CEN heat pump KEYMARK

Summary of	R32 monobloc 12 14 16 kW 1 phase & 3 phases		Reg. No.	011-1W0244
Certificate Holder				
Name	LG Electronics Inc.			
Address	84, Wanam-ro, seongsan-gu		Zip	51554
City	Changwon-si		Country	South Korea
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH			
Subtype title	R32 monobloc 12 14 16 kW 1 phase & 3 phases			
Heat Pump Type	Outdoor Air/Water			
Refrigerant	R32			
Mass of Refrigerant	2.4 kg			
Certification Date	04.04.2018			

Model: HM163M U33

Configure model	
Model name	HM163M U33
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	n/a
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	16.00 kW	12.00 kW
El input	3.64 kW	4.29 kW
COP	4.40	2.80

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Average Climate

CEN heat pump KEYMARK

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	dB(A)	dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	175 %	124 %
Prated	11.00 kW	12.00 kW
SCOP	4.45	3.18
Tbiv	-10 °C	-7 °C
TOL	-15 °C	-15 °C
Pdh Tj = -7°C	9.70 kW	10.60 kW
COP Tj = -7°C	2.90	1.93
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	5.90 kW	6.50 kW
COP Tj = +2°C	4.38	3.00
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	6.70 kW	6.30 kW
COP Tj = +7°C	6.24	4.80
Cdh Tj = +7 °C	0.90	0.90

Disclaimer: this document is a summary of the certified performance.
The authoritative source of this information is the heat pump certificate as executed by the certification body and the related technical data.

Pdh Tj = 12°C	8.10 kW	7.70 kW
COP Tj = 12°C	8.30	7.00
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	11.00 kW	10.60 kW
COP Tj = Tbiv	2.50	1.93
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.00 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.50	1.65
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	65 °C	65 °C
Poff	60 W	60 W
PTO	60 W	60 W
PSB	60 W	60 W
PCK	50 W	50 W
Supplementary Heater: Type of energy input	n/a	Electricity
Supplementary Heater: PSUP	0.00 kW	2.00 kW
Annual energy consumption Qhe	5103 kWh	7795 kWh

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Model: HM143M U33

Configure model	
Model name	HM143M U33
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	n/a
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	14.00 kW	12.00 kW
El input	3.11 kW	4.29 kW
COP	4.50	2.80

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Average Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	63 dB(A)	63 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	175 %	124 %
Prated	11.00 kW	12.00 kW
SCOP	4.45	3.18
Tbiv	-10 °C	-7 °C
TOL	-15 °C	-15 °C
Pdh Tj = -7°C	9.30 kW	10.60 kW
COP Tj = -7°C	2.90	1.93
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	5.70 kW	6.50 kW
COP Tj = +2°C	4.38	3.00
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	6.50 kW	6.30 kW
COP Tj = +7°C	6.24	4.80
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	7.70 kW	7.70 kW

COP Tj = 12°C	8.30	7.00
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	10.50 kW	10.60 kW
COP Tj = Tbiv	2.50	1.93
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.50 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.50	1.65
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	65 °C	65 °C
Poff	60 W	60 W
PTO	60 W	60 W
PSB	60 W	60 W
PCK	50 W	50 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.50 kW	2.00 kW
Annual energy consumption Qhe	4875 kWh	7795 kWh

Model: HM123M U33

Configure model	
Model name	HM123M U33
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	n/a
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	12.00 kW	12.00 kW
El input	2.61 kW	4.29 kW
COP	4.60	2.80

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Average Climate

CEN heat pump KEYMARK

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	63 dB(A)	63 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	175 %	124 %
Prated	10.00 kW	12.00 kW
SCOP	4.45	3.18
Tbiv	-10 °C	-7 °C
TOL	-15 °C	-15 °C
Pdh Tj = -7°C	8.80 kW	10.60 kW
COP Tj = -7°C	2.90	1.93
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	5.40 kW	6.50 kW
COP Tj = +2°C	4.38	3.00
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	6.10 kW	6.30 kW
COP Tj = +7°C	6.24	4.80
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	7.40 kW	7.70 kW

