

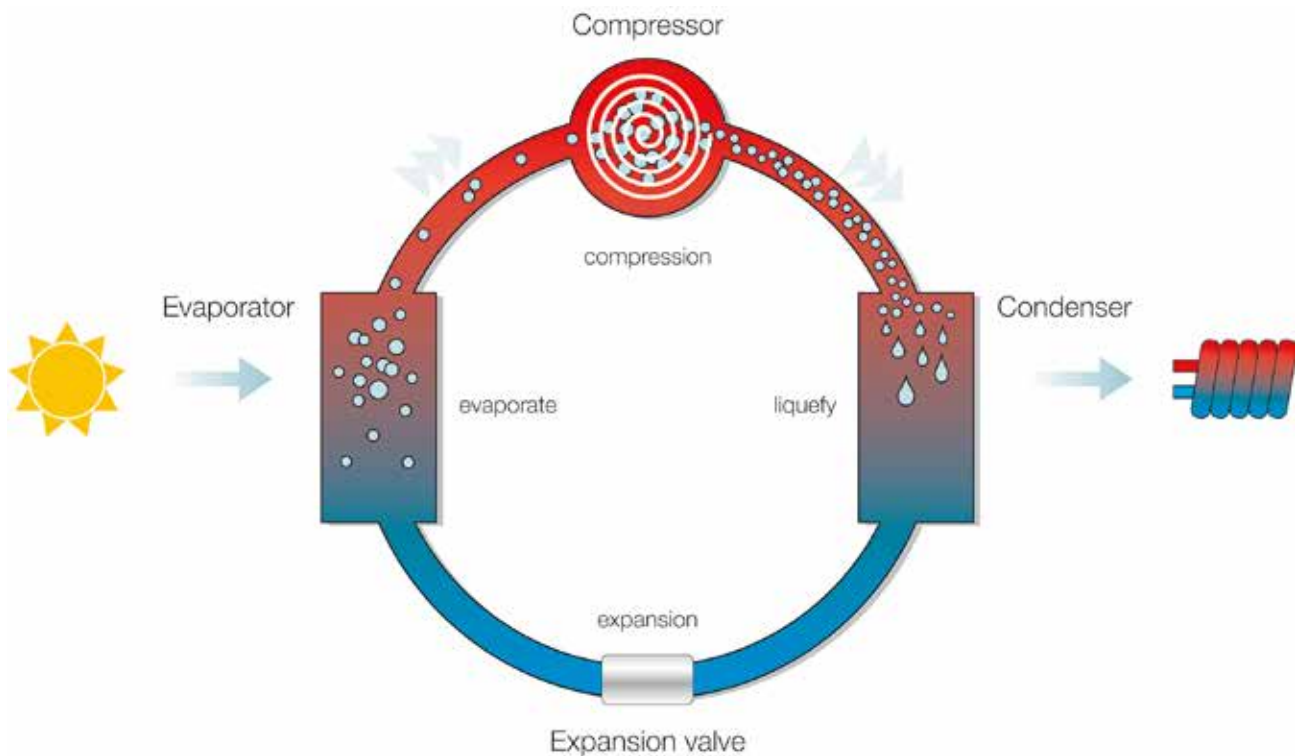


COMMERCIAL WATER SOURCE HEAT PUMP VERSOPUMP - ET-CH SERIES





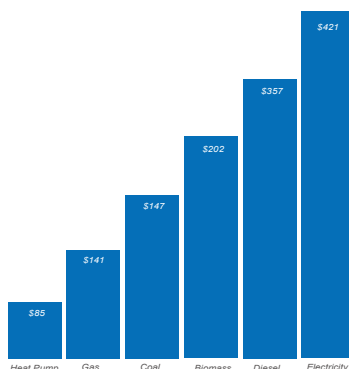
HEAT PUMP WORKING PRINCIPLE



Heat pump water heater extracts energy from the air or other heat source and uses it to heat water. It uses 1 time power to drive the compressor and brings 4.3 times heat to the water, this is what we called coefficient of performance (COP). With COP up to 4.3.

