Neuroscience+Individual Design・Double Surface Progressive Design

NEUROGRAN

ニューログラン

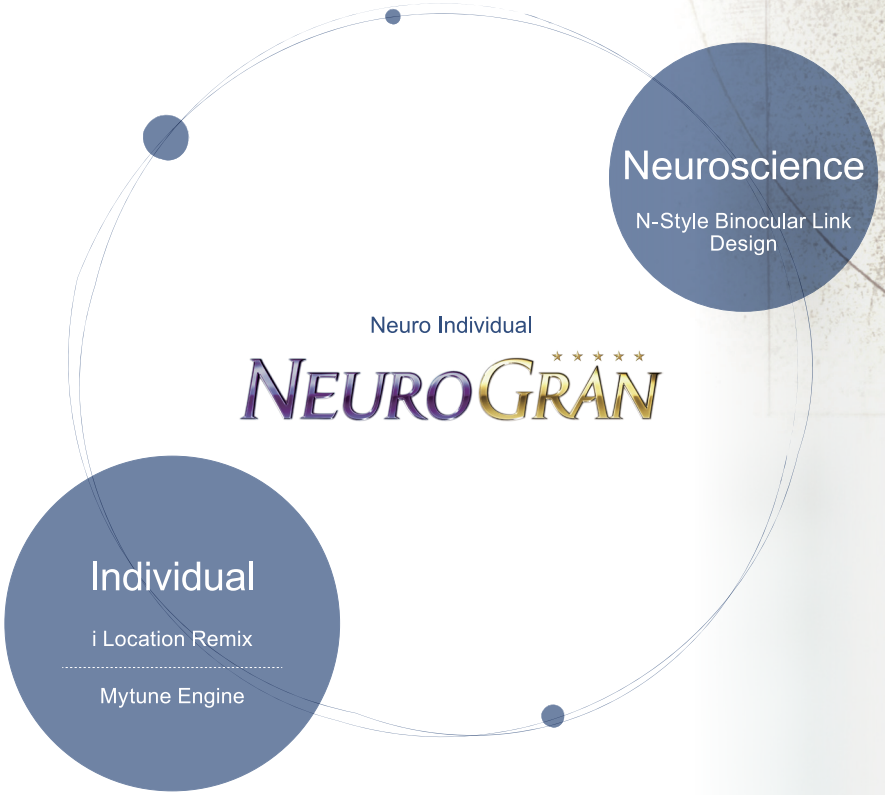
As individual as you are

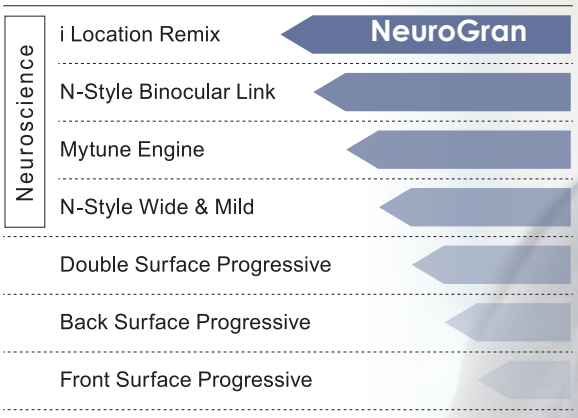
Neuro Individual

TOKAI

As individual as you are.

Tokai has always been at the forefront of developing ground breaking lens technologies with an ultimate goal of creating a progressive design with the most natural field of vision possible for the ultimate in visual and wearing comfort.
NeuroGran is the latest evolution of Tokai's innovative Neuroscience progressive design language. With the development of a specific compensation system to revise and customise the lens design according to each individuals personal parameters combined with neuroscience, Tokai has realised its vision.





Tailored for you.

