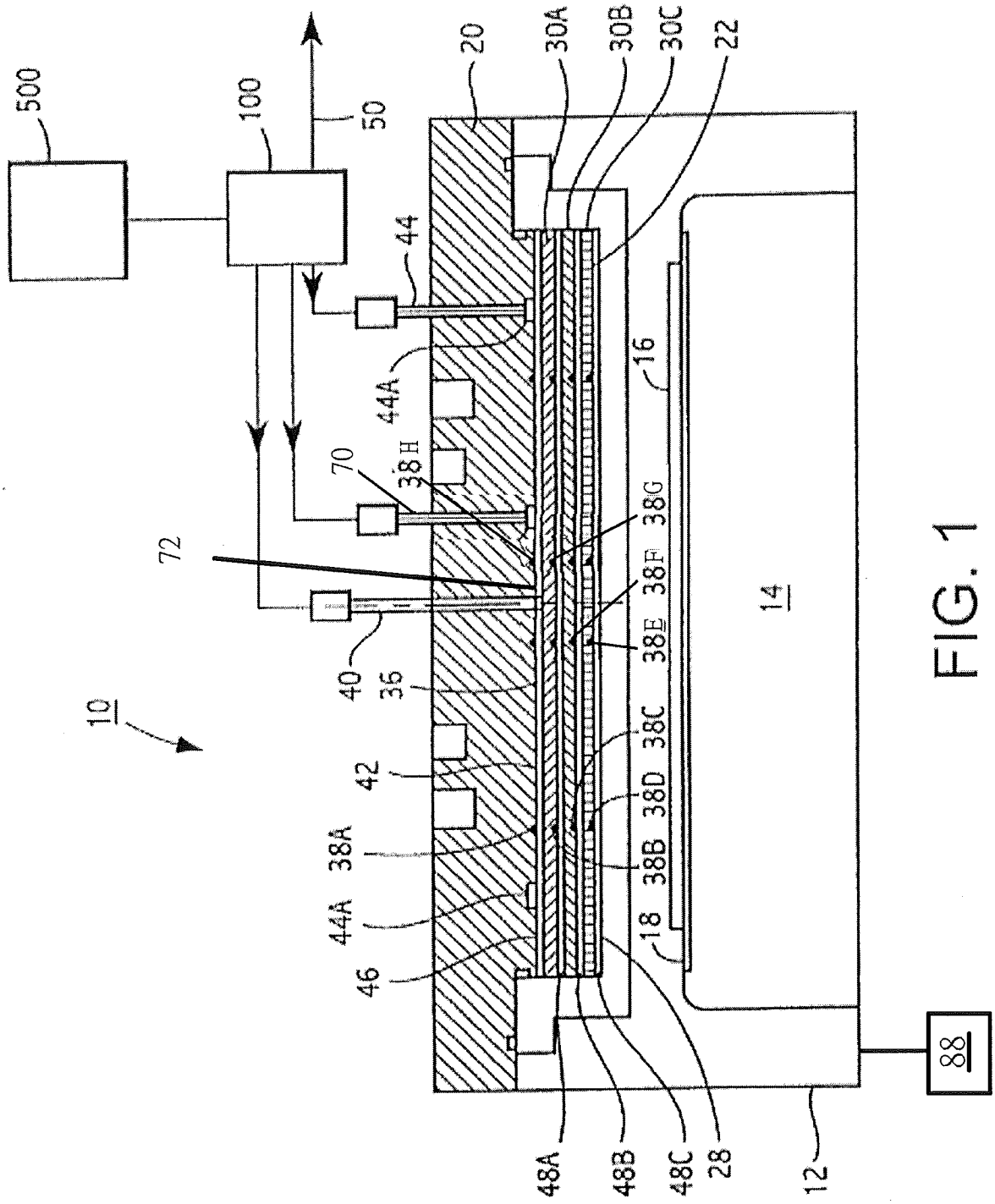
500
100
50
20
30A
30B
30C
22
44
44A
16
70
38H
72
38G
38F
38E
14
40
35
10
38C
42
38D
38A
38B
44A
18
46
88
48A
48B
48C
28
12

