Claims

1. Production line (PL) for the production of contact lenses, the production line comprising a manufacturing module (MM) in which the contact lenses are manufactured, an inspection module (IM) in which the contact lenses manufactured are inspected, and a packaging module (PP) in which the ophthalmic lenses which have been identified by the inspection module (IM) as being acceptable are packed into primary packages, wherein the manufacturing module (MM) comprises a plurality of manufacturing stations comprising a male mold exchange station (300), a female mold exchange station (301), a toric axis setting station (302), a printing station (310), a dosing station (320), a closing station (321), a forming station (322), a curing station (330), a relative mold movement station (331), a mold opening station (340), a rinsing station (341), a removal station (342), a mold cleaning station (350), a mold rinsing station (351), and a mold drying station (352), for manufacturing the contact lenses, with at least one of these manufacturing stations comprising an inkjet printing station (310); a dosing station (320), a closing station (321), a forming station (322), a curing station (330), a relative mold movement station (331) being configured to apply a lens identification code to the respective contact lens, the lens identification code including information indicative of the type of the respective contact lens manufactured, wherein the modular production line further comprising fixedly arranged transfer interfaces between individual modules (MM, IM, PP) for transferring the contact lenses from a respective preceding module of the at least three separate modules to a respective subsequent module of the at least three separate modules, wherein either the inspection module (IM) or the packaging module (PP) includes a lens detection station configured to read the lens identification code applied to the respective contact lens and to detect the type of the contact lens from the lens identification code read from the respective contact lens in order to determine whether the type of contact lens detected actually is the type of contact lens which is expected to be detected by the lens detection station at that time.

2. Production line according to claim 1, wherein the lens detection station is arranged in the inspection module (IM).

3. Production line according to claim 2, wherein the inspection module (IM) comprises a cosmetic inspection station for inspecting the contact lens for cosmetic defects, and wherein the cosmetic inspection station is configured to include the lens detection station.

4. Production line according to claim 1, wherein the lens detection station is arranged in the packaging module (PP).

5. Production line according to claim 4, wherein the lens detection station (604) is arranged in the packaging module (PP) at a location downstream of a lens placement station (603) for placing the contact lens into a primary package and upstream of a liquid dosing station (606) for dosing a packaging liquid into the primary package, or is arranged downstream of the liquid dosing station (606).

6. Production line according to claim 5, wherein the packaging module (PP) comprises a shell providing station (602) for providing a packaging shell, the lens placement station (603) for placing the contact lens into the packaging shell, the lens detection station (604), the liquid dosing station (606), a foil placement station (607) for placing a foil onto the packaging shell, a sealing station (608) for sealing the foil to the packaging shell, and a printing station (609) for printing on the foil information about the contact lens contained in the sealed packaging shell.

7. Production line according to claim 6, wherein the packaging module (PP) further comprises a configuration station (605) for intermediately storing a plurality of contact lenses, and for placing a contact lens intermediately stored in the configuration station (605) into a said packaging shell lens shell in case it has been detected in the lens detection station (604) that no contact lens has been placed into the packaging shell in the lens placement station (603).

8. Production line according to claim 1, wherein the manufacturing module (MM) is configured to apply to each contact lens a unique lens identification code which is representative of the type of lens at least for a predetermined period of time.

9. Production line according to claim 8, wherein the manufacturing module (MM) comprises molds for the manufacture of the contact lenses and a printing station (310), wherein the printing station (310) is configured to print the unique lens identification code to at least one of the molds used to manufacture the respective contact lens.

10. Production line according to claim 9, wherein the printing station (310) is an inkjet printing station.

11. Production line according to claim 1, wherein the manufacturing module (MM) comprises molds for the manufacture of the contact lenses, the molds carrying the unique lens identification code as elevations formed on a molding surface of at least one of the molds used to manufacture the respective contact lens.

12. Production line according to claim 1, wherein the manufacturing stations comprising a male mold exchange station (300}, a female mold exchange station (301), a toric axis setting station (302), an inkjet printing station (310), a dosing station (320), a closing station (321), a forming station (322), a curing station (330), a relative mold movement station (331), a mold opening station (340), a rinsing station (341), a removal station (342), a mold cleaning station (350), a mold rinsing station (351}, and a mold drying station (352) of the manufacturing module are arranged in a closed loop, and wherein the manufacturing module further comprises a plurality of lens mold carriers which are transported through the manufacturing stations arranged in the closed loop, wherein each lens mold carrier comprises a frame having a predetermined number of mounting sites arranged at predetermined locations along the frame, the predetermined number and locations of the mounting sites being identical for each lens mold carrier of the plurality of lens mold carriers, wherein each lens mold carrier further comprises a predetermined number of molds corresponding to the predetermined number of mounting sites of the frame, with the molds being removably mounted to the frame (HJ, 2Q at the mounting sites, and with all molds of a said lens mold carrier either being reusable male molds or with all molds of the said lens mold carrier being reusable female molds, and wherein two lens mold carriers, respectively, of the plurality of lens mold carriers are assigned to each other to form a pair of lens mold carriers in a manner such that for each pair of lens mold carriers at the mounting sites of one lens mold carrier of a said pair reusable male molds are arranged, while at the mounting sites of the other lens mold carrier of the said pair reusable female molds are arranged, so that upon mating the two lens mold carriers of the said pair the respective reusable male and female molds are mated to form mold cavities defining the shape of the lenses to be manufactured, wherein the manufacturing stations comprise a mold changing station, the mold changing station being configured to be capable of removing a said mold from its mounting site on the frame of a said lens mold carrier and mounting a different mold to the frame at the said mounting site, or

being configured to change the rotational position of a said mold mounted to the frame of a said lens mold carrier, or both.

13. Production line according to claim 12, wherein the mold changing station comprises a male mold exchange station for removing a said male mold from its mounting site on the frame of a said lens mold carrier, and for mounting a different male mold to the said mounting site.

14. Production line according to claim 12, wherein the mold changing station comprises a female mold exchange station for removing a said female mold from its mounting site on the frame of a said lens mold carrier, and for mounting a different female mold to the said mounting site.

15. Production line according to claim 12, wherein the mold changing station comprises a toric axis setting station for changing and setting the rotational position of a said male or female mold mounted to the lens mold carrier.

16. Production line according to claim 1, further comprising an extraction and treatment module (EM) for the extraction and chemical treatment of the contact lenses manufactured in the manufacturing module (MM).