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

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 610M 400V + CTC EcoZenith i350/ i350F						
Air-to-water heat pump:	Yes	Energy efficiency class:		-			
Water-to-water heat pump:	No	Controller class:	VI	-			
Brine-to-water heat pump:	No	Controller contribution:	4	%			
Low-temperature heat pump:	No	Package efficiency:	177	%			
Equipped with a supplementary heater:	Yes	Package efficiency class:		-			
Heat pump combination heater:	Yes						

Sound power level, indoors/ outdoors L ma/53 dB For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat na m3/h Annual energy consumption Q HE 2121 kWh For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat na m3/h For heat pump combination heater: Efficiency na ma m3/h Declared load profile XL Efficiency class na efficiency na Daily electricity consumption Qelec 6,232 kWh Daily fuel consumption Qfuel NA kWh Annual electricity consumption AEC 1371 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. It 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.	Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
and outdoor temperature Tj $T = -7^{*}C$ Pdhna $T = -7^{*}C$ Pdh7.3 $T = -7^{*}C$ Pdh7.3 $T = +7^{*}C$ Pdh2.36 $T = +12^{*}C$ COPd2.36 $T = +12^{*}C$ COPd2.36 $T = +12^{*}C$ COPd2.36 $T = bialent temperaturePdh7.3RWWT = -7^{*}CCOPd2.36T = bialent temperaturePdh7.3RWWT = -7^{*}CCOPd2.36T = bialent temperaturePdh7.3RWWT = -12^{*}CCOPd2.36T = bialent temperaturePdh7.3RWWT = -15^{*}C (If TOL < -20^{*}C)Pdhr = -15^{*}C (If TOL < -20^{*}C)COPdnar = -15^{*}C (If TOL < -20^{*}C)COPdna<$	Rated heat output (*)	Prated	7	kW		η _s	173	%
T T T I = + 2 °C T = + 7 °C P dhP dh 4,6 6,67,3 4,6 6KW T I = + 7 °C C C DPdC DPd 4,66 4,66- 2,36 6T J = + 12 °C T = bivalent temperature T = bivalent temperature P dhP dh 		or part load at i	ndoor temperat	ure 20 °C	-	•		
T j = + 7 °CPah4,6KWT j = + 7 °CCOPd4,06.T j = + 12 °CPah2,8KWT j = +12 °CCOPd5,68.T j = bivalent temperaturePah7,3KWT j = bivalent temperatureCOPd2,36.T j = operation limitcopd7,3KWT j = operation limitCOPd2,36.For air-to-water heat pumps:PdhnakWFor air-to-water heat pumps:COPd2,36.For air-to-water heat pumps:PdhnakWFor air-to-water heat pumps:COPd2,36.For air-to-water heat pumps:PdhnakWFor air-to-water heat pumps:COPd2,36.Bivalent temperatureT_bivZ°CFor air-to-water heat pumps:COPd2,36.Bivalent temperatureT_bivZ°CFor air-to-water heat pumps:COPd2,36.Bivalent temperatureT_bivZ°CCoperation limit temperatureTOL2°CCycling interval capacity for heatingP _{cych} nakWCycling interval efficiencyCOPcycna.Degradation co-efficientCdh0,99-Heating water operating limit WTOLS5°CSound power level, indoors/ outdoorsLwana/53dBFor air-to-water heat pumps: Rated heat output (*)Psup0,0kWCapacity controlVariableCassnafficiencyna <td>T j = – 7 °C</td> <td>Pdh</td> <td>na</td> <td>kW</td> <td>T j = – 7 °C</td> <td>COPd</td> <td>na</td> <td>-</td>	T j = – 7 °C	Pdh	na	kW	T j = – 7 °C	COPd	na	-
T j = + 12 °CPdh2,8kWT j = +12 °CCOPd5,68T j = bivalent temperaturePdh7,3kWT j = poperation limitCOPd2,36T j = oparation limitPdh7,3kWT j = oparation limitCOPd2,36For air-to-water heat pumps:Pdh7,3kWFor air-to-water heat pumps::COPd2,36T j = -15 °C (if TOL < - 20 °C)	T j = + 2 °C	Pdh	7,3	kW	T j = +2 °C	COPd	2,36	-
Tjbivalent temperaturePdh7,3KWTjbivalent temperatureCOPd2,36.Tjoperation limit temperaturePdh7,3kWTjoperation limit temperatureCOPd2,36.For air-to-water heat pumps: TTPdhnakWFor air-to-water heat pumps: TCOPd2,36.For air-to-water heat pumps: TTPdhnakWFor air-to-water heat pumps: TCOPd2"CBivalent temperatureTpb/ pc/ch2"CFor air-to-water heat pumps: Operation limit temperatureTOL2"CCycling interval capacity for heatingPnakWCycling interval efficiencyCOPcycna.Degradation co-efficientCdh0,99Heating water operating limit wtrolWTOL55"CPower consumption in modes other than active mode0,014 wtwkWSupplementary heater Rated heat output (*)Psup0,0kWOther items0,014 wtwkWFor air-to-water heat pumps: Rated air flow rate, outdoors6200 m3/tm3/tCapacity controlVariableFor air-to-water heat pumps: Rated brine or water flow rate, outdoors6200 m3/tm3/tSound power level, indoors/ outdoorsLEfficiency classnaMark temperature exchangernaFor heat pump combination heater:Efficiency classnaMark t	T j = + 7 °C	Pdh	4,6	kW	T j = +7 °C	COPd	4,06	- 1
T j = operation limit temperaturePdh7,3kWT j = operation limit temperatureCOPd2,36For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	T j = + 12 °C	Pdh	2,8	kW	T j = +12 °C	COPd	5,68	-
temperaturePdn7,3KWtemperatureCOPd2,35-For air-to-water heat pumps: T j = -15 °C (if TOL < - 20 °C)	T j = bivalent temperature	Pdh	7,3	kW	T j = bivalent temperature	COPd	2,36	-
T j = -15 °C (if TOL < - 20 °C)PahnaKWT j = -15 °C (if TOL < -20 °C)CDPanaBivalent temperatureT biv 2°C°CFor air-to-water heat pumps: Operation limit temperatureTOL2°CCycling interval capacity for heating P_{cych} nakWCycling interval efficiencyCOPcycna-Degradation co-efficientCdh $0,99$ -Heating water operating limit temperatureWTOL55°CPower consumption in modes other than active mode $0,014$ kWSupplementary heater Rated heat output (*) $Psup$ $0,0$ kWThermostat-off mode P_{orc} $0,014$ kWType of energy inputElectricCapacity controlVariableFor air-to-water heat pumps: Rated air flow rate, outdoors6200 $m3/t$ Sound power level, indoors/ outdoors L_{WA} na/53dBdBAnnual energy consumption Q_{HE} 2121kWhFor air-to-water heat pumps: Rated brine or water now rate, outdoorsna $m3/t$ Polared load profileXLEfficiency classnaNakWhAnnual fuel consumptionQiuelNAAnnual electricity consumptionQelec $6,232$ kWhDaily fuel consumptionQiuelNAKWhAnnual fuel consumptionAEC1371kWhAnnual fuel consumptionAFCNAGJSpecific precautions and end of life information:The packaging must be deposited at a recycli	• •	Pdh	7,3	kW		COPd	2,36	-
Bivalent temperature I_{biv} 2 C Operation limit temperature IOL 2 C Culing interval capacity for heating P_{cych} na kW $Cycling interval efficiency COPcyc na - Heating water operating limit WTOL 55 ^{\circ}C Coperator Coperator COPcyc na - Heating water operating limit WTOL 55 ^{\circ}C Coperator COPcyc na - Heating water operating limit WTOL 55 ^{\circ}C Coperator COPcyc na - Heating water operating limit WTOL 55 ^{\circ}C Coperator COPcyc na - Heating water operating limit WTOL 55 ^{\circ}C Coperator COPcyc na - Heating water operating limit WTOL 55 ^{\circ}C Coperator COPcyc na - Heating water operating limit WTOL 55 ^{\circ}C Coperator COPcyc na - Heating water operating limit WTOL 55 ^{\circ}C Coperator COPcyc na - Heating water operating limit WTOL 55 ^{\circ}C Coperator COPcyc na - Heating water operating limit WTOL 55 ^{\circ}C Coperator COPcyc na - Heating water operating limit WTOL 55 ^{\circ}C Coperator COPcyc Coperator COPcyc Coperator COPcyc Coperator COPcyc Coperator COPcyc Coperator COPcyc Coperator COPcyc Coperator COPcyc Coperator COPcyc Coperator COPcyc -$		Pdh	na	kW		COPd	na	-
heating P_{cych} nakWCycling interval efficiency $COPcyc$ naDegradation co-efficient Cdh $0,99$ -Heating water operating limit $WTOL$ 55 °CPower consumption in modes other than active mode $0,014$ kW Supplementary heaterSupplementary heaterRated heat output (*) $Psup$ $0,0$ kW Thermostat-off mode P_{cor} $0,014$ kW Type of energy input $Electric$ Crankcase heater mode P_{cx} $0,000$ kW Type of energy input $Electric$ Capacity controlVariableFor air-to-water heat pumps: Rated air flow rate, outdoors 6200 $m3/t$ Sound power level, indoors/ outdoors L_{WA} $na/53$ dB For water./brine-to-water heat pumps: Rated brine or water flow rate, outdoors heat na $m3/t$ For heat pump combination heater:Efficiency na ma/ft $m3/t$ Declared load profileXLEfficiency class na ma/ft Daily electricity consumption consumptionQelec $6,232$ kWh Annual fuel consumption AFC NA 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. Att end of the product's life cycle, it must be sent corrective as waste station or reseller offering a service of that type. It is of our set in our must be out as bouchold waste is not permitted.	Bivalent temperature	T _{biv}	2	°C		TOL	2	°C
Degradation co-entricient Can 0,99 - temperature W10L 55 *C Power consumption in modes other than active mode Off mode Porr 0,014 kW Supplementary heater Rated heat output (*) Psup 0,0 kW Thermostat-off mode P ro 0,014 kW Rated heat output (*) Psup 0,0 kW Standby mode P ss 0,014 kW Type of energy input Electric Electric Crankcase heater mode P cx 0,000 kW Type of energy input Electric m3/h Capacity control Variable For air-to-water heat pumps: Rated brine or water na m3/h Sound power level, indoors/ outdoors L wA na/53 dB dB pumps: Rated brine or water na m3/h Annual energy consumption Q HE 2121 kWh Wher heating energy nwh 1222 % Daily electricity consumption Qelec 6,232 kWh Daily fuel consumption Qfuel NA kWh Annual electricity AEC 1371 k		P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na] -
