



EWAD-MZ

Air cooled chiller



Optimised for high ambient operation
(up to 55°C ambient)

Why choose Daikin?

Daikin were the among first to pioneer the use of inverters in air cooled screw chillers. And today, our next generation of inverter technology makes both comfort and process cooling even more efficient and cost-effective.

With the highest efficiency at both partial and full load, installers and building owners can give end-users better results all year round comfort – with lower noise levels and higher energy efficiency than ever before.

For over a decade, hundreds of sites around the world have relied on Daikin inverter driven single screw compressors to reduce their running costs without compromising on climate comfort or performance.

With the EWAD-MZB chiller, Daikin has once again improved the chiller performances by increasing the efficiency of the in-house developed compressor with integrated inverter: VVR technology, DC motors,... Further improvements are made by introducing new technologies as microchannel condenser coils and advanced electronic expansion valves.



EWAD-MZ

Energy efficient cooling that does not
compromise on comfort or performance

Why choose MZ chiller series?

1 Top class efficiency:

EER Up to 2.65 (at 46°C ambient temperature)
IPLV Up to 6.60

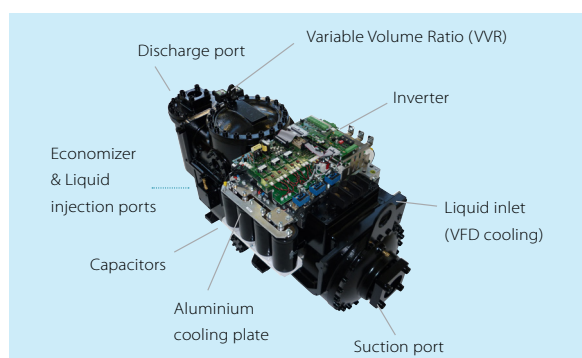
Best choice for every application

Rapid return investment for comfort cooling application compared to standard technology



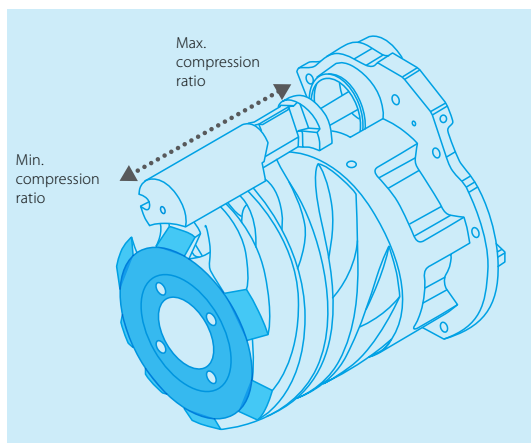
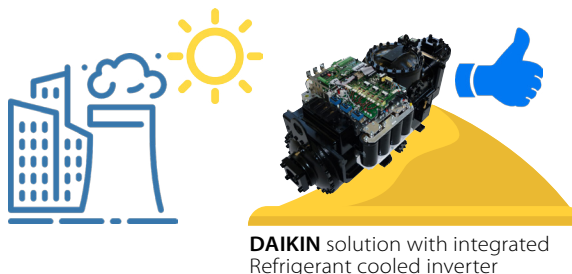
New generation of Daikin inverter screw compressors

- › Integrated inverter, refrigerant cooled
- › Variable volume ratio technology



Refrigerant cooled inverter

- › Safe and robust cooling system, totally independent from outdoor ambient conditions and air quality
- › Suitable for aggressive installations such as industrial or desert applications



VVR (Variable Volume Ratio)

The operating conditions of a chiller are subjected to sensible changes due to the variation of ambient temperature and load request from the plant.

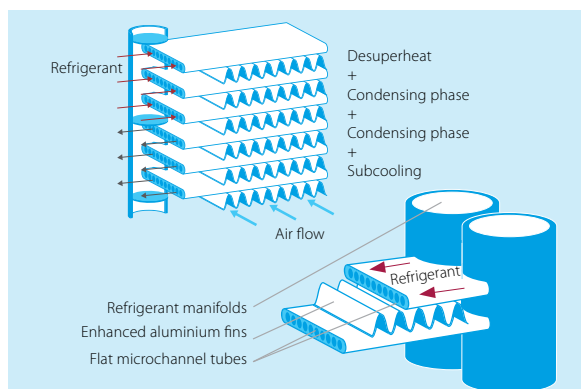
Screw compressors increase the pressure of the refrigerant by forcing it into a progressive smaller volume, from the suction to the discharge port. Once that the geometry of the compressor is defined the volume ratio is also defined.

Daikin compressors can modify their own geometry thanks to variable volume ratio (VVR). The volume ratio will change by moving the sliding valves. VVR changes the point at which the gas leaves the compressor, and therefore changes the pressures at discharge which will be optimal at any condition.