ENERGY RESOURCE COMPARISON

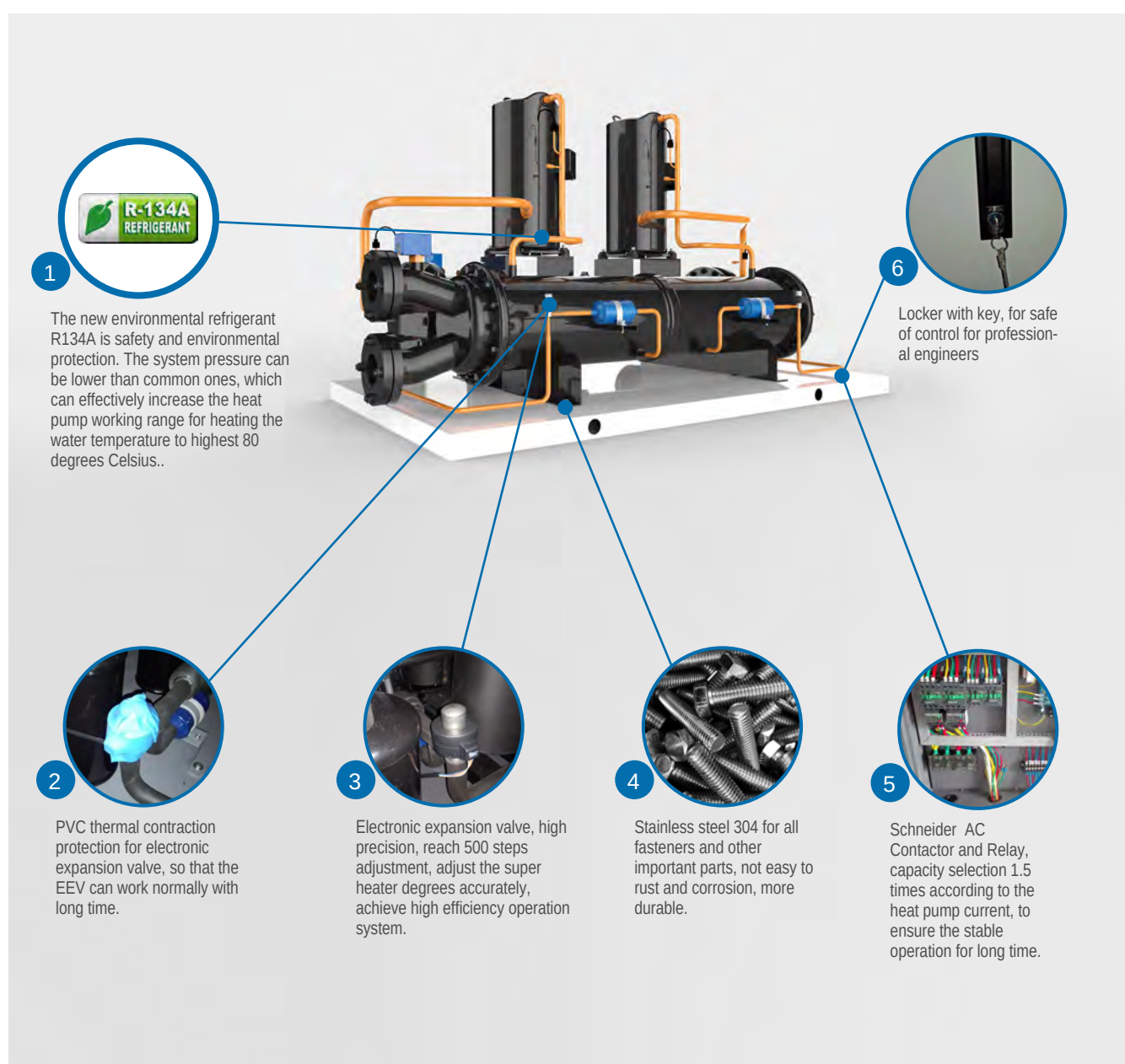
The data on the following drawing are calculated on the basis of 20hrs/day in 120 days.



