EVH

R-407C

WATER TO AIR DUCTABLE INDOOR HORIZONTAL HEAT PUMP

Size	Cooling [kW]	Heating [kW]
7	2.0	1.9
11	2.6	2.5
15	3.9	3.3
21	5.2	5.5
25	7.3	6.7
31	8.9	8.4
41	10.7	9.8

REPLACE: BT02E009GB-01

The Versatemp units offer a range of seven quiet and efficient water to air reverse cycle heat pumps. The cooling capacity ranges from 2 to 10.7 kW. The units feature R407C refrigerant, high condensate drain position, double inlet centrifugal fan direct coupled to a 3-speed (1-speed EVH41) sealed for life fan motor which allows operation over a wide range of external resistance. Compact size ensures simple installation in ceiling or underfloor voids and maintenance is facilitated by the easy access to essential components. The units automatically provide cooling or heating to ensure all year round comfort. The microprocessor control system also provides other important control, monitoring and diagnostic functions essential to local, group and BMS control.

BT02E009GB-02

STANDARD UNIT SPECIFICATIONS

COMPRESSOR
hermetic orbiting scroll compressor complete with motor over-temperature and over-current devices and protection against excessive gas discharge temperature. Fitted on rubber antivibration mounts and complete with oil charge
hermetic rotary compressor with gas compression in the crankcase, direct suction, no oil heater. It is mounted on antivibration rubber pads. Includes oil feed.

STRUCTURE
structure made entirely from □aluzink□ plate that guarantees excellent mechanical characteristics and high corrosion strength over time. The compressor area is made from thick metal plate and is completely insulated with soundproofing material to minimise noise output. The ventilating section is completely lined with anti-condensate and soundproofing material.

INTERNAL EXCHANGER
direct expansion finned exchanger, made from copper pipes in staggered rows and mechanically expanded to the fin collars. The fins are made from aluminium with a corrugated surface and adequately distanced to ensure the maximum heat exchange efficiency.

EXTERNAL EXCHANGER
Full copper tube-in-tube exchanger, hermetically welded to the refrigerant circuit.
Checked at a pressure of 30 bars and welded in nitrogen atmosphere to avoid oxidation.
Includes antifreeze protection at water outlet.
for EVH 21-41 plate exchanger for greater efficiency with R-407C

FAN
dual intake centrifugal fan with forward blades for maximum efficiency and low noise. Statically- and dynamically-balanced according to the ISO 1940 standards, section 6.3. The scroll, the rotor and the frame are made from galvanized steel plate (semdzimir).
Directly coupled to the electric motor.

REFRIGERANT CIRCUIT
The circuit is complete with:
- expansion device
- copper pipes for the 4 way valve assembly, thermally insulated with anti-condensate material
- high compressor discharge temperature safety thermostat
- non-return valve
- 4-way reverse cycle valve
- high pressure switch
- liquid receiver

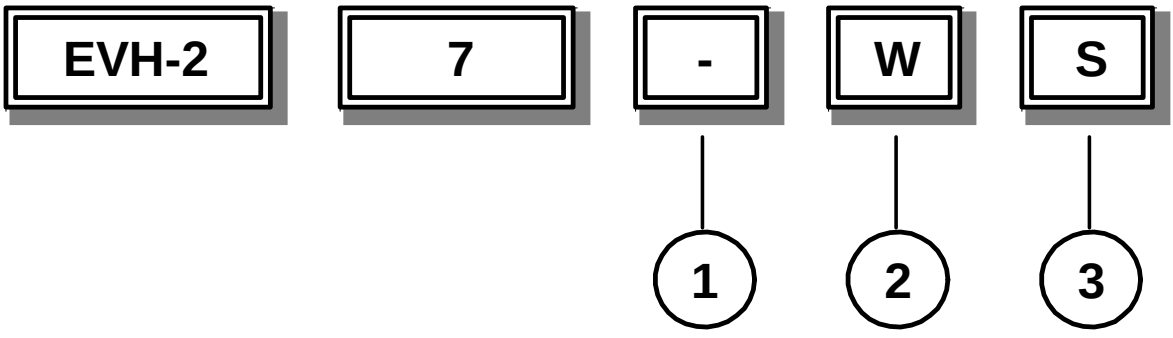
FILTRATION
NAN honeycomb mesh air filter made from neutral multiply polypropylene fabric (weighted efficiency A - gravimetric method - 48%).

TRAY
Inox steel AISI 304 condensate collection tray with anti-condensate insulation, welded, fitted with drain pipe

ELECTRICAL PANEL
the Power Section includes:
- isolating transformer for auxiliary circuit power supply
- compressor control contactor
- auxiliary circuit fuse
- power input terminals
the electrical panel, including the microprocessor controller, is positioned inside the units, with access through an easy-to-remove panel.
- microprocessor control
- electronic thermostat for air temperature control
- compressor overload protection and timer
- antifreeze protection

ACCESSORIES
- manual two-way valve at the inlet and outlet of each exchanger on the water side. Used to isolate the unit from the water circuit to allow any maintenance operations.
- solenoid valve
- differential pressure switch, water side
- water circuit connection hoses plus condensate drain pipe
- water flow setter (manual valve)
- electric heaters.
- serial connection kit for connecting the unit control module to a centralised control system (PC or BMS).
- spring antivibration mounts
- air discharge duct kit with flexible
- intake duct
- condensate discharge pump
- condensate level sensor
- Versatemp control (english market)
- coil antifreeze protection sensor
- Versatemp series electronic thermostat (English market)
- Versatemp series electronic thermostat, white (English market)
- wall thermostat complete with control board and connection cable
- remote air sensor (microprocessor control)
- vin card
- Zone Master

