

Customer Day 2024

January 2024

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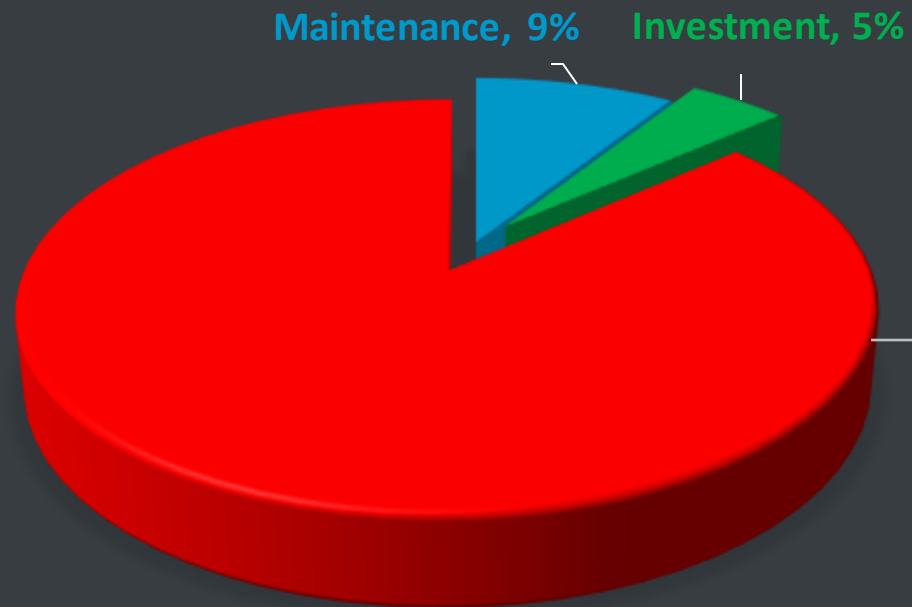


Why is energy recovery?

The Why

We focus on the energy efficiency of our products

TOTAL COST OF OWNERSHIP %



*Average based on an average running of 4000 hours per annum over 10 years

Why Energy Recovery?



