

CLAIMS:

1. Intraocular lens implant, comprising a first viewing element (12) and a second viewing element (13),
a spring element (14) for varying a distance between the first and the second viewing element (12, 13) along an optical axis (A-A') of the lens implant (11) for varying the focal length of the lens implant (11),
wherein the lens implant (11) is designed to take a shape suitable for distant vision when the spring element (14) is in its relaxed state, and
wherein a spring constant of the spring element (14) has a value of less than 550 mN/mm.
2. Intraocular lens implant according to the preceding claim,
wherein the lens implant (11) is designed to take a shape suitable for near vision when the spring element (14) is in a stretched state such that the distance between the first and the second viewing element (12, 13) in the stretched state of the spring element (14) exceeds the distance between the first and the second viewing element (12, 13) in the relaxed state of the spring element (14).
3. Intraocular lens implant according to any one of the preceding claims,
wherein the lens implant (11) is designed to require an external stretch force for stretching the spring element (14) from its relaxed state into its stretched state.
4. Intraocular lens implant according to any one of the preceding claims,
wherein the spring constant of the spring element (14) has a value of less than 20 mN/mm.
5. Intraocular lens implant according to any one of the preceding claims,
wherein the spring constant of the spring element (14) has a value of more than 2.5 mN/mm.

6. Intraocular lens implant according to any one of the preceding claims, wherein the spring constant of the spring element (14) has a value of more than 10 mN/mm.
7. Intraocular lens implant according to any one of the preceding claims, wherein a width (w) of the lens implant (11) along the optical axis (A-A') between outer surfaces of the first and the second viewing element (12, 13) is between 2.5 mm and 5.5 mm in the relaxed state of the spring element (14).
8. Intraocular lens implant according to any one of the preceding claims, wherein a width (w) of the lens implant (11) along the optical axis (A-A') in the relaxed state of the spring element (14) is between 3.8 mm and 4.0 mm.
9. Intraocular lens implant according to any one of the preceding claims, wherein a width (w) of the lens implant (11) along the optical axis (A-A') in the stretched state of the spring element (14) is between 2.7 mm and 5.7 mm.
10. Intraocular lens implant according to any one of the preceding claims, wherein a width (w) of the lens implant (11) in the stretched state of the spring element (14) is between 4.0 mm and 4.2 mm.
11. Lens implant according to any one of the preceding claims, wherein the spring constant of the spring element (14) is dimensioned such that the force produced by the lens capsule (2) transforms the spring element (14) from its relaxed state into the stretched state which stretched state results in a shape of the lens implant (11) representing a lens accommodated to near vision.
12. Lens implant according to any one of the preceding claims, wherein a longitudinal extension of the lens implant (11) along the optical axis (A-A') in the relaxed state of the spring element (14) is less than a longitudinal extension of the lens implant (11) along the optical axis (A-A') in the stretched state.

13. Lens implant according to anyone of the preceding claims, wherein the viewing elements (12, 13) comprise outside surfaces for being in contact with the lens capsule (2) in an implanted state.
14. Lens implant according to anyone of the preceding claims, wherein the lens implant (11) lacks of elements for directly or indirectly engaging with a contracting ciliary muscle (6) of the eye, and in particular wherein the lens implant (11) is designed for solely being controlled by forces induced via the viewing elements (12, 13).
15. Lens implant according to anyone of the preceding claims, wherein the lens implant (11) lacks of elements projecting above the height of the viewing elements (12, 13) in a direction of a longitudinal axis (B-B') of the viewing elements (12, 13).
16. Lens implant according to any one of the preceding claims, wherein upper edges of the viewing elements (12, 13) terminate the lens implant (11) in a direction of a longitudinal axis (B-B') of the lens implant (11).
17. Lens implant according to anyone of the preceding claims, wherein the viewing elements (12, 13) and the spring element (14) are formed integrally.
18. Lens implant according to anyone of the preceding claims, wherein the first viewing element (12) is a lens with a plus power and the second viewing element (13) is a lens with a negative power.
19. Method for manufacturing a lens implant according to one of the preceding claims, comprising measuring the natural lens the lens implant (11) shall replace,
forming a spring element (14) with a spring constant such that the spring element is expected to be stretchable by tension forces induced by the lens capsule

surrounding the natural lens, and forming at least one of the two viewing elements (12, 13) according to a desired optical power derived from the measurement.