Configuration Code

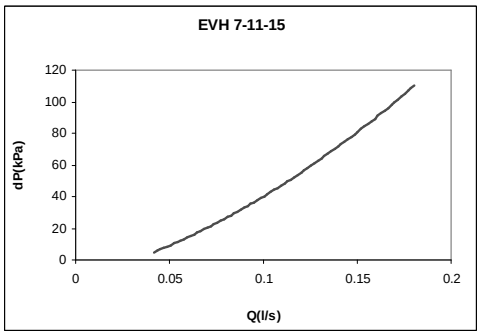


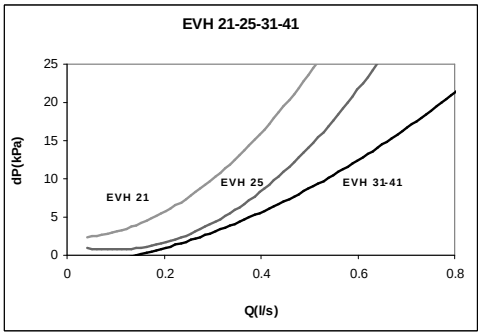
(1) LOW TEMPERATURE
Not required (-)
standard
Low air temperature (B)
coil antifreeze protection sensor

(2) APPLICATION
Water loop (W)
standard
Geothermal (G)
units for geothermal applications

(3) OUTLET
Standard (S)
Side blow (ML)
Version suitable for installation in hotels (for sizes 7-11-15)

EXTERNAL EXCHANGER PRESSURE DROP





Q = WATER FLOW
DP = PRESSURE DROP
FOR THE UNITS WITH PLATE HEAT EXCHANGER IT IS NECESSARY THE USE OF THE ACCESSORY DIFFERENTIAL PRESSURE SWITCH
FOR EVH 21-41, WITH DIFFERENTIAL PRESSURE SWITCH ADD 15 KPA PRESSURE DROP (AT NOMINAL FLOW RATE)

SOUND LEVELS

FAN SPEED: Standard Speed (S)

Size	Sound Power Level (dB) Octave band (Hz)								Sound pressure level	Sound power level
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
7	61	56	51	47	44	39	34	28	44	50
11	62	57	48	47	43	40	33	27	45	50
15	61	56	51	55	48	45	41	35	48	55
21	68	63	60	56	55	52	50	44	50	60
25	66	61	60	57	55	53	50	44	51	61
31	70	65	64	59	57	55	52	47	51	63
41	71	66	65	62	60	58	55	49	54	66

the sound levels are referred to a ductable and ceiling mounted unit, with fan air flow: standard, low or medium. The sound pressure level is referred at a distance of 1 m. from the unit surface, working in free field conditions.

FAN SPEED: Low speed (L)

Size	Sound Power Level (dB) Octave band (Hz)								Sound pressure level	Sound power level
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
7	58	53	46	41	39	35	23	17	40	45
11	59	54	45	43	38	30	27	21	40	45
15	61	56	46	44	41	35	32	26	41	47
21	65	60	60	56	54	51	49	43	48	60
25	66	61	59	55	54	52	49	43	50	60
31	67	62	60	56	54	52	49	43	51	60
41	71	66	65	62	60	58	55	49	54	66

FAN SPEED: Medium speed (M)

Size	Sound Power Level (dB) Octave band (Hz)								Sound pressure level	Sound power level
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
7	58	53	47	44	39	35	23	17	41	46
11	60	55	49	44	40	34	30	24	41	47
15	62	57	50	47	44	38	35	29	43	50
21	66	61	60	56	54	51	49	43	50	60
25	66	61	60	56	55	52	49	43	50	60
31	67	62	61	57	55	52	49	43	51	61
41	71	66	65	62	60	58	55	49	54	66

GENERAL TECHNICAL SPECIFICATIONS

Size			7	11	15	21	25	31	41
COOLING									
Cooling capacity	1	kW	2	2.6	3.9	5.2	7.3	8.9	10.7
Sensible capacity	2	kW	1.7	2.1	3.5	4.2	6.4	8.2	8.7
Compressor power input	2	kW	0.4	0.6	1.1	1.4	1.7	2.2	2.3
Total power input	2	kW	0.5	0.7	1.2	1.8	2.1	2.6	2.8
HEATING									
Heat output	3	kW	1.9	2.5	3.3	5.5	6.7	8.4	9.8
Compressor power input	4	kW	0.4	0.6	1	1.3	1.6	1.9	1.8
Total power input	4	kW	0.5	0.7	1.1	1.7	2	2.3	2.3
COMPRESSOR									
Type of compressors	5		ROT	ROT	ROT	ROT	Scroll	Scroll	Scroll
No. of Compressors		Nr	1	1	1	1	1	1	1
AIR HANDLING SECTION FANS (OUTLET)									
Type of fans	6		CFG	CFG	CFG	CFG	CFG	CFG	CFG
Number of fans		Nr	1	1	1	1	1	1	1
Standard air flow		l/s	151	151	200	425	425	425	660
Installed unit power		kW	0.07	0.07	0.1	0.35	0.35	0.35	0.5
Max outside static pressure	7	Pa	30	30	30	70	70	70	100
EXTERNAL EXCHANGER									
Water flow-rate	8	l/s	0.064	0.075	0.114	0.152	0.227	0.27	0.31
Pressure drop		kPa	12	23	45	5	5	5	5
CONNECTIONS									
Water fittings	9		1/2"	1/2"	1/2"	22mm	22mm	22mm	22mm
Condensate discharge	10		12	12	12	12	12	20	20
POWER SUPPLY									
Standard power supply		V	230/1/50	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50	400/3/50
DIMENSIONS									
Length		mm	1055	1055	1055	1135	1135	1398	1398
Depth		mm	514	514	514	525	525	525	525
Height		mm	330	375	375	420	420	460	460
STANDARD UNIT WEIGHTS									
Shipping weight		kg	57	64	64	80	95	122	122

