STATEMENTS OF INVENTION

1. A coating and developing apparatus comprising a carrier block, a processing block, and an interface block connectable to an exposure apparatus, said coating and developing apparatus being configured to transfer a substrate, which has been carried by a carrier into the carrier block, to the processing block, form at least one coating film, including a resist film, on the substrate in the processing block, send the substrate to the exposure apparatus via the interface block, develop the substrate after exposure, which has returned via the interface block, in the processing block, and transfer the substrate to the carrier block,

wherein:

the processing block includes at least one coating film-forming unit block stack and a developing unit block stack which are vertically stacked on each other;

each of the coating film-forming unit block stack is composed of a plurality of coating film-forming unit blocks vertically stacked on each other, and each coating film-forming unit block includes a plurality of processing modules; the plurality of processing modules include a coating film-forming module for supplying a chemical solution to the substrate so as to form a coating film on the substrate, and a heating module for heating the substrate; each coating film-forming unit block is provided therein with a transport mechanism that moves along a transport passage, extending linearly from a carrier block side to an interface block side, to transport the substrate between the processing modules belonging to the coating film-forming unit block; and the coating film-forming unit blocks of each coating film-forming unit block stack are configured to form the same one or more coating films;

the developing unit block stack is composed of a plurality of developing unit blocks vertically stacked on each other, and each developing unit block includes a plurality of processing modules; the plurality of modules include a developing module

for supplying a developer to the substrate, and a heating module for heating the substrate; and each developing unit block is provided therein with a transport mechanism that moves along a transport passage, extending linearly from the carrier block side to the interface block side, to transport the substrate between the processing modules belonging to the developing unit block;

said coating and developing apparatus further includes:

first transfer units, each of which is, respectively, provided on the carrier block sides of the coating film-forming unit blocks and the developing unit blocks, for transferring the substrate to and from the transport mechanism of the associated coating film-forming block or developing unit block;

a first transfer mechanism configured to transfer the substrate, which has been removed from the carrier, to any one of the first transfer units associated with the coating film-forming unit blocks; and

a control section configured to control transport of the substrate in said coating and developing apparatus.

2. The coating and developing apparatus according to claim 1, wherein:

the processing block includes, as said at least one coating film-forming unit block stack, an early-stage process unit block stack and a later-stage process unit block stack which are vertically stacked on each other;

the early-stage process unit block stack is composed of a plurality of early-stage process unit blocks vertically stacked on each other, each early-stage process unit block includes, as the coating film-forming module, an antireflection film-forming module for forming a lower antireflection film before formation of the resist film;

the later-stage process unit block stack is composed of a plurality of later-stage process unit blocks vertically stacked on each other, each later-stage process unit block includes, as the coating film-forming module, an upper film-forming module for

forming an upper film after formation of the resist film; and

each of the early-stage process unit blocks, or each of the later-stage process unit blocks includes a resist film-forming module for forming the resist film on the substrate.

3. The coating and developing apparatus according to claim 2, wherein the control section is configured to control the first transfer mechanism such that the first transfer mechanism transfers the substrate, which has been processed in one of the early-stage process unit blocks, to one of the first transfer units associated with the later-stage process unit blocks.

4. The coating and developing apparatus according to claim 2, further comprising:

second transfer units, each of which is, respectively, provided on the interface block sides of the coating film-forming unit blocks and the developing unit blocks, for transferring the substrate to and from the transport mechanism of the associated coating film-forming block or developing unit block;

a second transfer mechanism provided in the interface block to transfer the substrate, which has been processed in any one of the early-stage process unit blocks, to any one of the later-stage process unit blocks via the associated second transfer unit.

5. The coating and developing apparatus according to any one of claims 2 to 4, wherein each of the early-stage process unit blocks includes the resist film-forming module, and a back surface cleaning module for cleaning a back surface of the substrate after formation of the resist film.

6. The coating and developing apparatus according to any one of claims 2 to 4, wherein each of the early-stage process unit blocks includes the resist film-forming module, and a pre-exposure inspection module for inspecting the substrate after formation of the resist film.

7. The coating and developing apparatus according to any one of claims 1 to 6, further comprising:

a post-development inspection module for inspecting the substrate after development; and

a storage section configured to store data on a route along which the substrate has been transported until the substrate undergoes inspection in the post-development inspection module,

wherein the control section has a mode which, when an abnormality of the substrate is detected by inspection of the post-development inspection module, identifies a processing module or modules in the relevant developing unit block in which the substrate having the abnormality has been processed, based on data stored in the storage section, and controls operation of the transport mechanism of the relevant developing unit block such that said transport mechanism transports subsequent substrates to the processing module or modules other than the identified processing module or modules.

8. The coating and developing apparatus according to claim 7, wherein the control section has a mode which, when an abnormality of the substrate is detected by inspection of the post-development inspection module, identifies a processing module or modules in the relevant coating film-forming unit block in which the substrate having the abnormality has been processed, based on data stored in the storage section, and controls operation of the transport mechanism the relevant coating film-forming unit block such that said transport mechanism transports subsequent substrates to the processing module or modules other than the identified processing module or modules.

9. The coating and developing apparatus according to any one of claims 1 to 8, further comprising:

a post-development inspection module for inspecting the

substrate after development; and

a storage section for storing data on a route along which the substrate has been transported until the substrate undergoes inspection in the post-development inspection module,

wherein the control section has a mode which, when an abnormality of the substrate is detected by the inspection of the post-development inspection module, identifies one of the developing unit blocks in which the substrate having the abnormality has been processed, based on data stored in the storage section, and outputs a control signal to transport subsequent substrates to the developing unit block or blocks other than the identified developing unit block.

10. The coating and developing apparatus according to claim 9, wherein the control section has a mode which, when an abnormality of the substrate is detected by the inspection of the post-development inspection module, identifies one of the coating film-forming unit blocks in which the substrate having the abnormality has been processed, based on data stored in the storage section, and outputs a control signal to transport subsequent substrates to the coating film-forming unit block or blocks other than the identified coating film-forming unit block.

11. The coating and developing apparatus according to any one of claims 2 to 10, wherein the developer has a higher viscosity than a chemical solution for formation of an antireflection film, the resist solution and a chemical solution for formation of the upper film, and the developing unit blocks are disposed above the early-stage process unit blocks and the later-stage process unit blocks.

12. The coating and developing apparatus according to any one of claims 1 to 11, wherein the control section is configured to be capable of outputting, during normal processing of substrates, a switch signal for switching to a maintenance mode

to perform maintenance, and when the switch signal is outputted, transport of substrates to one of the unit blocks to be maintained, selected from the same type of unit blocks, is stopped and substrates are then transported to the unit block or blocks other than the selected unit block.