Information for heat pump space heaters and heat pump combination heaters
**Warm climate and Medium temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoLogic** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **141** | % |
| Equipped with a supplementary heater: | **No** | Package efficiency class: | | - |
| Heat pump combination heater: | **No** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **12** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **na** | kW |
| T j = + 2 °C | *Pdh* | **13,6** | kW |
| T j = + 7 °C | *Pdh* | **11,1** | kW |
| T j = + 12 °C | *Pdh* | **11,5** | kW |
| T j = bivalent temperature | *Pdh* | **11** | kW |
| T j = operation limit temperature | *Pdh* | **na** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **3** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,99** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,005** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **4364** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **137** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **na** | - |
| T j = +2 °C | *COPd* | **3,08** | - |
| T j = +7 °C | *COPd* | **3,45** | - |
| T j = +12 °C | *COPd* | **4,14** | - |
| T j = bivalent temperature | *COPd* | **3,18** | - |
| T j = operation limit temperature | *COPd* | **na** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **0,5** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,1** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile** | | **na** | | **Water heating energy efficiency** | $\eta_{wh}$ | **na** | % |
| Daily electricity consumption | Qelec | **na** | kWh | Daily fuel consumption | Qfuel | **na** | kWh |
| Annual electricity consumption | AEC | **na** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Contact details Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000 www.ctc.se

Information for heat pump space heaters and heat pump combination heaters
**Warm climate and Low temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoLogic** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **184** | % |
| Equipped with a supplementary heater: | **No** | Package efficiency class: | | - |
| Heat pump combination heater: | **No** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **13** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **na** | kW |
| T j = + 2 °C | *Pdh* | **11,8** | kW |
| T j = + 7 °C | *Pdh* | **11,9** | kW |
| T j = + 12 °C | *Pdh* | **12,0** | kW |
| T j = bivalent temperature | *Pdh* | **11,8** | kW |
| T j = operation limit temperature | *Pdh* | **na** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **3** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,98** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,022** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **3618** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **180** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **na** | - |
| T j = +2 °C | *COPd* | **4,60** | - |
| T j = +7 °C | *COPd* | **4,83** | - |
| T j = +12 °C | *COPd* | **5,11** | - |
| T j = bivalent temperature | *COPd* | **4,68** | - |
| T j = operation limit temperature | *COPd* | **na** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **0,9** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,6** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile** | | **na** | | **Water heating energy efficiency** | $\eta_{wh}$ | **na** | % |
| Daily electricity consumption | Qelec | **na** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **na** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Contact details Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000 www.ctc.se

Information for heat pump space heaters and heat pump combination heaters

**Average climate and Medium temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoLogic** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | **A++** | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **142** | % |
| Equipped with a supplementary heater: | **No** | Package efficiency class: | **A++** | - |
| Heat pump combination heater: | **No** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **12** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **11** | kW |
| T j = + 2 °C | *Pdh* | **11,2** | kW |
| T j = + 7 °C | *Pdh* | **11,4** | kW |
| T j = + 12 °C | *Pdh* | **11,6** | kW |
| T j = bivalent temperature | *Pdh* | **11** | kW |
| T j = operation limit temperature | *Pdh* | **na** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-7** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,99** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,005** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **7084** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **138** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **3,25** | - |
| T j = +2 °C | *COPd* | **3,64** | - |
| T j = +7 °C | *COPd* | **4,02** | - |
| T j = +12 °C | *COPd* | **4,40** | - |
| T j = bivalent temperature | *COPd* | **3,25** | - |
| T j = operation limit temperature | *COPd* | **na** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **1,5** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,1** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile** | | **na** | | **Water heating energy efficiency** | $\eta_{wh}$ | **na** | % |
| Daily electricity consumption | Qelec | **na** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **na** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Information for heat pump space heaters and heat pump combination heaters

**Average climate and Low temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoLogic** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | **A++** | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **186** | % |
| Equipped with a supplementary heater: | **No** | Package efficiency class: | **A+++** | - |
| Heat pump combination heater: | **No** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **13** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **11,8** | kW |
| T j = + 2 °C | *Pdh* | **11,9** | kW |
| T j = + 7 °C | *Pdh* | **12,0** | kW |
| T j = + 12 °C | *Pdh* | **12,1** | kW |
| T j = bivalent temperature | *Pdh* | **11,8** | kW |
| T j = operation limit temperature | *Pdh* | **na** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-7** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,98** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,022** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **5814** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **182** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **4,69** | - |
| T j = +2 °C | *COPd* | **4,88** | - |
| T j = +7 °C | *COPd* | **5,06** | - |
| T j = +12 °C | *COPd* | **5,23** | - |
| T j = bivalent temperature | *COPd* | **4,69** | - |
| T j = operation limit temperature | *COPd* | **na** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **1,6** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,6** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile** | | **na** | | **Water heating energy efficiency** | $\eta_{wh}$ | **na** | % |
| Daily electricity consumption | Qelec | **na** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **na** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Information for heat pump space heaters and heat pump combination heaters
**Cold climate and Medium temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoLogic** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **145** | % |
| Equipped with a supplementary heater: | **No** | Package efficiency class: | | - |
| Heat pump combination heater: | **No** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **12** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **11,2** | kW |
| T j = + 2 °C | *Pdh* | **11,4** | kW |
| T j = + 7 °C | *Pdh* | **11,6** | kW |
| T j = + 12 °C | *Pdh* | **11,7** | kW |
| T j = bivalent temperature | *Pdh* | **11** | kW |
| T j = operation limit temperature | *Pdh* | **na** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-18** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,99** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,005** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **8195** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **141** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **3,56** | - |
| T j = +2 °C | *COPd* | **3,94** | - |
| T j = +7 °C | *COPd* | **4,29** | - |
| T j = +12 °C | *COPd* | **4,54** | - |
| T j = bivalent temperature | *COPd* | **3,25** | - |
| T j = operation limit temperature | *COPd* | **na** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **1,4** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,1** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile** | | **na** | | **Water heating energy efficiency** | $\eta_{wh}$ | **na** | % |
| Daily electricity consumption | Qelec | **na** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **na** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Information for heat pump space heaters and heat pump combination heaters

