



# Air Cooled Inverter Screw Chillers

MZ generation IV | Vintage D



Optimized for the Middle East  
Operation up to 55°C ambient temperatures  
50Hz & 60Hz

R134a

R1234ze





Why Choose

# Daikin?

Daikin has always been at the forefront of innovation within Air Cooled Screw Chillers

With our very own Daikin single screw compressor technology, In house Inverters, In house designed fans, Daikin once again pushes the limits of efficiency, sustainability and technology to bring you the MZ vintage D | the fourth generation of inverter screw chillers that is the culmination of years of research, development and experience in the Middle East.

For over half a century of chiller manufacturing experience, with thousands of sites, tens of thousands of chillers and hundreds of thousands of tons installed worldwide, Daikin has solutions for every application integrating the latest technologies without compromise on reliability and performance.

## MZ generation IV Vintage D

No Compromise



Why Choose

# The MZ chiller series?

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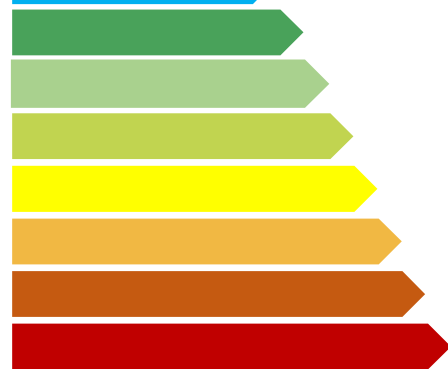
## Market Leading Performance

- EER up to 3.5 COP at AHRI conditions
- EER up to 2.7 COP at 46°C
- IPLV up to 7.0 kW/kW at AHRI conditions

Generation IV / Vintage D is a full inverter chiller with:

- Daikin VFDs for all compressors in each chiller
- EC condenser fans for all the range

**DAIKIN**

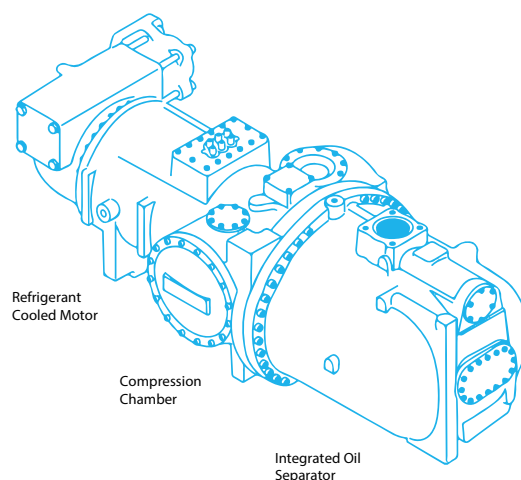


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## Cutting Edge Technology

### The Daikin Single Screw Compressor

- Manufactured In-house
- Inverter Driven with infinite capacity modulation
- Integrated Oil Separator
- Semi-Hermetic Direct Drive Design
- Suction Gas Cooled Motor







## Refrigerant Cooled Inverters

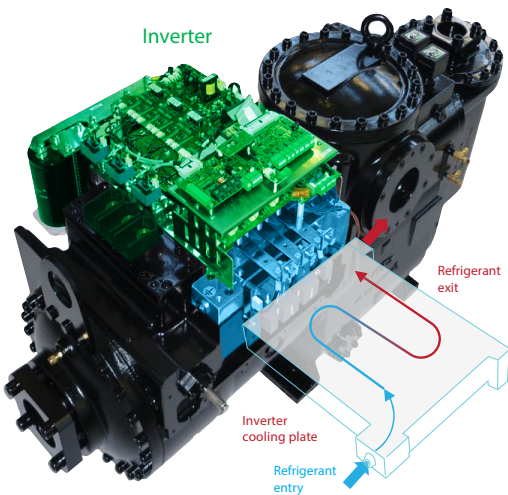
- Integrated Daikin made Inverters are utilized on each
- Compressor Cooling of each inverter is done through refrigerant to ensure that the inverter is maintained at a constant temperature regardless of the outdoor conditions for the highest reliability

