



The Tokai Neuro Progressive family.

Tokai has taken the design of progressive lenses to the next level.

In the search of creating a progressive lens with the most natural field of vision possible, Tokai has taken into account the reaction of the brain while wearing progressive lenses. Tests revealed that certain designs were more pleasing to the brain than others.

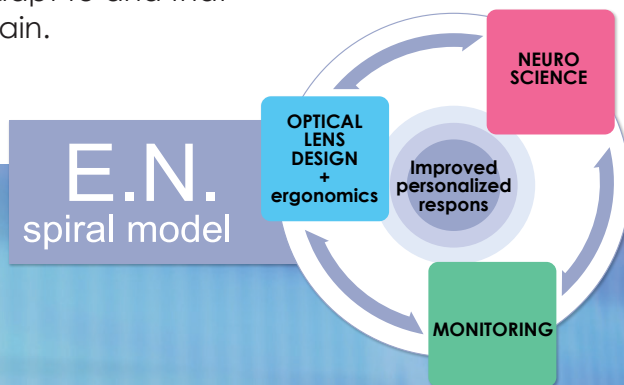
This has led to the development of revolutionary neuro progressive lenses, created for customers who want more than the conventional progressive lenses for both near and far distances.



Philosophy

Tokai in conjunction with a leading neurological research company, developed a special type of eyetest that measures the stress and discomfort of the brain while wearing progressive lenses.

In addition to the designing of optical lenses and monitoring based on ergonomics, **the measuring and analysis of brain waves** has led to the development of revolutionary progressive lens designs that are easy to adapt to and that reduce the amount of discomfort experienced by the brain. This dramatically increases the wearer comfort.



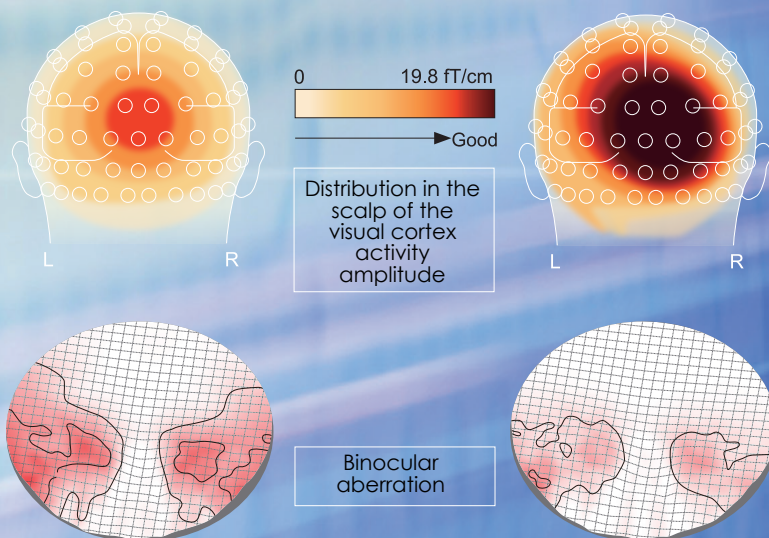
The peripheral vision is measured by using the MEG as evaluation equipment.



Neuroscience

The magnetoencephalogram is a technology used to map the brain activity by following the magnetic fields produced by the electric flow of the brain. The electric flow is caused from the excitement of the brain cells to transfer information. The MEG can map the brain activity safely and in detail (milliseconds and in spatial resolution).

The clearness of the peripheral partial of the lens evaluated by Neuroscience



What is the magnetoencephalogram :

The MEG measures the changes of the magnetic field made by the electric current within the brain when the neuro-cells are stimulated. The MEG measures the changes in mm segments each msecond.

RESONAS

This unique design obtained by neuroscience, assures a smooth and precise visual experience. **Resonas** has a spherical front curve combining a back surface design on the inner curve. This produces a wide & smooth vision in each area of the lens.

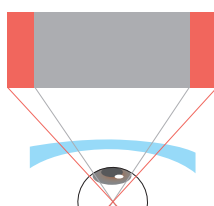
With a rear power compensation surface, aberration zones are smoothed and redistributed, creating a lens that is effortlessly easy to adapt to.