**Cold climate and Low temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoLogic** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **189** | % |
| Equipped with a supplementary heater: | **No** | Package efficiency class: | | - |
| Heat pump combination heater: | **No** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **12** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **11,9** | kW |
| T j = + 2 °C | *Pdh* | **12,0** | kW |
| T j = + 7 °C | *Pdh* | **12,1** | kW |
| T j = + 12 °C | *Pdh* | **12,1** | kW |
| T j = bivalent temperature | *Pdh* | **11,8** | kW |
| T j = operation limit temperature | *Pdh* | **na** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-20** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,98** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,022** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **6373** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **185** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **4,89** | - |
| T j = +2 °C | *COPd* | **5,06** | - |
| T j = +7 °C | *COPd* | **5,18** | - |
| T j = +12 °C | *COPd* | **5,20** | - |
| T j = bivalent temperature | *COPd* | **4,66** | - |
| T j = operation limit temperature | *COPd* | **na** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **0,7** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,6** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile** | | **na** | | **Water heating energy efficiency** | $\eta_{wh}$ | **na** | % |
| Daily electricity consumption | Qelec | **na** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **na** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Information for heat pump space heaters and heat pump combination heaters

**Warm climate and Medium temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoZenith i350/ i350F** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **141** | % |
| Equipped with a supplementary heater: | **Yes** | Package efficiency class: | | - |
| Heat pump combination heater: | **Yes** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **12** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **na** | kW |
| T j = + 2 °C | *Pdh* | **13,6** | kW |
| T j = + 7 °C | *Pdh* | **11,1** | kW |
| T j = + 12 °C | *Pdh* | **11,5** | kW |
| T j = bivalent temperature | *Pdh* | **11** | kW |
| T j = operation limit temperature | *Pdh* | **na** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **3** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,99** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,005** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **4364** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **137** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **na** | - |
| T j = +2 °C | *COPd* | **3,08** | - |
| T j = +7 °C | *COPd* | **3,45** | - |
| T j = +12 °C | *COPd* | **4,14** | - |
| T j = bivalent temperature | *COPd* | **3,18** | - |
| T j = operation limit temperature | *COPd* | **na** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **0,5** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,1** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile/ Energy efficiency class** | | **XL / A** | | **Water heating energy efficiency** | $\eta_{wh}$ | **100** | % |
| Daily electricity consumption | Qelec | **7,619** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **1676** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Information for heat pump space heaters and heat pump combination heaters
**Warm climate and Low temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoZenith i350/ i350F** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **184** | % |
| Equipped with a supplementary heater: | **Yes** | Package efficiency class: | | - |
| Heat pump combination heater: | **Yes** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **13** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **na** | kW |
| T j = + 2 °C | *Pdh* | **11,8** | kW |
| T j = + 7 °C | *Pdh* | **11,9** | kW |
| T j = + 12 °C | *Pdh* | **12,0** | kW |
| T j = bivalent temperature | *Pdh* | **11,8** | kW |
| T j = operation limit temperature | *Pdh* | **na** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **3** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,98** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,022** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **3618** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **180** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **na** | - |
| T j = +2 °C | *COPd* | **4,60** | - |
| T j = +7 °C | *COPd* | **4,83** | - |
| T j = +12 °C | *COPd* | **5,11** | - |
| T j = bivalent temperature | *COPd* | **4,68** | - |
| T j = operation limit temperature | *COPd* | **na** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **0,9** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,6** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile/ Energy efficiency class** | | **XL / A** | | **Water heating energy efficiency** | $\eta_{wh}$ | **100** | % |
| Daily electricity consumption | Qelec | **7,619** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **1676** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Contact details Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000 www.ctc.se

