

Outdoor packaged units



VLE 150 - 570 kW



Erp 2021



Scroll
compressor



R-454B
refrigerant



Cooling only



Cooling /
Heating



Refrigerant
leakage sensor

PLUS

- » Refrigerant with GWP of less than 500
- » High seasonal efficiency values
- » Electronic expansion valve
- » Up to 6 compressors
- » 1 or 2 cooling circuits
- » Remote connectivity with the most common protocols
- » Possibility of configuring low-noise versions

VLE heat pumps and water chillers are designed for heating or cooling the water to be used in air-conditioning systems for residential, commercial, or industrial use. The use of low-GWP refrigerant ensures compliance with the limits established by the F-GAS regulation regarding gases that potentially contribute to global warming (greenhouse gases).

Air-water unit with high seasonal efficiency and low-GWP refrigerant

VLE is Galletti's new range of air-cooled monobloc chillers and heat pumps for outdoor installation featuring R454B refrigerant. R454B is a next-generation A2L refrigerant with a GWP of only 467, one of the lowest on the market. This GWP value ensures that the VLE range complies with the gradual reduction of greenhouse gas emissions required by the F-GAS regulation, down to the stricter limits foreseen for 2030.

The range consists of 11 models with cooling capacities ranging from 150 to 570 kW, available in cooling only or reversible heat pump versions.

The range's main strength is its high seasonal efficiency, which is designed to permanently reduce annual energy consumption as well as meet the minimum efficiency requirements established by ErP 2021. In order to increase the efficiency at partial loads, all VLE models are provided with tandem or trio solutions (2 or 3 compressors on a single circuit) and equipped with electronic expansion valve as standard.

The use of top quality components at the cutting edge of technology in the cooling, hydraulic, and electrical systems makes VLE chillers state of the art in terms of efficiency, reliability, and operating limits. In fact, the ability to produce water from -10 °C to 55 °C and operate at full load with outdoor air temperatures from -15 °C to 46 °C is guaranteed.

The range provides high configurability from the point of view of acoustics, with a wide range of accessories designed to reduce noise emissions. Advanced control, which is always provided across the entire range, allows continuous monitoring of operating parameters, advanced regulation logics, and connectivity.

Lastly, the modular structure with V-shaped coils is designed to optimize heat exchange on the air side, guarantee structural strength with a reduced footprint, and maintain maximum accessibility of the key components.



CONFIGURATOR

The models are completely configurable by selecting the version and the options. To the right is shown an example of configuration.

Version	Fields	1	2	3	4	5	6	7	8	9	10	11	12	13
VLE162HS0A		A	1	S	0	E	0	0	M	0	0	G	0	1

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

AVAILABLE VERSIONS

Cooling only versions

VLE..CS0A	400V-3N-50Hz power supply
VLE..CS2A	400V-3N-50Hz power supply + circuit breakers
VLE..CS4A	400V-3N-50H power supply
VLE..CS5A	400V-3N-50H power supply + circuit breakers

Versions with reversible heat pump

VLE..HS0A	400V-3N-50Hz power supply
VLE..HS2A	400V-3N-50Hz power supply + circuit breakers
VLE..HS4A	400V-3N-50H power supply
VLE..HS5A	400V-3N-50H power supply + circuit breakers

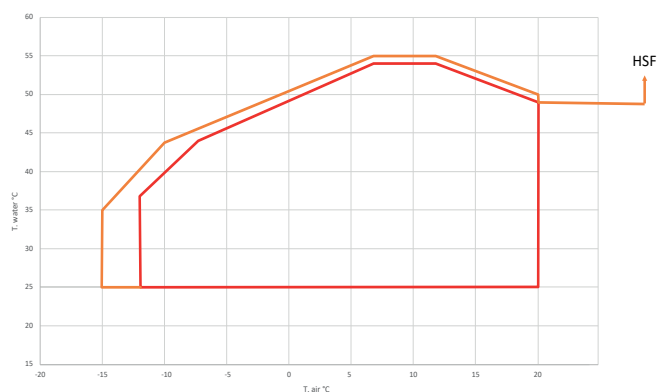
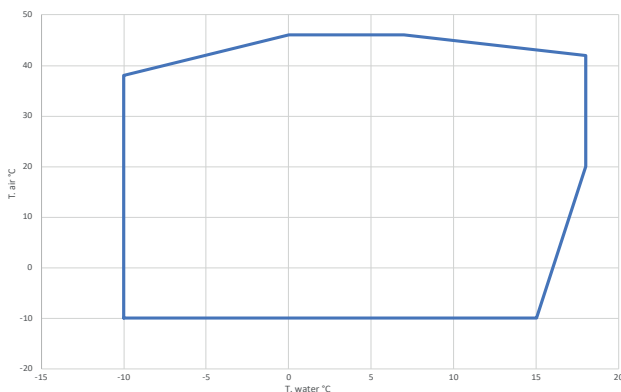
CONFIGURATION OPTIONS

