

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

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| | | | |
|---------------------|--|----------|-------------|
| Summary of | split mid temperature 12 14 16 kW 1 phase and 3 phases | Reg. No. | 011-1W0253 |
| 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 | split mid temperature 12 14 16 kW 1 phase and 3 phases | | |
| Heat Pump Type | Outdoor Air/Water | | |
| Refrigerant | R410A | | |
| Mass of Refrigerant | 2.3 kg | | |
| Certification Date | 31.07.2019 | | |
| Testing basis | HP KEYMARK certification scheme rules V8 | | |

Model: HU161 U33/ HN1616 NK3

Configure model

| | |
|-------------------------------------|-----------------------|
| Model name | HU161 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 |
| Phase-out Date | 03.02.2024 |

Average Climate

EN 12102-1

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor | 44 dB(A) | 44 dB(A) |
| Sound power level outdoor | 66 dB(A) | 66 dB(A) |

EN 14825

| | Low temperature | Medium temperature |
|----------|-----------------|--------------------|
| η_s | 169 % | 130 % |
| Prated | 10.00 kW | 10.00 kW |
| SCOP | 4.30 | 3.32 |
| Tbiv | -10 °C | -10 °C |
| TOL | -10 °C | -10 °C |

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| | | |
|---|----------|---------|
| Pdh Tj = -7°C | 8.80 kW | 8.80 kW |
| COP Tj = -7°C | 2.55 | 1.93 |
| Cdh Tj = -7 °C | 0.900 | 0.900 |
| Pdh Tj = +2°C | 5.40 kW | 5.30 kW |
| COP Tj = +2°C | 4.15 | 3.15 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 4.10 kW | 3.60 kW |
| COP Tj = +7°C | 6.10 | 4.79 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |
| Pdh Tj = 12°C | 4.60 kW | 4.10 kW |
| COP Tj = 12°C | 8.30 | 7.00 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 10.00 kW | 9.90 kW |
| COP Tj = Tbiv | 2.30 | 1.65 |
| 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 | 2.30 | 1.65 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 57 °C | 57 °C |
| Poff | 5 W | 5 W |
| PTO | 60 W | 60 W |
| PSB | 5 W | 5 W |
| PCK | 39 W | 39 W |

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

| | | |
|--|----------|-------------|
| Supplementary Heater: Type of energy input | n/a | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.10 kW |
| Annual energy consumption Q _{he} | 4802 kWh | 6154 kWh |

Heating

| 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 14511-2 | | |
|-------------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| Heat output | 16.00 kW | 12.50 kW |
| El input | 3.76 kW | 4.94 kW |
| COP | 4.26 | 2.53 |

Model: HU141 U33/ HN1616 NK3

| Configure model | |
|-------------------------------------|-----------------------|
| Model name | HU141 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 |
| Phase-out Date | 03.02.2024 |

Heating

| 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 14511-2 | | |
|-------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Heat output | 14.00 kW | 12.50 kW |
| El input | 3.17 kW | 4.94 kW |
| COP | 4.41 | 2.53 |

Average Climate

EN 12102-1

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor | 44 dB(A) | 44 dB(A) |
| Sound power level outdoor | 66 dB(A) | 66 dB(A) |

EN 14825

| | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| η_s | 175 % | 130 % |
| Prated | 10.00 kW | 10.00 kW |
| SCOP | 4.45 | 3.32 |
| Tbiv | -10 °C | -10 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 8.40 kW | 8.80 kW |
| COP Tj = -7°C | 2.67 | 1.93 |
| Cdh Tj = -7 °C | 0.900 | 0.900 |
| Pdh Tj = +2°C | 5.10 kW | 5.30 kW |
| COP Tj = +2°C | 4.25 | 3.15 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 3.80 kW | 3.60 kW |
| COP Tj = +7°C | 6.30 | 4.79 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |

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 | 9.20 | 7.00 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 9.50 kW | 9.90 kW |
| COP Tj = Tbiv | 2.25 | 1.65 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 9.50 kW | 9.90 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.25 | 1.65 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 57 °C | 57 °C |
| Poff | 5 W | 5 W |
| PTO | 60 W | 60 W |
| PSB | 5 W | 5 W |
| PCK | 39 W | 39 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.50 kW | 0.10 kW |
| Annual energy consumption Qhe | 4408 kWh | 6154 kWh |