Compressed air is one of the **top energy consumers** in industrial plants



45% of all industrial applications **use hot water or steam**



50% of compressed air systems have **big heat recovery potential**



Increasing **incentives for reducing energy and CO₂**



Increased **energy prices** created a **huge market demand** for energy saving

Industries that need process heat



Paper



Food & Beverage



Chemicals



Automotive



Metal



Plastics



Mechanical engineering



Textiles



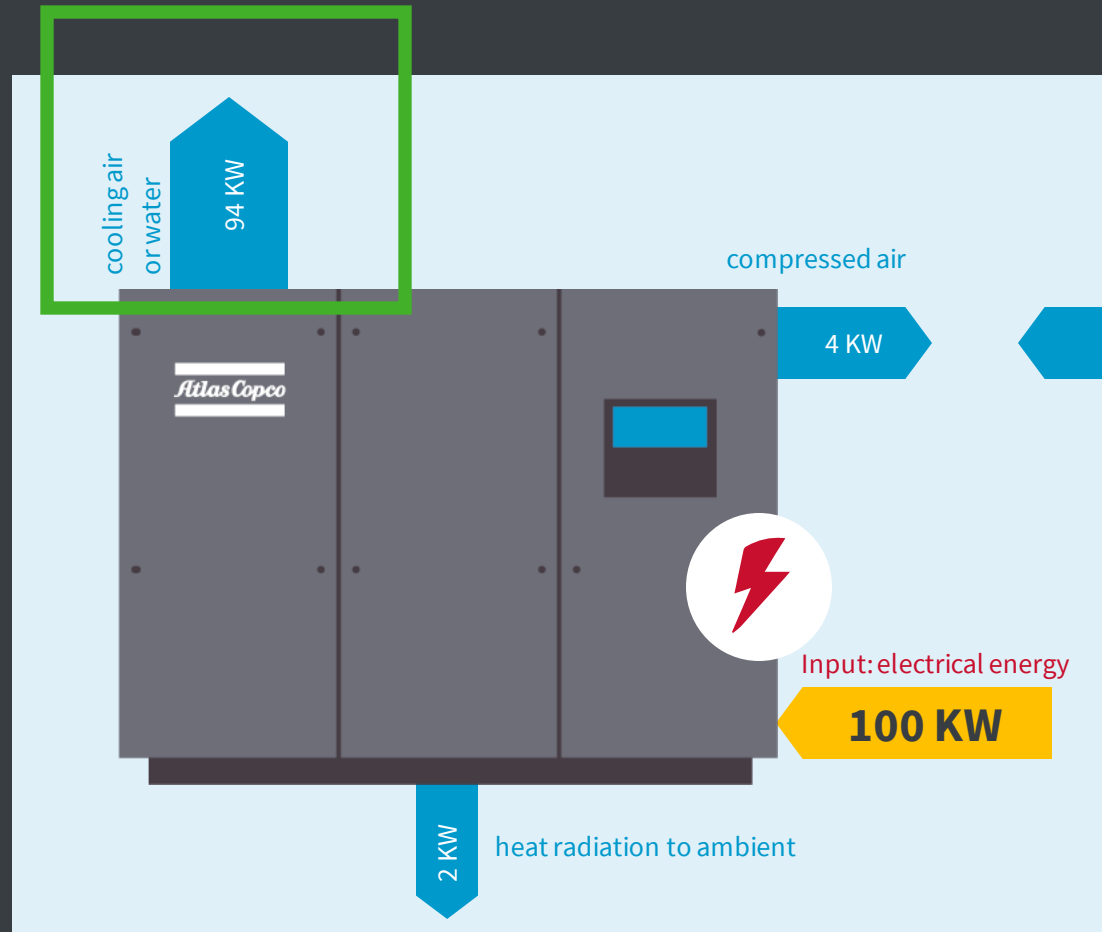
Wood



How much energy can be recovered?

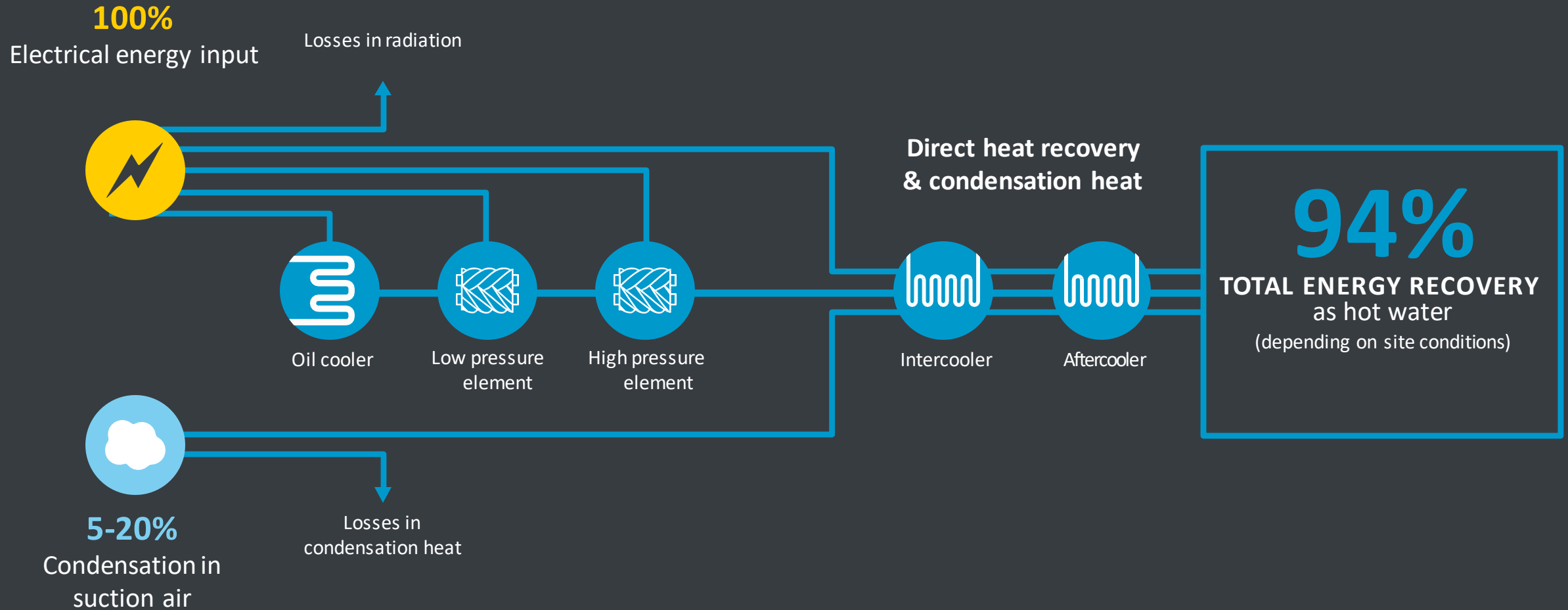
How much of the compressor power is converted to heat?

