



EWAD-TZB

Screw inverter chiller



High efficiency chiller for comfort and process cooling

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-TZB 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-TZB

Energy efficient cooling that does not compromise on comfort or performance

Why choose EWAD-TZB chiller series?

1 Top class efficiency:

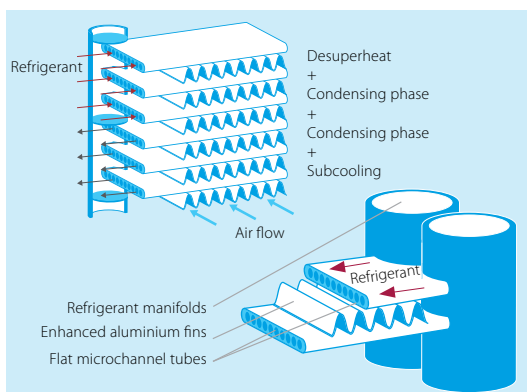
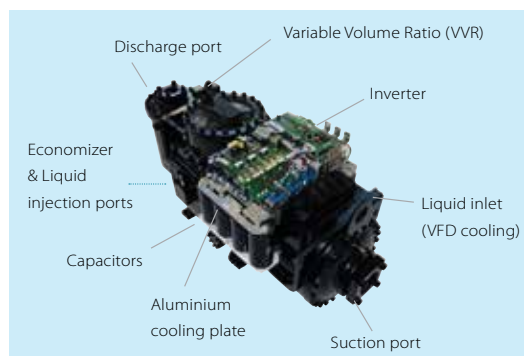
EER up to 3.9
ESEER up to 5.5

Best choice for every application

Rapid payback: 1 year for process cooling and 3 years for comfort cooling applications

✓ New generation of Daikin inverter screw compressors

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



✓ Microchannel condenser coils

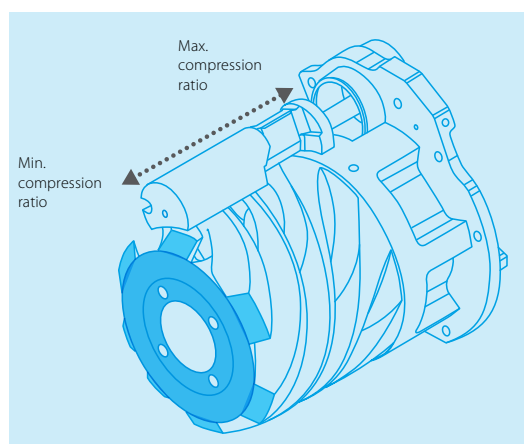
- › High thermal efficiency
- › Small volume, resulting in a small refrigerant charge
- › Light & durable design
- › Easy cleaned

✓ 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.

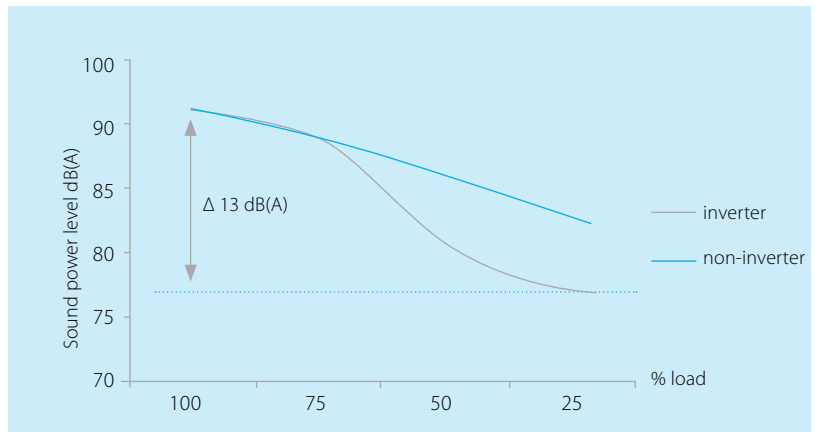




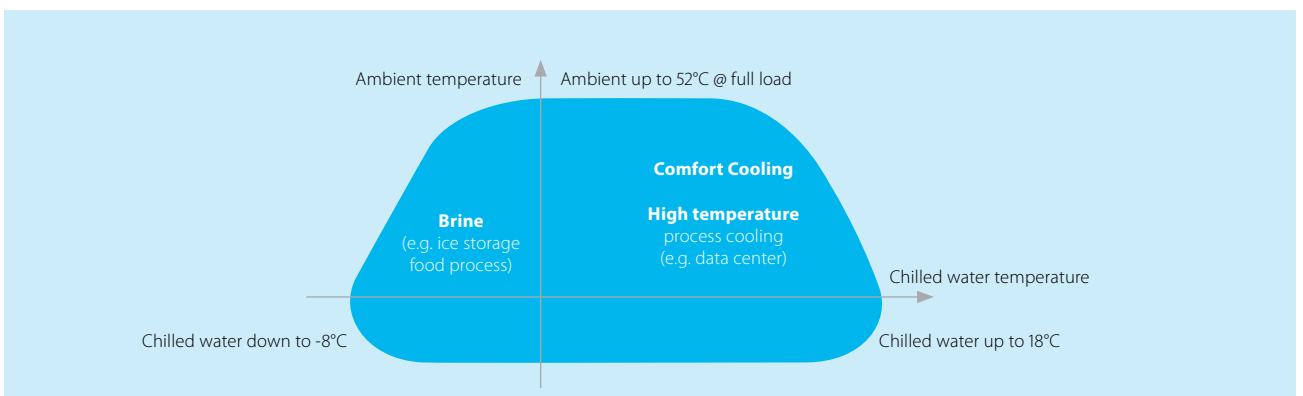
2 Silent operation – for distraction-free work

