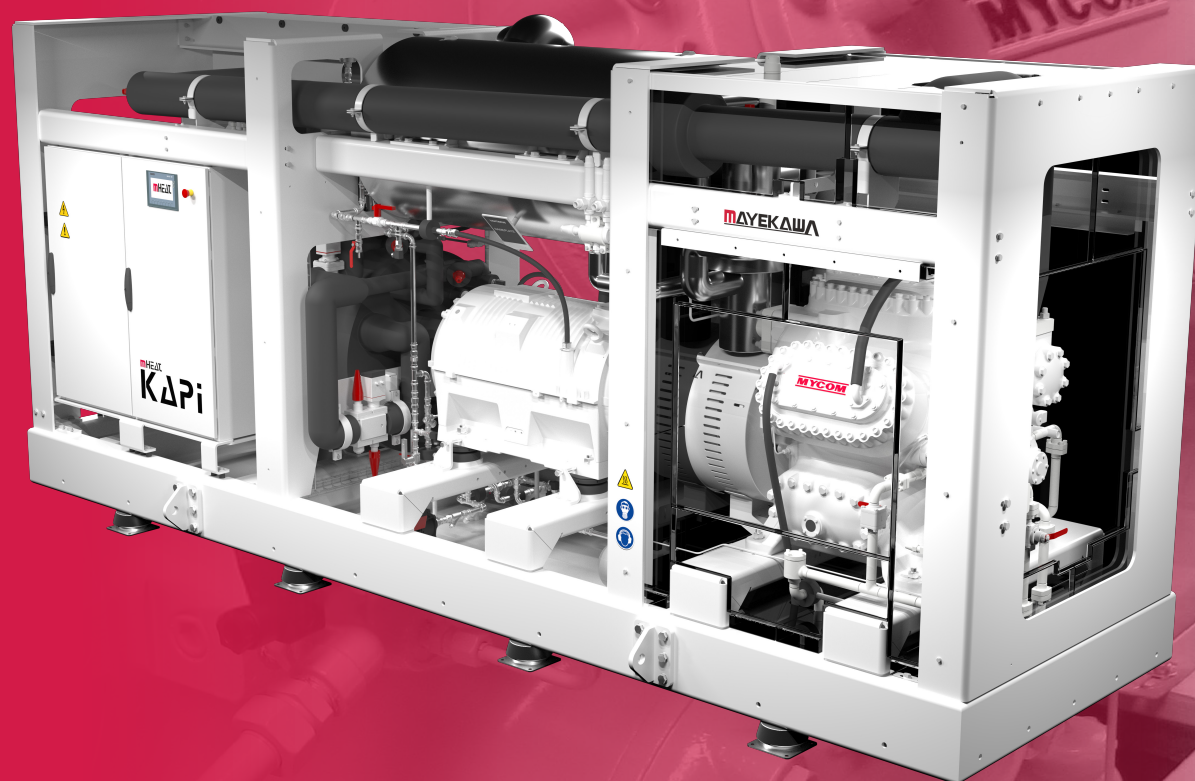


mHEAT KAPi

NATURAL REFRIGERANT

HEAT PUMP

ΜΑΥΕΚΑΨΑ
MYCOM

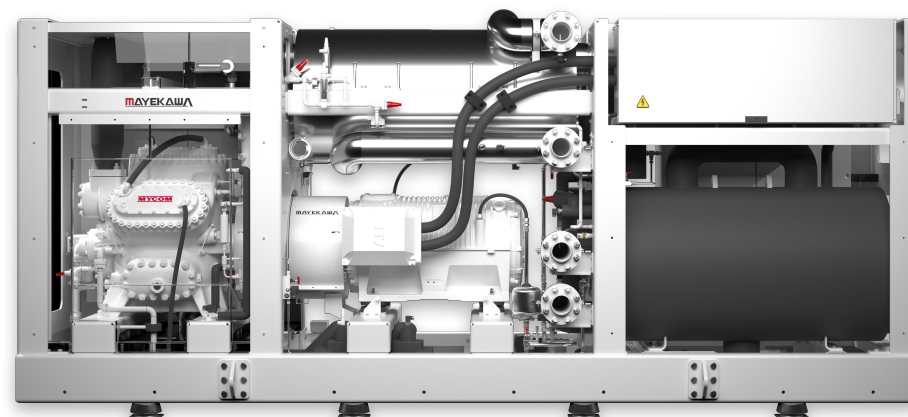




100+ years of clean heating

Founded in 1924, MAYEKAWA has grown to become a world-leading company in industrial refrigeration and heat pump technology. Our focus has always been natural refrigerant-based solutions - now extending into **standardised high-temperature heat pumps**.

