Technical Catalogue

TETI.V

R290 SEPR

Air-Cooled Chiller for High Temperature application

Nominal Cooling Capacity: 387-955 kW

EUROKLIMAT
We do it Natural.

TETI.V

390-2-2 W ⟷ 955-2-2 W

R290 Refrigerant R290 | GWP=3

Shell & Tube exchanger

Screw Compressors

Inverter

Axial fan

Air to water chiller for high temperature application

Solution

B - Base
P - Base with Pump

Version

ST - Standard
LN - Low Noise
SL - Super Low Noise

Equipment

AS - Standard equipment
DS - Desuperheater
HR - Total Heat Recovery

Cooling capacity 387 - 955 kW

Safety system	To ensure high-safety-level the unit is equipped with an **ATEX certified gas detector and an EC centrifugal extraction fan**. The sensor, with external dedicated power supply and Modbus output signal, has an alarm threshold set at 10% of the lower flammable limit (LFL). The Propane alarm causes the immediate shutdown of the machine and the centrifugal extraction fan is switched on, which allows the ventilation of the compressor compartment and the dilution of the R290 concentration to values below the lower flammability limit.
Structure	Structure specifically designed for outdoor installation. Basement and frame in galvanised shaped sheet steel with a suitable thickness. All parts are polyester-powder painted to assure total weather resistance (RAL 7035 standard colour, others on request).
Compressor with inverter	**Screw Compressor** Compact twin screw compressor specifically designed and optimized for operation with R290 refrigerant (propane). The sophisticated three-stage oil separation system minimises oil dragging towards the system. Fitted on rubber antivibration mounts and complete with oil charge.
EC Fan	Premium-Axial-Fans with bionic shaped blades and high-efficient EC (Electronically Commutated) external rotor motors, sealed in protection IP54 and thermal class THCL 155. The motor efficiency class complies with IE4.
Air heat exchanger	**Microchannel** Microchannel technology increases the primary to secondary surface area ratio and reduces the tube´s air shadow to provide maximum heat exchange through our condensers. Due to their small hydraulic diameter, microchannel aluminium tubes transfer heat more efficiently than the traditional round copper tubes.
Evaporator	**Shell & tubes evaporator** All extremely efficient with low refrigerant charge and very stable operating performance due to excellent refrigerant distribution, thermally insulated by vapour-proof closed cell.
Electrical board	Each unit is equipped with electric panel, built, wired and fully tested at the factory. Wiring numeration and optimized layout facilitate troubleshooting. The installed components are identified by nameplates to better identify the application and the type of action. Switchboard is made according to standards IEC 204-1/EN60204-1 and it is complete with the following main components: - Main isolator switch - Door interlock safety device - Contactor and protection for compressor and fans - Cabinet minimum protection rating IP54. To ensure higher level of security, the cabinet is outside the machine and positioned on one side of the unit. The propane sensor is equipped with separate power supply: this power supply must always be guaranteed in order to ensure the monitoring of any leakage.
Control	The microprocessor controls the unit capacity by timing the compressors and checks the operating alarms with the possibility to connect to BMS.
Refrigerant circuit	Filter drier, moisture-liquid sight glass, electronic expansion valve, high & low pressure gauge, high and low pressure transducers, high pressure switch, safety high pressure valve (when required by EN 378-2016 standard).

MAIN ACCESSORIES

- Anti-vibration rubber/spring mounts
- Air heat exchanger with various coatings treatment
- Low pressure switch
- Low pressure safety valve
- Double safety valve
- Overpressure valve / automatic by-pass
- Double water pump (stand-by) - Standard/ High pressure

TETI.V

Technical data

TETI.V range		390-2-2 VV	495-2-2 VV	550-2-2 VV	705-2-2 VV	815-2-2 VV	955-2-2 VV
A BS/ST/AS/EC/II version							
Cooling capacity (1)	**[kW]**	**387**	**493**	**551**	**705**	**812**	**955**
Total power input (1)	[kW]	139	168	187	244	277	337
EER - Energy Efficiency Ratio (1)	-	2,78	2,93	2,95	2,89	2,93	2,83
Water flow (1)	[m^3/h]	67	85	95	121	140	164
User circuit pressure drop (1) - Base version	[kPa]	47	64	44	50	30	66
SEPR (Seasonal Energy Performance Ratio)							
Ecodesign compliance for process application	**[-]**						

REFRIGERANT CIRCUIT							
Refrigerant	-	R290					
GWP	-	3					
Charge of refrigerant per circuit	[kg]	9,5	12,0	14,0	16,3	18,9	21,2
Independent gas circuits	[n°]	2					
Compressors type	-	Screw Compressor					
Compressor quantity	[n°]	2					
Condensing coil type	-	Microchannel coil					
Fans quantity / type	[n°]	10 / EC	12 / EC	14 / EC	16 / EC	18 / EC	20 / EC
Fans power input (total) (1)	[kW]	15,6	18,7	21,8	24,9	28,0	31,0
Total air flow (1)	[m3/h]	207.700	249.200	290.800	332.300	373.800	415.400
Expansion valve type	-	Electronic					

