

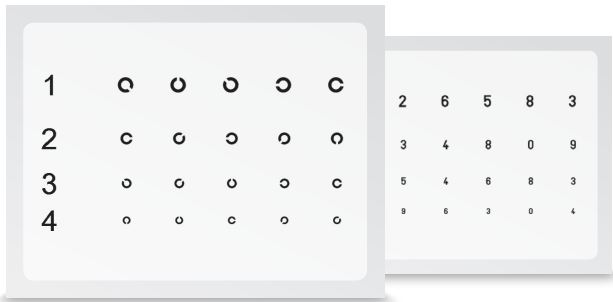
# OCULUS Binoptometer® 4P

Professional Vision Testing Device



# Innovative

Test presentation on a high-resolution colour display

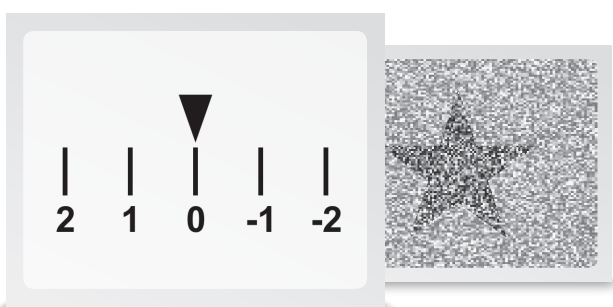
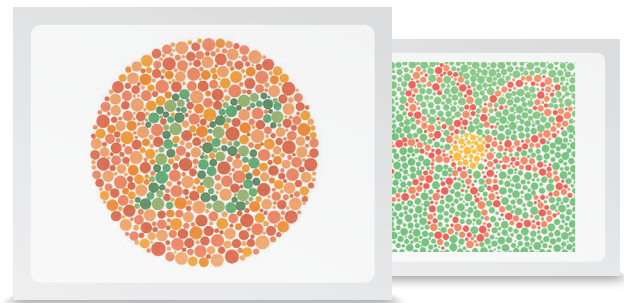


## Visual acuity test

- Landolt C conform to DIN EN ISO 8596
- Tests include numbers, letters, tumbling E and ETDRS charts. Child-friendly picture optotypes are optional.
- Levels of visual acuity:  
2/400, 20/200, 20/100, 20/63, 20/50, 20/40, 20/32, 20/25, 20/20, 20/16, 20/12.5, 20/10
- Optional presentation of single optotypes\*

## Colour perception test

- Large selection of colour test plates
- Video display precisely calibrated to colour temperature for optimal colour reproduction
- Presentation time of colour plates can be limited for improved test accuracy
- Colour test plates for children (optional)\*



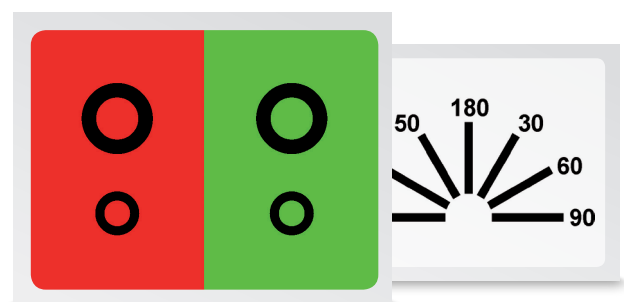
## Binocular tests

These binocular tests are generated via a modern LCD shutter system which imitates natural vision. A variety of integrated stereo and phoria tests allow a quick screening of binocular functions.

- Optional: Additional child-friendly, easy-to-grasp stereo and phoria test charts\*

## Refraction test

The astigmatism chart and the red-green test allow fast screening for significant refraction errors.



