CLAIMS

1. A system (10) for in-line treatment of thread (20) for use with a thread consuming device (15), comprising:

a treatment unit (100) comprising at least one discharge device (150), wherein the at least one discharge device (150) comprises a plurality of nozzles arranged at different positions relative the at least one thread (20), said at least one thread (20) being in motion in use, each nozzle (152) being configured to dispense one or more coating substances onto the at least one thread when activated; ~~and~~

a thread speed sensor (50) configured to measure a speed of ~~being driven by the motion of~~ the at least one thread (20), wherein the thread speed sensor is arranged upstream said at least one treatment unit (100) and

a control unit (190) configured to:

receive speed data from thread speed sensor (50),

control the operation of the at least one discharge device (150) of the treatment unit (100) based on said received speed data.

~~2. The system according to claim 1, wherein the thread speed sensor is arranged upstream said at least one treatment unit (100).~~

~~3. The system according to claim 1 or 2, further comprising a control unit (190) being configured to control the operation of said treatment unit (100).~~

2~~4~~. The system according to claim 1~~3~~, wherein said control unit (190) is configured to control activation of said treatment unit (100) based on a predetermined operation scheme of said thread consuming device (15).

~~5. The system according to claim 3 or 4, wherein the control unit (190) is configured to:~~

~~receive speed data from thread speed sensor (50),~~

~~control the operation of the treatment unit (100) based on said received speed data.~~

36. The system according to any of the preceding claims, wherein the thread speed sensor (60) comprises a rotational sensor (52) being driven by the motion of at least one thread (20).

47. The system according to claim 36, wherein the rotational sensor comprises a pulley (52).

58. The system according to claim 74, wherein the thread speed sensor further comprises an encoder (54) being in operative communication with the pulley (52).

69. The system according to claim 85, wherein the encoder (54) is a rotary encoder.

107. The system according to any of the preceding claims, further comprising a light detection system (60) for illuminating the at least one thread (20) in order to receive light which is reflected from the at least one thread (20) when said at least one thread (20) is illuminated, wherein the light detection system (60) is arranged downstream the at least one treatment unit (100) along the travel direction of the at least one thread (20).

118. The system according to claim 107, wherein the light detection system comprises at least one light source (62) and an optical sensor (64).

129. The system according to claim 10 7 or 118, wherein the coating substance is a colouring substance, and wherein the system further comprises a control unit (190) configured to:

receive data from the light detection system (60),

determine the colour of the colouring substance that has been dispensed to a specified section of the at least one thread (20) based on said received data.

~~13~~10. The system according to claim ~~12~~9, wherein the control unit (190) is further configured to:

compare the determined colour against a predetermined colour scheme, and

if said determined colour and the predetermined colour scheme does not match within a tolerance limit, generate an alarm signal and/or adjust the operation of the treatment unit (100).

~~14. The system according to any preceding claim, wherein the treatment unit (100) comprises a plurality of nozzles (152a-f) arranged at different positions relative the at least one thread (20), said at least one thread (20) being in motion in use, each nozzle (152) being configured to dispense one or more coating substances onto the at least one thread when activated.~~

~~15~~11. The system according to any preceding claim~~claim 14~~, wherein the nozzles (152a-f) are inkjet nozzles.

~~16~~12. The system according to any preceding claim, further comprising a thread consuming device (15).

~~17~~13. The system according to claim ~~16~~12, wherein the thread consuming device (15) is an embroidery machine, a sewing machine, a knitting machine, a weaving machine, a tufting machine, a thread winding machine, and or any combination thereof.

~~18~~14. A method for in-line treatment of at least one thread (20) for use with a thread consuming device (15), comprising:

providing (210) a treatment unit (100) comprising at least one discharge device (150), wherein the at least one discharge device (150) comprises a plurality of nozzles arranged at different positions relative the at least one thread (20), said at least one thread (20) being in motion in use, each nozzle (152) being configured to dispense one or more coating substances onto the at least one thread when activated,

~~19~~15. The method according to claim ~~18~~14, further comprising:

controlling (230) activation of said at least one treatment unit (100) based on a predetermined operation scheme of said thread consuming device (15).

~~20. The method according to claim 18 or 19, further comprising:~~

~~receiving (240) speed data from the thread speed sensor (50), and~~

~~controlling (250) the operation of the treatment unit (100) based on said received speed data.~~