

Fig. 1

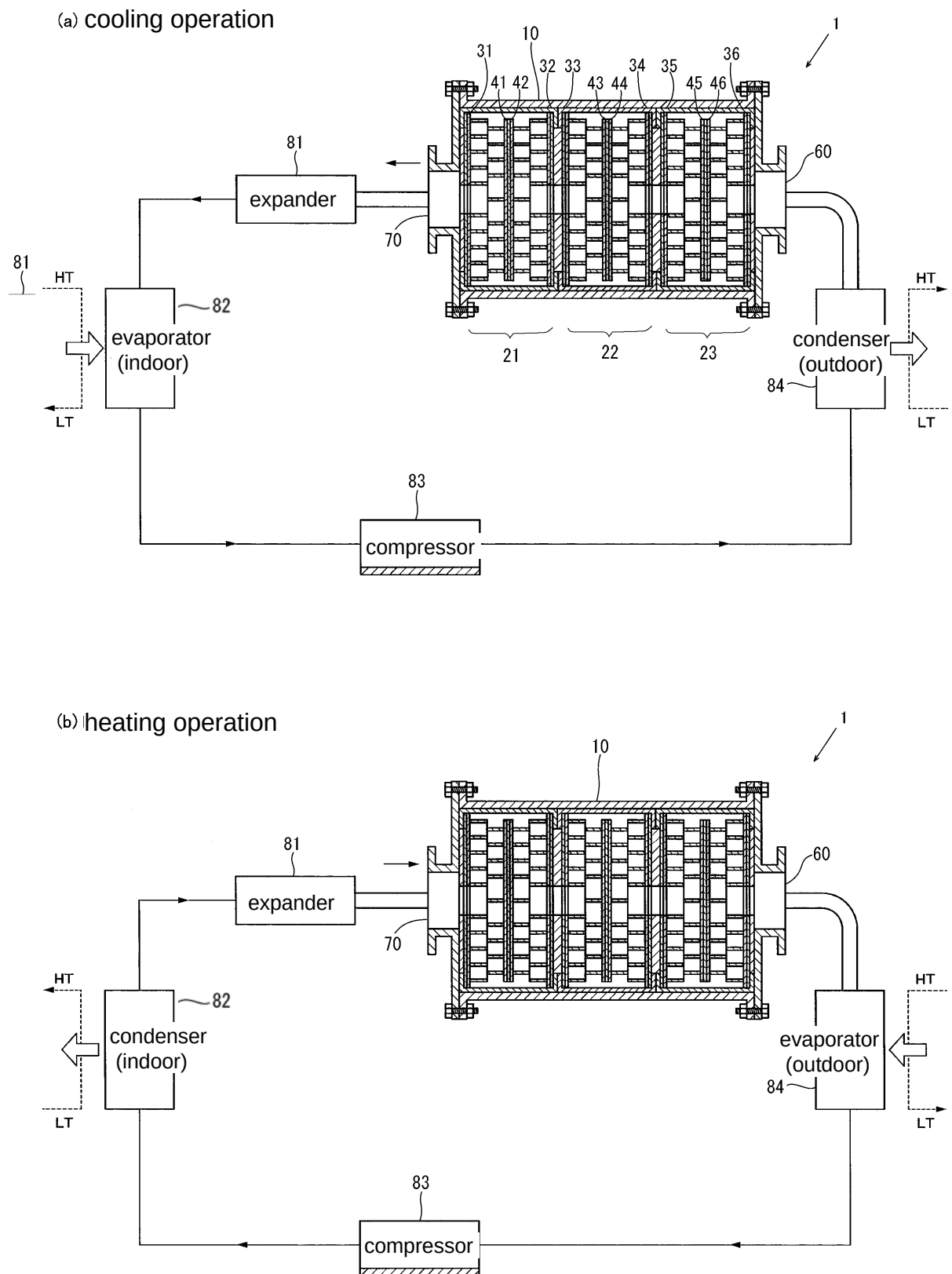
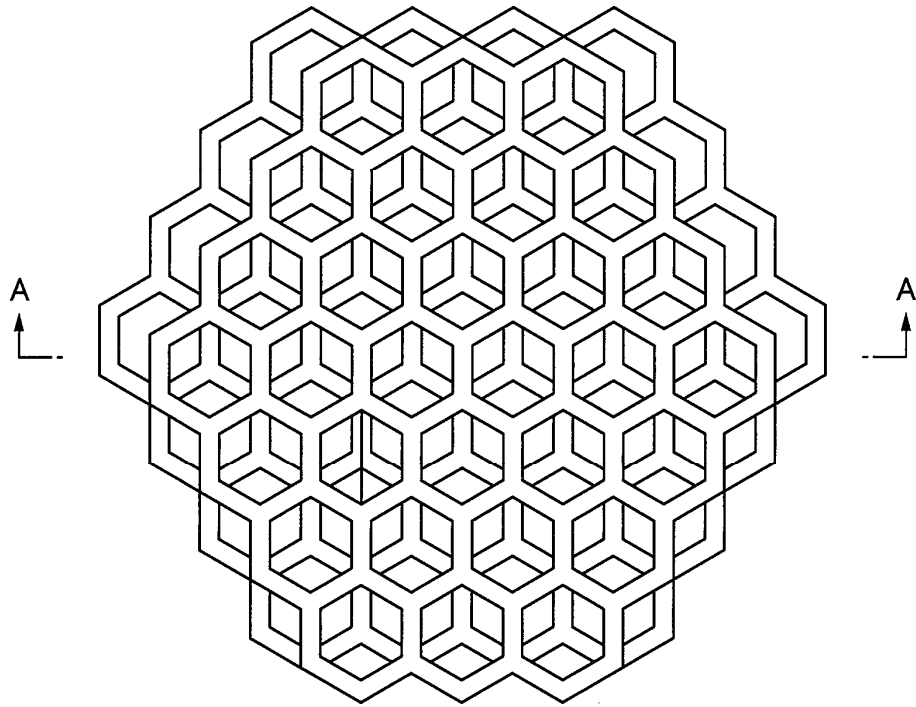


Fig. 2

(a)



(b) A-A cross section

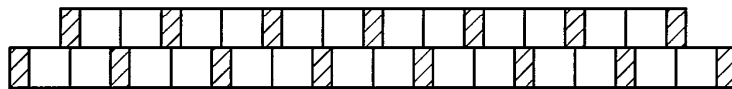
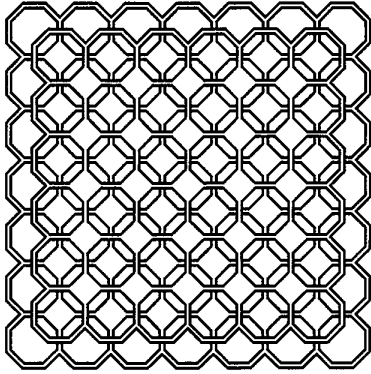
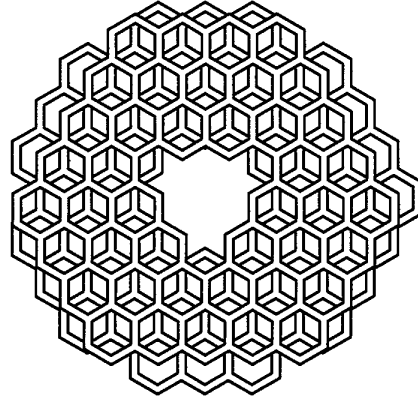


Fig. 3

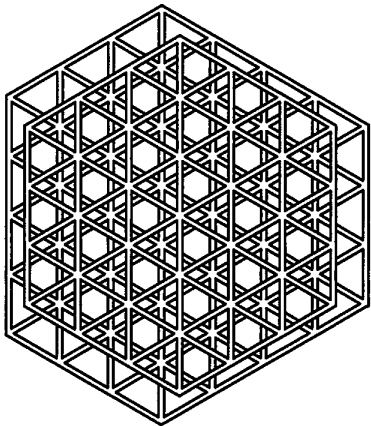
(a)



