



# VZ Chiller series

Water cooled inverter chiller



The highest peak in chiller technology

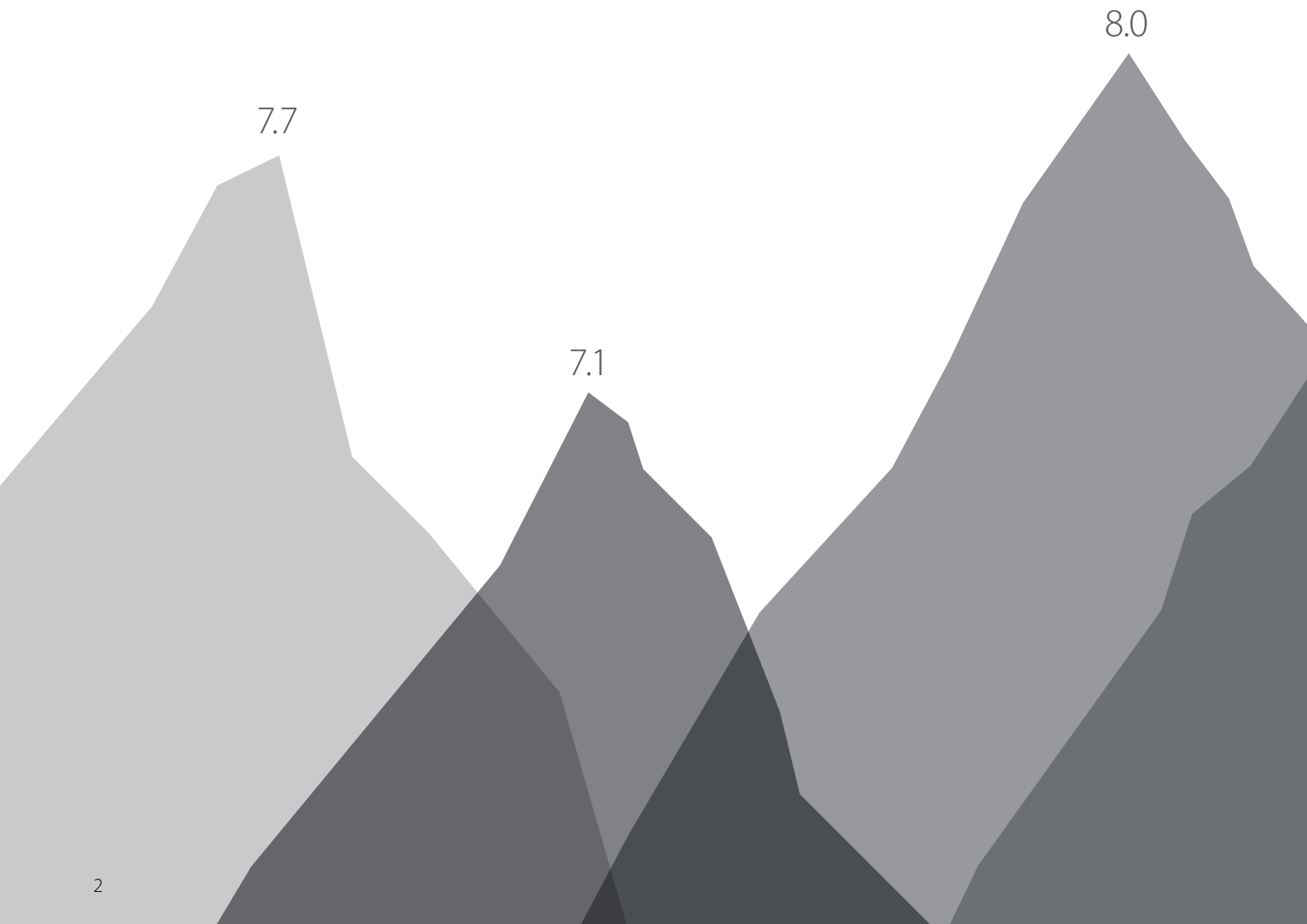


# The highest peak in chiller technology

## EWWD-VZ chiller series

An increasing demand for high efficient HVAC systems drives our product development mission.

