Model(s):				KHC-06RY1-B								
Air-to-water heat pump:				YES								
Water-to-water heat pump:				NO NO								
Brine-to-water heat pump:			NO									
Low-temperature heat pump:			NO									
Equipped with a supplementary heate	er:		NO NO									
Heat pump combination heater:				NO								
Declared climate condition:				AVERAGE								
Parameters are declared for medium-	temperature	e application	1.									
Item	Symbol	Value	Unit	Item	Symbol	Value	Uni					
Rated heat output (*)	Prated	5.7	kW	Seasonal space heating energy efficiency	ηs	137.9	%					
Declared capacity for heating for part load and outdoor temperature Tj	at indoor tem	oerature 20 °0		Declared coefficient of performance or prim indoor temperature 20 °C and outdoor temperature 20		tio for part lo	ad at					
Tj = -7°C	Pdh	5.04	kW	Tj = -7°C	COPd	2.17	-					
Tj = 2°C	Pdh	3.12	kW	Tj = 2°C	COPd	3.51	-					
Tj = 7°C	Pdh	2.08	kW	Tj = 7°C	COPd	4.54	-					
Tj = 12°C	Pdh	1.28	kW	Tj = 12°C	COPd	5.59	-					
Tj = bivalent temperature	Pdh	5.04	kW	Tj = bivalent temperature	COPd	2.17	-					
Tj = operating limit	Pdh	4.52	kW	Tj = operating limit	COPd	1.91	-					
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	Pcych	-	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 a	ctive mode			Supplementary heater								
Off mode	Poff	0.014	kW	D-4-dh4	Б	4.40						
Standby mode	Psb	0.014	kW	Rated heat output (**)	Psup	1.18	kW					
Thermostat-off mode	Pto	0.024	kW	Type of energy input		Electrical						
Crankcase heater mode	Pck	0.000	kW	Type of energy input		Liectrical						
Other items												
Capacity control		variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	2770	m ³ /h					
Sound power level, indoors/outdoors	L _{WA}	-/58	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor	-	-	m³/h					
Annual energy consumption	Q _{HE}	3345	kWh	heat exchanger								
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}	-	kW					
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	G					
Contact details		ERM Sp. z o. o amska 101A, (rszawa, Polska								

		Tech	nical	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	er:		NO										
Heat pump combination heater:				NO									
Declared climate condition:				COLDER									
Parameters are declared for medium-	temperature	e application	1.										
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit						
Rated heat output (*)	Prated	4.3	kW	Seasonal space heating energy efficiency	ηs	111.1	%						
Declared capacity for heating for part load a and outdoor temperature Tj	at indoor tem	perature 20 °C	Declared coefficient of performance or prim indoor temperature 20 °C and outdoor temp		itio for part lo	ad at							
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	Pcych	-	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 ac	ctive mode			Supplementary heater									
Off mode	Poff	0.014	kW	B	_								
Standby mode	Psb	0.014	kW	Rated heat output (**)	Psup	5.10	kW						
Thermostat-off mode	Pto	0.024	kW	Type of energy input		Flootrical							
Crankcase heater mode	Pck	0.000	kW	Type of energy input		Electrical							
Other items													
Capacity control		variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	2770	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	-	-	m³/h						
Annual energy consumption	Q _{HE}	3681	kWh	heat exchanger									
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		ERM Sp. z o. o amska 101A, (rszawa, 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.

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	er:		NO									
Heat pump combination heater:		NO										
Declared climate condition:		WARMER										
Parameters are declared for medium-	temperature	application	١.									
lk	Comple al	Value	Unit	Item	Symbol	Value	Uni					
Rated heat output (*)	Symbol	5.1	kW				Uni %					
,	Prated			Seasonal space heating energy efficiency	ηs	164.7						
Declared capacity for heating for part load and outdoor temperature Tj	at indoor temp	perature 20 °C	,	Declared coefficient of performance or primindoor temperature 20 °C and outdoor temp		tio for part ic	ad at					
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					
Power consumption in modes other than a	ctive mode			Supplementary heater								
Off mode	Poff	0.014	kW	Poted heat output (**)	D	0						
Standby mode	Psb	0.014	kW	Rated heat output (**)	Psup	0	kW					
Thermostat-off mode	Pto	0.024	kW	Type of energy input		Electrical						
Crankcase heater mode	Pck	0.000	kW	Type of onlongy input		Licotrical						
Other items												
Capacity control		variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	2770	m³/h					
Sound power level, indoors/outdoors	Lwa	-	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor	-	-	m³/h					
Annual energy consumption	Q _{HE}	1640	kWh	heat exchanger								
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}	-	kW					
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	G					
Contact details		ERM Sp. z o. o		rszawa, Polska								