Operating Cost Comparison						
Items	Heat Pump	Gas	Diesel	Electricity	Coal	Biomass
Calorific Value	860kcal/kW	8600kcal/L	10200kcal/L	860kcal/kW	5000kcal/Kg	4000
Unit Price	\$0.1/kWh	\$0.3/m ³	\$0.9/L	\$0.10/kWh	\$0.075/Kg	0.20
Heating Load	200kW					
η	468%	85%	85%	95%	35%	85%
Consumption Per Hour	43kW/h	24m ³ /h	20L/h	211kW/h	98Kg/h	51
Operating Cost Per Day	\$85	\$141	\$357	\$421	\$147	\$202
Operating Cost Per Year	\$10256	\$16941	\$42851	\$50526	\$17691	\$24282
Energy-Saving	/	19.05%	68.00%	72.86%	22.48%	43.52%

VERSOPUMP ET-CH SERIES ADVANTAGE

- a. Copeland and R134a refrigerant for best operation, low pressure but high water temperature.
- b. Stainless Steel 304 material for all fasteners.
- c. High quality shell & tube heat exchanger, coaxial heat exchanger or plate type heat exchanger for option.
- d. World famous brands of components, such as Saginomiya electronic expansion valves, SANHUA 4-way valves, Schneider AC contactor and etc.,
- e. With complete testing for good quality and highest COP.
- f. All copper material for water pipes.
- g. Strong wooden case packing for safe sea transportation.
- h. Advanced control system for reaching all of your requirements.
- i. Unique cabinet designing, for your better marketing.
- j. Emergency switch for power on/off.





With CE certificate by TUV.



Professional compressor for heat pump water heater: Adopt Copeland or Panasonic top quality scroll compressor specially for heat pump water heater, with much wider operation range for different ambient temperature. Special design for high suction & exhaust temperature, and system high condensing temperature & pressure, Higher efficiency, Lower noise, Higher reliability, Longer service life.



Wifi function for option (Control by Apps on mobile phone).



High efficiency shell & tube heat exchanger and coaxial heat exchanger: Adopt high efficiency internal thread copper coil, which heating area is 3.6 times than ordinary smooth coil, larger diameter water loop design to make water flow smoothly, energy efficiency is superior. Brazed plate type heat exchanger for option for brine to water type, higher efficiency.



Danfoss brand dryer filter will be adopted for big capacities.



Schneider brand AC Contactor and Relay for, model selection according to the heat pump current capacity of 1.5 times, to ensure the efficient and stable operation for long time.



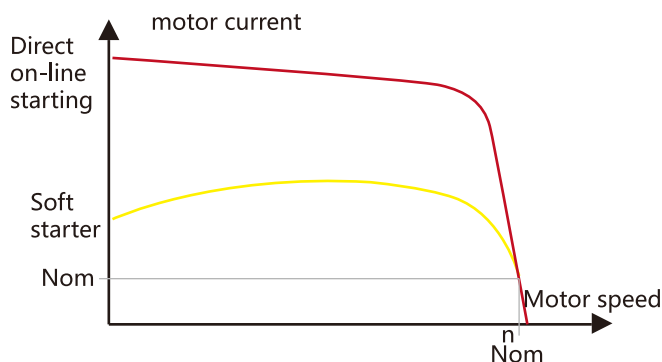
High precision electronic expansion valve: use electronic expansion valve for controlling, reach 500 steps adjustment, adjust super heat degrees accurately, achieve high efficiency operation system.



VERSOL brand self researched and produced control system. Adopt famous master chip, ensure stable running. With lot of protection functions: VERSOL engineer specially designed anti-freezing protection, High & low pressure protection, high temperature protection, overload protection, lack phase and reverse phase protection, and so on. Modular control for at most 32 heat pumps, can be combined freely according to the required capacity.



Low ODP refrigerant R410a.



Soft starter for option, reduce the starting current and starting stress, extend the service life of the motor and related equipment. Smooth start and soft stop avoid the surge problem and water hammer effect of traditional starting equipment.