Information for heat pump space heaters and heat pump combination heaters

**Average climate and Medium temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoZenith i350/ i350F** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | **A++** | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **142** | % |
| Equipped with a supplementary heater: | **Yes** | Package efficiency class: | **A++** | - |
| Heat pump combination heater: | **Yes** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **12** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **11** | kW |
| T j = + 2 °C | *Pdh* | **11,2** | kW |
| T j = + 7 °C | *Pdh* | **11,4** | kW |
| T j = + 12 °C | *Pdh* | **11,6** | kW |
| T j = bivalent temperature | *Pdh* | **11** | kW |
| T j = operation limit temperature | *Pdh* | **na** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-7** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,99** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,005** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **7084** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **138** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **3,25** | - |
| T j = +2 °C | *COPd* | **3,64** | - |
| T j = +7 °C | *COPd* | **4,02** | - |
| T j = +12 °C | *COPd* | **4,40** | - |
| T j = bivalent temperature | *COPd* | **3,25** | - |
| T j = operation limit temperature | *COPd* | **na** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **1,5** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,1** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile/ Energy efficiency class** | | **XL / A** | | **Water heating energy efficiency** | $\eta_{wh}$ | **100** | % |
| Daily electricity consumption | Qelec | **7,619** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **1676** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Information for heat pump space heaters and heat pump combination heaters

**Average climate and Low temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoZenith i350/ i350F** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | **A++** | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **186** | % |
| Equipped with a supplementary heater: | **Yes** | Package efficiency class: | **A+++** | - |
| Heat pump combination heater: | **Yes** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **13** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **11,8** | kW |
| T j = + 2 °C | *Pdh* | **11,9** | kW |
| T j = + 7 °C | *Pdh* | **12,0** | kW |
| T j = + 12 °C | *Pdh* | **12,1** | kW |
| T j = bivalent temperature | *Pdh* | **11,8** | kW |
| T j = operation limit temperature | *Pdh* | **na** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-7** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,98** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,022** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **5814** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **182** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **4,69** | - |
| T j = +2 °C | *COPd* | **4,88** | - |
| T j = +7 °C | *COPd* | **5,06** | - |
| T j = +12 °C | *COPd* | **5,23** | - |
| T j = bivalent temperature | *COPd* | **4,69** | - |
| T j = operation limit temperature | *COPd* | **na** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **1,6** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,6** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile/ Energy efficiency class** | | **XL / A** | | **Water heating energy efficiency** | $\eta_{wh}$ | **100** | % |
| Daily electricity consumption | Qelec | **7,619** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **1676** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Information for heat pump space heaters and heat pump combination heaters

**Cold climate and Medium temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoZenith i350/ i350F** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **145** | % |
| Equipped with a supplementary heater: | **Yes** | Package efficiency class: | | - |
| Heat pump combination heater: | **Yes** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **12** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **11,2** | kW |
| T j = + 2 °C | *Pdh* | **11,4** | kW |
| T j = + 7 °C | *Pdh* | **11,6** | kW |
| T j = + 12 °C | *Pdh* | **11,7** | kW |
| T j = bivalent temperature | *Pdh* | **11** | kW |
| T j = operation limit temperature | *Pdh* | **na** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-18** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,99** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,005** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **8195** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **141** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **3,56** | - |
| T j = +2 °C | *COPd* | **3,94** | - |
| T j = +7 °C | *COPd* | **4,29** | - |
| T j = +12 °C | *COPd* | **4,54** | - |
| T j = bivalent temperature | *COPd* | **3,25** | - |
| T j = operation limit temperature | *COPd* | **na** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **1,4** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,1** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile/ Energy efficiency class** | | **XL / A** | | **Water heating energy efficiency** | $\eta_{wh}$ | **100** | % |
| Daily electricity consumption | Qelec | **7,619** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **1676** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Contact details Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000 www.ctc.se

Information for heat pump space heaters and heat pump combination heaters

**Cold climate and Low temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoZenith i350/ i350F** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **189** | % |
| Equipped with a supplementary heater: | **Yes** | Package efficiency class: | | - |
| Heat pump combination heater: | **Yes** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **12** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **11,9** | kW |
| T j = + 2 °C | *Pdh* | **12,0** | kW |
| T j = + 7 °C | *Pdh* | **12,1** | kW |
| T j = + 12 °C | *Pdh* | **12,1** | kW |
| T j = bivalent temperature | *Pdh* | **11,8** | kW |
| T j = operation limit temperature | *Pdh* | **na** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-20** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,98** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,022** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **6373** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **185** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **4,89** | - |
| T j = +2 °C | *COPd* | **5,06** | - |
| T j = +7 °C | *COPd* | **5,18** | - |
| T j = +12 °C | *COPd* | **5,20** | - |
| T j = bivalent temperature | *COPd* | **4,66** | - |
| T j = operation limit temperature | *COPd* | **na** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **0,7** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,6** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile/ Energy efficiency class** | | **XL / A** | | **Water heating energy efficiency** | $\eta_{wh}$ | **100** | % |
| Daily electricity consumption | Qelec | **7,619** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **1676** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Information for heat pump space heaters and heat pump combination heaters

