

REGULATION (EU) N. 813/2013

Ecodesign requirements for space heaters

Air to water heat pumps, heating only

i-KI-MTD 0075t - 0151t

Heating Capacity Range 19,8 - 39,4 [kW] - (EN14511 VALUE)
Nominal Heating Capacity at Tdesignh Range 16,0 - 33,0 [kW]



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1. REGULATION (EU) N. 813/2013

1.1 Scope of the document

This document is compliant with the Commission Regulation (EU) N. 813/2013 regarding "REQUIREMENTS FOR PRODUCT INFORMATION" (Annex II, Point 5) and it is made by the required information set out of the Table 2, Annex II of the Regulation called "Information requirements for heat pump space heaters and heat pump combination heaters".

1.2 REGULATION (EU) N. 813/2013 description

The COMMISSION REGULATION (EU) N. 813/2013 of 2 August 2013, implementing Directive 2009/125/EC of the European Parliament and of the Council, establishes ecodesign requirements for the placing on the market and/or putting into service of space heaters and combination heaters with a rated heat output ≤ 400 kW, including those integrated in packages of space heater, temperature control and solar device or packages of combination heater, temperature control and solar device as defined in Article 2 of Commission Delegated Regulation (EU) N. 811/2013.

1.3 Climaveneta's declared data description

- Heat pump combination heater: heat pump space heater that is designed to also provide heat to deliver hot drinking.
- Low-temperature application: application where the heat pump space heater delivers its declared capacity for heating at an indoor heat exchanger outlet temperature of 35 °C.
- Medium-temperature application: application where the heat pump space heater or heat pump combination heater delivers its declared capacity for heating at an indoor heat exchanger outlet temperature of 55 °C.
- TdesignH: temperature at reference design conditions.
- PdesignH, Design load for heating: the rated heat output of a heat pump space heater or heat pump combination heater at the reference design temperature, whereby the design load for heating is equal to the part load for heating with outdoor temperature equal to reference design temperature, expressed in kW.
- Seasonal space heating energy efficiency (η_s): ratio between the space heating demand for a designated heating season, supplied by a heater and the annual energy consumption required to meet this demand, expressed in %.
- Seasonal space heating energy efficiency class: efficiency class determined on the basis of its seasonal space heating energy efficiency with a difference distribution between heaters and low temperature heat pumps.
- Low-temperature heat pump: heat pump space heater that is specifically designed for low-temperature application, and that cannot deliver heating water with an outlet temperature of 52 °C at an inlet dry (wet) bulb temperature of -7 °C (-8 °C) in the reference design conditions for average climate.
- Bivalent temperature: the outdoor temperature declared by the manufacturer for heating at which the declared capacity for heating equals the part load for heating and below which the declared capacity for heating requires supplementary capacity for heating to meet the part load for heating.
- Operation limit temperature: the outdoor temperature declared by the manufacturer for heating, below which the air-to-water heat pump space heater or air-to-water heat pump combination heater will not be able to deliver any heating capacity and the declared capacity for heating is equal to zero.
- Degradation coefficient: measure of efficiency loss due to cycling of heat pump space heaters or heat pump combination heaters.
- Off mode: a condition in which the heat pump space heater or heat pump combination heater is connected to the mains power source and is not providing any function.
- Thermostat-off mode: condition corresponding to the hours with no heating load and activated heating function, whereby the heating function is switched on but the heat pump space heater or heat pump combination heater is not operational.
- Standby mode: condition where the heater is connected to the mains power source, depends on energy input from the mains power source to work as intended and provides only the following functions, which may persist for an indefinite time: reactivation function, or reactivation function and only an indication of enabled reactivation function, and/or information or status display.
- Crankcase heater mode: condition in which a heating device is activated to avoid the refrigerant migrating to the compressor so as to limit the refrigerant concentration in oil when the compressor is started.
- Seasonal coefficient of performance (SCOP): the overall coefficient of performance of a heat pump heater representative of the designated heating season, calculated as the reference annual heating demand divided by the annual energy consumption.
- Supplementary capacity for heating: rated heat output of a supplementary heater that supplements the declared capacity for heating to meet the part load for heating, if the declared capacity for heating is less than the part load

for heating.

- Capacity control: ability of a heat pump space heater or heat pump combination heater to change its capacity by changing the volumetric flow rate of at least one of the fluids needed to operate the refrigeration cycle.
- Annual energy consumption: means the energy consumption required to meet the reference annual heating demand for a designated heating season.
- Sound power level LWA: the A-weighted sound power level, indoors and/or outdoors, expressed in dB.