- ✓ High temperature heating up to 90 °C
- ✓ Low-charge future-proof natural refrigerant (R717)
- ✓ Plug & play solution



1924

Founded by Kisaku Maekawa in Tokyo, Japan.

1934

Began manufacturing industrial compressors.

1961

Established the MYCOM brand, recognized globally for compressor excellence.

1969

First overseas subsidiary beginning of worldwide expansion.

1990

Pioneered natural refrigerant solutions with ammonia and CO2 systems.

2021

Launched mCHILLER FUGU, standardised water-cooled ammonia chillers.

2022

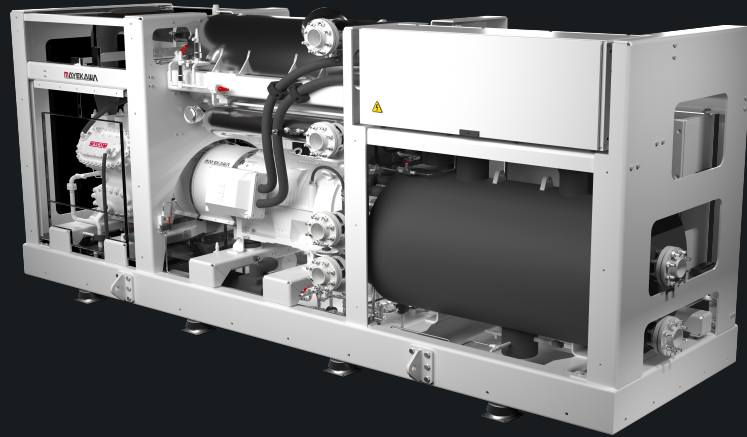
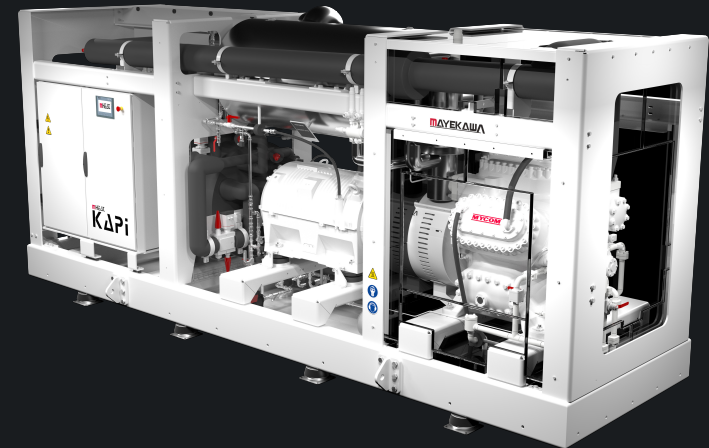
Launched mCHILLER TAKA, standardised air-cooled ammonia chillers.

2026

Launched the mHEAT series high temperature industrial heat pumps.

Technology & Innovation

Engineered for efficiency, built for the future



INTEGRATED WATER-COOLED SYSTEM

Drive, motor and oil cooler are all water-cooled through the evaporator. System losses are recovered as useful heat - reducing the need for machine room cooling.

INTEGRATED STANDSTILL HEATING

A DC current applied to the motor windings keeps the system warm during standstill - no separate electrical heater required. This is a unique feature of the mHEAT KAPI.

INTEGRATED AUTOMATIC OIL HANDLING SYSTEM

The mHEAT KAPI features a sophisticated oil return system that automatically conditions and returns oil to the MYCOM HSIII compressor.

MULTI-CONDENSER TECHNOLOGY

Plate & Shell Heat Exchanger combining desuperheating, condensation and subcooling in a single compact vessel - reducing cost, complexity and footprint.

COMPACT FOOTPRINT

Water-cooled components are physically smaller than air-cooled equivalents. Compact design with a smaller footprint - making it easier to integrate into existing spaces.

COMPRESSOR INSULATION BOX

The mHEAT KAPI comes with a unique insulation method for the compressor and auxiliary components ensuring condensation prevention as well as improving ease of inspection and reduces heat rejection into the machinery room and also reduces sound pollution.

