FIG. 1

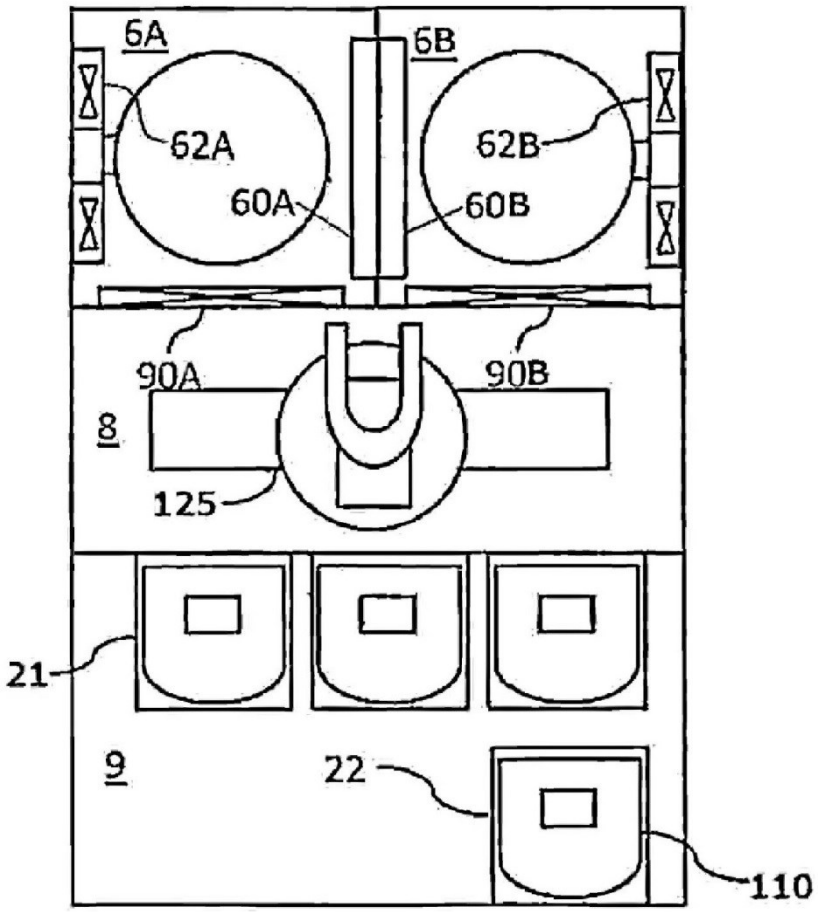


FIG. 2

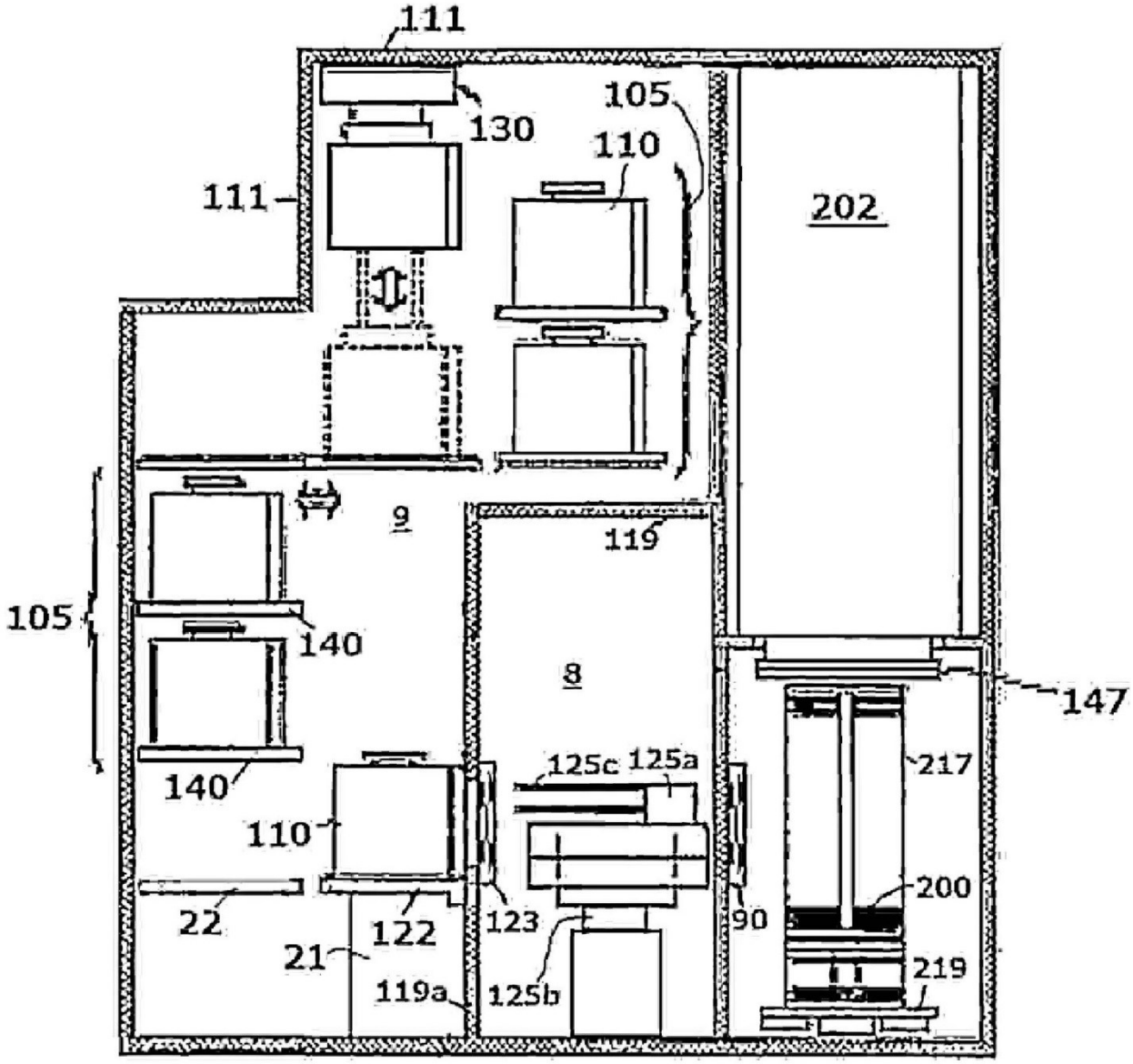

111
130
105
110
111
202
9
119
105
140
8
147
140
125c
125a
217
110
200
22
122
123
90
21
219
119a
125b

