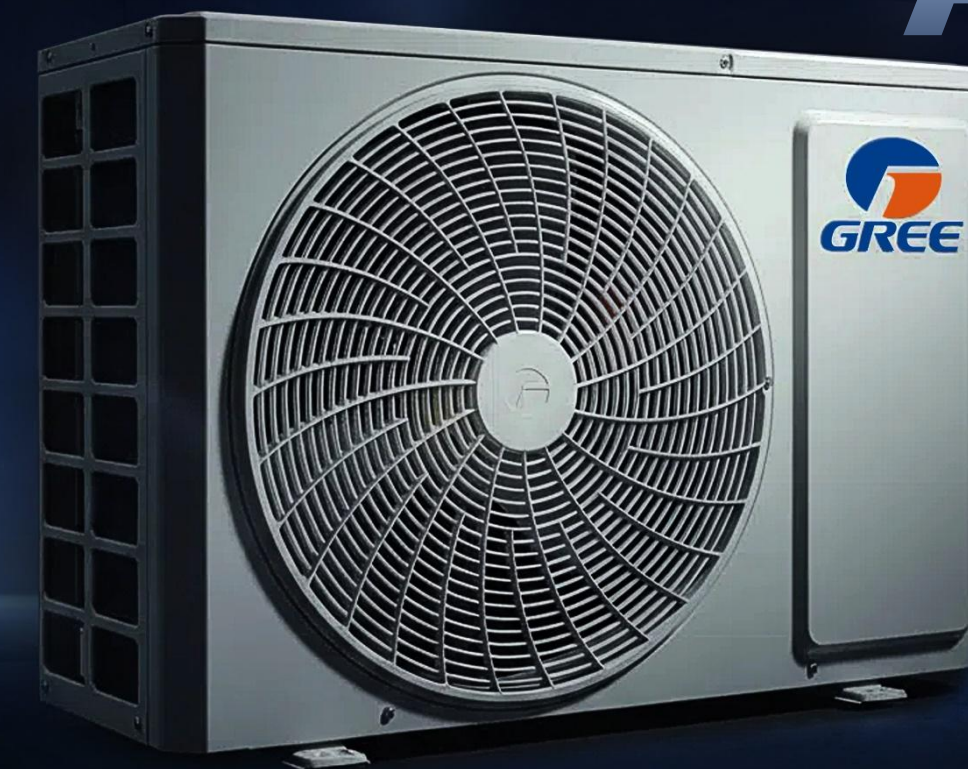




# Silent **Brand New SILENZO** Air Conditioner Stable

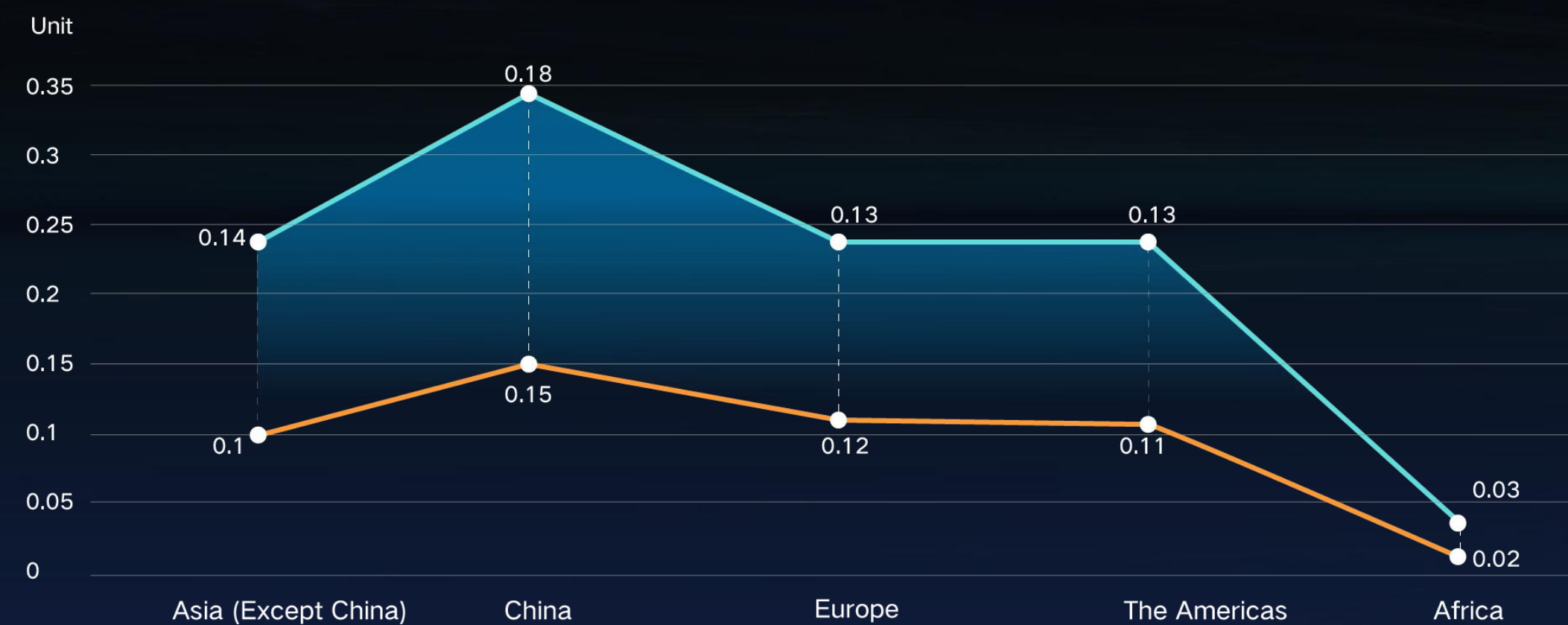


-  Low noise for undisturbed dreams
-  Low vibration for peace of mind
-  High efficiency without wasting electricity





Global Per Capita AC Ownership Changes



2024  
2025

## Concern about AC Noise from IU & OU

More than **70%** of consumers

\*Report Issued by China Home Appliance Association





## China Acoustic Environmental Quality Standard

**55dB / 45dB**

Noise limit (day/night)



Residential Area

## The Environmental Law of the Czech Republic

Zákon č. 201/2012 Sb., o ochraně životního prostředí



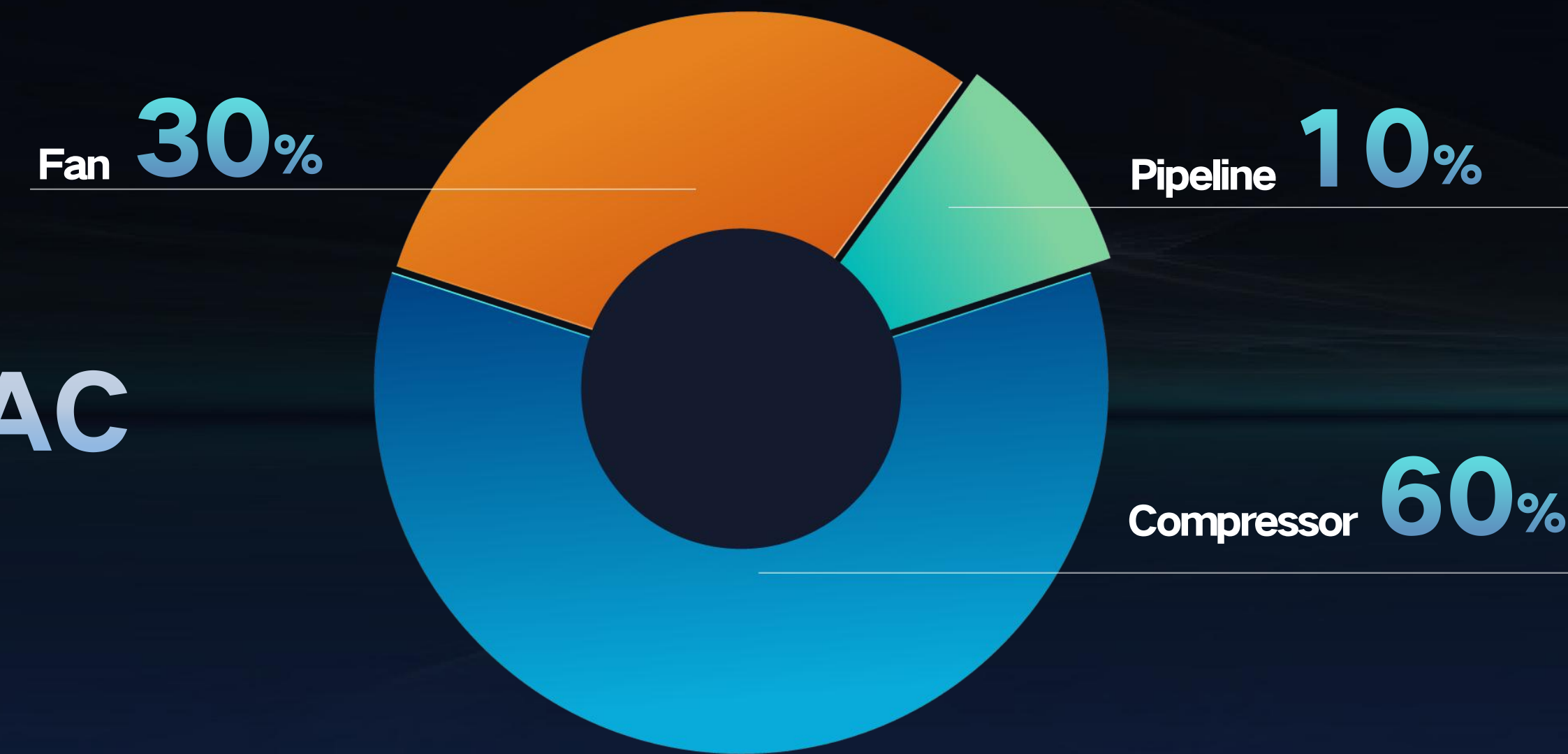
Living Area



**55dB / 45dB**

Noise limit (day/night)

# Compressor Main Noise Source of AC



ODU noise ratio analysis of AC

Electromagnetic Noise

Mechanical Noise  
(Rotating unbalance noise)

Gas Dynamic Noise

Hydraulic Dynamic Noise





# Compressor Main Vibration Source of AC



**Resonant Humming**



**Sheet Metal Part Rattle Sound**

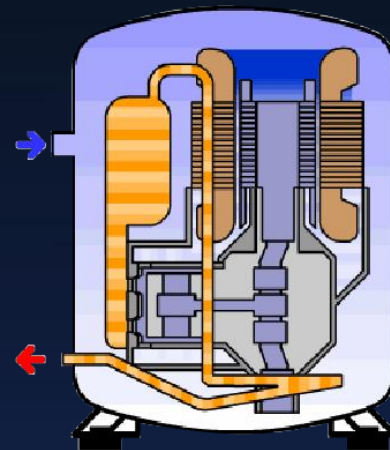


**Vibration and Unusual Noise  
Transmission of Wooden Walls**

# Three major types of compressors for refrigeration

1876

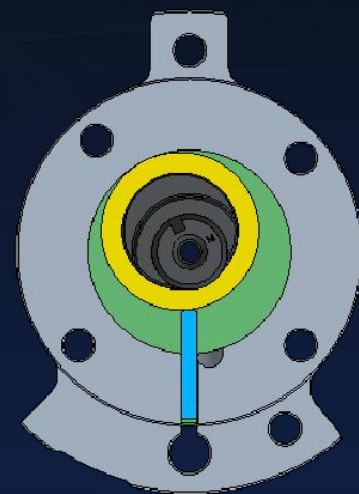
The first ammonia vapor compression Refrigeration System.



Reciprocating  
compressor

1950

Rotary compressors for air conditioners have become mainstream.



Rotary  
compressor

1981

Commercial application of scroll compressors for air conditioners.