Natural View

Neuroscience
N-Style Binocular Link Design

i Location Remix
Wrap angle - Tilt angle
- Vertex distance

Smart Style Select
28 Design
4 designs x 7 corridor lengths

Inividual

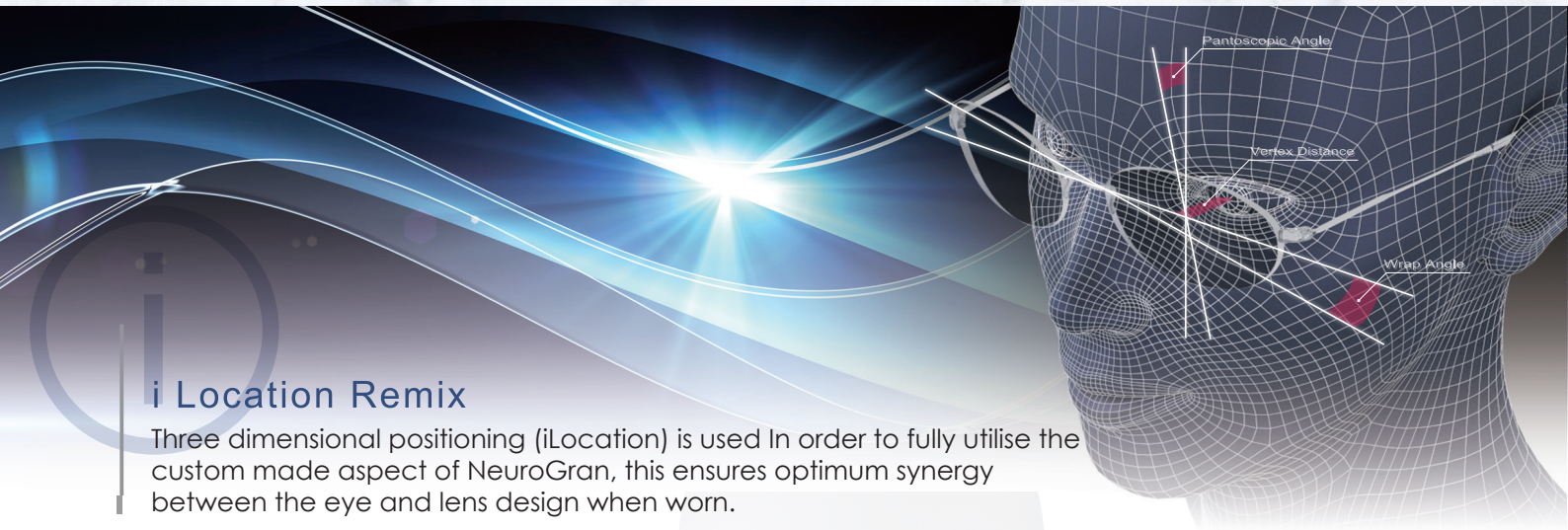
> 280,000 Base Designs

Mytune Engine
Frame shape - Eye point

Multi Optima System for
NEUROGRAN

Individual

NeuroGrans individual design makes wearing a progressive lens as stress free as a single vision lens.

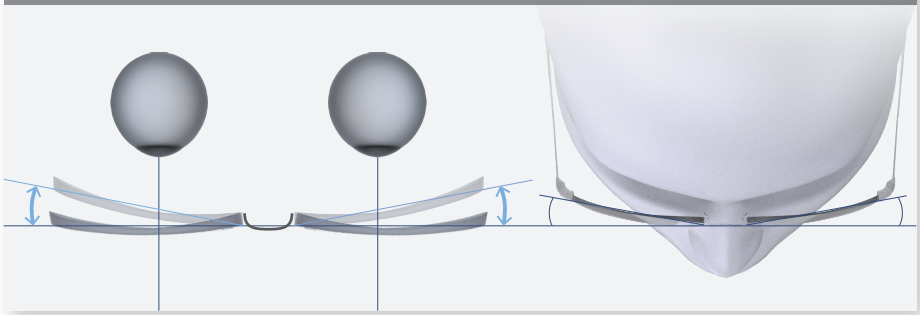


i Location Remix

Three dimensional positioning (iLocation) is used In order to fully utilise the custom made aspect of NeuroGran, this ensures optimum synergy between the eye and lens design when worn.

Wrap angle

Available in 0.1° step from 0.0° to 15.0°

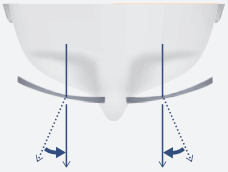


Power

If the wrap angle changes

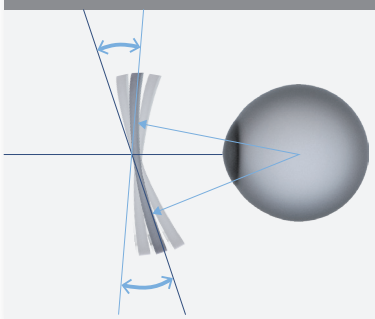
The power of the lens changes

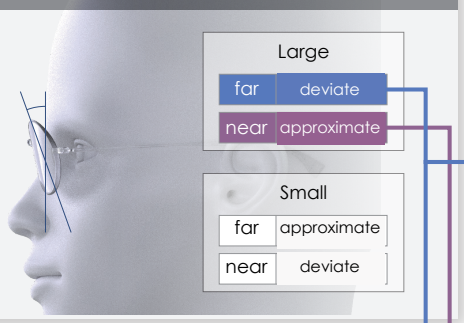
Compensated by applying powers and prisms.



Tilt angle

Available in 0.1° step from -5.0° to 25.0°



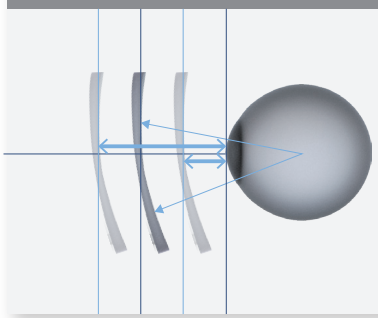


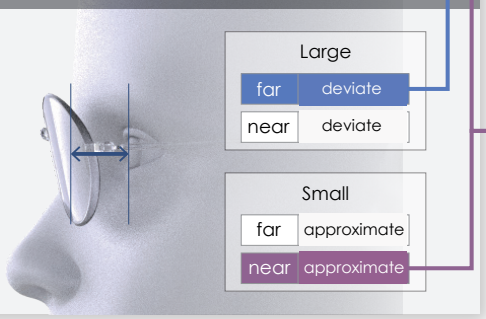
Large	
far	deviate
near	approximate

Small	
far	approximate
near	deviate

Vertex angle

Available in 0.1mm step from 8.0 to 25.0





Large	
far	deviate
near	deviate

Small	
far	approximate
near	approximate

Progressive surface

If the lens deviates from the eyes

the far vision becomes narrow.

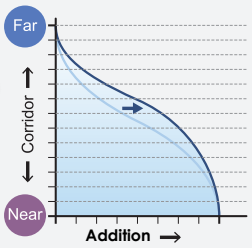
Compensated by widening the far vision portion.

