

FIG. 1

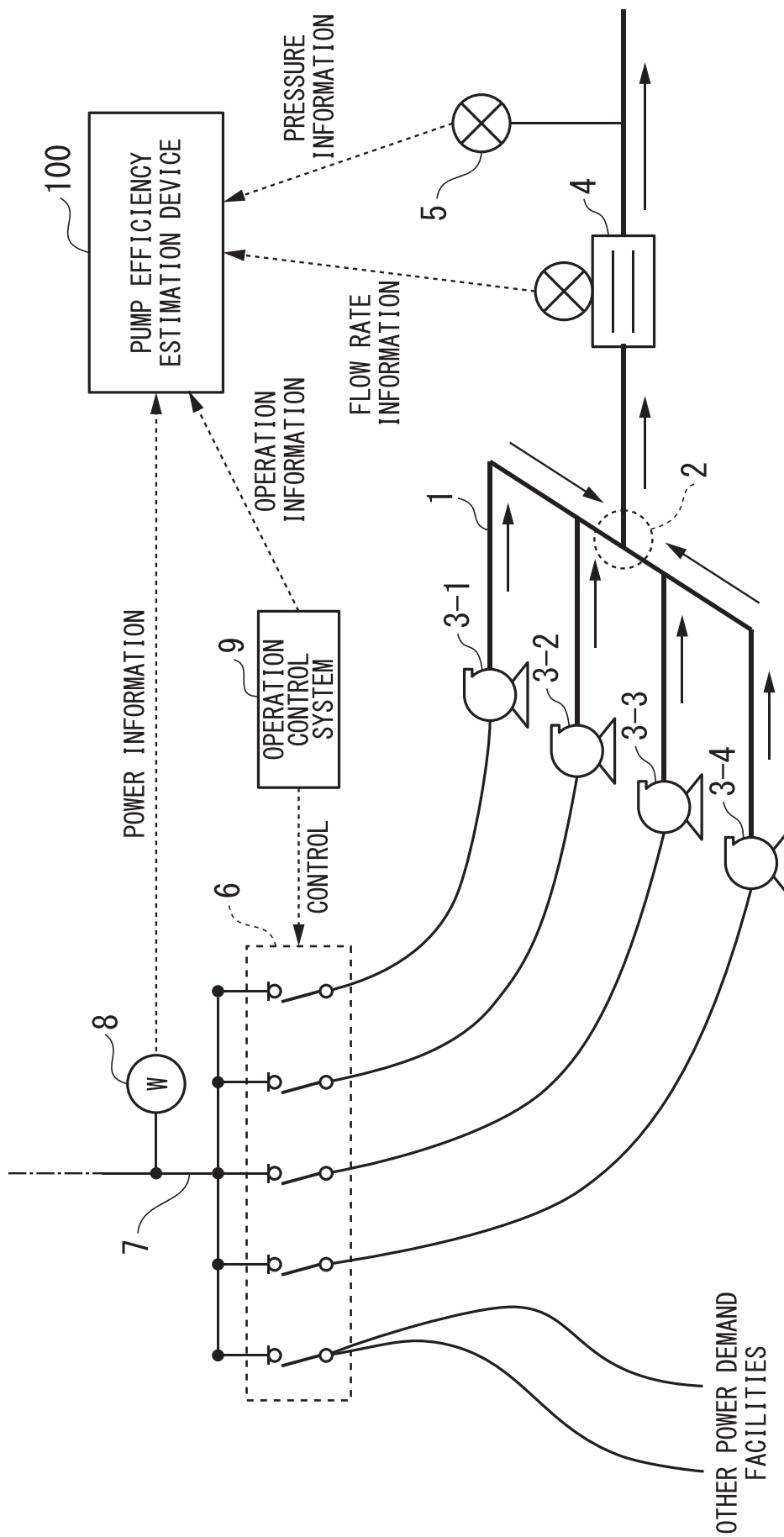


FIG. 2

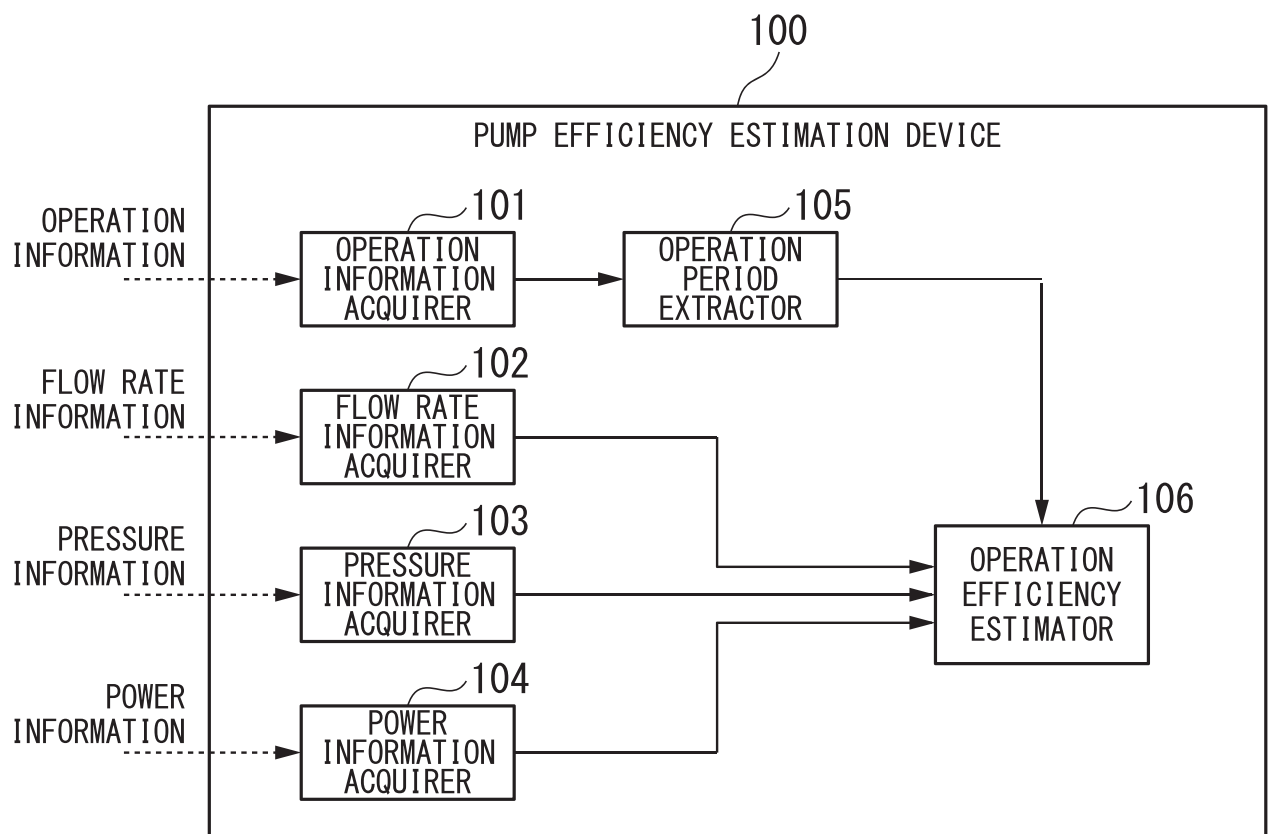


FIG. 3A

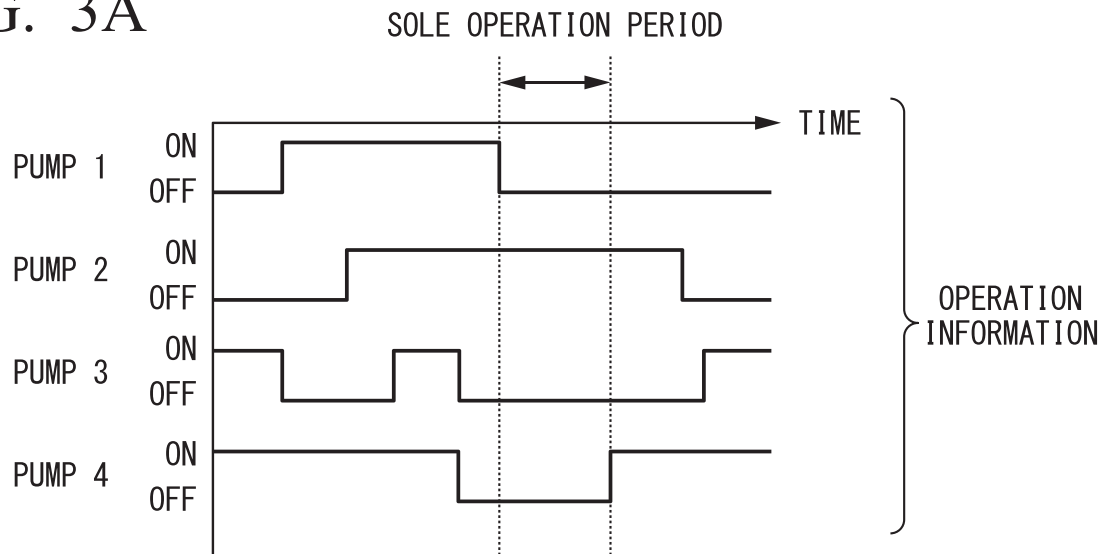


FIG. 3B

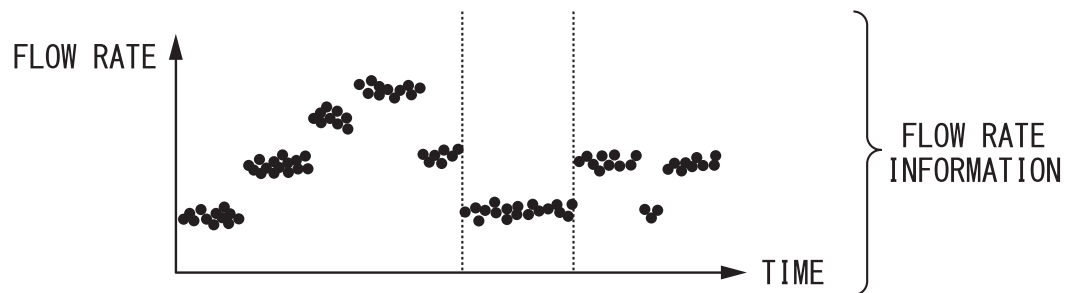