(1) Ambient temperature 27°C/19.5 WB exchanger inlet water 30°C deducted the fan power absorption
(2) Ambient temperature 27°C/19.5 WB exchanger inlet water 30°C
(3) ambient temperature 20°C DB exchanger water inlet 20°C deducted the fan power absorption
(4) ambient temperature 20°C exchanger water inlet 20°C
(5) ROT = rotary compressor SCROLL = scroll compressor
(6) CFG = centrifugal fan
(7) available head with low fan speed
(8) tolerance allowed +/- 20%
(9) female gas connection for sizes between 7 and 15 copper tube for sizes bigger than 21
(10) pipe outside diameter

Voltage: 230/1/50

ELECTRICAL DATA

Size		7	11	15	21	25	31	41
F.L.A. - FULL LOAD CURRENT AT MAX ADMISSIBLE CONDITIONS								
F.L.A. - Compressor 1	A	3	4.3	6	8.5	14.6	15.7	18.5
F.L.A. - Single Outlet fan	A	0.44	0.44	0.44	1.5	1.5	1.5	2.6
F.L.A. - Total	A	3.44	4.78	6.45	10	16.1	17.2	21.1
L.R.A. LOCKED ROTOR AMPERES								
L.R.A. - Compressor 1	A	15.5	24	35	41	61	76	100
L.R.A. - Single Outlet fan	A	0.54	0.54	0.54	1.9	1.9	1.9	2.8
F.L.I. FULL LOAD POWER INPUT AT MAX ADMISSIBLE CONDITION								
F.L.I. - Compressor 1	kW	0.65	0.94	1.29	1.79	3.18	3.4	3.99
F.L.I. - Single Outlet fan	kW	0.1	0.1	0.1	0.15	0.15	0.15	0.25
F.L.I. - Total	kW	0.75	1.04	1.39	1.94	3.33	3.55	4.24
M.I.C. MAXIMUM INRUSH CURRENT								
M.I.C. - Value	A	16	24.5	35.5	42.9	62.9	77.9	102.8

Voltage: 400/3/50

ELECTRICAL DATA

SIZES		25	31	41
F.L.A. - FULL LOAD CURRENT AT MAX ADMISSIBLE CONDITIONS				
F.L.A. - Compressor 1	A	5.1	6.1	7
F.L.A. - Single Outlet fan	A	1.5	1.5	2.6
F.L.A. - Total	A	6.2	7.2	9.1
L.R.A. LOCKED ROTOR AMPERES				
L.R.A. - Compressor 1	A	32	40	46
L.R.A. - Single Outlet fan	A	1.9	1.9	2.8
F.L.I. FULL LOAD POWER INPUT AT MAX ADMISSIBLE CONDITION				
F.L.I. - Compressor 1	kW	2.77	3.28	3.82
F.L.I. - Single Outlet fan	kW	0.15	0.15	0.25
F.L.I. - Total	kW	2.92	3.43	4.07
M.I.C. MAXIMUM INRUSH CURRENT				
M.I.C. - Value	A	33.9	41.9	48.8

OPERATING LIMITS (Cooling)

Size			7	11	15	21	25	31	41
EXTERNAL EXCHANGER									
Max water inlet temperature	1	°C	45	45	45	45	45	45	45
Min. water inlet temperature	1	°C	18	18	18	18	18	18	18
Maximum water side pressure		bar	13.8	13.8	13.8	13.8	13.8	13.8	13.8
INTERNAL EXCHANGER									
Min air inlet temperature (W.B.)	2	°C	13	13	13	13	13	13	13
Max. air temperature inlet (D.B.)		°C	29	29	29	29	29	29	29
Max ambient relative humidity		%	70	70	70	70	70	70	70

OPERATING LIMITS (Heating)

INTERNAL EXCHANGER

Max water inlet temperature	1	°C	45	45	45	45	45	45	45
Min. water inlet temperature	1	°C	18	18	18	18	18	18	18
Min. water outlet temperature	3	°C	7	7	7	7	7	7	7
Maximum water side pressure		bar	13.8	13.8	13.8	13.8	13.8	13.8	13.8
Max. air temperature inlet (D.B.)		°C	29	29	29	29	29	29	29

(1) with nominal water flow
(2) we recommend the defrost sensor
(3) once-through water system

AIR FLOW / FAN SPEED

Size			7	11	15	21	25	31	41
Air flow (minimum speed)		l/s	90	90	115	330	330	330	-
Air flow (medium speed)		l/s	118	118	147	389	389	389	-
Air flow (maximum speed)		l/s	151	151	200	425	425	425	660

PERFORMANCE CORRECTION COEFFICIENTS (AIR STANDARD FLOW-RATE ASSUMED AS 1)