(b)



(c)



(d)

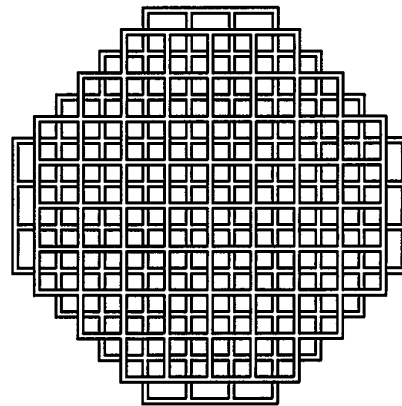


Fig. 4

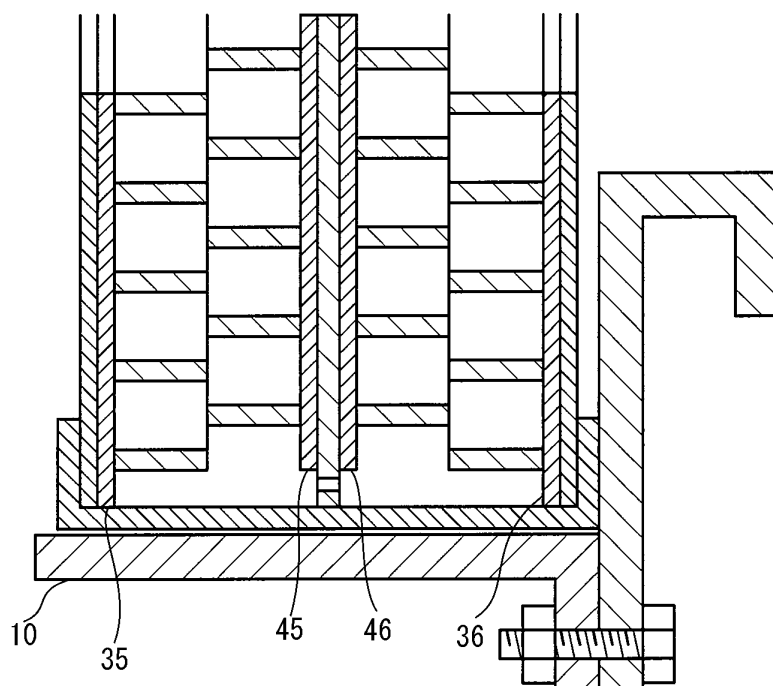


Fig. 5

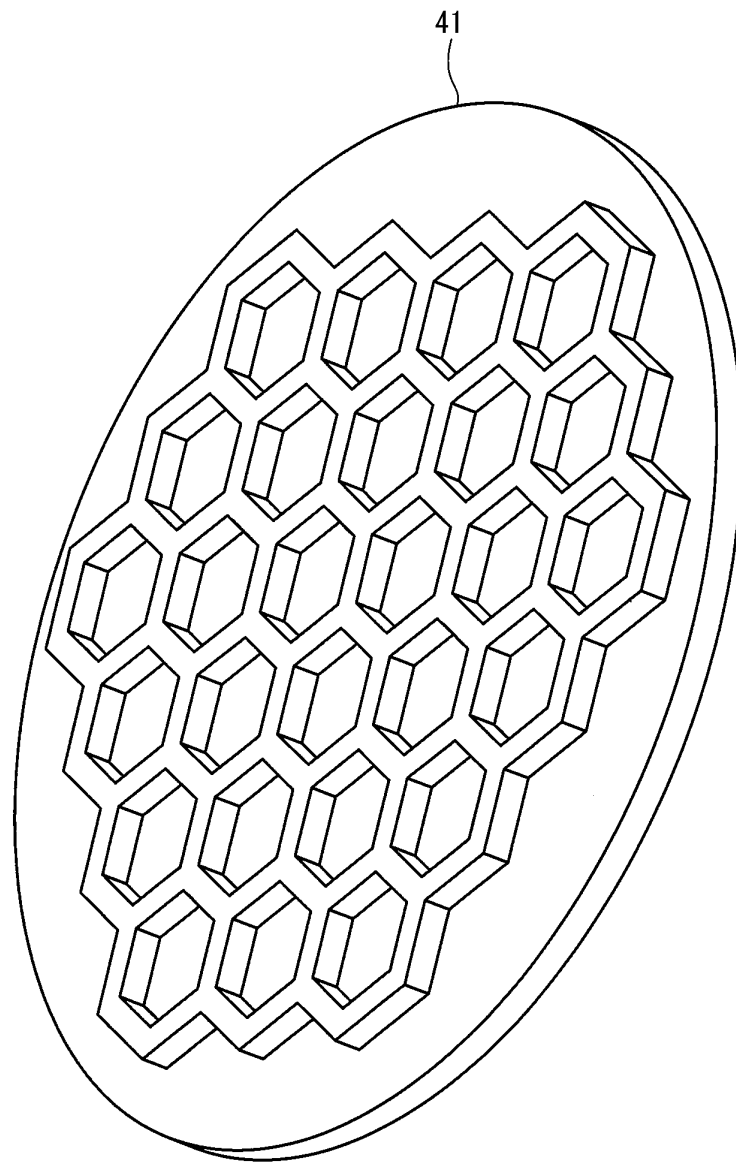
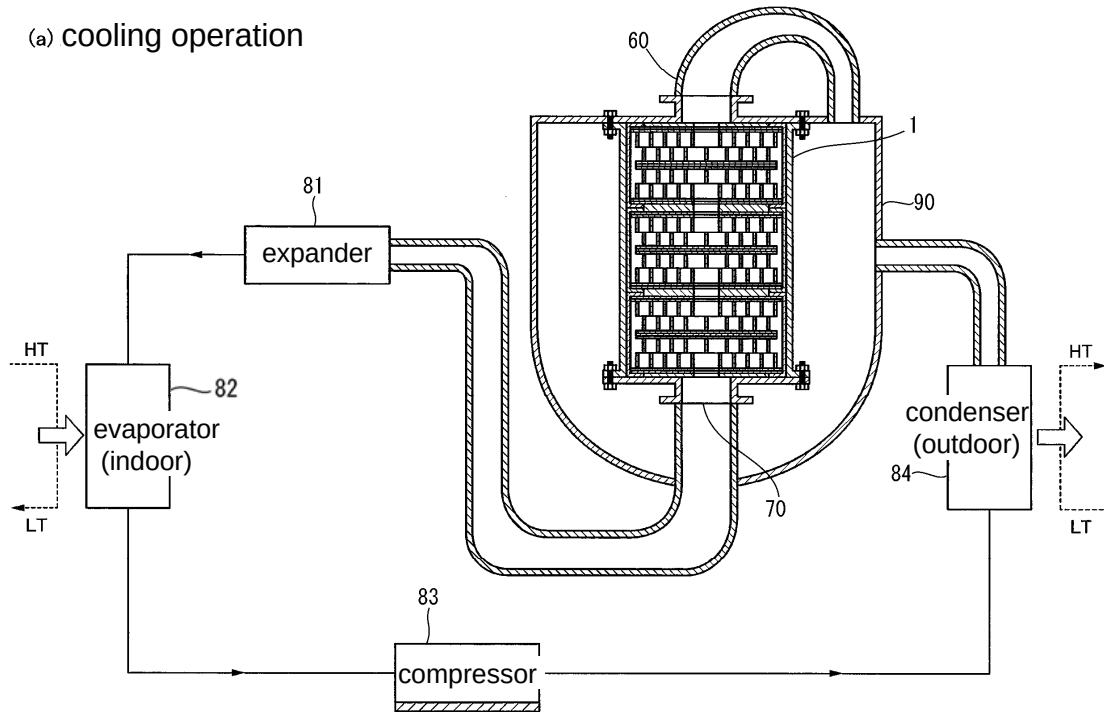