Scroll  
compressor



**What will the next generation  
of compressors be like?**



# Industry First G-QuietuX Compressor



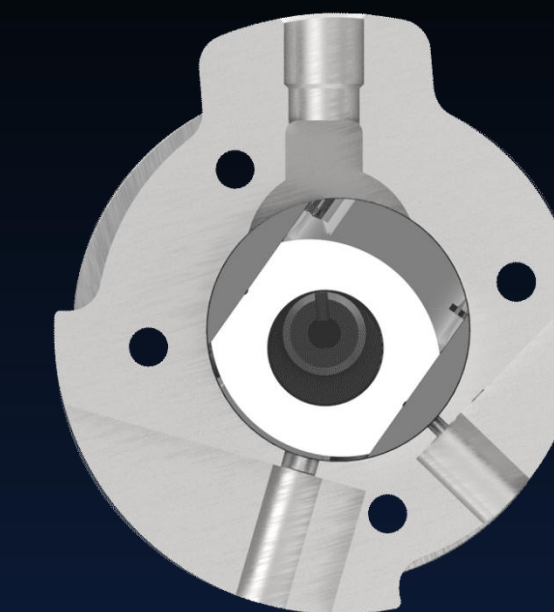
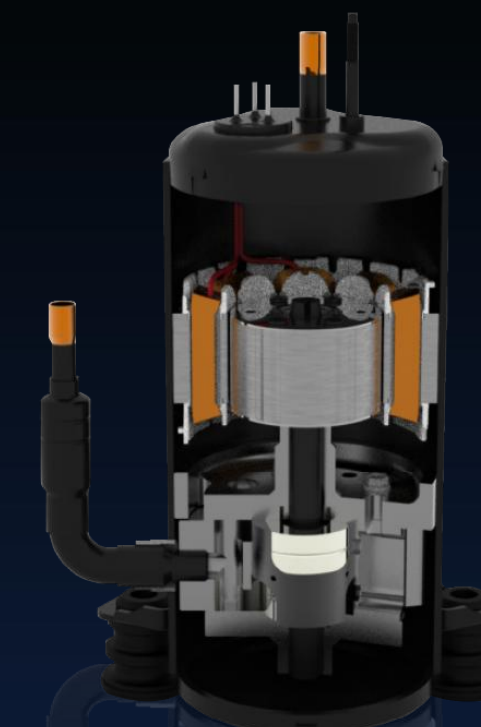
9 Years

Independent intellectual property rights  
Self-developed new double-speed rotary  
quad-cylinder compressor G-QuietuX



137

Invention patents





## Brand New SILENZO AC



Ultra Quiet



Low Vibration



Gas-liquid Actuated Refrigeration



Energy-saving





# Silent Ultra Quiet Stable



# Symmetric Design

Suppresses Noise Caused by Rotational Imbalance

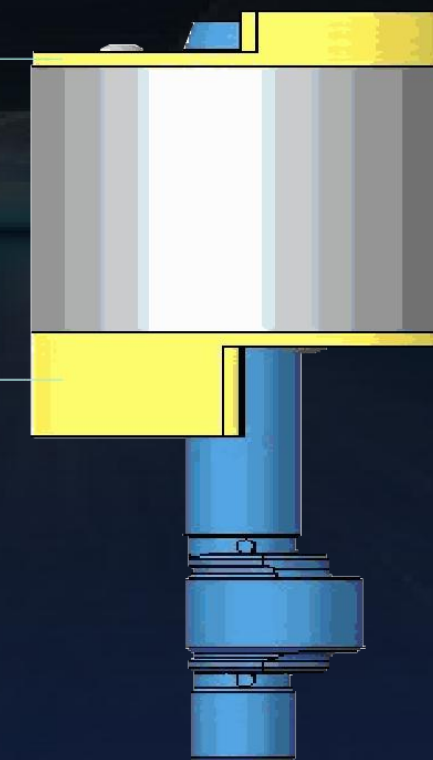
## Motor Rotor Structure Comparison

Asymmetric Structure  
of Rotary Compressor

Symmetric Structure of  
Double-Speed Rotary Quad-Cylinder Compressor

Auxiliary Balance Block

Main Balance Block





# Slipper-less Structure

## Suppresses Tapping Noise of Low-frequency Valve Plate

### Low-frequency Operation Comparison

Impact  
Detachment

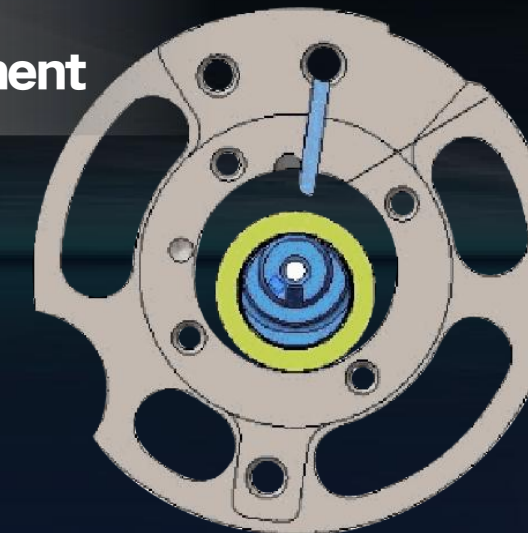
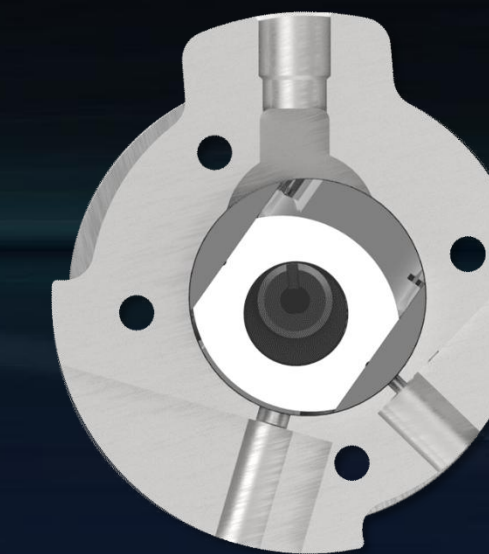


Diagram of Slipper  
Detachment in Rotor Compressor



Double-Speed Rotary Quad-Cylinder  
Compressor



# Tankless Structure

Eliminates Harmonic Excitation Noise

## Compressor Structure Comparison

Structure of  
Rotary Compressor



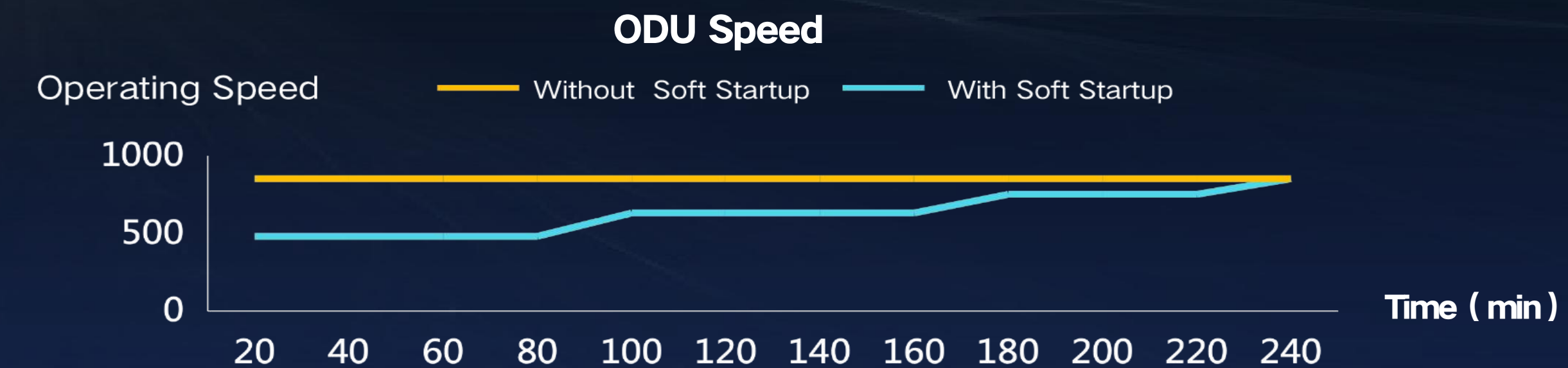
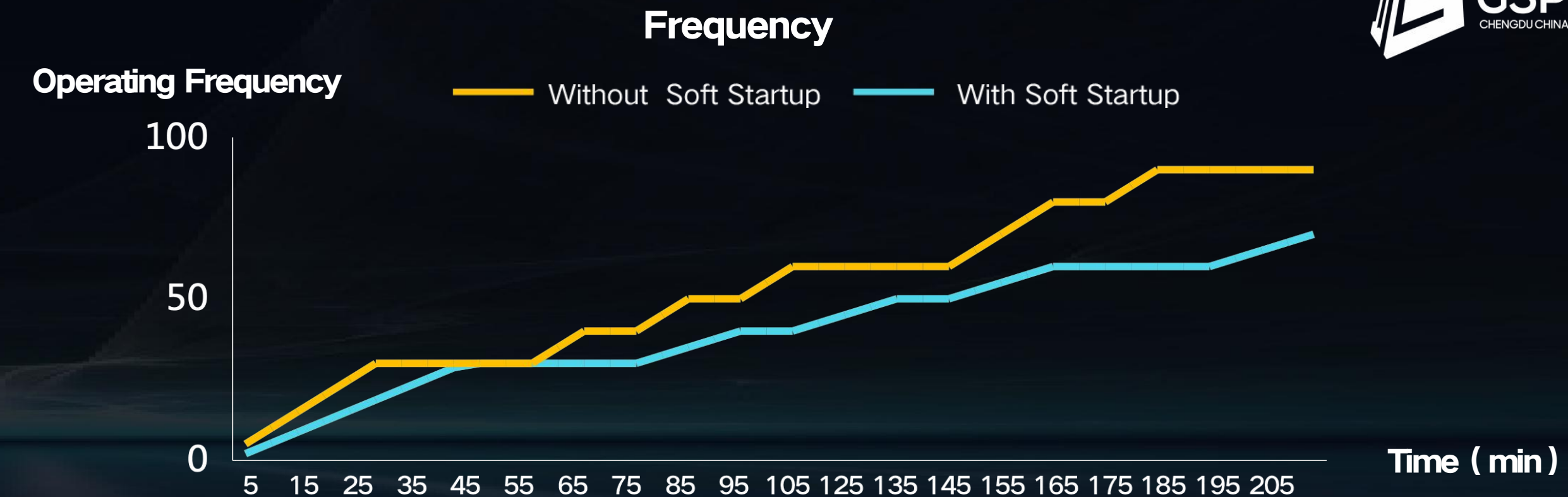
Structure of Double-Speed Rotary  
Quad-Cylinder Compressor