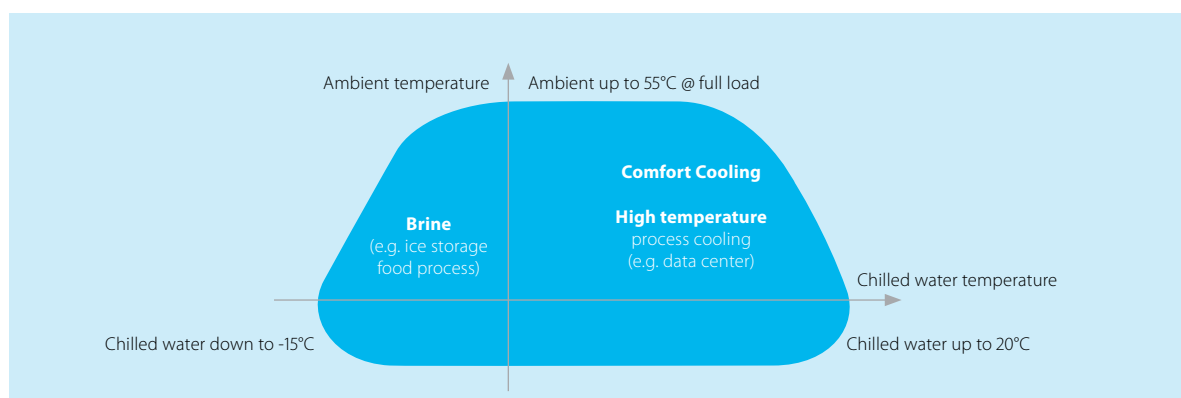


✓ Microchannel condenser coils

- › High thermal efficiency
- › Small volume, resulting in a small refrigerant charge
- › Light & durable design
- › Easy cleaned



2 Application flexibility



3 Standard flexibility

3 efficiency versions available both in 50Hz and 60Hz power supply

4 AHRI certification

All models available are certified by AHRI to AHRI Standard 550/590





Providing a lifetime of comfort in the most flexible way

5 Simple to install. Even simpler to maintain

Our chillers are wired at the factory and are also pre-commissioned, with the unit's software tuned and set points already established. They also integrate easily with existing building management systems. So on site, all that is required is to plug the unit into the power supply, connect any pipes and wires, and switch the unit on.

6 Proven reliability

All our chillers and compressors are subjected to intensive performance, acoustic, endurance and vibration tests in Daikin factories and at selected job-sites - even at extreme working conditions. To ensure maximum reliability in every component – and the right, lifelong technical solution for your application.

7 Extensive options list

- › **Rapid restart** - when a loss of cooling would be catastrophic, the chiller can restart within 30 seconds of the power being restored and reach full-load cooling capacity in less than 6 minutes.
- › **VFD pumps** - variable frequency pumps can be used to optimise the working efficiency of the chiller and thus maximise energy savings, also in primary only variable flow systems.
- › **Refrigerant leak detection** - rapid advanced warning of trouble, so you can avoid any environmentally harmful and potentially costly leaks in the refrigerant system.
- › **Heat recovery** - a plate to plate heat exchanger for each refrigerant circuit is installed in series to the condenser coil. 15 to 85 % of the total heat rejection of the chiller can be recovered
- › **Compressor enclosure** - to enhance compressor protection
- › **Coil treatments** - to prevent corrosion in aggressive environment
- › **Smart sequencing capability** - master/slave sequencing function up to 4 units connected together for system optimisation and without the need of external control systems.
- › **Daikin's remote monitoring and control for chiller plants** - optimum use and reduced costs over the system's entire lifetime

