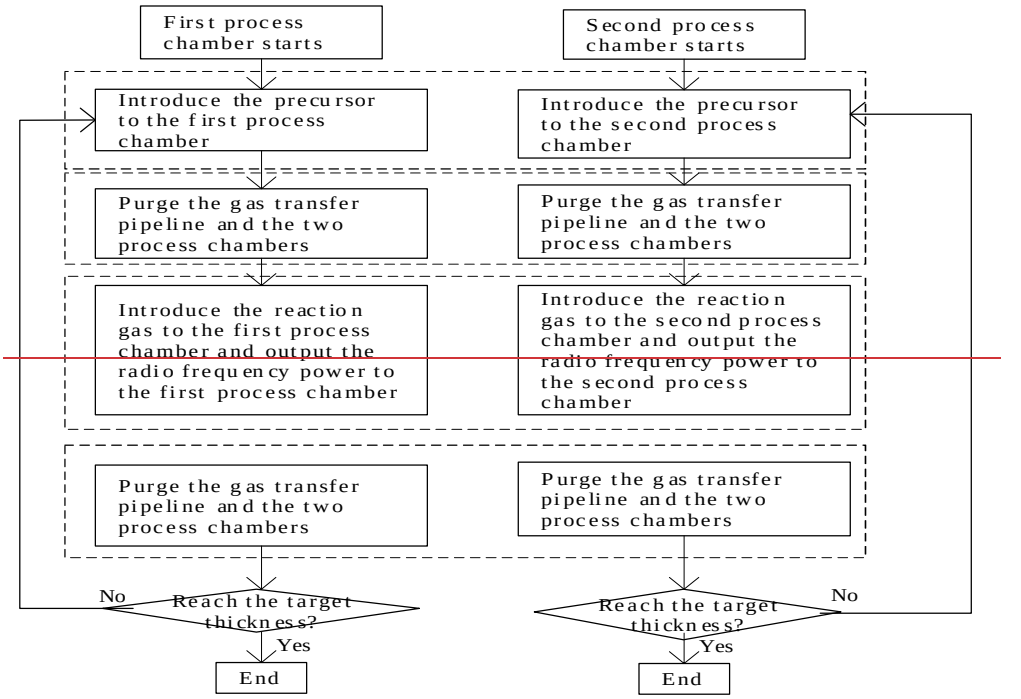
First process chamber starts
Second process chamber starts
Introduce the precursor to the first process chamber
Introduce the precursor to the second process chamber
Purge the gas transfer pipeline and the two process chambers
Purge the gas transfer pipeline and the two process chambers
Introduce the reaction gas to the first process chamber and output the radio frequency power to the first process chamber
Introduce the reaction gas to the second process chamber and output the radio frequency power to the second process chamber
Purge the gas transfer pipeline and the two process chambers
Purge the gas transfer pipeline and the two process chambers
Reach the target thickness?
No
Yes
End
Reach the target thickness?
No
Yes
End

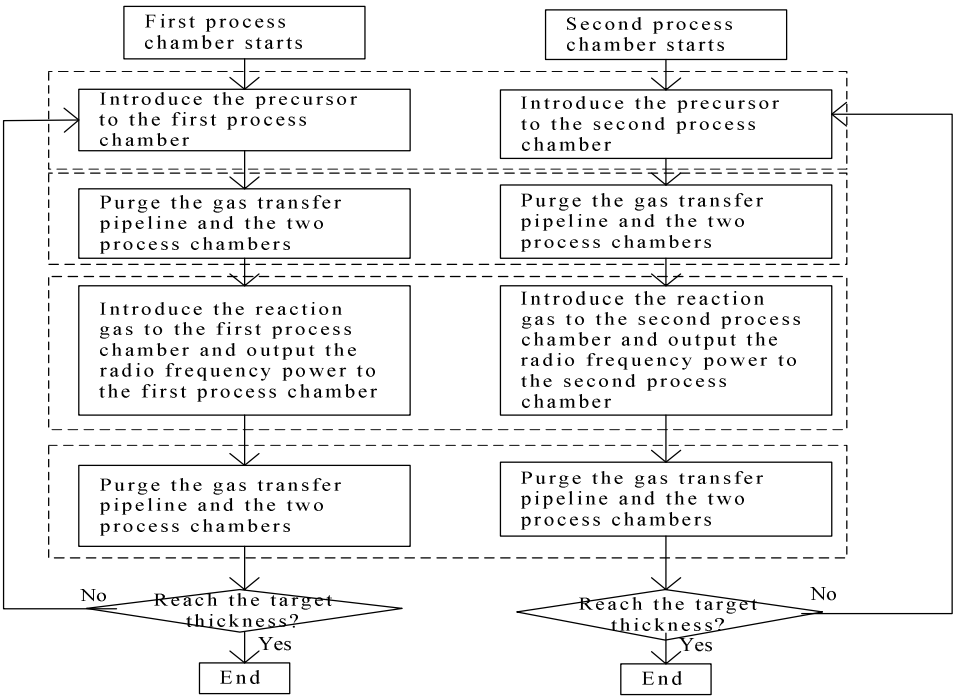
First process chamber starts
Second process chamber starts
Introduce the precursor to the first process chamber
