

**Login** 

Summary of	Scroll Split mid temperature 12 14 16 kW _1&3ph	Reg. No.	011-1W0190	
Certificate Holder	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	Scroll Split mid temperature 12 14 16 kW _1&3ph			
Heat Pump Type	Outdoor Air/Water			
Refrigerant	R410A			
Mass of Refrigerant	2.5 kg			
Certification Date	07.01.2020			
Testing basis	HP KEYMARK certification scheme rules V8			



## Model: HU161MA U33 / HN1616 NK3

Configure model		
Model name	HU161MA U33 / HN1616 NK3	
Application	Heating (medium temp)	
Units	Indoor + 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	3.76 kW	4.71 kW
СОР	4.26	2.55

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



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	179 %	130 %
Prated	10.00 kW	10.00 kW
SCOP	4.56	3.32
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.90 kW	8.80 kW
COP Tj = -7°C	3.00	1.93
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = $+2$ °C	5.40 kW	5.30 kW
COP Tj = +2°C	4.55	3.32
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = $+7^{\circ}$ C	3.60 kW	3.40 kW
COP Tj = +7°C	5.50	4.30
Cdh Tj = +7 °C	0.900	0.900



Pdh Tj = 12°C	4.20 kW	4.30 kW
COP Tj = 12°C	8.00	6.40
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	10.00 kW	9.90 kW
COP Tj = Tbiv	2.60	1.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.00 kW	9.90 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	1.70
WTOL	57 °C	57 °C
Poff	60 W	60 W
РТО	60 W	60 W
PSB	60 W	60 W
РСК	0 W	o w
Supplementary Heater: Type of energy input	n/a	Electricity
Supplementary Heater: PSUP	0.00 kW	0.10 kW
Annual energy consumption Qhe	4531 kWh	6157 kWh



## Model: HU141MA U33 / HN1616 NK3

Configure model		
Model name	HU141MA U33 / HN1616 NK3	
Application	Heating (medium temp)	
Units	Indoor + 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	11.50 kW
El input	3.15 kW	4.51 kW
СОР	4.45	2.55

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



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	182 %	132 %
Prated	10.00 kW	9.00 kW
SCOP	4.61	3.37
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.40 kW	8.00 kW
COP Tj = -7°C	3.00	1.98
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.10 kW	4.90 kW
COP Tj = +2°C	4.60	3.35
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.60 kW	3.20 kW
COP Tj = +7°C	5.60	4.36
Cdh Tj = +7 °C	0.900	0.900



Page 7 of 37

### This information was generated by the HP KEYMARK database on 18 Mar 2022

Pdh Tj = 12°C	4.40 kW	4.10 kW
COP Tj = 12°C	8.40	6.60
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.50 kW	9.00 kW
COP Tj = Tbiv	2.65	1.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.50 kW	9.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.65	1.72
WTOL	57 °C	57 °C
Poff	60 W	60 W
РТО	60 W	60 W
PSB	60 W	60 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	
Supplementary Heater: PSUP	0.50 kW	0.00 kW
Annual energy consumption Qhe	4254 kWh	5524 kWh



## Model: HU121MA U33 / HN1616 NK3

Configure model		
Model name	HU121MA U33 / HN1616 NK3	
Application	Heating (medium temp)	
Units	Indoor + 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	11.00 kW
El input	2.64 kW	4.31 kW
СОР	4.55	2.55

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



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	183 %	131 %
Prated	9.00 kW	9.00 kW
SCOP	4.65	3.36
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.00 kW	7.60 kW
COP Tj = -7°C	3.00	1.98
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.80 kW	4.70 kW
COP Tj = +2°C	4.65	3.35
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.70 kW	3.20 kW
COP Tj = +7°C	5.70	4.37
Cdh Tj = +7 °C	0.900	0.900



### Page 10 of 37

### This information was generated by the HP KEYMARK database on 18 Mar 2022

Pdh Tj = 12°C	4.50 kW	4.10 kW
COP Tj = 12°C	8.80	6.70
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.00 kW	8.50 kW
COP Tj = Tbiv	2.70	1.74
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.00 kW	8.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.70	1.74
WTOL	57 °C	57 °C
Poff	60 W	60 W
РТО	60 W	60 W
PSB	60 W	60 W
PCK	o w	o w
Supplementary Heater: Type of energy input	n/a	Electricity
Supplementary Heater: PSUP	0.00 kW	0.50 kW
Annual energy consumption Qhe	4000 kWh	5229 kWh



