

## Technical parameters

Model(s):	KHC-06RY1-B			
Air-to-water heat pump:	YES			
Water-to-water heat pump:	NO			
Brine-to-water heat pump:	NO			
Low-temperature heat pump:	NO			
Equipped with a supplementary heater:	NO			
Heat pump combination heater:	NO			
Declared climate condition:	AVERAGE			
Parameters are declared for medium-temperature application.				
<b>Declared parameters for air-to-water heat pumps</b>				
Item	Symbol	Value	Unit	
Rated heat output (*)	Prated	5.7	kW	Seasonal space heating energy efficiency
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj
Tj = -7°C	Pdh	5.04	kW	Tj = -7°C
Tj = 2°C	Pdh	3.12	kW	Tj = 2°C
Tj = 7°C	Pdh	2.08	kW	Tj = 7°C
Tj = 12°C	Pdh	1.28	kW	Tj = 12°C
Tj = bivalent temperature	Pdh	5.04	kW	Tj = bivalent temperature
Tj = operating limit	Pdh	4.52	kW	Tj = operating limit
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature
Cycling interval capacity for heating	P <sub>cyh</sub>	-	kW	Cycling interval efficiency
Degradation co-efficient (**)	C <sub>dh</sub>	0.9	--	Heating water operating limit temperature
<b>Power consumption in modes other than active mode</b>				<b>Supplementary heater</b>
Off mode	P <sub>off</sub>	0.014	kW	Rated heat output (**)
Standby mode	P <sub>sb</sub>	0.014	kW	Electrical
Thermostat-off mode	P <sub>to</sub>	0.024	kW	
Crankcase heater mode	P <sub>ck</sub>	0.000	kW	
<b>Other items</b>				
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors
Sound power level, indoors/outdoors	L <sub>WA</sub>	-58	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger
Annual energy consumption	Q <sub>HE</sub>	3345	kWh	
<b>For heat pump combination heater:</b>				
Declared load profile	-			<b>Water heating energy efficiency</b>
Daily electricity consumption	Q <sub>elec</sub>	-	kWh	Daily fuel consumption
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption
Contact details	KLIMA-THERM Sp. z o. o. ul. Ostrobramska 101A, 04-041 Warszawa, Polska			

## Technical parameters

Model(s):	KHC-06RY1-B
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4.3	kW	Seasonal space heating energy efficiency	$\eta_s$	111.1	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7°C	Pdh	2.70	kW	Tj = -7°C	COPd	2.46	-
Tj = 2°C	Pdh	1.60	kW	Tj = 2°C	COPd	3.36	-
Tj = 7°C	Pdh	1.02	kW	Tj = 7°C	COPd	3.94	-
Tj = 12°C	Pdh	1.37	kW	Tj = 12°C	COPd	6.35	-
Tj = bivalent temperature	Pdh	3.47	kW	Tj = bivalent temperature	COPd	1.86	-
Tj = operating limit	Pdh	2.09	kW	Tj = operating limit	COPd	1.13	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P <sub>cyc</sub>	-	kW	Cycling interval efficiency	COP <sub>cyc</sub>	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P <sub>off</sub>	0.014	kW	Rated heat output (**)	P <sub>sup</sub>	5.10	kW
Standby mode	P <sub>sb</sub>	0.014	kW	Type of energy input	Electrical		
Thermostat-off mode	P <sub>to</sub>	0.024	kW				
Crankcase heater mode	P <sub>ck</sub>	0.000	kW				

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	LWA	-	dB
Annual energy consumption	Q <sub>HE</sub>	3681	kWh
For air-to-water heat pumps: Rated air flow rate, outdoors	-	2770	m <sup>3</sup> /h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m <sup>3</sup> /h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q <sub>elec</sub>	-	kWh
Annual electricity consumption	AEC	-	kWh
Water heating energy efficiency	$\eta_{wh}$	-	%
Daily fuel consumption	Q <sub>fuel</sub>	-	kWh
Annual fuel consumption	AFC	-	GJ

Contact details: KLIMA-THERM Sp. z o. o.  
ul. Ostrobramska 101A, 04-041 Warszawa, Polska

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).  
(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

