FIG. 1

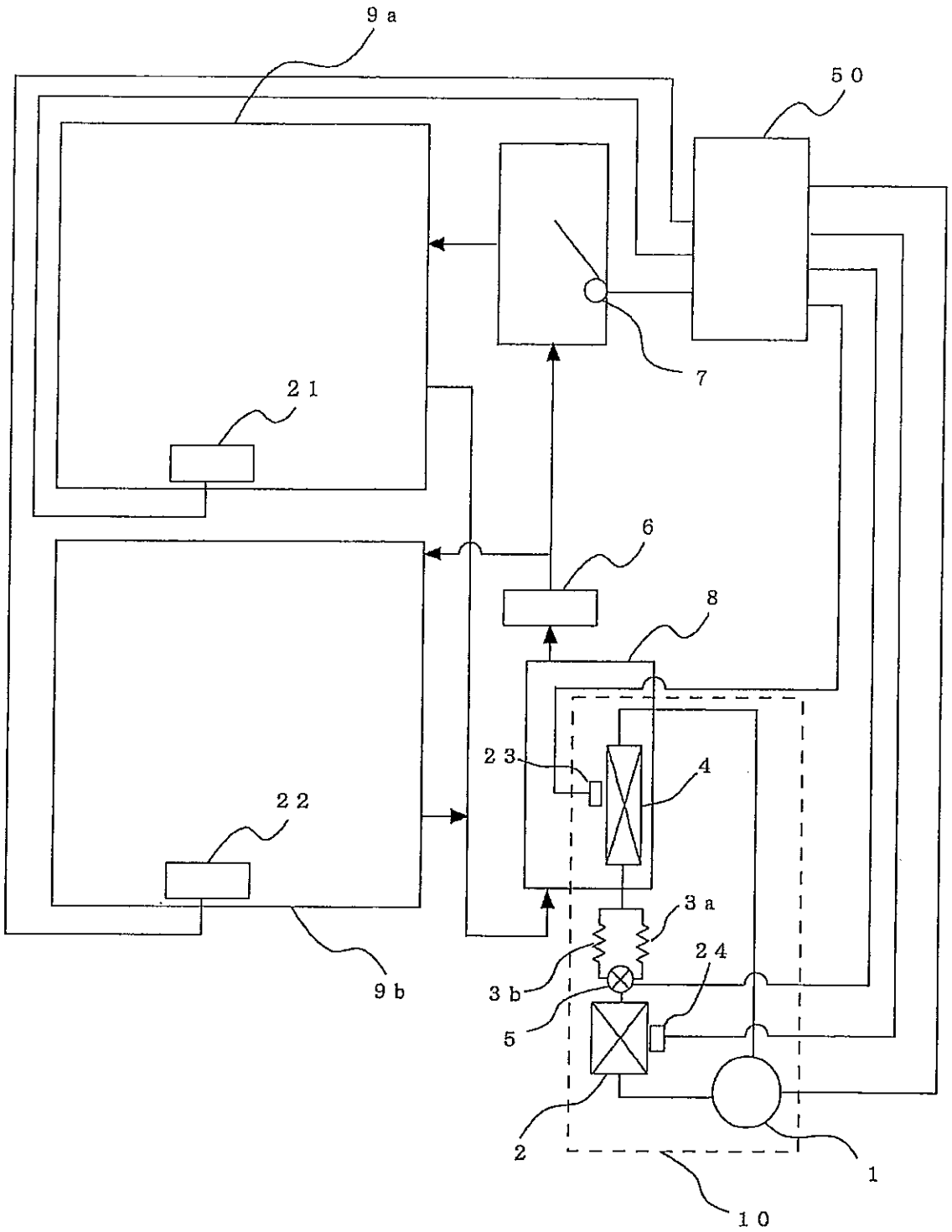


FIG. 2

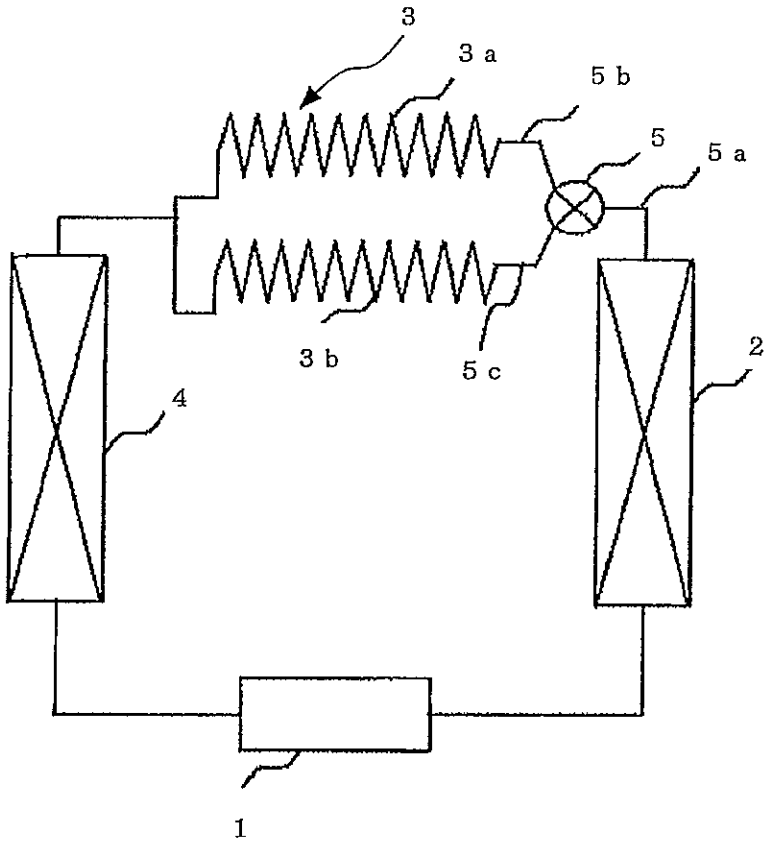

3
3 a
5 b
5
5 a
3 b
5 c
2
4
1
10

FIG. 3

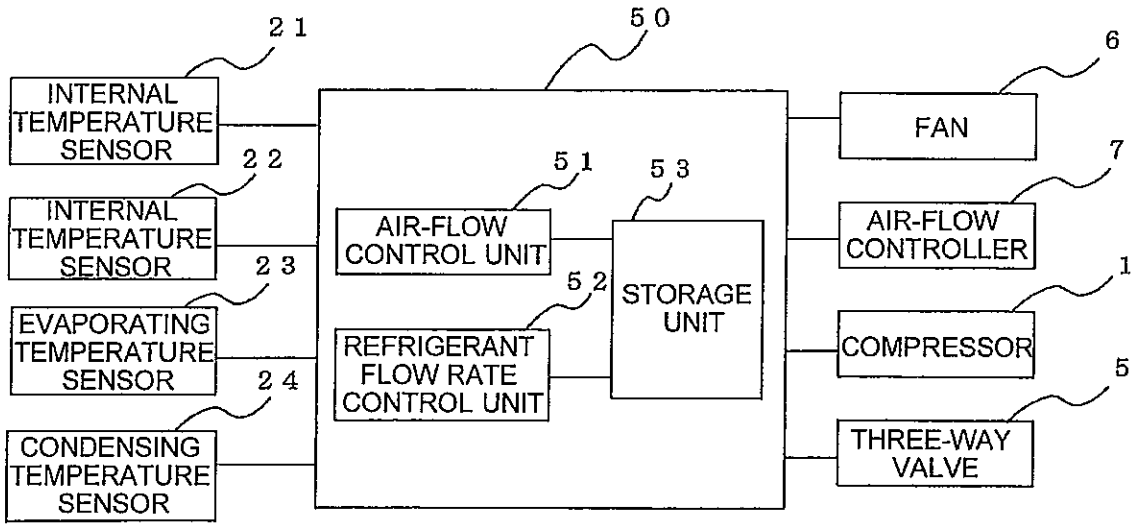

21
50
6
INTERNAL TEMPERATURE SENSOR
22
51
53
FAN
7
INTERNAL TEMPERATURE SENSOR
AIR-FLOW CONTROL UNIT
AIR-FLOW CONTROLLER
23
52
1
EVAPORATING TEMPERATURE SENSOR
STORAGE UNIT
COMPRESSOR
24
5
CONDENSING TEMPERATURE SENSOR
REFRIGERANT FLOW RATE CONTROL UNIT
THREE-WAY VALVE