				parameters							
Model(s):				KHC-08RY3-B							
Air-to-water heat pump:				YES							
Water-to-water heat pump:			NO NO								
Brine-to-water heat pump:			NO NO								
Low-temperature heat pump:			NO								
Equipped with a supplementary heater	er:			NO							
Heat pump combination heater:				NO							
Declared climate condition:				AVERAGE							
Parameters are declared for medium-	temperature	e application	1.								
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit				
Rated heat output (*)	Prated	6.6	kW	Seasonal space heating energy efficiency	ηs	131.5	%				
Declared capacity for heating for part load and outdoor temperature Tj	at indoor tem	perature 20 °0		Declared coefficient of performance or prim indoor temperature 20 °C and outdoor temperature 20		tio for part loa	ad at				
Tj = -7℃	Pdh	5.84	kW	Tj = -7℃	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℃	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℃	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	Pcych	-	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 ac	ctive mode			Supplementary heater							
Off mode	Poff	0.014	kW		_						
Standby mode	Psb	0.014	kW	Rated heat output (**)	Psup	1.69	kW				
Thermostat-off mode	Pto	0.024	kW	Time of anarmy input							
Crankcase heater mode	Pck	0.000	kW	Type of energy input		Electrical					
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}	-/59	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor	-	-	m³/h				
Annual energy consumption	Q _{HE}	4056	kWh	heat exchanger							
For heat pump combination heater:											
Declared load profile		-		Water heating energy efficiency	$\eta_{\sf vh}$	-	%				
Daily electricity consumption	Q _{clec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh				
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ				
Contact details		ERM Sp. z o. (amska 101A, (szawa, Polska							
	ut of a supp	lementary h	eater Psu	the rated heat output Prated is equal to the p is equal to the supplementary capacity tion coefficient is Cdh = 0,9.			ng				

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		ı ecn	nicai	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 heate	er:		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	ηs	112.0	%					
Declared capacity for heating for part load and outdoor temperature Tj	1	perature 20 °C		Declared coefficient of performance or prim indoor temperature 20 °C and outdoor temp	ary energy ra							
Tj = -7℃	Pdh	3.86	kW	Tj = -7°C	COPd	2.48	-					
Tj = 2℃	Pdh	2.21	kW	Tj = 2°C	COPd	3.35	-					
Tj = 7℃	Pdh	1.44	kW	Tj = 7°C	COPd	4.11	-					
Tj = 12℃	Pdh	1.46	kW	Tj = 12℃	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	Pcych	-	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 ac	ctive mode			Supplementary heater								
Off mode	Poff	0.014	kW									
Standby mode	Psb	0.014	kW	Rated heat output (**)	Psup	2.97	kW					
Thermostat-off mode	Pto	0.024	kW	Time of anomy input		Cl- atriaga						
Crankcase heater mode	Pck	0.000	kW	Type of energy input		Electrical						
Other items												
Capacity control		variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m³/h					
Sound power level, indoors/outdoors	L _{WA}	-	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor	-	-	m ³ /h					
Annual energy consumption	Q _{HE}	4950	kWh	heat exchanger								
For heat pump combination heater:												
Declared load profile		-		Water heating energy efficiency	$\eta_{\sf wh}$	-	%					
Daily electricity consumption	Q _{clec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kW					
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ					
Contact details		ERM Sp. z o. o		rszawa, 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.

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 heat	er:		NO									
Heat pump combination heater:				NO								
Declared climate condition:			WARMER									
Parameters are declared for medium	-temperature	application).									
		•••										
Item	Symbol	Value	Unit	Item	Symbol	Value	Uni					
Rated heat output (*)	Prated	7.6	kW	Seasonal space heating energy efficiency	ηs	175.8	%					
Declared capacity for heating for part load and outdoor temperature Tj	at indoor tem	perature 20 °(Declared coefficient of performance or primindoor temperature 20 °C and outdoor 20 °	ary energy ra perature Tj	tio for part lo	ad at					
Tj = -7℃	Pdh	-	kW	Tj = -7℃	COPd	-	-					
Tj = 2℃	Pdh	7.55	kW	Tj = 2℃	COPd	2.59	-					
Tj = 7°C	Pdh	4.86	kW	Tj = 7°C	COPd	3.92	-					
Tj = 12°C	Pdh	2.31	kW	Tj = 12°C	COPd	5.55	-					
Tj = bivalent temperature	Pdh	4.86	kW	Tj = bivalent temperature	COPd	3.92	-					
Tj = operating limit	Pdh	7.55	kW	Tj = operating limit	COPd	2.59	-					
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					
Power consumption in modes other than a	ctive mode			Supplementary heater								
Off mode	Poff	0.014	kW	5								
Standby mode	Psb	0.014	kW	Rated heat output (**)	Psup	0	kW					
Thermostat-off mode	Pto	0.024	kW	Tong of an american d								
Crankcase heater mode	Pck	0.000	kW	Type of energy input		Electrical						
Other items												
Capacity control		variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m³/h					
Sound power level, indoors/outdoors	L _{WA}	-	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor	-	-	m³/ł					
Annual energy consumption	Q _{HE}	2259	kWh	heat exchanger								
For heat pump combination heater:												
Declared load profile		-		Water heating energy efficiency	$\eta_{\sf vh}$	-	%					
Daily electricity consumption	Q _{clec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kW					
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ					
Contact details		ERM Sp. z o. omska 101A, o		rszawa, Polska								

