



ENERG

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10066342

alpha innotec

WZS 102H3M



Two icons showing sound power level. The top icon shows a speaker inside a house with the value **44 dB**. The bottom icon shows a speaker outside a house with the value **- dB**.



Legend for power consumption: a dark blue square for **9 kW**, a medium blue square for **10kW**, and a light blue square for **10 kW**.

Icon representing energy saving, showing a clock face with a dashed line and a coin with an arrow pointing to it.

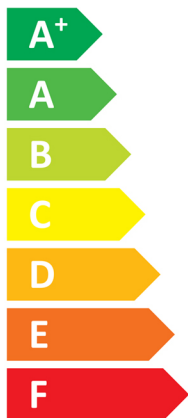
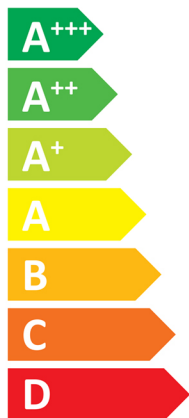


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44 dB

- dB



- 9 kW
- 10kW**
- 10 kW



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Y

IJA

IE

IA

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WZS 102H3M + Luxtronik 2.1

Energy label for heating system components. It shows a radiator icon with an **A⁺⁺** rating, a boiler icon with an **A** rating, and a tap icon with an **XL** label.

Energy scale for heating system components. The scale ranges from **A⁺⁺⁺** (green) to **G** (red). A large black arrow on the right points to the **A⁺⁺** rating.

Energy label for smart features. It shows four features: solar panels, a water tank, a remote control, and a boiler. Each feature is accompanied by a plus sign and a square checkbox. The remote control checkbox is marked with an 'X'.

Energy scale for smart features. The scale ranges from **A⁺⁺⁺** (green) to **G** (red). A large black arrow on the right points to the **A** rating.

package (heat pumps and combination heater with heat pump) WZS 102H3M + Luxtronik 2.1

Seasonal space heating energy efficiency of heat pump (η_s)

① 143 %

Rated heat output of the heat pump (P_{rated} kW)

10

Temperature control

Class

VII (Table 1)

+

② 3,5 %

Supplementary boiler

package with hot water storage tank

no

P_{sup} kW (rated heat output of supplementary heater)

η_s % (σ_{sup})

$(\eta_s \% (sup) - ①) \times (\alpha_{WP}) = -$ ③ %

(α_{WE} : see Table 3)

(α_{WE})

solar contribution

(A_{Koll} m²)

(η_{Koll} %)

(V_{Sp} m³)

(standstill heat loss of the hot water storage tank in W)

(η_{Sp} : Table 2)

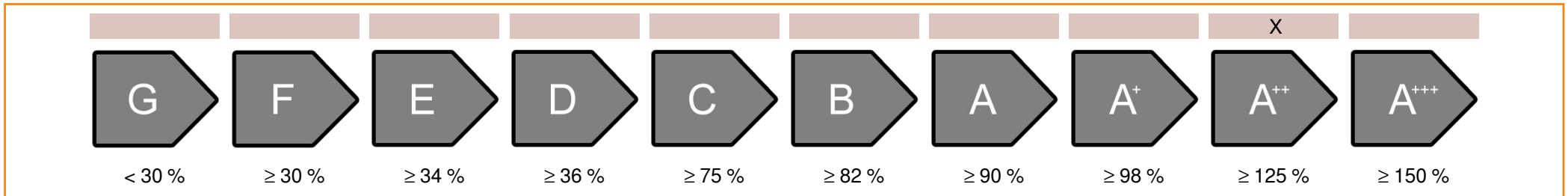
$((294/P_{rated} \times 11) \times (A_{Koll} \text{ m}^2) + (115/P_{rated} \times 11) \times (V_{Sp} \text{ m}^3)) \times 0,45 \times ((\eta_{Koll} \%)/100) \times (\eta_{Sp}) = +$ ④ %

Seasonal space heating energy efficiency of package

⑤ 146 %

rounded to the nearest integer

Seasonal space heating energy efficiency class of package



Seasonal space heating energy efficiency under colder or warmer climate conditions

Seasonal space heating energy efficiency of the heat pump (η_s) under colder climate conditions

148 %

Seasonal space heating energy efficiency of the heat pump (η_s) under warmer climate conditions