## Technical parameters

Model(s):	KHC-06RY1-B
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	WARMER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5.1	kW	Seasonal space heating energy efficiency	$\eta_s$	164.7	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = 2°C	Pdh	5.02	kW	Tj = 2°C	COPd	2.48	-
Tj = 7°C	Pdh	3.31	kW	Tj = 7°C	COPd	3.67	-
Tj = 12°C	Pdh	1.60	kW	Tj = 12°C	COPd	5.29	-
Tj = bivalent temperature	Pdh	3.31	kW	Tj = bivalent temperature	COPd	3.67	-
Tj = operating limit	Pdh	5.02	kW	Tj = operating limit	COPd	2.48	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	62	°C
<b>Power consumption in modes other than active mode</b>				<b>Supplementary heater</b>			
Off mode	Poff	0.014	kW	Rated heat output (**)	Psup	0	kW
Standby mode	Psb	0.014	kW	Type of energy input	Electrical		
Thermostat-off mode	Pto	0.024	kW				
Crankcase heater mode	Pck	0.000	kW				

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	LWA	-	dB
Annual energy consumption	QHE	1640	kWh
For air-to-water heat pumps: Rated air flow rate, outdoors	-	2770	m <sup>3</sup> /h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m <sup>3</sup> /h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q <sub>elec</sub>	-	kWh
Annual electricity consumption	AEC	-	kWh
<b>Water heating energy efficiency</b>	$\eta_{wh}$	-	%
Daily fuel consumption	Q <sub>fuel</sub>	-	kWh
Annual fuel consumption	AFC	-	GJ

Contact details	KLIMA-THERM Sp. z o. o. ul. Ostrobramska 101A, 04-041 Warszawa, Polska
-----------------	---

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

## Technical parameters

Model(s):	KHC-08RY3-B
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	6.6	kW	Seasonal space heating energy efficiency	$\eta_s$	131.5	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7°C	Pdh	5.84	kW	Tj = -7°C	COPd	2.16	-
Tj = 2°C	Pdh	3.75	kW	Tj = 2°C	COPd	3.30	-
Tj = 7°C	Pdh	2.42	kW	Tj = 7°C	COPd	4.34	-
Tj = 12°C	Pdh	1.39	kW	Tj = 12°C	COPd	5.33	-
Tj = bivalent temperature	Pdh	5.84	kW	Tj = bivalent temperature	COPd	2.16	-
Tj = operating limit	Pdh	4.90	kW	Tj = operating limit	COPd	1.84	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcyc	-	kW	Cycling interval efficiency	COP <sub>eyc</sub>	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	Poff	0.014	kW	Rated heat output (**)	Psup	1.69	kW
Standby mode	Psb	0.014	kW	Type of energy input	Electrical		
Thermostat-off mode	Pto	0.024	kW				
Crankcase heater mode	Pck	0.000	kW				

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L <sub>WA</sub>	-59	dB
Annual energy consumption	Q <sub>HE</sub>	4056	kWh
For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m <sup>3</sup> /h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m <sup>3</sup> /h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q <sub>elec</sub>	-	kWh
Annual electricity consumption	AEC	-	kWh
Water heating energy efficiency	$\eta_{wh}$	-	%
Daily fuel consumption	Q <sub>fuel</sub>	-	kWh
Annual fuel consumption	AFC	-	GJ

Contact details: KLIMA-THERM Sp. z o. o.  
ul. Ostrobramska 101A, 04-041 Warszawa, Polska

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).  
(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

## Technical parameters

Model(s):	KHC-08RY3-B
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5.8	kW	Seasonal space heating energy efficiency	$\eta_s$	112.0	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7°C	Pdh	3.86	kW	Tj = -7°C	COPd	2.48	-
Tj = 2°C	Pdh	2.21	kW	Tj = 2°C	COPd	3.35	-
Tj = 7°C	Pdh	1.44	kW	Tj = 7°C	COPd	4.11	-
Tj = 12°C	Pdh	1.46	kW	Tj = 12°C	COPd	5.92	-
Tj = bivalent temperature	Pdh	4.71	kW	Tj = bivalent temperature	COPd	1.90	-
Tj = operating limit	Pdh	2.80	kW	Tj = operating limit	COPd	1.22	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	Pcyc	-	kW	Cycling interval efficiency	COP <sub>eyc</sub>	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	Poff	0.014	kW	Rated heat output (**)	Psup	2.97	kW
Standby mode	Psb	0.014	kW	Type of energy input	Electrical		
Thermostat-off mode	Pto	0.024	kW				
Crankcase heater mode	Pck	0.000	kW				