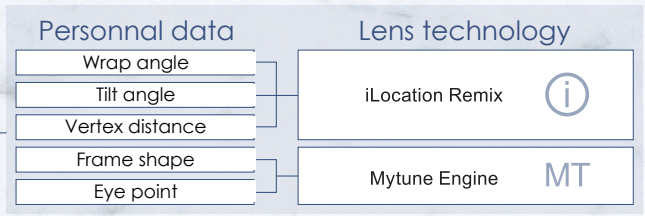
Astigmatism

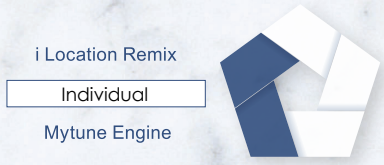
If the lens approximates

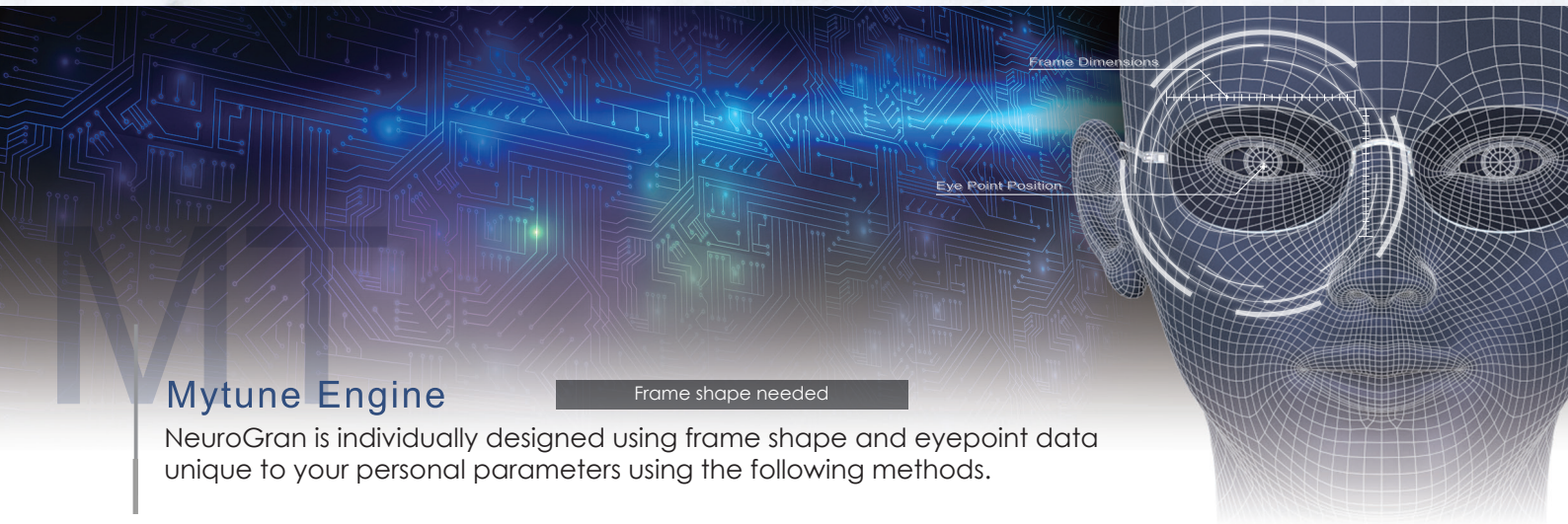
the rotation angle becomes bigger.

Compensated by applying the power faster within the progressive corridor.









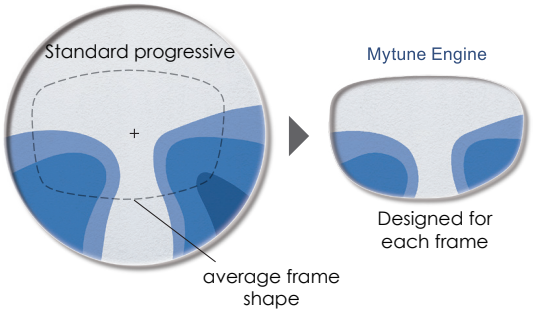
Mytune Engine

Frame shape needed

NeuroGran is individually designed using frame shape and eyepoint data unique to your personal parameters using the following methods.

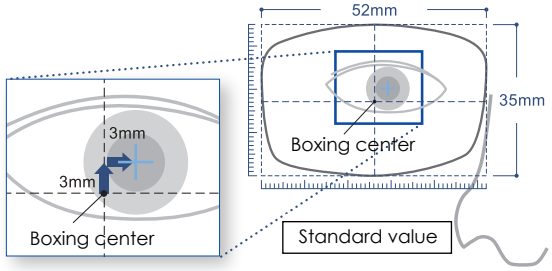
Personalised not average

The Mytune Engine analyzes the position of your eyes and the frame shape of your choice to design the progressive surface just for you.



The standard value for the Mytune Engine

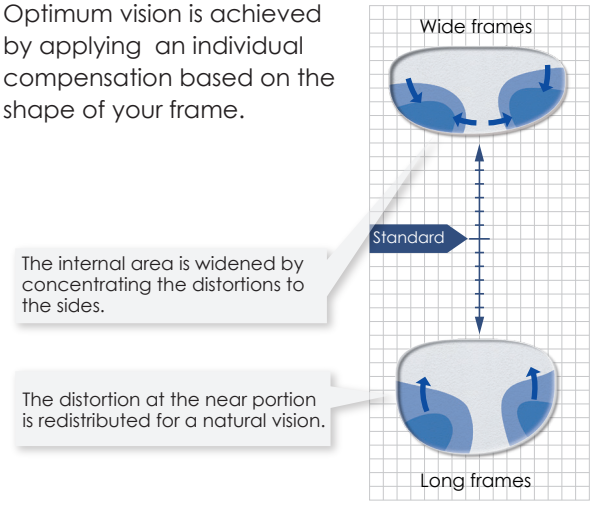
The standard design for the Mytune is designed for a 35mm x 52mm frame and the eye point is assumed 3mm up and 3 mm in from the boxing center.



From the standard design it is then re-arranged according to the personal data.

Compensation according to the frame shape

Optimum vision is achieved by applying an individual compensation based on the shape of your frame.



