

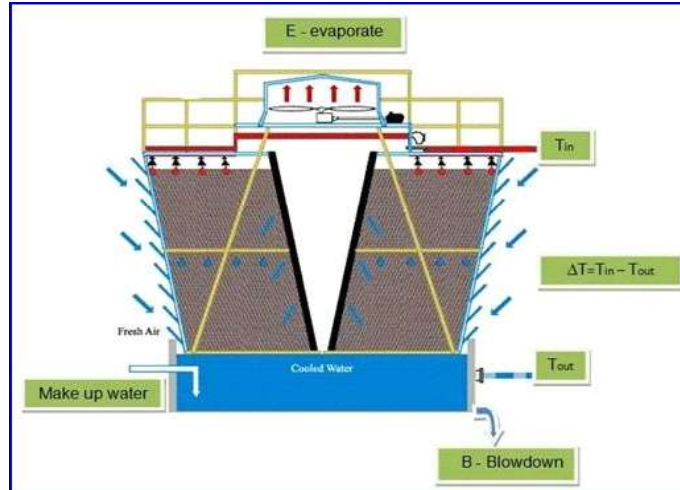
C.Q.M.

K.A.N.- Japan Corporation

CONSOLIDATED REPORT OF TOTAL SAVINGS FROM SRS INSTALLATION

CUSTOMER:
INSTALLATION SITE:
COOLING TOWER SIZE (TR)
YEAR OF INSTALLATION

**Yokohama Rehabilitation center
Hospital**
520
2005



CALCULATION OF EVAPORATION FLOW RATE ACORDING TO:			$mc_p \Delta T = E \lambda$
m - Cooling water flow in the system [Ton / hr]	329	Ton/hr	
TR - Cooling tower capacity [TR]	520	TR	
Cp - Specific heat - [Ton cal / Ton water °c]	1	Ton cal / Ton water °C	
Ti - inlet cooling water temp [°c]	21.8	°C	
To -outlet cooling water temp [°c]	17.5	°C	
?T - ?T = Ti - To	4.3		
Cooling tower conductivity without CQM	1,318	μs	
Cooling tower conductivity with CQM	4500	μs	
Makeup water conductivity μs	349	μs	
λ latent heat evaporating water temp. [Ton Cal / Ton w	540	Ton cal / Ton water °C	
E - Evaporating water [Ton / hr]	2.60	Ton/hr	

	SAVINGS IN DRAINAGE FLOW RATE:			$B = E / (C-1)$
	BEF. SRS	WITH SRS	SAVINGS	
B - Drainage flow rate	0.94	0.22	0.72	Ton/hr
E - Evaporation flow rate	2.60	2.60		Ton/hr
C - Concentration cycle	3.78	12.90		

CALCULATION OF SAVINGS:		
Cooling tower working hours per year	5400	hr / yr
Average utilization capacity	80%	usd / m3
Cost of one cubic water	1.44	usd / m3
Cost of chemical treatment to one cubic water	0.66	usd / m3
Water savings from drainage	4,445	usd / m3
Chemical treatment savings	12,573	usd / m3
Water savings from re-utilization	1,354	usd
TOTAL SAVINGS	18,371	usd/yr