

Galletti Evitech

Edition 2.4



Galletti EvitechH

Air Heat Pumps with wide working range 50 - 180 kW Outdoor Packaged Unit

Reliability and efficiency
in every climatic condition.

EvitechH is Galletti's new high efficiency multiscroll units equipped with R410A steam injection compressor. The range consists of 10 air-water models available as chiller and heat pump, with cooling capacities from 50 to 180 kW.

The main strong point of this series is the large operating field, both in terms of maximum hot water temperature (65°C with -11 °C of external air temperature) and minimum air temperature at which the continuous operation is allowed (-20°C)

The range allows high configurability from an acoustic point of view, having a wide range of accessories designed to reduce noise emissions. The advanced control, always present in the whole range, allows a continuous monitoring of the operating parameters, advanced adjustment logics, and connectivity.

The modular structure with V configuration condensing coils is designed to optimize air-side heat exchange, to ensure structural strength with a reduced footprint, and to maintain maximum accessibility to the basic components.

In addition to high efficiency in terms of nominal conditions (Eurovent A-class), in order to increase the efficiency at partial loads, the whole range consists of tandem solutions (2 compressors on a single refrigerant circuit). The configuration of units with the Hydro Smart Flow kit allows an increase of the efficiency and extends the working area of the cooling mode.

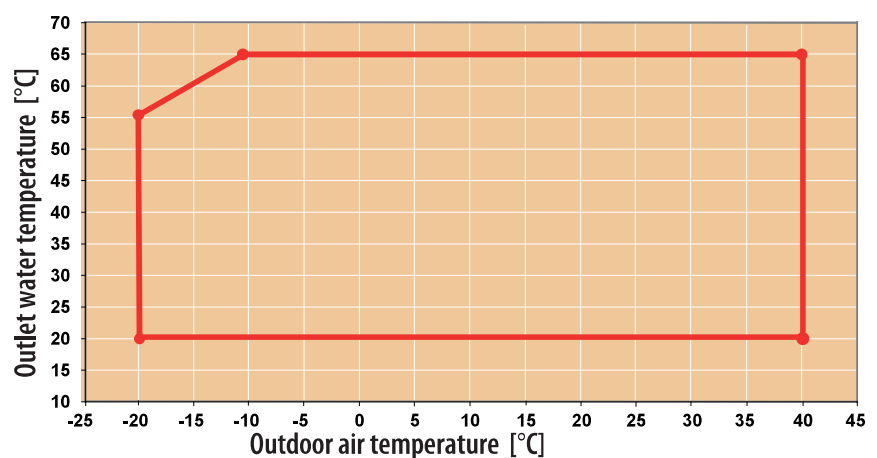


Advantages

- Class A in heat pump operating mode
- Production of hot water up to 65°C
- Full load operation up to -20°C outside air temperature
- High efficiency under part load conditions
- Possibility to configure low-noise versions
- Counterflow solutions in every operating mode

EvitechH heat pumps are designed for heating or cooling the water to be used in air-conditioning systems for residential, commercial or industrial use.

The execution with injection steam compressors (EVI) guarantees the production of hot water at high temperatures even in very harsh outdoor conditions (outdoor air temperature down to -20°C).



Main Components

• Structure

The range, starting from size 72, is designed modularly, replicating the optimized structure of V configuration condensing coils and fans. Its design ensures stability and sturdiness even during the most critical phases (such as transportation), and maximum accessibility to components in every unit.

• Hydro smart flow

The HSF kit (standard for models 52 and 62) is placed on the unit's hydronic side and consists of a 4-way valve and a kit. Hydro Smart Flow, which is activated at the time of seasonal changeover, reverses the direction of the water flow over the plates to be consistent with the flow of the refrigerant. In this manner heat exchange always occurs in counterflow, thus optimizing the unit's operation in the summer and winter seasons and extending the unit's operating range.

• Upwind

Evitech is designed with an innovative technology which allows the refrigerant to get into the battery from the same direction when the cycle is inverted, with a constant counter-current exchange with air. This advanced technology considerably reduces the risk of ice generation on the finned heat exchangers.