Technical details - EWAD-MZB

Cooling only		EWAD-MZSSB2		380	450	495	570	610	660	700	820	900	C10	H10	H11	
Cooling capacity	Nom.		kW	379	435	484	552	593	640	681	754	817	910	965	1035	
			Tons	108	124	138	157	169	182	194	214	232	259	274	294	
Power input	Cooling Nom.		kW	168	192	209	239	259	279	296	318	365	397	433	456	
EER				2.26	2.27	2.32	2.31	2.29	2.29	2.30	2.37	2.24	2.29	2.23	2.27	
IPLV				4.56	4.61	4.77	4.93	4.96	4.94	4.97	5.01	5.01	5.01	5.02	4.99	
Dimensions	Unit Height		mm	2483												
	Width		mm	2258												
	Depth		mm	4083	4083	4983	5883	5883	5883	6783	6783	7783	7783	8820	10461	
Weight	Unit		kg	4044	4060	4317	4603	4780	4804	5074	6249	6147	6542	6897	8037	
	Operation weight		kg	4202	4224	4475	4761	5050	5059	5329	6532	6632	7027	7382	8490	
Water heat exchanger	Type			Single pass shell & tube												
	Water flow rate	Cooling	Nom.	l/s	16.7	18.9	21.0	24.0	25.6	27.6	29.2	32.7	35.4	39.5	41.8	44.9
	Water pressure drop	Cooling	Nom.	kPa	41	52	47	60	48	43	48	66	47	54	60	47
	Water volume		l	158	164	158	158	270	255	255	283	485	485	485	453	
Air heat exchanger	Type			Microchannel												
Compressor	Type			Inverter driven single screw compressor												
	Quantity			2												
Fan	Type			Direct propeller												
	Quantity			8	8	10	12	12	12	14	14	14	16	18	22	
	Air flow rate	Cooling	Nom.	l/s	45456	45456	56819	68183	68183	68183	79547	79547	79547	90911	102275	125003
	Speed		rpm	900												
Sound power level	Cooling Nom.		dB(A)	101	100	101	102	102	103	105	104	104	104	104	105	
Sound pressure level	Cooling Nom.		dB(A)	81	80	81	82	81	83	84	83	83	83	82	83	
Operation range	Air side	Cooling	Min.~Max.	°CDB	10~55						-15~20					
	Water side	Cooling	Min.~Max.	°CDB	-8~18											
Refrigerant	Type / GWP			R134a / 1430												
	Circuits	Quantity		2												
Refrigerant charge	Per circuit		kg	29+29	30+30	34+34	38+38	39+39	42+42	45+45	46+46	46+46	52+52	59+59	72+72	
		TCO2eq		42+42	43+43	49+49	55+55	56+56	61+61	65+65	66+66	66+66	75+75	85+85	103+103	
Power supply	Phase/Frequency/Voltage		Hz/V	3~/50/400												

Notes:

Performances are based on the following conditions: evaporator 12.2/6.7°C; ambient 46°C. unit at full load operation; operating fluid: water.

Cooling only		EWAD-MZXS82		360	420	450	540	570	610	660	680	770	850	910	C10	H10	C11	
Cooling capacity	Nom.		kW	340	396	446	506	539	584	622	661	740	810	868	952	995	1038	
			Tons	97	113	127	144	153	166	177	188	210	230	247	271	283	295	
Power input	Cooling	Nom.	kW	142	166	186	206	224	242	259	279	285	327	340	378	403	434	
EER				2.39	2.38	2.40	2.46	2.41	2.41	2.40	2.37	2.60	2.48	2.55	2.52	2.47	2.39	
IPLV				5.01	4.99	4.75	4.89	5.17	5.14	5.05	5.00	5.09	5.11	5.14	5.14	5.03	5.04	
Dimensions	Unit Height		mm	2483														
	Width		mm	2258														
	Depth		mm	4983	4983	5883	5883	5883	6783	7783	7783	7783	7783	8820	9591	10461	11233	
Weight	Unit		kg	4292	4292	4602	4800	4800	5072	5425	5425	6626	6542	6897	7175	7500	7500	
	Operation weight		kg	4450	4450	4760	5055	5055	5327	5680	5680	6927	7027	7382	7660	7953	7953	
Water heat exchanger	Type			Single pass shell & tube														
	Water flow rate	Cooling	Nom.	l/s	14.8	17.2	19.4	21.9	23.4	25.3	27.0	28.7	32.1	35.1	37.6	41.3	45.0	
	Water pressure drop	Cooling	Nom.	kPa	55	69	56	54	60	37	41	45	65	46	51	58	44	
	Water volume		l	158	158	158	255	255	255	255	255	301	485	485	485	453	454	
Air heat exchanger	Type			Microchannel														
Compressor	Type			Inverter driven single screw compressor														
	Quantity			2														
Fan	Type			Direct propeller														
	Quantity			10	10	12	12	12	14	16	16	16	16	18	20	22	24	
	Air flow rate	Cooling	Nom.	l/s	56819	56819	68183	68183	68183	79547	90911	90911	90911	90911	102275	113639	125003	136367
	Speed		rpm	900														
Sound power level	Cooling	Nom.	dBa	101	101	101	102	102	102	103	104	104	104	104	105	105	106	
Sound pressure level	Cooling	Nom.	dBa	81	81	81	82	81	81	82	83	83	83	83	82	83	82	83
Operation range	Air side	Cooling	Min.~Max.	°CDB	10~55						-15~20							
	Water side	Cooling	Min.~Max.	°CDB														
Refrigerant	Type / GWP			R134a / 1430														
	Circuits	Quantity		2														
Refrigerant charge	Per circuit		kg	32+32	32+32	37+37	40+40	40+40	45+45	48+48	48+48	52+52	52+52	59+59\	65+65	72+72	78+78	
		TCO2eq		46+46	46+46	53+53	58+58	58+58	65+65	69+69	69+69	75+75	75+75	85+85	93+93	103+103	112+112	
Power supply	Phase/Frequency/Voltage		Hz/V	3~/50/400														