How much of the energy input of a compressor is converted to heat?



Because the compressed air exits the compressor around 10°C warmer than the ambient

How much of the compressor power is converted to heat?



How much of the compressor power is converted to heat?



Recoverable energy from
Oil Injected Screw

75%



Recoverable energy from
Oil Free Screw and Centrifugal

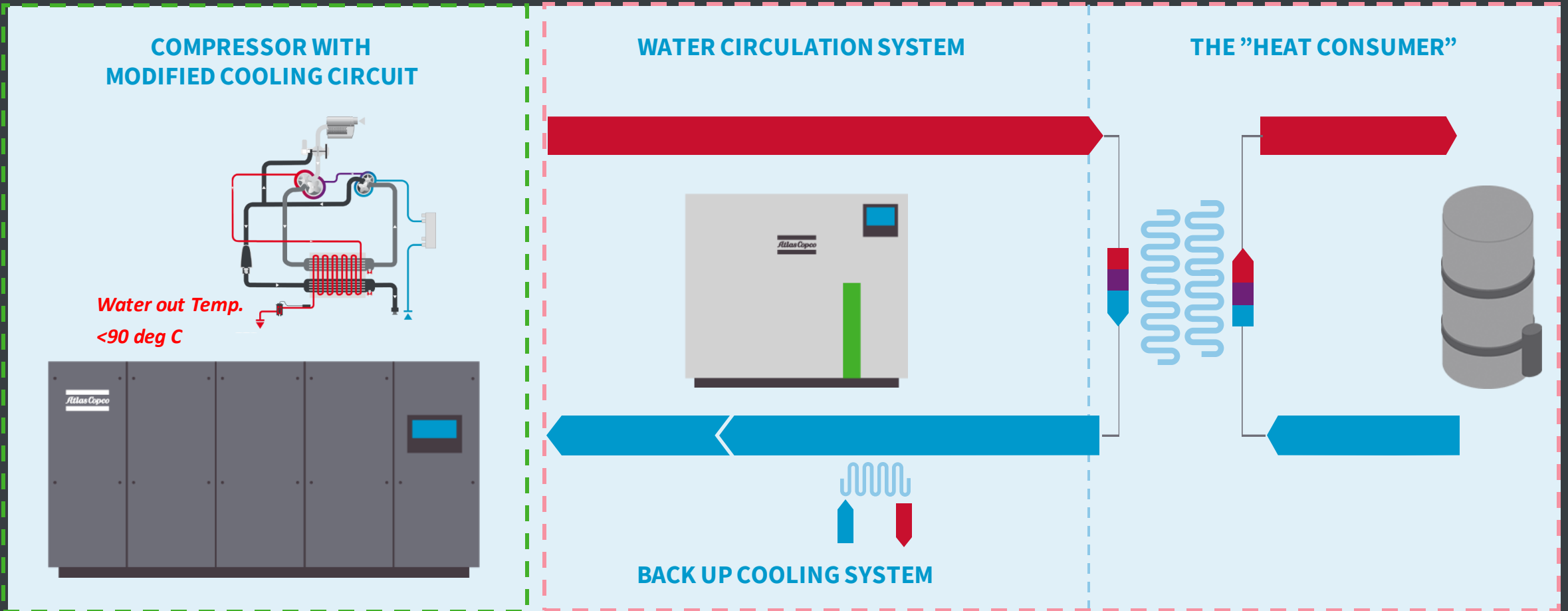
90%