# Innovative Linked Control Solution

## Reduce Fan Noise During the Entire Operation Process





**29** dB(A)

Minimum Noise Level of ODU



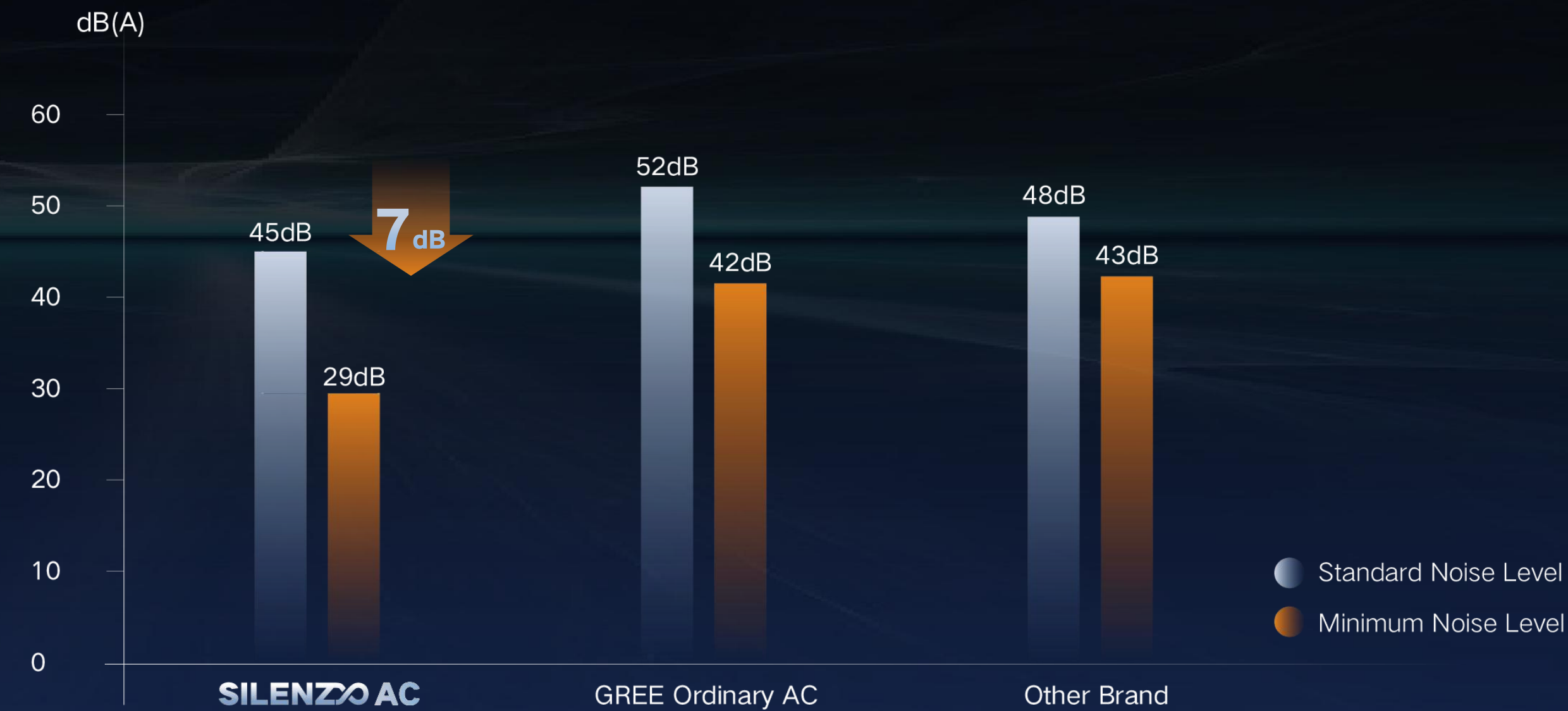
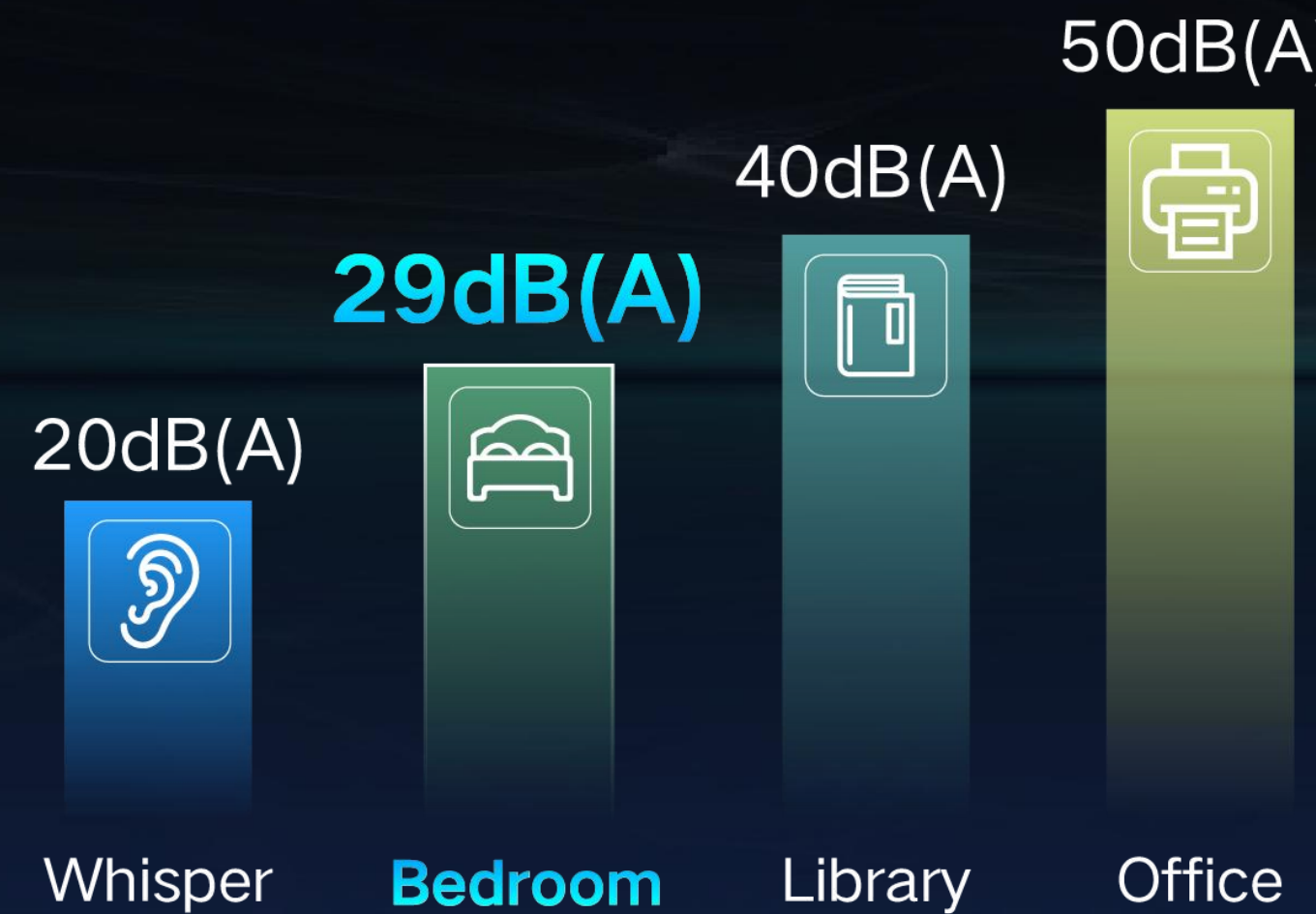
**15** dB(A)

Minimum Noise Level of IDU



# Brand New SILENZO AC

## Min. 29dB(A) ODU



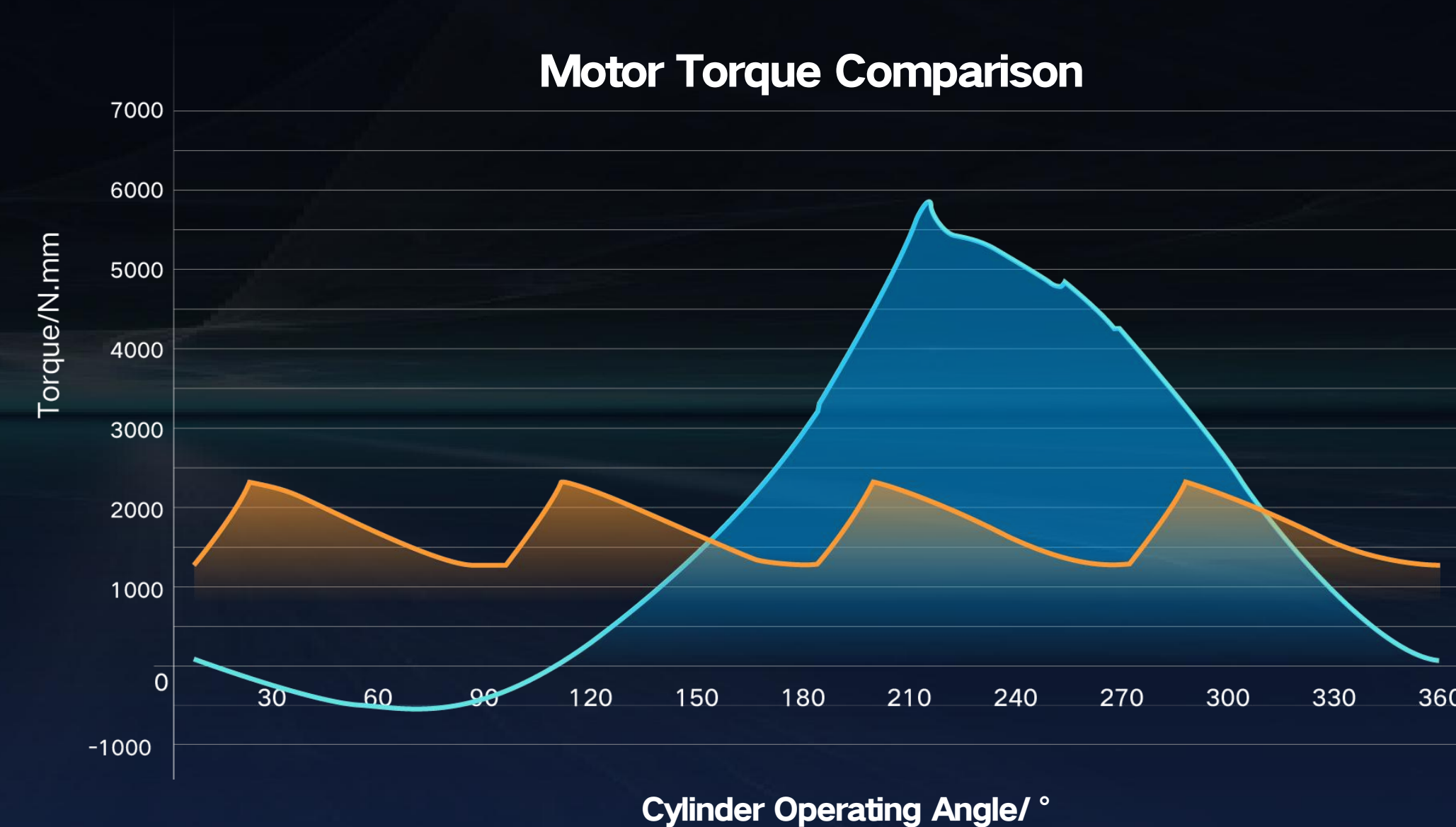


# Silent Low Vibration Stable



# Single-cylinder four-stage compression structure

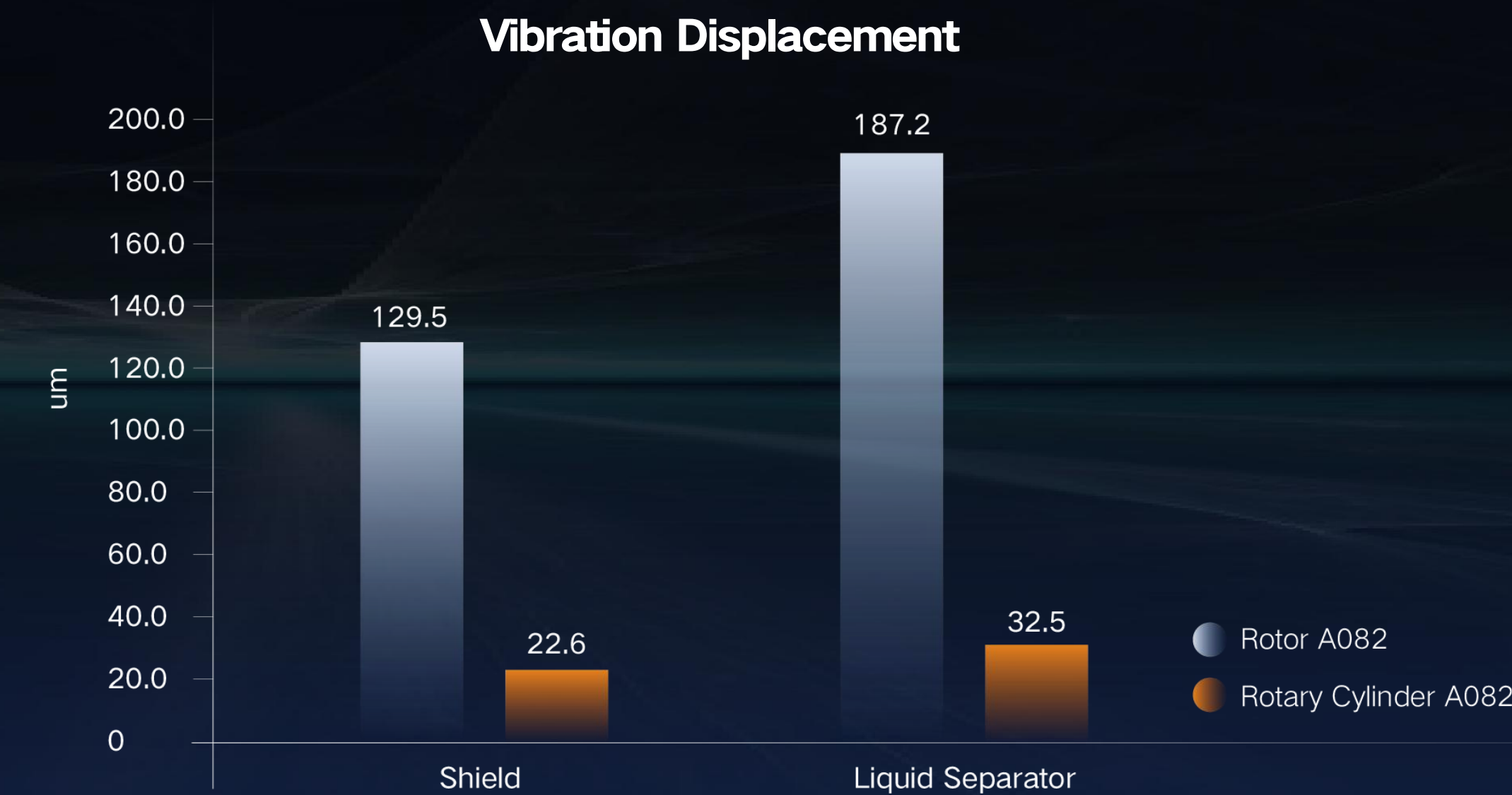
The torque fluctuation is 1/6 that of a rotary compressor