By answering market demands and offering new opportunities we anticipate on the future HVAC market needs.





ESEER <sup>1</sup>  
up to 8.7

7.9

## Top efficiency ESEER

The EWWD-VZ chiller series were developed and manufactured to answer the growing market demands on high efficient chiller series.

Thanks to the continuous evolution in components' technology, we are the first to reach the highest peak in chiller efficiency and technology.



## Single compressor

450 kW - 1,053 kW

Full inverter water cooled chiller



**VZ**  
CHILLER

Highest efficiency in the market in its category



**TOP CLASS EFFICIENCY**



# Dual compressor & dual circuit unit

1,200 kW - 2,100 kW

- > 2 of everything:  
2 compressors,  
2 expansion valves,  
2 condensers,...



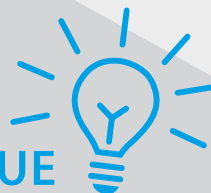
S E R I E S



New condenser design with integral oil separator

High efficient flooded heat exchangers

Unique Daikin single screw compressor technology



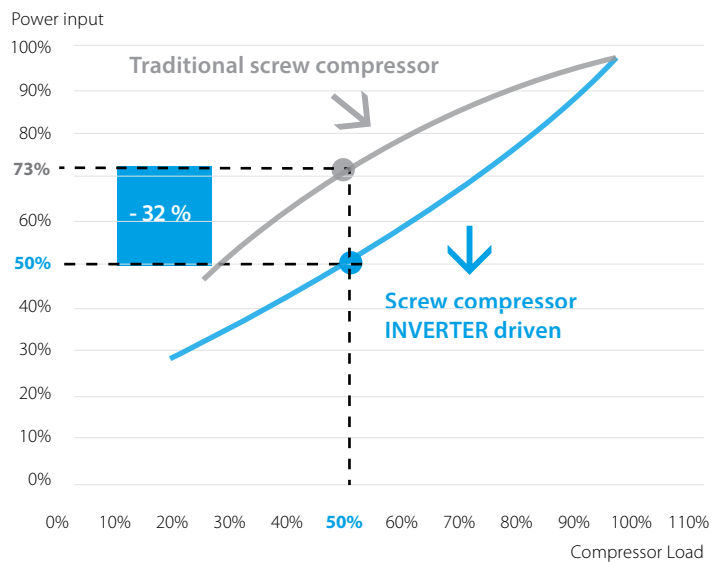
UNIQUE  
SOLUTION

# Why choose EWWD-VZ chiller series?

## 1 Top class efficiency: ESEER up to 8.7 – EER up to 5.9

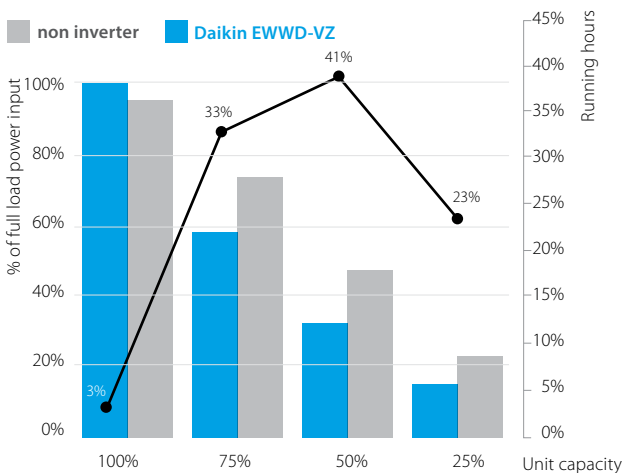
### ✓ New generation Daikin inverter single screw compressors

Importance of ESEER:  
Power consumption significantly reduced at part loads where the machine will run for 97% of the operation hours (Eurovent load profile)