VERSOPUMP - ET - CH SERIES (WATER / GROUND SOURCE HEAT PUMP WATER HEATER)																
		ET8-CH	ET10-CH	ET12-CH	ET20-CH	ET12-CH	ET20-CH	ET28-CH	ET40-CH	ET54-CH	ET79-CH	ET94-CH	ET118-CH	ET158-CH	ET190-CH	ET240-CH
Rated heating capacity (KW)		7.9	9.8	11.8	19.8	11.9	19.8	28.1	39.5	54.3	79.2	93.95	118.85	158.2	188.8	238.4
Rated power (KW)		1.64	2.03	2.45	4.09	2.45	4.09	5.79	8.18	11.28	16.45	19.57	24.61	32.75	38.92	49.36
Rated current (A)		8.77	11.53	13.92	23.24	4.62	7.77	10.99	15.54	21.97	31.12	37.16	46.74	62.19	73.92	93.75
Maximum power (KW)		2.21	2.71	3.25	5.42	3.28	5.52	7.81	11.04	15.22	22.14	26.42	33.22	44.22	52.51	66.63
Maximum current (A)		11.82	15.32	17.38	30.79	6.23	10.48	14.83	20.97	29.65	41.99	50.51	63.09	83.98	99.72	126.55
Performance coefficient (COP)		4.82	4.83	4.82	4.84	4.86	4.84	4.85	4.83	4.81	4.81	4.80	4.83	4.83	4.85	4.83
Rated hot water produce capacity (L/H)		172	215	258	430	258	430	602	860	1182	1720	2043	2580	3440	4085	5150
Rated hot water output temperature (℃)		55														
Maximum hot water output temperature (℃)		60														
Power supply		1N 220V~240V/50Hz					3N 380V~420V/50Hz									
Compressor	Type	Rotor type			Hermetic scroll type											
	Start mode	Directly start(Soft start for option)														
Hot water side heat exchanger	Type	Shell & tube heat exchanger														
	Water flow (m³/h)	1.4	1.8	2.1	3.4	2.1	3.4	4.8	6.9	9.4	13.8	16.3	20.6	27.5	32.7	41.2
	Water pressure drop (KPa)	≤50	≤50	≤50	≤50	≤50	≤50	≤50	≤50	≤60	≤60	≤70	≤70	≤70	≤70	≤70
	Pipe size (DN)	DN20	DN20	DN20	DN25	DN20	DN25	DN25	DN32	DN50	DN50	DN50	DN65	DN80	DN80	DN80
	Pipe connection	Inner thread										Flange				
Heat source side heat exchanger	Type	Plate type heat exchanger			Tube in tube heat exchanger						Shell & tube heat exchanger					
	Water flow (m³/h)	1.1	1.4	1.6	2.7	1.6	2.7	3.8	5.4	7.3	10.7	12.7	16.1	21.5	25.5	32.3
	Water pressure drop (KPa)	≤50	≤50	≤50	≤50	≤50	≤50	≤50	≤50	≤60	≤60	≤70	≤70	≤70	≤70	≤70
	Pipe size (DN)	DN20	DN20	DN20	DN25	DN20	DN25	DN25	DN32	DN50	DN50	DN50	DN65	DN80	DN80	DN80
	Pipe connection	Inner thread										Flange				
Protections		1. High and low pressure protection, 2. Anti-freeze protection, 3. High temperature protection, 4. Overload protection,5. Reverse of phase protection, Lack of phase protection, etc.														
Refrigerant	Type	R410A														
	Quantity(KG)	1.2	1.3	1.7	2.8	1.7	2.6	3.8	2.6x2	3.8x2	6x2	7.2x2	9x2	6x4	7.5x4	9x4
Noise (≤DB(A))		51	51	52	55	52	55	58	58	62	64	65	68	71	72	73
Unit dimensions	Length (MM)	706	706	956	956	956	956	956	1100	1100	1795	1795	1795	2752	2752	2752
	Width (MM)	356	356	556	556	556	556	556	840	840	1116	1116	1116	1178	1178	1178
	Height (MM)	591	591	680	680	680	680	680	800	800	1049	1049	1049	1201	1201	1201
Weight (KG)		55	58	65	93	65	93	128	180	220	700	730	780	1300	1400	1500