Off mode P orr 0,014 kW Thermostat-off mode P ro 0,014 kW Standby mode P ss 0,014 kW Standby mode P ss 0,014 kW Crankcase heater mode P cx 0,000 kW Other items 0,000 kW Capacity control Variable For air-to-water heat pumps: Rated air flow rate, outdoors - 6200 m3/h Sound power level, indoors/ outdoors L wA na/53 dB For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat - na m3/h For heat pump combination heater: Efficiency class na Water heating energy efficiency N_wh 122 % Daily electricity consumption consumption Qelec 6,232 kWh Daily fuel consumption Qfuel NA KWh Annual electricity consumption AEC 1371 kWh Annual fuel consumption AFC NA GJ Specific precautions and end of life information: The packaging must be deposited at a recording station or water station or reseller offering a service of that type. It is of great importance that the product's refigerant, compressor oil and electricized electronic equipment are properly disposed of Disposing of the product's refigerant, compressor oil and electrical/electronic equipment	Degradation co-efficient	Cdh	0,99	-		WTOL	55	°C
Thermostat-off mode P ro 0,014 kW Standby mode P ss 0,014 kW Crankcase heater mode P cx 0,000 kW Other items - - - Capacity control Variable For air-to-water heat pumps: Rated air flow rate, outdoors - 6200 m3/r. Sound power level, indoors/ outdoors L wA na/53 dB - For water-/brine-to-water heat pumps: Rated brine or water - na m3/r. Annual energy consumption Q HE 2121 kWh For water-/brine-to-water heat pumps: Rated brine or water - na m3/r. For heat pump combination heater: - Declared load profile XL Efficiency class na Water heating energy efficiency n _{lwh} 1222 % Daily electricity consumption Qelec 6,232 kWh Annual fuel consumption Qfuel NA kWh Annual electricity consumption AEC 1371 kWh Annual fuel consumption AFC NA GJ Specific precautions and end of life information: The packaging must be deposited at a recycling stat	Power consumption in modes of	other than activ	e mode		Supplementary heater			
Standby mode P ss 0,014 kW Type of energy input Electric Crankcase heater mode P cx 0,000 kW Type of energy input Electric Other items	Off mode	P _{OFF}	0,014	kW	Rated heat output (*)	Psup	0,0	kW
Crankcase heater mode P ck 0,000 kW Other items Capacity control Variable For air-to-water heat pumps: Rated air flow rate, outdoors - 6200 m3/h Sound power level, indoors/ outdoors L wA na/53 dB For water-/brine-to-water heat pumps: Rated brine or water - na m3/h Annual energy consumption Q HE 2121 kWh kWh rate, outdoor heat exchanger - na m3/h Declared load profile XL Efficiency class na Water heating energy efficiency n_wh 1222 % Daily electricity consumption Qelec 6,232 kWh Daily fuel consumption Qfuel NA kWh Annual electricity consumption AEC 1371 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 t end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It 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 permitte	Thermostat-off mode	Ρ _{ΤΟ}	0,014	kW				
Crankcase heater mode P cx 0,000 kW Other items Capacity control Variable For air-to-water heat pumps: Rated air flow rate, outdoors - 6200 m3/h Sound power level, indoors/ outdoors L wA na/53 dB For water-/brine-to-water heat pumps: Rated brine or water - na m3/h Annual energy consumption Q_HE 2121 kWh kWh flow rate, outdoor heat exchanger - na m3/h For heat pump combination heater: Efficiency na - na m3/h Daily electricity consumption Qelec 6,232 kWh Annual fuel consumption Qfuel NA kWh Annual electricity consumption AEC 1371 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 of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It 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.	Standby mode	P _{SB}	0,014	kW	Type of energy input		Electric	
Other items Capacity control Variable Sound power level, indoors/ outdoors L wa na/53 dB Annual energy consumption Q HE 2121 kWh For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat - na m3/h For heat pump combination heater: Efficiency class na Water heating energy efficiency n_wh 122 % Daily electricity consumption Qelec 6,232 kWh Daily fuel consumption Qfuel NA kWh Annual electricity consumption AEC 1371 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 red of the product's refrigrenant, compressor oil and electrical/electronic equipment are properly disposed of Disposing of the product's refrigrenant, compressor oil and electrical/electronic equipment are properly disposed of Disposing of the product as household waste is not permitted.	Crankcase heater mode	Р _{ск}		kW				
Capacity control Variable Rated air flow rate, outdoors 6200 m3/r. Sound power level, indoors/ outdoors L WA na/53 dB For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat na m3/r. Annual energy consumption Q HE 2121 kWh For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat na m3/r. For heat pump combination heater: Efficiency na ma m3/r. Declared load profile XL Efficiency na ma m3/r. Daily electricity consumption Qelec 6,232 kWh Daily fuel consumption Qfuel NA kWh Annual electricity consumption AEC 1371 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. It 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.	Other items							
outdoorsL wana/53dBpumps: Rated brine or water flow rate, outdoor heat exchangernam3/hAnnual energy consumptionQ HE2121kWhexchangernam3/hFor heat pump combination heater:Efficiency classnaWater heating energy efficiencyn_wh122%Daily electricity consumptionQelec6,232kWhMain valueNAkWhkWhAnnual electricity consumptionAEC1371kWhAnnual fuel consumptionAFCNAGJSpecific 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 t end of the product's refrigerant, compressor oil and electrical/electronic equipment are properly disposed of Disposing of the product as household waste is not permitted.	Capacity control		Variable			-	6200	m3/h
Annual energy consumption Q _{HE} 2121 kWh flow rate, outdoor heat exchanger For heat pump combination heater: Peclared load profile XL Efficiency class na Water heating energy efficiency n_wh 122 % Daily electricity consumption Qelec 6,232 kWh Daily fuel consumption Qfuel NA kWh Annual electricity consumption Qelec 1371 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. It 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.		L _{WA}	na/53	dB	pumps: Rated brine or water	_	na	m3/h
Declared load profileXLEfficiency classnaWater heating energy efficiency η_{wh} 122%Daily electricity consumptionQelec6,232kWhDaily fuel consumptionQfuelNAkWhAnnual electricity consumptionAEC1371kWhAnnual fuel consumptionAFCNAGJSpecific 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 great importance that the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It is of Disposing of the product as household waste is not permitted.	Annual energy consumption	Q _{HE}	2121	kWh				,,
Declared load profile XL class na efficiency The 122 % Daily electricity consumption Qelec 6,232 kWh Daily fuel consumption Qfuel NA kWh Annual electricity consumption AEC 1371 kWh Annual fuel consumption AFC NA GJ Specific precautions and end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It 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.	For heat pump combination he	ater:						
Annual electricity AEC 1371 kWh Annual fuel consumption AFC NA GJ Specific precautions and end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It 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.	Declared load profile	XL	-	na		η_{wh}	122	%
AEC 1371 KWn Annual fuel consumption AFC NA GJ consumption Specific precautions and end of the product's life cycle, it 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. It 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.	Daily electricity consumption	Qelec	6,232	kWh	Daily fuel consumption	Qfuel	NA	kWh
The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At t Specific precautions and end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It 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.		AEC	1371	kWh	Annual fuel consumption	AFC	NA	GJ
Contact details Enertech AB, Box 309, SE-341 26 Liungby Tel +46 372 88000 www.ctc.se 180610	Specific precautions and end		end of the produc great importance	t's life cycle, it m that the product	nust be sent correctly to a waste station or resel t's refrigerant, compressor oil and electrical/elec	ler offering a sei	vice of that type	e. It is of
	Contact details	Enertech AB. Bo			•			180612

