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<u>Login</u>

| Summary of | VWL 105/5 AS 230V / VWL 125/5 AS 230V / VWL 105/5 AS / VWL 125/5 AS | Reg. No. | 40049245 |
|------------------------|---|----------|----------|
| Certificate H | older | | |
| Name | Vaillant Deutschland GmbH & Co KG | | |
| Address | Berghauser Straße 40 | Zip | 42859 |
| City | Remscheid | Country | Germany |
| Certification Body | VDE Prüf- und Zertifizierungsinstitut GmbH | | |
| Subtype title | VWL 105/5 AS 230V / VWL 125/5 AS 230V / VWL 105/5 AS / VWL 125/5 AS | | |
| Heat Pump Type | Outdoor Air/Water | | |
| Refrigerant | R410A | | |
| Mass of Refrigerant | 3.6 kg | | |
| Certification Date | 10.03.2021 | | |
| Testing basis | DIN EN 14511-1:2019-07; EN 14511-1:2018 DIN EN 14511-2:2019-07; EN 14511-2:2018 DIN EN 14511-3:2019-07; EN 14511-3:2018 DIN EN 14511-4:2019-07; EN 14511-4:2018 DIN EN 14825:2019-07; EN 14825:2018 DIN EN 16147:2017-08; EN 16147:2017+AC:2017 DIN EN 12 | | |



Model: VWL 105/5 AS 230V + VWL 127/5 IS

| Configure model | | | |
|-------------------------------------|----------------------------------|--|--|
| Model name | VWL 105/5 AS 230V + VWL 127/5 IS | | |
| Application | Heating (medium temp) | | |
| Units | Indoor + Outdoor | | |
| Climate Zone | Colder Climate + Warmer Climate | | |
| Reversibility | Yes | | |
| Cooling mode application (optional) | n/a | | |

| General Data | | |
|--------------|-------------|--|
| Power supply | 1x230V 50Hz | |

Heating

| EN 14511-4 | | |
|--|--------|--|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed | |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed | |
| Shutting off the heat transfer medium flow | passed | |
| Complete power supply failure | passed | |
| Defrost test | passed | |

| EN 14511-2 | | | |
|------------------------------------|---------|----------|--|
| Low temperature Medium temperature | | | |
| Heat output | 9.70 kW | 10.35 kW | |
| El input | 2.12 kW | 3.74 kW | |
| СОР | 4.57 | 2.77 | |

Warmer Climate



| EN 12102-1 | | | | |
|---------------------------|-----------------|--------------------|--|--|
| | Low temperature | Medium temperature | | |
| Sound power level indoor | 42 dB(A) | 45 dB(A) | | |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) | | |

| EN 14825 | | |
|-----------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| η_{s} | 212 % | 158 % |
| Prated | 8.23 kW | 9.30 kW |
| SCOP | 5.37 | 4.03 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 8.23 kW | 9.30 kW |
| COP Tj = +2°C | 3.64 | 2.42 |
| Cdh Tj = +2 °C | 1.00 | 1.00 |
| Pdh Tj = +7°C | 5.40 kW | 5.73 kW |
| COP Tj = +7°C | 4.92 | 3.37 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 5.99 kW | 6.15 kW |
| COP Tj = 12°C | 6.28 | 5.20 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |

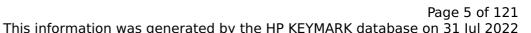




| | | , |
|---|-------------|-------------|
| Pdh Tj = Tbiv | 8.23 kW | 9.29 kW |
| COP Tj = Tbiv | 3.64 | 2.42 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.23 kW | 9.30 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.64 | 2.42 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 55 °C | 55 °C |
| Poff | 11 W | 11 W |
| PTO | 11 W | 11 W |
| PSB | 11 W | 11 W |
| PCK | o w | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 2046 kWh | 3076 kWh |

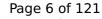
Colder Climate

| EN 12102-1 | | | | |
|------------------------------------|----------|----------|--|--|
| Low temperature Medium temperature | | | | |
| Sound power level indoor | 42 dB(A) | 45 dB(A) | | |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) | | |





| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{s} | 152 % | 111 % |
| Prated | 9.49 kW | 9.42 kW |
| SCOP | 3.88 | 2.86 |
| Tbiv | -15 °C | -15 °C |
| TOL | -20 °C | -15 °C |
| Pdh Tj = -7°C | 6.32 kW | 6.14 kW |
| $COP Tj = -7^{\circ}C$ | 3.41 | 2.56 |
| Cdh Tj = -7 °C | 0.990 | 1.000 |
| Pdh Tj = +2°C | 4.94 kW | 4.48 kW |
| COP Tj = +2°C | 4.53 | 3.45 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = +7°C | 5.53 kW | 5.31 kW |
| $COP Tj = +7^{\circ}C$ | 5.86 | 4.59 |
| Cdh Tj = +7 °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 6.44 kW | 6.21 kW |
| COP Tj = 12°C | 7.27 | 5.99 |
| Cdh Tj = +12 °C | 0.990 | 0.990 |
| Pdh Tj = Tbiv | 7.74 kW | 7.68 kW |
| COP Tj = Tbiv | 2.34 | 1.89 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 7.41 kW | 7.68 kW |





| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.22 | 1.89 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 11 W | 11 W |
| РТО | 11 W | 11 W |
| PSB | 11 W | 11 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 9.49 kW | 9.42 kW |
| Annual energy consumption Qhe | 6025 kWh | 8124 kWh |
| Pdh Tj = -15°C (if TOL<-20°C) | 7.74 | 7.68 |
| COP Tj = -15°C (if TOL $<$ -20°C) | 2.34 | 1.89 |
| Cdh Tj = -15 °C | 1.000 | 1.000 |

Average Climate

| EN 12102-1 | | | | |
|------------------------------------|----------|----------|--|--|
| Low temperature Medium temperature | | | | |
| Sound power level indoor | 42 dB(A) | 45 dB(A) | | |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) | | |





| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{s} | 180 % | 128 % |
| Prated | 11.50 kW | 9.56 kW |
| SCOP | 4.58 | 3.28 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 10.18 kW | 8.46 kW |
| COP Tj = -7°C | 2.83 | 2.12 |
| Cdh Tj = -7 °C | 1.000 | 1.000 |
| Pdh Tj = $+2$ °C | 6.53 kW | 5.05 kW |
| COP Tj = +2°C | 4.57 | 3.14 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = +7°C | 5.66 kW | 5.18 kW |
| COP Tj = +7°C | 5.78 | 4.27 |
| Cdh Tj = +7 °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 6.52 kW | 6.11 kW |
| COP Tj = 12°C | 7.35 | 5.79 |
| Cdh Tj = +12 °C | 0.990 | 0.990 |
| Pdh Tj = Tbiv | 10.18 kW | 8.46 kW |
| COP Tj = Tbiv | 2.83 | 2.12 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 10.05 kW | 7.98 kW |



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| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.72 | 1.71 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 11 W | 11 W |
| РТО | 11 W | 11 W |
| PSB | 11 W | 11 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.45 kW | 1.59 kW |
| Annual energy consumption Qhe | 5189 kWh | 6029 kWh |



Model: VWL 105/5 AS + VWL 127/5 IS

| Configure model | | |
|-------------------------------------|---------------------------------|--|
| Model name | VWL 105/5 AS + VWL 127/5 IS | |
| Application | Heating (medium temp) | |
| Units | Indoor + Outdoor | |
| Climate Zone | Colder Climate + Warmer Climate | |
| Reversibility | Yes | |
| Cooling mode application (optional) | n/a | |

| General Data | | |
|--------------------------|--|--|
| Power supply 3x400V 50Hz | | |

Heating

| EN 14511-4 | |
|--|--------|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed |
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure | passed |
| Defrost test | passed |

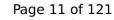
| EN 14511-2 | | |
|-------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Heat output | 9.70 kW | 10.35 kW |
| El input | 2.12 kW | 3.74 kW |
| СОР | 4.57 | 2.77 |

Warmer Climate



| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 42 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |

| EN 14825 | | |
|------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| η_{s} | 211 % | 158 % |
| Prated | 8.23 kW | 9.29 kW |
| SCOP | 5.34 | 4.02 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 8.23 kW | 9.30 kW |
| COP Tj = +2°C | 3.64 | 2.42 |
| Cdh Tj = +2 °C | 0.99 | 1.00 |
| Pdh Tj = +7°C | 5.40 kW | 5.73 kW |
| $COP Tj = +7^{\circ}C$ | 4.92 | 3.37 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 5.99 kW | 6.15 kW |
| COP Tj = 12°C | 6.28 | 5.20 |
| Cdh Tj = +12 °C | 0.98 | 0.99 |





| Pdh Tj = Tbiv | 8.23 kW | 9.29 kW |
|---|-------------|-------------|
| COP Tj = Tbiv | 3.64 | 2.42 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.23 kW | 9.30 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.64 | 2.42 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.99 | 1.00 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| РТО | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | o w | o w |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 2059 kWh | 3090 kWh |

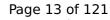
Colder Climate

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 42 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |



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| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_s | 152 % | 111 % |
| Prated | 9.49 kW | 9.42 kW |
| SCOP | 3.87 | 2.85 |
| Tbiv | -15 °C | -15 °C |
| TOL | -20 °C | -15 °C |
| Pdh Tj = -7°C | 6.32 kW | 6.14 kW |
| COP Tj = -7°C | 3.41 | 2.56 |
| Cdh Tj = -7 °C | 0.990 | 0.990 |
| Pdh Tj = +2°C | 4.94 kW | 4.48 kW |
| $COP Tj = +2^{\circ}C$ | 4.53 | 3.45 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = $+7^{\circ}$ C | 5.53 kW | 5.31 kW |
| $COP Tj = +7^{\circ}C$ | 5.86 | 4.59 |
| Cdh Tj = +7 °C | 0.980 | 0.990 |
| Pdh Tj = 12°C | 6.44 kW | 6.21 kW |
| COP Tj = 12°C | 7.27 | 5.99 |
| Cdh Tj = +12 °C | 0.980 | 0.980 |
| Pdh Tj = Tbiv | 7.74 kW | 7.68 kW |
| COP Tj = Tbiv | 2.34 | 1.89 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 7.41 kW | 7.68 kW |





| 2.22 | 1.89 |
|-------------|---|
| 1.000 | 1.000 |
| 55 °C | 55 °C |
| 17 W | 17 W |
| 17 W | 17 W |
| 17 W | 17 W |
| 0 W | 0 W |
| Electricity | Electricity |
| 9.49 kW | 9.42 kW |
| 6040 kWh | 8138 kWh |
| 7.74 | 7.68 |
| 2.34 | 1.89 |
| 1.000 | 1.000 |
| | 1.000 55 °C 17 W 17 W 17 W 0 W Electricity 9.49 kW 6040 kWh 7.74 2.34 |

Average Climate

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 42 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |



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| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{s} | 180 % | 128 % |
| Prated | 11.50 kW | 9.56 kW |
| SCOP | 4.57 | 3.27 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 10.18 kW | 8.46 kW |
| COP Tj = -7°C | 2.83 | 2.12 |
| Cdh Tj = -7 °C | 1.000 | 1.000 |
| Pdh Tj = +2°C | 6.53 kW | 5.05 kW |
| $COPTj = +2^{\circ}C$ | 4.57 | 3.14 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = +7°C | 5.66 kW | 5.18 kW |
| $COPTj = +7^{\circ}C$ | 5.78 | 4.27 |
| Cdh Tj = +7 °C | 0.980 | 0.990 |
| Pdh Tj = 12°C | 6.52 kW | 6.11 kW |
| COP Tj = 12°C | 7.35 | 5.79 |
| Cdh Tj = +12 °C | 0.980 | 0.990 |
| Pdh Tj = Tbiv | 10.18 kW | 8.46 kW |
| COP Tj = Tbiv | 2.83 | 2.12 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 10.05 kW | 7.98 kW |