2. CLIMAVENETA CONTENTS UNIT

2.1 Table index

Air to water heat pumps, heating only

i-KI-MTD 0075t - 0151t

Heating Capacity Range 19,8 - 39,4 [kW]

Nominal Heating Capacity at Tdesignh Range 16,0 - 33,0 [kW]

Units	Version	Size					Pag.
i-KI-MTD		0075t	0091t	0095t	0101t	0121t	5
		0135t	0151t				

i-KI-MTD /0075t			
Air-to-water heat pump:	yes / no		yes
Water-to-water heat pump:	yes / no		no
Brine-to-water heat pump:	yes / no		no
Low-temperature heat pump:	yes / no		yes
With supplementary heater:	yes / no		no
Mixed unit with heat pump:	yes / no		no
Temperature application (1)	(low 35°C/ medium 55°C)		low 35°C
Water flow rate	fixed / variable		fixed
Outlet temperature	fixed / variable		variable
Parameters are declared for average/warmer/colder climate conditions (1)	average / warmer / colder		average
Rated heat output at Tdesignh	Prated = Pdesignh	[kW]	16
Seasonal space heating energy efficiency	ηs	[%]	138
Seasonal space heating energy efficiency class	-	-	A+
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Declared capacity for heating with outdoor temperature Tj = - 7 °C	Pdh	[kW]	14,1
Declared capacity for heating with outdoor temperature Tj = +2 °C	Pdh	[kW]	8,59
Declared capacity for heating with outdoor temperature Tj = +7 °C	Pdh	[kW]	7,13
Declared capacity for heating with outdoor temperature Tj = +12 °C	Pdh	[kW]	8,11
Declared capacity for heating with outdoor temperature Tj = Bivalent temperature	Pdh	[kW]	14,1
Declared capacity for heating with outdoor temperature Tj = Operation limit temperature	Pdh	[kW]	13,3
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	Pdh	[kW]	-
Bivalent temperature	Tbiv	[°C]	-7
Degradation coefficient	Cdh	-	0,90
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Declared coefficient of performance with outdoor temperature Tj = - 7 °C	COPd	-	2,28
Declared coefficient of performance with outdoor temperature Tj = +2 °C	COPd	-	3,73
Declared coefficient of performance with outdoor temperature Tj = +7 °C	COPd	-	4,60
Declared coefficient of performance with outdoor temperature Tj = +12 °C	COPd	-	5,60
Declared coefficient of performance with outdoor temperature Tj = Bivalent temperature	COPd	-	2,28
Declared coefficient of performance with outdoor temperature Tj = Operation limit temperature	COPd	-	2,14
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
For air-to-water HP : Operation limit temperature	TOL	[°C]	-20
Heating water operating limit temperature at TOL	WTOL	[°C]	45
Power consumption in modes other than active mode			
Off mode	POFF	[kW]	0,000
Thermostat-off mode	PTO	[kW]	0,108
Standby mode	PSB	[kW]	0,060
Crankcase heater mode	PCK	[kW]	0,060
Supplementary heater			
Nominal heating capacity	Psup	[kW]	2,64
Other items			
Capacity control	fixed / variable		variable
Sound power level, indoors	LWA	[dB(A)]	-
Sound power level, outdoors	LWA	[dB(A)]	72
Annual electricity consumption for heating	QHE	[kW/h]	9349
Outdoor heat exchanger			
For air-to-water HP: Rated air flow rate, outdoors	Qairsorce	[m³/h]	7992
For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	Qwater/brine source	[m³/h]	-

(1) The parameters are declared for application at medium temperature, except in the case of low temperature heat pumps. For low temperature heat pumps, the parameters are declared for application at low temperature.

Unit in standard configuration/execution, without optional accessories.

i-KI-MTD /0091t			
Air-to-water heat pump:	yes / no		yes
Water-to-water heat pump:	yes / no		no
Brine-to-water heat pump:	yes / no		no
Low-temperature heat pump:	yes / no		yes
With supplementary heater:	yes / no		no
Mixed unit with heat pump:	yes / no		no
Temperature application (1)	(low 35°C/ medium 55°C)		low 35°C
Water flow rate	fixed / variable		fixed
Outlet temperature	fixed / variable		variable
Parameters are declared for average/warmer/colder climate conditions (1)	average / warmer / colder		average
Rated heat output at Tdesignh	Prated = Pdesignh	[kW]	23
Seasonal space heating energy efficiency	ηs	[%]	160
Seasonal space heating energy efficiency class	-	-	A++
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Declared capacity for heating with outdoor temperature Tj = - 7 °C	Pdh	[kW]	20,4
Declared capacity for heating with outdoor temperature Tj = +2 °C	Pdh	[kW]	12,4
Declared capacity for heating with outdoor temperature Tj = +7 °C	Pdh	[kW]	9,15
Declared capacity for heating with outdoor temperature Tj = +12 °C	Pdh	[kW]	10,4
Declared capacity for heating with outdoor temperature Tj = Bivalent temperature	Pdh	[kW]	20,4
Declared capacity for heating with outdoor temperature Tj = Operation limit temperature	Pdh	[kW]	19,3
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	Pdh	[kW]	-
Bivalent temperature	Tbiv	[°C]	-7
Degradation coefficient	Cdh	-	0,90
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Declared coefficient of performance with outdoor temperature Tj = - 7 °C	COPd	-	2,67
Declared coefficient of performance with outdoor temperature Tj = +2 °C	COPd	-	4,16
Declared coefficient of performance with outdoor temperature Tj = +7 °C	COPd	-	5,35
Declared coefficient of performance with outdoor temperature Tj = +12 °C	COPd	-	6,60
Declared coefficient of performance with outdoor temperature Tj = Bivalent temperature	COPd	-	2,67
Declared coefficient of performance with outdoor temperature Tj = Operation limit temperature	COPd	-	2,50
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
For air-to-water HP : Operation limit temperature	TOL	[°C]	-20
Heating water operating limit temperature at TOL	WTOL	[°C]	45
Power consumption in modes other than active mode			
Off mode	POFF	[kW]	0,000
Thermostat-off mode	PTO	[kW]	0,119
Standby mode	PSB	[kW]	0,060
Crankcase heater mode	PCK	[kW]	0,060
Supplementary heater			
Nominal heating capacity	Psup	[kW]	3,76
Other items			
Capacity control	fixed / variable		variable
Sound power level, indoors	LWA	[dB(A)]	-
Sound power level, outdoors	LWA	[dB(A)]	73
Annual electricity consumption for heating	QHE	[kW/h]	11740
Outdoor heat exchanger			
For air-to-water HP: Rated air flow rate, outdoors	Qairsorce	[m³/h]	11016
For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	Qwater/brine source	[m³/h]	-

