Advanced decentration
and blocking system

Cad 5

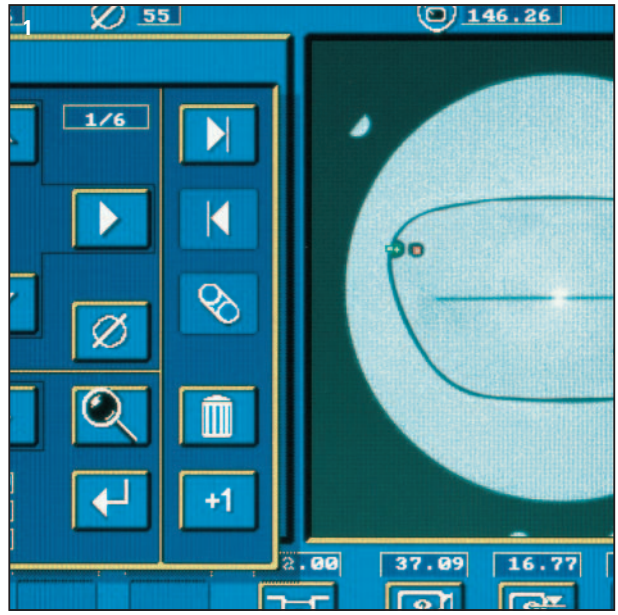
Cad 5 - The advanced decentration and blocking system

As the demand of the opticians is changing over the years Weco has invested in the development of a new decentration and blocking device, paying attention to the needs of modern optical workshops. Consequently, Cad 5 offers advanced features to make the opticians workflow easier and safer.

The Cad 5 is a fully automatic device with no need of human intervention during centering and blocking operations. Cad 5 is an integrated device, not requiring the use of a lens-meter for regular prescriptions. This reduces the risk of human error and increases the accuracy of centering.

The Optical-Trace function prevents the possibility of any mechanical distortion of the frame by taking a "picture" of the pattern or demo lens to trace the shape. High-tech optical recognition and image treatment systems ensure optimum accuracy for lens centering and frame mounting.

As well as the detection of drill hole coordinates for rimless frames, the Modifier functionality is essential to adapt the frame shape to the wishes of the customer or the requirements of the lens to be mounted. With Modifier you are always in a good shape when it comes to flexibility.



Cad 5 - advanced features

- Optical trace functionality for detection of lens shape or pattern
- High-tech optical recognition and image processing system
- Automatic recognition of pattern, demo lens and lens to edge
- Detection, modification and creation of drill hole coordinates
- Modifier to modify the shape of a lens for rimless frames

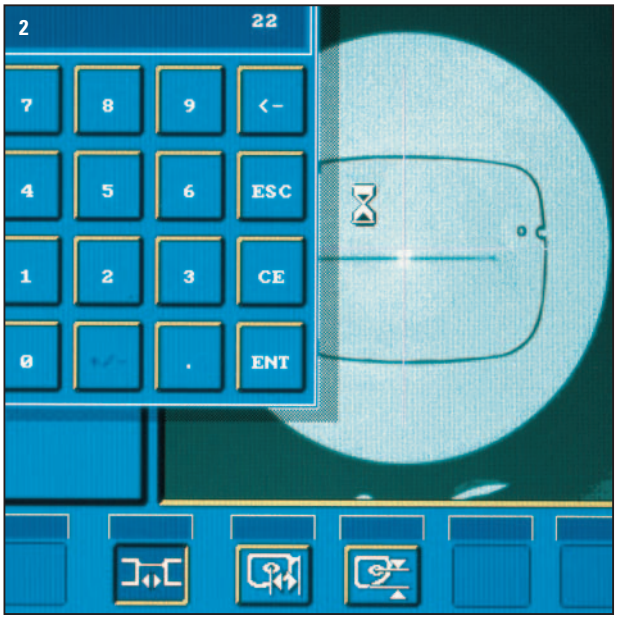
Cad 5 - features

- Elimination of lens-meter means one step less in usual lens preparation processes
- Less manual processes during the whole operation: automatic recognition, centering and blocking
- Automatic blocking with safe electro-magnetic system
- Processes all lens materials

Advanced automatic functionality

All operating steps are conducted automatically with no need for operator intervention. Therefore the manual handling during operation no longer influences decentration and blocking results. When working on Cad 5 the operator is logically guided through the operating steps of the process by means of simple and user-friendly icons. The icons are logically positioned onto the easy-to-use touch screen.