- | | |
|--|---|
| <p>1 Expansion valve</p> <p>A Electronic</p> <p>2 Water pump and accessories</p> <p>0 Not present</p> <p>1 LP pump + expansion tank</p> <p>2 Dual LP pump with timed rotation + expansion tank</p> <p>3 HP pump + expansion tank</p> <p>4 Dual HP pump with timed rotation + expansion tank</p> <p>5 LP pump + expansion tank with Viton seal</p> <p>6 Dual LP pump with timed rotation + expansion tank with Viton seal</p> <p>7 HP pump + expansion tank with Viton seal</p> <p>8 Dual HP pump with timed rotation + expansion tank with Viton seal</p> <p>A LP inverter pump + expansion tank</p> <p>B Dual LP inverter pump with timed rotation + expansion tank</p> <p>C HP inverter pump + expansion tank</p> <p>D Dual HP inverter pump with timed rotation + expansion tank</p> <p>E LP inverter pump + expansion tank with Viton seal</p> <p>F Dual LP inverter pump with timed rotation + expansion tank with Viton seal</p> <p>G HP inverter pump + expansion tank with Viton seal</p> <p>H Dual HP inverter pump with timed rotation + expansion tank with Viton seal</p> <p>3 Inertial buffer tank</p> <p>0 Not present</p> <p>S Present (excluding Hydro Smart Flow)</p> <p>4 Partial heat recovery</p> <p>0 Not present</p> <p>D Desuperheater with pump contact</p> <p>5 Air flow modulation</p> <p>C Condensation control with fans adjusted by phase cutting regulator</p> <p>E Condensation control with BLDC electronically controlled fans</p> <p>A Condensation control with high-head BLDC electronically controlled fans</p> <p>6 Antifreeze kit</p> <p>0 Not present</p> <p>E Evaporator</p> <p>P Evaporator and water pump</p> | <p>S Evaporator, water pump and inertial tank</p> <p>7 Sound insulation and attenuation</p> <p>0 Not present</p> <p>2 Compressor soundproofing housings</p> <p>4 Low-noise BLDC fans</p> <p>5 Compressor soundproofing housings + Low-noise BLDC fans</p> <p>8 Cooling circuit accessories</p> <p>0 Not present</p> <p>M Refrigerant pressure gauges</p> <p>9 Remote control / Serial communication</p> <p>0 Not present</p> <p>2 RS485 Serial board (Modbus/Carel protocol)</p> <p>B BACNET IP/ PCOWEB serial board (requires advanced control)</p> <p>G BACNET IP/ PCOWEB board + MONITORING SOFTWARE (GWeb)</p> <p>S Simplified remote user interface</p> <p>X Remote user interface for advanced command</p> <p>10 Special coils / protective treatments</p> <p>0 Standard</p> <p>I Hydrophilic</p> <p>M Microchannels with epoxy resin + anti-UV treatment (standard for chillers)</p> <p>R Copper / copper</p> <p>C Cataphoresis</p> <p>P Fins pre-coated with epoxy paint</p> <p>11 Vibration isolation</p> <p>0 Not present</p> <p>G Base rubber vibration dampers</p> <p>M Base spring vibration dampers</p> <p>12 Compressor options</p> <p>0 Not present</p> <p>1 Compressor cover heating element (CHILLER), coil heating cable (HP)</p> <p>2 Liquid separator at compressor intake</p> <p>13 On-board control</p> <p>1 Advanced</p> |
|--|---|