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





Model(s):	CTC EcoAir 610M 400V + CTC EcoZenith i350/ i350F							
Air-to-water heat pump:	Yes	Energy efficiency class:		-				
Water-to-water heat pump:	No	Controller class:	VI	-				
Brine-to-water heat pump:	No	Controller contribution:	4	%				
Low-temperature heat pump:	No	Package efficiency:	238	%				
Equipped with a supplementary heater:	Yes	Package efficiency class:		-				
Heat pump combination heater:	Yes							

Rated heat output (*) $Prated$ 7kWSeasonal space heating energy Π_5 2.34%Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature T JDeclared capacity for heating for part load at indoor temperature 20°C and outdoor temperature 20°C and outdoor temperature 7 T J = - 2°C C PdhPdh Π_6 Declared capacity for temperature 20°C and outdoor temperature 7JT J = -7°C T J = + 12°C T J = + 12°C P dhPdh Π_6 KW T J = -2°C C COPd Π_6 -T J = baylant temperature T J = baylant temperature P dhPdh G_5 KWT J = +2°C T = baylant temperatureCOPd 3.47 T J = operation limit temperaturePdh G_5 KWT = operation limit temperatureCOPd 3.47 For air-to-water heat pumps: T J = 15°C (If TOL < -20°C)PdhnaBivalent temperatureT $_{BV}$ Z°CFor air-to-water heat pumps: T J = 15°C (If TOL < -20°C)COPdnaBivalent temperatureT $_{BV}$ Z°CFor air-to-water heat pumps: T J = -15°C (If TOL < -20°C)COPdnaDegradation co-efficientCdh0,98-For air-to-water heat pumps: T memostare operating limit WTOLS5°CPower consumption in modes other than active mode Off modeP $_{CV}$ 0,014 KWKWStoplementary heater PaseSupplementary heater PaseSupplementary heater PaseSupplementary heater PaseCapacity controlVariableVariableF	Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
and outdoor temperature T jT j = -7 °CPdhnaT j = -7 °CPdh6,5WT j = -7 °CCOPdnaT j = + 7 °CPdh6,5WT j = -7 °CCOPd3,47T j = + 12 °CPdh6,5KWT j = + 12 °CCOPd3,47T j = balalent temperaturePdh6,5KWT j = operation limitPdh6,5KWt p operation limitPdh6,5KWt p operation limitCOPd3,47t r operation limitCOPd3,47t r j = -15 °C (If TOL < -20 °C)PdhnaBivalent temperatureT bw2°CCycling interval capacity for heatingP cychnaNewton coefficientCh0,014Cycling interval capacity for heatingP cychnaCranksace heater modeP or0,014Off modeP or0,014KWType of energy inputElectricCapacity controlVariableFor air-to-water heat pumps: Rated heat output (*)P supCopacity controlVariableFor air-to-water heat pumps: Rated heat output (*)P supCopacity controlVariableNaMater heat pumps: Rated heat output (*)For air-to-water heat pump: Rated brine or water in nam3/hCopacity controlVariableFor air-to-water heat pumps: Rated heat output (*)For air-to-water heat pump: Rated brine or water in nam3/h <t< th=""><th>Rated heat output (*)</th><th>Prated</th><th>7</th><th>kW</th><th></th><th>η_s</th><th>234</th><th>%</th></t<>	Rated heat output (*)	Prated	7	kW		η _s	234	%
T j = + 2 ° CPdh6,5kWT j = +2 ° CCOPd3,47T j = +12 ° CPdh4,4kWT j = +12 ° CCOPd6,02T j = bivalent temperaturePdh6,5kWT j = bivalent temperatureCOPd3,47T j = operation limitPdh6,5kWT j = bivalent temperatureCOPd3,47For air to-water heat pumps:pdh6,5kWT j = operation limitCOPd3,47For air to-water heat pumps:paint temperatureCOPd3,47-For air to-water heat pumps:paint temperatureT j = -15 °C (if TOL < -20 °C)		for part load at i	ndoor temperat	ure 20 °C		•		
TJPPdh4.4kWTJPCCOPd6.02-TJ = bivalent temperaturePdh6.5kWT= t= 12 ° CCOPd3.47-TJ = operation limitPdh6.5kWT= bivalent temperatureCOPd3.47-For air-to-water heat pumps:Pdh6.5kWT= operation limitCOPd3.47-For air-to-water heat pumps:PdhnakWFor air-to-water heat pumps:COPdna-For air-to-water heat pumps:PdhnakWFor air-to-water heat pumps:COPdna-Bivalent temperatureT biv2°CFor air-to-water heat pumps: Operation limit temperatureTOL2°CCycling interval capacity for heatingP cychnakWCycling interval efficiencyCOPcycna-Degradation co-efficientCdh0.98-Heating water operating limit WTOL55°CPower consumption in modes other than active mode0.014 kWkWKWType of energy inputElectricCapacity controlVariableFor air-to-water heat pumps: na-6200m3/hSound power level, indoors/ outdoorsL kW1469 kWhKWhFor air-to-water heat pumps: Rated diri flow rater, outdoors-6200m3/hFor heat pump combination heater:T Declared load profileXLEfficiency class </td <td>T j = – 7 °C</td> <td>Pdh</td> <td>na</td> <td>kW</td> <td>T j = – 7 °C</td> <td>COPd</td> <td>na</td> <td>- 1</td>	T j = – 7 °C	Pdh	na	kW	T j = – 7 °C	COPd	na	- 1
T j = + 12 °CPdh2,9kWT j = +12 °CCOPd7,13-T j = bivalent temperaturePdh6,5kWT j = poreation limit temperatureCOPd3,47-For air-to-water heat pumps: T j = -15 °C (if TOL < - 20 °C)	T j = + 2 °C	Pdh	6,5	kW	T j = +2 °C	COPd	3,47	- 1
T j = bivalent temperaturePdh6,5kWT j = bivalent temperatureCOPd3,47-T j = operation limit temperaturePdh6,5kWT j = operation limit temperatureCOPd3,47-For air-to-water heat pumps: T j = -15 °C (if TOL < - 20 °C)	T j = + 7 °C	Pdh	4,4	kW	T j = +7 °C	COPd	6,02	
T j = operation limit temperature Pdh $6,5$ kWT j = operation limit temperature $COPd$ $3,47$ $-$ For air-to-water heat pumps: T j = -15 °C (if TOL < - 20 °C)	T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	7,13	-
temperaturePan6,5KWtemperatureCDPa3,47-For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	T j = bivalent temperature	Pdh	6,5	kW	T j = bivalent temperature	COPd	3,47	-
T j = -15 °C (if TOL < -20 °C)PahnaKWT j = -15 °C (if TOL < -20 °C)CDPana-Bivalent temperatureT blv 2°CFor air-to-water heat pumps: Operation limit temperatureTOL2°CCycling interval capacity for heating P_{cych} nakWCycling interval efficiencyCOPcycna-Degradation co-efficientCdh0,98-Heating water operating limit temperatureWTOL55°CPower consumption in modes other than active mode $O,014$ kWkWKWSupplementary heater Rated heat output (*) $Psup$ $0,0.0$ kWThermostat-off mode P_{0x} $0,014$ kWkWType of energy inputElectricCapacity controlVariableFor air-to-water heat pumps: Rated air flow rate, outdoors-6200 $m3/h$ Sound power level, indoors/ outdoors L_{WA} na/53 $na/53$ dB For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoors-na $m3/h$ Annual energy consumption Q_{HE} 1469kWhWater heating energy efficiencynamaDeclared load profileXLEfficiency classna-na $m3/h$ Declared load profileXLEfficiency classnaI222%Daily leetcricity consumptionQelec6,232kWhAnnual fuel consumptionQfuelNAkWhAnnual electricity consumptionAEC1371<		Pdh	6,5	kW		COPd	3,47	-
Bivalent temperature T_{bbv} 2 C Operation limit temperature TOL 2 C Cycling interval capacity for heating P_{cych} na kW Cycling interval efficiency $COPcyc$ na - Heating water operating limit $WTOL$ 55 $^{\circ}C$ Power consumption in modes other than active mode Off mode P_{orr} $0,014$ kW Thermostat-off mode P_{ro} $0,014$ kW Thermostat-off mode P_{ro} $0,014$ kW Thermostat-off mode P_{cc} $0,000$ kW Type of energy input $Electric$ $Electric Crankcase heater mode P_{cc} 0,000 kW Type of energy input Electric P_{cc} 0,000 kW Type of energy input Electric P_{cr} 0,014 kW Thermostat-off mode P_{cc} 0,000 kW Type of energy input Electric P_{cc} 0,000 kW Type of energy input Electric P_{cc} 0,000 kW Thermostat-off mode P_{cc} 0,000 kW Type of energy input Electric P_{cc} 0,000 kW Type of energy input Electric P_{cc} 0,000 kW Type of energy input Electric P_{cc} 0,000 kW Type of energy input P_{cc} P_{cc}$		Pdh	na	kW		COPd	na	-
heating P_{cych} nakWCycling interval efficiency $COPcyc$ na-Degradation co-efficient Cdh $0,98$ -Heating water operating limit temperature $WTOL$ 55 °CPower consumption in modes other than active mode $0,014$ kW Supplementary heaterSupplementary heaterRated heat output (*) $Psup$ $0,0$ kW Thermostat-off mode P_{orr} $0,014$ kW Type of energy input $Electric$ Crankcase heater mode P_{cx} $0,000$ kW Type of energy input $Electric$ Capacity controlVariableFor air-to-water heat pumps: Rated air flow rate, outdoors6200 $m3/h$ Sound power level, indoors/ outdoors L_{WA} $na/53$ dB MWh For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat na $m3/h$ For heat pump combination heater: MWh Water heating energy efficiency n_{wh} 122 %Daily electricity consumption consumptionQelec $6,232$ kWh Mare heating energy efficiency n_{wh} 122 %Daily electricity consumptionAEC 1371 kWh Annual fuel consumptionAFC NA kWh 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 firegrant, compresson of and electricit/backetronic equipment are properly disposed of. Disposing of the pro	Bivalent temperature	T _{biv}	2	°C		TOL	2	°C