	L					M					S				
	Kf	**Ks**	**Kef**	**Kt**	**Ket**	**Kf**	**Ks**	**Kef**	**Kt**	**Ket**	**Kf**	**Ks**	**Kef**	**Kt**	**Ket**
7	0,91	0,90	0,92	0,91	1,03	0,99	0,98	0,98	0,97	1,02	1,00	1,00	1,00	1,00	1,00
11	0,93	0,93	0,96	0,97	1,05	1,00	0,99	0,99	0,99	1,02	1,00	1,00	1,00	1,00	1,00
15	0,91	0,90	0,95	0,93	1,04	0,99	0,99	0,98	0,99	1,02	1,00	1,00	1,00	1,00	1,00
21	0,92	0,91	0,98	0,94	1,02	0,98	0,97	0,99	0,99	1,01	1,00	1,00	1,00	1,00	1,00
25	0,94	0,95	0,97	0,97	1,02	0,98	0,97	0,99	0,99	1,01	1,00	1,00	1,00	1,00	1,00
31	0,96	0,97	0,98	0,98	1,02	0,98	0,98	0,99	1,00	1,02	1,00	1,00	1,00	1,00	1,00
41	-	-	-	-	-	-	-	-	-	-	1,00	1,00	1,00	1,00	1,00

LOW SPEED (L)
STANDARD SPEED (S)
MEDIUM SPEED (M)
KF = COOLING PERFORMANCE MULTIPLICATION COEFFICIENT
KS= SENSIBLE OUTPUT MULTIPLICATION COEFFICIENT
KEF = COMPRESSOR POWER INPUT MULTIPLICATION COEFFICIENT IN COOLING OPERATION
KT = HEATING PERFORMANCE MULTIPLICATION COEFFICIENT
KET = COMPRESSOR POWER INPUT MULTIPLICATION COEFFICIENT IN HEATING OPERATION

ALL DATA REFERS TO THE STANDARD FAN SPEED (MAX SPEED) WITH THE EXCEPTION OF THE OPERATING LIMITS. THE LATTER, IF THE MAXIMUM EXTERNAL STATIC PRESSURE IS NOT EXCEEDED OR IF THE MINIMUM WATER FLOW IS GUARANTEED, ARE INDEPENDENT.DATA ARE REFERRED TO VOLTAGE 230/1/50 FOR SINGLE-PHASE