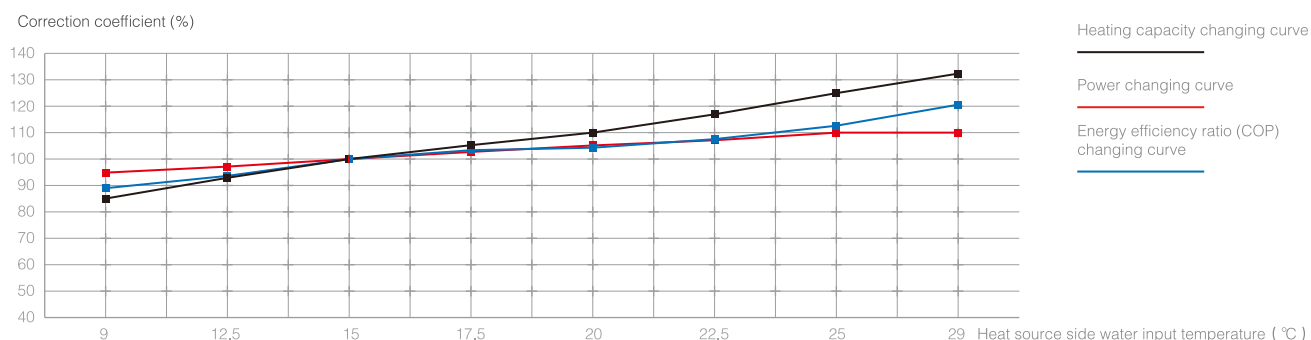
- Note: 1. Hot water heating standard condition: Hot water side initial water temperature 15 °C, final water temperature 55 °C; heat source side water input temperature 15 °C.
2. The above parameters are based on refrigerant R410A, for parameters based on other refrigerant please contact us.
3. The above parameters may have some differences from the final product because of products updating, so above information is not the provision of any business contract.



VERSOPUMP ET-CH HIGH TEMP SERIES - HIGH TEMPERATURE WATER SOURCE HEAT PUMP																	
Model / Part No			ET8-CH	ET14-CH	ET8-CH	ET14-CH	ET19-CH	ET28-CH	ET40-CH	ET50-CH	ET66-CH	ET84-CH	ET100-CH	ET132-CH	ET165-CH	ET4205-CH	
Rated Heating Capacity		KW	8.5	14	8.5	14	19	28	40	50	66	84	100	132	165	205	
Rated Power		KW	1.91	3.10	1.90	3.07	4.21	6.19	8.97	11.29	14.83	18.96	22.42	29.86	37.5	46.50	
Rated Current		A	8.36	13.61	3.57	5.77	7.92	11.65	16.86	21.22	27.88	35.65	42.15	56.14	71.22	88.35	
Max. Power		KW	2.44	3.97	2.43	3.93	5.39	7.93	11.48	14.45	18.98	24.27	28.70	38.23	48.75	60.51	
Max. Current		A	11.35	18.48	4.60	7.43	10.19	14.99	21.70	27.30	35.88	45.87	54.24	72.25	92.6	115	
Performance Coefficient		COP	4.46	4.51	4.47	4.56	4.51	4.52	4.46	4.43	4.45	4.43	4.46	4.42	4.4	4.41	
Rated Hot Water Supply	△t40	L/H	183	301	183	301	409	602	860	1075	1419	1806	2150	2838	3548	4408	
	△t60	L/H	122	201	122	201	272	401	573	717	946	1204	1433	1892	2365	2938	
Water Temp Out		℃	70℃(Default) Adjustable to 28-80℃														
Power Supply			1N 220V/50Hz			3N 380V/50Hz or 3N 380V 60Hz											
Compressor	Type		Hermetic Scroll Type														
	Quantity	Unit	1	1	1	1	1	2	2	2	2	3	3	2	4	4	3
	Start mode		Direct(Soft start for option)														
Application Side Heat Exchanger	Type		Shell & Tube Heat Exchanger (Tube in tube heat exchanger or Plate type heat exchanger as option)						Shell & Tube Heat Exchanger								
	Water Flow	m³/h	1.5	2.4	1.5	2.4	3.3	4.8	6.9	8.6	11.4	14.4	17.2	22.7	28.4	35.3	
	Pressure Drop	KPa	≤50	≤50	≤50	≤50	≤50	≤50	≤60	≤60	≤70	≤70	≤70	≤70	≤74	≤75	
	Connection Size	DN	DN20	DN25	DN20	DN25	DN25	DN32	DN50	DN50	DN50	DN65	DN65	DN65	DN80	DN100	
	Connection type		BSP Female Thread						ANSI / DN Flange								
Heat Source Side Heat Exchanger	Type		Shell & Tube Heat Exchanger														
	Water Flow	m³/h	1.1	1.9	1.1	1.9	2.5	3.8	5.4	6.7	8.8	11.3	13.4	18.5	22.1	27.5	
	Pressure Drop	KPa	≤50	≤50	≤50	≤50	≤50	≤50	≤60	≤60	≤70	≤70	≤70	≤70	≤74	≤75	
	Connection Size	DN	DN20	DN25	DN20	DN25	DN25	DN32	DN50	DN50	DN50	DN65	DN65	DN65	DN80	DN100	
	Connection type		BSP Female Thread						ANSI / DN Flange								
Safety Interlocks			1. High and Low Pressure Protection, 2. Anti-freeze Protection, 3. High Temperature Protection, 4. Overload Protection, 5. Electric Power Phase Protection(Reverse phase / Lack Phase)														
Refrigerant	Type		R134A														
	Quantity (KG)		2.2	3.3	2.2	3.3	4.2	3.3x2	6.5x2	8x2	8.8x2	8.2x3	8.8x3	8.8x4	9*4	15* 3	
Noise		DB(A)	≤53	≤55	≤55	≤55	≤58	≤58	≤62	≤65	≤65	≤70	≤75	≤75	≤78	≤78	
Dimension		mm	956x556x680					840x1100x800			1795x1116x1050			2x1.2x1 m	1.6x1.05x1.02m	2*1.05*1.25 m	2*1.05*1.25 m
Net / Gross Weight		KG	68 / 78	95 / 105	65 / 75	95 / 105	135 / 145	195 / 215	320 / 340	480 / 515	885 / 920	985 / 1020	1180 / 1215	1110 / 1140	1180 / 1220	1280 / 1320	
Remarks:																	
1. Water Heating Standard Condition: Application side initial water temperature 15℃, end water temperature 75℃; Heat Source Side Water input temperature 15℃.																	
2. The above parameters are based on refrigerant R134A, for parameters based on other refrigerant please contact us.																	
3. Diemsnion & Weight are Tentative only. Get Final data sheet after confirmation																	
4. The above models are standard version. Bespoke designed model availaible upon request																	

