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|---------------------|--|----------|------------|
| Summary of | VWL 85/7.2 AS 230V S3 / VWL 105/7.2 AS 230V S3 | Reg. No. | 011-1W0554 |
| Certificate Holder | | | |
| Name | Vaillant Deutschland GmbH & Co KG | | |
| Address | Berghauser Straße 40 | Zip | 42859 |
| City | Remscheid | Country | Germany |
| Certification Body | DIN CERTCO Gesellschaft für Konformitätsbewertung mbH | | |
| Subtype title | VWL 85/7.2 AS 230V S3 / VWL 105/7.2 AS 230V S3 | | |
| Heat Pump Type | Outdoor Air/Water | | |
| Refrigerant | R32 | | |
| Mass of Refrigerant | 1.6 kg | | |
| Certification Date | 26.09.2022 | | |
| Testing basis | European KEYMARK Scheme for Heat Pumps Rev. 10 (as of 2022-06) | | |

Model: VWL 85/7.2 AS 230V S3 + VWL 107/7.2 IS

| Configure model | |
|-------------------------------------|--|
| Model name | VWL 85/7.2 AS 230V S3 + VWL 107/7.2 IS |
| Application | Heating (medium temp) |
| Units | Indoor + Outdoor |
| Climate Zone | Colder Climate + Warmer Climate |
| Reversibility | Yes |
| Cooling mode application (optional) | +7°C/12°C and +18°C/+23°C |

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

Heating

| EN 14511-2 | | |
|-------------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| Heat output | 7.88 kW | 6.71 kW |
| El input | 1.70 kW | 2.14 kW |
| COP | 4.65 | 3.14 |

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

Cooling

This information was generated by the HP KEYMARK database on 28 Sep 2022

| EN 14511-2 | | |
|-------------------|-------------------|--------------------|
| | +7°C/+12°C | +18°C/+23°C |
| El input | 2.27 kW | 1.78 kW |
| Cooling capacity | 6.37 | 7.04 |
| EER | 2.81 | 3.96 |

| EN 14825 | | |
|-----------------|--|--|
| | | |

This information was generated by the HP KEYMARK database on 28 Sep 2022

| | +7°C/+12°C | +18°C/+23°C |
|---|-------------------|--------------------|
| P _{designc} | 7.41 kW | 7.04 kW |
| SEER | 4.04 | 6.00 |
| P _{dc Tj = 35°C} | 7.41 kW | 7.04 kW |
| EER Tj = 35°C | 2.54 | 3.96 |
| C _{dc Tj = 35 °C} | 0.994 | 1.000 |
| P _{dc Tj = 30°C} | 5.40 kW | 5.15 kW |
| EER Tj = 30°C | 3.43 | 5.24 |
| C _{dc Tj = 30 °C} | 0.988 | 1.000 |
| P _{dc Tj = 25°C} | 3.45 kW | 4.60 kW |
| EER Tj = 25°C | 4.35 | 6.81 |
| C _{dc Tj = 25 °C} | 0.977 | 0.973 |
| P _{dc Tj = 20°C} | 4.00 kW | 5.00 kW |
| EER Tj = 20°C | 6.05 | 8.80 |
| C _{dc Tj = 20 °C} | 0.972 | 0.968 |
| P _{off} | 15 W | 15 W |
| PTO | 18 W | 18 W |
| PSB | 15 W | 15 W |
| PCK | 0 W | 0 W |
| Annual energy consumption Q _{ce} | 1100 kWh | 704 kWh |

Warmer Climate

| EN 12102-1 | | |
|---------------------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 41 dB(A) | 41 dB(A) |
| Sound power level outdoor | 63 dB(A) | 63 dB(A) |

| EN 14825 | | |
|-----------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| η_s | 225 % | 156 % |
| Prated | 8.03 kW | 7.02 kW |
| SCOP | 5.71 | 3.96 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 8.03 kW | 7.02 kW |
| COP Tj = +2°C | 3.35 | 2.16 |
| Cdh Tj = +2 °C | 1.00 | 1.00 |
| Pdh Tj = +7°C | 5.51 kW | 4.73 kW |
| COP Tj = +7°C | 5.21 | 3.40 |
| Cdh Tj = +7 °C | 0.98 | 0.99 |
| Pdh Tj = 12°C | 5.41 kW | 5.27 kW |
| COP Tj = 12°C | 7.05 | 5.22 |
| Cdh Tj = +12 °C | 0.97 | 0.98 |

| | | |
|---|-------------|-------------|
| Pdh Tj = Tbiv | 8.03 kW | 7.02 kW |
| COP Tj = Tbiv | 3.35 | 2.16 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.03 kW | 7.02 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.35 | 2.16 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 60 °C | 60 °C |
| Poff | 15 W | 15 W |
| PTO | 20 W | 20 W |
| PSB | 15 W | 15 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 | 1878 kWh | 2367 kWh |