FIG. 3

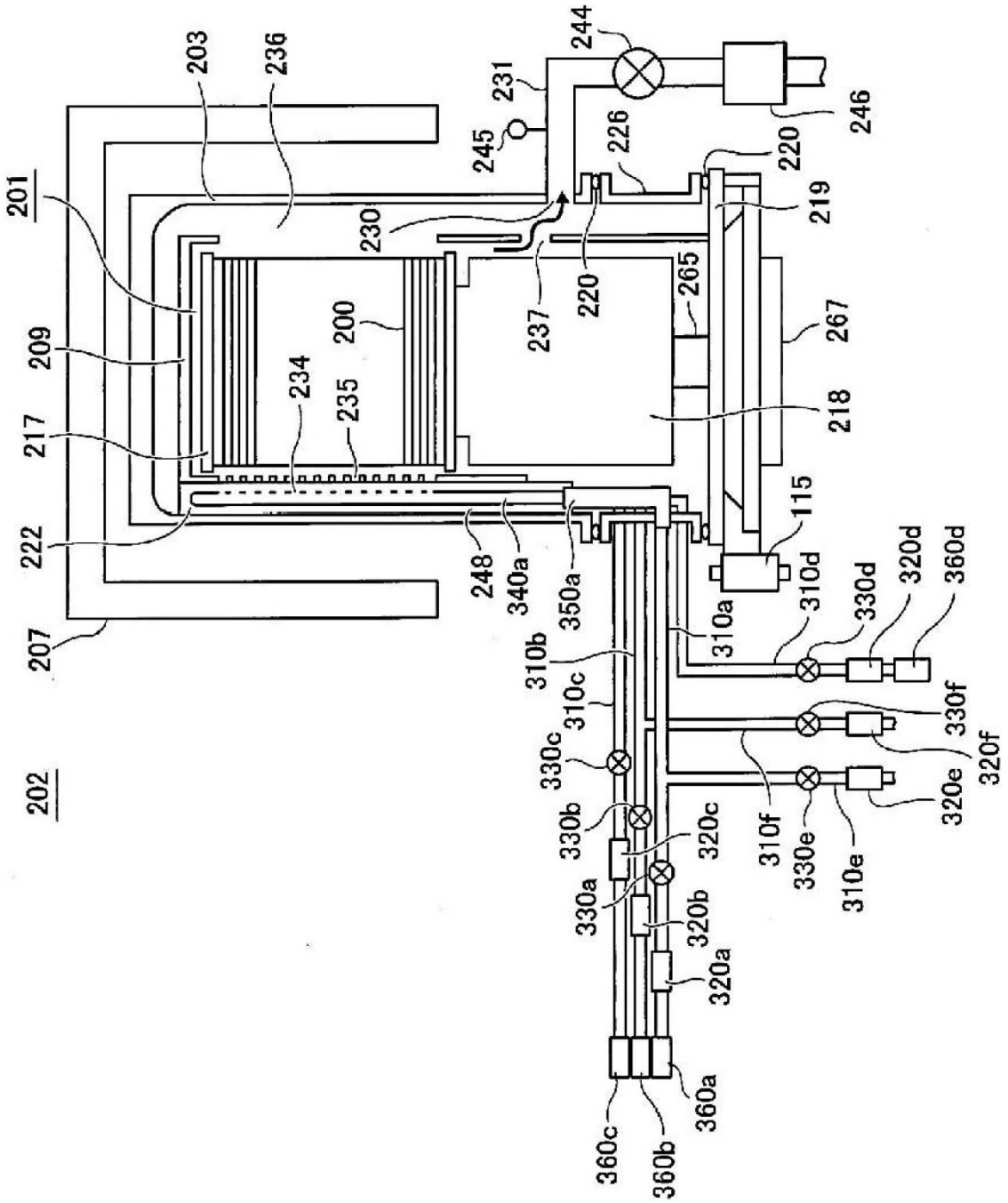

201
202
203
207
209
217
222
234
235
236
200
230
231
237
244
245
246
248
265
267
218
219
220
226
115
340a
350a
310a
310b
310c
310d
310e
310f
320a
320b
320c
320d
320e
320f
330a
330b
330c
330d
330e
330f
360a
360b
360c
360d