Technical Specifications

High temperature ammonia heat pump - KAPI 600R

Hot side (in/out)	40/60 °C	50/70 °C	60/80 °C	70/90 °C
Cold side (in/out)	25/20 °C	30/25 °C	35/30 °C	40/35 °C
General				
Compressor type	N6HSIII			
Refrigerant/charge	R717 / 125 kg			
Capacity range	20-100 %			
Heating capacity	1145 kW	1279 kW	1419 kW	1513 kW
Cooling capacity	964 kW	1055 kW	1146 kW	1194 kW
Total absorbed power	198 kW	243 kW	295 kW	344 kW
COP	5.8 (-)	5.3 (-)	4.8 (-)	4.4 (-)
EER	4.9 (-)	4.4 (-)	3.9 (-)	3.5 (-)
Heat sink (Condenser) / Heat source (Evaporator)				
Secondary media	Water			
Hot side flow rate	49.9 m3/h	56.0 m3/h	62.4 m3/h	66.8 m3/h
Cold side flow rate	166.2 m3/h	182.3 m3/h	198.2 m3/h	207.0 m3/h

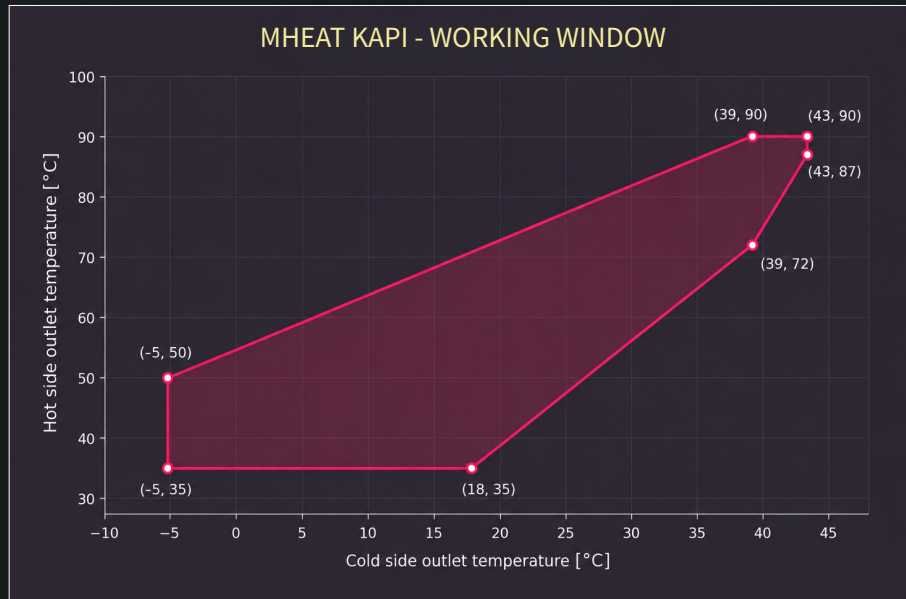
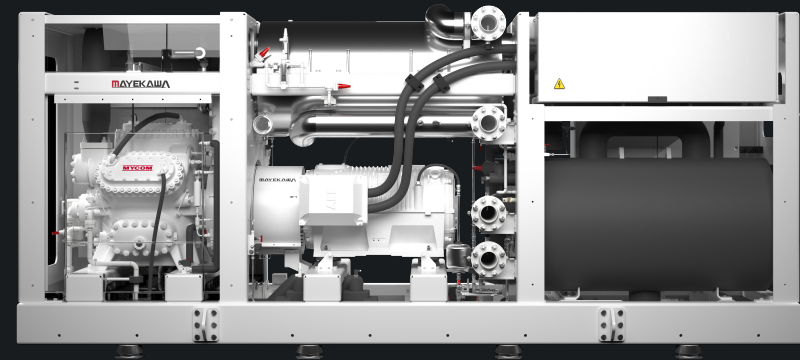
Values are for guidance only and will be confirmed in the quotation process based on your specific requirements.
Values based on model with IE3 motor choice, full capacity and 1500 rpm. The package type is standard reciprocating ammonia heat pump.