A	Metal filter for protecting coils
B	Hydro smart flow (excluding the tank)
C	Pair of Victaulic couplings
D	ON/OFF status of the compressors
E	Remote control for limiting power steps (requires advanced control)
F	Configurable digital alarm card (requires advanced control)
G	Soft starter
H	Power factor correction capacitors
I	Regulating filter kit (solenoid and tap)

L	Double insulation of water circuit
M	0-10V signal for external pump control, equipment side (excluding on-board pump)
N	Tandem/trio compressor shut-off valves
O	Intrusion prevention mesh
P	Regulating pumps kit
Q	Night-time low-noise
R	Enabling 2nd set-point / external alarm signaling via digital input
S	Hot-wire electronic flow switch
T	Mains power analyzer for monitoring and reducing power consumption

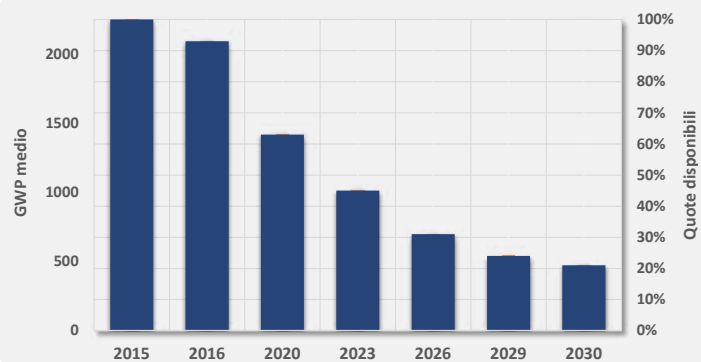
The generous sizing of the coils combined with innovative technological solutions makes it possible for VLEs to operate in very different climatic environments. Specifically:



Chillers and heat pumps with low-GWP refrigerant - VLE

Very low GWP refrigerant

Use of R454B refrigerant with low environmental impact. R454B is a next-generation A2L refrigerant with a GWP of only 467, one of the lowest on the market. This GWP value ensures that the VLE range complies with the gradual reduction of quotas of greenhouse refrigerants in the European market required by the F-GAS regulation, down to the stricter limits foreseen for 2030.



Scroll compressors

The scroll-type compressors designed to work with R454B, which can be sound insulated, include internal thermal protection of the windings and are installed on special anti-vibration supports.

The scroll-type compressors are equipped with an IDV valve. The IDV intermediate delivery valve technology allows the compressor to avoid losses caused by over-compression and, consequently, the additional work the motor has to perform in partial-load operation, thus saving energy and improving seasonal and partial-load efficiency from 3% to 10%.



Low-noise version

The units can be supplied in a low-noise version, with silencing housings and reduced speed BLDC fans. This configuration, together with the night-time attenuation function, significantly reduces the sound power level.

HSF - Hydro Smart Flow

The HSF kit, which is available on request, is placed on the hydronic side of the unit and consists of a 4-way valve and a special kit. Hydro Smart Flow is activated at the time of seasonal changeover by reversing the direction in which the water flows across the plates, consistent with the direction of flow of the refrigerant. In this manner a counterflow heat exchange is always maintained, thus optimizing the operation of the unit in the summer and winter seasons and extending the unit's operating range.

Microchannel

The entire Chiller range has microchannel coils as a standard feature. The large heat exchange surface, the absence of a copper-aluminum interface, and the perfect flow of air make it possible to achieve the same performance while reducing the refrigerant charge by up to 40%, with obvious benefits from an ecological point of view. Microchannel coils Galletti always feature surface treatment as a standard feature in order to provide maximum safety, even in harsh environments.



Structure

The range is developed modularly, reproducing the optimized structure of single V coils and fans. Its design ensures stability, sturdiness even during the most critical phases (such as transport), and maximum accessibility to components in every VLE unit.



Electronic valve

It is standard on the entire range and offers greater responsiveness during transients. The electronics also manage the synergistic operation of the compressors and the valve, thereby making it possible to vary overheating and maximize efficiency at partial loads.



Safety procedures in case of refrigerant leakage

As a standard feature, the units are equipped with leak detection sensors in the electrical control board and near the cooling circuit. The microprocessor manages the procedures for securing and shutting down the unit in case of refrigerant leakage, also making it possible to divert the power supply of the control unit that collects the information from the leak sensors on a low-voltage emergency line. This function allows the complete disconnection of the power to the unit during maintenance operations, while leaving all the safety systems enabled.