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L <sub>WA</sub>	-	dB
Annual energy consumption	Q <sub>HE</sub>	4950	kWh
For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m <sup>3</sup> /h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m <sup>3</sup> /h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q <sub>elec</sub>	-	kWh
Annual electricity consumption	AEC	-	kWh
Water heating energy efficiency	$\eta_{wh}$	-	%
Daily fuel consumption	Q <sub>fuel</sub>	-	kWh
Annual fuel consumption	AFC	-	GJ

Contact details: KLIMA-THERM Sp. z o. o.  
ul. Ostrobramska 101A, 04-041 Warszawa, Polska

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).  
(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

## Technical parameters

Model(s):	KHC-08RY3-B		
Air-to-water heat pump:	YES		
Water-to-water heat pump:	NO		
Brine-to-water heat pump:	NO		
Low-temperature heat pump:	NO		
Equipped with a supplementary heater:	NO		
Heat pump combination heater:	NO		
Declared climate condition:	WARMER		
Parameters are declared for medium-temperature application.			
<b>Heating parameters</b>			
Item	Symbol	Value	Unit
Rated heat output (*)	Prated	7.6	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7°C	Pdh	-	kW
Tj = 2°C	Pdh	7.55	kW
Tj = 7°C	Pdh	4.86	kW
Tj = 12°C	Pdh	2.31	kW
Tj = bivalent temperature	Pdh	4.86	kW
Tj = operating limit	Pdh	7.55	kW
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW
Bivalent temperature	Tbiv	7	°C
Cycling interval capacity for heating	Pcych	-	kW
Degradation co-efficient (**)	Cdh	0.9	--
<b>Power consumption in modes other than active mode</b>			
Off mode	Poff	0.014	kW
Standby mode	Psb	0.014	kW
Thermostat-off mode	Pto	0.024	kW
Crankcase heater mode	Pck	0.000	kW
<b>Other items</b>			
Capacity control	variable		
Sound power level, indoors/outdoors	LWA	-	dB
Annual energy consumption	QHE	2259	kWh
<b>For heat pump combination heater:</b>			
Declared load profile	-		
Daily electricity consumption	Qclec	-	kWh
Annual electricity consumption	AEC	-	kWh
<b>Water heating energy efficiency</b>			
Water heating energy efficiency	$\eta_{wh}$	-	%
Daily fuel consumption	Qfuel	-	kWh
Annual fuel consumption	AFC	-	GJ
Contact details	KLIMA-THERM Sp. z o. o. ul. Ostrobramska 101A, 04-041 Warszawa, Polska		
(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).			
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.			

## Technical parameters

Model(s):	KHC-10RY3-B
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	7.7	kW	Seasonal space heating energy efficiency	$\eta_s$	136.6	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7°C	Pdh	6.78	kW	Tj = -7°C	COPd	2.24	-
Tj = 2°C	Pdh	4.28	kW	Tj = 2°C	COPd	3.42	-
Tj = 7°C	Pdh	2.77	kW	Tj = 7°C	COPd	4.52	-
Tj = 12°C	Pdh	1.58	kW	Tj = 12°C	COPd	5.68	-
Tj = bivalent temperature	Pdh	6.78	kW	Tj = bivalent temperature	COPd	2.24	-
Tj = operating limit	Pdh	5.38	kW	Tj = operating limit	COPd	1.83	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcyh	-	kW	Cycling interval efficiency	COP <sub>cyh</sub>	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	Poff	0.014	kW	Rated heat output (**)	Psup	2.29	kW
Standby mode	Psb	0.014	kW	Type of energy input	Electrical		
Thermostat-off mode	Pto	0.024	kW				
Crankcase heater mode	Pck	0.000	kW				

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L <sub>WA</sub>	-60	dB
Annual energy consumption	Q <sub>HE</sub>	4539	kWh
For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m <sup>3</sup> /h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m <sup>3</sup> /h

For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	$\eta_{wh}$	-	%
Daily electricity consumption	Q <sub>elec</sub>	-	kWh	Daily fuel consumption	Q <sub>fuel</sub>	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	KLIMA-THERM Sp. z o. o. ul. Ostrobramska 101A, 04-041 Warszawa, Polska
-----------------	---

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).  
(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