FIG. 3C

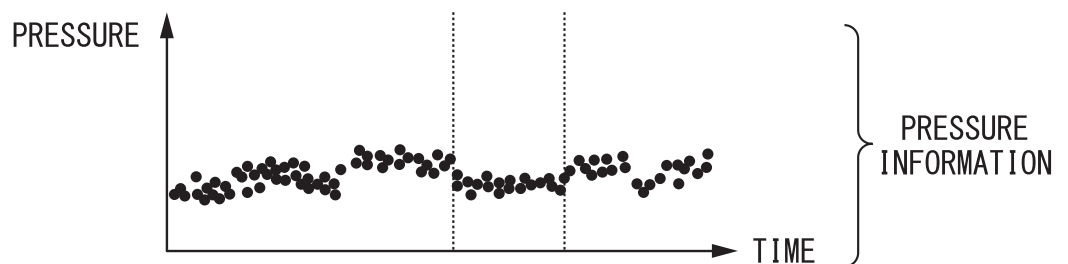


FIG. 3D

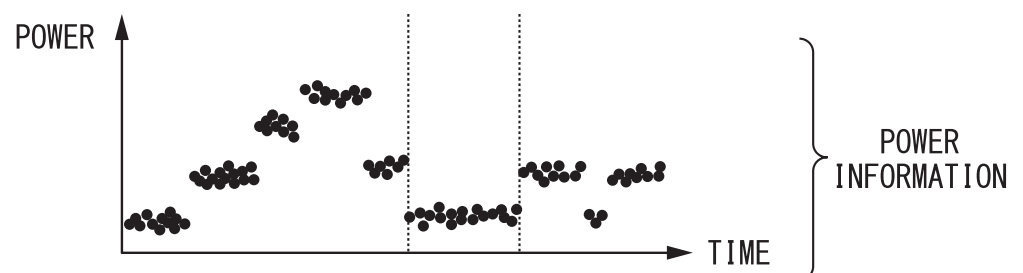


FIG. 4

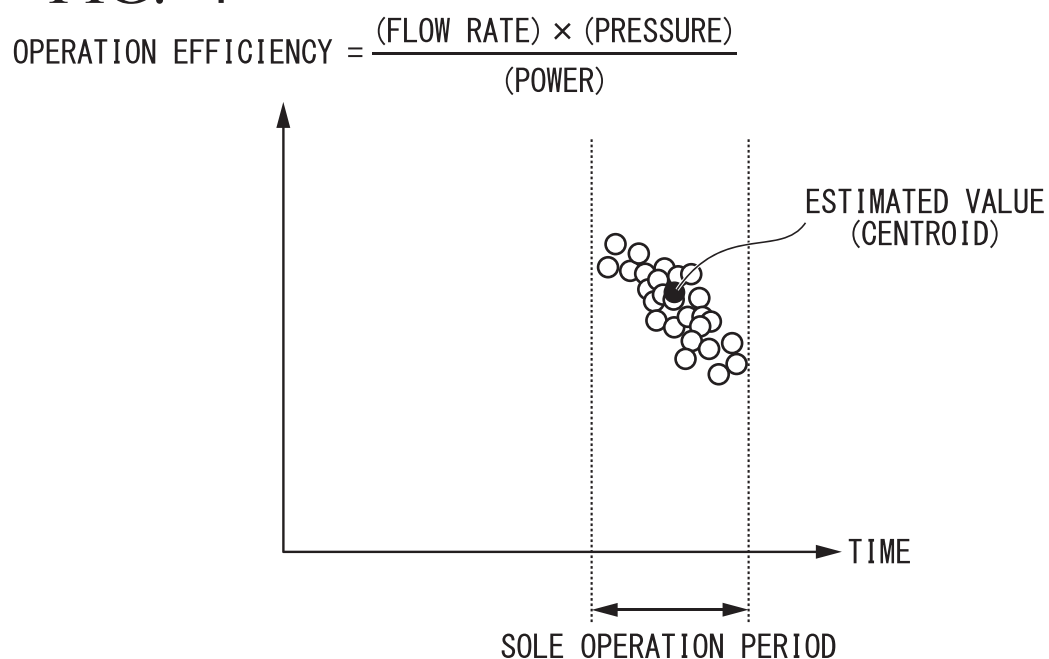


FIG. 5

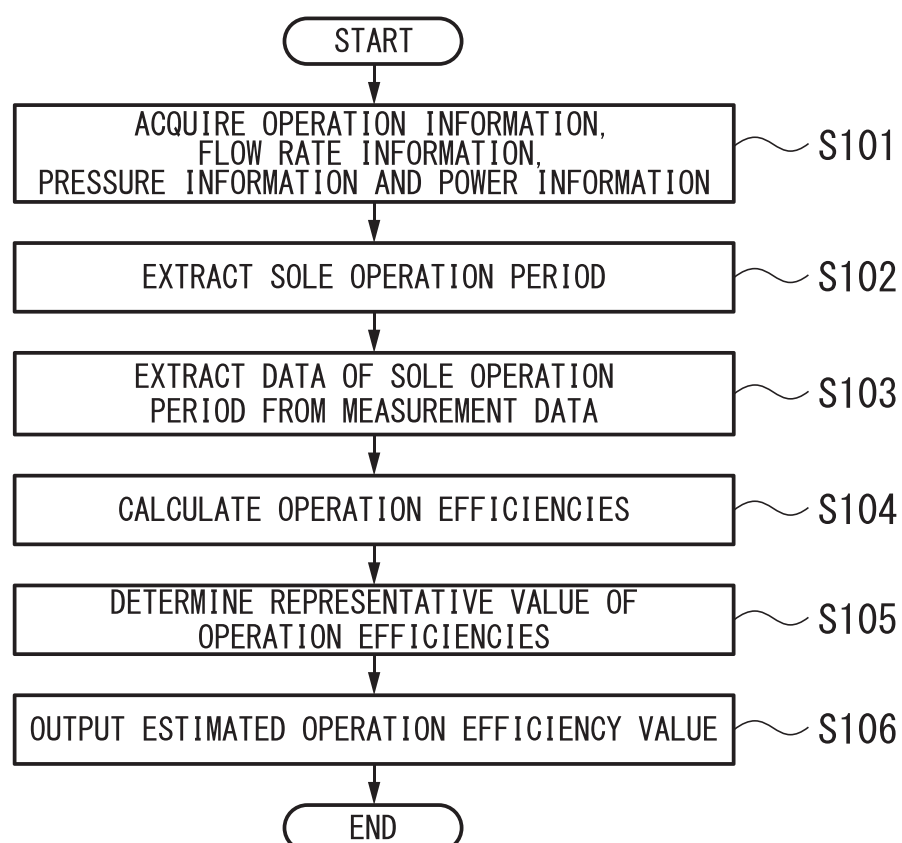