Economy function - low noise

Based on time slots or no-voltage contact, this function makes it possible to reduce the maximum speed of fans and the number of compressors that can be activated.

This operation is especially useful during the night phase, when the power required is very low, and the unit can operate at a reduced level, thus lowering the noise level during a sensitive time period.

Primary pump management

In case of a decoupled circuit, it is possible, by remote probe, to switch off the pumps of the primary circuit when allowed, due to low thermal load. This guarantees a further reduction in pumping costs.

CDS - Continuous Data Storage

This feature makes it possible to continuously store the typical operating parameters of the unit and the system in the control microprocessor. This is achieved by means of an additional memory, which is included on the controls of the entire VLE range as a standard feature.



Chillers and heat pumps with low-GWP refrigerant - VLE

RATED TECHNICAL DATA

VLE C			162	202	243	274	314	344
Power supply		V-ph-Hz	400 - 3N - 50					
Cooling capacity	(1)	kW	154	204	233	271	310	339
Total power input	(1)	kW	59.0	67.3	83.4	102	117	118
EER	(1)		2.61	3.03	2.79	2.67	2.64	2.88
SEER	(2)		4.11	4.30	4.21	4.15	4.13	4.35
Water flow	(1)	l/h	26540	35003	40013	46654	53293	58379
Water pressure drop	(1)	kPa	24	25	31	30	39	34
Available head, low-head pump	(1)	kPa	126	157	142	133	102	145
Available pressure head, high-head pump	(1)	kPa	224	225	205	226	202	250
Maximum absorbed current		A	132	167	199	230	256	281
Inrush current		A	387	422	445	476	512	537
Inrush current with soft starter		A	301	336	365	396	426	451
No. of compressors / circuits			2/1	2/1	3/1	4/2	4/2	4/2
Buffer tank capacity		l	250	350	350	350	350	550
Sound power level	(3)	dB(A)	88	91	92	91	91	93
Sound power level low noise version	(3)	dB(A)	82	85	85	84	85	87
Weight without options		kg	1073	1831	1952	2072	2114	2893

VLE C			374	414	456	546	576
Power supply		V-ph-Hz	400 - 3N - 50				
Cooling capacity	(1)	kW	355	407	460	536	579
Total power input	(1)	kW	125	131	163	179	202
EER	(1)		2.85	3.10	2.83	3.00	2.86
SEER	(2)		4.33	4.69	4.55	4.55	4.57
Water flow	(1)	l/h	61061	70072	79141	92193	99539
Water pressure drop	(1)	kPa	47	31	38	38	41
Available head, low-head pump	(1)	kPa	112	165	138	122	160
Available pressure head, high-head pump	(1)	kPa	224	226	208	228	206
Maximum absorbed current		A	294	329	335	386	412
Inrush current		A	550	585	581	642	668
Inrush current with soft starter		A	464	499	501	556	582
No. of compressors / circuits			4/2	4/2	6/2	6/2	6/2
Buffer tank capacity		l	550	700	700	800	800
Sound power level	(3)	dB(A)	93	94	94	95	95
Sound power level low noise version	(3)	dB(A)	87	88	87	89	89
Weight without options		kg	2924	3612	3855	5343	5432

(1) Water temperature - user side 12°C - 7°C, outdoor air temperature 35°C (EN14511:2013)

(2) The efficiency values η in heating and cooling modes are calculated using the following formulas, respectively: $[\eta = SCOP / 2.5 - F(1) - F(2)]$ and $[\eta = SEER / 2.5 - F(1) - F(2)]$. For further information, please refer to the ErP DIRECTIVE 2009/125/EC technical information found in the introductory pages of the catalog or to Standard EN14825:2017.