**Warm climate and Medium temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoZenith 250** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **126** | % |
| Equipped with a supplementary heater: | **Yes** | Package efficiency class: | | - |
| Heat pump combination heater: | **Yes** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| **Item** | **Symbol** | **Value** | **Unit** |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **12** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **na** | kW |
| T j = + 2 °C | *Pdh* | **10,9** | kW |
| T j = + 7 °C | *Pdh* | **11,3** | kW |
| T j = + 12 °C | *Pdh* | **11,7** | kW |
| T j = bivalent temperature | *Pdh* | **11,0** | kW |
| T j = operation limit temperature | *Pdh* | **10,9** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **3** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,99** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,034** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **4905** | *kWh* |

| **Item** | **Symbol** | **Value** | **Unit** |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **122** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **na** | - |
| T j = +2 °C | *COPd* | **2,81** | - |
| T j = +7 °C | *COPd* | **3,14** | - |
| T j = +12 °C | *COPd* | **3,72** | - |
| T j = bivalent temperature | *COPd* | **2,90** | - |
| T j = operation limit temperature | *COPd* | **2,81** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **1,3** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,1** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile/ Energy efficiency class** | | **L / A** | | **Water heating energy efficiency** | $\eta_{wh}$ | **86** | % |
| Daily electricity consumption | Qelec | **5,434** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **1195** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Information for heat pump space heaters and heat pump combination heaters

**Warm climate and Low temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoZenith 250** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **154** | % |
| Equipped with a supplementary heater: | **Yes** | Package efficiency class: | | - |
| Heat pump combination heater: | **Yes** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **13** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **na** | kW |
| T j = + 2 °C | *Pdh* | **11,9** | kW |
| T j = + 7 °C | *Pdh* | **12,0** | kW |
| T j = + 12 °C | *Pdh* | **12,1** | kW |
| T j = bivalent temperature | *Pdh* | **11,9** | kW |
| T j = operation limit temperature | *Pdh* | **11,9** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **3** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,95** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,110** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **4331** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **150** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **na** | - |
| T j = +2 °C | *COPd* | **4,11** | - |
| T j = +7 °C | *COPd* | **4,30** | - |
| T j = +12 °C | *COPd* | **4,54** | - |
| T j = bivalent temperature | *COPd* | **4,17** | - |
| T j = operation limit temperature | *COPd* | **4,11** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **0,9** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,6** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile/ Energy efficiency class** | | **L / A** | | **Water heating energy efficiency** | $\eta_{wh}$ | **86** | % |
| Daily electricity consumption | Qelec | **5,434** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **1195** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Contact details Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000 www.ctc.se

Information for heat pump space heaters and heat pump combination heaters

**Average climate and Medium temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoZenith 250** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | **A++** | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **127** | % |
| Equipped with a supplementary heater: | **Yes** | Package efficiency class: | **A++** | - |
| Heat pump combination heater: | **Yes** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **13** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **11,1** | kW |
| T j = + 2 °C | *Pdh* | **11,5** | kW |
| T j = + 7 °C | *Pdh* | **11,6** | kW |
| T j = + 12 °C | *Pdh* | **11,8** | kW |
| T j = bivalent temperature | *Pdh* | **11,2** | kW |
| T j = operation limit temperature | *Pdh* | **10,9** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-6** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,99** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,034** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **8476** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **123** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **2,97** | - |
| T j = +2 °C | *COPd* | **3,32** | - |
| T j = +7 °C | *COPd* | **3,63** | - |
| T j = +12 °C | *COPd* | **3,94** | - |
| T j = bivalent temperature | *COPd* | **3,02** | - |
| T j = operation limit temperature | *COPd* | **2,81** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **2,2** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,1** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile/ Energy efficiency class** | | **L / A** | | **Water heating energy efficiency** | $\eta_{wh}$ | **86** | % |
| Daily electricity consumption | Qelec | **5,434** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **1195** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Information for heat pump space heaters and heat pump combination heaters

**Average climate and Low temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoZenith 250** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | **A++** | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **159** | % |
| Equipped with a supplementary heater: | **Yes** | Package efficiency class: | **A++** | - |
| Heat pump combination heater: | **Yes** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **14** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **11,9** | kW |
| T j = + 2 °C | *Pdh* | **12,0** | kW |
| T j = + 7 °C | *Pdh* | **12,1** | kW |
| T j = + 12 °C | *Pdh* | **12,2** | kW |
| T j = bivalent temperature | *Pdh* | **11,9** | kW |
| T j = operation limit temperature | *Pdh* | **11,9** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-6** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,95** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,110** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **7153** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **155** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **4,19** | - |
| T j = +2 °C | *COPd* | **4,36** | - |
| T j = +7 °C | *COPd* | **4,50** | - |
| T j = +12 °C | *COPd* | **4,64** | - |
| T j = bivalent temperature | *COPd* | **4,21** | - |
| T j = operation limit temperature | *COPd* | **4,11** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **2,2** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,6** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile/ Energy efficiency class** | | **L / A** | | **Water heating energy efficiency** | $\eta_{wh}$ | **86** | % |
| Daily electricity consumption | Qelec | **5,434** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **1195** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Information for heat pump space heaters and heat pump combination heaters
**Cold climate and Medium temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoZenith 250** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **129** | % |
| Equipped with a supplementary heater: | **Yes** | Package efficiency class: | | - |
| Heat pump combination heater: | **Yes** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **13** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **11,4** | kW |
| T j = + 2 °C | *Pdh* | **11,6** | kW |
| T j = + 7 °C | *Pdh* | **11,8** | kW |
| T j = + 12 °C | *Pdh* | **11,9** | kW |
| T j = bivalent temperature | *Pdh* | **11,1** | kW |
| T j = operation limit temperature | *Pdh* | **10,9** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-17** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,98** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,034** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **9526** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **125** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **3,24** | - |
| T j = +2 °C | *COPd* | **3,56** | - |
| T j = +7 °C | *COPd* | **3,85** | - |
| T j = +12 °C | *COPd* | **4,06** | - |
| T j = bivalent temperature | *COPd* | **3,00** | - |
| T j = operation limit temperature | *COPd* | **2,81** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **1,9** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,1** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile/ Energy efficiency class** | | **L / A** | | **Water heating energy efficiency** | $\eta_{wh}$ | **86** | % |
| Daily electricity consumption | Qelec | **5,434** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **1195** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Information for heat pump space heaters and heat pump combination heaters