FIG. 6

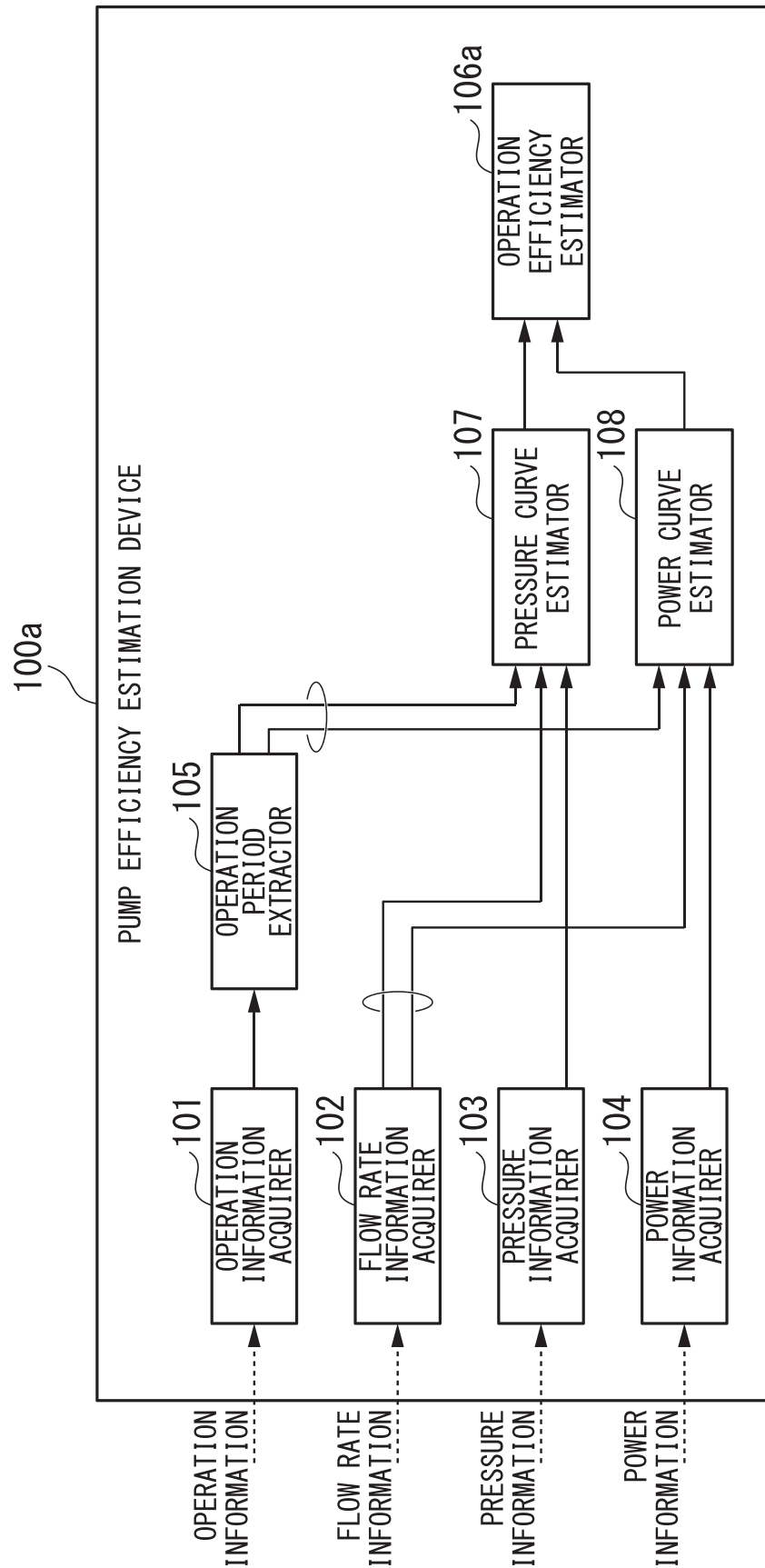


FIG. 7A

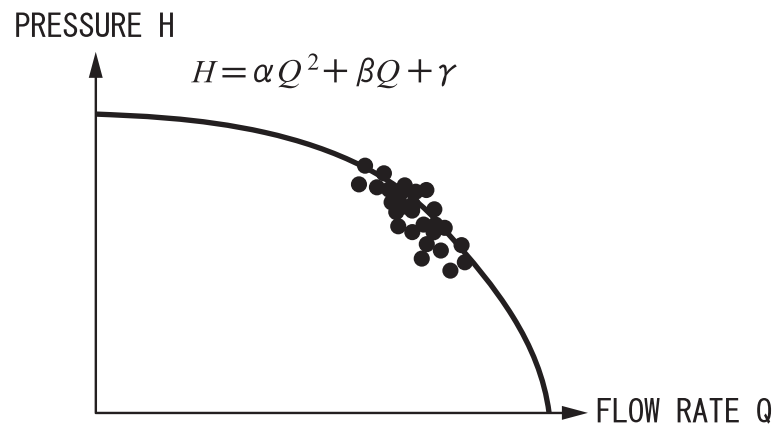


FIG. 7B

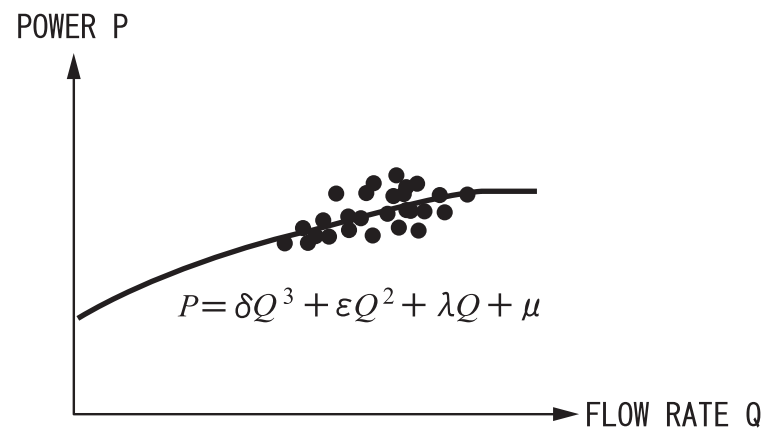


FIG. 7C