Model: HU121 U33/ HN1616 NK3

| Configure model | |
|-------------------------------------|-----------------------|
| Model name | HU121 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 |
| Phase-out Date | 03.02.2024 |

Heating

| EN 14511-2 | | |
|-------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Heat output | 12.00 kW | 12.50 kW |
| El input | 2.64 kW | 4.94 kW |
| COP | 4.55 | 2.53 |

| 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 indoor | 44 dB(A) | 44 dB(A) |
| Sound power level outdoor | 66 dB(A) | 66 dB(A) |

EN 14825

| | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| η_s | 175 % | 130 % |
| Prated | 9.00 kW | 10.00 kW |
| SCOP | 4.45 | 3.32 |
| Tbiv | -10 °C | -10 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 8.00 kW | 8.80 kW |
| COP Tj = -7°C | 2.67 | 1.93 |
| Cdh Tj = -7 °C | 0.900 | 0.900 |
| Pdh Tj = +2°C | 4.90 kW | 5.30 kW |
| COP Tj = +2°C | 4.27 | 3.15 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 3.70 kW | 3.60 kW |
| COP Tj = +7°C | 6.30 | 4.79 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |

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| | | |
|---|----------|-------------|
| Pdh Tj = 12°C | 4.50 kW | 4.10 kW |
| COP Tj = 12°C | 9.20 | 7.00 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 9.00 kW | 9.90 kW |
| COP Tj = Tbiv | 2.25 | 1.65 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 9.00 kW | 9.90 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.25 | 1.65 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 57 °C | 57 °C |
| Poff | 5 W | 5 W |
| PTO | 60 W | 60 W |
| PSB | 5 W | 5 W |
| PCK | 39 W | 39 W |
| Supplementary Heater: Type of energy input | n/a | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.10 kW |
| Annual energy consumption Qhe | 4177 kWh | 6154 kWh |

Model: HU163 U33 / HN1639 NK3

| Configure model | |
|-------------------------------------|------------------------|
| Model name | HU163 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 |
| Phase-out Date | 03.02.2024 |

Heating

| EN 14511-2 | | |
|-------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Heat output | 16.00 kW | 12.50 kW |
| El input | 3.76 kW | 4.94 kW |
| COP | 4.26 | 2.53 |

| 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 indoor | 44 dB(A) | 44 dB(A) |
| Sound power level outdoor | 66 dB(A) | 66 dB(A) |

EN 14825

| | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| η_s | 169 % | 130 % |
| Prated | 10.00 kW | 10.00 kW |
| SCOP | 4.30 | 3.32 |
| Tbiv | -10 °C | -10 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 8.80 kW | 8.80 kW |
| COP Tj = -7°C | 2.55 | 1.93 |
| Cdh Tj = -7 °C | 0.900 | 0.900 |
| Pdh Tj = +2°C | 5.40 kW | 5.30 kW |
| COP Tj = +2°C | 4.15 | 3.15 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 4.10 kW | 3.60 kW |
| COP Tj = +7°C | 6.10 | 4.79 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |

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| | | |
|---|----------|-------------|
| Pdh Tj = 12°C | 4.60 kW | 4.10 kW |
| COP Tj = 12°C | 8.30 | 7.00 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 10.00 kW | 9.90 kW |
| COP Tj = Tbiv | 2.30 | 1.65 |
| 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 | 2.30 | 1.65 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 57 °C | 57 °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 | 0.10 kW |
| Annual energy consumption Qhe | 4804 kWh | 6156 kWh |

Model: HU143 U33 / HN1639 NK3

| Configure model | |
|-------------------------------------|------------------------|
| Model name | HU143 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 |
| Phase-out Date | 03.02.2024 |

Heating

| EN 14511-2 | | |
|-------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Heat output | 14.00 kW | 12.50 kW |
| El input | 3.17 kW | 4.94 kW |
| COP | 4.41 | 2.53 |

| 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 indoor | 44 dB(A) | 44 dB(A) |
| Sound power level outdoor | 66 dB(A) | 66 dB(A) |

EN 14825

| | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| η_s | 175 % | 130 % |
| Prated | 10.00 kW | 10.00 kW |
| SCOP | 4.45 | 3.32 |
| Tbiv | -10 °C | -10 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 8.40 kW | 8.80 kW |
| COP Tj = -7°C | 2.67 | 1.93 |
| Cdh Tj = -7 °C | 0.900 | 0.900 |
| Pdh Tj = +2°C | 5.10 kW | 5.30 kW |
| COP Tj = +2°C | 4.25 | 3.15 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 3.80 kW | 3.60 kW |
| COP Tj = +7°C | 6.30 | 4.79 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |

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| | | |
|---|-------------|-------------|
| Pdh Tj = 12°C | 4.40 kW | 4.10 kW |
| COP Tj = 12°C | 9.20 | 7.00 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 9.50 kW | 9.90 kW |
| COP Tj = Tbiv | 2.25 | 1.65 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 9.50 kW | 9.90 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.25 | 1.65 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 57 °C | 57 °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 | 0.10 kW |
| Annual energy consumption Qhe | 4410 kWh | 6156 kWh |

Model: HU123 U33 / HN1639 NK3

| Configure model | |
|-------------------------------------|------------------------|
| Model name | HU123 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 |
| Phase-out Date | 03.02.2024 |

Average Climate

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 44 dB(A) | 44 dB(A) |
| Sound power level outdoor | 66 dB(A) | 66 dB(A) |

| EN 14825 | | |
|----------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| η_s | 175 % | 130 % |
| Prated | 9.00 kW | 10.00 kW |
| SCOP | 4.45 | 3.32 |
| Tbiv | -10 °C | -10 °C |
| TOL | -10 °C | -10 °C |

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

| | | |
|---|---------|---------|
| Pdh Tj = -7°C | 8.00 kW | 8.80 kW |
| COP Tj = -7°C | 2.67 | 1.93 |
| Cdh Tj = -7 °C | 0.900 | 0.900 |
| Pdh Tj = +2°C | 4.90 kW | 5.30 kW |
| COP Tj = +2°C | 4.27 | 3.15 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 3.70 kW | 3.60 kW |
| COP Tj = +7°C | 6.30 | 4.79 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |
| Pdh Tj = 12°C | 4.50 kW | 4.10 kW |
| COP Tj = 12°C | 9.20 | 7.00 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 9.00 kW | 9.90 kW |
| COP Tj = Tbiv | 2.25 | 1.65 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 9.00 kW | 9.90 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.25 | 1.65 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 57 °C | 57 °C |
| Poff | 60 W | 60 W |
| PTO | 60 W | 60 W |
| PSB | 60 W | 60 W |
| PCK | 50 W | 50 W |

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

| | | |
|--|----------|-------------|
| Supplementary Heater: Type of energy input | n/a | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.10 kW |
| Annual energy consumption Q _{he} | 4179 kWh | 6156 kWh |

Heating

| EN 14511-2 | | |
|-------------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| Heat output | 12.00 kW | 12.50 kW |
| El input | 2.64 kW | 4.94 kW |
| COP | 4.55 | 2.53 |

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

Model: HU161 U33 / HN1616M NK5

| Configure model | |
|-------------------------------------|-------------------------|
| Model name | HU161 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 |
| Phase-out Date | 03.02.2024 |

Average Climate

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 44 dB(A) | 44 dB(A) |
| Sound power level outdoor | 66 dB(A) | 66 dB(A) |

| EN 14825 | | |
|----------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| η_s | 169 % | 130 % |
| Prated | 10.00 kW | 10.00 kW |
| SCOP | 4.30 | 3.32 |
| Tbiv | -10 °C | -10 °C |
| TOL | -10 °C | -10 °C |

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

| | | |
|---|----------|---------|
| Pdh Tj = -7°C | 8.80 kW | 8.80 kW |
| COP Tj = -7°C | 2.55 | 1.93 |
| Cdh Tj = -7 °C | 0.900 | 0.900 |
| Pdh Tj = +2°C | 5.40 kW | 5.30 kW |
| COP Tj = +2°C | 4.15 | 3.15 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 4.10 kW | 3.60 kW |
| COP Tj = +7°C | 6.10 | 4.79 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |
| Pdh Tj = 12°C | 4.60 kW | 4.10 kW |
| COP Tj = 12°C | 8.30 | 7.00 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 10.00 kW | 9.90 kW |
| COP Tj = Tbiv | 2.30 | 1.65 |
| 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 | 2.30 | 1.65 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 57 °C | 57 °C |
| Poff | 5 W | 5 W |
| PTO | 60 W | 60 W |
| PSB | 5 W | 5 W |
| PCK | 39 W | 39 W |

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

| | | |
|--|----------|-------------|
| Supplementary Heater: Type of energy input | n/a | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.10 kW |
| Annual energy consumption Q _{he} | 4802 kWh | 6154 kWh |