COOLING PERFORMANCE

Size	Ta (°C) DB/WB	EXTERNAL EXCHANGER OUTLET WATER TEMPERATURE - DELTAT 10°C																	
		28			33			38			43			48			50		
		kWf	kWe	kWs	kWf	kWe	kWs	kWf	kWe	kWs	kWf	kWe	kWs	kWf	kWe	kWs	kWf	kWe	kWs
7	22 / 16	1.87	0.39	1.66	1.85	0.40	1.66	1.82	0.42	1.65	1.77	0.45	1.65	1.70	0.48	1.64	1.67	0.50	1.64
	24 / 17	1.93	0.40	1.77	1.91	0.41	1.77	1.88	0.43	1.76	1.83	0.45	1.76	1.76	0.49	1.75	1.72	0.51	1.72
	26 / 19	2.05	0.41	1.77	2.03	0.42	1.76	1.99	0.44	1.76	1.94	0.47	1.75	1.87	0.51	1.74	1.83	0.52	1.74
	27 / 19.5	2.08	0.41	1.82	2.06	0.42	1.81	2.02	0.44	1.81	1.97	0.47	1.80	1.89	0.51	1.80	1.86	0.53	1.79
	28 / 21	2.18	0.42	1.75	2.15	0.43	1.75	2.11	0.46	1.74	2.05	0.48	1.73	1.97	0.52	1.73	1.94	0.54	1.72
	29 / 21.5	2.21	0.43	1.80	2.18	0.44	1.80	2.14	0.46	1.79	2.08	0.49	1.78	2.00	0.53	1.78	1.96	0.55	1.77
11	22 / 16	2.52	0.48	1.91	2.46	0.51	1.88	2.37	0.55	1.85	2.25	0.61	1.83	2.10	0.67	1.80	2.03	0.71	1.79
	24 / 17	2.60	0.49	2.04	2.54	0.52	2.01	2.45	0.57	1.98	2.33	0.62	1.96	2.18	0.69	1.93	2.11	0.72	1.92
	26 / 19	2.74	0.52	2.04	2.68	0.55	2.01	2.60	0.60	1.99	2.48	0.66	1.96	2.34	0.73	1.94	2.28	0.77	1.93
	27 / 19.5	2.78	0.53	2.10	2.72	0.56	2.07	2.63	0.61	2.05	2.52	0.67	2.02	2.39	0.75	1.99	2.32	0.78	1.98
	28 / 21	2.87	0.55	2.00	2.82	0.58	1.97	2.74	0.63	1.94	2.65	0.70	1.91	2.53	0.79	1.88	2.48	0.82	1.87
	29 / 21.5	2.90	0.55	2.03	2.85	0.59	2.00	2.78	0.64	1.97	2.69	0.71	1.94	2.58	0.80	1.91	2.53	0.84	1.90
15	22 / 16	3.77	1.03	3.32	3.68	1.07	3.25	3.55	1.13	3.19	3.38	1.21	3.13	3.17	1.31	3.07	3.07	1.35	3.05
	24 / 17	3.88	1.03	3.54	3.79	1.08	3.48	3.66	1.14	3.41	3.50	1.21	3.35	3.29	1.31	3.29	3.19	1.35	3.19
	26 / 19	4.12	1.03	3.54	4.03	1.07	3.48	3.90	1.14	3.42	3.74	1.22	3.36	3.53	1.31	3.30	3.44	1.36	3.27
	27 / 19.5	4.18	1.03	3.64	4.09	1.07	3.58	3.96	1.14	3.52	3.80	1.22	3.46	3.60	1.31	3.40	3.51	1.36	3.38
	28 / 21	4.36	1.02	3.50	4.27	1.07	3.44	4.15	1.13	3.38	3.99	1.21	3.32	3.80	1.31	3.26	3.71	1.35	3.24
	29 / 21.5	4.42	1.02	3.57	4.33	1.07	3.51	4.21	1.13	3.46	4.06	1.21	3.40	3.87	1.31	3.34	3.78	1.35	3.32
21	22 / 16	4.77	1.29	4.30	4.75	1.29	4.08	4.64	1.34	3.86	4.42	1.42	3.64	4.11	1.54	3.41	3.96	1.60	3.33
	24 / 17	4.93	1.30	4.59	4.90	1.30	4.37	4.78	1.35	4.15	4.57	1.43	3.94	4.25	1.55	3.72	4.10	1.61	3.63
	26 / 19	5.23	1.32	4.55	5.20	1.33	4.33	5.08	1.38	4.12	4.87	1.46	3.90	4.56	1.58	3.69	4.41	1.64	3.60
	27 / 19.5	5.30	1.32	4.68	5.28	1.33	4.47	5.16	1.38	4.25	4.94	1.47	4.03	4.64	1.59	3.82	4.49	1.65	3.73
	28 / 21	5.53	1.34	4.52	5.50	1.35	4.30	5.38	1.40	4.08	5.18	1.49	3.86	4.88	1.62	3.64	4.73	1.68	3.55
	29 / 21.5	5.60	1.34	4.66	5.57	1.36	4.43	5.46	1.41	4.21	5.25	1.50	3.99	4.96	1.63	3.77	4.82	1.69	3.68
25	22 / 16	6.97	1.50	6.01	6.78	1.60	5.89	6.52	1.74	5.78	6.18	1.92	5.67	5.75	2.15	5.56	5.56	2.25	5.51
	24 / 17	7.20	1.50	6.38	7.01	1.60	6.27	6.74	1.74	6.16	6.38	1.92	6.04	5.94	2.14	5.93	5.75	2.24	5.75
	26 / 19	7.69	1.49	6.32	7.49	1.59	6.20	7.19	1.72	6.08	6.81	1.90	5.96	6.35	2.11	5.84	6.13	2.20	5.79
	27 / 19.5	7.82	1.49	6.51	7.61	1.59	6.39	7.31	1.72	6.27	6.92	1.89	6.15	6.45	2.10	6.03	6.24	2.19	5.98
	28 / 21	8.21	1.48	6.37	7.98	1.57	6.24	7.67	1.70	6.12	7.26	1.87	5.99	6.77	2.07	5.87	6.55	2.16	5.82
	29 / 21.5	8.34	1.48	6.63	8.11	1.57	6.50	7.79	1.70	6.37	7.38	1.86	6.24	6.88	2.05	6.12	6.66	2.14	6.06
31	22 / 16	8.40	1.74	7.34	8.23	1.87	7.29	7.96	2.08	7.24	7.58	2.38	7.20	7.10	2.75	7.10	6.88	2.93	6.88
	24 / 17	8.62	1.77	7.92	8.45	1.90	7.88	8.18	2.11	7.83	7.81	2.39	7.79	7.34	2.76	7.34	7.12	2.92	7.12
	26 / 19	9.16	1.81	7.98	8.98	1.94	7.93	8.70	2.14	7.89	8.33	2.41	7.84	7.85	2.75	7.79	7.64	2.91	7.64
	27 / 19.5	9.31	1.82	8.26	9.13	1.94	8.21	8.85	2.14	8.16	8.47	2.41	8.11	7.99	2.75	7.99	7.77	2.91	7.77
	28 / 21	9.80	1.82	7.87	9.61	1.95	7.81	9.31	2.14	7.76	8.91	2.40	7.71	8.40	2.74	7.66	8.17	2.89	7.63
	29 / 21.5	9.98	1.82	8.06	9.78	1.94	8.00	9.48	2.14	7.95	9.06	2.40	7.89	8.54	2.73	7.84	8.31	2.88	7.81
41	22 / 16	10.1	1.92	7.79	9.90	2.06	7.73	9.58	2.28	7.67	9.15	2.57	7.61	8.60	2.94	7.54	8.35	3.11	7.52
	24 / 17	10.4	1.93	8.49	10.2	2.08	8.43	9.88	2.30	8.37	9.46	2.59	8.31	8.92	2.97	8.24	8.67	3.14	8.22
	26 / 19	11.1	1.97	8.56	10.9	2.12	8.50	10.5	2.34	8.44	10.1	2.64	8.38	9.53	3.02	8.32	9.28	3.20	8.30
	27 / 19.5	11.3	1.97	8.88	11.0	2.13	8.82	10.7	2.35	8.76	10.3	2.66	8.70	9.68	3.04	8.64	9.43	3.22	8.61
	28 / 21	11.9	2.00	8.40	11.6	2.16	8.34	11.2	2.39	8.28	10.7	2.70	8.22	10.1	3.09	8.16	9.85	3.27	8.14
	29 / 21.5	12.1	2.01	8.60	11.8	2.17	8.54	11.4	2.40	8.48	10.9	2.72	8.42	10.3	3.11	8.36	9.99	3.29	8.33