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		Tech	nical	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 heate	r:		NO									
Heat pump combination heater:				NO								
Declared climate condition:				AVERAGE								
Parameters are declared for medium-	temperature	e application	١.									
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit					
Rated heat output (*)	Prated	7.7	kW	Seasonal space heating energy efficiency	ηs	136.6	%					
Declared capacity for heating for part load and outdoor temperature Tj	at indoor tem	perature 20 °0		Declared coefficient of performance or primindoor temperature 20 °C and outdoor temp		atio for part lo	ad at					
Tj = -7℃	Pdh	6.78	kW	Tj = -7°C	COPd	2.24	-					
Tj = 2°C	Pdh	4.28	kW	Tj = 2℃	COPd	3.42	-					
Tj = 7℃	Pdh	2.77	kW	Tj = 7℃	COPd	4.52	-					
Tj = 12℃	Pdh	1.58	kW	Tj = 12℃	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℃	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	Pcych	-	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 a	tive mode			Supplementary heater								
Off mode	Poff	0.014	kW									
Standby mode	Psb	0.014	kW	Rated heat output (**)	Psup	2.29	kW					
Thermostat-off mode	Pto	0.024	kW	-								
Crankcase heater mode	Pck	0.000	kW	Type of energy input		Electrical						
Other items												
Capacity control		variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m³/h					
Sound power level, indoors/outdoors	L _{WA}	-/60	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor	-	-	m³/h					
Annual energy consumption	Q _{HE}	4539	kWh	heat exchanger								
For heat pump combination heater:	1				,							
Declared load profile		-		Water heating energy efficiency	$\eta_{ m wh}$	-	%					
Daily electricity consumption	Q _{clec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh					
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ					
Contact details		ERM Sp. z o. amska 101A, (rszawa, Polska								
	ut of a supp	lementary h	eater Psi	the rated heat output Prated is equal to the up is equal to the supplementary capacity ation coefficient is Cdh = 0,9.			ing					

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 heate	r:		NO									
Heat pump combination heater:		NO										
Declared climate condition:				COLDER								
Parameters are declared for medium-	temperature	application	١.									
Item	Symbol	Value	Unit	Item	Symbol	Value	Uni					
Rated heat output (*)	Prated	6.7	kW	Seasonal space heating energy efficiency	ηs	116.4	%					
Declared capacity for heating for part load a and outdoor temperature Tj	at indoor temp	perature 20 °C		Declared coefficient of performance or prim indoor temperature 20 °C and outdoor temp		tio for part lo	ad at					
Tj = -7℃	Pdh	4.27	kW	Tj = -7°C	COPd	2.54	-					
Tj = 2°C	Pdh	2.57	kW	Tj = 2℃	COPd	3.51	-					
Tj = 7℃	Pdh	1.65	kW	Tj = 7°C	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°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	Pcych	-	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 ac	tive mode			Supplementary heater								
Off mode	Poff	0.014	kW	Rated heat output (**)	Psup	3.91	14/4/					
Standby mode	Psb	0.014	kW	realed heat output ()	1 Sup	3.91	kW					
Thermostat-off mode	Pto	0.024	kW	Type of energy input		Electrical						
Crankcase heater mode	Pck	0.000	kW	,, o, ,								
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	-	-	m ³ /h					
Annual energy consumption	Q _{HE}	5540	kWh	heat exchanger								
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}	-	kW					
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ					
Contact details		ERM Sp. z o.		rszawa, Polska								

NO									
NO									
NO									
NO									
Symbol	Symbol Value	Unit							
cy ηs	ns 180.3	%							
-	energy ratio for part l	oad at							
COPd	COPd -	-							
COPd	COPd 2.59	-							
COPd		-							
COPd	COPd 5.82	_							
COPd		-							
COPd		-							
COPd	COPd -	-							
TOL	TOL 2	°C							
COPcyc	COPcyc -	-							
ire W _{TOL}	WTOL 62	°C							
	D 0.40								
Psup	Psup 0.48	kW							
	Electrica								
	Liectrica								
-	- 4030	m³/h							
: -		m³/h							
η_{wh}	η _{wh} -	%							
Q _{fuel}	Q _{fuel} -	kWh							
AFC	AFC -	GJ							
		Q _{fuel} -							

			nical										
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	er:		NO										
Heat pump combination heater:				NO									
Declared climate condition:				AVERAGE									
Parameters are declared for medium-	temperature	e application	١.										
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit						
Rated heat output (*)	Prated	11.6	kW	Seasonal space heating energy efficiency	ηs	135.1	%						
Declared capacity for heating for part load and outdoor temperature Tj	at indoor tem	perature 20 °(0	Declared coefficient of performance or prim indoor temperature 20 °C and outdoor temp		itio for part lo	ad at						
Tj = -7℃	Pdh	10.24	kW	Tj = -7℃	COPd	2.01	-						
Tj = 2℃	Pdh	6.52	kW	Tj = 2℃	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℃	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℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-						
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C						
Cycling interval capacity for heating	Pcych	-	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 ac	ctive mode			Supplementary heater									
Off mode	Poff	0.020	kW		_								
Standby mode	Psb	0.020	kW	Rated heat output (**)	Psup	1.23	kW						
Thermostat-off mode	Pto	0.030	kW	Tong of an annula and									
Crankcase heater mode	Pck	0.000	kW	Type of energy input		Electrical							
Other items	•												
Capacity control		variable		For air-to-water heat pumps:	_	4060	m³/h						
Capacity Control		variable		Rated air flow rate, outdoors	-	4060	1119/11						
Sound power level, indoors/outdoors	L _{WA}	-/65	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}	6928	kWh	neat exchanger									
For heat pump combination heater:													
Declared load profile		-		Water heating energy efficiency	$\eta_{\sf wh}$	-	%						
Daily electricity consumption	Q _{clec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh						
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ						
Contact details		ERM Sp. z o.		arszawa, Polska									

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.