Nothing disrupts the workplace more than the sound of machinery. So our engineers have brought the sound power levels right down to just 90 dB(A)* at full load operating conditions - and even lower at part load conditions. Thanks to the special acoustic executions on the compressor and a custom Daikin fan design with reduced noise impact and vibration, the EWAD-TZB is ideal for even the most sound-sensitive environment.

*400 kW size



3 Application flexibility





Providing a lifetime of comfort in the most flexible way

4 Compact design

The EWAD-TZ keeps installation space at a minimum, so it's ideal for both new and retrofit projects. In particular, the highly efficient compressor with its integrated inverter allows us to mount more compact heat exchangers in the frame and, combined with the integrated compact control panel, deliver more power from a reduced footprint.

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
- › **Partial heat recovery** - a plate to plate heat exchanger for each refrigerant circuit is installed in series to the air condenser coil. The plant manager controls the operation of the pump on the recovery circuit. 15 to 20 % of the total heat rejection of the chiller can be recovered
- › **Smart sequencing capability** - master/slave sequencing function up to 4 units connected together for system optimisation and without the need of external control systems.

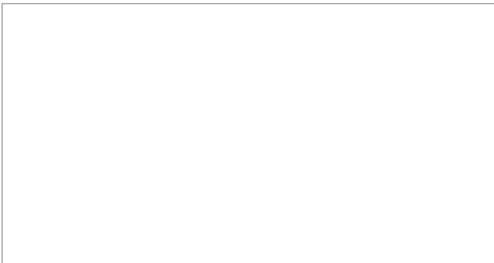
Cooling only				EWAD-TZXR8																																									
Cooling capacity	Nom.			190	220	240	290	320	360	420	450	540	570	610	660	680	770	850	910	C10	C11																								
Power input	Cooling	Nom.		180	211	239	276	313	360	417	472	528	562	598	638	677	764	850	912	1001	1045																								
Capacity control	Method			52.1	63.2	72.5	83.9	100	109	132	145	164	181	192	203	220	226	226	275	303	320																								
	Minimum capacity		%	Stepless																																									
EER				34	29	34	29	25	17	16	17	16	15	14	13			10																											
ESEER				3.46	3.34	3.30		3.13	3.29	3.16	3.24	3.22	3.09	3.11	3.15	3.07	3.37	3.19	3.31	3.30	3.26																								
Dimensions	Unit	Height	mm	2483																																									
		Width	mm	2258																																									
		Depth	mm	2482																																									
Weight	Unit		kg	3183			4083			4983			5883			6783			7683			7783			8820			9591			10461														
	Operation weight		kg	2488			2547			2559			2920			4650			4960			5255			5527			5880			7247			7347			7702			7980			8273		
Water heat exchanger	Type			Plate heat exchanger																																									
	Water flow rate	Cooling	Nom.	Single pass shell & tube																																									
	Water pressure drop	Cooling	Nom.	8.6	10.1	11.5	13.2	15.0	17.2	20.0	22.6	25.3	26.9	28.6	30.5	32.4	36.6	40.7	43.6	47.9	50.0																								
	Water volume		l	16.4	13.2	16.2	17.1	21.0	34.2	31.2	39.7	36.6	41.0	27.1	30.4	33.2	40.3	33.3	37.3	42.3	34.2																								
Air heat exchanger	Type			26.1																																									
Compressor	Type			37.3																																									
	Quantity			49.5																																									
Fan	Type			158																																									
	Quantity			255																																									
	Air flow rate	Cooling	Nom.	255																																									
	Speed		rpm	700																																									
Sound power level	Cooling	Nom.	dBa	88			89			90			91			92			94			95																							
Sound pressure level	Cooling	Nom.	dBa	68			69			70			71			73			73			73																							
Operation range	Air side	Cooling	Min.-Max.	-18~55																																									
	Water side	Cooling	Min.-Max.	-8~-18																																									
Refrigerant	Type / GWP			R-134a / 1,430																																									
	Circuits	Quantity		1																																									
Refrigerant charge	Per circuit		kg	36			39			40			51			32			37			40.0			44.5			48			63			63			71			79			79		
			TCO _{eq}	51			56			57			73			46			53			57			64			69			90			90			101			113			113		
Power supply	Phase/Frequency/Voltage		Hz/V	3~/50/400																																									

