PRIOR ART

FIG. 1

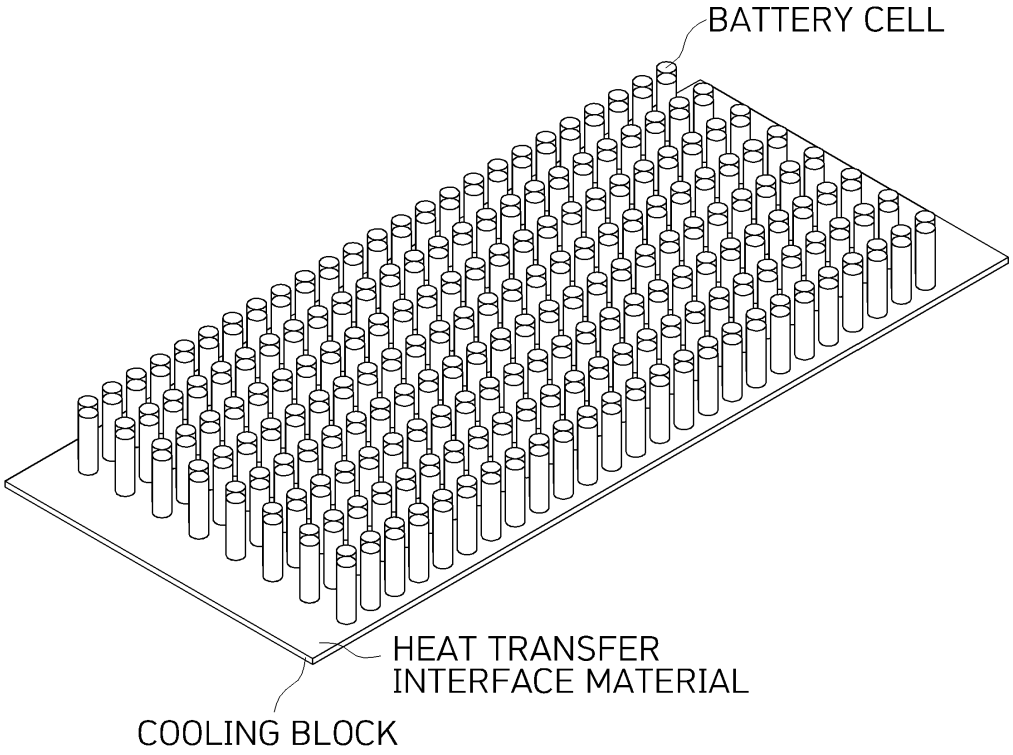


FIG. 2

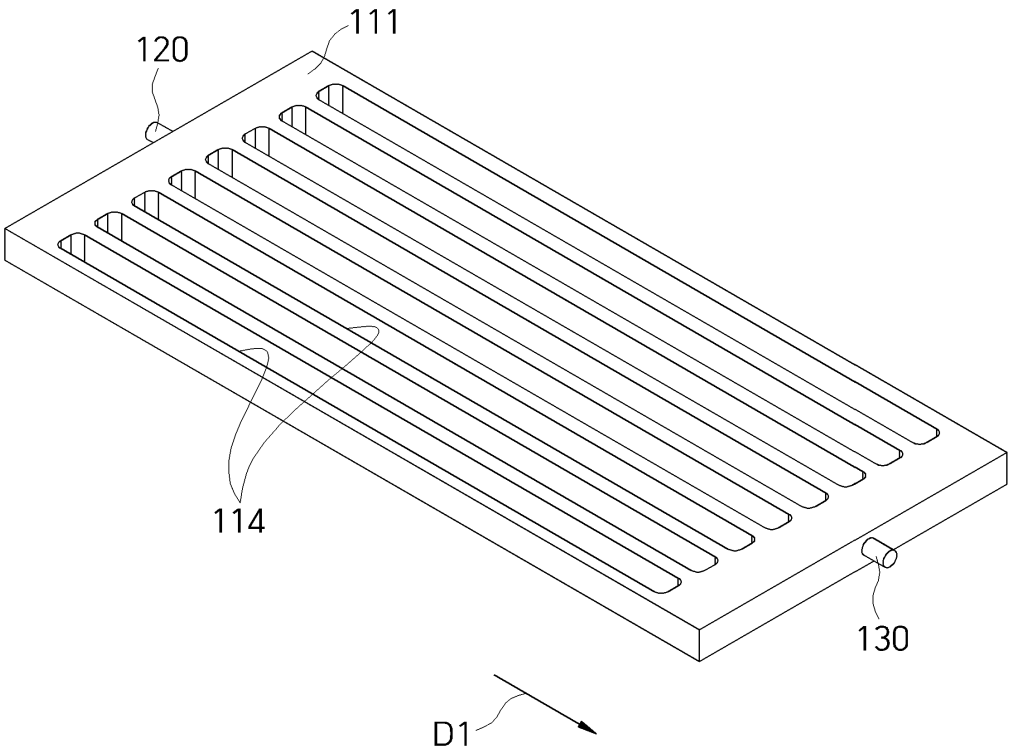


FIG. 3

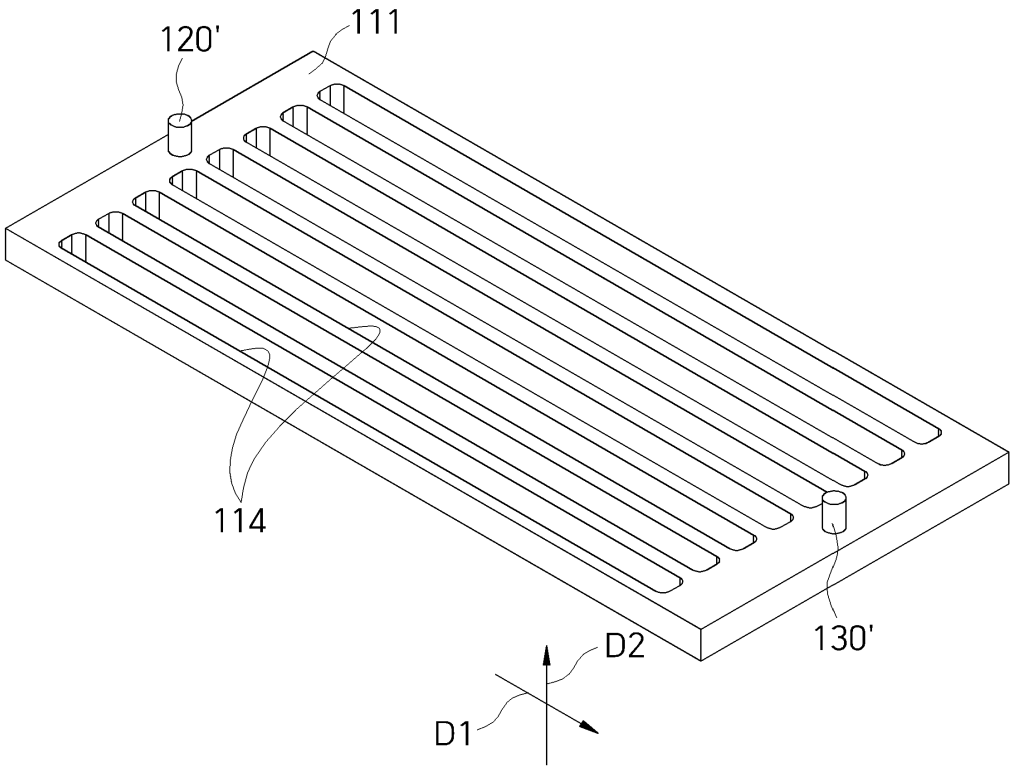


FIG. 4

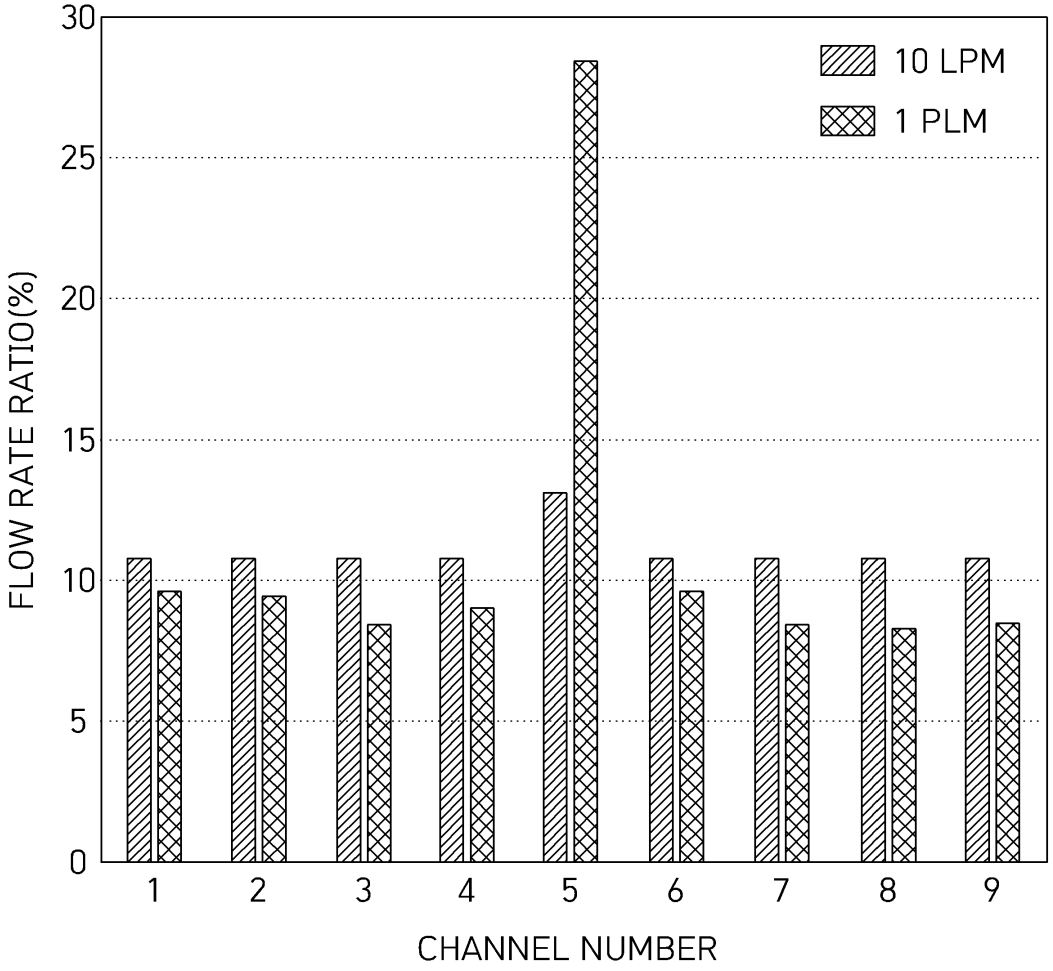

30
25
20
15
10
5
0
FLOW RATE RATIO(%)
10 LPM
1 PLM
1
2
3
4
5
6
7
8
9
CHANNEL NUMBER

FIG. 5

