Johnson&Johnson

Manufacturer IOL Lens Constant and Surgeon Factor Recommendations

DESCRIPTION

The following information is being provided to you in response to your request regarding manufacturer recommended Johnson & Johnson Vision IOL lens constants. Lens constants are specific adjustment factors used in IOL power calculations intended to improve post-operative refractive predictability.

RESPONSE

The current recommendation is to use the manufacturer recommended constant (MRC) for all J&J Vision IOLs. These values are listed in the table below for each IOL model. Please take note of the difference between optical biometry and applanation ultrasound biometry values.

There are other independent, external sources that may recommend differing lens constants from the MRC. Global, open-source databases, such as IOLCon.org, offer community-generated lens constants for IOL power calculations. These lens constants are derived from clinical results provided by surgeons worldwide and updated continuously as surgeons input more data. Likewise, intraoperative aberrometers from other companies optimize lens constants based on post-operative outcomes from their own user database. Additionally, certain IOL calculators, such as Kane, Hill-RBF, and Barrett also provide their own optimized constants that may vary slightly from the MRC. Lens constant optimization for the Haigis Formula can be found with instructions on Dr. Warren Hill's website: doctor-hill.com.

While we are aware of usage of the various resources listed above, take caution that data on these websites may not constitute the most up-to-date information as optimization frequency, prediction error, and sample sizes may vary widely between lenses. Use your own discretion if deciding to utilize these global databases. Our recommendation is to use the manufacturer recommended constant as the starting point unless the surgeon has personally optimized his or her own lens constant based on postoperative refractive outcomes or has a strong preference for or experience with utilizing the global databases.

REFERENCE(S)

TECNIS Odyssey™ IOL with TECNIS SIMPLICITY™ Delivery System, Model DRN00V, DfU, Z311982E, current revision
TECNIS Odyssey™ Toric II IOL with TECNIS SIMPLICITY™ Delivery System, Model DRT (DRT100-DRT375), DfU, Z311983E, current revision
ZEISS IOLMaster 700 Barrett Suite: Lens Factor & Design Factor Quick Guide, 2017. Carl Zeiss, Inc.

CONTACT INFORMATION

If you have any questions or need additional information, please contact Medical Affairs at https://www.jnjmedtech.com/mir

The correspondence provided is a resource intended for use by physicians and other health care professionals involved in patient care. It is not intended and should not be construed as medical advice, nor is it intended to replace sound clinical judgment in the delivery of health care services. All medical and clinical data contained or made available in this initial correspondence is intended to supplement the knowledge of physicians and other health care professionals involved in patient care. The absence of a warning for a given procedure, technique or suggestion contained in this correspondence should not be construed to indicate that such procedure, technique or suggestion is safe, appropriate or effective in any given patient.

- *Please refer to the PRODUCT Package Insert regarding Indications for Use*
- *Johnson & Johnson Vision is not recommending / implying that the HCP/ Customer uses the PRODUCT for unapproved use*

TECNIS™ MONOFOCAL IOLs

TECNIS™ Monofocal IOLs

IOL Model	Optical Biometry			Applanation Biometry[2]		
	A-constant (SRK/T)	ACD (Hoffer Q)	Surgeon Factor (Holl.)	A-constant	ACD	Surgeon Factor[3]
TECNIS™ 1-Piece IOL, Model ZCB00, with TECNIS Simplicity™ Delivery System, Model DCB00	119.3[1]	5.7[1]	1.96[1]	118.8	5.4	1.68
TECNIS Eyhance™ IOL, Model ICB00, with TECNIS Simplicity™ Delivery System, Model DIB00	119.3[1]	5.7[1]	1.96[1]	118.8	5.4	1.68
TECNIS™ 3-Piece IOL, Model ZA9003	119.1[4]	5.61[4]	1.84[4]	119.1	5.6	1.85