Model(s):				KHC-12RY3-B									
Air-to-water heat pump:				YES									
Water-to-water heat pump:				NO NO									
Brine-to-water heat pump:				NO									
Low-temperature heat pump:			NO NO										
Equipped with a supplementary heater	er:		NO NO										
Heat pump combination heater:			NO NO										
Declared climate condition:				COLDER									
Parameters are declared for medium-	temperature	e application	<u> </u>										
T drametere dre decidred for mediam	tomporatar	з арриоаног	•										
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit						
Rated heat output (*)	Prated	10.3	kW	Seasonal space heating energy efficiency	ηs	117.7	%						
Declared capacity for heating for part load and outdoor temperature Tj	at indoor tem	perature 20 °C		Declared coefficient of performance or primindoor temperature 20 °C and outdoor 20 °		tio for part lo	ad at						
Tj = -7℃	Pdh	6.63	kW	Tj = -7°C	COPd	2.63	-						
Tj = 2°C	Pdh	4.06	kW	Tj = 2℃	COPd	3.60	-						
Tj = 7°C	Pdh	2.78	kW	Tj = 7°C	COPd	4.54	-						
Tj = 12℃	Pdh	3.33	kW	Ti = 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	Pcych	-	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 ac	ctive mode			Supplementary heater									
Off mode	Poff	0.020	kW	Detail heat output (**)	Б	0.44							
Standby mode	Psb	0.020	kW	Rated heat output (**)	P _{sup}	6.11	kW						
Thermostat-off mode	Pto	0.030	kW	Type of energy input		Electrical							
Crankcase heater mode	Pck	0.000	kW	Type of chergy input		Liectrical							
011 11													
Other items Capacity control		variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m³/h						
Sound power level, indoors/outdoors	L _{WA}	-	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor	-	-	m³/h						
Annual energy consumption	Q _{HE}	8420	kWh	heat exchanger									
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						
	1/1 15 4 5 7 1	EDM 0											
Contact details		ERM Sp. z o. amska 1014		rszawa, Polska									

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

Model(s):				KHC-12RY3-B								
Air-to-water heat pump:				YES								
Water-to-water heat pump:				NO NO								
Brine-to-water heat pump:				NO								
Low-temperature heat pump:				NO								
Equipped with a supplementary heater	:		NO									
Heat pump combination heater:			NO NO									
Declared climate condition:			WARMER									
Parameters are declared for medium-t	emperature	e application	١.									
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit					
Rated heat output (*)	Prated	12.5	kW	Seasonal space heating energy efficiency	ηs	173.8	%					
Declared capacity for heating for part load a and outdoor temperature Tj	Declared coefficient of performance or prima indoor temperature 20 °C and outdoor temperature		tio for part lo	ad at								
Tj = -7°C	Pdh	-	kW	Tj = -7°C	COPd	-	-					
Tj = 2°C	Pdh	12.07	kW	Tj = 2℃	COPd	2.31	-					
Tj = 7℃	Pdh	8.04	kW	Tj = 7℃	COPd	3.86	-					
Tj = 12℃	Pdh	3.75	kW	Tj = 12℃	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℃	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					
Power consumption in modes other than ac	tive mode			Supplementary heater								
Off mode	Poff	0.020	kW	Rated heat output (**)	P _{sup}	0.43	kW					
Standby mode	Psb	0.020	kW	Nated Heat Output ()	i sup	0.43	KVV					
Thermostat-off mode	Pto	0.030	kW	Type of energy input		Electrical						
Crankcase heater mode	Pck	0.000	kW	37 1		2.00000.						
Other items												
Capacity control		variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m³/h					
Sound power level, indoors/outdoors	L _{WA}	-	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor	-	-	m³/h					
Annual energy consumption	Q_{HE}	3780	kWh	heat exchanger								
For heat pump combination heater:												
Declared load profile		_		Water heating energy efficiency	$\eta_{ m wh}$	-	%					
Daily electricity consumption	Q _{clec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh					
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ					
Contact details		ERM Sp. z o.		rszawa, Polska								

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

Model(s):				KHC-14RY3-B							
Air-to-water heat pump:				YES							
Water-to-water heat pump:			NO								
Brine-to-water heat pump:			NO NO								
Low-temperature heat pump:			NO								
Equipped with a supplementary heate	er:			NO							
Heat pump combination heater:				NO							
Declared climate condition:			AVERAGE								
Parameters are declared for medium	temperature	application	١.								
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit				
Rated heat output (*)	Prated	12.08	kW	Seasonal space heating energy efficiency	ηs	135.6	%				
Declared capacity for heating for part load and outdoor temperature Tj	at indoor tem	oerature 20 °0	0	Declared coefficient of performance or primindoor temperature 20 °C and outdoor temp		itio for part lo	ad at				
Tj = -7°C	Pdh	10.68	kW	Tj = -7℃	COPd	2.01	-				
Tj = 2℃	Pdh	6.86	kW	Tj = 2℃	COPd	3.43	-				
Tj = 7℃	Pdh	4.63	kW	Tj = 7℃	COPd	4.66	-				
Tj = 12°C	Pdh	3.31	kW	Tj = 12℃	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	Pcych	-	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 a	ctive mode			Supplementary heater							
Off mode	Poff	0.020	kW	D-4-d h444 (**)	Б	4.40					
Standby mode	Psb	0.020	kW	Rated heat output (**)	Psup	1.40	kW				
Thermostat-off mode	Pto	0.030	kW	Type of energy input		Electrical					
Crankcase heater mode	Pck	0.000	kW	Type of offergy input		Liectrical					
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}	-/65	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor	-	-	m³/h				
Annual energy consumption	Q _{HE}	7203	kWh	heat exchanger							
For heat pump combination heater:											
Declared load profile		-		Water heating energy efficiency	$\eta_{ m wh}$	-	%				
Daily electricity consumption	Q _{clec}	-	kWh	Daily fuel consumption	Q _{fuel}	_	kWI				
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ				
Contact details		ERM Sp. z o. amska 101A,		rszawa, Polska							