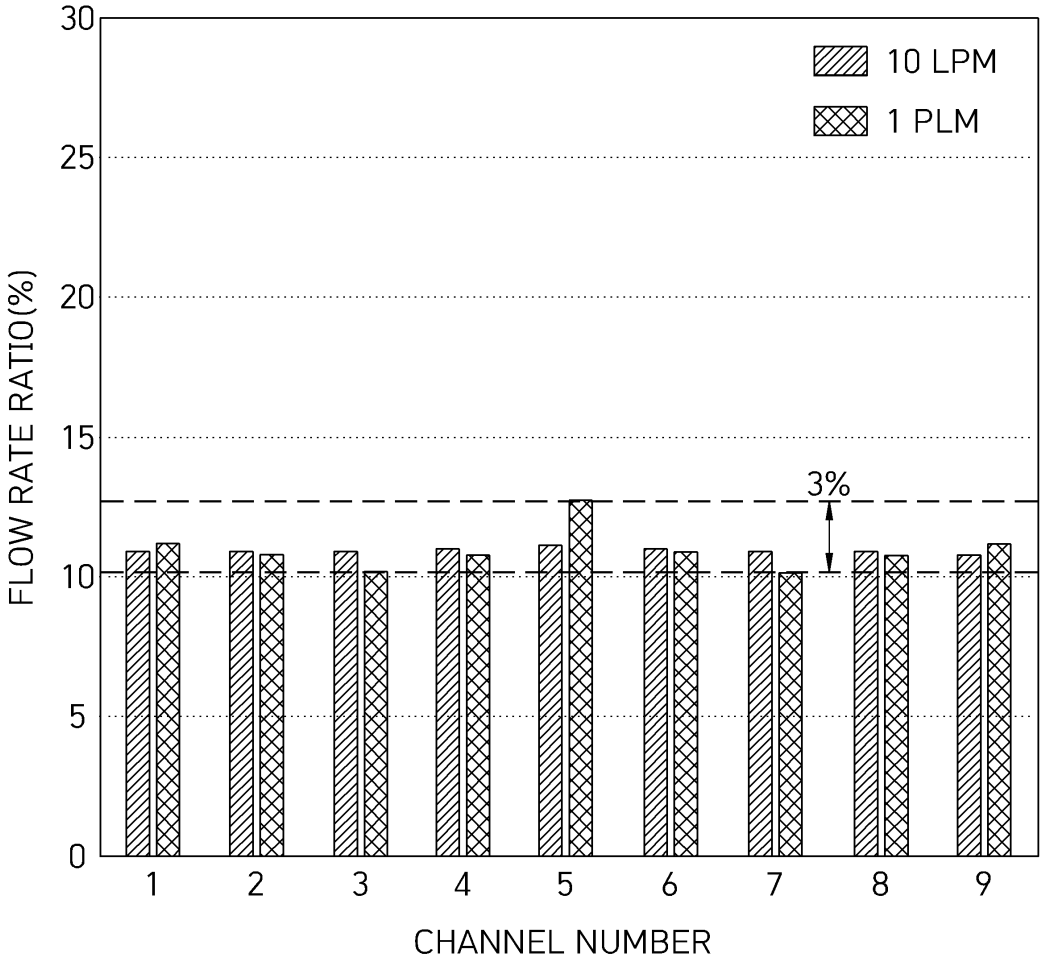

30
25
20
15
10
5
0
FLOW RATE RATIO(%)
10 LPM
1 PLM
3%
1
2
3
4
5
6
7
8
9
CHANNEL NUMBER

FIG. 6

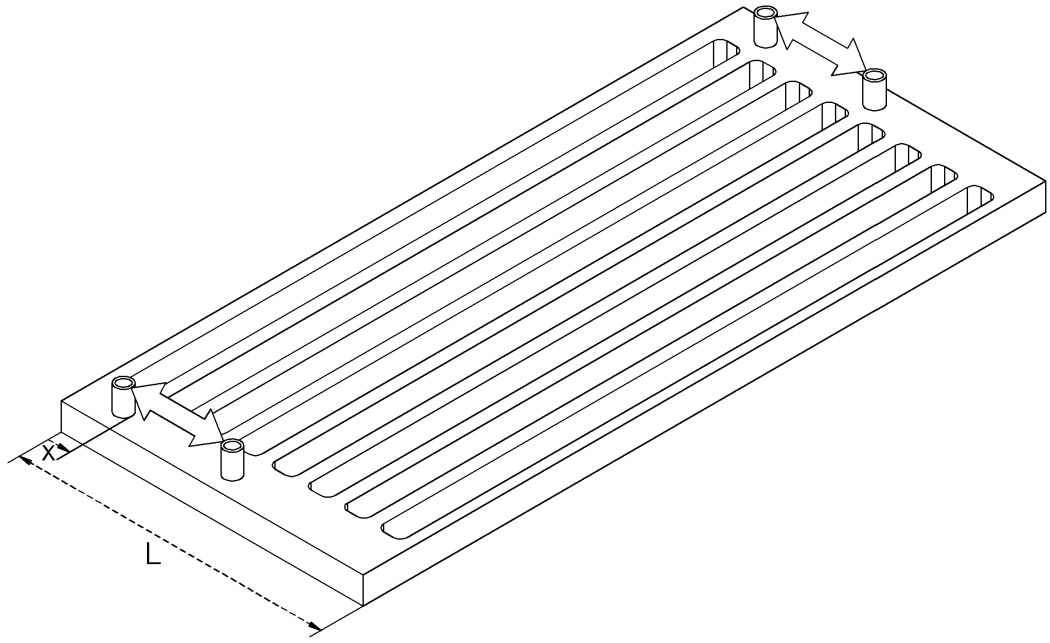


FIG. 7

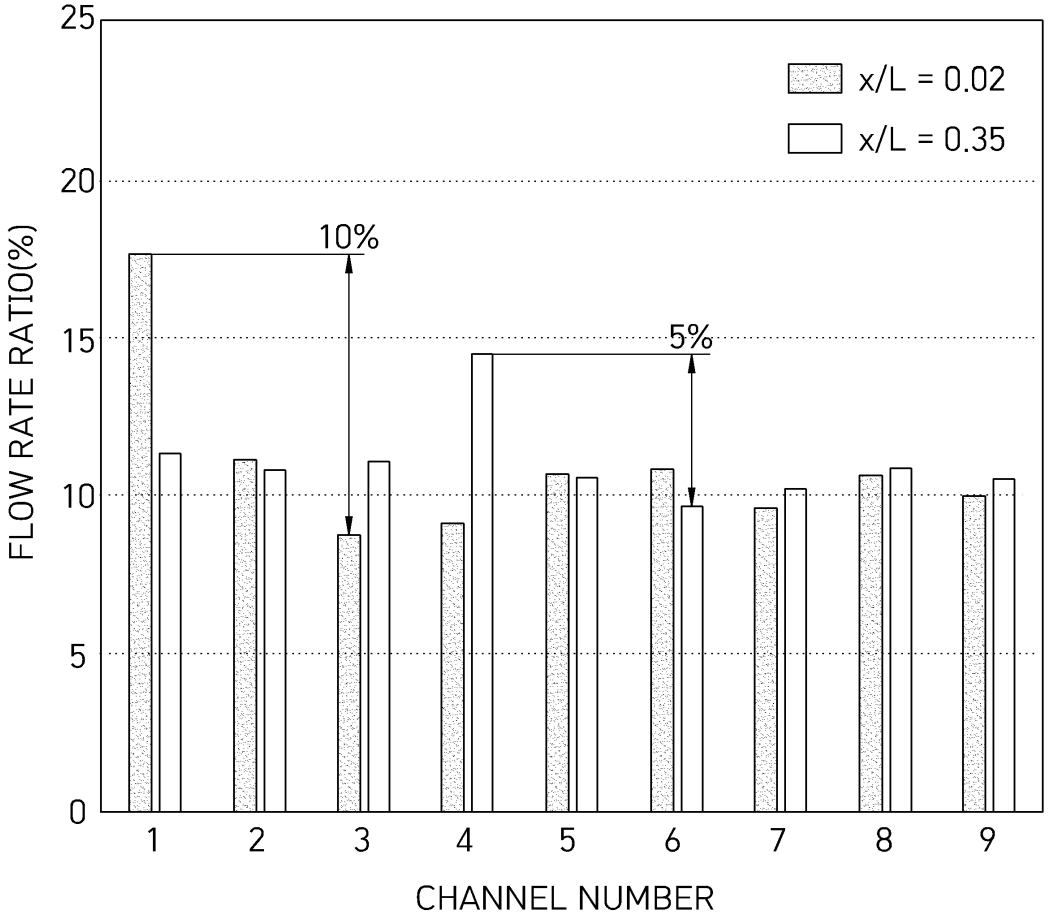

25
20
15
10
5
0
FLOW RATE RATIO(%)
x/L = 0.02
x/L = 0.35
10%
5%
1
2
3
4
5
6
7
8
9
CHANNEL NUMBER

FIG. 8