Degradation co-efficient Cah 0,98 - temperature W/OL 55 *C Power consumption in modes other than active mode Off mode Porr 0,014 kW Supplementary heater Rated heat output (*) Psup 0,0 kW Thermostat-off mode Pro 0,014 kW Rated heat output (*) Psup 0,0 kW Standby mode Pse 0,014 kW Type of energy input Electric Electric Crankcase heater mode Porc 0,000 kW Type of energy input Electric M3/h Capacity control Variable For air-to-water heat pumps: Rated brine or water flow rate, outdoors - 6200 m3/h Sound power level, indoors/ outdoors L wA na/53 dB dB ma m3/h Annual energy consumption Q HE 1469 kWh Water heating energy na m3/h Daily electricity consumption Qelec 6,232 kWh Daily fuel consumption Qfuel NA kWh Annual electricity AEC 1371 kWh Annual fuel consumpti		P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	-
Off mode P orF 0,014 kW Rated heat output (*) P sup 0,0 kW Thermostat-off mode P ro 0,014 kW Type of energy input Electric Standby mode P sg 0,014 kW Type of energy input Electric Crankcase heater mode P cx 0,000 kW Type of energy input Electric Other items Capacity control Variable For air-to-water heat pumps: Rated air flow rate, outdoors - 6200 m3/h Sound power level, indoors/ outdoors L wA na/53 dB B For water-/brine-to-water heat pumps: Rated brine or water - na m3/h Annual energy consumption Q HE 1469 kWh For water-/brine-to-water heat pumps: Rated brine or water - na m3/h For heat pump combination heater: Declared load profile XL Efficiency class na exchanger - na m3/h Daily electricity consumption Qelec 6,232 kWh Daily fuel consumption Qfuel NA KW Annual electricity consumption Qelec 6,232<	Degradation co-efficient	Cdh	0,98	-		WTOL	55	°C
Thermostat-off mode P TO 0,014 kW Standby mode P SB 0,014 kW Crankcase heater mode P CK 0,000 kW Other items - - - Capacity control Variable For air-to-water heat pumps: Rated air flow rate, outdoors - 6200 m3/h Sound power level, indoors/ outdoors L WA na/53 dB - - 6200 m3/h Annual energy consumption Q HE 1469 kWh For water./brine-to-water heat pumps: Rated brine or water - na m3/h For heat pump combination heater: - - na m3/h Daily electricity consumption Qelec 6,232 kWh Daily fuel consumption Qfuel NA kWh Annual electricity consumption AEC 1371 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 reselve of that type. It is of great importance that the product's refrigera	Power consumption in modes	other than activ	e mode		Supplementary heater			
Standby mode P ss 0,014 kW Type of energy input Electric Crankcase heater mode P cx 0,000 kW Type of energy input Electric Other items	Off mode	P _{OFF}	0,014	kW	Rated heat output (*)	Psup	0,0	kW
Crankcase heater mode P cx 0,000 kW Other items Capacity control Variable For air-to-water heat pumps: Rated air flow rate, outdoors 6200 m3/h Sound power level, indoors/ outdoors L wa na/53 dB For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat na m3/h Annual energy consumption Q HE 1469 kWh flow rate, outdoor heat exchanger na m3/h For heat pump combination heater: Efficiency class na ma m3/h Daily electricity consumption Qelec 6,232 kWh Daily fuel consumption Qfuel NA kWh 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 reselier offering a service of that type. It 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.	Thermostat-off mode	Р _{то}	0,014	kW				
Crankcase heater mode P cx 0,000 kW Other items Capacity control Variable For air-to-water heat pumps: Rated air flow rate, outdoors 6200 m3/h Sound power level, indoors/ outdoors L wA na/53 dB For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger na m3/h Annual energy consumption Q HE 1469 kWh flow rate, outdoor heat exchanger na m3/h For heat pump combination heater: Efficiency class na m3/h m3/h m3/h Declared load profile XL Efficiency class na m3/h m3/h Daily electricity consumption Qelec 6,232 kWh Paily fuel consumption Qfuel NA kWh 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. It 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.	Standby mode	P SB	0.014	kW	Type of energy input		Electric	
Other items Capacity control Variable For air-to-water heat pumps: Rated air flow rate, outdoors 6200 m3/h Sound power level, indoors/ outdoors L wA na/53 dB For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger na m3/h Annual energy consumption Q _{HE} 1469 kWh rate or water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger na m3/h For heat pump combination heater: Efficiency class na m3/h m3/h Daily electricity consumption Qelec 6,232 kWh Wheter heating energy efficiency nwheter 122 % Daily electricity consumption AEC 1371 kWh Annual fuel consumption Qfuel NA kWh 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. It 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.				kW				
Capacity control Variable For air-to-water heat pumps: Rated air flow rate, outdoors 6200 m3/h Sound power level, indoors/ outdoors L _{WA} na/53 dB For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger - na m3/h Annual energy consumption Q _{HE} 1469 kWh For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat - na m3/h For heat pump combination heater: - Declared load profile XL Efficiency class na Water heating energy efficiency n _{wh} 122 % Daily electricity consumption Qelec 6,232 kWh Daily fuel consumption Qfuel NA kWh Annual electricity consumption AEC 1371 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. It 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.		CA	0,000					
outdoors L wa na/53 dB pumps: Rated brine or water Annual energy consumption Q HE 1469 kWh flow rate, outdoor heat - na m3/h For heat pump combination heater: Declared load profile XL Efficiency class na Water heating energy n_wh 122 % Daily electricity consumption Qelec 6,232 kWh Daily fuel consumption Qfuel NA kWh Annual electricity consumption Qelec 1371 kWh Annual fuel consumption 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. It 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.			Variable			-	6200	m3/h
Annual energy consumption Q _{HE} 1469 kWh flow rate, outdoor heat exchanger For heat pump combination heater: Declared load profile XL Efficiency class na Water heating energy efficiency Π_{wh} 122 % Daily electricity consumption Qelec 6,232 kWh Daily fuel consumption Qfuel NA kWh Annual electricity consumption AEC 1371 kWh Annual fuel consumption AFC NA GJ Specific precautions and end of the product's life cycle, it 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. It 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.		L _{WA}	na/53	dB	pumps: Rated brine or water	_	na	m3/h
Declared load profileXLEfficiency classnaWater heating energy efficiency η_{wh} 122%Daily electricity consumptionQelec6,232kWhDaily fuel consumptionQfuelNAkWhAnnual electricity consumptionAEC1371kWhAnnual fuel consumptionAFCNAGJSpecific 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 great importance that the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It 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.	Annual energy consumption	Q _{HE}	1469	kWh			10	1110/11
Declared load profile XL class na efficiency I lwh 122 % Daily electricity consumption Qelec 6,232 kWh Daily fuel consumption Qfuel NA kWh Annual electricity consumption AEC 1371 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 product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It 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.	For heat pump combination he	eater:						
Annual electricity consumption AEC 1371 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. It 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.	Declared load profile	XL		na		η_{wh}	122	%
AEC13/1KWhAnnual fuel consumptionAFCNAGJSpecific 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 great importance that the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It 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.	Daily electricity consumption	Qelec	6,232	kWh	Daily fuel consumption	Qfuel	NA	kWh
Specific precautions and end 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. It 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.		AEC	1371	kWh	Annual fuel consumption	AFC	NA	GJ
Contact details Enertech AB_Box 309_SE-341.26 Liungby Tel +46.372.88000 www.ctc.se 180612	Specific precautions and end		end of the product great importance t	t's life cycle, it m that the product	nust be sent correctly to a waste station or resel 's refrigerant, compressor oil and electrical/elec	ler offering a ser	vice of that type	e. It is of
Contact actails Electreen 705, 50, 505, 50 547 20 Ejangoy 101 40 572 00000 WWW.ctc.30 100012	Contact details	Enertech AB, Bo	x 309, SE-341 26	i Ljungby Tel	+46 372 88000 www.ctc.se			180612