(1) The parameters are declared for application at medium temperature, except in the case of low temperature heat pumps. For low temperature heat pumps, the parameters are declared for application at low temperature.

Unit in standard configuration/execution, without optional accessories.

i-KI-MTD /0095t			
Air-to-water heat pump:	yes / no		yes
Water-to-water heat pump:	yes / no		no
Brine-to-water heat pump:	yes / no		no
Low-temperature heat pump:	yes / no		yes
With supplementary heater:	yes / no		no
Mixed unit with heat pump:	yes / no		no
Temperature application (1)	(low 35°C/ medium 55°C)		low 35°C
Water flow rate	fixed / variable		fixed
Outlet temperature	fixed / variable		variable
Parameters are declared for average/warmer/colder climate conditions (1)	average / warmer / colder		average
Rated heat output at Tdesignh	Prated = Pdesignh	[kW]	25
Seasonal space heating energy efficiency	ηs	[%]	157
Seasonal space heating energy efficiency class	-	-	A++
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Declared capacity for heating with outdoor temperature Tj = - 7 °C	Pdh	[kW]	22,4
Declared capacity for heating with outdoor temperature Tj = +2 °C	Pdh	[kW]	13,6
Declared capacity for heating with outdoor temperature Tj = +7 °C	Pdh	[kW]	10,9
Declared capacity for heating with outdoor temperature Tj = +12 °C	Pdh	[kW]	12,5
Declared capacity for heating with outdoor temperature Tj = Bivalent temperature	Pdh	[kW]	22,4
Declared capacity for heating with outdoor temperature Tj = Operation limit temperature	Pdh	[kW]	21,4
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	Pdh	[kW]	-
Bivalent temperature	Tbiv	[°C]	-7
Degradation coefficient	Cdh	-	0,90
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Declared coefficient of performance with outdoor temperature Tj = - 7 °C	COPd	-	2,53
Declared coefficient of performance with outdoor temperature Tj = +2 °C	COPd	-	4,12
Declared coefficient of performance with outdoor temperature Tj = +7 °C	COPd	-	5,38
Declared coefficient of performance with outdoor temperature Tj = +12 °C	COPd	-	6,71
Declared coefficient of performance with outdoor temperature Tj = Bivalent temperature	COPd	-	2,53
Declared coefficient of performance with outdoor temperature Tj = Operation limit temperature	COPd	-	2,39
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
For air-to-water HP : Operation limit temperature	TOL	[°C]	-20
Heating water operating limit temperature at TOL	WTOL	[°C]	45
Power consumption in modes other than active mode			
Off mode	POFF	[kW]	0,000
Thermostat-off mode	PTO	[kW]	0,158
Standby mode	PSB	[kW]	0,060
Crankcase heater mode	PCK	[kW]	0,060
Supplementary heater			
Nominal heating capacity	Psup	[kW]	3,92
Other items			
Capacity control	fixed / variable		variable
Sound power level, indoors	LWA	[dB(A)]	-
Sound power level, outdoors	LWA	[dB(A)]	75
Annual electricity consumption for heating	QHE	[kW/h]	13026
Outdoor heat exchanger			
For air-to-water HP: Rated air flow rate, outdoors	Qairsorce	[m³/h]	11016
For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	Qwater/brine source	[m³/h]	-

(1) The parameters are declared for application at medium temperature, except in the case of low temperature heat pumps. For low temperature heat pumps, the parameters are declared for application at low temperature.

Unit in standard configuration/execution, without optional accessories.

