

Better,
simpler
testing.



 **OPTOVIST^{II}**

2.P. Prietaiso konstrukcinis išpildymas: kompaktiškas, pastatomas ant stalo, optinis-elektrinis prietaisas, kuriam netaikomi tyrimo atstumo toliui apribojimai, nebūtina standartinis apšvietimo/tamsus kabinetas

**Small, light,
height-adjustable.**

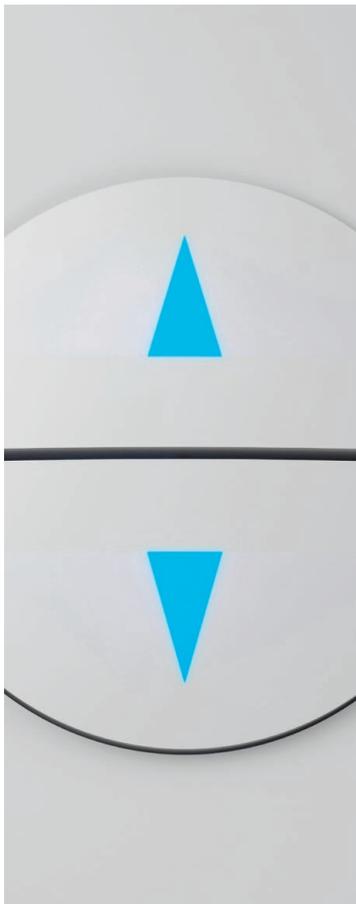
Optimally suited to mobile and stationary applications. Thanks to its compact, light, yet highly robust design, the Optovist II is ideally suited to mobile use. The height can be adjusted for virtually anyone, regardless of their size.



62 cm

Height adjustment
at the touch of a button.

Can be operated by the individual
being tested – simply move the
arrow upwards or downwards to set
the desired view height.



36 cm

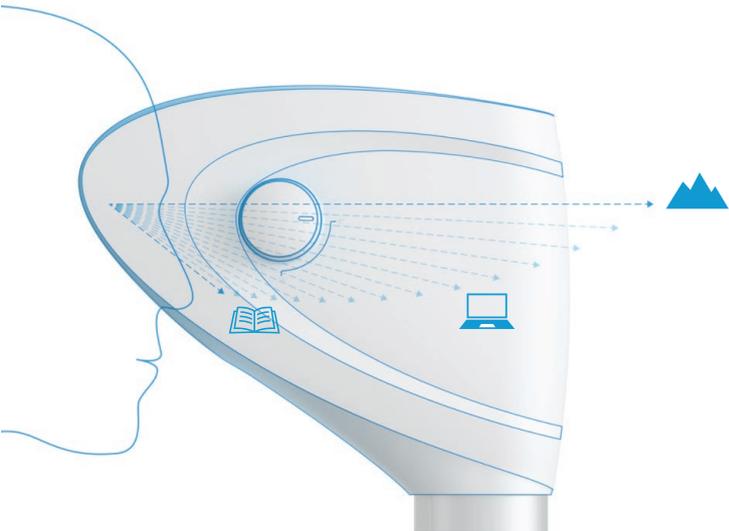
Height adjustment range
26 cm.

18.P. Preitaiso
ergonomika: prietaisas su
integuotu elektriniu
aukščio reguliavmu 26
cm ribose

Ergonomic

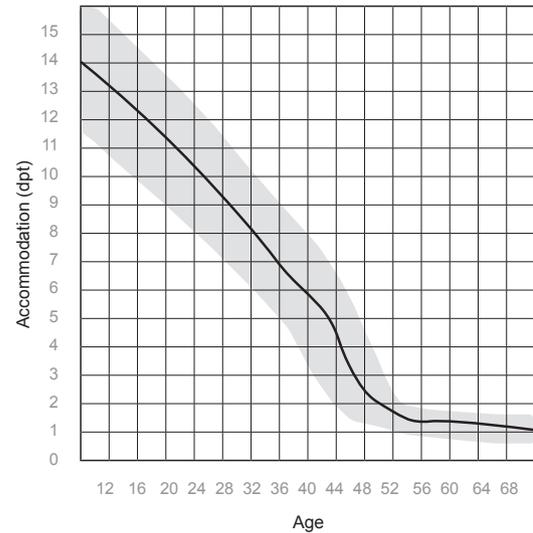
1 Are computer glasses needed –
yes or no?

2 To get the correct answer to this
question, the technical functionality
3 of your vision screening device
4 must enable optimum testing in the
intermediate and near-vision range.



Large tilting angle for testing the vision of varifocals wearers.

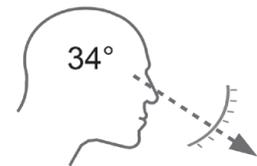
Thanks to the large view window and the adjustable tilt of the vision test field, vision tests can easily be conducted for wearers of multifocals and varifocals (for everyday use and computer use). The large swivel range ensures that the individual being tested is also **actually seeing through the reading section of their glasses,** especially in the near-vision test.



Near-vision test up to 25 cm.

The new visual concept of the Optovist II (patent pending) for the first time enables near-vision testing at a distance of 25 cm, thereby expanding the measurement range of the amplitude of accommodation to 4 dpt.

If your view of the adjustment knob is obstructed, the screen will show you the tilting angle that was set by the individual undergoing the test.



Extras

9.P. Regėjimo lauko tyrimas 40 taškuose

Orientating visual field test with up to 40 LEDs.

The integration of up to 40 LEDs in the device inview enables you to get an overview of the peripheral perception during the test. This test cannot, however, replace a "genuine hemisphere perimeter".



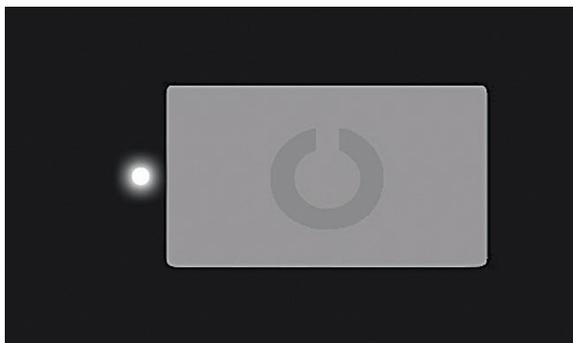
Simulation of auxiliary lenses – an impressive advisory aid.

Switching to +0.5, +1.0 or +1.5 dpt will reveal possible latent hyperopia with eye strain. To demonstrate the effect of computer glasses or reading glasses for individuals with presbyopia, corrections from +0.5 to 4.5 dpt are available. If there are abnormalities in the distance-vision test or in contrast or twilight vision, use minus lenses of between –0.5 and –3.0 dpt to confirm myopia, twilight or night myopia and to verify that a visual aid is needed or that the individual's current glasses are no longer sufficient.