(3) Measured in accordance with ISO 9614

RATED TECHNICAL DATA

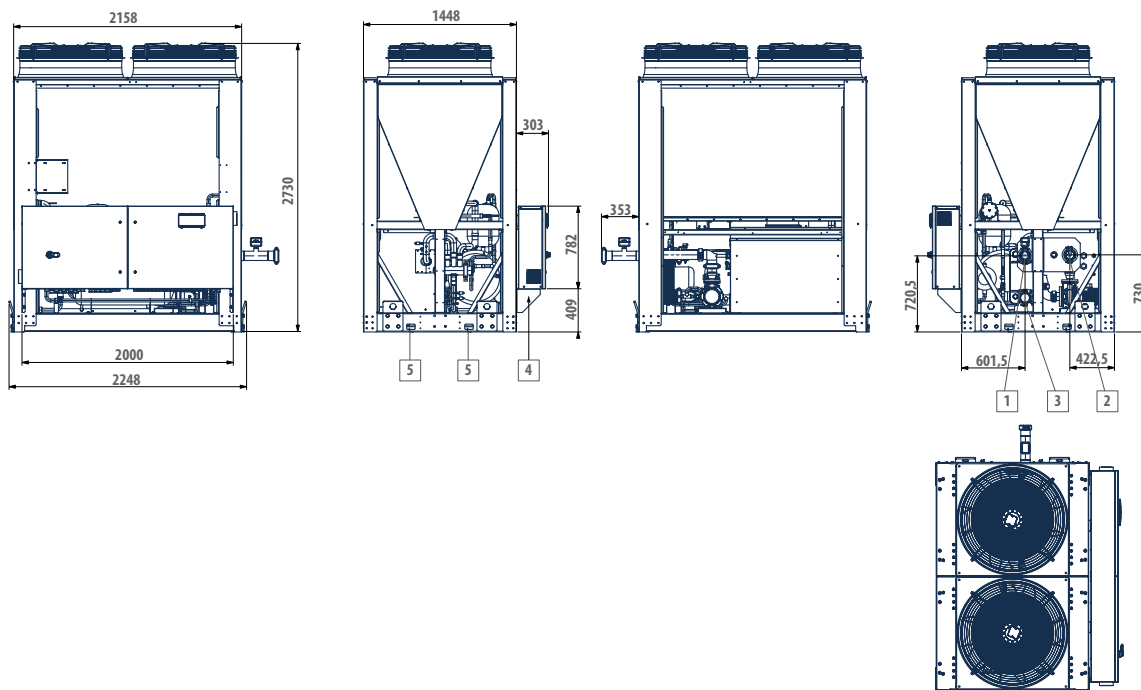
VLE H			162	202	243	274	314	344
Power supply		V-ph-Hz	400 - 3N - 50					
Cooling capacity	(1)	kW	152	201	229	267	308	335
Total power input	(1)	kW	58.4	67.2	83.3	101	116	118
EER	(1)		2.61	2.98	2.75	2.63	2.66	2.84
SEER	(2)		4.11	4.30	4.21	4.15	4.13	4.35
Water flow	(1)	l/h	26181	34514	39459	45971	53055	57566
Water pressure drop	(1)	kPa	23	23	30	29	38	33
Available head, low-head pump	(1)	kPa	130	161	146	136	104	149
Available pressure head, high-head pump	(1)	kPa	228	229	209	230	205	254
Heating capacity	(3)	kW	164	208	244	288	329	354
Total power input	(3)	kW	56.4	66.9	84.7	99.4	112	118
COP	(3)		2.91	3.11	2.88	2.90	2.94	2.99
SCOP	(2)		3.56	3.50	3.44	3.71	3.87	3.68
Energy efficiency class in heating mode	(4)		A+					
Water flow	(3)	l/h	28282	35807	41966	49529	56588	60818
Water pressure drop	(3)	kPa	27	26	34	33	42	37
Available head, low-head pump	(3)	kPa	113	152	132	115	85	138
Available pressure head, high-head pump	(3)	kPa	203	210	192	210	186	245
Maximum absorbed current		A	132	167	199	230	256	281
Inrush current		A	387	422	445	476	512	537
Inrush current with soft starter		A	301	336	365	396	426	451
No. of compressors / circuits			2/1	2/1	3/1	4/2	4/2	4/2
Buffer tank capacity		l	250	350	350	350	350	550
Sound power level	(5)	dB(A)	88	91	92	91	91	93
Sound power level low noise version	(5)	dB(A)	82	85	85	84	85	87
Weight without options		kg	1213	2106	2227	2355	2400	3285