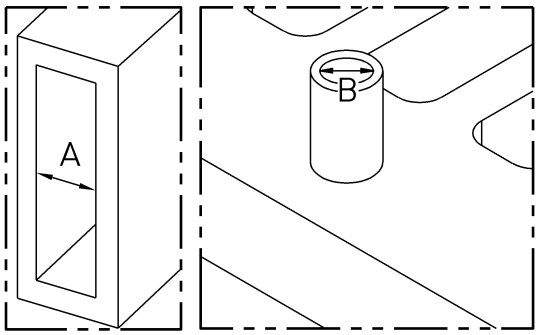
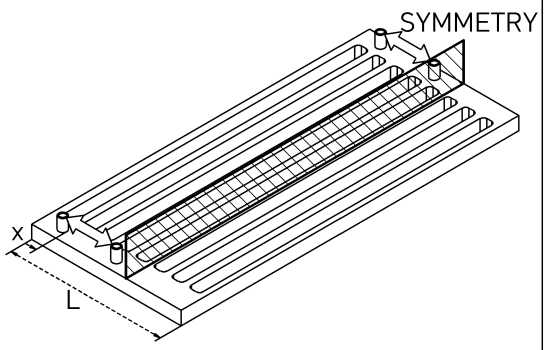
DIAMETER RATIO TO CHANNEL WIDTH(b/a)	RANGE OF COOLANT INLET POSITION(x/L)
	
2~2.5	0.35~0.65
2.5~3	0.25~0.75
3~3.5	0.15~0.85

FIG. 9

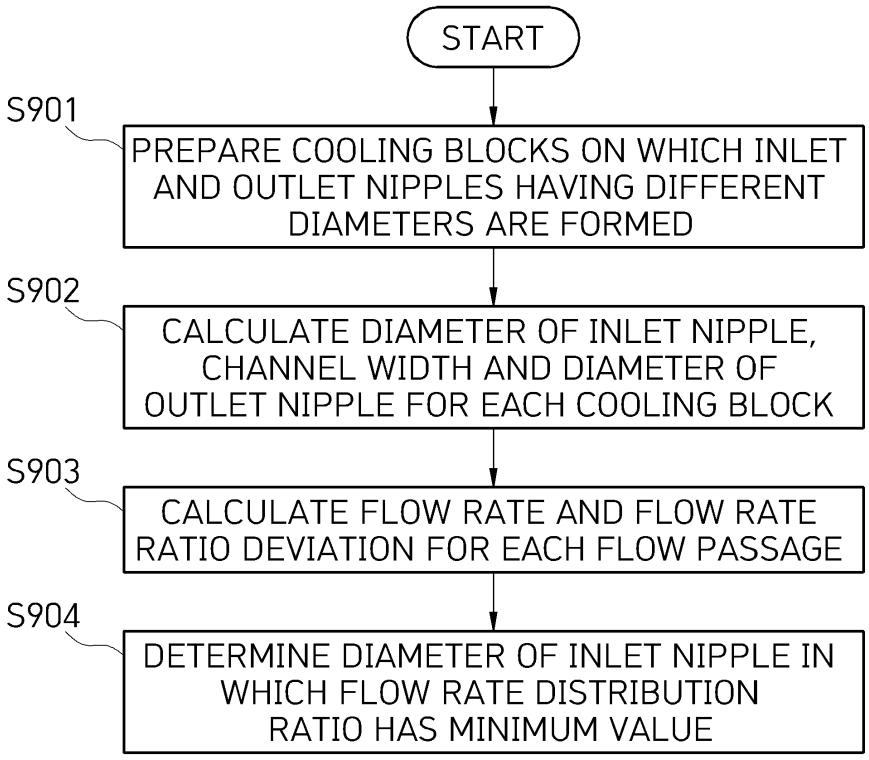

START
S901
PREPARE COOLING BLOCKS ON WHICH INLET AND OUTLET NIPPLES HAVING DIFFERENT DIAMETERS ARE FORMED
S902
CALCULATE DIAMETER OF INLET NIPPLE, CHANNEL WIDTH AND DIAMETER OF OUTLET NIPPLE FOR EACH COOLING BLOCK
S903
CALCULATE FLOW RATE AND FLOW RATE RATIO DEVIATION FOR EACH FLOW PASSAGE
S904
DETERMINE DIAMETER OF INLET NIPPLE IN WHICH FLOW RATE DISTRIBUTION RATIO HAS MINIMUM VALUE