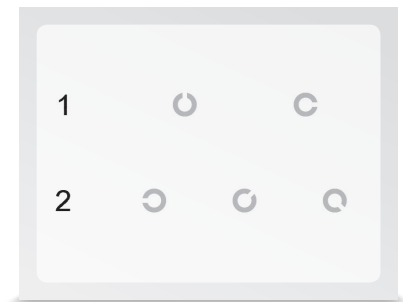
\* included in the optional software module "vision tests for children"

# Unbeatable

Vision testing device for contrast vision, mesopic vision and glare sensitivity

## Contrast vision test

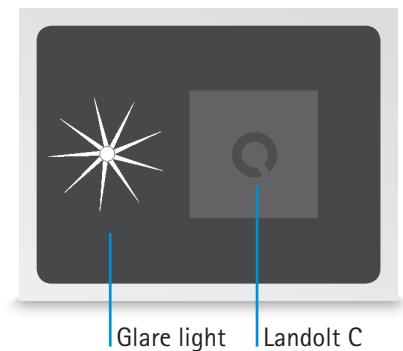
Similarly to visual acuity tests, photopic contrast tests are conducted against a high intensity background light. Unlike visual acuity testing, where test characters are presented in high contrast, in photopic contrast vision testing, the contrast is reduced in stages. Contrast vision can optionally be tested with all available optotypes e.g. Landolt C, letters or numbers at different visual acuity levels.



## Mesopic vision and glare sensitivity test (optional)

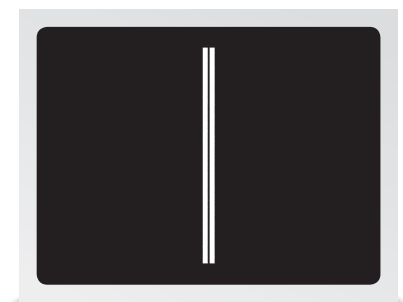
Visual performance varies according to lighting conditions. To test visual function under mesopic conditions, a Landolt C of different contrast levels is presented in an environment of low light density, as it occurs during night driving.

Additionally, glare sensitivity can be tested by simulating the dimmed light of an approaching vehicle.



## Determination of accommodation amplitude

Determination of the accommodation amplitude can be a valuable tool in deciding whether specific VDU workstation glasses are needed. The Duane test figure in combination with a kinetic process is particularly suitable for determining the accommodation amplitude. Results are determined quickly and conclusively.



## Effect of corrective lenses

In the event of abnormal visual acuity values or asthenopic symptoms the effect of corrective lenses can be simulated in the range from +4.5 D to -3.5 D. This allows testing for latent hyperopia, age-related presbyopia or myopia, in particular night myopia.

## Peripheral visual field perception

Perception is tested at 7 points each for the right and left field of vision. Unique feature: The check of fixation proceeds through symbols changing in the center. By checking these symbols a fixation test is obtained.



# All Features at a Glance

## Fast

With peripheral visual field exam (7 points per eye) – ideal for fast screening.

## Patient-friendly

The user-friendly design prevents condensation on the viewing windows while providing protection against irritating light.