Heating

| 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 14511-2 | | |
|-------------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| Heat output | 16.00 kW | 12.50 kW |
| El input | 3.76 kW | 4.94 kW |
| COP | 4.26 | 2.53 |

Model: HU141 U33 / HN1616M NK5

| Configure model | |
|-------------------------------------|-------------------------|
| Model name | HU141 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 |
| Phase-out Date | 03.02.2024 |

Heating

| 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 14511-2 | | |
|-------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Heat output | 14.00 kW | 12.50 kW |
| El input | 3.17 kW | 4.94 kW |
| COP | 4.41 | 2.53 |

Average Climate

EN 12102-1

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor | 44 dB(A) | 44 dB(A) |
| Sound power level outdoor | 66 dB(A) | 66 dB(A) |

EN 14825

| | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| η_s | 175 % | 130 % |
| Prated | 10.00 kW | 10.00 kW |
| SCOP | 4.45 | 3.32 |
| Tbiv | -10 °C | -10 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 8.40 kW | 8.80 kW |
| COP Tj = -7°C | 2.67 | 1.93 |
| Cdh Tj = -7 °C | 0.900 | 0.900 |
| Pdh Tj = +2°C | 5.10 kW | 5.30 kW |
| COP Tj = +2°C | 4.25 | 3.15 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 3.80 kW | 3.60 kW |
| COP Tj = +7°C | 6.30 | 4.79 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |

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 | 9.20 | 7.00 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 9.50 kW | 9.90 kW |
| COP Tj = Tbiv | 2.25 | 1.65 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 9.50 kW | 9.90 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.25 | 1.65 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 57 °C | 57 °C |
| Poff | 5 W | 5 W |
| PTO | 60 W | 60 W |
| PSB | 5 W | 5 W |
| PCK | 39 W | 39 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.50 kW | 0.10 kW |
| Annual energy consumption Qhe | 4408 kWh | 6154 kWh |

Model: HU121 U33 / HN1616M NK5

| Configure model | |
|-------------------------------------|-------------------------|
| Model name | HU121 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 |
| Phase-out Date | 03.02.2024 |

Heating

| EN 14511-2 | | |
|-------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Heat output | 12.00 kW | 12.50 kW |
| El input | 2.64 kW | 4.94 kW |
| COP | 4.55 | 2.53 |

| 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 indoor | 44 dB(A) | 44 dB(A) |
| Sound power level outdoor | 66 dB(A) | 66 dB(A) |

EN 14825

| | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| η_s | 175 % | 130 % |
| Prated | 9.00 kW | 10.00 kW |
| SCOP | 4.45 | 3.32 |
| Tbiv | -10 °C | -10 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 8.00 kW | 8.80 kW |
| COP Tj = -7°C | 2.67 | 1.93 |
| Cdh Tj = -7 °C | 0.900 | 0.900 |
| Pdh Tj = +2°C | 4.90 kW | 5.30 kW |
| COP Tj = +2°C | 4.27 | 3.15 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 3.70 kW | 3.60 kW |
| COP Tj = +7°C | 6.30 | 4.79 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |

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 | 9.20 | 7.00 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 9.00 kW | 9.90 kW |
| COP Tj = Tbiv | 2.25 | 1.65 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 9.00 kW | 9.90 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.25 | 1.65 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 57 °C | 57 °C |
| Poff | 5 W | 5 W |
| PTO | 60 W | 60 W |
| PSB | 5 W | 5 W |
| PCK | 39 W | 39 W |
| Supplementary Heater: Type of energy input | n/a | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.10 kW |
| Annual energy consumption Qhe | 4177 kWh | 6154 kWh |

Model: HU163 U33 / HN1636M NK5

| Configure model | |
|-------------------------------------|-------------------------|
| Model name | HU163 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 |
| Phase-out Date | 03.02.2024 |

Heating

| EN 14511-2 | | |
|-------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Heat output | 16.00 kW | 12.50 kW |
| El input | 3.76 kW | 4.94 kW |
| COP | 4.26 | 2.53 |

| 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 indoor | 44 dB(A) | 44 dB(A) |
| Sound power level outdoor | 66 dB(A) | 66 dB(A) |