Colder Climate

| EN 12102-1 | | |
|---------------------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 41 dB(A) | 41 dB(A) |
| Sound power level outdoor | 63 dB(A) | 63 dB(A) |

| EN 14825 | | |
|-----------------|--|--|
|-----------------|--|--|

This information was generated by the HP KEYMARK database on 28 Sep 2022

| | Low temperature | Medium temperature |
|---|------------------------|---------------------------|
| η_s | 145 % | 109 % |
| Prated | 7.74 kW | 8.13 kW |
| SCOP | 3.71 | 2.81 |
| Tbiv | -15 °C | -15 °C |
| TOL | -20 °C | -15 °C |
| Pdh Tj = -7°C | 4.97 kW | 4.50 kW |
| COP Tj = -7°C | 3.05 | 2.31 |
| Cdh Tj = -7 °C | 0.99 | 1.00 |
| Pdh Tj = +2°C | 3.38 kW | 3.71 kW |
| COP Tj = +2°C | 4.40 | 3.65 |
| Cdh Tj = +2 °C | 0.97 | 0.98 |
| Pdh Tj = +7°C | 4.57 kW | 4.37 kW |
| COP Tj = +7°C | 6.37 | 4.73 |
| Cdh Tj = +7 °C | 0.97 | 0.98 |
| Pdh Tj = 12°C | 5.06 kW | 5.02 kW |
| COP Tj = 12°C | 7.71 | 6.07 |
| Cdh Tj = +12 °C | 0.97 | 0.98 |
| Pdh Tj = Tbiv | 6.31 kW | 6.63 kW |
| COP Tj = Tbiv | 2.50 | 1.73 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.25 kW | 6.63 kW |

This information was generated by the HP KEYMARK database on 28 Sep 2022

| | | |
|---|-------------|-------------|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.94 | 1.73 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 60 °C | 60 °C |
| Poff | 15 W | 15 W |
| PTO | 20 W | 20 W |
| PSB | 15 W | 15 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 7.74 kW | 8.13 kW |
| Annual energy consumption Qhe | 5141 kWh | 7129 kWh |
| Pdh Tj = -15°C (if TOL<-20°C) | 6.31 | 6.63 |
| COP Tj = -15°C (if TOL<-20°C) | 2.50 | 1.73 |
| Cdh Tj = -15 °C | 1.00 | 1.00 |

Average Climate

| EN 12102-1 | | |
|---------------------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 41 dB(A) | 41 dB(A) |
| Sound power level outdoor | 63 dB(A) | 63 dB(A) |

EN 14825

This information was generated by the HP KEYMARK database on 28 Sep 2022

| | Low temperature | Medium temperature |
|---|------------------------|---------------------------|
| η_s | 175 % | 131 % |
| Prated | 7.46 kW | 7.68 kW |
| SCOP | 4.46 | 3.34 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 6.60 kW | 6.80 kW |
| COP Tj = -7°C | 2.84 | 2.16 |
| Cdh Tj = -7 °C | 1.00 | 1.00 |
| Pdh Tj = +2°C | 3.89 kW | 4.12 kW |
| COP Tj = +2°C | 4.46 | 3.26 |
| Cdh Tj = +2 °C | 1.00 | 1.00 |
| Pdh Tj = +7°C | 4.40 kW | 4.31 kW |
| COP Tj = +7°C | 5.72 | 4.29 |
| Cdh Tj = +7 °C | 0.97 | 0.98 |
| Pdh Tj = 12°C | 5.08 kW | 5.16 kW |
| COP Tj = 12°C | 7.39 | 5.81 |
| Cdh Tj = +12 °C | 0.97 | 0.98 |
| Pdh Tj = Tbiv | 6.60 kW | 6.80 kW |
| COP Tj = Tbiv | 2.84 | 2.16 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.75 kW | 6.51 kW |

This information was generated by the HP KEYMARK database on 28 Sep 2022

| | | |
|---|-------------|-------------|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.45 | 1.72 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 60 °C | 60 °C |
| Poff | 15 W | 15 W |
| PTO | 20 W | 20 W |
| PSB | 15 W | 15 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.71 kW | 1.18 kW |
| Annual energy consumption Qhe | 3457 kWh | 4755 kWh |

Model: VWL 85/7.2 AS 230V S3 + VWL 107/7.2 IS S1

| Configure model | |
|-------------------------------------|---|
| Model name | VWL 85/7.2 AS 230V S3 + VWL 107/7.2 IS S1 |
| Application | Heating (medium temp) |
| Units | Indoor + Outdoor |
| Climate Zone | Warmer Climate |
| Reversibility | Yes |
| Cooling mode application (optional) | +7°C/12°C and +18°C/+23°C |

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

Heating

| EN 14511-2 | | |
|-------------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| Heat output | 7.88 kW | 6.71 kW |
| El input | 1.70 kW | 2.14 kW |
| COP | 4.65 | 3.14 |