FIG. 4

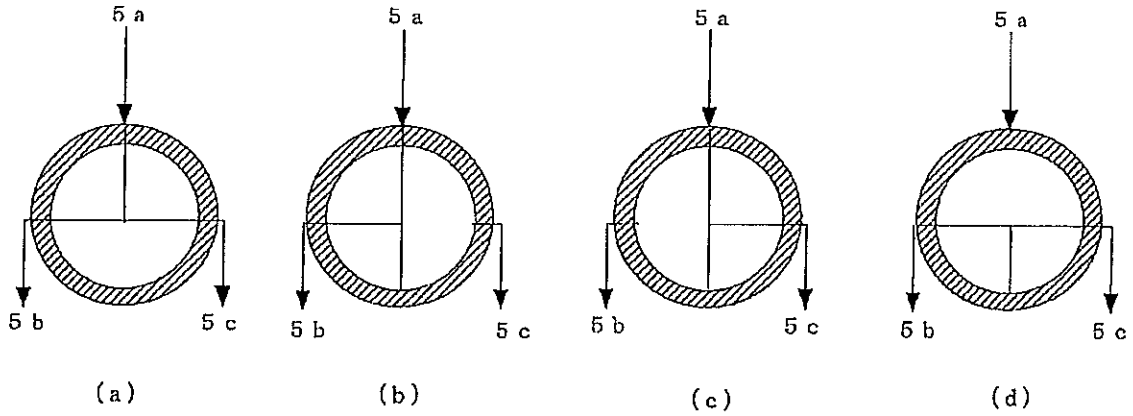

5 a
5 b
5 c
(a)
(b)
(c)
(d)

