TCHVZ 1200÷31630
TCEVZ 1200÷31630
Serie Z-Flow

Macrosystem
171,9÷1.629,2 kW

TCHVZ - Water cooled water chillers with R134a ecological refrigerant. Semi-hermetic screw compressor range.

TCEVZ - Condenserless units which operate with R134a ecological refrigerant. Semi-hermetic screw compressor range.

R134a

EUROVENT CERTIFIED PERFORMANCE

HIGH ENERGY EFFICIENCY EER>4,7

CE

RHOSS CLIMA EVOLUTION

SINCERT

CONTENTS

Intended conditions of use

○ **TCHVBZ units are packaged water-cooled water chillers with semi-hermetic screw compressors.**
○ **TCHVIZ units are the chillers in soundproofed version.**
○ **TCHVBZ and TCHVIZ units are available in version for operation as a heat pump by means of the inversion of the water circuit.**
○ **TCEVBZ units are condenserless water chiller with semi-hermetic screw compressors.**
○ **TCEVIZ units are condenserless water chiller in soundproofed version.**
○ **In order to operate, TCEVBZ and TCEVIZ condenserless units must be connected to a remote condenser installed outdoors.**

They are intended to be used in air conditioning systems that require a supply of chilled water (TCHVBZ-TCHVIZ and TCEVBZ-TCEVIZ) or hot water (TCHVBZ-TCHVIZ in the heat pump version with inversion of the water circuit).
The machine is designed for indoor installation.

The units conform to the following Directives:
○ Machine Directive 98/37/EC (MD);
○ Low voltage Directive 2006/95/EC (LVD);
○ Electromagnetic compatibility Directive 89/336/EEC (EMC)
○ Pressure equipment Directive 97/23/EEC (PED).

Guide to reading the code “SERIES” code

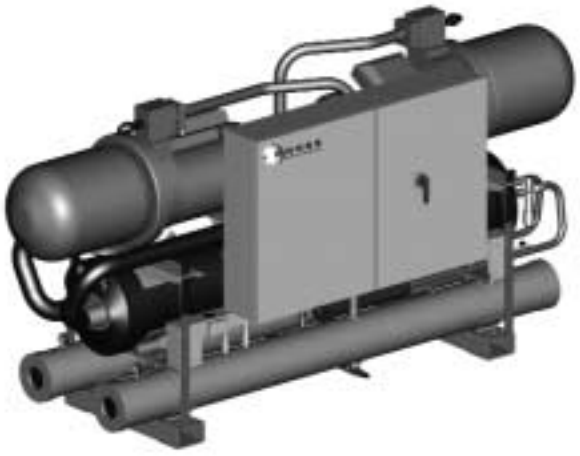
T Water chiller or heat pump	**C** Cooling only	**H** Water cooled	**V** Semi-hermetic screw compressors	**B** Standard version	**Z** R134a Refrigerant charge
		E Condenserless unit		**I** Soundproofed version	

“MODEL” code

1, 2, 3 No. of compressors	**200 ÷ 1630** Approximate cooling capacity (kW)

Example: TCHVBZ 2880

○ Water cooled water chiller.
○ Standard operation.
○ 2 semi-hermetic screw compressors.
○ Approximately nominal cooling capacity 880 kW.



Structural features

○ Compact load bearing structure made of galvanized steel sections and polyester powder-coated (WHITE RAL 9018).
○ Semi-hermetic screw compressors with high energy efficiency, specifically designed to work with R134a gas. The compressor start-up is part-winding (mod. 1200÷1350 and 2400÷2710) or star-triangle (mod. 1410÷1590, mod. 2750÷21260 and mod. 31300÷31630) type with starting current limited by equalizer and load stepping, complete with integral protection and crankcase heater. The compressors are also complete with intercept valve on the refrigerant outlet pipe.
○ The step capacity control therefore occurs as shown in the following table:

MODEL	Compressors/Steps n.	Circuits n.
1200 ÷ 1590	1 / 3	1
2400 ÷ 21260	2 / 6	2
31300 ÷ 31630	3 / 9	3

○ User side (evaporator) shell and tube dry expansion heat exchanger with counter-flow thermal exchange. It is made of carbon steel with inner rifled copper pipes,
with water differential pressure switch, air bleed valve, water discharge cock, Victaulic type water connections and insulation of closed cell expanded polyurethane rubber with anti U.V. protection layer.
○ Condenser shell (TCHVBZ and TCHVIZ only) of shell-and-tube type in carbon steel with copper pipes with integral finning, complete with high pressure safety valve and service connection with cock on refrigerant high pressure circuit. In the versions with heat pump set-up (inversion of water circuit), the condensers are lagged with insulation in closed cell expanded polyurethane rubber.
○ 5” female threaded water connections.
○ Refrigerant circuit is made with mild copper tubes and silver alloy welding or with A106 steel tubes, and is complete with:
cartridge filter-drier, charge connections, manual reset high pressure switch, indicator of gas passage and any presence of humidity, electronic expansion valve, intercept valve on the liquid line, safety valve in the high pressure section, suction line insulation of closed cell expanded polyurethane rubber with anti U.V. protection layer.
TCEVBZ and TCEVIZ models also include refrigerant connections (flange type with intercept cock or to be brazed) for connection to a remote condenser.
○ Refrigerant high and low pressure gauge for each refrigeration circuit.
○ Refrigerant charge of eco-friendly R134a.
○ TCEVBZ and TCEVIZ units are pre-charged with R134a refrigerant to protect the refrigerant circuit. The addition of R134a refrigerant and POE oil must be determined and carried out by the installer on the basis of the length of the refrigerant lines used.

Electrical panel

○ Electrical panel complying with IEC standards, waterproof box complete with:
‧ electrical wiring configured for power supply 400V-3ph-50Hz;
• transformer for auxiliary circuit;
‧ auxiliary power supply: 230V-1ph-50Hz;
‧ control power supply: 24V-1ph-50Hz;
‧ phase monitoring to protect the compressor;
‧ power contactors;
‧ remotable controls: remote ON/OFF, dual set point (DSP accessory), summer/winter selector (only TCHVBZ and TCHVIZ in HPH version);
‧ remotable machine controls: compressor(s) operation indicator light, general lockout indicator light;
‧ general isolator with door interlock on the power supply;
‧ automatic protection switch on auxiliary power circuit;
‧ overload fuses for each compressor (the version with magneto-thermal switches for the protection of each compressor is optional);
‧ fuses for auxiliary circuit.
○ Programmable microprocessor electronic control board, managed by keyboard inserted in machine, remotable up to 1,000 m.
This electronic board performs the following functions:
‧ For the standard unit, adjustment and control are made on evaporator inlet temperature (with the optional accessory CCL - stepless capacity control - chiller are managed through the evaporator outlet water temperature);
‧ management of the safety delays; hour run meter of each compressor; automatic inversion of compressor operation sequence; circulation or user service pump (on both the evaporator and condenser side); electronic anti-freeze protection; of the load steps, of functions that integrate the workings of individual devices fitted to the unit;
‧ management of the electronic expansion valve (EEV) with possibility to read and display suction temperature, evaporation pressure, overheating and valve opening status.
‧ LCD display of programmed set points, of inlet/outlet water temperatures, of the condensing pressures, of alarms;
○ Multilanguage management (Italian, English, French, German, Spanish) of display information.
○ Alarm history management. The following is memorized for each alarm (only if the KSC accessory is present):
‧ date and time of activation;
‧ alarm code and description;
‧ the water inlet/outlet temperature values when the alarm intervened;
‧ condensation pressure values at the time of the alarm;
‧ alarm delay time from the switch-on of the connected device;
‧ compressor status when the alarm intervened.
‧ self-diagnosis with continuous monitoring of the machine’s operational status.
○ Advanced functions:
‧ configured for serial connection via RS 485 port for communication with building automation, centralised systems and supervision networks;
‧ management of time bands and operation parameters with the possibility of daily/weekly programming;
‧ check up and verification of programmed maintenance status;
‧ computer-aided testing of the units.

Versions

○ **B** - High energy efficiency standard version (TCHVBZ-TCEVBZ).
○ **I** - High energy efficiency soundproofed version, with soundproof jackets on compressors (TCHVIZ-TCEVIZ).

Factory-fitted accessories

○ **HPH** (TCHVBZ and TCHVIZ only) - version for operation as a heat pump by means of inversion of the cycle on the water circuit. The version provides the possibility of displaying the condenser inlet and outlet water temperature and of setting and displaying the set point and temperature differential of the condenser inlet hot water. The condensers are covered with insulation in closed cell expanded polyurethane rubber.
○ **CCL** - stepless compressor capacity control (for example, for a two compressors unit, the capacity control is from 25% to 100%).
○ **RR** - Units with intercept valve on the compressor inlet (valve comes as standard on outlet). Not available on models 1530-1590-21030-21110-21180-21260-31520-31590-31630.
○ **RA** - Evaporator antifreezing electrical heater with switch.
○ **IM** - thermal overloads switches for the protection of the compressors.
○ **SLO** - oil level sensor (this accessory is suggested in condenserless units, when it is difficult to visual check the pilot lamp of the compressor or when a more detailed monitoring is requested).
○ **SPS** - refrigerant pressure signal on high and low side, on card.
○ **SS** -RS 485 serial interface for communicating with building management systems, centralised control systems and supervision networks (proprietary protocol, Modbus RTU).
○ **FTT10** -LON serial interface - Serial interface for connection to BMS with protocol LON standard FTT10.
○ **CMT** - control of power supply voltage MIN/MAX values.

On request, the following factory fitted accessories are available:
○ **DSP** - double set point
○ **CS** - set point setting (4-20 mA).
○ **CR** - Power factor correction capacitors ($\cos\phi > 0{,}94$).
○ **DS15** - 15% recovery with desuperheater.
○ **RC100** - 100% recovery with condensation heat recuperator.
○ **TRD** - thermostat with display to show the water temperature at the recuperator/ desuperheater inlet with the possibility of programming the activation set-point of a possible remote regulation device.
○ **BSP** - 0-10 V signal for management of external condensation control systems, with variable-speed pump or water flow rate control valves.

Accessories supplied separately

○ **KSC** - Clock board to display date/hour, for the management of the machine with hourly, daily and weekly start-stop periods, with the possibility of varying the set points.
○ **KSA** - Rubber anti-vibration mountings.
○ **KSAM** - Spring antivibration mountings.
○ **KTR** - Remote keyboard for control at a distance with the same functionality as the one built into the unit.

TCHVBZ-TCHVIZ 1200 ÷ 1590: technical features

MODEL **TCHVBZ-TCHVIZ**			**1200**	**1230**	**1280**	**1310**	**1350**	**1410**	**1460**	**1530**	**1590**
Technical data											
Nominal cooling capacity (*)	kW		199,7	226,3	277,3	306,3	347,6	404,6	462,4	524,9	589,3
Condenser heat rejection (*)	kW		239,0	270,9	332,1	367,1	416,0	484,2	553,9	628,9	705,5
E.E.R. (*)			4,93	4,92	4,91	4,89	4,93	4,93	4,90	4,90	4,92
E.S.E.E.R.			5,97	5,72	5,73	5,69	5,97	5,89	5,75	5,72	6,00
Refrigerant circuits	n.		1	1	1	1	1	1	1	1	1
Screw compressor/steps	n.		1 / 3	1 / 3	1 / 3	1 / 3	1 / 3	1 / 3	1 / 3	1 / 3	1 / 3
Sound pressure TCHVBZ (***)	dB(A)		77	77	80	80	80	80	80	81	81
Sound power TCHVBZ (**)	dB(A)		94	94	97	97	97	97	97	98	98
Sound pressure TCHVIZ (***)	dB(A)		75	76	78	79	79	79	79	80	80
Sound power TCHVIZ (**)	dB(A)		92	92	95	95	95	95	95	96	96
Evaporator type							Shell and tube				
Evaporator nominal water flow (*)	m³/h		34,3	38,8	47,6	52,6	59,6	69,4	79,3	90,1	101,1
Evaporator nominal pressure drops (*)	kPa		46	44	47	55	54	60	52	54	48
Evaporator water connections types							Victaulic				
Evaporator water connection dimensions	∅		DN 100	DN 100	DN 100	DN 100	DN 125	DN 125	DN 125	DN 150	DN 150
Condenser type							Shell and tube				
Number of condensers	n.		1	1	1	1	1	1	1	1	1
Condenser nominal water flow (*)	m³/h		41,7	47,2	57,9	64,0	72,5	84,4	96,6	109,7	123,0
Condenser nominal pressure drops (*)	kPa		25	24	28	27	34	27	30	27	33
Condenser water connections types			GF	GF	GF	GF	GF	GF	GF	GF	GF
Condenser water connection dimensions	∅		5"	5"	5"	5"	5"	5"	5"	5"	5"
Evaporator water contents	l		124	118	113	113	170	164	159	271	263
Condenser water contents	l		19	21	24	26	26	34	37	45	45
R134a refrigerant charge (****)	kg		66	66	67	66	68	67	67	68	70
Polyester oil charge	kg		15	15	22	19	19	35	35	35	35
Electrical data											
Total absorbed power(*)	kW		40,5	46,0	56,5	62,7	70,5	82,1	94,3	107,2	119,8
Electrical power supply	V-ph-Hz						400/3/50				
Auxiliary power supply	V-ph-Hz						230/1/50				
Control power supply	V-ph-Hz						12/1/50				
Nominal current(*)	A		66	75	91	103	115	134	155	176	195
Maximum current	A		115	131	164	183	208	234	271	309	350
Starting current	A		350	423	520	612	665	436	465	586	650
TCHVBZ dimensions											
Length**L**	mm		3460	3460	3440	3440	3450	3450	3450	3450	3450
Height**H**	mm		1460	1460	1460	1460	1640	1640	1640	1740	1740
Depth **P**	mm		1000	1000	1000	1000	1000	1000	1000	1000	1000
TCHVIZ dimensions, soundproofed version											
Length **L**	mm		3500	3500	3500	3500	3580	3580	3580	3580	3580
Height **H**	mm		1460	1460	1460	1460	1460	1460	1460	1740	1740
Depth **P**	mm		1000	1000	1000	1000	1000	1000	1000	1000	1000

(*) At the following conditions: Inlet/outlet evaporator water temperature 12°C / 7°C; inlet/outlet condenser water temperature 30°C / 35°C.

(**) Total sound power level in dB (A) based on measurements made in accordance with the UNI EN-ISO 3744.

(***) Sound pressure in a open field on reflecting plane; value at a distance of 1 meter from the unit side and at a height of 1 meter from the support plane.

(****) Approximate value: the correct value is stated on the data plate on board the machine.

TCHVBZ-TCHVIZ 2400 ÷ 2710: technical features

MODEL **TCHVBZ-TCHVIZ**		**2400**	**2420**	**2440**	**2510**	**2560**	**2600**	**2630**	**2680**	**2710**
Technical data										
Nominal cooling capacity (*)	kW	391,7	413,0	432,0	506,8	550,8	592,0	621,6	676,8	709,8
Condenser heat rejection (*)	kW	469,3	496,2	520,3	609,2	659,0	708,7	743,9	810,0	849,6
E.E.R. (*)		4,90	4,81	4,75	4,80	4,94	4,92	4,93	4,93	4,93
E.S.E.E.R.		5,70	5,68	5,60	5,68	5,93	5,95	5,83	5,73	5,71
Refrigerant circuits	n.	2	2	2	2	2	2	2	2	2
Screw compressor/steps	n.	2 / 6	2 / 6	2 / 6	2 / 6	2 / 6	2 / 6	2 / 6	2 / 6	2 / 6
Sound pressure TCHVBZ (***)	dB(A)	80	80	80	81	81	81	81	81	81
Sound power TCHVBZ (**)	dB(A)	97	97	97	99	99	99	99	99	99
Sound pressure TCHVIZ (***)	dB(A)	78	78	78	80	80	80	80	80	80
Sound power TCHVIZ (**)	dB(A)	95	95	95	97	97	97	97	97	97
Evaporator type		Shell and tube								
Evaporator nominal water flow (*)	m³/h	67,2	70,9	74,1	87,0	94,5	101,6	106,7	116,1	121,8
Evaporator nominal pressure drops (*)	kPa	57	44	48	37	42	53	58	54	58
Evaporator water connections types		Victaulic								
Evaporator water connection dimensions	∅	DN 125	DN 125	DN 125	DN 150	DN 150	DN 150	DN 150	DN 150	DN 150
Condenser type		Shell and tube								
Number of condensers	n.	1	1	1	1	1	1	1	1	1
Condenser nominal water flow (*)	m³/h	81,8	86,5	90,7	106,3	114,9	123,6	129,7	141,2	148,2
Condenser nominal pressure drops (*)	kPa	24	23	23	27	27	28	28	33	35
Condenser water connections types		GF	GF	GF	GF	GF	GF	GF	GF	GF
Condenser water connection dimensions	∅	5"	5"	5"	5"	5"	5"	5"	5"	5"
Evaporator water contents	l	164	159	159	263	263	256	256	241	241
Condenser water contents	l	2 x 19	19/21	2 x 21	21/24	2 x 24	24/26	2 x 26	2 x 26	2 x 26
R134a refrigerant charge (****)	kg	2 x 74	2 x 75	2 x 75	2 x 81	2 x 80	2 x 82	2 x 82	2 x 87	2 x 87
Polyester oil charge	kg	2 x 15	2 x 15	2 x 15	15 + 22	2 x 22	19 + 22	2 x 19	2 x 19	2 x 19
Electrical data										
Total absorbed power(*)	kW	80,0	85,8	91,0	105,6	111,5	120,3	126,1	137,3	144,1
Electrical power supply	V-ph-Hz	400/3/50								
Auxiliary power supply	V-ph-Hz	230/1/50								
Control power supply	V-ph-Hz	12/1/50								
Nominal current(*)	A	131	141	149	167	181	195	207	221	232
Maximum current	A	230	254	263	296	329	348	366	391	416
Starting current	A	465	538	554	651	684	776	795	848	873
TCHVBZ dimensions										
Length **L**	mm	3880	3880	4000	4070	4070	4070	4070	4070	4070
Height **H**	mm	1840	1840	1840	1960	1960	1960	1960	1960	1960
Depth **P**	mm	1300	1300	1300	1300	1300	1300	1300	1300	1300
TCHVIZ dimensions, soundproofed version										
Length **L**	mm	4350	4350	4350	4350	4350	4350	4350	4350	4350
Height **H**	mm	1880	1880	1880	1990	1990	1990	1990	1990	1990
Depth **P**	mm	1300	1300	1300	1300	1300	1300	1300	1300	1300

(*) At the following conditions: Inlet/outlet evaporator water temperature 12°C / 7°C; inlet/outlet condenser water temperature 30°C / 35°C.

(**) Total sound power level in dB (A) based on measurements made in accordance with the UNI EN-ISO 3744.

(***) Sound pressure in a open field on reflecting plane; value at a distance of 1 meter from the unit side and at a height of 1 meter from the support plane.

(****) Approximate value: the correct value is stated on the data plate on board the machine.

Condenser heat rejection									
	2400	**2420**	**2440**	**2510**	**2560**	**2600**	**2630**	**2680**	**2710**
Circuits	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Circuit 1	50	47	50	45	50	47	50	47	50
Circuit 2	50	53	50	55	50	53	50	53	50

Compressor start-up	Part-winding	Delta-star
Models	1200 ÷ 1350	1410 ÷ 1590
	2400 ÷ 2710	2750 ÷ 21260
		31300 ÷ 31630

TCHVBZ-TCHVIZ 2750 ÷ 21260: technical features

MODEL **TCHVBZ-TCHVIZ**			**2750**	**2790**	**2880**	**2930**	**21030**	**21110**	**21180**	**21260**
Technical data										
Nominal cooling capacity (*)	kW	EUROVENT	742,0	787,0	879,1	927,2	1016,6	1087,3	1155,8	1208,4
Condenser heat rejection (*)	kW		889,4	944,9	1052,4	1114,2	1220,3	1303,4	1383,7	1449,0
E.E.R. (*)		EUROVENT	4,88	4,83	4,92	4,81	4,84	4,88	4,92	4,87
E.S.E.E.R. (*)		EUROVENT	5,69	5,72	5,98	5,82	5,81	5,96	5,86	5,85
Refrigerant circuits	n.		2	2	2	2	2	2	2	2
Screw compressor/steps	n.		2 / 6	2 / 6	2 / 6	2 / 6	2 / 6	2 / 6	2 / 6	2 / 6
Sound pressure TCHVBZ (***)	dB(A)		81	81	81	81	81	81	81	81
Sound power TCHVBZ (**)	dB(A)		99	99	99	99	99	99	99	99
Sound pressure TCHVIZ (***)	dB(A)		80	80	80	80	80	80	80	80
Sound power TCHVIZ (**)	dB(A)		97	97	97	97	97	97	97	97
Evaporator type							Shell and tube			
Evaporator nominal water flow (*)	m³/h		127,3	135,0	150,8	159,1	174,4	186,6	198,3	207,3
Evaporator nominal pressure drops (*)	kPa	EUROVENT	64	71	41	46	32	35	44	48
Evaporator water connections types	Type						Victaulic			
Evaporator water connection dimensions	∅		DN 150	DN 150	DN 200	DN 200	DN 200	DN 200	DN 200	DN 200
Condenser type							Shell and tube			
Number of condensers	n.		2	2	2	2	2	2	2	2
Condenser nominal water flow (*)	m³/h		155,1	164,8	183,5	194,3	212,8	227,3	241,3	252,7
Condenser nominal pressure drops (*)	kPa	EUROVENT	30	26	30	31	30	28	32	34
Condenser water connections types			GF	GF	GF	GF	GF	GF	GF	GF
Condenser water connection dimensions	∅		5"	5"	5"	5"	5"	5"	5"	5"'
Evaporator water contents	l		241	241	419	419	401	401	392	392
Condenser water contents	l		26/34	2 x 34	34/37	2 x 37	37/45	2 x 45	2 x 45	2 x 45
R134a refrigerant charge (****)	kg		2 x 83	2 x 83	2 x 88	2 x 87	2 x 90	2 x 89	2 x 93	2 x 93
Polyester oil charge	kg		19 + 35	2 x 35	2 x 35	2 x 35	2 x 35	2 x 35	2 x 35	2 x 35
Electrical data										
Total absorbed power(*)	kW	EUROVENT	152,0	162,8	178,7	192,8	210,0	222,8	234,9	248,0
Electrical power supply	V-ph-Hz						400/3/50			
Auxiliary power supply	V-ph-Hz						230/1/50			
Control power supply	V-ph-Hz						12/1/50			
Nominal current(*)	A		249	267	290	310	332	353	372	389
Maximum current	A		442	468	505	542	580	618	659	700
Starting current	A		644	670	699	736	857	895	959	1000
TCHVBZ dimensions										
Length **L**	mm		4120	4000	4000	4000	4000	4000	4000	4000
Height **H**	mm		1840	1840	1910	1910	1950	1950	1950	1950
Depth **P**	mm		1300	1300	1300	1300	1300	1300	1300	1300
TCHVIZ dimensions, soundproofed version										
Length **L**	mm		4350	4350	4350	4350	4350	4350	4350	4350
Height **H**	mm		1990	1990	2090	2060	2060	2060	2060	2060
Depth **P**	mm		1300	1300	1300	1300	1300	1300	1300	1300

(*) At the following conditions: Inlet/outlet evaporator water temperature 12°C / 7°C; inlet/outlet condenser water temperature 30°C / 35°C.

(**) Total sound power level in dB (A) based on measurements made in accordance with the UNI EN-ISO 3744.

(***) Sound pressure in a open field on reflecting plane; value at a distance of 1 meter from the unit side and at a height of 1 meter from the support plane.

(****) Approximate value: the correct value is stated on the data plate on board the machine.

Condenser heat rejection								
	2750	**2790**	**2880**	**2930**	**21030**	**21110**	**21180**	**21260**
Circuits	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Circuit 1	47	50	46	50	47	50	47	50
Circuit 2	53	50	54	50	53	50	53	50

Compressor start-up	Part-winding	Delta-star
Models	1200 ÷ 1350	1410 ÷ 1590
	2400 ÷ 2710	2750 ÷ 21260
		31300 ÷ 31630

TCHVBZ-TCHVIZ 31300 ÷ 31460: technical features

MODEL **TCHVBZ-TCHVIZ**			**31300**	**31350**	**31390**	**31460**
Technical data						
Nominal cooling capacity (*)	kW	EUROVENT	1282,9	1330,0	1377,2	1437,5
Condenser heat rejection (*)	kW		1532,9	1591,9	1651,6	1724,0
E.E.R. (*)		EUROVENT	4,98	4,93	4,87	4,87
E.S.E.E.R. (*)		EUROVENT	6,00	5,89	5,87	5,83
Refrigerant circuits	n.		3	3	3	3
Screw compressor/steps	n.		3 / 9	3 / 9	3 / 9	3 / 9
Sound pressure TCHVBZ (***)	dB(A)		82	82	82	83
Sound power TCHVBZ (**)	dB(A)		101	101	101	102
Sound pressure TCHVIZ (***)	dB(A)		80	80	81	81
Sound power TCHVIZ (**)	dB(A)		99	99	99	100
Evaporator type					Shell and tube	
Evaporator nominal water flow (*)	m³/h		220,1	228,2	236,3	246,6
Evaporator nominal pressure drops (*)	kPa	EUROVENT	30	31	33	35
Evaporator water connections types	Type				Victaulic	
Evaporator water connection dimensions	∅		DN 200	DN 200	DN 200	DN 200
Condenser type					Shell and tube	
Number of condensers	n.		3	3	3	3
Condenser nominal water flow (*)	m³/h		267,3	277,6	288,0	300,7
Condenser nominal pressure drops (*)	kPa	EUROVENT	30	22	27	33
Condenser water connections types			GF	GF	GF	GF
Condenser water connection dimensions	∅		5"	5"	5"	5"
Evaporator water contents	l		578	578	578	578
Condenser water contents	l		3 x 37	3 x 37	3 x 37	3 x 37
R134a refrigerant charge (****)	kg		3 x 109	3 x 109	3 x 109	3 x 108
Polyester oil charge	kg		3 x 35	3 x 35	3 x 35	3 x 35
Electrical data						
Total absorbed power(*)	kW	EUROVENT	257,7	270,0	282,9	295,4
Electrical power supply	V-ph-Hz				400/3/50	
Auxiliary power supply	V-ph-Hz				230/1/50	
Control power supply	V-ph-Hz				12/1/50	
Nominal current(*)	A		408	427	447	466
Maximum current	A		702	739	776	813
Starting current	A		904	933	970	1007
TCHVBZ dimensions						
Length **L**	mm		4940	4940	4940	4940
Height **H**	mm		2220	2220	2220	2220
Depth **P**	mm		1700	1700	1700	1700
TCHVIZ dimensions, soundproofed version						
Length **L**	mm		5020	5020	5020	5020
Height **H**	mm		2340	2340	2340	2340
Depth **P**	mm		1700	1700	1700	1700

(*) At the following conditions: Inlet/outlet evaporator water temperature 12°C / 7°C; inlet/outlet condenser water temperature 30°C / 35°C.

(**) Total sound power level in dB (A) based on measurements made in accordance with the UNI EN-ISO 3744.

(***) Sound pressure in a open field on reflecting plane; value at a distance of 1 meter from the unit side and at a height of 1 meter from the support plane.

(****) Approximate value: the correct value is stated on the data plate on board the machine.

Condenser heat rejection				
	31300	**31350**	**31390**	**31460**
Circuits	**%**	**%**	**%**	**%**
Circuit 1	33,3	36,0	34,5	33,3
Circuit 2	33,3	32,0	34,5	33,3
Circuit 3	33,3	32,0	31,0	33,3

Compressor start-up	Part-winding	Delta-star
Models	1200 ÷ 1350	1410 ÷ 1590
	2400 ÷ 2710	2750 ÷ 21260
		31300 ÷ 31630

TCHVBZ-TCHVIZ 31520 ÷ 31630: technical features

MODEL **TCHVBZ-TCHVIZ**		**31520**	**31590**	**31630**
Technical data				
Nominal cooling capacity (*)	kW	1518,5	1580,8	1629,2
Condenser heat rejection (*)	kW	1818,2	1892,8	1953,4
E.E.R. (*)		4,91	4,91	4,87
E.S.E.E.R. (*)		5,90	5,89	5,90
Refrigerant circuits	n.	3	3	3
Screw compressor/steps	n.	3 / 9	3 / 9	3 / 9
Sound pressure TCHVBZ (***)	dB(A)	83	83	83
Sound power TCHVBZ (**)	dB(A)	102	102	102
Sound pressure TCHVIZ (***)	dB(A)	81	82	82
Sound power TCHVIZ (**)	dB(A)	100	100	100
Evaporator type			Shell and tube	
Evaporator nominal water flow (*)	m^3/h	260,5	271,2	279,5
Evaporator nominal pressure drops (*)	kPa	38	40	43
Evaporator water connections types	Type		Victaulic	
Evaporator water connection dimensions	∅	DN 200	DN 200	DN 200
Condenser type			Shell and tube	
Number of condensers	n.	3	3	3
Condenser nominal water flow (*)	m^3/h	317,1	330,1	340,7
Condenser nominal pressure drops (*)	kPa	32	30	28
Condenser water connections types		GF	GF	GF
Condenser water connection dimensions	∅	5"	5"	5"
Evaporator water contents	l	578	578	578
Condenser water contents	l	3 x 45	3 x 45	3 x 45
R134a refrigerant charge (****)	kg	3 x 105	3 x 105	3 x 105
Polyester oil charge	kg	3 x 35	3 x 35	3 x 35
Electrical data				
Total absorbed power(*)	kW	309,0	321,7	334,2
Electrical power supply	V-ph-Hz		400/3/50	
Auxiliary power supply	V-ph-Hz		230/1/50	
Control power supply	V-ph-Hz		12/1/50	
Nominal current(*)	A	488	507	527
Maximum current	A	851	889	1050
Starting current	A	1128	1166	1204
TCHVBZ dimensions				
Length **L**	mm	4940	4940	4940
Height **H**	mm	2220	2220	2220
Depth **P**	mm	1700	1700	1700
TCHVIZ dimensions, soundproofed version				
Length **L**	mm	5020	5020	5020
Height **H**	mm	2340	2340	2340
Depth **P**	mm	1700	1700	1700

(*) At the following conditions: Inlet/outlet evaporator water temperature 12°C / 7°C; inlet/outlet condenser water temperature 30°C / 35°C.

(**) Total sound power level in dB (A) based on measurements made in accordance with the UNI EN-ISO 3744.

(***) Sound pressure in a open field on reflecting plane; value at a distance of 1 meter from the unit side and at a height of 1 meter from the support plane.

(****) Approximate value: the correct value is stated on the data plate on board the machine.

Condenser heat rejection			
	31520	**31590**	**31630**
Circuits	**%**	**%**	**%**
Circuit 1	36,0	34,5	33,3
Circuit 2	32,0	34,5	33,3
Circuit 3	32,0	31,0	33,3

Compressor start-up	Part-winding	Delta-star
Models	1200 ÷ 1350	1410 ÷ 1590
	2400 ÷ 2710	2750 ÷ 21260
		31300 ÷ 31630

TCEVBZ-TCEVIZ 1200 ÷ 1590: technical features

MODEL **TCEVBZ-TCEVIZ**		**1200**	**1230**	**1280**	**1310**	**1350**	**1410**	**1460**	**1530**	**1590**
Technical data										
Nominal cooling capacity (*)	kW	171,9	190,8	238,1	260,4	300,6	346,2	399,7	446,4	508,9
Condenser heat rejection (*)	kW	220,9	247,2	308,1	337,0	386,1	447,1	518,2	577,6	654,1
E.E.R. (*)		3,4	3,3	3,3	3,3	3,4	3,3	3,3	3,3	3,4
Refrigerant circuits	n.	1	1	1	1	1	1	1	1	1
Screw compressor/steps	n.	1 / 3	1 / 3	1 / 3	1 / 3	1 / 3	1 / 3	1 / 3	1 / 3	1 / 3
Sound pressure TCEVBZ (***)	dB(A)	77	77	80	80	80	80	80	81	81
Sound power TCEVBZ (**)	dB(A)	94	94	97	97	97	97	97	98	98
Sound pressure TCEVIZ (***)	dB(A)	75	76	78	79	79	79	79	80	80
Sound power TCEVIZ (**)	dB(A)	92	92	95	95	95	95	95	96	96
Evaporator type						Shell and tube				
Evaporator nominal water flow (*)	m^3/h	29,5	32,7	40,9	44,7	51,6	59,4	68,6	76,6	87,3
Evaporator nominal pressure drops (*)	kPa	35	32	36	42	42	45	40	40	37
Evaporator water contents	l	124	118	113	113	170	164	159	271	263
Evaporator water connections types	Type					Victaulic				
Evaporator water connection dimensions	∅	DN 100	DN 100	DN 100	DN 100	DN 125	DN 125	DN 125	DN 150	DN 150
Refrigerant connection types: gas line						Joint to be brazed				
Refrigerator connection size: gas line	mm	54	54	67	67	67	67	67	76	76
Refrigerant connection types: liquid line						Flange joint				
Refrigerator connection size: liquid line	mm	35	35	35	35	42	42	42	42	42
R134a refrigerant charge	kg					Pre-charged				
Polyester oil charge	kg	15	15	22	19	19	35	35	35	35
Electrical data										
Total absorbed power(*)	kW	50,5	58,1	72,2	79,0	88,1	104,0	122,2	135,3	149,7
Electrical power supply	V-ph-Hz					400/3/50				
Auxiliary power supply	V-ph-Hz					230/1/50				
Control power supply	V-ph-Hz					12/1/50				
Nominal current(*)	A	83	95	119	130	145	170	200	222	257
Maximum current	A	115	131	164	183	208	234	271	309	350
Starting current	A	350	423	520	612	665	436	465	586	650
TCEVBZ dimensions										
Length **L**	mm	3440	3440	3420	3440	3450	3450	3450	3460	3460
Height **H**	mm	1460	1460	1460	1460	1640	1640	1640	1740	1740
Depth **P**	mm	1000	1000	1000	1000	1000	1000	1000	1000	1000
TCEVIZ dimensions, soundproofed version										
Length **L**	mm	3500	3500	3480	3500	3580	3580	3580	3580	3580
Height **H**	mm	1460	1460	1460	1460	1640	1640	1640	1740	1740
Depth **P**	mm	1000	1000	1000	1000	1000	1000	1000	1000	1000

(*) At the following conditions: inlet/outlet evaporator water temperature 12°C/7°C; dew point 50°C.