	Air Cooled	Fluid Cooled	Refrigerant Cooled
Not Influenced by Environmental Conditions (Temperature, Altitude, Pollution)	✗	✗	✓
No Additional Components External needed to cool the VFD	✗	✗	✓
No Dedicated Maintenance Necessary	✗	✗	✓
True Redundancy	✗	✗	✓

## The Daikin Refrigerant Cooled

Solution is a simple, tested and reliable method to guarantee the best inverter performance at all conditions

Air cooled or indirect fluid cooled solutions are linked to ambient conditions and therefore derate at higher outdoor temperatures. These solutions may have additional complex circuits that require constant attention.







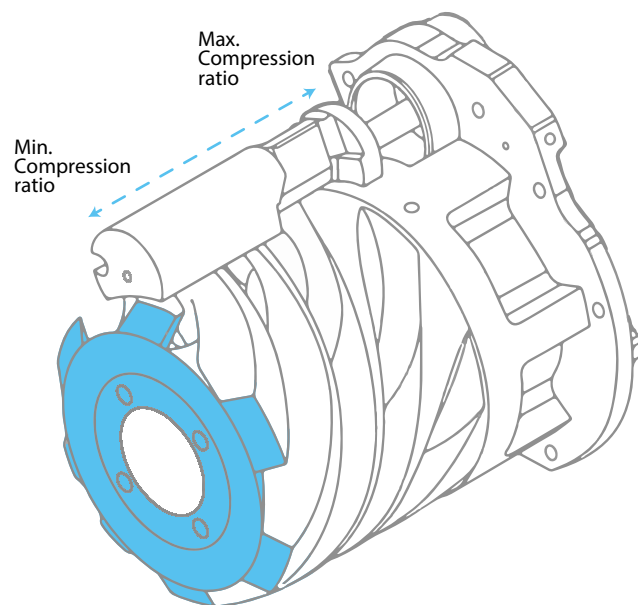
## Variable Volume Ratio

Available on Platinum + Models

A traditional Compressor is designed for a single compression ratio & discharge temperature

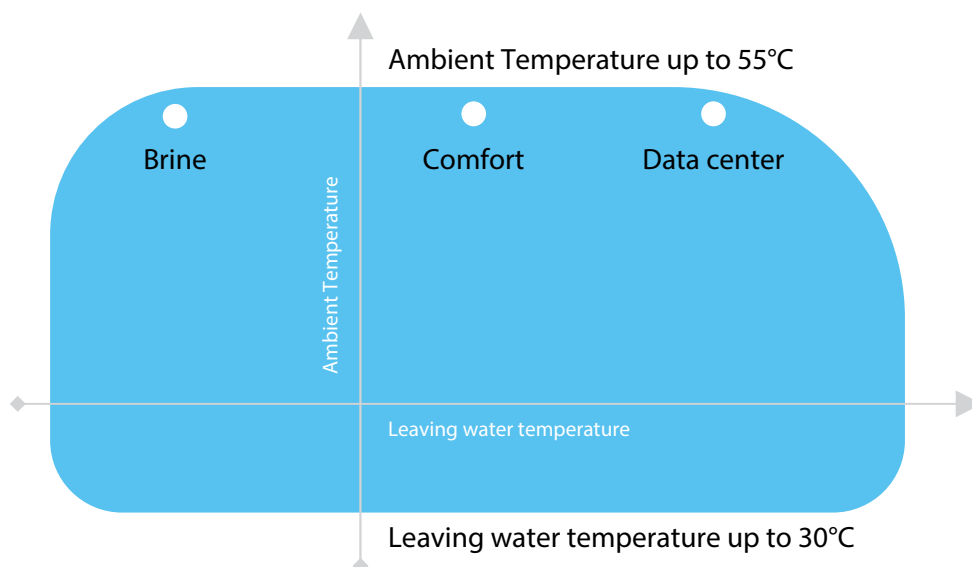
Utilizing VVR – Variable Volume Ratio  
Daikin compressors can change the compression ratio dynamically by altering discharge area