• Scroll compressors with vapour injection

The range consists of single and dual-circuit models in order to offer maximum redundancy. The distribution of load in multiple power steps and the use of tandem solutions (2 compressors on a single circuit) ensures maximum efficiency at partial loads and therefore greatly increases seasonal efficiency. Intercooled compression with steam injection allows a better control of the end-compression temperature, keeping it within the limits imposed by the compressor envelope, even in the most unfavorable working conditions (low evaporation pressures and high compression pressures), this results in one of the largest operating field in the market.

• 3-Way valve

This is a smart kit able to convert Evitech heat pumps in multi-function units in order to fulfill every necessity of the hydraulic air-conditioning plant. It allows domestic hot water priority production thanks to Galletti thermal accumulators of the TP or TN series. The switching of the valve is managed by the on-board microprocessor control of the unit.

Configuration

The models are completely configurable by selecting the version and the options. See below for an example.

Version	Fields												
	1	2	3	4	5	6	7	8	9	10	11	12	13
EVI082HSOA	A	1	S	0	C	0	2	M	0	P	0	0	2

To verify the compatibility of the options, use the selection software or the price list.

Available Versions

Versions with reversible heat pump

EVI..HSOA 400V-3N-50Hz power supply+ circuit breakers

EVI..HS1A 400V-3-50Hz power supply + transformer + circuit breakers

EVI..HS2A 400V-3N-50Hz power supply+ circuit breakers

Configuration Options

1 - Expansion Valve

- 0 Mechanical
- A Electronic

2 - Water Pump and Accessories

- 0 Absent
- 1 LP pump + expansion vessel
- 2 LP run and standby double pump + expansion vessel
- 3 HP pump + expansion vessel
- 4 HP run and standby double pump + expansion vessel
- A LP inverter pump + expansion vessel
- B LP run and standby double inverter pump + expansion vessel
- C HP inverter pump + expansion vessel
- D HP run and standby double inverter pump + expansion vessel

3 - Water Buffer Tank

- 0 Absent
- H Present+ Hydro smart flow
- S Selected

4 - Partial Heat Recovery

- 0 Absent
- D Desuperheater with water pump free contact

5 - Air Flow Modulation

- C Condensation control by phase-cut fans
- E Condensation control performed by EC fans

6 - Antifreezing Kit

- 0 Absent
- E Plate exchanger
- P Plate exchanger and water pump
- S Plate exchanger, water pump and inertial tank

7 - Acoustic Insulation and Attenuation

- 0 Absent
- 1 Compressor sound blanket and compressor compartment sound proofing
- 2 Fans noise reduction (AXITOP)
- 3 Fans noise reduction (AXITOP) + compressor sound blanket + compartment acoustic insulation

8 - Refrigerant Pipework Accessories

- 0 Absent
- M Refrigerant pressure gauges

9 - Remote Control / Serial Communication

- 0 Absent
- 2 RS485 serial board (Carel/ Modbus protocol)
- B BACNET IP/ PCOWEB serial board
- F BACNET MS/TP / PCONET serial board
- G BACNET IP/ PCOWEB serial board+ supervision software Gweb
- L LON FTT1 O serial board
- S Remote simplified user panel
- T Touch screen remote user panel
- X Remote user panel for advanced controller

10 - Special Coils / Protective Treatments

- 0 Standard
- C Cataphoresis
- I Hydrophilic
- P Pre-painted fins with epoxy painting
- R Copper-copper

11 - Anti Vibration Shock Mounts

- 0 Absent
- G Rubber anti vibration shock mounts
- M Spring anti vibration shock mounts

12 - Coil Protection Grill

- 0 Absent
- F Outdoor finned coil heat exchanger protection filters
- G Selected