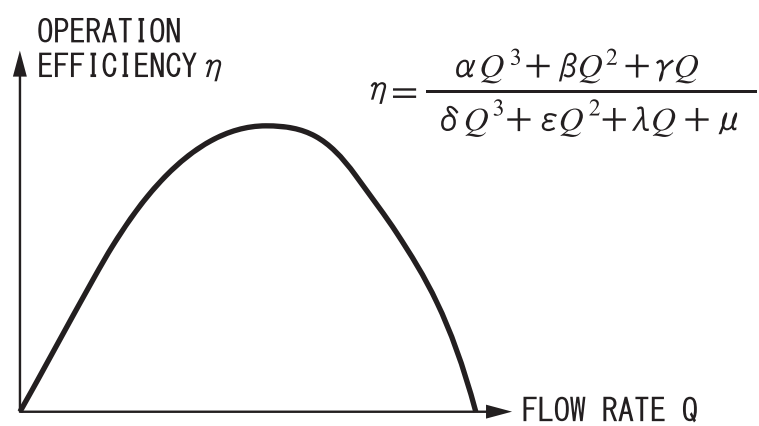


FIG. 8

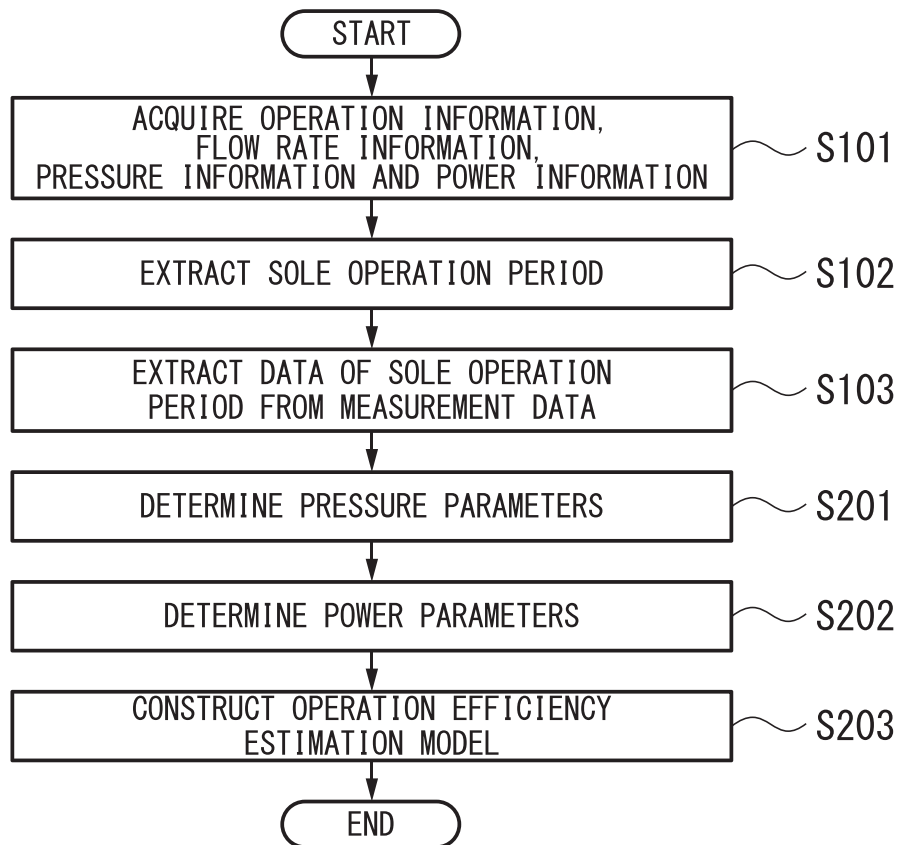


FIG. 9

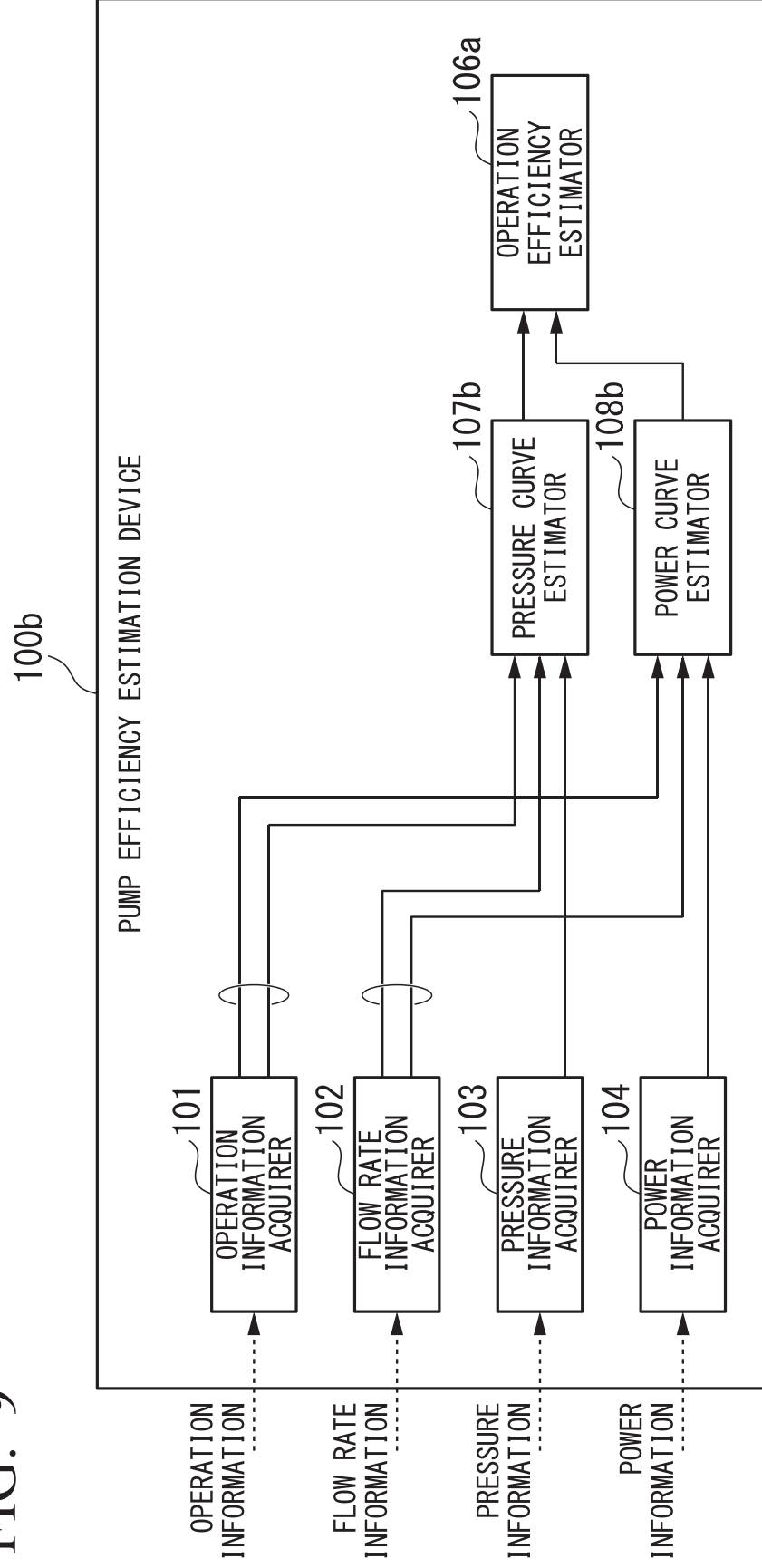


FIG. 10

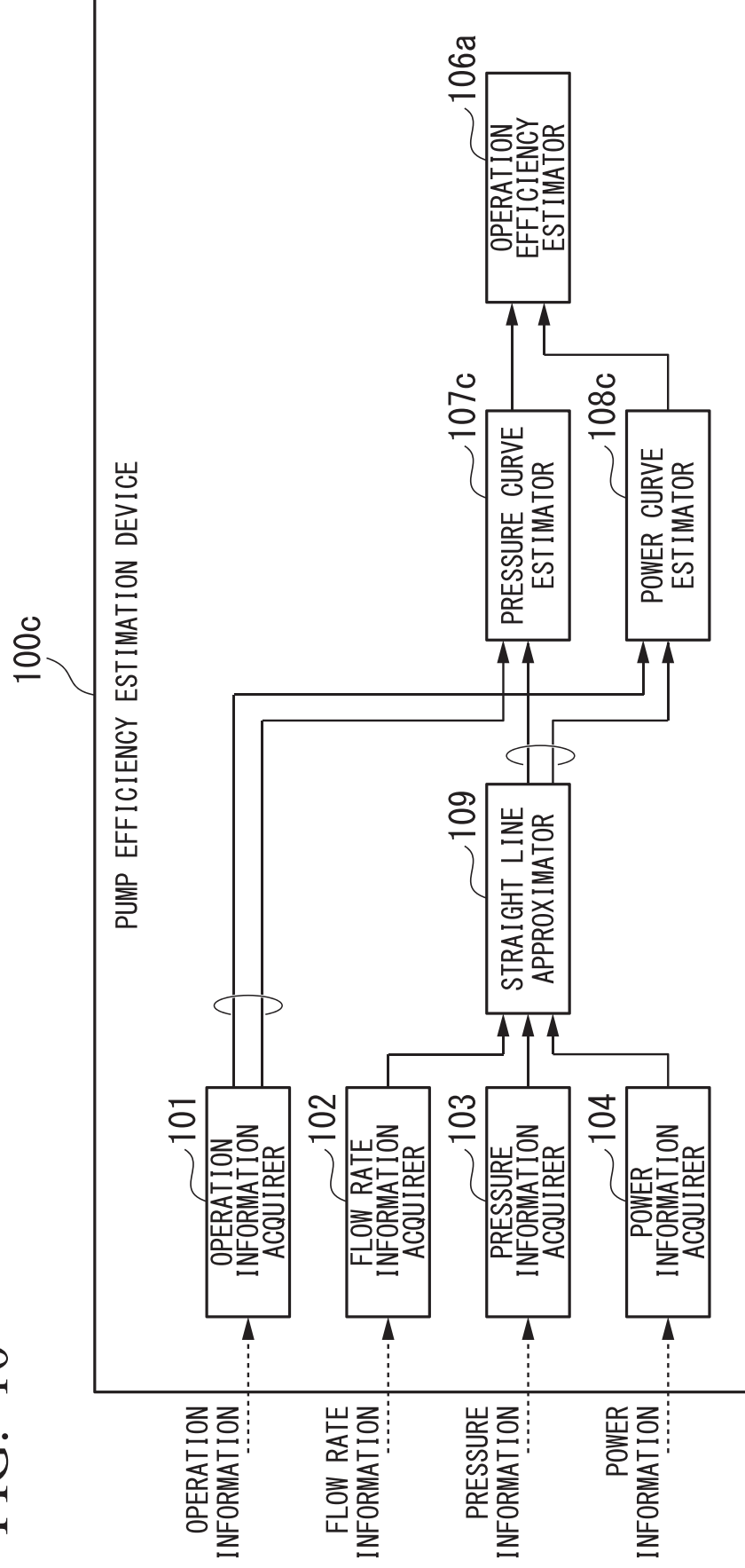


FIG. 11