(**) Total sound power level in dB (A) based on measurements made in accordance with the UNI EN-ISO 3744.

(***) Sound pressure in a open field on reflecting plane; value at a distance of 1 meter from the unit side and at a height of 1 meter from the support plane.

ATTENTION!

○ The TCEVBZ-TCEVIZ condenserless units must be connected to remote condensers. Their installation and the realization of the refrigerant circuit is the responsibility of the installer and must be carried out properly.
○ Poor execution of the refrigerant circuit may substantially reduce the machine's performance and compromise its life cycle.
○ The above data refers only to the condenserless unit, prior to any pressure drops due to the condensation refrigerant circuit.
○ RHOSS S.P.A. will not be held liable for any malfunctions of the machine due to problems concerning the realization of the condensation refrigerant circuit by the customer.

TCEVBZ-TCEVIZ 2400 ÷ 2710: technical features

MODEL **TCEVBZ-TCEVIZ**		**2400**	**2420**	**2440**	**2510**	**2560**	**2600**	**2630**	**2680**	**2710**
Technical data										
Nominal cooling capacity (*)	kW	335,8	356,6	372,1	431,9	473,4	506,4	529,3	581,4	614,1
Condenser heat rejection (*)	kW	433,5	461,7	484,3	558,6	613,5	653,4	682,9	744,4	785,4
E.E.R. (*)		3,3	3,3	3,2	3,3	3,3	3,3	3,3	3,5	3,5
Refrigerant circuits	n.	2	2	2	2	2	2	2	2	2
Screw compressor/steps	n.	2 / 6	2 / 6	2 / 6	2 / 6	2 / 6	2 / 6	2 / 6	2 / 6	2 / 6
Sound pressure TCEVBZ (***)	dB(A)	80	80	80	81	81	81	81	81	81
Sound power TCEVBZ (**)	dB(A)	97	97	97	99	99	99	99	99	99
Sound pressure TCEVIZ (***)	dB(A)	78	78	78	80	80	80	80	80	80
Sound power TCEVIZ (**)	dB(A)	95	95	95	97	97	97	97	97	97
Evaporator type						Shell and tube				
Evaporator nominal water flow (*)	m³/h	57,6	61,2	63,8	74,1	81,2	86,9	90,8	99,8	105,4
Evaporator nominal pressure drops (*)	kPa	43	33	35	27	32	40	43	41	45
Evaporator water contents	l	164	159	159	263	263	256	256	241	241
Evaporator water connections types	Type					Victaulic				
Evaporator water connection dimensions	∅	DN 125	DN 125	DN 125	DN 150	DN 150	DN 150	DN 150	DN 150	DN 150
Refrigerant connection types: gas line						Joint to be brazed				
Refrigerator connection size: gas line	mm	54	54	54	67/54	67	67	67	67	67
Refrigerant connection types: liquid line						Flange joint				
Refrigerator connection size: liquid line	mm	35	35	35	35	35	42	42	42	42
R134a refrigerant charge	kg					Pre-charged				
Polyester oil charge	kg	2 x 15	2 x 15	2 x 15	15 + 22	2 x 22	19 + 22	2 x 19	2 x 19	2 x 19
Electrical data										
Total absorbed power(*)	kW	100,7	108,3	115,7	130,6	144,4	151,5	158,4	168,0	176,6
Electrical power supply	V-ph-Hz					400/3/50				
Auxiliary power supply	V-ph-Hz					230/1/50				
Control power supply	V-ph-Hz					12/1/50				
Nominal current(*)	A	165	178	190	215	237	249	260	276	280
Maximum current	A	230	254	263	296	329	348	366	391	416
Starting current	A	465	538	554	651	684	776	795	848	873
TCEVBZ dimensions										
Length **L**	mm	3870	3870	3870	4070	4070	4070	4070	4070	4070
Height **H**	mm	1490	1490	1490	1610	1610	1610	1610	1610	1610
Depth **P**	mm	1300	1300	1300	1300	1300	1300	1300	1300	1300
TCEVIZ dimensions, soundproofed version										
Length **L**	mm	4350	4350	4350	4350	4350	4350	4350	4350	4350
Height **H**	mm	1640	1640	1640	1760	1760	1760	1760	1760	1760
Depth **P**	mm	1300	1300	1300	1300	1300	1300	1300	1300	1300

(*) At the following conditions: inlet/outlet evaporator water temperature 12°C/7°C; dew point 50°C.

(**) Total sound power level in dB (A) based on measurements made in accordance with the UNI EN-ISO 3744.

(***) Sound pressure in a open field on reflecting plane; value at a distance of 1 meter from the unit side and at a height of 1 meter from the support plane.

ATTENTION!

○ The TCEVBZ-TCEVIZ condenserless units must be connected to remote condensers. Their installation and the realization of the refrigerant circuit is the responsibility of the installer and must be carried out properly.
○ Poor execution of the refrigerant circuit may substantially reduce the machine's performance and compromise its life cycle.
○ The above data refers only to the condenserless unit, prior to any pressure drops due to the condensation refrigerant circuit.
○ RHOSS S.P.A. will not be held liable for any malfunctions of the machine due to problems concerning the realization of the condensation refrigerant circuit by the customer.

Condenser heat rejection									
	2400	**2420**	**2440**	**2510**	**2560**	**2600**	**2630**	**2680**	**2710**
Circuits	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Circuit 1	50	47	50	45	50	47	50	47	50
Circuit 2	50	53	50	55	50	53	50	53	50

Compressor start-up	Part-winding	Delta-star
Models	1200 ÷ 1350	1410 ÷ 1590
	2400 ÷ 2710	2750 ÷ 21260
		31300 ÷ 31630

TCEVBZ-TCEVIZ 2750 ÷ 21260: technical features

MODEL **TCEVBZ-TCEVIZ**		**2750**	**2790**	**2880**	**2930**	**21030**	**21110**	**21180**	**21260**
Technical data									
Nominal cooling capacity (*)	kW	647,8	681,6	753,9	801,4	896,1	959,4	1027,8	1101,5
Condenser heat rejection (*)	kW	834,1	883,0	973,6	1038,5	1146,3	1222,3	1304,7	1391,9
E.E.R. (*)		3,4	3,3	3,3	3,3	3,5	3,5	3,6	3,7
Refrigerant circuits	n.	2	2	2	2	2	2	2	2
Screw compressor/steps	n.	2 / 6	2 / 6	2 / 6	2 / 6	2 / 6	2 / 6	2 / 6	2 / 6
Sound pressure TCEVBZ (***)	dB(A)	81	81	81	81	81	81	81	81
Sound power TCEVBZ (**)	dB(A)	99	99	99	99	99	99	99	99
Sound pressure TCEVIZ (***)	dB(A)	80	80	80	80	80	80	80	80
Sound power TCEVIZ (**)	dB(A)	97	97	97	97	97	97	97	97
Evaporator type						Shell and tube			
Evaporator nominal water flow (*)	m³/h	111,1	116,9	129,4	137,5	153,8	164,6	176,4	189,0
Evaporator nominal pressure drops (*)	kPa	50	55	31	35	25	28	34	38
Evaporator water contents	l	241	241	419	419	401	401	392	392
Evaporator water connections types	Type					Victaulic			
Evaporator water connection dimensions	∅	DN 150	DN 150	DN 200	DN 200	DN 200	DN 200	DN 200	DN 200
Refrigerant connection types: gas line						Joint to be brazed			
Refrigerator connection size: gas line	mm	67	67	67	67	76/67	76	76	76
Refrigerant connection types: liquid line						Flange joint			
Refrigerator connection size: liquid line	mm	42	42	42	42	42	42	42	42
R134a refrigerant charge	kg					Pre-charged			
Polyester oil charge	kg	19 + 35	2 x 35	2 x 35	2 x 35	2 x 35	2 x 35	2 x 35	2 x 35
Electrical data									
Total absorbed power(*)	kW	192,1	207,6	226,5	244,4	257,9	271,0	285,5	299,4
Electrical power supply	V-ph-Hz					400/3/50			
Auxiliary power supply	V-ph-Hz					230/1/50			
Control power supply	V-ph-Hz					12/1/50			
Nominal current(*)	A	315	340	372	402	423	445	468	491
Maximum current	A	442	468	505	542	580	618	659	700
Starting current	A	644	670	699	736	857	895	959	1000
TCEVBZ dimensions									
Length **L**	mm	4120	4000	4000	4000	4000	4000	4000	4000
Height **H**	mm	1490	1490	1560	1560	1600	1600	1600	1600
Depth **P**	mm	1300	1300	1300	1300	1300	1300	1300	1300
TCEVIZ dimensions, soundproofed version									
Length **L**	mm	4350	4350	4350	4350	4350	4350	4350	4350
Height **H**	mm	1640	1640	1740	1720	1720	1720	1720	1720
Depth **P**	mm	1300	1300	1300	1300	1300	1300	1300	1300

(*) At the following conditions: inlet/outlet evaporator water temperature 12°C/7°C; dew point 50°C.

(**) Total sound power level in dB (A) based on measurements made in accordance with the UNI EN-ISO 3744.

(***) Sound pressure in a open field on reflecting plane; value at a distance of 1 meter from the unit side and at a height of 1 meter from the support plane.

ATTENTION!

○ The TCEVBZ-TCEVIZ condenserless units must be connected to remote condensers. Their installation and the realization of the refrigerant circuit is the responsibility of the installer and must be carried out properly.
○ Poor execution of the refrigerant circuit may substantially reduce the machine's performance and compromise its life cycle.
○ The above data refers only to the condenserless unit, prior to any pressure drops due to the condensation refrigerant circuit.
○ RHOSS S.P.A. will not be held liable for any malfunctions of the machine due to problems concerning the realization of the condensation refrigerant circuit by the customer.

Condenser heat rejection								
	2750	**2790**	**2880**	**2930**	**21030**	**21110**	**21180**	**21260**
Circuits	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Circuit 1	47	50	46	50	47	50	47	50
Circuit 2	53	50	54	50	53	50	53	50

Compressor start-up	Part-winding	Delta-star
Models	1200 ÷ 1350	1410 ÷ 1590
	2400 ÷ 2710	2750 ÷ 21260
		31300 ÷ 31630

TCEVBZ-TCEVIZ 31300 ÷ 31630: technical features

MODEL **TCEVBZ-TCEVIZ**		**31300**	**31350**	**31390**	**31460**	**31520**	**31590**	**31630**
Technical data								
Nominal cooling capacity (*)	kW	1129,6	1178,3	1227,0	1287,5	1340,1	1388,5	1424,8
Condenser heat rejection (*)	kW	1434,3	1500,1	1566,0	1643,6	1709,1	1770,1	1819,0
E.E.R. (*)		3,6	3,6	3,5	3,5	3,5	3,5	3,5
Refrigerant circuits	n.	3	3	3	3	3	3	3
Screw compressor/steps	n.	3 / 9	3 / 9	3 / 9	3 / 9	3 / 9	3 / 9	3 / 9
Sound pressure TCEVBZ (***)	dB(A)	82	82	82	83	83	83	83
Sound power TCEVBZ (**)	dB(A)	101	101	101	102	102	102	102
Sound pressure TCEVIZ (***)	dB(A)	80	80	81	81	81	82	82
Sound power TCEVIZ (**)	dB(A)	99	99	99	100	100	100	100
Evaporator type					Shell and tube			
Evaporator nominal water flow (*)	m³/h	193,8	202,2	210,5	220,9	229,9	238,2	244,5
Evaporator nominal pressure drops (*)	kPa	23	25	26	29	31	33	35
Evaporator water contents	l	578	578	578	578	578	578	578
Evaporator water connections types	Type				Victaulic DN200			
Evaporator water connection dimensions	∅	DN 200	DN 200	DN 200	DN 200	DN 200	DN 200	DN 200
Condenser type					Shell and tube			
Refrigerant connection types: gas line					Joint to be brazed			
Refrigerator connection size: gas line	mm	67	67	67	67	67	67	67
Refrigerant connection types: liquid line					Flange joint			
Refrigerator connection size: liquid line	mm	42	42	42	42	42	42	42
R134a refrigerant charge	kg				Pre-charged			
Polyester oil charge	kg	3 x 35	3 x 35	3 x 35	3 x 35	3 x 35	3 x 35	3 x 35
Electrical data								
Total absorbed power(*)	kW	314,1	331,8	349,5	367,1	380,4	393,4	406,4
Electrical power supply	V-ph-Hz				400/3/50			
Auxiliary power supply	V-ph-Hz				230/1/50			
Control power supply	V-ph-Hz				12/1/50			
Nominal current(*)	A	516	544	574	602	559	645	667
Maximum current	A	702	739	776	813	851	889	1050
Starting current	A	904	933	970	1007	1128	1166	1204
TCEVBZ dimensions								
Length **L**	mm	4940	4940	4940	4940	4940	4940	4940
Height **H**	mm	1620	1620	1620	1620	1620	1620	1620
Depth **P**	mm	2000	2000	2000	2000	2000	2000	2000
TCEVIZ dimensions, soundproofed version								
Length **L**	mm	5020	5020	5020	5020	5020	5020	5020
Height **H**	mm	1740	1740	1740	1740	1740	1740	1740
Depth **P**	mm	2000	2000	2000	2000	2000	2000	2000

(*) At the following conditions: inlet/outlet evaporator water temperature 12°C/7°C; dew point 50°C.

(**) Total sound power level in dB (A) based on measurements made in accordance with the UNI EN-ISO 3744.

(***) Sound pressure in a open field on reflecting plane; value at a distance of 1 meter from the unit side and at a height of 1 meter from the support plane.

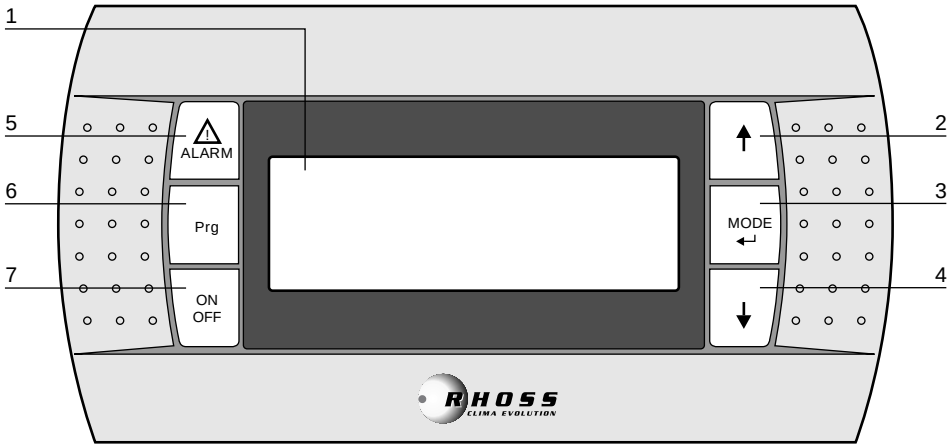
ATTENTION!

○ The TCEVBZ-TCEVIZ condenserless units must be connected to remote condensers. Their installation and the realization of the refrigerant circuit is the responsibility of the installer and must be carried out properly.
○ Poor execution of the refrigerant circuit may substantially reduce the machine's performance and compromise its life cycle.
○ The above data refers only to the condenserless unit, prior to any pressure drops due to the condensation refrigerant circuit.
○ RHOSS S.P.A. will not be held liable for any malfunctions of the machine due to problems concerning the realization of the condensation refrigerant circuit by the customer.

Condenser heat rejection							
	31300	**31350**	**31390**	**31460**	**31520**	**31590**	**31630**
Circuits	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Circuit 1	33,3	36,0	34,5	33,3	36,0	34,5	33,3
Circuit 2	33,3	32,0	34,5	33,3	32,0	34,5	33,3
Circuit 3	33,3	32,0	31,0	33,3	32,0	31,0	33,3

Compressor start-up	Part-winding	Delta-star
Models	1200 ÷ 1350	1410 ÷ 1590
	2400 ÷ 2710	2750 ÷ 21260
		31300 ÷ 31630

KTR - Remote keypad



Description of the keypad and display

1 = **Values and parameters DISPLAY:**
displays the numbers and the values of all the parameters (e.g. water outlet temperature, etc.), the codes of any alarms and the status of all the resources using message strings.

2/4 = **▲ (up), ▼ (down) buttons:**
used to scroll the list of parameters, the operating status and any alarms; also used to change the set point.

3 = **MODE - ENTER button:**
used to switch between cooling and heating operation, and to confirm the values entered.

5 = **ALARM button:**
used to display the alarm codes and reset any alarms.

6 = **PRG button:**
used to set the main operating parameters of the unit.

7 = **ON/OFF button:**
used to switch the unit on and off.

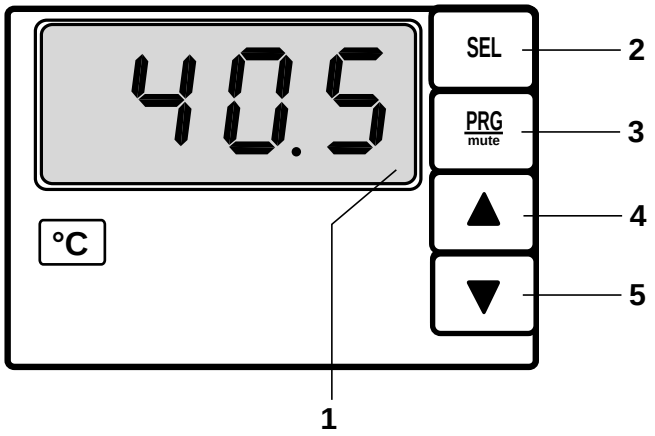
Accessory - Remote keypad

The remote keypad accessory (**KTR**) is used to control the unit and display all the digital and analogue process variables relating to the unit from a remote position.
This accessory faithfully reproduces the functions of the keypad and the display of the microprocessor electronic controller.
This allows all the functions of the unit to be controlled directly from inside the room.

Accessory - Clock card

Fitting the clock card (**KSC**) ensures more flexible and efficient operation of the unit, displaying the date/time and allowing the unit to be managed with daily and weekly time bands for switching the unit on/off and changing the set point.

TRD - Thermostat with display



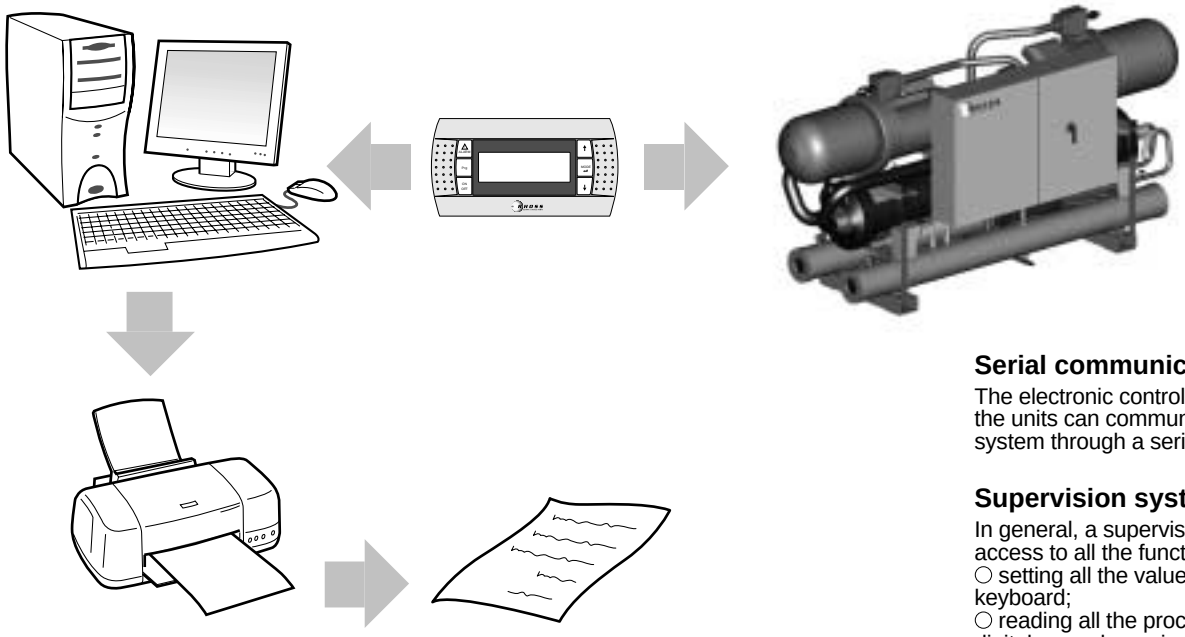
1 = **DISPLAY:**
displays the recuperator/desuperheater inlet water temperature value.

2/4/5 = **keys SEL, ▲ (up), ▼ (down):**
enable programming of the set-point and activation differential of a possible remote regulating device.

3 = **Key PRG/mute:**
allows entering the programming menu parameters.
(only for RHOSS authorised personnel).

The installation in the unit of the thermostat with display accessory (TRD) enables display of the recuperator/desuperheater inlet water temperature and programming of the activation set-point of a possible remote regulation device (e.g. ON/OFF 3-way valve), allowing a rational and efficient use of the recovered thermal energy.

KIS / FTT10 serial interface



Serial communication

The electronic controller which is fitted to all the units can communicate with an external system through a serial communication line.

Supervision system

In general, a supervision system allows access to all the functions of the unit, such as:
○ setting all the values accessible from the keyboard;
○ reading all the process variables of the digital or analogue inputs and outputs;
○ reading the various alarm codes and possibly resetting them;
○ reading all the programming parameters and changing some of them.

Note:

For further information contact RHOSS sales support service.

Selection of the chiller and use of the performance tables

○ Tables **A-F** provides, for each TCHVBZ-TCHVIZ model, the cooling capacity (QF), the total absorbed current (P) and the rejected heating capacity(QT), based on the cooling tower water at the condenser and evaporator outlet with temperature differentials ΔT = 5°C: in the case of models TCHVBZ-TCHVIZ with HPH accessory (heat pump set-up with inversion of water circuit) the value QT is the value of the heating capacity available to the user.
○ Tables **G-L** provides, for each TCEVBZ-TCEVIZ model, the cooling capacity (QF), the total absorbed current (P) and the heating capacity (QT) to be rejected by means of a remote condenser, based on the temperature at the evaporator outlet with a temperature differential ΔT= 5°C and based on the dew point temperature.
○ Within the operating limits (see page 31), the values in tables **A-L** may allow interpolations of performance, whereas extrapolations are not permitted.
○ Tables **C** and **D** include the performance corrective coefficients, upon variation of the temperature differential ΔT between the water inlet and outlet of the exchangers.
○ Table **O** shows the corrective coefficient values to be applied if water with glycol added is used.
○ The graph “table **M**” shows the pressure drop curves of the evaporator for models TCHVBZ-TCHVIZ.
○ The graph “table **N**” shows the pressure drop curves of the condensers for models TCHVBZ-TCHVIZ-TCEVBZ-TCEVIZ.
○ Table **P** contains the sound pressure levels in dB by octave bands and the total sound power in dB(A) for standard machines (TCHVBZ-TCEVBZ).
○ Table **Q** contains the sound pressure levels in dB by octave bands and the levels of sound pressure and total sound power in dB(A) for soundproofed machines (TCHVIZ-TCEVIZ).

Example:

○ Design conditions for a water-cooled chiller:
- Cooling capacity required = 410 kW;
- Water temperautre produced at the evaporator = 7°C;
- Temperature differential ΔT at the evaporator = 5°C;
- Inlet temperature at the condenser = 30°C.

Using the values indicated in table “**A**”, and supposing a temperature differential ΔT = 5°C at the condenser, it is observed that the model TCHVBZ 1410 meets the requirement with:
QF = 405,0 kW; P = 81,6 kW;
QT = 472,0 kW.
The water flow G to be sent to the exchangers is obtained by using the following formulae:
G (m^3/h) evaporator = (QF x 0.86) ÷ ΔT = (405,0 x 0, 86) ÷ 5 = 69,7 (m^3/h).
G (m^3/h) condenser = (QT x 0.86) ÷ ΔT = (472,0 x 0,86) ÷ 5 = 81,2 (m^3/h).
From the technical features table it is possible to obtain the pressure drops values Δpw of the evaporator and condenser respectively for the nominal values:
Δpw evaporator = 60 kPa;
Δpw condenser = 32 kPa;
To reduce the flow of water to be sent to the condenser, it is necessary to increase the temperature differential ΔT. Supposing then to work with a ΔT at the condenser of 8°C.
With a temperature of the condenser inlet water Ting = 30°C the new condenser outlet water temperature will be:
Condenser outlet temperature = 30°C + 8°C = 38°C.
○ Using the corrective coefficients kct QF and kct P in table **C** the new values for QF^l, P^l and hence QT^l are calculated:
QF^l = QF x kct QF = 405,0 x 0,97 = 392,9 kW;
P^l = P x kct P = 81,6 x 0,96 = 78,3 kW;
QT^l = (QF^l + P^l) x 0,97 = (392,9 + 78,3) x 0.97 = 457,1 kW.
The new water flows G to be sent to the exchangers are obtained from the following formulae:
G (m^3/h) evaporator = (392,9 x 0,86) ÷ 5 = 67,6 (m^3/h);
G (m^3/h) condenser = (457,1 x 0,86) ÷ 8 = 49,1 (m^3/h).
Form the graphs “table **M**” e “table **N**” it is possible to extrapolate the values of the pressure drops Δpw at the evaporator and a the condenser based on the new flows.
Otherwise the following simplified formulae can be used:
Δpw’ evaporator = Δpw x (G^l ÷ G)^2 = 60 x (67,6 ÷ 69,7)^2 = 56,5 kPa;
Δpw’ condenser = Δpw x (G^l ÷ G)^2 = 32 x (49,1 ÷ 81,2)^2 = 11,5 kPa

Table “A”: performance data TCHVBZ-TCHVIZ 1200÷1590 (ΔT = 5°C at condenser; ΔT = 5°C at evaporator)

	Tue (°C)	Tuc (°C)														
		30			**35**			**40**			**45**			**50**		
MODEL		QF	QT	P	QF	QT	P	QF	QT	P	QF	QT	P	QF	QT	P
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
1200	5	195,6	231,2	36,7	186,8	225,5	39,9	177,7	220,0	43,6	167,6	214,1	47,9	156,6	207,7	52,7
	7	208,6	244,8	37,3	**199,7**	**239,0**	**40,5**	190,2	233,2	44,3	179,7	226,8	48,6	168,3	220,2	53,5
	9	222,5	259,3	37,9	212,9	252,9	41,2	202,8	246,5	45,0	192,2	240,0	49,3	180,4	233,0	54,2
	11	236,7	274,0	38,5	227,0	267,5	41,8	216,3	260,6	45,7	204,9	253,5	50,1	193,0	246,4	55,0
	13	251,3	289,3	39,2	241,0	282,2	42,5	230,5	275,5	46,4	218,5	267,8	50,8	205,9	260,0	55,8
	15	266,3	305,0	39,9	255,8	297,8	43,3	244,7	290,5	47,2	232,2	282,3	51,6	219,2	274,1	56,6
1230	5	221,6	262,4	42,1	211,6	255,3	45,1	201,4	248,9	49,0	190,6	242,7	53,7	179,0	236,4	59,2
	7	236,5	278,1	42,9	**226,3**	**270,9**	**46,0**	215,4	263,8	49,9	204,4	257,5	54,7	192,1	250,5	60,2
	9	252,5	294,9	43,7	241,5	287,0	46,9	230,4	279,8	50,9	218,6	272,6	55,7	205,8	265,2	61,2
	11	268,6	311,9	44,6	257,7	304,2	47,9	245,6	295,9	51,9	233,3	288,3	56,7	219,9	280,3	62,3
	13	285,2	329,3	45,5	273,8	321,1	48,8	261,4	312,8	53,0	248,3	304,4	57,8	234,8	296,3	63,4
	15	302,6	347,6	46,4	291,0	339,4	49,9	278,1	330,6	54,1	264,4	321,6	59,0	249,7	312,4	64,6
1280	5	269,8	318,7	50,4	259,8	313,9	55,8	248,4	308,3	61,8	235,7	302,2	68,6	222,2	296,0	76,1
	7	287,8	337,4	51,1	**277,3**	**332,1**	**56,5**	265,1	325,8	62,6	252,1	319,4	69,4	237,8	312,5	77,0
	9	306,4	356,6	51,8	295,3	350,8	57,2	282,9	344,4	63,4	269,0	337,2	70,3	254,4	330,0	77,9
	11	325,2	376,2	52,6	313,9	370,1	57,9	301,2	363,4	64,1	287,1	356,0	71,0	270,9	347,3	78,8
	13	345,2	396,9	53,3	333,0	389,9	58,7	320,1	383,0	64,8	305,0	374,6	71,8	288,5	365,7	79,6
	15	365,1	417,5	54,0	353,4	411,0	59,4	339,5	403,1	65,6	323,5	393,9	72,6	306,3	384,3	80,4
1310	5	299,4	354,0	56,3	286,4	346,1	61,5	272,7	338,0	67,3	258,2	329,9	73,9	242,9	321,8	81,3
	7	319,5	375,4	57,6	**306,3**	**367,1**	**62,7**	291,6	358,1	68,6	276,9	349,9	75,3	260,6	340,8	82,7
	9	339,7	396,9	59,0	326,1	388,2	64,0	311,9	379,8	70,0	296,2	370,6	76,7	279,6	361,3	84,2
	11	361,0	419,6	60,4	347,3	410,8	65,5	332,1	401,4	71,4	316,0	391,7	78,0	299,2	382,2	85,6
	13	383,8	443,9	62,0	369,0	434,0	67,0	353,5	424,1	72,8	337,2	414,3	79,5	319,3	403,7	87,0
	15	407,1	468,8	63,6	392,1	458,5	68,5	375,6	447,7	74,3	358,2	436,7	80,9	340,1	425,9	88,5
1350	5	339,8	401,6	63,7	325,6	392,9	69,4	310,6	384,5	76,2	294,6	376,4	84,3	278,2	369,1	93,7
	7	362,9	425,8	64,8	**347,6**	**416,0**	**70,5**	332,2	407,4	77,5	315,6	398,6	85,6	298,0	390,2	95,1
	9	386,7	450,6	65,9	371,1	440,6	71,7	354,6	430,9	78,7	337,2	421,6	87,0	318,9	412,5	96,5
	11	411,3	476,4	67,1	394,5	465,2	72,9	377,7	455,3	80,0	359,1	444,8	88,4	340,4	435,5	98,0
	13	436,6	502,8	68,2	419,5	491,4	74,1	401,5	480,4	81,3	382,5	469,6	89,8	362,6	459,1	99,5
	15	463,6	531,0	69,5	445,3	518,5	75,5	426,9	507,1	82,7	406,7	495,2	91,2	385,5	483,7	101,2
1410	5	395,6	467,8	74,4	378,9	457,3	80,8	360,3	446,0	88,4	341,1	435,3	97,1	319,9	423,6	106,9
	7	422,6	495,8	75,5	**404,6**	**484,2**	**82,1**	385,6	472,7	89,8	365,6	461,2	98,6	343,5	448,7	108,5
	9	450,4	524,8	76,7	432,1	513,0	83,4	411,8	500,3	91,2	391,3	488,4	100,1	368,4	475,2	110,1
	11	479,2	554,9	78,0	460,4	542,7	84,8	439,7	529,6	92,7	417,4	516,0	101,7	394,0	502,3	111,7
	13	508,8	585,8	79,4	489,7	573,4	86,3	468,1	559,5	94,2	445,3	545,5	103,3	420,0	530,0	113,4
	15	540,3	618,7	80,8	519,9	605,1	87,8	497,3	590,2	95,8	473,6	575,4	104,9	447,7	559,3	115,1
1460	5	452,4	533,8	83,9	433,1	523,4	93,1	413,6	513,8	103,3	393,0	504,1	114,5	371,2	494,2	126,8
	7	481,2	563,7	85,1	**462,4**	**553,9**	**94,3**	441,5	543,0	104,6	420,5	532,9	115,9	397,2	521,7	128,4
	9	511,8	595,5	86,3	492,6	585,3	95,6	471,3	573,9	105,8	448,9	562,7	117,3	425,2	551,2	129,9
	11	544,4	629,4	87,6	522,8	616,7	96,8	502,1	606,1	107,2	478,1	593,2	118,7	454,0	581,5	131,4
	13	578,0	664,2	88,9	555,9	651,1	98,1	532,7	637,9	108,5	509,3	625,8	120,1	483,6	612,5	132,9
	15	611,5	699,0	90,2	588,9	685,3	99,4	565,3	671,8	109,8	540,3	658,2	121,5	514,2	644,6	134,4
1530	5	506,5	599,7	96,1	487,9	589,8	105,0	467,0	578,6	115,1	443,7	566,4	126,5	417,4	552,5	139,3
	7	545,0	640,4	98,3	**524,9**	**628,9**	**107,2**	501,3	615,2	117,4	475,8	600,8	128,9	447,9	585,3	141,7
	9	584,7	682,4	100,7	560,8	667,1	109,6	535,6	651,7	119,7	509,0	636,3	131,2	481,1	620,9	144,1
	11	624,6	724,8	103,3	599,0	707,6	112,0	572,1	690,5	122,1	543,8	673,4	133,6	514,1	656,3	146,6
	13	664,6	767,5	106,1	637,3	748,5	114,6	608,6	729,5	124,6	579,7	711,7	136,1	549,4	694,0	149,1
	15	704,7	810,4	109,0	676,7	790,5	117,3	647,5	770,9	127,2	618,0	752,4	138,6	585,9	733,0	151,6
1590	5	576,0	680,7	107,9	552,0	666,3	117,8	526,6	652,5	129,8	499,8	639,3	143,8	471,5	626,6	159,9
	7	615,1	721,5	109,7	**589,3**	**705,5**	**119,8**	562,1	690,0	131,9	534,7	676,3	146,0	505,9	663,1	162,1
	9	654,1	762,4	111,6	627,8	745,9	121,8	600,0	730,0	134,0	570,8	714,6	148,2	540,7	700,4	164,6
	11	697,0	807,2	113,6	668,8	789,0	123,9	639,1	771,2	136,2	609,3	755,3	150,5	576,5	738,7	167,2
	13	739,8	851,9	115,6	711,0	833,1	125,9	679,3	813,5	138,3	648,2	796,4	152,8	614,2	778,7	169,6
	15	783,9	898,1	117,7	754,5	878,8	128,1	722,2	858,6	140,6	689,8	840,4	155,3	654,3	821,5	172,4