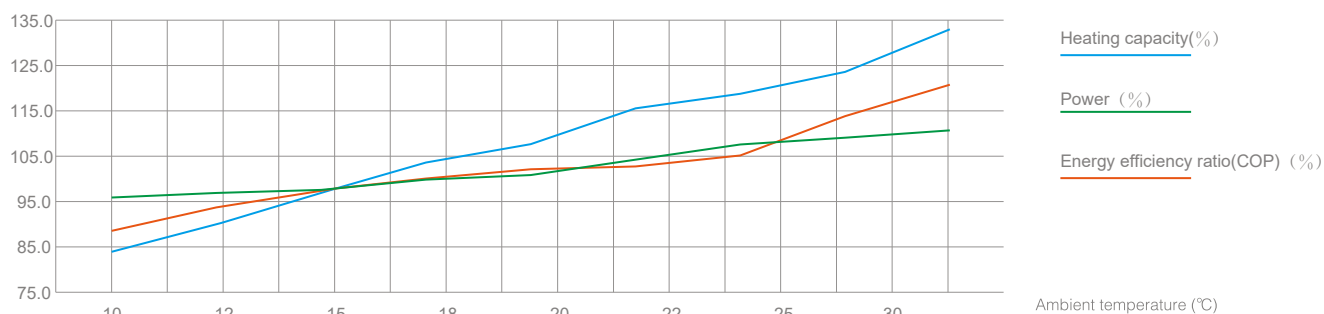
VERSOPUMP - ET - CH SERIES HEATING PERFORMANCE CORRECTION COEFFICIENT (%)

Heat source side water input temperature (°C)	9	12.5	15	17.5	20	22.5	25	29
Heating capacity (%)	85.0	92.0	100	105.0	110.0	117.0	125.0	133
Power (%)	95.0	98.0	100	102.0	105.0	108.0	110.0	110.0
Energy efficiency ratio (COP) (%)	89.5	93.9	100	102.9	104.8	108.3	113.6	120.9

