

FullFLOW ECO DX FullFLOW ECOA1 DX

TCHVT 1230÷21530 / TOHVT
1230÷21200

Cooling capacity 227,8÷1534,8 kW
Heating capacity 266,4÷1351,6 kW

Efficient and eco-friendly range in R1234ze or R515B

Various soundproofing options

Touch interface (optional)

Free-Cooling management

Integrated MASTER/SLAVE control

Tax incentives*



Water chillers and packaged non-reversible heat pumps with water source .Range with semi-hermetic screw compressors and R1234ze or R515B refrigerant gas.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor with control of linear capacity, with star-delta or part-winding start up (depending on models) and complete with integral protection, casing heater and refrigerant gas outlet piping shut-off valve.
- Water side heat exchanger (evaporator): dry expansion shell and tube exchanger with counterflow heat exchange, complete with closed cell polyurethane foam rubber insulation, water flow differential pressure switch and Victaulic fittings.
- Water side heat exchanger (condenser): tube and shell complete with water flow differential pressure switch (TOHVT), safety valve, service valve on the high-pressure refrigerant gas circuit.
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:

- clock board;
- display of cooling circuit high/low pressure;
- electronic expansion valve;
- Master/Slave control up to 4 units in parallel;
- 0-10V analogue signal for condensing control/water flow modulation from external device;
- control of Variable Primary Flow (VPF_R), for TCHVT.

Versions

- T - High efficiency version

Models

- TCHVTE: unit designed for cooling only with R1234ze gas.
- TCHVTO: unit designed for cooling only with R515B gas.
- TOHVTE: unit designed for heating only with R1234ze gas.
- TOHVTO: unit designed for heating only with R515B gas.

Factory fitted accessories

- VPF control (TOHVT).
- 100% heat recovery unit (TCHVT).
- Free-Cooling Management (TCHVT).
- Dry-Cooler Management (TCHVT).
- Set up for heat pump operation (TCHVT).
- Set up for operating limits extension (TOHVT).
- Condenser Victaulic fittings.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Circuit breaker switches.
- Forced limit of power consumption.
- Soft starter.
- Inlet compressor shut-off valves.
- Energy parameter measuring device.
- Electro-mechanical flow switch.
- Digital input for double set-point.
- Refrigerant leak detector.
- Soundproofed compressor box.
- Full acoustic casing.
- Compressor oil level sensor.
- Double safety valves.
- Control of min/max power supply voltage.
- Low temperature water production (TCHVT).
- 4-20 mA analogue signal for shifting set-point.

- Contacts for Smart Grid integration and photovoltaic system.
- Evaporator antifreeze heater.
- Interfaces for serial communication with other devices.
- Colour touch user keypad (fitted on the machine or remotely) with 7" display.
- Anti-vibration mountings supplied loose.
- Protective packaging

Separately supplied accessories

- Remote keypad with display.
- Outdoor air temperature probe for set-point compensation
- Thermostat with display.
- Rhoss supervisors for unit monitoring and remote management.
- Rhoss sequencer for integrated management of multiple chillers.

