01.04.2022
Category: Lenses

# Optimal vision with biometric lenses for everyone

B.I.G. VISION™ FOR ALL from Rodenstock

**Munich, April 2022:** Everyone's appearance is so different and individual, and so too are their eyes. Rodenstock recognised that every eye is different and developed an innovative technology that determines the personal biometrics of the eye from several thousand measuring points and incorporates these results directly into the manufacture of the lens. Biometric lenses from Rodenstock therefore offer pin-sharp vision at every angle, and with every glance. Remaining faithful to its corporate philosophy, B.I.G. VISION™ FOR ALL (Biometric Intelligent Glasses FOR ALL), Rodenstock set itself the task of offering biometric lenses for everyone.

## Biometric precision makes the difference

From the average age of 45, the eye lens can gradually start losing its elasticity, which is why it can no longer quickly adjust to the near and distance vision. A progressive lens is a lens that assists the actual eye lens and enables infinitely variable vision at all distances.
A prerequisite for sharp vision with every glance and at all angles is the custom-fit of a progressive lens to the individual eye.
Until now most lenses have been manufactured based on a traditional eye test, during which only four standard prescription values are determined for the calculation of the lens. When lenses are manufactured solely on the basis of these four values, standard values from the reduced eye model are used for the biometric data of the individual eye, which suit only 2% of eyes. The fact that each eye is unique is not taken into account –for example, the shape of the lens and cornea, which has an effect on how precisely the lens is customised to the individual requirements of the eye.

## The best choice: Biometric lenses based on DNEye® technology

With biometric lenses based on DNEye® technology Rodenstock creates a paradigm shift in the calculation of progressive lenses by determining the unique shape and size of each eye exactly and taking this data into consideration in the manufacture.
The manufacture of lenses based on the exact eye measurement with the DNEye® scanner results in lenses which give the spectacle wearer pin-sharp vision, whereby Rodenstock determines the biometrics of the whole eye. This includes the length of the eye and several thousand data points - this is unique in the industry. Using these data records a precise, universal model is created for each individual eye. All relevant biometric data is incorporated directly into the lens production. On that basis a lens is then calculated that suits each individual person as perfectly as possible. This means that Rodenstock can determine the centre of sharp vision for each individual eye. And spectacle wearers benefit from pin-sharp vision from every angle and with every glance, wherever they are looking.
The high degree of biometric precision of these lenses, based on the exact eye model of the wearer, gave Rodenstock inspiration for a new name. Rodenstock now calls these lenses: **B.I.G. EXACT™.**

## A new, additional alternative: Biometric lenses based on artificial intelligence

Rodenstock faced a challenge at the beginning of the biometric research –an old norm that is used in the manufacture of progressive lenses. An old norm with which most eyewear manufacturers use the four standard refractive values of the spectacle wearer from the traditional eye test as the only input to manufacture lenses. This was the origin of the idea to fully exhaust the potential of the four standard refractive values and search for a new way to make sharper vision possible for more wearers of progressive lenses, even if there are no

a new way to make sharper vision possible for more wearers of progressive lenses, even if there are no individual data records available from a precise measurement with DNEye® technology.
Through the use of artificial intelligence and one of the largest biometric data pools, which includes 500,000 individual biometric eye measurements of other spectacle wearers, a new standard of lens calculation was created at Rodenstock. This new standard of lens calculation allows an AI-based biometric model of the eye to be created, even if only the traditional four standard refractive values of a spectacle wearer are available. This means that a significantly higher degree of biometric precision is possible for standard progressive lenses, which in turn now allows the manufacture of biometric lenses even without a previous measurement with the DNEye® scanner. Rodenstock calls the new AI-based lenses **B.I.G. NORM™**.

**B.I.G. VISION® FOR ALL with B.I.G. EXACT™ and B.I.G. NORM™**

While the precision and the advantages of the B.I.G. EXACT™ lenses –calculated on the basis of exact measurements of the DNEye® scanner –are still unrivalled, with the new B.I.G. NORM™ lenses Rodenstock can now achieve its goal of offering biometric lenses for everyone. Rodenstock starts a biometric revolution and also creates its B.I.G. VISION® FOR ALL with standard refractive values.

**About Rodenstock:**

The Rodenstock Group is one of the world's leading manufacturers of high-quality spectacle lenses. With the philosophy "B.I.G. VISION® FOR ALL", the lens manufacturer stands for a paradigm shift in individual progressive lenses. Founded in 1877 and headquartered in Munich, Germany, the company employs around 4,900 people worldwide and is represented by sales offices and distribution partners in more than 85 countries. Rodenstock maintains production facilities at 14 locations in 13 countries.

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