## Portable

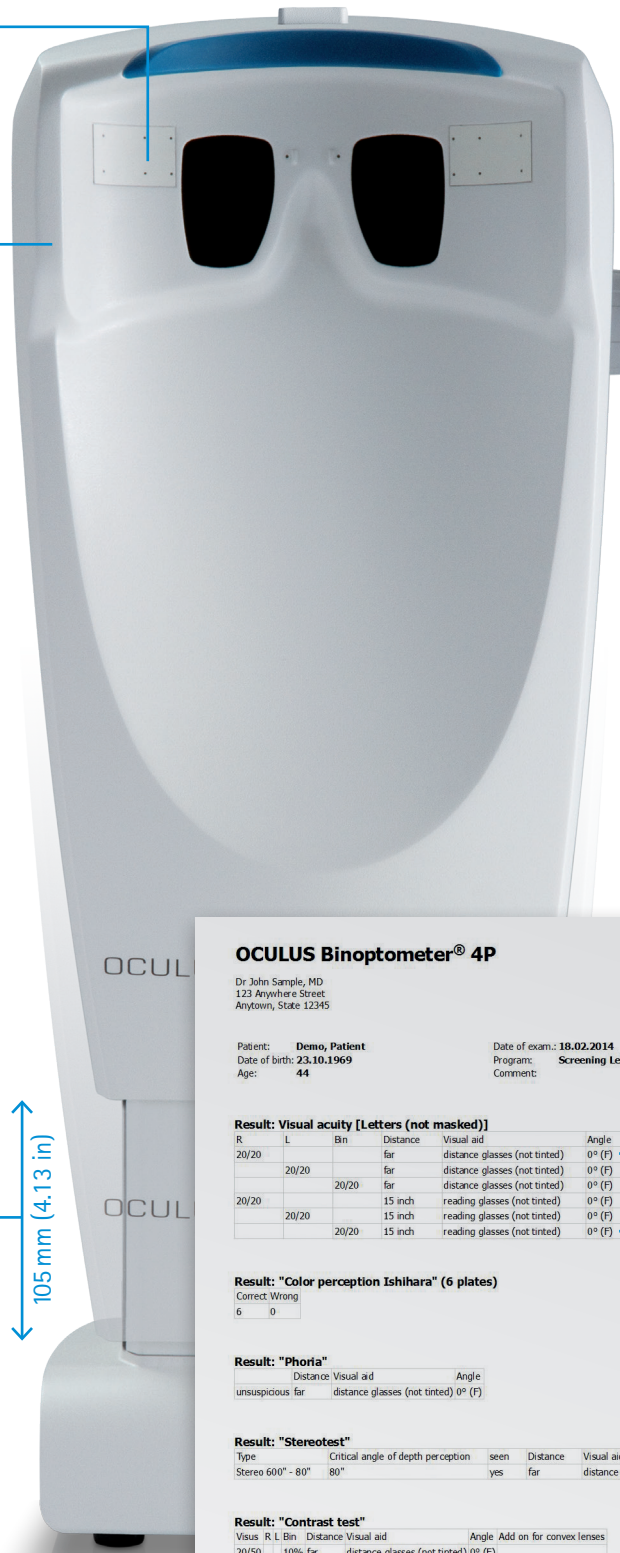
With a weight of just 4.8 – 5.6 kg (10.6 – 12.3 lbs) (depending on accessories) the Binoptometer® 4P is easy to move around.

## Adjustable examination distance

The testing distance is continuously adjustable from 30 cm (11 inches) to infinity.

## Ergonomic

A height adjustment range of 10.5 cm (4.13 inches) accommodates patients of different size (optional).



**OCULUS Binoptometer® 4P**

Dr. John Sample, MD  
123 Anywhere Street  
Anytown, State 12345

Patient: **Demo, Patient** Date of exam.: **18.02.2014**  
Date of birth: **23.10.1969** Program: **Screening Letter**  
Age: **44** Comment:

**Result: Visual acuity [Letters (not masked)]**

R	L	Bin	Distance	Visual aid	Angle	Add on for convex lenses
20/20			far	distance glasses (not tinted)	0° (F)	
	20/20		far	distance glasses (not tinted)	0° (F)	
20/20		20/20	far	distance glasses (not tinted)	0° (F)	
			15 inch	reading glasses (not tinted)	0° (F)	
20/20	20/20		15 inch	reading glasses (not tinted)	0° (F)	
			20/20	15 inch	reading glasses (not tinted)	0° (F)

**Result: "Color perception Ishihara" (6 plates)**  
Correct: Wrong  
6 0

**Result: "Phoria"**

Distance	Visual aid	Angle
unsuspicious far	distance glasses (not tinted)	0° (F)

**Result: "Stereotest"**

Type	Critical angle of depth perception	seen	Distance	Visual aid	Angle
Stereo 600" - 80"	80"	yes	far	distance glasses (not tinted)	0° (F)

**Result: "Contrast test"**

Visual	R	L	Bin	Distance	Visual aid	Angle	Add on for convex lenses
20/50				10% far	distance glasses (not tinted)	0° (F)	

## Flexible

The viewing angle can be adjusted continuously. Ergonomic test procedures are thus possible also for patients with multifocal or progressive lenses. The adjustment angle ① is presented on the display ② and documented in the printout ③, ensuring reproducible test results.



