

# Visioffice<sup>®</sup> and Varilux S Series<sup>™</sup> Measurement Explanations



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# Section 1: Pupillary Distances

- **How does the Visioffice® System measure the PD?**
  - The Visioffice System measures the distance from the corneal reflection of the right eye to the left. The reflection is created by the central LED behind the mirror shining onto the surface of the patient's eyes. For the Far Vision Measurement, it is very important to instruct the patient to hold their gaze into their reflection in the mirror, focusing on the bridge of their frame. Also, be sure the patient is standing with a natural posture to receive the most optimal measurements, not just for the PD but also the full complement of personalization parameters.
- **What's a Monocular PD vs. Total PD?**
  - The total PD is measured as the distance from the right eye to the left. A monocular PD is divided by the central point of the frame bridge. This means that the monocular PD would be the distance from each corneal reflection to the center of the frame bridge.
- **Why is my Visioffice measurement different than my pupillometer?**
  - Unlike a pupillometer, with the Visioffice we are using the center point of the frame bridge to divide the total PD, and these two numbers may adjust depending on the frame the patient has chosen and the proper frame adjustments made. This will often vary from the monocular PD provided by a pupillometer due to the differences between the actual frame being worn and the bridge on the pupillometer. This is a good thing, as it will provide better Rx placement on the lenses as they rest in front of the patient's eyes. The total PD measured with both should be virtually identical.
- **What happens when I don't adjust the patient's chosen frame before measuring?**
  - By not properly adjusting the patient's frame prior to measuring, the central point of the bridge may not be in the most optimal position, as well as other fitting parameters may be incorrect. If measurements are recorded with an improper fitting, and the frame is then correctly adjusted upon return from the lab, the user's vision may be compromised. Ensure that the frames are adjusted in the same manner when recording and dispensing to ensure measurement values remain constant.
- **Do I need the PD measurement for every lens order?**
  - Every lens pair ordered will require a PD measurement to be submitted. This is the most basic fitting measurement required for creating prescription spectacle lenses.
- **Can I use the same set of measurements for each frame that a patient orders?**
  - No, you will need measurements specific to each frame selected by the patient. The Visioffice measurements are defined by the frame fitting parameters and how that exact frame rests on the patient's bridge in front of their eyes. Each frame ordered is different and will require a unique set of customized measurement data.

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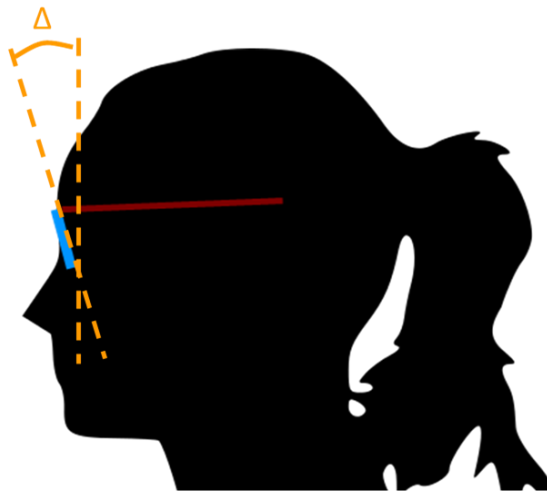
## Section 2: Fitting Heights

- **What is a Fitting Height?**
  - The Fitting Height for a lens is the location of the Optical Center of the Rx. This is a very important measurement to ensure the optimal placement of the Rx in front of the eyes of the patient.
- **What lens designs require a Fitting Height?**
  - Lenses that require a Fitting Height will include all Progressive Addition Lens designs, as well as a selection of Single Vision designs and Computer or Middle Distance designs. Bifocal and Trifocal designs will require a height measurement, but this is generally referred to as a Segment Height, and it is different than the Fitting Height for Progressive lens designs.
- **What is the difference between a Fitting Height, OC Height and a Bifocal/Trifocal Segment Height?**
  - The Fitting Height for a Progressive design and Optical Center Height for Single Vision designs are basically the same thing, and the same measurement from the Visiooffice® System will be used. A Segment Height for a Bifocal or Trifocal is measured differently than a Fitting/OC Height and should not be confused.
- **How does the Visiooffice measure the patient Fitting Height?**
  - From the Far Vision Measurement process on the Visiooffice, the Fitting Height measurements are determined by calculating the distance between the patient's corneal reflection and the lower edge of the lens. During Lens Boxing, it is crucial to accurately place the bottom horizontal cursor on the bottom-most visible edge of the lens. Do not take into account the lens edge bevel, as the Visiooffice System will adjust for this based on the frame material selected.
- **Can my Fitting Heights be asymmetrical?**
  - With a frame that is properly adjusted for wear by the patient, there are times when the patient's recorded Fitting Heights may be asymmetrical. This is perfectly acceptable, so long as you are certain that the frame is adjusted and worn correctly, that the images were recorded properly, and that the lens boxing has been performed accurately. If you notice a variance of more than a millimeter or two, look again to see if there is any frame adjustment that needs to happen, make the adjustment and recapture the patient images. In the case of asymmetric heights, the Reading Distance (see: Section 6) measurement becomes even more crucial.
- **Does the frame adjustment or positioning have an effect on Fitting Height?**
  - Absolutely. A frame worn lower on the patient's bridge will cause the heights to be measured higher, and the reverse is also true. An improper frame adjustment that does not result with the frame in the final position for the patient to wear will result in less than optimal measurements.