Electrical	
Parameter	KAPI 600R
System earthing	TN-S
Input voltage	3X400VAC+PE, 50 Hz
Rated package current	700 A
IK Max.	20 kA
Maximum fuse	800 A
Communication	ModBus TCP/IP
Power supply	Top feed

Enviromental	
Parameter	KAPI 600R
Sound pressure (1m)	85 ± 2 dB(A)
Sound pressure (10m)	65 ± 2 dB(A)
Surroundings operation	40 °C / 10 °C, 90% rh, 1000mm
Vibration-damping feet	Standard
GWP	0
Location	Machinery room / Outdoor (Optional)

Dimensions & Application Range

Wide operating window from 35°C TO 90°C Hot side outlet



DIMENSIONS AND WEIGHT

Length (L)	5200 mm
Width (W)	1500 mm
Height (H)	2400 mm
Dry weight	12000 kg
Standard colour	RAL 7035

OPTIONS

- Energy measurement
- Modem/router for remote access
- Counter flanges
- Outdoor enclosure
- IE3 and IE4 drive lines available.

DESIGN PARAMETERS

Design pressure - discharge side	60 bar
Design pressure - suction side	25 bar
Design temperature	-20 / 170°C
Secondary connection - evaporator	DN 100
Secondary connection - condenser	DN 100
Secondary design pressure	16 bar

All components are PED 2014/68/EU compliant and approved by a notified body. Every unit is End of Line Tested (EOLT) in compliance with European Norms before shipping.

Applications

The heat pump principle

The KAPI 600R is built around Mayekawa's reciprocating compressor — a platform we have developed and refined across more than a century of industrial ammonia service.

Driven by electrical energy, the unit runs the same closed thermodynamic cycle as a refrigeration plant, but with its purpose reversed: heat is collected from a low-temperature stream on the evaporator side and lifted to a high-temperature level on the condenser side, where it is transferred into the water or glycol loop that feeds the consumer.

Where the heat comes from

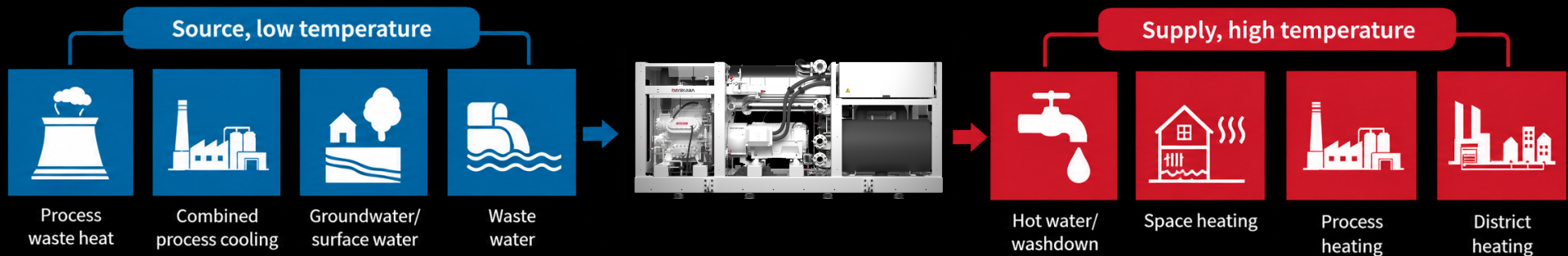
A wide range of streams typically found in industry, utilities and infrastructure can serve as the source for the KAPI 600R, including:

- Condenser heat reclaimed from existing refrigeration plant
- Groundwater, surface water or sea water
- Process wastewater and effluent streams
- Low-grade heat released during manufacturing and conversion processes

Engineered for high-temperature duty

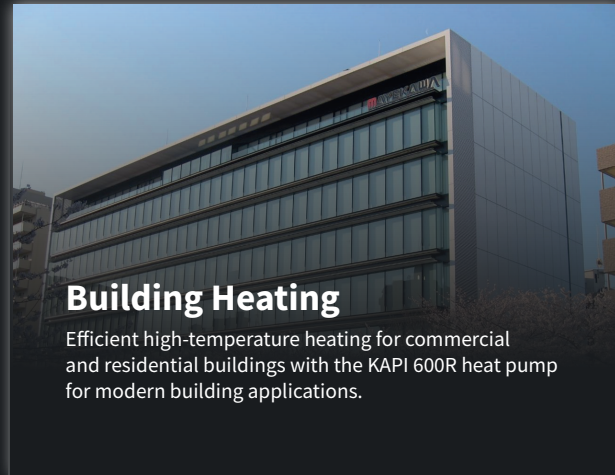
The KAPI 600R supplies water up to 90 °C with a cycle and components rated for the elevated pressures that ammonia operation demands.