## Versatile

- Concise printout
- Automated PDF generation
- Easy transfer to electronic medical records



## Programmable and customizable

Several programs are pre-loaded:

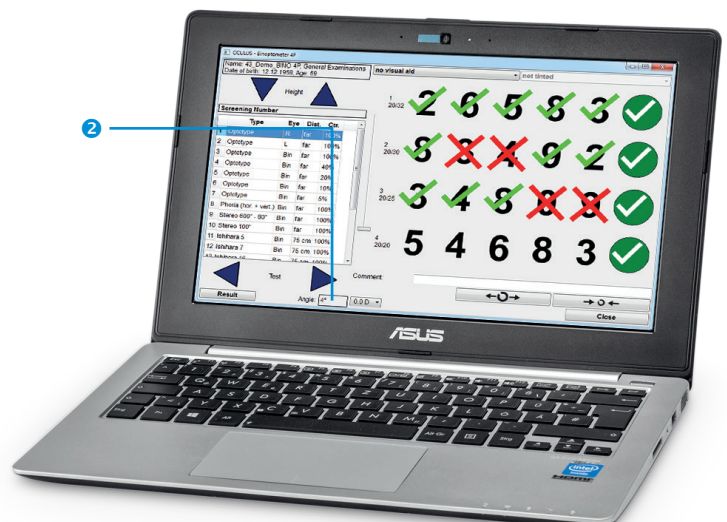
- Screening with Landolt C, numbers and letters
- VDU workstation
- Driver's license regulation
- Glare sensitivity
- Pilots Class 1 & 2
- and many more

### Make it your very own

If want to run your own programs, we'll be happy to incorporate them. You can also customize the printout with your own logo and practice information.