A larger visual field

conventional progressive lens



wider vision

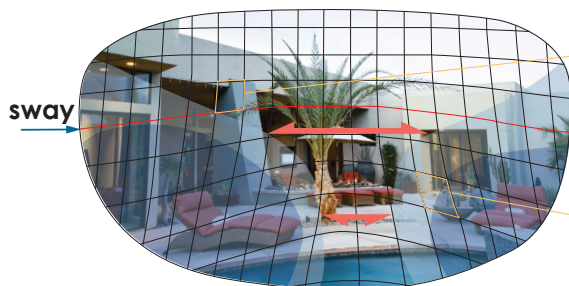


TOKAI RESONAS



Less distortions and sway

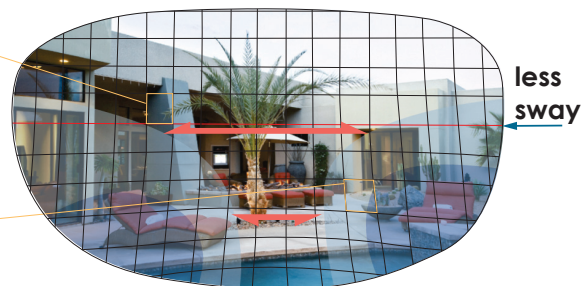
conventional progressive lens



distortion



TOKAI RESONAS



Flexible inset

A new flexible inset design makes accurate use of both individual eye characteristics and viewing distance, improving binocular near vision from 25 to 80 cm.

conventional progressive lens



Thanks to the **flexible inset**, the wearer will always look in the right place through the reading area of the lens.