The Cad 5 is simple to operate: all you have to do is position the lens on the lens support. Cad 5 automatically moves the lens in X, Y and axis orientation during the centering operation.



1 Optical Trace detection of holes
2 Optical Trace detection of shape
3 Optical Trace adjustment of holes
4 Modifier for shape modification
5 Centering of bifocal lens

Optical Trace functionality

Tracing is the first step in the workflow of lens manufacturing and historically this measurement has been performed with a Tracer. Optical Trace functionality offers the possibility of measuring the shape of a pattern or cut lens without a Tracer. The Optical Trace function no longer employs a mechanical stylus but instead uses a digital camera for measurement ready to be processed. The fast operation of Optical Trace and the less mechanical distortion of the frame and lens results in increased productivity.

> For lens shape measurement
> For drill hole detection
> Fast operating time of 12 seconds
> Accuracy increases due to less operator-induced mechanical distortion
> Square shapes and bent shapes are to be perfectly represented by Cad 5

Drill-hole identification

When manufacturing rimless spectacles the technician must locate the drill-hole positions. With the Cad 5 drill-hole coordinates are easily located using optical trace functionality and drill-hole identification. As soon as Optical Trace is activated the drill-holes are located and displayed on the screen. Additional holes and slots can be added or removed or even varied in dimension.

> Automatically finds holes and slots in the lens
> Precise positioning due to zoom function
> Manual adjustment of holes
> Operator can add, move and remove holes or slots
> Operator can increase or decrease holes' diameter
> Blind holes can be added
> Positioning accuracy within 5/100 mm

Modifier

A shape modification for the rimless lens is often requested by the customer. Now you can simply say, "No problem, we have the solution!" Using Cad 5's modifier shape modification becomes reality. An added benefit is this advanced function to improve the processing of progressive lenses. The Modifier is a special function to adapt the lens shape of rimless spectacles.

To do so, several programs can be applied to adjust:

> Half height, low part of the lens - for progressive lenses
> Height only
> Width only
> Height with width adaptation
> Width with height adaptation
> Circumference radius length

Centering

Centering of the lens is achieved automatically by built in power measurement. When processing a single vision lens the Cad 5 performs a lens optical analysis to detect the optical centre and axis identification. With bifocal lenses the lens image analysis is performed by determining the near vision segment. Progressive lenses are processed by identification of the printings.

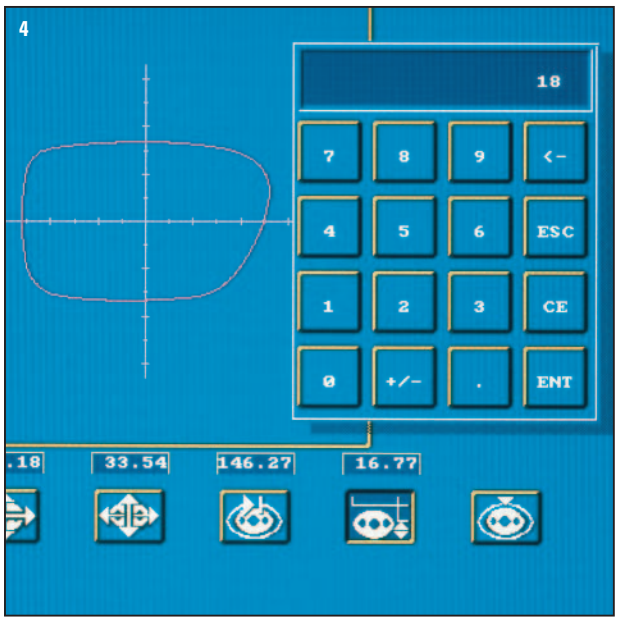
The centering of Cad 5 is briefly summarised:

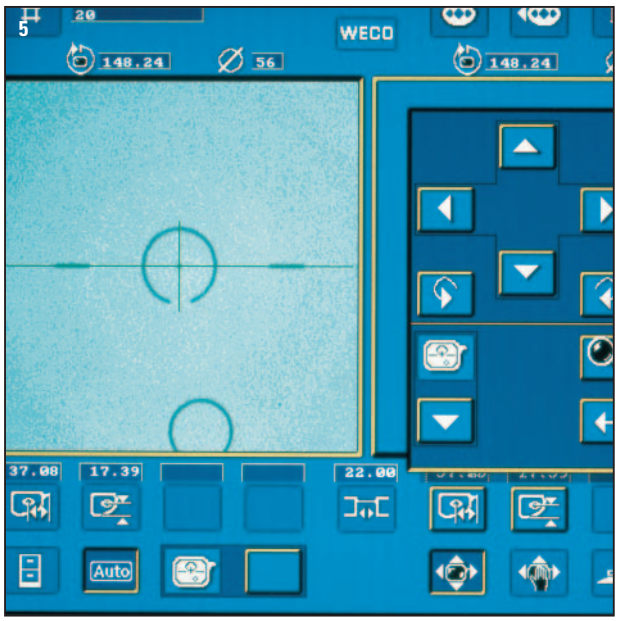
> Centering of any type of lens
> Quick identification of the centering references
> Automatic recognition of any printings
> Instantaneous and automatic centering
> Comparison of the lens diameter to the requested shape
> Power identification for single vision lenses with an accuracy within ± 0.125 D

Blocking

Having centered the lens the block is applied by the integrated blocking unit. Cad 5 employs an advanced electromagnetic block system to ensure the block is held securely in the block holder to provide very high blocking accuracy.

> Blocking of any type of lens
> Electromagnetic block for perfect blocking





Your benefit by progress

> Optical Trace for fast and precise shape detection
> Automatic drill hole identification with higher productivity for rimless spectacles
> Modifier to modify lens shape for rimless spectacles

Your benefit from profitability

> Increase of profitability due to less operator mistakes and damages
> Less manual operations and manipulations
> No need of a lens-meter to identify the optical lens centre and axis

Technical specifications:

Dimensions		
Height	660 mm	
Width	320 mm	
Depth	450 mm	
Height of glass retainer	240 mm	
Weight	38,8 kg	
Technical limits		
Measurement range for dioptre measurement	Sphere	-6 dpt. to +6 dpt.
	Cylinder	0 – 6 dpt.
	Cylinder shaft	0 – 180 °
	Prism	0 – 6 cm/m
	Basis	0 – 360 °
Accuracy of Power Measurement		0,125 dpt.
Raw lens dimensions	Max / min diameter	80 mm / 45 mm
	Max / min marginal thickness	20 mm / 0,5 mm
Accuracy of detection		0,3 mm
Accuracy of blocker		0,15 mm
Process period		
Single-focus lens		20 s
Bifocal lens		10 s
Progressive lens		10 s
Data input and handling		15 s
Total period for one spectacle lens		45 - 65 s
Interfaces		
WECO	WECO CL interface, compatible with other WECO interfaces	
RS232	Serial interface RS232, data protocol according to OMA-Standard	

Subject to changes within the scope of technical development.

1400-1240-05 WECO 10/04 5. H+H

For further information on Cad 5 and WECO optical machinery please call us. We would be pleased to inform you.

WECO Optik GmbH
Verwaltung Jägerstraße 58
D-40231 Düsseldorf
Telefon +49-211-21 04-0
Telefax +49-211-21 04-251
info@weco-instruments.com
www.weco-optik.com

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