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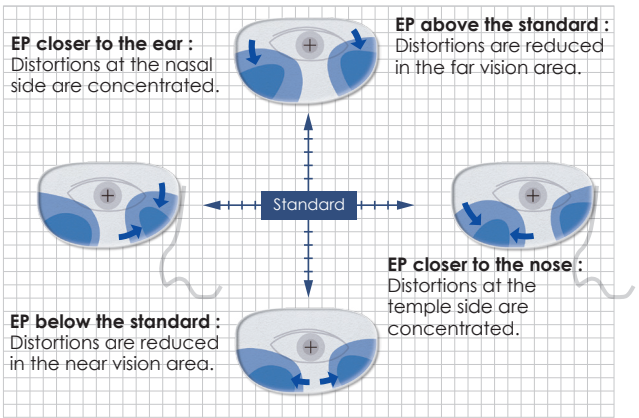
Compensation according to the eye point data

Comfortable vision is achieved by compensating the design according to the eye point.



The compensated area	The compensation is applied to the area besides the 9mm above the EP, 19mm below the EP, 10mm in and out.

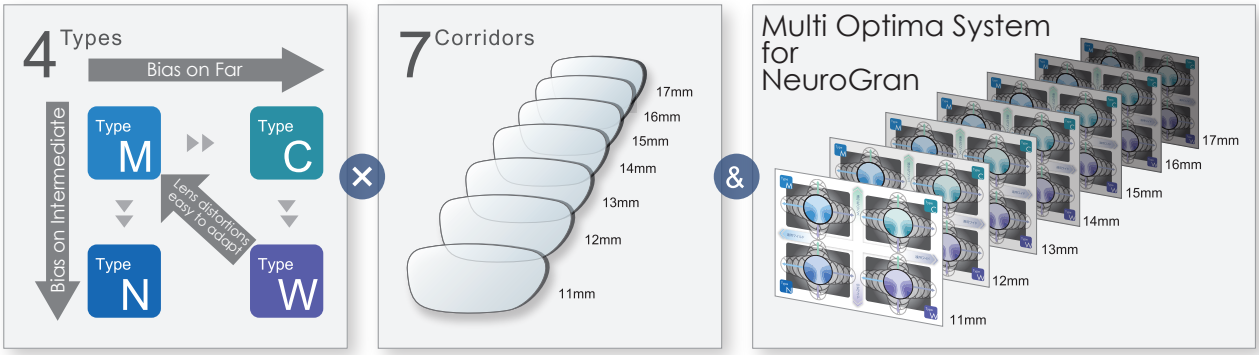
28 Smart Style Select Designs & Multi

28 Smart Style Select Designs

Prescription needed

4 designs x 7 corridors

Wearers can choose from 4 designs and 7 corridors according to lifestyle requirements.



Total of 28 designs.

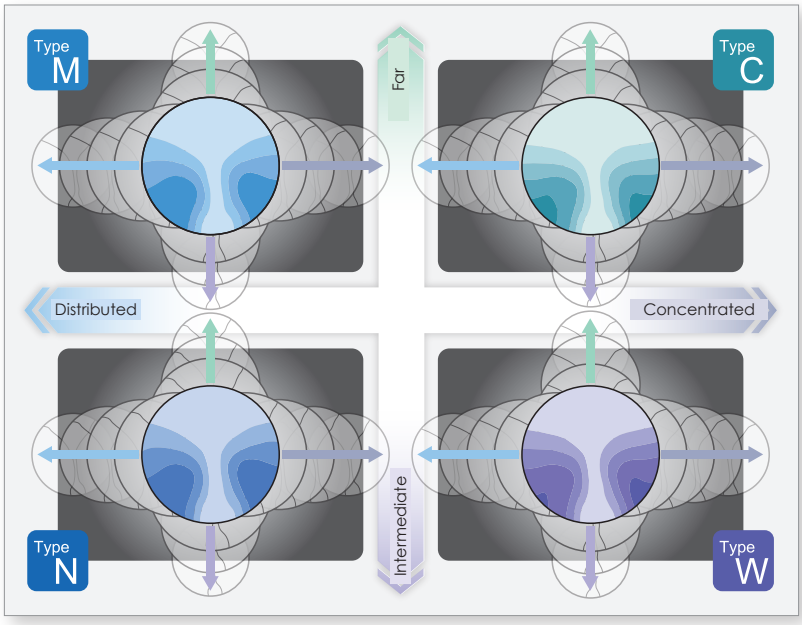
More than 280,000 patterns.

Multi optimisation system

Multi Optimisation System for NeuroGran

automatic

The optimum design is selected from 280,000 patterns according to the power and addition.



Distributed ⟷ Concentrated

Power	Addition	Compensation on Far
−	L	Concentrated
−	H	Distributed
+	L	Distributed
+	H	Concentrated

Widened on Far ⟷ Widened on Intermediate

Power	Addition	Widened
−	L	Far
−	H	Far
+	L	Intermediate
+	H	Intermediate

optimisation system

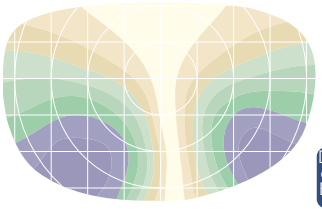
Smart Style Select
28 designs

More than 280,000 patterns

Multi optimisation system
for NeuroGran

4 designs engineered to reflect your lifestyle

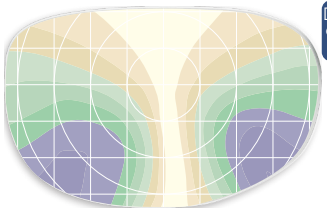
An all in one design to cover most aspects of daily life
Good all round performance. Distortions are distributed smoothly to ensure comfortable long term use.sans fatigue



Smooth transition from far to near with minimal distortion.