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- **Does the patient's posture affect the Fitting Height?**
    - How the patient holds their head when they are focusing into the reflection on the mirror can alter the resulting Fitting Height measurements. Ensure the patient's posture is comfortable and natural and that they are directing their gaze horizontally into the mirror during image capture. Take mental notes on the patient's posture while walking to the Visioffice® and conversing to ensure any posture irregularities are noticed and taken into account while measuring.

## Section 3: Frame Measurements

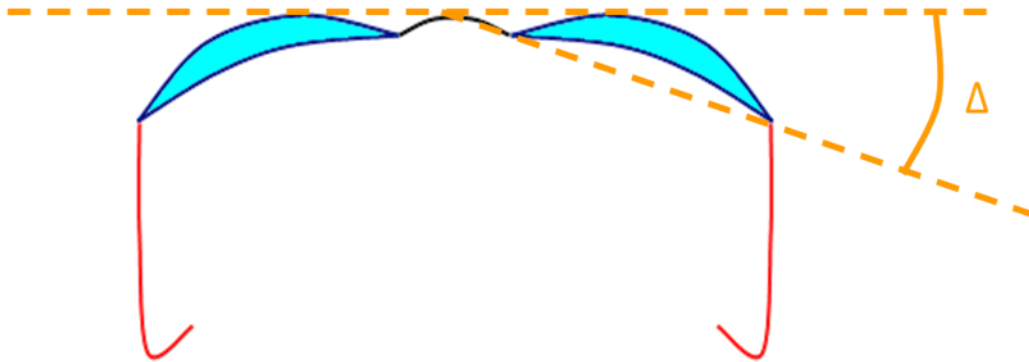
- **What frame measurements does the Visioffice show?**
  - After Lens Boxing, the Visioffice System will be able to display the Frame Measurements, including A (Eye Size, or horizontal distance from the furthest left edge of the lens to the right), B (vertical distance from the furthest top edge of the lens to the furthest bottom edge), and DBL (Distance Between Lenses, the measurement of the bridge of the frame, measured from the innermost point of each lens). Also shown will be Pantoscopic Angle, Vertex Distance, and Wrap Angle. These parameters are utilized to personalize the lens design for the patient.
- **Why would these be different than what is listed on the frame?**
  - In most cases, frame measurements as printed on the frame or from the manufacturer are rounded to the nearest whole millimeter. With the Visioffice, these measures are determined down to the nearest 1/10<sup>th</sup> of a millimeter, and so some variance will be shown.
- **What is Pantoscopic Angle?**
  - This is the angle between the plane of the frame and the vertical while the frame is placed in the wearing position.



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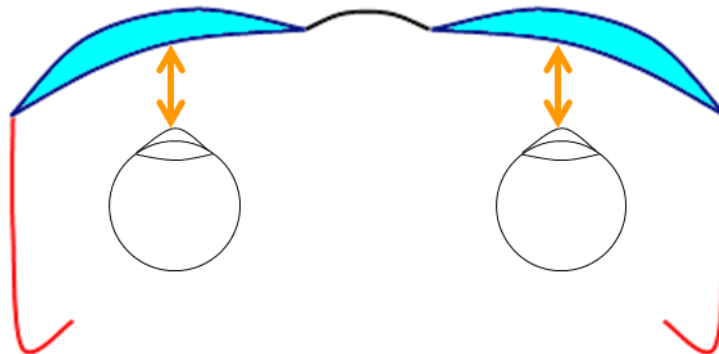
- **What is Wrap Angle?**

- This is the angle between the reference plane of the frame and the tangent of the lens, measured horizontally while the frame is placed in the wearing position.



- **What is Vertex Distance?**

- This is the distance between the apex of the cornea and the back of the lens while the patient is wearing the frame and looking straight ahead.



- **Do any lens designs require these measurements?**

- Many personalized lens designs require some or all of these frame measurements. In particular, any design requiring the Patient Fitting Parameters will need to have the Panto, Wrap, and Vertex Distance included.

- **Why would I need these measurements to create a lens?**

- To further personalize the patient's vision through the lens, incorporating these Frame Measurements allows the design to be more accurately spaced across the lens, giving the patient customized vision tailored to their specific frame selection.