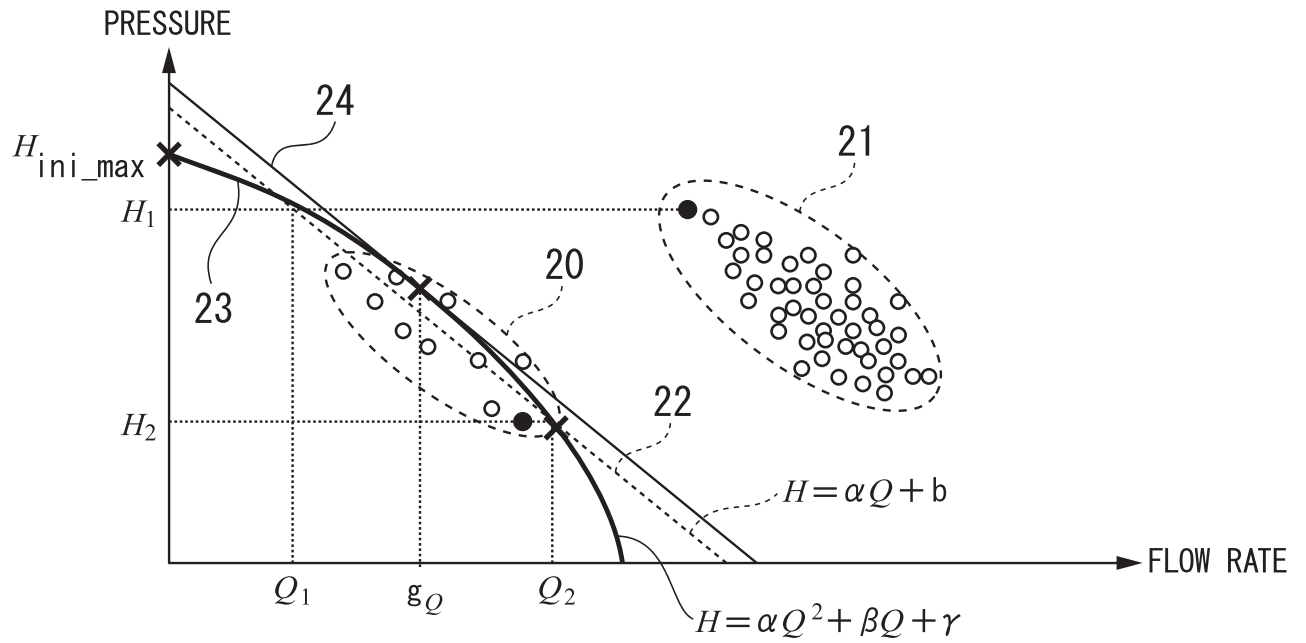


FIG. 12

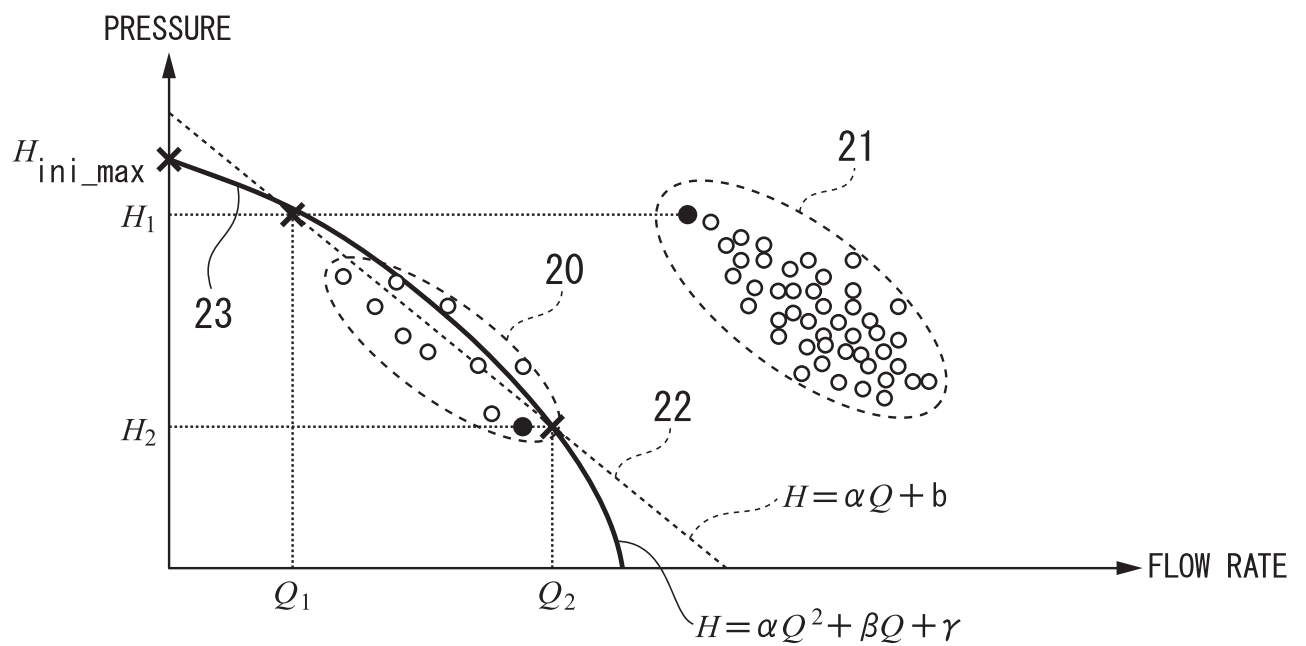


FIG. 13

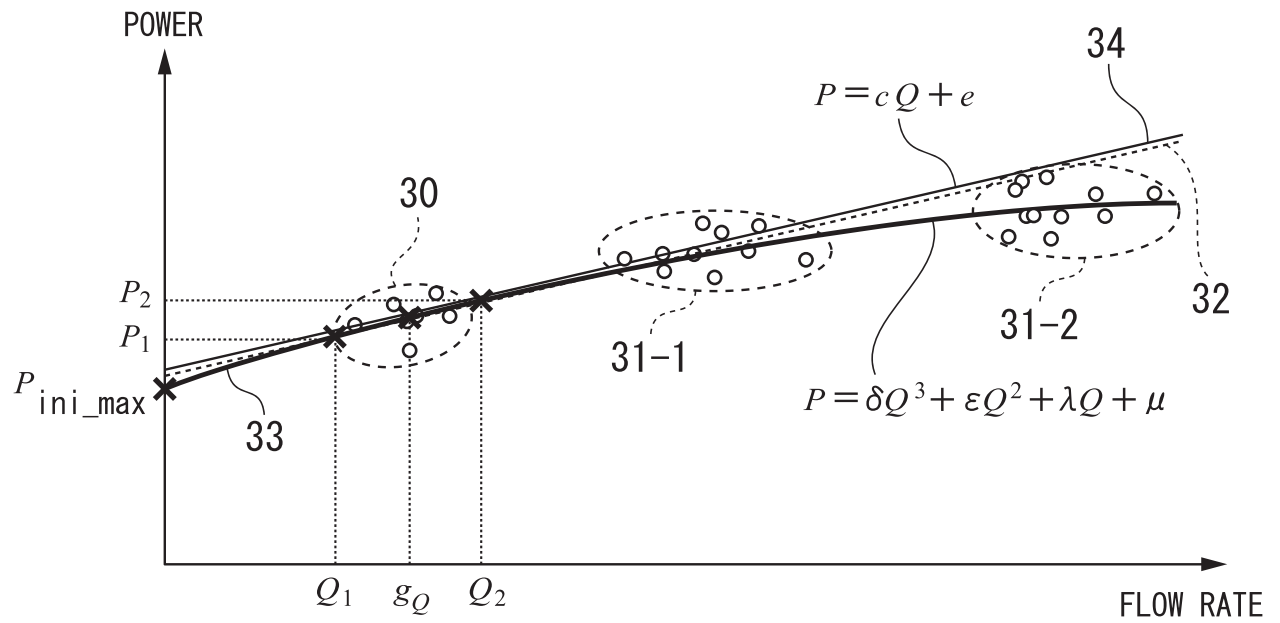


FIG. 14

TIME	PUMP OPERATION STATES			TOTAL FLOW RATE [m ³ /min]	TOTAL PRESSURE [m]	TOTAL POWER CONSUMPTION [kW]
	PUMP 1	PUMP 2	PUMP 3			
0	1	1	0	Q(0)	H(0)	P(0)
1	1	1	0	Q(1)	H(1)	P(1)
2	1	1	1	Q(2)	H(2)	P(2)
...	...	...	...	...	...	...
t	1	1	1	Q(t)	H(t)	P(t)