10.P. Regējimo prieblandoje
tyrimas su ir be akinimo

A twilight vision test with and without glare in accordance with DIN 58220, Section 7.

Thanks to the unique technology, today both are possible with a single device: the vision test in daylight conditions with an ambient brightness of 200 cd/m^2 and a twilight vision test under mesopic conditions at 0.032 cd/m^2 or 0.1 cd/m^2 when testing with glare.

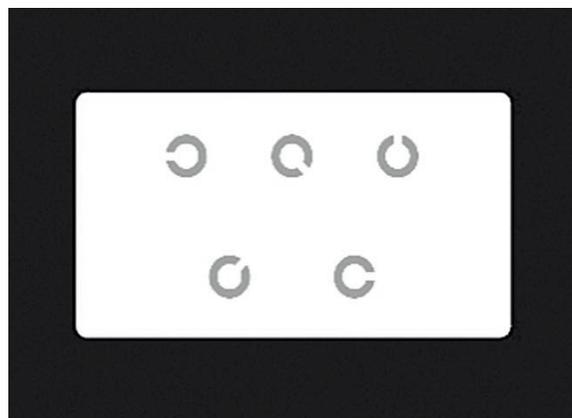


A soft, conforming screen protects against laterally penetrating light.



A scientifically substantiated contrast vision test under photopic conditions.

In standardised conditions, the contrast vision test (Weber contrast) is conducted using test characters in accordance with DIN EN 8596 and in compliance with the requirements of the German Ophthalmology Society. The threshold value of 15% is based on the results of a comprehensive study. You will always be on the safe side with Optovist II.



Variety of digital test characters

State-of-the-art technology

Via a high-resolution special display, the software-generated test characters are presented in compliance with all the standards. Instead of polarisation or red-green filters, image separation is via an LCD shutter.

6.P. Galima sukurti individualias tyrimo sekas

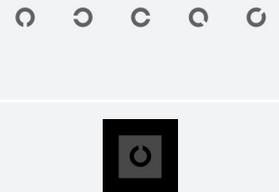
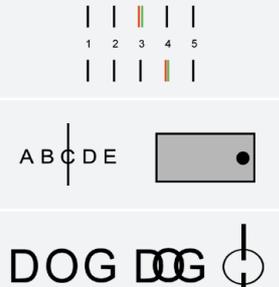
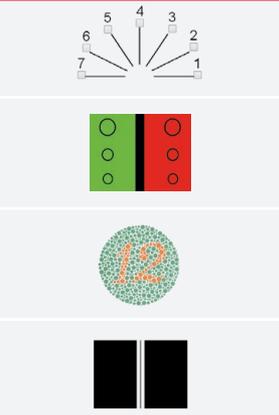
The Vistec app (see separate brochure) has numerous default tests. You can set up the tests any way you like, and you can generate your own test templates according to your individual requirements. If, for example, you are only carrying out tests for employees working on screens and/or fitness tests in accordance with G 25, all other types of tests can be hidden.

5.P. Regėjimo testai generuojami kompiuterinės programos ir rodomi integruotame aukštos rezoliucijos displėjuje

20.P. Programine įranga prietaiso valdymui kompiuteriu. su integruotais standartiniais tyrimo testais; pacientų duomenų ir tyrimo rezultatų išsaugojimui

1.1.P. Regėjimo aštrumo įvertinimui

7.P. Regėjimo aštrumo tyrimui naudojamų optotipų pasirinkimas

VISUAL ACUITY		<p>Landolt rings: in accordance with DIN EN ISO 8596, DIN 58220 Section 5 and Section 6, numbers, letters and tumbling E charts in series. Visus 2.0 - 1.6 - 1.25 - 1.0 - 0.9 - 0.8 - 0.7 - 0.63 - 0.5 - 0.4 - 0.32 - 0.25 - 0.1 - 0.05</p> <p>Test characters in single display</p>	<p>8.P. Tyrimo įvertinimo žingsniai</p>
CONTRAST VISION		<p>Photopic contrast vision test with standard test characters in accordance with DIN EN ISO 8596 and DIN 58220, Section 5 in contrast levels from 100% to 2.5%</p> <p>Mesopic twilight vision test in accordance with DIN 58220, Section 7 in contrast levels from 1:23 to 1:1.14</p>	<p>14.P. Kontrastinio jautrumo tyrimas fotopiniame apšvietime</p> <p>15.P. Kontrastinio jautrumo tyrimo ribos nuo 2,5 iki 100%</p>
BINOCULAR VISION		<p>Stereo tests to test spatial vision by means of stereoscopic presentation at 14", 40", 70", 96", 200", 400" and 600"</p> <p>Various phoria tests available</p> <p>Various fusion tests available</p>	<p>1.3.P. Regėjimui prieblandoje įvertinti</p> <p>17.P. Binokulinio matymo tyrimas: su stereo matymo kampo įvertinimu ribose nuo 40" iki 400"</p>
SPECIAL TESTS		<p>Astigmatism test</p> <p>Red-green test for testing spherical correction deficits</p> <p>Colour sense test: Large selection of colour tables</p> <p>Amplitude of accommodation</p>	<p>1.7.P. Binokuliniam matymui įvertinti</p> <p>16.P. Spalvinio jutimo tyrimas prietaise yra integruotas "Ishihara" tyrimas</p>

Wireless connection to the PC

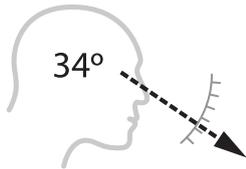
Control your Optovist II simply via WLAN or Bluetooth and you no longer need to concern yourself with **lost USB cables**. However, a USB connection cable still comes with the device as standard.

23.P. Prietaiso jungtys su išorinėmis sistemomis USB, Wi-Fi, Bluetooth

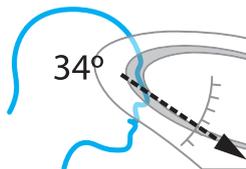


Head sensors – simply place your forehead where indicated

Several head sensors show you in the software whether the individual being tested is ready for the vision test while they simply place their forehead where indicated.



Please rest your forehead here



Good positioning

Desktop PC – Laptop – Tablet.

Select the type of operation depending on requirements. A WIN operating system is required. Compatibility with Android / Mac systems is currently being planned.



Intuitive user guidance

Self-explanatory symbols, many of which are known from other PC and smartphone applications, enable fast operation.



Good vision – a factor in productivity and safety.

Why are vision tests becoming more important?