Tue = Evaporator outlet water temperature (inlet/outlet ΔT = 5°C)
Tuc = Condenser outlet water temperature (inlet/outlet ΔT = 5°C)

QF = Cooling capacity with a fouling factor of 0.35 x 10^{-4} m^2 °C/W
QT = Heating capacity with a fouling factor of 0.35 x 10^{-4} m^2 °C/W
P = Power input

Table “B”: performance data TCHVBZ-TCHVIZ 2400÷2710 (ΔT = 5°C at condenser; ΔT = 5°C at evaporator)

MODEL	Tue (°C)	Tuc (°C) 30			35			40			45			50		
		QF	QT	P	QF	QT	P	QF	QT	P	QF	QT	P	QF	QT	P
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
2400	5	383,0	453,3	72,5	365,9	442,3	78,8	348,2	431,7	86,1	328,6	420,4	94,6	307,0	408,1	104,2
	7	409,2	480,6	73,6	**391,7**	**469,3**	**80,0**	372,8	457,7	87,5	352,3	445,5	96,1	330,2	432,7	105,7
	9	436,6	509,2	74,8	418,3	497,2	81,3	398,1	484,3	88,9	377,2	471,8	97,5	354,3	458,3	107,2
	11	465,0	538,8	76,1	445,3	525,4	82,6	425,2	512,8	90,3	402,9	498,9	99,0	379,0	484,4	108,7
	13	494,2	569,3	77,4	474,2	555,7	84,0	453,1	542,0	91,7	429,9	527,4	100,5	405,1	512,1	110,3
	15	524,3	600,7	78,8	503,9	586,8	85,5	481,4	571,8	93,2	457,7	556,6	102,0	431,9	540,4	111,9
2420	5	403,8	479,8	78,3	386,0	467,8	84,3	367,5	456,6	91,9	346,9	444,7	100,8	325,0	432,9	111,2
	7	431,7	508,8	79,5	**413,0**	**496,2**	**85,8**	393,2	483,9	93,5	371,7	471,1	102,5	348,9	458,4	112,9
	9	459,9	538,4	80,9	440,9	525,6	87,3	419,6	511,8	95,1	397,7	498,8	104,2	374,6	485,8	114,6
	11	489,6	569,5	82,4	469,6	555,8	88,9	448,0	541,9	96,8	425,1	527,9	106,0	400,5	513,4	116,4
	13	520,1	601,6	84,0	499,2	587,1	90,6	477,1	572,7	98,6	452,8	557,4	107,8	427,2	542,0	118,3
	15	552,0	635,0	85,6	530,7	620,3	92,4	507,2	604,6	100,4	481,8	588,2	109,7	455,2	571,9	120,3
2440	5	422,8	503,8	83,5	404,5	491,2	89,4	385,0	479,2	97,1	364,8	468,1	106,5	343,0	457,2	117,7
	7	451,7	534,1	84,9	**432,0**	**520,3**	**91,0**	412,1	508,0	98,9	390,6	495,7	108,4	367,9	483,8	119,5
	9	481,5	565,4	86,5	461,4	551,4	92,8	440,1	537,9	100,8	417,7	524,7	110,3	394,0	511,9	121,5
	11	512,2	597,7	88,1	491,7	583,4	94,5	469,0	568,6	102,7	446,1	555,0	112,3	421,0	540,8	123,5
	13	543,9	631,0	89,8	523,0	616,6	96,5	499,8	601,4	104,7	474,9	586,0	114,5	448,7	570,6	125,7
	15	577,5	666,4	91,6	555,1	650,6	98,5	530,4	634,0	106,8	505,6	618,7	116,6	478,4	602,5	127,9
2510	5	494,9	587,3	95,3	474,0	574,9	104,0	452,3	563,1	114,2	428,6	550,9	126,1	403,3	538,7	139,6
	7	527,5	621,5	96,9	**506,8**	**609,2**	**105,6**	483,4	595,8	115,9	458,5	582,6	127,9	432,2	569,5	141,5
	9	563,0	658,5	98,5	540,6	644,7	107,3	516,8	631,0	117,7	490,1	616,0	129,8	462,6	601,7	143,4
	11	598,3	695,4	100,1	575,5	681,2	109,0	549,8	665,7	119,5	522,6	650,3	131,7	493,9	634,9	145,4
	13	636,0	734,7	101,8	611,3	718,8	110,8	585,2	703,0	121,4	556,8	686,4	133,6	526,1	669,0	147,3
	15	673,4	773,9	103,6	649,0	758,2	112,6	621,6	741,1	123,2	591,9	723,3	135,5	559,3	704,1	149,3
2560	5	537,2	633,6	99,4	516,2	623,0	110,1	493,8	612,2	122,1	468,9	600,2	135,4	442,5	588,3	150,3
	7	572,2	670,0	100,8	**550,8**	**659,0**	**111,5**	527,4	647,3	123,6	501,9	634,9	137,1	473,0	620,5	152,1
	9	609,0	708,1	102,2	587,1	696,6	112,9	562,6	683,9	125,0	536,0	670,5	138,7	505,9	655,1	153,8
	11	646,9	747,5	103,7	624,6	735,6	114,4	598,2	720,9	126,5	570,4	706,4	140,2	539,1	689,9	155,5
	13	686,6	788,5	105,1	662,5	774,8	115,8	636,9	761,1	128,0	607,2	744,7	141,8	573,9	726,3	157,1
	15	727,4	830,8	106,6	702,8	816,5	117,2	675,4	800,9	129,4	643,7	782,6	143,2	609,0	762,9	158,7
2600	5	577,6	682,1	107,7	554,4	669,1	118,2	529,0	655,2	130,1	501,9	641,1	143,5	471,6	625,2	158,4
	7	617,0	723,5	109,8	**592,0**	**708,7**	**120,3**	565,4	693,7	132,3	537,1	678,4	145,7	505,5	661,5	160,8
	9	656,3	764,9	112,0	631,5	750,3	122,5	603,6	734,0	134,4	574,8	718,4	148,0	541,3	699,6	163,2
	11	698,2	809,1	114,3	672,2	793,2	124,7	643,8	776,4	136,7	612,2	758,1	150,4	579,5	740,0	165,5
	13	741,4	854,6	116,7	714,9	838,2	127,1	684,4	819,1	138,9	652,3	800,2	152,5	617,5	780,3	167,8
	15	785,9	901,5	119,2	757,3	882,7	129,3	727,1	864,0	141,1	693,5	843,7	154,8	656,5	821,6	170,2
2630	5	607,8	717,7	113,3	582,2	701,9	123,4	554,2	685,2	135,1	523,9	667,7	148,2	492,4	650,5	163,0
	7	649,1	761,5	115,9	**621,6**	**743,9**	**126,1**	593,1	726,8	137,8	562,9	709,4	151,0	529,5	690,3	165,8
	9	691,8	807,0	118,8	663,0	788,0	128,9	633,2	769,5	140,5	601,7	750,9	153,8	567,7	731,4	168,8
	11	735,0	853,1	121,8	707,1	834,9	131,8	676,1	815,2	143,4	643,2	795,2	156,7	607,8	774,3	171,7
	13	781,1	902,4	125,1	751,1	882,0	134,9	719,4	861,3	146,3	684,5	839,3	159,6	649,1	818,5	174,6
	15	828,5	953,1	128,5	798,0	931,9	138,0	765,7	910,5	149,3	730,0	887,6	162,5	691,7	864,0	177,6
2680	5	662,9	783,0	123,8	633,7	764,4	134,7	603,4	746,7	147,7	571,1	728,7	162,5	537,4	711,5	179,5
	7	707,4	830,0	126,4	**676,8**	**810,0**	**137,3**	645,9	791,8	150,4	613,0	773,4	165,4	577,0	753,9	182,4
	9	754,1	879,2	129,0	722,9	858,8	140,1	689,7	838,3	153,2	654,5	817,8	168,3	617,9	797,8	185,5
	11	803,1	931,1	132,0	770,5	909,1	142,9	736,7	888,0	156,0	699,0	865,1	171,2	660,8	843,8	188,7
	13	853,7	984,7	135,0	819,5	960,9	145,8	783,2	937,3	158,9	744,8	913,8	174,2	706,0	892,0	191,8
	15	904,8	1038,8	138,1	869,9	1014,2	148,8	833,0	990,0	161,9	792,9	964,8	177,2	751,5	940,7	195,0
2710	5	695,0	821,2	130,1	665,3	802,7	141,6	633,6	784,6	155,7	600,8	767,8	172,2	566,7	752,0	191,0
	7	740,9	869,2	132,3	**709,8**	**849,6**	**144,1**	677,5	830,9	158,1	643,3	813,0	174,9	606,8	795,1	194,1
	9	790,0	920,7	134,7	757,4	899,5	146,5	722,8	878,8	160,8	687,9	860,3	177,7	649,0	840,2	197,1
	11	840,6	973,7	137,2	806,5	951,1	149,1	770,4	929,0	163,5	733,0	908,0	180,4	693,4	887,5	200,1
	13	892,8	1028,3	139,7	857,1	1004,2	151,7	819,4	980,6	166,2	779,5	957,4	183,4	739,2	936,4	203,3
	15	946,5	1084,5	142,3	910,1	1059,8	154,3	869,8	1033,7	169,0	829,2	1010,0	186,4	786,3	986,7	206,6

ATTENTION!

At the evaporator and at the condenser, the temperature differential ΔT between the inlet water and the outlet water must be between 3°C and 8°C.

Nominal operating conditions

Inlet/outlet evaporator water 12°C / 7°C, inlet/outlet condenser water 30°C / 35°C.

Table “C”: corrective coefficients ΔT condenser water

For ΔT of the condenser water different from 5°C (ΔT minimum of 3°C and ΔT maximum of 8°C), for a given inlet water temperature (respectively 25°C, 30°C, 35°C, 40°C and 45°C), apply the following corrective coefficients to the data in tables:

ΔT	kct QF	kct P
3°C	1,01	0,99
5°C	1	1
8°C	0,97	0,96

Table “D”: corrective coefficients ΔT evaporator water

For temperature differentials ΔT of the evaporator water different from 5°C, for a given outlet water temperature (respectively 5°C, 7°C, 8°C, 9°C, 10°C 13°C and 15°C), apply the following corrective coefficients to the data in tables:

ΔT	kct QF	kct P
3°C	0,99	0,99
5°C	1	1
8°C	1,01	1,01

Table "E": performance data TCHVBZ-TCHVIZ 2750÷21260 (ΔT = 5°C at condenser; ΔT = 5°C at evaporator)

MODEL	Tue (°C)	Tuc (°C) 30			35			40			45			50		
		QF	QT	P	QF	QT	P	QF	QT	P	QF	QT	P	QF	QT	P
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
2750	5	725,4	858,8	137,5	694,9	839,9	149,5	662,4	821,4	163,9	627,1	802,3	180,6	589,8	783,5	199,7
	7	774,8	910,4	139,8	**742,0**	**889,4**	**152,0**	708,9	870,5	166,6	672,2	850,1	183,4	633,3	829,8	202,6
	9	825,8	963,6	142,1	792,3	942,2	154,5	755,2	919,3	169,2	717,7	898,4	186,3	678,1	877,5	205,6
	11	878,4	1018,7	144,6	842,5	994,9	157,1	806,4	973,2	172,0	766,4	949,9	189,2	724,4	926,9	208,8
	13	932,5	1075,2	147,1	895,9	1051,1	160,0	857,3	1026,9	174,8	815,8	1002,3	192,3	772,0	977,7	212,1
	15	990,1	1135,4	149,8	951,0	1108,7	162,6	911,6	1084,2	177,9	868,4	1057,9	195,4	821,1	1029,8	215,2
2790	5	770,0	913,1	147,5	737,9	893,4	160,3	702,4	872,4	175,3	664,8	851,7	192,7	623,5	829,4	212,3
	7	820,5	965,8	149,8	**787,0**	**944,9**	**162,8**	751,5	924,3	178,1	711,6	901,3	195,6	669,5	878,3	215,3
	9	874,3	1021,9	152,2	839,3	999,7	165,4	802,3	977,8	180,9	761,6	954,2	198,6	717,0	928,8	218,4
	11	929,8	1079,9	154,7	894,0	1057,2	168,2	854,6	1032,9	183,8	812,2	1007,8	201,7	767,7	982,7	221,7
	13	988,7	1141,3	157,3	950,5	1116,4	171,0	910,2	1091,4	186,8	866,2	1064,9	204,8	818,1	1036,3	224,9
	15	1047,7	1202,9	160,0	1008,6	1177,3	173,9	967,6	1151,8	189,9	920,9	1122,8	208,1	871,9	1093,4	228,3
2880	5	859,6	1015,1	160,3	823,7	994,6	176,2	783,7	972,0	194,1	742,4	950,3	214,3	698,8	928,4	236,7
	7	917,9	1075,7	162,7	**879,1**	**1052,4**	**178,7**	839,1	1030,1	196,9	795,8	1006,5	217,2	750,3	983,0	239,9
	9	978,2	1138,5	165,3	938,4	1114,3	181,3	896,4	1090,1	199,7	852,2	1065,8	220,2	803,5	1039,3	243,1
	11	1040,4	1203,3	167,9	999,7	1178,3	184,1	955,7	1152,1	202,5	909,3	1125,9	223,3	859,5	1098,4	246,3
	13	1106,9	1272,4	170,6	1063,1	1244,4	186,9	1016,9	1216,2	205,5	968,4	1188,0	226,4	916,3	1158,3	249,5
	15	1173,2	1341,4	173,4	1128,4	1312,5	189,8	1081,2	1283,3	208,4	1030,4	1252,9	229,4	977,2	1222,5	252,9
2930	5	906,4	1072,8	171,5	868,7	1053,3	190,3	827,9	1032,7	211,1	786,9	1014,0	234,1	742,7	994,1	259,2
	7	965,8	1134,6	174,0	**927,2**	**1114,2**	**192,8**	884,4	1091,8	213,8	841,4	1071,3	237,0	796,1	1050,6	262,4
	9	1027,2	1198,4	176,5	987,6	1177,0	195,3	943,8	1153,7	216,4	899,8	1132,4	239,8	851,3	1108,9	265,6
	11	1092,7	1266,4	179,1	1050,1	1242,2	198,0	1005,2	1217,7	219,1	959,1	1194,5	242,7	909,5	1170,2	268,8
	13	1160,4	1336,6	181,7	1116,7	1311,3	200,6	1070,8	1285,9	221,8	1020,3	1258,5	245,6	969,6	1233,4	272,0
	15	1230,2	1409,2	184,5	1185,5	1382,7	203,3	1138,5	1356,4	224,6	1086,9	1327,9	248,5	1032,8	1299,6	275,1
21030	5	988,3	1170,3	187,6	949,8	1149,8	206,2	906,3	1126,9	227,4	860,3	1103,7	250,9	810,5	1079,1	276,9
	7	1060,8	1246,3	191,2	**1016,6**	**1220,3**	**210,0**	971,0	1195,3	231,2	921,5	1168,8	254,9	869,3	1142,0	281,1
	9	1133,4	1322,6	195,1	1088,2	1295,6	213,8	1039,0	1267,0	235,0	987,2	1238,2	258,8	931,4	1208,1	285,3
	11	1207,2	1400,4	199,2	1159,6	1370,9	217,8	1106,9	1338,7	239,0	1053,9	1308,9	262,9	996,8	1277,7	289,6
	13	1284,7	1482,2	203,6	1233,4	1448,6	221,9	1179,5	1415,2	243,0	1122,7	1381,6	266,9	1064,3	1349,3	293,8
	15	1362,0	1563,9	208,1	1309,6	1529,0	226,2	1254,4	1494,1	247,1	1196,4	1459,3	271,0	1134,1	1423,2	298,0
21110	5	1050,0	1244,0	200,0	1013,1	1224,9	218,3	969,0	1201,2	239,4	919,8	1175,0	263,1	864,3	1145,2	289,6
	7	1132,3	1330,7	204,5	**1087,3**	**1303,4**	**222,8**	1039,7	1276,5	244,1	986,9	1246,9	268,0	928,9	1214,8	294,7
	9	1215,1	1418,3	209,5	1166,5	1387,6	227,9	1114,1	1355,6	249,0	1056,3	1321,0	272,9	997,0	1287,8	299,8
	11	1299,4	1507,9	214,9	1243,4	1469,5	233,1	1189,7	1436,2	254,1	1128,1	1397,8	278,0	1066,2	1362,1	305,0
	13	1382,7	1596,8	220,7	1325,3	1556,6	238,5	1267,8	1519,3	259,3	1204,8	1479,4	283,1	1141,5	1442,4	310,2
	15	1468,6	1688,6	226,8	1407,3	1644,2	244,2	1348,5	1605,2	264,6	1284,0	1563,7	288,3	1216,7	1522,7	315,5
21180	5	1123,6	1328,4	211,1	1079,3	1303,0	230,6	1029,7	1275,4	253,3	978,5	1249,6	279,5	921,8	1221,6	309,1
	7	1204,9	1413,7	215,3	**1155,8**	**1383,7**	**234,9**	1103,8	1354,0	257,9	1047,7	1323,5	284,3	988,5	1293,2	314,1
	9	1286,3	1499,5	219,8	1233,5	1465,7	239,4	1179,1	1433,7	262,5	1119,1	1399,4	289,0	1057,3	1366,9	319,2
	11	1370,3	1588,2	224,6	1316,4	1553,3	244,2	1256,8	1516,0	267,2	1194,1	1479,2	293,9	1131,1	1445,7	324,3
	13	1459,7	1682,4	229,6	1399,1	1640,7	249,1	1338,2	1602,0	272,0	1274,3	1564,2	298,9	1207,2	1527,2	329,9
	15	1546,3	1774,1	234,8	1487,2	1733,6	254,0	1422,2	1690,9	277,0	1356,9	1651,7	303,9	1287,0	1611,9	334,9
21260	5	1182,4	1399,0	223,3	1132,0	1368,6	243,9	1081,3	1342,0	268,8	1025,3	1314,2	297,8	968,9	1290,1	331,1
	7	1259,9	1480,2	227,1	**1208,4**	**1449,0**	**248,0**	1154,1	1419,0	273,1	1096,8	1390,1	302,4	1037,9	1363,7	335,9
	9	1342,6	1566,7	231,0	1287,3	1531,9	252,2	1231,8	1500,9	277,4	1170,7	1468,5	307,0	1109,2	1439,8	340,8
	11	1427,8	1655,8	235,1	1371,3	1620,0	256,4	1311,9	1585,3	281,9	1249,5	1551,8	311,7	1184,0	1519,6	346,0
	13	1515,8	1747,9	239,3	1458,0	1710,9	260,7	1394,6	1672,4	286,4	1330,9	1637,9	316,5	1264,0	1604,6	351,1
	15	1609,1	1845,4	243,6	1547,4	1804,5	265,1	1482,6	1764,9	291,0	1414,7	1726,5	321,4	1343,7	1689,7	356,7

Tue = Evaporator outlet water temperature (inlet/outlet ΔT = 5°C)
Tuc = Condenser outlet water temperature (inlet/outlet ΔT = 5°C)

QF = Cooling capacity with a fouling factor of 0.35 x 10^{-4} m^2 °C/W
QT = Heating capacity with a fouling factor of 0.35 x 10^{-4} m^2 °C/W
P = Power input

Table “F”: performance data TCHVBZ-TCHVIZ 31300÷31630

	Tue (°C)	Tuc (°C)														
		30			**35**			**40**			**45**			**50**		
MODEL		QF	QT	P	QF	QT	P	QF	QT	P	QF	QT	P	QF	QT	P
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
31300	5	1252,8	1479,2	233,4	1201,2	1447,2	253,6	1142,4	1411,5	277,4	1082,8	1378,5	304,8	1015,6	1341,3	335,8
	7	1337,0	1566,9	237,0	**1282,9**	**1532,9**	**257,7**	1222,8	1496,2	281,9	1159,3	1459,5	309,5	1090,8	1421,2	340,6
	9	1425,3	1659,0	240,9	1370,1	1624,1	261,9	1306,0	1583,8	286,4	1241,2	1546,1	314,3	1169,9	1505,1	345,6
	11	1516,5	1754,2	245,0	1457,3	1715,6	266,3	1394,7	1677,1	291,1	1324,3	1633,9	319,2	1250,2	1590,4	350,7
	13	1610,7	1852,4	249,2	1550,2	1813,0	270,9	1483,4	1770,4	295,9	1413,0	1727,6	324,3	1333,0	1678,4	356,1
	15	1710,7	1956,8	253,7	1646,0	1913,3	275,6	1577,8	1869,7	300,9	1503,0	1822,6	329,5	1421,4	1772,1	361,5
31350	5	1299,8	1536,0	243,5	1245,2	1503,7	266,5	1190,1	1474,3	293,0	1129,2	1442,3	322,8	1064,8	1410,8	356,7
	7	1385,8	1625,2	246,8	**1330,0**	**1591,9**	**270,0**	1271,1	1559,1	296,9	1208,9	1526,4	327,3	1141,8	1492,0	361,0
	9	1477,3	1720,4	250,6	1417,6	1683,4	274,0	1357,4	1649,5	301,1	1293,9	1615,6	331,7	1222,8	1577,4	365,6
	11	1569,1	1815,9	254,4	1510,9	1780,6	278,0	1446,7	1742,8	305,3	1379,0	1705,0	336,1	1304,9	1664,3	370,5
	13	1666,6	1917,2	258,4	1607,2	1880,9	282,2	1538,7	1839,0	309,6	1469,7	1800,1	340,6	1394,1	1758,1	375,3
	15	1770,1	2024,5	262,3	1703,6	1981,4	286,4	1636,6	1941,1	313,9	1563,2	1897,9	345,0	1483,2	1852,0	380,2
31390	5	1345,6	1591,2	253,2	1291,2	1562,0	279,2	1233,7	1533,0	308,6	1171,7	1502,8	341,3	1106,2	1472,3	377,4
	7	1432,8	1681,9	256,8	**1377,2**	**1651,6**	**282,9**	1318,5	1621,4	312,3	1253,8	1589,0	345,6	1185,6	1556,4	382,3
	9	1525,6	1778,3	260,5	1468,8	1746,8	286,6	1406,0	1713,0	316,5	1340,0	1679,4	349,9	1267,6	1642,9	386,9
	11	1621,4	1877,8	264,3	1560,6	1842,6	290,7	1496,5	1807,6	320,7	1429,0	1772,4	354,0	1355,2	1735,1	391,6
	13	1720,3	1980,6	268,3	1658,2	1944,1	294,7	1592,7	1907,8	324,8	1521,0	1868,9	358,7	1445,6	1830,0	396,3
	15	1825,2	2089,3	272,3	1758,8	2048,6	298,8	1692,0	2011,1	329,0	1615,8	1968,0	363,1	1538,9	1928,0	401,1
31460	5	1404,2	1659,0	262,7	1349,4	1632,3	291,6	1288,8	1602,8	323,7	1227,6	1575,9	359,1	1160,3	1546,1	397,7
	7	1496,3	1754,6	266,3	**1437,5**	**1724,0**	**295,4**	1375,6	1693,5	327,7	1310,3	1662,7	363,3	1244,4	1634,8	402,5
	9	1591,4	1853,4	270,1	1531,3	1821,5	299,2	1468,0	1789,7	331,6	1398,6	1755,3	367,7	1328,5	1723,7	407,4
	11	1689,6	1955,4	274,0	1628,1	1922,1	303,1	1563,5	1889,1	335,7	1492,6	1853,4	372,0	1418,2	1817,9	412,1
	13	1793,7	2063,4	278,0	1728,1	2026,0	307,1	1659,1	1988,7	339,8	1586,7	1951,7	376,3	1510,8	1915,1	416,8
	15	1901,1	2174,7	282,1	1831,2	2133,0	311,1	1763,7	2097,3	343,9	1683,9	2053,2	380,7	1606,3	2015,2	421,5
31520	5	1475,1	1742,3	275,5	1421,9	1717,2	304,4	1360,2	1686,4	336,3	1295,2	1656,3	372,3	1224,0	1623,3	411,6
	7	1575,6	1847,3	280,1	**1518,5**	**1818,2**	**309,0**	1455,5	1786,7	341,4	1386,3	1752,2	377,2	1310,9	1715,7	417,3
	9	1682,3	1958,8	285,0	1621,1	1925,6	313,9	1551,1	1887,1	346,4	1480,5	1851,8	382,8	1403,5	1813,8	423,0
	11	1789,7	2071,1	290,1	1724,4	2033,8	319,0	1652,8	1993,9	351,6	1577,8	1954,3	388,1	1496,2	1912,0	428,7
	13	1900,6	2187,1	295,4	1830,9	2145,4	324,2	1757,8	2103,9	356,8	1678,2	2059,9	393,5	1597,9	2019,3	434,4
	15	2014,9	2306,9	301,0	1943,7	2263,4	329,6	1866,1	2217,4	362,2	1784,9	2171,8	398,9	1699,9	2126,8	440,1
31590	5	1524,9	1803,7	287,4	1474,0	1780,4	315,9	1417,3	1755,0	348,1	1349,2	1722,1	384,4	1274,8	1686,5	424,4
	7	1638,3	1922,5	293,0	**1580,8**	**1892,8**	**321,7**	1517,4	1861,0	354,2	1445,0	1823,9	390,6	1366,3	1784,3	430,9
	9	1752,8	2042,5	298,7	1688,5	2006,2	327,5	1618,0	1967,4	360,2	1544,1	1928,9	396,7	1460,8	1885,2	437,5
	11	1871,2	2167,1	305,0	1799,7	2123,4	333,7	1724,8	2080,1	366,3	1646,4	2037,3	403,0	1561,5	1992,3	444,1
	13	1987,6	2289,9	311,7	1914,6	2244,5	340,1	1835,1	2196,5	372,6	1752,1	2149,3	409,5	1665,3	2102,6	450,8
	15	2107,7	2416,8	318,7	2030,1	2366,5	346,8	1949,0	2316,7	379,1	1864,2	2267,6	415,9	1775,6	2219,3	457,4
31630	5	1563,9	1854,6	299,7	1515,7	1833,8	327,9	1461,7	1811,2	360,3	1393,6	1778,1	396,4	1313,9	1738,1	437,3
	7	1684,0	1980,6	305,8	**1629,2**	**1953,4**	**334,2**	1565,8	1921,8	367,0	1490,7	1882,0	403,4	1409,3	1840,4	444,4
	9	1808,2	2111,1	312,3	1743,9	2074,6	340,9	1673,4	2036,1	373,9	1593,9	1992,4	410,8	1510,8	1949,4	452,2
	11	1931,0	2241,2	319,8	1862,4	2200,1	348,1	1784,7	2154,3	381,0	1703,5	2109,1	418,1	1615,7	2061,3	459,4
	13	2054,9	2372,7	327,6	1979,0	2324,1	355,8	1899,6	2276,4	388,5	1813,7	2226,3	425,4	1721,0	2174,3	467,3
	15	2182,8	2508,7	336,0	2102,2	2455,1	363,8	2018,2	2402,4	396,1	1927,4	2347,3	432,9	1832,8	2293,5	474,9

Tue = Evaporator outlet water temperature (inlet/outlet ΔT = 5°C)
Tuc = Condenser outlet water temperature (inlet/outlet ΔT = 5°C)

QF = Cooling capacity with a fouling factor of 0.35 x 10^{-4} m^2 °C/W
QT = Heating capacity with a fouling factor of 0.35 x 10^{-4} m^2 °C/W
P = Power input

Table “G”: performance data TCEVBZ-TCEVIZ 1200÷1590

	Tue (°C)	Tuc (°C)														
		35			**40**			**45**			**50**			**55**		
MODEL		QF	QT	P	QF	QT	P	QF	QT	P	QF	QT	P	QF	QT	P
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
1200	5	187,9	224,9	38,1	179,4	219,6	41,4	169,8	213,8	45,4	159,8	208,3	50,0	148,8	202,3	55,2
	7	201,0	238,3	38,5	192,2	232,8	41,9	182,7	227,2	45,9	**171,9**	**220,9**	**50,5**	160,5	214,5	55,7
	9	215,0	252,7	38,9	205,4	246,4	42,3	195,7	240,7	46,4	185,0	234,5	51,0	172,8	227,3	56,2
	11	228,7	266,8	39,3	219,4	260,9	42,8	209,1	254,5	46,8	198,2	248,2	51,5	185,8	240,8	56,7
	13	243,7	282,3	39,8	233,8	275,8	43,3	223,3	269,2	47,3	211,8	262,2	52,0	199,2	254,7	57,2
	15	259,1	298,2	40,3	249,0	291,5	43,8	237,9	284,3	47,8	225,7	276,5	52,4	213,0	269,0	57,7
1230	5	208,0	251,4	44,7	198,1	244,7	48,0	188,0	238,6	52,2	177,3	233,0	57,4	166,4	228,0	63,5
	7	222,6	266,5	45,3	213,0	260,2	48,7	202,0	253,3	52,9	**190,8**	**247,2**	**58,1**	179,2	241,5	64,2
	9	238,1	282,7	46,0	227,8	275,7	49,4	216,9	269,0	53,7	204,7	261,7	58,8	192,6	255,6	64,9
	11	254,1	299,4	46,7	243,4	292,0	50,1	232,2	285,1	54,5	219,6	277,4	59,6	207,0	270,6	65,6
	13	270,6	316,6	47,4	259,9	309,3	50,9	248,0	301,6	55,3	235,4	294,1	60,5	221,3	285,7	66,4
	15	288,1	334,9	48,2	276,1	326,2	51,7	264,0	318,4	56,1	251,2	310,7	61,3	237,1	302,4	67,3
1280	5	254,6	305,4	52,4	244,6	301,0	58,1	233,7	296,4	64,6	221,2	290,8	71,8	208,0	285,4	79,8
	7	271,8	323,0	52,8	261,7	318,4	58,5	250,2	313,2	64,9	**238,1**	**308,1**	**72,2**	223,7	301,6	80,3
	9	289,6	341,2	53,2	279,2	336,2	58,8	267,6	330,9	65,3	254,6	325,0	72,6	240,3	318,6	80,7
	11	308,5	360,5	53,6	297,3	354,7	59,2	285,4	349,0	65,6	272,2	342,9	72,9	257,0	335,7	81,1
	13	327,3	379,7	54,0	316,5	374,2	59,5	304,1	368,0	65,9	290,4	361,4	73,2	274,9	353,9	81,4
	15	347,9	400,8	54,5	336,3	394,4	59,9	323,4	387,6	66,2	309,0	380,3	73,5	292,9	372,1	81,6
1310	5	281,5	338,8	59,1	269,3	332,0	64,6	256,4	325,2	70,9	242,2	317,9	78,0	226,6	310,0	86,0
	7	301,0	359,3	60,1	288,6	352,1	65,5	274,9	344,5	71,8	**260,4**	**337,0**	**79,0**	244,8	329,3	87,1
	9	321,2	380,6	61,2	307,9	372,5	66,6	294,5	365,1	72,8	279,5	357,1	80,0	263,3	348,7	88,0
	11	342,6	403,1	62,4	329,0	394,7	67,7	314,8	386,5	73,9	299,1	377,7	81,0	282,7	369,0	89,0
	13	364,6	426,4	63,7	350,8	417,6	68,9	335,6	408,3	74,9	319,7	399,2	82,0	303,0	390,3	90,0
	15	387,3	450,5	65,2	373,3	441,3	70,1	357,8	431,5	76,0	341,5	422,0	83,0	323,8	412,1	91,0
1350	5	324,1	387,8	65,7	310,0	379,5	71,6	295,1	371,5	78,8	280,1	364,8	87,3	263,5	357,8	97,2
	7	345,9	410,3	66,4	332,2	402,3	72,3	317,0	394,1	79,5	**300,6**	**386,1**	**88,1**	284,0	379,1	98,0
	9	369,9	435,1	67,2	354,5	425,4	73,1	338,9	416,8	80,3	322,6	408,8	88,9	304,5	400,3	98,8
	11	394,7	460,7	68,0	378,9	450,5	73,8	362,3	440,9	81,0	344,8	431,7	89,6	326,5	423,1	99,6
	13	420,3	487,0	68,8	404,2	476,6	74,6	386,5	465,8	81,8	368,6	456,3	90,4	349,1	446,5	100,4
	15	447,5	515,1	69,7	430,2	503,3	75,4	412,1	492,2	82,6	393,2	481,7	91,2	372,4	470,7	101,3
1410	5	375,3	451,3	78,4	358,7	441,4	85,3	341,2	432,0	93,6	321,8	421,7	103,0	300,5	410,8	113,7
	7	401,7	478,5	79,2	384,7	468,3	86,2	366,0	457,7	94,5	**346,2**	**447,1**	**104,0**	324,5	435,8	114,7
	9	428,9	506,6	80,1	411,6	496,1	87,1	392,5	485,1	95,5	372,3	474,2	105,0	350,2	462,5	115,8
	11	457,0	535,6	81,0	439,4	524,9	88,1	419,8	513,3	96,4	398,4	501,2	106,0	375,8	489,1	116,8
	13	486,9	566,3	81,9	468,0	554,4	89,1	448,1	542,6	97,4	426,2	530,0	107,0	402,3	516,6	117,8
	15	518,7	599,1	82,9	498,5	585,9	90,1	478,1	573,6	98,5	454,8	559,7	108,1	430,5	545,8	118,9
1460	5	428,8	514,5	88,4	411,5	506,9	98,3	392,2	498,2	109,3	372,7	490,6	121,5	350,3	481,1	134,8
	7	458,8	545,2	89,1	439,2	535,2	99,0	420,5	527,2	110,0	**399,7**	**518,2**	**122,2**	377,8	509,4	135,7
	9	488,7	575,8	89,8	469,7	566,3	99,6	449,6	556,9	110,6	428,5	547,7	122,9	405,2	537,5	136,4
	11	520,6	608,4	90,5	500,2	597,4	100,2	479,7	587,6	111,2	458,1	577,9	123,5	434,4	567,5	137,2
	13	553,4	642,0	91,3	532,6	630,5	100,9	511,7	620,1	111,8	487,7	608,1	124,1	463,5	597,2	137,8
	15	587,2	676,5	92,1	566,0	664,6	101,6	543,7	652,7	112,4	520,2	641,2	124,7	494,6	628,8	138,4
1530	5	475,1	573,1	101,0	457,7	564,8	110,4	437,6	555,3	121,3	415,3	544,9	133,6	388,6	531,6	147,4
	7	512,1	611,6	102,6	493,3	602,0	112,1	471,3	590,6	123,0	**446,4**	**577,6**	**135,3**	419,7	564,3	149,1
	9	551,5	653,0	104,6	529,1	639,6	113,9	505,5	626,5	124,7	479,6	612,5	137,0	451,3	597,6	150,8
	11	590,0	693,4	106,6	566,1	678,4	115,8	540,9	663,6	126,5	513,9	648,4	138,7	485,6	633,5	152,5
	13	629,8	735,5	109,0	604,2	718,6	117,9	577,4	701,9	128,3	549,3	685,5	140,4	519,9	669,5	154,2
	15	669,7	778,0	111,6	643,6	760,1	120,1	615,1	741,5	130,3	586,4	724,3	142,2	556,4	707,6	155,9
1590	5	547,6	655,2	110,9	523,8	641,4	121,2	499,9	629,6	133,7	474,1	618,0	148,4	446,8	607,1	165,3
	7	585,8	694,5	112,1	560,9	679,7	122,5	535,9	666,9	135,0	**508,9**	**654,1**	**149,7**	481,1	642,7	166,6
	9	625,1	735,1	113,4	599,1	719,1	123,7	573,0	705,2	136,3	545,5	692,0	151,0	515,9	678,8	167,9
	11	667,0	778,4	114,8	640,5	761,8	125,0	612,5	745,9	137,5	583,2	730,8	152,2	552,4	716,5	169,2
	13	710,1	822,8	116,2	683,0	805,5	126,3	653,3	787,8	138,7	623,3	772,2	153,5	590,7	756,2	170,6
	15	755,9	870,1	117,7	726,9	850,8	127,7	696,6	832,4	140,0	664,7	814,8	154,7	630,7	797,4	171,9

Tue = Evaporator outlet water temperature (inlet/outlet ΔT = 5°C)
Tc = Dew point 50°C.
QF = Cooling capacity
QT = Heat rejected in condensation
P = Power input

ATTENTION!

