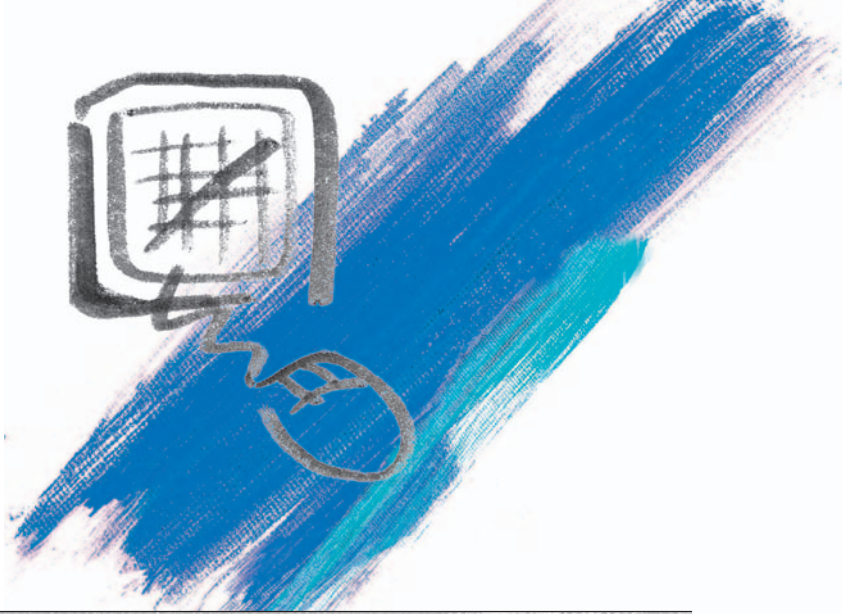


SPECIFICATIONS(JIS)

Model	BZ	15	20	25	30	40	50	65	75	85	100	125	150	175	200	250	300	400	500
cooling capacity	kW	174	233	291	349	465	582	756	872	989	1163	1454	1745	2035	2326	2908	3489	4652	5815
cooling capacity	10^4 kcal/h	15	20	25	30	40	50	65	75	85	100	125	150	175	200	250	300	400	500
cooling capacity	USRT	50	66	83	99	132	165	215	248	281	331	413	496	579	661	827	992	1323	1653
heating capacity	kW	135	179	224	269	358	449	583	672	762	897	1121	1349	1570	1791	2245	2687	3582	4489
heating capacity	10^4 kcal/h	11.6	15.4	19.3	23.1	30.8	38.6	50.1	57.8	65.5	77.1	96.4	116	135	154	193	231	308	386
chilled water 7℃ /12℃ high flow(A)																			
flowrate	m^3/h	30	40	50	60	80	100	130	150	170	200	250	300	350	400	500	600	800	1000
pressure drop	kPa	6	6	10	10	10	20	20	25	25	25	46	46	46	46	77	77	77	46
chilled water 7 /14℃ low flow(B)																			
flowrate	m^3/h	21.4	28.6	35.7	42.9	57.1	71.4	92.9	107	121	143	179	214	250	286	357	429	571	714
pressure drop	kPa	3	3	5	5	5	11	11	14	14	14	25	25	25	25	42	42	42	25
cooling water 37℃ /30℃ low flow(a)																			
flowrate	m^3/h	36.0	48.1	60.0	72.0	96.2	120	156	181	204	241	300	361	421	481	602	722	963	1204
pressure drop	kPa	30	30	62	62	62	62	38	50	50	50	50	50	50	50	62	62	62	70
cooling water 375℃ /32℃ high flow(b)																			
flowrate	m^3/h	45.8	61.2	76.4	91.7	122	153	199	230	260	306	382	459	536	612	766	919	1226	1532
pressure drop	kPa	47	47	97	97	97	97	59	78	78	78	78	78	78	78	97	97	97	110
heating water																			
flowrate	m^3/h	14.5	19.3	24.1	28.9	38.5	48.3	62.6	72.3	81.9	96.4	121	145	169	193	241	289	385	483
pressure drop	kPa	40	40	50	50	50	50	50	70	70	70	70	70	70	70	70	70	70	70
hot water																			
flowrate	m^3/h	7.2	9.6	12.1	14.4	19.3	24.1	31.3	36.1	40.9	48.2	60.3	72.5	84.4	96.3	121	144	193	/
pressure drop	kPa	60	60	70	70	70	70	70	80	80	80	80	80	80	80	80	80	80	/
max. fuel consumption																			
oil(cooling)	kg/h	10.6	14.2	17.7	21.3	28.4	35.6	46.3	53.5	60.4	71.2	88.8	107	125	142	178	214	285	356
gas(cooling)	10^4 kcal/h	11.1	14.8	18.4	22.1	29.6	37.0	48.2	55.6	62.8	74.0	92.3	111	130	148	185	222	297	370
oil(heating)	kg/h	12.0	16.0	20.1	24.0	32.0	40.1	52.1	60.1	68.1	80.1	100	121	140	160	201	240	320	401
gas(heating)	10^4 kcal/h	12.5	16.6	20.9	25.0	33.3	41.7	54.2	62.5	70.8	83.4	104	125	146	166	209	250	333	417
power	kW	1.6	1.6	2.7	2.7	3.2	3.8	5.4	5.4	6.8	6.8	9.0	10.4	12.9	14.8	15.3	17.8	23.8	31.4
solution weight	t	0.8	1.0	1.1	1.4	1.7	2.0	2.2	2.7	3.2	3.7	4.3	5.2	6.2	7.3	9.2	10.5	13.8	18.0
unit ship.wt.(with LiBr)	t	3.9	4.7	5.5	6.5	7.8	8.8	9.8	11.6	13.2	15.4	19.1	22.0	24.8	29.6	34.0	/	/	/
unit ship.wt.(without LiBr)	t	/	/	/	2.7	3.6	4.0	4.6	5.0	6.2	7.1	9.0	10.2	11.8	14.0	15.7	18.8	25.0	33.0
operation weight	t	4.1	5.0	5.8	6.9	8.3	9.4	10.6	12.3	14.3	16.7	20.9	24.2	27.4	33.0	37.7	43.1	56.0	72.0