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## Section 4: Eye Rotation Center Distance

- **What is the Eye Rotation Center Distance?**
  - This is a measurement of the distance from the central point of the eye's rotation to the back surface of the lens when worn.
- **How does the Visioffice® determine this measurement?**
  - By utilizing the two pictures recorded during the Far Vision Measurement, the Visioffice System is able to calculate the real, rotational center of each of the patient's eyes using stereoscopic, three-dimensional imaging.
- **What lenses use this measurement?**
  - Any lens that incorporates the Eyecode™ measurements will require the ERC Distance measurement. This includes the Varilux S 4D™, Varilux Ipseo IV eyecode™, Varilux Physio Enhanced eyecode™ and the Essilor eyecode™ Single Vision.
- **How does the ERC Distance impact the resulting lens design?**
  - Utilizing the Eyecode™ measurements allows the creation of a truly personalized lens design. By including these parameters that are specific to the patient, the lens can be created to deliver a clearer, sharper visual experience that 5x more accurate than any other lens design.

## Section 5: Head Cape

- **What is the Head Cape?**
  - The Head Cape is the measured angle of the patient's Natural Head Posture (NHP). When asked to look straight ahead, if the patient slightly rotates their head to the left or right while focusing forward, this is their Head Cape.
- **How does the Visioffice record this measurement?**
  - From the Front View Image, when the patient is instructed to gaze directly forward, the Visioffice® System will be tracking three patient head position measurements, Head Cape (Rotation), Head Inclination (Up or Down), and Head Tilt (Left or Right). The Head Cape measure is recorded here.
- **What lens products require the Head Cape measurement?**
  - Any product utilizing the Eyecode™ measurements will require the Head Cape measurement to be included. When using this posture measurement, the lens design will be compensated to adjust the patient's PD into the proper area of the lens, allowing them the best possible vision in their natural viewing posture.

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- **Why do I have to activate the measurement on the Results Screen?**
    - The Visiooffice® System will not automatically add the Head Cape measurement because this could cause a compromise of lens quality in designs that do not incorporate the Eyecode™ measures. For the Eyecode lens designs, you must actively enable the Head Cape measurement by sliding the Head Cape switch to the right on the Visiooffice Measurement Results Screen. For all other lens designs, the Head Cape switch must remain to the left, or “off”, position.
  - **How does the Head Cape impact the resulting measurements?**
    - Activating the Head Cape will calculate new PD values that will be specific to the patient’s Natural Head Posture, allowing better visual performance while the patient uses their comfortable and natural gaze.

## Section 6: Leading Dominant Eye and Reading Distance

- **What are these measurements?**
  - These two measurements are incorporated into certain lens designs to provide the most personalized vision available for a patient.
- **What lens designs need these measurements?**
  - At this time, only the Varilux S 4D™ lens design will be able to utilize these two measurements for the patient.
- **Are they required?**
  - The Leading Dominant Eye™ is a required measurement for the Varilux S 4D lens. The Reading Distance measurement is an optional personalization measurement for the Varilux S 4D lenses.
- **What do these measurements do for the lens design?**
  - The Leading Dominant Eye is required for the Varilux S 4D lenses and will give the patient the most optimal reflex vision possible. This allows them to focus on specific targets across their field of vision, giving them Faster Visual Reaction Time™.
  - The Reading Distance measurement can optionally be incorporated into the lens to adjust the inset measurements, placing the near distance area in the most optimal position of the lens according to their natural posture when reading.
- **How does the Visiooffice determine these measurements?**
  - These measurements are recorded by the Visiooffice System with two specific protocols for detection. Each will require the use of the Handheld Measuring Device.

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## Section 7: Dynamic Visual Behavior Measurements

- **What does the Head/Eye Movement Ratio mean?**
  - The Head/Eye Ratio is a measurement of how a patient utilizes their visual behavior, either by moving their eyes or by moving their head. The Visioffice® System will record this measurement by moving a light pattern left and right in front of the patient and they will be instructed to follow the light pattern with their natural and comfortable visual behavior. The Visioffice will record their movement and return a result on a scale from 0.01 (Eye Mover) to 0.99 (Head Mover).
- **How about the Stability Coefficient?**
  - This is actually a measurement of the consistency of the recorded Head/Eye Movement Ratio. Based on the series of light patterns during the measurement recording, the Visioffice will determine if the patient's behavior remained consistent. The Stability Coefficient will be displayed as a value of 0.01 or higher. If the value is above a 0.15, this indicates that the patient was inconsistent during the measurement and should either retake the process, or select a lens not requiring this measurement.
- **Do any lens designs require these measurements?**
  - Yes, the Varilux Ipseo IV™ and the Varilux Ipseo IV eyecode™ require this measurement to be submitted with every lens order. For the Varilux S 4D™ lenses, this measurement is optional and can be included as an added level of personalization for the patient's lens.
- **How will these measurements affect the patient's vision?**
  - Using the measurements will allow the lens design to be personalized to the patient's visual behavior. This allows for them to utilize their natural visual behavior when viewing at the world around them, either moving their eyes across the lens, or rotating their head to change the direction of their gaze.

## Learn More

More information about the Visioffice System and its features can be found online at [www.EssilorVisioffice.com](http://www.EssilorVisioffice.com).

For any technical issues regarding your Visioffice System, please contact the **Visioffice Equipment Group** at (877) 457-3760, ext. 3, or via email, at [visioffice@essilorusa.com](mailto:visioffice@essilorusa.com).