## Model: HU163MA U33 / HN1639 NK3

Configure model		
Model name	HU163MA U33 / HN1639 NK3	
Application	Heating (medium temp)	
Units	Indoor + 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	3.76 kW	4.71 kW		
СОР	4.26	2.55		

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



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	44 dB(A)	44 dB(A)	
Sound power level outdoor	65 dB(A)	65 dB(A)	

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	179 %	130 %
Prated	10.00 kW	10.00 kW
SCOP	4.56	3.32
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.90 kW	8.80 kW
COP Tj = -7°C	3.00	1.93
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = $+2$ °C	5.40 kW	5.30 kW
COP Tj = +2°C	4.55	3.32
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.60 kW	3.40 kW
COP Tj = +7°C	5.50	4.30
Cdh Tj = +7 °C	0.900	0.900



# $$\operatorname{\textit{Page}}\ 13$$ of 37 This information was generated by the HP KEYMARK database on 18 Mar 2022

Pdh Tj = 12°C	4.20 kW	4.30 kW
COP Tj = 12°C	8.00	6.40
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	10.00 kW	9.90 kW
COP Tj = Tbiv	2.60	1.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.00 kW	9.90 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	1.70
WTOL	57 °C	57 °C
Poff	60 W	60 W
РТО	60 W	60 W
PSB	60 W	60 W
PCK	o w	o w
Supplementary Heater: Type of energy input	n/a	Electricity
Supplementary Heater: PSUP	0.00 kW	0.10 kW
Annual energy consumption Qhe	4531 kWh	6157 kWh



## Model: HU143MA U33 / HN1639 NK3

Configure model		
Model name HU143MA U33 / HN1639 NK3		
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	n/a	
Reversibility		
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	11.50 kW		
El input	3.15 kW	4.51 kW		
СОР	4.45	2.55		

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



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	182 %	132 %
Prated	10.00 kW	9.00 kW
SCOP	4.61	3.37
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.40 kW	8.00 kW
COP Tj = -7°C	3.00	1.98
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.10 kW	4.90 kW
COP Tj = +2°C	4.60	3.35
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.60 kW	3.20 kW
COP Tj = +7°C	5.60	4.36
Cdh Tj = +7 °C	0.900	0.900



### Page 16 of 37

### This information was generated by the HP KEYMARK database on 18 Mar 2022

Pdh Tj = 12°C	4.40 kW	4.10 kW
COP Tj = 12°C	8.40	6.60
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.50 kW	9.00 kW
COP Tj = Tbiv	2.65	1.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.50 kW	9.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.65	1.72
WTOL	57 °C	57 °C
Poff	60 W	60 W
РТО	60 W	60 W
PSB	60 W	60 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	
Supplementary Heater: PSUP	0.50 kW	0.00 kW
Annual energy consumption Qhe	4254 kWh	5524 kWh



## Model: HU123MA U33 / HN1639 NK3

Configure model		
Model name HU123MA U33 / HN1639 NK3		
Application Heating (medium temp)		
Units Indoor + 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	11.00 kW	
El input	2.64 kW	4.31 kW	
СОР	4.55	2.55	

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



EN 12102-1			
Low temperature Medium temperature			
Sound power level indoor	44 dB(A)	44 dB(A)	
Sound power level outdoor	63 dB(A)	63 dB(A)	

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	183 %	131 %
Prated	9.00 kW	9.00 kW
SCOP	4.65	3.36
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.00 kW	7.60 kW
COP Tj = -7°C	3.00	1.98
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.80 kW	4.70 kW
COP Tj = +2°C	4.65	3.35
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.70 kW	3.20 kW
COP Tj = +7°C	5.70	4.37
Cdh Tj = +7 °C	0.900	0.900



### Page 19 of 37

### This information was generated by the HP KEYMARK database on 18 Mar 2022

Pdh Tj = 12°C	4.50 kW	4.10 kW
COP Tj = 12°C	8.80	6.70
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.00 kW	8.50 kW
COP Tj = Tbiv	2.70	1.74
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.00 kW	8.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.70	1.74
WTOL	57 °C	57 °C
Poff	60 W	60 W
РТО	60 W	60 W
PSB	60 W	60 W
PCK	o w	o w
Supplementary Heater: Type of energy input	n/a	Electricity
Supplementary Heater: PSUP	0.00 kW	0.50 kW
Annual energy consumption Qhe	4000 kWh	5229 kWh



