FIG. 1

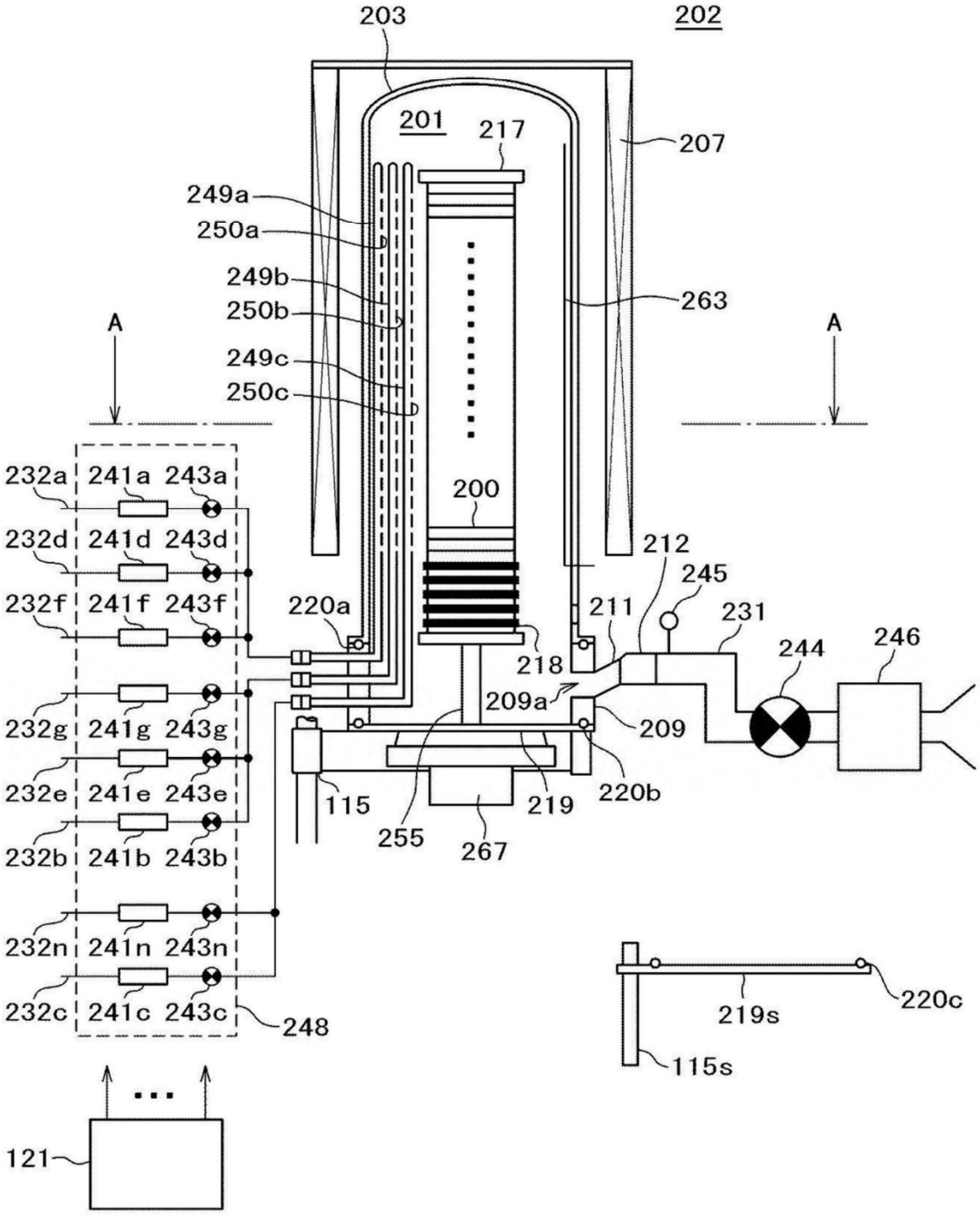

203
202
201
217
207
249a
250a
249b
250b
263
249c
250c
A
A
232a
241a
243a
232d
241d
243d
232f
241f
243f
200
212
245
220a
211
231
244
246
218
209a
209
232g
241g
243g
232e
241e
243e
232b
241b
243b
115
255
267
219
220b
232n
241n
243n
232c
241c
243c
248
219s
220c
115s
121