i-KI-MTD /0101t			
Air-to-water heat pump:	yes / no		yes
Water-to-water heat pump:	yes / no		no
Brine-to-water heat pump:	yes / no		no
Low-temperature heat pump:	yes / no		yes
With supplementary heater:	yes / no		no
Mixed unit with heat pump:	yes / no		no
Temperature application (1)	(low 35°C/ medium 55°C)		low 35°C
Water flow rate	fixed / variable		fixed
Outlet temperature	fixed / variable		variable
Parameters are declared for average/warmer/colder climate conditions (1)	average / warmer / colder		average
Rated heat output at Tdesignh	Prated = Pdesignh	[kW]	27
Seasonal space heating energy efficiency	ηs	[%]	155
Seasonal space heating energy efficiency class	-	-	A++
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Declared capacity for heating with outdoor temperature Tj = - 7 °C	Pdh	[kW]	24,3
Declared capacity for heating with outdoor temperature Tj = +2 °C	Pdh	[kW]	14,8
Declared capacity for heating with outdoor temperature Tj = +7 °C	Pdh	[kW]	15,9
Declared capacity for heating with outdoor temperature Tj = +12 °C	Pdh	[kW]	18,1
Declared capacity for heating with outdoor temperature Tj = Bivalent temperature	Pdh	[kW]	24,3
Declared capacity for heating with outdoor temperature Tj = Operation limit temperature	Pdh	[kW]	23,2
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	Pdh	[kW]	-
Bivalent temperature	Tbiv	[°C]	-7
Degradation coefficient	Cdh	-	0,90
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Declared coefficient of performance with outdoor temperature Tj = - 7 °C	COPd	-	2,44
Declared coefficient of performance with outdoor temperature Tj = +2 °C	COPd	-	4,08
Declared coefficient of performance with outdoor temperature Tj = +7 °C	COPd	-	5,57
Declared coefficient of performance with outdoor temperature Tj = +12 °C	COPd	-	6,75
Declared coefficient of performance with outdoor temperature Tj = Bivalent temperature	COPd	-	2,44
Declared coefficient of performance with outdoor temperature Tj = Operation limit temperature	COPd	-	2,30
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
For air-to-water HP : Operation limit temperature	TOL	[°C]	-20
Heating water operating limit temperature at TOL	WTOL	[°C]	45
Power consumption in modes other than active mode			
Off mode	POFF	[kW]	0,000
Thermostat-off mode	PTO	[kW]	0,190
Standby mode	PSB	[kW]	0,060
Crankcase heater mode	PCK	[kW]	0,060
Supplementary heater			
Nominal heating capacity	Psup	[kW]	4,27
Other items			
Capacity control	fixed / variable		variable
Sound power level, indoors	LWA	[dB(A)]	-
Sound power level, outdoors	LWA	[dB(A)]	76
Annual electricity consumption for heating	QHE	[kW/h]	14399
Outdoor heat exchanger			
For air-to-water HP: Rated air flow rate, outdoors	Qairsorce	[m³/h]	11016
For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	Qwater/brine source	[m³/h]	-

(1) The parameters are declared for application at medium temperature, except in the case of low temperature heat pumps. For low temperature heat pumps, the parameters are declared for application at low temperature.

Unit in standard configuration/execution, without optional accessories.

i-KI-MTD /0121t			
Air-to-water heat pump:	yes / no		yes
Water-to-water heat pump:	yes / no		no
Brine-to-water heat pump:	yes / no		no
Low-temperature heat pump:	yes / no		yes
With supplementary heater:	yes / no		no
Mixed unit with heat pump:	yes / no		no
Temperature application (1)	(low 35°C/ medium 55°C)		low 35°C
Water flow rate	fixed / variable		fixed
Outlet temperature	fixed / variable		variable
Parameters are declared for average/warmer/colder climate conditions (1)	average / warmer / colder		average
Rated heat output at Tdesignh	Prated = Pdesignh	[kW]	26
Seasonal space heating energy efficiency	ηs	[%]	161
Seasonal space heating energy efficiency class	-	-	A++
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Declared capacity for heating with outdoor temperature Tj = - 7 °C	Pdh	[kW]	22,9
Declared capacity for heating with outdoor temperature Tj = +2 °C	Pdh	[kW]	14,0
Declared capacity for heating with outdoor temperature Tj = +7 °C	Pdh	[kW]	10,1
Declared capacity for heating with outdoor temperature Tj = +12 °C	Pdh	[kW]	11,6
Declared capacity for heating with outdoor temperature Tj = Bivalent temperature	Pdh	[kW]	22,9
Declared capacity for heating with outdoor temperature Tj = Operation limit temperature	Pdh	[kW]	21,1
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	Pdh	[kW]	-
Bivalent temperature	Tbiv	[°C]	-7
Degradation coefficient	Cdh	-	0,90
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Declared coefficient of performance with outdoor temperature Tj = - 7 °C	COPd	-	2,63
Declared coefficient of performance with outdoor temperature Tj = +2 °C	COPd	-	4,34
Declared coefficient of performance with outdoor temperature Tj = +7 °C	COPd	-	5,16
Declared coefficient of performance with outdoor temperature Tj = +12 °C	COPd	-	6,35
Declared coefficient of performance with outdoor temperature Tj = Bivalent temperature	COPd	-	2,63
Declared coefficient of performance with outdoor temperature Tj = Operation limit temperature	COPd	-	2,42
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
For air-to-water HP : Operation limit temperature	TOL	[°C]	-20
Heating water operating limit temperature at TOL	WTOL	[°C]	45
Power consumption in modes other than active mode			
Off mode	POFF	[kW]	0,000
Thermostat-off mode	PTO	[kW]	0,121
Standby mode	PSB	[kW]	0,060
Crankcase heater mode	PCK	[kW]	0,060
Supplementary heater			
Nominal heating capacity	Psup	[kW]	4,79
Other items			
Capacity control	fixed / variable		variable
Sound power level, indoors	LWA	[dB(A)]	-
Sound power level, outdoors	LWA	[dB(A)]	77
Annual electricity consumption for heating	QHE	[kW/h]	13063
Outdoor heat exchanger			
For air-to-water HP: Rated air flow rate, outdoors	Qairsorce	[m³/h]	15984
For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	Qwater/brine source	[m³/h]	-

(1) The parameters are declared for application at medium temperature, except in the case of low temperature heat pumps. For low temperature heat pumps, the parameters are declared for application at low temperature.