Introduce the precursor to the second process chamber
Purge the gas transfer pipeline and the two process chambers
Purge the gas transfer pipeline and the two process chambers
Introduce the reaction gas to the first process chamber and output the radio frequency power to the first process chamber
Introduce the reaction gas to the second process chamber and output the radio frequency power to the second process chamber
Purge the gas transfer pipeline and the two process chambers
Purge the gas transfer pipeline and the two process chambers
Reach the target thickness?
No
Yes
End
Reach the target thickness?
No
Yes
End

FIG. 1B

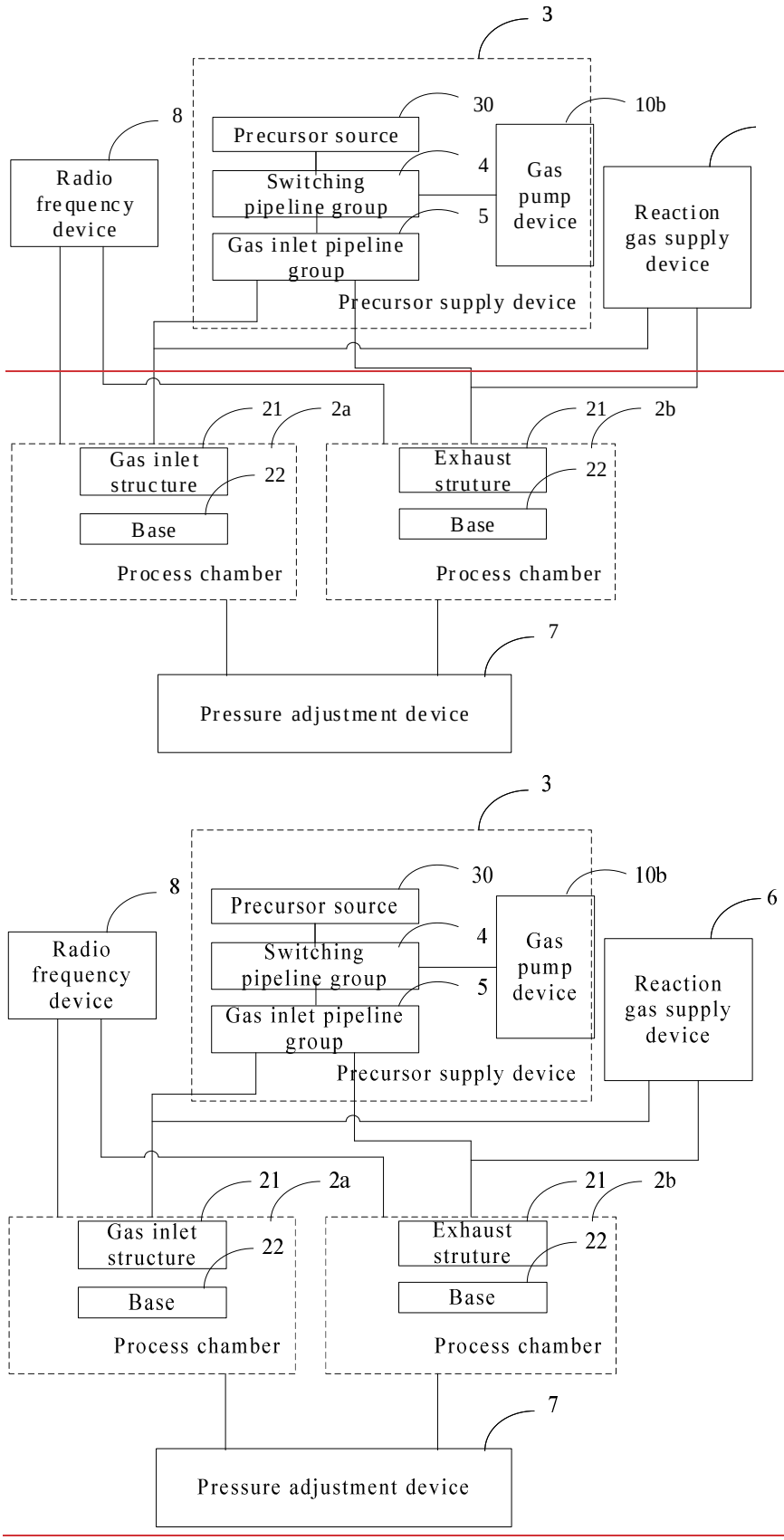
3
8
30
10b
Precursor source
Radio frequency device
4
Switching pipeline group
Gas pump device
5
Gas inlet pipeline group
Reaction gas supply device
Precursor supply device
21
2a
21
2b
Gas inlet structure
22
Exhaust struture
22
Base
Base
Process chamber
Process chamber
7
Pressure adjustment device