If we consider the fact that 80 % of environmental information is perceived via our visual sense, then the importance of good vision rapidly becomes apparent. Coinciding with the increase in near-vision activities (smartphones, tablets), recent years have seen a significant rise in the prevalence of short-sightedness. Meanwhile, 46% of 25-year-olds are affected. Thus, the number of people needing regular vision tests is also significantly on the rise.

Examples of roles with high vision requirements

- Screen activity (AMR 14.1, G 37)
- Quality inspectors (non-destructive testing in accordance with DIN EN ISO 18490, DIN EN ISO 9712 (473), DIN EN 4179, DIN EN 13018, DIN ISO 24394)
- Work with fall hazards (G 41)
- Work under artificial optical radiation (G 17)

Vision in road traffic, water transport and air traffic (FeV, G 25, G 26, pilots, shipping).

According to estimates by the German Professional Association of Ophthalmologists (BVA), each year 300,000 accidents are caused as a result of poor visual performance. The following backed-up data has been released by the Association:

- 1 in 5 drivers suffer from night vision problems
- Twilight and night-time vision generally deteriorate from the age of 50
- 50 – 59 years: 11.5 % of all road users are no longer fit to drive at night
- From the age of 60, this figure increases to 20%

The most frequent vision defects

A vision defect is defined as a disparity between the length of the eye and the refractive power of the lens at maximum distance accommodation. In 2015, a meta-analysis (Williams: Prevalence of Refractive Error in Europe: the European Eye Epidemiology (E3) Consortium)) produced the following findings on the prevalence of vision defects in Europe:

- Myopia (from -0.75 dpt): 30.6 %
- High myopia (from -6.0 dpt): 2.7 %
- Hyperopia (from 1.0 dpt): 25.2 %
- High hyperopia (from 3.0 dpt): 5.3 %
- Astigmatism (from 1.0 dpt): 23.9 %

On night myopia and presbyopia, the German Professional Association of Ophthalmologists (BVA) has stated the following:

- 14 % of the population are affected by night myopia of -0.5 dpt.
- 11 % of the population have night myopia of between -0.5 and -2.0 dpt.
- 95 % of the population are in the presbyopic age group (age-related problems with up-close vision).

According to the BVA, it is assumed that there is a high number of unreported cases of hyperopia in the bracket of children and in the age group of up to 40.

Simple transport solutions

Transport trolley or case – for conveniently transporting your vision screening device from A to B.



Technical details:

Dimensions and weights	Width	Depth / length	Height	Weight
Optovist II	250 mm	400 mm	360–620 mm	5.2 kg
Power supply	56 mm	131 mm	37 mm	0.5 kg
Total weight				5.7 kg

Accessories: (optional – design is subject to technical changes and modifications)

Trolley	280 mm	470 mm	440 mm	3.9 kg
Transport case	270 mm	420 mm	400 mm	1.2 kg
Opaque device inview for twilight vision test				180 g
Adaptation glasses		3.P. Korekciniai akiniai		130 g

Electrical details:

Input voltage	100–240 V alternating current 47–63 Hz 1.62–2.62 A max.	27.P. Maitinimas iš 220V/50Hz elektros tinklo
Output voltage	24 V/47–63 Hz/max. 2.62 A	
Protection class II, device type B		

Your existing PC must meet the following requirements:

Processor:	min. 1 GHz
Free RAM:	min. 1 GB
Free hard disk space:	min. 100 MB
Interface:	a free USB connection
Graphic card/screen:	resolution min. 1024x600
Installation data carrier:	CD/DVD/USB
Operating system:	Microsoft Windows XP or higher

Device is completely galvanically isolated. Galvanic isolation between vision test device and power supply, and also in the connection to the PC. This means that optocouplers or network isolators are not required in connection with Optovist II.

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The way to save time.

The „glasses-compatible“ vision-screening.

When taking into account that the number of people wearing glasses increases year by year, the need for a glasses compatible vision-screener becomes clear. Particularly with wearers of progressive glasses - today some 30% of all sold glasses are progressive glasses -

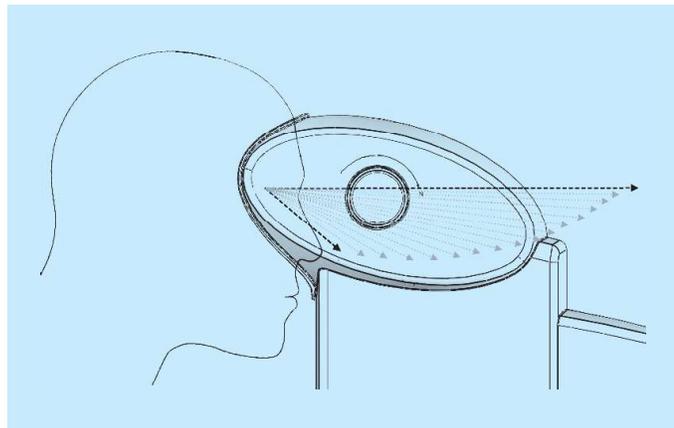
much time can be lost when using outdated vision screening instruments.

The steplessly variable inclination of the eye test plate helps with wearer of multifocal, everyday and computer progressive glasses to carry out the eye test in a way adjusted to each type of glasses.



The “physiologically correct“ vision test.

You test according to the physiology of viewing, i.e. for distance tests the viewing direction points straight horizontally. When testing medium and near distances, the inclination of the test field becomes relevant.



The „workstation-oriented“ vision test.

Optovist and its test distances, which can be varied between 33 cm and optically infinite, enable you to simulate almost every workstation situation. Thus, you can test in a genuinely „workstation-oriented“ way.

The „ergonomic“ vision test.

You do not only talk about ergonomics at work but also carry out your vision test based on ergonomic aspects. By means of the electric height adjustment, you can quickly bring your subject into the necessary test position.



Simple operation, easy to delegate.

Alternative operation options.

Depending on what you prefer, you can work either with a PC, a notebook or a small touchpad.

Intuitive operator guidance.

In order to keep the eye test as flexible as possible, the software largely dispenses with compulsory entries. For example, an eye test can immediately be started without registering the subject data. The screen masks are clearly arranged and self explanatory.

Not only the results of a test are stored but all test details. Thus, the doctor can always retrace how a test result has come about.

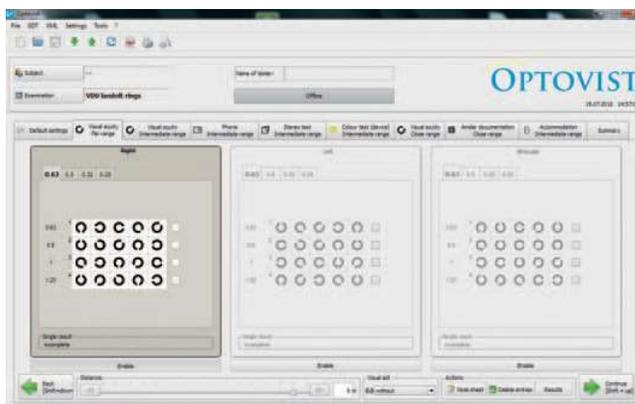
Create highly individual test series.