EN 14825

| | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| η_s | 169 % | 130 % |
| Prated | 10.00 kW | 10.00 kW |
| SCOP | 4.30 | 3.32 |
| Tbiv | -10 °C | -10 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 8.80 kW | 8.80 kW |
| COP Tj = -7°C | 2.55 | 1.93 |
| Cdh Tj = -7 °C | 0.900 | 0.900 |
| Pdh Tj = +2°C | 5.40 kW | 5.30 kW |
| COP Tj = +2°C | 4.15 | 3.15 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 4.10 kW | 3.60 kW |
| COP Tj = +7°C | 6.10 | 4.79 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |

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

| | | |
|---|----------|-------------|
| Pdh Tj = 12°C | 4.60 kW | 4.10 kW |
| COP Tj = 12°C | 8.30 | 7.00 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 10.00 kW | 9.90 kW |
| COP Tj = Tbiv | 2.30 | 1.65 |
| 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 | 2.30 | 1.65 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 57 °C | 57 °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 | 0.10 kW |
| Annual energy consumption Qhe | 4804 kWh | 6156 kWh |

Model: HU143 U33 / HN1636M NK5

Configure model

| | |
|-------------------------------------|-------------------------|
| Model name | HU143 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 |
| Phase-out Date | 03.02.2024 |

Heating

EN 14511-2

| | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 14.00 kW | 12.50 kW |
| El input | 3.17 kW | 4.94 kW |
| COP | 4.41 | 2.53 |

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 indoor | 44 dB(A) | 44 dB(A) |
| Sound power level outdoor | 66 dB(A) | 66 dB(A) |

EN 14825

| | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| η_s | 175 % | 130 % |
| Prated | 10.00 kW | 10.00 kW |
| SCOP | 4.45 | 3.32 |
| Tbiv | -10 °C | -10 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 8.40 kW | 8.80 kW |
| COP Tj = -7°C | 2.67 | 1.93 |
| Cdh Tj = -7 °C | 0.900 | 0.900 |
| Pdh Tj = +2°C | 5.10 kW | 5.30 kW |
| COP Tj = +2°C | 4.25 | 3.15 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 3.80 kW | 3.60 kW |
| COP Tj = +7°C | 6.30 | 4.79 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |

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 | 9.20 | 7.00 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 9.50 kW | 9.90 kW |
| COP Tj = Tbiv | 2.25 | 1.65 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 9.50 kW | 9.90 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.25 | 1.65 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 57 °C | 57 °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 | 0.10 kW |
| Annual energy consumption Qhe | 4410 kWh | 6156 kWh |

Model: HU123 U33 / HN1636M NK5

Configure model

| | |
|-------------------------------------|-------------------------|
| Model name | HU123 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 |
| Phase-out Date | 03.02.2024 |

Average Climate

EN 12102-1

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor | 44 dB(A) | 44 dB(A) |
| Sound power level outdoor | 66 dB(A) | 66 dB(A) |

EN 14825

| | Low temperature | Medium temperature |
|----------|-----------------|--------------------|
| η_s | 175 % | 130 % |
| Prated | 9.00 kW | 10.00 kW |
| SCOP | 4.45 | 3.32 |
| Tbiv | -10 °C | -10 °C |
| TOL | -10 °C | -10 °C |

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

| | | |
|---|---------|---------|
| Pdh Tj = -7°C | 8.00 kW | 8.80 kW |
| COP Tj = -7°C | 2.67 | 1.93 |
| Cdh Tj = -7 °C | 0.900 | 0.900 |
| Pdh Tj = +2°C | 4.90 kW | 5.30 kW |
| COP Tj = +2°C | 4.27 | 3.15 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 3.70 kW | 3.60 kW |
| COP Tj = +7°C | 6.30 | 4.79 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |
| Pdh Tj = 12°C | 4.50 kW | 4.10 kW |
| COP Tj = 12°C | 9.20 | 7.00 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 9.00 kW | 9.90 kW |
| COP Tj = Tbiv | 2.25 | 1.65 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 9.00 kW | 9.90 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.25 | 1.65 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 57 °C | 57 °C |
| Poff | 60 W | 60 W |
| PTO | 60 W | 60 W |
| PSB | 60 W | 60 W |
| PCK | 50 W | 50 W |

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

| | | |
|--|----------|-------------|
| Supplementary Heater: Type of energy input | n/a | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.10 kW |
| Annual energy consumption Q _{he} | 4179 kWh | 6156 kWh |

Heating

| EN 14511-2 | | |
|-------------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| Heat output | 12.00 kW | 12.50 kW |
| El input | 2.64 kW | 4.94 kW |
| COP | 4.55 | 2.53 |

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