FIG. 1

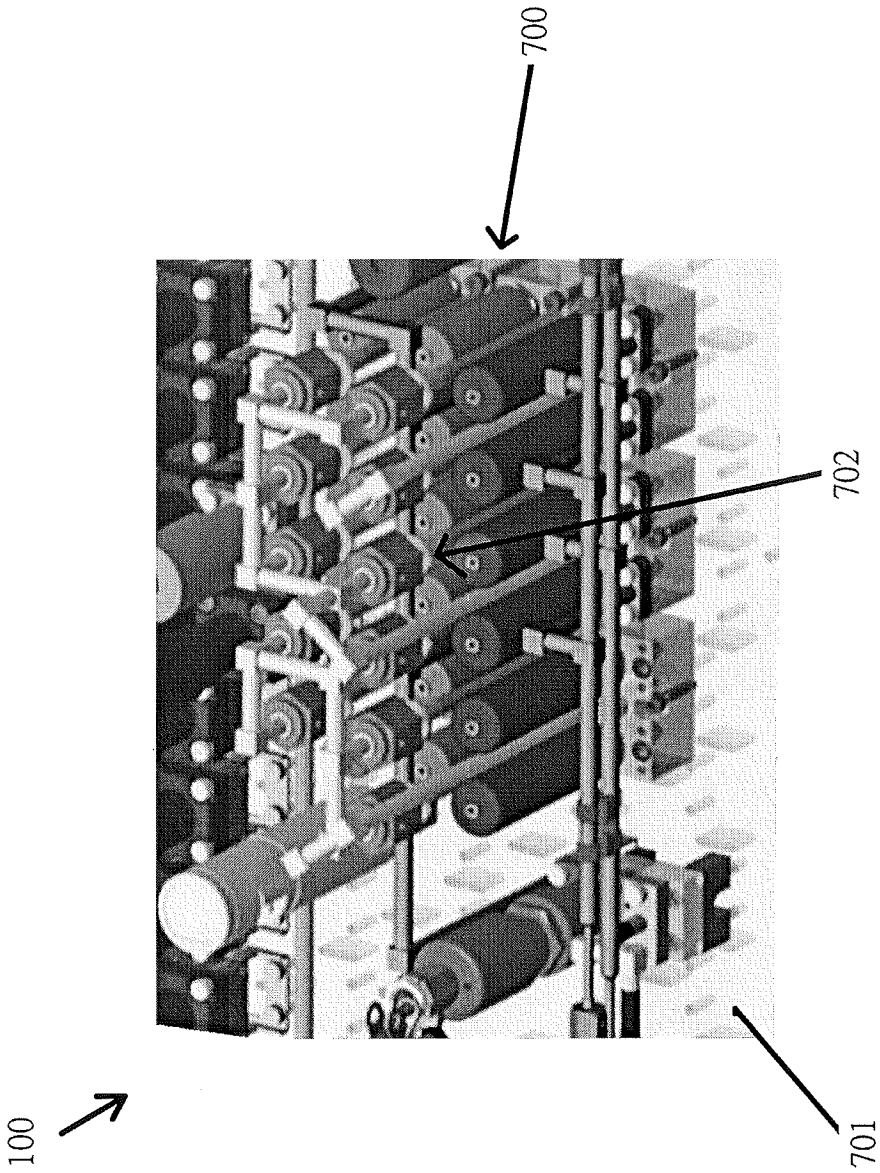


FIG. 2

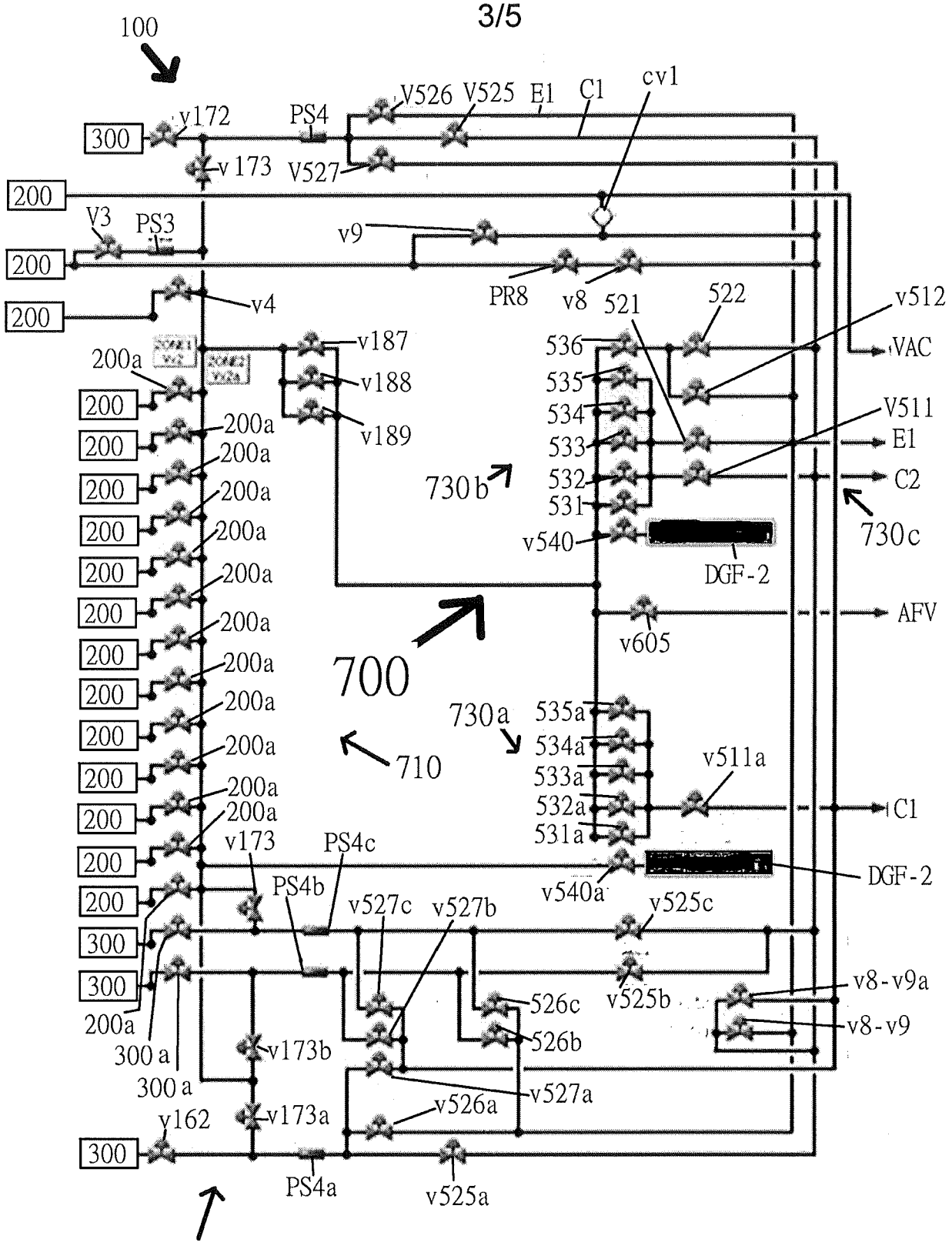
100
300
v172
PS4
V526
V525
E1
C1
cv1
v173
V527
200
V3
PS3
v9
200
PR8
v8
521
522
v512
200
v4
v187
536
VAC
200a
v188
535
200
534
V511
200a
v189
533
E1
200
200a
532
C2
200
200a
730b
531
730c
200
200a
v540
DGF-2
200
200a
AFV
200
200a
v605
700
200
200a
730a
535a
200
200a
534a
710
v511a
200
200a
533a
200
200a
532a
C1
200
200a
531a
v173
PS4c
200
DGF-2
PS4b
v540a
v527c
v527b
v525c
200
300
300
v8-v9a
526c
v525b
200a
v8-v9
526b
300 a
v173b
300 a
v527a
v526a
v162
v173a
300
PS4a
v525a
720