○ The TCEVBZ-TCEVIZ condenserless units must be connected to remote condensers. Their installation and the realization of the refrigerant circuit is the responsibility of the installer and must be carried out properly.
○ Poor execution of the refrigerant circuit may substantially reduce the machine’s performance and compromise its life cycle.

○ The above data refers only to the condenserless unit, prior to any pressure drops due to the condensation refrigerant circuit.
○ RHOSS S.P.A. will not be held liable for any malfunctions of the machine due to problems concerning the realization of the condensation refrigerant circuit by the customer.

Table “H”: performance data TCEVBZ-TCEVIZ 2400÷2710

MODEL	Tue (°C)	Tuc (°C) 35			40			45			50			55		
		QF	QT	P	QF	QT	P	QF	QT	P	QF	QT	P	QF	QT	P
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
2400	5	366,4	440,0	75,9	349,7	429,8	82,6	331,9	419,8	90,6	311,5	408,2	99,7	290,3	397,2	110,2
	7	391,9	466,3	76,7	374,8	455,7	83,4	356,2	445,0	91,5	**335,8**	**433,5**	**100,7**	313,4	421,2	111,1
	9	419,0	494,2	77,5	401,5	483,4	84,4	382,2	471,8	92,4	360,9	459,5	101,7	338,1	446,8	112,1
	11	447,0	523,0	78,4	428,3	511,0	85,3	409,4	500,0	93,4	386,9	486,4	102,6	363,6	473,3	113,1
	13	476,8	553,7	79,3	457,7	541,3	86,2	436,6	528,1	94,3	414,5	515,0	103,6	389,4	500,1	114,1
	15	506,6	584,6	80,4	487,1	571,8	87,3	465,6	558,0	95,3	442,6	544,1	104,6	417,5	529,1	115,1
2420	5	388,6	468,6	82,5	370,9	457,3	89,1	351,7	446,1	97,3	331,3	435,2	107,1	309,7	424,6	118,5
	7	416,8	497,8	83,5	397,9	485,4	90,2	378,8	474,3	98,5	**356,6**	**461,7**	**108,3**	334,2	450,2	119,6
	9	445,0	527,1	84,6	425,7	514,4	91,4	405,7	502,4	99,7	383,7	490,0	109,6	359,9	477,1	120,8
	11	475,1	558,2	85,7	455,4	545,2	92,6	434,6	532,6	101,0	411,6	519,1	110,8	386,8	505,2	122,1
	13	506,0	590,3	86,9	486,0	577,1	93,9	463,7	562,9	102,3	440,3	549,0	112,1	414,6	534,3	123,4
	15	539,0	624,6	88,2	517,5	609,8	95,2	493,8	594,3	103,6	469,9	579,9	113,4	443,3	564,3	124,7
2440	5	404,3	490,4	88,8	385,8	478,3	95,4	366,7	467,5	103,9	345,6	456,5	114,3	324,2	447,0	126,6
	7	432,9	520,2	90,0	413,1	506,9	96,7	393,2	495,3	105,3	**372,1**	**484,3**	**115,7**	348,9	473,0	127,9
	9	462,4	551,0	91,3	442,2	537,4	98,1	421,9	525,4	106,7	399,4	513,0	117,1	376,3	501,7	129,3
	11	492,8	582,6	92,6	472,2	568,7	99,5	451,5	556,5	108,2	427,6	542,6	118,6	403,6	530,4	130,7
	13	525,1	616,3	94,0	504,1	602,1	101,0	481,0	587,5	109,8	457,7	574,3	120,2	431,7	560,0	132,3
	15	558,4	651,0	95,5	536,0	635,5	102,6	512,4	620,5	111,4	488,2	606,3	121,8	461,7	591,6	133,9
2510	5	467,3	561,7	97,3	447,6	550,7	106,3	424,8	538,3	117,0	402,4	528,0	129,5	377,4	516,8	143,7
	7	499,9	595,3	98,4	479,8	584,0	107,4	457,2	571,9	118,2	**431,9**	**558,6**	**130,6**	406,4	546,9	144,8
	9	534,0	630,5	99,5	512,9	618,1	108,5	489,2	604,8	119,2	464,1	591,8	131,7	436,3	577,9	146,0
	11	568,6	666,2	100,6	547,1	653,4	109,6	523,6	640,4	120,4	497,4	626,2	132,8	469,0	611,7	147,1
	13	605,5	704,1	101,7	583,6	691,0	110,7	557,7	675,6	121,5	531,6	661,5	133,9	501,4	645,2	148,2
	15	643,5	743,3	102,9	619,8	728,3	111,9	594,7	713,6	122,6	566,9	697,9	135,0	536,1	680,9	149,3
2560	5	506,4	608,0	104,7	486,7	599,4	116,2	464,6	589,8	129,1	441,2	580,5	143,6	414,0	568,8	159,6
	7	540,5	642,8	105,5	520,4	633,8	116,9	497,9	623,9	129,9	**473,4**	**613,5**	**144,4**	446,3	602,1	160,6
	9	576,9	680,1	106,4	555,2	669,3	117,6	532,2	658,9	130,6	507,2	648,0	145,2	478,4	635,0	161,4
	11	614,4	718,4	107,2	592,3	707,1	118,4	568,8	696,1	131,2	542,7	684,1	145,8	512,1	669,4	162,2
	13	653,1	757,9	108,0	630,5	746,0	119,1	605,3	733,2	131,9	578,1	720,1	146,4	546,9	704,8	162,8
	15	692,9	798,5	108,9	669,8	786,0	119,8	644,1	772,5	132,4	615,7	758,3	147,0	583,3	741,8	163,4
2600	5	545,0	653,5	111,9	523,3	642,6	123,0	497,4	629,0	135,7	471,3	616,9	150,1	442,3	603,4	166,1
	7	583,4	693,4	113,4	559,9	680,7	124,5	535,0	668,1	137,2	**506,4**	**653,4**	**151,5**	476,1	638,7	167,6
	9	623,0	734,6	115,0	599,1	721,2	125,9	572,3	706,6	138,5	543,9	692,2	152,9	511,8	675,7	169,0
	11	663,9	777,2	116,8	639,5	763,2	127,5	612,2	748,0	140,0	581,9	731,5	154,2	549,9	715,2	170,4
	13	706,0	821,0	118,6	681,1	806,3	129,1	653,3	790,5	141,4	622,5	773,4	155,6	589,2	755,7	171,7
	15	749,4	866,4	120,6	724,0	850,9	130,8	695,7	834,3	142,9	664,3	816,5	156,9	628,2	796,0	173,0
2630	5	572,6	687,7	118,7	546,6	672,3	129,6	520,5	658,4	142,2	490,0	641,7	156,4	460,5	627,7	172,4
	7	613,4	730,6	120,8	587,0	714,7	131,6	558,9	698,8	144,2	**529,3**	**682,9**	**158,4**	496,6	665,8	174,4
	9	654,2	773,7	123,2	627,2	757,0	133,8	598,7	740,5	146,2	568,5	724,1	160,4	534,5	705,6	176,4
	11	697,6	819,5	125,7	670,1	802,2	136,2	641,0	784,9	148,4	608,9	766,4	162,4	575,0	748,1	178,5
	13	742,3	866,9	128,5	714,3	848,7	138,6	684,7	830,8	150,6	651,9	811,5	164,5	616,8	791,9	180,5
	15	789,9	917,6	131,6	759,9	896,9	141,2	729,7	878,0	152,9	696,3	857,9	166,6	659,8	836,7	182,4
2680	5	630,6	752,7	125,9	600,8	733,8	137,1	572,3	718,4	150,6	540,2	701,4	166,2	507,6	686,2	184,1
	7	675,1	799,1	127,8	646,3	781,1	139,0	614,0	761,8	152,4	**581,4**	**744,4**	**168,0**	548,3	728,6	185,9
	9	720,9	846,9	129,9	691,6	828,3	140,9	658,7	808,3	154,2	623,9	788,6	169,8	588,6	770,8	187,8
	11	769,8	897,9	132,1	738,3	877,0	143,0	704,8	856,2	156,1	671,1	837,6	171,7	631,8	815,7	189,6
	13	820,3	950,8	134,5	788,1	928,8	145,1	754,1	907,5	158,1	716,2	884,5	173,5	677,2	862,9	191,4
	15	872,2	1005,1	137,0	839,5	982,4	147,3	803,0	958,3	160,1	766,3	936,4	175,4	725,7	913,2	193,3
2710	5	663,5	791,5	132,0	635,5	774,9	143,7	604,1	757,4	158,0	572,3	742,1	175,1	538,4	727,4	194,8
	7	710,3	839,8	133,5	680,1	820,9	145,2	649,7	804,5	159,6	**614,1**	**785,4**	**176,6**	579,7	770,3	196,5
	9	760,1	891,1	135,1	727,8	870,1	146,7	695,1	851,4	161,1	660,6	833,5	178,2	622,3	814,5	198,1
	11	809,9	942,5	136,7	778,6	922,5	148,3	743,7	901,4	162,6	706,8	881,2	179,8	669,5	863,3	199,8
	13	862,9	997,2	138,5	829,3	974,7	149,9	793,7	953,0	164,2	755,3	931,2	181,3	715,6	911,0	201,4
	15	919,2	1055,3	140,3	883,2	1030,3	151,6	845,2	1005,9	165,7	805,2	982,6	182,9	763,1	960,1	203,1

Tue = Evaporator outlet water temperature (inlet/outlet ΔT = 5°C)
Tc = Dew point 50°C.
QF = Cooling capacity
QT = Heat rejected in condensation
P = Power input

ATTENTION!

○ The TCEVBZ-TCEVIZ condenserless units must be connected to remote condensers. Their installation and the realization of the refrigerant circuit is the responsibility of the installer and must be carried out properly.
○ Poor execution of the refrigerant circuit may substantially reduce the machine’s performance and compromise its life cycle.

○ The above data refers only to the condenserless unit, prior to any pressure drops due to the condensation refrigerant circuit.
○ RHOSS S.P.A. will not be held liable for any malfunctions of the machine due to problems concerning the realization of the condensation refrigerant circuit by the customer.

Table “I”: performance data TCEVBZ-TCEVIZ 2750÷21260

MODEL	Tue (°C)	Tuc (°C) 35			40			45			50			55		
		QF	QT	P	QF	QT	P	QF	QT	P	QF	QT	P	QF	QT	P
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
2750	5	699,4	839,3	144,2	669,4	821,7	157,0	637,6	804,8	172,4	601,5	786,1	190,3	564,9	769,5	210,9
	7	748,4	889,7	145,7	717,0	870,8	158,6	683,8	852,6	174,0	**647,8**	**834,1**	**192,1**	608,2	814,5	212,7
	9	798,9	941,8	147,3	766,9	922,4	160,3	732,2	902,7	175,8	694,8	882,9	193,9	656,1	864,3	214,6
	11	852,7	997,2	149,0	818,4	975,5	162,0	783,9	956,1	177,5	744,1	933,8	195,6	702,2	912,1	216,4
	13	908,1	1054,4	150,8	873,2	1032,0	163,7	834,6	1008,5	179,3	795,8	987,3	197,4	752,3	964,1	218,3
	15	965,2	1113,3	152,7	929,6	1090,2	165,6	890,3	1065,9	181,0	847,3	1040,5	199,2	803,9	1017,5	220,2
2790	5	738,1	889,9	156,5	705,2	870,4	170,3	671,2	852,3	186,7	634,5	834,0	205,7	592,7	813,0	227,1
	7	788,8	942,1	158,0	756,0	922,9	172,1	720,5	903,4	188,6	**681,6**	**883,0**	**207,6**	641,4	863,6	229,1
	9	841,9	996,8	159,7	808,4	977,0	173,8	773,1	957,9	190,5	732,6	935,9	209,6	690,1	914,3	231,1
	11	898,3	1054,9	161,4	862,5	1032,9	175,7	824,8	1011,4	192,4	785,2	990,5	211,6	739,4	965,5	233,1
	13	956,4	1114,8	163,3	919,9	1092,2	177,6	879,9	1068,5	194,4	837,8	1045,0	213,6	792,0	1020,1	235,2
	15	1016,3	1176,5	165,2	979,1	1153,3	179,6	938,3	1128,8	196,4	893,7	1102,8	215,6	847,1	1077,3	237,3
2880	5	812,8	974,9	167,1	779,1	957,5	183,9	740,4	937,4	203,1	699,7	917,8	224,8	655,8	897,1	248,8
	7	869,7	1033,2	168,6	833,2	1013,0	185,4	794,6	993,2	204,7	**753,9**	**973,6**	**226,5**	709,1	952,4	250,8
	9	930,5	1095,5	170,1	891,1	1072,5	187,0	851,6	1051,8	206,4	808,0	1029,4	228,2	762,2	1007,1	252,5
	11	991,3	1157,9	171,8	951,0	1133,9	188,6	910,6	1112,4	208,0	866,0	1089,0	229,9	817,1	1063,8	254,3
	13	1056,2	1224,5	173,5	1015,0	1199,6	190,3	971,6	1174,9	209,6	926,0	1150,6	231,5	876,0	1124,3	256,0
	15	1123,2	1293,2	175,3	1081,1	1267,3	192,0	1036,7	1241,6	211,2	987,9	1214,0	233,1	936,8	1186,8	257,7
2930	5	860,9	1032,4	176,8	824,3	1015,0	196,6	785,7	997,7	218,6	746,0	981,7	243,0	704,2	965,7	269,6
	7	920,9	1093,7	178,1	882,5	1074,5	197,9	842,0	1055,3	219,9	**801,4**	**1038,5**	**244,4**	756,7	1019,9	271,3
	9	981,1	1155,2	179,5	943,7	1136,8	199,1	902,3	1116,9	221,2	858,7	1097,0	245,7	813,0	1077,7	272,9
	11	1047,3	1222,9	181,0	1007,1	1201,5	200,4	964,6	1180,4	222,5	918,0	1157,6	247,0	871,3	1137,5	274,4
	13	1113,7	1290,7	182,5	1072,5	1268,2	201,8	1027,0	1244,0	223,7	981,4	1222,3	248,3	931,5	1198,9	275,7
	15	1184,3	1362,8	184,0	1140,0	1337,0	203,1	1095,6	1313,8	224,9	1046,9	1288,9	249,5	993,7	1262,4	277,0
21030	5	961,7	1145,8	189,8	922,2	1125,1	209,2	880,2	1104,3	231,0	833,4	1081,2	255,5	781,7	1055,7	282,5
	7	1032,0	1218,4	192,2	991,5	1196,7	211,5	946,3	1172,7	233,4	**896,1**	**1146,3**	**257,9**	843,3	1119,9	285,2
	9	1107,1	1296,3	195,0	1062,1	1269,8	214,1	1014,6	1243,3	235,8	962,2	1214,7	260,3	907,0	1186,1	287,7
	11	1182,3	1374,3	197,9	1135,1	1345,3	216,7	1085,3	1316,5	238,3	1031,7	1286,5	262,7	975,3	1256,8	290,2
	13	1262,5	1457,7	201,2	1213,0	1426,0	219,6	1158,4	1392,0	240,8	1103,5	1360,6	265,1	1045,9	1329,6	292,5
	15	1342,8	1541,5	204,8	1289,7	1505,5	222,5	1236,4	1472,5	243,4	1177,7	1437,2	267,5	1116,3	1402,3	294,8
21110	5	1020,5	1216,6	202,2	983,6	1198,2	221,2	940,8	1176,4	242,9	889,6	1149,2	267,6	835,8	1122,2	295,3
	7	1103,9	1303,3	205,6	1061,4	1279,2	224,5	1011,7	1250,6	246,3	**959,4**	**1222,3**	**271,0**	902,0	1191,8	298,8
	9	1186,7	1389,7	209,3	1138,4	1359,6	228,0	1085,1	1327,3	249,7	1031,6	1297,8	274,4	970,5	1263,6	302,2
	11	1272,4	1479,6	213,6	1218,1	1443,1	232,0	1163,6	1409,3	253,3	1106,4	1376,0	277,9	1043,9	1340,3	305,6
	13	1358,4	1570,2	218,4	1302,9	1532,0	236,2	1244,6	1494,0	257,1	1182,3	1455,2	281,3	1117,2	1416,8	308,9
	15	1447,4	1664,3	223,6	1387,9	1621,4	240,7	1328,4	1581,7	261,1	1263,4	1539,7	284,8	1198,1	1501,1	312,4
21180	5	1101,6	1307,5	212,3	1058,4	1283,5	232,1	1008,8	1256,6	255,5	956,5	1230,6	282,6	896,1	1199,8	313,1
	7	1182,3	1391,0	215,2	1134,4	1362,4	235,0	1083,8	1334,5	258,5	**1027,8**	**1304,7**	**285,5**	968,8	1275,6	316,3
	9	1266,9	1478,8	218,5	1215,5	1446,5	238,1	1162,5	1416,2	261,5	1104,1	1383,9	288,5	1041,3	1351,0	319,3
	11	1354,4	1569,7	222,0	1299,2	1533,4	241,4	1241,1	1497,7	264,5	1182,8	1465,6	291,5	1116,1	1428,8	322,4
	13	1444,6	1663,7	225,9	1388,2	1625,8	244,9	1326,3	1586,0	267,7	1261,3	1547,0	294,5	1197,4	1513,0	325,4
	15	1537,6	1760,7	230,0	1477,4	1718,4	248,5	1414,1	1676,9	270,9	1347,8	1636,4	297,5	1278,5	1597,0	328,4
21260	5	1183,7	1398,7	221,6	1133,6	1368,6	242,3	1083,3	1342,8	267,5	1027,6	1315,6	296,9	969,0	1289,8	330,7
	7	1266,1	1483,5	224,1	1214,9	1452,5	244,9	1158,4	1420,2	269,9	**1101,5**	**1391,9**	**299,4**	1041,7	1364,9	333,2
	9	1353,9	1573,8	226,7	1296,3	1536,3	247,4	1241,2	1505,5	272,5	1180,5	1473,3	301,9	1116,7	1442,5	335,9
	11	1441,8	1664,3	229,4	1385,6	1628,1	250,0	1326,6	1593,3	274,9	1261,9	1557,2	304,4	1196,9	1525,2	338,5
	13	1537,9	1763,1	232,2	1477,8	1722,8	252,6	1414,8	1683,9	277,4	1348,8	1646,5	306,9	1279,7	1610,7	341,2
	15	1634,2	1862,3	235,2	1572,9	1820,4	255,2	1508,6	1780,2	280,0	1438,3	1738,5	309,5	1367,8	1701,4	343,9

Tue = Evaporator outlet water temperature (inlet/outlet ΔT = 5°C)
Tc = Dew point 50°C.
QF = Cooling capacity
QT = Heat rejected in condensation
P = Power input

ATTENTION!

○ The TCEVBZ-TCEVIZ condenserless units must be connected to remote condensers. Their installation and the realization of the refrigerant circuit is the responsibility of the installer and must be carried out properly.
○ Poor execution of the refrigerant circuit may substantially reduce the machine’s performance and compromise its life cycle.

○ The above data refers only to the condenserless unit, prior to any pressure drops due to the condensation refrigerant circuit.
○ RHOSS S.P.A. will not be held liable for any malfunctions of the machine due to problems concerning the realization of the condensation refrigerant circuit by the customer.

Table “L”: performance data TCEVBZ-TCEVIZ 31300÷31630

MODEL	Tue (°C)	Tuc (°C) 35 QF kW	35 QT kW	35 P kW	40 QF kW	40 QT kW	40 P kW	45 QF kW	45 QT kW	45 P kW	50 QF kW	50 QT kW	50 P kW	55 QF kW	55 QT kW	55 P kW
31300	5	1220,0	1449,7	236,8	1167,4	1417,4	257,7	1110,4	1384,4	282,5	1046,1	1347,8	311,0	980,8	1314,0	343,5
	7	1306,9	1538,9	239,2	1251,9	1504,5	260,4	1191,1	1467,9	285,4	**1129,6**	**1434,3**	**314,1**	1057,8	1393,9	346,5
	9	1392,8	1627,3	241,8	1339,3	1594,6	263,2	1277,3	1557,0	288,3	1211,8	1519,5	317,2	1140,0	1479,1	349,6
	11	1486,9	1724,1	244,5	1429,6	1687,6	266,0	1366,3	1648,9	291,3	1296,8	1607,4	320,2	1225,0	1567,2	352,8
	13	1584,1	1824,0	247,3	1522,8	1783,6	268,9	1458,2	1743,6	294,2	1387,3	1700,9	323,3	1309,9	1655,1	355,9
	15	1684,4	1927,2	250,3	1621,8	1885,6	272,0	1553,0	1841,4	297,3	1480,8	1797,4	326,4	1401,9	1750,3	359,2
31350	5	1270,4	1509,4	246,4	1216,9	1479,1	270,3	1158,9	1447,8	297,8	1097,7	1416,9	329,1	1029,0	1382,2	364,1
	7	1357,3	1598,4	248,6	1302,6	1567,1	272,7	1242,1	1533,5	300,4	**1178,3**	**1500,1**	**331,8**	1111,0	1467,0	367,0
	9	1449,8	1693,3	251,0	1393,9	1660,7	275,1	1332,1	1625,9	302,9	1264,4	1588,9	334,5	1195,8	1554,5	369,8
	11	1545,3	1791,2	253,5	1485,5	1754,8	277,6	1422,4	1718,7	305,5	1353,3	1680,3	337,1	1280,6	1641,9	372,5
	13	1643,9	1892,4	256,2	1582,8	1854,6	280,2	1518,5	1817,4	308,1	1448,0	1777,6	339,8	1371,0	1735,0	375,3
	15	1748,4	1999,5	258,9	1683,3	1957,7	282,9	1614,7	1916,1	310,7	1542,8	1874,9	342,4	1464,3	1831,1	378,1
31390	5	1316,8	1565,0	255,9	1263,6	1537,9	282,8	1204,8	1508,6	313,2	1142,8	1479,5	347,1	1080,0	1453,3	384,8
	7	1407,4	1657,8	258,1	1350,4	1626,8	284,9	1290,3	1596,2	315,4	**1227,0**	**1566,0**	**349,5**	1160,3	1536,1	387,4
	9	1500,9	1753,4	260,3	1442,7	1721,1	287,0	1381,4	1689,5	317,6	1315,4	1656,6	351,8	1244,7	1622,9	389,9
	11	1597,6	1852,2	262,5	1538,1	1818,7	289,3	1475,5	1785,7	319,8	1406,8	1750,3	354,1	1334,7	1715,3	392,4
	13	1700,1	1957,1	264,9	1636,6	1919,4	291,5	1569,9	1882,1	321,9	1502,6	1848,3	356,4	1426,2	1809,2	394,8
	15	1805,9	2065,3	267,4	1741,1	2026,1	293,8	1672,9	1987,4	324,2	1601,4	1949,1	358,5	1520,6	1905,7	397,0
31460	5	1376,0	1633,4	265,4	1320,0	1606,4	295,3	1261,0	1579,5	328,4	1198,8	1552,9	365,0	1133,3	1526,3	405,2
	7	1468,4	1727,7	267,3	1411,2	1699,4	297,1	1351,0	1671,4	330,3	**1287,5**	**1643,6**	**367,1**	1218,0	1613,4	407,6
	9	1564,0	1825,2	269,3	1508,2	1798,2	299,0	1444,0	1766,2	332,2	1376,5	1734,5	369,1	1305,5	1703,1	409,9
	11	1668,1	1931,5	271,5	1605,7	1897,6	300,9	1540,0	1864,0	334,0	1471,1	1831,1	371,1	1398,8	1798,5	412,1
	13	1770,1	2035,6	273,7	1709,0	2002,7	302,8	1642,0	1967,7	335,8	1568,9	1930,6	372,9	1492,2	1893,9	414,1
	15	1880,9	2148,6	276,0	1815,7	2111,4	304,8	1744,5	2072,0	337,6	1669,8	2033,2	374,6	1591,5	1995,0	416,0
31520	5	1425,3	1694,8	277,8	1371,5	1669,7	307,4	1312,2	1642,5	340,5	1247,0	1613,1	377,4	1178,5	1584,0	418,0
	7	1527,4	1799,7	280,7	1469,9	1770,8	310,2	1406,6	1739,7	343,4	**1340,1**	**1709,1**	**380,4**	1267,5	1676,3	421,4
	9	1630,4	1905,6	283,7	1571,6	1875,3	313,1	1506,9	1842,8	346,3	1433,6	1805,4	383,3	1359,5	1771,5	424,7
	11	1742,2	2020,7	287,1	1676,6	1983,2	316,1	1605,1	1943,8	349,2	1533,0	1907,7	386,3	1457,5	1872,5	427,8
	13	1852,1	2134,1	290,7	1785,2	2095,0	319,4	1712,1	2053,7	352,2	1638,5	2016,1	389,3	1555,7	1973,5	430,7
	15	1968,4	2254,2	294,6	1897,2	2210,3	322,8	1822,6	2167,2	355,3	1744,6	2124,9	392,1	1660,1	2080,8	433,7
31590	5	1465,0	1746,3	290,0	1416,2	1725,8	319,2	1359,2	1700,9	352,3	1293,9	1671,6	389,4	1218,6	1636,4	430,7
	7	1576,4	1861,2	293,6	1521,3	1834,5	322,9	1457,8	1803,2	356,1	**1388,5**	**1770,1**	**393,4**	1310,3	1732,2	434,9
	9	1691,7	1980,5	297,7	1630,0	1947,0	326,8	1559,8	1908,9	359,9	1486,3	1871,7	397,3	1409,3	1835,2	439,1
	11	1805,4	2098,3	302,0	1739,7	2060,7	330,9	1668,0	2021,0	363,9	1593,0	1982,3	401,3	1508,8	1938,6	443,1
	13	1928,5	2226,4	307,1	1855,8	2181,1	335,4	1776,9	2133,9	368,0	1700,3	2093,4	405,3	1611,5	2045,1	447,0
	15	2049,9	2352,9	312,4	1975,6	2305,5	340,1	1895,1	2256,2	372,3	1811,1	2208,0	409,2	1723,5	2160,9	450,9
31630	5	1494,8	1788,1	302,4	1451,2	1772,5	331,2	1394,4	1747,7	364,2	1326,8	1716,4	401,7	1250,5	1680,8	443,6
	7	1614,7	1912,1	306,6	1562,4	1887,9	335,6	1499,2	1856,9	368,8	**1424,8**	**1819,0**	**406,4**	1344,2	1779,4	448,7
	9	1736,2	2038,4	311,5	1674,8	2005,0	340,4	1604,8	1967,1	373,5	1528,9	1928,0	411,4	1446,7	1886,8	453,7
	11	1859,2	2166,6	316,9	1791,0	2126,2	345,6	1714,1	2081,3	378,6	1636,5	2040,3	416,3	1549,8	1994,7	458,7
	13	1986,2	2299,6	323,1	1908,2	2248,8	351,1	1829,7	2202,0	383,8	1744,8	2153,3	421,1	1659,3	2109,0	463,6
	15	2111,8	2431,6	329,7	2035,0	2381,5	357,2	1949,1	2326,6	389,2	1862,5	2275,9	426,2	1772,2	2226,5	468,3

Tue = Evaporator outlet water temperature (inlet/outlet ΔT = 5°C)
Tc = Dew point 50°C.
QF = Cooling capacity
QT = Heat rejected in condensation
P = Power input

ATTENTION!

○ The TCEVBZ-TCEVIZ condenserless units must be connected to remote condensers. Their installation and the realization of the refrigerant circuit is the responsibility of the installer and must be carried out properly.
○ Poor execution of the refrigerant circuit may substantially reduce the machine’s performance and compromise its life cycle.

○ The above data refers only to the condenserless unit, prior to any pressure drops due to the condensation refrigerant circuit.
○ RHOSS S.P.A. will not be held liable for any malfunctions of the machine due to problems concerning the realization of the condensation refrigerant circuit by the customer.

