

Subtype LWV 82 Inverter

| | |
|---------------------|---------------------------------------|
| Certificate Holder | ait-deutschland GmbH |
| Address | Industriestr. 3 |
| ZIP | 95359 |
| City | Kasendorf |
| Country | DE |
| Certification Body | BRE Global Limited |
| Subtype title | LWV 82 Inverter |
| Registration number | 041-K001-23 |
| Heat Pump Type | Outdoor Air/Water |
| Refrigerant | R410A |
| Mass of Refrigerant | 3 kg |
| Certification Date | 27.03.2019 |
| Testing basis | Heat Pump Keymark Scheme Rules Rev 08 |
| Testing laboratory | Wärmepumpen-Testzentrum (WPZ), CH |

Model alpha innotec LWCV 82R1/3

| | |
|-------------------------------------|---------------------------|
| Model name | alpha innotec LWCV 82R1/3 |
| Application | Heating (medium temp) |
| Units | Indoor |
| Climate zone (for heating) | n/a |
| Cooling mode application (optional) | n/a |
| Any additional heat sources | n/a |

General data

| | |
|------------------|-------------|
| Power supply | 1x230V 50Hz |
| Off-peak product | n/a |

Outdoor Air/Water**EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

| | |
|-------------------------------|--------|
| Complete power supply failure | passed |
| Defrost test | passed |

EN 14511-2 | Heating

| | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 2.81 kW | 3.28 kW |
| El input | 0.56 kW | 0.87 kW |
| COP | 5.02 | 2.85 |

EN 12102-1 | Average Climate

| | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |

EN 14825 | Average Climate

| | Low temperature | Medium temperature |
|---------------|-----------------|--------------------|
| η_s | 180 % | 135 % |
| Prated | 6.70 kW | 5.65 kW |
| SCOP | 4.57 | 3.44 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 5.88 kW | 5.04 kW |
| COP Tj = -7°C | 3.26 | 2.31 |
| Pdh Tj = +2°C | 3.84 kW | 3.48 kW |
| COP Tj = +2°C | 4.70 | 3.43 |
| Pdh Tj = +7°C | 3.27 kW | 3.04 kW |
| COP Tj = +7°C | 5.97 | 4.86 |
| Pdh Tj = 12°C | 3.36 kW | 3.39 kW |
| COP Tj = 12°C | 7.92 | 6.56 |
| Pdh Tj = Tbiv | 5.88 kW | 5.04 kW |

| | | |
|-----------------------------------------------------|-------------|-------------|
| COP Tj = Tbiv | 3.26 | 2.31 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.11 kW | 4.23 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.18 | 2.12 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.59 kW | 1.42 kW |
| Annual energy consumption Qhe | 3029 kWh | 3390 kWh |

EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |

EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| η_s | 145 % | 127 % |
| Prated | 6.50 kW | 5.00 kW |
| SCOP | 3.69 | 3.26 |
| Tbiv | -15 °C | -15 °C |
| TOL | -22 °C | -22 °C |
| Pdh Tj = -7°C | 5.60 kW | 6.25 kW |
| COP Tj = -7°C | 3.17 | 2.69 |
| Cdh Tj = -7 °C | | |
| Pdh Tj = +2°C | 4.02 kW | 3.33 kW |
| COP Tj = +2°C | 5.27 | 4.14 |
| Cdh Tj = +2 °C | | |
| Pdh Tj = +7°C | 3.12 kW | 3.48 kW |
| COP Tj = +7°C | 6.04 | 5.25 |
| Cdh Tj = +7 °C | | |
| Pdh Tj = 12°C | 4.21 kW | 3.70 kW |
| COP Tj = 12°C | 9.50 | 7.52 |
| Cdh Tj = +12 °C | | |
| Pdh Tj = Tbiv | 5.30 kW | 4.03 kW |
| COP Tj = Tbiv | 2.43 | 1.98 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.73 kW | 5.00 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.56 | 2.24 |

| | | |
|-----------------------------------------------------|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 4.77 kW | 0.00 kW |
| Annual energy consumption Qhe | 4339 kWh | 3781 kWh |
| Pdh Tj = -15°C (if TOL) | 5.30 | 4.03 |
| COP Tj = -15°C (if TOL) | 2.43 | 1.98 |
| Cdh Tj = -15 °C | 1.000 | 1.000 |

EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |

EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| ηs | 214 % | 156 % |
| Prated | 4.10 kW | 5.50 kW |
| SCOP | 5.43 | 3.99 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 4.07 kW | 5.55 kW |
| COP Tj = +2°C | 4.15 | 2.69 |
| Pdh Tj = +7°C | 3.06 kW | 3.86 kW |
| COP Tj = +7°C | 5.65 | 3.70 |
| Pdh Tj = 12°C | 3.60 kW | 3.50 kW |
| COP Tj = 12°C | 8.43 | 5.60 |
| Pdh Tj = Tbiv | 4.20 kW | 5.55 kW |
| COP Tj = Tbiv | 4.28 | 2.69 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 4.20 kW | 5.55 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 4.28 | 2.69 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 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 | 1009 kWh | 1844 kWh |

Model alpha innotec LWV 82R1/3

| | |
|-------------------------------------|--------------------------|
| Model name | alpha innotec LWV 82R1/3 |
| Application | Heating (medium temp) |
| Units | Indoor |
| Climate zone (for heating) | n/a |
| Cooling mode application (optional) | n/a |
| Any additional heat sources | n/a |

General data

| | |
|------------------|-------------|
| Power supply | 1x230V 50Hz |
| Off-peak product | n/a |

Outdoor Air/Water**EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

| | |
|-------------------------------|--------|
| Complete power supply failure | passed |
| Defrost test | passed |

EN 14511-2 | Heating

| | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 2.81 kW | 3.28 kW |
| El input | 0.56 kW | 0.87 kW |
| COP | 5.02 | 2.85 |

EN 12102-1 | Average Climate

| | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |

EN 14825 | Average Climate

| | Low temperature | Medium temperature |
|---------------|-----------------|--------------------|
| η_s | 180 % | 135 % |
| Prated | 6.70 kW | 5.65 kW |
| SCOP | 4.57 | 3.44 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 5.88 kW | 5.04 kW |
| COP Tj = -7°C | 3.26 | 2.31 |
| Pdh Tj = +2°C | 3.84 kW | 3.48 kW |
| COP Tj = +2°C | 4.70 | 3.43 |
| Pdh Tj = +7°C | 3.27 kW | 3.04 kW |
| COP Tj = +7°C | 5.97 | 4.86 |
| Pdh Tj = 12°C | 3.36 kW | 3.39 kW |
| COP Tj = 12°C | 7.92 | 6.56 |
| Pdh Tj = Tbiv | 5.88 kW | 5.04 kW |

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|-----------------------------------------------------|-------------|-------------|
| COP Tj = Tbiv | 3.26 | 2.31 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.11 kW | 4.23 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.18 | 2.12 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.59 kW | 1.42 kW |
| Annual energy consumption Qhe | 3029 kWh | 3390 kWh |

EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |

EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| ηs | 145 % | 127 % |
| Prated | 6.50 kW | 5.00 kW |
| SCOP | 3.69 | 3.26 |
| Tbiv | -15 °C | -15 °C |
| TOL | -22 °C | -22 °C |
| Pdh Tj = -7°C | 5.60 kW | 6.25 kW |
| COP Tj = -7°C | 3.17 | 2.69 |
| Cdh Tj = -7 °C | | |
| Pdh Tj = +2°C | 4.02 kW | 3.33 kW |
| COP Tj = +2°C | 5.27 | 4.14 |
| Cdh Tj = +2 °C | | |
| Pdh Tj = +7°C | 3.12 kW | 3.48 kW |
| COP Tj = +7°C | 6.04 | 5.25 |
| Cdh Tj = +7 °C | | |
| Pdh Tj = 12°C | 4.21 kW | 3.70 kW |
| COP Tj = 12°C | 9.50 | 7.52 |
| Cdh Tj = +12 °C | | |
| Pdh Tj = Tbiv | 5.30 kW | 4.03 kW |
| COP Tj = Tbiv | 2.43 | 1.98 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.73 kW | 5.00 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.56 | 2.24 |

| | | |
|-----------------------------------------------------|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 4.77 kW | 0.00 kW |
| Annual energy consumption Qhe | 4339 kWh | 3781 kWh |
| Pdh Tj = -15°C (if TOL) | 5.30 | 4.03 |
| COP Tj = -15°C (if TOL) | 2.43 | 1.98 |
| Cdh Tj = -15 °C | 1.000 | 1.000 |

EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |

EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| ηs | 214 % | 156 % |
| Prated | 4.10 kW | 5.50 kW |
| SCOP | 5.43 | 3.99 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 4.07 kW | 5.55 kW |
| COP Tj = +2°C | 4.15 | 2.69 |
| Pdh Tj = +7°C | 3.06 kW | 3.86 kW |
| COP Tj = +7°C | 5.65 | 3.70 |
| Pdh Tj = 12°C | 3.60 kW | 3.50 kW |
| COP Tj = 12°C | 8.43 | 5.60 |
| Pdh Tj = Tbiv | 4.20 kW | 5.55 kW |
| COP Tj = Tbiv | 4.28 | 2.69 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 4.20 kW | 5.55 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 4.28 | 2.69 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 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 | 1009 kWh | 1844 kWh |

