



ENERG

енергия · ενεργεια



103627CS1201

NOVELAN

L12 Split-CS 12



A++



A



35 dB



58 dB



■ 13 kW

■ 10kW

■ 12 kW



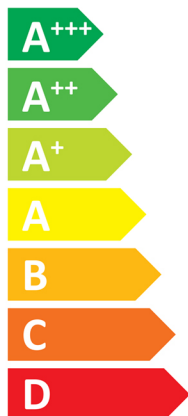


ENERGY

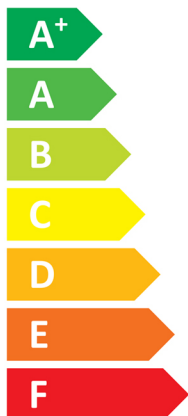
103627CS1201

NOVELAN

L12 Split-CS 12



A++



A



35 dB



58 dB



13 kW

10 kW

12 kW



2019

811/2013



ENERG

енергия · ενεργεια

Y

IJA

IE

IA

103627CS1201

NOVELAN

L12 Split-CS 12 + Splitregler

+

+

+

+

package (heat pumps and combination heater with heat pump) L12 Split-CS 12 + Splitregler

Seasonal space heating energy efficiency of heat pump (η_s) ① 132 %

Rated heat output of the heat pump (P_{rated} kW) 10

Temperature control Class VI (Table 1) + ② 4,0 %

Supplementary boiler
package with hot water storage tank no P_{sup} kW (rated heat output of supplementary heater)

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

(α_{WE} : see Table 3) (α_{WE})

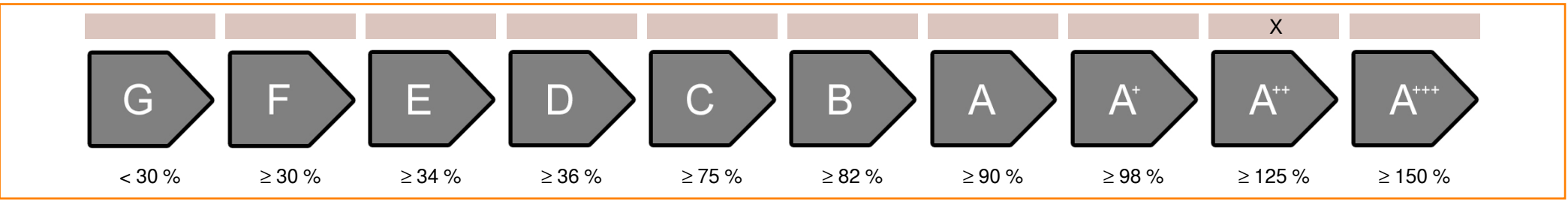
solar contribution $(A_{Koll} \text{ m}^2)$ $(\eta_{Koll} \%)$
 $(V_{Sp} \text{ m}^3)$ $(standstill \text{ heat loss of the hot water storage tank in W})$
 $(\eta_{Sp}: \text{Table 2})$

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

Seasonal space heating energy efficiency of package ⑤ 136 %

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 109 %

Seasonal space heating energy efficiency of the heat pump (η_s) under warmer climate conditions 183 %

colder ⑤ 136 -V 23 = 113 warmer ⑤ 136 +VI 51 = 187

| | | | |
|---------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------|-----|
| heatpump datasheet: | | | |
| | | | |
| manufacturer: | NOVELAN | | |
| model: | L12 Split-CS 12 | | |
| | | | |
| 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: | 12 | 10 | kW |
| annual final energy consumption space heater | 5361 | 6137 | kWh |
| annual electricity consumption waterheating | 1702 | | kWh |
| energy efficiency space heater: | 174 | 132 | % |
| energy efficiency waterheating | 98 | | % |
| | | | |
| sound power level indoors | 35 | | 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 | 12 | 13 | kW |
| rated heat output warmer climate | 12 | 12 | kW |
| annual energy consumption space heater colder climate | 7920 | 11461 | kWh |
| annual energy consumption space heater warmer climate | 2765 | 3445 | kWh |
| ann. Electricity consumption waterheating colder climate | 1903 | | kWh |
| ann. Electricity consumption waterheating warmer climate | 1551 | | kWh |
| energy efficiency space heater colder climate | 140 | 109 | % |
| energy efficiency space heater warmer climate | 229 | 183 | % |
| energy efficiency waterheating colder climate | 88 | | % |
| energy efficiency DHWarmer climate | 108 | | % |
| | | | |
| sound power level outdoors | 58 | | dB |