TCHVBZ-TCHVIZ 1200 ÷ 1410
ACCESSORIES DS15 and RC100: performances and pressure drops

MODEL **TCHVBZ - TCHVIZ**			**1200**			**1230**	
STANDARD-SOUNDPROOFED VERSION							
Technical data							
RC100 - 100% recuperator							
Inlet/outlet water temperature	°C	35/40	40/45	45/50	35/40	40/45	45/50
Nominal heating capacity (•)	kW	233,2	226,8	220,2	263,8	257,5	250,5
Recuperator nominal water flow	m³/h	40,1	39,0	37,9	45,4	44,3	43,1
Recuperator nominal pressure drops	kPa	26	24	23	24	23	22
Recuperator water contents	L	19	19	19	21	21	21
DS15 - Desuperheater							
Inlet/outlet water temperature	°C	30/40	35/45	-	30/40	35/45	-
Nominal heating capacity (•)	kW	36,7	35,0	-	41,5	39,6	-
Recuperator nominal water flow	m³/h	3,2	3,0	-	3,6	3,4	-
Recuperator nominal pressure drops	kPa	15	13	-	10	9	-
Recuperator water contents	L	2	2	-	2,3	2,3	-

MODEL **TCHVBZ - TCHVIZ**			**1280**			**1310**	
STANDARD-SOUNDPROOFED VERSION							
Technical data							
RC100 - 100% recuperator							
Inlet/outlet water temperature	°C	35/40	40/45	45/50	35/40	40/45	45/50
Nominal heating capacity (•)	kW	325,8	319,4	312,5	358,1	349,9	340,8
Recuperator nominal water flow	m³/h	56,0	54,9	53,8	61,6	60,2	58,6
Recuperator nominal pressure drops	kPa	29	28	27	28	26	25
Recuperator water contents	L	24	24	24	26	26	26
DS15 - Desuperheater							
Inlet/outlet water temperature	°C	30/40	35/45	-	30/40	35/45	-
Nominal heating capacity (•)	kW	51,3	48,9	-	56,4	53,7	-
Recuperator nominal water flow	m³/h	4,4	4,2	-	4,9	4,6	-
Recuperator nominal pressure drops	kPa	16	14	-	12	11	-
Recuperator water contents	L	2,6	2,6	-	2,9	2,9	-

MODEL **TCHVBZ - TCHVIZ**			**1350**			**1410**	
STANDARD-SOUNDPROOFED VERSION							
Technical data							
RC100 - 100% recuperator							
Inlet/outlet water temperature	°C	35/40	40/45	45/50	35/40	40/45	45/50
Nominal heating capacity (•)	kW	407,4	398,6	390,2	472,7	461,2	448,7
Recuperator nominal water flow	m³/h	70,1	68,6	67,1	81,3	79,3	77,2
Recuperator nominal pressure drops	kPa	35	33	32	29	28	32
Recuperator water contents	L	26	26	26	34	34	34
DS15 - Desuperheater							
Inlet/outlet water temperature	°C	30/40	35/45	-	30/40	35/45	-
Nominal heating capacity (•)	kW	64,2	61,1	-	74,5	70,9	-
Recuperator nominal water flow	m³/h	5,5	5,3	-	6,4	6,1	-
Recuperator nominal pressure drops	kPa	16	14	-	15	14	-
Recuperator water contents	L	2,9	2,9	-	3,7	3,7	-

Performance refer to the unit with chilled water temperature 7°C, with evaporator temperature differential 5°C.

Performance of DS15 is referred to inlet/outlet condenser water temperature 30°C / 35°C.

(•) Heating capacity with recuperator and desuperheater fouling factor of $0{,}43 \times 10^{-4}$ m² °C/W.

Operating limits:

○ **RC100:**
• temperature of hot water produced 35÷50°C with permitted water temperature differential 4÷6°C.
• the minimum permitted inlet water temperature is 30°C.

○ **DS15:**
• temperature of hot water produced 35÷45°C with permitted water temperature differential 5÷10°C.
• the minimum permitted inlet water temperature is 25°C.

NOTA: It is possible to increase the desuperheater water temperature by increasing the condenser inlet/outlet water temperature, with a reduction of the unit's efficiency.

ATTENTION!

Units fitted with a heat recovery placed in series with the compressor must be used in compliance with current local laws.

TCHVBZ-TCHVIZ 1460 ÷ 1590
ACCESSORIES DS15 and RC100: performances and pressure drops

MODEL **TCHVBZ - TCHVIZ**		**1460**			**1530**		
STANDARD-SOUNDPROOFED VERSION							
Technical data							
RC100 - 100% recuperator							
Inlet/outlet water temperature	°C	35/40	40/45	45/50	35/40	40/45	45/50
Nominal heating capacity (•)	kW	543,0	532,9	521,7	615,2	600,8	585,3
Recuperator nominal water flow	m³/h	93,4	91,7	89,7	105,8	103,3	100,7
Recuperator nominal pressure drops	kPa	32	31	30	28	26	25
Recuperator water contents	L	37	37	37	45	45	45
DS15 - Desuperheater							
Inlet/outlet water temperature	°C	30/40	35/45	-	30/40	35/45	-
Nominal heating capacity (•)	kW	85,5	81,5	-	96,9	92,3	-
Recuperator nominal water flow	m³/h	7,4	7,0	-	8,3	7,9	-
Recuperator nominal pressure drops	kPa	14	13	-	14	13	-
Recuperator water contents	L	4,1	4,1	-	5,0	5,0	-

MODEL **TCHVBZ - TCHVIZ**		**1590**		
STANDARD-SOUNDPROOFED VERSION				
Technical data				
RC100 - 100% recuperator				
Inlet/outlet water temperature	°C	35/40	40/45	45/50
Nominal heating capacity (•)	kW	690,0	676,3	663,1
Recuperator nominal water flow	m³/h	118,7	116,3	114,1
Recuperator nominal pressure drops	kPa	34	33	32
Recuperator water contents	L	45	45	45
DS15 - Desuperheater				
Inlet/outlet water temperature	°C	30/40	35/45	-
Nominal heating capacity (•)	kW	108,7	103,5	-
Recuperator nominal water flow	m³/h	9,3	8,9	-
Recuperator nominal pressure drops	kPa	18	16	-
Recuperator water contents	L	5,0	5,0	-

Performance refer to the unit with chilled water temperature 7°C, with evaporator temperature differential 5°C.

Performance of DS15 is referred to inlet/outlet condenser water temperature 30°C / 35°C.

(•) Heating capacity with recuperator and desuperheater fouling factor of $0{,}43 \times 10^{-4}$ m^2 °C/W.

Operating limits:

○ **RC100:**
• temperature of hot water produced 35÷50°C with permitted water temperature differential 4÷6°C.
• the minimum permitted inlet water temperature is 30°C.

○ **DS15:**
• temperature of hot water produced 35÷45°C with permitted water temperature differential 5÷10°C.
• the minimum permitted inlet water temperature is 25°C.

NOTA: It is possible to increase the desuperheater water temperature by increasing the condenser inlet/outlet water temperature, with a reduction of the unit's efficiency.

ATTENTION!

Units fitted with a heat recovery placed in series with the compressor must be used in compliance with current local laws.

TCHVBZ-TCHVIZ 2400 ÷ 2600
ACCESSORIES DS15 and RC100: performances and pressure drops

MODEL **TCHVBZ - TCHVIZ**			**2400**			**2420**	
STANDARD-SOUNDPROOFED VERSION							
Technical data							
RC100 - 100% recuperator							
Inlet/outlet water temperature	°C	35/40	40/45	45/50	35/40	40/45	45/50
Nominal heating capacity (•)	kW	457,7	445,5	432,7	483,9	471,1	458,4
Recuperator nominal water flow	m³/h	78,7	76,6	74,4	83,2	81,0	78,8
Recuperator nominal pressure drops	kPa	14	24	23	29	27	26
Recuperator water contents	L	2 x 19	2 x 19	2 x 19	19/21	19/21	19/21
DS15 - Desuperheater							
Inlet/outlet water temperature	°C	30/40	35/45	-	30/40	35/45	-
Nominal heating capacity (•)	kW	72,1	68,7	-	76,2	72,6	-
Recuperator nominal water flow	m³/h	6,2	5,9	-	6,6	6,2	-
Recuperator nominal pressure drops	kPa	14	13	-	11	10	-
Recuperator water contents	L	2 x 2	2 x 2	-	2,0/2,3	2,0/2,3	-

MODEL **TCHVBZ - TCHVIZ**			**2440**			**2510**	
STANDARD-SOUNDPROOFED VERSION							
Technical data							
RC100 - 100% recuperator							
Inlet/outlet water temperature	°C	35/40	40/45	45/50	35/40	40/45	45/50
Nominal heating capacity (•)	kW	508,0	495,7	483,8	595,8	582,6	569,5
Recuperator nominal water flow	m³/h	87,4	85,3	83,2	102,5	100,2	98,0
Recuperator nominal pressure drops	kPa	25	24	25	33	31	30
Recuperator water contents	L	2 x 21	2 x 21	2 x 21	21/24	21/24	21/24
DS15 - Desuperheater							
Inlet/outlet water temperature	°C	30/40	35/45	-	30/40	35/45	-
Nominal heating capacity (•)	kW	80,0	76,2	-	93,8	89,4	-
Recuperator nominal water flow	m³/h	6,9	6,6	-	8,1	7,7	-
Recuperator nominal pressure drops	kPa	10	9	-	13	12	-
Recuperator water contents	L	2 x 2,3	2 x 2,3	-	2,3/2,6	2,3/2,6	-

MODEL **TCHVBZ - TCHVIZ**			**2560**			**2600**	
STANDARD-SOUNDPROOFED VERSION							
Technical data							
RC100 - 100% recuperator							
Inlet/outlet water temperature	°C	35/40	40/45	45/50	35/40	40/45	45/50
Nominal heating capacity (•)	kW	647,3	634,9	620,5	693,7	678,4	661,5
Recuperator nominal water flow	m³/h	111,3	109,2	106,7	119,3	116,7	113,8
Recuperator nominal pressure drops	kPa	29	28	27	33	32	30
Recuperator water contents	L	2 x 24	2 x 24	2 x 24	24/26	24/26	24/26
DS15 - Desuperheater							
Inlet/outlet water temperature	°C	30/40	35/45	-	30/40	35/45	-
Nominal heating capacity (•)	kW	101,9	97,1	-	109,3	104,1	-
Recuperator nominal water flow	m³/h	8,8	8,4	-	9,4	8,9	-
Recuperator nominal pressure drops	kPa	16	14	-	18	16	-
Recuperator water contents	L	2 x 2,6	2 x 2,6	-	2,6/2,9	2,6/2,9	-

Performance refer to the unit with chilled water temperature 7°C, with evaporator temperature differential 5°C.

Performance of DS15 is referred to inlet/outlet condenser water temperature 30°C / 35°C.

(•) Heating capacity with recuperator and desuperheater fouling factor of $0{,}43 \times 10^{-4}$ m² °C/W.

Operating limits:

○ **RC100:**
• temperature of hot water produced 35÷50°C with permitted water temperature differential 4÷6°C.
• the minimum permitted inlet water temperature is 30°C.

○ **DS15:**
• temperature of hot water produced 35÷45°C with permitted water temperature differential 5÷10°C.
• the minimum permitted inlet water temperature is 25°C.

NOTA: It is possible to increase the desuperheater water temperature by increasing the condenser inlet/outlet water temperature, with a reduction of the unit's efficiency.

ATTENTION!

Units fitted with a heat recovery placed in series with the compressor must be used in compliance with current local laws.

TCHVBZ-TCHVIZ 2630 ÷ 2880
ACCESSORIES DS15 and RC100: performances and pressure drops

MODEL **TCHVBZ - TCHVIZ**			**2630**			**2680**	
STANDARD-SOUNDPROOFED VERSION							
Technical data							
RC100 - 100% recuperator							
Inlet/outlet water temperature	°C	35/40	40/45	45/50	35/40	40/45	45/50
Nominal heating capacity (•)	kW	726,8	709,4	690,3	791,8	773,4	753,9
Recuperator nominal water flow	m³/h	125,0	122,0	118,7	136,2	133,0	129,7
Recuperator nominal pressure drops	kPa	28	26	25	32	31	30
Recuperator water contents	L	2 x 26	2 x 26	2 x 26	26/26	26/26	26/26
DS15 - Desuperheater							
Inlet/outlet water temperature	°C	30/40	35/45	-	30/40	35/45	-
Nominal heating capacity (•)	kW	114,5	109,0	-	124,7	118,8	-
Recuperator nominal water flow	m³/h	9,8	9,4	-	10,7	10,2	-
Recuperator nominal pressure drops	kPa	13	12	-	15	14	-
Recuperator water contents	L	2 x 2,9	2 x 2,9	-	2,9/2,9	2,9/2,9	-

MODEL **TCHVBZ - TCHVIZ**			**2710**			**2750**	
STANDARD-SOUNDPROOFED VERSION							
Technical data							
RC100 - 100% recuperator							
Inlet/outlet water temperature	°C	35/40	40/45	45/50	35/40	40/45	45/50
Nominal heating capacity (•)	kW	830,9	813,0	795,1	870,5	850,1	829,8
Recuperator nominal water flow	m³/h	142,9	139,8	136,8	149,7	146,2	142,7
Recuperator nominal pressure drops	kPa	35	34	33	40	38	36
Recuperator water contents	L	2 x 26	2 x 26	2 x 26	26/34	26/34	26/34
DS15 - Desuperheater							
Inlet/outlet water temperature	°C	30/40	35/45	-	30/40	35/45	-
Nominal heating capacity (•)	kW	130,9	124,6	-	137,1	130,6	-
Recuperator nominal water flow	m³/h	11,3	10,7	-	11,8	11,2	-
Recuperator nominal pressure drops	kPa	17	15	-	18	17	-
Recuperator water contents	L	2 x 2,9	2 x 2,9	-	2,9/3,7	2,9/3,7	-

MODEL **TCHVBZ - TCHVIZ**			**2790**			**2880**	
STANDARD-SOUNDPROOFED VERSION							
Technical data							
RC100 - 100% recuperator							
Inlet/outlet water temperature	°C	35/40	40/45	45/50	35/40	40/45	45/50
Nominal heating capacity (•)	kW	924,3	901,3	878,3	1030,1	1006,5	983,0
Recuperator nominal water flow	m³/h	159,0	155,0	151,1	177,2	173,1	169,1
Recuperator nominal pressure drops	kPa	30	28	27	35	34	32
Recuperator water contents	L	2 x 34	2 x 34	2 x 34	34/37	34/37	34/37
DS15 - Desuperheater							
Inlet/outlet water temperature	°C	30/40	35/45	-	30/40	35/45	-
Nominal heating capacity (•)	kW	145,6	138,6	-	162,2	154,5	-
Recuperator nominal water flow	m³/h	12,5	11,9	-	14,0	13,3	-
Recuperator nominal pressure drops	kPa	14	13	-	13	12	-
Recuperator water contents	L	2 x 3,7	2 x 3,7	-	3,7/4,1	3,7/4,1	-

Performance refer to the unit with chilled water temperature 7°C, with evaporator temperature differential 5°C.

Performance of DS15 is referred to inlet/outlet condenser water temperature 30°C / 35°C.

(•) Heating capacity with recuperator and desuperheater fouling factor of $0{,}43 \times 10^{-4}$ m² °C/W.

Operating limits:

○ **RC100:**
• temperature of hot water produced 35÷50°C with permitted water temperature differential 4÷6°C.
• the minimum permitted inlet water temperature is 30°C.
○ **DS15:**
• temperature of hot water produced 35÷45°C with permitted water temperature differential 5÷10°C.
• the minimum permitted inlet water temperature is 25°C.
NOTA: It is possible to increase the desuperheater water temperature by increasing the condenser inlet/outlet water temperature, with a reduction of the unit's efficiency.

ATTENTION!

Units fitted with a heat recovery placed in series with the compressor must be used in compliance with current local laws.

TCHVBZ-TCHVIZ 2930 ÷ 21260
ACCESSORIES DS15 and RC100: performances and pressure drops

MODEL **TCHVBZ - TCHVIZ**			**2930**			**21030**	
STANDARD-SOUNDPROOFED VERSION							
Technical data							
RC100 - 100% recuperator							
Inlet/outlet water temperature	°C	35/40	40/45	45/50	35/40	40/45	45/50
Nominal heating capacity (•)	kW	1091,8	1071,3	1050,6	1195,3	1168,8	1142,0
Recuperator nominal water flow	m³/h	187,8	184,3	180,7	205,6	201,0	196,4
Recuperator nominal pressure drops	kPa	32	31	30	36	35	34
Recuperator water contents	L	2 x 37	2 x 37	2 x 37	37/45	37/45	37/45
DS15 - Desuperheater							
Inlet/outlet water temperature	°C	30/40	35/45	-	30/40	35/45	-
Nominal heating capacity (•)	kW	172,0	163,8	-	188,3	179,3	-
Recuperator nominal water flow	m³/h	14,8	14,1	-	16,2	15,4	-
Recuperator nominal pressure drops	kPa	15	13	-	15	14	-
Recuperator water contents	L	2 x 4,1	2 x 4,1	-	4,1/5	4,1/5	-

MODEL **TCHVBZ - TCHVIZ**			**21110**			**21180**	
STANDARD-SOUNDPROOFED VERSION							
Technical data							
RC100 - 100% recuperator							
Inlet/outlet water temperature	°C	35/40	40/45	45/50	35/40	40/45	45/50
Nominal heating capacity (•)	kW	1276,5	1246,9	1214,8	1354,0	1323,5	1293,2
Recuperator nominal water flow	m³/h	219,6	214,5	208,9	232,9	227,6	222,4
Recuperator nominal pressure drops	kPa	26	24	23	29	27	26
Recuperator water contents	L	2 x 45	2 x 45	2 x 45	45/45	45/45	45/45
DS15 - Desuperheater							
Inlet/outlet water temperature	°C	30/40	35/45	-	30/40	35/45	-
Nominal heating capacity (•)	kW	201,0	191,5	-	213,3	203,1	-
Recuperator nominal water flow	m³/h	17,3	16,5	-	18,3	17,5	-
Recuperator nominal pressure drops	kPa	15	14	-	17	16	-
Recuperator water contents	L	2 x 5	2 / 5	-	5/5	5/5	-

MODEL **TCHVBZ - TCHVIZ**			**21260**	
STANDARD-SOUNDPROOFED VERSION				
Technical data				
RC100 - 100% recuperator				
Inlet/outlet water temperature	°C	35/40	40/45	45/50
Nominal heating capacity (•)	kW	1419,0	1390,1	1363,7
Recuperator nominal water flow	m³/h	244,1	239,1	234,6
Recuperator nominal pressure drops	kPa	30	29	28
Recuperator water contents	L	2 x 45	2 x 45	-
DS15 - Desuperheater				
Inlet/outlet water temperature	°C	30/40	35/45	-
Nominal heating capacity (•)	kW	223,5	212,9	-
Recuperator nominal water flow	m³/h	19,2	18,3	-
Recuperator nominal pressure drops	kPa	19	17	-
Recuperator water contents	L	2 x 5	2 x 5	-

Performance refer to the unit with chilled water temperature 7°C, with evaporator temperature differential 5°C.

Performance of DS15 is referred to inlet/outlet condenser water temperature 30°C / 35°C.

(•) Heating capacity with recuperator and desuperheater fouling factor of $0{,}43 \times 10^{-4}$ m² °C/W.

Operating limits:

○ **RC100:**

• temperature of hot water produced 35÷50°C with permitted water temperature differential 4÷6°C.

• the minimum permitted inlet water temperature is 30°C.

○ **DS15:**

• temperature of hot water produced 35÷45°C with permitted water temperature differential 5÷10°C.

• the minimum permitted inlet water temperature is 25°C.

NOTA: It is possible to increase the desuperheater water temperature by increasing the condenser inlet/outlet water temperature, with a reduction of the unit's efficiency.

ATTENTION!

Units fitted with a heat recovery placed in series with the compressor must be used in compliance with current local laws.

TCHVBZ-TCHVIZ 31300 ÷ 31460
ACCESSORIES DS15 and RC100: performances and pressure drops

MODEL **TCHVBZ - TCHVIZ**			**31300**			**31350**	
STANDARD-SOUNDPROOFED VERSION							
Technical data							
RC100 - 100% recuperator							
Inlet/outlet water temperature	°C	35/40	40/45	45/50	35/40	40/45	45/50
Nominal heating capacity (•)	kW	1496,2	1459,5	1421,2	1559,1	1526,4	1492,0
Recuperator nominal water flow	m³/h	257,3	251,0	244,4	268,2	262,5	256,6
Recuperator nominal pressure drops	kPa	27	26	25	30	29	28
Recuperator water contents	L	3 x 37	3 x 37	3 x 37	3 x 37	3 x 37	3 x 37
DS15 - Desuperheater							
Inlet/outlet water temperature	°C	30/40	35/45	-	30/40	35/45	-
Nominal heating capacity (•)	kW	235,7	224,4	-	245,6	233,9	-
Recuperator nominal water flow	m³/h	20,3	19,3	-	21,1	20,1	-
Recuperator nominal pressure drops	kPa	12	11	-	13	12	-
Recuperator water contents	L	3 x 4,1	3 x 4,1	-	3 x 4,1	3 x 4,1	-

MODEL **TCHVBZ - TCHVIZ**			**31390**			**31460**	
STANDARD-SOUNDPROOFED VERSION							
Technical data							
RC100 - 100% recuperator							
Inlet/outlet water temperature	°C	35/40	40/45	45/50	35/40	40/45	45/50
Nominal heating capacity (•)	kW	1621,4	1589,0	1556,4	1693,5	1662,7	1634,8
Recuperator nominal water flow	m³/h	278,9	273,3	267,7	291,3	286,0	281,2
Recuperator nominal pressure drops	kPa	32	31	30	30	30	29
Recuperator water contents	L	3 x 37	3 x 37	3 x 37	3 x 37	3 x 37	3 x 37
DS15 - Desuperheater							
Inlet/outlet water temperature	°C	30/40	35/45	-	30/40	35/45	-
Nominal heating capacity (•)	kW	255,4	243,2	-	266,7	254,0	-
Recuperator nominal water flow	m³/h	22,0	20,9	-	22,9	21,8	-
Recuperator nominal pressure drops	kPa	14	13	-	16	14	-
Recuperator water contents	L	3 x 4,1	3 x 4,1	-	3 x 4,1	3 x 4,1	-

Performance refer to the unit with chilled water temperature 7°C, with evaporator temperature differential 5°C.

Performance of DS15 is referred to inlet/outlet condenser water temperature 30°C / 35°C.

(•) Heating capacity with recuperator and desuperheater fouling factor of $0{,}43 \times 10^{-4}$ m² °C/W.

Operating limits:

○ **RC100:**
• temperature of hot water produced 35÷50°C with permitted water temperature differential 4÷6°C.
• the minimum permitted inlet water temperature is 30°C.

○ **DS15:**
• temperature of hot water produced 35÷45°C with permitted water temperature differential 5÷10°C.
• the minimum permitted inlet water temperature is 25°C.

NOTA: It is possible to increase the desuperheater water temperature by increasing the condenser inlet/outlet water temperature, with a reduction of the unit's efficiency.

ATTENTION!

Units fitted with a heat recovery placed in series with the compressor must be used in compliance with current local laws.

TCHVBZ-TCHVIZ 31520 ÷ 31630
ACCESSORIES DS15 and RC100: performances and pressure drops

MODEL **TCHVBZ - TCHVIZ**			**31520**			**31590**	
STANDARD-SOUNDPROOFED VERSION							
Technical data							
RC100 - 100% recuperator							
Inlet/outlet water temperature	°C	35/40	40/45	45/50	35/40	40/45	45/50
Nominal heating capacity (•)	kW	1786,7	1752,2	1715,7	1861,0	1823,9	1784,3
Recuperator nominal water flow	m³/h	307,3	301,4	295,1	320,1	313,7	306,9
Recuperator nominal pressure drops	kPa	34	32	31	35	34	33
Recuperator water contents	L	3 x 45	3 x 45	3 x 45	3 x 45	3 x 45	3 x 45
DS15 - Desuperheater							
Inlet/outlet water temperature	°C	30/40	35/45	-	30/40	35/45	-
Nominal heating capacity (•)	kW	281,4	268,0	-	293,1	279,2	-
Recuperator nominal water flow	m³/h	24,2	23,0	-	25,2	24,0	-
Recuperator nominal pressure drops	kPa	17	16	-	19	17	-
Recuperator water contents	L	3 x 4,1	3 x 4,1	-	3 x 4,1	3 x 4,1	-

MODEL **TCHVBZ - TCHVIZ**			**31630**	
STANDARD-SOUNDPROOFED VERSION				
Technical data				
RC100 - 100% recuperator				
Inlet/outlet water temperature	°C	35/40	40/45	45/50
Nominal heating capacity (•)	kW	1921,8	1882,0	1840,4
Recuperator nominal water flow	m³/h	330,5	323,7	316,5
Recuperator nominal pressure drops	kPa	27	26	25
Recuperator water contents	L	3 x 45	3 x 45	3 x 45
DS15 - Desuperheater				
Inlet/outlet water temperature	°C	30/40	35/45	-
Nominal heating capacity (•)	kW	302,7	288,3	-
Recuperator nominal water flow	m³/h	26,0	24,8	-
Recuperator nominal pressure drops	kPa	20	18	-
Recuperator water contents	L	3 x 4,1	3 x 4,1	-

Performance refer to the unit with chilled water temperature 7°C, with evaporator temperature differential 5°C.

Performance of DS15 is referred to inlet/outlet condenser water temperature 30°C / 35°C.

(•) Heating capacity with recuperator and desuperheater fouling factor of $0{,}43 \times 10^{-4}$ m^2 °C/W.

Operating limits:

○ **RC100:**
• temperature of hot water produced 35÷50°C with permitted water temperature differential 4÷6°C.
• the minimum permitted inlet water temperature is 30°C.

○ **DS15:**
• temperature of hot water produced 35÷45°C with permitted water temperature differential 5÷10°C.
• the minimum permitted inlet water temperature is 25°C.

NOTA: It is possible to increase the desuperheater water temperature by increasing the condenser inlet/outlet water temperature, with a reduction of the unit's efficiency.

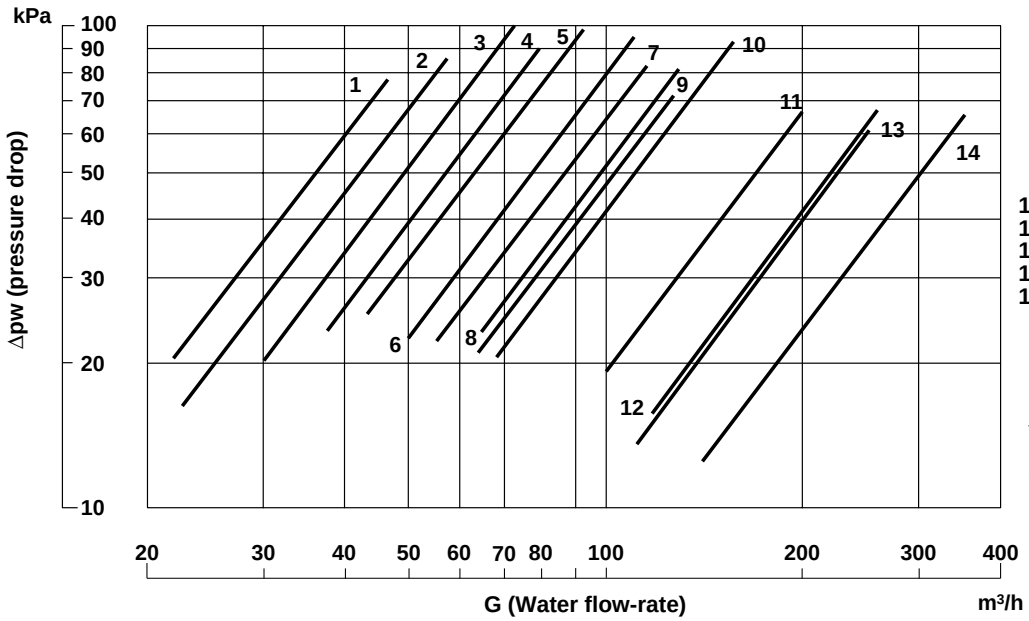
ATTENTION!

Units fitted with a heat recovery placed in series with the compressor must be used in compliance with current local laws.

Calculation of pressure drops

○ The water flow to the exchanger is calculated with the following formula:
$G = (Q \times 0.86) : \Delta T$
‣ Where:
G (m^3/h) = water flow to the exchanger;
Q (kW) = heat exchanged, which may be QF (for the evaporator) or QT (for the condenser), depending on the exchanger considered;
ΔT (°C) = temperature differential
○ The pressure drops can be found in the graphs “table **M**”, “table **N**” or calculated with the following formulae:
$\Delta pw = \Delta pw_{nom} \times (G : G_{nom})^2$
‣ where:
Δpw (kPa) = pressure drop at the exchanger in consideration;
Δpw_{nom} (kPA) = nominal pressure drop at the exchanger in consideration (“technical features” table);
G (kW) = water flow at the exchanger in consideration;
G_{nom} (kW) = water flow at the exchanger in consideration (“technical features” table);

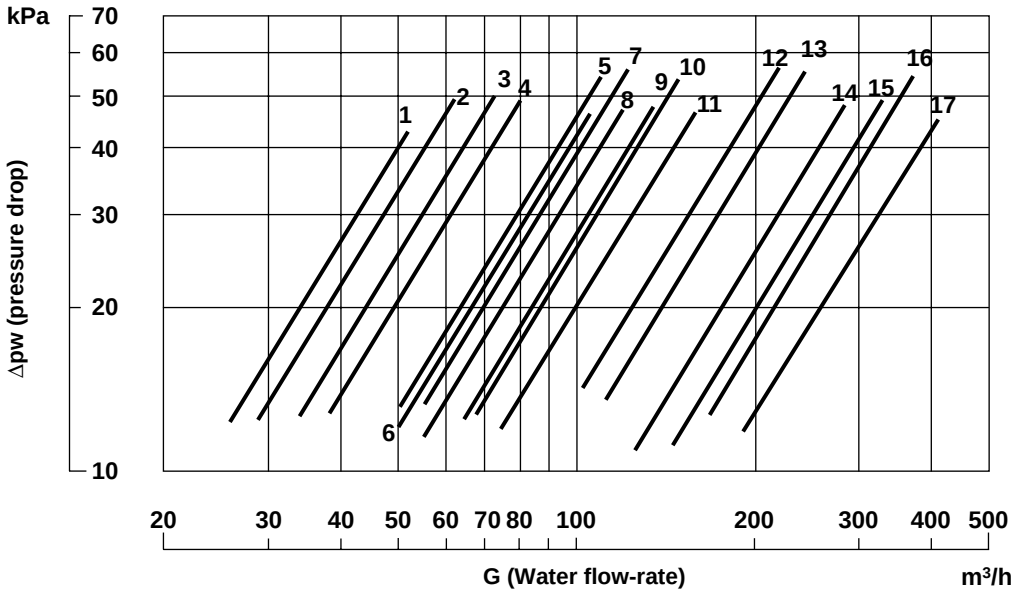
Table “M”: evaporator pressure drops TCHVBZ-TCHVIZ-TCEVBZ-TCEVIZ 1200 ÷ 31630



1 = model 1200
2 = model 1230
3 = model 1280-1310
4 = model 1350
5 = model 1410-2400
6 = model 1460-2420-2440
7 = model 1530
8 = model 2600-2630
9 = model 1590-2510-2560
10 = model 2680-2710-2750-2790
11 = model 2880-2930
12 = model 21180-21260
13 = model 21030-21110
14 = model 31300÷31630

N.B.:
For all machines, in any case refer to the operating limits shown on page 31 and the admissible temperature differentials ΔT.

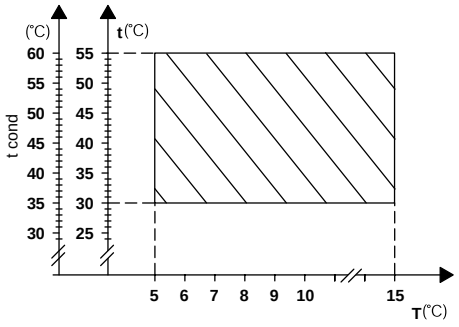
Table “N”: condenser pressure drops TCHVBZ-TCHVIZ 1200 ÷ 31630



1 = model 1200
2 = model 1230
3 = model 1280
4 = model 1310-1358
5 = model 1410
6 = model 2400-2420
7 = model 1460
8 = model 2440-2510
9 = model 1530-1590
10 = model 2560-2600
11 = model 2630-2680-2710-2750
12 = model 2790-2880
13 = model 2930-21030
14 = model 21110-21260-21180
15 = model 31300-31350-31390
16 = model 31460-31520-31590
17 = model 31630

N.B.:
For all machines, in any case refer to the operating limits shown on page 31 and the admissible temperature differentials ΔT.

Operation as chiller (TCHVBZ-TCHVIZ - TCEVBZ-TCEVIZ)



T (°C) = evaporator outlet temperature
t (°C) = condenser outlet temperature
t_{cond} (°C) = dew point, only for TCEVBZ-TCEVIZ

Standard operation.

○ **The graph of the operating limits is valid for temperature differentials ΔT at the evaporator and at the condenser equal to 5°C.**
○ Units can also be provided on request to supply chilled water at less than 5°C.

Temperature differentials permitted through the exchangers:

○ Temperature differential at evaporator ΔT = 3 ÷ 8°C.
○ Temperature differential at condenser ΔT = 3 ÷ 8°C.
○ Consider the minimum and maximum water flow indicated in the tables. **For water flows out of the ranges shown, please call the RHOSS S.P.A. presale service.**

ATTENTION!

○ The machines have been conceived and designed **exclusively for indoor installation.**
If outdoor installation is required, it will necessitate modifications which must be evaluated by our technical office.

