This information was generated by the HP KEYMARK database on 22 Aug 2023

Summary of	M thermal A series 4 6 kW	Reg. No.	041-K060-01
Certificate Holder			
Name	FHE France		
Address	266 rue Gaia	ZIP	66100
City	Perpignan	Country	France
Certification Body	BRE Global Limited		
Subtype title	M thermal A series 4 6 kW		
Heat Pump Type	Air extérieur/Eau		
Refrigerant	R32		
Mass of Refrigerant	1.5 kg		
Certification Date	22.08.2023		
Testing basis	Heat Pump KEYMARK certification Scheme rules v12		

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Model: Dynamic 4kW

Configure model	
Model name	Dynamic 4kW
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Puissance thermique	4.20 kW	4.40 kW
Puissance électrique absorbée	0.82 kW	1.49 kW
COP	5.10	2.95

EN 14511-4	
Coupure des débits des fluides caloporteurs	passed
Coupure complète de l'alimentation électrique	passed
Dégivrage	passed
Starting and operating test	passed

Warmer Climate

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EN 12102-1		
	Low temperature	**Medium temperature**
Puissance acoustique extérieure	55 dB(A)	55 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	254 %	162 %
Prated	5.54 kW	5.02 kW
SCOP	6.52	4.14
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.35 kW	4.84 kW
COP Tj = +2°C	3.94	2.51
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	3.56 kW	3.23 kW
COP Tj = +7°C	5.92	3.68
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	1.64 kW	1.47 kW
COP Tj = 12°C	7.91	5.15
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	3.56 kW	3.23 kW

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COP Tj = Tbiv	5.92	3.68
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.35 kW	4.84 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.94	2.51
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Chauffage d'appoint: type d'énergie utilisée	Electricity	Electricity
Chauffage d'appoint: P_{SUP}	0.19 kW	0.18 kW
Consommation annuelle d'électricité Q_{HE}	1152 kWh	1621 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Puissance acoustique extérieure	55 dB(A)	55 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	159 %	102 %
Prated	4.57 kW	3.37 kW

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SCOP	4.06	2.63
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	2.76 kW	2.14 kW
COP Tj = -7°C	3.49	2.32
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	1.77 kW	1.28 kW
COP Tj = +2°C	4.95	2.99
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	1.17 kW	1.01 kW
COP Tj = +7°C	5.53	3.86
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	1.43 kW	1.36 kW
COP Tj = 12°C	7.67	6.28
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	3.72 kW	2.75 kW
COP Tj = Tbiv	2.57	1.74
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.80 kW	1.64 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.97	1.02
WTOL	65 °C	65 °C
Poff	14 W	14 W

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PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Chauffage d'appoint: type d'énergie utilisée	Electricity	Electricity
Chauffage d'appoint: P_{SUP}	1.76 kW	1.73 kW
Consommation annuelle d'électricité Q_{HE}	2770 kWh	3159 kWh
Pdh Tj = -15°C (if TOL<-20°C)	3.72	2.75
COP Tj = -15°C (if TOL<-20°C)	2.57	1.74
Cdh Tj = -15 °C	0.90	0.90

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Puissance acoustique extérieure	55 dB(A)	55 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	191 %	130 %
Prated	5.52 kW	4.40 kW
SCOP	4.85	3.31
Tbiv	-7 °C	-7 °C

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TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.88 kW	3.89 kW
COP Tj = -7°C	3.19	2.17
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	3.06 kW	2.38 kW
COP Tj = +2°C	4.78	3.30
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	1.93 kW	2.95 kW
COP Tj = +7°C	6.13	4.41
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	1.48 kW	1.32 kW
COP Tj = 12°C	8.05	5.66
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	4.88 kW	3.89 kW
COP Tj = Tbiv	3.19	2.17
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.42 kW	3.42 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.86	1.91
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W

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PCK	0 W	0 W
Chauffage d'appoint: type d'énergie utilisée	Electricity	Electricity
Chauffage d'appoint: P_{SUP}	1.11 kW	0.98 kW
Consommation annuelle d'électricité Q_{HE}	2351 kWh	2744 kWh

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Model: Dynamic 6kW

Configure model	
Model name	Dynamic 6kW
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Puissance thermique	6.35 kW	6.00 kW
Puissance électrique absorbée	1.28 kW	2.03 kW
COP	4.95	2.95

EN 14511-4	
Coupure des débits des fluides caloporteurs	passed
Coupure complète de l'alimentation électrique	passed
Dégivrage	passed
Starting and operating test	passed

Warmer Climate

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EN 12102-1		
	Low temperature	**Medium temperature**
Puissance acoustique extérieure	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	258 %	165 %
Prated	6.12 kW	5.15 kW
SCOP	6.63	4.19
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.94 kW	5.03 kW
COP Tj = +2°C	3.91	2.48
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	3.93 kW	3.31 kW
COP Tj = +7°C	5.89	3.67
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	1.80 kW	1.60 kW
COP Tj = 12°C	8.20	5.29
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	3.93 kW	3.31 kW

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COP Tj = Tbiv	5.89	3.67
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.94 kW	5.03 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.91	2.48
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Chauffage d'appoint: type d'énergie utilisée	Electricity	Electricity
Chauffage d'appoint: P_{SUP}	0.18 kW	0.12 kW
Consommation annuelle d'électricité Q_{HE}	1251 kWh	1640 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Puissance acoustique extérieure	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	165 %	111 %
Prated	5.63 kW	4.26 kW

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SCOP	4.21	2.85
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	3.42 kW	2.70 kW
COP Tj = -7°C	3.59	2.46
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	2.06 kW	1.61 kW
COP Tj = +2°C	5.21	3.36
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	1.47 kW	1.02 kW
COP Tj = +7°C	6.24	3.94
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	1.44 kW	1.37 kW
COP Tj = 12°C	7.66	6.35
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	4.60 kW	3.48 kW
COP Tj = Tbiv	2.53	1.86
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.48 kW	2.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.96	1.13
WTOL	65 °C	65 °C
Poff	20 W	20 W

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PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Chauffage d'appoint: type d'énergie utilisée	Electricity	Electricity
Chauffage d'appoint: P_{SUP}	2.15 kW	2.16 kW
Consommation annuelle d'électricité Q_{HE}	3301 kWh	3681 kWh
Pdh Tj = -15°C (if TOL<-20°C)	4.60	3.48
COP Tj = -15°C (if TOL<-20°C)	2.53	1.86
Cdh Tj = -15 °C	0.90	0.90

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Puissance acoustique extérieure	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	195 %	138 %
Prated	6.82 kW	5.70 kW
SCOP	4.95	3.52
Tbiv	-7 °C	-7 °C

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TOL	-10 °C	-10 °C
Pdh Tj = -7°C	6.03 kW	5.05 kW
COP Tj = -7°C	3.09	2.17
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	3.88 kW	3.12 kW
COP Tj = +2°C	4.85	3.51
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	2.40 kW	2.09 kW
COP Tj = +7°C	6.63	4.54
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	1.39 kW	1.28 kW
COP Tj = 12°C	7.83	5.59
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	6.03 kW	5.05 kW
COP Tj = Tbiv	3.09	2.17
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.36 kW	4.52 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.76	1.91
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W

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PCK	0 W	0 W
Chauffage d'appoint: type d'énergie utilisée	Electricity	Electricity
Chauffage d'appoint: P_{SUP}	1.45 kW	1.18 kW
Consommation annuelle d'électricité Q_{HE}	2846 kWh	3345 kWh

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