# Symmetrical structure

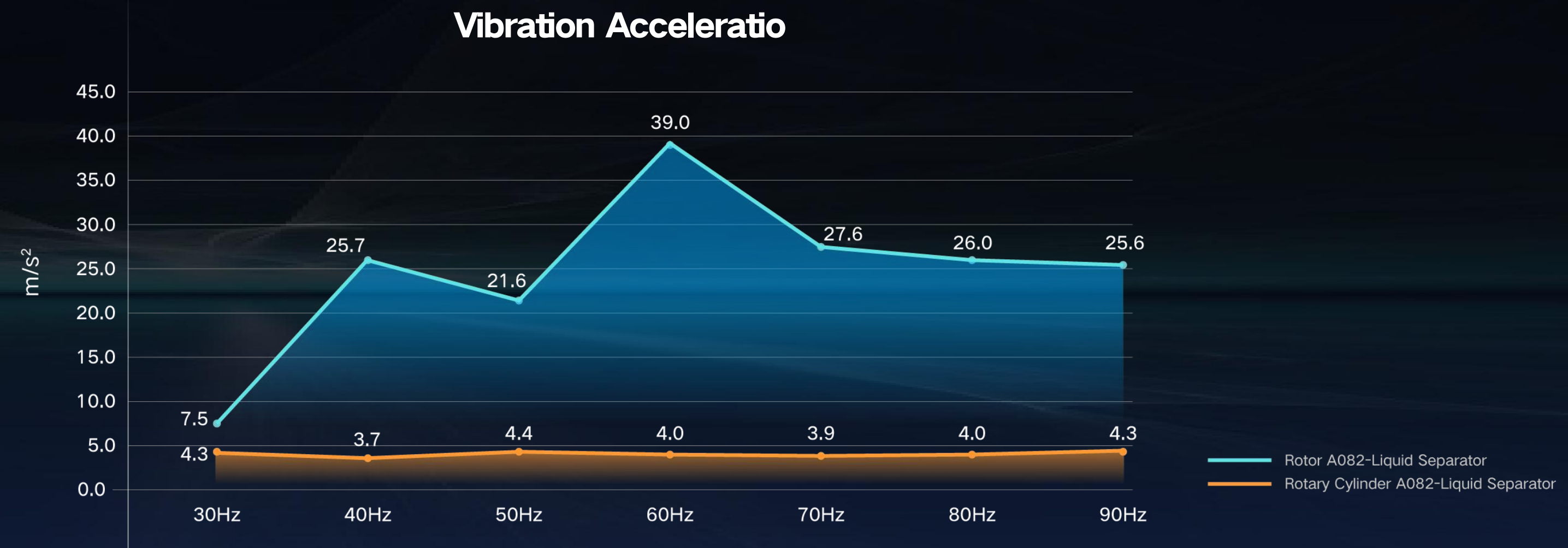
Vibration displacement is 1/6 of that in a rotary compressor





# Symmetrical structure

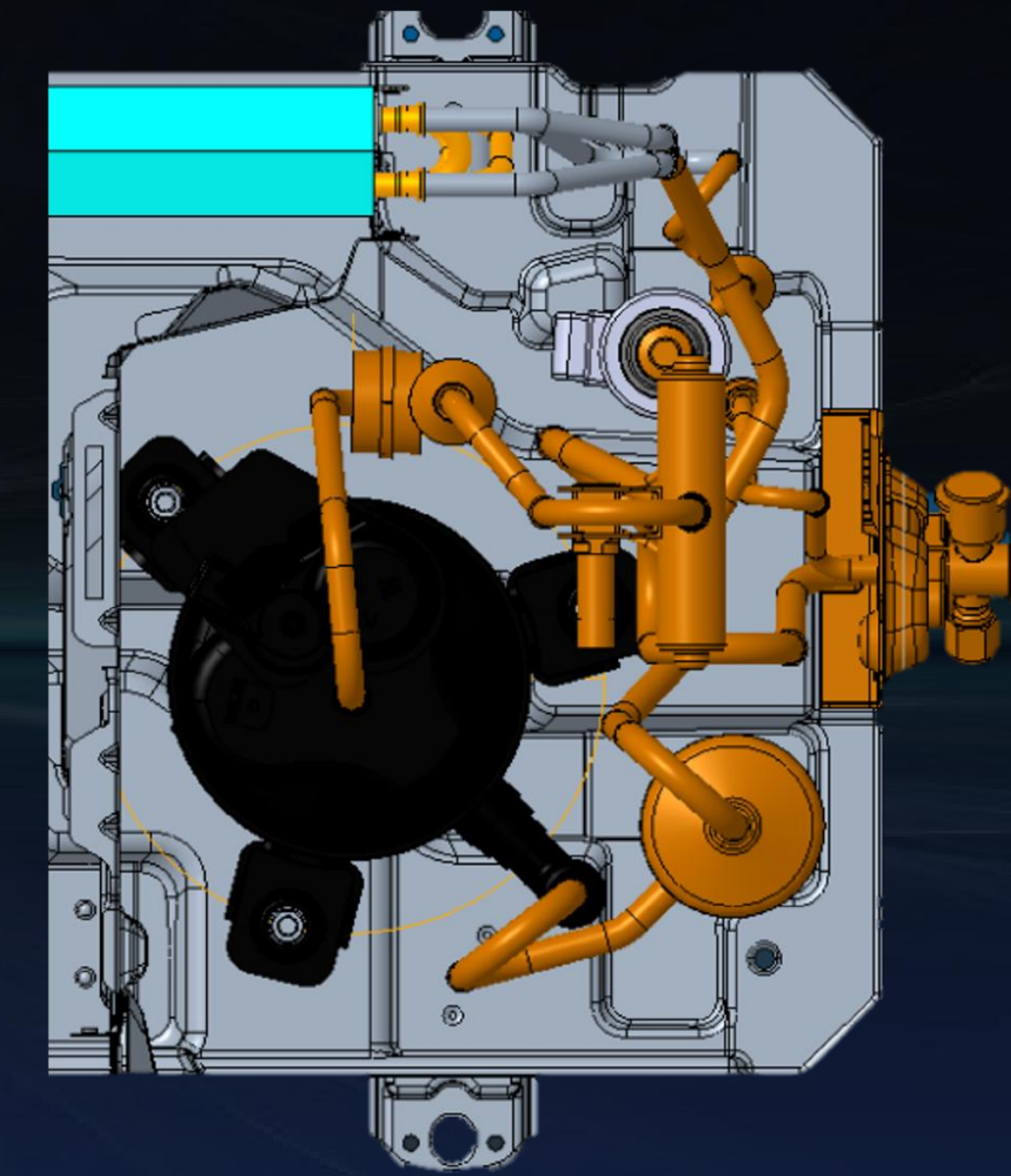
Vibration acceleration is 1/10 of that in a rotary compressor