TOKAI RESONAS

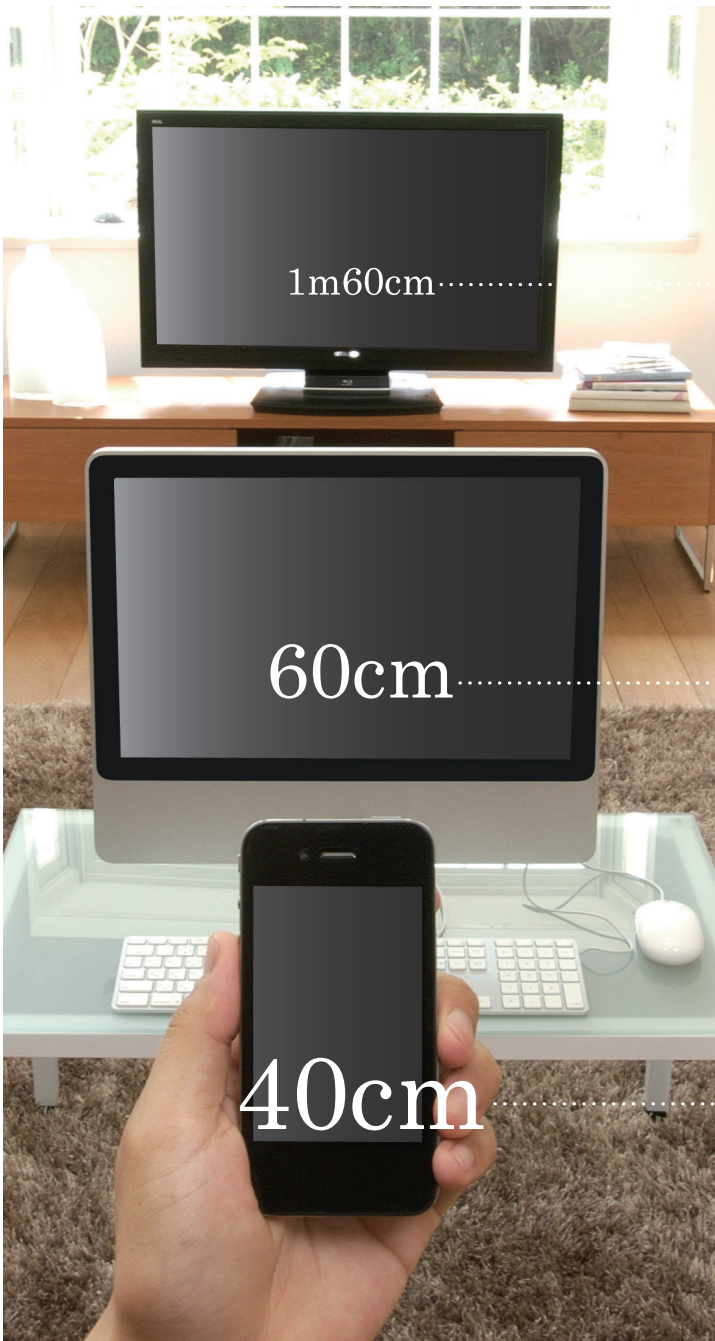


RESULT : a comfortable field of vision

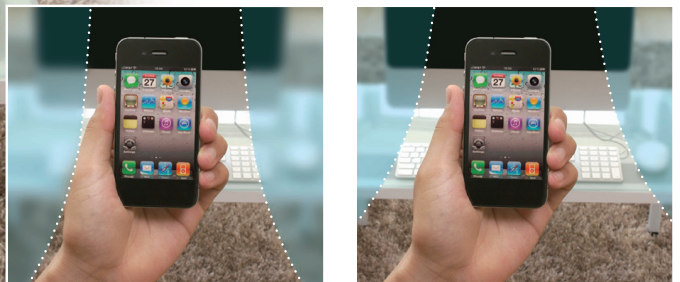
RESONAS FIT

Resonas Fit is a neuro progressive lens that makes it easy to see objects at medium distances ex. working at PC.

Extended research reveals that presbyopes spend 60% of their time indoors.



The large intermediate vision field ensures a comfortable and ergonomic way of working at a PC.



Easy to see in ergonomic position (chin down)



