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Login

| Summary of | WWC 190 H/X | Reg. No. | 041-K001-34 | |
|---------------------|---------------------|----------------------|-------------|--|
| Certificate Holder | | <u> </u> | | |
| Name | ait-deutschland Gmb | ait-deutschland GmbH | | |
| Address | Industriestr. 3 | Zip | 95359 | |
| City | Kasendorf | Country | Germany | |
| Certification Body | BRE Global Limited | BRE Global Limited | | |
| Subtype title | WWC 190 H/X | WWC 190 H/X | | |
| Heat Pump Type | Water/Water | Water/Water | | |
| Refrigerant | R407c | R407c | | |
| Mass of Refrigerant | 4.3 kg | 4.3 kg | | |
| Certification Date | 06.09.2019 | 06.09.2019 | | |



Model: WWC 190H/X

| Configure model | | |
|-------------------------------------|---------------------------------|--|
| Model name | WWC 190H/X | |
| Application | Heating (medium temp) | |
| Units | Indoor | |
| Climate Zone | Colder Climate + Warmer Climate | |
| Reversibility | No | |
| Cooling mode application (optional) | n/a | |

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

Heating

| EN 14511-2 | | | | |
|------------------------------------|----------|----------|--|--|
| Low temperature Medium temperature | | | | |
| Heat output | 18.60 kW | 16.30 kW | | |
| El input | 3.27 kW | 4.81 kW | | |
| СОР | 5.60 | 3.20 | | |

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

Average Climate



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| EN 12102-1 | | | |
|--------------------------|-----------------|--------------------|--|
| | Low temperature | Medium temperature | |
| Sound power level indoor | 53 dB(A) | 53 dB(A) | |

| EN 14825 | | |
|------------------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| η_{s} | 234 % | 179 % |
| Prated | 18.30 kW | 16.30 kW |
| SCOP | 6.05 | 4.68 |
| Tbiv | -10 °C | -10 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 18.34 kW | 16.60 kW |
| COP Tj = -7°C | 5.66 | 3.63 |
| Cdh Tj = -7 °C | 1.00 | 1.00 |
| Pdh Tj = +2°C | 18.56 kW | 17.60 kW |
| COP Tj = +2°C | 6.03 | 4.61 |
| Cdh Tj = +2 °C | 1.00 | 1.00 |
| Pdh Tj = +7°C | 18.76 kW | 18.20 kW |
| $COP Tj = +7^{\circ}C$ | 6.39 | 5.40 |
| Cdh Tj = +7 °C | 1.00 | 1.00 |
| Pdh Tj = 12°C | 18.96 kW | 18.80 kW |
| | | |

EHPA Secretariat | Rue dArlon 63-67 | Phone: +32 2 400 10 17 | Email: secretariat@heatpumpkeymark.com | www.heatpumpkeymark.com





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| Cdh Tj = +12 °C $Pdh Tj = Tbiv$ $COP Tj = Tbiv$ 5.6 | 00 .8.30 kW 5.60 .8.30 kW | 6.37 1.00 16.30 kW 3.39 16.30 kW |
|---|------------------------------------|--|
| Pdh Tj = Tbiv COP Tj = Tbiv 5.6 | i.60 .8.30 kW | 16.30 kW 3.39 16.30 kW |
| COP Tj = Tbiv 5.6 | 5.60 .8.30 kW | 3.39 16.30 kW |
| | .8.30 kW | 16.30 kW |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 18. | | |
| | 5.60 | 3.39 |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 5.6 | | |
| WTOL 65 | 55 °C | 65 °C |
| Poff 10 | .0 W | 10 W |
| PTO 10 | .0 W | 10 W |
| PSB 10 | .0 W | 10 W |
| PCK 0 W |) W | 0 W |
| Supplementary Heater: Type of energy input Ele | Electricity | Electricity |
| Supplementary Heater: PSUP 0.0 |).00 kW | 0.00 kW |
| Annual energy consumption Qhe 624 | 5249 kWh | 7193 kWh |

Warmer Climate

| EN 14825 | | |
|------------|-----------------|--------------------|
| | Low temperature | Medium temperature |
| η_{s} | 236 % | 181 % |
| Prated | 18.30 kW | 16.30 kW |
| SCOP | 6.09 | 4.73 |
| | | |



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| This information was genera | <u>-</u> | |
|---|-------------|-------------|
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = $+2^{\circ}$ C | 18.30 kW | 16.30 kW |
| COP Tj = +2°C | 5.60 | 3.39 |
| Cdh Tj = +2 °C | 1.00 | 1.00 |
| Pdh Tj = $+7^{\circ}$ C | 18.52 kW | 17.20 kW |
| $COP Tj = +7^{\circ}C$ | 5.95 | 4.18 |
| Cdh Tj = +7 °C | 1.00 | 1.00 |
| Pdh Tj = 12°C | 18.82 kW | 18.40 kW |
| COP Tj = 12°C | 6.51 | 5.71 |
| Cdh Tj = +12 °C | 1.00 | 1.00 |
| Pdh Tj = Tbiv | 18.30 kW | 16.30 kW |
| COP Tj = Tbiv | 5.60 | 3.39 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 18.30 kW | 16.30 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 5.60 | 3.39 |
| WTOL | 65 °C | 65 °C |
| Poff | 10 W | 10 W |
| РТО | 10 W | 10 W |
| PSB | 10 W | 10 W |
| PCK | o w | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| | | |





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|-----------------------------|----------------------|----------------------------|---|
| | | | |
| nentary Heater: PSUP | 0.00 kW | 0.00 kW | |

| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
|-------------------------------|----------|----------|
| Annual energy consumption Qhe | 4012 kWh | 4604 kWh |

Colder Climate

| EN 14825 | | | |
|----------------|-----------------|--------------------|--|
| | Low temperature | Medium temperature | |
| η_{s} | 241 % | 186 % | |
| Prated | 18.30 kW | 16.30 kW | |
| SCOP | 6.22 | 4.86 | |
| Tbiv | -22 °C | -22 °C | |
| TOL | -22 °C | -22 °C | |
| Pdh Tj = -7°C | 18.59 kW | 17.40 kW | |
| COP Tj = -7°C | 6.09 | 4.39 | |
| Cdh Tj = -7 °C | 1.00 | 1.00 | |
| Pdh Tj = +2°C | 18.77 kW | 18.10 kW | |
| COP Tj = +2°C | 6.41 | 5.26 | |
| Cdh Tj = +2 °C | 1.00 | 1.00 | |
| Pdh Tj = +7°C | 18.90 kW | 18.60 kW | |
| COP Tj = +7°C | 6.65 | 6.04 | |
| Cdh Tj = +7 °C | 1.00 | 1.00 | |
| Pdh Tj = 12°C | 18.94 kW | 19.00 kW | |



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| | • | |
|--|--|-------------|
| COP Tj = 12°C | 6.59 | 6.70 |
| Cdh Tj = +12 °C | 1.00 | 1.00 |
| Pdh Tj = Tbiv | 18.30 kW | 16.30 kW |
| COP Tj = Tbiv | 5.60 | 3.39 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 18.30 kW | 16.30 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 5.60 | 3.39 |
| WTOL | 65 °C | 65 °C |
| Poff | 10 W | 10 W |
| РТО | 10 W | 10 W |
| PSB | 10 W | 10 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 | 7258 kWh | 8276 kWh |
| Pdh Tj = -15°C (if TOL<-20°C) | 0.01 | 0.01 |
| COP Tj = -15 °C (if TOL< -20 °C) | 0.01 | 0.01 |
| Cdh Tj = -15 °C | 1.00 | 1.00 |
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