

Water Cooled Chillers & Heat Pumps

Z-Flow HE

TCHVZ 1201-31631



ÜNTES®
52
years

Z-Flow HE

TCHVZ 1201-31631



Cooling capacity: 203,3-1.627,6 kW

- 33 sizes up to more than 1,600 kW
- Wide range of standard equipment
- Integrated MASTER/SLAVE control



TCHVBZ 31637 HE



Water cooled packaged water chillers. Range with semi-hermetic screw and R134a refrigerant gas compressors.

Construction features

- Compressor: high energy efficiency semi-hermetic screw compressor, with star-delta or part winding limited start up (depending on models) and complete with integral protection, casing heater and refrigerant gas outlet piping shut-off valve.
- Electronic expansion valve: as standard on all models.
- Water side heat exchanger (evaporator): dry expansion shell and tube exchanger with counterflow heat exchange, complete with closed cell polyurethane foam rubber insulation, water flow differential pressure switch and Victaulic fittings.
- Water side heat exchanger (condenser): tube and shell complete with safety valve, and service valve on the high-pressure refrigerant gas circuit.
- Control: microprocessor electronic control.
- Structure: made of galvanised and painted steel plate with polyester powder coating.
- The unit is also complete with:
 - clock board;
 - display of cooling circuit high/low pressure;
 - Master/Slave control up to 4 units in parallel;
 - 0-10V analogue signal for condensing control from external device.

Versions

- B - Standard version (TCHVBZ).
- I - Soundproofed version with soundproofing compressor lining (TCHVIZ).

Models

- TCHVBZ: unit designed for cooling only.
- TCHVIZ: soundproofed unit designed for cooling only.

Factory fitted accessories

- VPF control.
- Desuperheater.
- 100% heat recovery unit
- Thermostat with display for heat recovery unit/desuperheater.
- Set up for heat pump operation.
- Condenser Victaulic fittings.
- Power factor correction capacitors ($\cos\phi > 0.94$).
- Circuit breaker switches.
- Forced limit of power consumption.
- Soft starter.
- Inlet compressor shut-off valves
- Linear capacity control compressors (50-100 % for each compressor).
- Evaporator antifreeze heater.
- Digital input for double set-point
- Compressor oil level sensor.
- Control of min/max power supply voltage.
- 4-20 mA analogue signal for shifting set-point.
- Interfaces for serial communication with other devices.
- Spring anti-vibration mounts.
- Rubber anti-vibration mounts.

Separately supplied accessories

- Remote keypad with display.
- Untes supervisors for unit monitoring and remote management.
- Untes sequencer for integrated management of multiple chillers.

TCHVBZ-TCHVIZ MODEL		1201	1231	1281	1311	1351	1421	1481	1531	1611
❶ Nominal cooling capacity	kW	203,3	230,2	282,1	308,0	352,8	416,4	478,2	533,0	605,9
❶ E.E.R.		4,95	4,96	4,97	4,96	4,95	4,93	4,94	4,94	4,95
❶ Absorbed power	kW	41,07	46,41	56,76	62,10	71,27	84,46	96,80	107,89	122,40
❷ Sound power	dB(A)	94	94	97	97	97	97	97	98	98
❷ Sound power	dB(A)	92	92	95	95	95	95	95	96	96
Screw/step compressor	no.	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3
Circuits	no.	1	1	1	1	1	1	1	1	1
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
TCHVBZ DIMENSIONS AND WEIGHTS		1201	1231	1281	1311	1351	1421	1481	1531	1611
L - Width	mm	3.460	3.460	3.460	3.460	3.460	3.460	3.460	3.460	3.460
H - Height	mm	1.580	1.580	1.580	1.580	1.660	1.660	1.660	1.760	1.760
P - Depth	mm	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
❸ TCHVBZ Weight	kg	1.343	1.369	1.715	1.733	1.885	2.374	2.413	2.652	2.697
❸ TCHVIZ Weight	kg	1.598	1.624	1.970	1.988	2.140	2.629	2.668	2.917	2.952

Data at the following conditions:

- ❶ Chilled water: 7/12°C. - Condenser inlet water: 30/35°C.
 - ❷ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.
 - ❸ Empty weight.
 - TCHVIZ soundproofed version.
- Performance according to EN 14511:2013.