## Technical parameters

Model(s):	KHC-10RY3-B
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	6.7	kW	Seasonal space heating energy efficiency	$\eta_s$	116.4	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7°C	Pdh	4.27	kW	Tj = -7°C	COPd	2.54	-
Tj = 2°C	Pdh	2.57	kW	Tj = 2°C	COPd	3.51	-
Tj = 7°C	Pdh	1.65	kW	Tj = 7°C	COPd	4.37	-
Tj = 12°C	Pdh	1.47	kW	Tj = 12°C	COPd	5.96	-
Tj = bivalent temperature	Pdh	5.47	kW	Tj = bivalent temperature	COPd	2.00	-
Tj = operating limit	Pdh	2.80	kW	Tj = operating limit	COPd	1.22	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	Pcyc	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	Poff	0.014	kW	Rated heat output (**)	Psup	3.91	kW
Standby mode	Psb	0.014	kW	Type of energy input	Electrical		
Thermostat-off mode	Pto	0.024	kW				
Crankcase heater mode	Pck	0.000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m³/h
Sound power level, indoors/outdoors	LWA	-	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m³/h
Annual energy consumption	QHE	5540	kWh				

For heat pump combination heater:

Declared load profile				Water heating energy efficiency			
Declared load profile	-			Water heating energy efficiency	$\eta_{wh}$	-	%
Daily electricity consumption	Qelec	-	kWh	Daily fuel consumption	Qfuel	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details: KLIMA-THERM Sp. z o. o.  
ul. Ostrobramska 101A, 04-041 Warszawa, Polska

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).  
(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.



## Technical parameters

Model(s):	KHC-10RY3-B
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	8.6	kW	Seasonal space heating energy efficiency	$\eta_s$	180.3	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = 2°C	Pdh	8.06	kW	Tj = 2°C	COPd	2.59	-
Tj = 7°C	Pdh	5.54	kW	Tj = 7°C	COPd	4.10	-
Tj = 12°C	Pdh	2.53	kW	Tj = 12°C	COPd	5.82	-
Tj = bivalent temperature	Pdh	5.54	kW	Tj = bivalent temperature	COPd	4.10	-
Tj = operating limit	Pdh	8.15	kW	Tj = operating limit	COPd	2.61	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P <sub>psych</sub>	-	kW	Cycling interval efficiency	COP <sub>cyc</sub>	-	-
Degradation co-efficient (**)	C <sub>dh</sub>	0.9	--	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P <sub>off</sub>	0.014	kW	Rated heat output (**)	P <sub>sup</sub>	0.48	kW
Standby mode	P <sub>sb</sub>	0.014	kW	Type of energy input	Electrical		
Thermostat-off mode	P <sub>to</sub>	0.024	kW				
Crankcase heater mode	P <sub>ck</sub>	0.000	kW				

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L <sub>WA</sub>	-	dB
Annual energy consumption	Q <sub>HE</sub>	2516	kWh
For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m <sup>3</sup> /h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m <sup>3</sup> /h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q <sub>elec</sub>	-	kWh
Annual electricity consumption	AEC	-	kWh
Water heating energy efficiency	$\eta_{wh}$	-	%
Daily fuel consumption	Q <sub>fuel</sub>	-	kWh
Annual fuel consumption	AFC	-	GJ

Contact details: KLIMA-THERM Sp. z o. o.  
ul. Ostrobramska 101A, 04-041 Warszawa, Polska

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

## Technical parameters

Model(s):	KHC-12RY3-B
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11.6	kW	Seasonal space heating energy efficiency	$\eta_s$	135.1	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7°C	Pdh	10.24	kW	Tj = -7°C	COPd	2.01	-
Tj = 2°C	Pdh	6.52	kW	Tj = 2°C	COPd	3.44	-
Tj = 7°C	Pdh	4.36	kW	Tj = 7°C	COPd	4.59	-
Tj = 12°C	Pdh	3.29	kW	Tj = 12°C	COPd	6.05	-
Tj = bivalent temperature	Pdh	10.24	kW	Tj = bivalent temperature	COPd	2.01	-
Tj = operating limit	Pdh	9.10	kW	Tj = operating limit	COPd	1.79	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P <sub>cyh</sub>	-	kW	Cycling interval efficiency	COP <sub>cyh</sub>	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P <sub>off</sub>	0.020	kW	Rated heat output (**)	P <sub>sup</sub>	1.23	kW
Standby mode	P <sub>sb</sub>	0.020	kW	Type of energy input	Electrical		
Thermostat-off mode	P <sub>to</sub>	0.030	kW				
Crankcase heater mode	P <sub>ck</sub>	0.000	kW				