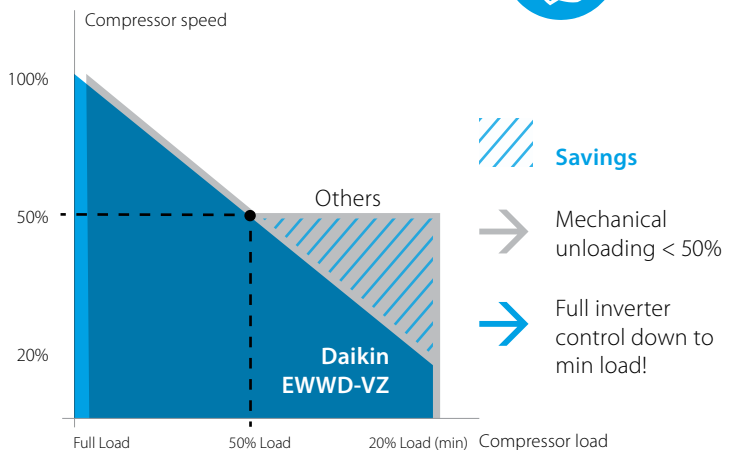
### Why choose an inverter chiller?

- > -25% energy consumption
- > -25% CO<sub>2</sub> emissions
- > -25% running costs
- > Return on investment < 2 years vs non-inverter chiller



### Why are we better than others?

- > Full inverter capacity control down to 20%
- > No inefficient mechanical unloading slides



✓ **New generation high efficiency heat exchangers**

- › Flooded type technology allowing maximizing unit performances
- › Latest technology enhanced surface tubes

**Evaporator tubes:**

- › Outside: Cavities for optimized nucleate boiling
- › Inside: Helical structure



**Condenser tubes:**

- › Outside: Optimized for condensation
- › Inside: Helical structure



✓ **Optimized design**

**Pressure drops reduced by half**

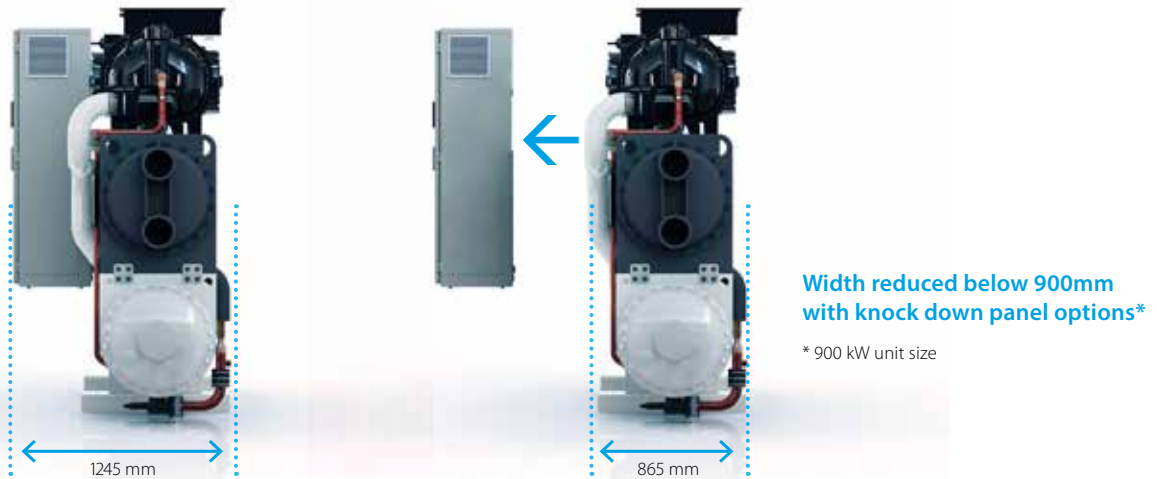
- › meaning 1°C lower condensing temperature
- › + 3.5 % efficiency



Did you know that you can maximize your BREEAM and programme score and LEED green building programme score with the Daikin HVAC solutions?