payback time in most cases is well below 1 year

Typical installation

ZR/ ZH : different components of an ER installation



ER 90-1600



Atlas Copco Manufactured ER pump

Certificated expansion vessel

VSD Water Pump

MK5s Controller

Energy Recovery models

90

275

425

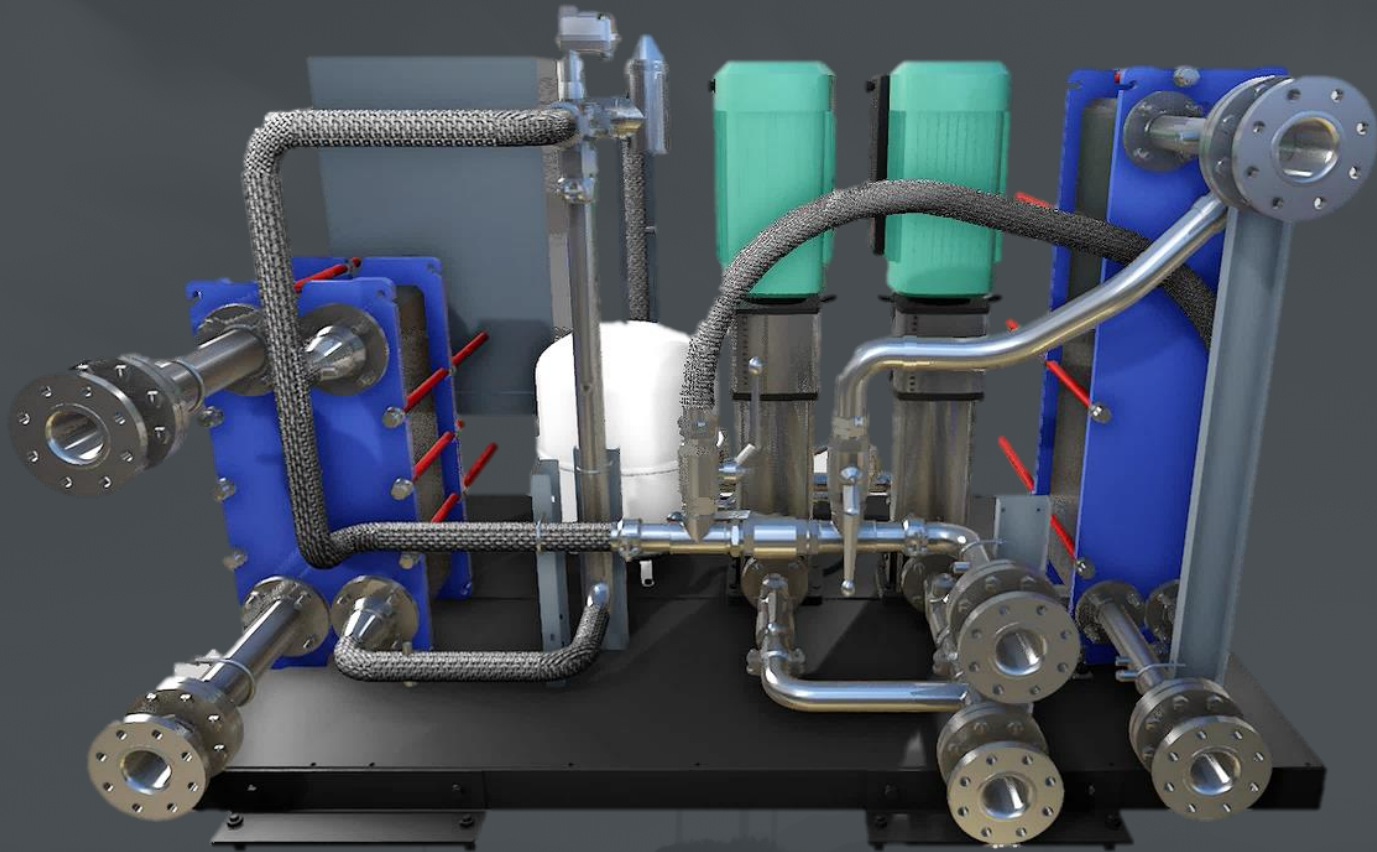
630

900

1600

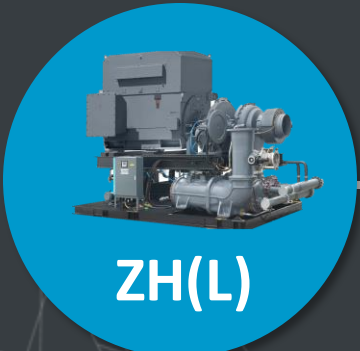
Model number = max shaft power(kW) water cooled compressor(s)

ER 90 - 1600