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L <sub>WA</sub>	-65	dB
Annual energy consumption	Q <sub>HE</sub>	6928	kWh
For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m <sup>3</sup> /h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m <sup>3</sup> /h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q <sub>clec</sub>	-	kWh
Annual electricity consumption	AEC	-	kWh
Water heating energy efficiency	$\eta_{wh}$	-	%
Daily fuel consumption	Q <sub>fuel</sub>	-	kWh
Annual fuel consumption	AFC	-	GJ

Contact details: KLIMA-THERM Sp. z o. o.  
ul. Ostrobramska 101A, 04-041 Warszawa, Polska

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).  
(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

## Technical parameters

Model(s):	KHC-12RY3-B
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.3	kW	Seasonal space heating energy efficiency	$\eta_s$	117.7	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7°C	Pdh	6.63	kW	Tj = -7°C	COPd	2.63	-
Tj = 2°C	Pdh	4.06	kW	Tj = 2°C	COPd	3.60	-
Tj = 7°C	Pdh	2.78	kW	Tj = 7°C	COPd	4.54	-
Tj = 12°C	Pdh	3.33	kW	Tj = 12°C	COPd	6.25	-
Tj = bivalent temperature	Pdh	8.41	kW	Tj = bivalent temperature	COPd	1.84	-
Tj = operating limit	Pdh	4.19	kW	Tj = operating limit	COPd	1.13	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	Pcyc	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	Poff	0.020	kW	Rated heat output (**)	Psup	6.11	kW
Standby mode	Psb	0.020	kW	Type of energy input	Electrical		
Thermostat-off mode	Pto	0.030	kW				
Crankcase heater mode	Pck	0.000	kW				

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	LWA	-	dB
Annual energy consumption	QHE	8420	kWh
For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m <sup>3</sup> /h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m <sup>3</sup> /h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Qclec	-	kWh
Annual electricity consumption	AEC	-	kWh
Water heating energy efficiency	$\eta_{wh}$	-	%
Daily fuel consumption	Qfuel	-	kWh
Annual fuel consumption	AFC	-	GJ

Contact details: KLIMA-THERM Sp. z o. o.  
ul. Ostrobramska 101A, 04-041 Warszawa, Polska

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).  
(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

## Technical parameters

Model(s):	KHC-12RY3-B
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12.5	kW	Seasonal space heating energy efficiency	$\eta_s$	173.8	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = 2°C	Pdh	12.07	kW	Tj = 2°C	COPd	2.31	-
Tj = 7°C	Pdh	8.04	kW	Tj = 7°C	COPd	3.86	-
Tj = 12°C	Pdh	3.75	kW	Tj = 12°C	COPd	5.70	-
Tj = bivalent temperature	Pdh	8.04	kW	Tj = bivalent temperature	COPd	3.86	-
Tj = operating limit	Pdh	12.07	kW	Tj = operating limit	COPd	2.31	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	Pcyc	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	Poff	0.020	kW	Rated heat output (**)	Psup	0.43	kW
Standby mode	Psb	0.020	kW	Type of energy input	Electrical		
Thermostat-off mode	Pto	0.030	kW				
Crankcase heater mode	Pck	0.000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m <sup>3</sup> /h
Sound power level, indoors/outdoors	LWA	-	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m <sup>3</sup> /h
Annual energy consumption	QHE	3780	kWh				

For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	$\eta_{wh}$	-	%
Daily electricity consumption	Qelec	-	kWh	Daily fuel consumption	Qfuel	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details: KLIMA-THERM Sp. z o. o. ul. Ostrobramska 101A, 04-041 Warszawa, Polska

