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Category: Lenses

Best vision with biometric progressive lenses

Biometric precision from Rodenstock

Munich, April 2022: As different as people's appearance is, their eyes are also different and individual.

Rodenstock has recognised this and developed an innovative technology that makes it possible to precisely determine the unique shape and size of the eye and to incorporate these individual parameters directly into the production of the lens. Biometric progressive lenses from Rodenstock therefore offer the sharpest vision for every angle and every glance.

The traditional eye test

Everyone who has ever needed glasses knows the traditional eye test with measuring glasses. Here, only the four traditional standard refraction values are determined in order to manufacture the lens on the basis of these.

What is not taken into account is that every eye is unique - in its shape and, for example, in the refractive power of the lens. To understand how this affects vision with glasses, it is worth taking a look at the anatomy of the eye and the interaction of the optical components. The lens of the eye collects the incoming light so that it is focused on the retina and a sharp image is formed. Each of the components through which the light is refracted plays a central role in the formation of vision. Since they have different refractive powers, each of them must be precisely determined.

Of the various parameters that influence the refraction of light in the eye, eye length is one of the parameters that can influence visual acuity the most. Nevertheless, it is assumed to be a static parameter in a conventional refraction, although in reality the individual eye length can vary by up to 10 mm. The same applies to the other key parameters such as the topography and curvature of the cornea, pupil size and the shape and position of the eye lens.

Biometric precision makes the difference

Thanks to innovative and state-of-the-art technologies, Rodenstock is able to measure each individual eye far more precisely - most accurately with the help of the DNEye[®] scanner, which digitally measures the eye, or also on the basis of artificial intelligence. Based on the personal measurement data, a biometric eye profile is calculated that takes into account all key parameters with the respective, individual values and which is directly incorporated into the production of the spectacle lens. The more precisely a lens fits the eye of the respective spectacle wearer, the better it can compensate for weaknesses.

Biometric progressive lenses offer the sharpest vision for every angle and every glance

Particularly with progressive lenses, the accuracy of fit of a lens makes a decisive contribution to an optimal visual experience. This is because a progressive lens is a spectacle lens that additionally supports the lens in near and distance vision and thus enables vision to be infinitely variable at all visual distances. Since the elasticity of the eye lens gradually decreases from the age of about 45 and the lens can no longer vary quickly between the different distances, it needs additional, individual support for this once again.

Incidentally, a high percentage of spectacle wearers in a Swiss study asking about their experience with biometric lenses reported great benefits: 88% of respondents found seeing with their DNEye[®] optimised glasses more comfortable than with their old glasses*, 92% saw sharper than before* and 84% had higher contrast*. 80% said they saw better in twilight* and 87% reported a shorter acclimatisation period**.

* DNEye[®] customer survey (2018). Zurich.

** Muschielok, A. (2017). Personalised progressive lenses according to customer requirements - results of a scientific study. Presentation at the Opti-Forum, Munich.

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. For more information, please visit www.rodenstock.com/press

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