip lens into*
Red	Grey and blue
Grey	Yellow
Green	Red, then Blue
Blue	Pink

GREY LENSES	
Too much	*Dip lens into*
Brown	Blue
Purple	Yellow
Green	Pink
Blue	Brown

GREEN LENSES	
Too much	*Dip lens into*
Yellow	Blue
Grey	Decolour
Brown	Blue
Blue	Brown or yellow

AFTER TINTING

Immediately wash lenses and lens holder in clean cold water.
As hot lenses scratch more easily this practice will help eliminate potential lens damage. The use of MACROCLEAN microfibre cloth is recommended. These clothes can be kept clean by regular washing.

AVOID USING PAPER TISSUES THAT ARE NOT LINT OR ACID FREE.

CHECK UV TRANSMITTANCE
The UV & Visible Spectrotester (Ref. 05053) is ideal to test the UV and visible transmittance of a lens after tinting.