Technical data

TCHVTE-TCHVTO MODEL		1230	1280	1340	1380	2450	2500	2560	2620
❶ Nominal cooling capacity	kW	227,8	280,5	344,9	381,2	455,9	503,8	560,5	621,2
❶ E.E.R.		4,93	4,8	4,82	4,79	4,9	4,79	4,77	4,78
❶ Absorbed power	kW	46,2	58,4	71,6	79,6	93	105,2	117,5	130
TOHVTE-TOHVTO MODEL		1230	1280	1340	1380	2450	2500	2560	2620
❷ Heating capacity	kW	266,4	335	390,3	442,4	530,2	595	661,8	725,1
❷ C.O.P.		4,44	4,3	4,26	4,37	4,46	4,31	4,25	4,3
❷ Absorbed power	kW	60	77,9	91,6	101,2	118,9	138,1	155,7	168,6
TCHVTE-TCHVTO-TOHVTE-TOHVTO MODEL		1230	1280	1340	1380	2450	2500	2560	2620
❸ Sound power TCHVTE-TCHVTO	dB(A)	96	96	96	96	97	97	97	98
❸ Sound power TOHVTE-TOHVTO	dB(A)	96,5	96,5	96,5	96,5	97,5	97,5	97,5	99
Screw compressors	no.	1	1	1	1	2	2	2	2
Circuits	no.	1	1	1	1	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHT		1230	1280	1340	1380	2450	2500	2560	2620
L – Width	mm	1040	1040	1040	1040	1370	1370	1370	1370
H – Height	mm	1780	1780	1780	1780	2010	2080	2080	2080
P – Depth	mm	3500	3550	3550	3590	4040	4050	4080	4400
❹ TCHVTE-TCHVTO weight	kg	1700	1720	2260	2370	3050	3080	3090	3720
❹ TOHVTE-TOHVTO weight	kg	1715	1735	2275	2385	3070	3100	3110	3740
SEASONAL ENERGY PERFORMANCE		1230	1280	1340	1380	2450	2500	2560	2620
TCHVTE-TCHVTO MODEL SEASONAL PERFORMANCE IN COOLING MODE									
❶ Pdesignc (EN 14825)	kW	227,8	280,5	344,9	381,2	455,9	503,8	560,5	621,2
❶ SEER (EN 14825)		5,78	5,76	5,77	5,85	6,48	6,42	6,44	6,4
❷ ηs,c	%	228	227	228	231	256	254	255	253
TOHVTE-TOHVTO MODEL SEASONAL PERFORMANCE IN HEATING MODE									
❸ Pdesignh (EN 14825)	kW	299	371	-	-	-	-	-	-
❸ SCOP (EN 14825)		4,33	4,37	-	-	-	-	-	-
❹ ηs	%	165	167	-	-	-	-	-	-
TCHVTE-TCHVTO MODEL		2680	2760	2830	2900	2950	21000	21090	21140
❶ Nominal cooling capacity	kW	682,9	756,7	830,2	896,6	950	996,9	1088,2	1139,9
❶ E.E.R.		4,79	4,8	5,02	5,02	5,02	4,98	4,78	4,82
❶ Absorbed power	kW	142,6	157,6	165,4	178,6	189,2	200,2	227,7	236,5
TOHVTE-TOHVTO MODEL		2680	2760	2830	2900	2950	21000	21090	21140
❷ Heating capacity	kW	777,2	883,9	951,1	1019,7	1085	1141,5	1237,1	1289,3
❷ C.O.P.		4,27	4,39	4,44	4,39	4,45	4,42	4,35	4,36
❷ Absorbed power	kW	182	201,3	214,2	232,3	243,8	258,3	284,4	295,7
TCHVTE-TCHVTO-TOHVTE-TOHVTO MODEL		2680	2760	2830	2900	2950	21000	21090	21140
❸ Sound power TCHVTE-TCHVTO	dB(A)	98	98	99	99	99	99	100	100
❸ Sound power TOHVTE-TOHVTO	dB(A)	99	99	100	100,5	100,5	100,5	101,5	102
Screw compressors	no.	2	2	2	2	2	2	2	2
Circuits	no.	2	2	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHT		2680	2760	2830	2900	2950	21000	21090	21140
L – Width	mm	1370	1370	1370	1370	1370	1370	1370	1370
H – Height	mm	2270	2270	2340	2340	2340	2340	2340	2340
P – Depth	mm	4750	4810	4820	4820	4820	4820	5140	5230
❹ TCHVTE-TCHVTO weight	kg	4300	4540	4780	4850	4900	4920	5230	5270
❹ TOHVTE-TOHVTO weight	kg	4320	4560	4800	4870	4920	4940	5310	5370
SEASONAL ENERGY PERFORMANCE		2680	2760	2830	2900	2950	21000	21090	21140
TCHVTE-TCHVTO MODEL SEASONAL PERFORMANCE IN COOLING MODE									
❶ Pdesignc (EN 14825)	kW	682,9	756,7	830,2	896,6	950	996,9	1088,2	1139,9
❶ SEER (EN 14825)		6,4	6,42	6,52	6,54	6,48	6,45	6,49	6,5
❷ ηs,c	%	253	254	258	259	256	255	257	257
TOHVTE-TOHVTO MODEL SEASONAL PERFORMANCE IN HEATING MODE									

③ Pdesignh (EN 14825)	kW	-	-	-	-	-	-	-	-
③ SCOP (EN 14825)		-	-	-	-	-	-	-	-
④ ηs	%	-	-	-	-	-	-	-	-
TCHVTE-TCHVTO MODEL			21200	21300	21410	21530 (*)			
① Nominal cooling capacity	kW		1203,4	1303,8	1408,2	1534,8			
① E.E.R.			4,89	4,98	5,03	5,08			
① Absorbed power	kW		246,1	261,8	280	302,1			
TOHVTE-TOHVTO MODEL			21200	-	-	-			
② Heating capacity	kW		1351,6	-	-	-			
② C.O.P.			4,4	-	-	-			
② Absorbed power	kW		307,2	-	-	-			
TCHVTE-TCHVTO-TOHVTE-TOHVTO MODEL			21200	21300	21410	21530			
③ Sound power TCHVTE-TCHVTO	dB(A)		100	102	104	104			
③ Sound power TOHVTE-TOHVTO	dB(A)		102	-	-	-			
Screw compressors	no.		2	2	2	2			
Circuits	no.		2	2	2	2			
Electrical supply	V-ph-Hz		400-3-50	400-3-50	400-3-50	400-3-50			
DIMENSIONS AND WEIGHT			21200	21300	21410	21530			
L – Width	mm		1370	1470	1470	1470			
H – Height	mm		2350	2500	2500	2500			
P – Depth	mm		5230	5350	5680	5680			
④ TCHVTE-TCHVTO weight	kg		5320	6020	6610	6980			
④ TOHVTE-TOHVTO weight	kg		5440	-	-	-			
SEASONAL ENERGY PERFORMANCE			21200	21300	21410	21530 (*)			
TCHVTE-TCHVTO MODEL SEASONAL PERFORMANCE IN COOLING MODE									
① Pdesignc (EN 14825)	kW		1203,4	1303,8	1408,2	1534,8			
① SEER (EN 14825)			6,53	6,72	6,75	6,98			
② ηs,c	%		258	266	267	276			
TOHVTE-TOHVTO MODEL SEASONAL PERFORMANCE IN HEATING MODE									
③ Pdesignh (EN 14825)	kW		-	-	-	-			
③ SCOP (EN 14825)			-	-	-	-			
④ ηs	%		-	-	-	-			

Data at the following conditions:

- ① Chilled water: 12/7 °C – Condenser water: 30/35 °C.
 - ② Hot water: 40/45 °C – Evaporator water: 10/7 °C.
 - ③ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614 (not Eurovent certified).
 - ④ Empty weight.
- Performance according to EN 14511.
 (*) Unit not Eurovent certified.
- ① Low temperature application (7°C)
 - ② Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)
 - ③ In Average climatic conditions, medium temperature application (55°C)
 - ④ Seasonal energy efficiency: medium temperature heating in Average climate (EU Regulations No.811/2013 and No.813/2013)



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