TECNIS™ Monofocal Toric II IOLs

IOL Model	Optical Biometry[1]			Applanation Biometry[2]		
	A-constant (SRK/T)	ACD (Hoffer Q)	Surgeon Factor (Holl.)	A-constant	ACD	Surgeon Factor[3]
TECNIS™ Toric 1-Piece IOL, Model ZCT	119.3	5.7	1.96	118.8	5.4	1.68
TECNIS™ Toric II 1-Piece IOL, Model ZCU	119.3	5.7	1.96	118.8	5.4	1.68
TECNIS Eyhance™ Toric II IOL with TECNIS Simplicity™ Delivery System, Model DIU	119.3	5.7	1.96	118.8	5.4	1.68

TECNIS™ PRESBYOPIA-CORRECTING IOLs

TECNIS™ Full Visual Range IOLs (including Toric)

IOL Model	Optical Biometry			Applanation Biometry[2]		
	A-constant (SRK/T)	ACD (Hoffer Q)	Surgeon Factor (Holl.)	A-constant	ACD	Surgeon Factor[3]
TECNIS Odyssey™ IOL with TECNIS SIMPLICITY™ Delivery System, Model DRN00V	119.3[1]	5.7[1]	1.96[1]	118.8	5.4	1.68
TECNIS Odyssey™ Toric II IOL with TECNIS SIMPLICITY™ Delivery System, Model DRT	119.3[1]	5.7[1]	1.96[1]	118.8	5.4	1.68
TECNIS Synergy™ OptiBlue™ IOL, Model ZFR00V, with TECNIS Simplicity™ Delivery System, Model DFR00V	119.3[1]	5.7[1]	1.96[1]	118.8	5.4	1.68
TECNIS Synergy™ Toric II OptiBlue™ IOL with TECNIS Simplicity™ Delivery System, Model DFW	119.3[1]	5.7[1]	1.96[1]	118.8	5.4	1.68

TECNIS™ Extended Depth of Focus (including Toric)

IOL Model	Optical Biometry[1]			Applanation Biometry[2]		
	A-constant (SRK/T)	ACD (Hoffer Q)	Surgeon Factor (Holl.)	A-constant	ACD	Surgeon Factor[3]
TECNIS PureSee™ IOL, Model ZEN00V, with TECNIS Simplicity™ Delivery System, Model DEN00V	119.3	5.7	1.96	118.8	5.4	1.68
TECNIS PureSee™ Toric II IOL with TECNIS Simplicity™ Delivery System, Model DET	119.3	5.7	1.96	118.8	5.4	1.68
TECNIS Symfony™ OptiBlue™ Extended Range of Vision IOL with TECNIS Simplicity™ Delivery System, Model DXR00V	119.3	5.7	1.96	118.8	5.4	1.68
TECNIS Symfony™ Toric II OptiBlue™ Extended Range of Vision IOL with TECNIS Simplicity™ Delivery System, Model DXW	119.3	5.7	1.96	118.8	5.4	1.68

TECNIS™ Multifocal IOLs (including Toric)

IOL Model	Optical Biometry			Applanation Biometry[2]		
	A-constant (SRK/T)	ACD (Hoffer Q)	Surgeon Factor (Holl.)	A-constant	ACD	Surgeon Factor[3]
TECNIS™ Multifocal 1-Piece IOL, Model ZKB00	119.3[1]	5.7[1]	1.96[1]	118.8	5.4	1.68
TECNIS™ Multifocal 1-Piece IOL, Model ZLB00	119.3[1]	5.7[1]	1.96[1]	118.8	5.4	1.68
TECNIS™ Multifocal 1-Piece IOL, Model ZMB00	119.3[1]	5.7[1]	1.96[1]	118.8	5.4	1.68
TECNIS™ Multifocal Toric 1-Piece IOL, Model ZMT	119.3[1]	5.7[1]	1.96[1]	118.8	5.4	1.68

Other IOLs (SENSAR™)