3
8
30
10b
6
Precursor source
Radio frequency device
4
Switching pipeline group
Gas pump device
5
Gas inlet pipeline group
Reaction gas supply device
Precursor supply device
21
2a
21
2b
Gas inlet structure
22
Exhaust struture
22
Base
Base
Process chamber
Process chamber
7
Pressure adjustment device

FIG. 2

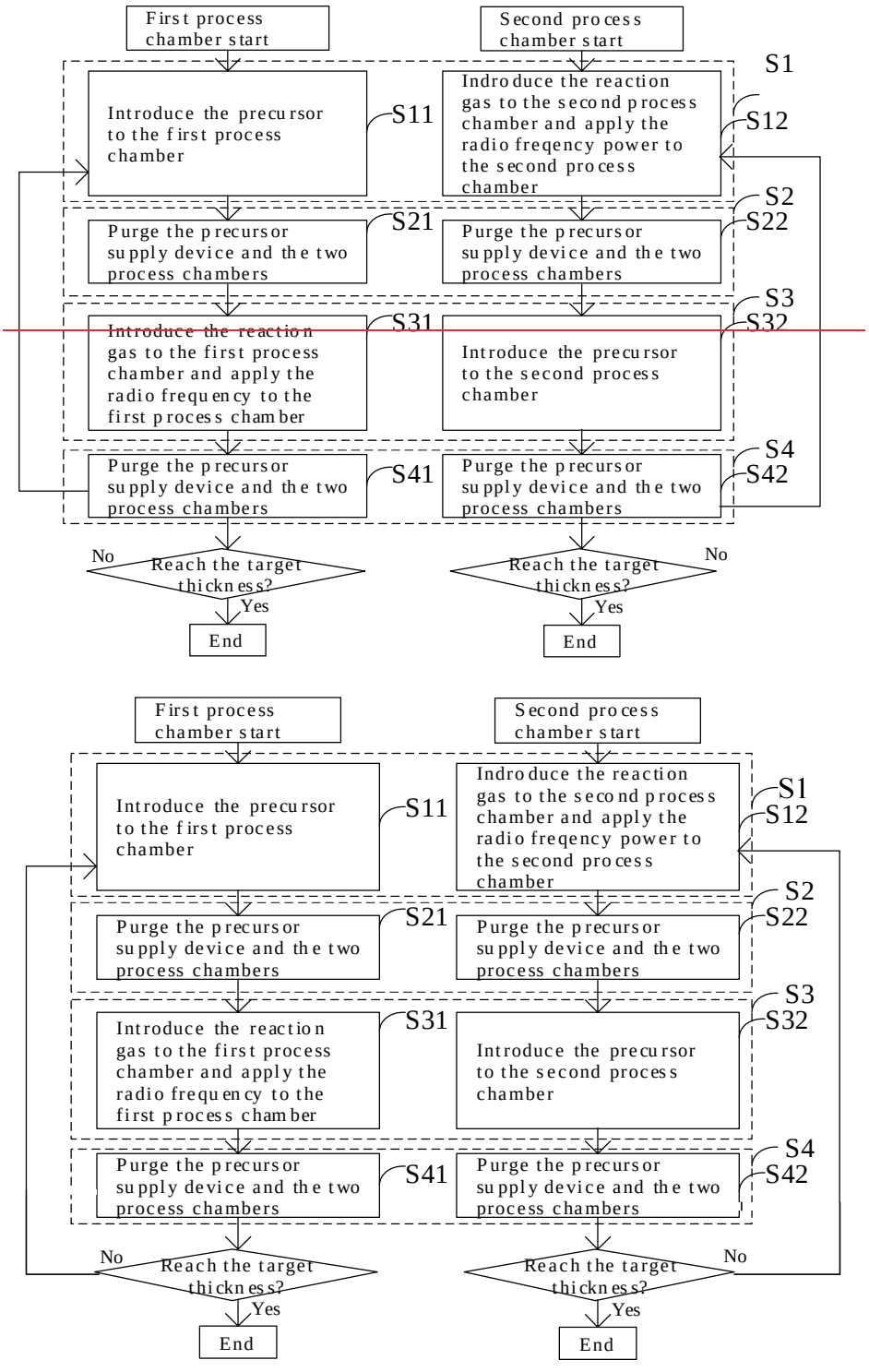
First process chamber start
Second process chamber start
S1
Introduce the precursor to the first process chamber
S11
Indroduce the reaction gas to the second process chamber and apply the radio freqency power to the second process chamber
S12
S2
Purge the precursor supply device and the two process chambers
S21
Purge the precursor supply device and the two process chambers
S22
S3
Introduce the reaction gas to the first process chamber and apply the radio frequency to the first process chamber
S31
Introduce the precursor to the second process chamber
S32
S4
Purge the precursor supply device and the two process chambers
S41
Purge the precursor supply device and the two process chambers
S42
No
Reach the target thickness?
Yes
End
No
Reach the target thickness?
Yes
End
First process chamber start
Second process chamber start
Introduce the precursor to the first process chamber
S11
Indroduce the reaction gas to the second process chamber and apply the radio freqency power to the second process chamber
S1
S12
S2
Purge the precursor supply device and the two process chambers
S21
Purge the precursor supply device and the two process chambers
S22
S3
Introduce the reaction gas to the first process chamber and apply the radio frequency to the first process chamber
S31
Introduce the precursor to the second process chamber
S32
S4
Purge the precursor supply device and the two process chambers
S41
Purge the precursor supply device and the two process chambers
S42
No
Reach the target thickness?
Yes
End
No
Reach the target thickness?