Model alpha innotec LWAV 82R1/3

| | |
|-------------------------------------|---------------------------|
| Model name | alpha innotec LWAV 82R1/3 |
| Application | Heating (medium temp) |
| Units | Outdoor |
| Climate zone (for heating) | n/a |
| Cooling mode application (optional) | n/a |
| Any additional heat sources | n/a |

General data

| | |
|------------------|-------------|
| Power supply | 1x230V 50Hz |
| Off-peak product | n/a |

Outdoor Air/Water**EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

| | |
|-------------------------------|--------|
| Complete power supply failure | passed |
| Defrost test | passed |

EN 14511-2 | Heating

| | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 2.81 kW | 3.28 kW |
| El input | 0.56 kW | 0.87 kW |
| COP | 5.02 | 2.85 |

EN 12102-1 | Average Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |
| Sound power level outdoor | 50 dB(A) | 50 dB(A) |

EN 14825 | Average Climate

| | Low temperature | Medium temperature |
|---------------|-----------------|--------------------|
| η_s | 180 % | 135 % |
| Prated | 6.70 kW | 5.65 kW |
| SCOP | 4.57 | 3.44 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 5.88 kW | 5.04 kW |
| COP Tj = -7°C | 3.26 | 2.31 |
| Pdh Tj = +2°C | 3.84 kW | 3.48 kW |
| COP Tj = +2°C | 4.70 | 3.43 |
| Pdh Tj = +7°C | 3.27 kW | 3.04 kW |
| COP Tj = +7°C | 5.97 | 4.86 |
| Pdh Tj = 12°C | 3.36 kW | 3.39 kW |
| COP Tj = 12°C | 7.92 | 6.56 |

| | | |
|-----------------------------------------------------|-------------|-------------|
| Pdh Tj = Tbiv | 5.88 kW | 5.04 kW |
| COP Tj = Tbiv | 3.26 | 2.31 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.11 kW | 4.23 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.18 | 2.12 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.59 kW | 1.42 kW |
| Annual energy consumption Qhe | 3029 kWh | 3390 kWh |

EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |
| Sound power level outdoor | 50 dB(A) | 50 dB(A) |

EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| ηs | 145 % | 127 % |
| Prated | 6.50 kW | 5.00 kW |
| SCOP | 3.69 | 3.26 |
| Tbiv | -15 °C | -15 °C |
| TOL | -22 °C | -22 °C |
| Pdh Tj = -7°C | 5.60 kW | 6.25 kW |
| COP Tj = -7°C | 3.17 | 2.69 |
| Cdh Tj = -7 °C | | |
| Pdh Tj = +2°C | 4.02 kW | 3.33 kW |
| COP Tj = +2°C | 5.27 | 4.14 |
| Cdh Tj = +2 °C | | |
| Pdh Tj = +7°C | 3.12 kW | 3.48 kW |
| COP Tj = +7°C | 6.04 | 5.25 |
| Cdh Tj = +7 °C | | |
| Pdh Tj = 12°C | 4.21 kW | 3.70 kW |
| COP Tj = 12°C | 9.50 | 7.52 |
| Cdh Tj = +12 °C | | |
| Pdh Tj = Tbiv | 5.30 kW | 4.03 kW |
| COP Tj = Tbiv | 2.43 | 1.98 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.73 kW | 5.00 kW |

| | | |
|-----------------------------------------------------|-------------|-------------|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.56 | 2.24 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 4.77 kW | 0.00 kW |
| Annual energy consumption Qhe | 4339 kWh | 3781 kWh |
| Pdh Tj = -15°C (if TOL) | 5.30 | 4.03 |
| COP Tj = -15°C (if TOL | 2.43 | 1.98 |
| Cdh Tj = -15 °C | 1.000 | 1.000 |

EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |
| Sound power level outdoor | 50 dB(A) | 50 dB(A) |

EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| ηs | 214 % | 156 % |
| Prated | 4.10 kW | 5.50 kW |
| SCOP | 5.43 | 3.99 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 4.07 kW | 5.55 kW |
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| COP Tj = +7°C | 5.65 | 3.70 |
| Pdh Tj = 12°C | 3.60 kW | 3.50 kW |
| COP Tj = 12°C | 8.43 | 5.60 |
| Pdh Tj = Tbiv | 4.20 kW | 5.55 kW |
| COP Tj = Tbiv | 4.28 | 2.69 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 4.20 kW | 5.55 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 4.28 | 2.69 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 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 | 1009 kWh | 1844 kWh |

