

Subtype ETHER DUO 110 - ETHER 110

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 - ETHER 110
Registration number	ICIM-PDC-000139
Heat Pump Type	Outdoor Air/Water
Refrigerant	R410A
Mass of Refrigerant	4.3 kg
Certification Date	21.03.2022

Model ETHER 110		
Model name	ETHER 110	
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	1x230V 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
P _{designh}	12.29 kW	11.54 kW
η _s	187 %	135 %
P _{rated}	12.29 kW	11.54 kW
SCOP	4.74	3.46
T _{biv}	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P _{dh} T _j = -7°C	10.87 kW	10.21 kW
COP T _j = -7°C	3.21	2.32
P _{dh} T _j = +2°C	6.67 kW	6.21 kW
COP T _j = +2°C	4.52	3.32
P _{dh} T _j = +7°C	4.33 kW	3.99 kW
COP T _j = +7°C	6.12	4.38
P _{dh} T _j = 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
η_s	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 Q_{he}

1734 kWh

2436 kWh

Model ETHER DUO 110

Model name	ETHER DUO 110
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	1x230V 50Hz
Off-peak product	Yes

Outdoor Air/Water

EN 16147 | Average Climate

Declared load profile	XL
Efficiency η_{DHW}	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 η_{DHW}	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 η_{DHW}	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

	Low temperature	Medium temperature
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P _{dh} T _j = +2°C	6.67 kW	6.21 kW
COP T _j = +2°C	4.52	3.32
P _{dh} T _j = +7°C	4.33 kW	3.99 kW
COP T _j = +7°C	6.12	4.38
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COP T _j = T _{biv}	3.21	2.32
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	12.08 kW	10.36 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	2.80	1.82
C _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	0.90	0.90
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PTO	19 W	19 W
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Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.08 kW	1.18 kW
Annual energy consumption Q _{he}	5358 kWh	6891 kWh

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	Low temperature	Medium temperature
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EN 14825 | Warmer Climate

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η _s	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
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COP Tj = +7°C	5.51	3.34
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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