VVR ensures that refrigerant is not over-compressed at any running condition Maximizing Part Load Compressor Efficiency



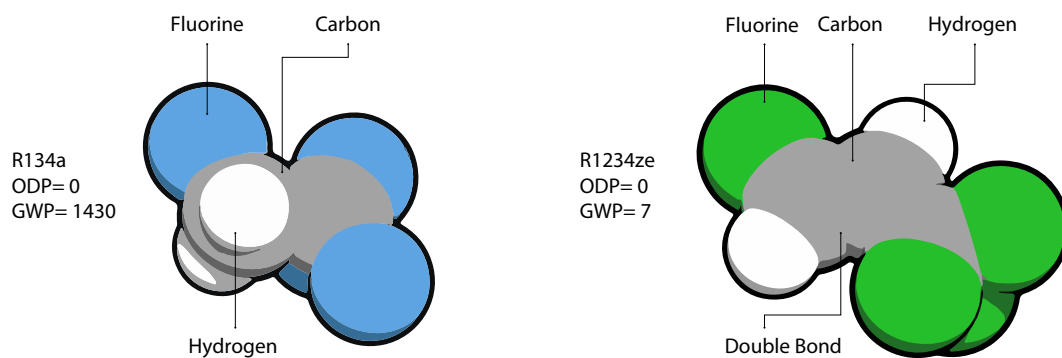
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## Application Flexibility

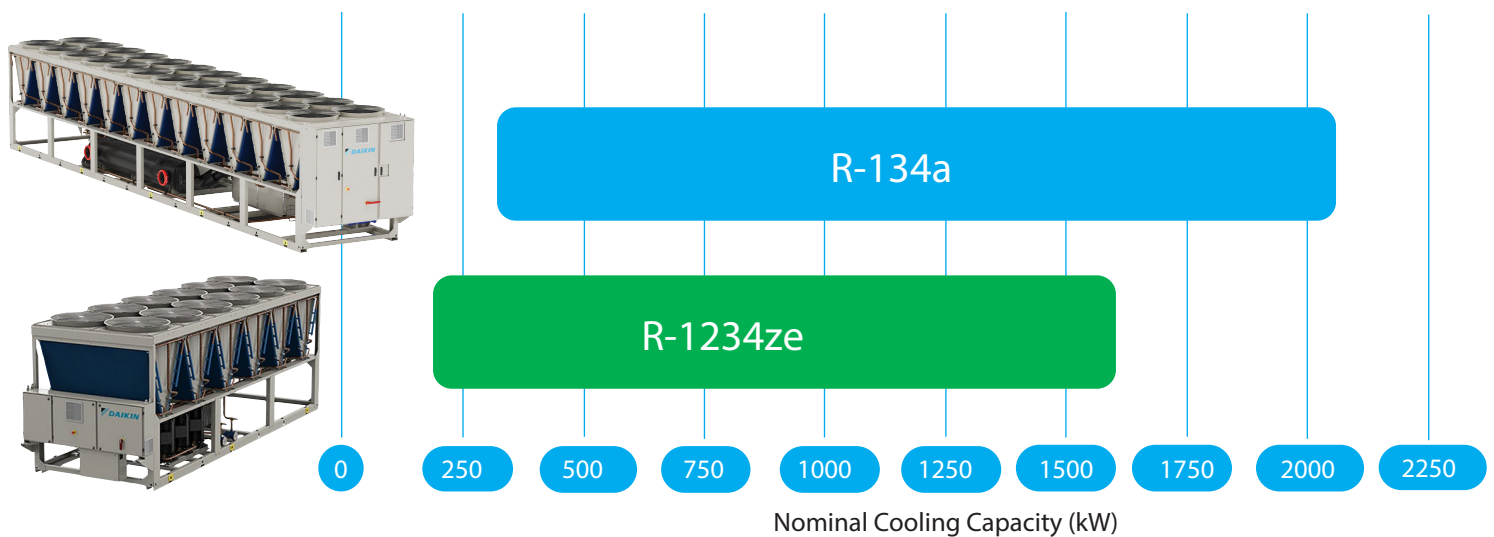




- ## 4 Sustainability Focused
- Committed to the future, Daikin has optimized compressors for operation with the HFO R1234ze. In the new generation of Daikin chillers, this Ultra-Low GWP is integrated into our lineup alongside the Traditional R134a