FIG. 4

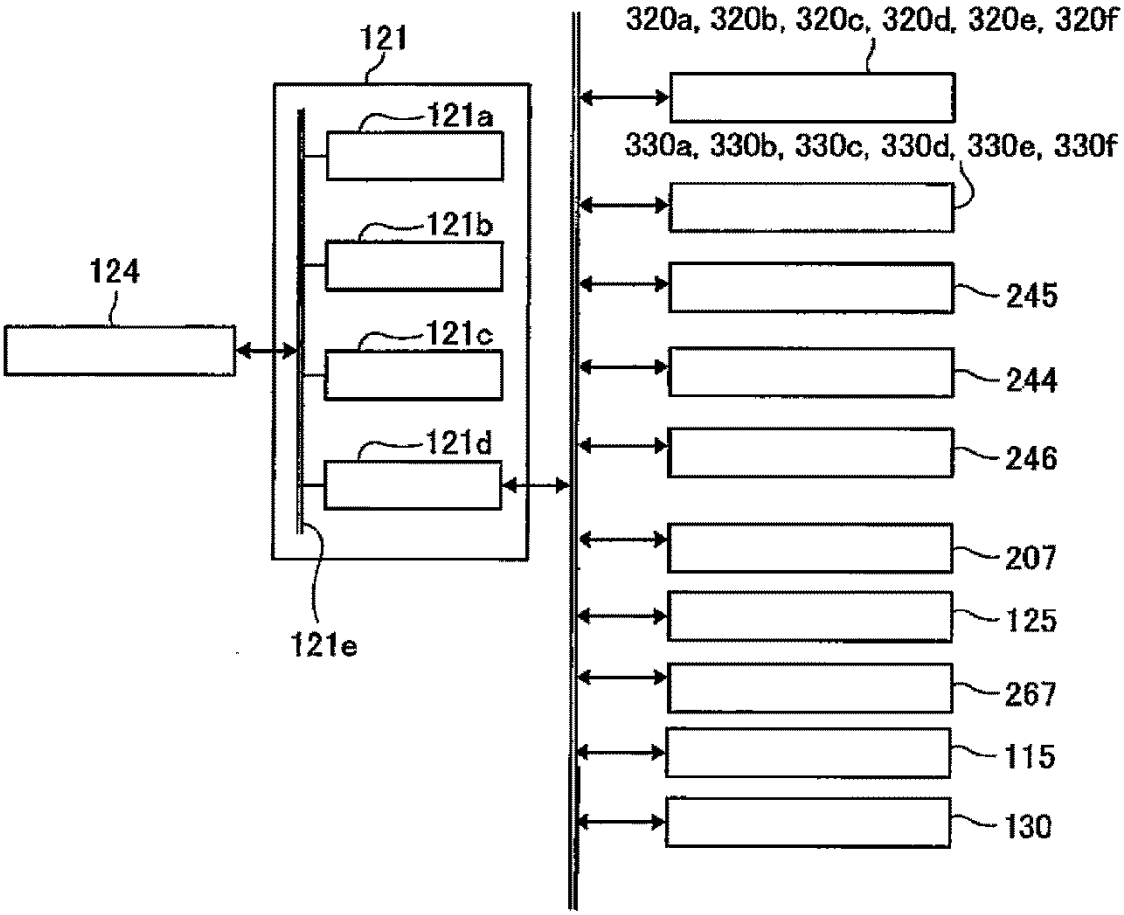

121
121a
121b
121c
121d
121e
124
320a, 320b, 320c, 320d, 320e, 320f
330a, 330b, 330c, 330d, 330e, 330f
245
244
246
207
125
267
115
130

FIG. 5

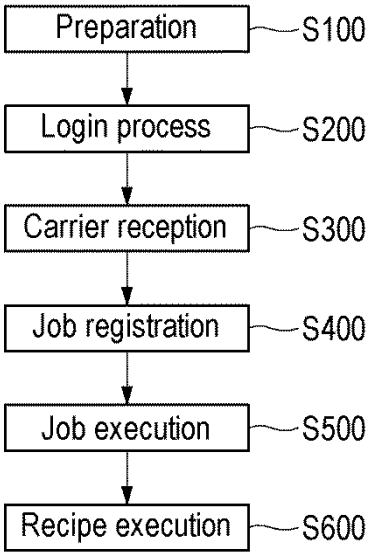


FIG. 6A

Maintenance item	Maintenance No.
PM1 < = > PM2	00
PM1	01
PM2	02
Number of Resident uses of Dummy wafer	35
Number of Recipe execution	10
Recipe film thickness value	13
Number of Recipe step execution	39

FIG. 6B

Group name	User name	Password	Used Reactor
Product	Ichiro	*	PM1
Product	Jiro	*	PM2
Product	Hanako	*	ALL

FIG. 6C

	PM1	PM2
SD	DA	DB
M1		
PD		
FD	DA	DB
R1		
M2		
R2		

FIG. 6D

	Different film types		The same film type	
	There is not device automatic determination	There is device automatic determination	There is not device automatic determination	There is device automatic determination
Screen injection	Determination as login user	Determination as login user	AUTO setting	AUTO setting
HOST injection	Designate one of PM1/PM2/AUTO	Perform device automatic determining process	AUTO setting	Perform device automatic determining process

FIG. 7

Reactor used by login user	FOUP-injected reactor
PM1	PM1
PM2	PM2
ALL	Select all PM1/PM2/AUTO