- ● Max. Recovery Power 1600 kW
- ● Hot water up to 90°C
- ● Open frame design (1600)
- ● Optional back-up HE
- ● Electrical standard IEC/CE
- ● Vessel Approval ML/PED

ER 90-1600 Wide Combination



Case story



APPLICATION :
Steam Boiler
pre heating water

Savings by ER :

- Money saving :
9.000 \$/month
- Less CO₂ emissions :
90.000 kg/month



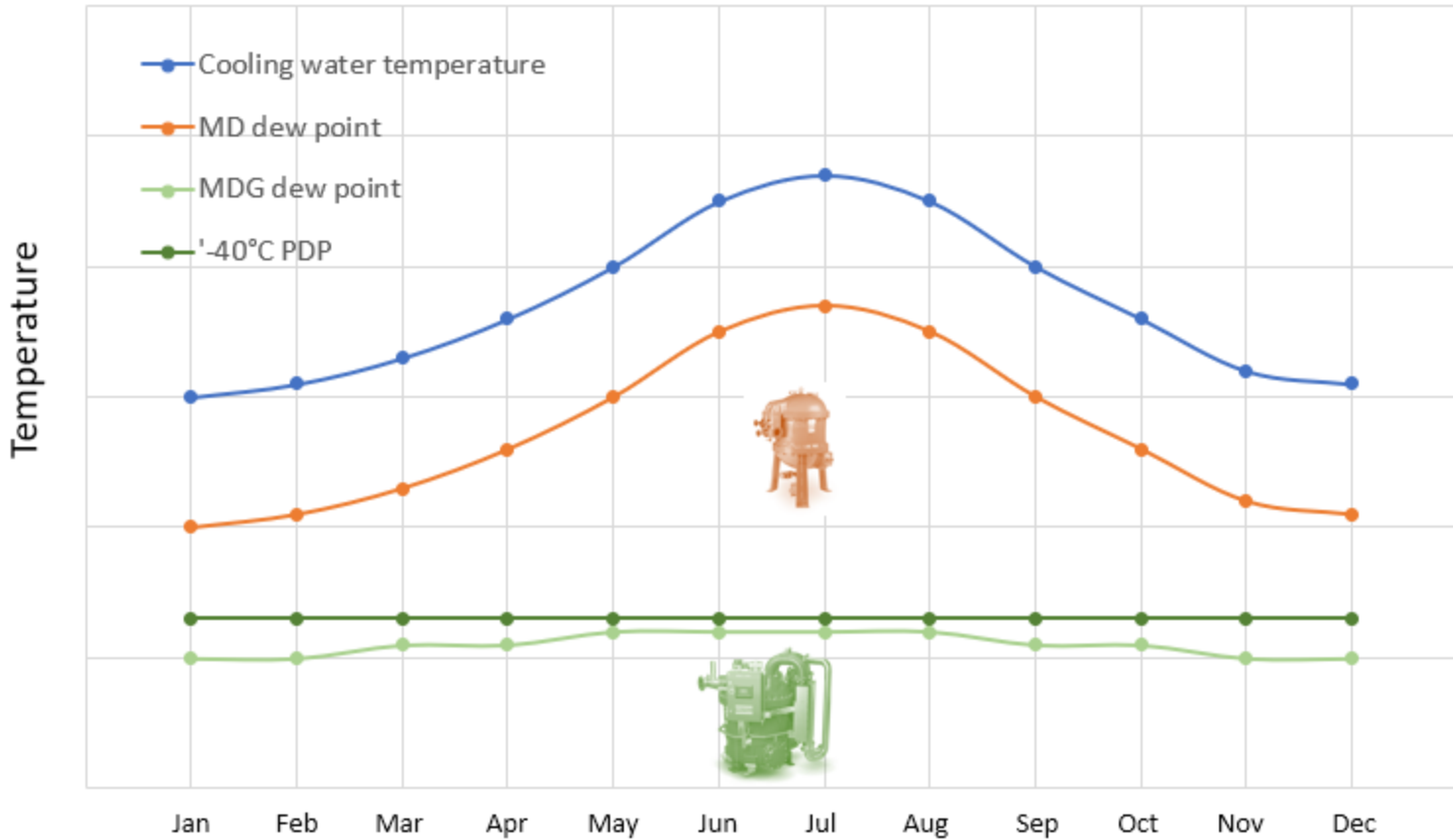
**Use of hot dry air for *Guaranteed -40° C*
*Pressure Dewpoint***