Type M
Mild

Aberration L H 13mm



New Balance
Type N

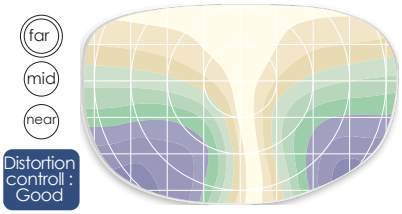
Width of vision is biased to the intermediate and near zones.

A design for the indoor environment
Perfect solution for the indoor environment where the need for wide intermediate and near zones are the priority.

A design for the great outdoors
A lens designed where emphasis on far vision is paramount, distortions are concentrated to create the widest distance field possible.

Wide, sharp, natural far vision.

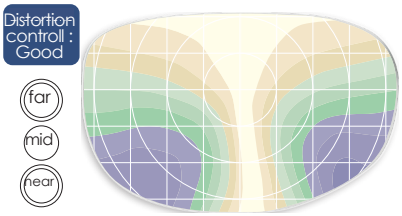
Type C
Clear



Aberration L H 13mm

Type W
Wide

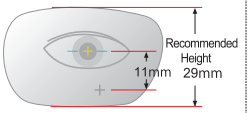
Wide far vision – Wide Near vision.



A design for specific activities
Ideal for people requiring wide far and near vision (i.e. golf, Fishing, photography).

7 corridor lengths available

The choice of 7 corridors lengths ensures the wearer easy adaption regardless of their previous progressive lens design.



	Near Vision		Balance		Smooth Focussing		
	Faster change of power small frames		Smooth focussing small frames		Smooth focussing easy adaptation		
Corridor (mm)	11	12	13	14	15	16	17
Recommanded height (mm)	29	30	31	32	33	34	35
Minimum height (mm)	26	27	28	29	30	31	32

Neuroscience

Clear natural vision is achieved by utilising the latest neuroscience technology and designing the lens with binocular vision in mind.

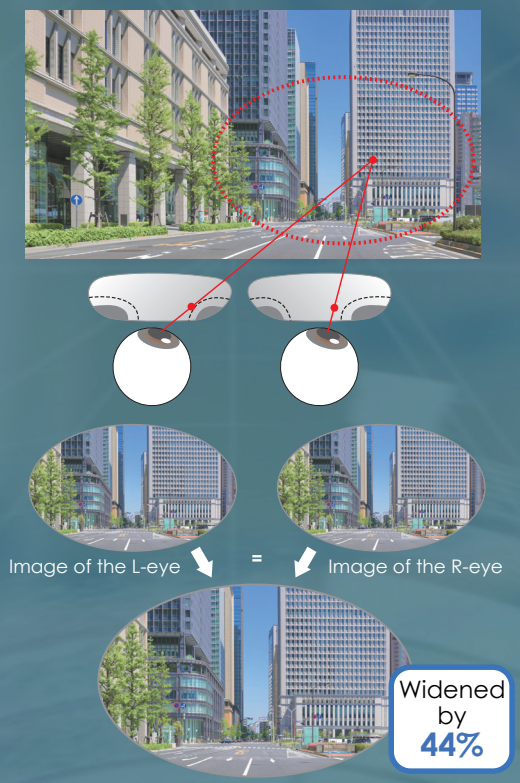
Neuroscience

N-Style Binocular Link Design

The N-Style binocular link design balances the vision between the left and right eyes by simulating the sight as seen when looking through a progressive lens and then rebalancing the aberration and distortion fields.

Progressive without N-Style Binocular Link Design

The N-Style Binocular Link Design

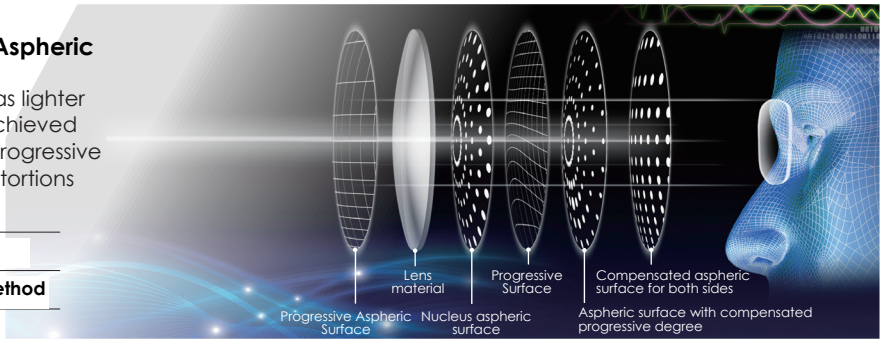


Double Progressive Surface + Aspheric

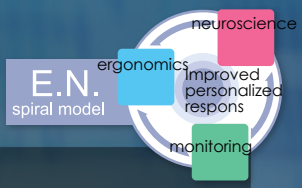
Smooth and clear vision as well as lighter and thinner lenses have been achieved by designing a double surface progressive to compensate and minimise distortions effectively.

N-Style Progressive Aspheric Design

Bs-MC (Both side-Maximum Clarity) Method



Neuroscience

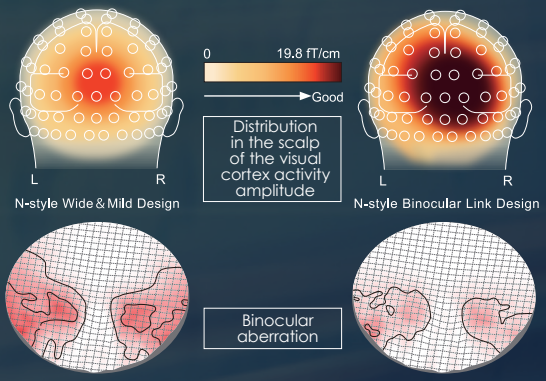


The peripheral vision is measured by using the MEG as evaluation equipment.