Unit in standard configuration/execution, without optional accessories.

i-KI-MTD /0135t			
Air-to-water heat pump:	yes / no		yes
Water-to-water heat pump:	yes / no		no
Brine-to-water heat pump:	yes / no		no
Low-temperature heat pump:	yes / no		yes
With supplementary heater:	yes / no		no
Mixed unit with heat pump:	yes / no		no
Temperature application (1)	(low 35°C/ medium 55°C)		low 35°C
Water flow rate	fixed / variable		fixed
Outlet temperature	fixed / variable		variable
Parameters are declared for average/warmer/colder climate conditions (1)	average / warmer / colder		average
Rated heat output at Tdesignh	Prated = Pdesignh	[kW]	29
Seasonal space heating energy efficiency	ηs	[%]	161
Seasonal space heating energy efficiency class	-	-	A++
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Declared capacity for heating with outdoor temperature Tj = - 7 °C	Pdh	[kW]	25,2
Declared capacity for heating with outdoor temperature Tj = +2 °C	Pdh	[kW]	15,4
Declared capacity for heating with outdoor temperature Tj = +7 °C	Pdh	[kW]	12,2
Declared capacity for heating with outdoor temperature Tj = +12 °C	Pdh	[kW]	14,0
Declared capacity for heating with outdoor temperature Tj = Bivalent temperature	Pdh	[kW]	25,2
Declared capacity for heating with outdoor temperature Tj = Operation limit temperature	Pdh	[kW]	23,4
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	Pdh	[kW]	-
Bivalent temperature	Tbiv	[°C]	-7
Degradation coefficient	Cdh	-	0,90
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Declared coefficient of performance with outdoor temperature Tj = - 7 °C	COPd	-	2,58
Declared coefficient of performance with outdoor temperature Tj = +2 °C	COPd	-	4,28
Declared coefficient of performance with outdoor temperature Tj = +7 °C	COPd	-	5,38
Declared coefficient of performance with outdoor temperature Tj = +12 °C	COPd	-	6,69
Declared coefficient of performance with outdoor temperature Tj = Bivalent temperature	COPd	-	2,58
Declared coefficient of performance with outdoor temperature Tj = Operation limit temperature	COPd	-	2,39
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
For air-to-water HP : Operation limit temperature	TOL	[°C]	-20
Heating water operating limit temperature at TOL	WTOL	[°C]	45
Power consumption in modes other than active mode			
Off mode	POFF	[kW]	0,000
Thermostat-off mode	PTO	[kW]	0,149
Standby mode	PSB	[kW]	0,060
Crankcase heater mode	PCK	[kW]	0,060
Supplementary heater			
Nominal heating capacity	Psup	[kW]	5,09
Other items			
Capacity control	fixed / variable		variable
Sound power level, indoors	LWA	[dB(A)]	-
Sound power level, outdoors	LWA	[dB(A)]	78
Annual electricity consumption for heating	QHE	[kW/h]	14396
Outdoor heat exchanger			
For air-to-water HP: Rated air flow rate, outdoors	Qairsorce	[m³/h]	15984
For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	Qwater/brine source	[m³/h]	-

(1) The parameters are declared for application at medium temperature, except in the case of low temperature heat pumps. For low temperature heat pumps, the parameters are declared for application at low temperature.

Unit in standard configuration/execution, without optional accessories.

i-KI-MTD /0151t			
Air-to-water heat pump:	yes / no		yes
Water-to-water heat pump:	yes / no		no
Brine-to-water heat pump:	yes / no		no
Low-temperature heat pump:	yes / no		yes
With supplementary heater:	yes / no		no
Mixed unit with heat pump:	yes / no		no
Temperature application (1)	(low 35°C/ medium 55°C)		low 35°C
Water flow rate	fixed / variable		fixed
Outlet temperature	fixed / variable		variable
Parameters are declared for average/warmer/colder climate conditions (1)	average / warmer / colder		average
Rated heat output at Tdesignh	Prated = Pdesignh	[kW]	33
Seasonal space heating energy efficiency	ηs	[%]	169
Seasonal space heating energy efficiency class	-	-	A++
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Declared capacity for heating with outdoor temperature Tj = - 7 °C	Pdh	[kW]	28,8
Declared capacity for heating with outdoor temperature Tj = +2 °C	Pdh	[kW]	17,5
Declared capacity for heating with outdoor temperature Tj = +7 °C	Pdh	[kW]	19,3
Declared capacity for heating with outdoor temperature Tj = +12 °C	Pdh	[kW]	22,1
Declared capacity for heating with outdoor temperature Tj = Bivalent temperature	Pdh	[kW]	28,8
Declared capacity for heating with outdoor temperature Tj = Operation limit temperature	Pdh	[kW]	26,8
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	Pdh	[kW]	-
Bivalent temperature	Tbiv	[°C]	-7
Degradation coefficient	Cdh	-	0,90
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Declared coefficient of performance with outdoor temperature Tj = - 7 °C	COPd	-	2,65
Declared coefficient of performance with outdoor temperature Tj = +2 °C	COPd	-	4,49
Declared coefficient of performance with outdoor temperature Tj = +7 °C	COPd	-	6,02
Declared coefficient of performance with outdoor temperature Tj = +12 °C	COPd	-	7,38
Declared coefficient of performance with outdoor temperature Tj = Bivalent temperature	COPd	-	2,65
Declared coefficient of performance with outdoor temperature Tj = Operation limit temperature	COPd	-	2,42
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
For air-to-water HP : Operation limit temperature	TOL	[°C]	-20
Heating water operating limit temperature at TOL	WTOL	[°C]	45
Power consumption in modes other than active mode			
Off mode	POFF	[kW]	0,000
Thermostat-off mode	PTO	[kW]	0,181
Standby mode	PSB	[kW]	0,060
Crankcase heater mode	PCK	[kW]	0,060
Supplementary heater			
Nominal heating capacity	Psup	[kW]	5,75
Other items			
Capacity control	fixed / variable		variable
Sound power level, indoors	LWA	[dB(A)]	-
Sound power level, outdoors	LWA	[dB(A)]	78
Annual electricity consumption for heating	QHE	[kW/h]	15653
Outdoor heat exchanger			
For air-to-water HP: Rated air flow rate, outdoors	Qairsorce	[m³/h]	15984
For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	Qwater/brine source	[m³/h]	-