By means of a sequence editor you can create your own test programs or modify default test series according to your preferences. Over 100 test images are available for the visual acuity test alone.

Diverse communication options.

- Data transfer to external data management programs by GDT, XML or CSV
- Automatic PDF generation
- Embedded SQL database
- Database manager
- Clearly arranged printout of results with your logo

21.P. Galima perduoti tyrimo duomenis išoriniams duomenų apdorojimo programoms: XML formatu

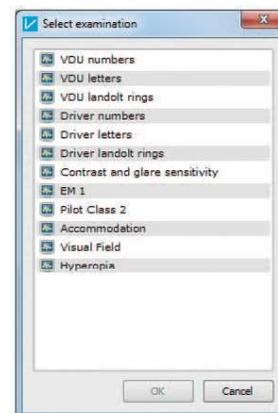


User quotations.

„We have such a great vision screener. The summary is a wonderful basis for the subsequent consultation and it is absolutely ideal for wearers of glasses - I think the thing is brilliant!“

„... have worked with it during a whole day for the first time, it gives the eye test a completely new quality.“

„What is great and brilliant is the progressive glasses adjustment with the knob on the side, I have never been able to test the subjects in that stress-free and reliable way.“



8. Default Tests

8.1 VDU test with Landolt rings

When starting the VDU with Landolt rings, the test window as shown under 7.2.2 appears.

The default ranges are:

Far range:	6.00m
Intermediate range:	0.67m
Close range:	0.40m

Now the first test image is active: far range, binocular. The optotypes have the following visual acuity steps:

Line	Visual acuity step	Number of optotypes / line
1	0.63	5
2	0.8	5
3	1.0	5
4	1.25	5

4.P. Galima tikrinti atskirai dešinę, kairę akį arba abi akis kartu.

The following order is programmed by default:

- Visual acuity test, far range: binocular, right eye, left eye
- Visual acuity test, intermediate range (computer screen distance): binocular, right eye, left eye
- Phoria test (binocular)
- Stereo vision test (binocular)
- Colour vision test (binocular)
- Visual acuity test, close range: binocular, right eye, left eye
- Option to document a central visual field test (Amsler grid) in the programme

8.2 VDU test with letters / numbers

The test sequences are identical to those of the VDU with Landolt rings. The visual acuity tests are conducted with letters or numbers.

Standard optotypes according to DIN EN ISO 8596 2009 (the standard optotype and its presentation) is the Landolt ring.

DIN EN ISO 8597 1996 (method of correlating optotypes), which describes how other optotypes equivalent to the Landolt ring can be correlated, was withdrawn without replacement in 2009.

To use other optotypes than the Landolt ring now in a standard-compliant way, extensive studies would be necessary to prove their equivalence to the Landolt ring. There are no such studies available at present.

The optionally available letters in Optovist were correlated when DIN EN ISO 8597 still applied.

No correlation has been made to the Landolt ring for the numbers that are also available in Optovist.

To test in a standard-compliant way, the Landolt rings are required to be used.



VISTEC

Vision Technologies

Optovist II

Operating manual

Operating manual Optovist II	Edited: ID	Updated: 05.07.2018
	Verified:	Version: 1.0
	Compiled: ID	Date: 23.05.2018
File name:	Operating manual Optovist II	
Vistec AG – Vision Technologies		

Revision History

Update			Updated chapters	Description of the update	Author
No.	Date	Version			
1	28.06.2018	1.0	All	Compilation	ID

Test directory

Internal tests

Date	Tested version	Remark	Tester
29.06.2018	1.0		AW

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1 General information and instructions

1.1 Introduction

Thank you for the confidence you have placed in us by purchasing this Vistec product. You have opted for a modern eye test device, which is manufactured and tested according to strict quality criteria. Continuing research and development can cause changes in execution and scope of delivery. The illustrations in these instructions for use may therefore differ from the delivered product.

For the sake of readability, the concomitant use of male and female forms is omitted. The designation of an individual refers equally to both sexes.

Changes within the meaning of progress remain reserved.

Insofar as you have questions or need more information about your device, please do not hesitate to call us, fax us or send us an e-mail.

Our service team is gladly at your disposal.

Phone: 08142/448 57-60

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Magnets can affect the function of pacemakers. It is therefore necessary to maintain the greatest possible distance.



Please purposefully read through the operating manual before use.

1.2 Information about the device

1.2.1 Device designation

Optovist II

1.2.2 Manufacturer

Vistec AG

Werner-von-Siemens-Str. 13

D-82140 Olching

1.2.3 Intended use/Area of application

The eye test device Optovist II is preferred in preventive, occupational and traffic medicine, ophthalmology and ophthalmology. The intended use of the device is limited to the use described in this document.

The following screenings can be carried out with the Optovist II under daylight conditions:

- Screening of visual acuity from 25 cm to optically infinite
- Screening for hyperopia
- Screening of binocular visual functions
- Screening of the colour sense ← 1.6.P. Spalviniam jutimui įvertinti
- Screening of contrast vision under photopic conditions ← 1.5.P. Kontrastiniam jautrumui įvertinti
- Screening of the glare sensitivity under photopic conditions ← 1.4.P. Jautrumui ryškiai šviesai įvertinti
13.P. Jautrumo ryškiai šviesai tyrimas fotopiniame apšvietime
- Screening of the twilight vision with and without glare pursuant to DIN 58220-T7
- Screening of the amplitude of accommodation
- Orientated visual field screening ← 1.2.P. Regėjimo lauko įvertinimui

1.3 Structure of the instructions

Please purposefully read through the instructions before use and keep them for future reference.

The Vistec app offers the great advantage that it can be operated over several Vistec AG devices. For the sake of clarity, the instructions are structured into several parts.

The operating instructions contain all the information concerning the device.

The user guide supports the user during the application. It contains all information about the Vistec app.

Insofar as you would like further information about the tests, please refer to the document "Explanations of the individual tests".

All documents are stored as PDF in the Vistec App and therefore available to you at any given time. You will find these under the menu item **Help**. ← 22.P. Tyrimo rezultatai atspausdinami kompiuterio spausdintuvu ir automatiškai generuoja PDF failą

The operating instructions as well as the explanations of the individual tests are assigned to the respective device, under all instructions and information about the software of the **Vistec App**.