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

Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj Tj = -7°C Pdh			Value 118.9 atio for part loa 2.66 3.66 4.72 6.25 1.79 1.13 -	-
Water-to-water heat pump: Brine-to-water heat pump: Low-temperature heat pump: Equipped with a supplementary heater: Heat pump combination heater: Declared climate condition: Parameters are declared for medium-temperature application. Item Symbol Value Unit Rated heat output (*) Prated 11.0 kW Season Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj Tj = -7°C Pdh 6.89 kW Tj = -7°C Tj = 2°C Pdh 4.32 kW Tj = 2°C Tj = 7°C Pdh 3.06 kW Tj = 7°C Tj = 12°C Pdh 3.06 kW Tj = 7°C Tj = bivalent temperature Pdh 8.94 kW Tj = biv Tj = operating limit Pdh 4.20 kW Tj = biv Tj = operating limit Pdh 4.20 kW Tj = operating limit Pdh - kW For air-Bivalent temperature Tbiv -15 °C Cycling interval capacity for heating Pcych - kW Cycling Degradation co-efficient (**) Cdh 0.9 Heating Power consumption in modes other than active mode Off mode Poff 0.020 kW Rated heat of the supplementary in the sup	NO NO NO NO NO COLDER Il space heating energy efficiency I coefficient of performance or primmperature 20 °C and outdoor temporature 20 °C and outdoor 20 °C and outdoor 20 °C and outdoor 20 °C and outdoor 20 °C and	ηs ary energy ra perature Tj COPd	118.9 2.66 3.66 4.72 6.25 1.79 1.13	% ad at
Brine-to-water heat pump: Low-temperature heat pump: Equipped with a supplementary heater: Heat pump combination heater: Declared climate condition: Parameters are declared for medium-temperature application. Item Symbol Value Unit Rated heat output (*) Prated 11.0 kW Season Declared capacity for heating for part load at indoor temperature 20 °C peculor and outdoor temperature Tj Tj = -7°C Pdh 6.89 kW Tj = -7°C Tj = 2°C Pdh 4.32 kW Tj = 2°C Tj = 7°C Pdh 3.06 kW Tj = 7°C Tj = 12°C Pdh 3.06 kW Tj = 12°C Tj = bivalent temperature Pdh 8.94 kW Tj = biv Tj = bivalent temperature Pdh 8.94 kW Tj = biv Tj = operating limit Pdh 4.20 kW Tj = operating limit Pdh 4.20 kW Tj = operating limit Pdh - kW For air-Season Declared and outdoor temperature Pdh 8.94 kW Tj = operating limit Pdh - kW For air-Season Declared and outdoor temperature Pdh 8.94 kW Tj = operating limit Pdh 4.20 kW Tj = operating limit Pdh 4.20 kW Tj = operating limit Pdh - kW For air-Season Declared Declared indoor to the position of the position	NO NO NO COLDER Il space heating energy efficiency Il coefficient of performance or primmperature 20 °C and outdoor temporature 20 °C and outdoor temporature in temperature Collent temperature rating limit co-water heat pumps: Tj = -15°C co-water heat pumps:	ηs ary energy ra perature Tj COPd	118.9 2.66 3.66 4.72 6.25 1.79 1.13	% ad at
Low-temperature heat pump: Equipped with a supplementary heater: Heat pump combination heater: Declared climate condition: Parameters are declared for medium-temperature application. Item Symbol Value Unit Rated heat output (*) Prated 11.0 kW Season Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj Tj = -7°C Pdh 6.89 kW Tj = -7°C Tj = 2°C Pdh 4.32 kW Tj = 2°C Tj = 12°C Pdh 3.06 kW Tj = 2°C Tj = 12°C Pdh 3.06 kW Tj = 12°C Tj = bivalent temperature Pdh 8.94 kW Tj = biv Tj = operating limit Pdh 4.20 kW Tj = operating limit Pdh 4.20 kW Tj = operating limit Pdh 4.20 kW Tj = operating limit Pdh - kW For air-Operating limit Popper Pdh - kW For air-Operating limit Popper Pdh - kW For air-Operating limit Popper Popper Pdh - kW For air-Operating limit Popper P	NO NO COLDER Il space heating energy efficiency I coefficient of performance or primmerature 20 °C and outdoor temperature 20 °C and outdoor temperature in temperature Collent temperature rating limit co-water heat pumps: Tj = -15°C co-water heat pumps:	ηs ary energy ra perature Tj COPd	118.9 2.66 3.66 4.72 6.25 1.79 1.13	% ad at
Equipped with a supplementary heater: Heat pump combination heater: Declared climate condition: Parameters are declared for medium-temperature application. Item Symbol Value Unit Rated heat output (*) Prated 11.0 kW Season Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj IF = -7°C Pdh 6.89 kW Tj = -7°C Tj = 2°C Pdh 4.32 kW Tj = 2°C Tj = 12°C Pdh 3.06 kW Tj = 12°C Tj = bivalent temperature Pdh 8.94 kW Tj = biv IF = 12°C Pdh 4.20 kW Tj = biv IF = operating limit Pdh 4.20 kW Tj = operating limit Pdh 4.20	NO COLDER Il space heating energy efficiency Il coefficient of performance or primmperature 20 °C and outdoor temporature 20 °C and outdoor temporature in temperature Collent temperature rating limit co-water heat pumps: Tj = -15°C co-water heat pumps:	ηs ary energy ra perature Tj COPd	118.9 2.66 3.66 4.72 6.25 1.79 1.13	% ad at
Heat pump combination heater: Declared climate condition: 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°C Pdh 6.89 kW Tj = -7°C Tj = 2°C Pdh 4.32 kW Tj = 2°C Tj = 12°C Pdh 3.06 kW Tj = 12°C Tj = bivalent temperature Pdh 8.94 kW Tj = bivalent temperature Pdh 8.94 kW Tj = operating limit Pdh 4.20 kW Tj = operating limit Pdh 4.20 kW For air-to-water heat pumps: Tj = -15°C Pdh - kW For air-to-water heat pumps: Tj = -15°C Pdh 0.9 For air-Operatic Cycling interval capacity for heating Poych - kW Power consumption in modes other than active mode Off mode Poff 0.020 kW Standby mode Psb 0.020 kW	COLDER Il space heating energy efficiency I coefficient of performance or primmerature 20 °C and outdoor temporature 20 °C and outdoor temporature in temperature Illent temperature rating limit Dewater heat pumps: Tj = -15°C Dewater heat pumps:	ηs ary energy ra perature Tj COPd	118.9 2.66 3.66 4.72 6.25 1.79 1.13	% ad at
Parameters are declared for medium-temperature application. Item	Il space heating energy efficiency Il coefficient of performance or primmperature 20 °C and outdoor temporature 20 °C and outd	ηs ary energy ra perature Tj COPd	118.9 2.66 3.66 4.72 6.25 1.79 1.13	% ad at