Model	BZ	600	800	1000	1200	1600	2000
cooling capacity	kW	6978	9304	11630	13956	18608	23260
cooling capacity	10^4 kcal/h	600	800	1000	1200	1600	2000
cooling capacity	USRT	1984	2646	3307	3968	5291	6614
heating capacity	kW	5385	7176	8967	10760	14351	17933
heating capacity	10^4 kcal/h	463	617	771	925	1234	1542
chilled water7℃ /12℃ high flow(A)							
flowrate	m^3/h	1200	1600	2000	2400	3200	4000
pressure drop	kPa	46	46	90	46	46	90
chilled water7℃ /14℃ low flow(B)							
flowrate	m^3/h	857	1143	1429	1714	2286	2857
pressure drop	kPa	25	25	49	25	25	49
cooling water37℃ /30℃ low flow(a)							
flowrate	m^3/h	1444	1926	2407	2889	3853	4814
pressure drop	kPa	70	70	90	70	70	90
cooling water375℃ /32℃ high flow(b)							
flowrate	m^3/h	1838	2452	3064	3677	4903	6127
pressure drop	kPa	110	110	140	110	110	140
heating water							
flowrate	m^3/h	579	771	964	1156	1543	1928
pressure drop	kPa	70	70	70	70	70	70
hot water							
flowrate	m^3/h	/	/	/	/	/	/
pressure drop	kPa	/	/	/	/	/	/
max. fuel consumption							
oil(cooling)	kg/h	428	570	712	855	1141	1425
gas(cooling)	10^4 kcal/h	445	593	741	889	1186	1482
oil(heating)	kg/h	481	641	801	962	1283	1603
gas(heating)	10^4 kcal/h	501	667	834	1000	1334	1667
power	kW	35.4	47.4	62.6	71.0	94.8	125
solution weight	t	20.3	25.0	32.0	40.6	50.0	64.0
unit ship.wt.(with LiBr)	t	/	/	/	/	/	/
unit ship.wt.(without LiBr)	t	37.0	44.0	55.0	37.0	44.0	55.0
operation weight	t	84.0	101	127	169	203	255

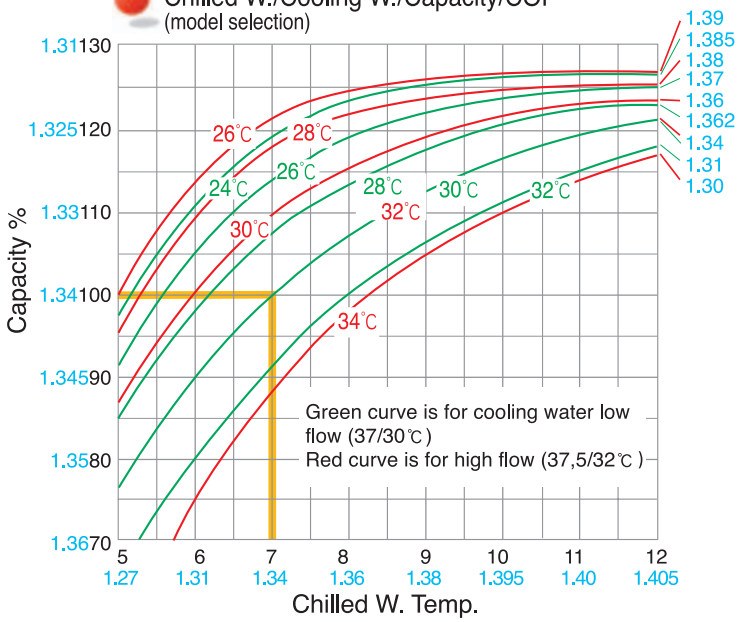
General Conditions:

1. Rated chilled W. outlet/inlet temp.: (A)7°C/12°C (B)7°C/14°C
2. Rated cooling W. outlet/inlet temp.: (a)37°C/30°C (b)37.5°C/32°C
3. Rated heating W. outlet/inlet temp.: 65°C/57°C
4. Rated hot W. outlet/inlet temp.: 60°C/44°C
5. Lowest permitted outlet temperature for chilled water: 5°C (except special order)
6. Lowest permitted inlet temperature for cooling water: 10°C
   Lowest inlet temperature for stable operation: 18°C (no limit if 3-way valve is equipped)
7. Highest permitted outlet temperature for heating/hot water: 95°C
8. Pressure limit for chilled W., cooling W., heating W., hot W. 0.8MPa (800kPa) (except special order)
9. Fouling factor for chilled W., cooling W., heating W., hot W.: 0.086$m^2 \cdot$ K/kW
10. Oil consumption is calculated by low heating value:10,400kcal/kg
11. LiBr Solution concentration: 50%
12. Rated exhaust temp. for cooling: 170°C
    Rated exhaust temp. for heating: 145°C
13. Machine room temperature: 5~43°C, humidity ⩽ 85%
14. Adjustable chilled water flowrate: 50%~120% (according to flowrate A)
15. Adjustable cooling water flowrate: 30%~140% (according to flowrate a)
16. Adjustable heating/hot water flowrate: 65%~120%
17. Adjustable load: 5%~115%
18. Rated direct-fired cooling COP: 1.34 (including electricity consumption)
19. Rated direct-fired heating COP: 0.925

Note: ① (A)(a) is for recommendation. (B)(b) can be selected without affecting cooling capacity and performance
② Technical specification is based upon Japanese Industry Standard JIS B 8622 "Absorption Chiller"

PERFORMANCE CURVES (ARI)

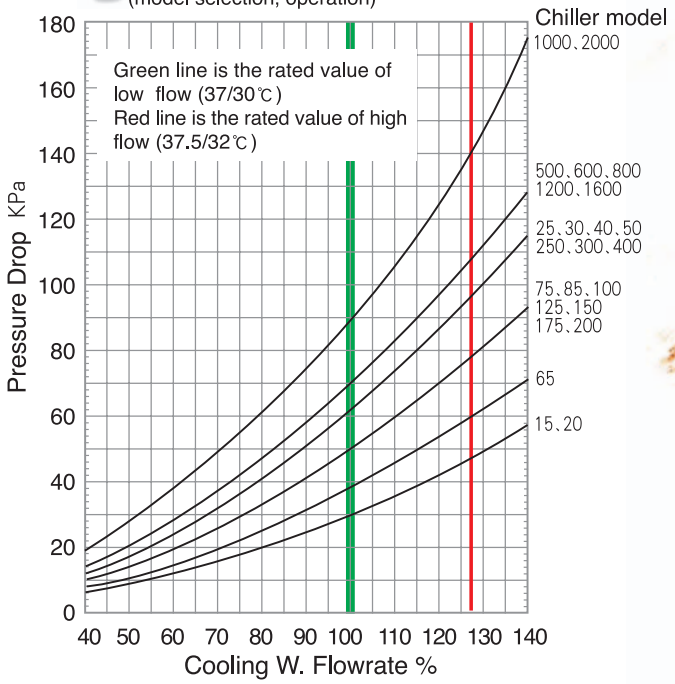
Chilled W./Cooling W./Capacity/COP
(model selection)