Fig. 6

(a) cooling operation



(b) heating operation

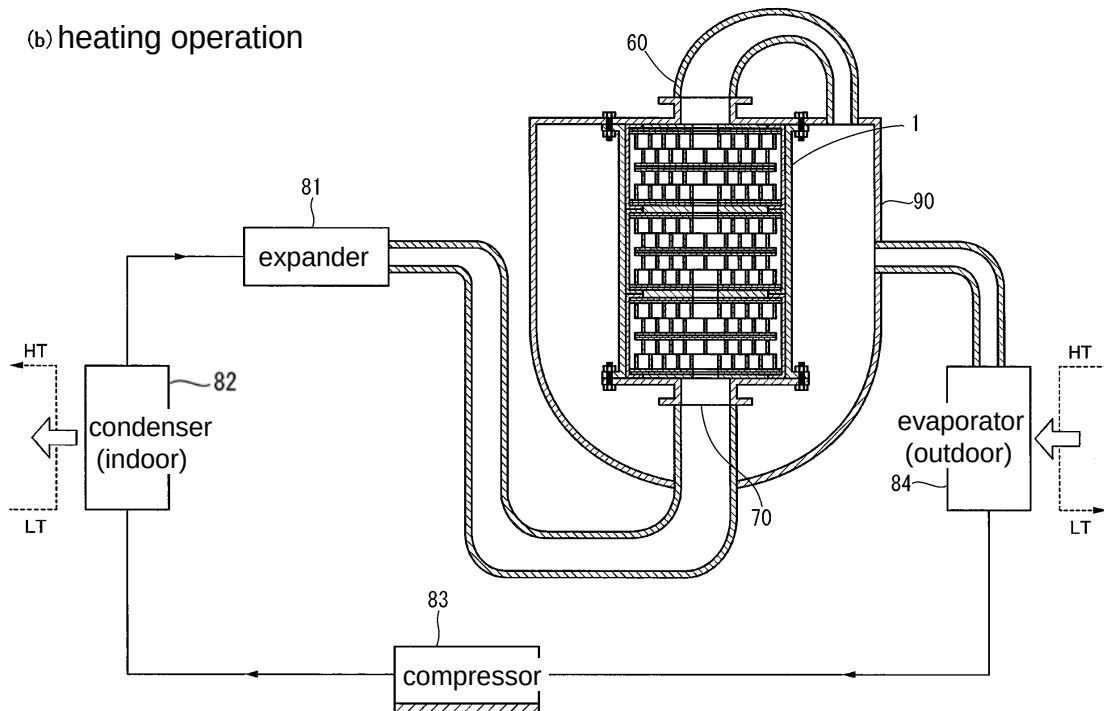
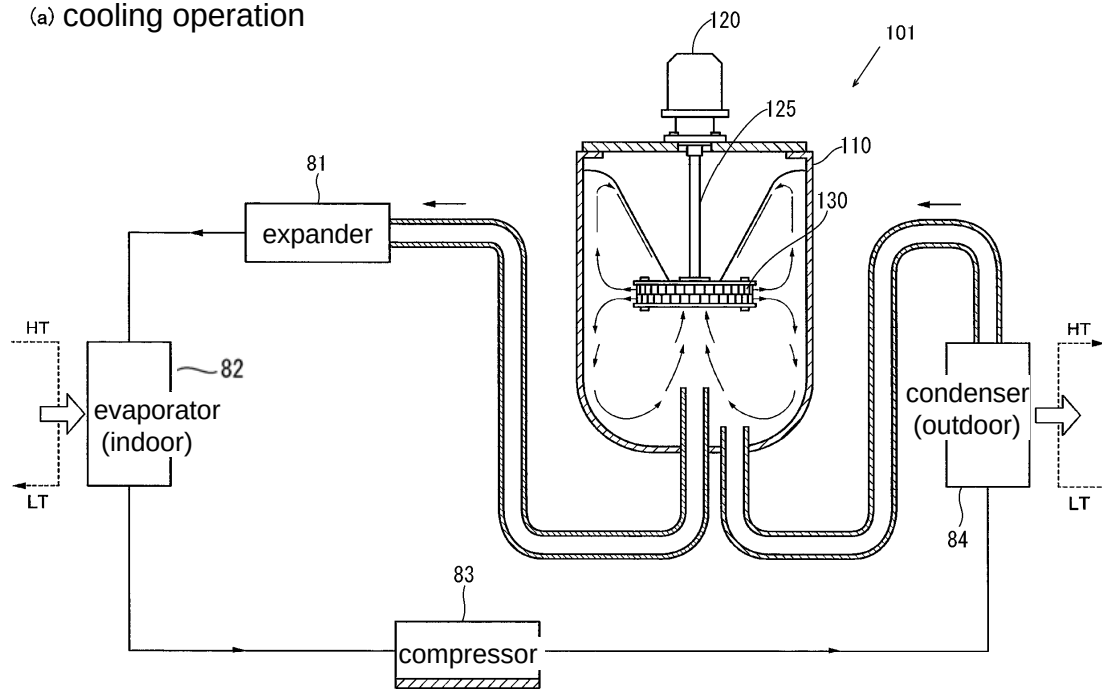