## Model: HU161MA U33 / HN1616M NK5

Configure model		
Model name HU161MA U33 / HN1616M NK5		
Application Heating (medium temp)		
Units Indoor + 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	3.76 kW	4.71 kW	
СОР	4.26	2.55	

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



 $$\operatorname{\textit{Page}}\xspace$  21 of 37 This information was generated by the HP KEYMARK database on 18 Mar 2022

EN 12102-1			
Low temperature Medium temperature			
Sound power level indoor	44 dB(A)	44 dB(A)	
Sound power level outdoor	65 dB(A)	65 dB(A)	

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	179 %	130 %
Prated	10.00 kW	10.00 kW
SCOP	4.56	3.32
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.90 kW	8.80 kW
COP Tj = -7°C	3.00	1.93
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = $+2$ °C	5.40 kW	5.30 kW
COP Tj = +2°C	4.55	3.32
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.60 kW	3.40 kW
COP Tj = +7°C	5.50	4.30
Cdh Tj = +7 °C	0.900	0.900



# $$\operatorname{\textit{Page}}\xspace$ 22 of 37 This information was generated by the HP KEYMARK database on 18 Mar 2022

Pdh Tj = 12°C	4.20 kW	4.30 kW
COP Tj = 12°C	8.00	6.40
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	10.00 kW	9.90 kW
COP Tj = Tbiv	2.60	1.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.00 kW	9.90 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	1.70
WTOL	57 °C	57 °C
Poff	60 W	60 W
РТО	60 W	60 W
PSB	60 W	60 W
PCK	o w	o w
Supplementary Heater: Type of energy input	n/a	Electricity
Supplementary Heater: PSUP	0.00 kW	0.10 kW
Annual energy consumption Qhe	4531 kWh	6157 kWh



## Model: HU141MA U33 / HN1616M NK5

Configure model		
Model name HU141MA U33 / HN1616M NK5		
Application	Heating (medium temp)	
Units	Indoor + 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	11.50 kW
El input	3.15 kW	4.51 kW
СОР	4.45	2.55

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



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	182 %	132 %
Prated	10.00 kW	9.00 kW
SCOP	4.61	3.37
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.40 kW	8.00 kW
COP Tj = -7°C	3.00	1.98
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.10 kW	4.90 kW
COP Tj = +2°C	4.60	3.35
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.60 kW	3.20 kW
COP Tj = +7°C	5.60	4.36
Cdh Tj = +7 °C	0.900	0.900



### Page 25 of 37

### This information was generated by the HP KEYMARK database on 18 Mar 2022

Pdh Tj = 12°C	4.40 kW	4.10 kW
COP Tj = 12°C	8.40	6.60
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.50 kW	9.00 kW
COP Tj = Tbiv	2.65	1.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.50 kW	9.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.65	1.72
WTOL	57 °C	57 °C
Poff	60 W	60 W
РТО	60 W	60 W
PSB	60 W	60 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	
Supplementary Heater: PSUP	0.50 kW	0.00 kW
Annual energy consumption Qhe	4254 kWh	5524 kWh



## Model: HU121MA U33 / HN1616M NK5

Configure model		
Model name HU121MA U33 / HN1616M NK5		
Application	Heating (medium temp)	
Units	Indoor + 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	11.00 kW
El input	2.64 kW	4.31 kW
СОР	4.55	2.55

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



 $$\operatorname{\textit{Page}}\xspace$  27 of 37 This information was generated by the HP KEYMARK database on 18 Mar 2022

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

EN 14825		
Low temperature	Medium temperature	
183 %	131 %	
9.00 kW	9.00 kW	
4.65	3.36	
-10 °C	-10 °C	
-10 °C	-10 °C	
8.00 kW	7.60 kW	
3.00	1.98	
0.900	0.900	
4.80 kW	4.70 kW	
4.65	3.35	
0.900	0.900	
3.70 kW	3.20 kW	
5.70	4.37	
0.900	0.900	
	Low temperature  183 %  9.00 kW  4.65  -10 °C  -10 °C  8.00 kW  3.00  0.900  4.80 kW  4.65  0.900  3.70 kW  5.70	



# $$\operatorname{\textit{Page}}\xspace$ 28 of 37 This information was generated by the HP KEYMARK database on 18 Mar 2022