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This information was generated by the HP KEYMARK database on 31 Jul 2022

| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.72 | 1.71 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| PTO | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | o w | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.45 kW | 1.59 kW |
| Annual energy consumption Qhe | 5199 kWh | 6040 kWh |



Model: VWL 105/5 AS 230V S2 + VWL 127/5 IS

| Configure model | | |
|--|-----------------------|--|
| Model name VWL 105/5 AS 230V S2 + VWL 127/5 IS | | |
| Application | Heating (medium temp) | |
| Units | Indoor + Outdoor | |
| Climate Zone Colder Climate + Warmer Climate | | |
| Reversibility No | | |
| Cooling mode application (optional) | n/a | |

| General Data | | |
|--------------------------|--|--|
| Power supply 1x230V 50Hz | | |

Heating

| EN 14511-4 | | |
|--|--------|--|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed | |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed | |
| Shutting off the heat transfer medium flow | passed | |
| Complete power supply failure | passed | |
| Defrost test | passed | |

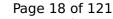
| EN 14511-2 | | |
|-------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Heat output | 9.70 kW | 10.35 kW |
| El input | 2.12 kW | 3.74 kW |
| СОР | 4.57 | 2.77 |

Warmer Climate

CEN heat pump KEYMARK

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 42 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |

| EN 14825 | | |
|-----------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| η_{s} | 207 % | 156 % |
| Prated | 8.23 kW | 9.29 kW |
| SCOP | 5.25 | 3.97 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 8.23 kW | 9.30 kW |
| COP Tj = +2°C | 3.64 | 2.42 |
| Cdh Tj = +2 °C | 1.00 | 1.00 |
| Pdh Tj = +7°C | 5.40 kW | 5.73 kW |
| COP Tj = +7°C | 4.92 | 3.37 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 5.99 kW | 6.15 kW |
| COP Tj = 12°C | 6.28 | 5.20 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |





| Pdh Tj = Tbiv | 8.23 kW | 9.29 kW |
|---|-------------|-------------|
| COP Tj = Tbiv | 3.64 | 2.42 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.23 kW | 9.30 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.64 | 2.42 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 55 °C | 55 °C |
| Poff | 11 W | 11 W |
| РТО | 11 W | 11 W |
| PSB | 11 W | 11 W |
| PCK | o w | o w |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 2094 kWh | 3125 kWh |

Colder Climate

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 42 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |



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| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{s} | 152 % | 111 % |
| Prated | 9.49 kW | 9.42 kW |
| SCOP | 3.87 | 2.85 |
| Tbiv | -15 °C | -15 °C |
| TOL | -20 °C | -15 °C |
| Pdh Tj = -7°C | 6.32 kW | 6.14 kW |
| COP $Tj = -7$ °C | 3.41 | 2.56 |
| Cdh Tj = -7 °C | 0.990 | 1.000 |
| Pdh Tj = $+2$ °C | 4.94 kW | 4.48 kW |
| COP Tj = +2°C | 4.53 | 3.45 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = +7°C | 5.53 kW | 5.31 kW |
| $COPTj = +7^{\circ}C$ | 5.86 | 4.59 |
| Cdh Tj = +7 °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 6.44 kW | 6.21 kW |
| COP Tj = 12°C | 7.27 | 5.99 |
| Cdh Tj = +12 °C | 0.990 | 0.990 |
| Pdh Tj = Tbiv | 7.74 kW | 7.68 kW |
| COP Tj = Tbiv | 2.34 | 1.89 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 7.41 kW | 7.68 kW |





| 2.22 | 1.89 |
|-------------|---|
| 1.000 | 1.000 |
| 55 °C | 55 °C |
| 11 W | 11 W |
| 11 W | 11 W |
| 11 W | 11 W |
| 0 W | 0 W |
| Electricity | Electricity |
| 9.49 kW | 9.42 kW |
| 6049 kWh | 8148 kWh |
| 7.74 | 7.68 |
| 2.34 | 1.89 |
| 1.000 | 1.000 |
| | 1.000 55 °C 11 W 11 W 11 W 0 W Electricity 9.49 kW 6049 kWh 7.74 2.34 |

Average Climate

| EN 12102-1 | | | |
|---------------------------|-----------------|--------------------|--|
| | Low temperature | Medium temperature | |
| Sound power level indoor | 42 dB(A) | 45 dB(A) | |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) | |



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| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{S} | 179 % | 127 % |
| Prated | 11.50 kW | 9.56 kW |
| SCOP | 4.54 | 3.26 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7° C | 10.18 kW | 8.46 kW |
| $COP Tj = -7^{\circ}C$ | 2.83 | 2.12 |
| Cdh Tj = -7 °C | 1.000 | 1.000 |
| Pdh Tj = $+2$ °C | 6.53 kW | 5.05 kW |
| COP Tj = +2°C | 4.57 | 3.14 |
| Cdh Tj = $+2$ °C | 0.990 | 0.990 |
| Pdh Tj = $+7^{\circ}$ C | 5.66 kW | 5.18 kW |
| $COP Tj = +7^{\circ}C$ | 5.78 | 4.27 |
| Cdh Tj = +7 °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 6.52 kW | 6.11 kW |
| COP Tj = 12°C | 7.35 | 5.79 |
| Cdh Tj = +12 °C | 0.990 | 0.990 |
| Pdh Tj = Tbiv | 10.18 kW | 8.46 kW |
| COP Tj = Tbiv | 2.83 | 2.12 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 10.05 kW | 7.98 kW |



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This information was generated by the HP KEYMARK database on 31 Jul 2022

| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.72 | 1.71 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 11 W | 11 W |
| PTO | 11 W | 11 W |
| PSB | 11 W | 11 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.45 kW | 1.59 kW |
| Annual energy consumption Qhe | 5229 kWh | 6069 kWh |

Model: VWL 105/5 AS S2 + VWL 127/5 IS

| Configure model | | |
|-------------------------------------|---------------------------------|--|
| Model name | VWL 105/5 AS S2 + VWL 127/5 IS | |
| Application | Heating (medium temp) | |
| Units | Indoor + Outdoor | |
| Climate Zone | Colder Climate + Warmer Climate | |
| Reversibility | No | |
| Cooling mode application (optional) | n/a | |

| General Data | | |
|--------------------------|--|--|
| Power supply 3x400V 50Hz | | |

Heating

| EN 14511-4 | |
|--|--------|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed |
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure | passed |
| Defrost test | passed |

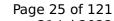
| EN 14511-2 | | | |
|------------------------------------|---------|----------|--|
| Low temperature Medium temperature | | | |
| Heat output | 9.70 kW | 10.35 kW | |
| El input | 2.12 kW | 3.74 kW | |
| СОР | 4.57 | 2.77 | |

Warmer Climate



| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 42 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |

| EN 14825 | | |
|-----------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| η_{s} | 203 % | 154 % |
| Prated | 8.23 kW | 9.29 kW |
| SCOP | 5.15 | 3.92 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 8.23 kW | 9.30 kW |
| COP Tj = +2°C | 3.64 | 2.42 |
| Cdh Tj = +2 °C | 0.99 | 1.00 |
| Pdh Tj = +7°C | 5.40 kW | 5.73 kW |
| COP Tj = +7°C | 4.92 | 3.37 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 5.99 kW | 6.15 kW |
| COP Tj = 12°C | 6.28 | 5.20 |
| Cdh Tj = +12 °C | 0.98 | 0.99 |
| | · | |





| Pdh Tj = Tbiv | 8.23 kW | 9.29 kW |
|---|-------------|-------------|
| COP Tj = Tbiv | 3.64 | 2.42 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.23 kW | 9.30 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.64 | 2.42 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.99 | 1.00 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| РТО | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | o w | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 2133 kWh | 3164 kWh |

Colder Climate

| EN 12102-1 | | | |
|---------------------------|-----------------|--------------------|--|
| | Low temperature | Medium temperature | |
| Sound power level indoor | 42 dB(A) | 45 dB(A) | |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) | |





| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{s} | 151 % | 111 % |
| Prated | 9.49 kW | 9.42 kW |
| SCOP | 3.85 | 2.84 |
| Tbiv | -15 °C | -15 °C |
| TOL | -20 °C | -15 °C |
| Pdh Tj = -7°C | 6.32 kW | 6.14 kW |
| $COPTj = -7^{\circ}C$ | 3.41 | 2.56 |
| Cdh Tj = -7 °C | 0.990 | 0.990 |
| Pdh Tj = +2°C | 4.94 kW | 4.48 kW |
| COP Tj = +2°C | 4.53 | 3.45 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = $+7^{\circ}$ C | 5.53 kW | 5.31 kW |
| $COPTj = +7^{\circ}C$ | 5.86 | 4.59 |
| Cdh Tj = +7 °C | 0.980 | 0.990 |
| Pdh Tj = 12°C | 6.44 kW | 6.21 kW |
| COP Tj = 12°C | 7.27 | 5.99 |
| Cdh Tj = +12 °C | 0.980 | 0.980 |
| Pdh Tj = Tbiv | 7.74 kW | 7.68 kW |
| COP Tj = Tbiv | 2.34 | 1.89 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 7.41 kW | 7.68 kW |





| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.22 | 1.89 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| РТО | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | o w | o w |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 9.49 kW | 9.42 kW |
| Annual energy consumption Qhe | 6077 kWh | 8175 kWh |
| Pdh Tj = -15°C (if TOL<-20°C) | 7.74 | 7.68 |
| COP Tj = -15°C (if TOL $<$ -20°C) | 2.34 | 1.89 |
| Cdh Tj = -15 °C | 1.000 | 1.000 |

Average Climate

| EN 12102-1 | | | |
|---------------------------|-----------------|--------------------|--|
| | Low temperature | Medium temperature | |
| Sound power level indoor | 42 dB(A) | 45 dB(A) | |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) | |



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This information was generated by the HP KEYMARK database on 31 Jul 2022

| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{s} | 178 % | 127 % |
| Prated | 11.50 kW | 9.56 kW |
| SCOP | 4.52 | 3.24 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 10.18 kW | 8.46 kW |
| COP Tj = -7°C | 2.83 | 2.12 |
| Cdh Tj = -7 °C | 1.000 | 1.000 |
| Pdh Tj = +2°C | 6.53 kW | 5.05 kW |
| COP Tj = +2°C | 4.57 | 3.14 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = +7°C | 5.66 kW | 5.18 kW |
| $COP Tj = +7^{\circ}C$ | 5.78 | 4.27 |
| Cdh Tj = +7 °C | 0.980 | 0.990 |
| Pdh Tj = 12°C | 6.52 kW | 6.11 kW |
| COP Tj = 12°C | 7.35 | 5.79 |
| Cdh Tj = +12 °C | 0.980 | 0.990 |
| Pdh Tj = Tbiv | 10.18 kW | 8.46 kW |
| COP Tj = Tbiv | 2.83 | 2.12 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 10.05 kW | 7.98 kW |



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This information was generated by the HP KEYMARK database on 31 Jul 2022

| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.72 | 1.71 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| РТО | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | o w | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.45 kW | 1.59 kW |
| Annual energy consumption Qhe | 5260 kWh | 6102 kWh |



Model: VWL 105/5 AS 230V + VWL 128/5 IS

| Configure model | | |
|-------------------------------------|----------------------------------|--|
| Model name | VWL 105/5 AS 230V + VWL 128/5 IS | |
| Application | Heating + DHW + low temp | |
| Units | Indoor + Outdoor | |
| Climate Zone | Colder Climate + Warmer Climate | |
| Reversibility | Yes | |
| Cooling mode application (optional) | n/a | |

| General Data | | |
|--------------------------|--|--|
| Power supply 1x230V 50Hz | | |

Heating

| EN 14511-4 | | |
|--|--------|--|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed | |
| Operacing range outdoor exchanger/indoor exchanger lower inflictiower infliction | passed | |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed | |
| Shutting off the heat transfer medium flow | passed | |
| Complete power supply failure | passed | |
| Defrost test | passed | |