DESUPERHEATER (option)							
Heating capacity (2)	**[kW]**	**90,0**	**89,2**	**97**	**134,0**	**151,0**	**185,0**
Water flow	[m^3/h]	15,6	15,5	16,9	23,2	26,1	32,2
User circuit pressure drop	[kPa]	5,8	5,5	5,7	5,7	6,1	7,1

HEAT RECOVERY (option)							
Heating capacity (2)	**[kW]**	**495**	**627**	**697**	**911**	**1050**	**1250**
Water flow	[m^3/h]	85,9	109,0	121,0	158,0	182,0	216,0
User circuit pressure drop	[kPa]	46,2	42,7	50,7	11,9	12,2	15,1

Electrical data							
Power supply	-	400/3/50					
Maximum power input without pump	[kW]	172	226	246	301	320	392
Maximum absorbed current - MRA without pump	[A]	319	403	431	536	616	722
Locked rotor current – LRA without pump	[A]	319	403	431	536	616	722

SOLUTION BASE-P - with Hydronic Kit							
Pump type	-	Centrifugal					
Available Head level	-	LP (1,5 bar) - MP (3,0 bar) - HP (5,0 bar)					
Water connections dimension (nominal external diameter)	[inch / DN]	4" (DN100)	5" (DN125)	5" (DN125)	6" (DN150)	6" (DN150)	6" (DN150)
Low Pressure PUMP - LP (1,5 bar)							
Motor efficiency	-	IE3					
Pump motor nominal power input	[kW]	5,5	7,5	7,5	11	11	11
Pump motor nominal absorbed current	[A]	10,6	13,6	13,6	21,3	21,3	21,3
Medium Pressure PUMP - MP (3,0 bar)							
Motor efficiency	-	IE3					
Pump motor nominal power input	[kW]	11	11	15	18,5	18,5	22
Pump motor nominal absorbed current	[A]	21,3	21,3	27,7	35	35	38
High Pressure PUMP - HP (5,0 bar)							
Motor efficiency	-	IE3					
Pump motor nominal power input	[kW]	18,5	22	22	30	30	37
Pump motor nominal absorbed current	[A]	35	39,7	39,7	51,8	51,8	62,5

DIMENSIONS AND WEIGHTS - Standard unit							
Lenght	[mm]	6255	7475	8495	9615	10735	11855
Width	[mm]	2280	2280	2280	2280	2280	2280
Height (LN)	[mm]	2550	2550	2550	2550	2550	2550
Height (SL)	[kg]	2610	2610	2610	2610	2610	2610
Shipping weight - *S/ST/AS version	[kg]	4160	5150	5315	6280	6930	8520
Shipping weight - *S/LN/AS version	[kg]	4290	5300	5495	6480	7160	8770
Shipping weight - *S/SL/AS version	[kg]	4355	5380	5580	6580	7270	8905

Noise levels (3)							
Total sound power (ST version)	[db(A)]	92	93	95	96	97	97
Total sound pressure (ST version) - at 1 m distance	[db(A)]	71	72	73	74	75	74
Total sound pressure (ST version) - at 10 m distance	[db(A)]	59	60	62	63	64	64
Total sound power (LN version)	[db(A)]	90	91	93	94	95	95
Total sound pressure (LN version) - at 1 m distance	[db(A)]	69	70	71	72	73	72
Total sound pressure (LN version) - at 10 m distance	[db(A)]	57	58	60	61	62	62
Total sound power (SL version)	[db(A)]	88	89	91	92	93	93
Total sound pressure (SL version) - at 1 m distance	[db(A)]	67	68	69	70	71	70
Total sound pressure (SL version) - at 10 m distance	[db(A)]	55	56	58	59	60	60

Reference conditions:

(1) Condenser air intake temperature = 35 °C - Evaporator fluid temperature IN/OUT = 12/7 °C; Fluid: water - Condensing coil: microchannel. Results according to UNI EN 14511-2022.
(2) Condenser air intake temperature = 35 °C - Evaporator fluid temperature IN/OUT = 12/7 °C; Fluid: water - Recovery user temp. IN/OUT = 40/45 °C; Fluid: water - Condensing coil: microchannel. Results according to UNI EN 14511-2022.
(3) Sound power level in compliance with ISO 3744 - Sound pressure level (average) at 10 meter distance, unit in a free field on a reflective surface; non-binding value obtained from the sound power level.