FIG. 2

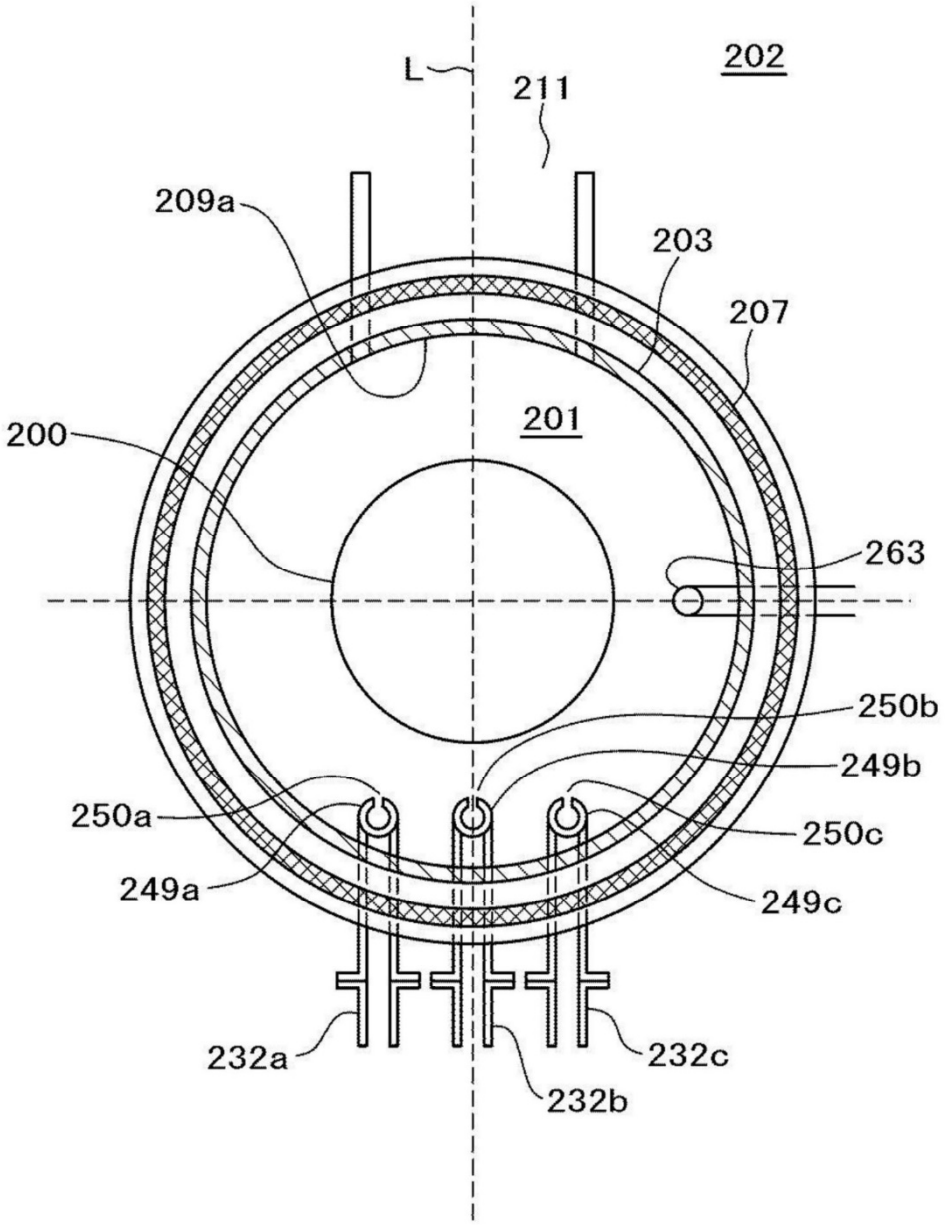

L
202
211
209a
203
207
201
200
263
250b
249b
250a
250c
249a
249c
232a
232c
232b

FIG. 3