## 2 Compact unit

› Small footprint, ideal for installation through existing doorways



40 % footprint reduction in comparison to traditional water cooled series thanks to:

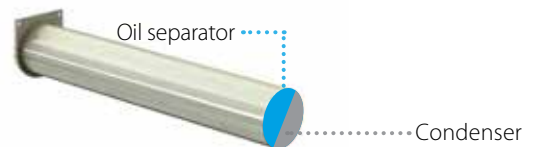
### 1. New single pass condenser technology

- High heat exchange performances thanks to counterflow design
- Low water pressure drops < 30 kPa



### 2. New integrated oil separator technology

- Low oil carry over
- Low refrigerant pressure drops

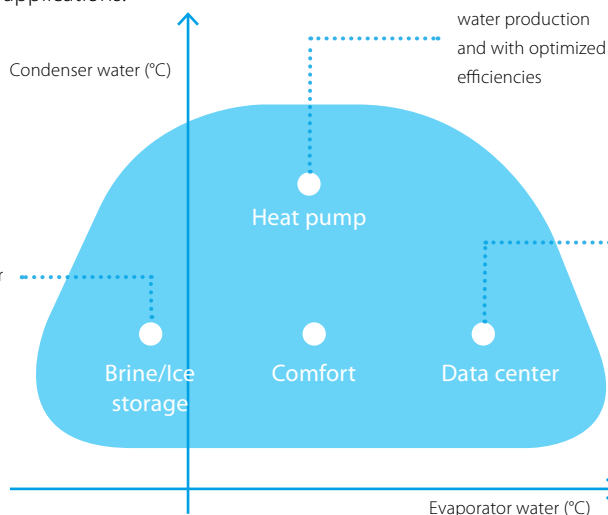


## 3 Application flexibility

Widest operating envelope in its range:  
The large operation range makes this chiller ideal for a variety of applications:



Evaporator Water down to -12°C



Up to 65°C hot water production and with optimized efficiencies

Widest operating envelope in its category... not only for comfort cooling

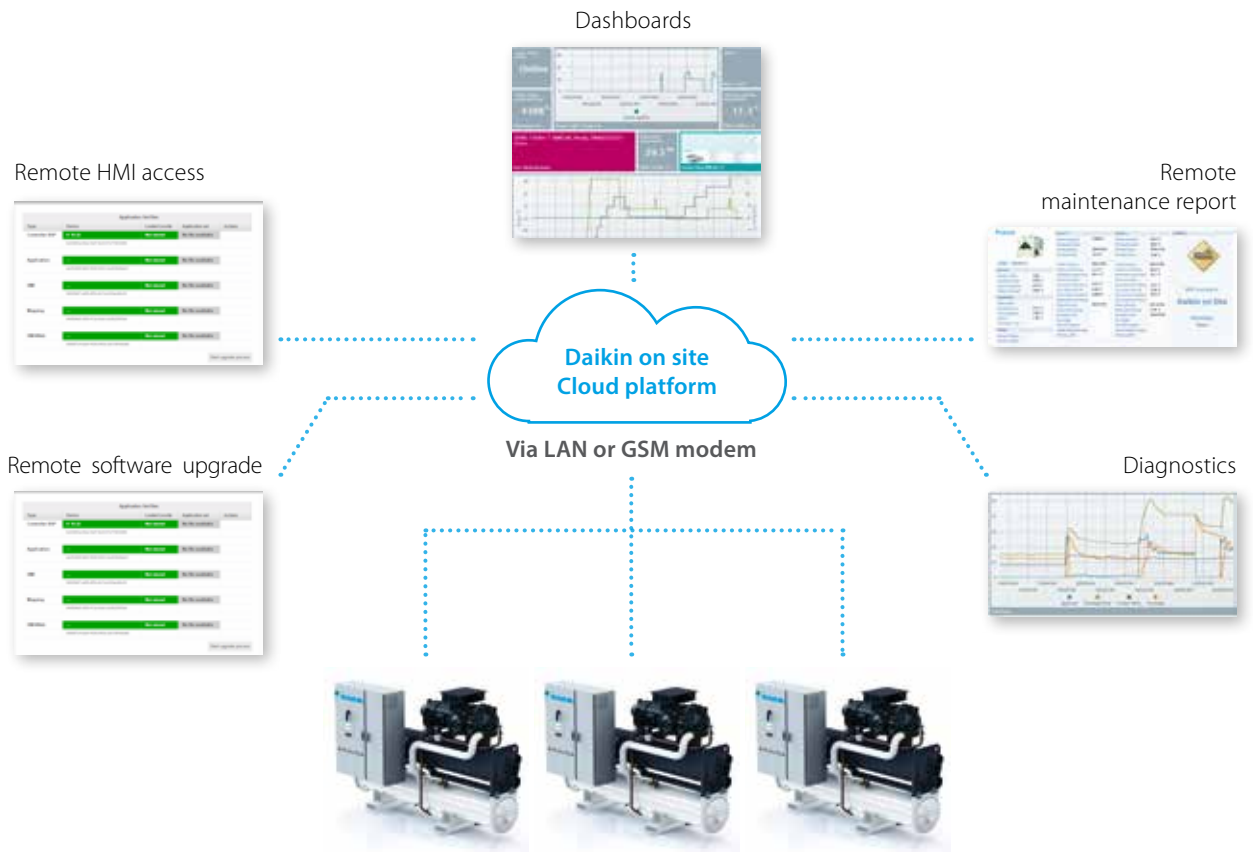
Evaporator Water up to +20°C



## 4 Connectivity

### Remote access with one click

- › Remote monitoring
- › System optimization
- › Preventive maintenance



## 5 Future readiness: Choose for today's best solution and be ready for the future!



### R-134A refrigerant, still today the best possible choice:

- › Still most efficient refrigerant.
- › Availability in high quantities and at competitive prices.
- › No phase out planned in F-GAS regulation.
- › Classified as non flammable

### All VZ units are 'new refrigerant ready'!

Possibility to retrofit them in the future with lower GWP refrigerants (HFO blends).

# Supporting tools

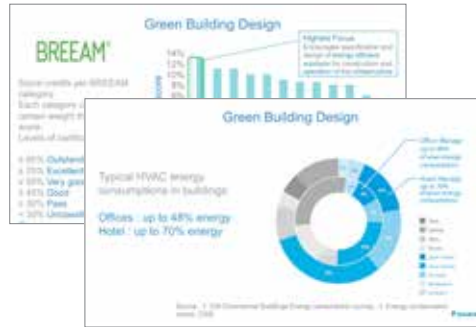
## Product video



## Marketing material

All marketing material and tools for the EWWD-VZ range can be downloaded from the business portal.

Asset finder > Campaign > VZ chiller series



## Web

Want to know more about this product?

Have a look at our dedicated webpage:

[www.daikineurope.com/vzchillerseries](http://www.daikineurope.com/vzchillerseries)