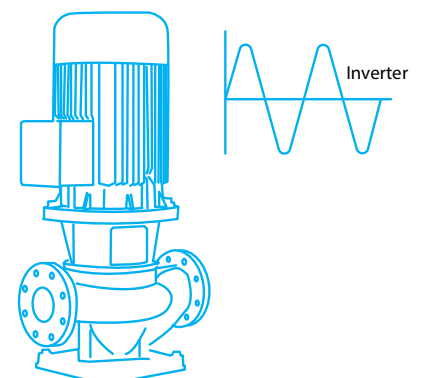
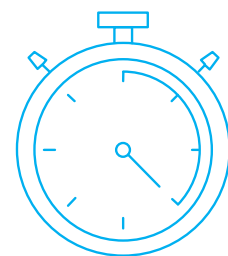
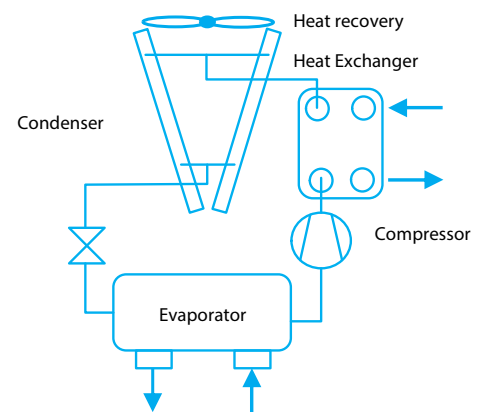
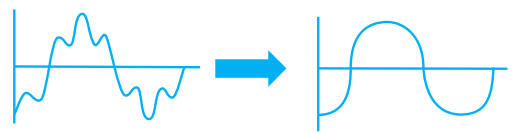
## 5 Capacity Range





## 6 Diverse solutions for every application

- Optional Onboard Refrigerant Cooled Daikin in house Harmonic filters to meet Harmonic distortion limits  $iTHD < 5\%$  at all load conditions
- Optional Heat recovery with Temperatures up to  $55^{\circ}\text{C}$   
Partial Heat recovery for up to 25% of cooling capacity recovered  
Total Heat recovery for up to 85% of cooling capacity recovered with control logic to optimize the heat recovered
- Optional Rapid Restart for mission critical applications  
When this option is chosen, the chiller controller is outfitted with a UPS In case of a power failure, the chiller will restart 30 seconds after power is restored and reach full capacity within 180 seconds
- Optional Integrated Pumps with VFDs (single or dual) with inverters  
Pumps integrated onto the chiller base frame to have a true Plug and play solution with the option of variable primary flow to reduce Energy consumption further
- Condenser Coil Treatments  
Factory supplied anti-corrosion coating condenser treatments for coils available







7

## Proven Reliability

All Chillers in the MZ vintage D/ Generation 4 are AHRI certified for performance to the standard AHRI 550/590 & AHRI 551/591

Every single air cooled screw chiller that is ordered goes through a functional run test in the factory with water flowing through the evaporator and the fans and compressors running at full load

As an additional option for customers, Daikin offers factory testing at specific project design conditions in a state of the art AHRI certified climatic chamber along with customer experience center.