# Looped Pipeline Design

Effectively Eliminate  
Pipeline Resonance



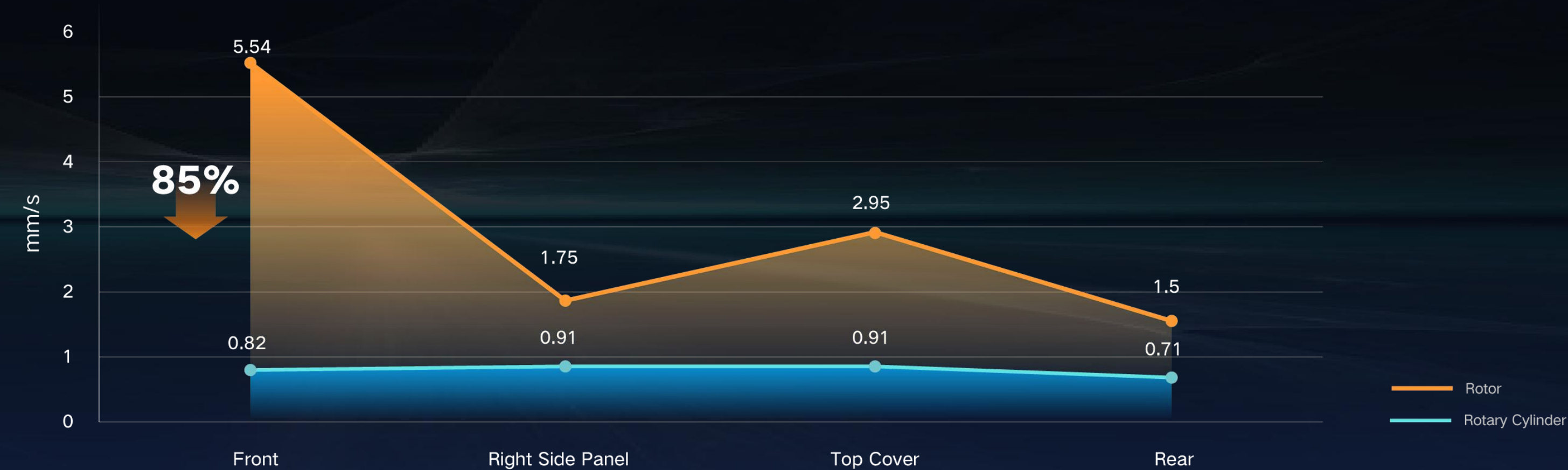
Looped Pipeline



# Brand New SILENZO AC

**4.72** mm/s  
Reduction in Housing Vibration

**85%**  
Reduction in Housing Vibration



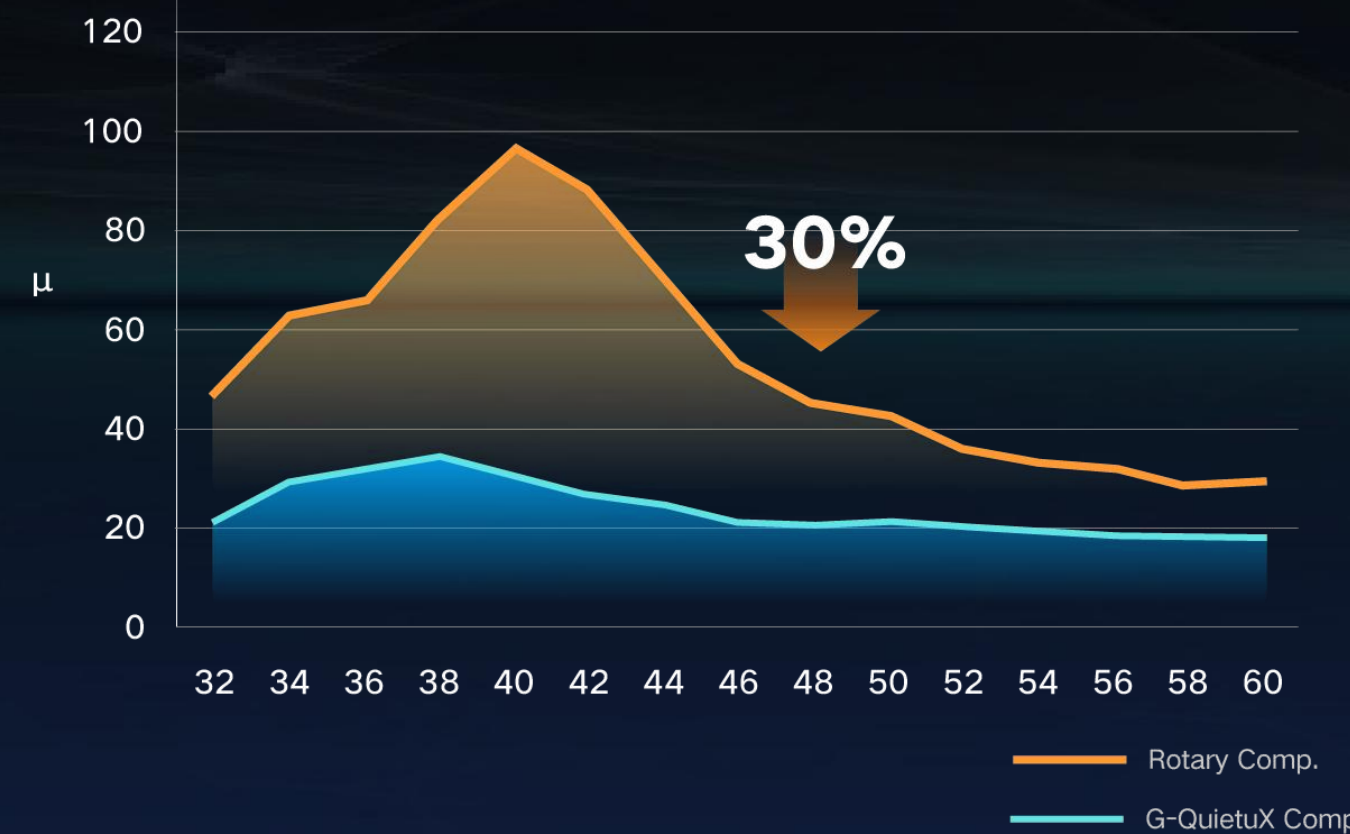


# Brand New SILENZ $\infty$ AC

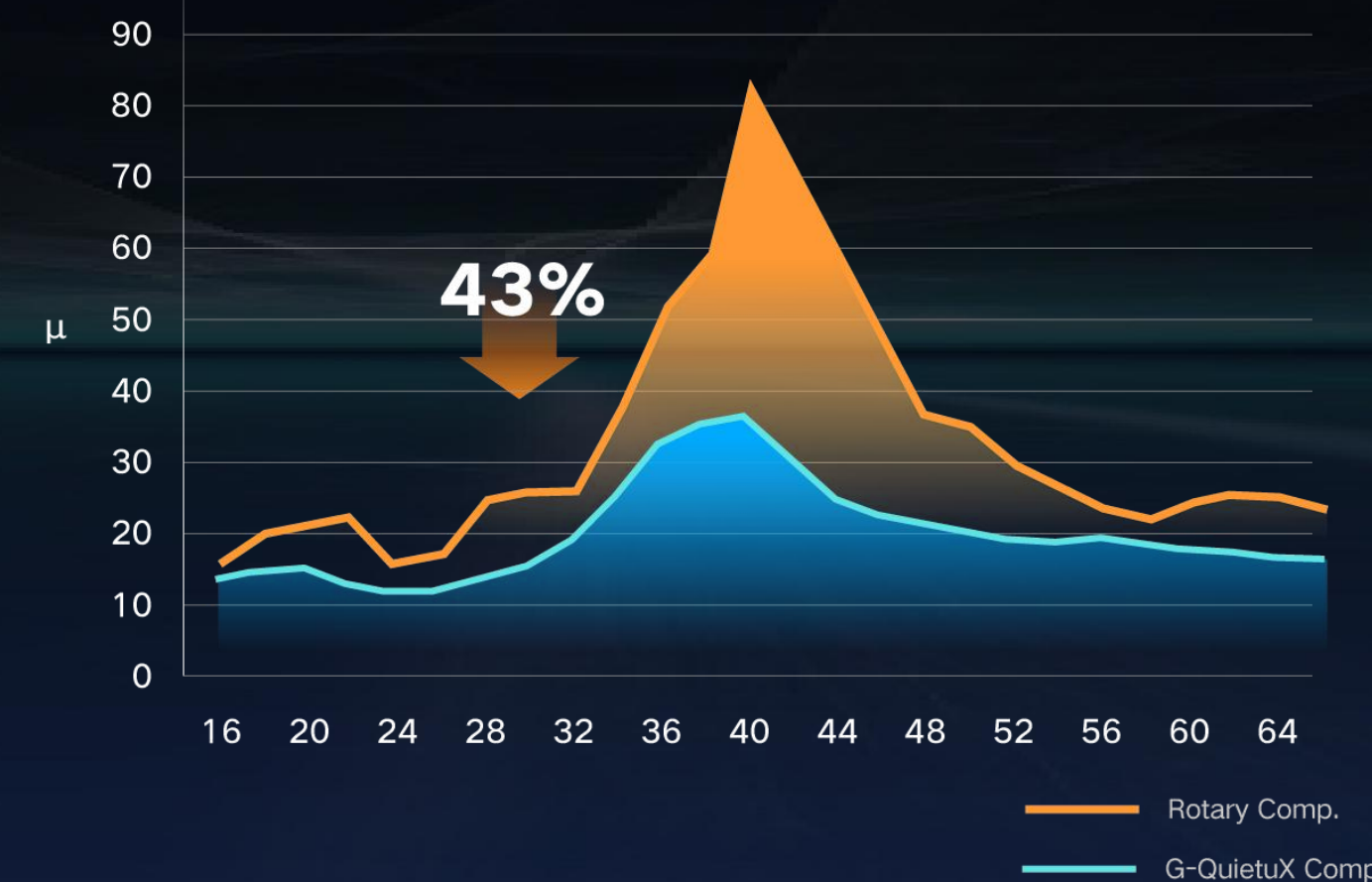
43%

Reduction of Pipeline Stress and Strain Values Across the Full Frequency Range

### Maximum Operating Cooling Stress Comparison



### Rated Cooling Stress Comparison



### Rated Heating Stress Comparison



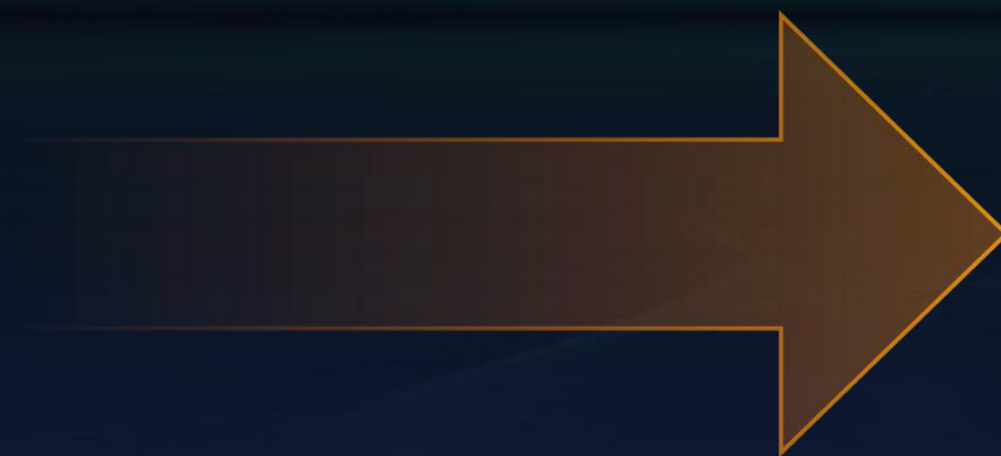


# Gas-liquid Actuated Refrigeration

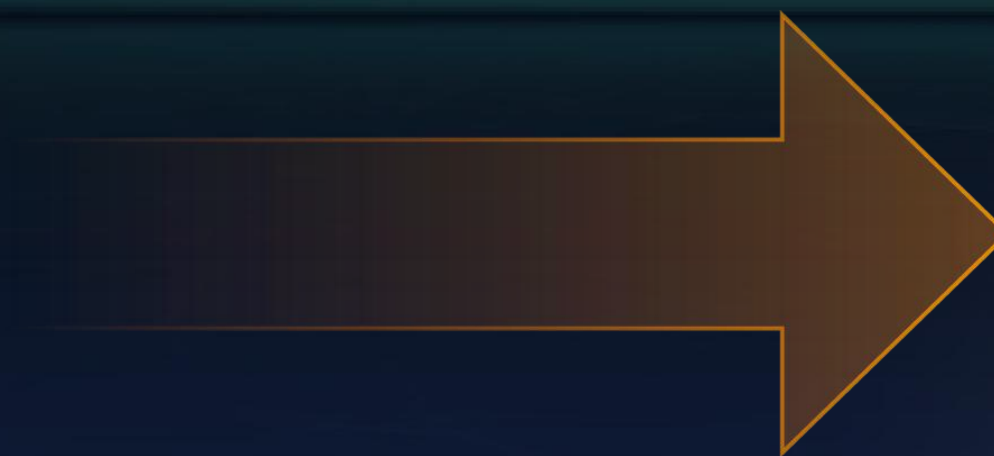


# Air Pump Mode

## Transport Outside Low-temperature Refrigerant to the Inside



G-QuietX Compressor



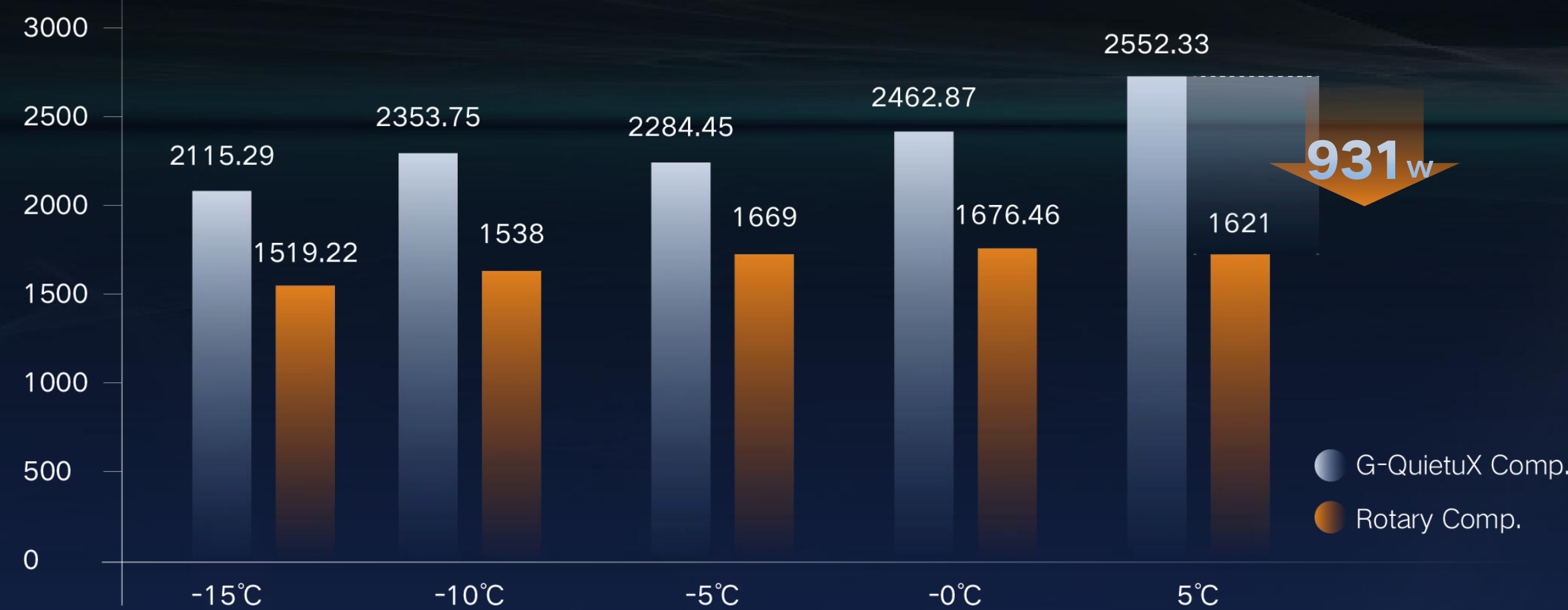


# Gas-liquid Actuated Refrigeration

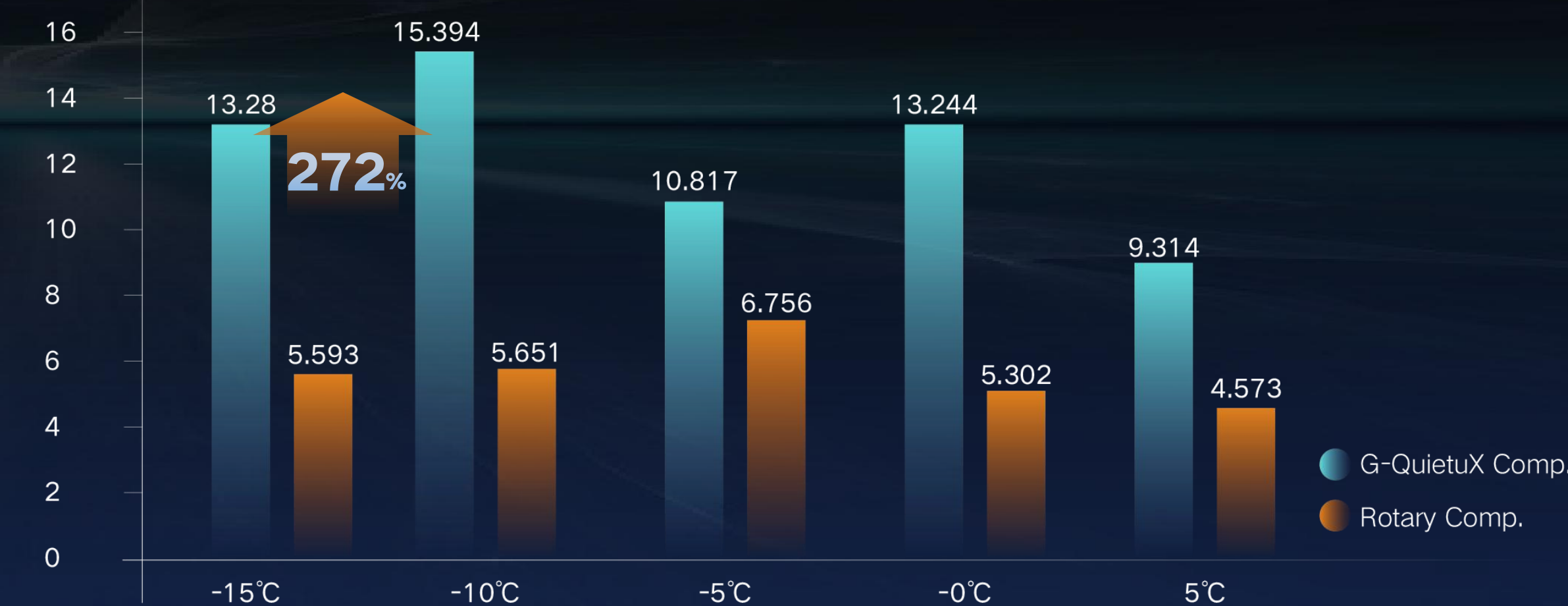
Low-temperature  
Energy Efficiency

272% ↑

Comparison for Cooling Capacity  
in Different External Ambient Low-temperature (W)