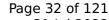
| EN 14511-2 | | | |
|-------------|-----------------|--------------------|--|
| | Low temperature | Medium temperature | |
| Heat output | 9.70 kW | 10.35 kW | |
| El input | 2.12 kW | 3.74 kW | |
| СОР | 4.57 | 2.77 | |

Warmer Climate



| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 42 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |

| EN 14825 | | |
|-------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| η_{s} | 212 % | 158 % |
| Prated | 8.23 kW | 9.30 kW |
| SCOP | 5.37 | 4.03 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 8.23 kW | 9.30 kW |
| COP Tj = +2°C | 3.64 | 2.42 |
| Cdh Tj = +2 °C | 1.00 | 1.00 |
| Pdh Tj = $+7^{\circ}$ C | 5.40 kW | 5.73 kW |
| $COP Tj = +7^{\circ}C$ | 4.92 | 3.37 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 5.99 kW | 6.15 kW |
| COP Tj = 12°C | 6.28 | 5.20 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |
| | | <u> </u> |





| Pdh Tj = Tbiv | 8.23 kW | 9.29 kW |
|---|-------------|-------------|
| COP Tj = Tbiv | 3.64 | 2.42 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.23 kW | 9.30 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.64 | 2.42 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 55 °C | 55 °C |
| Poff | 11 W | 11 W |
| РТО | 11 W | 11 W |
| PSB | 11 W | 11 W |
| PCK | o w | o w |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 2046 kWh | 3076 kWh |

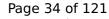
Colder Climate

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 42 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |



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| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{S} | 152 % | 111 % |
| Prated | 9.49 kW | 9.42 kW |
| SCOP | 3.88 | 2.86 |
| Tbiv | -15 °C | -15 °C |
| TOL | -20 °C | -15 °C |
| Pdh Tj = -7 °C | 6.32 kW | 6.14 kW |
| COP Tj = -7° C | 3.41 | 2.56 |
| Cdh Tj = -7 °C | 0.990 | 1.000 |
| Pdh Tj = $+2$ °C | 4.94 kW | 4.48 kW |
| $COP Tj = +2^{\circ}C$ | 4.53 | 3.45 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = $+7^{\circ}$ C | 5.53 kW | 5.31 kW |
| $COPTj = +7^{\circ}C$ | 5.86 | 4.59 |
| Cdh Tj = $+7$ °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 6.44 kW | 6.21 kW |
| COP Tj = 12°C | 7.27 | 5.99 |
| Cdh Tj = +12 °C | 0.990 | 0.990 |
| Pdh Tj = Tbiv | 7.74 kW | 7.68 kW |
| COP Tj = Tbiv | 2.34 | 1.89 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 7.41 kW | 7.68 kW |





| 2.22 | 1.89 |
|-------------|---|
| 1.000 | 1.000 |
| 55 °C | 55 °C |
| 11 W | 11 W |
| 11 W | 11 W |
| 11 W | 11 W |
| 0 W | 0 W |
| Electricity | Electricity |
| 9.49 kW | 9.42 kW |
| 6025 kWh | 8124 kWh |
| 7.74 | 7.68 |
| 2.34 | 1.89 |
| 1.000 | 1.000 |
| | 1.000 55 °C 11 W 11 W 11 W 0 W Electricity 9.49 kW 6025 kWh 7.74 2.34 |

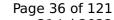
Average Climate

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 42 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |



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| Low temperature | Medium temperature |
|-----------------|---|
| 180 % | 128 % |
| 11.50 kW | 9.56 kW |
| 4.58 | 3.28 |
| -7 °C | -7 °C |
| -10 °C | -10 °C |
| 10.18 kW | 8.46 kW |
| 2.83 | 2.12 |
| 1.000 | 1.000 |
| 6.53 kW | 5.05 kW |
| 4.57 | 3.14 |
| 0.990 | 0.990 |
| 5.66 kW | 5.18 kW |
| 5.78 | 4.27 |
| 0.990 | 0.990 |
| 6.52 kW | 6.11 kW |
| 7.35 | 5.79 |
| 0.990 | 0.990 |
| 10.18 kW | 8.46 kW |
| 2.83 | 2.12 |
| 10.05 kW | 7.98 kW |
| | 180 % 11.50 kW 4.58 -7 °C -10 °C 10.18 kW 2.83 1.000 6.53 kW 4.57 0.990 5.66 kW 5.78 0.990 6.52 kW 7.35 0.990 10.18 kW |





| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.72 | 1.71 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 11 W | 11 W |
| PTO | 11 W | 11 W |
| PSB | 11 W | 11 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.45 kW | 1.59 kW |
| Annual energy consumption Qhe | 5189 kWh | 6029 kWh |

Domestic Hot Water (DHW)

Warmer Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 108 % | |
| СОР | 2.62 | |
| Heating up time | 01:01 h:min | |
| Standby power input | 41.3 W | |
| Reference hot water temperature | 53.7 °C | |
| Mixed water at 40°C | 243 I | |



Colder Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 89 % | |
| СОР | 2.14 | |
| Heating up time | 01:13 h:min | |
| Standby power input | 51.6 W | |
| Reference hot water temperature | 53.4 °C | |
| Mixed water at 40°C | 246 I | |

Average Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 97 % | |
| СОР | 2.36 | |
| Heating up time | 01:04 h:min | |
| Standby power input | 44.6 W | |
| Reference hot water temperature | 53.7 °C | |
| Mixed water at 40°C | 244 | |



Model: VWL 105/5 AS + VWL 128/5 IS

| Configure model | | |
|-------------------------------------|---------------------------------|--|
| Model name | VWL 105/5 AS + VWL 128/5 IS | |
| Application | Heating + DHW + low temp | |
| Units | Indoor + Outdoor | |
| Climate Zone | Colder Climate + Warmer Climate | |
| Reversibility | Yes | |
| Cooling mode application (optional) | n/a | |

| General Data | | |
|--------------------------|--|--|
| Power supply 3x400V 50Hz | | |

Heating

| EN 14511-4 | |
|--|--------|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed |
| Operacing range outdoor exchanger/indoor exchanger lower inflictioner infliction | passed |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed |
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure | passed |
| Defrost test | passed |

| EN 14511-2 | | |
|-------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Heat output | 9.70 kW | 10.35 kW |
| El input | 2.12 kW | 3.74 kW |
| СОР | 4.57 | 2.77 |

Warmer Climate



| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 42 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |

| EN 14825 | | |
|------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| η_{s} | 211 % | 158 % |
| Prated | 8.23 kW | 9.29 kW |
| SCOP | 5.34 | 4.02 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 8.23 kW | 9.30 kW |
| COP Tj = +2°C | 3.64 | 2.42 |
| Cdh Tj = +2 °C | 0.99 | 1.00 |
| Pdh Tj = +7°C | 5.40 kW | 5.73 kW |
| $COP Tj = +7^{\circ}C$ | 4.92 | 3.37 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 5.99 kW | 6.15 kW |
| COP Tj = 12°C | 6.28 | 5.20 |
| Cdh Tj = +12 °C | 0.98 | 0.99 |





| Pdh Tj = Tbiv | 8.23 kW | 9.29 kW |
|---|-------------|-------------|
| COP Tj = Tbiv | 3.64 | 2.42 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.23 kW | 9.30 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.64 | 2.42 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.99 | 1.00 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| РТО | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 2059 kWh | 3090 kWh |

Colder Climate

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 42 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |



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| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{s} | 152 % | 111 % |
| Prated | 9.49 kW | 9.42 kW |
| SCOP | 3.87 | 2.85 |
| Tbiv | -15 °C | -15 °C |
| TOL | -20 °C | -15 °C |
| Pdh Tj = -7°C | 6.32 kW | 6.14 kW |
| $COP Tj = -7^{\circ}C$ | 3.41 | 2.56 |
| Cdh Tj = -7 °C | 0.990 | 0.990 |
| Pdh Tj = $+2$ °C | 4.94 kW | 4.48 kW |
| COP Tj = +2°C | 4.53 | 3.45 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = $+7^{\circ}$ C | 5.53 kW | 5.31 kW |
| $COPTj = +7^{\circ}C$ | 5.86 | 4.59 |
| Cdh Tj = +7 °C | 0.980 | 0.990 |
| Pdh Tj = 12°C | 6.44 kW | 6.21 kW |
| COP Tj = 12°C | 7.27 | 5.99 |
| Cdh Tj = +12 °C | 0.980 | 0.980 |
| Pdh Tj = Tbiv | 7.74 kW | 7.68 kW |
| COP Tj = Tbiv | 2.34 | 1.89 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 7.41 kW | 7.68 kW |





| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.22 | 1.89 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| PTO | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 9.49 kW | 9.42 kW |
| Annual energy consumption Qhe | 6040 kWh | 8138 kWh |
| Pdh Tj = -15°C (if TOL<-20°C) | 7.74 | 7.68 |
| COP Tj = -15°C (if TOL $<$ -20°C) | 2.34 | 1.89 |
| Cdh Tj = -15 °C | 1.000 | 1.000 |

Average Climate

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 42 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |



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This information was generated by the HP KEYMARK database on 31 Jul 2022

| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{S} | 180 % | 128 % |
| Prated | 11.50 kW | 9.56 kW |
| SCOP | 4.57 | 3.27 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7 °C | 10.18 kW | 8.46 kW |
| COP Tj = -7 °C | 2.83 | 2.12 |
| Cdh Tj = -7 °C | 1.000 | 1.000 |
| Pdh Tj = $+2$ °C | 6.53 kW | 5.05 kW |
| $COPTj = +2^{\circ}C$ | 4.57 | 3.14 |
| Cdh Tj = $+2$ °C | 0.990 | 0.990 |
| Pdh Tj = $+7$ °C | 5.66 kW | 5.18 kW |
| $COPTj = +7^{\circ}C$ | 5.78 | 4.27 |
| Cdh Tj = $+7$ °C | 0.980 | 0.990 |
| Pdh Tj = 12°C | 6.52 kW | 6.11 kW |
| COP Tj = 12°C | 7.35 | 5.79 |
| Cdh Tj = +12 °C | 0.980 | 0.990 |
| Pdh Tj = Tbiv | 10.18 kW | 8.46 kW |
| COP Tj = Tbiv | 2.83 | 2.12 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 10.05 kW | 7.98 kW |





| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.72 | 1.71 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| РТО | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.45 kW | 1.59 kW |
| Annual energy consumption Qhe | 5199 kWh | 6040 kWh |

Domestic Hot Water (DHW)

Warmer Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 108 % | |
| СОР | 2.62 | |
| Heating up time | 01:01 h:min | |
| Standby power input | 41.3 W | |
| Reference hot water temperature | 53.7 °C | |
| Mixed water at 40°C | 243 I | |



Colder Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 89 % | |
| СОР | 2.14 | |
| Heating up time | 01:13 h:min | |
| Standby power input | 51.6 W | |
| Reference hot water temperature | 53.4 °C | |
| Mixed water at 40°C | 246 I | |

Average Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 97 % | |
| СОР | 2.36 | |
| Heating up time | 01:04 h:min | |
| Standby power input | 44.6 W | |
| Reference hot water temperature | 53.7 °C | |
| Mixed water at 40°C | 244 | |



Model: VWL 105/5 AS 230V S2 + VWL 128/5 IS

| Configure model | | |
|-------------------------------------|-------------------------------------|--|
| Model name | VWL 105/5 AS 230V S2 + VWL 128/5 IS | |
| Application | Heating + DHW + low temp | |
| Units | Indoor + Outdoor | |
| Climate Zone | Colder Climate + Warmer Climate | |
| Reversibility No | | |
| Cooling mode application (optional) | n/a | |

| General Data | | |
|--------------|-------------|--|
| Power supply | 1x230V 50Hz | |

Heating

| EN 14511-4 | | |
|--|--------|--|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed | |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed | |
| Shutting off the heat transfer medium flow | passed | |
| Complete power supply failure | passed | |
| Defrost test | passed | |

| EN 14511-2 | | |
|-------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Heat output | 9.70 kW | 10.35 kW |
| El input | 2.12 kW | 3.74 kW |
| СОР | 4.57 | 2.77 |