IOL Model	Optical Biometry[4]			Applanation Biometry[2]		
	A-constant (SRK/T)	ACD (Hoffer Q)	Surgeon Factor (Holl.)	A-constant	ACD	Surgeon Factor[3]
SENSAR™ Monofocal 1-Piece IOL, Model AAB00	119.0[4]	5.56[4]	1.78[4]	118.4	5.2	1.45
SENSAR™ Monofocal 3-Piece IOL, Model AR40e (Regular Diopter)	118.7[4]	5.39[4]	1.62[4]	118.4	5.2	1.45
SENSAR™ Monofocal 3-Piece IOL, Models AR40E, AR40M (Low Diopter)	118.7[4]	5.41[4]	1.63[4]	118.4	5.2	1.45

Barrett Lens Factors[5]

IOL Model	Lens Factor (LF)	
	Barrett Optimized	Based on Manufacturer Recommended A-Constant
TECNIS™ 1-Piece IOL, Model ZCB00	2.09[6,7]	2.04
SENSAR™ Monofocal 1-Piece IOL, Model AAB00	--	1.88
SENSAR™ Monofocal 3-Piece IOL, Model AR40e (Regular Diopter)	1.73[7]	1.73
SENSAR™ Monofocal 3-Piece IOL, Models AR40E, AR40M (Low Diopter)	1.73[7]	1.73
TECNIS™ 3-Piece IOL, Model ZA9003	--	1.94

Haigis Lens Constants[4,8]

IOL Model	Haigis (a_0, a_1, a_2)
TECNIS™ 1-Piece IOL, Model ZCB00	-1.302 / 0.210 / 0.251[4]
TECNIS™ Multifocal 1-Piece IOL, Model ZMB00	-1.013 / 0.199 / 0.242[4]
TECNIS™ 3-Piece IOL, Model ZA9003	-1.298 / 0.233 / 0.240[4]
TECNIS™ Multifocal 3-Piece IOL, Model ZMA00	-1.750 / 0.242 / 0.266[4]
SENSAR™ Monofocal 1-Piece IOL, Model AAB00	-1.004 / 0.182 / 0.232[4]
SENSAR™ Monofocal 3-Piece IOL, Model AR40e (Regular Diopter)	0.472 / 0.077 / 0.174[4]
SENSAR™ Monofocal 3-Piece IOL, Model AR40E (Low Diopter)	-2.42 / 0.157 / 0.288[4]

1. IOL constants have been derived from clinical evaluation results of the 1-Piece IOL Platform.
2. IOL constants theoretically derived for contact ultrasound biometry.
3. Calculated based on Holladay I formula (Holladay JT, Prager TC, Chandler TY, Musgrove KH, Lewis JW, Ruiz RS. A three-part system for refining intraocular lens power calculations. *J Cataract Refract Surg.* 1988;14(1):17-24.).
4. Measurement from the ULIB website. http://www.augenklinik.uni-wuerzburg.de/ulib/cl.htm. The A-constants listed in the ULIB table were derived from and are only valid for measurements with the Zeiss IOL Master, calculated from patient data on file (as of October 2013).
5. Lens factor derived from the SRK/T formula's constant, using a formula established and verified by Dr. Barrett.
6. Barrett lens factor listed for TECNIS™ 1-Piece ZCB00 IOL can be applied to all 1-piece IOLs within the TECNIS™ family portfolio.
7. Lens factor clinically optimized by Dr. Barrett.
8. Haigis lens constant values (a_0, a_1, a_2) are derived as a group. Do not interchange individual constants between different lenses for use in IOL power calculations. If personalized optimization of Haigis constants is desired, refer to free service provided by Dr. Warren Hill at: https://doctor-hill.com/iol-power-calculations/resources-downloads/

The promoted products are medical devices.

For healthcare professionals only. Please reference the Instructions for Use for a complete list of Indications and Important Safety Information and contact specialists in case of any questions.

© Johnson & Johnson and its affiliates 2025