Conventional progressive

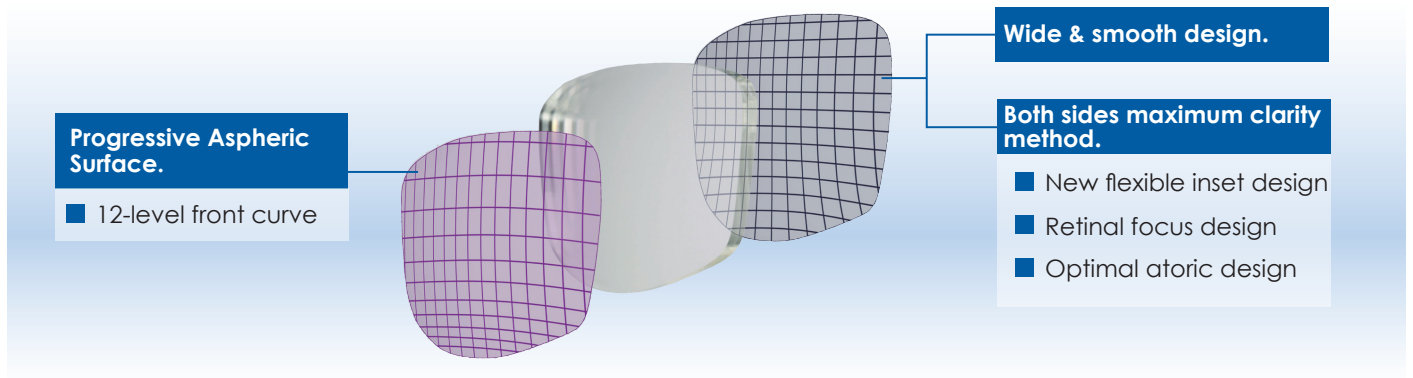


Resonas Fit

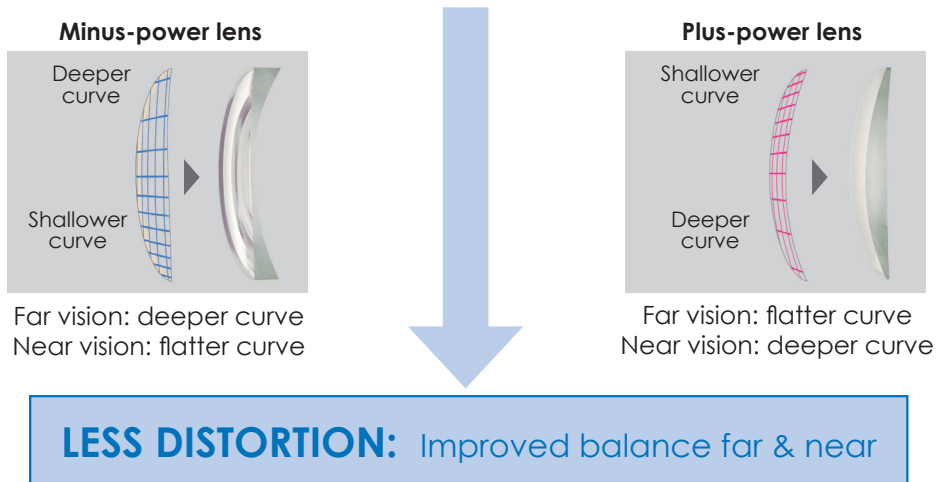
RESONAS WS

Resonas WS is a double-sided neuro progressive lens. It improves balance in far, intermediate and near vision thanks to its double-side progressive and double-side aspheric lens design. It decreases distortion and has a better fit which is suitable for peripheral vision.

Double-side progressive + double-side aspheric lens design



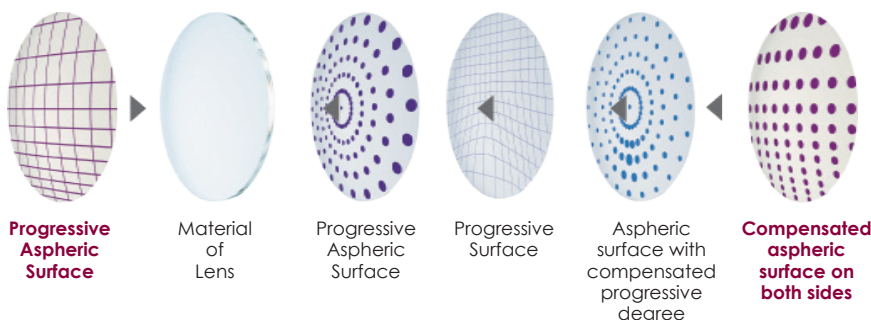
Combined progressive aspheric surface



Both sides Maximum Clarity

The Maximum Clarity method that was adapted to Resonas has been introduced for both sides of the lens for further evolution.