Warmer Climate



| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 42 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |

| EN 14825 | | |
|-------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| η_{s} | 207 % | 156 % |
| Prated | 8.23 kW | 9.29 kW |
| SCOP | 5.25 | 3.97 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 8.23 kW | 9.30 kW |
| COP Tj = +2°C | 3.64 | 2.42 |
| Cdh Tj = +2 °C | 1.00 | 1.00 |
| Pdh Tj = $+7^{\circ}$ C | 5.40 kW | 5.73 kW |
| $COP Tj = +7^{\circ}C$ | 4.92 | 3.37 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 5.99 kW | 6.15 kW |
| COP Tj = 12°C | 6.28 | 5.20 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |





| Pdh Tj = Tbiv | 8.23 kW | 9.29 kW |
|---|-------------|-------------|
| COP Tj = Tbiv | 3.64 | 2.42 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.23 kW | 9.30 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.64 | 2.42 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 55 °C | 55 °C |
| Poff | 11 W | 11 W |
| РТО | 11 W | 11 W |
| PSB | 11 W | 11 W |
| PCK | o w | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 2094 kWh | 3125 kWh |
| | | |

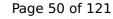
Colder Climate

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 42 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |





| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{s} | 152 % | 111 % |
| Prated | 9.49 kW | 9.42 kW |
| SCOP | 3.87 | 2.85 |
| Tbiv | -15 °C | -15 °C |
| TOL | -20 °C | -15 °C |
| Pdh Tj = -7°C | 6.32 kW | 6.14 kW |
| COP Tj = -7°C | 3.41 | 2.56 |
| Cdh Tj = -7 °C | 0.990 | 1.000 |
| Pdh Tj = +2°C | 4.94 kW | 4.48 kW |
| COP Tj = +2°C | 4.53 | 3.45 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = +7°C | 5.53 kW | 5.31 kW |
| COP Tj = +7°C | 5.86 | 4.59 |
| Cdh Tj = +7 °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 6.44 kW | 6.21 kW |
| COP Tj = 12°C | 7.27 | 5.99 |
| Cdh Tj = +12 °C | 0.990 | 0.990 |
| Pdh Tj = Tbiv | 7.74 kW | 7.68 kW |
| COP Tj = Tbiv | 2.34 | 1.89 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 7.41 kW | 7.68 kW |





| 2.22 | 1.89 |
|-------------|---|
| 1.000 | 1.000 |
| 55 °C | 55 °C |
| 11 W | 11 W |
| 11 W | 11 W |
| 11 W | 11 W |
| o w | 0 W |
| Electricity | Electricity |
| 9.49 kW | 9.42 kW |
| 6049 kWh | 8148 kWh |
| 7.74 | 7.68 |
| 2.34 | 1.89 |
| 1.000 | 1.000 |
| | 1.000 55 °C 11 W 11 W 11 W 0 W Electricity 9.49 kW 6049 kWh 7.74 2.34 |

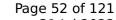
Average Climate

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 42 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |



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| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{S} | 179 % | 127 % |
| Prated | 11.50 kW | 9.56 kW |
| SCOP | 4.54 | 3.26 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7 °C | 10.18 kW | 8.46 kW |
| COP Tj = -7 °C | 2.83 | 2.12 |
| Cdh Tj = -7 °C | 1.000 | 1.000 |
| Pdh Tj = $+2$ °C | 6.53 kW | 5.05 kW |
| $COPTj = +2^{\circ}C$ | 4.57 | 3.14 |
| Cdh Tj = $+2$ °C | 0.990 | 0.990 |
| Pdh Tj = $+7$ °C | 5.66 kW | 5.18 kW |
| $COPTj = +7^{\circ}C$ | 5.78 | 4.27 |
| Cdh Tj = $+7$ °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 6.52 kW | 6.11 kW |
| COP Tj = 12°C | 7.35 | 5.79 |
| Cdh Tj = +12 °C | 0.990 | 0.990 |
| Pdh Tj = Tbiv | 10.18 kW | 8.46 kW |
| COP Tj = Tbiv | 2.83 | 2.12 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 10.05 kW | 7.98 kW |





| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.72 | 1.71 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 11 W | 11 W |
| РТО | 11 W | 11 W |
| PSB | 11 W | 11 W |
| PCK | o w | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.45 kW | 1.59 kW |
| Annual energy consumption Qhe | 5229 kWh | 6069 kWh |

Domestic Hot Water (DHW)

Warmer Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 108 % | |
| СОР | 2.62 | |
| Heating up time | 01:01 h:min | |
| Standby power input | 41.3 W | |
| Reference hot water temperature | 53.7 °C | |
| Mixed water at 40°C | 243 | |



Colder Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 89 % | |
| СОР | 2.14 | |
| Heating up time | 01:13 h:min | |
| Standby power input | 51.6 W | |
| Reference hot water temperature | 53.4 °C | |
| Mixed water at 40°C | 246 I | |

Average Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 97 % | |
| СОР | 2.36 | |
| Heating up time | 01:04 h:min | |
| Standby power input | 44.6 W | |
| Reference hot water temperature | 53.7 °C | |
| Mixed water at 40°C | 244 | |



Model: VWL 105/5 AS S2 + VWL 128/5 IS

| Configure model | | |
|-------------------------------------|---------------------------------|--|
| Model name | VWL 105/5 AS S2 + VWL 128/5 IS | |
| Application | Heating + DHW + low temp | |
| Units | Indoor + Outdoor | |
| Climate Zone | Colder Climate + Warmer Climate | |
| Reversibility | No | |
| Cooling mode application (optional) | n/a | |

| General Data | | |
|--------------|-------------|--|
| Power supply | 3x400V 50Hz | |

Heating

| EN 14511-4 | |
|--|--------|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed |
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure | passed |
| Defrost test | passed |

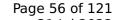
| EN 14511-2 | | | |
|------------------------------------|---------|----------|--|
| Low temperature Medium temperature | | | |
| Heat output | 9.70 kW | 10.35 kW | |
| El input | 2.12 kW | 3.74 kW | |
| СОР | 4.57 | 2.77 | |

Warmer Climate



| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 42 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |

| EN 14825 | | |
|------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| η_{s} | 203 % | 154 % |
| Prated | 8.23 kW | 9.29 kW |
| SCOP | 5.15 | 3.92 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = $+2$ °C | 8.23 kW | 9.30 kW |
| COP Tj = +2°C | 3.64 | 2.42 |
| Cdh Tj = +2 °C | 0.99 | 1.00 |
| Pdh Tj = +7°C | 5.40 kW | 5.73 kW |
| COP Tj = +7°C | 4.92 | 3.37 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 5.99 kW | 6.15 kW |
| COP Tj = 12°C | 6.28 | 5.20 |
| Cdh Tj = +12 °C | 0.98 | 0.99 |
| | | |





| Pdh Tj = Tbiv | 8.23 kW | 9.29 kW |
|---|-------------|-------------|
| COP Tj = Tbiv | 3.64 | 2.42 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.23 kW | 9.30 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.64 | 2.42 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.99 | 1.00 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| РТО | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | o w | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 2133 kWh | 3164 kWh |
| | | |

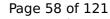
Colder Climate

| EN 12102-1 | | | |
|---------------------------|-----------------|--------------------|--|
| | Low temperature | Medium temperature | |
| Sound power level indoor | 42 dB(A) | 45 dB(A) | |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) | |



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| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{s} | 151 % | 111 % |
| Prated | 9.49 kW | 9.42 kW |
| SCOP | 3.85 | 2.84 |
| Tbiv | -15 °C | -15 °C |
| TOL | -20 °C | -15 °C |
| Pdh Tj = -7°C | 6.32 kW | 6.14 kW |
| COP Tj = -7°C | 3.41 | 2.56 |
| Cdh Tj = -7 °C | 0.990 | 0.990 |
| Pdh Tj = +2°C | 4.94 kW | 4.48 kW |
| COP Tj = +2°C | 4.53 | 3.45 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = +7°C | 5.53 kW | 5.31 kW |
| $COPTj = +7^{\circ}C$ | 5.86 | 4.59 |
| Cdh Tj = +7 °C | 0.980 | 0.990 |
| Pdh Tj = 12°C | 6.44 kW | 6.21 kW |
| COP Tj = 12°C | 7.27 | 5.99 |
| Cdh Tj = +12 °C | 0.980 | 0.980 |
| Pdh Tj = Tbiv | 7.74 kW | 7.68 kW |
| COP Tj = Tbiv | 2.34 | 1.89 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 7.41 kW | 7.68 kW |

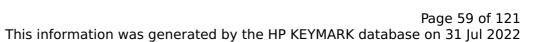




| 2.22 | 1.89 |
|-------------|---|
| 1.000 | 1.000 |
| 55 °C | 55 °C |
| 17 W | 17 W |
| 17 W | 17 W |
| 17 W | 17 W |
| o w | 0 W |
| Electricity | Electricity |
| 9.49 kW | 9.42 kW |
| 6077 kWh | 8175 kWh |
| 7.74 | 7.68 |
| 2.34 | 1.89 |
| 1.000 | 1.000 |
| | 1.000 55 °C 17 W 17 W 17 W 0 W Electricity 9.49 kW 6077 kWh 7.74 2.34 |

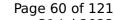
Average Climate

| EN 12102-1 | | | |
|---------------------------|-----------------|--------------------|--|
| | Low temperature | Medium temperature | |
| Sound power level indoor | 42 dB(A) | 45 dB(A) | |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) | |





| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{s} | 178 % | 127 % |
| Prated | 11.50 kW | 9.56 kW |
| SCOP | 4.52 | 3.24 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7° C | 10.18 kW | 8.46 kW |
| $COP Tj = -7^{\circ}C$ | 2.83 | 2.12 |
| Cdh Tj = -7 °C | 1.000 | 1.000 |
| Pdh Tj = $+2$ °C | 6.53 kW | 5.05 kW |
| COP Tj = +2°C | 4.57 | 3.14 |
| Cdh Tj = $+2$ °C | 0.990 | 0.990 |
| Pdh Tj = $+7^{\circ}$ C | 5.66 kW | 5.18 kW |
| $COP Tj = +7^{\circ}C$ | 5.78 | 4.27 |
| Cdh Tj = $+7$ °C | 0.980 | 0.990 |
| Pdh Tj = 12°C | 6.52 kW | 6.11 kW |
| COP Tj = 12°C | 7.35 | 5.79 |
| Cdh Tj = +12 °C | 0.980 | 0.990 |
| Pdh Tj = Tbiv | 10.18 kW | 8.46 kW |
| COP Tj = Tbiv | 2.83 | 2.12 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 10.05 kW | 7.98 kW |





| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.72 | 1.71 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| РТО | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.45 kW | 1.59 kW |
| Annual energy consumption Qhe | 5260 kWh | 6102 kWh |

Domestic Hot Water (DHW)

Warmer Climate

| EN 16147 | |
|---------------------------------|-------------|
| Declared load profile | XL |
| Efficiency ηDHW | 108 % |
| СОР | 2.62 |
| Heating up time | 01:01 h:min |
| Standby power input | 41.3 W |
| Reference hot water temperature | 53.7 °C |
| Mixed water at 40°C | 243 |



Colder Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 89 % | |
| СОР | 2.14 | |
| Heating up time | 01:13 h:min | |
| Standby power input | 51.6 W | |
| Reference hot water temperature | 53.4 °C | |
| Mixed water at 40°C | 246 I | |

Average Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 97 % | |
| СОР | 2.36 | |
| Heating up time | 01:04 h:min | |
| Standby power input | 44.6 W | |
| Reference hot water temperature | 53.7 °C | |
| Mixed water at 40°C | 244 | |