FIG. 10

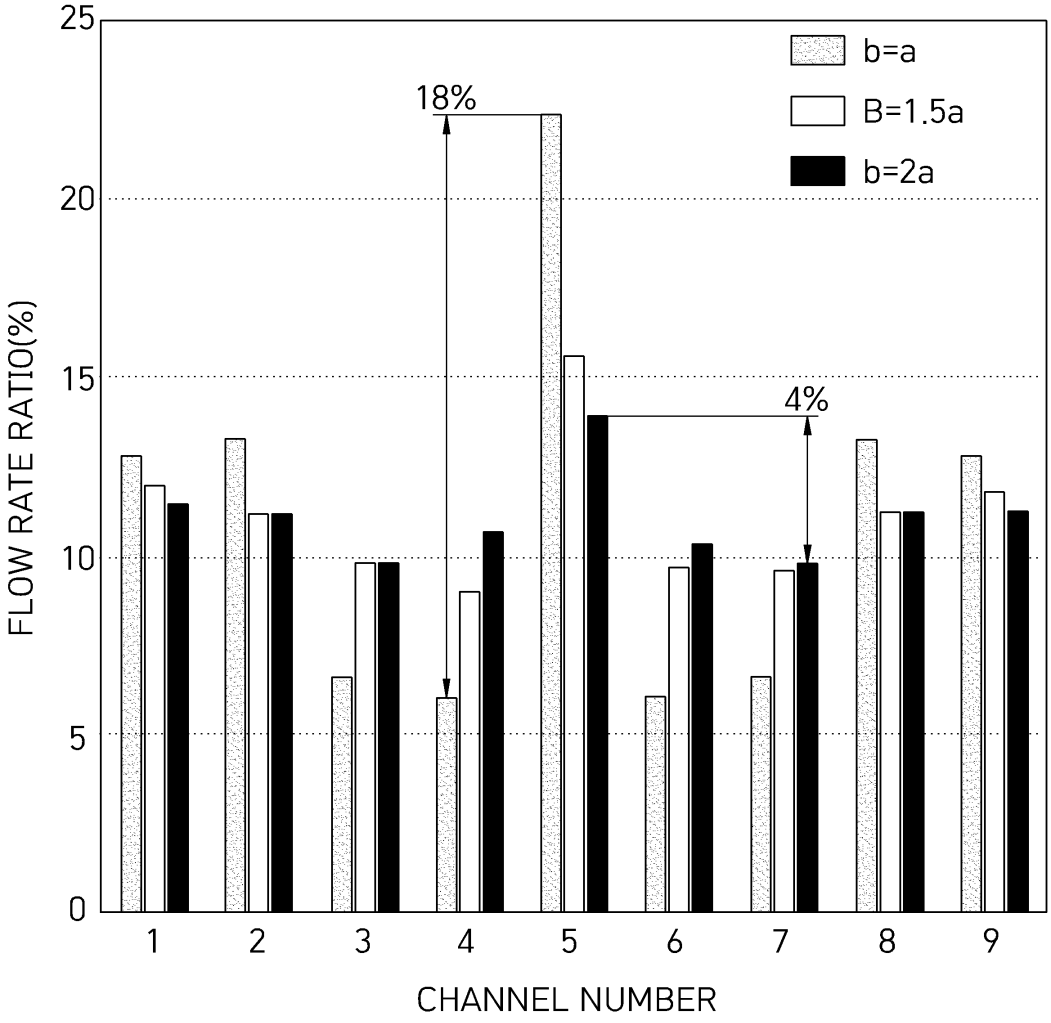

25
20
15
10
5
0
FLOW RATE RATIO(%)
b=a
B=1.5a
b=2a
18%
4%
1
2
3
4
5
6
7
8
9
CHANNEL NUMBER

FIG. 11

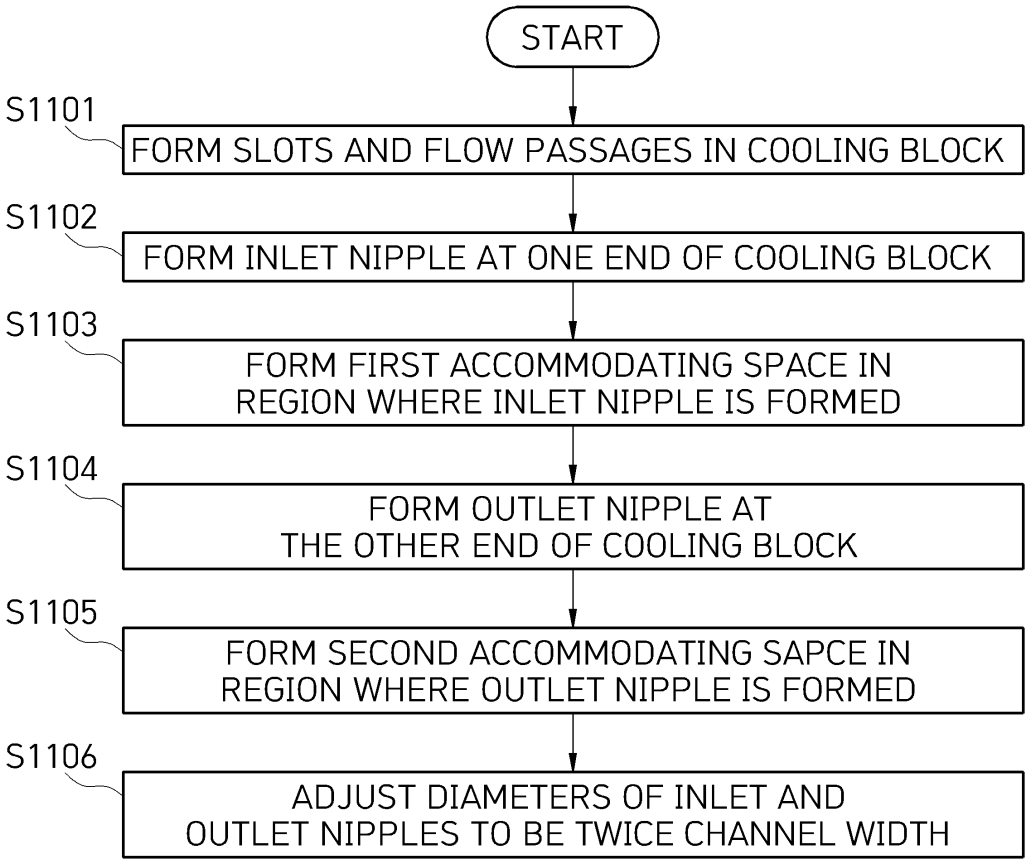

START
S1101
FORM SLOTS AND FLOW PASSAGES IN COOLING BLOCK
S1102
FORM INLET NIPPLE AT ONE END OF COOLING BLOCK
S1103
FORM FIRST ACCOMMODATING SPACE IN REGION WHERE INLET NIPPLE IS FORMED
S1104
FORM OUTLET NIPPLE AT THE OTHER END OF COOLING BLOCK
S1105
FORM SECOND ACCOMMODATING SAPCE IN REGION WHERE OUTLET NIPPLE IS FORMED
S1106
ADJUST DIAMETERS OF INLET AND OUTLET NIPPLES TO BE TWICE CHANNEL WIDTH