Notes:

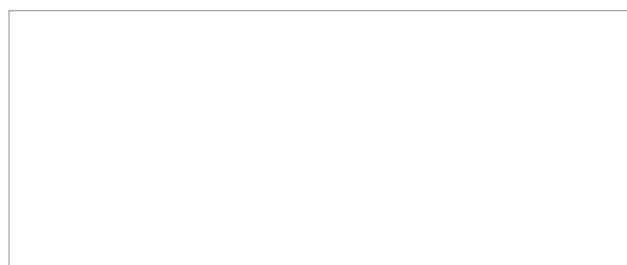
Performances are based on the following conditions: evaporator 12.2/6.7°C; ambient 46°C. unit at full load operation; operating fluid: water.

Cooling only			EWAD-MZPSB2		360	420	450	540	570	610	660	680	770	850	910	C10	H10	C11	
Cooling capacity	Nom.		kW	337	390	443	501	534	579	617	617	656	727	794	850	935	977	1021	
			Tons	96	111	126	143	152	165	176	186	207	226	242	266	278	290		
Power input	Cooling	Nom.	kW	135	160	177	198	218	234	249	269	274	320	331	366	391	420		
EER				2.50	2.44	2.50	2.53	2.45	2.47	2.48	2.44	2.65	2.48	2.57	2.55	2.50	2.43		
IPLV				6.41	6.36	6.21	6.26	6.29	6.35	6.35	6.22	6.35	6.21	6.30	6.37	6.31	6.33		
Dimensions	Unit Height		mm	2483															
	Width		mm	2258															
	Depth		mm	4983	4983	5883	5883	5883	6783	7783	7783	7783	7783	8820	9591	10461	11233		
Weight	Unit		kg	4292	4292	4602	4800	4800	5072	5425	5425	6626	6542	6897	7175	7500	7500		
	Operation weight		kg	4450	4450	4760	5055	5055	5327	5680	5680	6927	7027	7382	7660	7953	7953		
Water heat exchanger	Type			Single pass shell & tube															
	Water flow rate	Cooling	Nom.	l/s	14.6	16.9	19.2	21.7	23.2	25.1	26.8	28.4	31.5	34.4	36.9	40.5	42.4	44.3	
	Water pressure drop	Cooling	Nom.	kPa	54	67	55	53	59	36	41	45	64	44	49	56	43	46	
	Water volume		l	158	158	158	255	255	255	255	255	301	485	485	485	453	454		
Air heat exchanger	Type			Microchannel															
Compressor	Type			Inverter driven single screw compressor															
	Quantity			2															
Fan	Type			Direct propeller															
	Quantity			10	10	12	12	12	14	16	16	16	16	18	20	22	24		
	Air flow rate	Cooling	Nom.	l/s	49444	49444	59333	59333	59333	69222	79111	79111	79111	79111	89000	98889	108778	118667	
	Speed		rpm	900															
Sound power level	Cooling	Nom.	dBA	99	99	99	99	100	100	101	102	103	103	103	103	103	104		
Sound pressure level	Cooling	Nom.	dBA	78	77	77	77	78	78	79	80	82	82	81	81	80	81		
Operation range	Air side	Cooling	Min.~Max.	°CDB	-8~-18							10~55			-15~20				
	Water side	Cooling	Min.~Max.	°CDB															
Refrigerant	Type / GWP			R134a / 1430															
	Circuits	Quantity		2															
Refrigerant charge	Per circuit		kg	32+32	32+32	37+37	40+40	40+40	45+45	48+48	48+48	52+52	52+52	59+59\	65+65	72+72	78+78		
			TCO2eq	46+46	46+46	53+53	58+58	58+58	65+65	69+69	69+69	75+75	75+75	85+85	93+93	103+103	112+112		
Power supply	Phase/Frequency/Voltage		Hz/V	3~/50/400															

Lined area for notes, consisting of multiple horizontal lines.



Daikin Europe N.V. Naamloze Vennootschap Zandvoordestraat 300 · 8400 Oostende · Belgium · www.daikin.eu · BE 0412 120 336 · RPR Oostende (Responsible Editor)



FSC

ECPEN17 - 405

05/17



The present publication is drawn up by way of information only and does not constitute an offer binding upon Daikin Europe N.V. Daikin Europe N.V. has compiled the content of this publication to the best of its knowledge. No express or implied warranty is given for the completeness, accuracy, reliability or fitness for particular purpose of its content and the products and services presented therein. Specifications are subject to change without prior notice. Daikin Europe N.V. explicitly rejects any liability for any direct or indirect damage, in the broadest sense, arising from or related to the use and/or interpretation of this publication. All content is copyrighted by Daikin Europe N.V.

Printed on non-chlorinated paper.