**Cold climate and Low temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoZenith 250** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **160** | % |
| Equipped with a supplementary heater: | **Yes** | Package efficiency class: | | - |
| Heat pump combination heater: | **Yes** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **13** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **12,0** | kW |
| T j = + 2 °C | *Pdh* | **12,1** | kW |
| T j = + 7 °C | *Pdh* | **12,1** | kW |
| T j = + 12 °C | *Pdh* | **12,2** | kW |
| T j = bivalent temperature | *Pdh* | **11,9** | kW |
| T j = operation limit temperature | *Pdh* | **11,9** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-18** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,95** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,110** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **8028** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **156** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **4,37** | - |
| T j = +2 °C | *COPd* | **4,50** | - |
| T j = +7 °C | *COPd* | **4,60** | - |
| T j = +12 °C | *COPd* | **4,62** | - |
| T j = bivalent temperature | *COPd* | **4,21** | - |
| T j = operation limit temperature | *COPd* | **4,11** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **1,5** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,6** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile/ Energy efficiency class** | | **L / A** | | **Water heating energy efficiency** | $\eta_{wh}$ | **86** | % |
| Daily electricity consumption | Qelec | **5,434** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **1195** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Information for heat pump space heaters and heat pump combination heaters

**Warm climate and Medium temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoZenith 550** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **126** | % |
| Equipped with a supplementary heater: | **Yes** | Package efficiency class: | | - |
| Heat pump combination heater: | **Yes** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **12** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **na** | kW |
| T j = + 2 °C | *Pdh* | **10,9** | kW |
| T j = + 7 °C | *Pdh* | **11,3** | kW |
| T j = + 12 °C | *Pdh* | **11,7** | kW |
| T j = bivalent temperature | *Pdh* | **11,0** | kW |
| T j = operation limit temperature | *Pdh* | **10,9** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **3** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,99** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,025** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **4879** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **122** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **na** | - |
| T j = +2 °C | *COPd* | **2,81** | - |
| T j = +7 °C | *COPd* | **3,14** | - |
| T j = +12 °C | *COPd* | **3,72** | - |
| T j = bivalent temperature | *COPd* | **2,90** | - |
| T j = operation limit temperature | *COPd* | **2,81** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **0,9** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,1** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile/ Energy efficiency class** | | **XL / A** | | **Water heating energy efficiency** | $\eta_{wh}$ | **100** | % |
| Daily electricity consumption | Qelec | **7,620** | kWh | Daily fuel consumption | $Q_{fuel}$ | **NA** | kWh |
| Annual electricity consumption | AEC | **1676** | kWh | Annual fuel consumption | AFC | **NA** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Information for heat pump space heaters and heat pump combination heaters
**Warm climate and Low temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoZenith 550** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **158** | % |
| Equipped with a supplementary heater: | **Yes** | Package efficiency class: | | - |
| Heat pump combination heater: | **Yes** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **13** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **na** | kW |
| T j = + 2 °C | *Pdh* | **11,9** | kW |
| T j = + 7 °C | *Pdh* | **12,0** | kW |
| T j = + 12 °C | *Pdh* | **12,1** | kW |
| T j = bivalent temperature | *Pdh* | **11,9** | kW |
| T j = operation limit temperature | *Pdh* | **11,9** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **3** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,97** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,073** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **4228** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **154** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **na** | - |
| T j = +2 °C | *COPd* | **4,11** | - |
| T j = +7 °C | *COPd* | **4,30** | - |
| T j = +12 °C | *COPd* | **4,54** | - |
| T j = bivalent temperature | *COPd* | **4,17** | - |
| T j = operation limit temperature | *COPd* | **4,11** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **0,9** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,6** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile/ Energy efficiency class** | | **XL / A** | | **Water heating energy efficiency** | $\eta_{wh}$ | **100** | % |
| Daily electricity consumption | Qelec | **7,620** | kWh | Daily fuel consumption | $Q_{fuel}$ | **NA** | kWh |
| Annual electricity consumption | AEC | **1676** | kWh | Annual fuel consumption | AFC | **NA** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Contact details: Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000 www.ctc.se