Fig. 7

(a) cooling operation



(b) heating operation

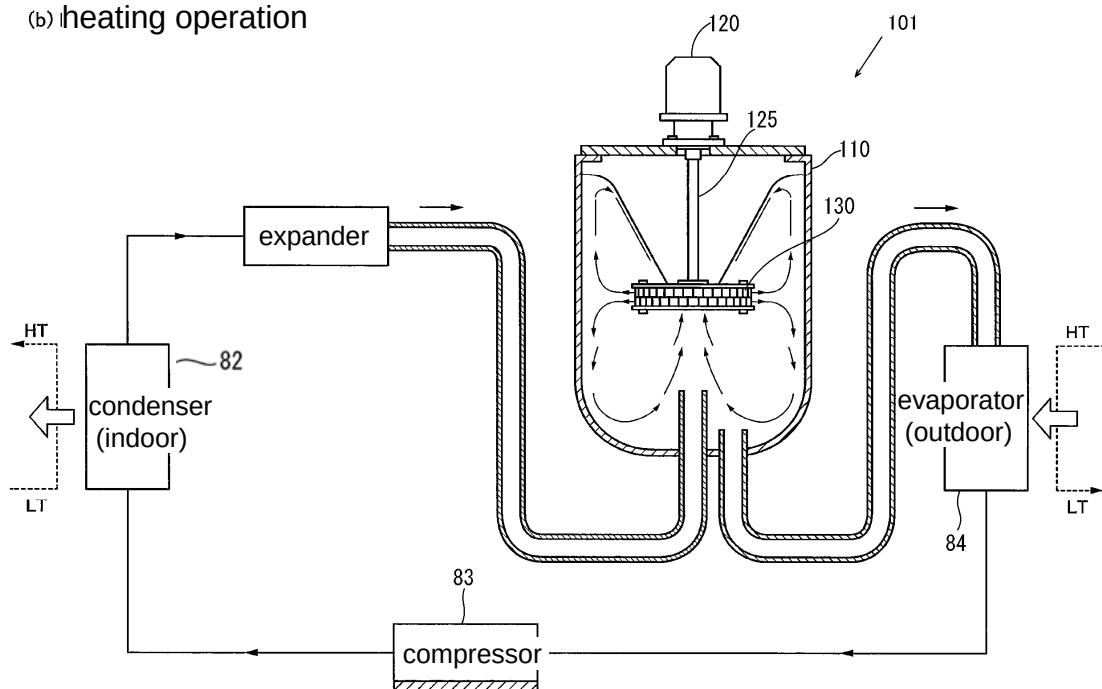


Fig. 8

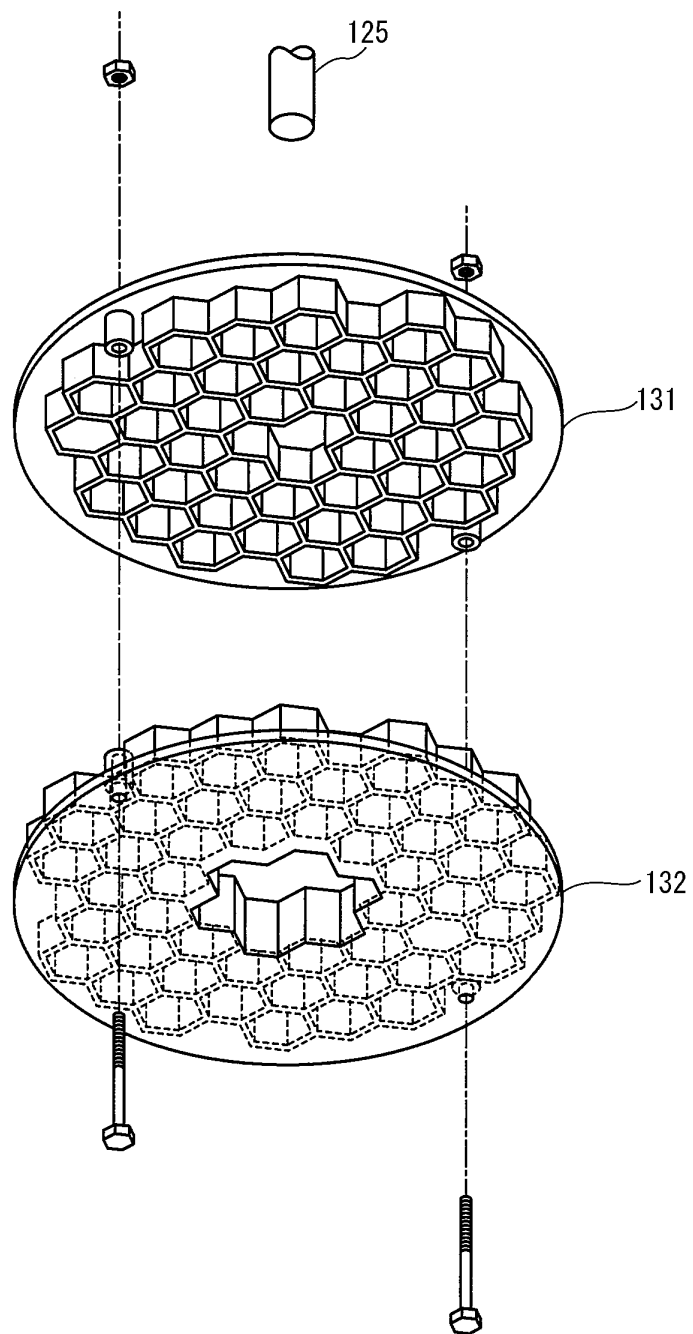


Fig. 9

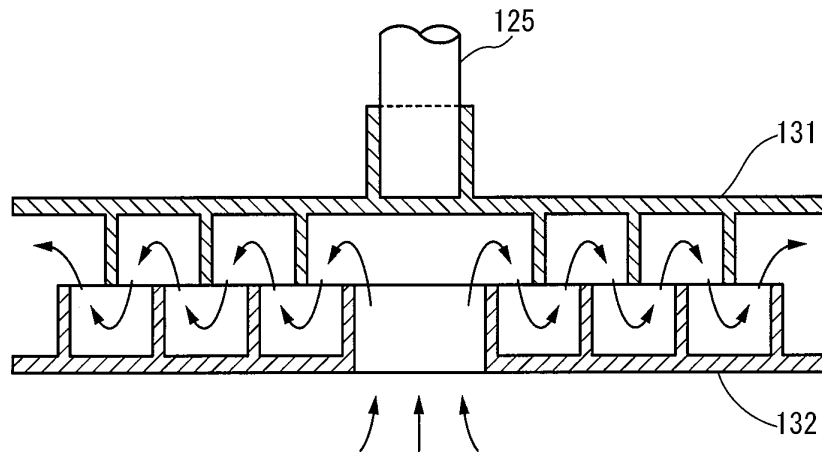


Fig. 10

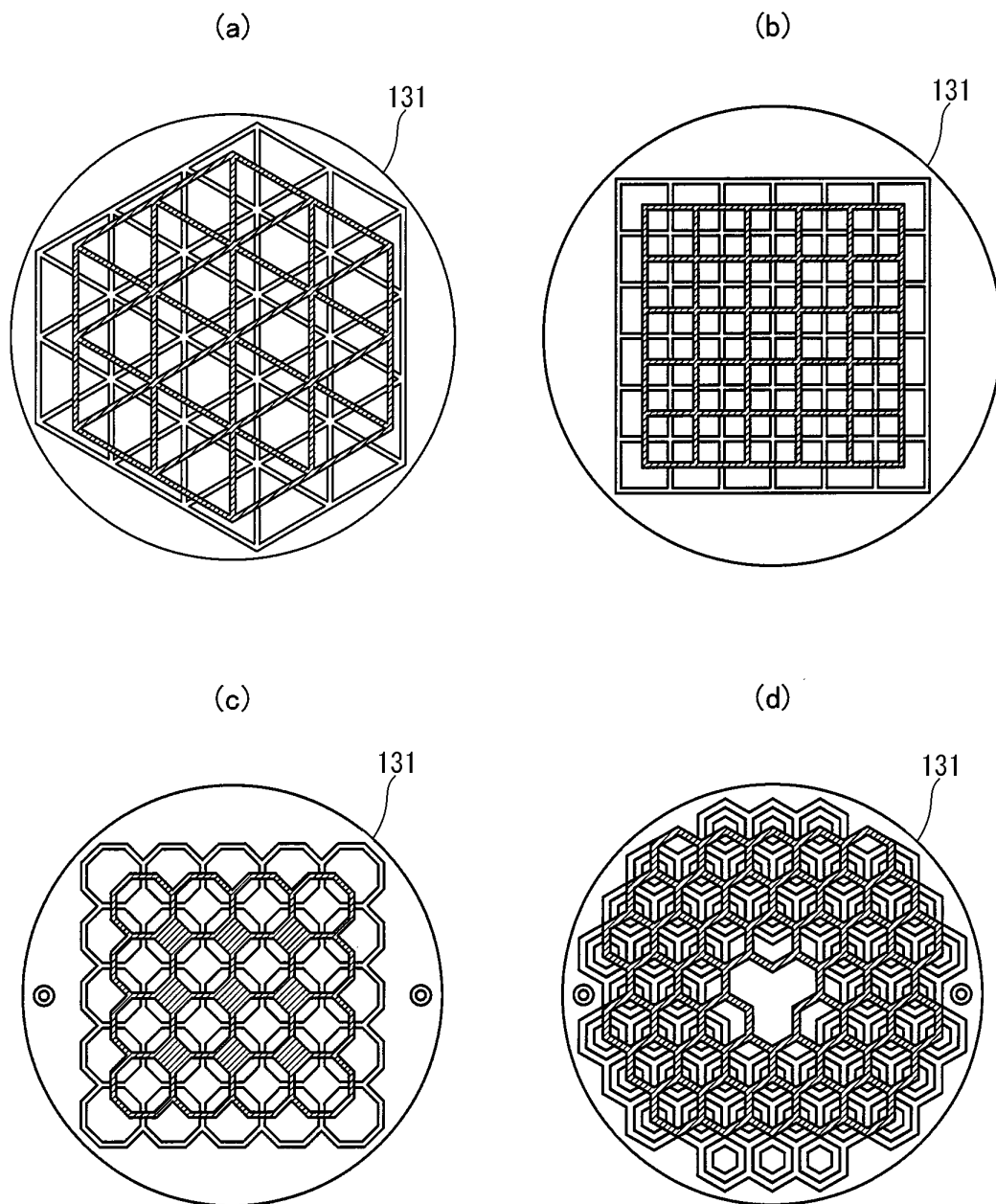
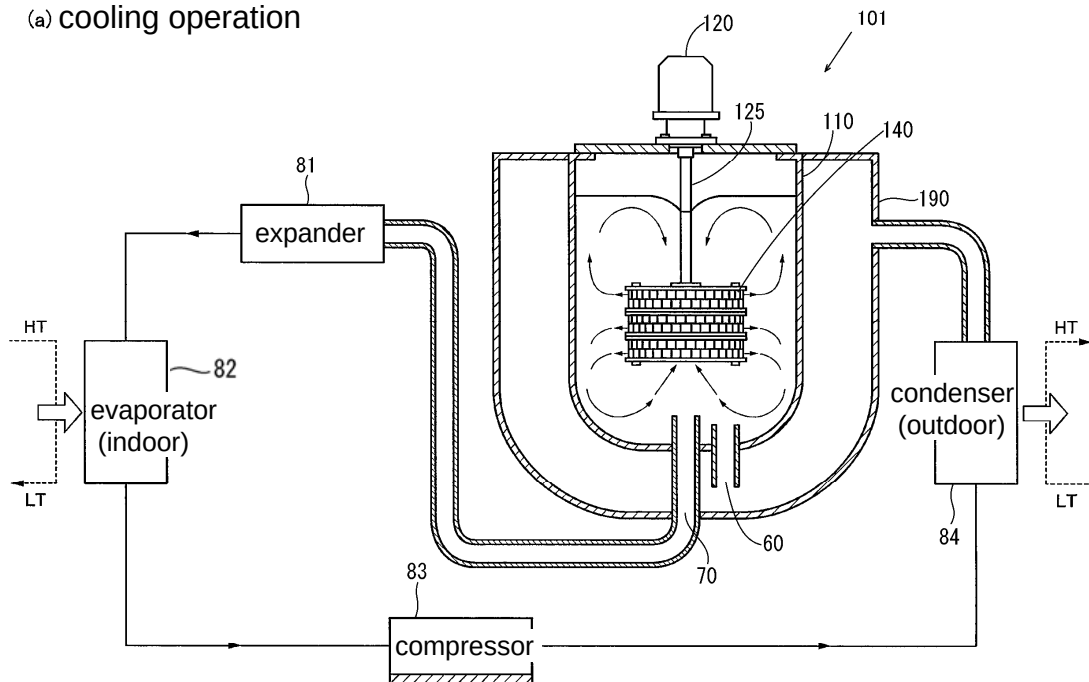