The magnetoencephalogram is a technology 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 an din details (milliseconds and in spatial resolution)

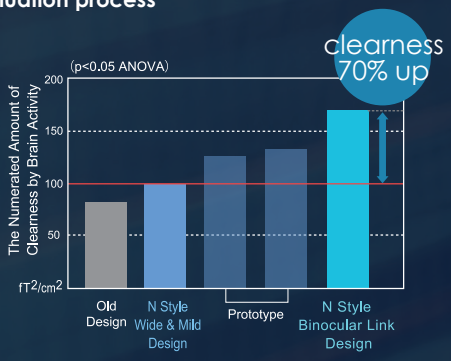
What is the magnetoencephalogram :
The MEG measures the changes of the magnetic field made bythe electric current within the brain when the neuro-cells are stimulated. The MEG measures the changes in mm segments each msecond.

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



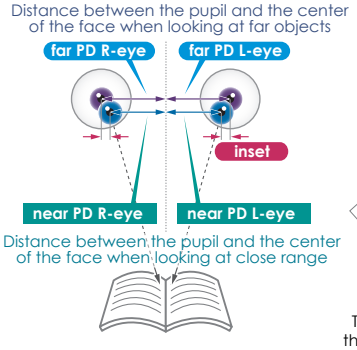
The reaped evaluation process

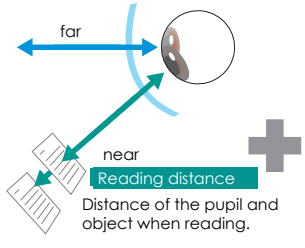
The lens is designed with the area of which the R and L looks through in concern.



Super flexibele Inset Design

The design is made to match the inset even more closely by considering the wrap angle, tilt angle and the vertex destance.The inset can be specified from 0,0mm to 5,0mm at 0,1mm steps and/or reading sidtance from 25cm to 80cm.





Reading distance has been extended up to 80 cm.
The lens can be designed according to the distance you are using when reading.

Individual data

- Wrap angle
- Tilt angle
- Vertex distance

Retinal Focus Design

Transmitted light will be continuously adjusted during it's use to ensure an optimal degree of accommodation over the entire lens surface, there by carefully improving image formation on the retina. Making a flatter base curve results in thinning and weight saving advantages at the same time.
The distinct field of vision has been extended by optimizing astigmatism correction.

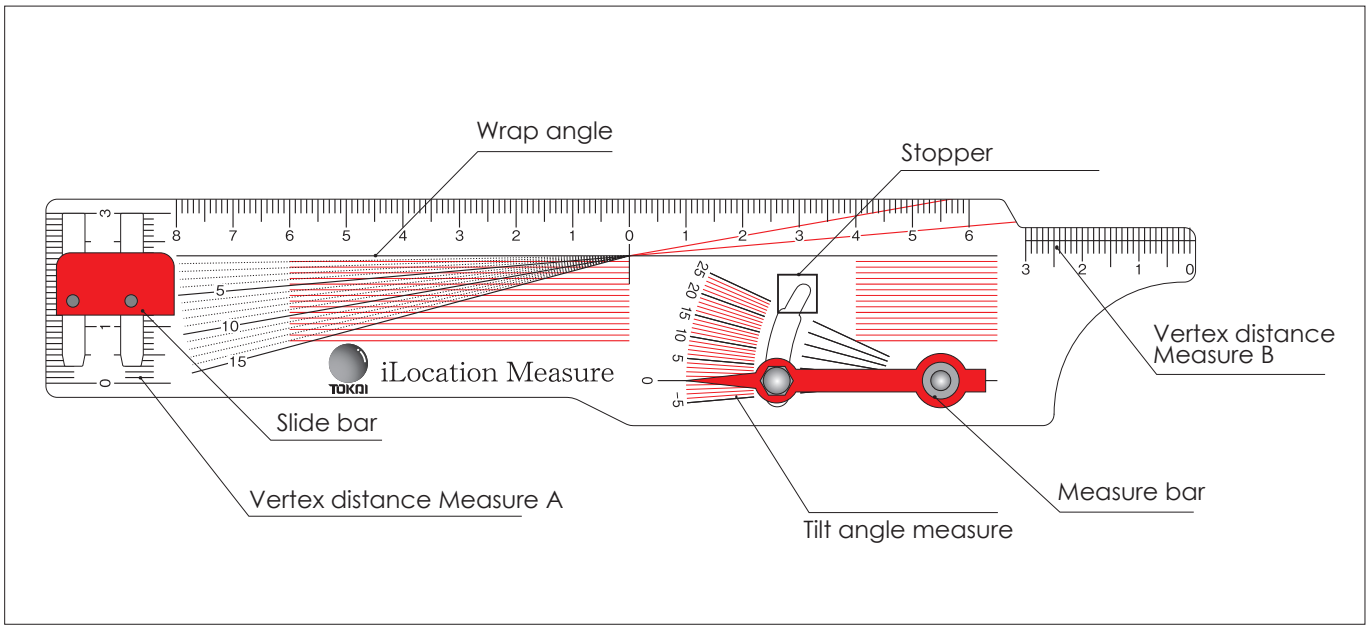
Optimal Atoric Design

The vision field is widened even with astigmatism power, by compensating the aberration omni directionally.

