CLAIMS

The invention claimed is:

1. A filament production device, comprising at least one spinning nozzle unit, which is provided for producing at least one filament, which is formed as a hollow fibre membrane, from at least one polymer solution, and comprising a polymerisation unit, which is provided for initiating a polymerisation of the at least one polymer solution at least partially within the spinning nozzle unit; wherein the spinning nozzle unit has at least one inner fluid channel, which is provided for guiding an inner fluid, and has at least one polymer solution channel, which is provided for guiding the at least one polymer solution, wherein the polymer solution channel surrounds the at least one inner fluid channel at least partially in at least one cross-section; and wherein the polymerization unit comprises at least one irradiation unit for applying electromagnetic radiation only to the inner fluid in the at least one inner fluid channel, wherein the at least one irradiation unit comprises a radiation-guiding element extending at least partially into the at least one inner fluid channel for coupling the electromagnetic radiation only into the at least one inner fluid channel.

2. The filament production device according to claim 1, wherein the spinning nozzle unit has at least one further polymer solution channel, wherein the polymer solution channel and the at least one further polymer solution channel are provided for guiding different polymer solutions.

3. The filament production device according to claim 1, wherein the spinning nozzle unit comprises at least one channel, and the polymerisation unit comprises at least one feed unit, which is provided for feeding a polymerisation initiator to the at least one channel of the spinning nozzle unit.

4. The filament production device according to claim 1, wherein the polymerisation unit has a temperature-control unit, which is provided for applying heat energy at least to the at least one polymer solution for initiating polymerisation.

5. The filament production device according to claim 1, wherein a control unit, which is provided for controlling the polymerisation unit for selective initiation of the polymerisation.

6. The filament production device of claim 1, comprising a filament reaction-spinning production device.

7. A filament production method, with a filament production device having at least one spinning nozzle unit, wherein the spinning nozzle unit has at least one inner fluid channel, which is provided for guiding an inner fluid, and has at least one polymer solution channel, which is provided for guiding at least one polymer solution, wherein the polymer solution channel surrounds the at least one inner fluid channel at least partially in at least one cross-section, wherein at least one filament, which is formed as a hollow fibre membrane, is produced by the spinning nozzle unit from the at least one polymer solution, the method comprising at least partially initiating polymerization within the spinning nozzle unit by applying electromagnetic radiation along a radiation guiding element extending at least partially into the at least one inner fluid channel to apply the electromagnetic radiation to only to the inner fluid in the at least one inner fluid channel.

8. The filament production method of claim 7, comprising a reaction-spinning production method.