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# ABSORPTION CHILLER Cooling Capacity : 35-1056 kW

Single Effect Hot water type : H Series Single Effect Steam type : S Series Double Effect Steam type : DE Series

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#### Feature and Benefit

#### - Environment Friendly Chiller

The unit using water and Lithium Bromide which are natural as refrigerant fluids, no CFCs; Few moving parts enable quiet and vibration free operation.

#### - Cost Effective cooling / Altenative-Energy Chiller

The units offers an alternative to avoid the high operating costs associated with electric-driven chillers. Fired by low pressure steam or hot water or waste heat, Units not only reduces or eliminates electric demand, but also allows the owner to take advantage of rebates and incentive programs offered by many utility companies.

## - Automatic purge system. Ensure optimum efficiency and performance

The pump motor less purge system protects against the potential hazards caused by non-condensable gas produced continuously during machine operation, ensures long machine life and efficient operation.

#### - Superior corrosion protection

The unit incorporates a highly effective corrosion Lithium Molybate inhibitor to provide an extra margin of protection against internal corrosion.

#### Anti-Crystallization control maintain proper solution concentration

The units automatically limits solution concentration in several ways to avoid both crystallization and over dillution to provide dependable, trouble-free operation.

#### - Leak Proof Heamatic pump cut maintenance cost

The refrigerant pumps are leak proof, completely self-contained, and hermatically sealed. The hermetic design eliminates the need for a separate, complicated, and possibly leak-prone seal water system, while providing leak tightness and longer machine life.

#### - Rugged machine construction

Non-clogging, Not used spray nozzle ensure against both corrosion and possible blockage for continuous, reliable operation. The unit is built to withstand the most rigorous duty, whether it is used for comfort cooling or light process applications.

#### - Single point Electrical connection

All unit mounted electrical items are factory-wired to the chiller control center and require only a single point electrical connection to the machine.

### Single Effect Cooling

#### The unit consists of

Evaporator, Absorber, Condenser, Generator, Solution Heat Exchanger, Solution pump, Refrigerant pump, Control system and other auxiliary system, etc.

#### The operating principle of the chiller is:

In highly vacuum state, refrigerant water evaporate at a low temperature (4.4 C), which cool down chilled water circulating in evaporator tubes. Refrigerant vapor generated in evaporator is absorbed by Lithium Bromide Solution in Absorber, which makes the solution become dilute.

Such dilute solution is fed into heat exchanger by solution pump, where the temperature rises. After that, it enters genertor, in which it is further heated and concentrated by steam or hot water. The concentrated solution returns to the Absorber after passing through heat exchanger for repeated use.



In absorber and evaporator, Lithium Bromide solution and refrigerant water spray onto tubes of the heat exchangers to enhance heat exchange effect.