20. Kit for manufacturing a lens implant according to one of the preceding claims 1 to 18, comprising multiple viewing elements (12, 13) with different focal lengths and/or different shapes, and a spring element (14) for holding the viewing elements (12, 13).

CLAIMS:

1. An intraocular lens implant comprising:
a first viewing element and a second viewing
5 element,
a spring element for varying a distance between
the first and the second viewing element along an optical
axis of the lens implant for varying the focal length of the
lens implant,
10 wherein the lens implant is designed to take a
shape suitable for distant vision when the spring element is
in its relaxed state, and
wherein a spring constant of the spring element
has a value of less than 550 mN/mm.
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2. An intraocular lens implant according to claim
1,
wherein the lens implant is designed to take a
shape suitable for near vision when the spring element is in
20 a stretched state such that the distance between the first
and the second viewing element in the stretched state of the
spring element exceeds the distance between the first and
the second viewing element in the relaxed state of the
spring element.
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3. An intraocular lens implant according to any
one of the preceding claims,
wherein the lens implant is designed to require
an external stretch force for stretching the spring element
30 from its relaxed state into its stretched state.
4. An intraocular lens implant according to any
one of the preceding claims,
wherein the spring constant of the spring element
35 has a value of less than 20 mN/mm.

5. An intraocular lens implant according to any one of the preceding claims,
wherein the spring constant of the spring element
5 has a value of more than 2.5 mN/mm.

6. An intraocular lens implant according to any one of the preceding claims,
wherein the spring constant of the spring
10 element has a value of more than 10 mN/mm.

7. An intraocular lens implant according to any one of the preceding claims,
wherein a width of the lens implant along the
15 optical axis between outer surfaces of the first and the second viewing element is between 2.5 mm and 5.5 mm in the relaxed state of the spring element.

8. An intraocular lens implant according to any
20 one of the preceding claims,
wherein a width of the lens implant along the optical axis in the relaxed state of the spring element is between 3.8 mm and 4.0 mm.

9. An intraocular lens implant according to any
25 one of the preceding claims,
wherein a width of the lens implant along the optical axis in the stretched state of the spring element is between 2.7 mm and 5.7 mm.

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10. An intraocular lens implant according to any one of the preceding claims,
wherein a width of the lens implant in the stretched state of the spring element is between 4.0 mm and
35 4.2 mm.

11. An intraocular lens implant according to any one of the preceding claims, wherein the spring constant of the spring element is selected such that force induced by the lens capsule on the lens implant can transform the spring element from its relaxed state into the stretched state which stretched state results in a shape of the lens implant representing a lens accommodated to near vision.

12. An intraocular lens implant according to any one of the preceding claims, wherein a longitudinal extension of the lens implant along the optical axis in the relaxed state of the spring element is less than a longitudinal extension of the lens implant along the optical axis in the stretched state.

13. An intraocular lens implant according to any one of the preceding claims, wherein the lens implant lacks of elements for directly or indirectly engaging with a contracting ciliary muscle of the eye, and in particular wherein the lens implant is designed for solely being controlled by forces induced via the viewing elements.

14. An intraocular lens implant according to any one of the preceding claims, wherein upper edges of the viewing elements terminate the lens implant in a direction of a longitudinal axis of the lens implant.

15. An intraocular lens implant according to any one of the preceding claims, wherein the viewing elements and the spring element are formed integrally.

16. An intraocular lens implant according to any one of the preceding claims, wherein the first viewing

element is a lens with a plus power, and the second viewing element is a lens with a negative power.

17. A method for manufacturing an intraocular
5 lens implant according to one of the preceding claims,
comprising
- measuring the natural lens that the lens implant
shall replace,
- forming a spring element with a spring constant
10 such that the spring element is expected to be stretchable
by tension forces induced by the lens capsule surrounding
the natural lens, and
- forming at least one of the two viewing elements
according to a desired optical power derived from the
15 measurement.

18. A kit for manufacturing an intraocular lens
implant according to one of the preceding claims 1 to 11 or
claim 13, comprising multiple viewing elements with
20 different focal lengths and/or different shapes, and a
spring element for holding the viewing elements.