21.P. Galima perduoti tyrimo duomenis išorinėms duomenų apdorojimo programoms PDF formatais

1.4 Warranty

In principle, the "General Terms and Conditions of Sale and Delivery" of the Vistec AG apply.

1.5 Scope of delivery

Standard scope of delivery:

- Vision screening instrument
- Viewing screen for the twilight test
- External power supply with power cable and connection cable to the device
- USB cable for PC connection
- Protective cover
- Cleaning cloth
- Instructions for Use: User Guide Vistec App und Operating manual Optovist II

Optional equipment and accessories:

- Tablet PC
- Transport trolley made of durable material with wheels and telescopic handle and with internal compartments for power supply, connection cable and tablet PC
- Dark glasses for the dark adaptation
- Carry bag

1.6 Safety instructions

- a) Please purposefully read through these instructions for use before working with the device.
- b) Do not carry out any unauthorised structural modifications or alterations to the device. Warranty claims expire insofar as unauthorised modifications (removal or addition) of hardware and / or software units are made.
- c) The device is not suitable for operation in potentially explosive areas.
- d) Do not use the device insofar as it exhibits any visible damage, e.g. after a fall. In this case, send it to an authorised service centre.
- e) Only arrange for repairs to be carried out on the device by a service centre authorised by the Vistec AG.
- f) Only operate the device with original accessories.
- g) Insofar as the device is not going to be used for a long time, unplug the power cord from the wall outlet. We recommend covering the device with the protective cover or placing it in the transport container.
- h) Additional equipment connected to the device must verifiably comply with their respective DIN EN or IEC specifications. Furthermore, all configurations must meet the requirements of the system standard DIN EN 60601-1-1 (IEC 601-1-1) and the subsequent amended versions thereof. The pairing of the device with non-medical devices (e.g. data processing equipment) to a medical electrical system shall not result in a level of safety for the patient, user, and environment that is below that of EN 60601-1-1 (IEC 606-1-1) and the subsequent amended versions thereof.

Insofar as the permissible values for leakage currents are exceeded due to the pairing, protective measures according to the system standard DIN EN 60601-1-1 (IEC 601-1-1) and the subsequent amended versions thereof, must be available.

- i) A system may not cause any danger to the patient, the user or the environment after installation or subsequent update.

1.7 Manufacturer responsibility

The device is built according to the state of the art and the recognized safety rules. The device has been tested for electromagnetic compatibility (EMC) and meets all required standards.

The Vistec AG considers itself responsible for the safety, reliability and performance of the device only insofar as:

- Installation, extensions, changes or repairs are carried out by individuals authorised by the Vistec AG,
- the Optovist II is only operated in medically used rooms and insofar as these rooms are installed according to the VDE regulations 0100-710 (Association for Electrical, Electronic & Information Technologies) and
- the device is used in accordance with the instructions for use.

1.8 Operator responsibility

The operator is among others responsible for:

- Compliance with accident prevention regulations as well as compliance with the Ordinance on the Installation, Operation and Use of Medical Devices (Medical Device Operator Ordinance – MPBetreibV),
- the operation,
- the maintenance,
- the proper and safe condition of the product and
- the storage of the instructions for use at the place of deployment.

1.9 Textual highlighting

Important text passages are specially marked by emphasis and keywords. The following emphases are used in this operating manual:



Caution!

Indicates a potentially dangerous situation. Observe the precautions marked in this way to avoid endangering people or damaging property.



Important!

Indicates important information. Read this information to maintain the high safety and functional standard of the device.



Information!

Indicates information for correct use. Shows examples and provides useful hints for optimal use of the device.

1.10 Rating plate

The rating plate is located at the back of the device. Please specify the serial number embossed on the rating plate below the barcode, in the case of all inquiries.



2 Operating and functional elements



2.1 Basic unit

No.	Designation
1	Forehead rest
2	Device viewing screen incl. the orientating visual field screening
3	On / off switch for height adjustment
4	Rotary knob for positioning the test field
5	Control-LEDs (Wi-Fi, Bluetooth, On / Off)
7	Rating plate
8	On / off switch

2.2 Basic unit-connections

No.	Designation
6	USB port for tablet / laptop / PC
9	Connection socket for external power supply

3 Commissioning

3.1 Setting up the device

The vision screening instrument should only be located in a moderately illuminated room. Glare of the test subject due to daylight, direct sunlight and / or artificial light sources must be excluded.

In the direction of the device viewing windows, bright areas such as e.g. windows, mirrors, etc. which are located in such a manner that reflections fall on the device viewing window and on the spectacle lenses of the test subject must be avoided.

3.2 Electrical connection

Caution!



Before connecting the device to the mains, check that the operating voltage stated on the rating plate of the device and on the rating plate of the power supply complies with the local mains voltage.

- Set the on / off switch of the device to "Off" (0).
- Plug the cable with the small round connector into socket 9 (see page 6). The other end of the cable is firmly connected to the power supply.
- Plug the cable with the three-pin plug into the power supply and the other end into the mains socket.
- Switch on the device and check the device for correct function (see page 9/3.5 Switching on the device).

3.3 Connecting a PC

2.P. Valdomas kompiuterio pagalba

Insert the plug of the USB cable into the socket on the device (see page 6 No. 6) and the other end of the cable into a free USB interface socket on your PC.

Insofar as your device has a Wi-Fi or Bluetooth interface, you can also work with the device and make adjustments to it without a USB cable. However, a USB connection is initially required to configure the interfaces.



Important!

Adjustments to the connection settings can only be made via another established connection. Wi-Fi settings are for example made via the USB connection.

3.4 Connecting a tablet

As an alternative to using a PC, you can also use the optionally available tablet. To do this, connect the USB cable included in the Scope of delivery to the tablet and the corresponding socket on the device (see page 6 No. 6). If your device is on the same network or you have already configured your own Wi-Fi, you can also connect your tablet via Wi-Fi. Insofar as you have previously activated Bluetooth via a USB connection, you can connect the tablet to the device via Bluetooth. More details can be found in the User Guide Vistec App. To connect via Wi-Fi, you need to set up your own Wi-Fi network or connect to an existing Wi-Fi network.

3.5 Switching on the device

Set the on / off switch (see illustration page 6 no. 8) to "On" (I).

After switching on the device, it takes about 12 seconds for the communication from the computer to the device to be established. As soon as the Optovist II logo appears in the device, your device is ready for use.

3.6 Screensaver

After selecting a screening or in the case of a mouse movement (adjustable on the software side), the screensaver is automatically switched off and the desired test image is displayed. For information on how to configure the screensaver, please refer to the User Guide Vistec App.