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

Cooling

| EN 14511-2 | | |
|-------------------|-------------------|--------------------|
| | +7°C/+12°C | +18°C/+23°C |
| El input | 2.27 kW | 1.78 kW |
| Cooling capacity | 6.37 | 7.04 |
| EER | 2.81 | 3.96 |

EN 14825

This information was generated by the HP KEYMARK database on 28 Sep 2022

| | +7°C/+12°C | +18°C/+23°C |
|---|-------------------|--------------------|
| P _{designc} | 7.41 kW | 7.04 kW |
| SEER | 4.04 | 6.00 |
| P _{dc Tj = 35°C} | 7.41 kW | 7.04 kW |
| EER Tj = 35°C | 2.54 | 3.96 |
| C _{dc Tj = 35 °C} | 1.000 | 1.000 |
| P _{dc Tj = 30°C} | 5.40 kW | 5.15 kW |
| EER Tj = 30°C | 3.43 | 5.24 |
| C _{dc Tj = 30 °C} | 1.000 | 1.000 |
| P _{dc Tj = 25°C} | 3.45 kW | 4.60 kW |
| EER Tj = 25°C | 4.35 | 6.81 |
| C _{dc Tj = 25 °C} | 1.000 | 0.973 |
| P _{dc Tj = 20°C} | 4.00 kW | 5.00 kW |
| EER Tj = 20°C | 6.05 | 8.80 |
| C _{dc Tj = 20 °C} | 0.972 | 0.968 |
| P _{off} | 15 W | 15 W |
| PTO | 18 W | 18 W |
| PSB | 15 W | 15 W |
| PCK | 0 W | 0 W |
| Annual energy consumption Q _{ce} | 1100 kWh | 704 kWh |

Warmer Climate

| EN 12102-1 | | |
|---------------------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 39 dB(A) | 39 dB(A) |
| Sound power level outdoor | 63 dB(A) | 63 dB(A) |

| EN 14825 | | |
|-----------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| η_s | 225 % | 156 % |
| Prated | 8.03 kW | 7.02 kW |
| SCOP | 5.71 | 3.96 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 8.03 kW | 7.02 kW |
| COP Tj = +2°C | 3.35 | 2.16 |
| Cdh Tj = +2 °C | 1.000 | 1.000 |
| Pdh Tj = +7°C | 5.51 kW | 4.73 kW |
| COP Tj = +7°C | 5.21 | 3.40 |
| Cdh Tj = +7 °C | 0.980 | 0.990 |
| Pdh Tj = 12°C | 5.41 kW | 5.27 kW |
| COP Tj = 12°C | 7.05 | 5.22 |
| Cdh Tj = +12 °C | 0.970 | 0.980 |

| | | |
|---|----------|----------|
| Pdh Tj = Tbiv | 8.03 kW | 7.02 kW |
| COP Tj = Tbiv | 3.35 | 2.16 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.03 kW | 7.02 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.35 | 2.16 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 60 °C | 60 °C |
| Poff | 15 W | 15 W |
| PTO | 20 W | 20 W |
| PSB | 15 W | 15 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | n/a | n/a |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 1878 kWh | 2367 kWh |

Average Climate

| EN 12102-1 | | |
|---------------------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 39 dB(A) | 39 dB(A) |
| Sound power level outdoor | 63 dB(A) | 63 dB(A) |

EN 14825

This information was generated by the HP KEYMARK database on 28 Sep 2022

| | Low temperature | Medium temperature |
|---|------------------------|---------------------------|
| η_s | 175 % | 130 % |
| Prated | 5.75 kW | 6.51 kW |
| SCOP | 4.45 | 3.33 |
| Tbiv | -10 °C | -10 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 6.60 kW | 6.80 kW |
| COP Tj = -7°C | 2.84 | 2.16 |
| Cdh Tj = -7 °C | 0.990 | 0.990 |
| Pdh Tj = +2°C | 3.89 kW | 4.12 kW |
| COP Tj = +2°C | 4.46 | 3.26 |
| Cdh Tj = +2 °C | 0.980 | 0.980 |
| Pdh Tj = +7°C | 4.40 kW | 4.31 kW |
| COP Tj = +7°C | 5.72 | 4.29 |
| Cdh Tj = +7 °C | 0.970 | 0.980 |
| Pdh Tj = 12°C | 5.08 kW | 5.16 kW |
| COP Tj = 12°C | 7.39 | 5.81 |
| Cdh Tj = +12 °C | 0.970 | 0.980 |
| Pdh Tj = Tbiv | 5.75 kW | 6.51 kW |
| COP Tj = Tbiv | 2.45 | 1.72 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.75 kW | 6.51 kW |

This information was generated by the HP KEYMARK database on 28 Sep 2022

| | | |
|---|----------|----------|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.45 | 1.72 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 60 °C | 60 °C |
| Poff | 15 W | 15 W |
| PTO | 20 W | 20 W |
| PSB | 15 W | 15 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | n/a | n/a |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 2669 kWh | 4032 kWh |