NATIONAL COOLING SYSTEM

National
INDUSTRIAL COOLING SYSTEM

Industrial Cooling System

RO CHILLER

NCS 2.0

NCS 3.0

NCS 5.0

NCS 8.0

NCS 10.0

www.nationalcoolingsystem.com

RO CHILLING UNIT:-

Chilled water has become a vital requirement for human being in order to fulfill the thurst of the people working in hot ambient. Our range of compact RO Water chillers are designed specifically to meet high quality demands and requirements. We builds reliability in it's products original rated capacities are delivered even after long periods of use by the careful selection, standardized design, generously sized components. Interchangeable components simplify & reduce service problems.

The National Cooling System designed RO Water Chilling unit is a machine that removes heat from the Water via Vapor Compression Refrigeration System. It consist of four major parts- an Evaporator, a Condenser, a Compressor and metering device. The main function of a Water Chiller is to remove heat from the water & this it does by sucking up the heat by making use of refrigerant. This refrigerant is a chemical having heat absorbent properties. The heat is then carried by the refrigerant to the condenser from where it is released into the atmosphere in the form of vapor, air or water cooled heat exchanger. After the refrigerant has carried the heat to the condenser it passed to the metering device where expansion of refrigerant takes place in finely automized form, this chilled refrigerant then passed into the Cooling Coil where it absorb the latent heart of evaporation & returns back in compressor.

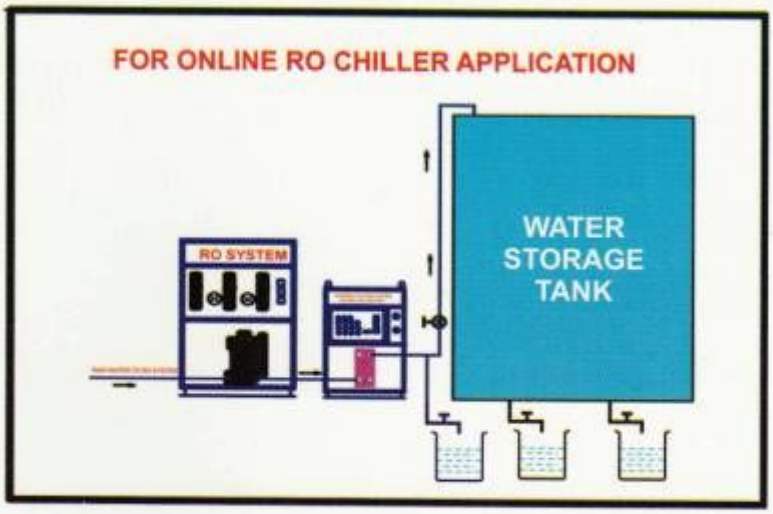
FEATURES:-

- **BODY STRUCTURE:** Body structure is made up of CR Sheet of 1.6mm with powder coating of 65 microns dry film thickness which enables not only strength but also rustproof structure. Fasteners used for the purpose of assembly is also nickel & chrome plated.
- **COMPRESSOR:** Hermitically sealed compressor of Emerson Climate Control Technologies series is used which gives minimum noise along with discharge pressure & suction pressure as per design. Use of Kirloskar Copeland (Emerson) compressor facilitate easy availability of spare, replacement & service back up all over India.
- **CONDENSER FAN:** Kanbo German or Favelle make Axial flow Fan motor with direct welding by motor and blade, adopt double sided dynamic balance ensures minimum noise, designed Air Flow rate.
- **DRIER FILTER:** Danfoss make drier Filter eliminates the impurities & moistures in the Refrigerant Gas & avoid the choking problem of Expansion Device.
- **EXPANSION VALVE:** Danfoss make Expansion Device or BRAC make calliberated Capillary Device ensure expansion of Liquid refrigerant inti finelly atomized form.
- **COOLING COIL:** Brazed Type Heat Exchanger BPHE of make SWEP, Kaoiri or Alfa Laval ensure instant chilling of Water by extracting latent heat of evaporation from the refrigerant gas.
- **WATER PUMP:** As in RO System it is very important that the water quality should be bacteria, rust and corroision free, in order to maintain the food grade we used special food grade pump of SS 316 material of make Shakti or CRI.
- **HP/LP SWITCH:** Danfoss make Pressure switch protect the System from High Pressure and Low Pressure of Gas.
- **WALTER FLOW SWITCH:** Honewell / Castle Water Flow Switch protect the BPHE from Low or no flow condition.
- **ANTI FREEZE CONTROLLER:** Dixell or Subzero make digital programmable Anti Freeze controller protect the BPHE from leakage due to freezing because of Low water flow or No Flow condition.
- **ELECTRICAL CONTROL PANEL:** Simple & User frank Electrical Control Panel with Siemens/ Schendle make Switch Gears. Equipped with LED Indicator for On/ Trip Indication.
- **TEMPERATURE CONTROLLER:** Microprocessor controller with programming through multifunction keys and alphanumeric programmed values in non-volatile memory/Adjustable time delay between starts warranting the minimum time for temperature equilibrium and compressor start- ups.

