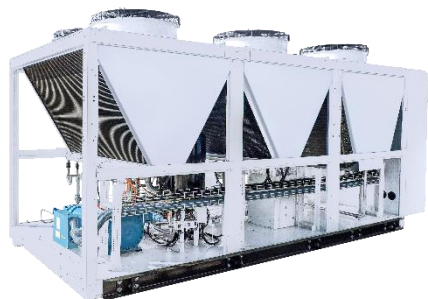


Air-Cooled Ammonia Chiller

RTDF Series

RTDF 050



Compact chiller plant for industrial refrigeration with low ammonia charge air-cooled condenser technology for low temperature cooling, TRANE brand, manufactured in galvanised steel body and chassis with polyester paint, for outdoor installation. With the following characteristics:

- Power supply: 400V 3 ~ 50Hz,
- Refrigerant: R-717,
- SRM® model SRS16LM semi-hermetic screw compressors with 5/7 rotor on bearings, variable speed permanent magnet motor. Suction filter, oil filter, discharge check valve. Suction and discharge valves integrated in the compressor. Electronic protection module.
- Miscible oil with return through suction, no need to bleed.
- Refrigeration circuit made of stainless-steel tube with welded connections, high efficiency vertical oil separator with heating elements, decanter, filter, sight glass, high- and low-pressure switches, shut-off and service valves, pressure transducers and temperature probes.
- Compact tropicalised condenser with V-shaped aluminium microchannel coils arranged in 3 modules with Polyester Powder Coating treatment, with variable speed electronic axial fans.
- Air-cooled oil chiller in 1 V-shaped module with stainless steel tube coils and aluminium fin, and electronic axial fans at variable speed.
- Evaporator with welded stainless-steel plates with stainless steel welding. Electronic expansion valves with control driver.
- Liquid injection system for refrigerant cooling of the compressors in extreme conditions, with electronic expansion valves.
- Hydraulic circuit made of stainless-steel tube, with fill/drain valve, air bleeder, flow switch, inlet and outlet thermometers and pressure gauges.
- Closed economizer for liquid subcooling and medium pressure injection, consisting of stainless-steel plate heat exchanger welded in stainless steel, thermostatic expansion valve, solenoid valve and shut-off valves.
- Power and control panel with ventilation. Integrated compressor variators. Individual differential, magnetothermal and thermal protection per compressor and fans.
- Electronic regulation with digital control unit. Cooling capacity control by means of frequency variation in both compressors, condenser control, start and stop sequence, compressor, fan and pump safety devices. Web interface and external communication.

FEATURES		Unit	Value
Cooling capacity ①		[kW]	164,9
Absorbed power ②		[kW]	100,9
EER			1,63
Installed power ③		[kW]	177,0
Dimensions Length x Width x Height *		[mm]	6454x2398x2382
Weight in operation *		[kg]	5020
Sound pressure level④ *		[dB(A)]	67,4
REGULATION (UE) 2015/1095	Seasonal Energy Performance Ratio SEPR		2,71
	Annual electricity consumption Q		[kWh/year] 1221804
	Full load 35°C	Nominal cooling capacity P _A ⑤	[kW] 164,9
		Nominal power consumption D _A ⑥	[kW] 100,9
		Nominal energy efficiency ratio EER _A	1,63
	Partial load 25°C	Declared cooling capacity P _B	[kW] 153,9
		Declared power consumption D _B	[kW] 69,9
		Declared energy efficiency ratio EER _B	2,2
	Partial load 15°C	Declared cooling capacity P _C	[kW] 142,9
		Declared power consumption D _C	[kW] 52,9
		Declared energy efficiency ratio EER _C	2,7
	Partial load 5°C	Declared cooling capacity P _D	[kW] 131,9
		Declared power consumption D _D	[kW] 45,5
		Declared energy efficiency ratio EER _D	2,9
Compressor	Type		Screw semihermetic
	N° (per circuit) x model		1x SRS 16LM
	Power per compressor		[HP] 180
	Volumetric disp. per compressor @3600		[m³/h] 600
	Discharge pressure ①		[bar (g)] 15,64
	Suction pressure ①		[bar (g)] 0,24
Refrigerant / Safety class / GWP-100			R-717 / B2L / 0
Total refrigerant charge *		[kg]	25
Number of circuits			1
Oil charge and type per circuit		[L]	150 / PAG 68
Pressure switch	Type (brand y model)		Danfoss / KP7ABS
	Tare pressure		[bar (g)] 24,5
Safety valve (high pressure)	N° x Differential pressure setting		[bar (g)] 2x 27,6
	Pitch diameter		[mm] 19,05
	Discharge capacity 20°C		[kg/h] 2152
Safety valve (low pressure)	N° x Differential pressure setting		[bar (g)] 2x 16
	Pitch diameter		[mm] 19,05
	Discharge capacity 20°C		[kg/h] 1277
Condenser and oil cooler fans	N° x Diameter		[mm] 8x 800
	Type		Electronic axial
	Power supply		[V/ph/Hz] 400 / 3 / 50
	Speed regulation		Signal (0-10 V)
	Nominal airflow		[m³/h] 182000
	Maximum power consumption		[W] 8x 3025
Hydraulic circuit cooling/ evaporation	Speed		[rpm] 1100
	Working fluid		Ethylene glycol 50%
	Flow rate		[m³/h] 27,9
	Pressure drop (without hydraulic unit)		[kPa] 30
Hydraulic connections			DN 100 PF
Power supply		[V/ph/Hz]	400 / 3 / 50
Short-circuit current		[kA]	25
Max. continuous operating current (compressor)		[A]	232,0
Max. current absorbed by frequency inverter		[A]	290,0
Max. continuous operating current of the equipment *		[A]	275,0

① Cooling capacity calculated for the following operating conditions: - Outdoor temperature: 35 °C.- Inlet / Outlet Temperature: -19 °C / -25°C

② Total power absorbed by compressors and fans under operating conditions.

③ Definition given in the EN 378

④ Sound pressure level of the unit in free field with the compressor running at full load (180 Hz, 3600 rpm), directivity 1 to 10 m from the source (non-binding value calculated from the sound power)

⑤ Cooling capacity that can be achieved by a process chiller operating at full load under standard conditions

⑥ Total power absorbed by compressor(s) and fans under nominal conditions.