Model: VWL 125/5 AS 230V + VWL 127/5 IS

| Configure model | | |
|-------------------------------------|----------------------------------|--|
| Model name | VWL 125/5 AS 230V + VWL 127/5 IS | |
| Application | Heating (medium temp) | |
| Units | Indoor + Outdoor | |
| Climate Zone | Colder Climate + Warmer Climate | |
| Reversibility | Yes | |
| Cooling mode application (optional) | n/a | |

| General Data | | |
|--------------------------|--|--|
| Power supply 1x230V 50Hz | | |

Heating

| EN 14511-4 | | |
|--|--------|--|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed | |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed | |
| Shutting off the heat transfer medium flow | passed | |
| Complete power supply failure | passed | |
| Defrost test | passed | |

| EN 14511-2 | | |
|-------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Heat output | 10.25 kW | 10.90 kW |
| El input | 2.26 kW | 3.94 kW |
| СОР | 4.54 | 2.77 |

Warmer Climate

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 45 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |

| EN 14825 | | |
|-----------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| η_{s} | 212 % | 158 % |
| Prated | 8.23 kW | 9.29 kW |
| SCOP | 5.37 | 4.03 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 8.23 kW | 9.30 kW |
| COP Tj = +2°C | 3.64 | 2.42 |
| Cdh Tj = +2 °C | 1.00 | 1.00 |
| Pdh Tj = +7°C | 5.40 kW | 5.73 kW |
| COP Tj = +7°C | 4.92 | 3.37 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 5.99 kW | 6.15 kW |
| COP Tj = 12°C | 6.28 | 5.20 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |





| Pdh Tj = Tbiv | 8.23 kW | 9.29 kW |
|---|-------------|-------------|
| COP Tj = Tbiv | 3.64 | 2.42 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.23 kW | 9.30 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.64 | 2.42 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 55 °C | 55 °C |
| Poff | 11 W | 11 W |
| РТО | 11 W | 11 W |
| PSB | 11 W | 11 W |
| PCK | o w | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 2046 kWh | 3076 kWh |

Colder Climate

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 45 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |



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This information was generated by the HP KEYMARK database on 31 Jul 2022

| This information was generated by the HP KEYMARK database on 31 Jul 202 | | | |
|---|--|--|--|
| Low temperature | Medium temperature | | |
| 153 % | 111 % | | |
| 12.31 kW | 10.28 kW | | |
| 3.91 | 2.86 | | |
| -15 °C | -15 °C | | |
| -20 °C | -15 °C | | |
| 8.06 kW | 6.50 kW | | |
| 3.40 | 2.57 | | |
| 1.000 | 1.000 | | |
| 4.95 kW | 4.47 kW | | |
| 4.68 | 3.45 | | |
| 0.990 | 0.990 | | |
| 5.74 kW | 5.33 kW | | |
| 5.94 | 4.61 | | |
| 0.990 | 0.990 | | |
| 6.48 kW | 6.10 kW | | |
| 7.01 | 6.08 | | |
| 0.990 | 0.990 | | |
| 10.04 kW | 8.38 kW | | |
| 2.27 | 1.84 | | |
| 8.63 kW | 8.38 kW | | |
| | Low temperature 153 % 12.31 kW 3.91 -15 °C -20 °C 8.06 kW 3.40 1.000 4.95 kW 4.68 0.990 5.74 kW 5.94 0.990 6.48 kW 7.01 0.990 10.04 kW 2.27 | | |

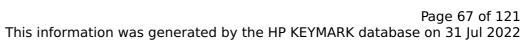




| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.17 | 1.84 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 11 W | 11 W |
| РТО | 11 W | 11 W |
| PSB | 11 W | 11 W |
| PCK | o w | o w |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 12.31 kW | 10.28 kW |
| Annual energy consumption Qhe | 7757 kWh | 8863 kWh |
| Pdh Tj = -15°C (if TOL<-20°C) | 10.04 | 8.38 |
| COP Tj = -15°C (if TOL $<$ -20°C) | 2.27 | 1.84 |
| Cdh Tj = -15 °C | 1.000 | 1.000 |

Average Climate

| EN 12102-1 | | | |
|---------------------------|-----------------|--------------------|--|
| | Low temperature | Medium temperature | |
| Sound power level indoor | 45 dB(A) | 45 dB(A) | |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) | |





| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{S} | 175 % | 133 % |
| Prated | 13.57 kW | 10.97 kW |
| SCOP | 4.45 | 3.39 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 12.01 kW | 9.71 kW |
| COP Tj = -7°C | 2.51 | 2.16 |
| Cdh Tj = -7 °C | 1.000 | 1.000 |
| Pdh Tj = +2°C | 7.21 kW | 5.81 kW |
| $COP Tj = +2^{\circ}C$ | 4.47 | 3.25 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = +7°C | 5.68 kW | 5.22 kW |
| $COP Tj = +7^{\circ}C$ | 5.83 | 4.47 |
| Cdh Tj = +7 °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 6.44 kW | 6.06 kW |
| COP Tj = 12°C | 7.38 | 5.85 |
| Cdh Tj = +12 °C | 0.990 | 0.990 |
| Pdh Tj = Tbiv | 12.01 kW | 9.71 kW |
| COP Tj = Tbiv | 2.51 | 2.16 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 12.44 kW | 8.97 kW |



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This information was generated by the HP KEYMARK database on 31 Jul 2022

| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.47 | 1.85 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 11 W | 11 W |
| РТО | 11 W | 11 W |
| PSB | 11 W | 11 W |
| PCK | o w | o w |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.13 kW | 2.01 kW |
| Annual energy consumption Qhe | 6303 kWh | 6691 kWh |

Model: VWL 125/5 AS + VWL 127/5 IS

| Configure model | | |
|-------------------------------------|---------------------------------|--|
| Model name | VWL 125/5 AS + VWL 127/5 IS | |
| Application | Heating (medium temp) | |
| Units | Indoor + Outdoor | |
| Climate Zone | Colder Climate + Warmer Climate | |
| Reversibility | Yes | |
| Cooling mode application (optional) | n/a | |

| General Data | | |
|--------------------------|--|--|
| Power supply 3x400V 50Hz | | |

Heating

| EN 14511-4 | | |
|--|--------|--|
| | | |
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed | |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed | |
| Shutting off the heat transfer medium flow | passed | |
| Complete power supply failure | passed | |
| Defrost test | passed | |

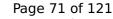
| EN 14511-2 | | |
|-------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Heat output | 10.25 kW | 10.90 kW |
| El input | 2.26 kW | 3.94 kW |
| СОР | 4.54 | 2.77 |

Warmer Climate



| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 45 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |

| EN 14825 | | |
|-------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| η_{s} | 211 % | 158 % |
| Prated | 8.23 kW | 9.29 kW |
| SCOP | 5.34 | 4.02 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 8.23 kW | 9.30 kW |
| COP Tj = +2°C | 3.64 | 2.42 |
| Cdh Tj = +2 °C | 0.99 | 1.00 |
| Pdh Tj = $+7^{\circ}$ C | 5.40 kW | 5.73 kW |
| $COP Tj = +7^{\circ}C$ | 4.92 | 3.37 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 5.99 kW | 6.15 kW |
| COP Tj = 12°C | 6.28 | 5.20 |
| Cdh Tj = +12 °C | 0.98 | 0.99 |





| Pdh Tj = Tbiv | 8.23 kW | 9.29 kW |
|---|-------------|-------------|
| COP Tj = Tbiv | 3.64 | 2.42 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.23 kW | 9.30 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.64 | 2.42 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.99 | 1.00 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| РТО | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 2059 kWh | 3090 kWh |

Colder Climate

| EN 12102-1 | | | | |
|---------------------------|-----------------|--------------------|--|--|
| | Low temperature | Medium temperature | | |
| Sound power level indoor | 45 dB(A) | 45 dB(A) | | |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) | | |



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| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{s} | 153 % | 111 % |
| Prated | 12.31 kW | 10.28 kW |
| SCOP | 3.91 | 2.85 |
| Tbiv | -15 °C | -15 °C |
| TOL | -20 °C | -15 °C |
| Pdh Tj = -7° C | 8.06 kW | 6.50 kW |
| COP Tj = -7° C | 3.40 | 2.57 |
| Cdh Tj = -7 °C | 0.990 | 0.990 |
| Pdh Tj = $+2$ °C | 4.95 kW | 4.47 kW |
| $COP Tj = +2^{\circ}C$ | 4.68 | 3.45 |
| Cdh Tj = $+2$ °C | 0.990 | 0.990 |
| Pdh Tj = $+7^{\circ}$ C | 5.74 kW | 5.33 kW |
| $COP Tj = +7^{\circ}C$ | 5.94 | 4.61 |
| Cdh Tj = $+7$ °C | 0.980 | 0.990 |
| Pdh Tj = 12°C | 6.48 kW | 6.10 kW |
| COP Tj = 12°C | 7.01 | 6.08 |
| Cdh Tj = +12 °C | 0.980 | 0.980 |
| Pdh Tj = Tbiv | 10.04 kW | 8.38 kW |
| COP Tj = Tbiv | 2.27 | 1.84 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.63 kW | 8.38 kW |

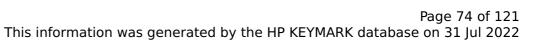




| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.17 | 1.84 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| PTO | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | o w | o w |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 12.31 kW | 10.28 kW |
| Annual energy consumption Qhe | 7766 kWh | 8875 kWh |
| Pdh Tj = -15°C (if TOL<-20°C) | 10.04 | 8.38 |
| COP Tj = -15°C (if TOL $<$ -20°C) | 2.27 | 1.84 |
| Cdh Tj = -15 °C | 1.000 | 1.000 |

Average Climate

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 45 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |





| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{S} | 175 % | 132 % |
| Prated | 13.57 kW | 10.97 kW |
| SCOP | 4.44 | 3.38 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 12.01 kW | 9.71 kW |
| COP Tj = -7°C | 2.51 | 2.16 |
| Cdh Tj = -7 °C | 1.000 | 1.000 |
| Pdh Tj = +2°C | 7.21 kW | 5.81 kW |
| $COP Tj = +2^{\circ}C$ | 4.47 | 3.25 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = +7°C | 5.68 kW | 5.22 kW |
| $COP Tj = +7^{\circ}C$ | 5.83 | 4.47 |
| Cdh Tj = +7 °C | 0.980 | 0.990 |
| Pdh Tj = 12°C | 6.44 kW | 6.06 kW |
| COP Tj = 12°C | 7.38 | 5.85 |
| Cdh Tj = +12 °C | 0.980 | 0.980 |
| Pdh Tj = Tbiv | 12.01 kW | 9.71 kW |
| COP Tj = Tbiv | 2.51 | 2.16 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 12.44 kW | 8.97 kW |



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This information was generated by the HP KEYMARK database on 31 Jul 2022

| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.47 | 1.85 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| РТО | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | o w | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.13 kW | 2.01 kW |
| Annual energy consumption Qhe | 6311 kWh | 6700 kWh |



Model: VWL 125/5 AS 230V S2 + VWL 127/5 IS

| Configure model | | |
|-------------------------------------|-------------------------------------|--|
| Model name | VWL 125/5 AS 230V S2 + VWL 127/5 IS | |
| Application | Heating (medium temp) | |
| Units | Indoor + Outdoor | |
| Climate Zone | Colder Climate + Warmer Climate | |
| Reversibility | No | |
| Cooling mode application (optional) | n/a | |

| General Data | | |
|--------------------------|--|--|
| Power supply 1x230V 50Hz | | |

Heating

| EN 14511-4 | |
|--|--------|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed |
| Operacing range outdoor exchanger/indoor exchanger lower inflictiower infliction | passed |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed |
| Shutting off the heat transfer medium flow | passed |
| Complete power supply failure | passed |
| Defrost test | passed |

| EN 14511-2 | | |
|-------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Heat output | 10.25 kW | 10.90 kW |
| El input | 2.26 kW | 3.94 kW |
| СОР | 4.54 | 2.77 |