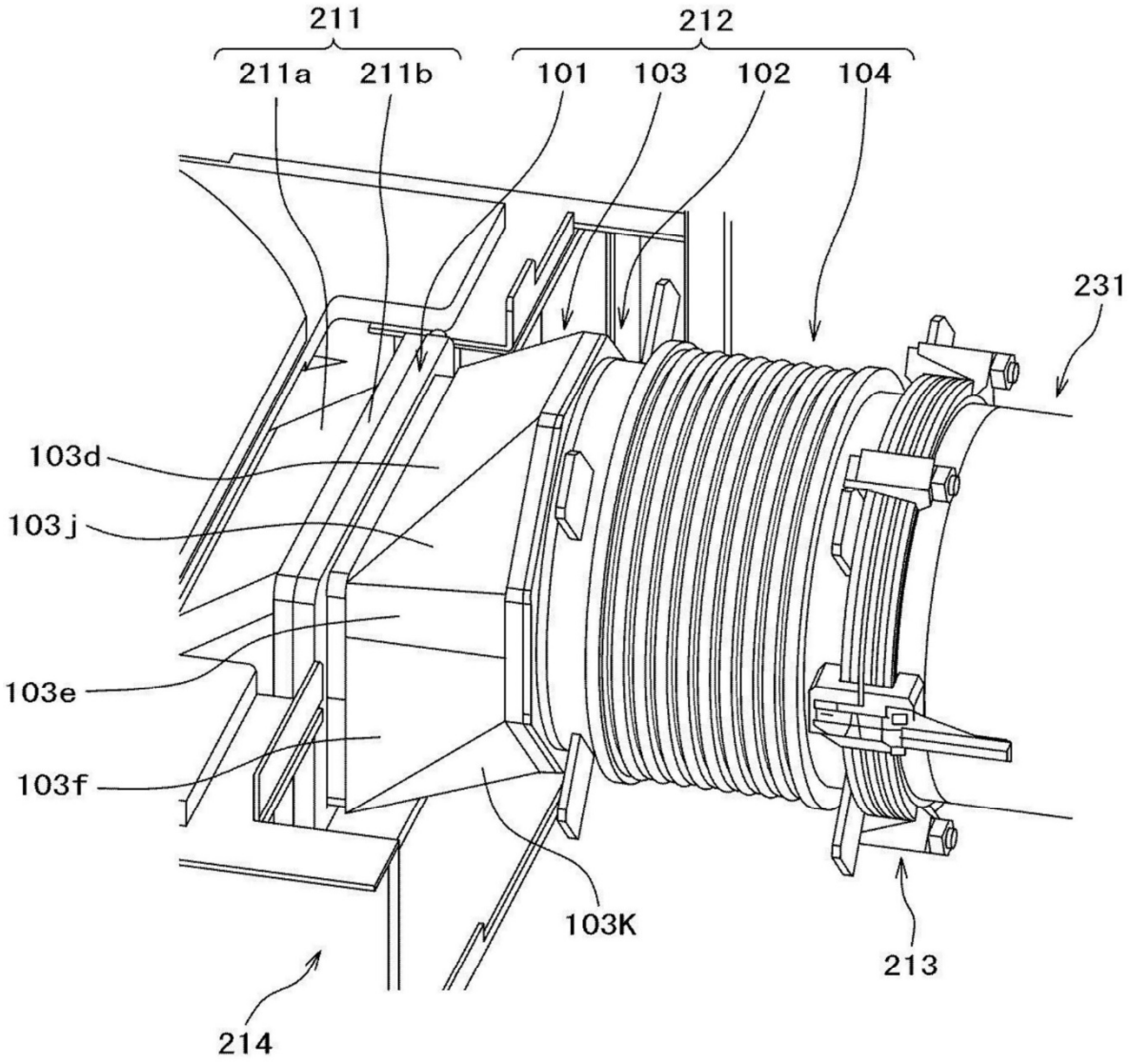

211
212
211a
211b
101
103
102
104
231
103d
103j
103e
103f
103K
213
214

FIG. 4