# Technical specifications - single compressor range

## Standard efficiency, standard sound

Cooling only /Heating only		EWWD-VZSS		600	700	760	890	C10	C12	C13	C14	C16	C17	C19	C21					
Cooling capacity	Nom.	kW		610	704	757	894	1039	1173	1288	1381	1552	1722	1875	2050					
Heating capacity	Nom.	kW		767	878	943	1107	1292	1464	1610	1730	1944	2151	2348	2559					
Power input	Cooling	Nom.	kW	110	132	142	162	196	231	252	276	315	340	381	404					
	Heating	Nom.	kW	140	166	179	201	244	292	319	349	394	425	471	503					
EER				5.51	5.31	5.31	5.52	5.28	5.08	5.11	5.00	4.93	5.06	4.92	5.07					
ESEER				7.25	7.30	7.40	7.27	7.52	7.86	7.81	7.90	7.46	7.99	7.49	7.95					
COP				5.42	5.27	5.28	5.5	5.3	5.02	5.04	4.96	4.93	5.07	4.98	5.08					
Dimensions	Unit	Height	mm	2120	2120	2120	2290	2480	2290	2290	2290	2290	2350	2350	2500					
		Width	mm	1180	1180	1180	1240	1340	1480			1580								
		Depth	mm	3460	3460	3460	3690	3690	4550			4560								
Weight	Unit	kg		2892	2928	2941	3451	4237	5570	5790	5820	6220	6890	7260	8260					
		Operation weight		kg	2977	3033	3053	3611	4488	5980	6220	6290	6690	7480	7830	9070				
Water heat exchanger - evaporator	Type		Flooded single pass shell and tube																	
	Water volume		l	88			96	134	156	230	230	270	270	320	320	380				
	Water flow rate	Cooling	Nom.	l/s	29.3	33.8	36.3	42.9	49.9	56.2	61.8	66.2	74.4	82.6	89.9	98.3				
		Heating	Nom.	l/s	29.6	34.2	36.7	43.5	50.4	56.4	62.1	66.4	74.6	83.0	90.3	98.8				
	Water pressure drop	Cooling	Nom.	kPa	80	106	89	98	104	69	84	70	89	78	92	80				
Heating		Nom.	kPa	82	108	90	100	106	69	84	70	89	79	92	81					
Water heat exchanger - condenser	Type		Single pass shell and tube																	
	Water volume		l	81	102		126	217	180	200		200	270	250	430					
	Water flow rate	Cooling	Nom.	l/s	34.5	40.2	43.1	50.7	59.4	41.3	38.8	41.7	51.7	61.0	56.7	61.9				
		Heating	Nom.	l/s	36.5	42.3	45.5	53.4	62.4	42.9	40.3	43.3	53.6	63.2	58.9	64.1				
Water pressure drop	Cooling	Nom.	kPa	54	41	46	44	33	44	39	45	66	42	55	37					
	Heating	Nom.	kPa	60	44	51	48	36	48	42	49	71	45	59	40					
Compressor	Type		Inverter driven single screw compressor																	
	Quantity		1																	
Sound power level	Cooling	Nom.	dBA	101			105		108		106		107		108		110			
				82			86		89		87		88		89		90			
Operation range	Evaporator	Cooling	Min.-Max.	°CDB	-12~20															
					Condenser	Cooling	Min.-Max.	°CDB	19~63											
Refrigerant	Type / GWP / Circuits		R-134a / 1,430 / 1							R-134a / 1,430 / 2										
	Refrigerant charge	Per circuit	kg	100	110	110	170	180	125	110	110	170	180	71	79					
TCO <sub>2</sub> eq				143	157	157	243	257	179	79	90	101	113	101	113					
Piping connections	Evaporator water inlet/outlet (OD)		141.3 141.3 141.3 168.3 219.1 219.1 219.1 219.1 219.1 219.1 219.1 219.1 219.1 219.1 219.1																	
	Condenser water inlet/outlet (OD)		168.3 168.3 168.3 219.1 219.1 168.3 168.3 168.3 168.3 168.3 219.1 219.1 219.1 219.1																	
Unit	Starting current	Max.	A	0 0 0 0 0 0 0 0 0 0 0 0 0 0																
				Running current	Cooling	Nom.	A	171 202 220 249 300 350 380 415 468 509 567 605												
								Max.	A	256 306 350 421 491 547 558 599 647 790 912 981										
Power supply	Phase/Frequency/Voltage		Hz/V 3~/50/400																	