COP Tj = 12°C	8.30	7.00
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	10.00 kW	10.60 kW
COP Tj = Tbiv	2.50	1.93
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.00 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.50	1.65
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	65 °C	65 °C
Poff	60 W	60 W
PTO	60 W	60 W
PSB	60 W	60 W
PCK	50 W	50 W
Supplementary Heater: Type of energy input	n/a	Electricity
Supplementary Heater: PSUP	0.00 kW	2.00 kW
Annual energy consumption Qhe	4642 kWh	7795 kWh

Model: HM161M U33

Configure model	
Model name	HM161M U33
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	n/a
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	16.00 kW	12.00 kW
El input	3.64 kW	4.29 kW
COP	4.40	2.80

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Average Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	63 dB(A)	63 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	175 %	124 %
Prated	11.00 kW	12.00 kW
SCOP	4.45	3.18
Tbiv	-10 °C	-7 °C
TOL	-15 °C	-15 °C
Pdh Tj = -7°C	9.70 kW	10.60 kW
COP Tj = -7°C	2.90	1.93
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	5.90 kW	6.50 kW
COP Tj = +2°C	4.38	3.00
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	6.70 kW	6.30 kW
COP Tj = +7°C	6.24	4.80
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	8.10 kW	7.70 kW

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COP Tj = 12°C	8.30	7.00
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	11.00 kW	10.60 kW
COP Tj = Tbiv	2.50	1.93
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.00 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.50	1.65
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	65 °C	65 °C
Poff	60 W	60 W
PTO	60 W	60 W
PSB	60 W	60 W
PCK	50 W	50 W
Supplementary Heater: Type of energy input	n/a	Electricity
Supplementary Heater: PSUP	0.00 kW	2.00 kW
Annual energy consumption Qhe	5103 kWh	7795 kWh

CEN heat pump KEYMARK

Model: HM141M U33

Configure model	
Model name	HM141M U33
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	n/a
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	14.00 kW	12.00 kW
El input	3.11 kW	4.29 kW
COP	4.50	2.80

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Average Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	63 dB(A)	63 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	175 %	124 %
Prated	11.00 kW	12.00 kW
SCOP	4.45	3.18
Tbiv	-10 °C	-7 °C
TOL	-15 °C	-15 °C
Pdh Tj = -7°C	9.30 kW	10.60 kW
COP Tj = -7°C	2.90	1.93
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	5.70 kW	6.50 kW
COP Tj = +2°C	4.38	3.00
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	6.50 kW	6.30 kW
COP Tj = +7°C	6.24	4.80
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	7.70 kW	7.70 kW

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COP Tj = 12°C	8.30	7.00
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	10.50 kW	10.60 kW
COP Tj = Tbiv	2.50	1.93
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.50 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.50	1.65
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	65 °C	65 °C
Poff	60 W	60 W
PTO	60 W	60 W
PSB	60 W	60 W
PCK	50 W	50 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.50 kW	2.00 kW
Annual energy consumption Qhe	4875 kWh	7795 kWh

Model: HM121M U33

Configure model	
Model name	HM121M U33
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	n/a
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	12.00 kW	12.00 kW
El input	2.61 kW	4.29 kW
COP	4.60	2.80

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Average Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	63 dB(A)	63 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	175 %	124 %
Prated	10.00 kW	12.00 kW
SCOP	4.45	3.18
Tbiv	-10 °C	-7 °C
TOL	-15 °C	-15 °C
Pdh Tj = -7°C	8.80 kW	10.60 kW
COP Tj = -7°C	2.90	1.93
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	5.40 kW	6.50 kW
COP Tj = +2°C	4.38	3.00
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	6.10 kW	6.30 kW
COP Tj = +7°C	6.24	4.80
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	7.40 kW	7.70 kW

This information was generated by the HP KEYMARK database on 22 Jun 2022

COP Tj = 12°C	8.30	7.00
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	10.00 kW	10.60 kW
COP Tj = Tbiv	2.50	1.93
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.00 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.50	1.65
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	65 °C	65 °C
Poff	60 W	60 W
PTO	60 W	60 W
PSB	60 W	60 W
PCK	50 W	50 W
Supplementary Heater: Type of energy input	n/a	Electricity
Supplementary Heater: PSUP	0.00 kW	2.00 kW
Annual energy consumption Qhe	4642 kWh	7795 kWh