13 - Onboard Controller

- 1 Advanced
- 2 Advanced + touchscreen user panel + USB

Accessories

- A 3 way valve for DHW production
- B Hydro smart flow (water tank not allowed)
- C Pair of couplings Victaulic
- D ON/OFF status of the compressors
- E Remote control for step capacity limit
- F Configurable digital alarm board
- G Soft starter
- H Power factor capacitors
- I Filter isolation valves kit (solenoid valve and isolation valve)
- M 0-10 V signal for external user pump control (on-board pump excluded)
- N Compressor tandem/trio isolation valves
- O Anti-intrusion grille

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Rated Technical Data Models 052-092

Model		052	062	072	082	092
Product Code						
Power supply	V-ph-Hz	400-3N-50				
Cooling capacity ^{1 E}	kW	50.3	60.7	71.0	80.0	90.3
Total power input ^{1 E}	kW	17.9	21.4	24.2	27.0	31.3
EER ^{1 E}		2.80	2.84	2.94	2.96	2.88
SEER ^{2 E}		3.68	3.68	3.83	3.80	3.85
Water flow ¹	l/h	8675	10485	12269	13823	15588
Water pressure drop ^{1 E}	kPa	21	30	29	37	27
Available pressure head - LP pumps ¹	kPa	171	155	150	194	189
Heating capacity ^{3 E}	kW	59.9	70.5	83.1	92.4	105
Total power input ^{3 E}	kW	18.2	21.2	25.5	27.9	31.5
COP ^{3 E}		3.30	3.33	3.25	3.31	3.32
SCOP ^{2 E}		2.81	2.89	2.88	2.93	2.96
Heating energy efficiency class ⁴		A+				
SCOP ²		3.52	3.60	3.50	3.58	3.61
Heating energy efficiency class ⁵		A+				
Water flow ³	l/h	10247	12066	14219	15795	17924
Water pressure drop ^{3 E}	kPa	29	41	39	49	35
Available pressure head - LP pumps ³	kPa	156	135	128	165	157
Maximum absorbed current	A	55	65	73	74	63
Startup current	A	152	179	214	215	203
Startup current with softstarter kit	A	111	130	153	154	144
Compressor/ circuits		2/1				
Expansion vessel volume	dm ³	8	8	18	18	18
Buffer tank volume	dm ³	125	125	350	350	350
Sound power level ^{6 E}	dB(A)	82	82	83	83	83
Transport weight unit with pump & tank	kg	692	713	1004	1020	1025
Operating weight unit with pump & full tank	kg	800	821	1354	1370	1375

¹Outdoor air temperature 35°C, water temperature 12°C / 7°C (EN14511:2013)

²η efficiency values for heating and cooling are respectively calculated by the following formulas: [η= SCOP / 2,5 - F(1)-F(2)] e [η=SEER/ 2,5-F(1)-F(2)].

For further information, please refer to the technical document "ErP 2009/125/EC DIRECTIVE" in the catalogue introducing pages, or to the EN14825:2017 regulation.

³Outdoor air temperature dry bulb 7 °C / wet bulb 6°C, water temperature 40°C / 45°C (EN14511:2013)

⁴Seasonal energy efficiency class for MEDIUM TEMPERATURE room heating under AVERAGE climatic conditions [EUROPEAN REGULATION No 811/2013]

⁵Seasonal energy efficiency class for LOW TEMPERATURE room heating under AVERAGE climatic conditions [EUROPEAN REGULATION No 811/2013]

