

Data sheet ecop RHP K7

ROTATION HEAT PUMP



Version: Standard

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 120 °C
- Minimum flow temperature for cooling -20 °C
- variable temperature spread of up to 70 °C (sink out – source out)
- entire variety of applications is achieved without a change in design
- Heat output of up to 700 kW
- environmentally friendly working medium
- heating and cooling within one machine
- operated via control panel or remote access
- possible outdoor installation in a optional container
- encapsulated housing, safety proofed and intrinsically safe, conform to all relevant standards
- hermetic tight, non-flammable, non-toxic working medium



ROTATION HEAT PUMP



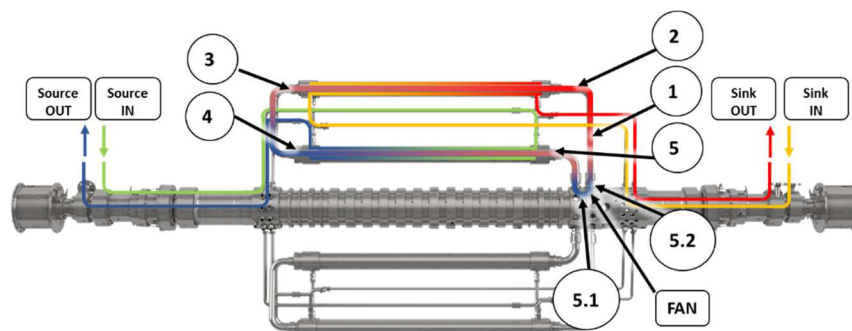
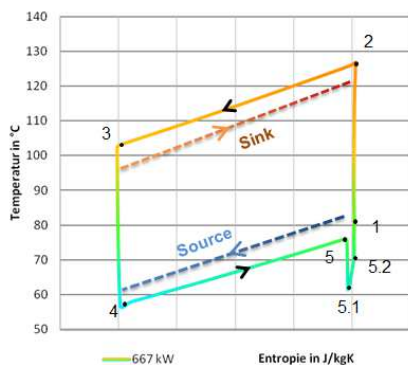
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Technical data ¹	
Weight:	15 t
Dimensions ^{1 2} (W x H x L):	2200 x 2700 x 8100 mm
Connection heat source:	DN80 (3'')
Connection heat sink:	DN80 (3'')
Maximum flow temperature on heat sink:	120 °C ⁶
Maximum flow temperature on heat source:	110 °C ⁶
Maximum temperature spread between sink out and source in:	40 °C
Minimum flow temperature:	-20 °C
Designed heat transfer medium:	H ₂ O
Heat output:	400-700 kW
Refrigerant	ECOP Fluid 1 (inert)
Nominal heating water flow rate ³ / pressure drop ⁴ :	21 m ³ /h / 0,5 bar
Maximum pressure sink/source	10 bar
Fuse protection:	500A gL/gG
Main supply:	400 V - 3-N ~50 Hz
Nominal power consumption:	70 – 280 kW



Example cases⁴

Example case	#1	#2	#3	#4	#5	#6	#7
Sink in [°C]	85	100	90	70	40	30	60
Sink out [°C]	105	120	120	90	60	50	95
Source in [°C]	95	105	85	50	20	20	55
Source out [°C]	76	86	67	33	5	5	25
COP ⁸	7.6	6.8	5	4.4	4.0	4.7	4.3

¹ please note that additional space is required for pipe connections, operation and maintenance
² including control terminal
³ depends on implementation
⁴ All example cases could be achieved without a change in design
⁶ specified maximum Temperatures are possible with optional module
⁷ optional sound protection can be installed if necessary
⁸ depending on specific implementation