FIG. 12

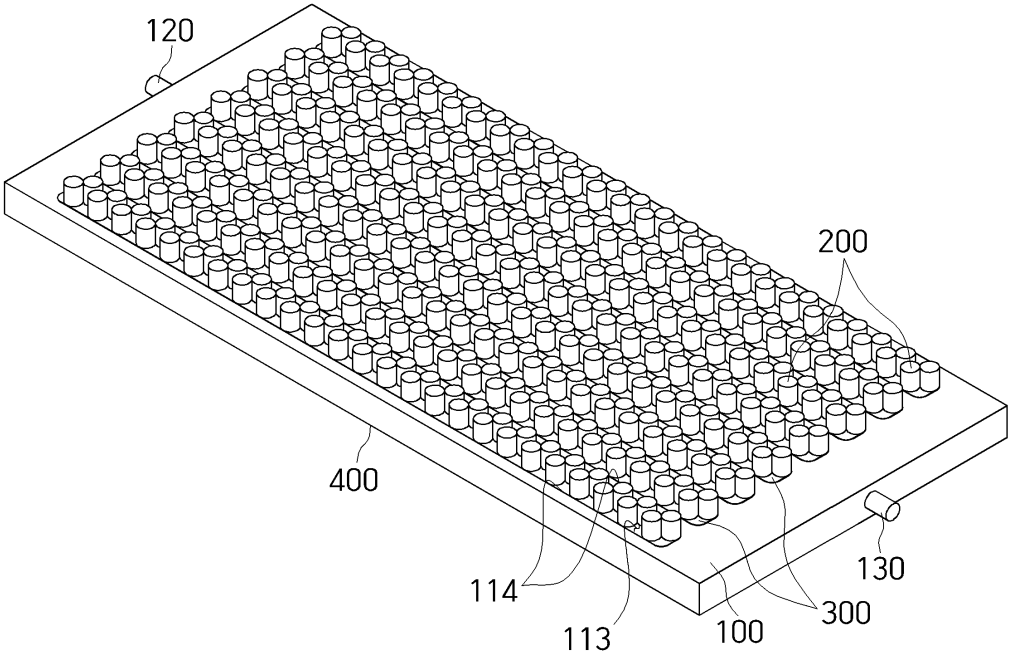


FIG. 13

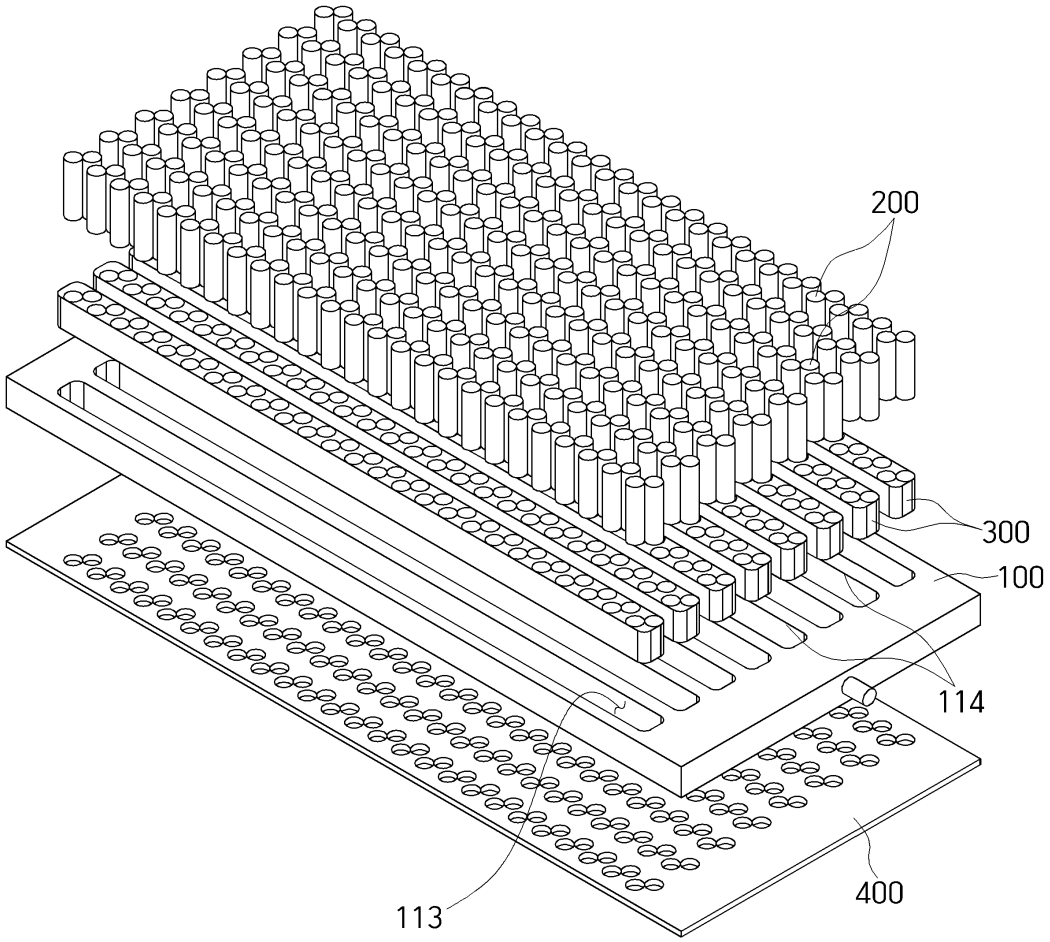