⁶Sound power level measured according to ISO 9614

^EEUROVENT certified data

Rated Technical Data Models 104-184

Model		104	124	154	174	184
Product Code						
Power supply	V-ph-Hz	400-3N-50				
Cooling capacity ^{1 E}	kW	104	124	150	171	181
Total power input ^{1 E}	kW	36.6	45.0	51.2	58.4	62.9
EER ^{1 E}		2.84	2.74	2.93	2.93	2.88
SEER ^{2 E}		4.09	4.09	3.64	3.78	3.79
Water flow ¹	l/h	17916	21276	25906	29549	31296
Water pressure drop ^{1 E}	kPa	32	22	33	24	27
Available pressure head - LP pumps ¹	kPa	140	184	166	168	162
Heating capacity ^{3 E}	kW	119	139	173	194	207
Total power input ^{3 E}	kW	34.6	40.8	51.6	56.6	60.4
COP ^{3 E}		3.42	3.41	3.35	3.43	3.42
SCOP ^{2 E}		2.99	3.08	2.89	3.02	3.02
Heating energy efficiency class ⁴		A+				
SCOP ²		3.79	3.91	3.49	3.63	3.66
Heating energy efficiency class ⁵		A+	A++	A+	A+	A+
Water flow ³	l/h	20289	23834	29636	33295	35408
Water pressure drop ^{3 E}	kPa	42	28	44	30	34
Available pressure head - LP pumps ³	kPa	124	174	149	154	146
Maximum absorbed current	A	92	112	147	136	125
Startup current	A	189	226	288	277	266
Startup current with softstarter kit	A	148	177	227	217	207
Compressor/ circuits		4/2				
Expansion vessel volume	dm ³	18	18	24	24	24
Buffer tank volume	dm ³	350	350	450	450	450
Sound power level ^{6 E}	dB(A)	84	86	86	86	86
Transport weight unit with pump & tank	kg	2127	2218	1955	1956	1996
Operating weight unit with pump & full tank	kg	2577	2668	2405	2406	2446

¹Outdoor air temperature 35°C, water temperature l 2°C / 7°C (EN14511:2013)

²η efficiency values for heating and cooling are respectively calculated by the following formulas: [η= SCOP / 2,5 - F(1)-F(2)] e [η=SEER/ 2,5-F(1)-F(2)].

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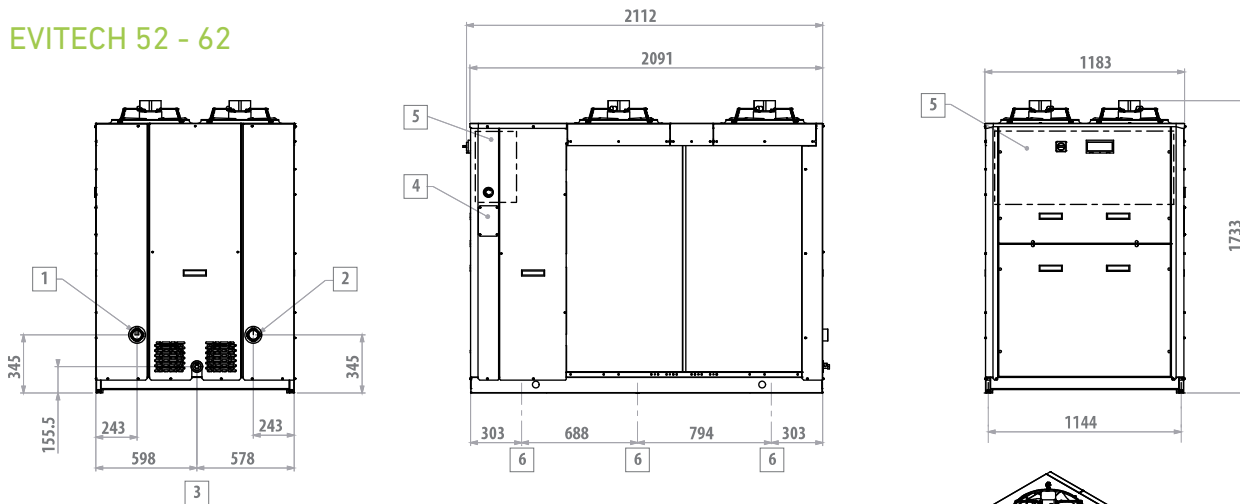
⁵Seasonal energy efficiency class for LOW TEMPERATURE room heating under AVERAGE climatic conditions [EUROPEAN REGULATION No 811/2013]