4 Preparing for the eye test

4.1 Forehead rest

Disinfect the forehead rest of the Optovist II before each screening. Now request the test subject to rest the forehead on the forehead rest of the Optovist II. Make sure that the test remains with his forehead firmly resting on the forehead rest during the entire eye test. Distance sensors are installed, in the viewing window of the device which control the correct position. By activating the distance control function, the test image display is interrupted when the distance is changed.

4.2 Device viewing window

Before using the eye test device, check whether the device viewing window is clean. Insofar as it is contaminated, this, as well as soiled glasses, can falsify and impair the result of the eye test.

When cleaning the device viewing windows, please take note of the cleaning instructions, page. 11/5 Care and Maintenance.

4.3 Preparation of the test subject

Make sure prior to the start of the eye test that a probable adaptation disorder of the test subject has subsided.



Information!

Inspect any glasses worn by the test subject for damage or soiling of the lenses. Any contamination can worsen the result. This is especially true for the screening of contrast vision and glare sensitivity. Insofar as the spectacle lenses or contact lenses are scratched, this must be taken into account when interpreting the test results.

4.4 Positioning of the test subject

To allow your test person to take a comfortable and relaxed position in front of the device, adjust the height of the device by means of the electric height adjustment via the up / down switch – see page 6 no. 3.

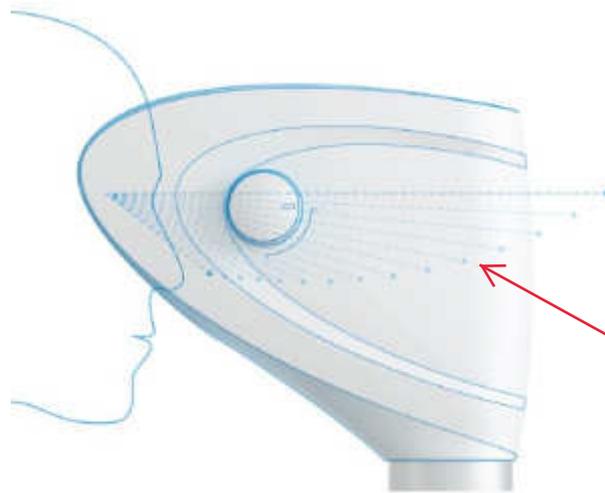
4.5 Instruction of the test subject

Inform the subject about the type of optotypes and their arrangement in the test field. Make use of Vistec AG's "Preparing for the eye test", available in 16 languages (D, GB, F, I, E, P, GR, PL, RU, SRB, TR, BG, RO, AR, PK, FA), explanations on the visual acuity test with Landolt rings, for the phoria, stereo and colour test (order no. 2018-1).

4.6 Adjusting the physiological line of vision

3.P. Regėjimo įvertinimas, galima tikrinti regėjimo funkcijas be korekcijos

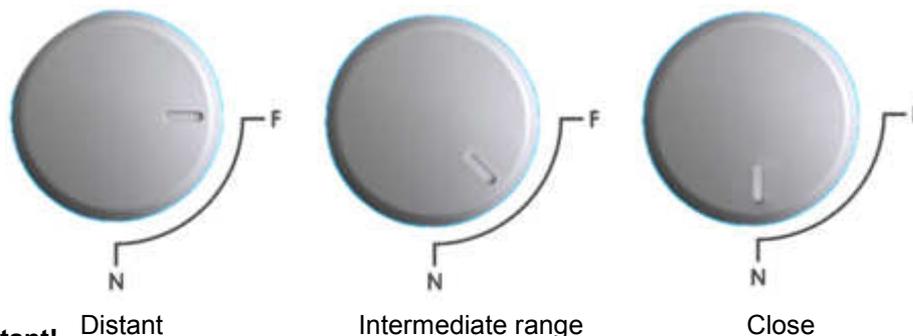
Wearers of multifocal spectacles (progressive, bifocal, trifocal, work glasses etc.) must look through the corresponding location in their glass, depending on the distance of the fixed object. In order to guarantee the eye test in the case of test subjects with multi-intensity or progressive spectacles under physiological conditions, the Optovist II offers the possibility of infinitely adjusting the inclination of the test field (see following figure)



19.P. Galima tirti su progresiniais akiniais: tyrimo žiūros kampas yra tolygiai reguliuojamas nuo horizontalios krypties iki 38 laipsnių žemyn

From a straight-ahead view of 0° when screening the field of vision at a distance, up to a test field at a distance of 25 cm for reading, tilted by 38° , the test subject can use the rotary knob to set the optimum test field inclination for his vision aid and the distance tested. For this purpose, the test image is first set at the distance to be screened. The test subject remains with his forehead on the device and tilts the test field with the knob so far that he sees it as sharp as possible. In the case of each change of the screened distance, an adjustment of the tilt angle may be necessary.

Thus, also an assessment of vision with special vision aids such as e.g. progressive and screen workplace goggles under physiological conditions, is possible.



Important!

In order to ensure the eye test field is repositioned again in the position required for the distant screening of the next eye test, set the rotary knob back to the stop, in the far-off position, shown on the left.

5 Care and Maintenance

5.1 Maintenance by the customer service

Important!



To maintain the full functionality and safety of the Optovist II, we recommend that you have your device regularly serviced and calibrated every 2 years by our after-sales service.

5.2 Cleaning of the plastic surfaces

Cleaning the housing:

Wipe the housing surfaces with a clean in soapy water (dishwashing liquid) moistened cloth. Also suitable are plastic cleaners, preferably with antistatic effect.

Important!



Please ensure that no cleaning agent penetrates into the interior of the device. Never use aggressive cleaning agents or solvents, such as Acetone.

Cleaning and disinfecting the forehead rest:

Important!



After each screening, clean the Forehead rest with a commercially available disinfectant (for example alcohol) or one of the disinfectants recommended on page 12 / 5.4. Do not use aggressive cleaning or solvents such as Acetone. It is recommended to carry out the disinfection in front of the eyes of the next test subject.

5.3 Cleaning and disinfecting of the viewing window

Cleaning the viewing window:

The viewing window should be free of dust and fingerprints. It is best to use the microfibre cloth belonging to the scope of delivery.

Important!



Never rub the inspection window with a cloth insofar as it is still covered with dust or dirt. This can cause scratches. Avoid unnecessary heavy rubbing on the tempered appearance.

Disinfection of the viewing window:

Spray the disinfectants on a microfibre cloth and then use the microfibre cloth to rub the viewing window clean.

Important!



The disinfectants must never be sprayed directly onto the viewing window!

5.4 Disinfectants

For the disinfection of all surfaces, except the viewing window, we recommend commercially available disinfectant wipes, which are suitable for cleaning medical devices, for example: Microcid sensitive wipes from the company Schülke & Mayr or Purspet-A Xpress from the company Merz.