FIG. 15

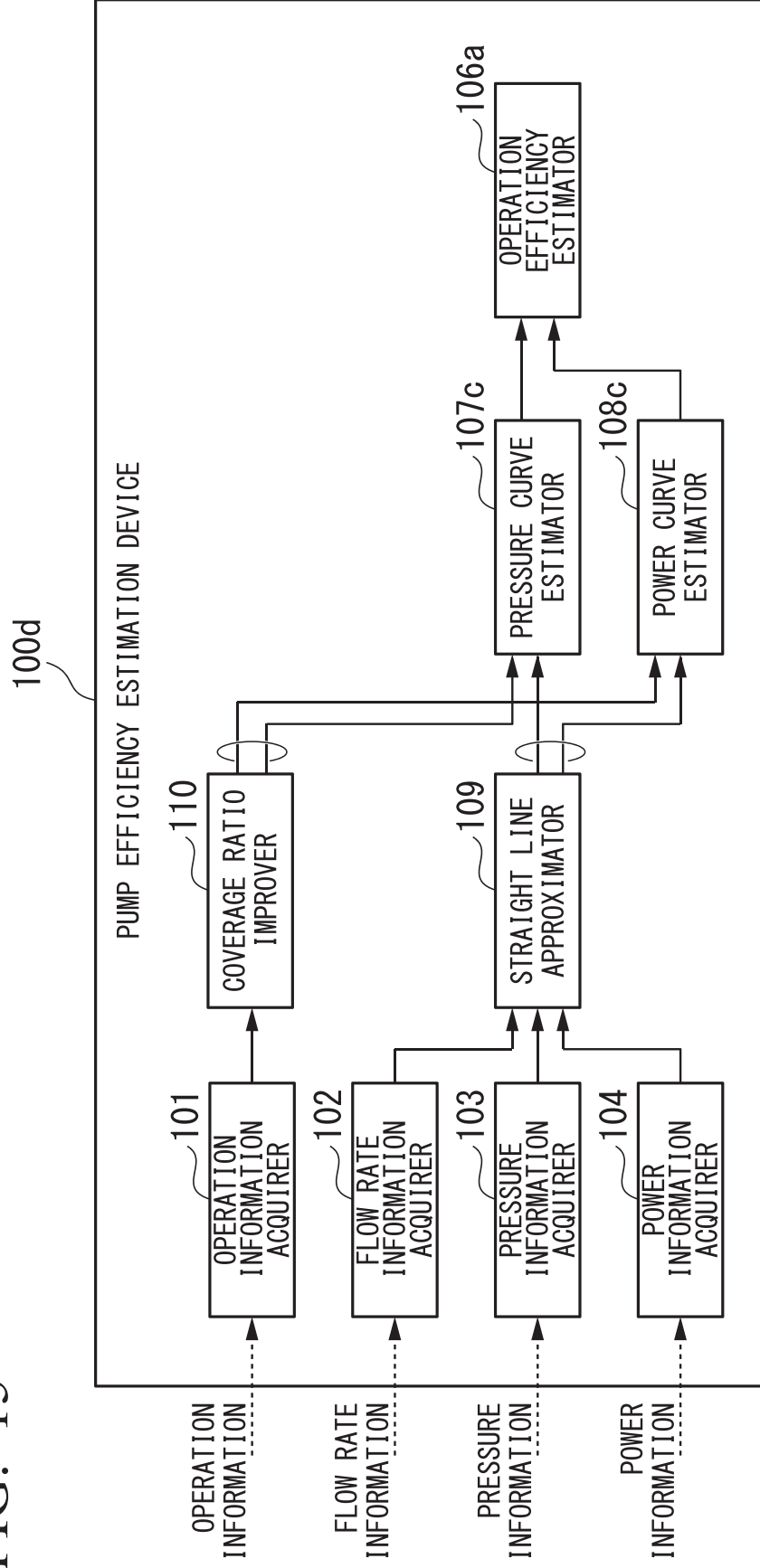


FIG. 16

THINNING PATTERNS (PUMP TO BE ESTIMATED: ○) (PUMP TO BE THINNED OUT: ×)				NUMBER OF PUMPS TO BE ESTIMATED	COVERAGE RATIO R
PUMP 1	PUMP 2	PUMP 3	PUMP 4		
○	○	○	○	4	0.33
○	○	×	○	3	0.43
○	×	○	○	3	0.43
×	○	○	○	3	0.57
○	×	×	○	2	0.33
×	○	×	○	2	0.67
×	×	○	○	2	0.67
×	×	×	○	1	0.00