TCHVBZ-TCHVIZ - TCEVBZ-TCEVIZ: evaporator water flow

MODEL		Min.	Max.
1200	m³/h	23	46
1230	m³/h	23	59
1280	m³/h	30	80
1310	m³/h	30	80
1350	m³/h	39	80
1410	m³/h	45	92
1460	m³/h	50	110
1530	m³/h	55	115
1590	m³/h	65	135
2400	m³/h	45	92
2420	m³/h	50	110
2440	m³/h	50	110
2510	m³/h	65	135
2560	m³/h	65	135
2600	m³/h	65	135
2630	m³/h	65	135
2680	m³/h	68	170
2710	m³/h	68	170
2750	m³/h	68	170
2790	m³/h	68	170
2880	m³/h	100	200
2930	m³/h	100	200
21030	m³/h	125	270
21110	m³/h	125	270
21180	m³/h	135	270
21260	m³/h	135	270
31300	m³/h	170	330
31350	m³/h	170	330
31390	m³/h	170	330
31460	m³/h	170	330
31520	m³/h	170	360
31590	m³/h	170	360
31630	m³/h	170	360

TCHVBZ-TCHVIZ: condenser water flow

MODEL		Min.	Max.
1200	m³/h	25	53
1230	m³/h	28	62
1280	m³/h	34	72
1310	m³/h	38	80
1350	m³/h	38	80
1410	m³/h	50	105
1460	m³/h	57	120
1530	m³/h	65	140
1590	m³/h	65	140
2400	m³/h	50	106
2420	m³/h	53	115
2440	m³/h	56	124
2510	m³/h	62	134
2560	m³/h	68	144
2600	m³/h	72	152
2630	m³/h	76	160
2680	m³/h	76	160
2710	m³/h	76	160
2750	m³/h	88	192
2790	m³/h	100	210
2880	m³/h	107	226
2930	m³/h	114	240
21030	m³/h	122	264
21110	m³/h	130	283
21180	m³/h	130	283
21260	m³/h	130	283
31300	m³/h	150	315
31350	m³/h	157	330
31390	m³/h	164	345
31460	m³/h	171	360
31520	m³/h	179	380
31590	m³/h	187	405
31630	m³/h	195	420

Use of antifreeze solutions

○ Use of ethylene glycol is required if the water will not be discharged from the hydraulic system during the winter shutdown or whenever the unit has to supply chilled water at temperatures lower than 5°C. The addition of glycol changes the physical properties of the water and consequently the unit performances.
The proper glycol percentage to be put into the system can be obtained from the most demanding operation conditions chosen from those shown hereunder.
○ Table "**O**" shows the multipliers to obtain the changes of the unit performances according to the necessary percentages of ethylene glycol.

• The multipliers refer to the following conditions: condenser inlet water temperature 30°C; chilled water temperature 7°C; temperature differential at evaporator 5°C.
• For different operating conditions the same multipliers can be used since the amount of their change is negligible.

Table "O" - TCHVBZ-TCHVIZ - TCEVBZ-TCEVIZ

% glycol by weight	10	15	20	25	30
Freezing temperature °C	–5	–7	–10	–13	–16
fc G	1,025	1,039	1,054	1,072	1,093
fc Δpw	1,085	1,128	1,191	1,255	1,319
fc QF	0,975	0,967	0,963	0,956	0,948
fc P	0,993	0,991	0,99	0,988	0,986

fc QF = correction factor of the cooling capacity
fc P = correction factor of the total absorbed current
fc Δpw = correction factor of the pressure drops through the evaporator
fc G = correction factor of the glycol water flow to the evaporator

Table “P”: TCHVBZ - TCEVBZ sound pressure, standard version

MODEL	Sound pressure level in dB by octave bands and total sound power in dB(A)								
	125 Hz	**250 Hz**	**500 Hz**	**1.000 Hz**	**2.000 Hz**	**4.000 Hz**	**8.000 Hz**	**Lp** (*)	**Lw** (**)
1200	58	71	73	74	69	63	55	77	94
1230	59	73	72	74	70	63	53	77	94
1280	51	70	79	77	68	55	44	80	97
1310	54	71	74	79	71	57	45	80	97
1350	57	80	76	78	68	52	40	80	97
1410	74	76	75	78	72	63	51	80	97
1460	70	82	77	76	70	62	52	80	97
1530	71	83	78	78	71	63	53	81	98
1590	71	83	78	78	71	63	53	81	98
2400	60	76	75	77	72	66	55	80	97
2420	61	76	74	77	72	66	55	80	97
2440	61	76	75	77	72	66	56	80	97
2510	61	76	75	79	72	67	56	81	99
2560	52	71	80	78	69	56	45	81	99
2600	52	71	80	78	69	56	45	81	99
2630	56	72	75	80	71	58	46	81	99
2680	58	81	75	79	71	58	46	81	99
2710	58	81	77	79	69	53	41	81	99
2750	58	81	78	79	69	53	43	81	99
2790	74	80	77	78	69	63	51	81	99
2880	71	83	75	78	69	63	51	81	99
2930	71	83	78	77	71	63	53	81	99
21030	71	83	78	77	72	62	55	81	99
21110	71	83	78	77	71	63	53	81	99
21180	71	83	78	77	71	63	53	81	99
21260	71	83	78	77	71	63	53	81	99
31300	72	83	79	78	72	64	55	82	101
31350	72	83	79	78	71	64	55	82	101
31390	72	84	79	78	72	64	54	82	101
31460	72	84	79	79	73	65	56	83	102
31520	73	84	80	79	72	67	58	83	102
31590	73	85	83	77	73	65	58	83	102
31630	74	85	83	77	73	66	58	83	102

(*) **Lp** = Sound pressure in a open field on reflecting plane; value at a distance of 1 meter from the unit side and at a height of 1 meter from the support plane.

(**) **Lw** = Total sound power level in dB (A) based on measurements made in accordance with the UNI EN-ISO 3744.

Table “Q”: TCHVIZ - TCEVIZ sound pressure, soundproofed version

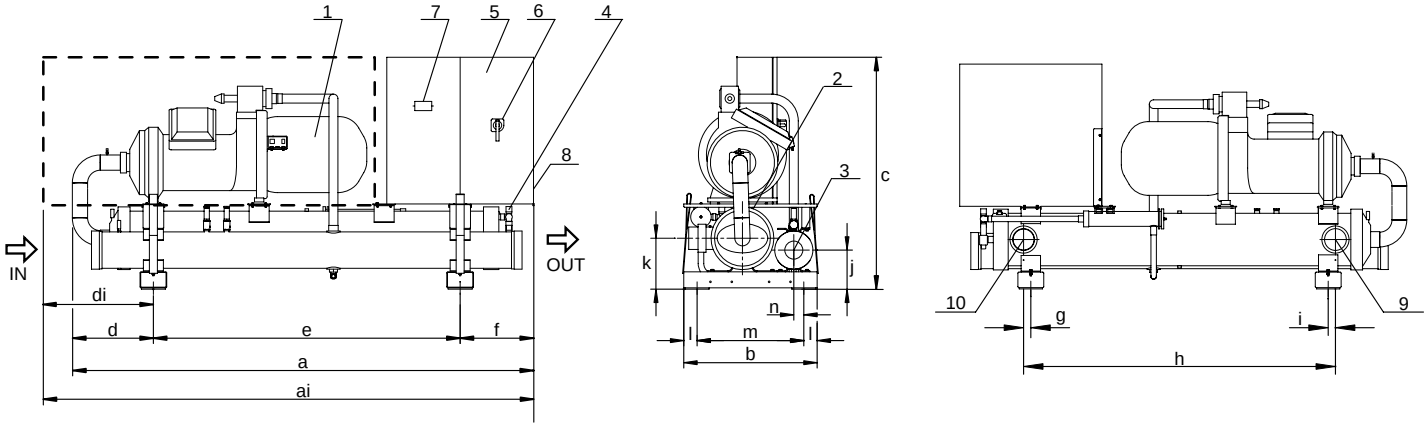
MODEL	Sound pressure level in dB by octave bands and total sound power in dB(A)								
	125 Hz	**250 Hz**	**500 Hz**	**1.000 Hz**	**2.000 Hz**	**4.000 Hz**	**8.000 Hz**	**Lp** (*)	**Lw** (**)
1200	56,5	69,5	71,5	72,5	67,5	61,5	53,5	75	92
1230	57,5	71,5	70,5	72,5	68,5	61,5	51,5	76	92
1280	49,5	68,5	77,5	75,5	66,5	53,5	42,5	78	95
1310	52,5	69,5	72,5	77,5	69,5	55,5	43,5	79	95
1350	55,5	78,5	74,5	76,5	66,5	50,5	38,5	79	95
1410	72,5	74,5	73,5	76,5	70,5	61,5	49,5	79	95
1460	68,5	80,5	75,5	74,5	68,5	60,5	50,5	79	95
1530	69,5	81,5	76,5	76,5	69,5	61,5	51,5	80	96
1590	69,5	81,5	76,5	76,5	69,5	61,5	51,5	80	96
2400	58,5	74,5	73,5	75,5	70,5	64,5	53,5	78	95
2420	59,5	74,5	72,5	75,5	70,5	64,5	53,5	78	95
2440	59,5	74,5	73,5	75,5	70,5	64,5	54,5	78	95
2510	59,5	74,5	73,5	77,5	70,5	65,5	54,5	80	97
2560	50,5	69,5	78,5	76,5	67,5	54,5	43,5	80	97
2600	50,5	69,5	78,5	76,5	67,5	54,5	43,5	80	97
2630	54,5	70,5	73,5	78,5	69,5	56,5	44,5	80	97
2680	56,5	79,5	73,5	77,5	69,5	56,5	44,5	80	97
2710	56,5	79,5	75,5	77,5	67,5	51,5	39,5	80	97
2750	56,5	79,5	76,5	77,5	67,5	51,5	41,5	80	97
2790	72,5	78,5	75,5	76,5	67,5	61,5	49,5	80	97
2880	69,5	81,5	73,5	76,5	67,5	61,5	49,5	80	97
2930	69,5	81,5	76,5	75	69,5	61,5	51,5	80	97
21030	69,5	81,5	76,5	75,5	70,5	60,5	53,5	80	97
21110	69,5	81,5	76,5	75	69,5	61,5	51,5	80	97
21180	69,5	81,5	76,5	75	69,5	61,5	51,5	80	97
21260	69,5	81,5	76,5	75	69,5	61,5	51,5	80	97
31300	70,5	81,5	77,5	76,5	70,5	62,5	53,5	80	99
31350	70,5	81,5	77,5	76,5	69,5	62,5	53,5	80	99
31390	70,5	82,5	77,5	76,5	70,5	62,5	52,5	81	99
31460	70,5	82,5	77,5	77,5	71,5	63,5	54,5	81	100
31520	71,5	82,5	78,5	77,5	70,5	65,5	56,5	81	100
31590	71,5	83,5	81,5	75	71,5	63,5	56,5	82	100
31630	72,5	83,5	81,5	75	71,5	64,5	56,5	82	100

(*) **Lp** = Sound pressure in a open field on reflecting plane; value at a distance of 1 meter from the unit side and at a height of 1 meter from the support plane.

(**) **Lw** = Total sound power level in dB (A) based on measurements made in accordance with the UNI EN-ISO 3744.

TCHVBZ-TCHVIZ 1200 ÷ 1590:
size and installation characteristics

TCHVBZ standard version - TCHVIZ soundproofed version: 1200 ÷ 1590



MODEL		1200	1230	1280	1310	1350	1410	1460	1530	1590
Dimensions										
a	mm	3460	3460	3440	3440	3450	3450	3450	3460	3460
ai	mm	3500	3500	3500	3500	3580	3580	3580	3580	3580
b	mm	1000	1000	1000	1000	1000	1000	1000	1000	1000
c (*)	mm	1460	1460	1460	1460	1640	1640	1640	1740	1740
d	mm	644	644	625	625	600	600	600	610	610
di	mm	684	684	684	684	730	730	730	730	730
e	mm	2300	2300	2300	2300	2300	2300	2300	2300	2300
f	mm	516	516	515	515	550	550	550	550	550
g	mm	93	93	93	93	75	75	75	56	56
h	mm	2486	2486	2486	2486	2450	2450	2450	2412	2412
i	mm	93	93	93	93	75	75	75	56	56
j	mm	293	293	293	293	293	293	293	293	293
k	mm	293	293	293	293	330	330	330	382	382
l	mm	100	100	100	100	100	100	100	100	100
m	mm	800	800	800	800	800	800	800	800	800
n	mm	75	75	75	75	75	75	75	75	75
Evaporator water inlet		DN100	DN100	DN100	DN100	DN125	DN125	DN125	DN150	DN150
Evaporator water outlet		DN100	DN100	DN100	DN100	DN125	DN125	DN125	DN150	DN150
Ingresso acqua condensatore	GF	5”	5”	5”	5”	5”	5”	5”	5”	5”
Uscita acqua condensatore	GF	5”	5”	5”	5”	5”	5”	5”	5”	5”

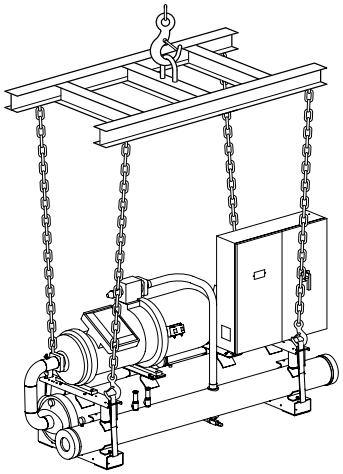
1. Compressor
2. Evaporator
3. Condenser
4. Electronic expansion valve
5. Electrical panel
6. Main switch
7. Control panel
8. Electrical connection input
9. Evaporator water inlet. Victaulic connections.
10. Evaporator water outlet. Victaulic connections.

---- TCHVIZ compressor soundproofing

N.B.:
the input for the electrical connection is located in the lower right part of the electrical panel.

(*) If the KSA anti-vibration accessory will be used, the dimension “**c**” should be expected to increase by about MAX 180 mm.
If the KSAM anti-vibration accessory will be used, the dimension “**c**” should be expected to increase by about MAX 160 mm.

For further information contact RHOSS sales support service.

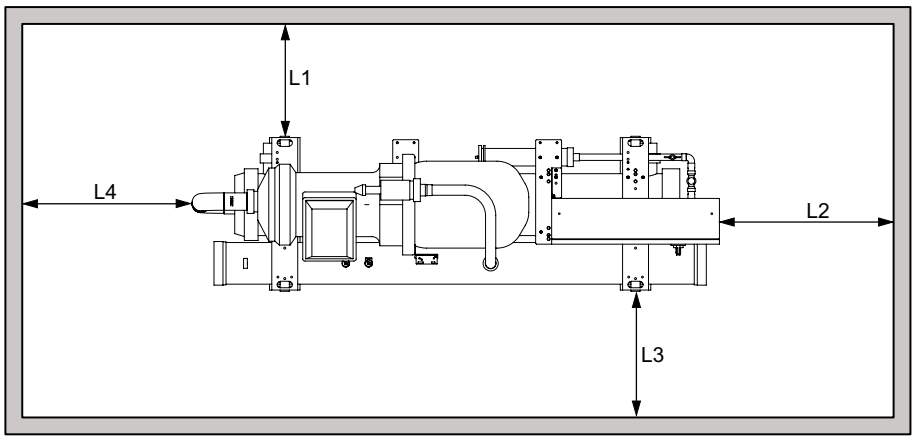


Lifting and handling

○ Lift the TCHVBZ-TCHVIZ unit using the brackets in the structure as shown in the figure.
○ Special care should be used when moving the unit in order to avoid damage to the structure and to the internal mechanical and electrical components.

TCHVBZ-TCHVIZ 1200 ÷ 1590:
size and installation characteristics

Clearance distances



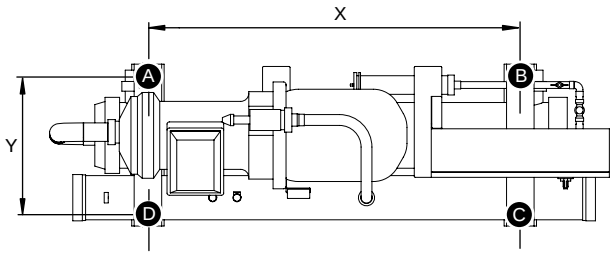
Installation

○ The unit should be placed in accordance with the minimum technical service distances advised in figure, to allow access to the water and electrical connections, as well as access for maintenance of the exchangers.
○ The unit may be equipped with anti-vibration supports, available on request (KSA-KSAM).

MODEL		1200	1230	1280	1310	1350	1410	1460	1530	1590
Clearances										
L1	mm	600	600	600	600	600	600	600	600	600
L2	mm	800	800	800	800	800	800	800	800	800
L3	mm	1000	1000	1000	1000	1000	1000	1000	1000	1000
L4 (*)	mm	3500	3500	3500	3500	3500	3500	3500	3500	3500

(*) Maximum distance necessary to allow the exctraction of the shell and tube exchanger.

Plan view of the KSA-KSAM anti-vibration supports and weight distribution on fixing points for standard and soundproofed version.

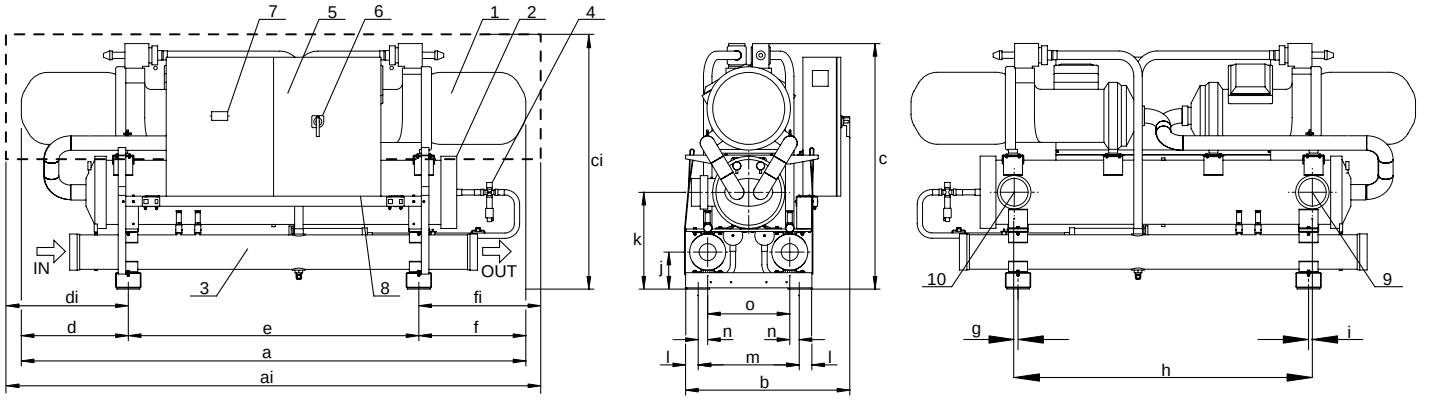


The distribution on the fixing points of the anti-vibration supports (KSA-KSAM) refers to a fully soundproofed machine with accessories.

MODEL		1200	1230	1280	1310	1350	1410	1460	1530	1590
Empty weight TCHVBZ	kg	1333	1359	1695	1713	1865	2354	2393	2642	2687
Charged weight TCHVBZ	kg	1475	1499	1833	1854	2062	2557	2590	2958	2995
Empty weight TCHVIZ	kg	1588	1614	1950	1968	2120	2609	2648	2897	2942
Charged weight TCHVIZ	kg	1730	1754	2088	2109	2317	2812	2845	3213	3250
Support										
A	kg	435	438	603	608	642	783	792	901	914
B	kg	370	372	438	442	516	631	637	724	732
C	kg	419	428	437	443	514	622	629	705	711
D	kg	506	516	610	616	645	776	787	883	893
X	mm	2300	2300	2300	2300	2300	2300	2300	2300	2300
Y	mm	800	800	800	800	800	800	800	800	800

TCHVBZ-TCHVIZ 2400 ÷ 2710:
size and installation characteristics

TCHVBZ standard version - TCHVIZ soundproofed version: 2400 - 2710



MODEL		2400	2420	2440	2510	2560	2600	2630	2680	2710
Dimensions										
a	mm	3880	3880	4000	4070	4070	4070	4070	4070	4070
ai	mm	4350	4350	4350	4350	4350	4350	4350	4350	4350
b	mm	1300	1300	1300	1300	1300	1300	1300	1300	1300
c (*)	mm	1840	1840	1840	1960	1960	1960	1960	1960	1960
ci (*)	mm	1880	1880	1880	1990	1990	1990	1990	1990	1990
d	mm	877	877	997	977	977	977	977	977	977
di	mm	1028	1028	1028	1028	1028	1028	1028	1028	1028
e	mm	2300	2300	2300	2300	2300	2300	2300	2300	2300
f	mm	703	703	703	793	793	793	795	795	795
fi	mm	1022	1022	1022	1022	1022	1022	1022	1022	1022
g	mm	75	75	75	56	56	56	56	56	56
h	mm	2450	2450	2450	2412	2412	2412	2412	2412	2412
i	mm	75	75	75	56	56	56	56	56	56
j	mm	293	293	293	293	293	293	293	293	293
k	mm	576	576	576	728	728	728	728	728	728
l	mm	100	100	100	100	100	100	100	100	100
m	mm	800	800	800	800	800	800	800	800	800
n	mm	75	75	75	75	75	75	75	75	75
o	mm	650	650	650	650	650	650	650	650	650
Evaporator water inlet		DN125	DN125	DN125	DN150	DN150	DN150	DN150	DN150	DN150
Evaporator water outlet		DN125	DN125	DN125	DN150	DN150	DN150	DN150	DN150	DN150
Condenser water inlet	GF	5”	5”	5”	5”	5”	5”	5”	5”	5”
Condenser water outlet	GF	5”	5”	5”	5”	5”	5”	5”	5”	5”

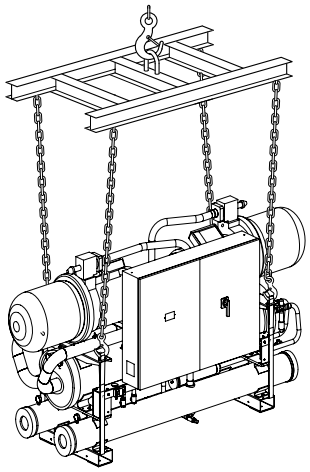
1. Compressor
2. Evaporator
3. Condenser
4. Electronic expansion valve
5. Electrical panel
6. Main switch
7. Control panel
8. Electrical connection input
9. Evaporator water inlet. Victaulic connections.
10. Evaporator water outlet. Victaulic connections.

---- TCHVIZ compressor soundproofing

N.B.:
the input for the electrical connection is located in the lower right part of the electrical panel.

(*) If the KSA anti-vibration accessory will be used, the dimension “**c**” should be expected to increase by about MAX 180 mm.
If the KSAM anti-vibration accessory will be used, the dimension “**c**” should be expected to increase by about MAX 160 mm.

For further information contact RHOSS sales support service.

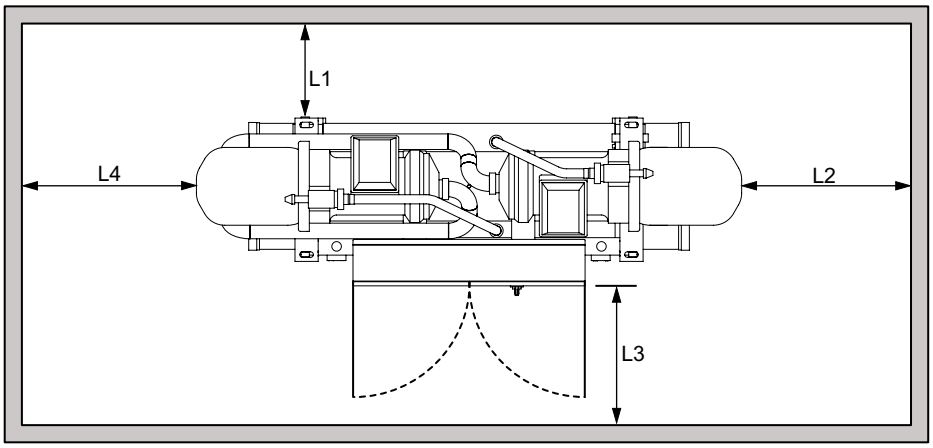


Lifting and handling

○ Lift the TCHVBZ-TCHVIZ unit using the brackets in the structure as shown in the figure.
○ Special care should be used when moving the unit in order to avoid damage to the structure and to the internal mechanical and electrical components.

TCHVBZ-TCHVIZ 2400 ÷ 2710:
size and installation characteristics

Clearance distances



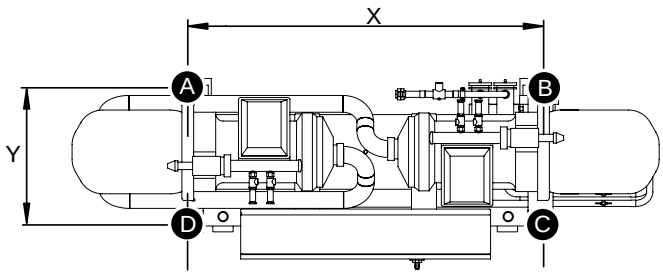
Installation

○ The unit should be placed in accordance with the minimum technical service distances advised in figure, to allow access to the water and electrical connections, as well as access for maintenance of the exchangers.
○ The unit may be equipped with anti-vibration supports, available on request (KSA-KSAM).

MODEL		2400	2420	2440	2510	2560	2600	2630	2680	2710
Clearances										
L1	mm	600	600	600	600	600	600	600	600	600
L2	mm	800	800	800	800	800	800	800	800	800
L3	mm	1300	1300	1300	1300	1300	1300	1300	1300	1300
L4 (*)	mm	3500	3500	3500	3500	3500	3500	3500	3500	3500

(*) Maximum distance necessary to allow the exctraction of the shell and tube exchanger.

Plan view of the KSA-KSAM anti-vibration supports and weight distribution on fixing points for standard and soundproofed version.

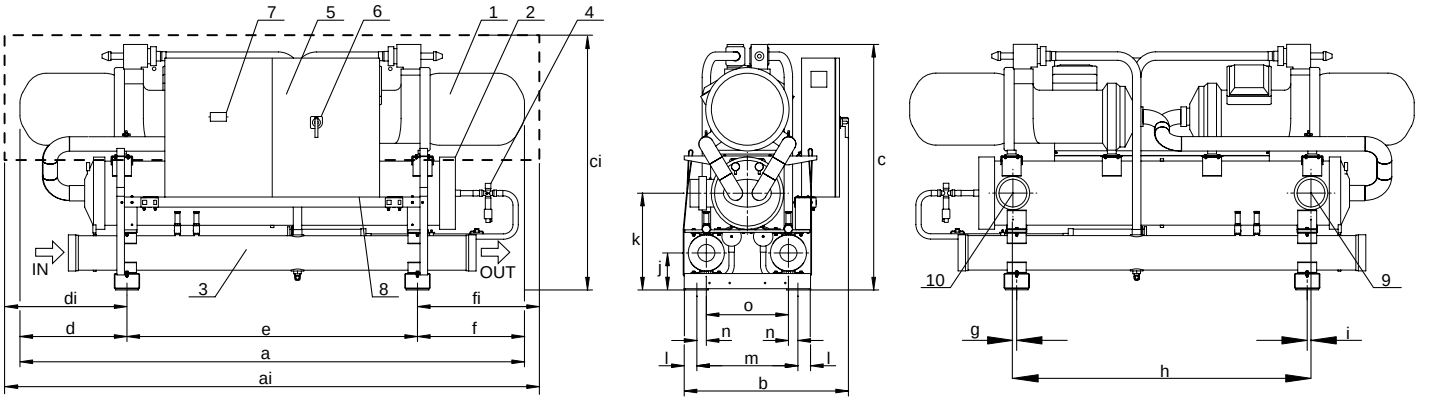


The distribution on the fixing points of the anti-vibration supports (KSA-KSAM) refers to a fully soundproofed machine with accessories.

MODEL		2400	2420	2440	2510	2560	2600	2630	2680	2710
Empty weight TCHVBZ	kg	2366	2393	2438	2923	3257	3280	3297	3364	3407
Charged weight TCHVBZ	kg	2569	2593	2640	3233	3569	3587	3606	3660	3702
Empty weight TCHVIZ	kg	2796	2823	2868	3353	3687	3710	3227	3794	3837
Charged weight TCHVIZ	kg	2999	3023	3070	3663	3999	4017	4036	4090	4132
Support										
A	kg	627	633	647	722	887	888	893	916	937
B	kg	645	654	662	918	896	903	905	916	911
C	kg	839	846	855	1085	1082	1089	1094	1098	1097
D	kg	888	890	906	838	1134	1137	1144	1160	1187
X	mm	2300	2300	2300	2300	2300	2300	2300	2300	2300
Y	mm	800	800	800	800	800	800	800	800	800

TCHVBZ-TCHVIZ 2750 ÷ 21260:
size and installation characteristics

TCHVBZ standard version - TCHVIZ soundproofed version: 2750 - 21260



MODEL		2750	2790	2880	2930	21030	21110	21180	21260
Dimensions									
a	mm	4120	4000	4000	4000	4000	4000	4000	4000
ai	mm	4350	4350	4350	4350	4350	4350	4350	4350
b	mm	1300	1300	1300	1300	1300	1300	1300	1300
c (*)	mm	1840	1840	1910	1910	1950	1950	1950	1950
ci (*)	mm	1990	1990	2090	2060	2060	2060	2060	2060
d	mm	973	853	853	853	853	853	853	853
di	mm	1028	1028	1028	1028	1028	1028	1028	1028
e	mm	2300	2300	2300	2300	2300	2300	2300	2300
f	mm	847	847	847	847	847	847	847	847
fi	mm	1022	1022	1022	1022	1022	1022	1022	1022
g	mm	56	56	30	30	30	30	30	30
h	mm	2412	2412	2360	2360	2360	2360	2360	2360
i	mm	56	56	30	30	30	30	30	30
j	mm	293	293	293	293	293	293	293	293
k	mm	728	728	766	766	766	766	766	766
l	mm	100	100	100	100	100	100	100	100
m	mm	800	800	800	800	800	800	800	800
n	mm	75	75	75	75	75	75	75	75
o	mm	650	650	650	650	650	650	650	650
Evaporator water inlet		DN150	DN150	DN200	DN200	DN200	DN200	DN200	DN200
Evaporator water outlet		DN150	DN150	DN200	DN200	DN200	DN200	DN200	DN200
Condenser water inlet	GF	5”	5”	5”	5”	5”	5”	5”	5”
Condenser water outlet	GF	5”	5”	5”	5”	5”	5”	5”	5”

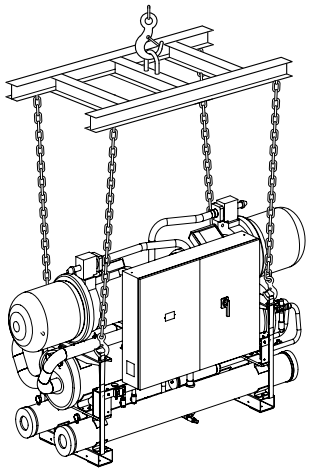
1. Compressor
2. Evaporator
3. Condenser
4. Electronic expansion valve
5. Electrical panel
6. Main switch
7. Control panel
8. Electrical connection input
9. Evaporator water inlet. Victaulic connections.
10. Evaporator water outlet. Victaulic connections.

---- TCHVIZ compressor soundproofing

N.B.:
the input for the electrical connection is located in the lower right part of the electrical panel.

(*) If the KSA anti-vibration accessory will be used, the dimension “**c**” should be expected to increase by about MAX 180 mm.
If the KSAM anti-vibration accessory will be used, the dimension “**c**” should be expected to increase by about MAX 160 mm.

For further information contact RHOSS sales support service.

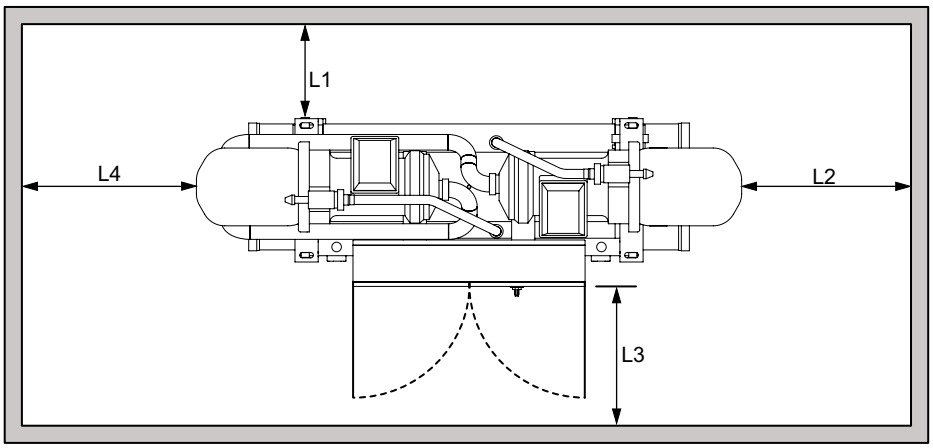


Lifting and handling

○ Lift the TCHVBZ-TCHVIZ unit using the brackets in the structure as shown in the figure.
○ Special care should be used when moving the unit in order to avoid damage to the structure and to the internal mechanical and electrical components.

TCHVBZ-TCHVIZ 2750 ÷ 21260: size and installation characteristics

Clearance distances



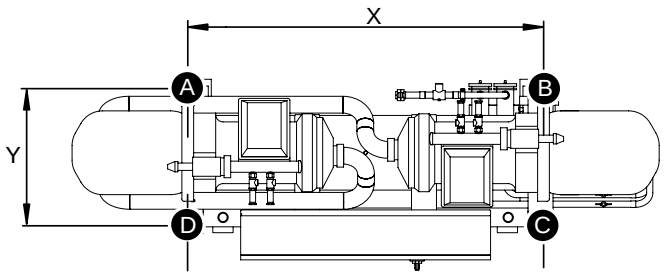
Installation

○ The unit should be placed in accordance with the minimum technical service distances advised in figure, to allow access to the water and electrical connections, as well as access for maintenance of the exchangers.
○ The unit may be equipped with anti-vibration supports, available on request (KSA-KSAM).

MODEL		2750	2790	2880	2930	21030	21110	21180	21260
Clearances									
L1	mm	600	600	600	600	600	600	600	600
L2	mm	800	800	800	800	800	800	800	800
L3	mm	1300	1300	1300	1300	1300	1300	1300	1300
L4 (*)	mm	3500	3500	3500	3500	3500	3500	3500	3500

(*) Maximum distance necessary to allow the exctraction of the shell and tube exchanger.

