RefriVerde

Industrial Refrigeration and Air Conditioning

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SEAWATER CHILLERS IN VESSELS WITH RSW SYSTEM , BITZER NH3 OPEN SCREW COMPRESSOR , TITANIUM HEAT EXCHANGERS

Features and benefits

- Ammonia RSW Systems for Fishing Vessels with standard tank sizes from 36 to 500 M^3
- Power consumption for an Ammonia RSW is the lowest of all available refrigerants . Ammonia is the most environment-friendly refrigerant available
- Variable frequency drive for Compressor and Pumps according to Water Temperature
- **Bitzer** compressor with Overhaul intervals of 100 000 hours give very low maintenance costs
- Continuously variable capacity control 10-100% on OSKA9500 series compressors
- The Compressor is not contaminated in the event of burning the Motor
- Coupling and Coupling Housing for the aligned of the Motor
- **WEG** Electrical Motor IP 55 , FS 1.15 , IEC IE3 , 2-Poles
- Seawater-cooled Oil Cooler for increased efficiency
- Titanium tubes and tube sheets in all heat exchangers .Tube joints are expanded and welded
- Controller for automatic operation and parameter monitoring

Capacity and Performance

- Calculations assume that the volume of the seawater tanks is 30% of the volume of the insulated tanks
- Seawater is pre-cooled in the tanks in approximately 4 hours from 25°C to -1.5°C
- Seawater Chiller Rated at SST 7°C , Superheat 5°K , Water Entering at 0°C / Leaving -1.5°C , SDT 35°C , ECO Sub-Cooling , Water Entering at 25°C / Leaving 30°C , External Oil Cooling
- Flow Rates are based on a range of 5K for the Condenser and 1.5K for the pre-cooling Evaporator
- Properties of Seawater considered in the Calculations : Density = 1025 Kg / M^3 , Cp = 3.9 KJ / Kg°C

60 HZ SEAWATER CHILLERS , BITZER NH3 OPEN SCREW COMPRESSOR , ECO MODE

SYSTEM MODEL RSW-	TANKS CAP M^3		3500 RPM BITZER COMPRESSOR								EVAP PUMP		COND PUMP	
	NET TANKS	SEA WATER	MODEL OSKA	DISP M^3/H	**CAP KW_R**	PWR KW_M	COND KW_{REJ}	OIL COOLER KW_{REJ}	OIL COOLER M^3/H	MOTOR KW	FLOW M^3/H	MOTOR KW	FLOW M^3/H	MOTOR KW
36-60NH3	32	10	5341-K	101	**72.1**	19.39	82.4	9.05	0.81	30	43.3	5.5	14.8	2.2
40-60NH3	36	11	5351-K	121	**85.8**	23.1	98.7	10.19	0.81	30	51.5	7.5	17.8	2.2
50-60NH3	45	13	5361-K	142	**101.2**	27.2	117.1	11.33	0.81	37	60.7	7.5	21.1	3.0
100-60NH3	90	26	7452-K	232	**196.1**	52.3	224	24.3	2.11	75	117.7	15	40.3	5.5
110-60NH3	100	30	7462-K	266	**228**	59.0	262	25.6	2.11	75	136.8	15	47.2	5.5
125-60NH3	112	33	7472-K	302	**249**	63.2	287	24.8	1.79	75	149.4	18.5	51.7	7.5
150-60NH3	135	40	8551-K	380	**292**	76.4	335	33.2	2.65	90	175.2	22	60.3	7.5
170-60NH3	150	45	8561-K	433	**337**	86.5	388	35.0	2.57	110	202.2	22	69.8	9.2
200-60NH3	180	54	8571-K	495	**402**	94.5	463	33.4	2.49	110	241.2	30	83.3	9.2
240-60NH3	216	65	8581-K	567	**475**	107.0	542	40.3	3.65	132	285.0	37	97.6	11.0
260-60NH3	234	70	8591-K	646	**521**	121.3	598	44.9	3.65	150	312.6	37	107.6	15.0
350-60NH3	315	95	9573-K	845	**698**	154.7	791	61.7	6.45	185	418.8	2x30	142.4	18.5
400-60NH3	360	108	9583-K	972	**810**	174.8	922	62.9	5.95	220	486.0	2x30	166.0	22
450-60NH3	405	120	9593-K	1098	**914**	199.2	1136	76.7	7.85	260	548.4	2x37	204.5	30
500-60NH3	450	135	95103-K	1225	**1012**	217	1154	75.4	6.86	260	607.2	2x37	207.7	30

NOTES :

1. Systems with OSKA5300 Series Compressors do not have an Economizer . The Liquid Subcooling considered is 2K
2. Other options may be considered with refrigerants other than Ammonia and compressors other than Screw
3. RSW Systems and Engineered Equipment manufactured by **RefriVerde's** Designs and Specifications