● MDG

●
- 40°C
PDP

●
0
Energy



No PDP fluctuations

MDG

**guaranteed
-40 °C PDP**



ZERO

Energy Consumption during operating

No air loss

"No" power consumption

No regeneration heater

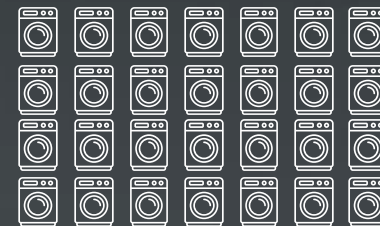
No blower or pump

0.12KW



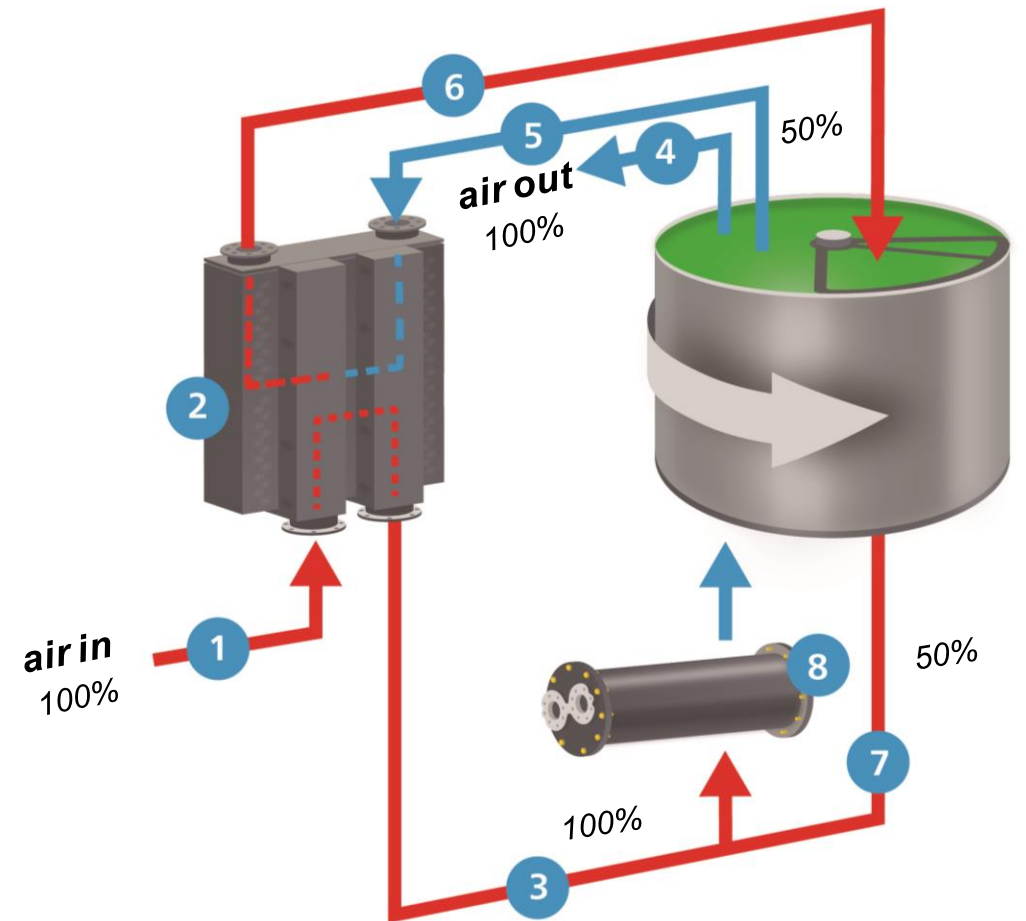
versus

32KW



Working principle

- 1 Hot compressed air
- 2 Heat Exchanger
- 3 Wet compressed air
- 4 Dried compressed air
- 5 Dry regeneration compressed air
- 6 Heated regeneration compressed air
- 7 Wet regeneration air
- 8 Process cooler