FIG. 8A

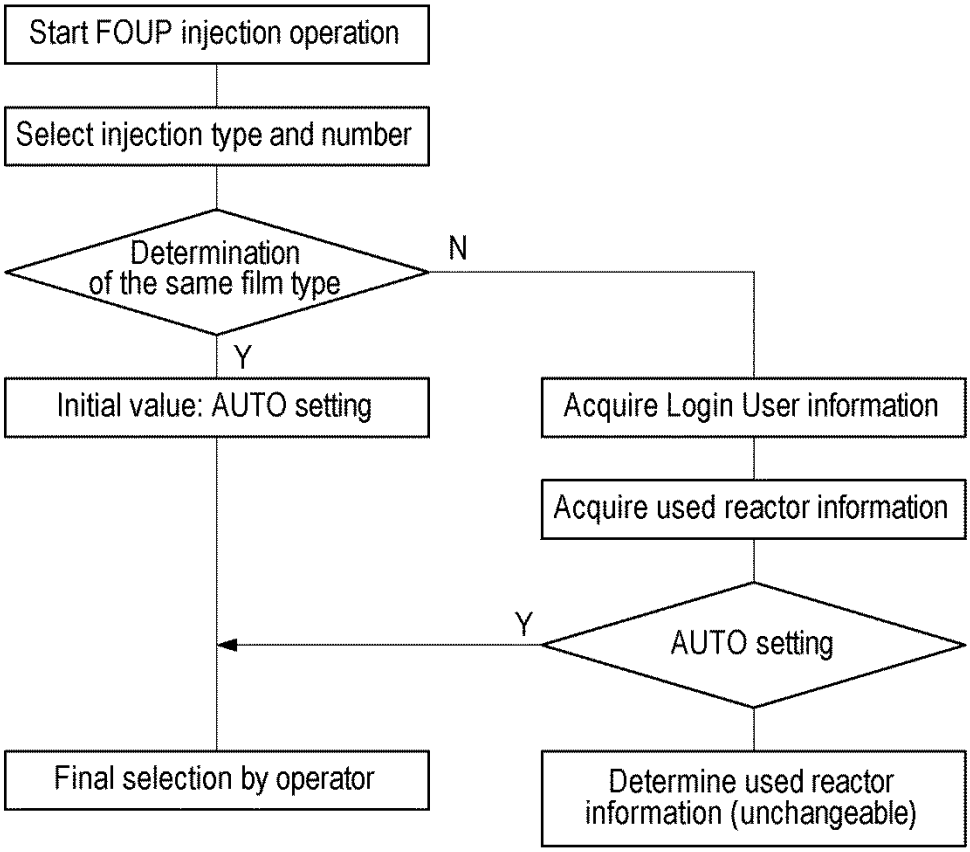


FIG. 8B

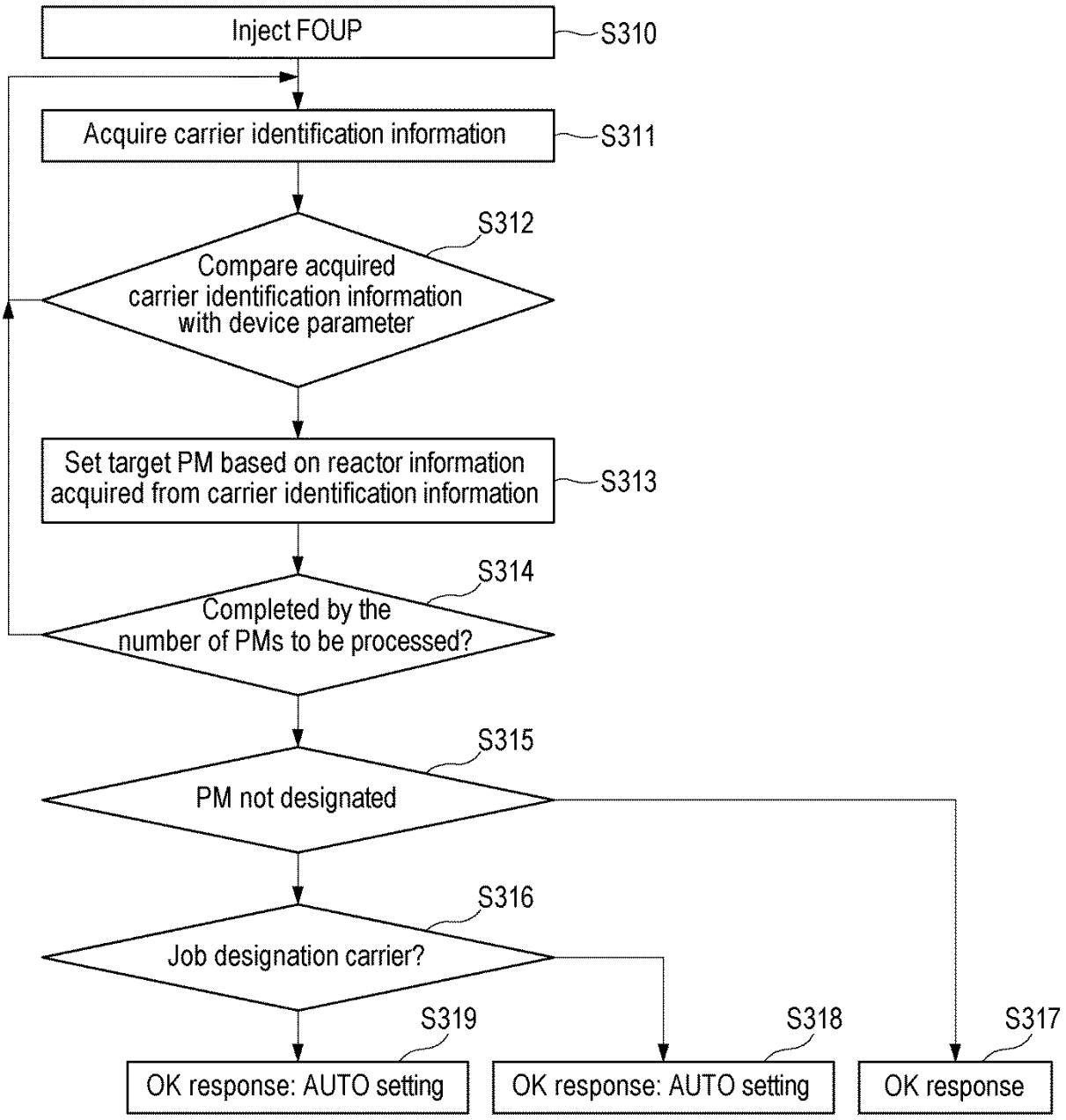

Inject FOUP
S310
Acquire carrier identification information
S311
S312
Compare acquired carrier identification information with device parameter
Set target PM based on reactor information acquired from carrier identification information
S313
S314
Completed by the number of PMs to be processed?
S315
PM not designated
S316
Job designation carrier?
S319
S318
S317
OK response: AUTO setting
OK response: AUTO setting
OK response

