Technical parameters

Model(s):	Outdoor unit: KHA-06RY1-B Indoor unit: KMK-60RY1
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
Rated heat output (*)	Prated	5.7	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	5.04	kW
Tj = 2℃	Pdh	3.12	kW
Tj = 7℃	Pdh	2.08	kW
Tj = 12℃	Pdh	1.28	kW
Tj = bivalent temperature	Pdh	5.04	kW
Tj = operating limit	Pdh	4.52	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	137.9	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.17	-
Tj = 2℃	COPd	3.51	-
Tj = 7℃	COPd	4.54	-
Tj = 12℃	COPd	5.59	-
Tj = bivalent temperature	COPd	2.17	-
Tj = operating limit	COPd	1.91	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	60	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	1.18	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	38/58	dB
Annual energy consumption	Q_{HE}	3345	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	2770	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	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):	Outdoor unit: KHA-06RY1-B Indoor unit: KMK-60RY1
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
Rated heat output (*)	Prated	4.3	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	2.70	kW
Tj = 2℃	Pdh	1.60	kW
Tj = 7℃	Pdh	1.02	kW
Tj = 12℃	Pdh	1.37	kW
Tj = bivalent temperature	Pdh	3.47	kW
Tj = operating limit	Pdh	2.09	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-15	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	111.1	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.46	-
Tj = 2℃	COPd	3.36	-
Tj = 7℃	COPd	3.94	-
Tj = 12℃	COPd	6.35	-
Tj = bivalent temperature	COPd	1.86	-
Tj = operating limit	COPd	1.13	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	51	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	5.10	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	3681	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	2770	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	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):	Outdoor unit: KHA-06RY1-B Indoor unit: KMK-60RY1
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
Rated heat output (*)	Prated	5.1	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW
Tj = 2℃	Pdh	5.02	kW
Tj = 7℃	Pdh	3.31	kW
Tj = 12℃	Pdh	1.60	kW
Tj = bivalent temperature	Pdh	3.31	kW
Tj = operating limit	Pdh	5.02	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	164.7	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	-	-
Tj = 2℃	COPd	2.48	-
Tj = 7℃	COPd	3.67	-
Tj = 12℃	COPd	5.29	-
Tj = bivalent temperature	COPd	3.67	-
Tj = operating limit	COPd	2.48	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	62	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	0	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	1640	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	2770	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	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):	Outdoor unit: KHA-08RY1-B Indoor unit: KMK-100RY3
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
Rated heat output (*)	Prated	6.6	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	5.84	kW
Tj = 2℃	Pdh	3.75	kW
Tj = 7℃	Pdh	2.42	kW
Tj = 12℃	Pdh	1.39	kW
Tj = bivalent temperature	Pdh	5.84	kW
Tj = operating limit	Pdh	4.90	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	131.5	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.16	-
Tj = 2℃	COPd	3.30	-
Tj = 7℃	COPd	4.34	-
Tj = 12℃	COPd	5.33	-
Tj = bivalent temperature	COPd	2.16	-
Tj = operating limit	COPd	1.84	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	60	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	1.69	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	42/59	dB
Annual energy consumption	Q_{HE}	4056	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	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):	Outdoor unit: KHA-08RY1-B Indoor unit: KMK-100RY3
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
Rated heat output (*)	Prated	5.8	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	3.86	kW
Tj = 2℃	Pdh	2.21	kW
Tj = 7℃	Pdh	1.44	kW
Tj = 12℃	Pdh	1.46	kW
Tj = bivalent temperature	Pdh	4.71	kW
Tj = operating limit	Pdh	2.80	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-15	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	112.0	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.48	-
Tj = 2℃	COPd	3.35	-
Tj = 7℃	COPd	4.11	-
Tj = 12℃	COPd	5.92	-
Tj = bivalent temperature	COPd	1.90	-
Tj = operating limit	COPd	1.22	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	51	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	2.97	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	4950	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	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):	Outdoor unit: KHA-08RY1-B Indoor unit: KMK-100RY3
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
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℃	Pdh	-	kW
Tj = 2℃	Pdh	7.55	kW
Tj = 7℃	Pdh	4.86	kW
Tj = 12℃	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℃	Pdh	-	kW
Bivalent temperature	T_{biv}	7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	175.8	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	-	-
Tj = 2℃	COPd	2.59	-
Tj = 7℃	COPd	3.92	-
Tj = 12℃	COPd	5.55	-
Tj = bivalent temperature	COPd	3.92	-
Tj = operating limit	COPd	2.59	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	62	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	0	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	2259	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	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):	Outdoor unit: KHA-10RY1-B Indoor unit: KMK-100RY3
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
Rated heat output (*)	Prated	7.7	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	6.78	kW
Tj = 2℃	Pdh	4.28	kW
Tj = 7℃	Pdh	2.77	kW
Tj = 12℃	Pdh	1.58	kW