Model alpha innotec LWAV+ 82R1/3

| | |
|-------------------------------------|----------------------------|
| Model name | alpha innotec LWAV+ 82R1/3 |
| Application | Heating (medium temp) |
| Units | Outdoor |
| Climate zone (for heating) | n/a |
| Cooling mode application (optional) | n/a |
| Any additional heat sources | n/a |

General data

| | |
|------------------|-------------|
| Power supply | 1x230V 50Hz |
| Off-peak product | n/a |

Outdoor Air/Water**EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

| | |
|-------------------------------|--------|
| Complete power supply failure | passed |
| Defrost test | passed |

EN 14511-2 | Heating

| | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 2.81 kW | 3.28 kW |
| El input | 0.56 kW | 0.87 kW |
| COP | 5.02 | 2.85 |

EN 12102-1 | Average Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |
| Sound power level outdoor | 50 dB(A) | 50 dB(A) |

EN 14825 | Average Climate

| | Low temperature | Medium temperature |
|---------------|-----------------|--------------------|
| η_s | 180 % | 135 % |
| Prated | 6.70 kW | 5.65 kW |
| SCOP | 4.57 | 3.44 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 5.88 kW | 5.04 kW |
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| Pdh Tj = +2°C | 3.84 kW | 3.48 kW |
| COP Tj = +2°C | 4.70 | 3.43 |
| Pdh Tj = +7°C | 3.27 kW | 3.04 kW |
| COP Tj = +7°C | 5.97 | 4.86 |
| Pdh Tj = 12°C | 3.36 kW | 3.39 kW |
| COP Tj = 12°C | 7.92 | 6.56 |

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| Pdh Tj = Tbiv | 5.88 kW | 5.04 kW |
| COP Tj = Tbiv | 3.26 | 2.31 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.11 kW | 4.23 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.18 | 2.12 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.59 kW | 1.42 kW |
| Annual energy consumption Qhe | 3029 kWh | 3390 kWh |

EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
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| Sound power level indoor | 48 dB(A) | 48 dB(A) |
| Sound power level outdoor | 50 dB(A) | 50 dB(A) |

EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| ηs | 145 % | 127 % |
| Prated | 6.50 kW | 5.00 kW |
| SCOP | 3.69 | 3.26 |
| Tbiv | -15 °C | -15 °C |
| TOL | -22 °C | -22 °C |
| Pdh Tj = -7°C | 5.60 kW | 6.25 kW |
| COP Tj = -7°C | 3.17 | 2.69 |
| Cdh Tj = -7 °C | | |
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| COP Tj = +2°C | 5.27 | 4.14 |
| Cdh Tj = +2 °C | | |
| Pdh Tj = +7°C | 3.12 kW | 3.48 kW |
| COP Tj = +7°C | 6.04 | 5.25 |
| Cdh Tj = +7 °C | | |
| Pdh Tj = 12°C | 4.21 kW | 3.70 kW |
| COP Tj = 12°C | 9.50 | 7.52 |
| Cdh Tj = +12 °C | | |
| Pdh Tj = Tbiv | 5.30 kW | 4.03 kW |
| COP Tj = Tbiv | 2.43 | 1.98 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.73 kW | 5.00 kW |

| | | |
|-----------------------------------------------------|-------------|-------------|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.56 | 2.24 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 4.77 kW | 0.00 kW |
| Annual energy consumption Qhe | 4339 kWh | 3781 kWh |
| Pdh Tj = -15°C (if TOL) | 5.30 | 4.03 |
| COP Tj = -15°C (if TOL | 2.43 | 1.98 |
| Cdh Tj = -15 °C | 1.000 | 1.000 |

EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |
| Sound power level outdoor | 50 dB(A) | 50 dB(A) |

EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| ηs | 214 % | 156 % |
| Prated | 4.10 kW | 5.50 kW |
| SCOP | 5.43 | 3.99 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 4.07 kW | 5.55 kW |
| COP Tj = +2°C | 4.15 | 2.69 |
| Pdh Tj = +7°C | 3.06 kW | 3.86 kW |
| COP Tj = +7°C | 5.65 | 3.70 |
| Pdh Tj = 12°C | 3.60 kW | 3.50 kW |
| COP Tj = 12°C | 8.43 | 5.60 |
| Pdh Tj = Tbiv | 4.20 kW | 5.55 kW |
| COP Tj = Tbiv | 4.28 | 2.69 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 4.20 kW | 5.55 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 4.28 | 2.69 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 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 | 1009 kWh | 1844 kWh |