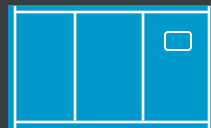
Product range



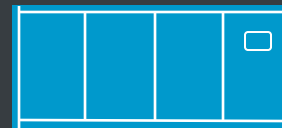
MDG 450



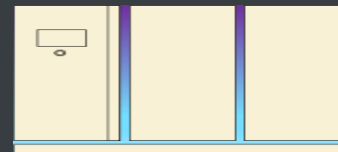
MDG 1050



ZR 110 – 160 kW



ZR 200 – 425 kW



OTHER BRAND OIL FREE



MDG 1050

• Smart Control

Self-Learning algorithm

PDP improvement

Increased Durability

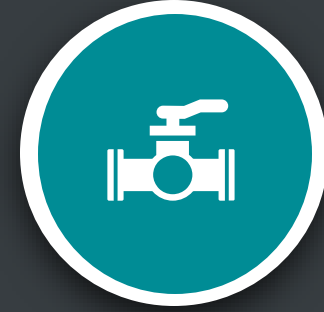
No CAN or L/UL signal needed



Highlights



“Zero” power consumption



Single inlet makes complex installations possible



-40°C PDP guaranteed

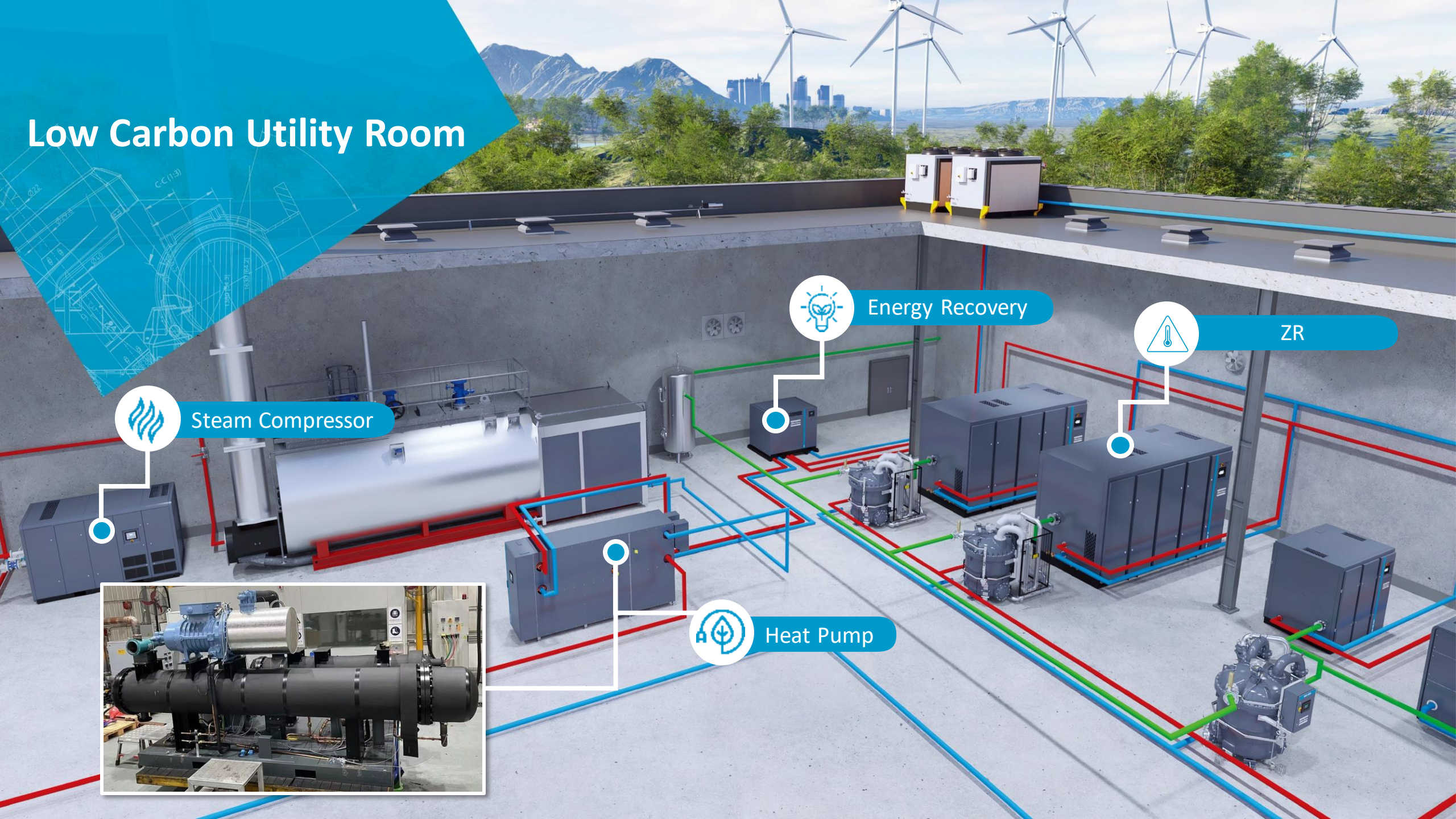


Maintenance intervals increased from 2 to 5 years



Smart controls
No CAN or L/UL connections

Low Carbon Utility Room



Steam Compressor



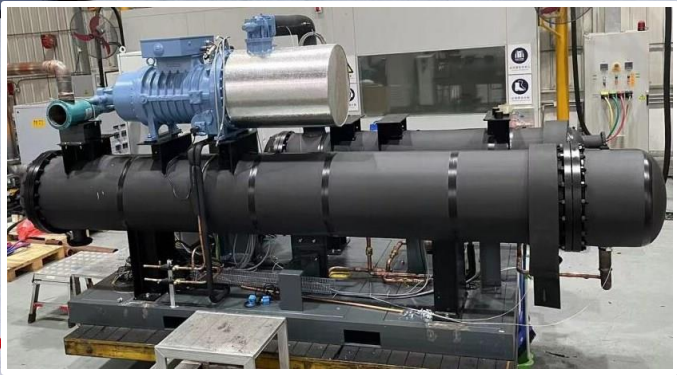
Energy Recovery



ZR



Heat Pump





WANT TO KNOW MORE?
SCAN HERE!



*COMMITTED TO
SUSTAINABLE PRODUCTIVITY.*