

## Cooling water blow-down equipment

Prevent concentration and replace cooling water by blow-down.

Calculate the blow-down volume as follows;

N : Concentration factor (N=3 is normal condition)

M : Volume of make up water

E : Evaporation loss =  $860 \times 2.43$  (exhaust heat factor) divided by  
576 (latent heat of water at 40C(104F) = 3.64 l/h/kW

W : Splash loss (0.2% of circulation water volume)

B : Blow-down volume

$$M=E+W+B \quad N=\frac{E+W+B}{W+B} \quad B=\frac{1}{N-1} \times E -W \quad M=\frac{N}{N-1} \times E$$

<Example>

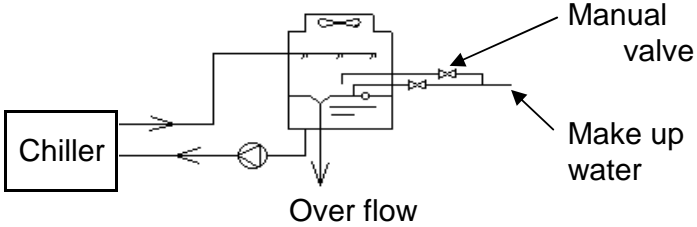
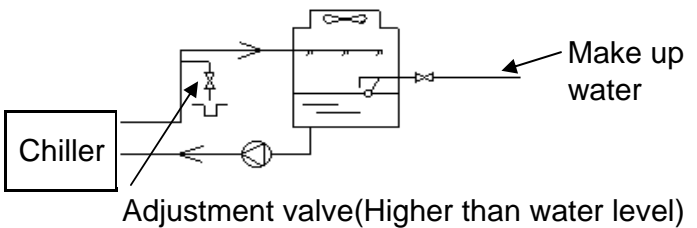
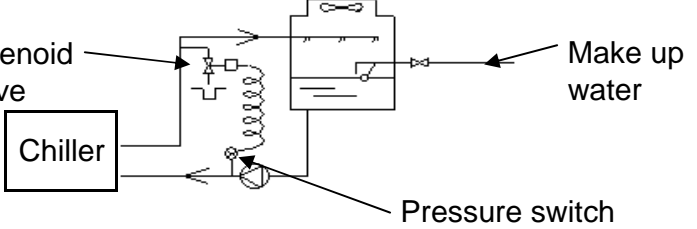
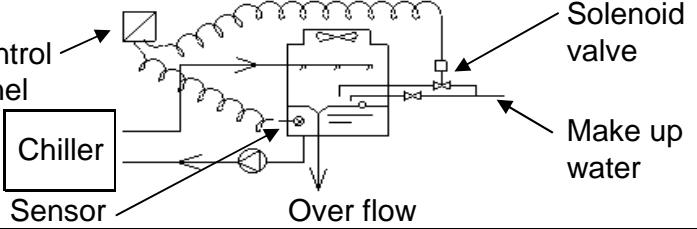
E= 3.64 l/h/kW

N= 3

W= 0.47 l/h/kW

B=  $1 / (3 - 1) \times 3.64 - 0.47 = 1.35$  l/h/kW

( 1.25 gal/h/USRT)

1	<b>Overflow</b> overflow at cooling tower by manual valve	
2	<b>Constant blow-down</b> Blow-down by solenoid valves, constantly.	
3	<b>Pressure switch &amp; Solenoid valve</b> Blow-down by solenoid valve at pressure switch	
4	<b>Conductivity meter and/or pH meter</b> Blow-down by conductivity or pH	

**Carrier**  
**SANYO**

**Blow-down  
of Cooling water**

Model

**16LJ model**

Drawing code

**CM-014-017-03-0**