Model NOVELAN LICV 8.2R1/3

| | |
|-------------------------------------|-----------------------|
| Model name | NOVELAN LICV 8.2R1/3 |
| Application | Heating (medium temp) |
| Units | Indoor |
| Climate zone (for heating) | n/a |
| Cooling mode application (optional) | n/a |
| Any additional heat sources | n/a |

General data

| | |
|------------------|-------------|
| Power supply | 1x230V 50Hz |
| Off-peak product | n/a |

Outdoor Air/Water**EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

| | |
|-------------------------------|--------|
| Complete power supply failure | passed |
| Defrost test | passed |

EN 14511-2 | Heating

| | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 2.81 kW | 3.28 kW |
| El input | 0.56 kW | 0.87 kW |
| COP | 5.02 | 2.85 |

EN 12102-1 | Average Climate

| | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |

EN 14825 | Average Climate

| | Low temperature | Medium temperature |
|---------------|-----------------|--------------------|
| η_s | 180 % | 135 % |
| Prated | 6.70 kW | 5.65 kW |
| SCOP | 4.57 | 3.44 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 5.88 kW | 5.04 kW |
| COP Tj = -7°C | 3.26 | 2.31 |
| Pdh Tj = +2°C | 3.84 kW | 3.48 kW |
| COP Tj = +2°C | 4.70 | 3.43 |
| Pdh Tj = +7°C | 3.27 kW | 3.04 kW |
| COP Tj = +7°C | 5.97 | 4.86 |
| Pdh Tj = 12°C | 3.36 kW | 3.39 kW |
| COP Tj = 12°C | 7.92 | 6.56 |
| Pdh Tj = Tbiv | 5.88 kW | 5.04 kW |

| | | |
|-----------------------------------------------------|-------------|-------------|
| COP Tj = Tbiv | 3.26 | 2.31 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.11 kW | 4.23 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.18 | 2.12 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.59 kW | 1.42 kW |
| Annual energy consumption Qhe | 3029 kWh | 3390 kWh |

EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |

EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| η_s | 145 % | 127 % |
| Prated | 6.50 kW | 5.00 kW |
| SCOP | 3.69 | 3.26 |
| Tbiv | -15 °C | -15 °C |
| TOL | -22 °C | -22 °C |
| Pdh Tj = -7°C | 5.60 kW | 6.25 kW |
| COP Tj = -7°C | 3.17 | 2.69 |
| Cdh Tj = -7 °C | | |
| Pdh Tj = +2°C | 4.02 kW | 3.33 kW |
| COP Tj = +2°C | 5.27 | 4.14 |
| Cdh Tj = +2 °C | | |
| Pdh Tj = +7°C | 3.12 kW | 3.48 kW |
| COP Tj = +7°C | 6.04 | 5.25 |
| Cdh Tj = +7 °C | | |
| Pdh Tj = 12°C | 4.21 kW | 3.70 kW |
| COP Tj = 12°C | 9.50 | 7.52 |
| Cdh Tj = +12 °C | | |
| Pdh Tj = Tbiv | 5.30 kW | 4.03 kW |
| COP Tj = Tbiv | 2.43 | 1.98 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.73 kW | 5.00 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.56 | 2.24 |

| | | |
|-----------------------------------------------------|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 4.77 kW | 0.00 kW |
| Annual energy consumption Qhe | 4339 kWh | 3781 kWh |
| Pdh Tj = -15°C (if TOL) | 5.30 | 4.03 |
| COP Tj = -15°C (if TOL) | 2.43 | 1.98 |
| Cdh Tj = -15 °C | 1.000 | 1.000 |

EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |

EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| ηs | 214 % | 156 % |
| Prated | 4.10 kW | 5.50 kW |
| SCOP | 5.43 | 3.99 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 4.07 kW | 5.55 kW |
| COP Tj = +2°C | 4.15 | 2.69 |
| Pdh Tj = +7°C | 3.06 kW | 3.86 kW |
| COP Tj = +7°C | 5.65 | 3.70 |
| Pdh Tj = 12°C | 3.60 kW | 3.50 kW |
| COP Tj = 12°C | 8.43 | 5.60 |
| Pdh Tj = Tbiv | 4.20 kW | 5.55 kW |
| COP Tj = Tbiv | 4.28 | 2.69 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 4.20 kW | 5.55 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 4.28 | 2.69 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 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 | 1009 kWh | 1844 kWh |