Comparison for Energy Efficiency  
in Different External Ambient Low-temperature





# Close Control AC -42°C Ultra-low Temperature Cooling



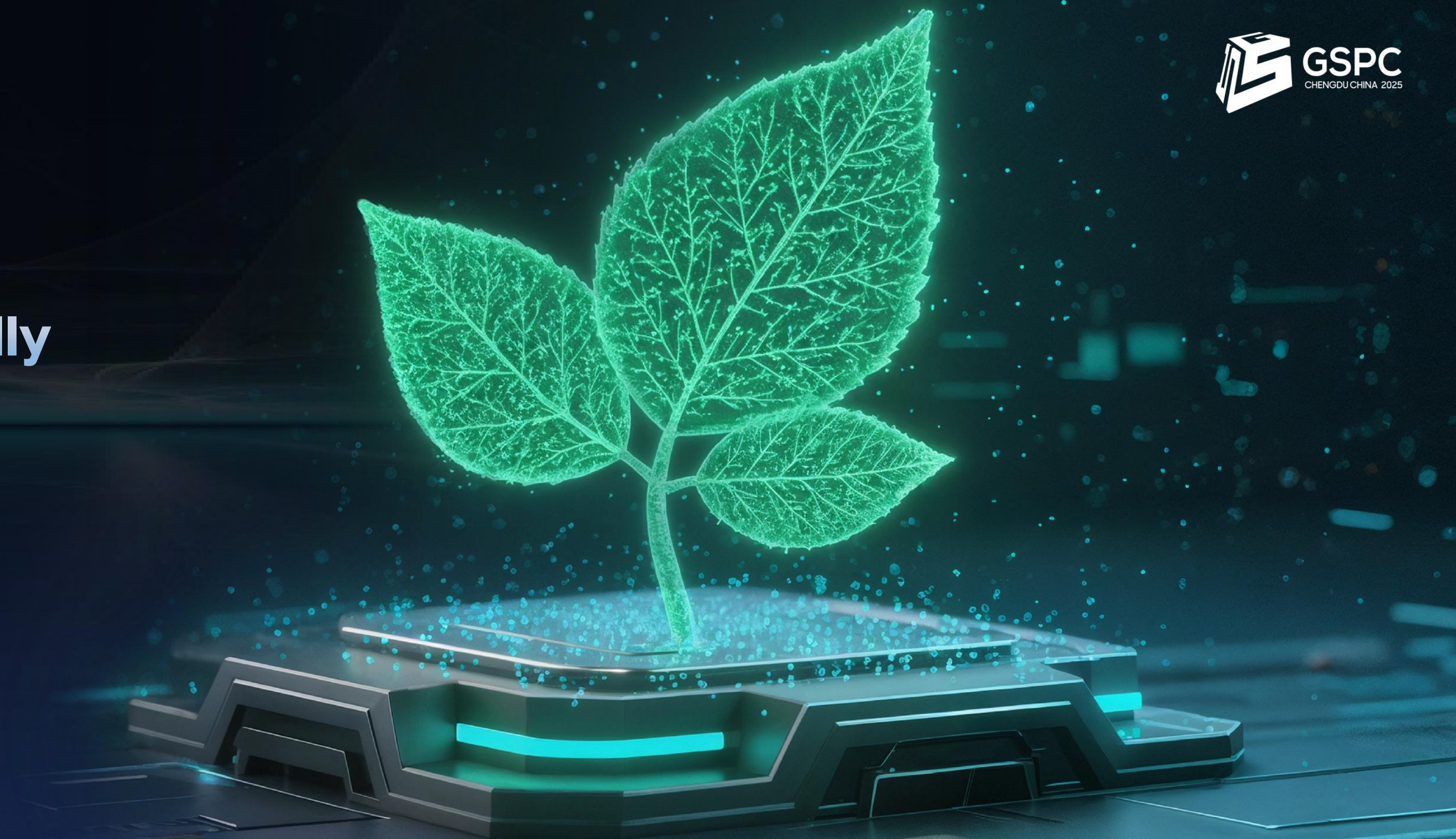
**Brand New**

**SILENZO AC**

**Low-temperature Cooling**

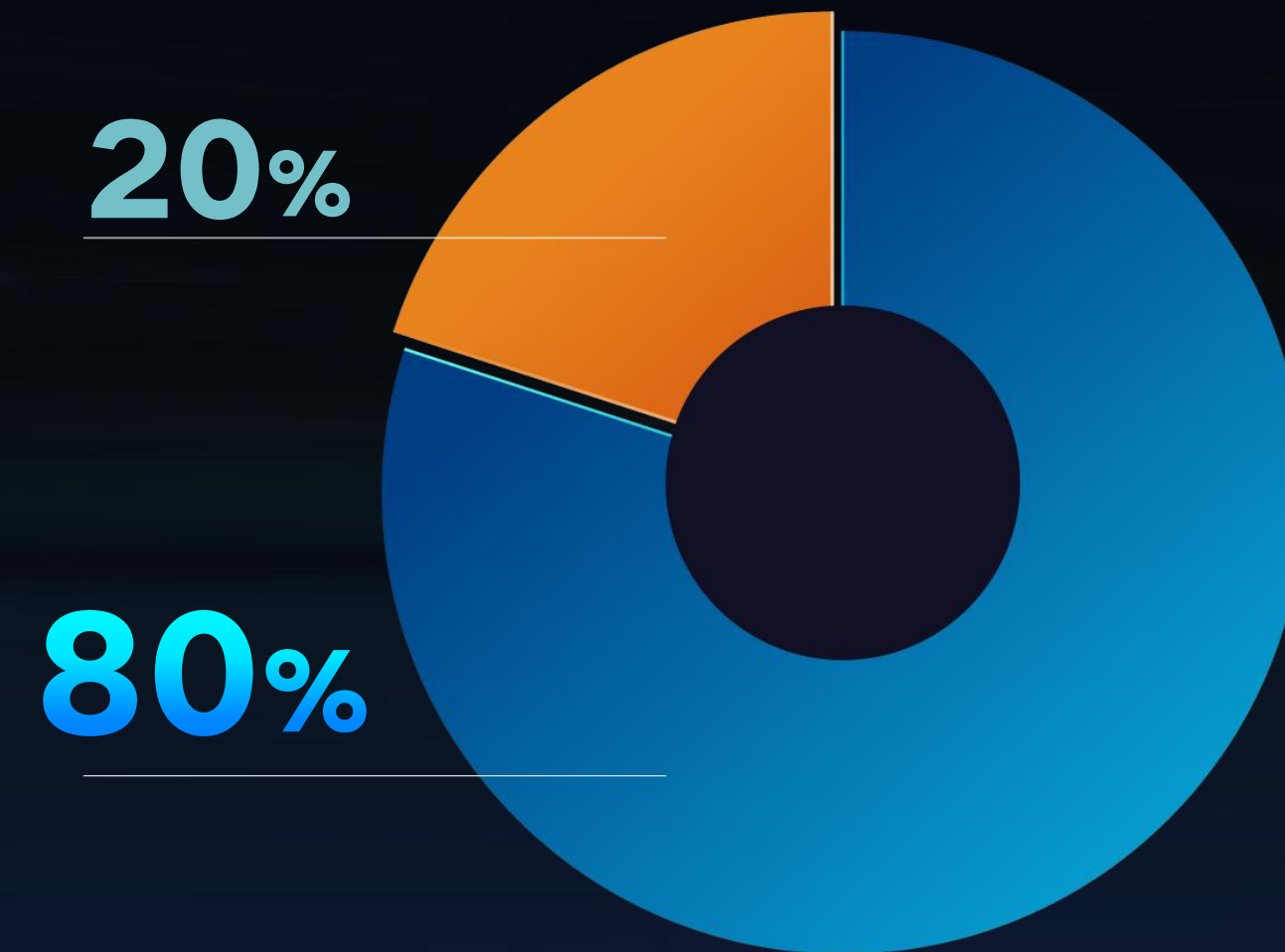
Single unit saves **1,598** kWh annually

Reducing energy consumption by **15**%



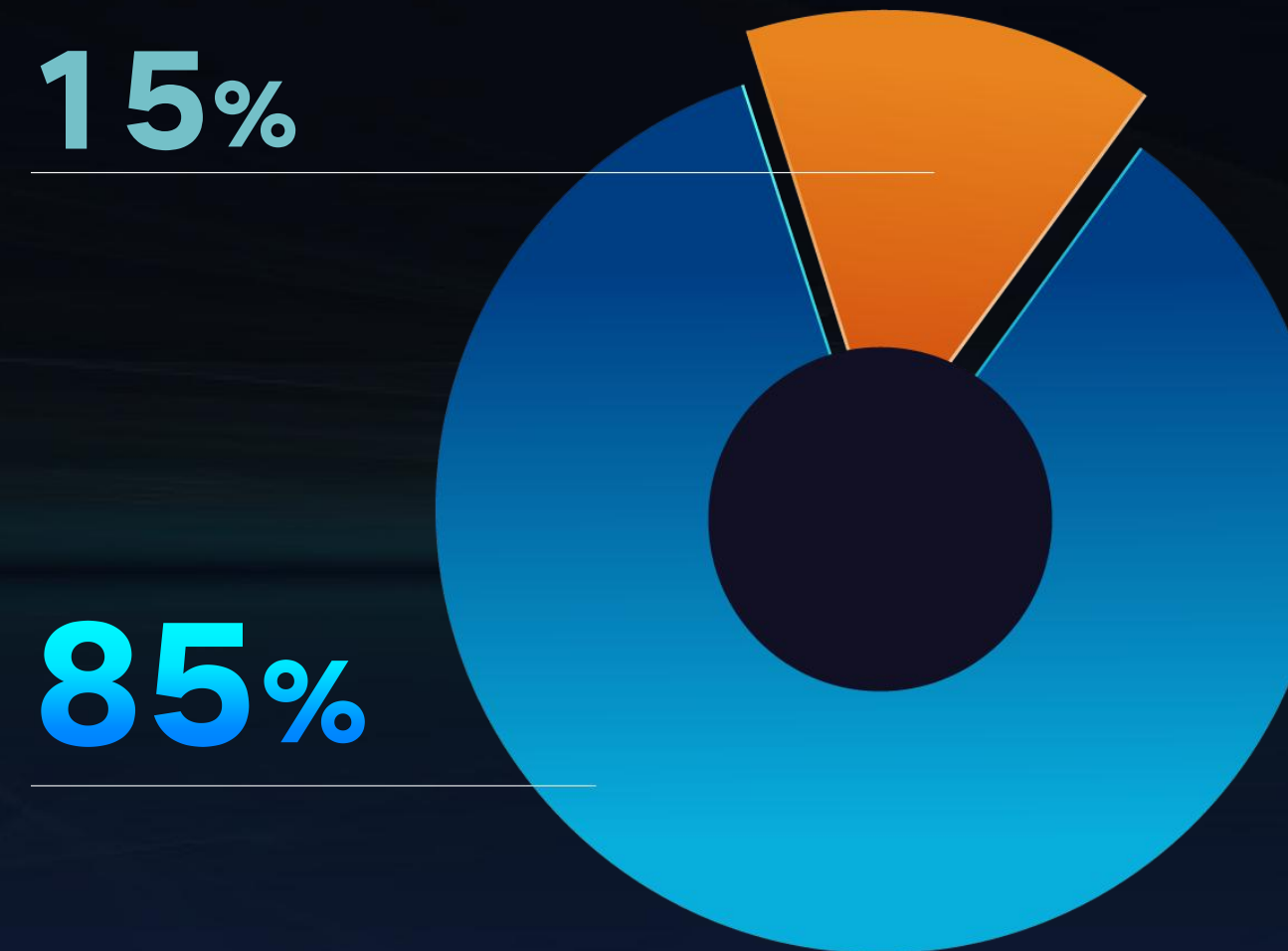


Silent **Energy-saving** Stable



**Annual Low-frequency Operation Time of the AC**

● High-frequency Operation  
● Low-frequency Operation



**Spring and Autumn Low-frequency Operation Time of the AC**

● High-frequency Operation  
● Low-frequency Operation



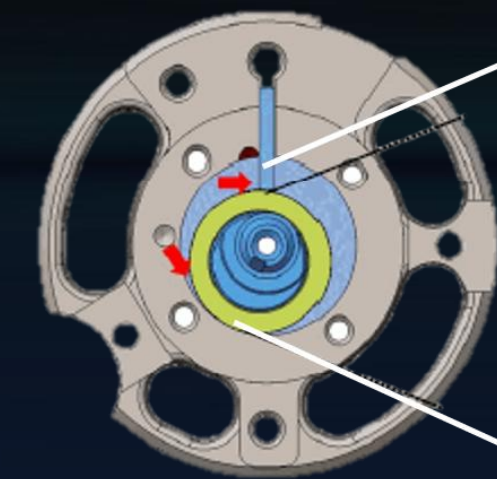
**Summer and Winter Low-frequency Operation Time of the AC**

● High-frequency Operation  
● Low-frequency Operation



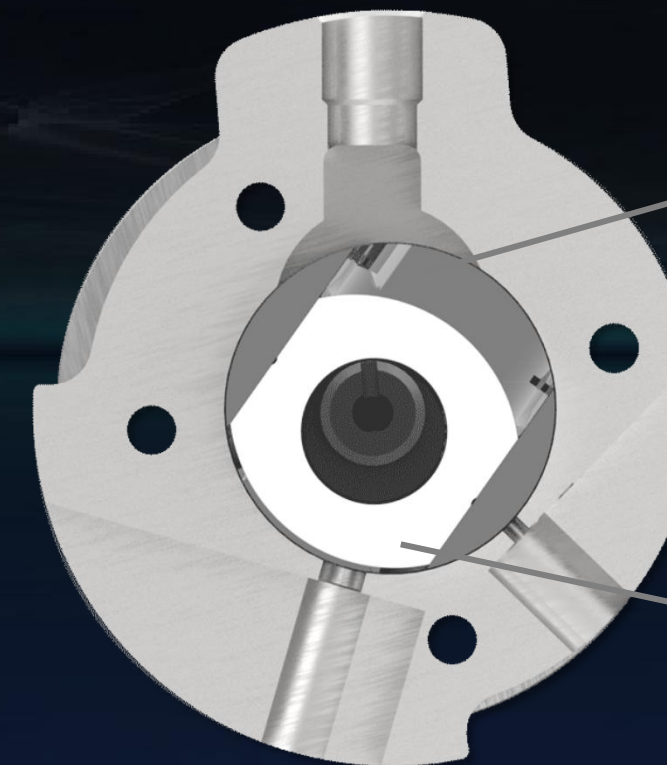
Rotary Comp.