Ta = internal exchanger inlet air temperature
DB = dry bulb
WB = wet bulb
kWf = Cooling capacity in kW
kWs = sensible cooling capacity (kW)
deducted the fan power absorption
kWe = total power input (kW)
data at variable water flow: at costant water flow, the in/out water temperature difference changes according to working conditions

HEATING PERFORMANCE

Size	Ta (°C)	EXTERNAL EXCHANGER OUTLET WATER TEMPERATURE - DELTAT 10°C											
		7		12		17		22		24		27	
		kWt	kWe	kWt	kWe	kWt	kWe	kWt	kWe	kWt	kWe	kWt	kWe
7	14	1.71	0.34	1.96	0.38	2.16	0.41	2.31	0.43	2.36	0.44	2.41	0.45
	16	1.70	0.36	1.94	0.39	2.14	0.43	2.29	0.45	2.33	0.46	2.38	0.47
	18	1.68	0.37	1.92	0.41	2.12	0.44	2.26	0.47	2.30	0.48	2.35	0.49
	19	1.67	0.38	1.91	0.42	2.11	0.45	2.25	0.48	2.29	0.49	2.34	0.50
	20	1.66	0.39	1.91	0.43	2.10	0.46	2.24	0.49	2.28	0.50	2.33	0.51
	21	1.65	0.39	1.90	0.44	2.09	0.47	2.23	0.50	2.27	0.51	2.32	0.52
	22	1.64	0.40	1.89	0.44	2.08	0.48	2.22	0.51	2.26	0.52	2.31	0.53
11	14	2.26	0.47	2.53	0.52	2.76	0.57	2.93	0.61	2.98	0.62	3.05	0.64
	16	2.23	0.48	2.51	0.54	2.74	0.59	2.91	0.63	2.97	0.65	3.03	0.67
	18	2.20	0.50	2.49	0.56	2.71	0.62	2.89	0.66	2.95	0.68	3.02	0.70
	19	2.19	0.51	2.47	0.57	2.70	0.63	2.88	0.67	2.94	0.69	3.01	0.71
	20	2.18	0.52	2.46	0.58	2.69	0.64	2.88	0.69	2.94	0.71	3.01	0.73
	21	2.17	0.52	2.45	0.59	2.69	0.65	2.87	0.70	2.93	0.72	3.00	0.75
	22	2.16	0.53	2.44	0.60	2.68	0.67	2.86	0.72	2.92	0.74	3.00	0.76
15	14	3.02	0.89	3.39	0.93	3.68	0.96	3.89	0.98	3.96	0.99	4.03	0.99
	16	3.01	0.93	3.37	0.97	3.65	1.00	3.86	1.01	3.93	1.02	4.00	1.02
	18	3.00	0.97	3.35	1.00	3.62	1.03	3.83	1.04	3.90	1.05	3.97	1.05
	19	3.00	0.99	3.34	1.02	3.61	1.05	3.82	1.06	3.88	1.06	3.96	1.07
	20	2.99	1.00	3.33	1.04	3.59	1.06	3.80	1.08	3.86	1.08	3.94	1.08
	21	2.98	1.02	3.31	1.06	3.58	1.08	3.78	1.09	3.85	1.10	3.92	1.10
	22	2.97	1.04	3.30	1.07	3.57	1.10	3.77	1.11	3.83	1.12	3.91	1.12
21	14	5.28	1.14	5.52	1.17	5.68	1.19	5.76	1.20	5.77	1.21	5.76	1.20
	16	5.28	1.19	5.49	1.22	5.62	1.24	5.69	1.25	5.70	1.25	5.69	1.25
	18	5.25	1.24	5.44	1.27	5.57	1.29	5.63	1.30	5.64	1.30	5.63	1.30
	19	5.23	1.27	5.41	1.29	5.54	1.31	5.60	1.32	5.61	1.32	5.60	1.32
	20	5.19	1.29	5.38	1.32	5.51	1.33	5.57	1.34	5.58	1.34	5.58	1.34
	21	5.15	1.31	5.35	1.34	5.48	1.36	5.55	1.37	5.56	1.37	5.55	1.37
	22	5.10	1.33	5.31	1.36	5.45	1.38	5.52	1.39	5.53	1.39	5.53	1.39
25	14	6.59	1.38	6.90	1.39	7.10	1.40	7.20	1.41	7.21	1.41	7.19	1.41
	16	6.54	1.44	6.84	1.46	7.04	1.47	7.14	1.47	7.14	1.47	7.13	1.47
	18	6.49	1.51	6.78	1.52	6.97	1.53	7.06	1.53	7.07	1.53	7.06	1.53
	19	6.47	1.54	6.75	1.55	6.94	1.56	7.03	1.57	7.03	1.57	7.02	1.57
	20	6.44	1.58	6.72	1.59	6.90	1.60	6.99	1.60	6.99	1.60	6.98	1.60
	21	6.42	1.61	6.69	1.62	6.86	1.63	6.94	1.63	6.95	1.63	6.94	1.63
	22	6.39	1.65	6.65	1.66	6.82	1.66	6.90	1.67	6.91	1.67	6.89	1.67
31	14	7.81	1.57	8.70	1.63	9.32	1.68	9.67	1.70	9.73	1.71	9.75	1.71
	16	7.76	1.65	8.62	1.71	9.21	1.76	9.55	1.78	9.61	1.79	9.63	1.79
	18	7.72	1.73	8.57	1.80	9.16	1.84	9.49	1.87	9.55	1.87	9.57	1.88
	19	7.70	1.78	8.56	1.84	9.16	1.89	9.49	1.92	9.55	1.92	9.56	1.92
	20	7.67	1.82	8.56	1.89	9.18	1.94	9.51	1.97	9.57	1.97	9.57	1.97
	21	7.65	1.86	8.58	1.94	9.21	1.99	9.55	2.02	9.60	2.02	9.59	2.02
	22	7.63	1.91	8.60	1.99	9.25	2.05	9.60	2.08	9.65	2.08	9.63	2.08