| | | |
|----------------------------------------------------------------------|--------------------|---|
| technical data of the temperature controller | | |
| | | |
| manufacturer: | NOVELAN | |
| model: | Splitregler | |
| | | |
| controller class | VI | - |
| contribution of the controller to the energy efficiency space heater | 4,0 | % |

| Model | | | | L12 Split-CS 12 | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|---------|--------|---------------------------------------------------------------------------------------------------------|--------------------|-------|-------------------|
| Air-to-water heat pump: (yes/no) | | | | yes | | | |
| Brine-to-water heat pump: (yes/no) | | | | no | | | |
| Water-to-water heat pump: (yes/no) | | | | no | | | |
| Low-temperature heat pump: (yes/no) | | | | no | | | |
| Equipped with supplementary heater: (yes/no) | | | | no | | | |
| 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 | 132,0 | % |
| 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 | 8,9 | kW | Tj = -7°C | COPd | 1,99 | - |
| Tj = +2°C | Pdh | 5,5 | kW | Tj = +2°C | COPd | 3,22 | - |
| Tj = +7°C | Pdh | 3,6 | kW | Tj = +7°C | COPd | 4,61 | - |
| Tj = +12°C | Pdh | 5,0 | kW | Tj = +12°C | COPd | 6,91 | - |
| Tj = bivalent temperature | Pdh | 9,2 | kW | Tj = bivalent temperature | COPd | 1,90 | - |
| Tj = operation limit temperature | Pdh | 8,1 | kW | Tj = operation limit temperature | COPd | 1,92 | - |
| 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} | -8 | °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 | 58 | °C |
| Power consumption in modes other than active mode | | | | Supplementary heater | | | |
| Off mode | P _{OFF} | 0,002 | kW | Rated heat output | P _{sup} | 1,9 | kW |
| Thermostat-off mode | P _{TO} | 0,020 | kW | Type of energy input | electrical | | |
| Standby mode | P _{SB} | 0,015 | kW | | | | |
| Crankcase heater mode | P _{CK} | 0,035 | kW | | | | |
| Other items | | | | | | | |
| Capacity control | variable | | | For air-to-water heat pumps: Rated air flow rate, outdoors | - | 4.380 | m ³ /h |
| sound power level, indoors/outdoors | L _{WA} | 35 / 58 | dB | For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | - | 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} | 98 | % |
| Daily electricity consumption | Q _{elec} | 7,752 | 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 | | | | L12 Split-CS 12 | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|---------|--------|----------------------------------------------------------------------------------------------------------------|--------------------|-------|-------------------|
| Air-to-water heat pump: (yes/no) | | | | yes | | | |
| Brine-to-water heat pump: (yes/no) | | | | no | | | |
| Water-to-water heat pump: (yes/no) | | | | no | | | |
| Low-temperature heat pump: (yes/no) | | | | no | | | |
| Equipped with supplementary heater: (yes/no) | | | | no | | | |
| 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 | 12 | kW | Seasonal space heating energy efficiency | η_S | 174,0 | % |
| 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 | 10,3 | kW | Tj = -7°C | COPd | 2,93 | - |
| Tj = +2°C | Pdh | 6,3 | kW | Tj = +2°C | COPd | 4,37 | - |
| Tj = +7°C | Pdh | 4,1 | kW | Tj = +7°C | COPd | 5,53 | - |
| Tj = +12°C | Pdh | 4,8 | kW | Tj = +12°C | COPd | 7,59 | - |
| Tj = bivalent temperature | Pdh | 10,2 | kW | Tj = bivalent temperature | COPd | 2,93 | - |
| Tj = operation limit temperature | Pdh | 9,3 | kW | Tj = operation limit temperature | COPd | 2,68 | - |
| 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 | 58 | °C |
| Power consumption in modes other than active mode | | | | Supplementary heater | | | |
| Off mode | P _{OFF} | 0,002 | kW | Rated heat output | P _{sup} | 2,2 | kW |
| Thermostat-off mode | P _{TO} | 0,020 | kW | Type of energy input | electrical | | |
| Standby mode | P _{SB} | 0,015 | kW | | | | |
| Crankcase heater mode | P _{CK} | 0,035 | kW | | | | |
| Other items | | | | | | | |
| Capacity control | variable | | | For air-to-water heat pumps: Rated air flow rate, outdoors | - | 4.380 | m ³ /h |
| sound power level, indoors/outdoors | L _{WA} | 35 / 58 | dB | For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | - | 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. | | | | | | | |