(1) The parameters are declared for application at medium temperature, except in the case of low temperature heat pumps. For low temperature heat pumps, the parameters are declared for application at low temperature.

Unit in standard configuration/execution, without optional accessories.

ENGLISH	ITALIANO	FRANCAISE	DEUTSCH	ESPAÑOL
Air-to-water heat pump:	Pompa di calore aria/ acqua:	Pompes à chaleur air-eau:	Luft-Wasser-Wärmepumpe:	Bomba de calor aire-agua:
Water-to-water heat pump:	Pompa di calore acqua/ acqua:	Pompes à chaleur eau-eau:	Wasser-Wasser-Wärmepumpe:	Bomba de calor agua-agua:
Brine-to-water heat pump:	Pompa di calore salamoia/ acqua:	Pompe à chaleur eau glycolée-eau:	Sole-Wasser-Wärmepumpe:	Bomba de calor salmuera-agua:
Low-temperature heat pump:	Pompa di calore a bassa temperatura:	Pompes à chaleur basse température:	Niedertemperatur-Wärmepumpe:	Bomba de calor de baja temperatura:
With supplementary heater:	Con riscaldatore supplementare:	Equipée d'un dispositif de chauffage d'appoint:	Mit Zusatzheizgerät:	Equipado con un calefactor complementario:
Mixed unit with heat pump:	Apparecchio misto a pompa di calore:	Dispositif de chauffage mixte par pompe à chaleur:	Kombiheizgerät mit Wärmepumpe:	Calefactor combinado con bomba de calor:
Temperature application	Temperatura applicazione	Application à température	Temperatur Anwendung	Aplicación de temperatura
Water flow rate	Portata d'acqua	Débit fluide	Volumenstrom Wasser	Caudal agua
Outlet temperature	Temperatura di uscita	Température de sortie	Austrittstemperatur	Temperatura de salida
Parameters are declared for average/warmer/colder climate conditions	I parametri sono dichiarati per condizioni climatiche medie/ alte/ basse	Les paramètres sont déclarés pour les conditions climatiques moyennes/chaud/basse	Die Parameter sind für eine Mitteltemperaturanwendung anzugeben	Los parámetros se indicarán para condiciones climáticas medias/ alta/ baja
Rated heat output at Tdesignh	Potenza termica nominale a Tdesign	Puissance thermique nominale Tdesign	Wärmenennleistung Tdesignh	Potencia calorífica nominal Tdesignh
Seasonal space heating energy efficiency	Efficienza energetica stagionale del riscaldamento d'ambiente	Efficacité énergétique saisonnière pour le chauffage des locaux	Jahreszeitbedingte Raumheizungs-Energieeffizienz	Eficiencia energética estacional de calefacción
Seasonal space heating energy efficiency class	Classe di efficienza energetica stagionale del riscaldamento d'ambiente	Efficacité énergétique saisonnière pour le chauffage des locaux	Jahreszeitbedingte Raumheizungs-Energieeffizienz	Eficiencia energética estacional de calefacción
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj	Capacità di riscaldamento dichiarata a carico parziale, con temperatura interna pari a 20 °C e temperatura esterna Tj	Puissance calorifique déclarée à charge partielle pour une température intérieure de 20 °C et une température extérieure Tj	Angegebene Leistung für Teillast bei Raumlufttemperatur 20 °C und Außenlufttemperatur Tj	Capacidad de calefacción declarada para una carga parcial a una temperatura interior de 20 °C y una temperatura exterior Tj
Declared capacity for heating with outdoor temperature Tj = - 7 °C	Capacità di riscaldamento con temperatura esterna Tj = - 7 °C	Puissance calorifique déclarée avec la température extérieure Tj = - 7 °C	Erklärt, Raumheizung mit Außenlufttemperatur Tj = - 7 °C	Capacidad de calefacción para una temperatura exterior Tj = - 7 °C
Declared capacity for heating with outdoor temperature Tj = +2 °C	Capacità di riscaldamento con temperatura esterna Tj = + 2 °C	Puissance calorifique déclarée avec la température extérieure Tj = + 2 °C	Erklärt, Raumheizung mit Außenlufttemperatur Tj = + 2 °C	Capacidad de calefacción para una temperatura exterior Tj = + 2 °C