Pdh Tj = 12°C	4.50 kW	4.10 kW
COP Tj = 12°C	8.80	6.70
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.00 kW	8.50 kW
COP Tj = Tbiv	2.70	1.74
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.00 kW	8.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.70	1.74
WTOL	57 °C	57 °C
Poff	60 W	60 W
РТО	60 W	60 W
PSB	60 W	60 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	n/a	Electricity
Supplementary Heater: PSUP	0.00 kW	0.50 kW
Annual energy consumption Qhe	4000 kWh	5229 kWh



## Model: HU163MA U33 / HN1636M NK5

Configure model		
Model name	HU163MA U33 / HN1636M NK5	
Application	Heating (medium temp)	
Units	Indoor + 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	3.76 kW	4.71 kW
СОР	4.26	2.55

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



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	179 %	130 %
Prated	10.00 kW	10.00 kW
SCOP	4.56	3.32
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = $-7^{\circ}$ C	8.90 kW	8.80 kW
COP Tj = $-7^{\circ}$ C	3.00	1.93
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = $+2$ °C	5.40 kW	5.30 kW
$COPTj = +2^{\circ}C$	4.55	3.32
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = $+7^{\circ}$ C	3.60 kW	3.40 kW
COP Tj = +7°C	5.50	4.30
Cdh Tj = +7 °C	0.900	0.900



# $$\operatorname{\textit{Page}}\ 31$$ of 37 This information was generated by the HP KEYMARK database on 18 Mar 2022

Pdh Tj = 12°C	4.20 kW	4.30 kW
COP Tj = 12°C	8.00	6.40
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	10.00 kW	9.90 kW
COP Tj = Tbiv	2.60	1.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.00 kW	9.90 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	1.70
WTOL	57 °C	57 °C
Poff	60 W	60 W
РТО	60 W	60 W
PSB	60 W	60 W
PCK	o w	o w
Supplementary Heater: Type of energy input	n/a	Electricity
Supplementary Heater: PSUP	0.00 kW	0.10 kW
Annual energy consumption Qhe	4531 kWh	6157 kWh



## Model: HU143MA U33 / HN1636M NK5

Configure model		
Model name	HU143MA U33 / HN1636M NK5	
Application	Heating (medium temp)	
Units	Indoor + 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	11.50 kW
El input	3.15 kW	4.51 kW
СОР	4.45	2.55

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



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	182 %	132 %
Prated	10.00 kW	9.00 kW
SCOP	4.61	3.37
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.40 kW	8.00 kW
COP Tj = -7°C	3.00	1.98
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.10 kW	4.90 kW
COP Tj = +2°C	4.60	3.35
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.60 kW	3.20 kW
COP Tj = +7°C	5.60	4.36
Cdh Tj = +7 °C	0.900	0.900



### Page 34 of 37

### This information was generated by the HP KEYMARK database on 18 Mar 2022

Pdh Tj = 12°C	4.40 kW	4.10 kW
COP Tj = 12°C	8.40	6.60
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.50 kW	9.00 kW
COP Tj = Tbiv	2.65	1.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.50 kW	9.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.65	1.72
WTOL	57 °C	57 °C
Poff	60 W	60 W
РТО	60 W	60 W
PSB	60 W	60 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	
Supplementary Heater: PSUP	0.50 kW	0.00 kW
Annual energy consumption Qhe	4254 kWh	5524 kWh



## Model: HU123MA U33 / HN1636M NK5

Configure model		
Model name	HU123MA U33 / HN1636M NK5	
Application	Heating (medium temp)	
Units	Indoor + 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	11.00 kW
El input	2.64 kW	4.31 kW
СОР	4.55	2.55

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



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	183 %	131 %
Prated	9.00 kW	9.00 kW
SCOP	4.65	3.36
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.00 kW	7.60 kW
COP Tj = -7°C	3.00	1.98
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.80 kW	4.70 kW
COP Tj = +2°C	4.65	3.35
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.70 kW	3.20 kW
COP Tj = +7°C	5.70	4.37
Cdh Tj = +7 °C	0.900	0.900



# $$\operatorname{\textit{Page}}\xspace$ 37 of 37 This information was generated by the HP KEYMARK database on 18 Mar 2022

4.50 kW	4.10 kW
8.80	6.70
0.900	0.900
9.00 kW	8.50 kW
2.70	1.74
9.00 kW	8.50 kW
2.70	1.74
57 °C	57 °C
60 W	60 W
60 W	60 W
60 W	60 W
0 W	0 W
n/a	Electricity
0.00 kW	0.50 kW
4000 kWh	5229 kWh
	8.80  0.900  9.00 kW  2.70  9.00 kW  2.70  57 °C  60 W  60 W  0 W  n/a  0.00 kW