Disinfection of the viewing window:

For this we recommend the following agents:

Mikrocid® AF Liquid (spray bottle)

B 30 rapid disinfection from orochemie® (spray bottle)

5.5 Miscellaneous

Transport-Trolley:

The transport trolley contains compartments for the device and the accessories.



Important!

The transport case is not suitable for shipping the device. The device may only be shipped in its original packaging.

5.6 Disposal

The device contains components that are not suitable for disposal in normal household waste. Please contact the Vistec AG, in case you have any questions about the disposal.

6 Technical data

6.1 Dimensions

	Device	Power adapter
Minimum height [mm]	360	-
Maximum height [mm]	620	37
Width [mm]	250	131
Depth [mm]	400	56
Weight [kg]	5.2	0.5

Length of power cable: 1.85m

6.2 Electrical data

External power supply:

Input voltage: 100 - 240 V alternating current 47 - 63 Hz

1.62 – 2.62 A max.

Output voltage: 24V /47-63 Hz / Max. 2.62 A, 

Protection class II, device type B 

Caution!



Never use a different power supply other than that specified by Vistec AG. Otherwise there is a risk of explosion and fire.

6.3 Environmental conditions

In use:

Temperature + 10 °C up to +35 °C

Relative humidity 30 % up to 75 %

Atmospheric pressure 800 hPa up to 1060 hPa

Storage conditions:

Temperature -10 °C up to + 55 °C

Relative humidity 10% up to 95 %

Atmospheric pressure 700 hPa up to 1060 hPa

6.4 Minimum requirements placed on the PC

Processor:	min. 1 GHz
Free RAM:	min. 1 GB
Free hard disk space:	min. 100 MB
Interface:	a free USB 2.0 port
Graphics card / screen:	Resolution min. 1024 x 600 pixels
Drive:	CD-ROM/DVD/USB
Operating system:	Microsoft Windows XP or higher

6.5 Miscellaneous

Height adjustment range	26 cm
Test distance range	25 cm to infinity
Eye separation	LCD shutter
Interfaces	USB, Wi-Fi, Bluetooth
Test field diagonal	Approx. 4.5°
Test field inclination	0° up to 38° infinitely variable
Ambient luminance for the twilight test	Without glare: 0.032 cd/m ² ± 0.003 cd/m ² With glare: 0.1 cd/m ² ± 0.01 cd/m ²
Distance of the glare from the test character centre	3°
Display	Micro display HD 720p (1280x720)
lighting	LED
Weight	5.2 kg

11.P. Standartizuotas regėjimo prieblandoje tyrimo aplinkos apšvietimas (be akinimo) 0,032 cd/m²

12.P. Standartizuotas regėjimo prieblandoje tyrimo aplinkos apšvietimas (su akinimu) 0,100 cd/m²

7 Annex

7.1 Electromagnetic Compatibility (EMC)

DIN EN 60601-1-2 (IEC 60601-1-2)

Medical electrical equipment is subject to special precautions regarding electromagnetic compatibility (EMC). They may only be installed and put into operation according to the Electromagnetic Compatibility (EMC) instructions contained in the accompanying documents.

Portable and mobile RF communication devices may affect medical electrical equipment.

To ensure electromagnetic compatibility in accordance with IEC 60601-1-2, only use devices, accessories and converters that you can procure from the Vistec AG:

Optovist II

power cable 1.85 m

USB cable 1.8 m



Caution!

Reduced immunity to interference from unauthorised accessories!

The use of other accessories (including spare parts and components) can lead to a reduction of immunity to interference or to an increased emission of interfering radiation.

Exclusively only use accessories authorised by the Vistec AG!

The Optovist II must not be used immediately adjacent to or stacked with other devices. Insofar as operation is required near or stacked with other equipment, the equipment should be observed to verify proper operation in this arrangement.

The Optovist II is suitable for use in residential, commercial and small businesses. Operating sites characterised by being directly connected to the public low-voltage power grid are considered to be residential, commercial, or small businesses.

To ensure the safety of the Optovist II for the duration of the expected life cycle, with regard to the associated electromagnetic compatibility, it is important to follow the instructions on page 11/5 Care and Maintenance.

7.2 Guidelines and manufacturer's declaration

Information pursuant to EN 60601-1-2:2015

Guidelines and manufacturer's declaration – Electromagnetic interference emissions		
The Optovist II is intended for use in an environment as specified below. The customer or the user of the device should ensure that it is used in such an environment.		
Interference emission measurements	Compliance	Electromagnetic Environment – Guidelines
RF emissions pursuant to CISPR 11	Group 1	The Optovist II uses RF energy only for its internal function. Therefore, RF transmission is very low and it is unlikely that neighbouring electronic devices will be disturbed.
RF emissions pursuant to CISPR 11	Class B	The Optovist II is suitable for use in all establishments, including those in the home and those directly connected to the public power grid, which also supplies buildings used for residential purposes.
Emissions of harmonics pursuant to IEC 61000-3-2	Class A	
Emissions of voltage fluctuations / flicker pursuant to IEC 61000-3-3	Consistent	

Caution!



Interference due to high-frequency emission of other devices!

The Optovist II may be disturbed by high frequency emissions from other devices, even if these other devices comply with their CISPR emission requirements.

Do not place other electrical equipment near the Optovist III!

Guidelines and manufacturer's declaration: Electromagnetic interference immunity

The Optovist II is intended for use in the electromagnetic environment specified below. The customer or the user of the Optovist II should ensure that it is used in such an environment.

interference immunity- tests	IEC 60601- test level	Compliance-test level	Electromagnetic Environment – Guidelines
Discharge of static electricity (ESD) pursuant to IEC 61000-4-2	± 8 kV contact discharge ± 15 kV air discharge	± 8 kV contact discharge ± 15 kV air discharge	Floors should be of wood, concrete or ceramic tile. Insofar as the floor is covered with synthetic material, the relative humidity must be at least 30%.
Fast transient electrical disturbances / bursts pursuant to IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input and output lines	± 2 kV for power supply lines ± 1 kV for input and output lines	The quality of the supply voltage should be that of a typical business or hospital environment.
Surge voltages / surges pursuant to IEC 61000-4-5	± 1 kV voltage outer conductor - outer conductor ± 2 kV voltage outer conductor -	± 1 kV voltage outer conductor - outer conductor ± 2 kV voltage outer conductor -	The quality of the supply voltage should be that of a typical business or hospital environment.
Voltage dips, short-term interruptions and fluctuations in the supply voltage pursuant to IEC 61000-4-11	0 % U _T ; ½ period (in the case of 0, 180, 225, 270, 315 degrees) 0 % U _T ; 1 period (single phase in the case of 0 degrees) 70 % U _T ; 25/30 periods (single phase in the case of 0 degrees)	0 % U _T ; ½ period (in the case of 0, 180, 225, 270, 315 degrees) 0 % U _T ; 1 period (single phase in the case of 0 degrees) 70 % U _T ; 25/30 periods (single phase in the case of 0 degrees)	The quality of the supply voltage should be that of a typical business or hospital environment. If the user of the Optovist II requires continued operation even in the event of power interruptions, it is recommended that the Optovist II be powered from an uninterruptible power supply or a battery.
Magnetic field in the case of the supply frequency (50/60 Hz) pursuant to IEC 61000-4-8	30 A/m	30 A/m	Magnetic fields in the case of the grid frequency should correspond to the typical values found in the business and hospital environments.