FIG. 9A

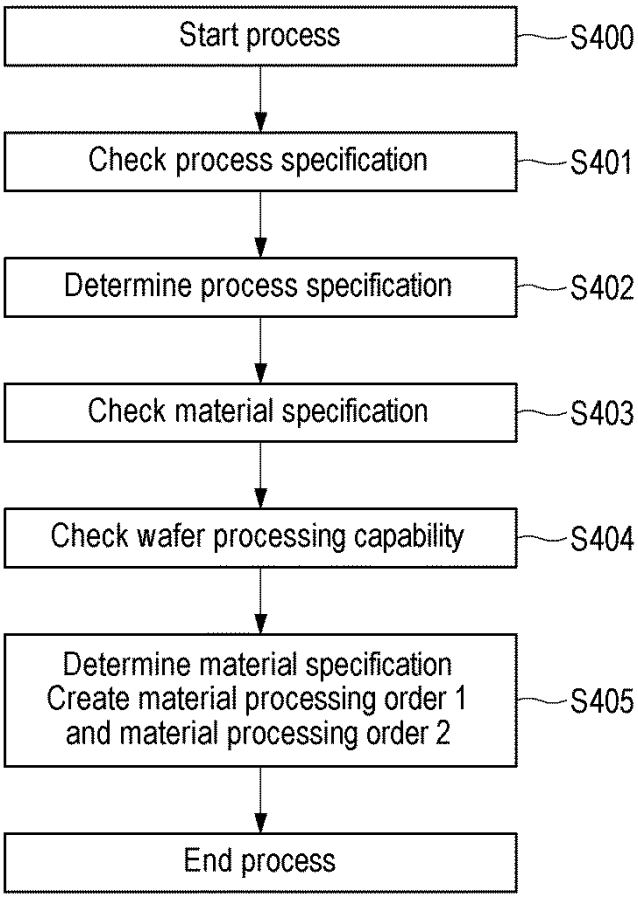

Start process
S400
Check process specification
S401
Determine process specification
S402
Check material specification
S403
Check wafer processing capability
S404
Determine material specification
Create material processing order 1
and material processing order 2
S405
End process

FIG. 9B

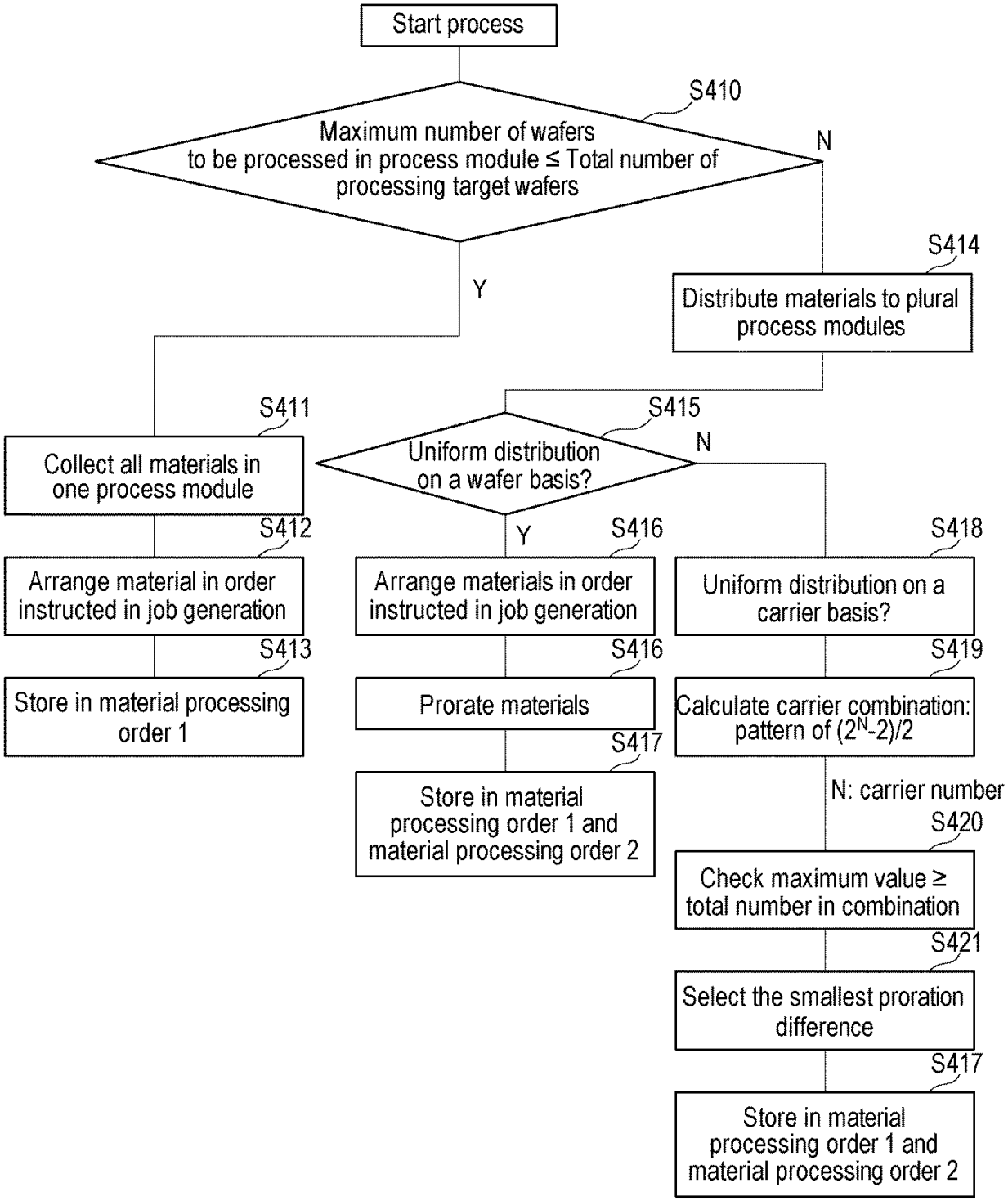

Start process
S410
Maximum number of wafers to be processed in process module ≤ Total number of processing target wafers
N
Y
S414
Distribute materials to plural process modules
S411
Collect all materials in one process module
S415
Uniform distribution on a wafer basis?
N
Y
S412
Arrange material in order instructed in job generation
S413
Store in material processing order 1
S416
Arrange materials in order instructed in job generation
S416
Prorate materials
S417
Store in material processing order 1 and material processing order 2
S418
Uniform distribution on a carrier basis?
S419
Calculate carrier combination: pattern of $(2^N-2)/2$
N: carrier number
S420
Check maximum value ≥ total number in combination
S421
Select the smallest proration difference
S417
Store in material processing order 1 and material processing order 2