Tj = bivalent temperature	Pdh	6.78	kW
Tj = operating limit	Pdh	5.38	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	136.6	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.24	-
Tj = 2℃	COPd	3.42	-
Tj = 7℃	COPd	4.52	-
Tj = 12℃	COPd	5.68	-
Tj = bivalent temperature	COPd	2.24	-
Tj = operating limit	COPd	1.83	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	60	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	2.29	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	42/60	dB
Annual energy consumption	Q_{HE}	4539	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	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):	Outdoor unit: KHA-10RY1-B Indoor unit: KMK-100RY3
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	ηs	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℃	Pdh	4.27	kW	Tj = -7℃	COPd	2.54	-
Tj = 2℃	Pdh	2.57	kW	Tj = 2℃	COPd	3.51	-
Tj = 7℃	Pdh	1.65	kW	Tj = 7℃	COPd	4.37	-
Tj = 12℃	Pdh	1.47	kW	Tj = 12℃	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℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.9	--	Heating water operating limit temperature	W_{TOL}	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.014	kW	Rated heat output (**)	P_{sup}	3.91	kW
Standby mode	P_{sb}	0.014	kW				
Thermostat-off mode	P_{to}	0.024	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m^3/h
Sound power level, indoors/outdoors	L_{WA}	-	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	5540	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energy efficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	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):	Outdoor unit: KHA-10RY1-B Indoor unit: KMK-100RY3
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	ηs	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℃	Pdh	-	kW	Tj = -7℃	COPd	-	-
Tj = 2℃	Pdh	8.06	kW	Tj = 2℃	COPd	2.59	-
Tj = 7℃	Pdh	5.54	kW	Tj = 7℃	COPd	4.10	-
Tj = 12℃	Pdh	2.53	kW	Tj = 12℃	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℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.9	--	Heating water operating limit temperature	W_{TOL}	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.014	kW	Rated heat output (**)	P_{sup}	0.48	kW
Standby mode	P_{sb}	0.014	kW				
Thermostat-off mode	P_{to}	0.024	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m^3/h
Sound power level, indoors/outdoors	L_{WA}	-	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	2516	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energy efficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	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):	Outdoor unit: KHA-12RY3-B Indoor unit: KMK-160RY3
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
Rated heat output (*)	Prated	11.6	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	10.24	kW
Tj = 2℃	Pdh	6.52	kW
Tj = 7℃	Pdh	4.36	kW
Tj = 12℃	Pdh	3.29	kW
Tj = bivalent temperature	Pdh	10.24	kW
Tj = operating limit	Pdh	9.10	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.020	kW
Standby mode	P_{sb}	0.020	kW
Thermostat-off mode	P_{to}	0.030	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	135.1	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.01	-
Tj = 2℃	COPd	3.44	-
Tj = 7℃	COPd	4.59	-
Tj = 12℃	COPd	6.05	-
Tj = bivalent temperature	COPd	2.01	-
Tj = operating limit	COPd	1.79	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	60	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	1.23	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	43/64	dB
Annual energy consumption	Q_{HE}	6928	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

Contact details	

(*) 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):	Outdoor unit: KHA-12RY3-B Indoor unit: KMK-160RY3
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
Rated heat output (*)	Prated	10.3	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	6.63	kW
Tj = 2℃	Pdh	4.06	kW
Tj = 7℃	Pdh	2.78	kW
Tj = 12℃	Pdh	3.33	kW
Tj = bivalent temperature	Pdh	8.41	kW
Tj = operating limit	Pdh	4.19	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-15	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.020	kW
Standby mode	P_{sb}	0.020	kW
Thermostat-off mode	P_{to}	0.030	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	117.7	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.63	-
Tj = 2℃	COPd	3.60	-
Tj = 7℃	COPd	4.54	-
Tj = 12℃	COPd	6.25	-
Tj = bivalent temperature	COPd	1.84	-
Tj = operating limit	COPd	1.13	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	51	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	6.11	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	8420	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	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):	Outdoor unit: KHA-12RY3-B Indoor unit: KMK-160RY3
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
Rated heat output (*)	Prated	12.5	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW
Tj = 2℃	Pdh	12.07	kW
Tj = 7℃	Pdh	8.04	kW
Tj = 12℃	Pdh	3.75	kW
Tj = bivalent temperature	Pdh	8.04	kW
Tj = operating limit	Pdh	12.07	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.020	kW
Standby mode	P_{sb}	0.020	kW
Thermostat-off mode	P_{to}	0.030	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	173.8	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	-	-
Tj = 2℃	COPd	2.31	-
Tj = 7℃	COPd	3.86	-
Tj = 12℃	COPd	5.70	-
Tj = bivalent temperature	COPd	3.86	-
Tj = operating limit	COPd	2.31	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	62	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	0.43	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	3780	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	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):	Outdoor unit: KHA-14RY3-B Indoor unit: KMK-160RY3
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