Information for heat pump space heaters and heat pump combination heaters

**Average climate and Medium temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoZenith 550** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | **A+** | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **127** | % |
| Equipped with a supplementary heater: | **Yes** | Package efficiency class: | **A++** | - |
| Heat pump combination heater: | **Yes** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **13** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **11,1** | kW |
| T j = + 2 °C | *Pdh* | **11,5** | kW |
| T j = + 7 °C | *Pdh* | **11,6** | kW |
| T j = + 12 °C | *Pdh* | **11,8** | kW |
| T j = bivalent temperature | *Pdh* | **11,2** | kW |
| T j = operation limit temperature | *Pdh* | **10,9** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-6** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,99** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,025** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **7388** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **123** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **2,97** | - |
| T j = +2 °C | *COPd* | **3,32** | - |
| T j = +7 °C | *COPd* | **3,63** | - |
| T j = +12 °C | *COPd* | **3,94** | - |
| T j = bivalent temperature | *COPd* | **3,02** | - |
| T j = operation limit temperature | *COPd* | **2,81** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **2,3** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,1** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile/ Energy efficiency class** | | **XL / A** | | **Water heating energy efficiency** | $\eta_{wh}$ | **100** | % |
| Daily electricity consumption | Qelec | **7,620** | kWh | Daily fuel consumption | $Q_{fuel}$ | **NA** | kWh |
| Annual electricity consumption | AEC | **1676** | kWh | Annual fuel consumption | AFC | **NA** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Information for heat pump space heaters and heat pump combination heaters

**Average climate and Low temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoZenith 550** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | **A++** | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **162** | % |
| Equipped with a supplementary heater: | **Yes** | Package efficiency class: | **A++** | - |
| Heat pump combination heater: | **Yes** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **13** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **11,9** | kW |
| T j = + 2 °C | *Pdh* | **12,0** | kW |
| T j = + 7 °C | *Pdh* | **12,1** | kW |
| T j = + 12 °C | *Pdh* | **12,2** | kW |
| T j = bivalent temperature | *Pdh* | **11,9** | kW |
| T j = operation limit temperature | *Pdh* | **11,9** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-7** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,97** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,002** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,073** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **6728** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **158** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **4,19** | - |
| T j = +2 °C | *COPd* | **4,34** | - |
| T j = +7 °C | *COPd* | **4,49** | - |
| T j = +12 °C | *COPd* | **4,64** | - |
| T j = bivalent temperature | *COPd* | **4,19** | - |
| T j = operation limit temperature | *COPd* | **4,11** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **1,6** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,6** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile/ Energy efficiency class** | | **XL / A** | | **Water heating energy efficiency** | $\eta_{wh}$ | **100** | % |
| Daily electricity consumption | Qelec | **7,620** | kWh | Daily fuel consumption | $Q_{fuel}$ | **NA** | kWh |
| Annual electricity consumption | AEC | **1676** | kWh | Annual fuel consumption | AFC | **NA** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Contact details Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000 www.ctc.se

Information for heat pump space heaters and heat pump combination heaters

**Cold climate and Medium temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoZenith 550** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **129** | % |
| Equipped with a supplementary heater: | **Yes** | Package efficiency class: | | - |
| Heat pump combination heater: | **Yes** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **12** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **11,4** | kW |
| T j = + 2 °C | *Pdh* | **11,6** | kW |
| T j = + 7 °C | *Pdh* | **11,7** | kW |
| T j = + 12 °C | *Pdh* | **11,9** | kW |
| T j = bivalent temperature | *Pdh* | **11,1** | kW |
| T j = operation limit temperature | *Pdh* | **10,9** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-18** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,99** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,025** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **9177** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **125** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **3,23** | - |
| T j = +2 °C | *COPd* | **3,55** | - |
| T j = +7 °C | *COPd* | **3,84** | - |
| T j = +12 °C | *COPd* | **4,05** | - |
| T j = bivalent temperature | *COPd* | **2,96** | - |
| T j = operation limit temperature | *COPd* | **2,81** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **1,5** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,1** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile/ Energy efficiency class** | | **XL / A** | | **Water heating energy efficiency** | $\eta_{wh}$ | **100** | % |
| Daily electricity consumption | Qelec | **7,620** | kWh | Daily fuel consumption | $Q_{fuel}$ | **NA** | kWh |
| Annual electricity consumption | AEC | **1676** | kWh | Annual fuel consumption | AFC | **NA** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Contact details Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000 www.ctc.se

Information for heat pump space heaters and heat pump combination heaters

**Cold climate and Low temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC EcoZenith 550** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **VII** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **3,5** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **163** | % |
| Equipped with a supplementary heater: | **Yes** | Package efficiency class: | | - |
| Heat pump combination heater: | **Yes** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **13** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **12,0** | kW |
| T j = + 2 °C | *Pdh* | **12,1** | kW |
| T j = + 7 °C | *Pdh* | **12,1** | kW |
| T j = + 12 °C | *Pdh* | **12,2** | kW |
| T j = bivalent temperature | *Pdh* | **11,9** | kW |
| T j = operation limit temperature | *Pdh* | **11,9** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-18** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,97** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,073** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **7875** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **159** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **4,37** | - |
| T j = +2 °C | *COPd* | **4,50** | - |
| T j = +7 °C | *COPd* | **4,60** | - |
| T j = +12 °C | *COPd* | **4,62** | - |
| T j = bivalent temperature | *COPd* | **4,21** | - |
| T j = operation limit temperature | *COPd* | **4,11** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **1,5** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,6** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile/ Energy efficiency class** | | **XL / A** | | **Water heating energy efficiency** | $\eta_{wh}$ | **100** | % |
| Daily electricity consumption | Qelec | **7,620** | kWh | Daily fuel consumption | $Q_{fuel}$ | **NA** | kWh |
| Annual electricity consumption | AEC | **1676** | kWh | Annual fuel consumption | AFC | **NA** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Contact details Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000 www.ctc.se