143 %

colder ⑤ 146 -V -6 = 152 warmer ⑤ 146 +VI 1 = 147

| | | | |
|---|---------------|------------------|-----|
| heatpump datasheet: | | | |
| | | | |
| manufacturer: | alpha innotec | | |
| model: | WZS 102H3M | | |
| | | | |
| Information concerning energy efficiency class and rated heat output: | | | |
| load profile water heating | XL | - | |
| | | | |
| | average / low | average / medium | |
| energy efficiency class space heater: | A+++ | A++ | - |
| energy efficiency class waterheating | A | | - |
| rated heat output: | 11 | 10 | kW |
| annual final energy consumption space heater | 3934 | 5241 | kWh |
| annual electricity consumption waterheating | 1551 | | kWh |
| energy efficiency space heater: | 214 | 143 | % |
| energy efficiency waterheating | 108 | | % |
| | | | |
| sound power level indoors | 44 | | dB |
| | | | |
| special precautions concerning assembly, installation or maintenance | | | |
| All instructional work in this manual may only be carried out by qualified specialist personnel in compliance with local regulations. | | | |
| | | | |
| additional information | low | medium | |
| rated heat output colder climate | 11 | 9 | kW |
| rated heat output warmer climate | 11 | 10 | kW |
| annual energy consumption space heater colder climate | 4478 | 5980 | kWh |
| annual energy consumption space heater warmer climate | 2619 | 3497 | kWh |
| ann. Electricity consumption waterheating colder climate | 1551 | | kWh |
| ann. Electricity consumption waterheating warmer climate | 1551 | | kWh |
| energy efficiency space heater colder climate | 223 | 148 | % |
| energy efficiency space heater warmer climate | 215 | 143 | % |
| energy efficiency waterheating colder climate | 108 | | % |
| energy efficiency DHW warmer climate | 108 | | % |
| | | | |
| sound power level outdoors | - | | dB |

| | | |
|--|----------------------|---|
| technical data of the temperature controller | | |
| | | |
| manufacturer: | alpha innotec | |
| model: | Luxtronik 2.1 | |
| | | |
| controller class | VII | - |
| contribution of the controller to the energy efficiency space heater | 3,5 | % |

| | | | | | | | |
|--|--|--------------|-------------|--|--------------------|--------------|-------------------|
| Model | | | | WZS 102H3M | | | |
| Air-to-water heat pump: (yes/no) | | | | no | | | |
| Brine-to-water heat pump: (yes/no) | | | | yes | | | |
| Water-to-water heat pump: (yes/no) | | | | no | | | |
| Low-temperature heat pump: (yes/no) | | | | no | | | |
| Equipped with supplementary heater: (yes/no) | | | | yes | | | |
| combination heater with: (yes/no) | | | | yes | | | |
| application: (low/medium) | | | | medium | | | |
| climate: (colder/average/warmer) | | | | average | | | |
| Item | Symbol | Value | Unit | Item | Symbol | Value | Unit |
| Rated heat output | Prated | 10 | kW | Seasonal space heating energy efficiency | η_S | 142,7 | % |
| Declared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature Tj | | | | Declared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature Tj | | | |
| Tj = -7°C | Pdh | 8,5 | kW | Tj = -7°C | COPd | 3,05 | - |
| Tj = +2°C | Pdh | 8,9 | kW | Tj = +2°C | COPd | 3,76 | - |
| Tj = +7°C | Pdh | 9,1 | kW | Tj = +7°C | COPd | 4,35 | - |
| Tj = +12°C | Pdh | 9,4 | kW | Tj = +12°C | COPd | 5,09 | - |
| Tj = bivalent temperature | Pdh | 8,5 | kW | Tj = bivalent temperature | COPd | 3,05 | - |
| Tj = operation limit temperature | Pdh | 8,3 | kW | Tj = operation limit temperature | COPd | 2,82 | - |
| For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C) | Pdh | - | kW | For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C) | COPd | - | - |
| Bivalent temperature | T _{biv} | -7 | °C | For air-to-water heat pumps: Operation limit temperature | TOL | -10 | °C |
| Cycling interval capacity for heating | P _{cyh} | - | kW | Cycling interval efficiency | COP _{cyh} | - | - |
| Degradation co-efficient (**) | Cdh | 1,0 | - | Heating water operating limit temperature | WTOL | 60 | °C |
| Power consumption in modes other than active mode | | | | Supplementary heater | | | |
| Off mode | P _{OFF} | 0,015 | kW | Rated heat output | P _{sup} | 1,3 | kW |
| Thermostat-off mode | P _{TO} | 0,015 | kW | Type of energy input | electrical | | |
| Standby mode | P _{SB} | 0,015 | kW | | | | |
| Crankcase heater mode | P _{CK} | - | kW | | | | |
| Other items | | | | | | | |
| Capacity control | fixed | | | For air-to-water heat pumps: Rated air flow rate, outdoors | - | - | m ³ /h |
| sound power level, indoors/outdoors | L _{WA} | 44 / - | dB | For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | 2 | m ³ /h |
| Emissions of nitrogen oxides | NO _x | - | mg/kWh | | | | |
| For heat pump combination heater: | | | | | | | |
| Declared load profile | XL | | | Water heating energy efficiency | η_{wh} | 108 | % |
| Daily electricity consumption | Q _{elec} | 7,063 | kWh | Daily fuel consumption | Q _{fuel} | - | kWh |
| Contact details | ait deutschland GmbH Industriestr. 3 95359 Kasendorf Germany | | | | | | |
| (*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). | | | | | | | |
| (**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9. | | | | | | | |