Yes
End

FIG. 6

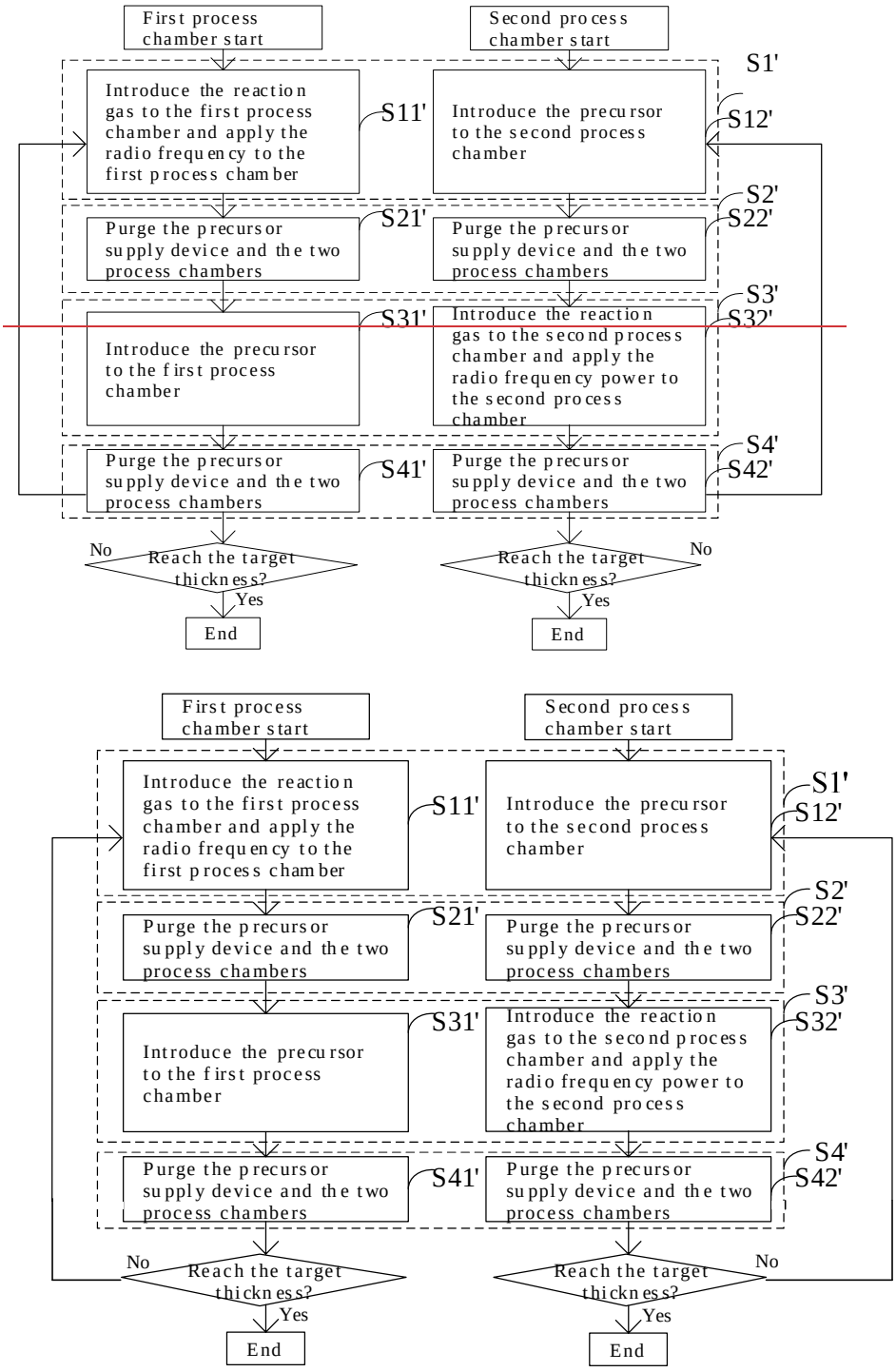
First process chamber start
Second process chamber start
S1'
Introduce the reaction gas to the first process chamber and apply the radio frequency to the first process chamber
S11'
Introduce the precursor to the second process chamber
S12'
S2'
Purge the precursor supply device and the two process chambers
S21'
Purge the precursor supply device and the two process chambers
S22'
S3'
Introduce the precursor to the first process chamber
S31'
Introduce the reaction gas to the second process chamber and apply the radio frequency power to the second process chamber
S32'
S4'
Purge the precursor supply device and the two process chambers
S41'
Purge the precursor supply device and the two process chambers
S42'
No
Reach the target thickness?
Yes
End
No
Reach the target thickness?
Yes
End
First process chamber start
Second process chamber start
S1'
Introduce the reaction gas to the first process chamber and apply the radio frequency to the first process chamber
S11'
Introduce the precursor to the second process chamber
S12'
S2'
Purge the precursor supply device and the two process chambers
S21'
Purge the precursor supply device and the two process chambers
S22'
S3'
Introduce the precursor to the first process chamber
S31'
Introduce the reaction gas to the second process chamber and apply the radio frequency power to the second process chamber
S32'
S4'
Purge the precursor supply device and the two process chambers
S41'
Purge the precursor supply device and the two process chambers
S42'
No
Reach the target thickness?
Yes
End
No
Reach the target thickness?
Yes
End

FIG. 7