Model NOVELAN LIV 8.2R1/3

| | |
|-------------------------------------|-----------------------|
| Model name | NOVELAN LIV 8.2R1/3 |
| Application | Heating (medium temp) |
| Units | Indoor |
| Climate zone (for heating) | n/a |
| Cooling mode application (optional) | n/a |
| Any additional heat sources | n/a |

General data

| | |
|------------------|-------------|
| Power supply | 1x230V 50Hz |
| Off-peak product | n/a |

Outdoor Air/Water**EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

| | |
|-------------------------------|--------|
| Complete power supply failure | passed |
| Defrost test | passed |

EN 14511-2 | Heating

| | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 2.81 kW | 3.28 kW |
| El input | 0.56 kW | 0.87 kW |
| COP | 5.02 | 2.85 |

EN 12102-1 | Average Climate

| | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |

EN 14825 | Average Climate

| | Low temperature | Medium temperature |
|---------------|-----------------|--------------------|
| η_s | 180 % | 135 % |
| Prated | 6.70 kW | 5.65 kW |
| SCOP | 4.57 | 3.44 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 5.88 kW | 5.04 kW |
| COP Tj = -7°C | 3.26 | 2.31 |
| Pdh Tj = +2°C | 3.84 kW | 3.48 kW |
| COP Tj = +2°C | 4.70 | 3.43 |
| Pdh Tj = +7°C | 3.27 kW | 3.04 kW |
| COP Tj = +7°C | 5.97 | 4.86 |
| Pdh Tj = 12°C | 3.36 kW | 3.39 kW |
| COP Tj = 12°C | 7.92 | 6.56 |
| Pdh Tj = Tbiv | 5.88 kW | 5.04 kW |

| | | |
|-----------------------------------------------------|-------------|-------------|
| COP Tj = Tbiv | 3.26 | 2.31 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.11 kW | 4.23 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.18 | 2.12 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.59 kW | 1.42 kW |
| Annual energy consumption Qhe | 3029 kWh | 3390 kWh |

EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |

EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| η_s | 145 % | 127 % |
| Prated | 6.50 kW | 5.00 kW |
| SCOP | 3.69 | 3.26 |
| Tbiv | -15 °C | -15 °C |
| TOL | -22 °C | -22 °C |
| Pdh Tj = -7°C | 5.60 kW | 6.25 kW |
| COP Tj = -7°C | 3.17 | 2.69 |
| Cdh Tj = -7 °C | | |
| Pdh Tj = +2°C | 4.02 kW | 3.33 kW |
| COP Tj = +2°C | 5.27 | 4.14 |
| Cdh Tj = +2 °C | | |
| Pdh Tj = +7°C | 3.12 kW | 3.48 kW |
| COP Tj = +7°C | 6.04 | 5.25 |
| Cdh Tj = +7 °C | | |
| Pdh Tj = 12°C | 4.21 kW | 3.70 kW |
| COP Tj = 12°C | 9.50 | 7.52 |
| Cdh Tj = +12 °C | | |
| Pdh Tj = Tbiv | 5.30 kW | 4.03 kW |
| COP Tj = Tbiv | 2.43 | 1.98 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.73 kW | 5.00 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.56 | 2.24 |

| | | |
|-----------------------------------------------------|-------------|-------------|
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 4.77 kW | 0.00 kW |
| Annual energy consumption Qhe | 4339 kWh | 3781 kWh |
| Pdh Tj = -15°C (if TOL) | 5.30 | 4.03 |
| COP Tj = -15°C (if TOL) | 2.43 | 1.98 |
| Cdh Tj = -15 °C | 1.000 | 1.000 |

EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |

EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| ηs | 214 % | 156 % |
| Prated | 4.10 kW | 5.50 kW |
| SCOP | 5.43 | 3.99 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 4.07 kW | 5.55 kW |
| COP Tj = +2°C | 4.15 | 2.69 |
| Pdh Tj = +7°C | 3.06 kW | 3.86 kW |
| COP Tj = +7°C | 5.65 | 3.70 |
| Pdh Tj = 12°C | 3.60 kW | 3.50 kW |
| COP Tj = 12°C | 8.43 | 5.60 |
| Pdh Tj = Tbiv | 4.20 kW | 5.55 kW |
| COP Tj = Tbiv | 4.28 | 2.69 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 4.20 kW | 5.55 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 4.28 | 2.69 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 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 | 1009 kWh | 1844 kWh |

Model NOVELAN LAV 8.2R1/3

| | |
|-------------------------------------|-----------------------|
| Model name | NOVELAN LAV 8.2R1/3 |
| Application | Heating (medium temp) |
| Units | Outdoor |
| Climate zone (for heating) | n/a |
| Cooling mode application (optional) | n/a |
| Any additional heat sources | n/a |