Information for heat pump space heaters and heat pump combination heaters Average climate and Medium temperature





Model(s):	CTC EcoAir 610M 400V + CTC EcoZenith i350/ i350F						
Air-to-water heat pump:	Yes	Energy efficiency class:	A++	-			
Water-to-water heat pump:	No	Controller class:	VI	-			
Brine-to-water heat pump:	No	Controller contribution:	4	%			
Low-temperature heat pump:	No	Package efficiency:	147	%			
Equipped with a supplementary heater:	Yes	Package efficiency class:	A++	-			
Heat pump combination heater:	Yes						

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	7	kW	Seasonal space heating energy efficiency	η _s	143	%
Declared capacity for heating fo and outdoor temperature T j	or part load at i	ndoor temperati	ure 20 °C	Declared coefficient of performa part load at indoor temperature			
T j = – 7 °C	Pdh	5,9	kW	T j = – 7 °C	COPd	2,03	-
T j = + 2 °C	Pdh	3,6	kW	T j = +2 °C	COPd	3,81	- 1
T j = + 7 °C	Pdh	2,4	kW	T j = +7 °C	COPd	4,86	-
T j = + 12 °C	Pdh	2,8	kW	T j = +12 °C	COPd	5,90	- 1
T j = bivalent temperature	Pdh	5,9	kW	T j = bivalent temperature	COPd	2,03	-
T j = operation limit temperature	Pdh	5,3	kW	T j = operation limit temperature	COPd	1,77	-
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	na	-
Bivalent temperature	T _{biv}	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	- 1
Degradation co-efficient	Cdh	0,98	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes o	other than activ	e <u>mode</u>		Supplementary heater			
Off mode	P _{OFF}	0,014	kW	Rated heat output (*)	Psup	1,3	kW
Thermostat-off mode	Р _{то}	0,014	kW				
Standby mode	P _{SB}	0,014	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{ск}	0,000	kW				
Other items		,					
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
L Sound power level, indoors/ outdoors	L _{WA}	na/53	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	3743	kWh	flow rate, outdoor heat exchanger			,
For heat pump combination hea	ater:						
Declared load profile	XL	Efficiency class	Α	Water heating energy efficiency	η_{wh}	97	%
Daily electricity consumption	Qelec	7,880	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1734	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the product great importance t	t's life cycle, it m hat the product	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel t's refrigerant, compressor oil and electrical/elec hold waste is not permitted.	ler offering a ser	vice of that type	e. It is of
Contact details	Enertech AB, Bo	x 309, SE-341 26		•			180612

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





Model(s):	CTC EcoAir 610M 400V + CTC EcoZenith i350/ i350F						
Air-to-water heat pump:	Yes	Energy efficiency class:	A++	-			
Water-to-water heat pump:	No	Controller class:	VI	-			
Brine-to-water heat pump:	No	Controller contribution:	4	%			
Low-temperature heat pump:	No	Package efficiency:	193	%			
Equipped with a supplementary heater:	Yes	Package efficiency class:	A+++	-			
Heat pump combination heater:	Yes						

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	6	kW	Seasonal space heating energy efficiency	η _s	189	%
Declared capacity for heating for and outdoor temperature T j	or part load at i	ndoor temperat	ure 20 °C	Declared coefficient of performa part load at indoor temperature			
T j = – 7 °C	Pdh	5,6	kW	T j = – 7 °C	COPd	3,03	- [
T j = + 2 °C	Pdh	3,5	kW	T j = +2 °C	COPd	5,14	-
T j = + 7 °C	Pdh	2,5	kW	T j = +7 °C	COPd	5,83	-
T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	7,27	-
T j = bivalent temperature	Pdh	5,9	kW	T j = bivalent temperature	COPd	2,66	-
T j = operation limit temperature	Pdh	5,7	kW	T j = operation limit temperature	COPd	2,59	
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	na	-
Bivalent temperature	T _{biv}	-9	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient	Cdh	0,98	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes of	ther than activ	e mode		Supplementary heater			
Off mode	P _{OFF}	0,014	kW	Rated heat output (*)	Psup	0,3	kW
Thermostat-off mode	P _{TO}	0,014	kW				
Standby mode	P _{SB}	0,014	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{ск}	0,000	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/53	dB	For water-/brine-to-water heat pumps: Rated brine or water	_	na	m3/h
Annual energy consumption	Q _{HE}	2579	kWh	flow rate, outdoor heat exchanger			
For heat pump combination hea	ater:						
Declared load profile	XL	Efficiency class	Α	Water heating energy efficiency	η_{wh}	97	%
Daily electricity consumption	Qelec	7,880	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1734	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the produc great importance	t's life cycle, it m that the product	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel t's refrigerant, compressor oil and electrical/elec hold waste is not permitted.	ler offering a ser	vice of that type	e. It is of
Contact details E	inertech AB, Bo	x 309, SE-341 26	5 Ljungby Tel	+46 372 88000 www.ctc.se			180612

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





Model(s):	CTC EcoAir 610M 400V + CTC EcoZenith i350/ i350F							
Air-to-water heat pump:	Yes	Energy efficiency class:		-				
Water-to-water heat pump:	No	Controller class:	VI	-				
Brine-to-water heat pump:	No	Controller contribution:	4	%				
Low-temperature heat pump:	No	Package efficiency:	128	%				
Equipped with a supplementary heater:	Yes	Package efficiency class:		-				
Heat pump combination heater:	Yes							

		Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	7	kW	Seasonal space heating energy efficiency	η _s	124	%
Declared capacity for heating for and outdoor temperature T j	r part load at i	ndoor temperatu	ure 20 °C	Declared coefficient of performan part load at indoor temperature 2	•		
T j = – 7 °C	Pdh	4,0	kW	T j = – 7 °C	COPd	2,66] -
T j = + 2 °C	Pdh	2,3	kW	T j = +2 °C	COPd	4,11	- [
T j = + 7 °C	Pdh	2,4	kW	T j = +7 °C	COPd	5,08	-
T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	6,08	-
T j = bivalent temperature	Pdh	5,0	kW	T j = bivalent temperature	COPd	1,75	-
T j = operation limit temperature	Pdh	3,6	kW	T j = operation limit temperature	COPd	1,25	-
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	4,7	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	1,75	-
Bivalent temperature	T _{biv}	-13	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient	Cdh	0,98	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes ot	ther than activ	e mode		Supplementary heater			_
Off mode	P _{OFF}	0,014	kW	Rated heat output (*)	Psup	2,9	kW
Thermostat-off mode	P _{TO}	0,014	kW				
Standby mode	P _{SB}	0,014	kW	Type of energy input		Electric	
, Crankcase heater mode	Р _{СК}	0,000	kW				
Other items	CK	0,000				_	
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors/	L _{WA}	na/53	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	5052	kWh	flow rate, outdoor heat exchanger			,
For heat pump combination hea	ter:						
Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	$\boldsymbol{\eta}_{wh}$	82	%
Daily electricity consumption	Qelec	9,257	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	2037	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the product great importance t	's life cycle, it m hat the product	at a recycling station or with the installation eng nust be sent correctly to a waste station or resell s'r refrigerant, compressor oil and electrical/elec hold waste is not permitted.	er offering a sei	vice of that type	e. It is of
Contact details Er	nertech AB Bc	x 309, SF-341 26	Liunghy Tel	+46 372 88000 www.ctc.se			180612

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





Model(s):	CTC EcoAir 610	M 400V + CTC EcoZenith i350/ i350F			
Air-to-water heat pump:	Yes	Energy efficiency class:		-	
Water-to-water heat pump:	No	Controller class:	VI	-	
Brine-to-water heat pump:	No	Controller contribution:	4	%	
Low-temperature heat pump:	No	Package efficiency:	164	%	
Equipped with a supplementary heater:	Yes	Package efficiency class:		-	
	м				