FIG. 10A

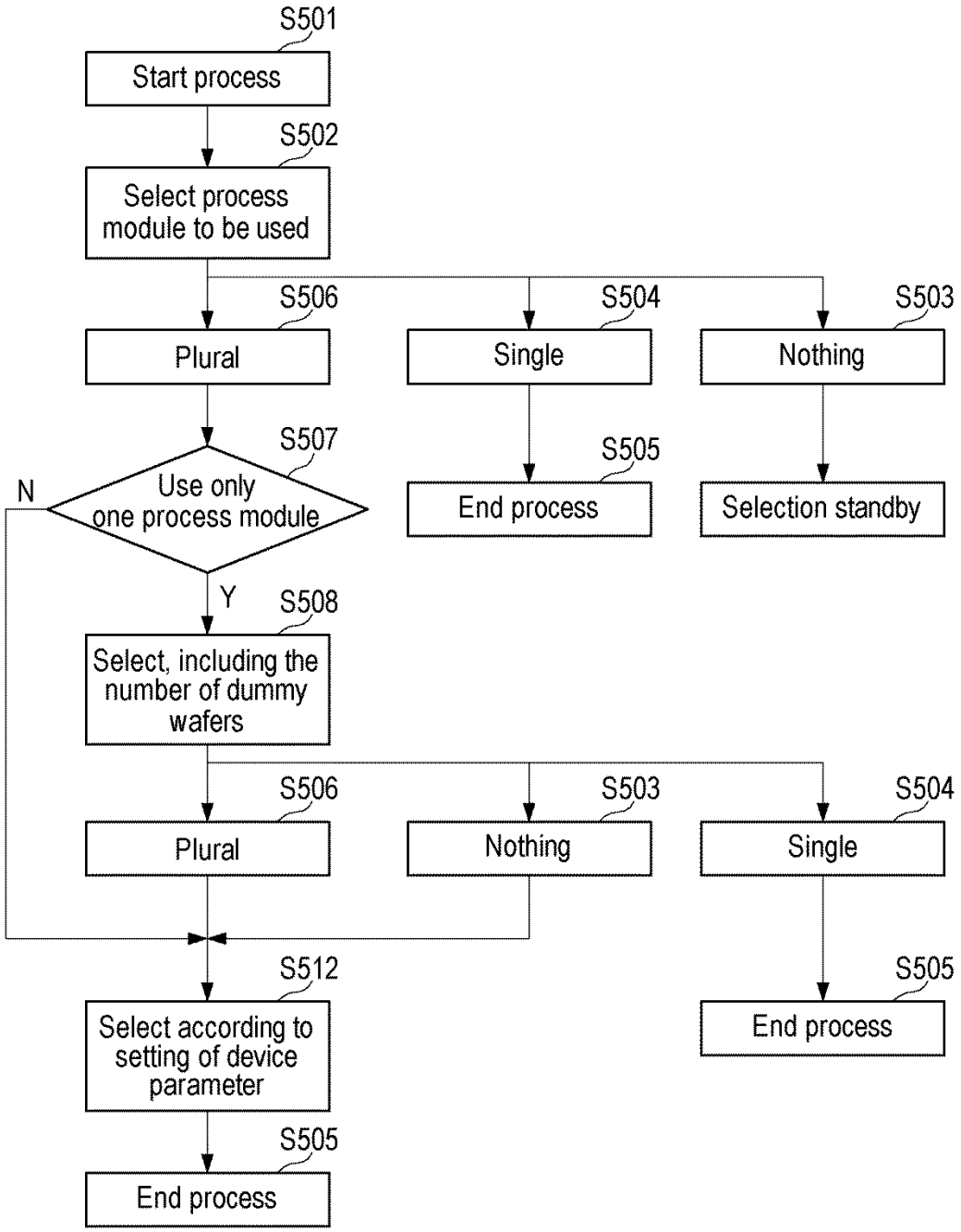

S501
Start process
S502
Select process module to be used
S506
Plural
S504
Single
S503
Nothing
S507
Use only one process module
N
Y
S505
End process
Selection standby
S508
Select, including the number of dummy wafers
S506
Plural
S503
Nothing
S504
Single
S512
Select according to setting of device parameter
S505
End process
S505
End process