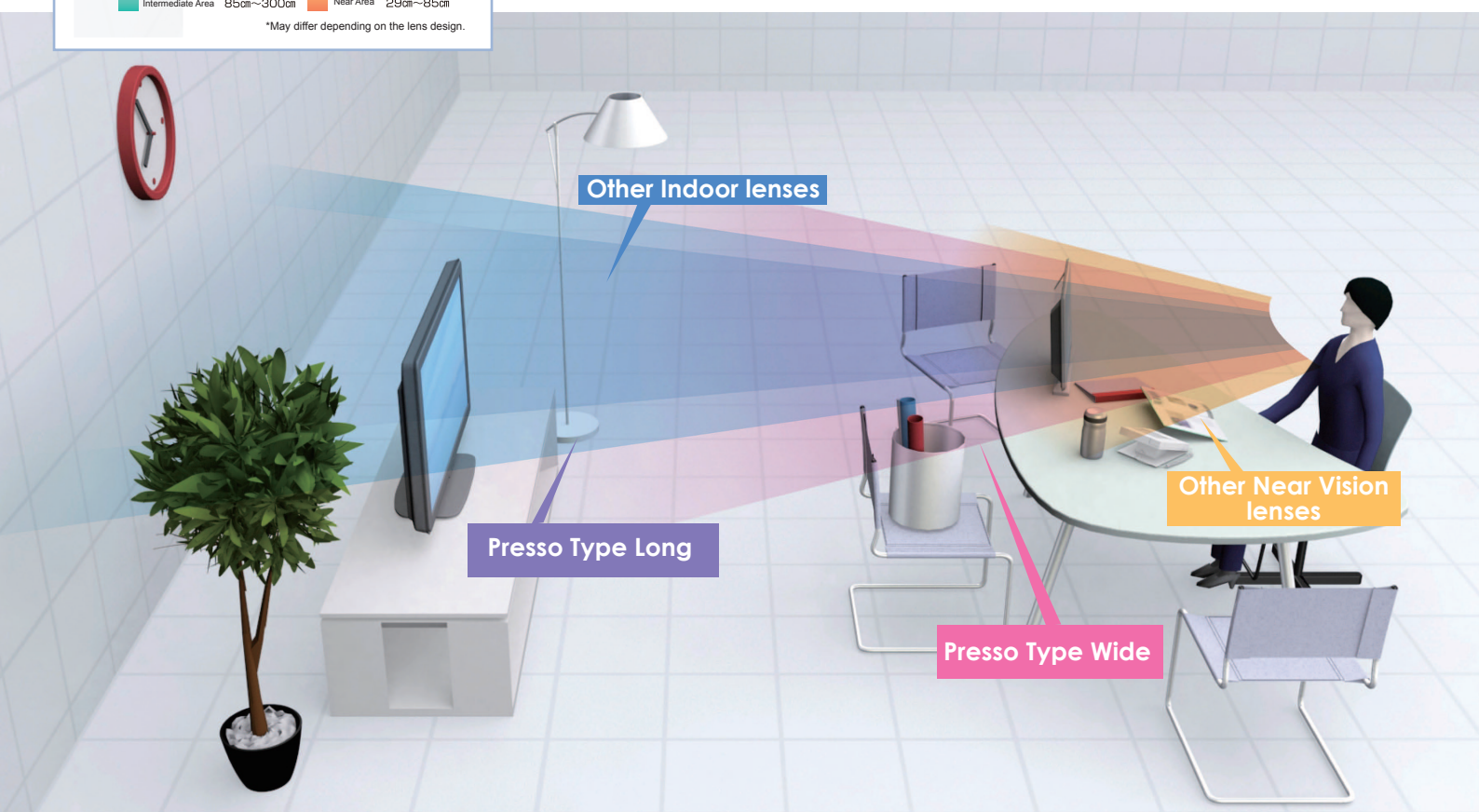
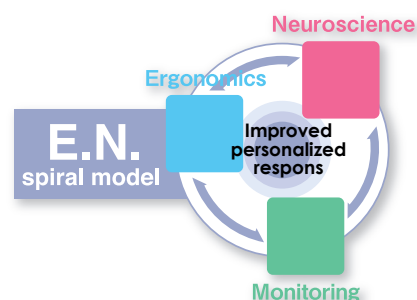
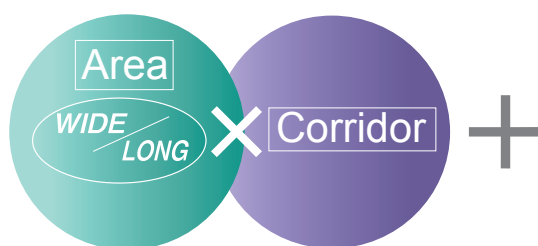
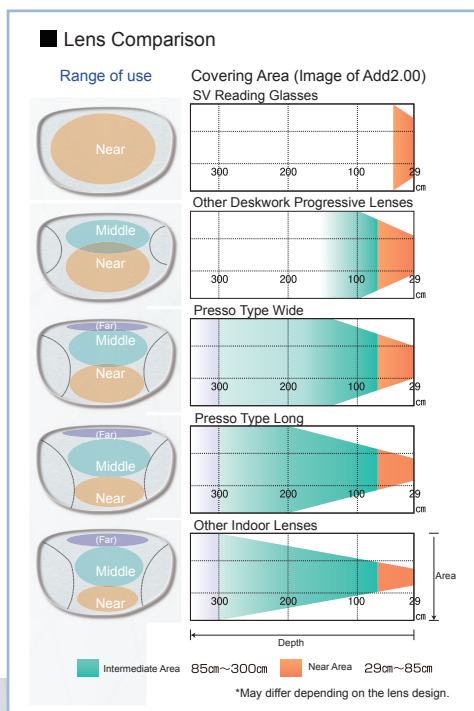
With this, a **smoother & clearer vision** as well as a **lighter & thinner lens** is obtained, creating a wearing experience similar to a single vision lens.