Plan view of the KSA-KSAM anti-vibration supports and weight distribution on fixing points for standard and soundproofed version.

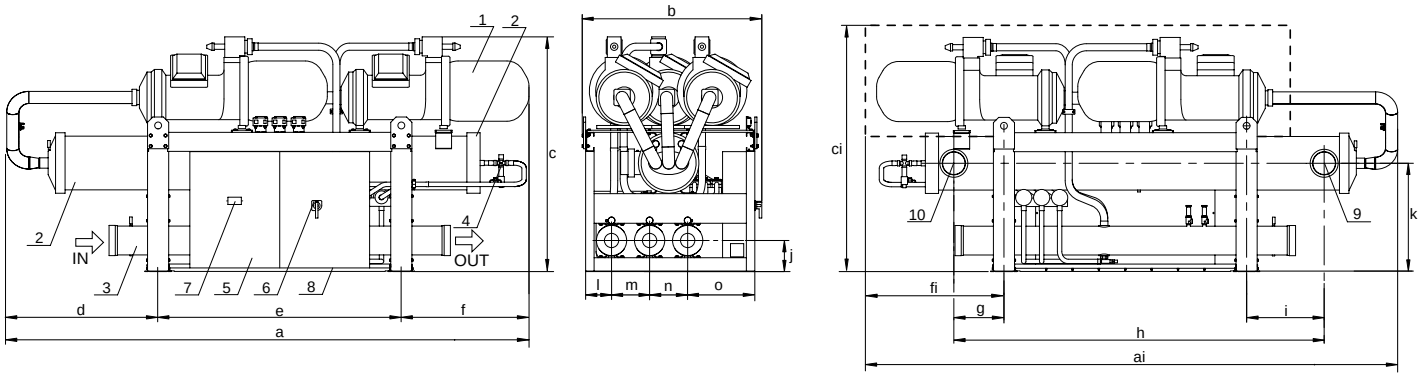


The distribution on the fixing points of the anti-vibration supports (KSA-KSAM) refers to a fully soundproofed machine with accessories.

MODEL		2750	2790	2880	2930	21030	21110	21180	21260
Empty weight TCHVBZ	kg	3880	4366	4596	4629	4739	4830	4878	4914
Charged weight TCHVBZ	kg	4183	4676	5086	5122	5223	5321	5360	5396
Empty weight TCHVIZ	kg	4310	4796	5026	5059	5169	5260	5308	5344
Charged weight TCHVIZ	kg	4613	5106	5516	5552	5653	5751	5790	5826
Support									
A	kg	897	1167	1263	1276	1291	1326	1329	1344
B	kg	1188	1176	1282	1285	1330	1335	1351	1353
C	kg	1383	1356	1465	1470	1507	1519	1536	1539
D	kg	1145	1407	1506	1521	1525	1571	1574	1590
X	mm	2300	2300	2300	2300	2300	2300	2300	2300
Y	mm	800	800	800	800	800	800	800	800

TCHVBZ-TCHVIZ 31300 ÷ 31630:
size and installation characteristics

TCHVBZ standard version - TCHVIZ soundproofed version: 31300 - 31630



MODEL		31300	31350	31390	31460	31520	31590	31630
Dimensions								
a	mm	4940	4940	4940	4940	4940	4940	4940
ai	mm	5020	5020	5020	5020	5020	5020	5020
b	mm	1700	1700	1700	1700	1700	1700	1700
c (*)	mm	2220	2220	2220	2220	2220	2220	2220
ci (*)	mm	2950	2950	2950	2950	2950	2950	2950
d	mm	1433	1433	1433	1433	1433	1433	1433
e	mm	2300	2300	2300	2300	2300	2300	2300
f	mm	1207	1207	1207	1207	1207	1207	1207
fi	mm	1290	1290	1290	1290	1290	1290	1290
g	mm	475	475	475	475	475	475	475
h	mm	3510	3510	3510	3510	3510	3510	3510
i	mm	735	735	735	735	735	735	735
j	mm	294	294	294	294	294	294	294
k	mm	1022	1022	1022	1022	1022	1022	1022
l	mm	245	245	245	245	245	245	245
m	mm	360	360	360	360	360	360	360
n	mm	360	360	360	360	360	360	360
o	mm	635	635	635	635	635	635	635
Evaporator water inlet		DN 200	DN 200	DN 200	DN 200	DN 200	DN 200	DN 200
Evaporator water outlet		DN 200	DN 200	DN 200	DN 200	DN 200	DN 200	DN 200
Condenser water inlet	GF	5”	5”	5”	5”	5”	5”	5”
Condenser water outlet	GF	5”	5”	5”	5”	5”	5”	5”

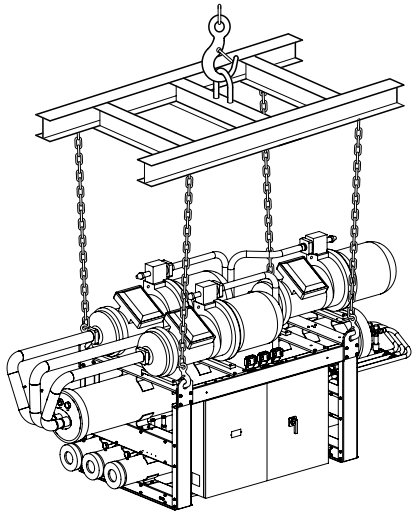
1. Compressor
2. Evaporator
3. Condenser
4. Electronic expansion valve
5. Electrical panel
6. Main switch
7. Control panel
8. Electrical connection input
9. Evaporator water inlet. Victaulic connections.
10. Evaporator water outlet. Victaulic connections.

---- TCHVIZ compressor soundproofing

N.B.:
the input for the electrical connection is located in the lower right part of the electrical panel.

(*) If the KSA anti-vibration accessory will be used, the dimension “**c**” should be expected to increase by about MAX 180 mm.
If the KSAM anti-vibration accessory will be used, the dimension “**c**” should be expected to increase by about MAX 160 mm.

For further information contact RHOSS sales support service.

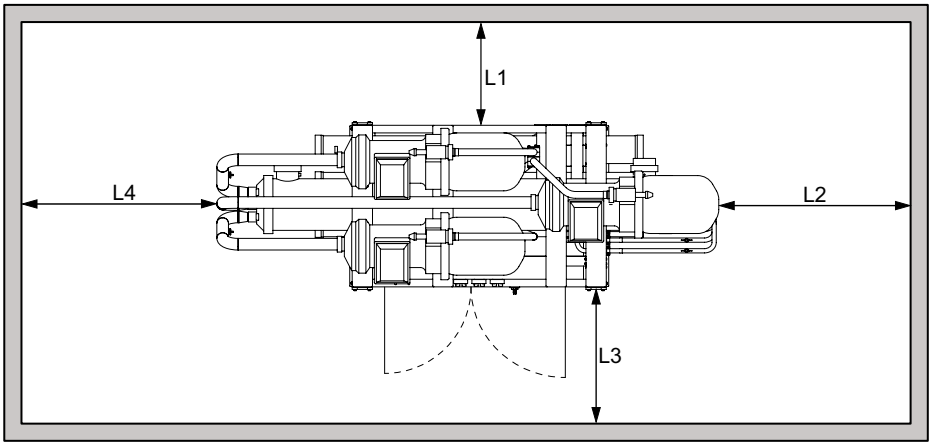


Lifting and handling

○ Lift the TCHVBZ-TCHVIZ unit using the brackets in the structure as shown in the figure.
○ Special care should be used when moving the unit in order to avoid damage to the structure and to the internal mechanical and electrical components.

TCHVBZ-TCHVIZ 31300 ÷ 31630: size and installation characteristics

Clearance distances



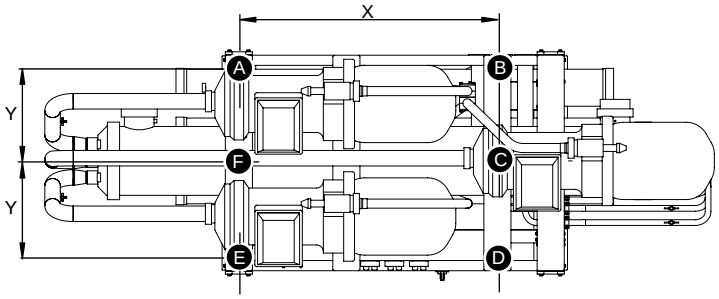
Installation

○ The unit should be placed in accordance with the minimum technical service distances advised in figure, to allow access to the water and electrical connections, as well as access for maintenance of the exchangers.
○ The unit may be equipped with anti-vibration supports, available on request (KSA-KSAM).

MODEL		31300	31350	31390	31460	31520	31590	31630
Clearances								
L1	mm	600	600	600	600	600	600	600
L2	mm	800	800	800	800	800	800	800
L3	mm	1300	1300	1300	1300	1300	1300	1300
L4 (*)	mm	4200	4200	4200	4200	4200	4200	4200

(*) Maximum distance necessary to allow the exctraction of the shell and tube exchanger.

Plan view of the KSA-KSAM anti-vibration supports and weight distribution on fixing points for standard and soundproofed version.

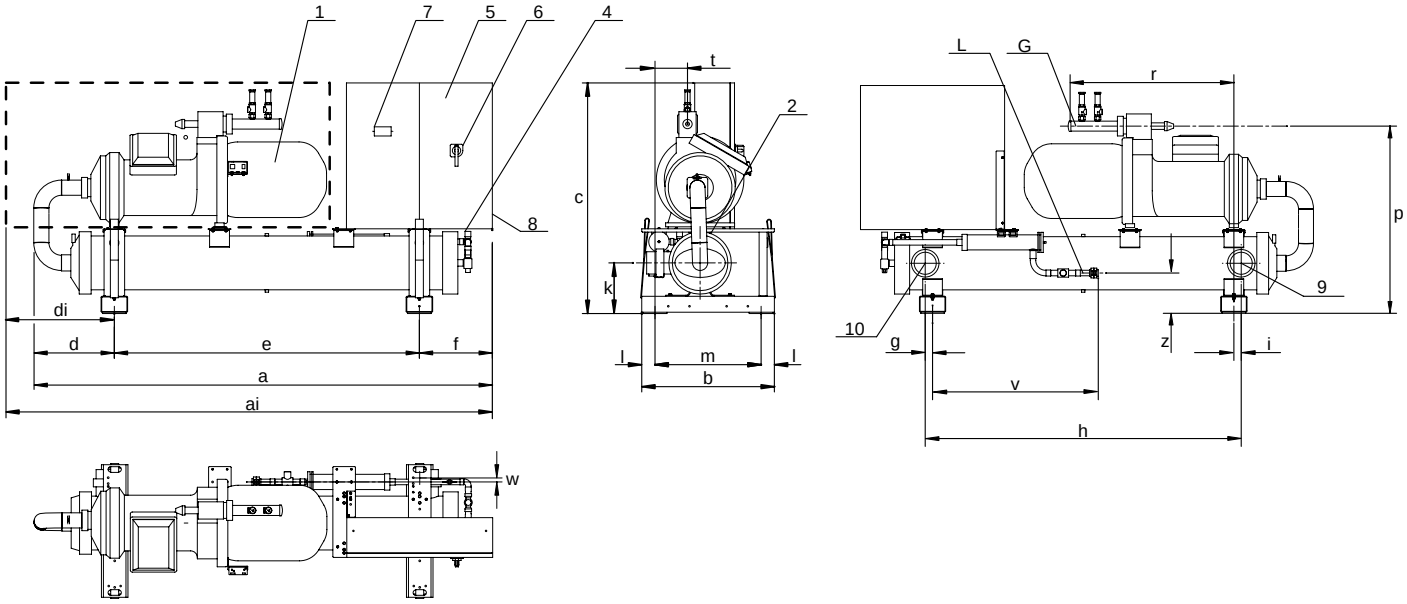


The distribution on the fixing points of the anti-vibration supports (KSA-KSAM) refers to a fully soundproofed machine with accessories.

MODEL		31300	31350	31390	31460	31520	31590	31630
Empty weight TCHVBZ	kg	6735	6767	6792	6831	6920	7008	7097
Charged weight TCHVBZ	kg	7448	7480	7505	7544	7633	7721	7825
Empty weight TCHVIZ	kg	7335	7367	7392	7431	7520	7608	6797
Charged weight TCHVIZ	kg	8048	8080	8105	8144	8233	8321	8425
Support								
A	kg	1237	1246	1246	1258	1262	1268	1329
B	kg	1506	1510	1517	1527	1530	1556	1609
C	kg	1503	1506	1514	1520	1533	1558	1597
D	kg	1448	1450	1459	1460	1484	1507	1529
E	kg	1140	1147	1148	1150	1179	1181	1203
F	kg	1216	1224	1224	1232	1248	1252	1296
X	mm	2300	2300	2300	2300	2300	2300	2300
Y	mm	650	650	650	650	650	650	650

TCEVBZ-TCEVIZ 1200 ÷ 1590:
size and installation characteristics

TCEVBZ standard version - TCEVIZ soundproofed version: 1200 ÷ 1590



MODEL		1200	1230	1280	1310	1350	1410	1460	1530	1590
Dimensions										
a	mm	3440	3440	3420	3440	3450	3450	3450	3460	3460
ai	mm	3500	3500	3480	3500	3580	3580	3580	3580	3580
b	mm	1000	1000	1000	1000	1000	1000	1000	1000	1000
c (*)	mm	1460	1460	1460	1460	1640	1640	1640	1740	1740
d	mm	624	624	624	624	600	600	600	610	610
di	mm	684	684	683	684	730	730	730	730	730
e	mm	2300	2300	2300	2300	2300	2300	2300	2300	2300
f	mm	516	516	497	516	550	550	550	550	550
g	mm	93	93	93	93	75	75	75	56	56
h	mm	2486	2486	2486	2486	2450	2450	2450	2412	2412
i	mm	93	93	93	93	75	75	75	56	56
j	mm	-	-	-	-	-	-	-	-	-
k	mm	293	293	293	293	330	330	330	382	382
l	mm	100	100	100	100	100	100	100	100	100
m	mm	800	800	800	800	800	800	800	800	800
n	mm	-	-	-	-	-	-	-	-	-
o	mm	-	-	-	-	-	-	-	-	-
p	mm	1019	1019	1131	1131	1205	1309	1309	1429	1429
q	mm	-	-	-	-	-	-	-	-	-
r	mm	1100	1100	1100	1100	1250	1250	1250	1250	1250
s	mm	-	-	-	-	-	-	-	-	-
t	mm	238	238	194	194	194	245	245	245	245
u	mm	-	-	-	-	-	-	-	-	-
v	mm	1265	1265	1284	1265	1265	1265	1265	1265	1265
w	mm	75	75	75	75	30	30	30	30	30
z	mm	147	147	147	155	204	204	204	308	308
za	mm	-	-	-	-	-	-	-	-	-
Evaporator water inlet		DN100	DN100	DN100	DN100	DN125	DN125	DN125	DN150	DN150
Evaporator water outlet		DN100	DN100	DN100	DN100	DN125	DN125	DN125	DN150	DN150
Liquid connections	mm	35	35	35	35	42	42	42	42	42
Gas connections	mm	54	54	67	67	67	67	67	76	76

1. Compressor
2. Evaporator
3. Condenser
4. Electronic expansion valve
5. Electrical panel
6. Main switch
7. Control panel
8. Electrical connection input
9. Evaporator water inlet. Victaulic connections.
10. Evaporator water outlet. Victaulic connections.

L = liquid line
G = gas line
- - - - TCEVIZ compressor soundproofing

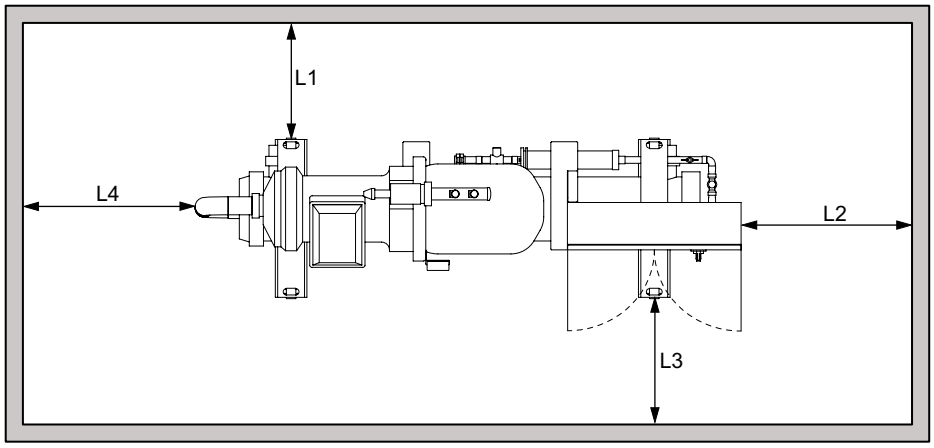
N.B.:
the input for the electrical connection is located in the lower right part of the electrical panel.

(*) If the KSA anti-vibration accessory will be used, the dimension "**c**" should be expected to increase by about MAX 180 mm.
If the KSAM anti-vibration accessory will be used, the dimension "**c**" should be expected to increase by about MAX 160 mm.

For further information contact RHOSS sales support service.

TCEVBZ-TCEVIZ 1200 ÷ 1590:
size and installation characteristics

Clearance distances



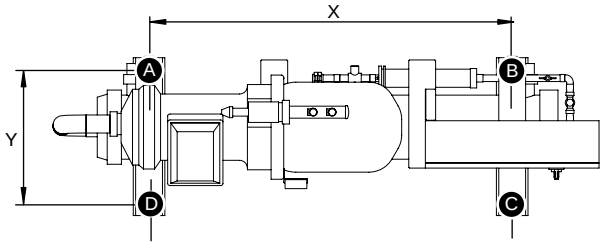
Installation

○ The unit should be placed in accordance with the minimum technical service distances advised in figure, to allow access to the water and electrical connections, as well as access for maintenance of the exchangers.
○ The unit may be equipped with anti-vibration supports, available on request (KSA-KSAM).

MODEL		1200	1230	1280	1310	1350	1410	1460	1530	1590
Clearances										
L1	mm	600	600	600	600	600	600	600	600	600
L2	mm	800	800	800	800	800	800	800	800	800
L3	mm	1000	1000	1000	1000	1000	1000	1000	1000	1000
L4 (*)	mm	3500	3500	3500	3500	3500	3500	3500	3500	3500

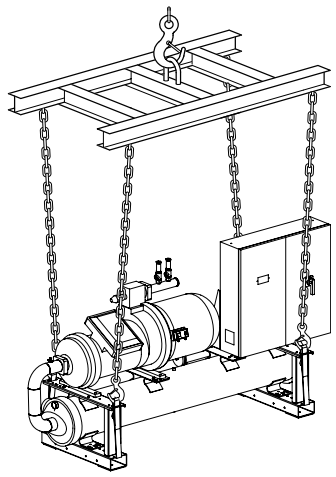
(*) Maximum distance necessary to allow the exctraction of the shell and tube exchanger.

Plan view of the KSA-KSAM anti-vibration supports and weight distribution on fixing points for standard and soundproofed version.



The distribution on the fixing points of the anti-vibration supports (KSA-KSAM) refers to a fully soundproofed machine with accessories.

MODEL		1200	1230	1280	1310	1350	1410	1460	1530	1590
Empty weight TCEVBZ	kg	1078	1093	1410	1414	1557	2032	2038	2252	2281
Charged weight TCEVBZ	kg	1201	1211	1524	1527	1727	2196	2197	2522	2544
Empty weight TCEVIZ	kg	1333	1348	1665	1669	1812	2287	2293	2507	2536
Charged weight TCEVIZ	kg	1456	1466	1779	1782	1982	2451	2452	2777	2799
Support										
A	kg	436	439	593	594	628	765	765	869	878
B	kg	352	354	411	141	487	597	598	679	683
C	kg	300	301	310	311	379	478	478	539	542
D	kg	368	372	465	463	488	611	611	690	696
X	mm	2300	2300	2300	2300	2300	2300	2300	2300	2300
Y	mm	800	800	800	800	800	800	800	800	800

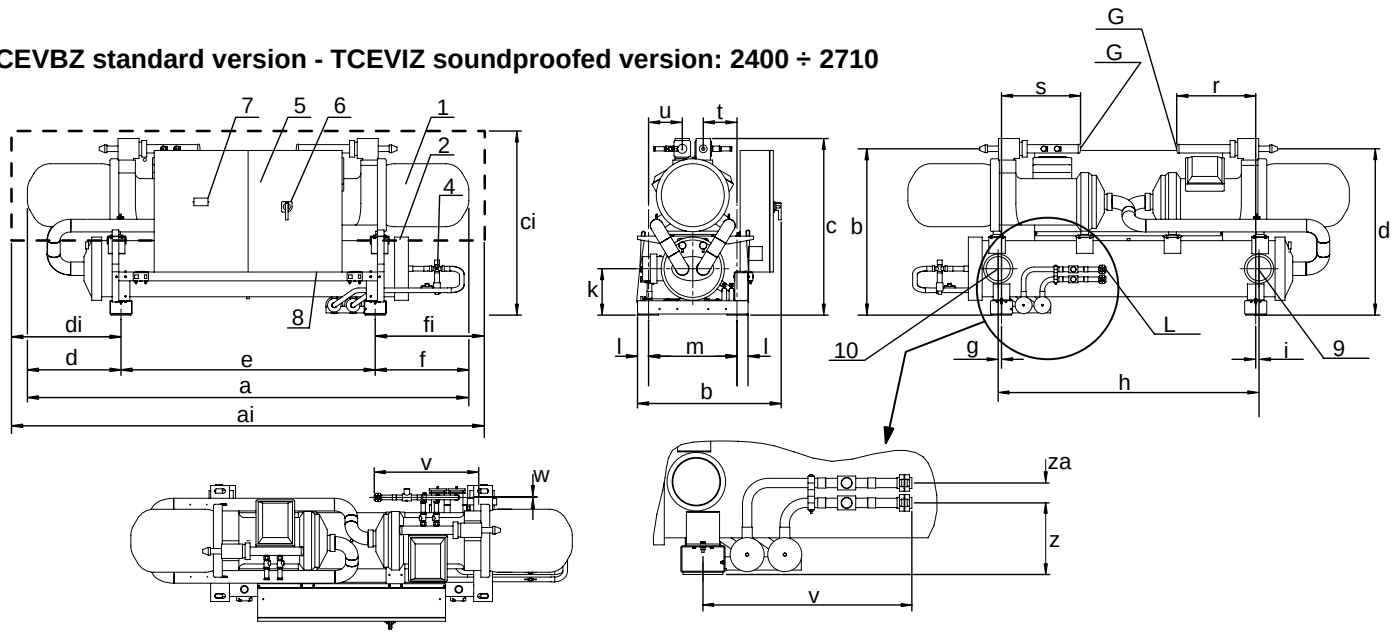


Lifting and handling

○ Lift the TCEVBZ-TCEVIZ unit using the brackets in the structure as shown in the figure.
○ Special care should be used when moving the unit in order to avoid damage to the structure and to the internal mechanical and electrical components.

TCEVBZ-TCEVIZ 2400 ÷ 2710:
size and installation characteristics

TCEVBZ standard version - TCEVIZ soundproofed version: 2400 ÷ 2710



MODEL		2400	2420	2440	2510	2560	2600	2630	2680	2710
Dimensions										
a	mm	3870	3870	3870	4070	4070	4070	4070	4070	4070
ai	mm	4350	4350	4350	4350	4350	4350	4350	4350	4350
b	mm	1300	1300	1300	1300	1300	1300	1300	1300	1300
c (*)	mm	1490	1490	1490	1610	1610	1610	1610	1610	1610
ci (*)	mm	1640	1640	1640	1760	1760	1760	1760	1760	1760
d	mm	872	872	872	972	972	972	972	972	972
di	mm	1028	1028	1028	1028	1028	1028	1028	1028	1028
e	mm	2300	2300	2300	2300	2300	2300	2300	2300	2300
f	mm	698	698	698	798	798	798	798	798	798
fi	mm	1022	1022	1022	1022	1022	1022	1022	1022	1022
g	mm	75	75	75	56	56	56	56	56	56
h	mm	2450	2450	2450	2412	2412	2412	2412	2412	2412
i	mm	75	75	75	56	56	56	56	56	56
j	mm	-	-	-	-	-	-	-	-	-
k	mm	330	330	330	382	382	382	382	382	382
l	mm	100	100	100	100	100	100	100	100	100
m	mm	800	800	800	800	800	800	800	800	800
n	mm	-	-	-	-	-	-	-	-	-
o	mm	-	-	-	-	-	-	-	-	-
p	mm	1093	1093	1093	1309	1309	1309	1309	1309	1309
q	mm	1093	1093	1093	1197	1309	1309	1309	1309	1309
r	mm	800	800	800	700	700	700	700	700	700
s	mm	800	800	800	700	700	700	700	700	700
t	mm	198	198	198	198	75	75	75	75	75
u	mm	198	198	198	75	75	75	75	75	75
v	mm	945	945	945	945	945	945	945	945	945
w	mm	80	80	80	80	80	10	10	10	10
z	mm	324	324	324	324	324	324	324	324	324
za	mm	90	90	90	90	90	90	90	90	90
Evaporator water inlet		DN125	DN125	DN125	DN150	DN150	DN150	DN150	DN150	DN150
Evaporator water outlet		DN125	DN125	DN125	DN150	DN150	DN150	DN150	DN150	DN150
Liquid connections	mm	35	35	35	35	35	42	42	42	42
Gas connections (compressor A)	mm	54	54	54	67	67	67	67	67	67
Gas connections (compressor B)	mm	54	54	54	54	67	67	67	67	67

1. Compressor
2. Evaporator
3. Condenser
4. Electronic expansion valve
5. Electrical panel
6. Main switch
7. Control panel
8. Electrical connection input
9. Evaporator water inlet. Victaulic connections.
10. Evaporator water outlet. Victaulic connections.

L = liquid line
G = gas line
- - - - TCEVIZ compressor soundproofing

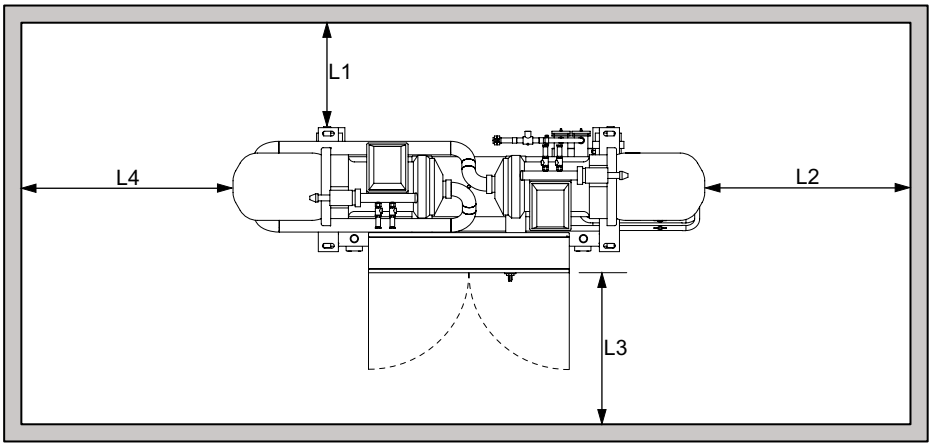
N.B.:
the input for the electrical connection is located in the lower right part of the electrical panel.

(*) If the KSA anti-vibration accessory will be used, the dimension "**c**" should be expected to increase by about MAX 180 mm.
If the KSAM anti-vibration accessory will be used, the dimension "**c**" should be expected to increase by about MAX 160 mm.

For further information contact RHOSS sales support service.

TCEVBZ-TCEVIZ 2400 ÷ 2710:
size and installation characteristics

Clearance distances



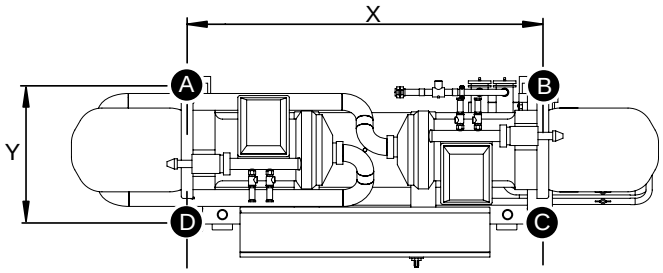
Installation

○ The unit should be placed in accordance with the minimum technical service distances advised in figure, to allow access to the water and electrical connections, as well as access for maintenance of the exchangers.
○ The unit may be equipped with anti-vibration supports, available on request (KSA-KSAM).

MODEL		2400	2420	2440	2510	2560	2600	2630	2680	2710
Clearances										
L1	mm	600	600	600	600	600	600	600	600	600
L2	mm	800	800	800	800	800	800	800	800	800
L3	mm	1300	1300	1300	1300	1300	1300	1300	1300	1300
L4 (*)	mm	3500	3500	3500	3500	3500	3500	3500	3500	3500

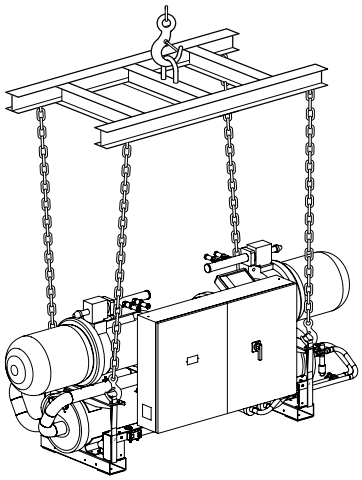
(*) Maximum distance necessary to allow the exctraction of the shell and tube exchanger.

Plan view of the KSA-KSAM anti-vibration supports and weight distribution on fixing points for standard and soundproofed version.



The distribution on the fixing points of the anti-vibration supports (KSA-KSAM) refers to a fully soundproofed machine with accessories.

MODEL		2400	2420	2440	2510	2560	2600	2630	2680	2710
Empty weight TCHVBZ	kg	1797	1811	1819	2311	2629	2637	2638	2698	2733
Charged weight TCHVBZ	kg	1691	1971	1979	2575	2892	2893	2894	2939	2974
Empty weight TCHVIZ	kg	2227	2241	2249	2741	3059	3067	3068	3128	3163
Charged weight TCHVIZ	kg	2391	2401	2409	3005	3322	3323	3324	3369	3404
Support										
A	kg	475	553	480	558	695	718	718	739	758
B	kg	501	564	506	762	717	739	739	748	743
C	kg	688	635	692	921	930	913	913	916	914
D	kg	727	649	731	764	980	953	954	966	989
X	mm	2300	2300	2300	2300	2300	2300	2300	2300	2300
Y	mm	800	800	800	800	800	800	800	800	800

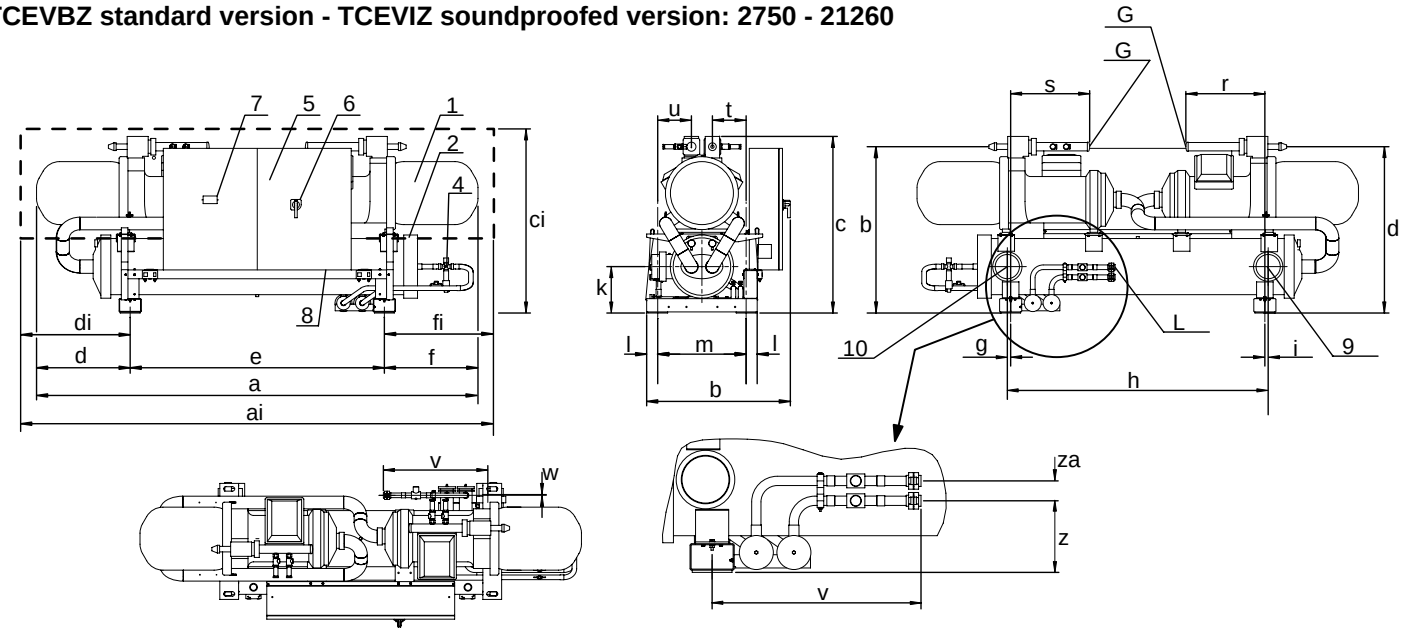


Lifting and handling

○ Lift the TCEVBZ-TCEVIZ unit using the brackets in the structure as shown in the figure.
○ Special care should be used when moving the unit in order to avoid damage to the structure and to the internal mechanical and electrical components.