Performance  
certified by

**AHRI** CERTIFIED™  
[www.ahridirectory.org](http://www.ahridirectory.org)

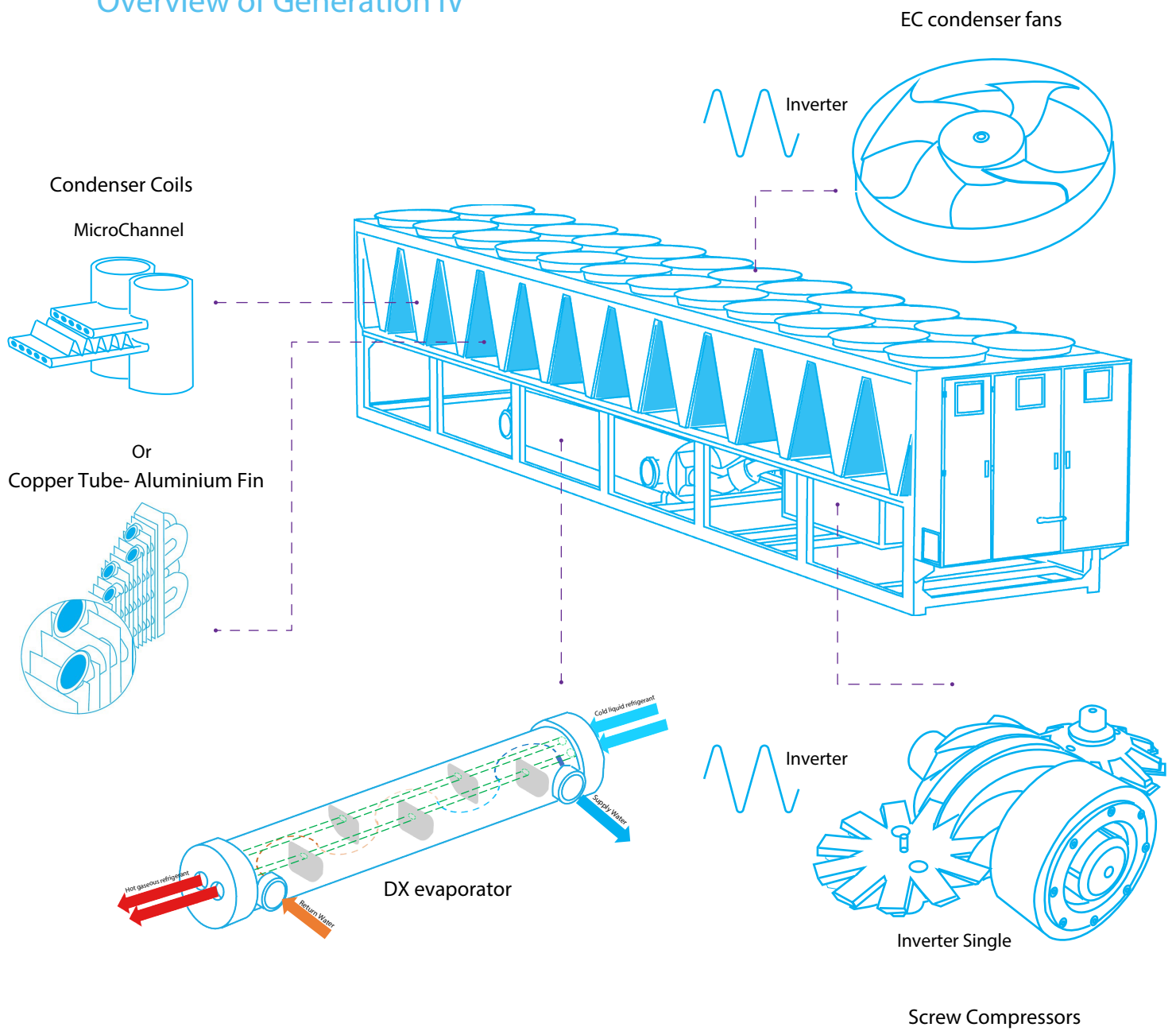
## Daikin Climatic Chamber

- Up to 2000 kW Cooling Capacity
- High ambient temperature installations: up to +52 °C
- Extremely low ambient temperature: down to -18 °C
- Water Temperatures: From -8°C with glycol & up to 30°C with water
- Heat Pump testing
- Free cooling testing
- Acoustic tests testing
- Voltage range: 380 / 400 / 460 V
- Frequency range: 50 / 60 Hz





## Overview of Generation IV







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