Ta = external exchanger air intake temperature
kWt = heating capacity (kW)
deducted the fan power absorption
kWe = total power input (kW)
data at variable water flow: at costant water flow, the in/out water temperature difference changes according to working conditions

HEATING PERFORMANCE

Size	Ta (°C)	EXTERNAL EXCHANGER OUTLET WATER TEMPERATURE - DELTAT 10°C											
		7		12		17		22		24		27	
		kWt	kWe	kWt	kWe	kWt	kWe	kWt	kWe	kWt	kWe	kWt	kWe
41	14	9.00	1.41	10.2	1.50	11.0	1.57	11.5	1.60	11.6	1.61	11.6	1.61
	16	8.94	1.48	10.1	1.58	10.9	1.65	11.4	1.68	11.5	1.69	11.5	1.69
	18	8.87	1.56	10.0	1.66	10.8	1.73	11.3	1.77	11.3	1.78	11.4	1.78
	19	8.83	1.60	9.96	1.70	10.7	1.77	11.2	1.81	11.3	1.82	11.3	1.82
	20	8.80	1.64	9.91	1.74	10.7	1.81	11.1	1.85	11.2	1.86	11.2	1.86
	21	8.76	1.68	9.85	1.78	10.6	1.86	11.0	1.90	11.1	1.91	11.1	1.91
	22	8.73	1.72	9.79	1.83	10.5	1.90	11.0	1.94	11.0	1.95	11.1	1.95

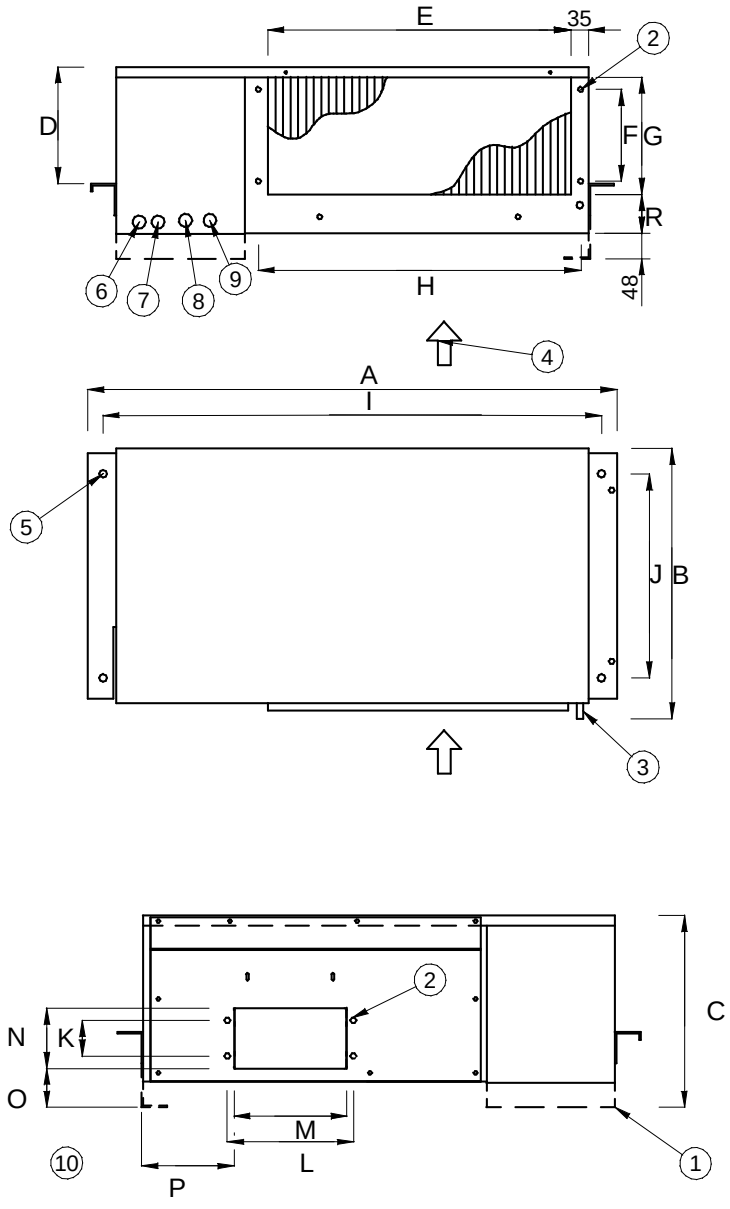
Ta = external exchanger air intake temperature
kWt = heating capacity (kW)
deducted the fan power absorption
kWe = total power input (kW)
data at variable water flow: at costant water flow, the in/out water temperature difference changes according to working conditions