Fig. 11

(a) cooling operation



(b) heating operation

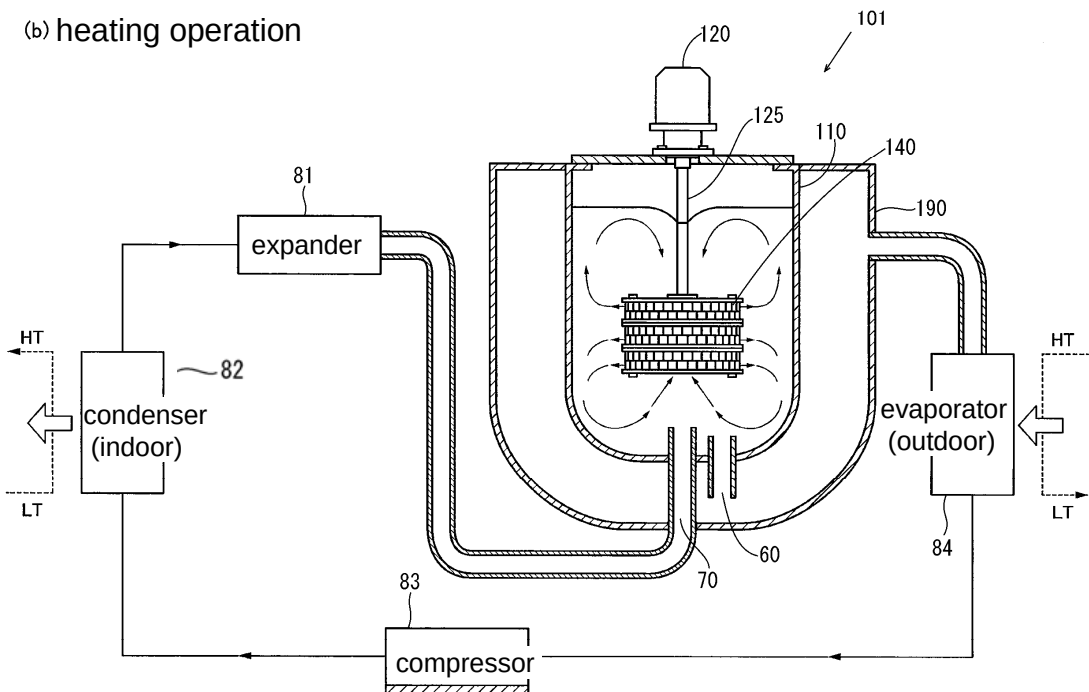


Fig. 12

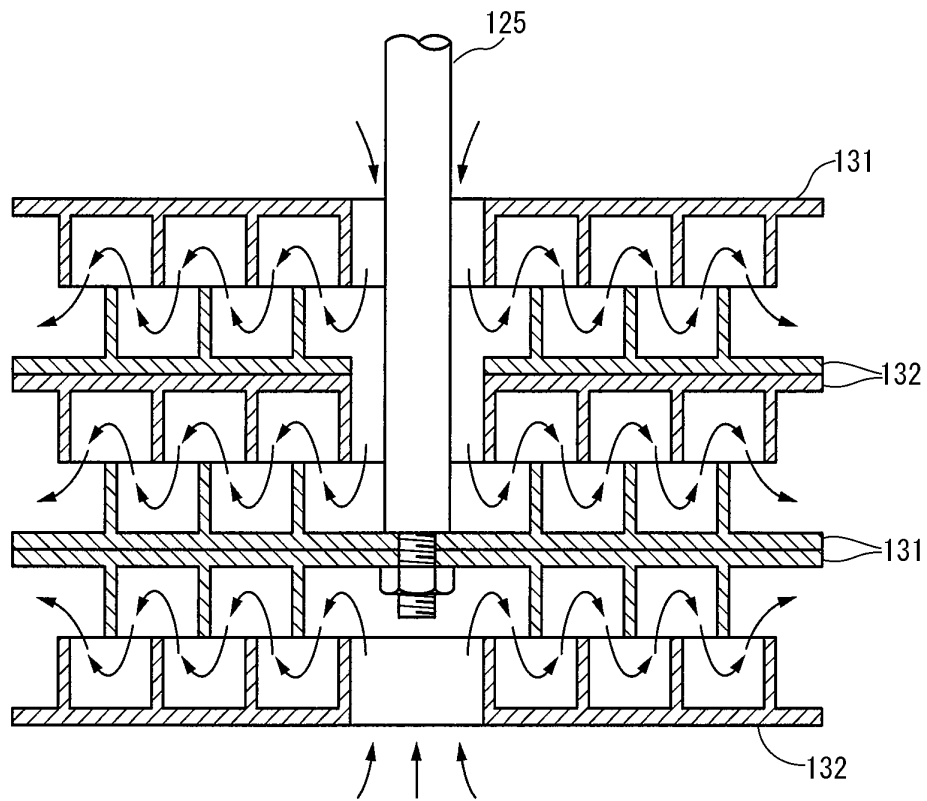


Fig. 13

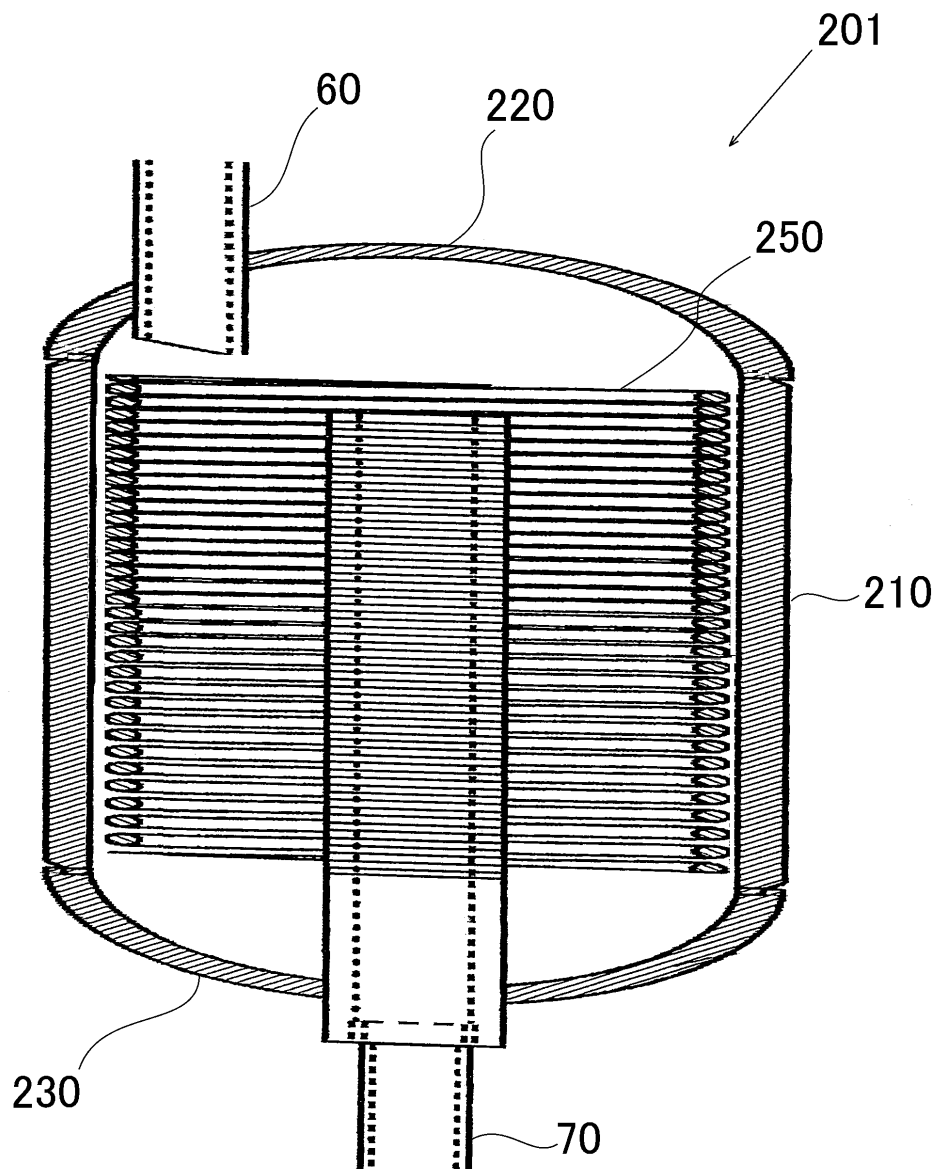


Fig. 14

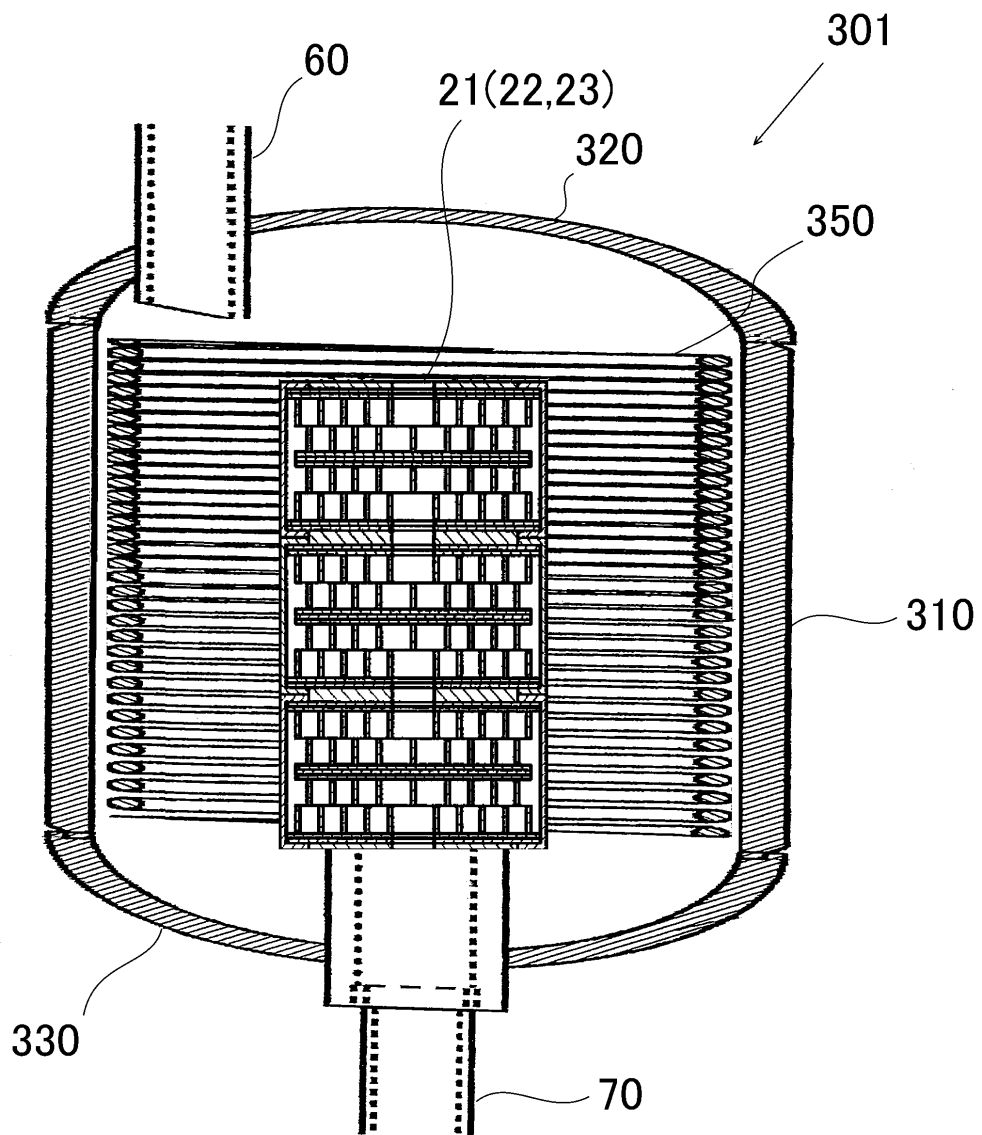


Fig. 15

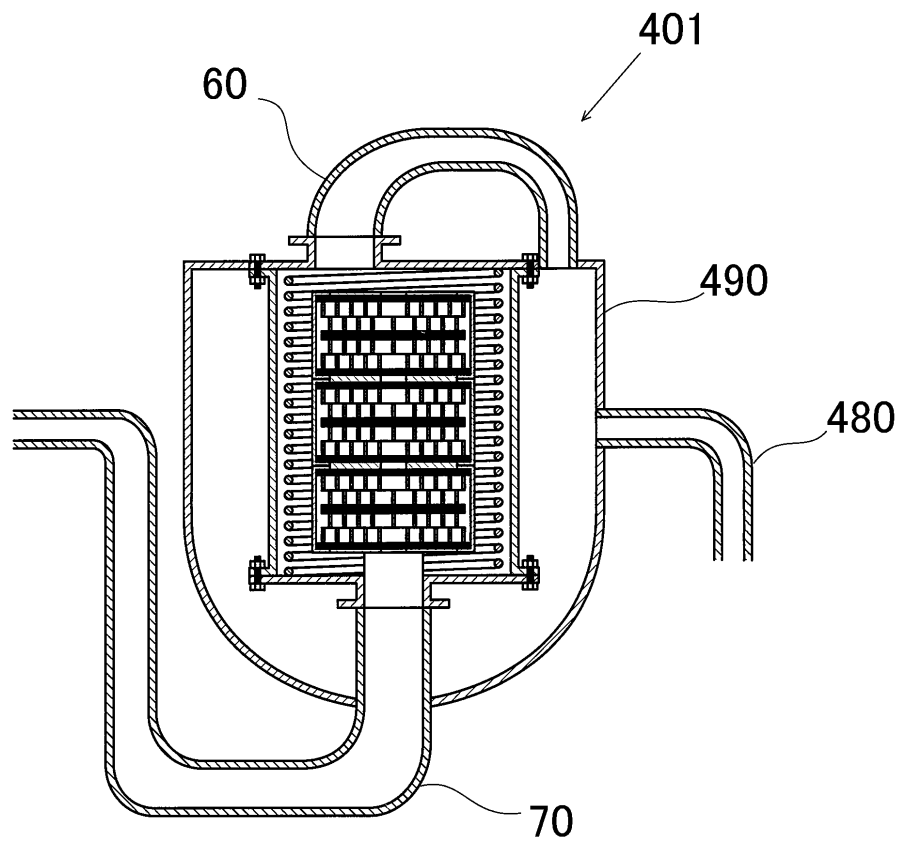


Fig. 16

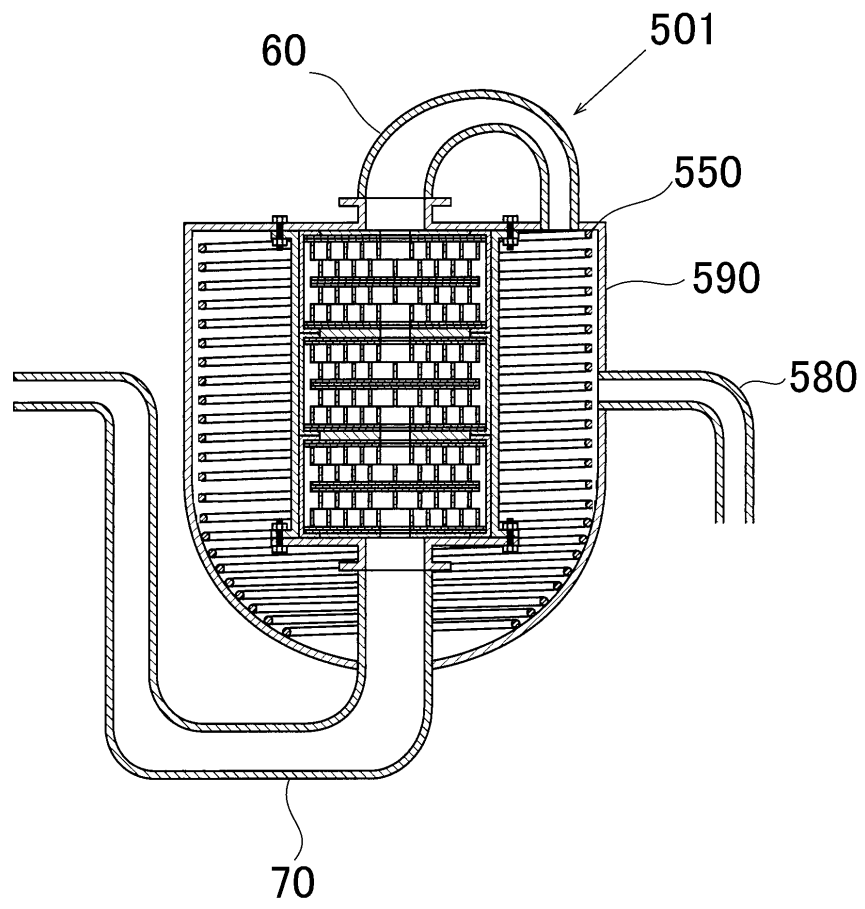


Fig. 17

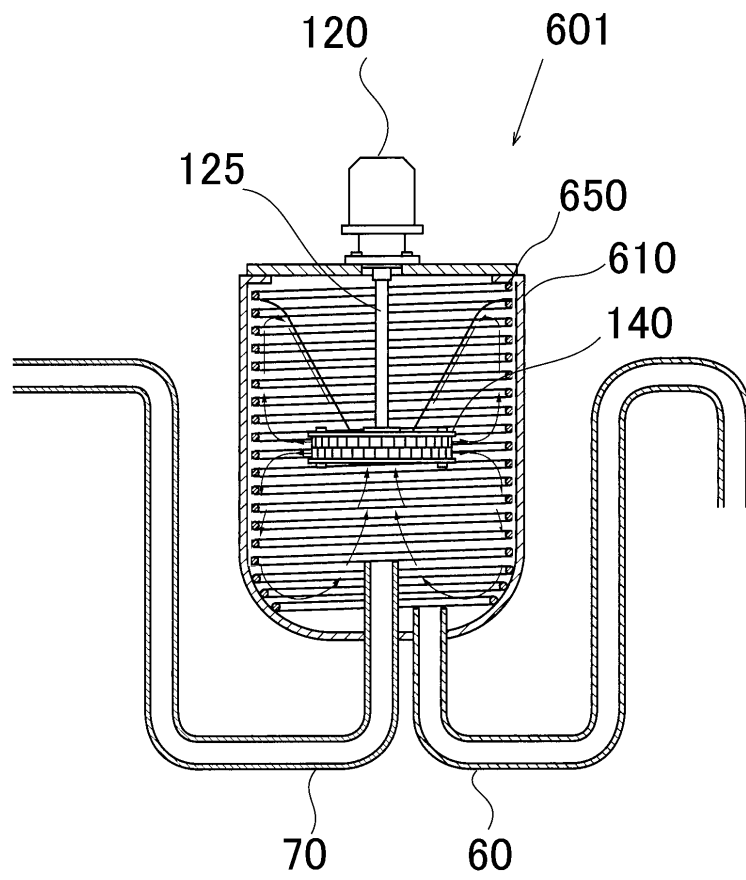


Fig. 18

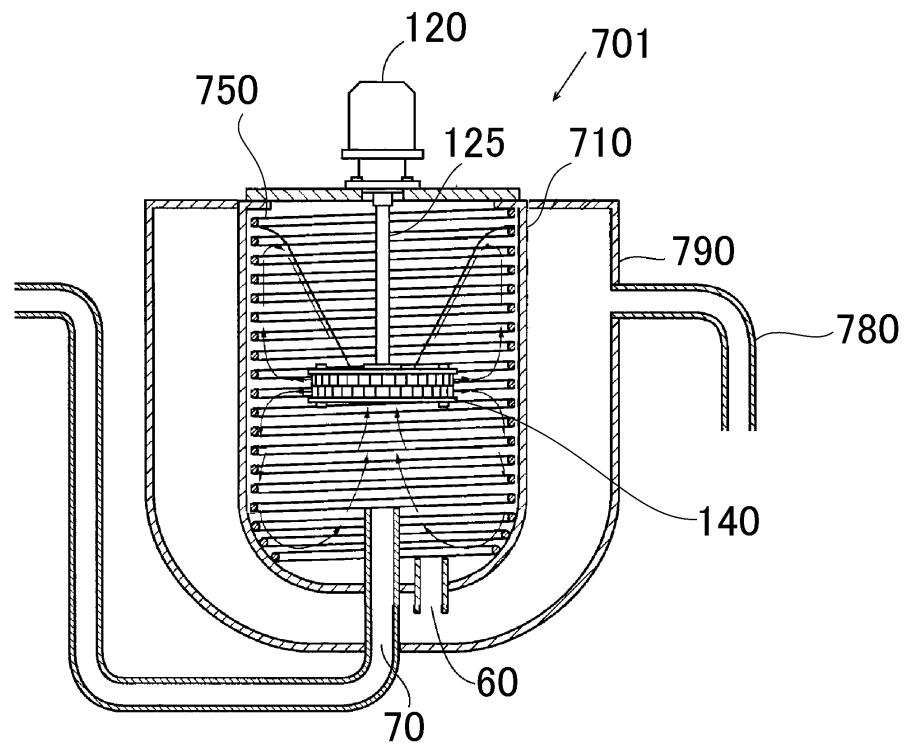


Fig. 19

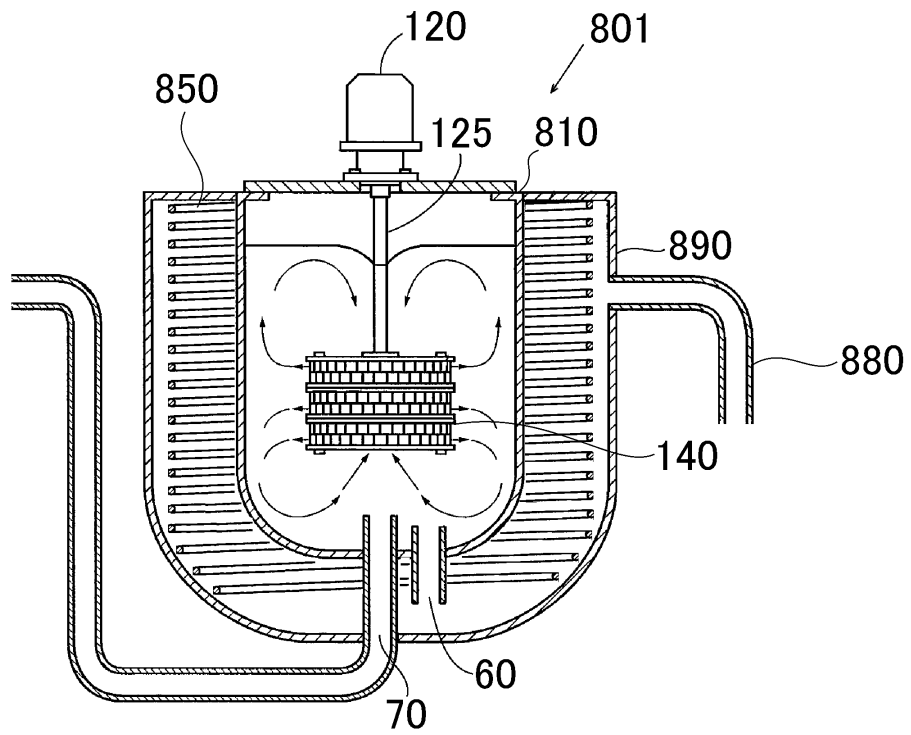


Fig. 20

Performance of reduction of energy consumption

Model	Type of refrigerant	Measurement date before	Measurement date after	Suction temperature (°C)	Discharge temperature (°C)	Δt (°C)	Outdoor temperature (°C)	Max. Δt (°C)	Current (R phase:A)	Current (T phase:A)	Current (Avg.:A)	Electric Power (w/h)	Reduction rate (%)