Cooling only				EWAD-TZPSB/PLB																																			
Cooling capacity	Nom.			190	220	240	290	300	350	420	495	550	620	720	820	950																							
Power input	Cooling	Nom.		183	216	244	281	323	379	435	501	543	620	717	833	950																							
EER				50.5	60.7	68.7	83.4	95.9	104	123	139	151	178	182	220	252																							
ESEER				3.64	3.56	3.55	3.38	3.37	3.62	3.53	3.60	3.59	3.47	3.93	3.78	3.76																							
Dimensions	Unit	Height	mm	5.70																																			
		Width	mm	5.66																																			
		Depth	mm	5.58																																			
Weight (PSB)	Unit		kg	4083			4983			5883			6783			8820			9591			10461			11233														
	Operation weight		kg	2758			2769			2770			3020			4735			5069			5077			6470			6498			7415			7708			8037		
Weight (PLB)	Unit		kg	2808			2819			2820			3070			4990			5324			5332			6777			6805			7900			8193			8490		
	Operation weight		kg	2773			2784			2785			3035			4765			5099			5107			6527			6555			7650			7943			8240		
Water heat exchanger	Type			2823																																			
	Water flow rate	Cooling	Nom.	2834																																			
	Water pressure drop	Cooling	Nom.	2835																																			
	Water volume		l	3085																																			
Air heat exchanger	Type			5020																																			
Compressor	Type			5354																																			
	Quantity			5362																																			
Fan	Type			5711																																			
	Quantity			5711																																			
	Air flow rate	Cooling	Nom.	5.70																																			
	Speed		rpm	700																																			
Sound power level (PSB)	Cooling	Nom.	dBa	97			98			99			100			101			101			101																	
Sound pressure level (PSB)	Cooling	Nom.	dBa	77			78			77			78			79			79			79																	
Sound power level (PLB)	Cooling	Nom.	dBa	91			91.5			91			91.5			92			93.5			94			97														
Sound pressure level (PLB)	Cooling	Nom.	dBa	71			72			71			72			73			72			73			75														
Operation range	Air side	Cooling	Min.-Max.	-18~55																																			
	Water side	Cooling	Min.-Max.	-8~-18																																			
Refrigerant	Type / GWP			R-134a / 1430																																			
	Circuits	Quantity		1																																			
Refrigerant charge	Per circuit		kg	49			50			51			58			38.5			43			47			53			57			79			87			94		
			TCO _{eq}	70			72			73			83			55			61			67			76			82			113			124			135		
Power supply	Phase/Frequency/Voltage		Hz/V	3~/50/400																																			

Cooling only				EWAD-TZPRB																																			
Cooling capacity	Nom.			190	220	240	290	300	350	420	495	550	620	720	820	950																							
Power input	Cooling	Nom.		187	218	246	279	317	382	435	505	543	620	717	833	950																							
EER				50.5	60.7	68.7	83.4	95.9	105	123	139	151	178	182	220	252																							
ESEER				3.71	3.59		3.35	3.31	3.64	3.52	3.62	3.59	3.47	3.93	3.78	3.76																							
Dimensions	Unit	Height	mm	5.70																																			
		Width	mm	5.66																																			
		Depth	mm	5.42																																			
Weight	Unit		kg	4083			4983			5883			6783			8820			9591			10461			11233														
	Operation weight		kg	2858			2869			2870			3120			4935			5269			5277			6620			6648			7735			8028			8537		
Water heat exchanger	Type			2908																																			
	Water flow rate	Cooling	Nom.	2919																																			
	Water pressure drop	Cooling	Nom.	2920																																			
	Water volume		l	3170																																			
Air heat exchanger	Type			5190																																			
Compressor	Type			5524																																			
	Quantity			5532																																			
Fan	Type			6927																																			
	Quantity			6955																																			
	Air flow rate	Cooling	Nom.	8220																																			
	Speed		rpm	8228																																			
Sound power level	Cooling	Nom.	dBa	87			88			89			90			94			95			95																	
Sound pressure level	Cooling	Nom.	dBa	67			68			67			68			69			73			73																	
Operation range	Air side	Cooling	Min.-Max.	-18~55																																			
	Water side	Cooling	Min.-Max.	-8~-18																																			
Refrigerant	Type / GWP			R-134a / 1,430																																			
	Circuits	Quantity		1																																			
Refrigerant charge	Per circuit		kg	49			50			51			58			38.5			43			47			53			57			79			87			94		
			TCO _{eq}	70			72			73			83			55			61			67			76			82			113			124			135		
Power supply	Phase/Frequency/Voltage		Hz/V	3~/50/400																																			



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Daikin Europe N.V. participates in the Eurovent Certified Performance programme for Liquid Chilling Packages and Hydronic Heat Pumps, Fan Coil Units and Variable Refrigerant Flow systems. Check ongoing validity of certificate: www.eurovent-certification.com



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