Subtype ETHER DUO 110 T - ETHER 110 T

Certificate Holder	Energy Efficiency Technologies
Address	157 Boulevard Victor Hugo
ZIP	92110
City	Clichy
Country	FR
Certification Body	ICIM S.p.A.
Subtype title	ETHER DUO 110 T - ETHER 110 T
Registration number	ICIM-PDC-000140
Heat Pump Type	Outdoor Air/Water
Refrigerant	R410A
Mass of Refrigerant	4.3 kg
Certification Date	21.03.2022

Model ETHER 110 T	
Model name	ETHER 110 T
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data	
Power supply	3x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	10.60 kW	9.55 kW
El input	2.06 kW	3.02 kW
COP	5.15	3.17

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	62 dB(A)	62 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
Pdesignh	12.29 kW	11.54 kW
ηs	187 %	135 %
Prated	12.29 kW	11.54 kW
SCOP	4.74	3.46
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.87 kW	10.21 kW
COP Tj = -7°C	3.21	2.32
Pdh Tj = +2°C	6.67 kW	6.21 kW
COP Tj = +2°C	4.52	3.32
Pdh Tj = +7°C	4.33 kW	3.99 kW
COP Tj = +7°C	6.12	4.38
Pdh Tj = 12°C	4.42 kW	4.27 kW

COP Tj = 12°C	9.15	6.59
Pdh Tj = Tbiv	10.87 kW	10.21 kW
COP Tj = Tbiv	3.21	2.32
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.08 kW	10.36 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	1.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	18 W	18 W
PTO	19 W	19 W
PSB	18 W	18 W
PCK	18 W	18 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.08 kW	1.18 kW
Annual energy consumption Qhe	5358 kWh	6891 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	62 dB(A)	62 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
Pdesignh	17.91 kW	17.01 kW
ηs	149 %	112 %
Prated	17.91 kW	17.01 kW
SCOP	3.80	2.87
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	10.84 kW	10.30 kW
COP Tj = -7°C	3.45	2.71
Pdh Tj = +2°C	6.59 kW	6.21 kW
COP Tj = +2°C	4.91	3.76
Pdh Tj = +7°C	4.37 kW	4.03 kW
COP Tj = +7°C	6.56	5.04
Pdh Tj = 12°C	4.42 kW	4.28 kW
COP Tj = 12°C	9.15	7.64
Pdh Tj = Tbiv	10.84 kW	10.30 kW
COP Tj = Tbiv	3.45	2.71
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.78 kW	4.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	18 W	18 W
PTO	19 W	19 W
PSB	18 W	18 W
PCK	18 W	18 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Qhe	11631 kWh	14593 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	62 dB(A)	62 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
Pdesignh	8.21 kW	7.46 kW
ηs	250 %	161 %
Prated	8.21 kW	7.46 kW
SCOP	6.33	4.09
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.21 kW	7.46 kW
COP Tj = +2°C	4.28	2.50
Pdh Tj = +7°C	5.36 kW	4.90 kW
COP Tj = +7°C	5.51	3.34
Pdh Tj = 12°C	4.39 kW	4.14 kW
COP Tj = 12°C	8.35	5.86
Pdh Tj = Tbiv	8.21 kW	7.46 kW
COP Tj = Tbiv	4.28	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.21 kW	7.46 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.28	2.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	18 W	18 W
PTO	19 W	19 W
PSB	18 W	18 W
PCK	18 W	18 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW

Annual energy consumption Qhe	1734 kWh	2436 kWh

Model ETHER DUO 110 T	
Model name	ETHER DUO 110 T
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data	
Power supply	3x230V 50Hz
Off-peak product	Yes

Outdoor Air/Water EN 16147 | Average Climate	
Declared load profile	XL
Efficiency ηDHW	106 %
COP	2.56
Heating up time	01:28 h:min
Standby power input	52.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	251 l

EN 16147 | Colder Climate	
Declared load profile	XL
Efficiency ηDHW	89 %
COP	2.15
Heating up time	01:49 h:min
Standby power input	57.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	250 l

EN 16147 | Warmer Climate	
Declared load profile	XL
Efficiency ηDHW	111 %
COP	2.70
Heating up time	01:16 h:min
Standby power input	39.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	248 l

EN 14511-4 | Heating	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	10.60 kW	9.55 kW
El input	2.06 kW	3.02 kW
COP	5.15	3.17

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	62 dB(A)	62 dB(A)

EN 14825 | Average Climate

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Pdh Tj = 12°C	4.42 kW	4.27 kW
COP Tj = 12°C	9.15	6.59
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COP Tj = Tbiv	3.21	2.32
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.08 kW	10.36 kW
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Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	18 W	18 W
PTO	19 W	19 W
PSB	18 W	18 W
PCK	18 W	18 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.08 kW	1.18 kW
Annual energy consumption Qhe	5358 kWh	6891 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature

Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	62 dB(A)	62 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
Pdesignh	17.91 kW	17.01 kW
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Tbiv	-7 °C	-7 °C
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Pdh Tj = +2°C	6.59 kW	6.21 kW
COP Tj = +2°C	4.91	3.76
Pdh Tj = +7°C	4.37 kW	4.03 kW
COP Tj = +7°C	6.56	5.04
Pdh Tj = 12°C	4.42 kW	4.28 kW
COP Tj = 12°C	9.15	7.64
Pdh Tj = Tbiv	10.84 kW	10.30 kW
COP Tj = Tbiv	3.45	2.71
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.78 kW	4.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	18 W	18 W
PTO	19 W	19 W
PSB	18 W	18 W
PCK	18 W	18 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Qhe	11631 kWh	14593 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	62 dB(A)	62 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
Pdesignh	8.21 kW	7.46 kW
ηs	250 %	161 %

Prated	8.21 kW	7.46 kW
SCOP	6.33	4.09
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.21 kW	7.46 kW
COP Tj = +2°C	4.28	2.50
Pdh Tj = +7°C	5.36 kW	4.90 kW
COP Tj = +7°C	5.51	3.34
Pdh Tj = 12°C	4.39 kW	4.14 kW
COP Tj = 12°C	8.35	5.86
Pdh Tj = Tbiv	8.21 kW	7.46 kW
COP Tj = Tbiv	4.28	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.21 kW	7.46 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.28	2.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	18 W	18 W
PTO	19 W	19 W
PSB	18 W	18 W
PCK	18 W	18 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1734 kWh	2436 kWh