

Subtype ETHER DUO 90 - ETHER 90

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 90 - ETHER 90
Registration number	ICIM-PDC-000137
Heat Pump Type	Outdoor Air/Water
Refrigerant	R410A
Mass of Refrigerant	4.3 kg
Certification Date	21.03.2022

Model ETHER 90

Model name	ETHER 90
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	8.65 kW	7.67 kW
El input	1.65 kW	2.39 kW
COP	5.25	3.21

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	10.38 kW	9.38 kW
η_s	189 %	133 %
Prated	10.38 kW	9.38 kW
SCOP	4.80	3.40
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	9.18 kW	8.30 kW
COP Tj = -7°C	3.32	2.32
Pdh Tj = +2°C	5.60 kW	5.31 kW
COP Tj = +2°C	4.59	3.22
Pdh Tj = +7°C	3.64 kW	3.47 kW
COP Tj = +7°C	5.98	4.38
Pdh Tj = 12°C	4.44 kW	4.22 kW

COP Tj = 12°C	9.48	6.80
Pdh Tj = Tbiv	9.18 kW	8.30 kW
COP Tj = Tbiv	3.32	2.32
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.16 kW	9.73 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.78	1.73
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	1.22 kW	0.00 kW
Annual energy consumption Qhe	4468 kWh	5700 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	14.97 kW	13.72 kW
η_s	150 %	106 %
Prated	14.97 kW	13.72 kW
SCOP	3.84	2.73
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.06 kW	8.30 kW
COP Tj = -7°C	3.65	2.75
Pdh Tj = +2°C	5.53 kW	4.86 kW
COP Tj = +2°C	5.01	3.60
Pdh Tj = +7°C	3.71 kW	3.61 kW
COP Tj = +7°C	6.51	5.09
Pdh Tj = 12°C	4.44 kW	4.30 kW
COP Tj = 12°C	9.48	7.53
Pdh Tj = Tbiv	9.06 kW	8.30 kW
COP Tj = Tbiv	3.65	2.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.33 kW	2.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	0.54

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	9620 kWh	12389 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	6.86 kW	6.27 kW
η_s	245 %	153 %
Prated	6.86 kW	6.27 kW
SCOP	6.20	3.90
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.86 kW	6.27 kW
COP Tj = +2°C	4.10	2.45
Pdh Tj = +7°C	4.46 kW	4.05 kW
COP Tj = +7°C	5.44	3.19
Pdh Tj = 12°C	4.36 kW	4.11 kW
COP Tj = 12°C	8.44	5.72
Pdh Tj = Tbiv	6.86 kW	6.27 kW
COP Tj = Tbiv	4.10	2.45
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.86 kW	6.27 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.10	2.45
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

1477 kWh

2149 kWh

Model ETHER DUO 90

Model name	ETHER DUO 90
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	8.65 kW	7.67 kW
El input	1.65 kW	2.39 kW
COP	5.25	3.21

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	10.38 kW	9.38 kW
η_s	189 %	133 %
Prated	10.38 kW	9.38 kW
SCOP	4.80	3.40
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	9.18 kW	8.30 kW
COP Tj = -7°C	3.32	2.32
Pdh Tj = +2°C	5.60 kW	5.31 kW
COP Tj = +2°C	4.59	3.22
Pdh Tj = +7°C	3.64 kW	3.47 kW
COP Tj = +7°C	5.98	4.38
Pdh Tj = 12°C	4.44 kW	4.22 kW
COP Tj = 12°C	9.48	6.80
Pdh Tj = Tbiv	9.18 kW	8.30 kW
COP Tj = Tbiv	3.32	2.32
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.16 kW	9.73 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.78	1.73
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	1.22 kW	0.00 kW
Annual energy consumption Qhe	4468 kWh	5700 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	14.97 kW	13.72 kW
η_s	150 %	106 %
Prated	14.97 kW	13.72 kW
SCOP	3.84	2.73
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.06 kW	8.30 kW
COP Tj = -7°C	3.65	2.75
Pdh Tj = +2°C	5.53 kW	4.86 kW
COP Tj = +2°C	5.01	3.60
Pdh Tj = +7°C	3.71 kW	3.61 kW
COP Tj = +7°C	6.51	5.09
Pdh Tj = 12°C	4.44 kW	4.30 kW
COP Tj = 12°C	9.48	7.53
Pdh Tj = Tbiv	9.06 kW	8.30 kW
COP Tj = Tbiv	3.65	2.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.33 kW	2.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	0.54
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	9620 kWh	12389 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	6.86 kW	6.27 kW
η_s	245 %	153 %

Prated	6.86 kW	6.27 kW
SCOP	6.20	3.90
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.86 kW	6.27 kW
COP Tj = +2°C	4.10	2.45
Pdh Tj = +7°C	4.46 kW	4.05 kW
COP Tj = +7°C	5.44	3.19
Pdh Tj = 12°C	4.36 kW	4.11 kW
COP Tj = 12°C	8.44	5.72
Pdh Tj = Tbiv	6.86 kW	6.27 kW
COP Tj = Tbiv	4.10	2.45
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.86 kW	6.27 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.10	2.45
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	1477 kWh	2149 kWh