Rated heat output (*)	Prated	12.08	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	10.68	kW
Tj = 2℃	Pdh	6.86	kW
Tj = 7℃	Pdh	4.63	kW
Tj = 12℃	Pdh	3.31	kW
Tj = bivalent temperature	Pdh	10.68	kW
Tj = operating limit	Pdh	9.19	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.020	kW
Standby mode	P_{sb}	0.020	kW
Thermostat-off mode	P_{to}	0.030	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	135.6	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.01	-
Tj = 2℃	COPd	3.43	-
Tj = 7℃	COPd	4.66	-
Tj = 12℃	COPd	6.13	-
Tj = bivalent temperature	COPd	2.01	-
Tj = operating limit	COPd	1.76	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	60	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	1.40	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	43/65	dB
Annual energy consumption	Q_{HE}	7203	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	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):	Outdoor unit: KHA-14RY3-B Indoor unit: KMK-160RY3
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
Rated heat output (*)	Prated	11.0	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	6.89	kW
Tj = 2℃	Pdh	4.32	kW
Tj = 7℃	Pdh	3.06	kW
Tj = 12℃	Pdh	3.33	kW
Tj = bivalent temperature	Pdh	8.94	kW
Tj = operating limit	Pdh	4.20	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-15	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.020	kW
Standby mode	P_{sb}	0.020	kW
Thermostat-off mode	P_{to}	0.030	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	118.9	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.66	-
Tj = 2℃	COPd	3.66	-
Tj = 7℃	COPd	4.72	-
Tj = 12℃	COPd	6.25	-
Tj = bivalent temperature	COPd	1.79	-
Tj = operating limit	COPd	1.13	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	51	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	6.80	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	8867	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	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):	Outdoor unit: KHA-14RY3-B Indoor unit: KMK-160RY3
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	ηs	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℃	Pdh	-	kW	Tj = -7℃	COPd	-	-
Tj = 2℃	Pdh	13.04	kW	Tj = 2℃	COPd	2.20	-
Tj = 7℃	Pdh	8.83	kW	Tj = 7℃	COPd	3.91	-
Tj = 12℃	Pdh	4.08	kW	Tj = 12℃	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℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.9	--	Heating water operating limit temperature	W_{TOL}	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.020	kW	Rated heat output (**)	P_{sup}	0.66	kW
Standby mode	P_{sb}	0.020	kW				
Thermostat-off mode	P_{to}	0.030	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m^3/h
Sound power level, indoors/outdoors	L_{WA}	-	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	4092	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energy efficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	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):	Outdoor unit: KHA-16RY3-B Indoor unit: KMK-160RY3
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
Rated heat output (*)	Prated	13.0	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	11.52	kW
Tj = 2℃	Pdh	7.18	kW
Tj = 7℃	Pdh	4.67	kW
Tj = 12℃	Pdh	3.31	kW
Tj = bivalent temperature	Pdh	11.52	kW
Tj = operating limit	Pdh	10.33	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.020	kW
Standby mode	P_{sb}	0.020	kW
Thermostat-off mode	P_{to}	0.030	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	133.2	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	1.99	-
Tj = 2℃	COPd	3.34	-
Tj = 7℃	COPd	4.61	-
Tj = 12℃	COPd	6.07	-
Tj = bivalent temperature	COPd	1.99	-
Tj = operating limit	COPd	1.80	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	60	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	2.67	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	43/68	dB
Annual energy consumption	Q_{HE}	7896	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	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):	Outdoor unit: KHA-16RY3-B Indoor unit: KMK-160RY3
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	ηs	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℃	Pdh	7.64	kW	Tj = -7℃	COPd	2.65	-
Tj = 2℃	Pdh	4.42	kW	Tj = 2℃	COPd	3.79	-
Tj = 7℃	Pdh	2.97	kW	Tj = 7℃	COPd	4.81	-
Tj = 12℃	Pdh	3.43	kW	Tj = 12℃	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℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.9	--	Heating water operating limit temperature	W_{TOL}	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.020	kW	Rated heat output (**)	P_{sup}	6.59	kW
Standby mode	P_{sb}	0.020	kW				
Thermostat-off mode	P_{to}	0.030	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m^3/h
Sound power level, indoors/outdoors	L_{WA}	-	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	9310	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energy efficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	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):	Outdoor unit: KHA-16RY3-B Indoor unit: KMK-160RY3
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
Rated heat output (*)	Prated	13.8	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW
Tj = 2℃	Pdh	13.38	kW
Tj = 7℃	Pdh	8.86	kW
Tj = 12℃	Pdh	4.06	kW
Tj = bivalent temperature	Pdh	8.86	kW
Tj = operating limit	Pdh	13.38	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.029	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	175.9	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	-	-
Tj = 2℃	COPd	2.29	-
Tj = 7℃	COPd	3.84	-
Tj = 12℃	COPd	5.86	-
Tj = bivalent temperature	COPd	3.84	-
Tj = operating limit	COPd	2.29	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	62	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	0.42	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	4116	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	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.