VLE H			374	414	456	546	576
Power supply		V-ph-Hz	400 - 3N - 50				
Cooling capacity	(1)	kW	357	400	458	531	571
Total power input	(1)	kW	126	133	162	178	203
EER	(1)		2.82	3.01	2.83	2.98	2.81
SEER	(2)		4.33	4.69	4.55	4.55	4.57
Water flow	(1)	l/h	61329	68872	78787	92969	98198
Water pressure drop	(1)	kPa	46	30	37	37	40
Available head, low-head pump	(1)	kPa	110	169	142	121	165
Available pressure head, high-head pump	(1)	kPa	222	230	211	227	209
Heating capacity	(3)	kW	378	425	492	576	622
Total power input	(3)	kW	126	137	165	186	200
COP	(3)		3.00	3.09	2.97	3.10	3.11
SCOP	(2)		3.72	3.65	3.42	3.65	3.80
Energy efficiency class in heating mode	(4)		A+				
Water flow	(3)	l/h	65060	73026	84540	98997	106938
Water pressure drop	(3)	kPa	41	30	35	49	51
Available head, low-head pump	(3)	kPa	114	159	132	89	123
Available pressure head, high-head pump	(3)	kPa	237	220	198	194	171
Maximum absorbed current		A	294	329	335	386	412
Inrush current		A	550	585	581	642	668
Inrush current with soft starter		A	464	499	501	556	582
No. of compressors / circuits			4/2	4/2	6/2	6/2	6/2
Buffer tank capacity		l	550	700	700	800	800
Sound power level	(5)	dB(A)	93	94	94	95	95
Sound power level low noise version	(5)	dB(A)	87	88	87	89	89
Weight without options		kg	3316	4152	4394	6010	6103

- (1) Water temperature - user side 12°C - 7°C, outdoor air temperature 35°C (EN14511:2013)
- (2) The efficiency values η in heating and cooling modes are calculated using the following formulas, respectively: $[\eta = SCOP / 2.5 - F(1) - F(2)]$ and $[\eta = SEER / 2.5 - F(1) - F(2)]$. For further information, please refer to the ErP DIRECTIVE 2009/125/EC technical information found in the introductory pages of the catalog or to Standard EN14825:2017.
- (3) Water temperature - user side 40°C - 45°C, outdoor air temperature 7°C dry bulb / 6.2°C wet bulb (EN14511:2013)
- (4) Seasonal energy efficiency class of space heating at LOW TEMPERATURE under AVERAGE weather conditions [REGULATION (EU) no. 811/2013]
- (5) Measured in accordance with ISO 9614