Information for heat pump space heaters and heat pump combination heaters

**Warm climate and Medium temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC Basicstyrning** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **I** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **1** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **138** | % |
| Equipped with a supplementary heater: | **No** | Package efficiency class: | | - |
| Heat pump combination heater: | **No** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **12** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **na** | kW |
| T j = + 2 °C | *Pdh* | **13,6** | kW |
| T j = + 7 °C | *Pdh* | **11,1** | kW |
| T j = + 12 °C | *Pdh* | **11,5** | kW |
| T j = bivalent temperature | *Pdh* | **11** | kW |
| T j = operation limit temperature | *Pdh* | **na** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **3** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,99** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,005** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **4364** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **137** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **na** | - |
| T j = +2 °C | *COPd* | **3,08** | - |
| T j = +7 °C | *COPd* | **3,45** | - |
| T j = +12 °C | *COPd* | **4,14** | - |
| T j = bivalent temperature | *COPd* | **3,18** | - |
| T j = operation limit temperature | *COPd* | **na** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **0,5** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,1** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile** | | **na** | | **Water heating energy efficiency** | $\eta_{wh}$ | **na** | % |
| Daily electricity consumption | Qelec | **na** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **na** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Information for heat pump space heaters and heat pump combination heaters
**Warm climate and Low temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC Basicstyrning** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **I** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **1** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **181** | % |
| Equipped with a supplementary heater: | **No** | Package efficiency class: | | - |
| Heat pump combination heater: | **No** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **13** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **na** | kW |
| T j = + 2 °C | *Pdh* | **11,8** | kW |
| T j = + 7 °C | *Pdh* | **11,9** | kW |
| T j = + 12 °C | *Pdh* | **12,0** | kW |
| T j = bivalent temperature | *Pdh* | **11,8** | kW |
| T j = operation limit temperature | *Pdh* | **na** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **3** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,98** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,022** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **3618** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **180** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **na** | - |
| T j = +2 °C | *COPd* | **4,60** | - |
| T j = +7 °C | *COPd* | **4,83** | - |
| T j = +12 °C | *COPd* | **5,11** | - |
| T j = bivalent temperature | *COPd* | **4,68** | - |
| T j = operation limit temperature | *COPd* | **na** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **0,9** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,6** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile** | | **na** | | **Water heating energy efficiency** | $\eta_{wh}$ | **na** | % |
| Daily electricity consumption | Qelec | **na** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **na** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Contact details Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000 www.ctc.se

Information for heat pump space heaters and heat pump combination heaters

**Average climate and Medium temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC Basicstyrning** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | **A++** | - |
| Water-to-water heat pump: | **No** | Controller class: | **I** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **1** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **139** | % |
| Equipped with a supplementary heater: | **No** | Package efficiency class: | **A++** | - |
| Heat pump combination heater: | **No** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **12** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **11** | kW |
| T j = + 2 °C | *Pdh* | **11,2** | kW |
| T j = + 7 °C | *Pdh* | **11,4** | kW |
| T j = + 12 °C | *Pdh* | **11,6** | kW |
| T j = bivalent temperature | *Pdh* | **11** | kW |
| T j = operation limit temperature | *Pdh* | **na** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-7** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,99** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,005** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **7084** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **138** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **3,25** | - |
| T j = +2 °C | *COPd* | **3,64** | - |
| T j = +7 °C | *COPd* | **4,02** | - |
| T j = +12 °C | *COPd* | **4,40** | - |
| T j = bivalent temperature | *COPd* | **3,25** | - |
| T j = operation limit temperature | *COPd* | **na** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **1,5** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,1** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile** | | **na** | | **Water heating energy efficiency** | $\eta_{wh}$ | **na** | % |
| Daily electricity consumption | Qelec | **na** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **na** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Information for heat pump space heaters and heat pump combination heaters

**Average climate and Low temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC Basicstyrning** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | **A++** | - |
| Water-to-water heat pump: | **No** | Controller class: | **I** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **1** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **183** | % |
| Equipped with a supplementary heater: | **No** | Package efficiency class: | **A+++** | - |
| Heat pump combination heater: | **No** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **13** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **11,8** | kW |
| T j = + 2 °C | *Pdh* | **11,9** | kW |
| T j = + 7 °C | *Pdh* | **12,0** | kW |
| T j = + 12 °C | *Pdh* | **12,1** | kW |
| T j = bivalent temperature | *Pdh* | **11,8** | kW |
| T j = operation limit temperature | *Pdh* | **na** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-7** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,98** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,022** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **5814** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **182** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **4,69** | - |
| T j = +2 °C | *COPd* | **4,88** | - |
| T j = +7 °C | *COPd* | **5,06** | - |
| T j = +12 °C | *COPd* | **5,23** | - |
| T j = bivalent temperature | *COPd* | **4,69** | - |
| T j = operation limit temperature | *COPd* | **na** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **1,6** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,6** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile** | | **na** | | **Water heating energy efficiency** | $\eta_{wh}$ | **na** | % |
| Daily electricity consumption | Qelec | **na** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **na** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Information for heat pump space heaters and heat pump combination heaters