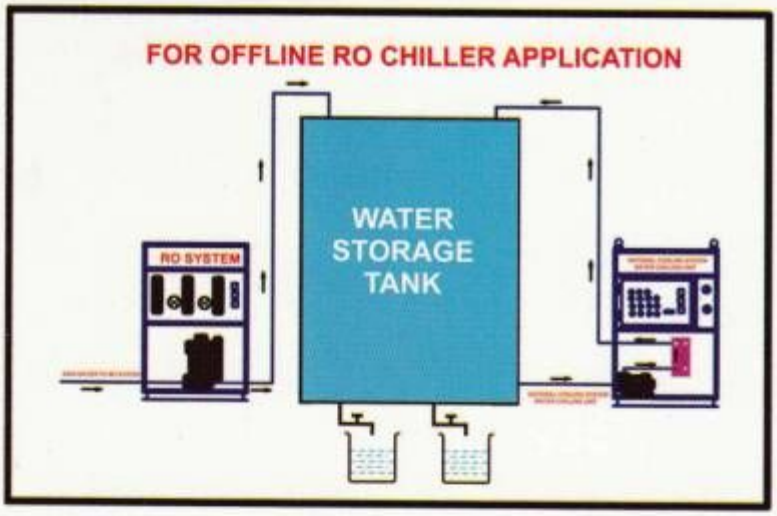
This unit controls & monitors the performance of the entire unit & provides diagnostics indication & fault alarms can be programmed to suit the individual operation simplifying the operator's job to the single touch of the button.

INSTALLATION :-

FOR ONLINE RO CHILLER APPLICATION



FOR OFFLINE RO CHILLER APPLICATION



FOR OFFLINE / ONLINE RO CHILLER APPLICATION

TECHNICAL DETAILS FOR RO CHILLER

MODEL	POWER SUPPLY	POWER INPUT / EER	WATER COOLING CAPACITY (LPH)	DIMENSION (L X W X H) IN MM	TYPE	INLET & OUTLET CONNECTION	PRICE (BASCI)
NCS 2.0	1 Phase 230VAC, 50 Hz	3.0 Kw/ EER= 2.0	450	900 X 500 X 650	OFFLINE	1/2 "	
NCS 2.10	3 Phase 415 VAC, 50 Hz	3.0 Kw/ EER= 2.0	450	900 X 500 X 650	OFFLINE	1/2 "	
NCS 3.0	1 Phase 230VAC, 50 Hz	4.0 Kw/ EER= 2.0	700	1000 X 600 X 800	OFFLINE	1"	
NCS 3.10	3 Phase 415 VAC, 50 Hz	4.0 Kw/ EER= 2.5	700	750 X 700 X 1400	OFFLINE/ ONLINE	1"	
NCS 5.0	3 Phase 415 VAC, 50 Hz	6.0 Kw/ EER= 2.4	1000	750 X 700 X 1400	OFFLINE/ ONLINE	1"	
NCS 8.0	3 Phase 415 VAC, 50 Hz	8.5 Kw/ EER= 2.5	1600	1400 X 900 X 1200	OFFLINE/ ONLINE	1"	
NCS 10.0	3 Phase 415 VAC, 50 Hz	12.5 Kw/ EER= 2.5	2000	1400 X 900 X 1300	OFFLINE/ ONLINE	1"	

Note: 1) Input Power supply for 1 Phase Chiller should be 210 to 240 volts.
2) Input Power supply for 3 Phase Chiller should be 380 to 420 volts.
3) Temperature range:- 28°c inlet temp and 15°c outlet temperature.
4) Ambient temperature 15°c to 38°c max.
5) Specifications are subject to change without notification.

IN ASSOCIATION WITH

Danfoss, Emerson, Copeland, Alfa Laval, Tata Steel, SWEP, Superlon, Kaori, Siemens, Schneider Electric, Mafron, JSW, dixell, Honeywell, Hicool, Finolex, CNP, Grundfos, WIKA, GEA Ecoflex GmbH

NATIONAL COOLING SYSTEM

Plot No. 318, Soham Industrial Complex, Sector No.10. PCNTDA
Near Times of India, MIDC, Bhosari, Pune – 411 026.
Ph-020-66123704, Mobile-9371009096 / 9922962652 | E- Mail Id: bag_ac@yahoo.com
www.nationalcoolingsystem.com | www.bagwanref.com

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