DIMENSIONAL DRAWINGS

VLE 162

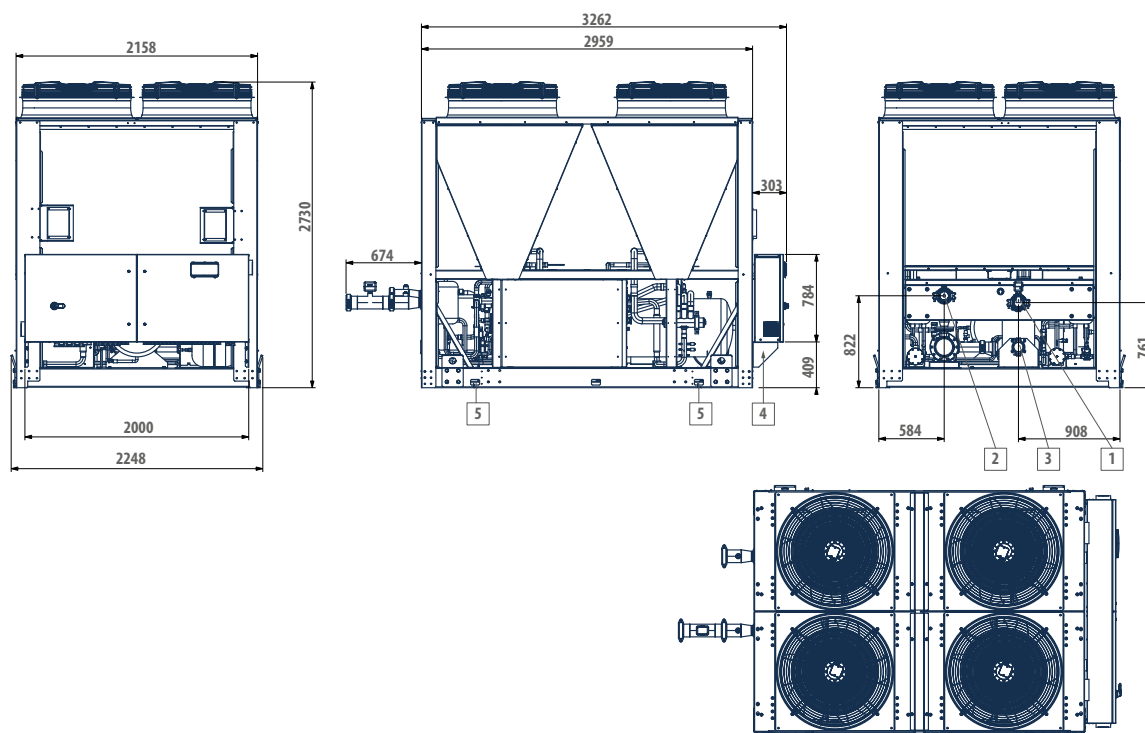


LEGEND

1	Water inlet (Victaulic 3")
2	Water outlet (Victaulic 3")
3	Water outlet - evaporator only unit (Victaulic 3")
4	Power supply input
5	Vibration dampers

DIMENSIONAL DRAWINGS

VLE 202-314

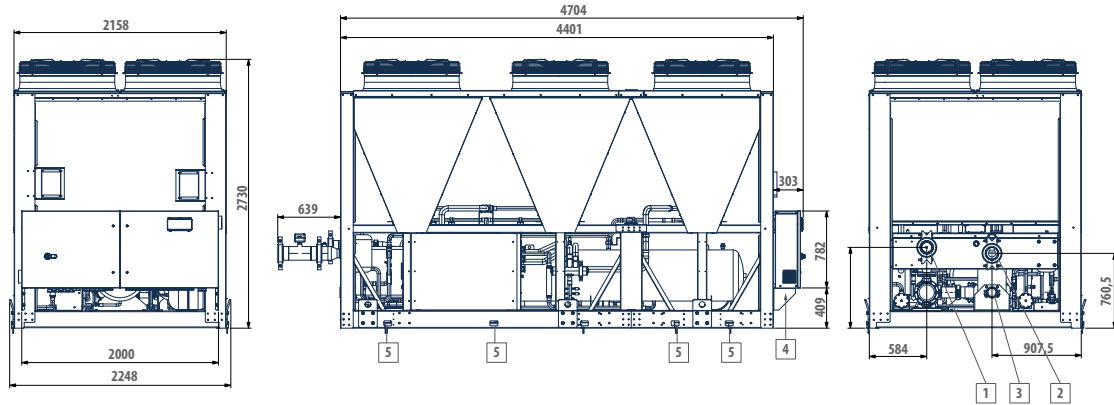


LEGEND

1	Water inlet (Victaulic 4")
2	Water outlet (Victaulic 4")
3	Water outlet - evaporator only unit (Victaulic 4")
4	Power supply input
5	Vibration dampers