**Cold climate and Medium temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC Basicstyrning** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **I** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **1** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **142** | % |
| Equipped with a supplementary heater: | **No** | Package efficiency class: | | - |
| Heat pump combination heater: | **No** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **12** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **11,2** | kW |
| T j = + 2 °C | *Pdh* | **11,4** | kW |
| T j = + 7 °C | *Pdh* | **11,6** | kW |
| T j = + 12 °C | *Pdh* | **11,7** | kW |
| T j = bivalent temperature | *Pdh* | **11** | kW |
| T j = operation limit temperature | *Pdh* | **na** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-18** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,99** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,005** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **8195** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **141** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **3,56** | - |
| T j = +2 °C | *COPd* | **3,94** | - |
| T j = +7 °C | *COPd* | **4,29** | - |
| T j = +12 °C | *COPd* | **4,54** | - |
| T j = bivalent temperature | *COPd* | **3,25** | - |
| T j = operation limit temperature | *COPd* | **na** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **1,4** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,1** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile** | | **na** | | **Water heating energy efficiency** | $\eta_{wh}$ | **na** | % |
| Daily electricity consumption | Qelec | **na** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **na** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.

Information for heat pump space heaters and heat pump combination heaters

**Cold climate and Low temperature**

Enertech AB
341 26 Ljungby

| | | | | |
|---|---|---|---|---|
| Model(s): | **CTC EcoPart 412 + CTC Basicstyrning** | | | |
| Air-to-water heat pump: | **No** | Energy efficiency class: | | - |
| Water-to-water heat pump: | **No** | Controller class: | **I** | - |
| Brine-to-water heat pump: | **Yes** | Controller contribution: | **1** | % |
| Low-temperature heat pump: | **No** | Package efficiency: | **186** | % |
| Equipped with a supplementary heater: | **No** | Package efficiency class: | | - |
| Heat pump combination heater: | **No** | | | |

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Rated heat output (*)** | *Prated* | **12** | kW |
| Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *Pdh* | **11,9** | kW |
| T j = + 2 °C | *Pdh* | **12,0** | kW |
| T j = + 7 °C | *Pdh* | **12,1** | kW |
| T j = + 12 °C | *Pdh* | **12,1** | kW |
| T j = bivalent temperature | *Pdh* | **11,8** | kW |
| T j = operation limit temperature | *Pdh* | **na** | kW |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *Pdh* | **na** | kW |
| Bivalent temperature | $T_{biv}$ | **-20** | °C |
| Cycling interval capacity for heating | $P_{cych}$ | **na** | kW |
| Degradation co-efficient | *Cdh* | **0,98** | - |
| Power consumption in modes other than active mode | | | |
| Off mode | $P_{OFF}$ | **0,018** | *kW* |
| Thermostat-off mode | $P_{TO}$ | **0,022** | *kW* |
| Standby mode | $P_{SB}$ | **0,018** | *kW* |
| Crankcase heater mode | $P_{CK}$ | **0,000** | *kW* |
| Other items | | | |
| Capacity control | | **Fixed** | |
| Sound power level, indoors/ outdoors | $L_{WA}$ | **50/na** | *dB* |
| Annual energy consumption | $Q_{HE}$ | **6373** | *kWh* |

| Item | Symbol | Value | Unit |
|---|---|---|---|
| **Seasonal space heating energy efficiency** | $\eta_s$ | **185** | % |
| Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T j | | | |
| T j = – 7 °C | *COPd* | **4,89** | - |
| T j = +2 °C | *COPd* | **5,06** | - |
| T j = +7 °C | *COPd* | **5,18** | - |
| T j = +12 °C | *COPd* | **5,20** | - |
| T j = bivalent temperature | *COPd* | **4,66** | - |
| T j = operation limit temperature | *COPd* | **na** | - |
| For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C) | *COPd* | **na** | - |
| For air-to-water heat pumps: Operation limit temperature | *TOL* | **na** | °C |
| Cycling interval efficiency | *COPcyc* | **na** | - |
| Heating water operating limit temperature | *WTOL* | **65** | °C |
| Supplementary heater | | | |
| Rated heat output | *Psup* | **0,7** | *kW* |
| Type of energy input | | ***Electric*** | |
| For air-to-water heat pumps: Rated air flow rate, outdoors | - | **na** | *m3/h* |
| For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger | - | **2,6** | *m3/h* |

For heat pump combination heater:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Declared load profile** | | **na** | | **Water heating energy efficiency** | $\eta_{wh}$ | **na** | % |
| Daily electricity consumption | Qelec | **na** | kWh | Daily fuel consumption | $Q_{fuel}$ | **na** | kWh |
| Annual electricity consumption | AEC | **na** | kWh | Annual fuel consumption | AFC | **na** | GJ |

Specific precautions and end of life information:

The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At the end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. t is of great importance that the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of. Disposing of the product as household waste is not permitted.