REMARK: U_T is the AC line voltage before the application of the test level.

Guidelines and manufacturer's declaration – Electromagnetic interference immunity

The Optovist II is intended for use in the electromagnetic environment specified below. The customer or the user of the Optovist II should ensure that it is used in such an environment.

interference immunity- tests	IEC 60601- test level	Compliance - level	Electromagnetic Environment - Guidelines
<p>Conducted disturbances induced by high-frequency fields</p> <p>IEC 61000-4-6</p>	<p>3 V_{eff}</p> <p>0.15 MHz up to 80 MHz</p> <p>6 V in ISM- and Amateur radio frequency bands between 0.15 MHz and 80 MHz, at 1 kHz in the case of 80 %</p>	<p>10 V_{eff}</p> <p>150 kHz up to 80 MHz</p>	<p>Portable and mobile radios should be used no closer to the Optovist II, including the wires, than the recommended safety distance, which is calculated according to the equation applicable to the transmit frequency.</p> <p>Recommended safety distance:</p> $d = 0.35\sqrt{P}$ <p>with P as the nominal power of the transmitter in watts (W) as specified by the transmitter manufacturer and d as the recommended safety distance in meters (m).</p> <p>The field strength of stationary radio transmitters should be less than the compliance level ^b in the case of all frequencies according to an on-site ^a screening. In the environment of devices bearing the following icon, interference is possible.</p> 
<p>Radiated RF interference pursuant to IEC 61000-4-3</p>	<p>10 V/m</p> <p>80 MHz up to 2,7 GHz AM, at 1 kHz in the case of 80 %</p>	<p>10 V/m</p>	
<p>Remark 1:</p>	<p>In the case of 80 Hz and 800 MHz valid is the higher frequency range.</p>		
<p>Remark 2:</p>	<p>These guidelines may not be applicable in all cases. The spread of electromagnetic quantities is influenced by absorption and reflection of buildings, objects and people.</p>		

^a The field strength of stationary transmitters, such as for example base stations of radio telephones and mobile land mobile radios, amateur radio stations, AM and FM radio and television transmitters cannot be theoretically accurately predicted. In order to determine the electromagnetic environment with respect to the stationary transmitters, a study of the location should be considered. Insofar as the measured field strength at the site where the Optovist II is used exceeds the compliance levels above, the Optovist II should be observed to demonstrate proper function. If abnormal performance is observed, additional measures may be required, such as for example, reorientation, or other location of the Optovist II.

^b Over the frequency range of 150 kHz up to 80 MHz, the field strength should be less than 10 V / m. _____

Recommended safety distances between portable and mobile HF telecommunications equipment and the Optovist II			
The Optovist II is intended for operation in an electromagnetic environment in which the RF interferences are controlled. The customer or the user of the Optovist II can help prevent electromagnetic interference by maintaining the minimum distance between portable and mobile RF communications equipment (transmitters) and the Optovist II, depending on the output power of the communications equipment as specified below.			
Rated power of the transmitter in W	Safety distance depends on the transmission frequency in m		
	150 kHz up to 80 MHz $d = 0.35\sqrt{P}$	80 MHz up to 800 MHz $d = 0.35\sqrt{P}$	800 MHz up to 2.7 GHz $d = 0.7\sqrt{P}$
0.01	0.04	0.04	0.23
0.1	0.11	0.11	0.74
1	1.17	0.35	2.33
10	3.69	1.1	7.38
100	11.67	3.5	23.33
For transmitters whose maximum rated power is not specified in the above table, the recommended safety distance d in meters (m) can be obtained using the equation corresponding to each column, where P is the transmitter maximum power rating in watts (W) as indicated by the transmitter manufacturer.			
REMARK 1: In the case of 80 Hz and 800 MHz valid is the higher frequency range.			
REMARK 2: These guidelines may not be applicable in all cases. The spread of electromagnetic quantities is influenced by absorption and reflection of buildings, objects and people.			



Caution!

Portable RF communications equipment (including radios) (including their accessories such as antenna cables and external antennas) should not be used within 30 cm (12 inches) of the Optovist II parts and wiring specified by Vistec AG. Failure to do so may result in a reduction in performance.



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06/18

Electrical table



Technical information

Height	Min 630 mm Max 810 mm
Table top size	560 mm x 480 mm
Elevating speed on full load	15 mm/s
Lifting capacity	55 kg
Weight	21 kg
Height adjustment mechanism	Electrical
Height adjustment control	UP/Down switches
Castors with lock	4 unit
Power supply	AC 200 V - 240 V ~50 Hz

26.P. Elektrinis, reguliuojamo aukščio staliukas su keturiais ratukais ir stabdžiais



24.P.Komplekte su
kompiuteriu,
nešiojamas

25.P. Komplekte su
spausdintuvu
lazeriniu.



HP Laser 107a Mono Laser 20ppm

Gamintojas	Hp
Modelis	4zb77a#b19
Procesoriaus dažnis	400 mhz
Vidinė atmintis	64 mb
Pakuotės aukštis	261 mm
Pakuotės gylis	280 mm
Pakuotės plotis	384 mm
Spalva	Ne
Dvipsio spausdinimo režimas	Rankinis
Didžiausia vidinė atmintis	64 mb
Spausdinimo spalvos	Juoda ← 25.P. Nespalvotas
Print resolution black	1200 x 1200 dpi
Spausdinimo technologija	Lazeris
Paruoštas darbui tinkle	Ne
Blue angel certified	Taip
Palaikomos windows operacinės sistemos	Taip
Spausdinimo kasečių skaičius	1
Laikas iki pirmojo puslapio (juodas, normalus)	8.3 s
Ac įvesties dažnis	50/60 hz
Palaikomos mac operacinės sistemos	Ne
Total number of input trays	1
Paper tray media types	Bond paper, card stock, envelopes, labels, plain paper, pre-printed, recycled paper, thick paper, thin paper
Total output capacity	100 sheets
Total input capacity	150 sheets
Power consumption (printing)	320 w

24.P. Pelé