General data

| | |
|------------------|-------------|
| Power supply | 1x230V 50Hz |
| Off-peak product | n/a |

Outdoor Air/Water**EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

| | |
|-------------------------------|--------|
| Complete power supply failure | passed |
| Defrost test | passed |

EN 14511-2 | Heating

| | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 2.81 kW | 3.28 kW |
| El input | 0.56 kW | 0.87 kW |
| COP | 5.02 | 2.85 |

EN 12102-1 | Average Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |
| Sound power level outdoor | 50 dB(A) | 50 dB(A) |

EN 14825 | Average Climate

| | Low temperature | Medium temperature |
|---------------|-----------------|--------------------|
| η_s | 180 % | 135 % |
| Prated | 6.70 kW | 5.65 kW |
| SCOP | 4.57 | 3.44 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 5.88 kW | 5.04 kW |
| COP Tj = -7°C | 3.26 | 2.31 |
| Pdh Tj = +2°C | 3.84 kW | 3.48 kW |
| COP Tj = +2°C | 4.70 | 3.43 |
| Pdh Tj = +7°C | 3.27 kW | 3.04 kW |
| COP Tj = +7°C | 5.97 | 4.86 |
| Pdh Tj = 12°C | 3.36 kW | 3.39 kW |
| COP Tj = 12°C | 7.92 | 6.56 |

| | | |
|-----------------------------------------------------|-------------|-------------|
| Pdh Tj = Tbiv | 5.88 kW | 5.04 kW |
| COP Tj = Tbiv | 3.26 | 2.31 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.11 kW | 4.23 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.18 | 2.12 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.59 kW | 1.42 kW |
| Annual energy consumption Qhe | 3029 kWh | 3390 kWh |

EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |
| Sound power level outdoor | 50 dB(A) | 50 dB(A) |

EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| ηs | 145 % | 127 % |
| Prated | 6.50 kW | 5.00 kW |
| SCOP | 3.69 | 3.26 |
| Tbiv | -15 °C | -15 °C |
| TOL | -22 °C | -22 °C |
| Pdh Tj = -7°C | 5.60 kW | 6.25 kW |
| COP Tj = -7°C | 3.17 | 2.69 |
| Cdh Tj = -7 °C | | |
| Pdh Tj = +2°C | 4.02 kW | 3.33 kW |
| COP Tj = +2°C | 5.27 | 4.14 |
| Cdh Tj = +2 °C | | |
| Pdh Tj = +7°C | 3.12 kW | 3.48 kW |
| COP Tj = +7°C | 6.04 | 5.25 |
| Cdh Tj = +7 °C | | |
| Pdh Tj = 12°C | 4.21 kW | 3.70 kW |
| COP Tj = 12°C | 9.50 | 7.52 |
| Cdh Tj = +12 °C | | |
| Pdh Tj = Tbiv | 5.30 kW | 4.03 kW |
| COP Tj = Tbiv | 2.43 | 1.98 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.73 kW | 5.00 kW |

| | | |
|-----------------------------------------------------|-------------|-------------|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.56 | 2.24 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 4.77 kW | 0.00 kW |
| Annual energy consumption Qhe | 4339 kWh | 3781 kWh |
| Pdh Tj = -15°C (if TOL) | 5.30 | 4.03 |
| COP Tj = -15°C (if TOL) | 2.43 | 1.98 |
| Cdh Tj = -15 °C | 1.000 | 1.000 |

EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |
| Sound power level outdoor | 50 dB(A) | 50 dB(A) |

EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| ηs | 214 % | 156 % |
| Prated | 4.10 kW | 5.50 kW |
| SCOP | 5.43 | 3.99 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 4.07 kW | 5.55 kW |
| COP Tj = +2°C | 4.15 | 2.69 |
| Pdh Tj = +7°C | 3.06 kW | 3.86 kW |
| COP Tj = +7°C | 5.65 | 3.70 |
| Pdh Tj = 12°C | 3.60 kW | 3.50 kW |
| COP Tj = 12°C | 8.43 | 5.60 |
| Pdh Tj = Tbiv | 4.20 kW | 5.55 kW |
| COP Tj = Tbiv | 4.28 | 2.69 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 4.20 kW | 5.55 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 4.28 | 2.69 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 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 | 1009 kWh | 1844 kWh |

Model NOVELAN LAVS 8.2R1/3

| | |
|-------------------------------------|-----------------------|
| Model name | NOVELAN LAVS 8.2R1/3 |
| Application | Heating (medium temp) |
| Units | Outdoor |
| Climate zone (for heating) | n/a |
| Cooling mode application (optional) | n/a |
| Any additional heat sources | n/a |