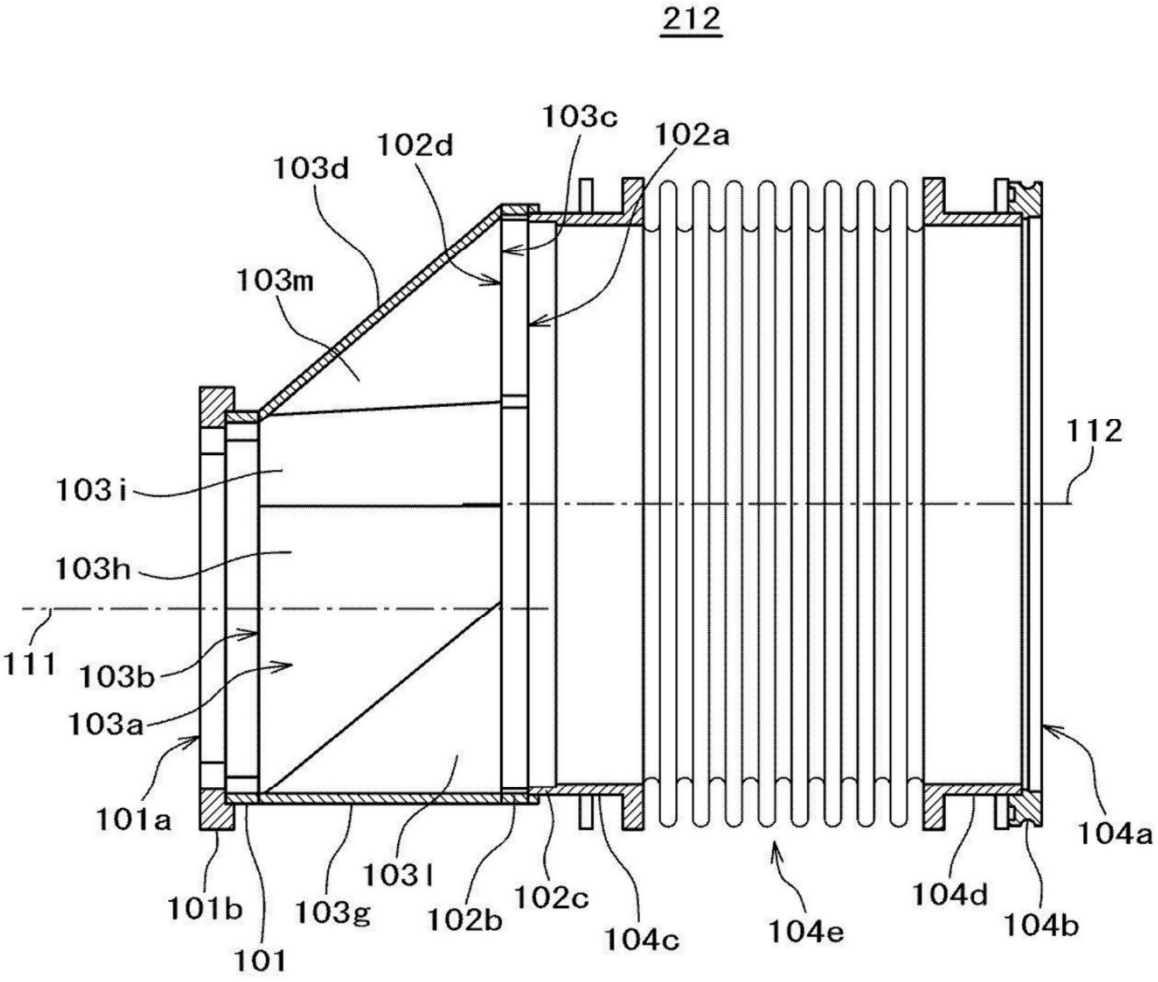

212
103c
102a
102d
103d
103m
112
103i
103h
111
103b
103a
101a
101b
101
103g
103l
102b
102c
104c
104e
104d
104b
104a