FDCP4501HLX	R410	2013/4/12	2013/4/12	29.5	44.8	15.4	10.8	20	27.1	25.6	26.4	9042	
		2013/4/21	2013/4/21	31.2	44.4	13.2	8.7	14	21.4	21	21.2	7426	17.90%
		2013/4/18	2013/4/18	16.9	8.3	8.6	31.2	10	13.3	11.2	12.2	3370	
RZXP280A	R410	2013/5/10	2013/5/10	19.2	9.2	10	22.1	10.5	11.3	9	10.1	2730	19.00%
PAH-40J	R22	2013/4/23	2013/4/23	18.9	10.7	8.3	14.5	9.5	119.9	113.2	116.6	36176	
		2013/5/11	2013/5/11	21.3	13.2	8.1	19.1	8.5	99.7	90.3	95	28906	21.10%
RYJ280F	R22	2013/5/21	2013/5/21	24.5	8.4	16.1	31.8	17	35.6	30.6	33.1	10942	
		2013/6/2	2013/6/2	23.9	5.2	18.7	25	20	31.4	26.6	29	9345	14.60%
RZYP280M	R410	2013/5/23	2013/5/23	20.2	8.6	11.6	29	12.5	17.8	15.9	16.8	5526	
		2013/6/7	2013/6/7	21	7.7	13.3	25.7	15.5	16	14.9	15.5	4920	11.00%
RRXP280P	R410	2013/5/25	2013/5/25	22.7	10.1	12.7	25.2	13	21.8	20.8	21.3	5872	