RESONAS PRESSO

The inconvenience of having presbyopia is the difficulty in seeing things nearby. With conventional progressive lenses the near vision area never feels wide enough. Single vision reading glasses and/or occupational lenses have not been able to provide a sufficient sense of depth, which is important.

Resonas Presso is a new concept near-intermediate progressive lens that evolves seeing "Near". TOKAI took the near-intermediate range which is the area used most in a daily life, and applied the "Ergonomic + Neuroscience" designing method into it.



RESONAS PRESSO & WS

Resonas Presso WS improves balance in far, intermediate and near vision. It decreases distortion thanks to its double-side progressive and double-side aspheric lens design.

Resonas Presso has a back surface aspheric progressive design and a spherical front curve.

Choice between a wide or long vision field

WIDE TYPE

For people who prefer a wide clear vision at the hand range distance.

37% of the addition is applied at the EP.

LONG TYPE

For people who prefer a longer distance range to view the whole room clearly.

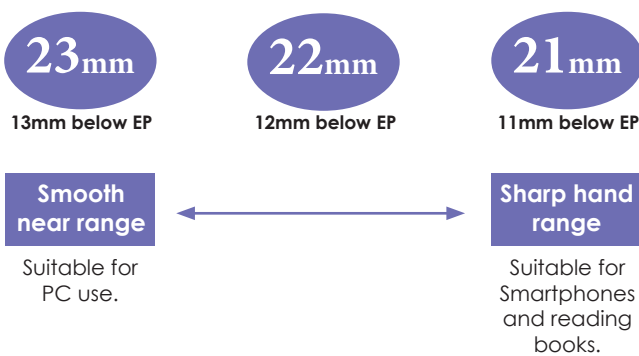
25% of the addition is applied at the EP.

ADD	1.00	1.50	2.00	2.50	3.00
WIDE	267cm	178cm	133cm	107cm	89cm
LONG	400cm	267cm	200cm	160cm	133cm

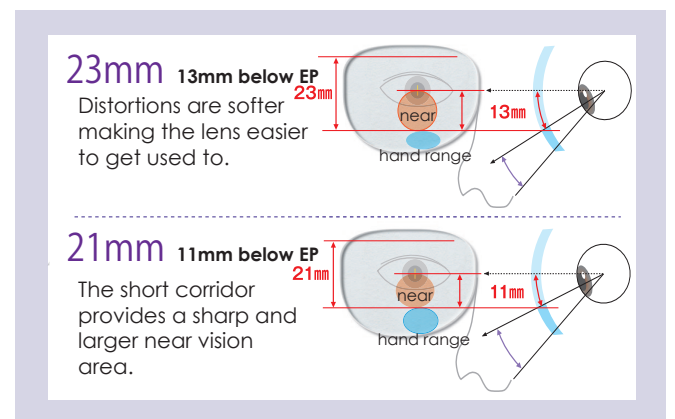


Choice of corridor length

Resonas Presso WS offers a choice between a corridor of 23mm, 22mm or 21mm.



Resonas Presso offers a choice between a corridor of 23mm or 21mm.



Near vision is personalised according to individual data

The design can be specified for the personal inset and or reading distance to stabilize the binocular vision.

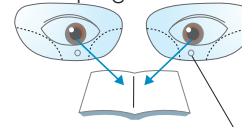
Conventional Indoor progressive



Resonas Presso

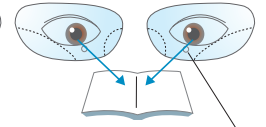


Conventional Indoor progressive



Area for near vision
The movement of the eyes and the lens design will differ.

Resonas Presso



Area for near vision
The design will be made according to the movement of the eyes.



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