Heat pump combination heater: Yes

enderseenderseDeclared capacity for heating for part load a lindoor temperature 20°Cand outdoor temperature T jT j = -7 °CP dhT j = -7 °CP dh2,5KWT j = +7 °CP dh2,5KWT j = +12 °CP dh2,5KWT j = +12 °CP dh2,5KWT j = byslent temperatureP dh2,5KWT j = byslent temperatureP dh4,0KWT j = operation limitP dh4,0KWT j = operation limitP dh4,0KWT j = operation limitP dh5,0KWFor air-to-water heat pumps:T j = 15 °C (if TOL < -20 °C)P dh5,0KWHeatingP or cordNameNew consumption in modes other than active modeOff modeP orOnotaKWCapacity controlVariableSound power level, indoors/ outdoorsCapacity controlVariableSound power level, indoors/ outdoorsCapacity controlVariableCapacity controlVariableCapacity controlVariableCapac	ltem	Symbol	Value	Unit	Item	Symbol	Value	Unit
and outdoor temperature T j $T = -7 °C$ Pdh 4.3 kW $T = -7 °C$ COPd 3.61 - $T = -7 °C$ Pdh 2.5 kW $T = -7 °C$ COPd $T = +7 °C$ Pdh 2.5 kW $T = +2 °C$ COPd $T = +7 °C$ Pdh 2.5 kW $T = +7 °C$ COPd $T = +7 °C$ Pdh 2.5 kW $T = +7 °C$ COPd $T = +7 °C$ Pdh 2.5 kW $T = +7 °C$ COPd $T = +7 °C$ Pdh 2.5 kW $T = +7 °C$ COPd $T = -7 °C$ Pdh 5.2 kW $T = +2 °C$ COPd $T = +7 °C$ Pdh 5.2 kW $T = +2 °C$ COPd $T = -7 °C$ Pdh 5.2 kW $T = +2 °C$ COPd $T = -7 °C$ Pdh 5.2 kW $T = -7 °C$ COPd $T = -7 °C$ Pdh 5.2 kW $T = -12 °C$ COPd $T = -7 °C$ Pdh 5.0 kW $T = -12 °C$ COPd $T = -12 °C$ Pdh 5.0 kW $T = -12 °C$ COPd $T = -15 °C (If TOL < -20 °C)Pdh5.0kWT = -15 °C (If TOL < -20 °C)2.44T = -15 °C (If TOL < -20 °C)Pdh5.0kWT = -15 °C (If TOL < -20 °C)-22cCycling interval capacity forheatingP_{cych}nakWT = -5 °C (If TOL < -20 °C)na-22cCycling interva$	Rated heat output (*)	Prated	7	kW		n _s	160	%
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Declared capacity for heating f and outdoor temperature T j	or part load at i	ndoor temperat	ure 20 °C				
T j = + 7 °CPdh2,5kWT j = +7 °CCOPd6,00T j = + 12 °CPdh2,9kWT j = + 12 °CCOPd7,13-T j = bivalent temperaturePdh5,2kWT j = bivalent temperatureCOPd2,52-T j = operation limitPdh4,0kWT j = operation limitCOPd2,52-For air-to-water heat pumps:Pdh5,0kWT j = operation limitCOPd2,44-For air-to-water heat pumps:Pdh5,0kWFor air-to-water heat pumps:COPd2,44-For air-to-water heat pumps:T j = -15 °C (if TOL < -20 °C)	T j = – 7 °C	Pdh	4,3	kW	T j = − 7 °C	COPd	3,61	7 -
T j = + 12 * CPdh2,9kWT j = + 12 * CCOPd7,13-T j = bivalent temperaturePdh5,2kWT j = bivalent temperatureCOPd2,52-T j = operation limit temperaturePdh4,0kWT j = operation limit temperatureCOPd1,91-For air-to-water heat pumps: T j = -15 * C (if TOL < - 20 * C)	T j = + 2 °C	Pdh	2,4	kW	T j = +2 °C	COPd	5,08	- [
Tj = bivalent temperaturePdh5,2kWTj = bivalent temperatureCOPd2,52-Tj = operation limit temperaturePdh4,0kWTj = operation limit temperatureCOPd1,91-For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)		Pdh	2,5	kW	T j = +7 °C	COPd	6,00	- 1
T j = operation limit temperature Pdh 4,0kWT j = operation limit temperature $COPd$ 1,91-For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	7,13	-
temperaturepan4,0KWtemperatureCOPa1,91-For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	T j = bivalent temperature	Pdh	5,2	kW	T j = bivalent temperature	COPd	2,52	-
T j = - 15 °C (if TOL < - 20 °C)Pan5,0KWT j = - 15 °C (if TOL < - 20 °C)CDPa2,44-Bivalent temperatureT biv-14°CFor air-to-water heat pumps: Operation limit temperatureTOL-222°CCycling interval capacity for heatingP cychnakWCycling interval efficiencyCOPcycna-Degradation co-efficientCdh0,98Heating water operating limit temperatureWTOL55°CPower consumption in modes other than active modeO,014 kWkWRated heat output (*)PSup2,6kWThermosta-off modeP orr 0,014 kW0,014 kWKWType of energy inputElectricCapacity controlVariableFor air-to-water heat pumps: row odoors-6200m3/hSound power level, indoors/ outdoorsL WA na/53dB ag932 kWhFor air-to-water heat pumps: Rated brine or water flow rate, outdoors-6200m3/hFor heat pump combination heater:Efficiency classnaWater heating energy efficiencyNa kWh822%Daily electricity consumptionQeiec9,257kWhAnnual fuel consumptionQeielNA kWhKWhAnnual fuel consumptionAEC2037kWhAnnual fuel consumptionAFCNA kWhAnnual electricity consumptionAEC2037kWhAnnual fuel consumptionAFCNA kWhAnnual fuel corising in d		Pdh	4,0	kW		COPd	1,91	-
Bradent temperature $1bv$ -14 C Operation limit temperature $10L$ -22 C	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	5,0	kW		COPd	2,44	-
heating P cych na kW Cycling interval efficiency COPcyc na - Degradation co-efficient Cdh 0,98 - Heating water operating limit WTOL 55 °C Power consumption in modes other than active mode Off mode P orr 0,014 kW Supplementary heater Rated heat output (*) P Sup 2,6 kW Thermostat-off mode P or 0,014 kW Type of energy input Electric Electric Crankcase heater mode P ox 0,000 kW Type of energy input Electric m3/h Capacity control Variable For air-to-water heat pumps: Rated air flow rate, outdoors - 6200 m3/h Annual energy consumption Q HE 3932 kWh For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoors heat - na m3/h Declared load profile XL Efficiency class na - na m3/h Daily electricity consumption Qetec 9,257 kWh Annual fuel consumption Afc NA KWh Annual electricity	Bivalent temperature	T _{biv}	-14	°C		TOL	-22	°C
Degradation co-efficient Can 0,98 - Power consumption in modes other than active mode Itemperature W10L 55 *C Power consumption in modes other than active mode 0,014 kW Supplementary heater Rated heat output (*) Psup 2,6 kW Thermostat-off mode P ro 0,014 kW Standby mode P se 0,014 kW Standby mode P se 0,014 kW Type of energy input Electric Crankcase heater mode P cr 0,000 kW Type of energy input Electric Capacity control Variable For air-to-water heat pumps: Rated air flow rate, outdoors - 6200 m3/h Sound power level, indoors/ outdoors L wA na/53 dB MWh For water-/brine-to-water heat pumps: Rated brine or water - na m3/h Romal energy consumption Q HE 3932 kWh Standby flow rate, outdoor heat - na m3/h Daily electricity consumption Q elec 9,257 kWh Daily fuel consumption Q fuel NA kWh Annual electricity AEC 2037 kWh Annual fuel consumption AFC NA GJ Specific precaut	Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	-
Off mode P orf 0,014 kW Thermostat-off mode P ro 0,014 kW Standby mode P sa 0,014 kW Standby mode P sa 0,014 kW Crankcase heater mode P cc 0,000 kW Other items Capacity control Variable For air-to-water heat pumps: Rated air flow rate, outdoors - 6200 m3/h Sound power level, indoors/ outdoors L wA na/53 dB For water-/brine-to-water heat pumps: Rated air flow rate, outdoors - na m3/h Annual energy consumption Q HE 3932 kWh For water-/brine-to-water heat pumps: Rated brine or water - na m3/h For heat pump combination heater: - - na m3/h Declared load profile XL Efficiency class na efficiency fficiency fficiency fficiency fficiency na Ma kWh Annual electricity consumption Qelec 9,257 kWh Daily fuel consumption Aruel NA kWh Annual electricity consumption Acelec 2037 kWh Annual fu	Degradation co-efficient	Cdh	0,98	-		WTOL	55	°C
Thermostat-off mode P ro 0,014 kW Standby mode P se 0,014 kW Crankcase heater mode P cx 0,000 kW Other items - - - Capacity control Variable For air-to-water heat pumps: Rated air flow rate, outdoors - 6200 m3/h Sound power level, indoors/ outdoors L wA na/53 dB - For water-/brine-to-water heat pumps: Rated brine or water - na m3/h Annual energy consumption Q HE 3932 kWh - na m3/h Peclared load profile XL Efficiency class na - na m3/h Daily electricity consumption Qetec 9,257 kWh Annual fuel consumption Qfuel NA kWh Annual electricity consumption AEC 2037 kWh Annual fuel consumption AFC NA KWh 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 erroduct's life cycle, it must be sent correctly to a waste station or receller offering a service of that type. It is	Power consumption in modes	other than activ	e mode		Supplementary heater			
Standby mode P ss 0,014 kW Type of energy input Electric Crankcase heater mode P cx 0,000 kW Type of energy input Electric Other items	Off mode	P _{OFF}	0,014	kW	Rated heat output (*)	Psup	2,6	kW
Crankcase heater mode P cx 0,000 kW Other items Capacity control Variable For air-to-water heat pumps: Rated air flow rate, outdoors - 6200 m3/h Sound power level, indoors/ outdoors L wA na/53 dB For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger - na m3/h Annual energy consumption Q HE 3932 kWh KWh ma ma/h Declared load profile XL Efficiency class na Mater heating energy efficiency n, wh 82 % Daily electricity consumption Qelec 9,257 kWh Daily fuel consumption Qfuel NA kWh Annual electricity consumption AEC 2037 kWh Annual fuel consumption AFC NA KWh 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 th erd of the product's iffe cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It 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. <td>Thermostat-off mode</td> <td>Р _{то}</td> <td>0,014</td> <td>kW</td> <td></td> <td></td> <td></td> <td></td>	Thermostat-off mode	Р _{то}	0,014	kW				
Crankcase heater mode P ck 0,000 kW Other items Capacity control Variable For air-to-water heat pumps: Rated air flow rate, outdoors 6200 m3/h Sound power level, indoors/ outdoors L wA na/53 dB For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger na m3/h For heat pump combination heater: 3932 kWh KWh ma m3/h Declared load profile XL Efficiency class na ma m3/h Daily electricity consumption consumption Qelec 9,257 kWh Mare heating energy efficiency nwh 82 % Daily electricity consumption AEC 2037 kWh Annual fuel consumption AFC NA kWh Annual electricity consumption AEC 2037 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 th erad of the product's iffe cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It is of great importance that the product's refrigerant, compressor oil and electrical/electroni	Standby mode	P _{SB}	0,014	kW	Type of energy input		Electric	
Other items Capacity control Variable For air-to-water heat pumps: Rated air flow rate, outdoors 6200 m3/h Sound power level, indoors/ outdoors L wA na/53 dB For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat na m3/h Annual energy consumption Q HE 3932 kWh KWh Na m3/h For heat pump combination heater: Efficiency class na Water heating energy efficiency n _{wh} 82 % Daily electricity consumption Q _{elec} 9,257 kWh Daily fuel consumption Q _{fuel} NA kWh Annual electricity consumption AEC 2037 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 th end of the product's iffe cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It 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.	-			kW				
Capacity control Variable Rated air flow rate, outdoors - 6200 m3/h Sound power level, indoors/ outdoors L WA na/53 dB For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat na m3/h Annual energy consumption Q HE 3932 kWh Rated air flow rate, outdoor heat pumps: Rated brine or water flow rate, outdoor heat - na m3/h For heat pump combination heater: Efficiency na Water heating energy nwh 82 % Daily electricity consumption Qelec 9,257 kWh Daily fuel consumption Qfuel NA kWh Annual electricity consumption AEC 2037 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 th end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It 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.	Other items	U.						
outdoors L WA na/53 dB pumps: Rated brine or water Annual energy consumption Q HE 3932 kWh flow rate, outdoor heat - na m3/h For heat pump combination heater: Declared load profile XL Efficiency class na Water heating energy nwh 82 % Daily electricity consumption Qelec 9,257 kWh Daily fuel consumption Qfuel NA kWh Annual electricity consumption AEC 2037 kWh Annual fuel consumption AFC NA GJ Specific precautions and end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It 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.	Capacity control		Variable			-	6200	m3/h
Annual energy consumption Q _{HE} 3932 kWh flow rate, outdoor heat exchanger For heat pump combination heater: Peclared load profile XL Efficiency class na Water heating energy efficiency efficiency n_wh 82 % Daily electricity consumption Q _{elec} 9,257 kWh Daily fuel consumption Q _{fuel} NA kWh Annual electricity consumption AEC 2037 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. It 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.	· · ·	L _{WA}	na/53	dB	pumps: Rated brine or water	_	na	m3/h
Declared load profileXLEfficiency classnaWater heating energy efficiency η_{wh} 82%Daily electricity consumption Q_{elec} 9,257kWhDaily fuel consumption Q_{fuel} NAkWhAnnual electricity consumptionAEC2037kWhAnnual fuel consumptionAFCNAGJSpecific 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 product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It 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.	Annual energy consumption	Q _{HE}	3932	kWh				-
Declared load profile XL class na efficiency Ilwh 82 % Daily electricity consumption Q _{elec} 9,257 kWh Daily fuel consumption Q _{fuel} NA kWh Annual electricity consumption AEC 2037 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. It 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.	For heat pump combination he	eater:						
Annual electricity consumption AEC 2037 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. It 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.	Declared load profile	XL	-	na		$\eta_{\rm wh}$	82	%
AEC2037KWhAnnual fuel consumptionAFCNAGJSpecific 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. It 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.	Daily electricity consumption	Q _{elec}	9,257	kWh	Daily fuel consumption	\mathbf{Q}_{fuel}	NA	kWh
The packaging must be deposited at a recycling station or with the installation engineer for correct waste management. At th 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 th end of the product's life cycle, it must be sent correctly to a waste station or reseller offering a service of that type. It 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.		AEC	2037	kWh	Annual fuel consumption	AFC	NA	GJ
Contact details Enertech AB, Box 309, SE-341 26 Ljungby Tel +46 372 88000 www.ctc.se 180612	Specific precautions and end		end of the produc great importance	t's life cycle, it n that the product	nust be sent correctly to a waste station or resel t's refrigerant, compressor oil and electrical/elec	ler offering a sei	vice of that type	e. It is of
	Contact details	Enertech AB, Bo	ox 309, SE-341 26	5 Ljungby Tel	+46 372 88000 www.ctc.se			180612