FIG. 10B

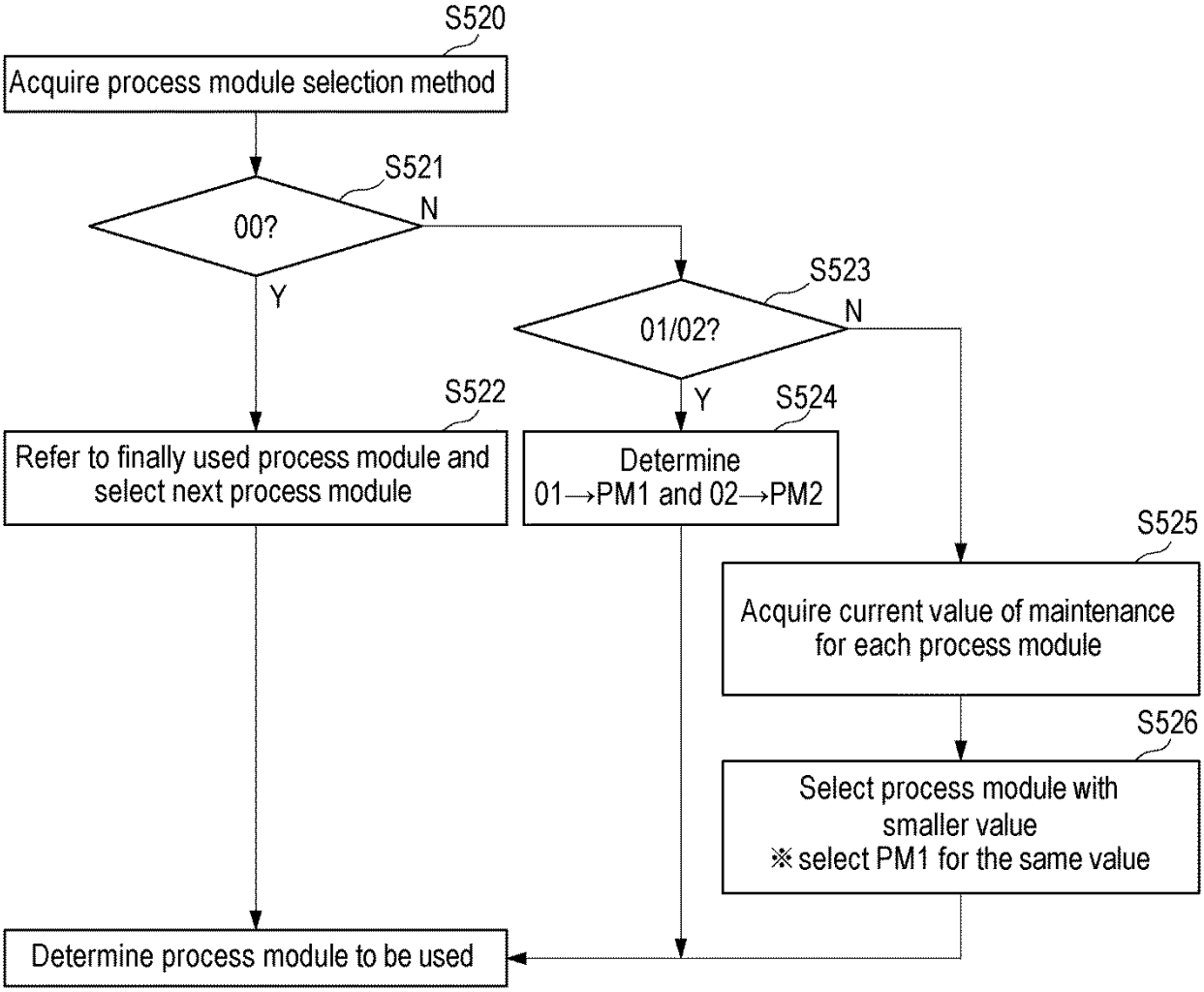

S520
Acquire process module selection method
S521
00?
N
Y
S523
01/02?
N
Y
S522
Refer to finally used process module and select next process module
S524
Determine 01→PM1 and 02→PM2
S525
Acquire current value of maintenance for each process module
S526
Select process module with smaller value
※ select PM1 for the same value
Determine process module to be used