Item Symbol Value Unit Rated heat output (*) Prated 11.0 kW Season Declared capacity for heating for part load at indoor temperature 20 °C Declared and outdoor temperature Tj Declared indoor temperature 20 °C Tj = -7°C	I coefficient of performance or primmerature 20 °C and outdoor temperature 20 °C and outdoor 20 °C and outdo	ηs ary energy ra perature Tj COPd	118.9 2.66 3.66 4.72 6.25 1.79 1.13	% ad at
Rated heat output (*) Prated 11.0 Rated heat output (*) Season Declare indoor to the prature of the pra	I coefficient of performance or primmerature 20 °C and outdoor temperature 20 °C and outdoor 20 °C and outdo	ηs ary energy ra perature Tj COPd	118.9 2.66 3.66 4.72 6.25 1.79 1.13	% ad at
Rated heat output (*) Prated 11.0 Rated heat output (*) Season Declare indoor to the prature of the pra	I coefficient of performance or primmerature 20 °C and outdoor temperature 20 °C and outdoor 20 °C and outdo	ηs ary energy ra perature Tj COPd	118.9 2.66 3.66 4.72 6.25 1.79 1.13	% ad at
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj Tj = -7°C Pdh 6.89 kW Tj = -7°C Tj = 2°C Pdh 3.06 kW Tj = 2°C Tj = 12°C Pdh 3.33 kW Tj = 12°C Tj = bivalent temperature Pdh 8.94 kW Tj = biv Tj = biv Tj = operating limit Pdh 4.20 Ev Tj = operating limit Por air-to-water heat pumps: Tj = -15°C Pdh Tj = operating limit Pdh 4.20 Ev Tj = operating limit Por air-to-water heat pumps: Tj = -15°C Pdh Tj = operating limit Por air-to-water heat pumps: Tj = -15°C Pdh Tj = operating limit Por air-to-water heat pumps: Tj = -15°C Pdh Tj = operating limit For air-to-water heat pumps: Tj = -15°C Pdh Tj = operating limit For air-to-water heat pumps: Tj = -15°C Pdh Tj = operating limit For air-to-water heat pumps: Tj = -15°C Pdh Tj = operating limit For air-to-water heat pumps: Tj = -15°C Pdh Tj = operating limit For air-to-water heat pumps: Tj = -15°C Pdh Tj = 12°C Tj	I coefficient of performance or primmerature 20 °C and outdoor temperature 20 °C and outdoor 20 °C and outdo	ary energy raperature Tj COPd COPd	2.66 3.66 4.72 6.25 1.79 1.13	
indoor temperature Tj	mperature 20 °C and outdoor temp	COPd COPd COPd COPd COPd COPd COPd COPd	2.66 3.66 4.72 6.25 1.79 1.13	-
$Tj = 2^{\circ}C$ $Tj = 7^{\circ}C$ $Tj = 7^{\circ}C$ $Tj = 7^{\circ}C$ $Tj = 12^{\circ}C$ $Tj = 12^{\circ}C$ $Tj = 12^{\circ}C$ $Tj = bivalent temperature$ $Tj = operating limit$ Pdh 4.20 $Tj = biv$ $Tj = operating limit$ Pdh 4.20 KW $Tj = biv$ $Tj = operating limit$ Pdh 4.20 KW $Tj = operating limit$ $Tj =$	lent temperature rating limit p-water heat pumps: Tj = -15°C p-water heat pumps:	COPd COPd COPd COPd COPd COPd	3.66 4.72 6.25 1.79 1.13	-
$Tj = 7^{\circ}C$ $Tj = 7^{\circ}C$ $Tj = 12^{\circ}C$ $Tj = 12^{\circ}C$ $Tj = bivalent temperature$ Pdh $Tj = bivalent temperature$ $Tj = operating limit$ Pdh 4.20 $Even to water heat pumps: Tj = -15^{\circ}C$	rating limit p-water heat pumps: Tj = -15°C p-water heat pumps:	COPd COPd COPd COPd COPd	4.72 6.25 1.79 1.13	-
Tj = 12°C Pdh 3.33 kW Tj = 12°C Tj = bivalent temperature Pdh 8.94 kW Tj = biv Tj = operating limit Pdh 4.20 kW Tj = operating limit Pdh - kW For air-to-water heat pumps: Tj = -15°C P	rating limit p-water heat pumps: Tj = -15°C p-water heat pumps:	COPd COPd COPd	6.25 1.79 1.13	-
Tj = bivalent temperature Pdh 8.94 kW Tj = biv Tj = operating limit Pdh 4.20 kW Tj = operating limit Pdh 4.20 kW Tj = operating limit For air-to-water heat pumps: Tj = -15°C Pdh - kW For air-to-water temperature Tbiv -15 °C Cycling interval capacity for heating Peych Degradation co-efficient (**) Cdh 0.9 Heating Power consumption in modes other than active mode Off mode Poff 0.020 kW Standby mode Psb 0.020 kW	rating limit p-water heat pumps: Tj = -15°C p-water heat pumps:	COPd COPd	1.79 1.13	-
Tj = operating limit Pdh 4.20 kW Tj = operating limit Pdh 4.20 kW Tj = operating limit For air-to-water heat pumps: Tj = -15°C Pdh - kW For air-to-water heat pumps: Tj = -15°C Pdh - kW For air-to-water heat pumps: Tj = -15°C Cycling interval capacity for heating Peych Cycling interval capacity for heating Peych Cdh 0.9 Heating Suppler Off mode Poff 0.020 kW Standby mode Psb 0.020 kW	rating limit p-water heat pumps: Tj = -15°C p-water heat pumps:	COPd COPd	1.13	-
For air-to-water heat pumps: Tj = -15°C Pdh - kW Bivalent temperature Tbiv -15 °C Cycling interval capacity for heating Pcych - kW Degradation co-efficient (**) Cdh 0.9 Power consumption in modes other than active mode Off mode Poff 0.020 kW Standby mode Psb 0.020 kW	p-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature Total -15 Cycling interval capacity for heating Degradation co-efficient (**) Cycling interval capacity for heating Degradation co-efficient (**) Cycling Heating Suppler Off mode Poff 0.020 KW Standby mode Psb 0.020 KW	o-water heat pumps:			
Cycling interval capacity for heating Pcych - kW Cycling Degradation co-efficient (**) Cdh 0.9 Heating Power consumption in modes other than active mode Off mode Poff 0.020 kW Standby mode Psb 0.020 kW		TOL	22	
Degradation co-efficient (**) Power consumption in modes other than active mode Off mode Poff Post O.020 KW Standby mode Psb O.020 KW			-22	°C
Power consumption in modes other than active mode Off mode Poff 0.020 kW Standby mode Psb 0.020 kW	interval efficiency	COPcyc	-	-
Off mode Poff 0.020 kW Standby mode Psb 0.020 kW	water operating limit temperature	WTOL	51	°C
Standby mode Psb 0.020 kW	nentary heater			
Standby mode Psb 0.020 kW	eat output (**)	Psup	0.00	
Thermostat-off mode Pto 0.030 kW	ear output ()	rsup	6.80	kW
	energy input	Electrical		
Crankcase heater mode Pck 0.000 kW				
Other items				
	o-water heat pumps: r flow rate, outdoors	-	4060	m³/h
Rated b	er-or brine-to-water heat pumps: ine or water flow rate, outdoor	-	-	m ³ /h
Annual energy consumption Q _{HE} 8867 kWh heat ex-	hanger			
For heat pump combination heater:				
Declared load profile - Water h	eating energy efficiency	$\eta_{\sf vh}$	-	%
Daily electricity consumption Q _{clec} - kWh Daily fu	el consumption	Q _{fuel}	-	kW
Annual electricity consumption AEC - kWh Annual	fuel consumption	AFC	-	GJ
Contact details KLIMA-THERM Sp. z o. o. ul. Ostrobramska 101A, 04-041 Warszawa, Pol	ska			