Warmer Climate



| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 45 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |

| EN 14825 | | |
|-----------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| η_{s} | 207 % | 156 % |
| Prated | 8.23 kW | 9.29 kW |
| SCOP | 5.25 | 3.97 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 8.23 kW | 9.30 kW |
| COP Tj = +2°C | 3.64 | 2.42 |
| Cdh Tj = +2 °C | 1.00 | 1.00 |
| Pdh Tj = +7°C | 5.40 kW | 5.73 kW |
| $COPTj = +7^{\circ}C$ | 4.92 | 3.37 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 5.99 kW | 6.15 kW |
| COP Tj = 12°C | 6.28 | 5.20 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |

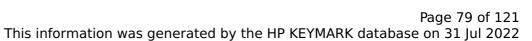




| Pdh Tj = Tbiv | 8.23 kW | 9.29 kW |
|---|-------------|-------------|
| COP Tj = Tbiv | 3.64 | 2.42 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.23 kW | 9.30 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.64 | 2.42 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 55 °C | 55 °C |
| Poff | 11 W | 11 W |
| РТО | 11 W | 11 W |
| PSB | 11 W | 11 W |
| PCK | o w | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 2094 kWh | 3125 kWh |
| | | |

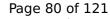
Colder Climate

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 45 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |





| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{S} | 153 % | 111 % |
| Prated | 12.31 kW | 10.28 kW |
| SCOP | 3.90 | 2.85 |
| Tbiv | -15 °C | -15 °C |
| TOL | -20 °C | -15 °C |
| Pdh Tj = -7°C | 8.06 kW | 6.50 kW |
| COP Tj = -7°C | 3.40 | 2.57 |
| Cdh Tj = -7 °C | 1.000 | 1.000 |
| Pdh Tj = +2°C | 4.95 kW | 4.47 kW |
| $COP Tj = +2^{\circ}C$ | 4.68 | 3.45 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = +7°C | 5.74 kW | 5.33 kW |
| $COP Tj = +7^{\circ}C$ | 5.94 | 4.61 |
| Cdh Tj = +7 °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 6.48 kW | 6.10 kW |
| COP Tj = 12°C | 7.01 | 6.08 |
| Cdh Tj = +12 °C | 0.990 | 0.990 |
| Pdh Tj = Tbiv | 10.04 kW | 8.38 kW |
| COP Tj = Tbiv | 2.27 | 1.84 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.63 kW | 8.38 kW |





| 2.17 | 1.84 |
|-------------|---|
| 1.000 | 1.000 |
| 55 °C | 55 °C |
| 11 W | 11 W |
| 11 W | 11 W |
| 11 W | 11 W |
| o w | 0 W |
| Electricity | Electricity |
| 12.31 kW | 10.28 kW |
| 7781 kWh | 8887 kWh |
| 10.04 | 8.38 |
| 2.27 | 1.84 |
| 1.000 | 1.000 |
| | 1.000 55 °C 11 W 11 W 11 W 0 W Electricity 12.31 kW 7781 kWh 10.04 2.27 |

Average Climate

| EN 12102-1 | | | |
|---------------------------|-----------------|--------------------|--|
| | Low temperature | Medium temperature | |
| Sound power level indoor | 45 dB(A) | 45 dB(A) | |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) | |



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| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_s | 174 % | 132 % |
| Prated | 13.57 kW | 10.97 kW |
| SCOP | 4.42 | 3.37 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7° C | 12.01 kW | 9.71 kW |
| $COPTj = -7^{\circ}C$ | 2.51 | 2.16 |
| Cdh Tj = -7 °C | 1.000 | 1.000 |
| Pdh Tj = $+2$ °C | 7.21 kW | 5.81 kW |
| $COPTj = +2^{\circ}C$ | 4.47 | 3.25 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = $+7$ °C | 5.68 kW | 5.22 kW |
| $COPTj = +7^{\circ}C$ | 5.83 | 4.47 |
| Cdh Tj = +7 °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 6.44 kW | 6.06 kW |
| COP Tj = 12°C | 7.38 | 5.85 |
| Cdh Tj = +12 °C | 0.990 | 0.990 |
| Pdh Tj = Tbiv | 12.01 kW | 9.71 kW |
| COP Tj = Tbiv | 2.51 | 2.16 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 12.44 kW | 8.97 kW |



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This information was generated by the HP KEYMARK database on 31 Jul 2022

| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.47 | 1.85 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 11 W | 11 W |
| РТО | 11 W | 11 W |
| PSB | 11 W | 11 W |
| PCK | o w | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.13 kW | 2.01 kW |
| Annual energy consumption Qhe | 6344 kWh | 6731 kWh |



Model: VWL 125/5 AS S2 + VWL 127/5 IS

| Configure model | | |
|-------------------------------------|---------------------------------|--|
| Model name | VWL 125/5 AS S2 + VWL 127/5 IS | |
| Application | Heating (medium temp) | |
| Units | Indoor + Outdoor | |
| Climate Zone | Colder Climate + Warmer Climate | |
| Reversibility No | | |
| Cooling mode application (optional) | n/a | |

| General Data | | |
|--------------------------|--|--|
| Power supply 3x400V 50Hz | | |

Heating

| EN 14511-4 | | |
|--|--------|--|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed | |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed | |
| Shutting off the heat transfer medium flow | passed | |
| Complete power supply failure | passed | |
| Defrost test | passed | |

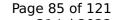
| EN 14511-2 | | |
|-------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Heat output | 10.25 kW | 10.90 kW |
| El input | 2.26 kW | 3.94 kW |
| СОР | 4.54 | 2.77 |

Warmer Climate



| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 45 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |

| EN 14825 | | |
|-----------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| η_{s} | 203 % | 154 % |
| Prated | 8.23 kW | 9.29 kW |
| SCOP | 5.15 | 3.92 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 8.23 kW | 9.30 kW |
| COP Tj = +2°C | 3.64 | 2.42 |
| Cdh Tj = +2 °C | 0.99 | 1.00 |
| Pdh Tj = +7°C | 5.40 kW | 5.73 kW |
| COP Tj = +7°C | 4.92 | 3.37 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 5.99 kW | 6.15 kW |
| COP Tj = 12°C | 6.28 | 5.20 |
| Cdh Tj = +12 °C | 0.98 | 0.99 |





| Pdh Tj = Tbiv | 8.23 kW | 9.29 kW |
|---|-------------|-------------|
| COP Tj = Tbiv | 3.64 | 2.42 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.23 kW | 9.30 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.64 | 2.42 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.99 | 1.00 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| РТО | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 2133 kWh | 3164 kWh |

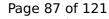
Colder Climate

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 45 dB(A) | 45 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |





| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{s} | 152 % | 111 % |
| Prated | 12.31 kW | 10.28 kW |
| SCOP | 3.89 | 2.84 |
| Tbiv | -15 °C | -15 °C |
| TOL | -20 °C | -15 °C |
| Pdh Tj = -7°C | 8.06 kW | 6.50 kW |
| $COP Tj = -7^{\circ}C$ | 3.40 | 2.57 |
| Cdh Tj = -7 °C | 0.990 | 0.990 |
| Pdh Tj = $+2$ °C | 4.95 kW | 4.47 kW |
| COP Tj = +2°C | 4.68 | 3.45 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = $+7^{\circ}$ C | 5.74 kW | 5.33 kW |
| COP Tj = +7°C | 5.94 | 4.61 |
| Cdh Tj = +7 °C | 0.980 | 0.990 |
| Pdh Tj = 12°C | 6.48 kW | 6.10 kW |
| COP Tj = 12°C | 7.01 | 6.08 |
| Cdh Tj = +12 °C | 0.980 | 0.980 |
| Pdh Tj = Tbiv | 10.04 kW | 8.38 kW |
| COP Tj = Tbiv | 2.27 | 1.84 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.63 kW | 8.38 kW |

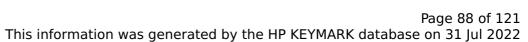




| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.17 | 1.84 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| РТО | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | o w | o w |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 12.31 kW | 10.28 kW |
| Annual energy consumption Qhe | 7803 kWh | 8912 kWh |
| Pdh Tj = -15°C (if TOL<-20°C) | 10.04 | 8.38 |
| COP Tj = -15°C (if TOL $<$ -20°C) | 2.27 | 1.84 |
| Cdh Tj = -15 °C | 1.000 | 1.000 |
| | | |

Average Climate

| EN 12102-1 | | | |
|------------------------------------|----------|----------|--|
| Low temperature Medium temperature | | | |
| Sound power level indoor | 45 dB(A) | 45 dB(A) | |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) | |





| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{s} | 173 % | 131 % |
| Prated | 13.57 kW | 10.97 kW |
| SCOP | 4.40 | 3.35 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 12.01 kW | 9.71 kW |
| COP Tj = -7°C | 2.51 | 2.16 |
| Cdh Tj = -7 °C | 1.000 | 1.000 |
| Pdh Tj = +2°C | 7.21 kW | 5.81 kW |
| $COP Tj = +2^{\circ}C$ | 4.47 | 3.25 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = +7°C | 5.68 kW | 5.22 kW |
| $COP Tj = +7^{\circ}C$ | 5.83 | 4.47 |
| Cdh Tj = +7 °C | 0.980 | 0.990 |
| Pdh Tj = 12°C | 6.44 kW | 6.06 kW |
| COP Tj = 12°C | 7.38 | 5.85 |
| Cdh Tj = +12 °C | 0.980 | 0.980 |
| Pdh Tj = Tbiv | 12.01 kW | 9.71 kW |
| COP Tj = Tbiv | 2.51 | 2.16 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 12.44 kW | 8.97 kW |



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This information was generated by the HP KEYMARK database on 31 Jul 2022

| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.47 | 1.85 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| РТО | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | o w | o w |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.13 kW | 2.01 kW |
| Annual energy consumption Qhe | 6373 kWh | 6762 kWh |

Model: VWL 125/5 AS 230V + VWL 128/5 IS

| Configure model | | |
|-------------------------------------|----------------------------------|--|
| Model name | VWL 125/5 AS 230V + VWL 128/5 IS | |
| Application | Heating + DHW + low temp | |
| Units | Indoor + Outdoor | |
| Climate Zone | Colder Climate + Warmer Climate | |
| Reversibility | Yes | |
| Cooling mode application (optional) | n/a | |

| General Data | | |
|--------------|-------------|--|
| Power supply | 1x230V 50Hz | |

Heating

| EN 14511-4 | | |
|--|--------|--|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed | |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed | |
| Shutting off the heat transfer medium flow | passed | |
| Complete power supply failure | passed | |
| Defrost test | passed | |

| EN 14511-2 | | | |
|-------------|-----------------|--------------------|--|
| | Low temperature | Medium temperature | |
| Heat output | 10.25 kW | 10.90 kW | |
| El input | 2.26 kW | 3.94 kW | |
| СОР | 4.54 | 2.77 | |

Warmer Climate



| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 43 dB(A) | 44 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |

| EN 14825 | | |
|------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| η_{s} | 212 % | 158 % |
| Prated | 8.23 kW | 9.29 kW |
| SCOP | 5.37 | 4.03 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = $+2$ °C | 8.23 kW | 9.30 kW |
| COP Tj = +2°C | 3.64 | 2.42 |
| Cdh Tj = +2 °C | 1.00 | 1.00 |
| Pdh Tj = +7°C | 5.40 kW | 5.73 kW |
| $COP Tj = +7^{\circ}C$ | 4.92 | 3.37 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 5.99 kW | 6.15 kW |
| COP Tj = 12°C | 6.28 | 5.20 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |
| | | |





| 8.23 kW | 9.29 kW |
|-------------|---|
| 3.64 | 2.42 |
| 8.23 kW | 9.30 kW |
| 3.64 | 2.42 |
| 1.00 | 1.00 |
| 55 °C | 55 °C |
| 11 W | 11 W |
| 11 W | 11 W |
| 11 W | 11 W |
| o w | 0 W |
| Electricity | Electricity |
| 0.00 kW | 0.00 kW |
| 2046 kWh | 3076 kWh |
| | 3.64 8.23 kW 3.64 1.00 55 °C 11 W 11 W 11 W 0 W Electricity 0.00 kW |