FIG. 11A

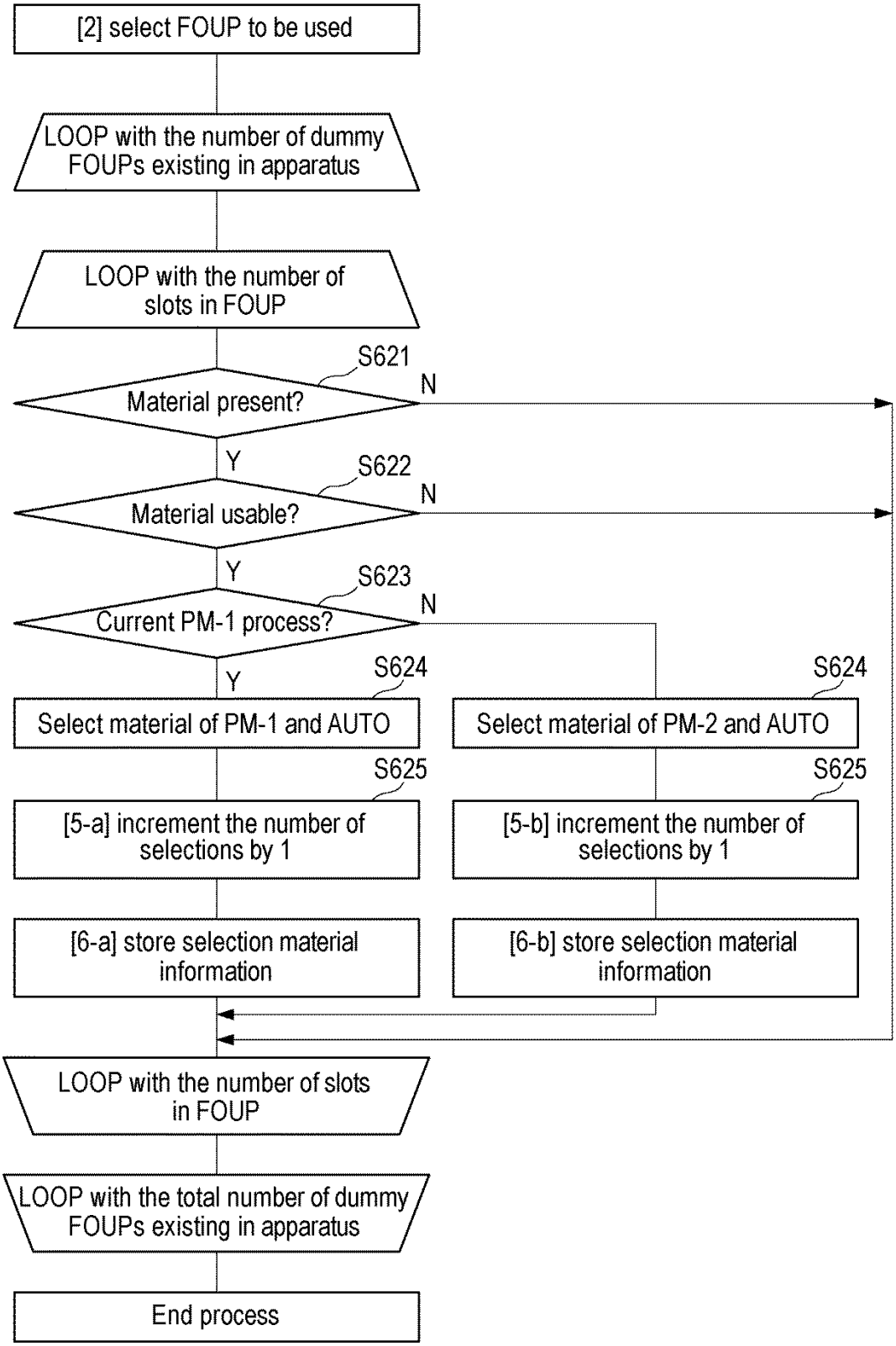

[2] select FOUP to be used
LOOP with the number of dummy FOUPs existing in apparatus
LOOP with the number of slots in FOUP
S621
Material present?
N
Y
S622
Material usable?
N
Y
S623
Current PM-1 process?
N
Y
S624
Select material of PM-1 and AUTO
S624
Select material of PM-2 and AUTO
S625
[5-a] increment the number of selections by 1
S625
[5-b] increment the number of selections by 1
[6-a] store selection material information
[6-b] store selection material information
LOOP with the number of slots in FOUP
LOOP with the total number of dummy FOUPs existing in apparatus
End process

FIG. 11B

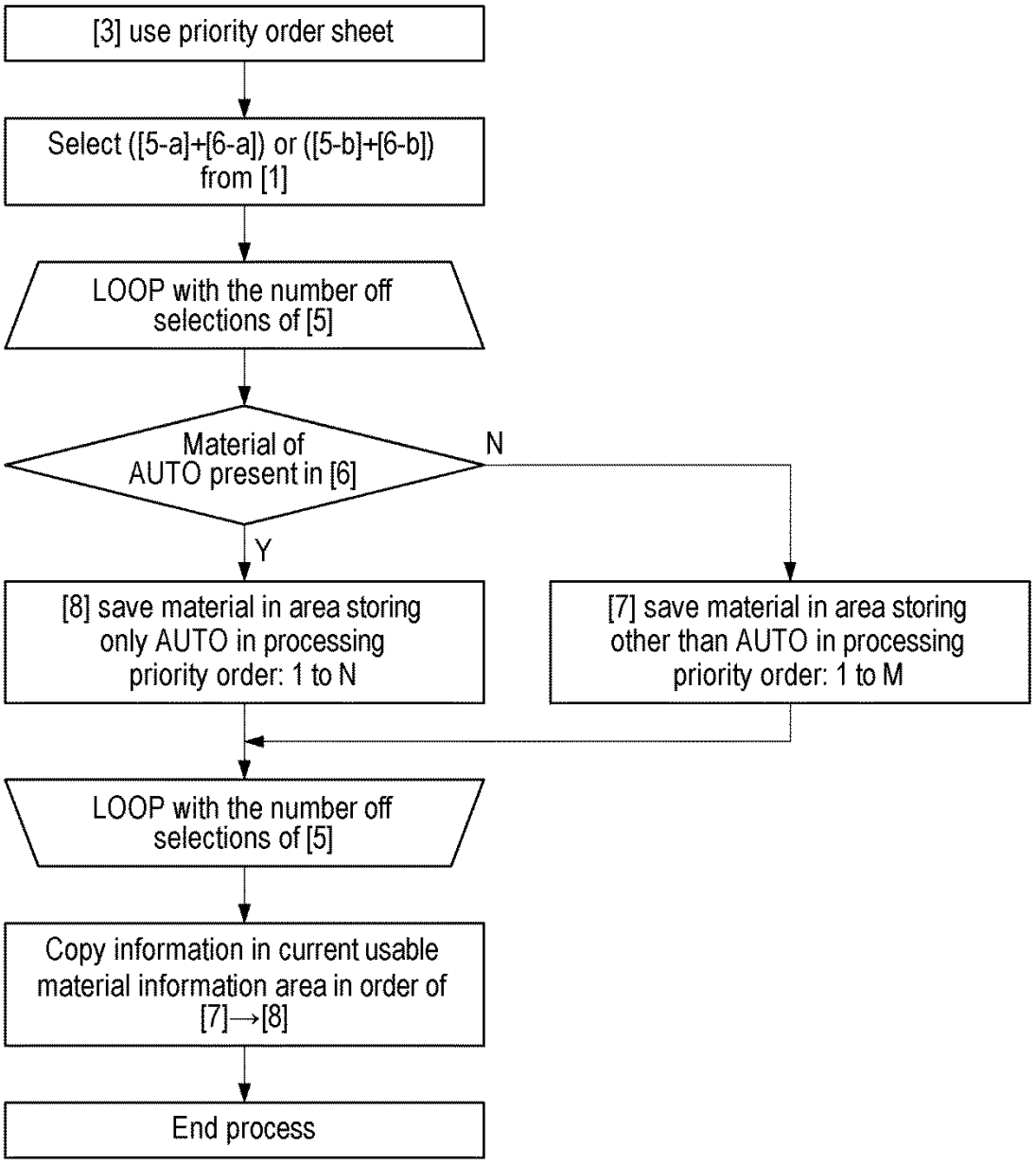

[3] use priority order sheet
Select ([5-a]+[6-a]) or ([5-b]+[6-b]) from [1]
LOOP with the number off selections of [5]
Material of AUTO present in [6]
N
Y
[8] save material in area storing only AUTO in processing priority order: 1 to N
[7] save material in area storing other than AUTO in processing priority order: 1 to M
LOOP with the number off selections of [5]
Copy information in current usable material information area in order of [7]→[8]
End process

FIG. 12A

Boat Slot	Transfer priority	P#	FOUP Slot	Used process module
46	01	D01	01	PM1
45	02		02	
44	44	M01	01	
43	06	P01	01	
:	:		:	
25	24		19	
24	45	M01	02	
23	25	P01	20	
:	:		:	
18	30		25	
17	31	P02	01	
:	:		:	
5	43		13	
4	46	M01	03	
3	03	D01	03	
2	04		04	
1	05		05	

FIG. 12B

Priority	P#	Slot	Used process module
01	P01	01	PM1
:		:	
25		25	
26	P02	01	
:		:	
38		13	
39		14	PM2
:		:	
50		25	
51	P03	01	
:		:	
75		25	

FIG. 13