## High efficiency, standard sound

Cooling only/Heating only				EWWD-VZXS	450	500	610	710	800	900	C11	C12	C13	C14	C16	C17	C19	C21		
Cooling capacity	Nom.			kW	449	501	613	713	793	901	1053	1193	1304	1405	1592	1748	1911	2068		
Heating capacity	Nom.			kW	553	617	757	882	985	1110	1302	1482	1624	1751	1976	2173	2375	2578		
Power input	Cooling	Nom.		kW	81.1	89.6	108	128	146	158	192	222	244	263	296	329	366	395		
	Heating	Nom.		kW	102	112	138	163	185	199	240	281	310	333	373	413	457	492		
EER					5.53	5.58	5.64	5.54	5.43	5.67	5.46	5.37	5.34	5.34	5.38	5.31	5.22	5.24		
ESEER					7.51	7.92	8.10	8.20	8.22	7.92	8.17	8.36	8.25	8.47	8.24	8.45	8.20	8.33		
COP					5.45	5.49	5.48	5.42	5.33	5.58	5.43	5.29	5.24	5.27	5.29	5.27	5.20	5.24		
Dimensions	Unit	Height	mm		2090	2120		2230	2290	2480		2320		2290		2350	2500	2480	2490	
		Width	mm		1180				1220	1240	1340		1490		1580		1610	1740	1770	
		Depth	mm		3460			3690			3830		4550	4550	4560		4570	4870		
Weight	Unit	kg			2968	2911	3102	3470	3451	4257	4552	5860	6240	6520	6920	7530	7790	8670		
	Operation weight				kg	3098	3006	3274	3648	3611	4518	4860	6370	6760	7130	7530	8300	8560	9630	
Water heat exchanger - evaporator	Type				Flooded single pass shell and tube															
	Water volume				l	70	88	136	134			168	199	270	320	320	380	480	480	
	Water flow rate	Cooling	Nom.	l/s	21.6	24	29.4	34.2	38	43.2	50.4	57.1	62.5	67.3	76.3	83.7	91.5	99		
			Nom.	l/s	21.7	24.2	29.7	34.5	38.4	43.7	50.9	57.7	63.1	68	77	84.5	92	100.1		
	Water press.drop	Cooling	Nom.	kPa	89	63	59	63	55	67	58	52	62	52	66	58	49	58		
Nom.			kPa	90	64	60	64	56	68	59	53	64	53	68	59	50	59			
Water heat exchanger - condenser	Type				Single pass shell and tube															
	Water volume				l	81	92	126	145	126	217	241	240	250	290	290	390	290	480	
	Water flow rate	Cooling	Nom.	l/s	25.4	28.3	34.7	40.4	45.2	50.9	59.9	41.70	39.1	42.1	52.6	61.7	57.4	62.1		
			Nom.	l/s	26.7	29.8	36.5	42.6	47.5	53.6	62.9	43.6	40.7	43.8	54.8	64.1	59.4	64.6		
	Water press.drop	Cooling	Nom.	kPa	31	28	22	20	24	25	25	21	28	22	32	27	38	28		
Nom.			kPa	34	31	24	22	27	28	27	23	21	23	35	30	40	30			
Compressor	Type				Inverter driven single screw compressor															
	Quantity				1					2										
Sound power level	Cooling	Nom.		dB(A)	97	99	101	105			108	106	106	107	107	108	109	110		
Sound pressure level	Cooling	Nom.		dB(A)	78	80	82	86			89	87	87	88	88	89	89	90		
Operation range	Evaporator	Cooling	Min.-Max.	°CDB	-12~20															
	Condenser	Cooling	Min.-Max.	°CDB	19~65															
Refrigerant	Type / GWP / Circuits				R-134a / 1,430 / 1							R-134a / 1,430 / 2								
Refrigerant charge	Per circuit				kg	95	100	110	170			180	125	130	145	145	160	160	175	
	TCO <sub>2</sub> eq				kg	136	143	157	243			257	179	186	207	207	229	229	250	
Piping connections	Evaporator water inlet/outlet				mm	141.3			168.3			219.1					273			
	Condenser water inlet/outlet				mm	168.3			219.1			168.3/219.1		219.1						
Unit	Starting current			Max	A	0	0	0	0	0	0	0	0	0	0	0	0			
	Running current	Cooling	Nom.	A	126	140	171	201	229	249	299	340	372	400	448	499	555	597		
			Max	A	222	247	256	306	366	421	491	547	558	599	647	790	912	981		
Power supply	Phase/Frequency/Voltage				Hz/V	3~/50/400														