FIG. 14

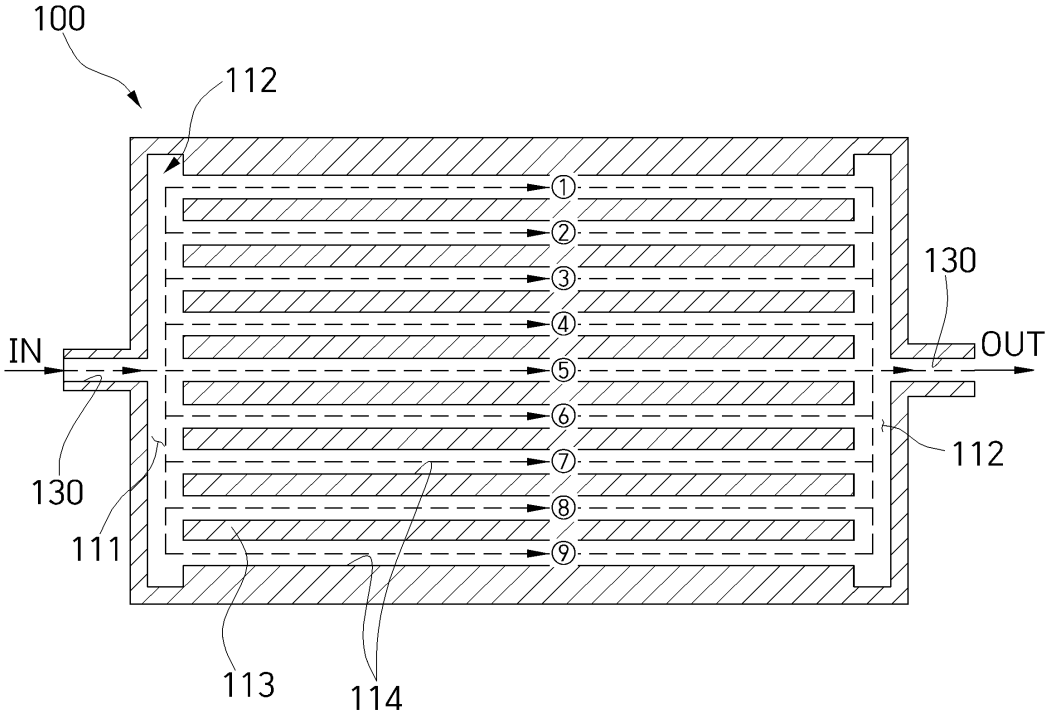


FIG. 15

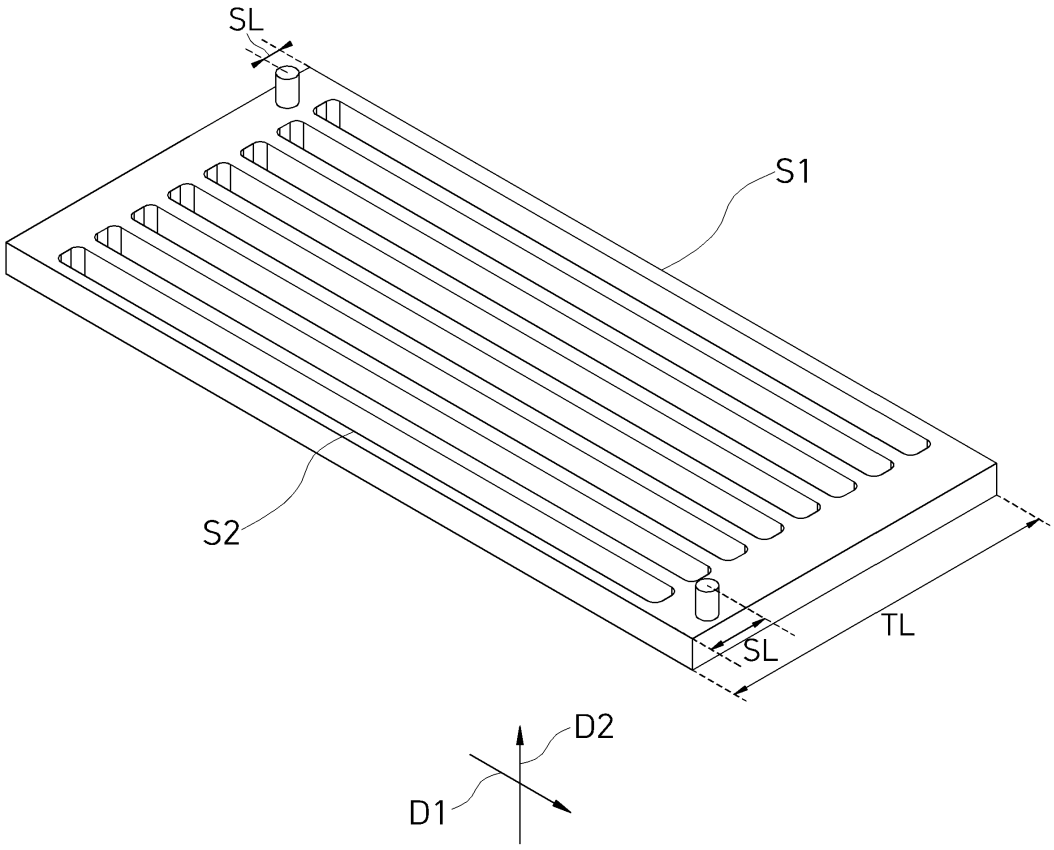


FIG. 16