General data

| | |
|------------------|-------------|
| Power supply | 1x230V 50Hz |
| Off-peak product | n/a |

Outdoor Air/Water**EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

| | |
|-------------------------------|--------|
| Complete power supply failure | passed |
| Defrost test | passed |

EN 14511-2 | Heating

| | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 2.81 kW | 3.28 kW |
| El input | 0.56 kW | 0.87 kW |
| COP | 5.02 | 2.85 |

EN 12102-1 | Average Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |
| Sound power level outdoor | 50 dB(A) | 50 dB(A) |

EN 14825 | Average Climate

| | Low temperature | Medium temperature |
|---------------|-----------------|--------------------|
| η_s | 180 % | 135 % |
| Prated | 6.70 kW | 5.65 kW |
| SCOP | 4.57 | 3.44 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 5.88 kW | 5.04 kW |
| COP Tj = -7°C | 3.26 | 2.31 |
| Pdh Tj = +2°C | 3.84 kW | 3.48 kW |
| COP Tj = +2°C | 4.70 | 3.43 |
| Pdh Tj = +7°C | 3.27 kW | 3.04 kW |
| COP Tj = +7°C | 5.97 | 4.86 |
| Pdh Tj = 12°C | 3.36 kW | 3.39 kW |
| COP Tj = 12°C | 7.92 | 6.56 |

| | | |
|-----------------------------------------------------|-------------|-------------|
| Pdh Tj = Tbiv | 5.88 kW | 5.04 kW |
| COP Tj = Tbiv | 3.26 | 2.31 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.11 kW | 4.23 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.18 | 2.12 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.59 kW | 1.42 kW |
| Annual energy consumption Qhe | 3029 kWh | 3390 kWh |

EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |
| Sound power level outdoor | 50 dB(A) | 50 dB(A) |

EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| ηs | 145 % | 127 % |
| Prated | 6.50 kW | 5.00 kW |
| SCOP | 3.69 | 3.26 |
| Tbiv | -15 °C | -15 °C |
| TOL | -22 °C | -22 °C |
| Pdh Tj = -7°C | 5.60 kW | 6.25 kW |
| COP Tj = -7°C | 3.17 | 2.69 |
| Cdh Tj = -7 °C | | |
| Pdh Tj = +2°C | 4.02 kW | 3.33 kW |
| COP Tj = +2°C | 5.27 | 4.14 |
| Cdh Tj = +2 °C | | |
| Pdh Tj = +7°C | 3.12 kW | 3.48 kW |
| COP Tj = +7°C | 6.04 | 5.25 |
| Cdh Tj = +7 °C | | |
| Pdh Tj = 12°C | 4.21 kW | 3.70 kW |
| COP Tj = 12°C | 9.50 | 7.52 |
| Cdh Tj = +12 °C | | |
| Pdh Tj = Tbiv | 5.30 kW | 4.03 kW |
| COP Tj = Tbiv | 2.43 | 1.98 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.73 kW | 5.00 kW |

| | | |
|-----------------------------------------------------|-------------|-------------|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.56 | 2.24 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.000 | 1.000 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 4.77 kW | 0.00 kW |
| Annual energy consumption Qhe | 4339 kWh | 3781 kWh |
| Pdh Tj = -15°C (if TOL) | 5.30 | 4.03 |
| COP Tj = -15°C (if TOL | 2.43 | 1.98 |
| Cdh Tj = -15 °C | 1.000 | 1.000 |

EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor | 48 dB(A) | 48 dB(A) |
| Sound power level outdoor | 50 dB(A) | 50 dB(A) |

EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| ηs | 214 % | 156 % |
| Prated | 4.10 kW | 5.50 kW |
| SCOP | 5.43 | 3.99 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 4.07 kW | 5.55 kW |
| COP Tj = +2°C | 4.15 | 2.69 |
| Pdh Tj = +7°C | 3.06 kW | 3.86 kW |
| COP Tj = +7°C | 5.65 | 3.70 |
| Pdh Tj = 12°C | 3.60 kW | 3.50 kW |
| COP Tj = 12°C | 8.43 | 5.60 |
| Pdh Tj = Tbiv | 4.20 kW | 5.55 kW |
| COP Tj = Tbiv | 4.28 | 2.69 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 4.20 kW | 5.55 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 4.28 | 2.69 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 1.00 | 1.00 |
| WTOL | 60 °C | 60 °C |
| Poff | 31 W | 31 W |
| PTO | 0 W | 0 W |
| PSB | 31 W | 31 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 | 1009 kWh | 1844 kWh |