The MYCOM HSIII reciprocating compressor with its unmatched partload efficiencies ensures excellent performance in all conditions. An integrated heat-exchanger set recovers heat from desuperheating, subcooling and oil cooling-turning losses into useful output. Water-cooled Motor and VSD heat losses are utilised as useful superheat. The result is a compact, robust machine for industrial and district-heating applications with unmatched efficiency.



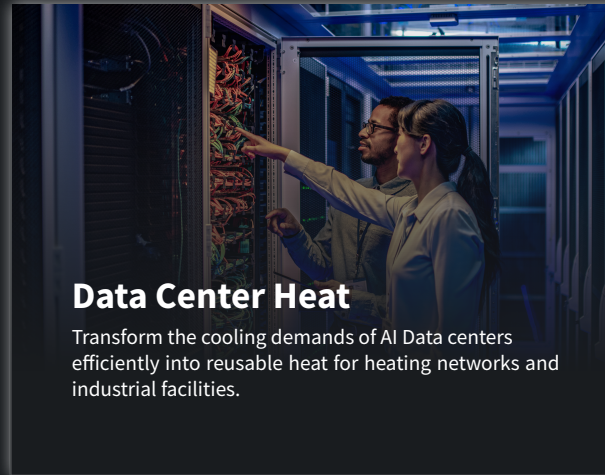
Applications

KAPI 600R offers high-temperature solutions for a wide range of industrial and commercial applications



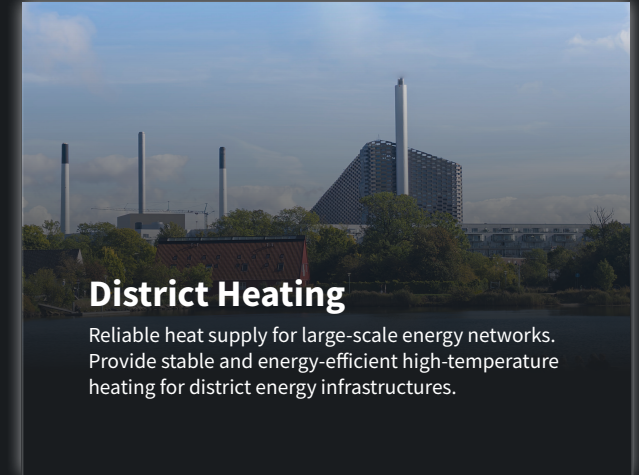
Building Heating

Efficient high-temperature heating for commercial and residential buildings with the KAPI 600R heat pump for modern building applications.



Data Center Heat

Transform the cooling demands of AI Data centers efficiently into reusable heat for heating networks and industrial facilities.



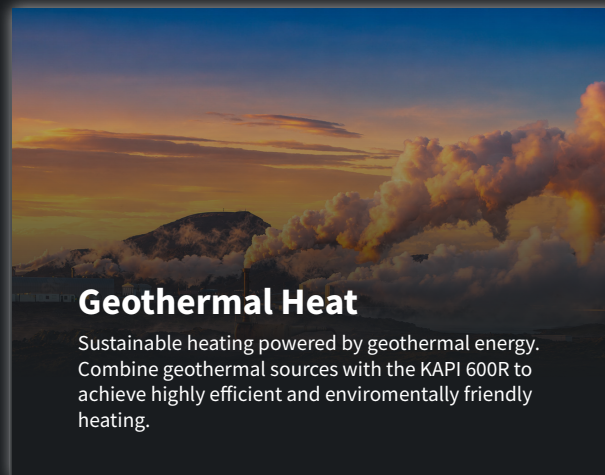
District Heating

Reliable heat supply for large-scale energy networks. Provide stable and energy-efficient high-temperature heating for district energy infrastructures.



Process Heat

Industrial heat with maximum efficiency. Support demanding industrial processes with reliable thermal energy while utilising both the cooling and heating aspects of the mHEAT.



Geothermal Heat

Sustainable heating powered by geothermal energy. Combine geothermal sources with the KAPI 600R to achieve highly efficient and environmentally friendly heating.



Low Pressure Steam

Efficient steam generation for industrial applications. Generate reliable low-pressure steam for production processes requiring precise thermal performance.

Global Network

MAYEKAWA operates in over 50 countries with a worldwide network of sales, engineering, and service offices — ensuring local support wherever you are.



50+
Countries

100+
Offices Worldwide

100+
Years of Excellence

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