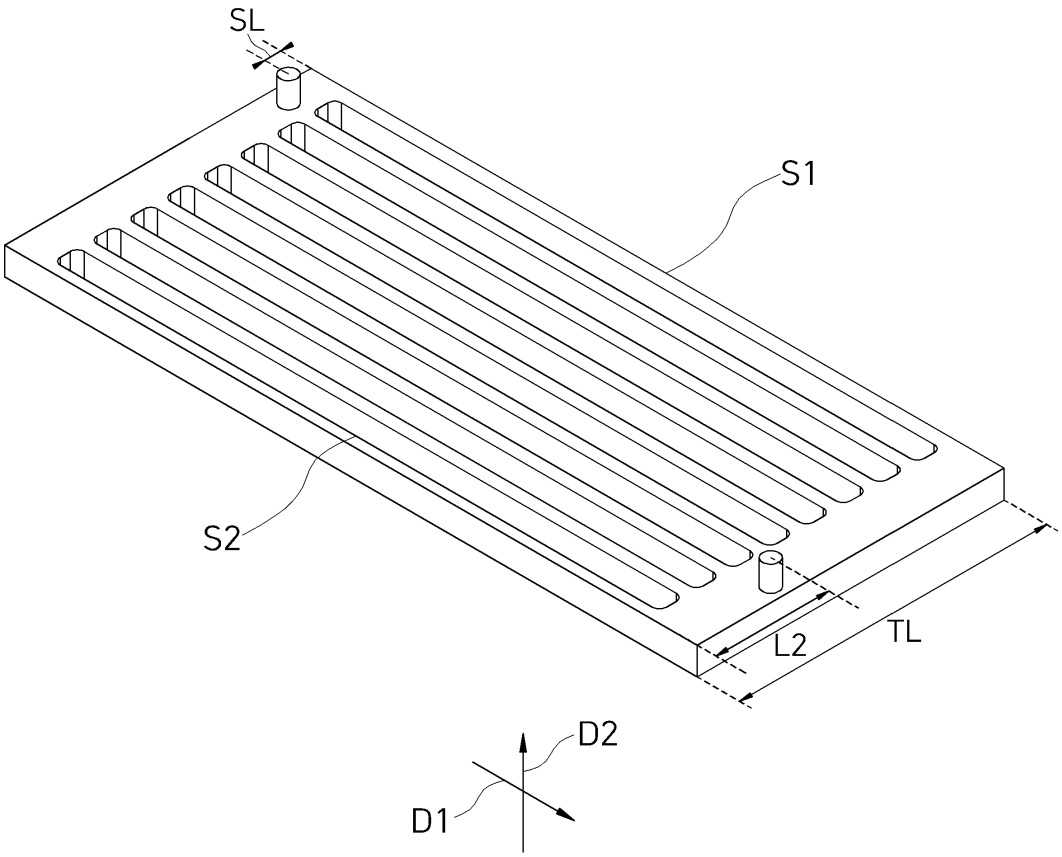


FIG. 17

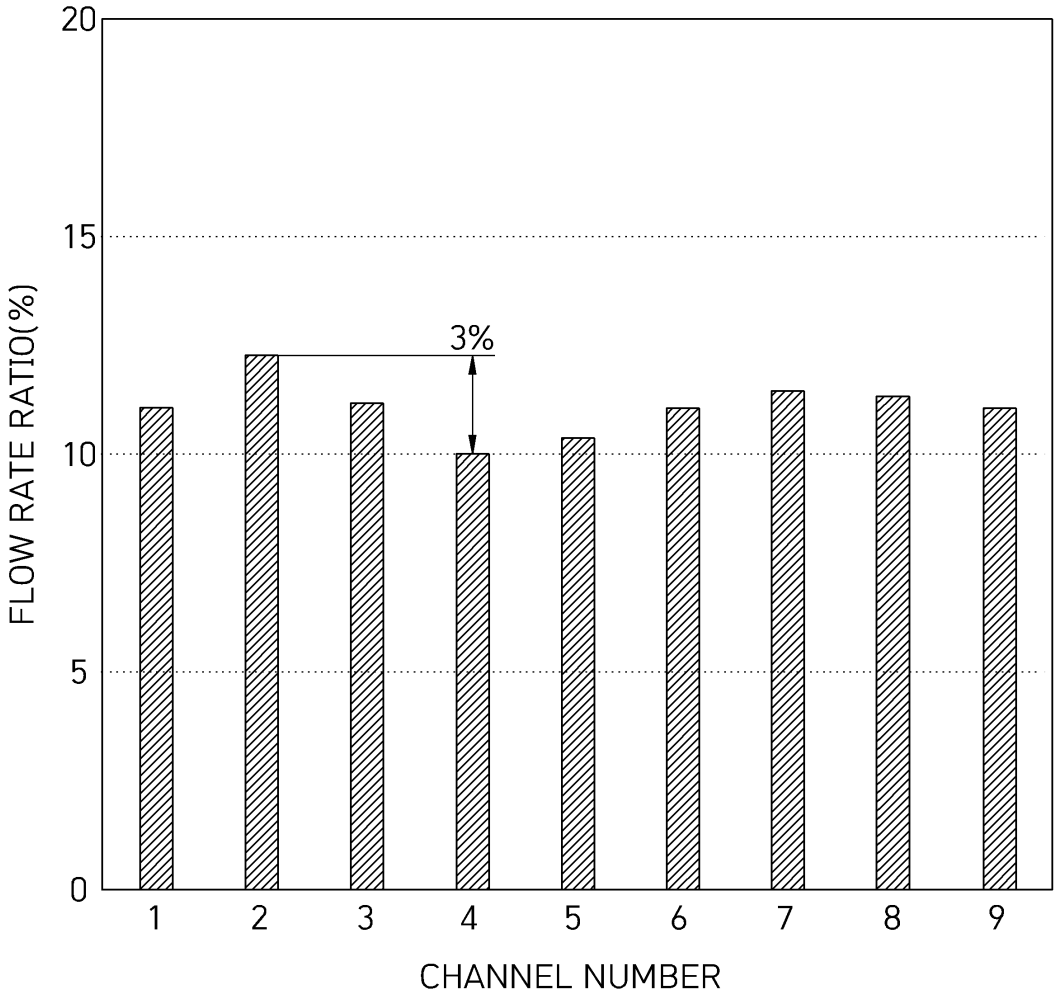


FIG. 18

