

ROTATION HEAT PUMP

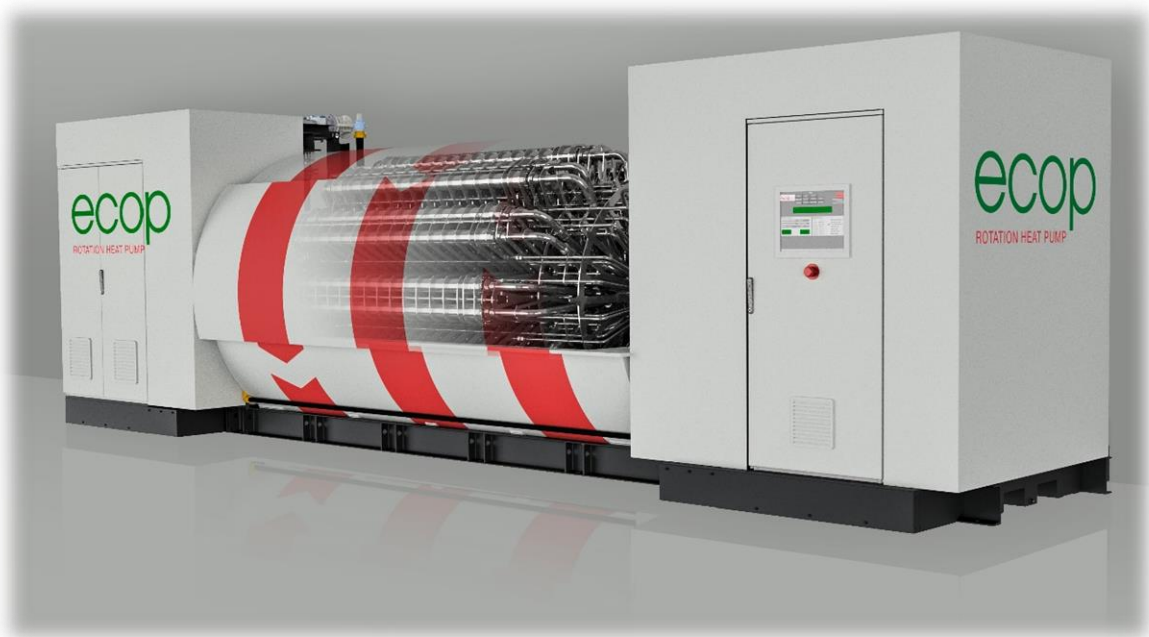


RHP K7 Data Sheet

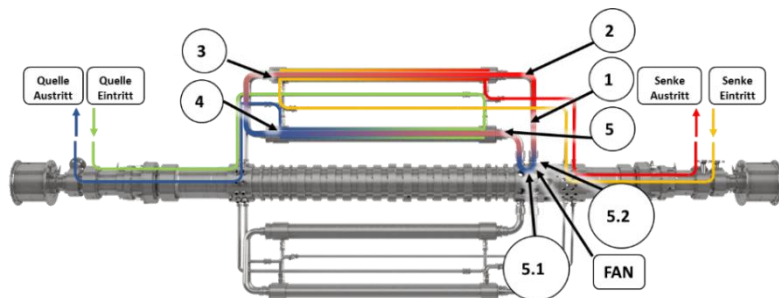
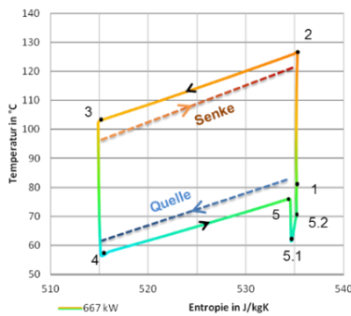
The ecop ROTATION HEAT PUMP K7, based on a Joule Cycle, is an energy-efficient heating and cooling device for industrial applications. The integrated regulation enables a wide variety of application cases. Since the compression of the refrigerant is achieved by the centrifugal force, the regulation is realized by a change in rotational speed. For an energy-efficient and flexible operation the machine is driven by frequency converter controlled electric motors.

The benefits at a glance:

- Maximum flow temperature in heating operation 150 °C
- Minimum flow temperature for cooling 5 °C
- Variable temperature spread of up to 60 °C (sink out – source out)
- Entire variety of applications is achieved without a change in design
- Heat output of up to 700 kW (sink)
- Environmentally friendly working medium (GWP=0, ODP=0, non-flammable, non-toxic)
- Heating and cooling within one machine
- Operated via control panel or remote access
- Can be used for steam generation with optional module
- CO₂ avoidance potential of up to 1,300 t per year with only one machine



Technical data	
Heat output:	500-700 kW
Refrigerant	inert gas mixture (He, Ar, Kr)
Maximum flow temperature on heat sink:	150 °C ¹
Maximum flow temperature on heat source:	120 °C ²
Maximum temperature spread between sink out and source in:	25 K @ 700 kW 30 K @ 500 kW
Minimum flow temperature:	5 °C
Designed heat transfer medium:	H ₂ O
Dimensions ³ ⁴ (W x H x L):	2200 x 2700 x 8100 mm
Connection heat source:	DN80 (3")
Connection heat sink:	DN80 (3")
Weight:	16 t
Nominal heating water flow rate ⁵ / pressure drop ⁶ :	21m ³ /h / 15m ³ /h
Maximum pressure sink/source	10 bar
Fuse protection:	500A gL/gG
Main supply:	400 V - 3-N ~50 Hz
Nominal power consumption:	280 kW



Example cases⁷

Example case	#1	#2	#3	#4	#5	#6	#7
Sink in [°C]	130	120	110	105	100	90	65
Sink out [°C]	150	150	130	130	120	110	90
Source in [°C]	125	120	110	100	95	90	60
Source out [°C]	106	102	92	82	77	72	42
COP ⁸	4.6	4.5	5.1	4.5	4.7	5.1	4.3

¹ specific, maximum temperatures can be enabled with optional modules
² specific, maximum temperatures can be enabled with optional modules
³ Please note that additional space is required for piping, operation and maintenance
⁴ includes the control unit
⁵ depending on integration
⁶ depending on integration
⁷ all examples can be achieved without design changes to the system
⁸ depending on integration