Colder Climate

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 43 dB(A) | 44 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |



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This information was generated by the HP KEYMARK database on 31 Jul 2022

| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{s} | 153 % | 111 % |
| Prated | 12.31 kW | 10.28 kW |
| SCOP | 3.91 | 2.86 |
| Tbiv | -15 °C | -15 °C |
| TOL | -20 °C | -15 °C |
| Pdh Tj = -7°C | 8.06 kW | 6.50 kW |
| COP Tj = -7°C | 3.40 | 2.57 |
| Cdh Tj = -7 °C | 1.000 | 1.000 |
| Pdh Tj = $+2$ °C | 4.95 kW | 4.47 kW |
| COP Tj = +2°C | 4.68 | 3.45 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = +7°C | 5.74 kW | 5.33 kW |
| COP Tj = +7°C | 5.94 | 4.61 |
| Cdh Tj = +7 °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 6.48 kW | 6.10 kW |
| COP Tj = 12°C | 7.01 | 6.08 |
| Cdh Tj = +12 °C | 0.990 | 0.990 |
| Pdh Tj = Tbiv | 10.04 kW | 8.38 kW |
| COP Tj = Tbiv | 2.27 | 1.84 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.63 kW | 8.38 kW |





| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.17 | 1.84 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 11 W | 11 W |
| РТО | 11 W | 11 W |
| PSB | 11 W | 11 W |
| PCK | o w | o w |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 12.31 kW | 10.28 kW |
| Annual energy consumption Qhe | 7757 kWh | 8863 kWh |
| Pdh Tj = -15°C (if TOL<-20°C) | 10.04 | 8.38 |
| COP Tj = -15°C (if TOL $<$ -20°C) | 2.27 | 1.84 |
| Cdh Tj = -15 °C | 1.000 | 1.000 |

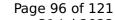
Average Climate

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 43 dB(A) | 44 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |





| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{s} | 175 % | 133 % |
| Prated | 13.57 kW | 10.97 kW |
| SCOP | 4.45 | 3.39 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 12.01 kW | 9.71 kW |
| COP Tj = -7°C | 2.51 | 2.16 |
| Cdh Tj = -7 °C | 1.000 | 1.000 |
| Pdh Tj = +2°C | 7.21 kW | 5.81 kW |
| COP Tj = +2°C | 4.47 | 3.25 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = $+7^{\circ}$ C | 5.68 kW | 5.22 kW |
| COP Tj = +7°C | 5.83 | 4.47 |
| Cdh Tj = +7 °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 6.44 kW | 6.06 kW |
| COP Tj = 12°C | 7.38 | 5.85 |
| Cdh Tj = +12 °C | 0.990 | 0.990 |
| Pdh Tj = Tbiv | 12.01 kW | 9.71 kW |
| COP Tj = Tbiv | 2.51 | 2.16 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 12.44 kW | 8.97 kW |





| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.47 | 1.85 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 11 W | 11 W |
| РТО | 11 W | 11 W |
| PSB | 11 W | 11 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.13 kW | 2.01 kW |
| Annual energy consumption Qhe | 6303 kWh | 6691 kWh |

Domestic Hot Water (DHW)

Warmer Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 108 % | |
| СОР | 2.62 | |
| Heating up time | 01:01 h:min | |
| Standby power input | 41.3 W | |
| Reference hot water temperature | 53.7 °C | |
| Mixed water at 40°C | 243 | |



Colder Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 89 % | |
| СОР | 2.14 | |
| Heating up time | 01:13 h:min | |
| Standby power input | 51.6 W | |
| Reference hot water temperature | 53.4 °C | |
| Mixed water at 40°C | 246 I | |

Average Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 97 % | |
| СОР | 2.36 | |
| Heating up time | 01:04 h:min | |
| Standby power input | 44.6 W | |
| Reference hot water temperature | 53.7 °C | |
| Mixed water at 40°C | 244 | |

Model: VWL 125/5 AS + VWL 128/5 IS

| Configure model | | |
|-------------------------------------|---------------------------------|--|
| Model name | VWL 125/5 AS + VWL 128/5 IS | |
| Application | Heating + DHW + low temp | |
| Units | Indoor + Outdoor | |
| Climate Zone | Colder Climate + Warmer Climate | |
| Reversibility | Yes | |
| Cooling mode application (optional) | n/a | |

| General Data | | |
|--------------|-------------|--|
| Power supply | 3x400V 50Hz | |

Heating

| EN 14511-4 | | |
|--|--------|--|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed | |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed | |
| Shutting off the heat transfer medium flow | passed | |
| Complete power supply failure | passed | |
| Defrost test | passed | |

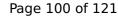
| EN 14511-2 | | | |
|------------------------------------|----------|----------|--|
| Low temperature Medium temperature | | | |
| Heat output | 10.25 kW | 10.90 kW | |
| El input | 2.26 kW | 3.94 kW | |
| СОР | 4.54 | 2.77 | |

Warmer Climate



| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 43 dB(A) | 44 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |

| EN 14825 | | |
|------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| η_{s} | 211 % | 158 % |
| Prated | 8.23 kW | 9.29 kW |
| SCOP | 5.34 | 4.02 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 8.23 kW | 9.30 kW |
| COP Tj = +2°C | 3.64 | 2.42 |
| Cdh Tj = +2 °C | 0.99 | 1.00 |
| Pdh Tj = +7°C | 5.40 kW | 5.73 kW |
| $COP Tj = +7^{\circ}C$ | 4.92 | 3.37 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 5.99 kW | 6.15 kW |
| COP Tj = 12°C | 6.28 | 5.20 |
| Cdh Tj = +12 °C | 0.98 | 0.99 |





| Pdh Tj = Tbiv | 8.23 kW | 9.29 kW |
|---|-------------|-------------|
| COP Tj = Tbiv | 3.64 | 2.42 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.23 kW | 9.30 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.64 | 2.42 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.99 | 1.00 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| РТО | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | o w | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 2059 kWh | 3090 kWh |
| | | |

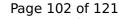
Colder Climate

| EN 12102-1 | | | |
|---------------------------|-----------------|--------------------|--|
| | Low temperature | Medium temperature | |
| Sound power level indoor | 43 dB(A) | 44 dB(A) | |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) | |



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| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{s} | 153 % | 111 % |
| Prated | 12.31 kW | 10.28 kW |
| SCOP | 3.91 | 2.85 |
| Tbiv | -15 °C | -15 °C |
| TOL | -20 °C | -15 °C |
| Pdh Tj = -7°C | 8.06 kW | 6.50 kW |
| COP Tj = -7°C | 3.40 | 2.57 |
| Cdh Tj = -7 °C | 0.990 | 0.990 |
| Pdh Tj = +2°C | 4.95 kW | 4.47 kW |
| $COPTj = +2^{\circ}C$ | 4.68 | 3.45 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = +7°C | 5.74 kW | 5.33 kW |
| $COPTj = +7^{\circ}C$ | 5.94 | 4.61 |
| Cdh Tj = +7 °C | 0.980 | 0.990 |
| Pdh Tj = 12°C | 6.48 kW | 6.10 kW |
| COP Tj = 12°C | 7.01 | 6.08 |
| Cdh Tj = +12 °C | 0.980 | 0.980 |
| Pdh Tj = Tbiv | 10.04 kW | 8.38 kW |
| COP Tj = Tbiv | 2.27 | 1.84 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.63 kW | 8.38 kW |





| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.17 | 1.84 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| РТО | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | o w | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 12.31 kW | 10.28 kW |
| Annual energy consumption Qhe | 7766 kWh | 8875 kWh |
| Pdh Tj = -15°C (if TOL<-20°C) | 10.04 | 8.38 |
| COP Tj = -15°C (if TOL $<$ -20°C) | 2.27 | 1.84 |
| Cdh Tj = -15 °C | 1.000 | 1.000 |
| | | |

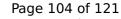
Average Climate

| EN 12102-1 | | | |
|---------------------------|-----------------|--------------------|--|
| | Low temperature | Medium temperature | |
| Sound power level indoor | 43 dB(A) | 44 dB(A) | |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) | |



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| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_s | 175 % | 132 % |
| Prated | 13.57 kW | 10.97 kW |
| SCOP | 4.44 | 3.38 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 12.01 kW | 9.71 kW |
| COP Tj = -7°C | 2.51 | 2.16 |
| Cdh Tj = -7 °C | 1.000 | 1.000 |
| Pdh Tj = +2°C | 7.21 kW | 5.81 kW |
| $COP Tj = +2^{\circ}C$ | 4.47 | 3.25 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = $+7^{\circ}$ C | 5.68 kW | 5.22 kW |
| $COP Tj = +7^{\circ}C$ | 5.83 | 4.47 |
| Cdh Tj = +7 °C | 0.980 | 0.990 |
| Pdh Tj = 12°C | 6.44 kW | 6.06 kW |
| COP Tj = 12°C | 7.38 | 5.85 |
| Cdh Tj = +12 °C | 0.980 | 0.980 |
| Pdh Tj = Tbiv | 12.01 kW | 9.71 kW |
| COP Tj = Tbiv | 2.51 | 2.16 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 12.44 kW | 8.97 kW |





| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.47 | 1.85 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| РТО | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | o w | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.13 kW | 2.01 kW |
| Annual energy consumption Qhe | 6311 kWh | 6700 kWh |

Domestic Hot Water (DHW)

Warmer Climate

| EN 16147 | |
|---------------------------------|-------------|
| Declared load profile | XL |
| Efficiency ηDHW | 108 % |
| СОР | 2.62 |
| Heating up time | 01:01 h:min |
| Standby power input | 41.3 W |
| Reference hot water temperature | 53.7 °C |
| Mixed water at 40°C | 243 I |



Colder Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 89 % | |
| СОР | 2.14 | |
| Heating up time | 01:13 h:min | |
| Standby power input | 51.6 W | |
| Reference hot water temperature | 53.4 °C | |
| Mixed water at 40°C | 246 I | |

Average Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 97 % | |
| СОР | 2.36 | |
| Heating up time | 01:04 h:min | |
| Standby power input | 44.6 W | |
| Reference hot water temperature | 53.7 °C | |
| Mixed water at 40°C | 244 | |

Model: VWL 125/5 AS 230V S2 + VWL 128/5 IS

| Configure model | | |
|-------------------------------------|-------------------------------------|--|
| Model name | VWL 125/5 AS 230V S2 + VWL 128/5 IS | |
| Application | Heating + DHW + low temp | |
| Units | Indoor + Outdoor | |
| Climate Zone | Colder Climate + Warmer Climate | |
| Reversibility | No | |
| Cooling mode application (optional) | n/a | |

| General Data | | | |
|--------------------------|--|--|--|
| Power supply 1x230V 50Hz | | | |

Heating

| EN 14511-4 | | |
|--|--------|--|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed | |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed | |
| Shutting off the heat transfer medium flow | passed | |
| Complete power supply failure | passed | |
| Defrost test | passed | |

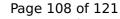
| EN 14511-2 | | |
|-------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Heat output | 10.25 kW | 10.90 kW |
| El input | 2.26 kW | 3.94 kW |
| СОР | 4.54 | 2.77 |

Warmer Climate



| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 43 dB(A) | 44 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |

| EN 14825 | | |
|------------------------|----------------|-----------------------|
| | Low temperatur | re Medium temperature |
| η_{s} | 207 % | 156 % |
| Prated | 8.23 kW | 9.29 kW |
| SCOP | 5.25 | 3.97 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = $+2$ °C | 8.23 kW | 9.30 kW |
| COP Tj = +2°C | 3.64 | 2.42 |
| Cdh Tj = +2 °C | 1.00 | 1.00 |
| Pdh Tj = +7°C | 5.40 kW | 5.73 kW |
| $COP Tj = +7^{\circ}C$ | 4.92 | 3.37 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 5.99 kW | 6.15 kW |
| COP Tj = 12°C | 6.28 | 5.20 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |
| | | · |





| Pdh Tj = Tbiv | 8.23 kW | 9.29 kW |
|---|-------------|-------------|
| COP Tj = Tbiv | 3.64 | 2.42 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.23 kW | 9.30 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.64 | 2.42 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 55 °C | 55 °C |
| Poff | 11 W | 11 W |
| РТО | 11 W | 11 W |
| PSB | 11 W | 11 W |
| PCK | o w | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 2094 kWh | 3125 kWh |