7 Leakage Paths Line Sealing



Roller-Vane  
Line Sealing

Roller-Cylinder  
Line Sealin



Cylinder-Piston  
Surface Sealing

Cylinder-Liner  
Surface Sealing

G-Quietux Comp.

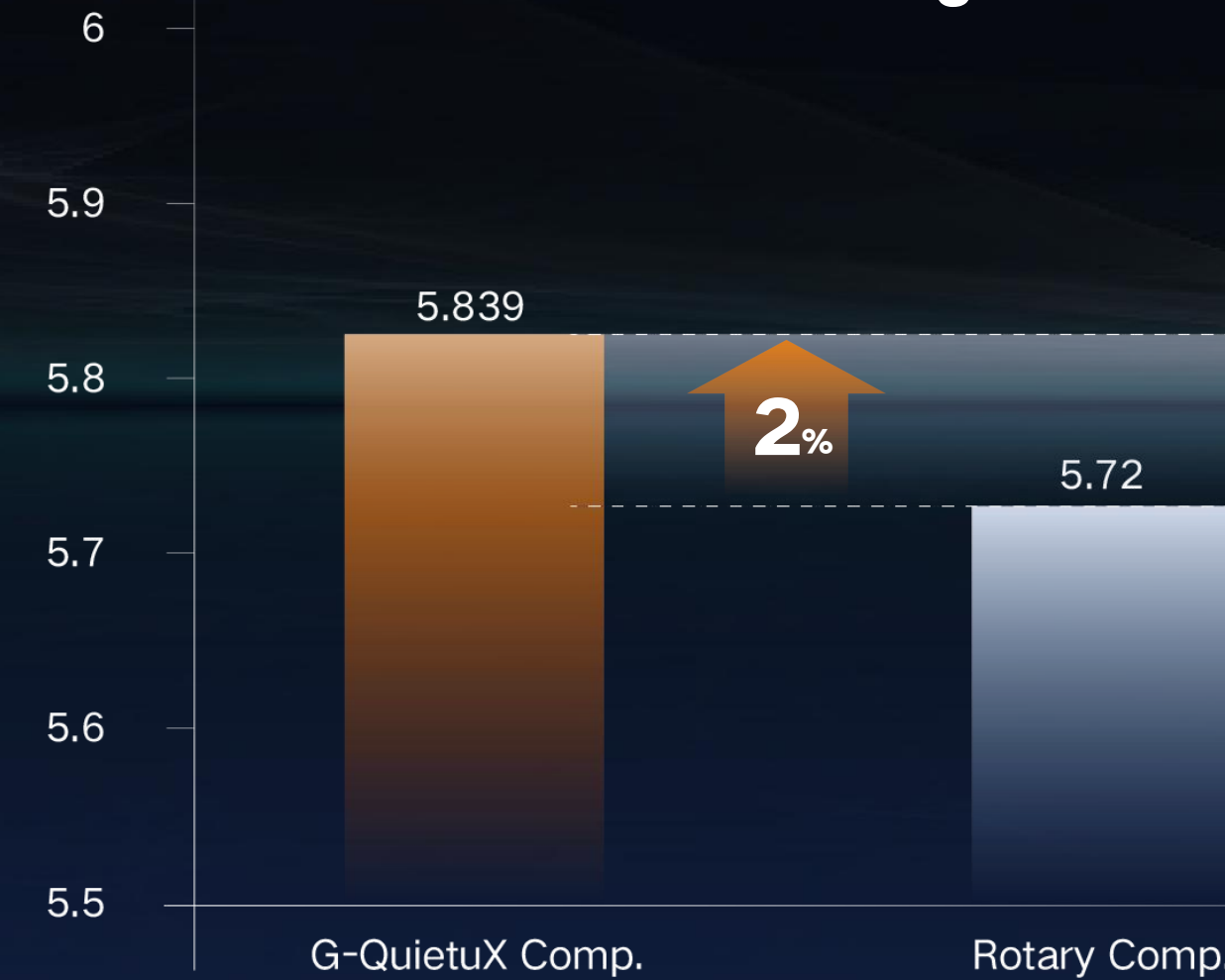
2 Leakage Paths Surface Sealing



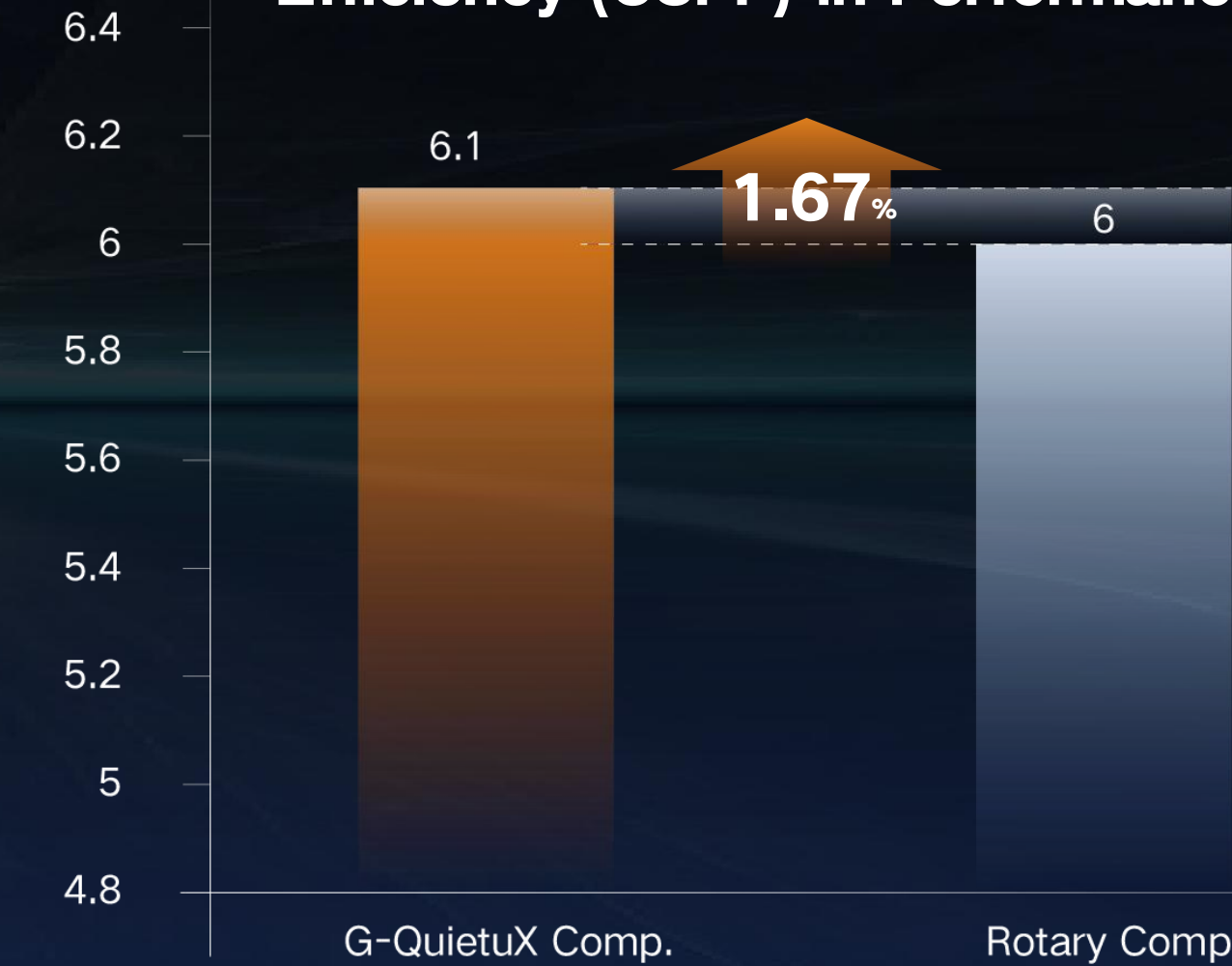
# Reduction in Leakage Paths

## Enhancing Energy Efficiency at the Intermediate Point

Comparison of Cooling Energy Efficiency  
at the Intermediate Stage in Performance Tests