Model(s):				KHC-14RY3-B							
Air-to-water heat pump:			YES								
Water-to-water heat pump:			NO NO								
Brine-to-water heat pump:			NO								
Low-temperature heat pump:			NO								
Equipped with a supplementary heate	er:			NO							
Heat pump combination heater:				NO							
Declared climate condition:				WARMER							
Parameters are declared for medium	temperature	application	1.								
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 and outdoor temperature Tj	at indoor temp	oerature 20 °0		Declared coefficient of performance or primindoor temperature 20 °C and outdoor temp		tio for part lo	ad at				
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°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				
Power consumption in modes other than a	ctive mode			Supplementary heater							
Off mode	Poff	0.020	kW	Potod hoot output /**)	D	0.00					
Standby mode	Psb	0.020	kW	Rated heat output (**)	P _{sup}	0.66	kW				
Thermostat-off mode	Pto	0.030	kW	Type of energy input	Electrical						
Crankcase heater mode	Pck	0.000	kW	Type of oneigy input		Licotrical					
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	-	-	m³/h				
Annual energy consumption	Q _{HE}	4092	kWh	heat exchanger							
For heat pump combination heater:											
Declared load profile				Water heating energy efficiency	$\eta_{\sf vh}$	_	%				
Daily electricity consumption	Q _{clec}	_	kWh	Daily fuel consumption	Q _{fuel}	_	kW				
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ				
	KI INAA TUU	DM Cr		<u> </u>							
Contact details		ERM Sp. z o. (amska 101A. (szawa, Polska							