⁶Sound power level measured according to ISO 9614

^EEUROVENT certified data

Dimensional Drawings

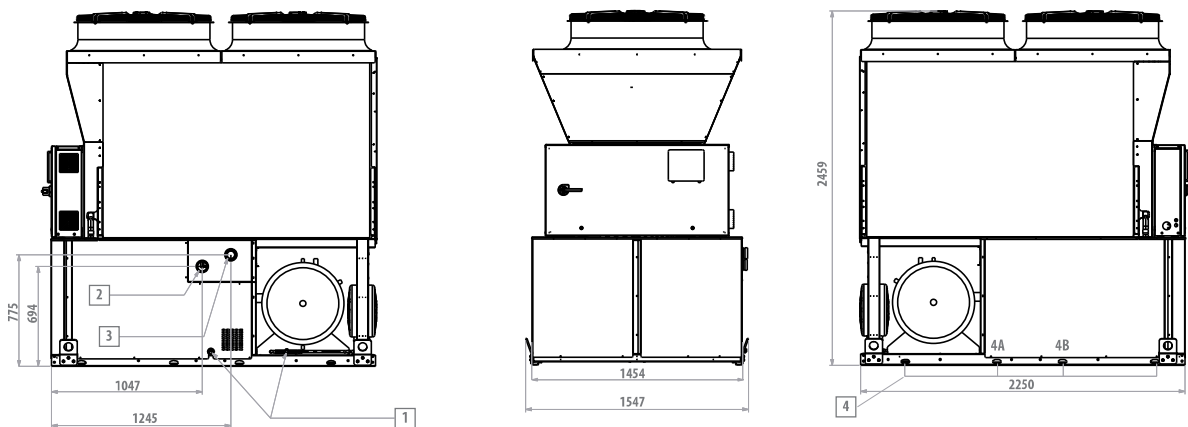
EVITECH 52 - 62



Legend

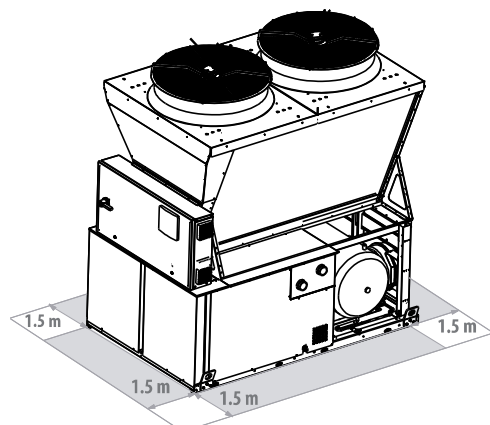
- 1 Water inlet 2" female
- 2 Water outlet 2" female
- 3 Water drainage 1/2" female
- 4 Power supply
- 5 Electric control board
- 6 Fastening points for vibration dampers

EVITECH 72 - 82 - 92



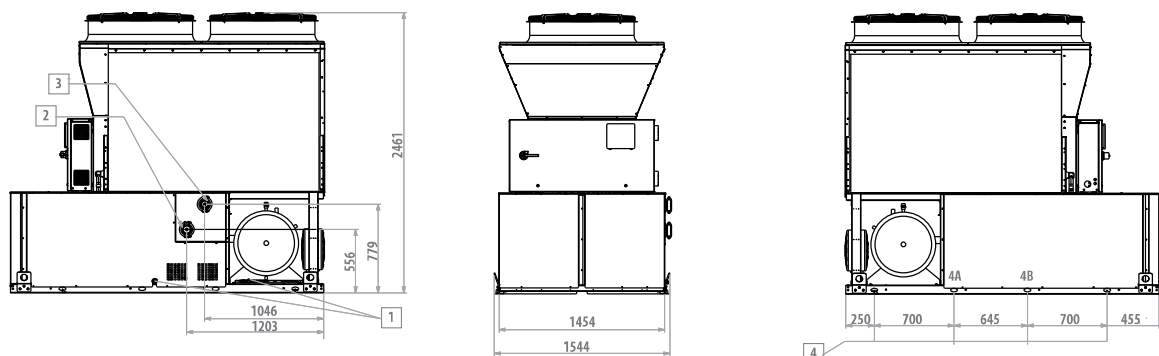
Legend

- 1 Water drainage 1/2" female
- 2 Water inlet Victaulic 2 1/2"
- 3 Water outlet Victaulic 2 1/2"
- 4 Vibration dampers