		2013/6/9	2013/6/9	22.5	12.2	10.3	26.6	12	15.8	13.7	14.7	3968	32.40%
RZYJ280L	R22	2013/6/6	2013/6/6	21.7	10.3	11.3	29.6	12	30.7	33.3	32	10896	
		2013/6/19	2013/6/19	22.6	10.3	12.3	25	13	27.7	29.1	28.4	9669	11.30%
MMY-MAP2803H	R410	2013/6/17	2013/6/17	23.1	16.9	6.2	26.8	10	24.6	23.6	24.1	7174	
		2013/7/1	2013/7/1	21.7	11.1	10.7	27.2	15	16.8	16.7	16.7	5086	29.10%
MMY-MAP2803HRR	R410	2013/5/28	2013/5/28	24	8.4	15.5	21.9	16	27.3	28.8	28	9542	
		2013/7/12	2013/7/12	21.7	12.5	9.3	37.1	10	18.9	19.8	19.3	6538	31.50%
RSXP280M	R410	2013/7/10	2013/7/10	22	14.5	7.4	34.9	8.5	32.9	46.4	39.6	11363	
		2013/7/30	2013/7/30	22	15.4	6.6	33.1	7	27.2	35.2	31.2	9383	17.40%
RZYP280F	R407	2013/7/12	2013/7/12	26.1	12.1	14	35.8	15	30.6	29.7	30.2	10111	
		2013/8/1	2013/8/1	23.3	10.7	12.6	30.7	13.5	20.4	20.3	20.4	6728	33.50%
RSXP280P	R410	2013/6/20	2013/6/20	28.8	18.2	10.5	32.5	11.5	32.8	30.1	31.5	10234	