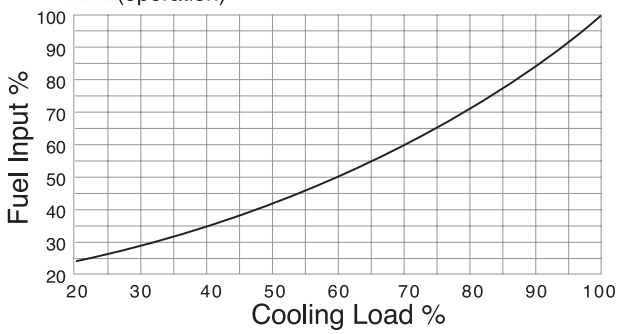
Note: The figure in blue is COP. In calulation,3 of them will be added and then devided by 3. Example:

1. Known: cooling capacity is 100%, cooling water temperature is 28℃; check out chilled water temperature is 6.2℃, COP is 1.338, i.e. (1.34+1.362+1.312)/3=1.338
2. Known: chilled water temperature is 10℃, cooling water temperature is 30℃; check out cooling capacity is 116%, COP=1.354
3. Known: cooling capacity is 90%, chilled water is 6℃; check out cooling water emperature is 30℃, COP =1.332 (calculated per cooling water low flowrate option)

Cooling W. Flowrate vs. Pressure Drop
(model selection, operation)



Cooling Load vs. Fuel Input
(operation)

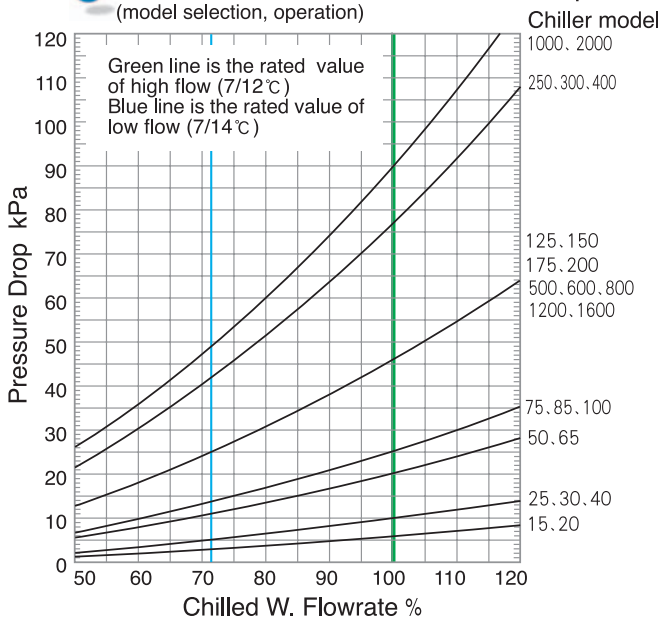


COP (model selection, operation)

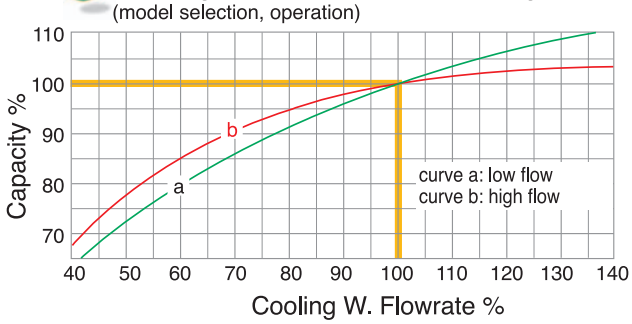
Rated COP: 1.34			
IPLV COP: 1.529 calculation as			
Load	COP	Factor	Result
A 100%	1.340	0.01	0.013
B 75%	1.546	0.42	0.649
C 50%	1.595	0.45	0.718
D 25%	1.241	0.12	0.149

Note: The integrated part load value (IPLV) reflects chiller's actual COP in operation. The load and calculation formula are based upon ARI Standard 560.

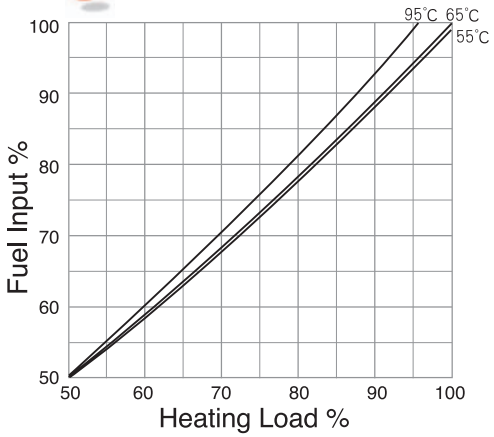
Chilled W. Flowrate vs. Pressure Drop
(model selection, operation)



Cooling W. Flowrate vs. Cooling Capacity
(model selection, operation)



Heating Load vs. Fuel Input (operation)



(orange line is the rated value)