FIG. 3

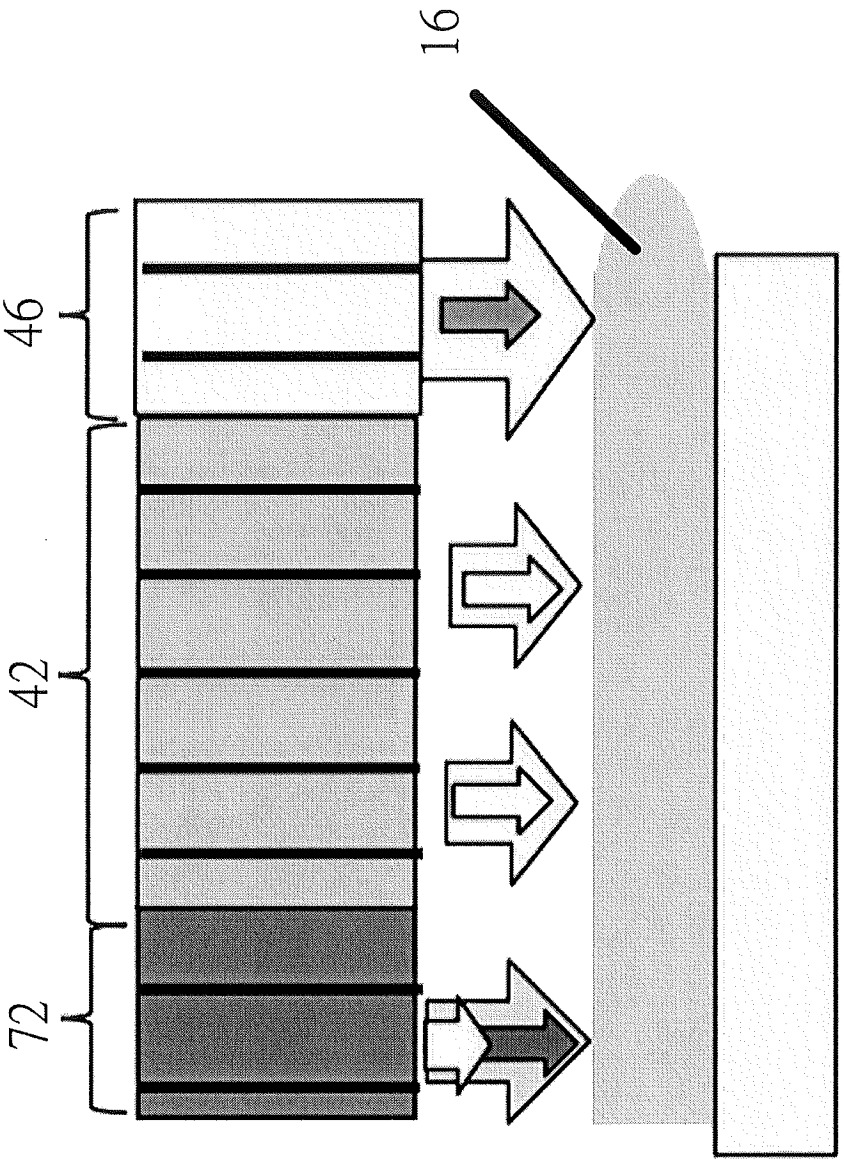


FIG. 4

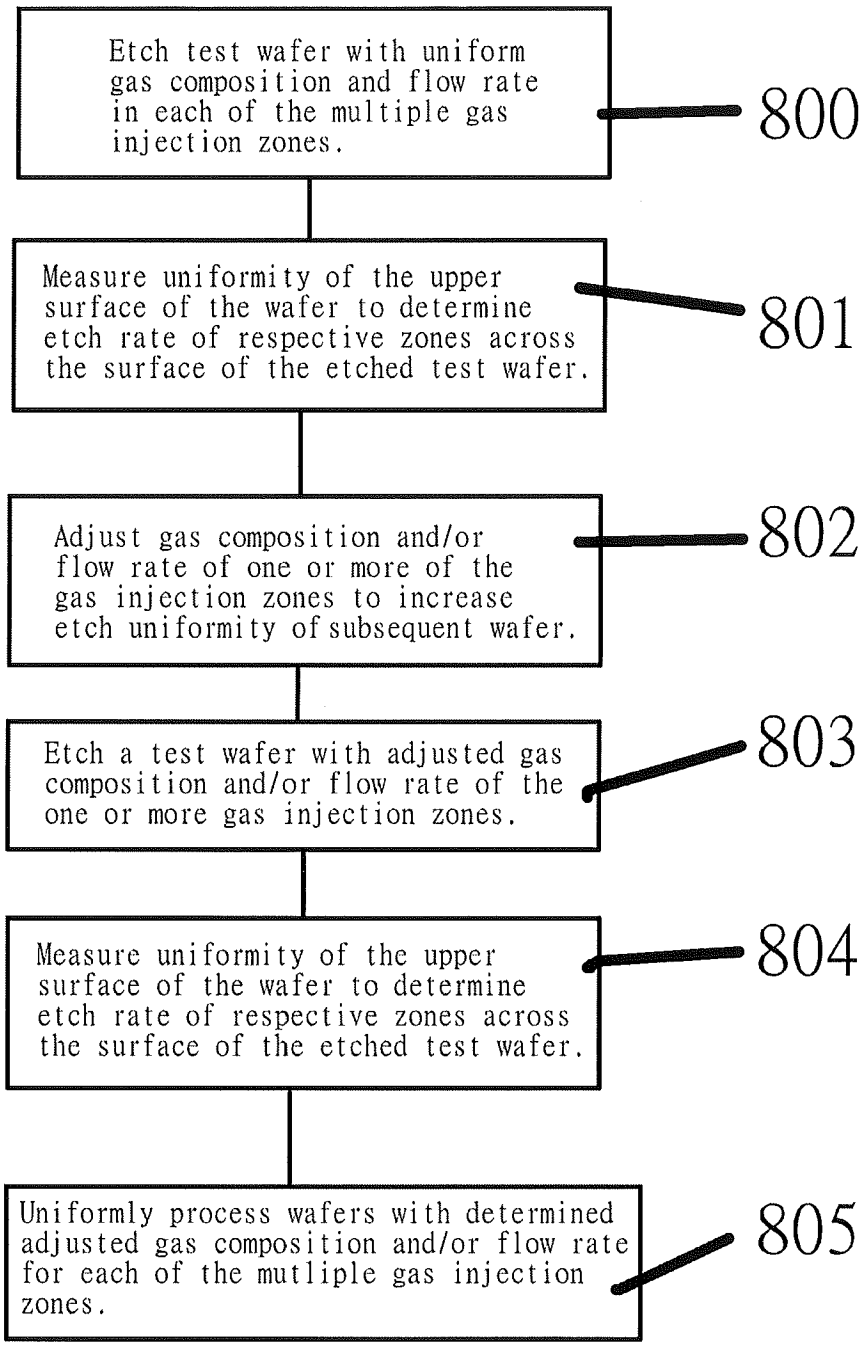
Etch test wafer with uniform gas composition and flow rate in each of the multiple gas injection zones.
800
Measure uniformity of the upper surface of the wafer to determine etch rate of respective zones across the surface of the etched test wafer.
801
Adjust gas composition and/or flow rate of one or more of the gas injection zones to increase etch uniformity of subsequent wafer.
802
Etch a test wafer with adjusted gas composition and/or flow rate of the one or more gas injection zones.
803
Measure uniformity of the upper surface of the wafer to determine etch rate of respective zones across the surface of the etched test wafer.
804
Uniformly process wafers with determined adjusted gas composition and/or flow rate for each of the mutliple gas injection zones.
805

FIG. 5