TCEVBZ-TCEVIZ 2750 ÷ 21260:
size and installation characteristics

TCEVBZ standard version - TCEVIZ soundproofed version: 2750 - 21260



MODEL		2750	2790	2880	2930	21030	21110	21180	21260
Dimensions									
a	mm	4120	4000	4000	4000	4000	4000	4000	4000
ai	mm	4350	4350	4350	4350	4350	4350	4350	4350
b	mm	1300	1300	1300	1300	1300	1300	1300	1300
c (*)	mm	1490	1490	1560	1560	1600	1600	1600	1600
ci (*)	mm	1640	1640	1740	1720	1720	1720	1720	1720
d	mm	973	853	853	853	853	853	853	853
di	mm	1028	1028	1028	1028	1028	1028	1028	1028
e	mm	2300	2300	2300	2300	2300	2300	2300	2300
f	mm	847	847	847	847	847	847	847	847
fi	mm	1022	1022	1022	1022	1022	1022	1022	1022
g	mm	56	56	30	30	30	30	30	30
h	mm	2412	2412	2360	2360	2360	2360	2360	2360
i	mm	56	56	30	30	30	30	30	30
j	mm	-	-	-	-	-	-	-	-
k	mm	382	382	420	420	420	420	420	420
l	mm	100	100	100	100	100	100	100	100
m	mm	800	800	800	800	800	800	800	800
n	mm	-	-	-	-	-	-	-	-
o	mm	-	-	-	-	-	-	-	-
p	mm	1413	1413	1489	1489	1505	1505	1505	1505
q	mm	1309	1413	1489	1489	1489	1505	1505	1505
r	mm	320	700	700	700	700	700	700	700
s	mm	700	700	700	700	700	700	700	700
t	mm	75	305	305	305	305	305	305	305
u	mm	305	305	305	305	305	305	305	305
v	mm	945	945	945	945	945	945	945	945
w	mm	10	10	8	8	8	8	8	8
z	mm	324	324	324	324	324	324	324	324
za	mm	90	90	90	90	90	90	90	90
Evaporator water inlet		DN150	DN150	DN200	DN200	DN200	DN200	DN200	DN200
Evaporator water outlet		DN150	DN150	DN200	DN200	DN200	DN200	DN200	DN200
Liquid connections	mm	42	42	42	42	42	42	42	42
Gas connections (compressor A)	mm	67	67	67	67	76	76	76	76
Gas connections (compressor B)	mm	67	67	67	67	67	76	76	76

1. Compressor
2. Evaporator
3. Condenser
4. Electronic expansion valve
5. Electrical panel
6. Main switch
7. Control panel
8. Electrical connection input
9. Evaporator water inlet. Victaulic connections.
10. Evaporator water outlet. Victaulic connections.

L = liquid line
G = gas line
- - - - TCEVIZ compressor soundproofing

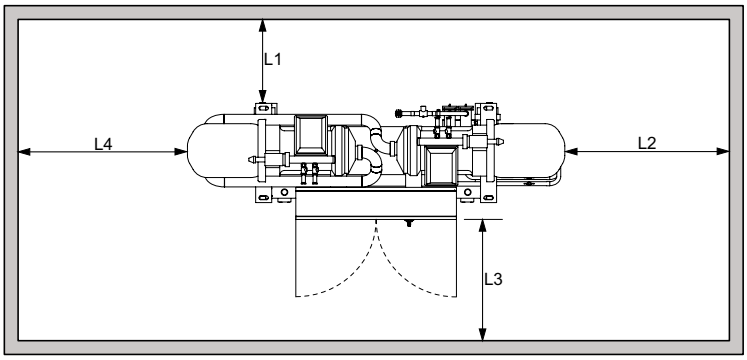
N.B.:
the input for the electrical connection is located in the lower right part of the electrical panel.

(*) If the KSA anti-vibration accessory will be used, the dimension "**c**" should be expected to increase by about MAX 180 mm.
If the KSAM anti-vibration accessory will be used, the dimension "**c**" should be expected to increase by about MAX 160 mm.

For further information contact RHOSS sales support service.

TCEVBZ-TCEVIZ 2750 ÷ 21260:
size and installation characteristics

Clearance distances



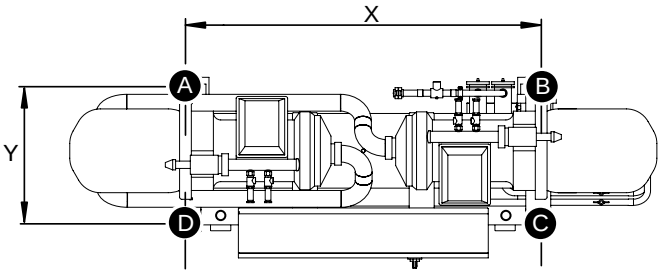
Installation

○ The unit should be placed in accordance with the minimum technical service distances advised in figure, to allow access to the water and electrical connections, as well as access for maintenance of the exchangers.
○ The unit may be equipped with anti-vibration supports, available on request (KSA-KSAM).

MODEL		2750	2790	2880	2930	21030	21110	21180	21260
Clearances									
L1	mm	600	600	600	600	600	600	600	600
L2	mm	800	800	800	800	800	800	800	800
L3	mm	1300	1300	1300	1300	1300	1300	1300	1300
L4 (*)	mm	3500	3500	3500	3500	3500	3500	3500	3500

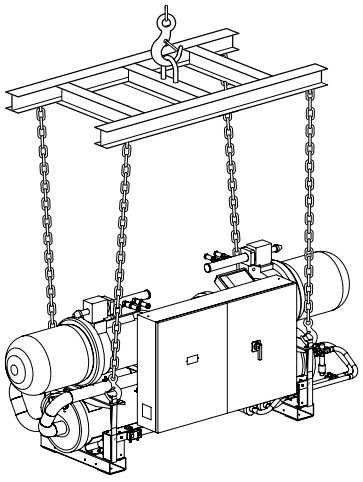
(*) Maximum distance necessary to allow the exctraction of the shell and tube exchanger.

Plan view of the KSA-KSAM anti-vibration supports and weight distribution on fixing points for standard and soundproofed version.



The distribution on the fixing points of the anti-vibration supports (KSA-KSAM) refers to a fully soundproofed machine with accessories.

MODEL		2750	2790	2880	2930	21030	21110	21180	21260
Empty weight TCEVBZ	kg	3176	3631	3844	3859	3936	3993	4024	4044
Charged weight TCEVBZ	kg	3417	3872	4262	4278	4337	4394	4415	4436
Empty weight TCEVIZ	kg	3606	4061	4272	4289	4366	4423	4454	4474
Charged weight TCEVIZ	kg	3847	4302	4692	4708	4767	4824	4845	4866
Support									
A	kg	708	971	1058	1067	1068	1097	1097	1108
B	kg	1003	988	1086	1086	1116	1115	1127	1126
C	kg	1189	1153	1259	1258	1287	1286	1297	1296
D	kg	947	1190	1289	1297	1296	1326	1324	1336
X	mm	2300	2300	2300	2300	2300	2300	2300	2300
Y	mm	800	800	800	800	800	800	800	800

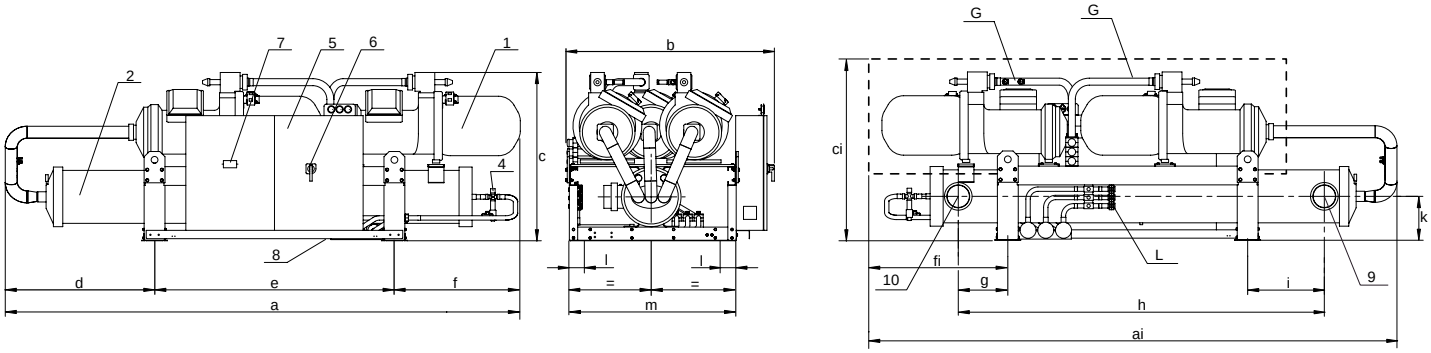


Lifting and handling

○ Lift the TCEVBZ-TCEVIZ unit using the brackets in the structure as shown in the figure.
○ Special care should be used when moving the unit in order to avoid damage to the structure and to the internal mechanical and electrical components.

TCEVBZ-TCEVIZ 31300 ÷ 31630:
size and installation characteristics

TCEVBZ standard version - TCEVIZ soundproofed version: 31300 - 31630



MODEL		31300	31350	31390	31460	31520	31590	31630	
Dimensions									
a	mm	4940	4940	4940	4940	4940	4940	4940	
ai	mm	5020	5020	5020	5020	5020	5020	5020	
b	mm	2000	2000	2000	2000	2000	2000	2000	
c (*)	mm	1620	1620	1620	1620	1620	1620	1620	
ci (*)	mm	2340	2340	2340	2340	2340	2340	2340	
d	mm	1433	1433	1433	1433	1433	1433	1433	
e	mm	2300	2300	2300	2300	2300	2300	2300	
f	mm	1207	1207	1207	1207	1207	1207	1207	
fi	mm	1290	1290	1290	1290	1290	1290	1290	
g	mm	475	475	475	475	475	475	475	
h	mm	3510	3510	3510	3510	3510	3510	3510	
i	mm	735	735	735	735	735	735	735	
j	mm	-	-	-	-	-	-	-	
k	mm	421	421	421	421	421	421	421	
l	mm	150	150	150	150	150	150	150	
m	mm	1300	1300	1300	1300	1300	1300	1300	
n	mm	-	-	-	-	-	-	-	
o	mm	-	-	-	-	-	-	-	
Evaporator water inlet		DN 200	DN 200	DN 200	DN 200	DN 200	DN 200	DN 200	
Evaporator water outlet		DN 200	DN 200	DN 200	DN 200	DN 200	DN 200	DN 200	
Liquid connections	mm	42	42	42	42	42	42	42	
Gas connections	mm	67	67	67	67	67	67	67	

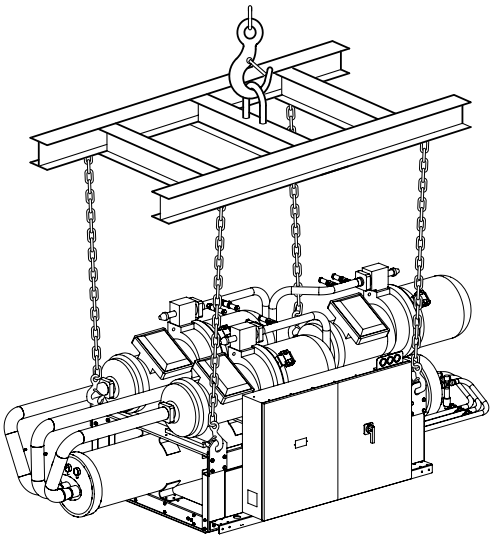
1. Compressor
2. Evaporator
3. Condenser
4. Electronic expansion valve
5. Electrical panel
6. Main switch
7. Control panel
8. Electrical connection input
9. Evaporator water inlet. Victaulic connections.
10. Evaporator water outlet. Victaulic connections.

L = liquid line
G = gas line
---- TCHVIZ compressor soundproofing

N.B.:
the input for the electrical connection is located in the lower right part of the electrical panel.

(*) If the KSA anti-vibration accessory will be used, the dimension "**c**" should be expected to increase by about MAX 180 mm.
If the KSAM anti-vibration accessory will be used, the dimension "**c**" should be expected to increase by about MAX 160 mm.

For further information contact RHOSS sales support service.

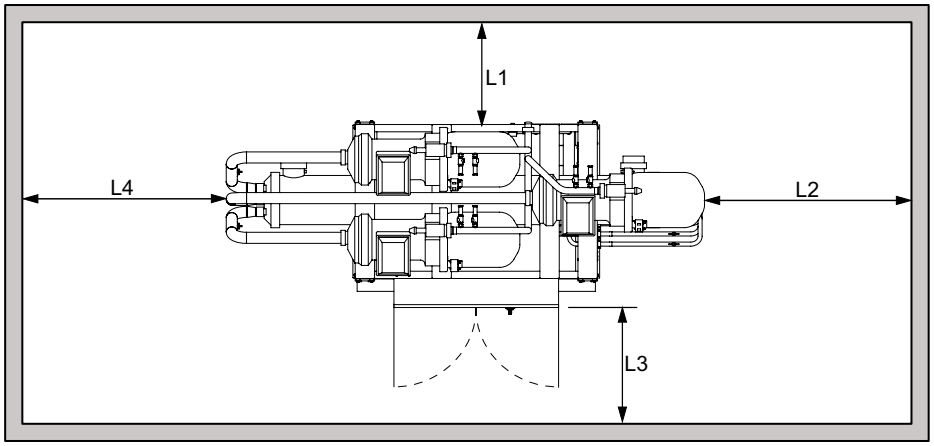


Lifting and handling

○ Lift the TCEVBZ-TCEVIZ unit using the brackets in the structure as shown in the figure.
○ Special care should be used when moving the unit in order to avoid damage to the structure and to the internal mechanical and electrical components.

TCEVBZ-TCEVIZ 31300 ÷ 31630: size and installation characteristics

Clearance distances



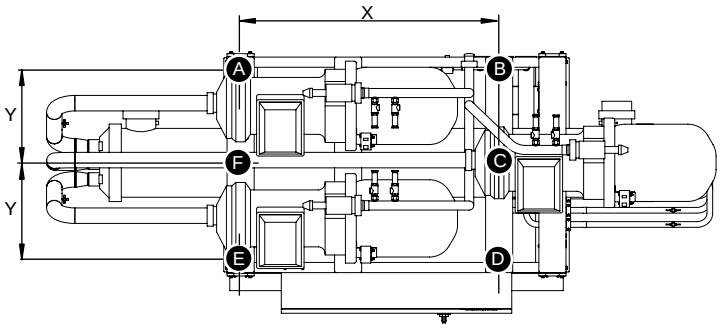
Installation

○ The unit should be placed in accordance with the minimum technical service distances advised in figure, to allow access to the water and electrical connections, as well as access for maintenance of the exchangers.
○ The unit may be equipped with anti-vibration supports, available on request (KSA-KSAM).

MODEL		31300	31350	31390	31460	31520	31590	31630
Clearances								
L1	mm	600	600	600	600	600	600	600
L2	mm	800	800	800	800	800	800	800
L3	mm	1300	1300	1300	1300	1300	1300	1300
L4 (*)	mm	4200	4200	4200	4200	4200	4200	4200

(*) Maximum distance necessary to allow the exctraction of the shell and tube exchanger.

Plan view of the KSA-KSAM anti-vibration supports and weight distribution on fixing points for standard and soundproofed version.



The distribution on the fixing points of the anti-vibration supports (KSA-KSAM) refers to a fully soundproofed machine with accessories.

MODEL		31300	31350	31390	31460	31520	31590	31630
Empty weight TCHVBZ	kg	5555	5570	5585	5600	5678	5710	5790
Charged weight TCHVBZ	kg	6283	6298	6313	6328	6406	6438	6518
Empty weight TCHVIZ	kg	6155	6170	6185	6200	6278	6310	6390
Charged weight TCHVIZ	kg	6883	6898	6913	6928	7006	7038	7118
Support								
A	kg	925	926	924	938	944	930	968
B	kg	1240	1239	1245	1258	1257	1268	1295
C	kg	1308	1310	1316	1319	1328	1345	1355
D	kg	1329	1332	1339	1332	1350	1372	1366
E	kg	1064	1070	1069	1060	1088	1090	1085
F	kg	1020	1024	1022	1024	1042	1036	1052
X	mm	2300	2300	2300	2300	2300	2300	2300
Y	mm	650	650	650	650	650	650	650

TCEVBZ-TCEVIZ: refrigerant connection to a remote condenser

ATTENTION!

○ The TCEVBZ-TCEVIZ condenserless units must be connected to remote condensers. Their installation and the realization of the refrigerant circuit is the responsibility of the installer and must be carried out properly, in compliance with current laws (it is advisable to refer to standard EN 378-2 and subsequent modifications).
○ Poor execution of the refrigerant circuit may substantially reduce the machine's performance and compromise its life cycle.
○ RHOSS S.P.A. will not be held liable for any malfunctions of the machine due to problems concerning the realization of the condensation refrigerant circuit by the customer.

Some suggestions for proper refrigerant installation

○ The refrigerant lines for connection with the condensing section must be in copper piping for refrigeration systems, type DHP UNI 12735-1-2, electrolytic, mild copper, degreased, and de-oxidised. Make sure there are no impurities or moisture inside the pipes as this is extremely harmful for the refrigerant circuit.
○ It is advisable to insulate the liquid line in cases where the external temperature (because of solar radiation) is higher than the temperature of the liquid itself.
○ It is advisable to isolate the gas delivery line to avoid burns from accidental contact, or to avoid heating indoor areas.
○ Properly size the refrigeration lines so as to obtain limited leaks and a speed of the refrigerant liquid that guarantees carrying of the oil.
○ It is advisable to install, between the evaporator and the remote condenser, an anti-vibration device and a silencer so as to reduce the transmission of noise and vibrations along the ducting.
○ Horizontal stretches of pipe should end up sloping gently towards the low point (in the direction of gas flow), to favour the flow of oil. The slope should be between 0.5% and 1%.
○ In cases where the condenser is located above the compressor, the delivery line should be formed near the compressor into a siphon which goes down to floor level. The aim is to reduce the risk of condensed liquid refrigerant in the compressor line returning when the unit is out of service.
○ Siphons (i.e. traps to collect the oil) must also be inserted in the vertical stretches of the delivery line every 5 metres.
○ It is advisable to insert, after previous evaluation, a non-return valve on the gas line near the condenserless unit.
○ It is advisable to install, down the line from the remote condenser and near the condenserless unit, a liquid recipient of a suitable capacity (compliant with current standards) in the case of long length of the line (roughly over 20 m).
○ The maximum equivalent length of the refrigeration line is 70 m. For greater lengths contact RHOSS technical service.
○ The refrigerant connections are shown in relative tables.

Refrigerant charge

○ The TCEVBZ-TCEVIZ units are pre-charged with R134a refrigerant to protect the refrigerant circuit.
The correct charge must be determined by the installer based on the length of the refrigerant lines which have been realized.
○ **The unit has a minimum pre-charge of refrigerant. Connecting the refrigerant pipes with the remote condenser it is essential to make the vacuum in the whole circuit and then to charge with refrigerant.**

ATTENTION!

Adding refrigerant to the system because of the length of the pipes may cause an insufficient oil charge in the refrigerant circuit. It is therefore very important to check the oil level in the compressor carefully, and top it up if necessary (for the type of oil to use, always refer to the instructions on the plate on the compressor).

Equivalent diameter and length of the refrigerant pipes

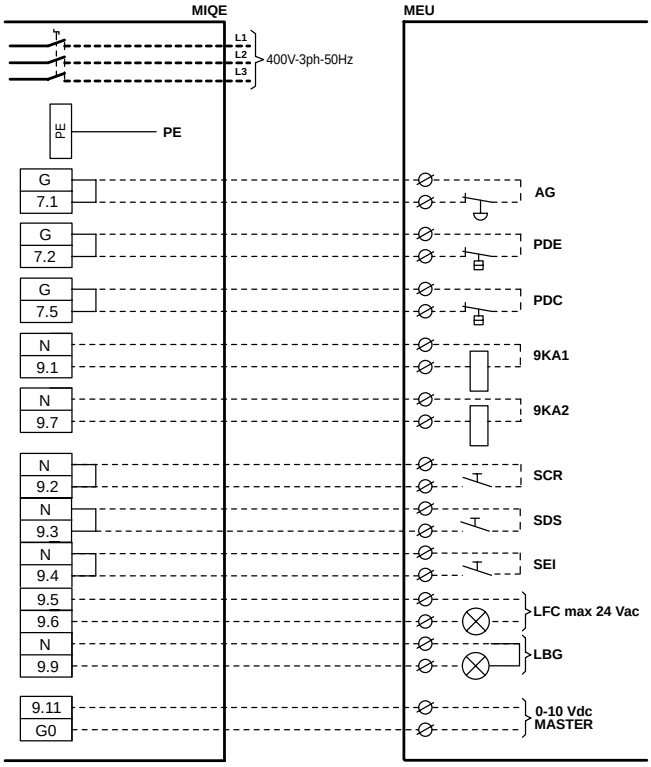
Distance m			10		20		30		40		50		60		70	
Line			Delivery	Liquid	Delivery	Liquid	Delivery	Liquid	Delivery	Liquid	Delivery	Liquid	Delivery	Liquid	Delivery	Liquid
1200	∅		1 3/8	1 1/8	1 3/8	1 1/8	1 5/8	1 3/8	1 5/8	1 3/8	1 5/8	1 3/8	2 1/8	1 3/8	2 1/8	1 3/8
1230	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8
1280	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8
1310	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8
1350	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8
1410	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8
1460	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8
1530	∅		2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	3 1/8	2 1/8	3 1/8	2 1/8
1590	∅		2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	3 1/8	2 1/8	3 1/8	2 1/8
2400	∅		1 3/8	1 1/8	1 3/8	1 1/8	1 5/8	1 3/8	1 5/8	1 3/8	1 5/8	1 3/8	2 1/8	1 3/8	2 1/8	1 3/8
2420	∅		1 3/8	1 1/8	1 3/8	1 1/8	1 5/8	1 3/8	1 5/8	1 3/8	1 5/8	1 3/8	2 1/8	1 3/8	2 1/8	1 3/8
	∅	(*)	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8
2440	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8
2510	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8
	∅	(*)	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8
2560	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8
2600	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8
	∅	(*)	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8
2630	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8
2680	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8
	∅	(*)	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8
2710	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8
2750	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8
	∅	(*)	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8
2790	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8
2880	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8
	∅	(*)	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8
2930	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8
21030	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8
	∅	(*)	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	3 1/8	2 1/8	3 1/8	2 1/8
21110	∅		2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	3 1/8	2 1/8	3 1/8	2 1/8
21180	∅		2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	3 1/8	2 1/8	3 1/8	2 1/8
	∅	(*)	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	3 1/8	2 1/8	3 1/8	2 1/8
21260	∅		2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	3 1/8	2 1/8	3 1/8	2 1/8
31300	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8
31350	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8
	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8
	∅	(*)	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8
31390	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8
	∅	(*)	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8
	∅	(*)	2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8
31460	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8
31520	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8
	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8
	∅	(*)	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	3 1/8	2 1/8	3 1/8	2 1/8
31590	∅		2 1/8	1 5/8	2 1/8	1 5/8	2 1/8	1 5/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8
	∅	(*)	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	3 1/8	2 1/8	3 1/8	2 1/8
	∅	(*)	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	3 1/8	2 1/8	3 1/8	2 1/8
31630	∅		2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	2 5/8	2 1/8	3 1/8	2 1/8	3 1/8	2 1/8

The table shows the suggested sizes (inches) of the pipes for connection with the remote condenser.

(*) Diameter of the circuit of the bigger compressor (see data plate on the compressors).

TCHVBZ-TCHVIZ - TCEVBZ-TCEVIZ: 1200 ÷ 1590
electrical connections

TCHVBZ-TCHVIZ - TCEVBZ-TCEVIZ 1200 ÷ 1590



ATTENTION

The diagrams only show the electrical connections to be handled by the installer.

Electrical connections

○ The access to the electrical board (IP20) is possible through the front panel of the unit.
○ The connections must be carried out in accordance with current standards and with the electrical wiring diagram included.
○ Earthing is compulsory by law.
○ Always install the unit in a protected area, and near the machine place an automatic main switch, or fuses, of suitable capacity and interruption power.

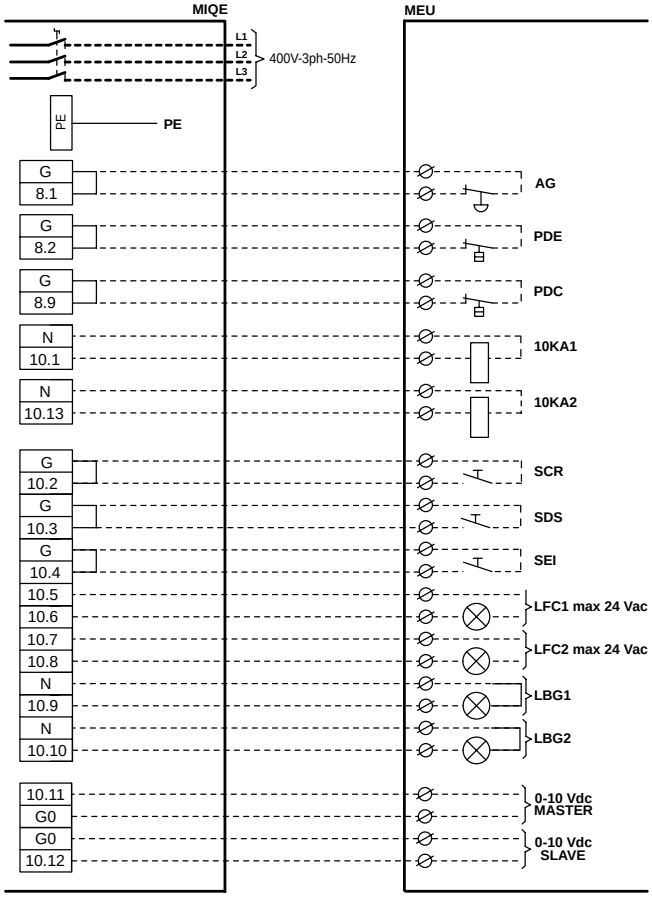
MIQE = Internal electrical panel terminal board
MEU = External user terminal board
AG = General alarm
KA1 = Evaporator pump contactor control (Live contact)
KA2 = Condenser pump contactor control (only TCHVBZ-TCHVIZ)(Live contact)
LBG = General shutdown indicator light (Max power supply 230 Vac)
LFC = Compressor operation indicator light

L = Line
PDC = Condenser differential pressure switch
PDE = Evaporator differential pressure switch
PE = Earth connection
SCR = Remote control selector (control with clean contact)
SDS = Dual set point selector (Control with clean contact)
SEI = Summer/winter selector (clean contact)
---- = Connection by installer

MODEL		1200	1230	1280	1310	1350	1410	1460	1530	1590
Electrical data										
Line sections	mm^2	50	70	95	95	120	150	185	185	240
PE section	mm^2	25	35	50	50	70	70	95	95	120
Remote control section	mm^2	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5
Maximum absorbed current	A	115	131	164	183	208	234	271	309	350
Starting current	A	350	423	520	612	665	436	465	586	650

TCHVBZ-TCHVIZ - TCEVBZ-TCEVIZ: 2400 ÷ 21260
electrical connections

TCHVBZ-TCHVIZ - TCEVBZ-TCEVIZ 2400 ÷ 21260



ATTENTION

The diagrams only show the electrical connections to be handled by the installer.

Electrical connections

○ The access to the electrical board (IP20) is possible through the front panel of the unit.
○ The connections must be carried out in accordance with current standards and with the electrical wiring diagram included.
○ Earthing is compulsory by law.
○ Always install the unit in a protected area, and near the machine place an automatic main switch, or fuses, of suitable capacity and interruption power.

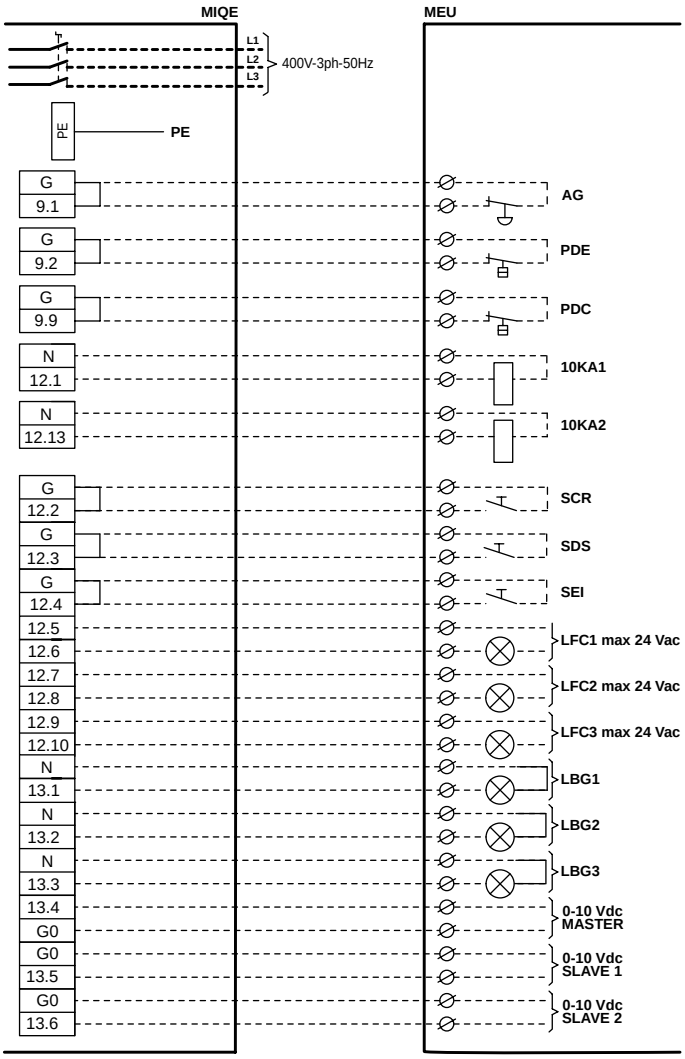
MIQE = Internal electrical panel terminal board
MEU = External user terminal board
AG = General alarm
KA1 = Evaporator pump contactor control (Live contact)
KA2 = Condenser pump contactor control (only TCHVBZ-TCHVIZ)(Live contact)
LBG = General shutdown indicator light (Max power supply 230 Vac)
LBG1-2 = General shutdown indicator light 1-2 (Max power supply 230 Vac)
LFC = Compressor operation indicator light (Max power supply 230 Vac)
LFC1-2 = Compressor 1-2 operation indicator light
L = Line
PDC = Condenser differential pressure switch
PDE = Evaporator differential pressure switch
PE = Earth connection
SCR = Remote control selector (control with clean contact)
SDS = Dual set point selector (Control with clean contact)
SEI = Summer/winter selector (clean contact)
---- = Connection by installer

MODEL		2400	2420	2440	2510	2560	2600	2630	2680	2710
Electrical data										
Line sections	mm²	120	120	185	185	185	185	185	240	500
PE section	mm²	70	70	95	95	95	95	95	120	240
Remote control section	mm²	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5
Maximum absorbed current	A	230	254	263	296	329	348	366	391	416
Starting current	A	465	538	554	651	684	776	795	848	873

MODEL		2750	2790	2880	2930	21030	21110	21180	21260
Electrical data									
Line sections	mm²	300	300	400	400	400	400	400	500
PE section	mm²	150	150	185	185	185	185	185	240
Remote control section	mm²	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5
Maximum absorbed current	A	442	468	505	542	580	618	659	700
Starting current	A	644	670	699	736	857	895	959	1000

TCHVBZ-TCHVIZ - TCEVBZ-TCEVIZ: 31300 ÷ 31630
electrical connections

TCHVBZ-TCHVIZ - TCEVBZ-TCEVIZ 31300 ÷ 31630



ATTENTION

The diagrams only show the electrical connections to be handled by the installer.

Electrical connections

○ The access to the electrical board (IP20) is possible through the front panel of the unit.
○ The connections must be carried out in accordance with current standards and with the electrical wiring diagram included.
○ Earthing is compulsory by law.
○ Always install the unit in a protected area, and near the machine place an automatic main switch, or fuses, of suitable capacity and interruption power.

MIQE = Internal electrical panel terminal board
MEU = External user terminal board
AG = General alarm
KA1 = Evaporator pump contactor control (Live contact)
KA2 = Condenser pump contactor control (only TCHVBZ-TCHVIZ)(Live contact)
LBG = General shutdown indicator light (Max power supply 230 Vac)
LBG1-2-3 = General shutdown indicator light 1-2-3 (Max power supply 230 Vac)
LFC = Compressor operation indicator light
LFC1-2-3 =Compressor 1-2-3 operation indicator light
L = Line
PDC = Condenser differential pressure switch
PDE = Evaporator differential pressure switch
PE = Earth connection
SCR = Remote control selector (control with clean contact)
SDS = Dual set point selector (Control with clean contact)
SEI = Summer/winter selector (clean contact)
---- = Connection by installer

MODEL		31300	31350	31390	31460	31520	31590	31630
Electrical data								
Line sections	mm²	630	630	630	630	800	800	800
PE section	mm²	300	300	300	300	400	400	400
Remote control section	mm²	1,5	1,5	1,5	1,5	1,5	1,5	1,5
Maximum absorbed current	A	702	739	776	813	851	889	1050
Starting current	A	904	933	970	1007	1128	1166	1204

TCHVZ 1200÷31630
TCEVZ 1200÷31630
Z-Flow range

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