FIG. 5A

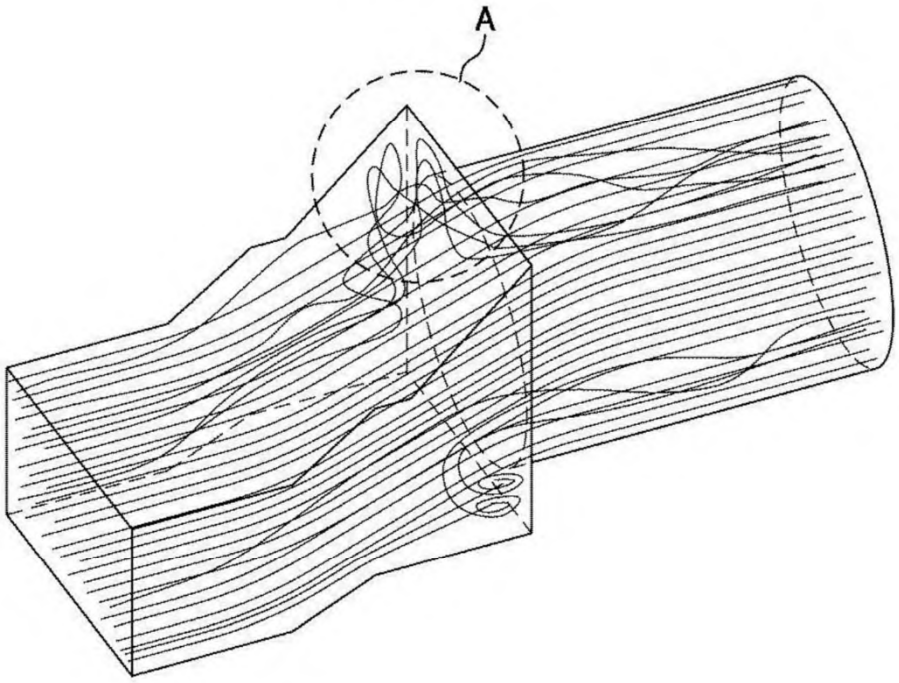


FIG. 5B

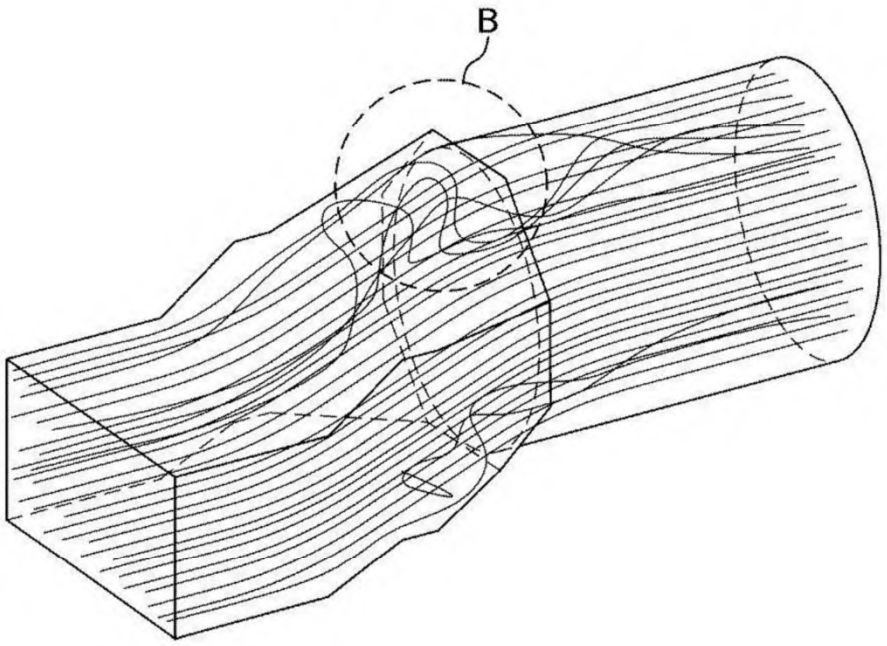


FIG. 6

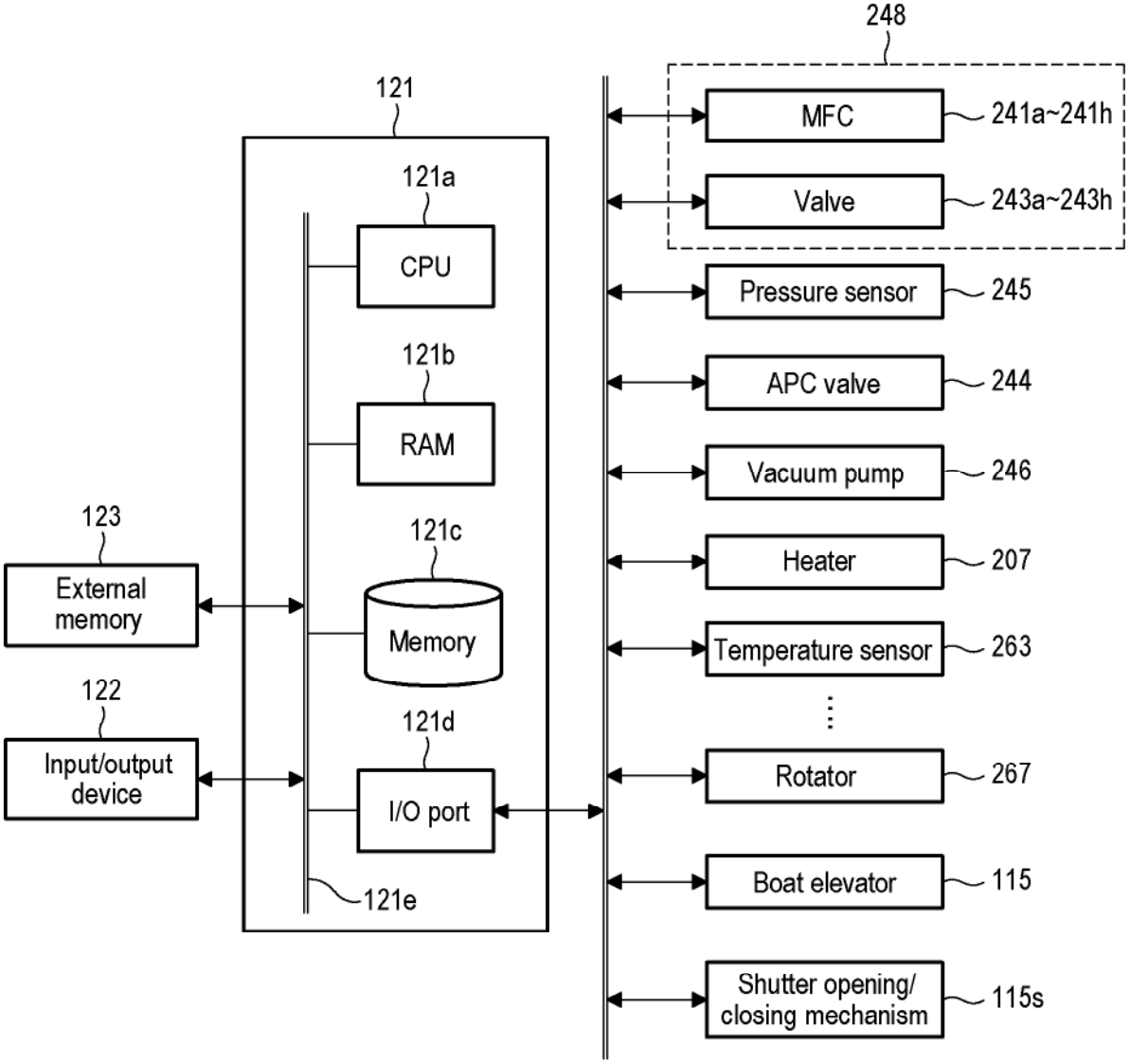
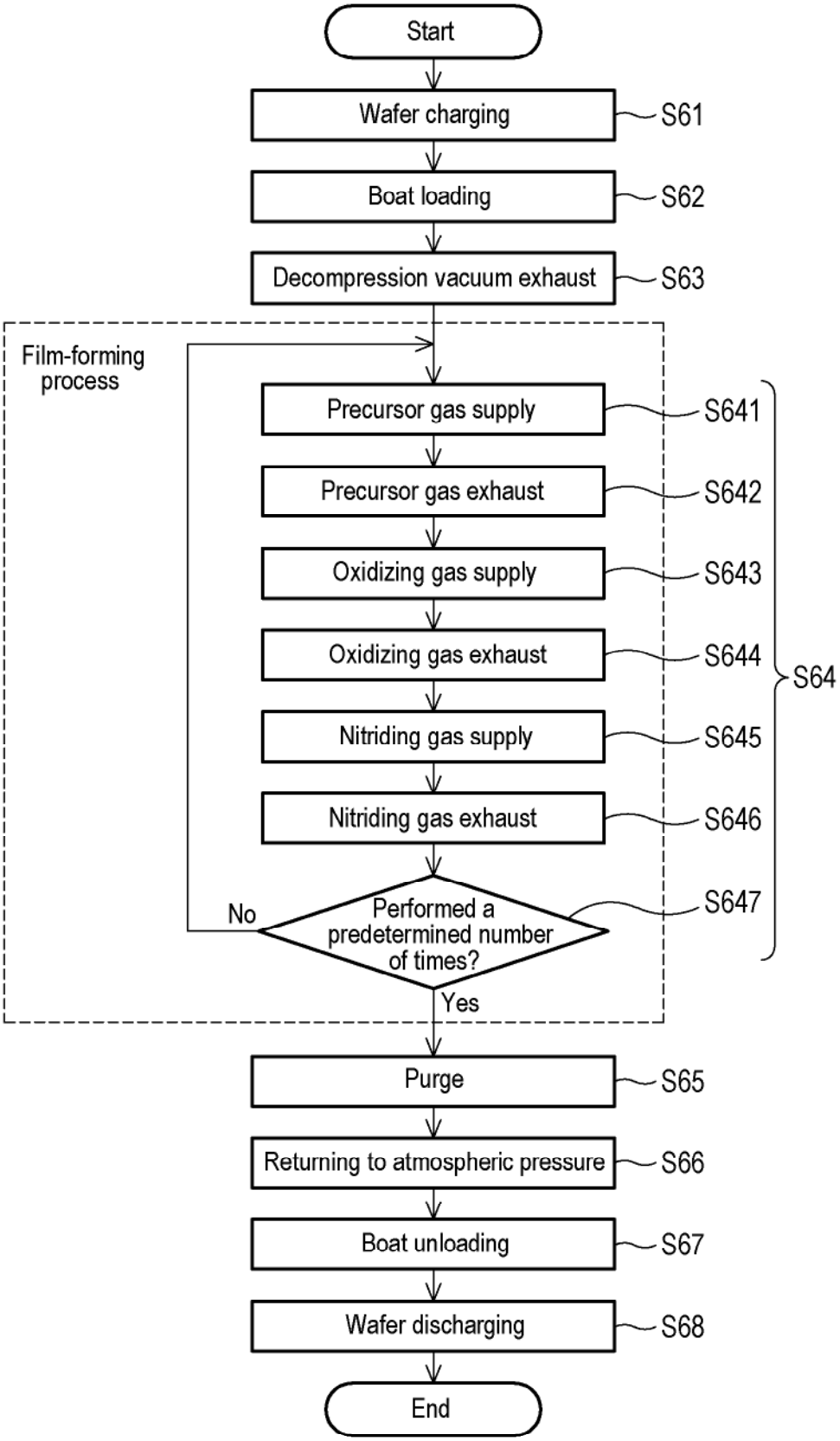

248
121
121a
CPU
121b
RAM
121c
Memory
121d
I/O port
121e
123
External memory
122
Input/output device
MFC
241a~241h
Valve
243a~243h
Pressure sensor
245
APC valve
244
Vacuum pump
246
Heater
207
Temperature sensor
263
Rotator
267
Boat elevator
115
Shutter opening/ closing mechanism
115s

FIG. 7


Start
Wafer charging
S61
Boat loading
S62
Decompression vacuum exhaust
S63
Film-forming process
Precursor gas supply
S641
Precursor gas exhaust
S642
Oxidizing gas supply
S643
Oxidizing gas exhaust
S644
Nitriding gas supply
S645
Nitriding gas exhaust
S646
Performed a predetermined number of times?
S647
No
Yes
S64
Purge
S65
Returning to atmospheric pressure
S66
Boat unloading
S67
Wafer discharging
S68
End