FIG. 17

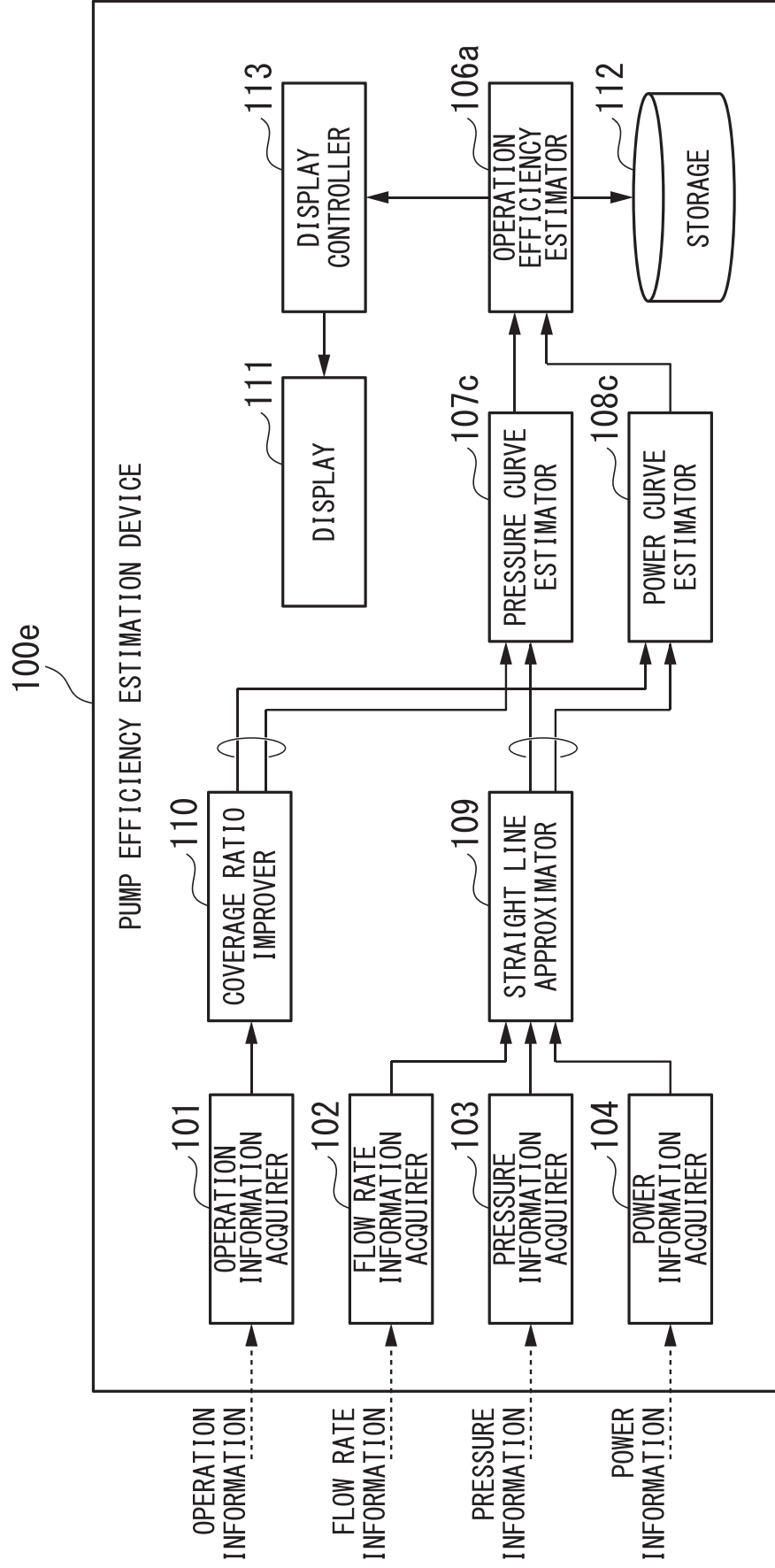


FIG. 18

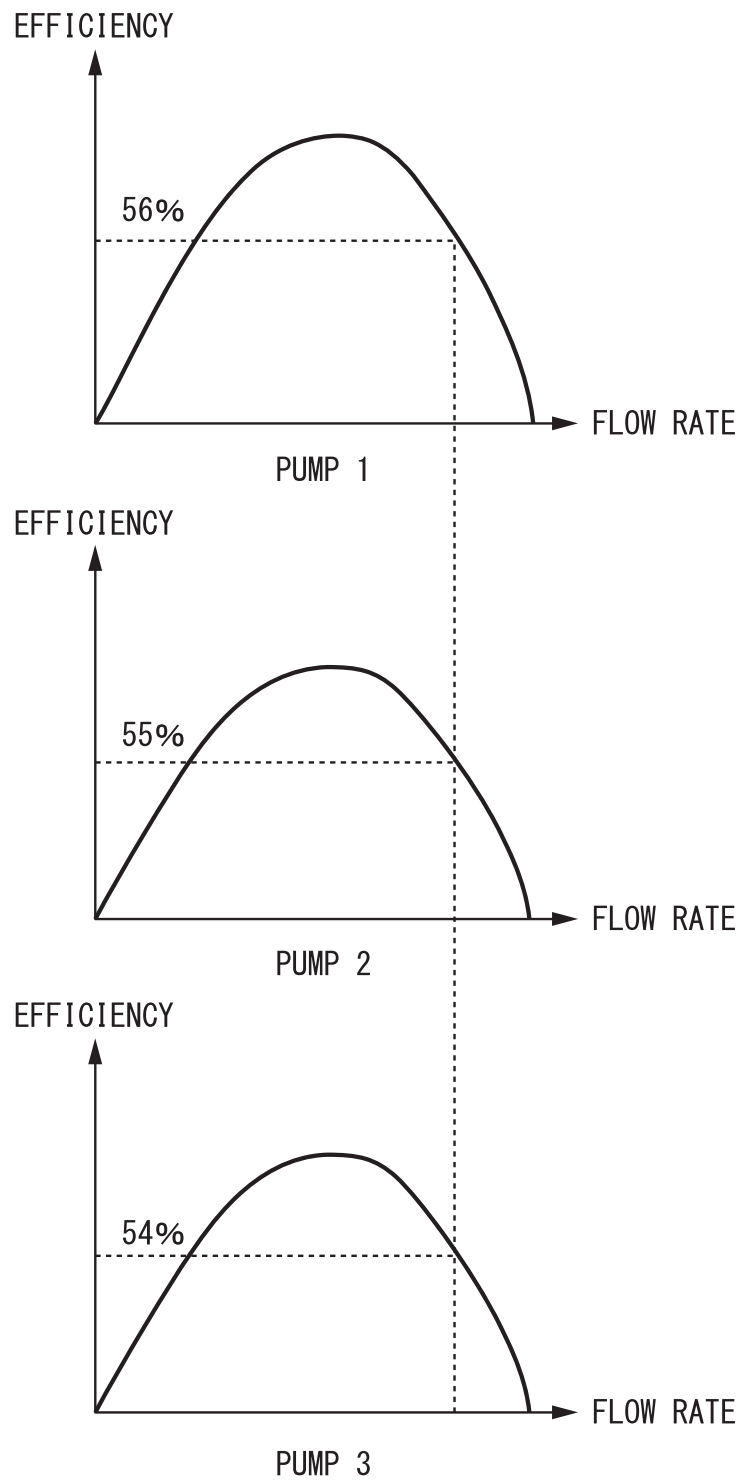


FIG. 19

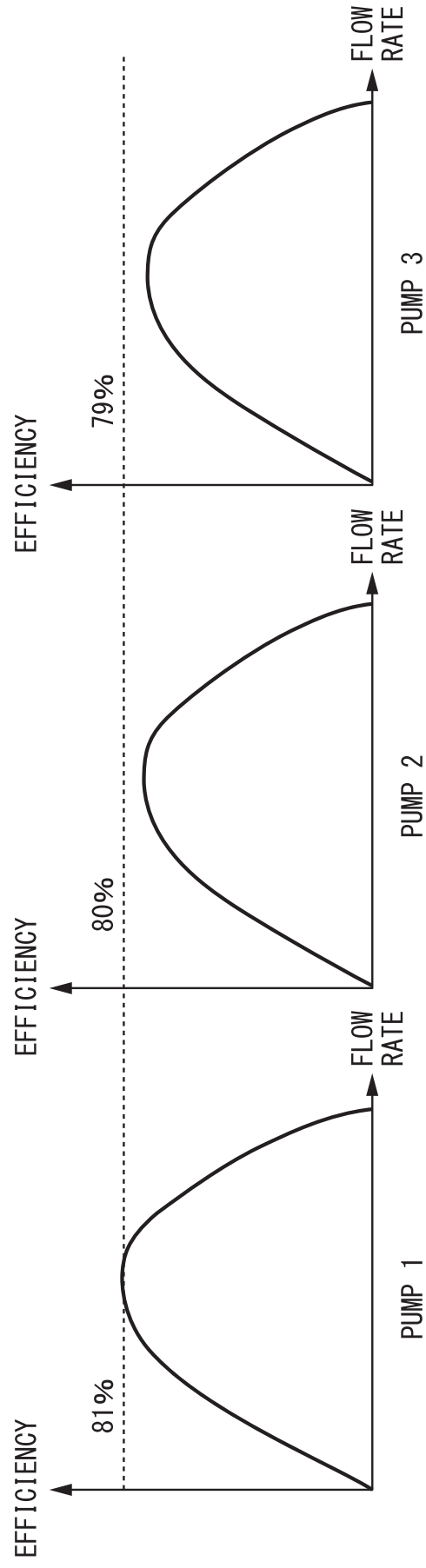


FIG. 20

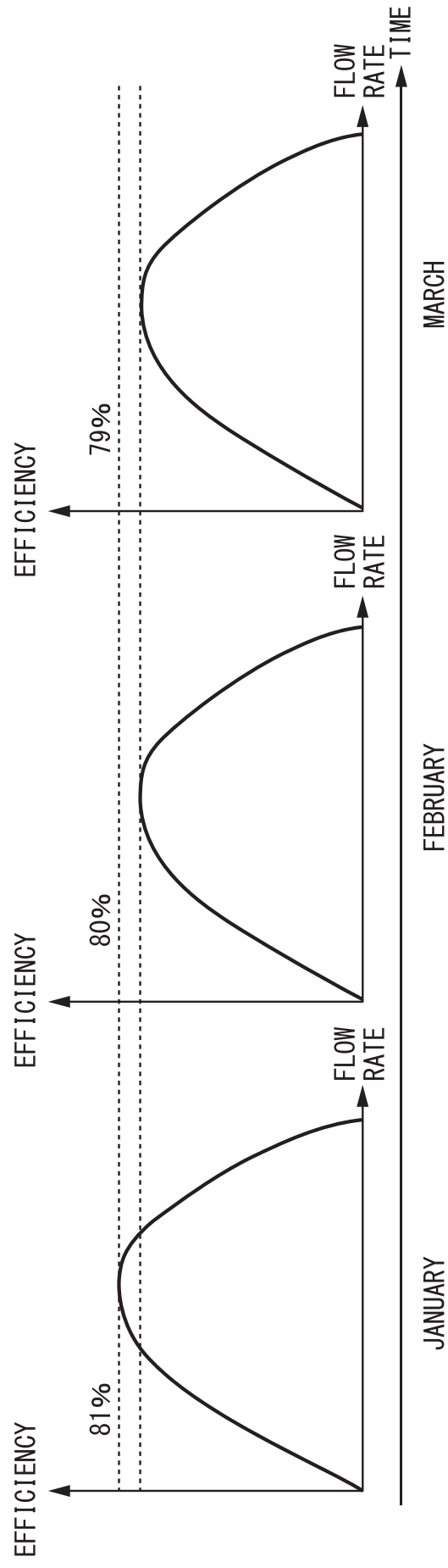


FIG. 21

PUMP OPERATION INFORMATION