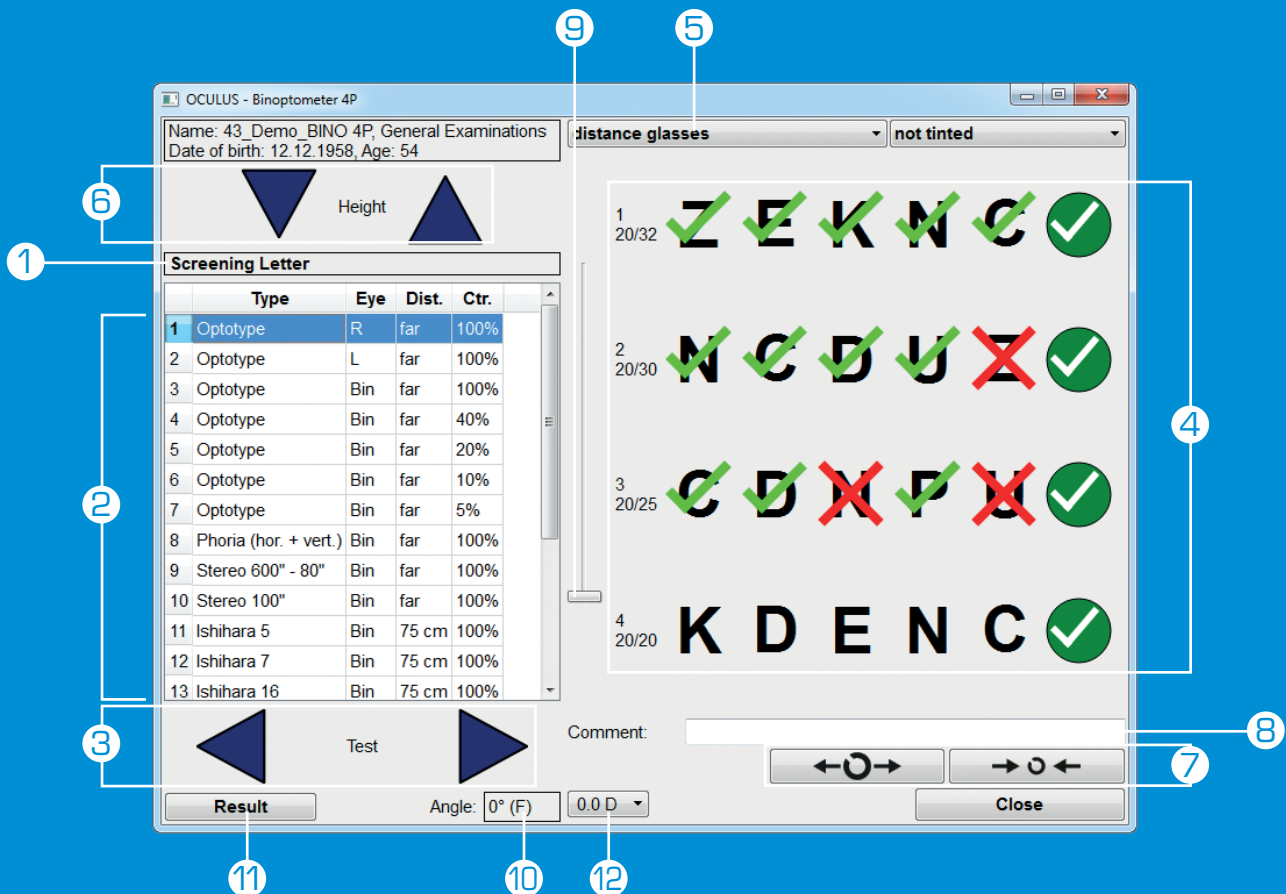
## Easy to use

The Binoptometer® 4P can be easily operated using a Windows computer (netbook, laptop, PC or tablet).



# Operator Friendly

Intuitive operation. Easy to understand.



- 1) Selected examination program
- 2) Test steps from selected examination program
- 3) Navigation through test steps
- 4) Tests presented to the patient
- 5) Selection field "Visual aid being used by patient "
- 6) Height adjustment of Binoptometer® 4P (optional)
- 7) Change optotype size
- 8) Info text field for comments
- 9) Adjustment of examination distance
- 10) Display of adjusted viewing angle
- 11) Call-up of results printout
- 12) Effect of corrective lenses

# Optional Accessories



## Mesopic vision testing under true-to-life conditions.

The external light shield of the Binoptometer® 4P permits mesopic vision tests independent of room conditions. It protects the eyes against incident light, allowing examinations also to be conducted in bright rooms.

## Carrying case for Binoptometer® 4P

If you need to use it elsewhere, just pop your Binoptometer® 4P in this practical carrying case. Big enough to also accommodate the netbook as well as other equipment of Binoptometer® 4P.



## Transport trolley for Binoptometer® 4P

Maximum protection and convenience for your Binoptometer® 4P. Stable trolley with large rollers and extendable handle.

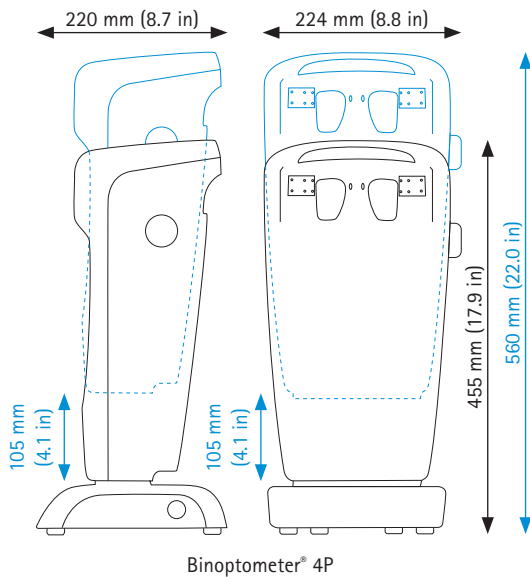


# Technical Data

## OCULUS Binoptometer® 4P

Binoptometer® 4P	
Brightness of exam field	130 – 300 cd/m <sup>2</sup> , equivalent to standard light D 65 (colour test D 55)
Generation of vision test	Micro colour display, 800 x 600 pixel
Interface	USB
Technical specifications	
Dimensions	Unit with height adjustment 224 x 220 x 455 – 560 mm (8.8 x 8.7 x 17.9 – 22.0 in) Unit without height adjustment 224 x 220 x 455 mm (8.8 x 8.7 x 17.9 in)
Weight	Unit with height adjustment 5.6 kg (12.3 lbs), incl. power cable Unit without height adjustment 4.8 kg (10.6 lbs), incl. power cable
Max. power consumption	60 VA
Voltage	100 – 240 VAC
Frequency	50 – 60 Hz
Recommended computer specifications	Intel® Atom™ Z8350, 32 GB storage, 2 GB RAM, Windows® 10

CE in accordance with Medical Device Directive 93/42/EEC



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OCULUS is certified by TÜV according to  
DIN EN ISO 13485