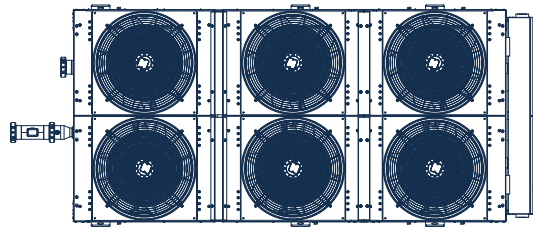
DIMENSIONAL DRAWINGS

VLE 344-374

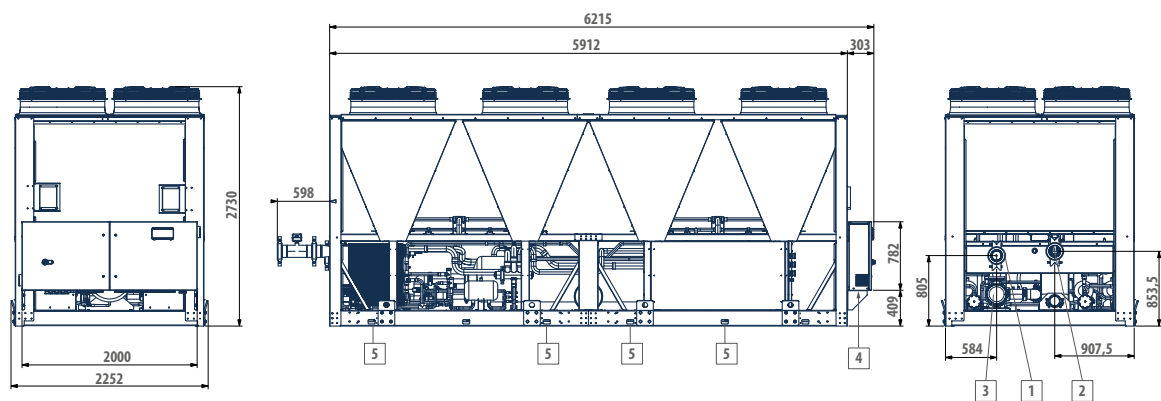


LEGEND

- | | |
|---|--|
| 1 | Water inlet (Victaulic 5") |
| 2 | Water outlet (Victaulic 5") |
| 3 | Water outlet - evaporator only unit (Victaulic 5") |
| 4 | Power supply input |
| 5 | Vibration dampers |

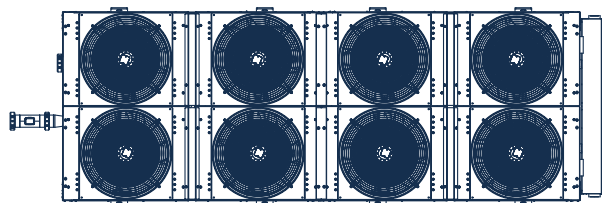


VLE 414-456



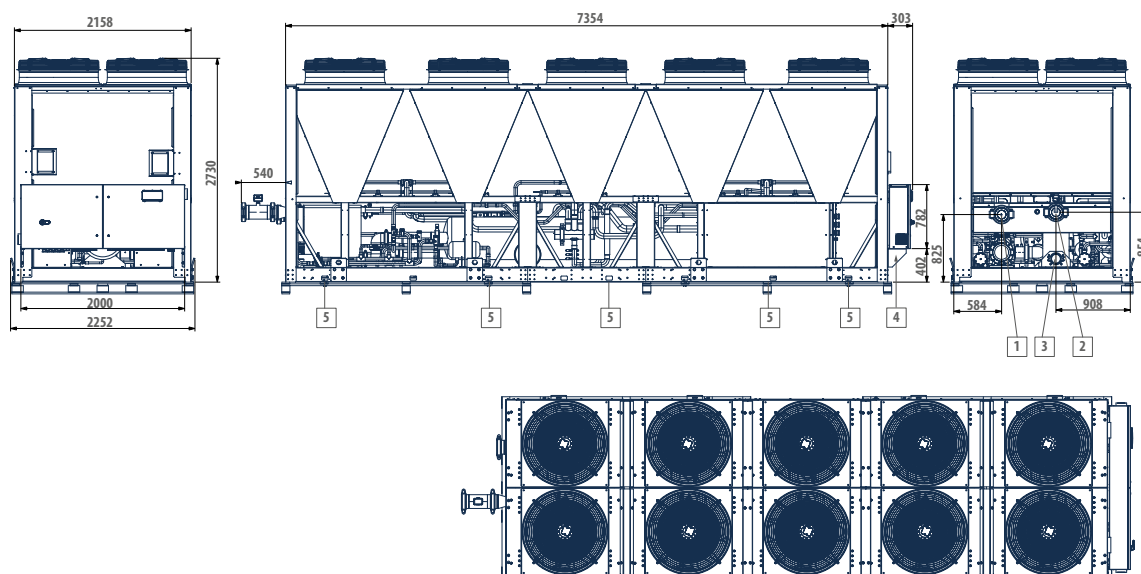
LEGEND

- | | |
|---|--|
| 1 | Water inlet (Victaulic 5") |
| 2 | Water outlet (Victaulic 5") |
| 3 | Water outlet - evaporator only unit (Victaulic 5") |
| 4 | Power supply input |
| 5 | Vibration dampers |



DIMENSIONAL DRAWINGS

VLE 546-576



LEGEND

1	Water inlet (Victaulic 6")
2	Water outlet (Victaulic 6")
3	Water outlet - evaporator only unit (Victaulic 6")
4	Power supply input
5	Vibration dampers