FIG. 5

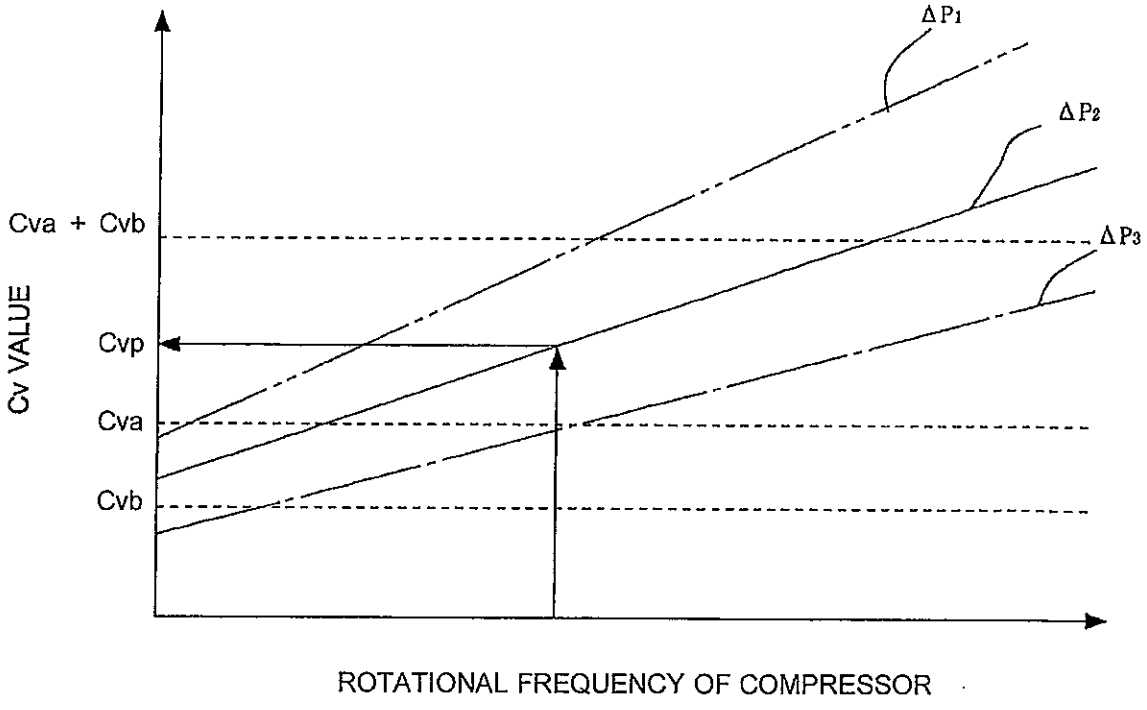

ΔP1
ΔP2
ΔP3
Cva + Cvb
Cvp
Cva
Cvb
Cv VALUE
ROTATIONAL FREQUENCY OF COMPRESSOR

FIG. 6

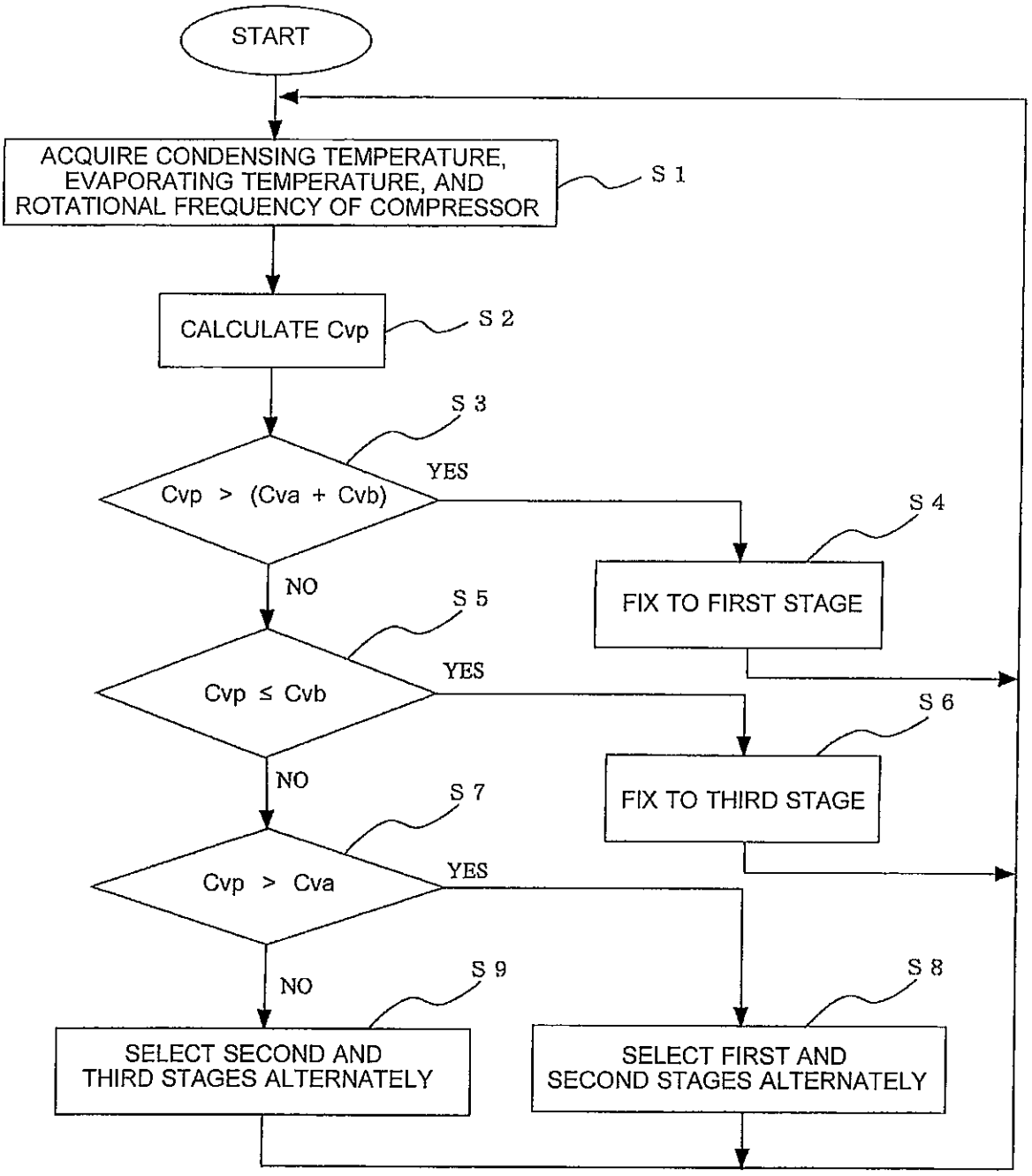

START
ACQUIRE CONDENSING TEMPERATURE, EVAPORATING TEMPERATURE, AND ROTATIONAL FREQUENCY OF COMPRESSOR
S 1
CALCULATE Cvp
S 2
S 3
Cvp > (Cva + Cvb)
YES
S 4
FIX TO FIRST STAGE
NO
S 5
Cvp ≤ Cvb
YES
S 6
FIX TO THIRD STAGE
NO
S 7
Cvp > Cva
YES
NO
S 9
SELECT SECOND AND THIRD STAGES ALTERNATELY
S 8
SELECT FIRST AND SECOND STAGES ALTERNATELY