Declared capacity for heating with outdoor temperature Tj = + 7 °C	Capacità di riscaldamento con temperatura esterna Tj = + 7 °C	Puissance calorifique déclarée avec la température extérieure Tj = + 7 °C	Erklärt, Raumheizung mit Außenlufttemperatur Tj = + 7 °C	Capacidad de calefacción para una temperatura exterior Tj = + 7 °C
Declared capacity for heating with outdoor temperature Tj = + 12 °C	Capacità di riscaldamento con temperatura esterna Tj = + 12 °C	Puissance calorifique déclarée avec la température extérieure Tj = + 12 °C	Erklärt, Raumheizung mit Außenlufttemperatur Tj = + 12 °C	Capacidad de calefacción para una temperatura exterior Tj = + 12 °C
Declared capacity for heating with outdoor temperature Tj = Bivalent temperature	Capacità di riscaldamento con temperatura esterna Tj = temperatura bivalente	Puissance calorifique déclarée avec la température extérieure Tj = Température bivalente	Erklärt, Raumheizung mit Außenlufttemperatur Tj = Bivalenttemperatur	Capacidad de calefacción para una temperatura exterior Tj = Temperatura bivalente
Declared capacity for heating with outdoor temperature Tj = Operation limit temperature	Capacità di riscaldamento con temperatura esterna Tj = temperatura limite di esercizio	Puissance calorifique déclarée avec la température extérieure Tj = Température maximale de service	Erklärt, Raumheizung mit Außenlufttemperatur Tj = Betriebsgrenzwert-Temperatur	Capacidad de calefacción para una temperatura exterior Tj = Temperatura limite de funcionamiento
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	Per le pompe di calore aria/ acqua: Tj = - 15 °C (se TOL < - 20 °C)	Pour les pompes à chaleur air-eau: Tj = - 15 °C (si TOL < - 20 °C)	Für Luft-Wasser-Wärmepumpen: Tj = - 15 °C (wenn TOL < - 20 °C)	Para bombas de calor aire-agua: Tj = - 15 °C (si TOL < - 20 °C)
Bivalent temperature	Temperatura bivalente	Température bivalente	Bivalenttemperatur	Temperatura bivalente
Degradation coefficient	Coefficiente di degradazione	Coefficient de dégradation	Minderungsfaktor	Coefficiente de degradación
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj	Coefficiente di prestazione dichiarato o indice di energia primaria per carico parziale, con temperatura interna pari a 20 °C e temperatura esterna Tj	Coefficient de performance déclaré ou coefficient sur énergie primaire déclaré à charge partielle pour une température intérieure de 20 °C et une température extérieure Tj	Angegebene Leistungszahl oder Heizzahl für Teillast bei Raumlufttemperatur 20 °C und Außenlufttemperatur Tj	Coefficiente de rendimiento declarado o factor energético primario para una carga parcial a una temperatura interior de 20 °C y una temperatura exterior Tj
Declared coefficient of performance with outdoor temperature Tj = - 7 °C	Coefficiente di prestazione con temperatura esterna Tj = - 7 °C	Coefficient de performance déclaré avec la température extérieure Tj = - 7 °C	Erklärten Leistungszahl bei Außenlufttemperatur Tj = - 7 °C	Capacidad de calefacción para una temperatura exterior Tj = - 7 °C
Declared coefficient of performance with outdoor temperature Tj = + 2 °C	Coefficiente di prestazione con temperatura esterna Tj = + 2 °C	Coefficient de performance déclaré avec la température extérieure Tj = + 2 °C	Erklärten Leistungszahl bei Außenlufttemperatur Tj = + 2 °C	Capacidad de calefacción para una temperatura exterior Tj = + 2 °C
Declared coefficient of performance with outdoor temperature Tj = + 7 °C	Coefficiente di prestazione con temperatura esterna Tj = + 7 °C	Coefficient de performance déclaré avec la température extérieure Tj = + 7 °C	Erklärten Leistungszahl bei Außenlufttemperatur Tj = + 7 °C	Capacidad de calefacción para una temperatura exterior Tj = + 7 °C
Declared coefficient of performance with outdoor temperature Tj = + 12 °C	Coefficiente di prestazione con temperatura esterna Tj = + 12 °C	Coefficient de performance déclaré avec la température extérieure Tj = + 12 °C	Erklärten Leistungszahl bei Außenlufttemperatur Tj = + 12 °C	Capacidad de calefacción para una temperatura exterior Tj = + 12 °C