		2013/8/6	2013/8/6	24.7	15.3	9.4	30.8	10	16.6	17	16.8	5016	51.00%
RYJ280K	R22	2013/7/9	2013/7/9	23.5	14.3	9.2	34.1	12	25	21.7	23.4	7094	
		2013/8/6	2013/8/6	24.8	16.6	8.2	36.5	12.5	18.6	15.6	17.1	5199	26.70%
RZYP280CA	R410	2013/7/16	2013/7/16	22.9	13.4	9.5	32.2	11	37.6	35.2	36.4	12436	
		2013/8/7	2013/8/7	22.6	16.8	5.8	32.5	8.5	21.4	19.1	20.2	6792	45.40%
RZYP280P	R410	2013/9/5	2013/9/5	24	16.8	7.2	31.9	8.5	11.4	14.7	13	3887	
		2013/9/19	2013/9/19	23.9	16.9	7	29.8	8	9.3	10.7	10	2810	27.70%
MPUH-P280HA2	R410	2013/9/10	2013/9/10	25	12.1	12.9	32.2	16.5	29.1	26.2	27.6	8400	
		2013/9/20	2013/9/20	24.1	14.5	9.5	30.6	13.5	15.3	13.1	14.2	4042	51.90%
RSLYJ560K	R22	2013/8/28	2013/8/28	24.6	12.4	12.2	31.4	16	19.6	18.2	18.9	5025	
		2013/9/25	2013/9/25	26.3	14	12.4	30	16	16.2	14.7	15.5	4106	18.30%