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

## Technical parameters

Model(s):	KHC-14RY3-B
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12.08	kW	Seasonal space heating energy efficiency	$\eta_s$	135.6	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7°C	Pdh	10.68	kW	Tj = -7°C	COPd	2.01	-
Tj = 2°C	Pdh	6.86	kW	Tj = 2°C	COPd	3.43	-
Tj = 7°C	Pdh	4.63	kW	Tj = 7°C	COPd	4.66	-
Tj = 12°C	Pdh	3.31	kW	Tj = 12°C	COPd	6.13	-
Tj = bivalent temperature	Pdh	10.68	kW	Tj = bivalent temperature	COPd	2.01	-
Tj = operating limit	Pdh	9.19	kW	Tj = operating limit	COPd	1.76	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcyc	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	Poff	0.020	kW	Rated heat output (**)	Psup	1.40	kW
Standby mode	Psb	0.020	kW	Type of energy input	Electrical		
Thermostat-off mode	Pto	0.030	kW				
Crankcase heater mode	Pck	0.000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m <sup>3</sup> /h
Sound power level, indoors/outdoors	LWA	-65	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m <sup>3</sup> /h
Annual energy consumption	QHE	7203	kWh				

For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	$\eta_{wh}$	-	%
Daily electricity consumption	Qelec	-	kWh	Daily fuel consumption	Qfuel	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details: KLIMA-THERM Sp. z o. o.  
ul. Ostrobramska 101A, 04-041 Warszawa, Polska

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

## Technical parameters

Model(s):	KHC-14RY3-B
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11.0	kW	Seasonal space heating energy efficiency	$\eta_s$	118.9	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7°C	Pdh	6.89	kW	Tj = -7°C	COPd	2.66	-
Tj = 2°C	Pdh	4.32	kW	Tj = 2°C	COPd	3.66	-
Tj = 7°C	Pdh	3.06	kW	Tj = 7°C	COPd	4.72	-
Tj = 12°C	Pdh	3.33	kW	Tj = 12°C	COPd	6.25	-
Tj = bivalent temperature	Pdh	8.94	kW	Tj = bivalent temperature	COPd	1.79	-
Tj = operating limit	Pdh	4.20	kW	Tj = operating limit	COPd	1.13	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	Pcyc	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	Poff	0.020	kW	Rated heat output (**)	Psup	6.80	kW
Standby mode	Psb	0.020	kW	Type of energy input	Electrical		
Thermostat-off mode	Pto	0.030	kW				
Crankcase heater mode	Pck	0.000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	406	m <sup>3</sup> /h
Sound power level, indoors/outdoors	LWA	-	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m <sup>3</sup> /h
Annual energy consumption	QHE	8867	kWh				

For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	$\eta_{wh}$	-	%
Daily electricity consumption	Qelec	-	kWh	Daily fuel consumption	Qfuel	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details: KLIMA-THERM Sp. z o. o.  
ul. Ostrobramska 101A, 04-041 Warszawa, Polska

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

## Technical parameters

Model(s):	KHC-14RY3-B
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13.7	kW	Seasonal space heating energy efficiency	$\eta_s$	176.4	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = 2°C	Pdh	13.04	kW	Tj = 2°C	COPd	2.20	-
Tj = 7°C	Pdh	8.83	kW	Tj = 7°C	COPd	3.91	-
Tj = 12°C	Pdh	4.08	kW	Tj = 12°C	COPd	5.90	-
Tj = bivalent temperature	Pdh	8.83	kW	Tj = bivalent temperature	COPd	3.91	-
Tj = operating limit	Pdh	13.04	kW	Tj = operating limit	COPd	2.20	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	Pcyc	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	Poff	0.020	kW	Rated heat output (**)	Psup	0.66	kW
Standby mode	Psb	0.020	kW	Type of energy input	Electrical		
Thermostat-off mode	Pto	0.030	kW				
Crankcase heater mode	Pck	0.000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m <sup>3</sup> /h
Sound power level, indoors/outdoors	LWA	-	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m <sup>3</sup> /h
Annual energy consumption	QHE	4092	kWh				

For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	$\eta_{wh}$	-	%
Daily electricity consumption	Qelec	-	kWh	Daily fuel consumption	Qfuel	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details: KLIMA-THERM Sp. z o. o.  
ul. Ostrobramska 101A, 04-041 Warszawa, Polska