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

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 610N	A 400V+ CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:		-
Water-to-water heat pump:	No	Controller class:	VI	-
Brine-to-water heat pump:	No	Controller contribution:	4	%
Low-temperature heat pump:	No	Package efficiency:	177	%
Equipped with a supplementary heater:	No	Package efficiency class:		-
Heat pump combination heater:	No			

Rated heat output (*) Declared capacity for heating for particular production of the strength	Prated art load at in Pdh Pdh Pdh Pdh Pdh	7 door temperate 7,3 4,6	kW ure 20 °C kW	Seasonal space heating energy efficiency Declared coefficient of performan part load at indoor temperature	•		
and outdoor temperature T j T j = $-7 \degree C$ T j = $+2 \degree C$	Pdh Pdh Pdh	na 7,3			•		
T j = + 2 °C	Pdh Pdh	7,3	kW			tdoor tempe	rature T j
-	Pdh			T j = − 7 °C	COPd	na] -
Ti – + 7 ℃		16	kW	T j = +2 °C	COPd	2,36	- [
1 j = 1 / C	Pdh	4,0	kW	T j = +7 °C	COPd	4,06	- [
T j = + 12 °C		2,8	kW	T j = +12 °C	COPd	5,68	-
T j = bivalent temperature	Pdh	7,3	kW	T j = bivalent temperature	COPd	2,36	-
T j = operation limit temperature	Pdh	7,3	kW	T j = operation limit temperature	COPd	2,36	-
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	na	-
Bivalent temperature	T _{biv}	2	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	_
Degradation co-efficient	Cdh	0,99	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes othe	er than active	e mode		Supplementary heater			
Off mode	P _{OFF}	0,014	kW	Rated heat output (*)	Psup	0,0	kW
Thermostat-off mode	Р _{то}	0,014	kW				
Standby mode	P _{SB}	0,014	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,000	kW				
Other items	CA	.,		₫ ч			
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/53	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	2121	kWh	flow rate, outdoor heat exchanger			
For heat pump combination heater	r:						
Declared load profile	na	Efficiency class	na	Water heating energy efficiency	η_{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:		end of the product great importance t	t's life cycle, it m hat the product	at a recycling station or with the installation eng ust be sent correctly to a waste station or resel 's refrigerant, compressor oil and electrical/elec hold waste is not permitted.	ler offering a ser	vice of that type	e. It is of
Contact details Ener	rtech AB, Box	< 309, SE-341 26	Ljungby Tel	+46 372 88000 www.ctc.se			180612

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

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 610N	1 400V+ CTC EcoLogic			
Air-to-water heat pump:	Yes	Energy efficiency class:		-	
Water-to-water heat pump:	No	Controller class:	VI	-	
Brine-to-water heat pump:	Νο	Controller contribution:	4	%	
Low-temperature heat pump:	No	Package efficiency:	238	%	
Equipped with a supplementary heater:	No	Package efficiency class:		-	
Uset assure southtastice baston	N -				