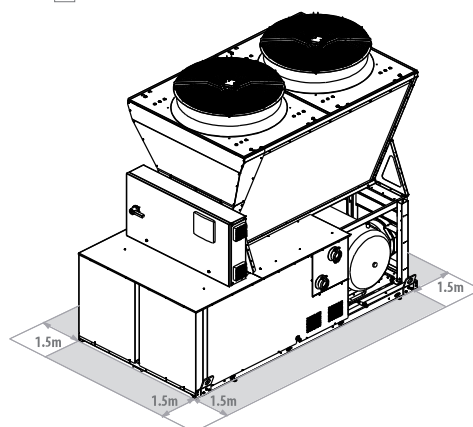
Dimensional Drawings

EVITECH 104 - 124

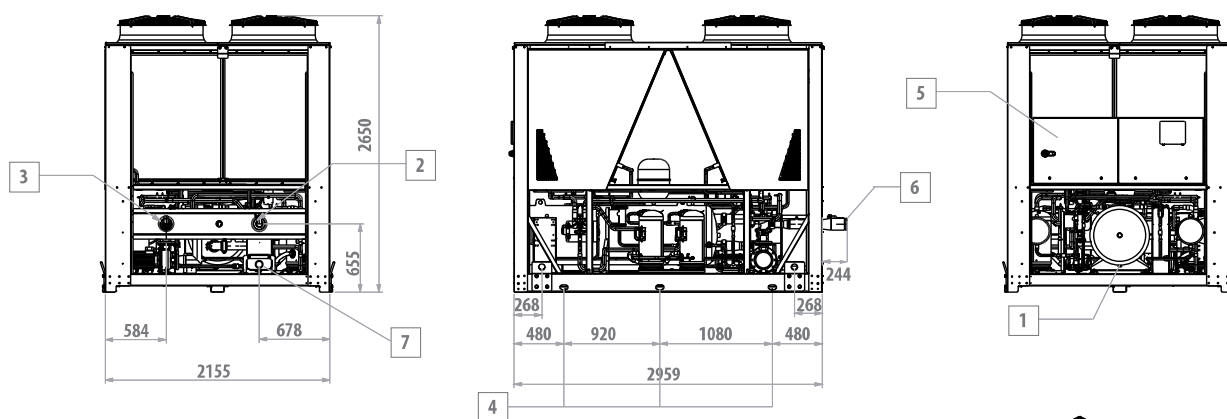


Legend

- 1 Water drainage 1/2" female
- 2 Water inlet Victaulic 2 1/2"
- 3 Water outlet Victaulic 2 1/2"
- 4 Vibration dumpers

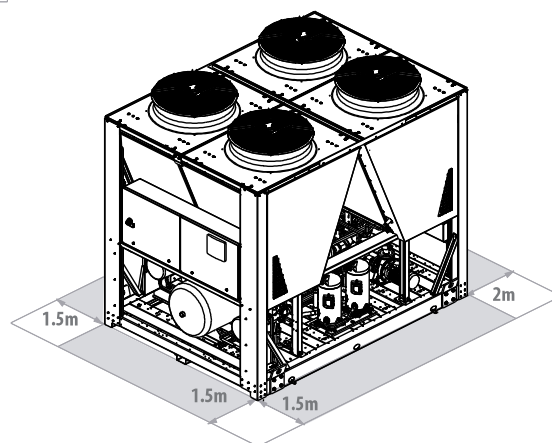


EVITECH 154 - 174 - 184



Legend

- 1 Water drainage 1/2" female
- 2 Water inlet Victaulic 4"
- 3 Water outlet Victaulic 4"
- 4 Vibration dumpers
- 5 Electric control board
- 6 Victaulic adapter from 4" to 3" to be mounted on-site
- 7 Water outlet, evaporator only





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