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

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	er:			NO						
Heat pump combination heater:				NO						
Declared climate condition:				AVERAGE						
Parameters are declared for medium-	temperature	application	l.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit			
Rated heat output (*)	Prated	13.0	kW	Seasonal space heating energy efficiency	ηs	133.2	%			
Declared capacity for heating for part load and outdoor temperature Tj	at indoor tem	perature 20 °C	;	Declared coefficient of performance or prim indoor temperature 20 °C and outdoor temperature 20		atio for part lo	ad at			
Tj = -7°C	Pdh	11.52	kW	Tj = -7°C	COPd	1.99	-			
Tj = 2℃	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℃	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	Pcych	-	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 a	ctive mode			Supplementary heater						
Off mode	Poff	0.020	kW	Rated heat output (**)	Psup	0.07	130/			
Standby mode	Psb	0.020	kW	Rated heat output ()	Psup	2.67	kW			
Thermostat-off mode	Pto	0.030	kW	Type of energy input		Electrical				
Crankcase heater mode	Pck	0.000	kW	, , , , , , , , , , , , , , , , , , ,		2.001.104				
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}	-/68	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor	-	-	m³/h			
Annual energy consumption	Q _{HE}	7896	kWh	heat exchanger						
For heat pump combination heater:										
Declared load profile		-		Water heating energy efficiency	$\eta_{\sf wh}$	-	%			
Daily electricity consumption	Q _{clec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWI			
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ			
Contact details		ERM Sp. z o. o amska 101A, (szawa, Polska						

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

Model(s):				KHC-16RY3-B							
Air-to-water heat pump:		YES									
Water-to-water heat pump:		NO NO									
Brine-to-water heat pump:			NO								
Low-temperature heat pump:				NO							
Equipped with a supplementary heat	er:			NO							
Heat pump combination heater:			NO NO								
Declared climate condition:				COLDER							
Parameters are declared for medium	-temperature	e application	1.								
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 and outdoor temperature Tj	at indoor tem	perature 20 °C		Declared coefficient of performance or primindoor temperature 20 °C and outdoor 20 °		atio for part lo	ad at				
Tj = -7℃	Pdh	7.64	kW	Tj = -7°C	COPd	2.65	-				
Tj = 2℃	Pdh	4.42	kW	Tj = 2℃	COPd	3.79	-				
Tj = 7℃	Pdh	2.97	kW	Tj = 7°C	COPd	4.81	-				
Tj = 12°C	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°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	Pcych	-	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 a	ctive mode			Supplementary heater							
Off mode	Poff	0.020	kW	Dated heat output (**\	Б	0.50					
Standby mode	Psb	0.020	kW	Rated heat output (**)	Psup	6.59	kW				
Thermostat-off mode	Pto	0.030	kW	Type of energy input	Electrical						
Crankcase heater mode	Pck	0.000	kW	Type of energy input							
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	-	-	m ³ /h				
Annual energy consumption	Q _{HE}	9310	kWh	heat exchanger							
For heat pump combination heater:											
Declared load profile		_		Water heating energy efficiency	$\eta_{ m wh}$	_	%				
Daily electricity consumption	Q _{clec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh				
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ				
	KLIMA-THE			•							

^(*) 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.

Model(s):				KHC-16RY3-B							
Air-to-water heat pump:				YES							
Water-to-water heat pump:			NO YES								
Brine-to-water heat pump:		NO NO									
Low-temperature heat pump:			NO NO								
Equipped with a supplementary heat	er:			NO							
Heat pump combination heater:				NO							
Declared climate condition:				WARMER							
Parameters are declared for medium	-temperature	application).								
	· ·	•••									
Item	Symbol	Value	Unit	Item	Symbol	Value	Un				
Rated heat output (*)	Prated	13.8	kW	Seasonal space heating energy efficiency	ηs	175.9	%				
Declared capacity for heating for part load and outdoor temperature Tj	at indoor temp	oerature 20 °C		Declared coefficient of performance or primindoor temperature 20 °C and outdoor 20 °		tio for part lo	ad at				
Tj = -7℃	Pdh	-	kW	Tj = -7℃	COPd	-	-				
Tj = 2℃	Pdh	13.38	kW	Tj = 2℃	COPd	2.29	-				
Tj = 7℃	Pdh	8.86	kW	Tj = 7℃	COPd	3.84	-				
Tj = 12℃	Pdh	4.06	kW	Tj = 12℃	COPd	5.86	-				
Tj = bivalent temperature	Pdh	8.86	kW	Tj = bivalent temperature	COPd	3.84	-				
Γj = operating limit	Pdh	13.38	kW	Tj = operating limit	COPd	2.29	-				
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	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				
Power consumption in modes other than a	ctive mode			Supplementary heater							
Off mode	Poff	0.014	kW	Rated heat output (**)	Psup	0.42	kV				
Standby mode	Psb	0.014	kW	Nated Heat Output ()	Fsup	0.42	KV				
Thermostat-off mode	Pto	0.029	kW	Type of energy input		Electrical					
Crankcase heater mode	Pck	0.000	kW	1 . 0 .							
Other items											
Capacity control		variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m ³ /l				
Sound power level, indoors/outdoors	L _{WA}	-	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor	-	-	m ³ /l				
Annual energy consumption	Q _{HE}	4116	kWh	heat exchanger							
For heat pump combination heater:											
Declared load profile		-		Water heating energy efficiency	$\eta_{\!\scriptscriptstyle{wh}}$	-	%				
Daily electricity consumption	Q _{clec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kW				
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	G				
Contact details		ERM Sp. z o. amska 101A,		rszawa, Polska							