Comparison of Seasonal Energy  
Efficiency (CSPF) in Performance Tests





# Vaneless Structure

## Low-frequency Performance Without Degradation

### Low-frequency Operation Comparison

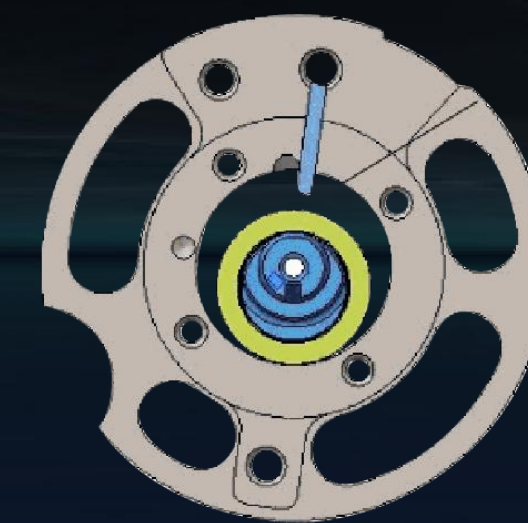


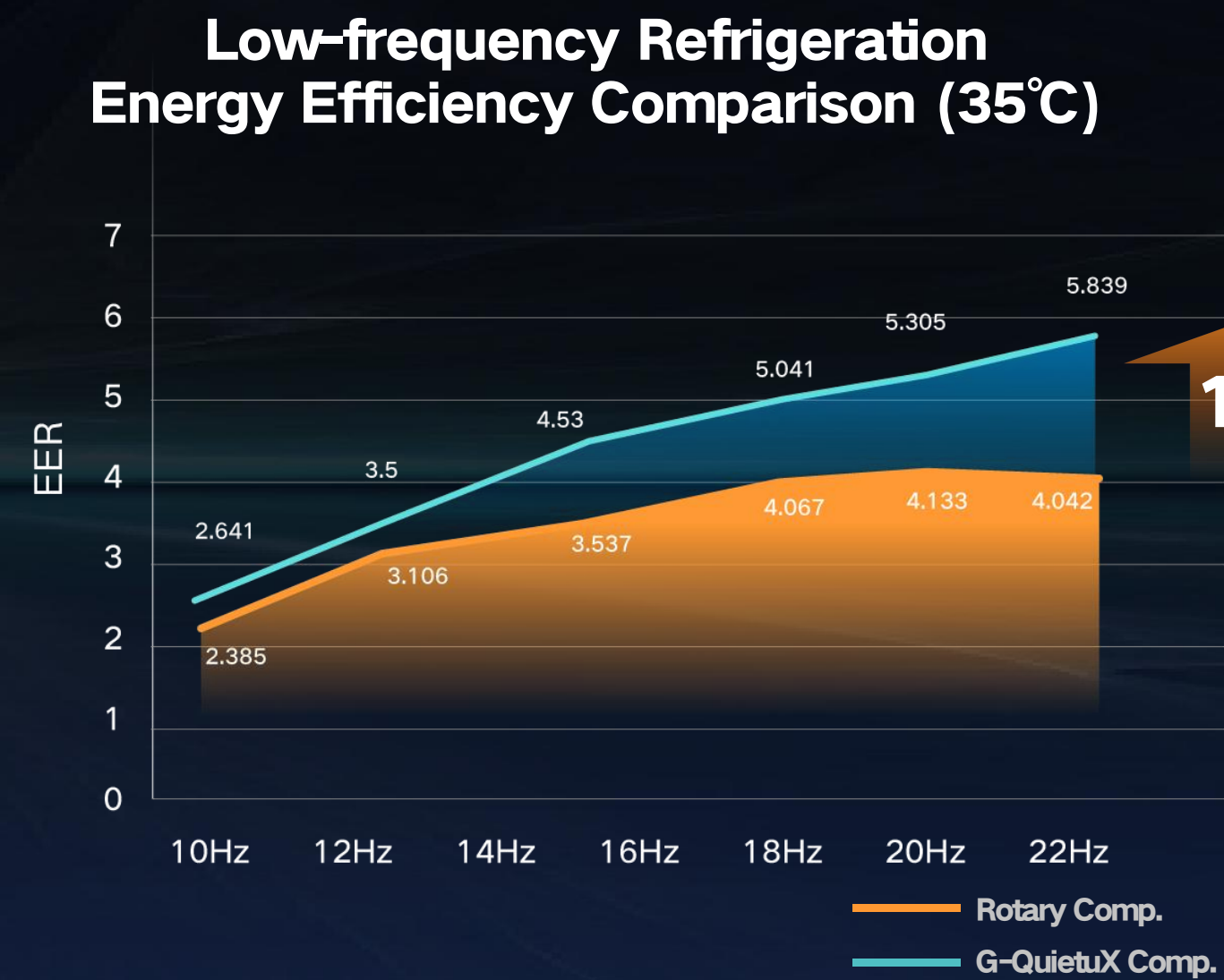
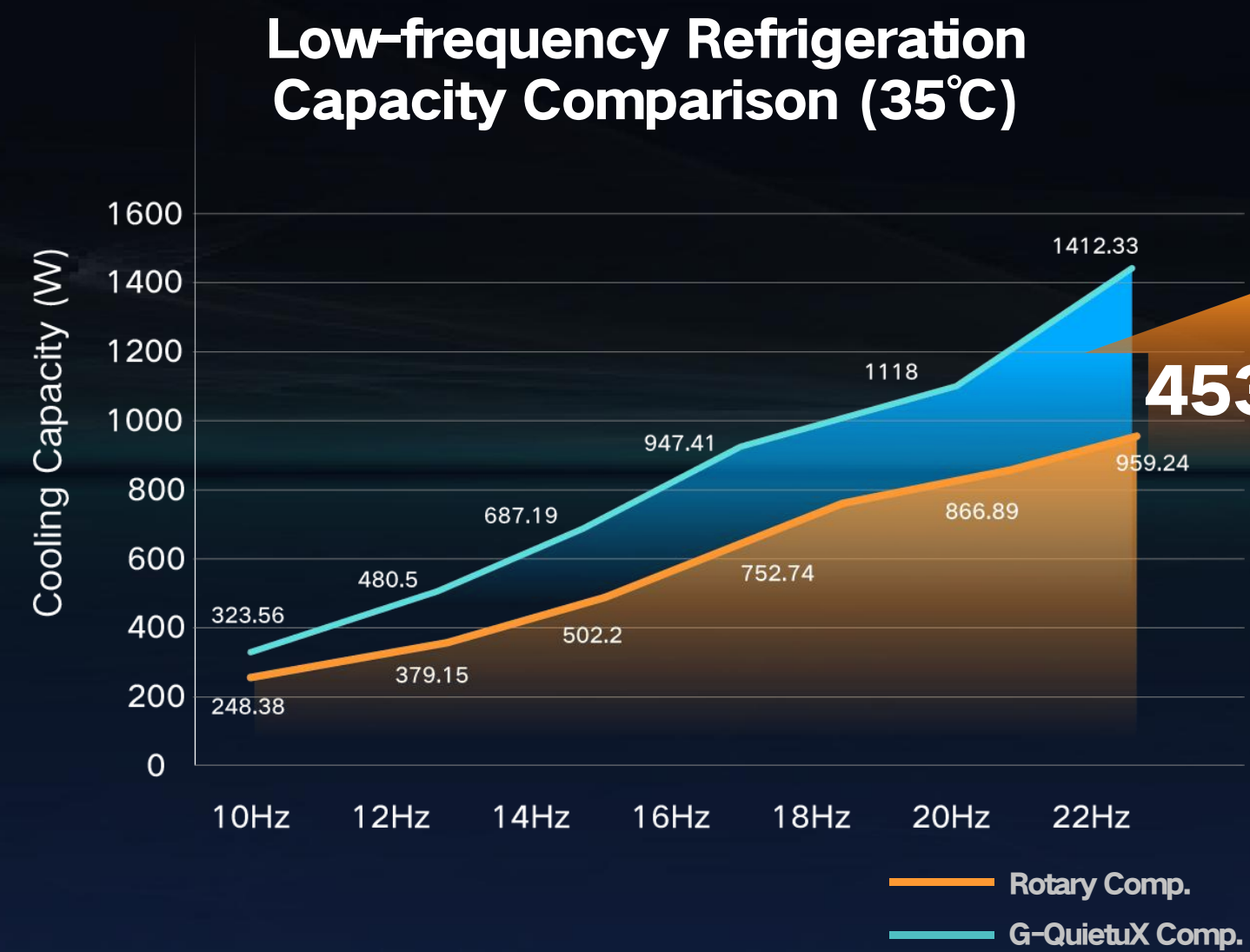
Diagram of Slipper  
Detachment in Rotor Compressor



Double-Speed Rotary Quad-Cylinder  
Compressor

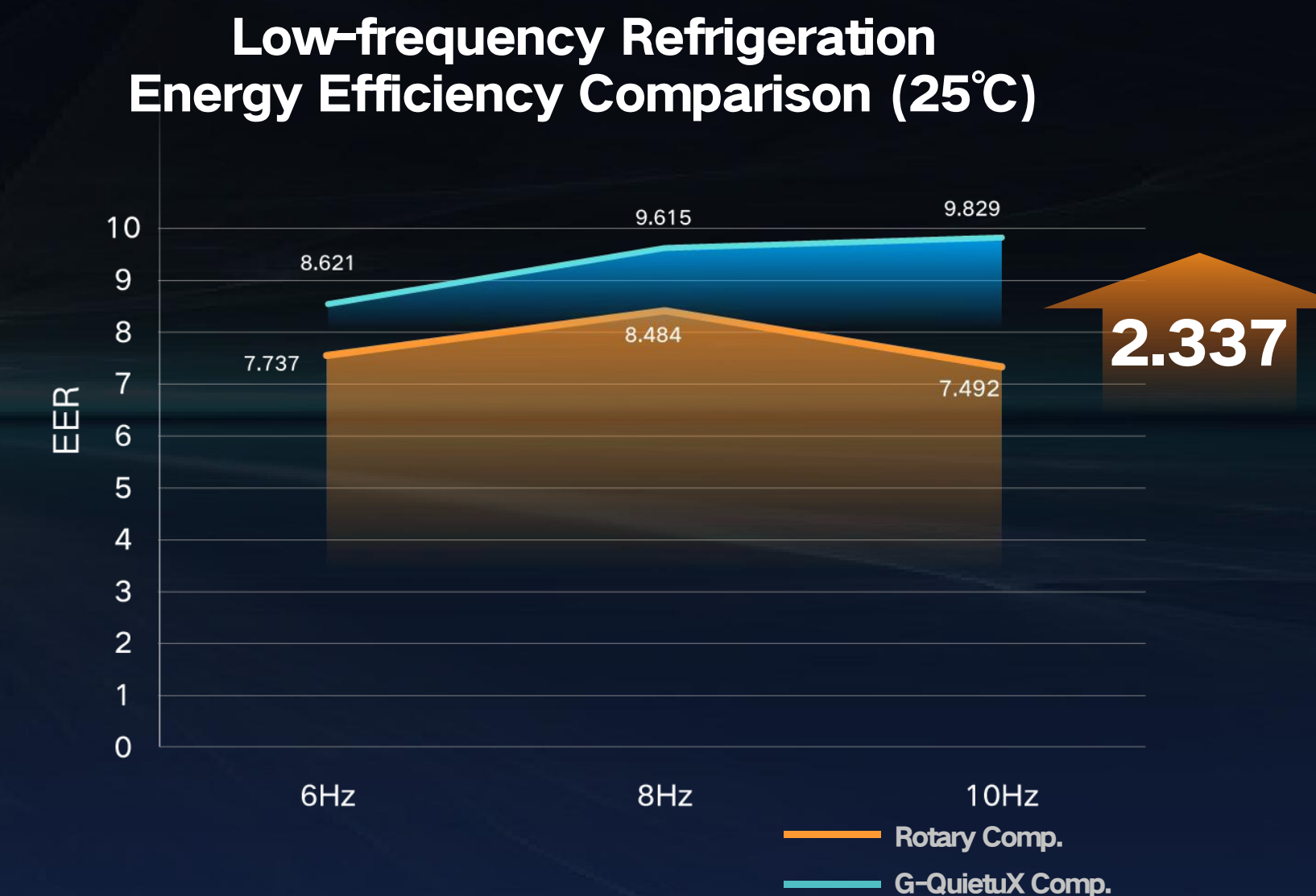
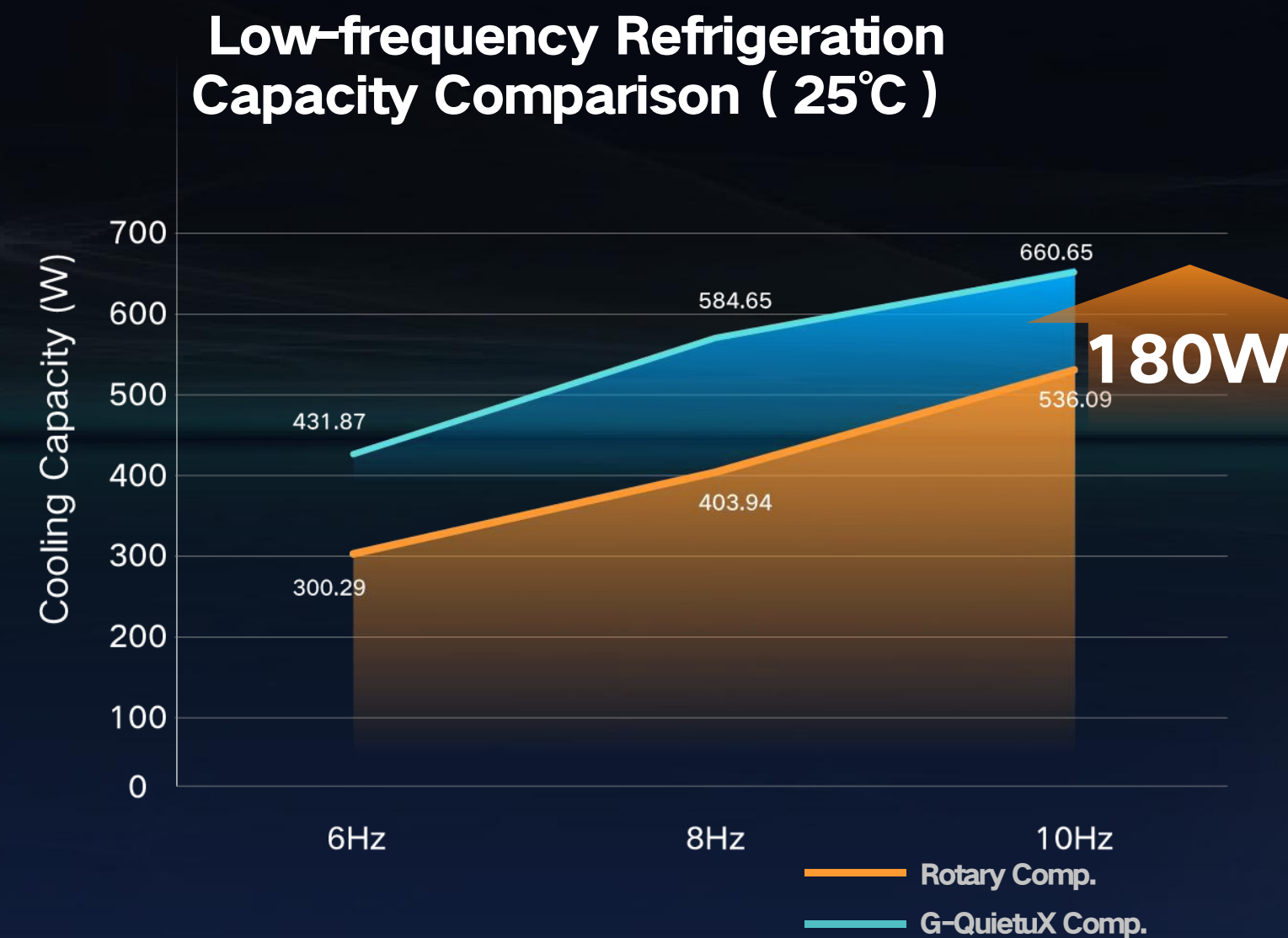


# Low-frequency Refrigeration Performance Comparison (35°C)





# Low-frequency Refrigeration Performance Comparison (25°C)





Brand New SILENZO AC  
Annual Energy Consumption Decreased by 14 %



## Brand New SILENZ Split AC



### Ultra Quiet

Minimum 29dB ODU  
& 15dB IDU



### Low Vibration

85% Reduction



### Gas-liquid Actuated Refrigeration

272% Improvement in Energy Efficiency



### Energy-saving

Save 15% Energy  
Annually





Made in China,  
Loved by the World  
让世界爱上中国造



World's  
**NO.1**  
Split AC

# THE 5TH GREE GLOBAL STRATEGIC PARTNERS CONFERENCE

格力电器第五届海外经销商大会

Oct. 20-23, 2025 | 2025年10月20-23日  
Chengdu, China | 中国·成都



THANK YOU