## Premium efficiency, standard sound

Cooling only/Heating only				EWWD-VZPS	505	715	910	C12	C16	C18					
Cooling capacity	Nom.			kW	505	718	908	1201	1604	1757					
Heating capacity	Nom.			kW	620	885	1115	1487	1987	2179					
Power input	Cooling	Nom.		kW	87.5	126	156	219	292	326					
	Heating	Nom.		kW	110	161	196	277	368	410					
EER					5.77	5.66	5.81	5.48	5.49	5.39					
ESEER					8.15	8.48	8.25	8.66	8.53	8.71					
COP					5.62	5.49	5.68	5.37	5.40	5.32					
Dimensions	Unit	Height	mm		2090	2430		2480	2290	2500	2490				
		Width	mm		1180	1330			1340	1580	1610	1770			
		Depth	mm		3690			3830	4560	4570	4870				
Weight	Unit	kg			3247	4082		4346	6310	7530	8250				
	Operation weight				kg	3375	4349	4660	6900	8300	9200				
Water heat exchanger - evaporator	Type				Flooded single pass shell and tube										
	Water volume				l	96	168	199	320	380	480				
	Water flow rate	Cooling	Nom.	l/s	24.2	34.4	43.5	57.40	76.80	84.00					
			Nom.	l/s	24.4	34.7	44	58.00	77.60	84.80					
	Water press.drop	Cooling	Nom.	kPa	55.0	42.0	44.0	37.00	49.00	41.00					
Nom.			kPa	56	43	45	39.00	50.00	42.00						
Water heat exchanger - condenser	Type				Single pass shell and tube										
	Water volume				l	126	217	241	270	390	470				
	Water flow rate	Cooling	Nom.	l/s	28.5	40.6	51.2	41.9	52.9	61.9					
			Nom.	l/s	29.9	42.7	53.8	43.7	55.1	64.3					
	Water press.drop	Cooling	Nom.	kPa	15	17	19	21	28						
Nom.			kPa	17	18	21	23	30							
Compressor	Type				Inverter driven single screw compressor										
	Quantity				1					2					
Sound power level	Cooling	Nom.		dB(A)	99	105			106	107	109				
Sound pressure level	Cooling	Nom.		dB(A)	80	86			87	88	89				
Operation range	Evaporator	Cooling	Min.-Max.	°CDB	-12~20										
	Condenser	Cooling	Min.-Max.	°CDB	19~65										
Refrigerant	Type / GWP / Circuits				R-134a / 1,430 / 1					R-134a / 1,430 / 2					
Refrigerant charge	Per circuit				kg	100	150	180	145	160	175				
	TCO <sub>2</sub> eq				kg	143	215	257	207	229	250				
Piping connections	Evaporator water inlet/outlet				mm	141.3					219.1				
	Condenser water inlet/outlet				mm	219.1									
Unit	Starting current			Max	A	0	0	0	0	0	0				
	Running current	Cooling	Nom.	A	138	200	247	338	445	497					
			Max	A	247	306	421	547	647	790					
Power supply	Phase/Frequency/Voltage				Hz/V	3~/50/400									



### Why choose Daikin?

Daikin is Europe's leading manufacturer and global n°1 of highly energy-efficient heating, cooling, ventilation and refrigeration solutions for residential, commercial and industrial applications.

### Why choose Daikin chillers?

- › The widest and most flexible chiller portfolio
- › Worldwide experience in chiller design and manufacturing
- › The highest efficiency for every installation
- › Quality and reliability

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