iLocation Measure

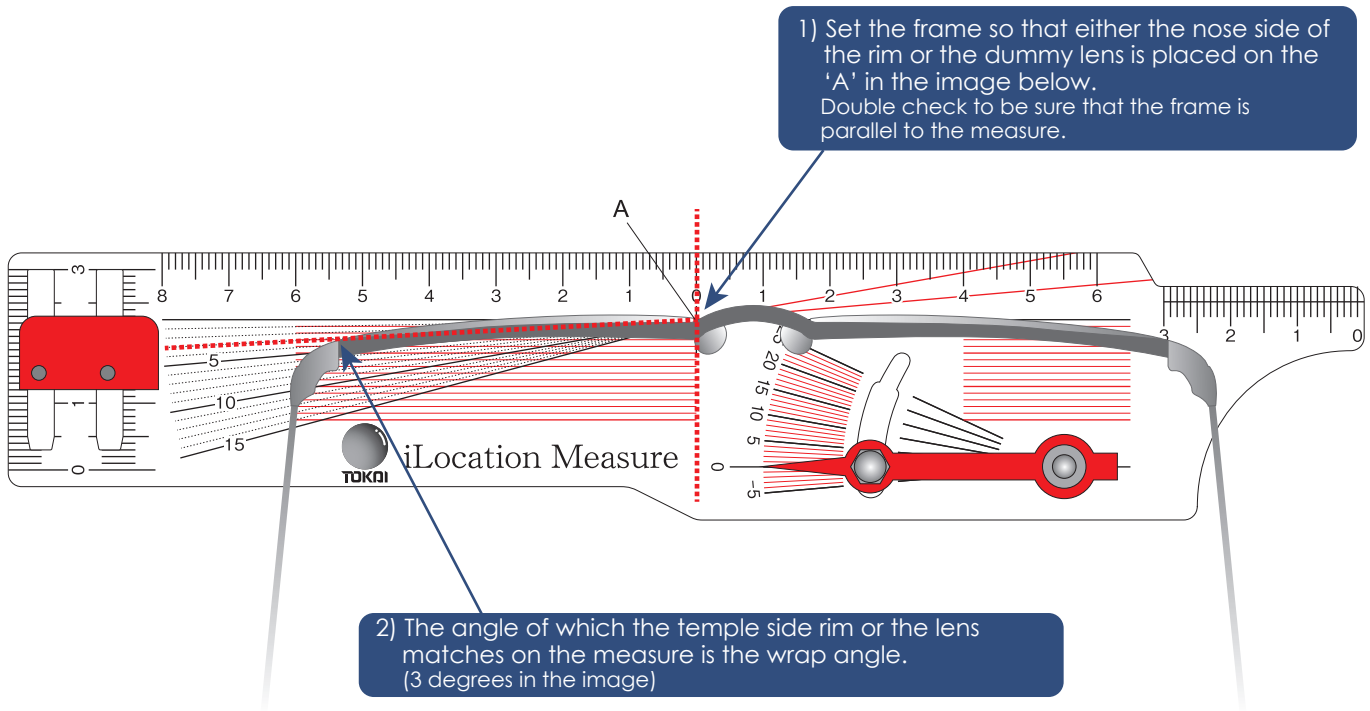
How to use the iLocation Measure.

The general view of the Measure/ Discription.

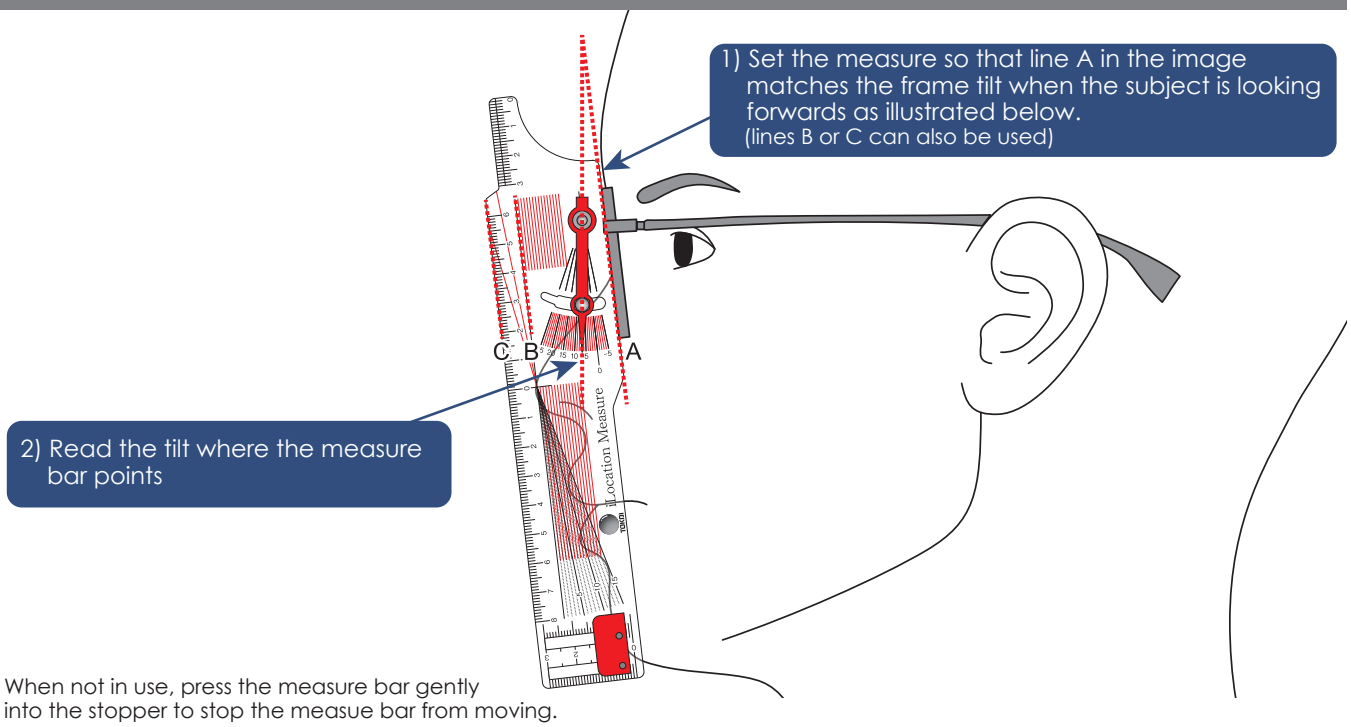


How to measure the wrap angle.