DIMENSIONAL DRAWING

Outlet: Standard (S)

Size			7	11	15	21	25	31	41
Dimensional dwg. no.			1	1	1	1	1	1	1
A		mm	1055	1055	1055	1135	1135	1398	1398
B		mm	514	514	514	525	525	525	525
C		mm	327	375	375	415	415	465	465
D		mm	230	230	230	318	318	268	268
E		mm	595	595	595	595	595	791	791
F		mm	180	180	180	250	250	215	215
G		mm	230	230	230	321	321	333	333
H		mm	634	634	634	634	634	820	820
I		mm	980	980	980	1082	1082	1349	1349
J		mm	400	400	400	400	400	400	400
K		mm	80	80	80	288	288	388	388
L		mm	258	258	258	193	193	341	341
M		mm	234	234	234	232	232	232	298
N		mm	109	109	109	208	208	208	262
O		mm	30.5	78.5	78.5	136.5	136.5	187	134
P		mm	173.5	173.5	173.5	167	167	322.5	290.5
R		mm	76	76	76	55	55	108	108

DIMENSIONAL DRAWING(1)



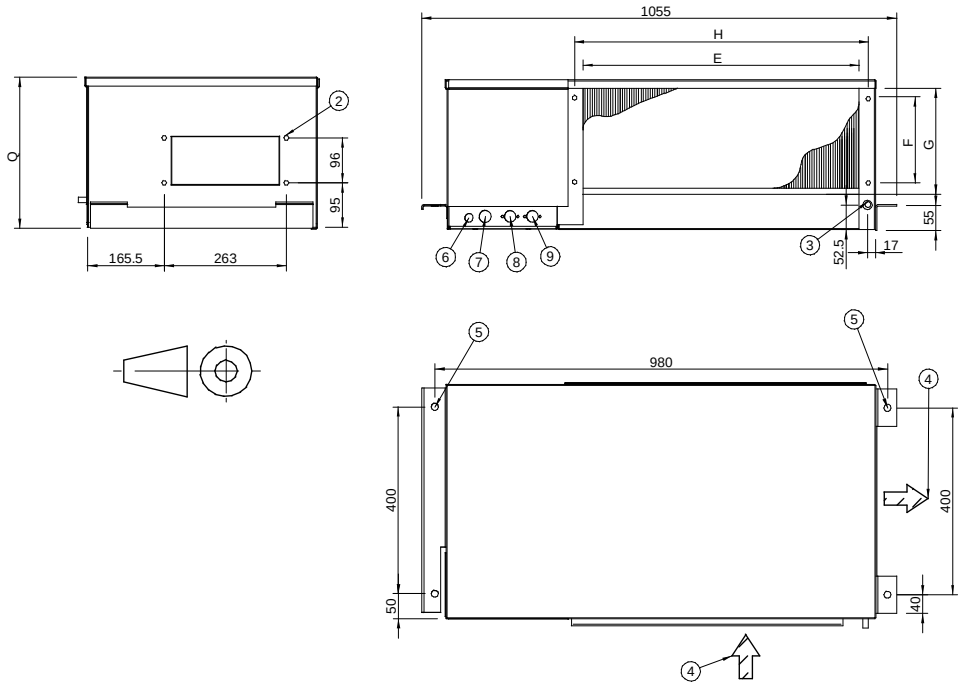
STANDARD UNIT

(1) DASHED SHOW 11 AND 15'S DIMENSIONS
(2) M6 NUTS TO FIT SPIGOTS
(3) DRAIN STUB
(4) AIR FLOW
(5) HOLE TO HANG UNIT
(6) POWER INPUT
(7) CONTROLLER CONNECTION
(8) EXTERNAL EXCHANGER WATER INLET
(9) EXTERNAL EXCHANGER WATER OUTLET
(10) OUTLET SIDE VIEW

Outlet: Side blow (ML)

Size			7	11	15
Dimensional dwg. no.			2	2	2
E		mm	595	595	595
F		mm	180	180	180
G		mm	230	230	230
H		mm	634	634	634
Q		mm	327	340	340

DIMENSIONAL DRAWING(2)



STANDARD UNIT

(1) DASHED SHOW 11 AND 15'S DIMENSIONS
(2) M6 NUTS TO FIT SPIGOTS
(3) DRAIN STUB
(4) AIR FLOW
(5) HOLE TO HANG UNIT
(6) POWER INPUT
(7) CONTROLLER CONNECTION
(8) EXTERNAL EXCHANGER WATER INLET
(9) EXTERNAL EXCHANGER WATER OUTLET
(10) OUTLET SIDE VIEW

CLIVET S.P.A.
Feltre (BL) - ITALY
Tel. +39 0439 3131
Fax +39 0439 313300
info@clivet.it

CLIVET ESPAÑA S.A.
Madrid - SPAIN
Tel. +34 91 6852344
Fax +34 91 6852353
info@clivet.es

CLIVET UK LTD
Sevenoaks (Kent) - U.K.
Tel. +44 (0) 1732 464141
Fax +44 (0) 1732 741575
info@clivet-uk.co.uk

CLIVET NEDERLAND B.V.
Amersfoort - Netherlands
Tel. +31 (0) 33 7503420
Fax +31 (0) 33 7503424
info@clivet.nl

CLIVET TUNISIE S.a.r.l.
Sidi Rezig - TUNISIE
Tel. +216 71 426 285
Fax +216 71 429 285
clivet.tunisie@planet.tn