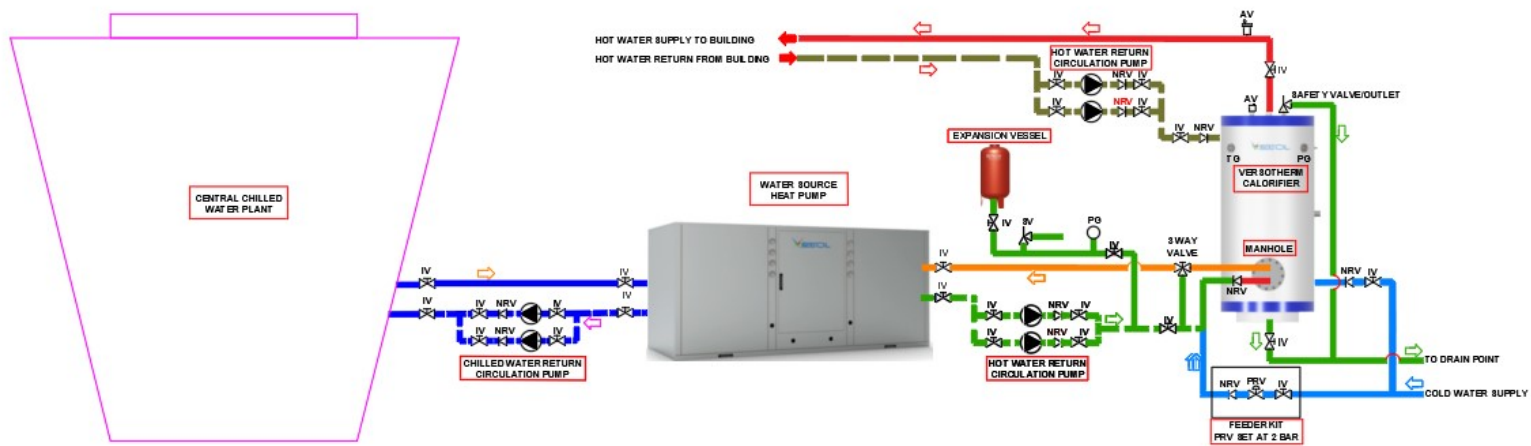


VERSOPUMP ET-CH HIGH TEMP SERIES HEATING PERFORMANCE CORRECTION COEFFICIENT (%)

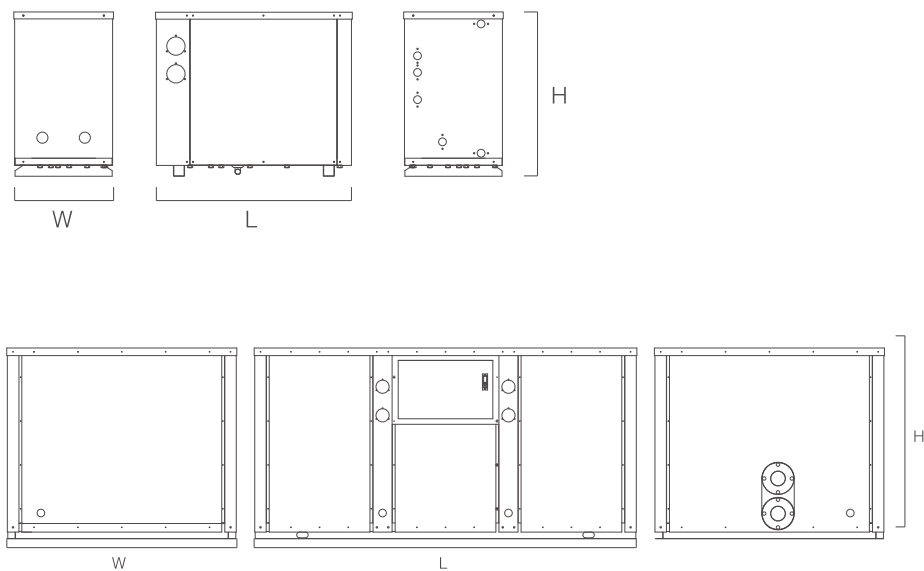
Heat source side water input temperature (°C)	10	12	15	18	20	22	25	30
Heating capacity(%)	84.6	91.0	100.0	105.0	110.0	116.0	124.0	132.6
Power (%)	95.6	98.0	100.0	102.0	105.0	108.0	109.3	110.0
Energy efficiency ratio(COP) (%)	88.5	92.9	100.0	102.9	104.8	107.4	113.4	120.5



APPLICATIONS SKETCH



PRODUCT DIMENSIONS



Water Heating & Cooling Solutions

Solar Water Heaters

Heat Exchangers

Storage Calorifiers

Heat Pumps

Hot Water Boilers

Gas Fired Calorifiers

Electric Calorifiers

Steam Boilers



Corporate offices



Sales offices

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