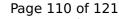
Colder Climate

| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 43 dB(A) | 44 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |



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This information was generated by the HP KEYMARK database on 31 Jul 2022

| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{s} | 153 % | 111 % |
| Prated | 12.31 kW | 10.28 kW |
| SCOP | 3.90 | 2.85 |
| Tbiv | -15 °C | -15 °C |
| TOL | -20 °C | -15 °C |
| Pdh Tj = -7°C | 8.06 kW | 6.50 kW |
| COP Tj = -7°C | 3.40 | 2.57 |
| Cdh Tj = -7 °C | 1.000 | 1.000 |
| Pdh Tj = +2°C | 4.95 kW | 4.47 kW |
| COP Tj = +2°C | 4.68 | 3.45 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = +7°C | 5.74 kW | 5.33 kW |
| COP Tj = +7°C | 5.94 | 4.61 |
| Cdh Tj = +7 °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 6.48 kW | 6.10 kW |
| COP Tj = 12°C | 7.01 | 6.08 |
| Cdh Tj = +12 °C | 0.990 | 0.990 |
| Pdh Tj = Tbiv | 10.04 kW | 8.38 kW |
| COP Tj = Tbiv | 2.27 | 1.84 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.63 kW | 8.38 kW |





| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.17 | 1.84 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 11 W | 11 W |
| РТО | 11 W | 11 W |
| PSB | 11 W | 11 W |
| PCK | o w | o w |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 12.31 kW | 10.28 kW |
| Annual energy consumption Qhe | 7781 kWh | 8887 kWh |
| Pdh Tj = -15°C (if TOL<-20°C) | 10.04 | 8.38 |
| COP Tj = -15°C (if TOL $<$ -20°C) | 2.27 | 1.84 |
| Cdh Tj = -15 °C | 1.000 | 1.000 |

Average Climate

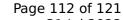
| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 43 dB(A) | 44 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |

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| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_s | 174 % | 132 % |
| Prated | 13.57 kW | 10.97 kW |
| SCOP | 4.42 | 3.37 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7° C | 12.01 kW | 9.71 kW |
| $COPTj = -7^{\circ}C$ | 2.51 | 2.16 |
| Cdh Tj = -7 °C | 1.000 | 1.000 |
| Pdh Tj = $+2$ °C | 7.21 kW | 5.81 kW |
| $COPTj = +2^{\circ}C$ | 4.47 | 3.25 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = $+7$ °C | 5.68 kW | 5.22 kW |
| $COPTj = +7^{\circ}C$ | 5.83 | 4.47 |
| Cdh Tj = +7 °C | 0.990 | 0.990 |
| Pdh Tj = 12°C | 6.44 kW | 6.06 kW |
| COP Tj = 12°C | 7.38 | 5.85 |
| Cdh Tj = +12 °C | 0.990 | 0.990 |
| Pdh Tj = Tbiv | 12.01 kW | 9.71 kW |
| COP Tj = Tbiv | 2.51 | 2.16 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 12.44 kW | 8.97 kW |





| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.47 | 1.85 |
|---|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 55 °C | 55 °C |
| Poff | 11 W | 11 W |
| РТО | 11 W | 11 W |
| PSB | 11 W | 11 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.13 kW | 2.01 kW |
| Annual energy consumption Qhe | 6344 kWh | 6731 kWh |

Domestic Hot Water (DHW)

Warmer Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 108 % | |
| СОР | 2.62 | |
| Heating up time | 01:01 h:min | |
| Standby power input | 41.3 W | |
| Reference hot water temperature | 53.7 °C | |
| Mixed water at 40°C | 243 I | |



Colder Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 89 % | |
| СОР | 2.14 | |
| Heating up time | 01:13 h:min | |
| Standby power input | 51.6 W | |
| Reference hot water temperature | 53.4 °C | |
| Mixed water at 40°C | 246 I | |

Average Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 97 % | |
| СОР | 2.36 | |
| Heating up time | 01:04 h:min | |
| Standby power input | 44.6 W | |
| Reference hot water temperature | 53.7 °C | |
| Mixed water at 40°C | 244 | |



Model: VWL 125/5 AS S2 + VWL 128/5 IS

| Configure model | | |
|-------------------------------------|---------------------------------|--|
| Model name | VWL 125/5 AS S2 + VWL 128/5 IS | |
| Application | Heating + DHW + low temp | |
| Units | Indoor + Outdoor | |
| Climate Zone | Colder Climate + Warmer Climate | |
| Reversibility | No | |
| Cooling mode application (optional) | n/a | |

| General Data | | |
|--------------------------|--|--|
| Power supply 3x400V 50Hz | | |

Heating

| EN 14511-4 | | |
|--|--------|--|
| Operating range outdoor exchanger/indoor exchanger lower limit/lower limit | passed | |
| Operacing range outdoor exchanger/indoor exchanger lower inflictiower infliction | passed | |
| Operating range outdoor exchanger/indoor exchanger upper limit/upper limit | passed | |
| Shutting off the heat transfer medium flow | passed | |
| Complete power supply failure | passed | |
| Defrost test | passed | |

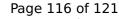
| EN 14511-2 | | |
|-------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Heat output | 10.25 kW | 10.90 kW |
| El input | 2.26 kW | 3.94 kW |
| СОР | 4.54 | 2.77 |

Warmer Climate



| EN 12102-1 | | |
|---------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 43 dB(A) | 44 dB(A) |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) |

| EN 14825 | | |
|------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| η_{s} | 203 % | 154 % |
| Prated | 8.23 kW | 9.29 kW |
| SCOP | 5.15 | 3.92 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = $+2$ °C | 8.23 kW | 9.30 kW |
| COP Tj = +2°C | 3.64 | 2.42 |
| Cdh Tj = +2 °C | 0.99 | 1.00 |
| Pdh Tj = +7°C | 5.40 kW | 5.73 kW |
| COP Tj = +7°C | 4.92 | 3.37 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 5.99 kW | 6.15 kW |
| COP Tj = 12°C | 6.28 | 5.20 |
| Cdh Tj = +12 °C | 0.98 | 0.99 |
| | | · |





| Pdh Tj = Tbiv | 8.23 kW | 9.29 kW |
|---|-------------|-------------|
| COP Tj = Tbiv | 3.64 | 2.42 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.23 kW | 9.30 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.64 | 2.42 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.99 | 1.00 |
| WTOL | 55 °C | 55 °C |
| Poff | 17 W | 17 W |
| РТО | 17 W | 17 W |
| PSB | 17 W | 17 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 2133 kWh | 3164 kWh |

Colder Climate

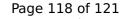
| EN 12102-1 | | | |
|---------------------------|-----------------|--------------------|--|
| | Low temperature | Medium temperature | |
| Sound power level indoor | 43 dB(A) | 44 dB(A) | |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) | |

EN 14825



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| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| η_{s} | 152 % | 111 % |
| Prated | 12.31 kW | 10.28 kW |
| SCOP | 3.89 | 2.84 |
| Tbiv | -15 °C | -15 °C |
| TOL | -20 °C | -15 °C |
| Pdh Tj = -7°C | 8.06 kW | 6.50 kW |
| $COPTj = -7^{\circ}C$ | 3.40 | 2.57 |
| Cdh Tj = -7 °C | 0.990 | 0.990 |
| Pdh Tj = $+2$ °C | 4.95 kW | 4.47 kW |
| COP Tj = +2°C | 4.68 | 3.45 |
| Cdh Tj = +2 °C | 0.990 | 0.990 |
| Pdh Tj = $+7^{\circ}$ C | 5.74 kW | 5.33 kW |
| $COPTj = +7^{\circ}C$ | 5.94 | 4.61 |
| Cdh Tj = +7 °C | 0.980 | 0.990 |
| Pdh Tj = 12°C | 6.48 kW | 6.10 kW |
| COP Tj = 12°C | 7.01 | 6.08 |
| Cdh Tj = +12 °C | 0.980 | 0.980 |
| Pdh Tj = Tbiv | 10.04 kW | 8.38 kW |
| COP Tj = Tbiv | 2.27 | 1.84 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.63 kW | 8.38 kW |
| | · | |





| 2.17 | 1.84 |
|-------------|---|
| 1.000 | 1.000 |
| 55 °C | 55 °C |
| 17 W | 17 W |
| 17 W | 17 W |
| 17 W | 17 W |
| 0 W | 0 W |
| Electricity | Electricity |
| 12.31 kW | 10.28 kW |
| 7803 kWh | 8912 kWh |
| 10.04 | 8.38 |
| 2.27 | 1.84 |
| 1.000 | 1.000 |
| | 1.000 55 °C 17 W 17 W 17 W 0 W Electricity 12.31 kW 7803 kWh 10.04 2.27 |

Average Climate

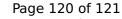
| EN 12102-1 | | | |
|---------------------------|-----------------|--------------------|--|
| | Low temperature | Medium temperature | |
| Sound power level indoor | 43 dB(A) | 44 dB(A) | |
| Sound power level outdoor | 58 dB(A) | 60 dB(A) | |

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This information was generated by the HP KEYMARK database on 31 Jul 2022 Low temperature **Medium temperature** 173 % 131 % η_s Prated 13.57 kW 10.97 kW **SCOP** 4.40 3.35 Tbiv -7 °C -7 °C TOL -10 °C -10 °C Pdh Tj = -7° C 12.01 kW 9.71 kW $COP Tj = -7^{\circ}C$ 2.51 2.16 Cdh Tj = -7 $^{\circ}$ C 1.000 1.000 Pdh Tj = $+2^{\circ}$ C 7.21 kW 5.81 kW $COPTj = +2^{\circ}C$ 4.47 3.25 Cdh Tj = +2 °C0.990 0.990 Pdh Tj = $+7^{\circ}$ C 5.68 kW 5.22 kW $COP Tj = +7^{\circ}C$ 5.83 4.47 0.990 Cdh Tj = +7 °C 0.980 Pdh Tj = 12° C 6.44 kW 6.06 kW 7.38 $COP Tj = 12^{\circ}C$ 5.85 Cdh Tj = +12 °C 0.980 0.980 Pdh Tj = Tbiv12.01 kW 9.71 kW COP Tj = Tbiv2.51 2.16 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 12.44 kW 8.97 kW





| 2.47 | 1.85 |
|-------------|--|
| 1.000 | 1.000 |
| 55 °C | 55 °C |
| 17 W | 17 W |
| 17 W | 17 W |
| 17 W | 17 W |
| o w | 0 W |
| Electricity | Electricity |
| 1.13 kW | 2.01 kW |
| 6373 kWh | 6762 kWh |
| | 1.000 55 °C 17 W 17 W 17 W 0 W Electricity 1.13 kW |

Domestic Hot Water (DHW)

Warmer Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 108 % | |
| СОР | 2.62 | |
| Heating up time | 01:01 h:min | |
| Standby power input | 41.3 W | |
| Reference hot water temperature | 53.7 °C | |
| Mixed water at 40°C | 243 I | |



Colder Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 89 % | |
| СОР | 2.14 | |
| Heating up time | 01:13 h:min | |
| Standby power input | 51.6 W | |
| Reference hot water temperature | 53.4 °C | |
| Mixed water at 40°C | 246 I | |

Average Climate

| EN 16147 | | |
|---------------------------------|-------------|--|
| Declared load profile | XL | |
| Efficiency ηDHW | 97 % | |
| СОР | 2.36 | |
| Heating up time | 01:04 h:min | |
| Standby power input | 44.6 W | |
| Reference hot water temperature | 53.7 °C | |
| Mixed water at 40°C | 244 I | |