Place the iLocation Measure on a flat surface and set the frame on top.

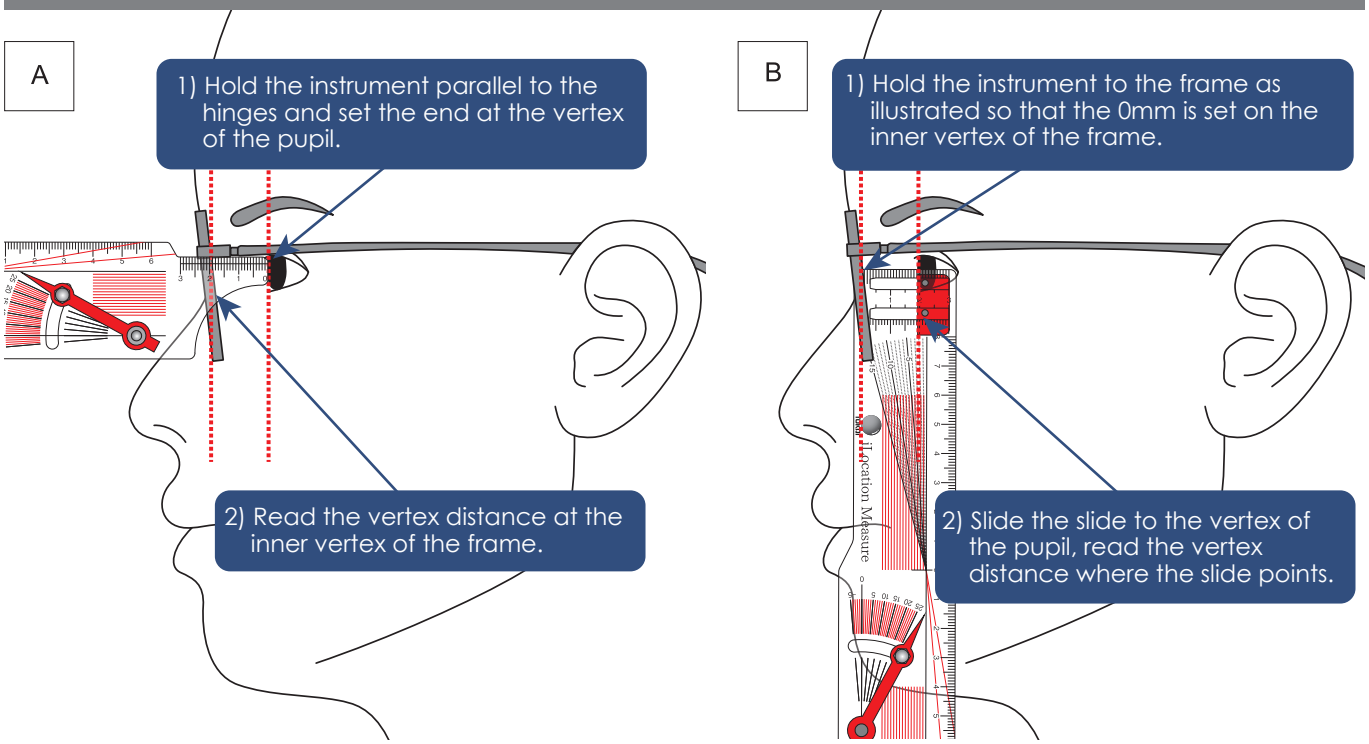


How to measure the tile angle.



When not in use, press the measure bar gently into the stopper to stop the measue bar from moving.

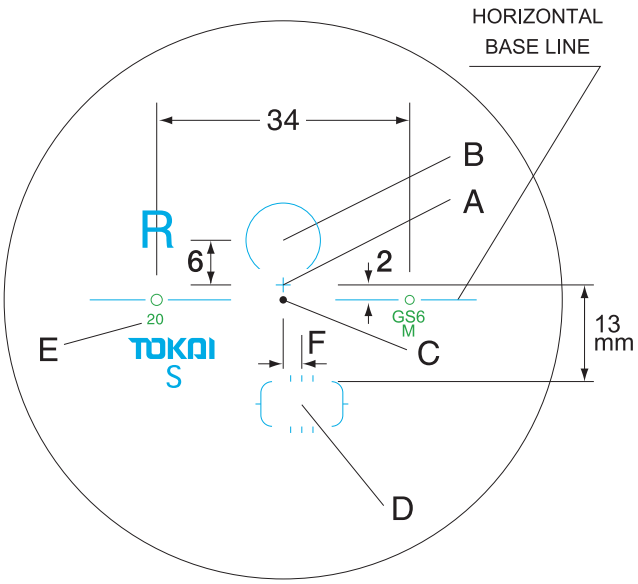
How to measure the vertex distance.



Use either method, according to the patient.

■Lay-out

A: Fitting Point
B: Far Vision Measuring Point
C: Geometric Center
Prism Measuring Point
D: Near Vision Measuring Point
(Changes According to the Corridor Length and inset)
E: Addition
F: Inset (1mm step from 0.0~5.0mm)



Example: 1.60 NEUROGRAN
Corridor 13mm / Type M

Hidden Mark:

Design	Corridor	Index	Design Type
G	N (11mm)	Z (1.76)	M (Mild)
	T (12mm)	7 (1.70)	C (Clear)
	S (13mm)	6 (1.60)	N (New Balance)
	E (14mm)		W (Wide)
	R (15mm)		
	U (16mm)		
	F (17mm)		

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