

- Insulation of equipment and piping as required
- Safety devices as required for safe operation of the units

6. DESIGN DATA


Normal flow of Chilled water per unit	= 504 m ³ /h
Rated flow of Chilled water per unit	= 504 m ³ /h
Chilled water supply temperature (from refrigeration unit)	= 5.5 °C
Chilled water return temperature (to refrigeration unit)	= 11.5 °C
Warm water supply pressure (at unit inlet)	= 3.36 kg/cm ² g
Pressure drop allowed per unit	= 1.0 kg / cm ²
Fouling factor for Chilled water	= 0.0002 m ² °C hr / Kcal.
Chilled water / Warm water design pressure	= 7 kg/cm ² g / 6 kg/cm ² g
Chilled water design temperature	= 65°C
MOC for Chilled water side in Heat exchanger	= CU-Ni (90:10)
No. Of units	= 3
Design capacity of each unit	= 1000 TR
Total Design capacity of Vapor Absorption type Refrigeration units	= 3000 TR

7. UTILITIES AVAILABLE

Tie-in points for the following utilities will be provided at the battery limit of the refrigeration unit. All the utility will be terminated at each unit battery limit. Manifolding to be done by Vendor for multiple users within the package.

Cooling Water (For Two Vapour compression (RF-7R, 8R) and Vapour absorption refrigeration packages (RF-9R, 10R))

Supply Pressure	= 3 kg/cm ² g
Delta P allowed	= 1.0 kg/cm ²
Design pressure	= 7 kg/cm ² g

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Supply temperature	= 33 °C
Minimum Delta T	= 7 °C
Maximum return temperature	= 43 °C
Design temperature	= 65 °C
Fouling factor for cooling water	= 0.0002 m ² °C hr / Kcal.
MOC for cooling water side in heat exchanger	= CU-Ni (90:10)

Cooling water for future Vapour absorption refrigeration package (RF-11R)


Supply Pressure	= 4.5 kg/cm ² g
Delta P allowed	= 1.0 kg/cm ²
Design pressure	= 7 kg/cm ² g
Supply temperature	= 33 °C
Minimum Delta T	= 7 °C
Maximum return temperature	= 45 °C
Design temperature	= 65 °C
Fouling factor for cooling factor	= 0.0002 m ² °C hr / Kcal.
MOC for cooling water side in heat exchanger	= CU-Ni (90:10)

Instrument Air

Supply pressure, Minimum	= 6 kg/cm ² g
Supply pressure, Normal	= 6.5 kg/cm ² g
Supply pressure, Maximum	= 7 kg/cm ² g
Dew point at Atmospheric pressure	= - 40 °C
Design pressure	= 10.5 kg/cm ² g
Design temperature	= 65 °C

Steam

Supply pressure	= 7.5 kg/cm ² g
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Design pressure = 10 kg/cm² g
Supply temperature = 173 °C
Design temperature = 220 °C

Condensate

Return pressure = 1 kg/cm² g
Design pressure = 3.5 kg/cm² g
Return temperature = 100 °C
Design temperature = 127 °C

Nitrogen

Supply pressure = 7 kg/cm² g
Design pressure = 10.5 kg/cm² g
Supply temperature = Ambient
Design temperature = 65 °C

8. GUARANTEE

Vendor to guarantee

1. Chilled water outlet temperature of 5.5 °C from each of the refrigeration unit for a warm water supply temperature of 11.5 °C for rated flow rate of 504 m³/h.
2. Design capacity of one unit = 1000 TR
3. Total Design capacity of Vapor Absorption type = 3000 TR
Refrigeration units
4. Specific steam consumption.
5. Maximum ΔP for cooling water and chilled water.
6. Specific cooling water consumption.

9. CONTROL PHILOSOPHY

Under hold. To be confirmed based on feedback from client.