SEASONAL ENERGY PERFORMANCE		1201	1231	1281	1311	1351	1421	1481	1531	1611
TCHVBZ-TCHVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE										
❶ P _{designc} (EN 14825)	kW	203,3	230,2	282,1	308,0	352,8	416,4	478,2	533,0	605,9
❶ SEER (EN 14825)		5,83	5,71	5,75	5,69	5,85	6,05	5,92	5,89	5,90
❷ $\eta_{s,c}$	%	225	220	222	220	226	234	229	227	228

- ❶ Low temperature application (7°C)
- ❷ Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

TCHVBZ-TCHVIZ MODEL		2411	2431	2461	2511	2561	2601	2631	2681	2711
❶ Nominal cooling capacity	kW	405,5	433,6	460,4	512,7	563,3	596,9	626,6	674,8	712,5
❶ E.E.R.		4,95	4,96	4,95	4,97	4,97	4,96	4,95	4,98	4,94
❶ Absorbed power	kW	81,92	87,42	93,01	103,16	113,34	120,34	126,59	135,50	144,23
❷ Sound power	dB(A)	97	97	97	99	99	99	99	99	99
❷ Sound power	dB(A)	95	95	95	97	97	97	97	97	97
Screw/step compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Circuits	no.	2	2	2	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
TCHVBZ DIMENSIONS AND WEIGHTS		2411	2431	2461	2511	2561	2601	2631	2681	2711
L - Width	mm	3.780	3.860	3.860	4.040	4.040	4.040	4.040	4.040	4.040
H - Height	mm	1.770	1.770	1.770	1.960	1.960	1.960	1.960	1.960	1.960
P - Depth	mm	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300
❸ TCHVBZ Weight	kg	2.386	2.413	2.458	2.953	3.297	3.320	3.337	3.404	3.447
❸ TCHVIZ Weight	kg	2.816	2.843	2.888	3.383	3.727	3.750	3.767	3.834	3.877

Data at the following conditions:

- ❶ Chilled water: 7/12°C. - Condenser inlet water: 30/35°C.
 - ❷ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.
 - ❸ Empty weight.
 - TCHVIZ soundproofed version.
- Performance according to EN 14511:2013.

SEASONAL ENERGY PERFORMANCE		2411	2431	2461	2511	2561	2601	2631	2681	2711
TCHVBZ-TCHVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE										
❶ P _{designc} (EN 14825)	kW	405,5	433,6	460,4	512,7	563,3	596,9	626,6	674,8	712,5
❶ SEER (EN 14825)		6,03	6,03	6,03	6,13	5,89	6,01	5,96	6,01	5,95
❷ $\eta_{s,c}$	%	233	233	233	237	228	233	230	233	230

- ❶ Low temperature application (7°C)
- ❷ Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

TCHVBZ-TCHVIZ MODEL		2781	2841	2901	2961	21031	21111	21181	21261
❶ Nominal cooling capacity	kW	774,9	835,2	898,0	954,5	1026,1	1105,5	1176,7	1253,1
❶ E.E.R.		4,94	4,92	4,95	4,94	4,98	5,06	5,08	5,08
❶ Absorbed power	kW	156,86	169,76	181,41	193,22	206,04	218,48	231,63	246,67
❷ Sound power	dB(A)	99	99	99	99	99	99	99	99
❷ Sound power	dB(A)	97	97	97	97	97	97	97	97
Screw/step compressor	no.	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Circuits	no.	2	2	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
TCHVBZ DIMENSIONS AND WEIGHTS		2781	2841	2901	2961	21031	21111	21181	21261
L - Width	mm	4.120	4.000	4.000	4.000	4.000	4.000	4.000	4.000
H - Height	mm	1.960	1.830	1.910	1.910	1.950	1.950	1.950	1.950
P - Depth	mm	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300
❸ TCHVBZ Weight	kg	3.920	4.406	4.636	4.669	4.779	4.870	4.908	4.934
❸ TCHVIZ Weight	kg	4.350	4.836	5.066	5.099	5.209	5.300	5.338	5.364

Data at the following conditions:

- ❶ Chilled water: 7/12°C. - Condenser inlet water: 30/35°C.
 - ❷ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.
 - ❸ Empty weight.
 - TCHVIZ soundproofed version.
- Performance according to EN 14511:2013.