### Our Project References



Double Effect Type 350 RT; Steam



Single Effect Type 80 RT; Hot water from Generator



Single Effect Type 150 RT; Solar Cooling



Single Effect Type 30 RT; Hot water from Condensate



Single Effect Type 20 RT; Hot Water from Gas Turbine



Single Effect Type 80 RT; Hot water from Generator



Single Effect Type 60 RT; Solar Cooling



Single Effect Type 20 RT; Hot water from Condensate

Single Effect Absorption Chiller : Hot Water is Heat source											
Model		ABS-	H010	H020	H030	H040	H050	H060	H070	H080	H150
Capacity		RT	10	20	30	40	50	60	70	80	150
		kW	35.2	70.4	105.6	140.8	176	211.2	246.4	281.6	528
Chilled water	Inlet/Outlet Temp	°C	12/7								
	Flow rate	m³/h	6.1	12.1	18.2	24.3	30.3	36.4	42.4	48.5	90.9
	Pressure Drop	mH <sub>2</sub> O	1.8	2.2	2.9	3.8	5.2	5.2	7.5	7.8	8.5
	Connection size	mm	65					80			100
Cooled water	Inlet/Outlet Temp	°C	32/37								
	Flow rate	m³/h	14.72	29.45	44.17	58.90	73.62	88.35	103.07	117.80	220.87
	Pressure Drop	mH <sub>2</sub> O	1.2	2.1	2.7	3.9	6.3	6.5	2.9	3.3	4.5
	Connection size	mm	80					125			150
Hot water	Inlet/Outlet Temp	°C	90/85								
	Heating Capacity	kW	50.3	100.6	150.9	201.1	251.4	301.7	352.0	402.3	754.3
	Flow rate	m³/h	8.7	17.3	26.0	34.6	43.3	52.0	60.6	69.3	129.9
	Pressure Drop	mH <sub>2</sub> O	0.7	1.1	1.2	1.4	2.9	0.9	1.0	1.0	2.8
	Connection size	mm	40					50	65	65	80
Electrical	Power Supply	v	3phase/ 380V/ 50Hz								
	Refrigerant Pump	kW	0.37			1.1				3.0	
	Solution Pump	kW		0.37			1.1				3.0
Dimension	Length	mm	1650		2100		2200			2480	3700
	Width	mm	900	900 1100				1200		1400	1850
	Height	mm	2000		2200			2530		3560	3500
	Net weight	Ton	0.9	1.4	1.6	1.8	2.2	3.5	3.7	3.8	8.5
	Operating weight	Ton	1.1	1.8	2.1	2.3	2.7	4.1	4.3	4.5	9.5

Double Effect Absorption Chiller : Steam is Heat source : 2 kg/cm <sup>2</sup> G											
Model ABS-		ABS-	DE010	DEO2O	DE030	DE050	DE070	DE080	DE100	DE200	DE350
Capacity		RT	10	20	10	50	70	80	100	200	350
		kW	35.2	70.4	35.2	176	246.4	281.6	352	704	1232
Chilled water	Inlet/Outlet Temp	°	12/7								
	Flow rate	m³/h	6.1	12.1	6.1	30.3	42.4	48.5	60.6	121.3	212.2
	Pressure Drop	mH₂O	3.8	4.9	5.2	6.1	4.8	4.9	5.5	5.8	8.5
	Connection size	mm	100			125	150			250	350
Cooled water	Inlet/Outlet Temp	۰	32/37								
	Flow rate	m³/h	10.9	21.8	10.9	54.6	76.4	87.3	109.1	218.3	382.0
	Pressure Drop	mH₂O	3.4	3.8	4.4	5.2	9.8	10.8	8.8	9.1	7.8
	Connection size	mm	125			150		200		350	400
Steam	Heating Capacity	kW	28.16	56.32	28.16	140.8	197.12	225.28	281.6	563.2	985.6
	Steam Consumptio	Ton/h	0.05	0.09	0.05	0.23	0.32	0.37	0.46	0.92	1.61
	Steam Pipe Size	mm	50			80			100	150	200
	Drain Pipe Size	mm	2			25			40	50	80
	Steam Control Val	mm	32	40				50 6			5 80
Electrical	Power Supply	v	3phase/ 380V/ 50Hz								
	Refrigerant Pump	kW	0.37			1.1			3.0		
	Solution Pump	kW		0.37			1.1			3.0	
Dimension	Length	mm	1850	2650		3850		4850		5100	5400
	Width	mm	1150	1950		2200		2350		2450	2650
	Height	mm	2100	2500		2500		2600		3200	3600
	Net weight	Ton	2.2	4.4	4.8	5.2	5.5	6.2	7.2	11.5	15.8
	Operating weight	Ton	2.6	4.8	5.2	5.6	6.1	6.8	8.3	13.4	17.3



Advance Thermo Solution, Co. Ltd. 232 Moo 4, Soi Watyai, Suksawad Rd., T.Niklongbangplakod, A.Prasamutjedi, Samutprakarn, 10290

Tel. 662-425-0855-6, 662-084-5124-7

Fax. 662-425-0598