FIG. 7

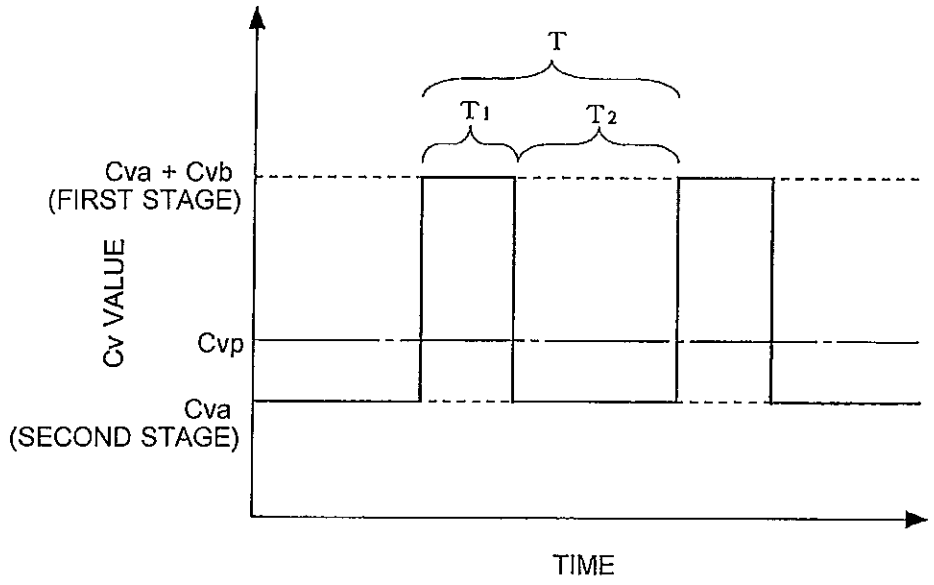
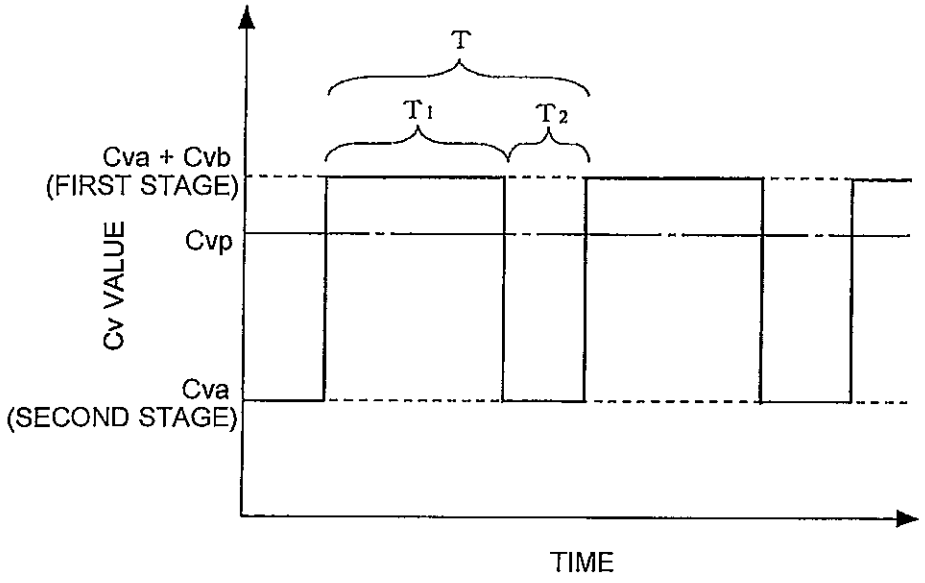

T
T1
T2
Cva + Cvb
(FIRST STAGE)
Cv VALUE
Cvp
Cva
(SECOND STAGE)
TIME

FIG. 8


T
T1
T2
Cva + Cvb
(FIRST STAGE)
Cv VALUE
Cvp
Cva
(SECOND STAGE)
TIME