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

## Technical parameters

Model(s):	KHC-16RY3-B
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13.0	kW	Seasonal space heating energy efficiency	$\eta_s$	133.2	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7°C	Pdh	11.52	kW	Tj = -7°C	COPd	1.99	-
Tj = 2°C	Pdh	7.18	kW	Tj = 2°C	COPd	3.34	-
Tj = 7°C	Pdh	4.67	kW	Tj = 7°C	COPd	4.61	-
Tj = 12°C	Pdh	3.31	kW	Tj = 12°C	COPd	6.07	-
Tj = bivalent temperature	Pdh	11.52	kW	Tj = bivalent temperature	COPd	1.99	-
Tj = operating limit	Pdh	10.33	kW	Tj = operating limit	COPd	1.80	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcyc	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	Poff	0.020	kW	Rated heat output (**)	Psup	2.67	kW
Standby mode	Psb	0.020	kW	Type of energy input	Electrical		
Thermostat-off mode	Pto	0.030	kW				
Crankcase heater mode	Pck	0.000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m <sup>3</sup> /h
Sound power level, indoors/outdoors	LWA	-68	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m <sup>3</sup> /h
Annual energy consumption	QHE	7896	kWh				

For heat pump combination heater:

Declared load profile				Water heating energy efficiency			
Declared load profile	-			Water heating energy efficiency	$\eta_{wh}$	-	%
Daily electricity consumption	Qelec	-	kWh	Daily fuel consumption	Qfuel	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details: KLIMA-THERM Sp. z o. o.  
ul. Ostrobramska 101A, 04-041 Warszawa, Polska

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).  
(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.



## Technical parameters

Model(s):	KHC-16RY3-B
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	COLDER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11.8	kW	Seasonal space heating energy efficiency	$\eta_s$	121.8	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7°C	Pdh	7.64	kW	Tj = -7°C	COPd	2.65	-
Tj = 2°C	Pdh	4.42	kW	Tj = 2°C	COPd	3.79	-
Tj = 7°C	Pdh	2.97	kW	Tj = 7°C	COPd	4.81	-
Tj = 12°C	Pdh	3.43	kW	Tj = 12°C	COPd	6.29	-
Tj = bivalent temperature	Pdh	9.61	kW	Tj = bivalent temperature	COPd	1.86	-
Tj = operating limit	Pdh	5.21	kW	Tj = operating limit	COPd	1.23	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	Pcyc	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	Poff	0.020	kW	Rated heat output (**)	Psup	6.59	kW
Standby mode	Psb	0.020	kW	Type of energy input	Electrical		
Thermostat-off mode	Pto	0.030	kW				
Crankcase heater mode	Pck	0.000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m³/h
Sound power level, indoors/outdoors	LWA	-	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m³/h
Annual energy consumption	QHE	9310	kWh				

For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	$\eta_{wh}$	-	%
Daily electricity consumption	Qdec	-	kWh	Daily fuel consumption	Qfuel	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	KLIMA-THERM Sp. z o. o. ul. Ostrobramska 101A, 04-041 Warszawa, Polska
-----------------	---

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).  
(\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

## Technical parameters

Model(s):	KHC-16RY3-B
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13.8	kW	Seasonal space heating energy efficiency	$\eta_s$	175.9	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = 2°C	Pdh	13.38	kW	Tj = 2°C	COPd	2.29	-
Tj = 7°C	Pdh	8.86	kW	Tj = 7°C	COPd	3.84	-
Tj = 12°C	Pdh	4.06	kW	Tj = 12°C	COPd	5.86	-
Tj = bivalent temperature	Pdh	8.86	kW	Tj = bivalent temperature	COPd	3.84	-
Tj = operating limit	Pdh	13.38	kW	Tj = operating limit	COPd	2.29	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P <sub>cych</sub>	-	kW	Cycling interval efficiency	COP <sub>cyc</sub>	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P <sub>off</sub>	0.014	kW	Rated heat output (**)	P <sub>sup</sub>	0.42	kW
Standby mode	P <sub>sb</sub>	0.014	kW	Type of energy input	Electrical		
Thermostat-off mode	P <sub>to</sub>	0.029	kW				
Crankcase heater mode	P <sub>ck</sub>	0.000	kW				

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L <sub>WA</sub>	-	dB
Annual energy consumption	Q <sub>HE</sub>	4116	kWh
For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m <sup>3</sup> /h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m <sup>3</sup> /h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q <sub>elec</sub>	-	kWh
Annual electricity consumption	AEC	-	kWh
Water heating energy efficiency	$\eta_{wh}$	-	%
Daily fuel consumption	Q <sub>fuel</sub>	-	kWh
Annual fuel consumption	AFC	-	GJ

Contact details: KLIMA-THERM Sp. z o. o. ul. Ostrobramska 101A, 04-041 Warszawa, Polska

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).  
 (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.