| | | | | | | | |
|--|--|--------------|-------------|--|--------------------|--------------|-------------------|
| Model | | | | WZS 102H3M | | | |
| Air-to-water heat pump: (yes/no) | | | | no | | | |
| Brine-to-water heat pump: (yes/no) | | | | yes | | | |
| Water-to-water heat pump: (yes/no) | | | | no | | | |
| Low-temperature heat pump: (yes/no) | | | | no | | | |
| Equipped with supplementary heater: (yes/no) | | | | yes | | | |
| combination heater with: (yes/no) | | | | yes | | | |
| application: (low/medium) | | | | low | | | |
| climate: (colder/average/warmer) | | | | average | | | |
| Item | Symbol | Value | Unit | Item | Symbol | Value | Unit |
| Rated heat output | Prated | 11 | kW | Seasonal space heating energy efficiency | η_S | 214,2 | % |
| Declared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature Tj | | | | Declared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature Tj | | | |
| Tj = -7°C | Pdh | 9,4 | kW | Tj = -7°C | COPd | 5,23 | - |
| Tj = +2°C | Pdh | 9,5 | kW | Tj = +2°C | COPd | 5,63 | - |
| Tj = +7°C | Pdh | 9,6 | kW | Tj = +7°C | COPd | 6,05 | - |
| Tj = +12°C | Pdh | 9,7 | kW | Tj = +12°C | COPd | 6,52 | - |
| Tj = bivalent temperature | Pdh | 9,4 | kW | Tj = bivalent temperature | COPd | 5,23 | - |
| Tj = operation limit temperature | Pdh | 9,3 | kW | Tj = operation limit temperature | COPd | 5,05 | - |
| For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C) | Pdh | - | kW | For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C) | COPd | - | - |
| Bivalent temperature | T _{biv} | -7 | °C | For air-to-water heat pumps: Operation limit temperature | TOL | -10 | °C |
| Cycling interval capacity for heating | P _{cyh} | - | kW | Cycling interval efficiency | COP _{cyh} | - | - |
| Degradation co-efficient (**) | Cdh | 1,0 | - | Heating water operating limit temperature | WTOL | 60 | °C |
| Power consumption in modes other than active mode | | | | Supplementary heater | | | |
| Off mode | P _{OFF} | 0,015 | kW | Rated heat output | P _{sup} | 1,3 | kW |
| Thermostat-off mode | P _{TO} | 0,015 | kW | Type of energy input | electrical | | |
| Standby mode | P _{SB} | 0,015 | kW | | | | |
| Crankcase heater mode | P _{CK} | - | kW | | | | |
| Other items | | | | | | | |
| Capacity control | fixed | | | For air-to-water heat pumps: Rated air flow rate, outdoors | - | - | m ³ /h |
| sound power level, indoors/outdoors | L _{WA} | 44 / - | dB | For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | 2 | m ³ /h |
| Emissions of nitrogen oxides | NO _x | - | mg/kWh | | | | |
| For heat pump combination heater: | | | | | | | |
| Declared load profile | - | | | Water heating energy efficiency | η_{wh} | - | % |
| Daily electricity consumption | Q _{elec} | - | kWh | Daily fuel consumption | Q _{fuel} | - | kWh |
| Contact details | ait deutschland GmbH Industriestr. 3 95359 Kasendorf Germany | | | | | | |
| (*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). | | | | | | | |
| (**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9. | | | | | | | |