SEASONAL ENERGY PERFORMANCE		2781	2841	2901	2961	21031	21111	21181	21261
TCHVBZ-TCHVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE									
❶ P _{design,c} (EN 14825)	kW	774,9	835,2	898,0	954,5	1026,1	1105,5	1176,7	1253,1
❶ SEER (EN 14825)		5,92	5,89	5,88	5,98	5,90	5,95	5,95	6,01
❷ $\eta_{s,c}$	%	229	228	227	231	228	230	230	233

- ❶ Low temperature application (7°C)
- ❷ Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

TCHVBZ-TCHVIZ MODEL		31301	31351	31401	31461	31521	31591	31631
❶ Nominal cooling capacity	kW	1.303,6	1.351,2	1.400,8	1.457,3	1.517,8	1.576,2	1.627,6
❶ E.E.R.		5,09	5,04	5,00	4,98	4,98	4,99	4,97
❶ Absorbed power	kW	256,11	268,10	280,16	292,63	304,78	315,87	327,48
❷ Sound power	dB(A)	101	101	101	102	102	102	102
❷ Sound power	dB(A)	99	99	99	100	100	100	100
Screw/step compressor	no.	3/9	3/9	3/9	3/9	3/9	3/9	3/9
Circuits	no.	3	3	3	3	3	3	3
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
TCHVBZ DIMENSIONS AND WEIGHTS		31301	31351	31401	31461	31521	31591	31631
L - Width	mm	4.940	4.940	4.940	4.940	4.940	4.940	4.940
H - Height	mm	2.180	2.180	2.180	2.180	2.220	2.220	2.220
P - Depth	mm	1.790	1.790	1.790	1.790	1.790	1.790	1.790
❸ TCHVBZ Weight	kg	6.795	6.827	6.852	6.891	6.980	7.068	7.157
❸ TCHVIZ Weight	kg	7.395	7.427	7.452	7.491	7.580	7.668	7.757

Data at the following conditions:

- ❶ Chilled water: 7/12°C. - Condenser inlet water: 30/35°C.
 - ❷ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.
 - ❸ Empty weight.
 - TCHVIZ soundproofed version.
- Performance according to EN 14511:2013.

SEASONAL ENERGY PERFORMANCE		31301	31351	31401	31461	31521	31591	31631
TCHVBZ-TCHVIZ MODEL SEASONAL PERFORMANCE IN COOLING MODE								
❶ P _{design,c} (EN 14825)	kW	1.303,6	1.351,2	1.400,8	1.457,3	1.517,8	1.576,2	1.627,6
❶ SEER (EN 14825)		6,19	6,12	6,17	6,15	6,39	6,35	6,34
❷ $\eta_{s,c}$	%	240	237	239	238	247	246	246

- ❶ Low temperature application (7°C)
- ❷ Seasonal energy efficiency: low temperature cooling (EU Regulation 2016/2281)

ÜNTES®

52
years

Export Sales Office

Address: 53. Cadde 1450. Sokak Ulusoy
Plaza No: 9/50 Cukurambar, Ankara, Turkey
Email: export@untes.com.tr
T+90 (312) 287 91 00 F+90 (312) 284 91 00

Manufacturing Plant-1

Air Handling & Ventilations Systems,
Fan Coil Systems
Packaged Air Conditioning Systems

Address: Istanbul Yolu 37.km
Kahramankazan, Ankara, Turkey

Manufacturing Plant-2

Water Chiller and Heat Pumps
Address: Istanbul Yolu 24.km Saraykoy, Ankara

www.untes.com



untesklima

Untes Heating Air Conditioner Inc. reserves the right to make changes in the products, technical data, figures, designs and materials of the products in the catalog without any notice or information. All contents are copyrighted by Untes.