ENGLISH	ITALIANO	FRANCAISE	DEUTSCH	ESPAÑOL
Declared coefficient of	Coefficiente di prestazione con	Coefficient de performance	Erklärten Leistungszahl bei	Capacidad de calefacción para
Declared coefficient of performance with outdoor temperature Tj = Operation limit temperature	Coefficiente di prestazione con temperatura esterna Tj = temperatura limite di esercizio	Coefficient de performance déclaré avec la température extérieure Tj = Température maximale de service	Erklärten Leistungszahl bei Außenlufttemperatur Tj = Betriebsgrenzwert-Temperatur	Capacidad de calefacción para una temperatura exterior Tj = Temperatura límite de funcionamiento
For air-to-water heat pumps: Tj = - 15 °C (if TOL < - 20 °C)	Per le pompe di calore aria/acqua: Tj = - 15 °C (se TOL < - 20 °C)	Pour les pompes à chaleur air-eau: Tj = - 15 °C (si TOL < - 20 °C)	Für Luft-Wasser-Wärmepumpen: Tj = - 15 °C (wenn TOL < - 20 °C)	Para bombas de calor aire-agua: Tj = - 15 °C (si TOL < - 20 °C)
For air-to-water HP : Operation limit temperature	Per le pompe di calore aria/acqua: temperatura limite di esercizio	Pour les pompes à chaleur air-eau: Température limite de fonctionnement	Für Luft-Wasser-Wärmepumpen: Betriebsgrenzwert-Temperatur	Para bombas de calor aire-agua: Temperatura límite de funcionamiento
Heating water operating limit temperature	Temperatura limite di esercizio di riscaldamento dell'acqua	Température maximale de service de l'eau de chauffage	Grenzwert der Betriebstemperatur des Heizwassers	Temperatura límite de calentamiento de agua
Power consumption in modes other than active mode	Consumo energetico in modi diversi dal modo attivo	Consommation d'électricité dans les modes autres que le mode actif	Stromverbrauch in anderen Betriebsarten als dem Betriebszustand	Consumo de electricidad en modos distintos del activo
Off mode	Modo spento	Mode arrêt	Aus-Zustand	Modo desactivado
Thermostat-off mode	Modo termostato spento	Mode arrêt par thermostat	Thermostat-aus-Zustand	Modo desactivado por termostato
Standby mode	Modo stand-by	Mode veille	Bereitschaftszustand	Modo de espera
Crankcase heater mode	Modo riscaldamento del carter	Mode résistance de carter active	Betriebszustand mit Kurbelgehäuseheizung	Modo riscaldamento del carter
Supplementary heater	Riscaldatore supplementare	Dispositif de chauffage d'appoint	Zusatzheizgerät	Calefactor complementario
Nominal heating capacity	Potenza termica nominale	Puissance thermique nominale	Heizleistung nominal	Potencia térmica nominal
Other items	Altri elementi	Autres caractéristiques	Sonstige Elemente	Otros elementos
Capacity control	Controllo della capacità	Régulation de la puissance	Leistungssteuerung	Control de capacidad
Sound power level, indoors	Livello della potenza sonora, all'interno	Niveau de puissance acoustique, à l'intérieur	Schalleistungspegel, innen	Nivel de potencia acústica (interior)
Sound power level, outdoors	Livello della potenza sonora, all'esterno	Niveau de puissance acoustique, à l'extérieur	Schalleistungspegel, außen	Nivel de potencia acústica (exterior)
Annual electricity consumption for heating	Consumo di elettricità annuale per il riscaldamento	Consommation annuelle d'électricité pour le chauffage	Jahresstromverbrauch für die Heizung	Consumo anual de electricidad para la calefacción
Outdoor heat exchanger	Scambiatore di calore esterno	Echangeur de chaleur externe	Wärmetauscher äußere	Intercambiador de calor (exterior)
For air-to-water HP: Rated air flow rate, outdoors	Per le pompe di calore aria/acqua: portata d'aria, all'esterno	Pour les pompes à chaleur air-eau: débit d'air nominal, à l'extérieur	Für Luft-Wasser-Wärmepumpen: Nenn-Luftdurchsatz, außen	Para bombas de calor aire-agua: Caudal de aire nominal (exterior)
For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	Per le pompe di calore acqua/acqua e salamoia/acqua: flusso di salamoia o acqua nominale, scambiatore di calore all'esterno	Pour les pompes à chaleur eau-eau ou eau glycolée-eau: débit nominal d'eau glycolée ou d'eau, échangeur thermique extérieur	Für Wasser/Sole-Wasser-Wärmepumpen/ Wasser- oder Sole-Nenndurchsatz	Para bombas de calor agua/salmuera a agua: Caudal de salmuera o de agua nominal, intercambiador de calor de exterior
Notes:	Note:	Remarques:	Hinweise:	Notas:
The parameters are declared for application at medium temperature, except in the case of low temperature heat pumps. For low temperature heat pumps, the parameters are declared for application at low temperature.	I parametri sono dichiarati per l'applicazione a temperatura media, tranne per le pompe di calore a bassa temperatura. Per le pompe di calore a bassa temperatura, i parametri sono dichiarati per l'applicazione a bassa temperatura.	Les paramètres sont déclarés pour l'application à moyenne température, excepté pour les pompes à chaleur basse température. Pour les pompes à chaleur basse température, les paramètres sont déclarés pour l'application à basse température.	Die Parameter sind für eine Mitteltemperaturanwendung anzugeben, außer für Niedertemperatur-Wärmepumpen. Für Niedertemperatur-Wärmepumpen sind die Parameter für eine Niedertemperaturanwendung anzugeben.	Los parámetros se declararán para aplicaciones de media temperatura, excepto si se trata de bombas de calor de baja temperatura. En el caso de las bombas de calor de baja temperatura, los parámetros se declararán para aplicaciones de baja temperatura.
Unit in standard configuration/execution, without optional accessories.	Unità in configurazione ed esecuzione standard, priva di accessori opzionali.	Unité en configuration et exécution standard, sans accessoires optionnels.	Gerät mit Standard-Konfiguration und -Ausführung, ohne wunschweises Zubehör.	Unidad en configuración y ejecución estándar, sin accesorios opcionales.

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