Heat pump combination heater: No

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	7	kW	Seasonal space heating energy efficiency	η _s	234	%
Declared capacity for heating for and outdoor temperature T j	or part load at ir	ndoor temperat	ure 20 °C	Declared coefficient of performa part load at indoor temperature			
T j = – 7 °C	Pdh	na	kW	T j = – 7 °C	COPd	na] -
T j = + 2 °C	Pdh	6,5	kW	T j = +2 °C	COPd	3,47	-
T j = + 7 °C	Pdh	4,4	kW	T j = +7 °C	COPd	6,02	-
T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	7,13	-
T j = bivalent temperature	Pdh	6,5	kW	T j = bivalent temperature	COPd	3,47	-
T j = operation limit temperature	Pdh	6,5	kW	T j = operation limit temperature	COPd	3,47	-
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	na	-
Bivalent temperature	T _{biv}	2	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient	Cdh	0,98	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes of	other than active	e mode		Supplementary heater			_
Off mode	P _{OFF}	0,014	kW	Rated heat output (*)	Psup	0,0	kW
Thermostat-off mode	P _{TO}	0,014	kW				
Standby mode	P _{SB}	0,014	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,000	kW				
Other items		,		1			
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
L Sound power level, indoors/ outdoors	L _{WA}	na/53	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	1469	kWh	flow rate, outdoor heat exchanger			
For heat pump combination hea	ater:						
Declared load profile	NA	Efficiency class	na	Water heating energy efficiency	η_{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:		end of the produc great importance	t's life cycle, it m that the product	at a recycling station or with the installation eng ust be sent correctly to a waste station or resel 's refrigerant, compressor oil and electrical/elec hold waste is not permitted.	ler offering a ser	vice of that type	e. It is of
Contact details E	Enertech AB, Bo	x 309, SE-341 20	6 Ljungby Tel	+46 372 88000 www.ctc.se			180612

Information for heat pump space heaters and heat pump combination heaters Average climate and Medium temperature

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 610N	1 400V+ CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	A++	-
Water-to-water heat pump:	No	Controller class:	VI	-
Brine-to-water heat pump:	No	Controller contribution:	4	%
Low-temperature heat pump:	No	Package efficiency:	147	%
Equipped with a supplementary heater:	No	Package efficiency class:	A++	-
Heat pump combination heater:	No			

			Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	7	kW	Seasonal space heating energy efficiency	n _s	143	%
Declared capacity for heating for and outdoor temperature T j	r part load at ir	ndoor temperat	ure 20 °C	Declared coefficient of performat part load at indoor temperature 2	•		
T j = – 7 °C	Pdh	5,9	kW	T j = – 7 °C	COPd	2,03] -
T j = + 2 °C	Pdh	3,6	kW	T j = +2 °C	COPd	3,81	-
T j = + 7 °C	Pdh	2,4	kW	T j = +7 °C	COPd	4,86	
T j = + 12 °C	Pdh	2,8	kW	T j = +12 °C	COPd	5,90	-
T j = bivalent temperature	Pdh	5,9	kW	T j = bivalent temperature	COPd	2,03	-
T j = operation limit temperature	Pdh	5,3	kW	T j = operation limit temperature	COPd	1,77	-
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	na	-
Bivalent temperature	T _{biv}	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient	Cdh	0,98	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes ot	ther than active	e mode		Supplementary heater			
Off mode	P _{OFF}	0,014	kW	Rated heat output (*)	Psup	1,3	kW
Thermostat-off mode	P _{TO}	0,014	kW	[]			
Standby mode	P _{SB}	0,014	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,000	kW				
Other items	CK	.,		1 ¹			
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/53	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	3743	kWh	flow rate, outdoor heat exchanger			
For heat pump combination hea	iter:						
Declared load profile	na	Efficiency class	na	Water heating energy efficiency	η_{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:		end of the produc great importance	t's life cycle, it m that the product	at a recycling station or with the installation eng nust be sent correctly to a waste station or resell 's refrigerant, compressor oil and electrical/elec hold waste is not permitted.	er offering a ser	vice of that type	e. It is of
Contact details Er	nertech AB, Bo	x 309, SE-341 26	6 Ljungby Tel	+46 372 88000 www.ctc.se			180612

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





Model(s):	CTC EcoAir 610	M 400V+ CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:	A++	-
Water-to-water heat pump:	No	Controller class:	VI	-
Brine-to-water heat pump:	No	Controller contribution:	4	%
Low-temperature heat pump:	No	Package efficiency:	193	%
Equipped with a supplementary heater:	No	Package efficiency class:	A+++	-
Heat pump combination heater:	No			

Declared capacity for heating for part I and outdoor temperature T jT j = -7 °CPT j = + 2 °CPT j = + 7 °CPT j = + 12 °CPT j = bivalent temperaturePT j = operation limit temperaturePFor air-to-water heat pumps: T j = - 15 °C (if TOL < - 20 °C)P	Pdh Pdh Pdh Pdh Pdh Pdh	6 or temperate 5,6 3,5 2,5 2,9 5,9 5,7 5,7 na	kW ure 20 °C kW kW kW kW kW kW	Seasonal space heating energy efficiency Declared coefficient of performan part load at indoor temperature : T = -7 °C T = +2 °C T = +7 °C T = +7 °C T = +12 °C T = +12 °C	20 °C and ou COPd COPd COPd COPd COPd		
and outdoor temperature T jT j = -7 °CT j = + 2 °CT j = + 7 °CT j = + 12 °CPT j = bivalent temperaturePT j = operation limittemperatureFor air-to-water heat pumps:T j = - 15 °C (if TOL < - 20 °C)	Pdh Pdh Pdh Pdh Pdh Pdh	5,6 3,5 2,5 2,9 5,9 5,7	kW kW kW kW	part load at indoor temperature : T j = $-7 \degree C$ T j = $+2 \degree C$ T j = $+7 \degree C$ T j = $+12 \degree C$ T j = bivalent temperature T j = operation limit	20 °C and ou COPd COPd COPd COPd COPd	3,03 5,14 5,83 7,27	
T j = + 2 °CPT j = + 7 °CPT j = + 12 °CPT j = bivalent temperaturePT j = operation limit temperaturePFor air-to-water heat pumps: T j = - 15 °C (if TOL < - 20 °C)	Pdh Pdh Pdh Pdh Pdh Pdh	3,5 2,5 2,9 5,9 5,7	kW kW kW kW	T j = +2 °C T j = +7 °C T j = +12 °C T j = bivalent temperature T j = operation limit	COPd COPd COPd COPd	5,14 5,83 7,27	
T j = + 7 °CPT j = + 12 °CPT j = bivalent temperaturePT j = operation limitPtemperaturePFor air-to-water heat pumps:PT j = - 15 °C (if TOL < - 20 °C)	odh Pdh Pdh Pdh Pdh	2,5 2,9 5,9 5,7	kW kW kW	T j = +7 °C T j = +12 °C T j = bivalent temperature T j = operation limit	COPd COPd COPd	5,83 7,27	- - - -
T j = + 12 °C P T j = bivalent temperature P T j = operation limit temperature P For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C) P	odh Odh Odh Odh	2,9 5,9 5,7	kW kW	T j = +12 °C T j = bivalent temperature T j = operation limit	COPd COPd	7,27	
T j = bivalent temperaturePT j = operation limitPtemperaturePFor air-to-water heat pumps:PT j = -15 °C (if TOL < -20 °C)	Pdh	5,9 5,7	kW	T j = bivalent temperature T j = operation limit	COPd		-
T j = operation limit temperature For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	Pdh Pdh	5,7		T j = operation limit		2.66	
temperature P For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C) P	Pdh		kW				-
T j = – 15 °C (if TOL < – 20 °C)	-	na		temperature	COPd	2,59	-
Bivalent temperature T			kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	na	-
	biv	-9	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating P c	cych	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient C	Cdh	0,98	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes other th	nan active m	ode		Supplementary heater			_
Off mode P	OFF	0,014	kW	Rated heat output (*)	Psup	0,3	kW
Thermostat-off mode P	то	0,014	kW] [-
Standby mode P	SB	0,014	kW	Type of energy input		Electric	
	СК	0,000	kW				
Other items	CK	0,000		┥┟─────└			
Capacity control	V	ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors/	WA	na/53	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption Q	HE	2579	kWh	flow rate, outdoor heat exchanger			,,
For heat pump combination heater:							
Declared load profile r	na	Efficiency class	na	Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption Qe	elec	na	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity A consumption	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ
Specific precautions and end of life information:	en gre	d of the product eat importance t	's life cycle, it m hat the product	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel 's refrigerant, compressor oil and electrical/elec hold waste is not permitted.	ler offering a ser	vice of that type	e. It is of
Contact details Enertec							

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

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 610N	/I 400V+ CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:		-
Water-to-water heat pump:	No	Controller class:	VI	-
Brine-to-water heat pump:	No	Controller contribution:	4	%
Low-temperature heat pump:	No	Package efficiency:	128	%
Equipped with a supplementary heater:	No	Package efficiency class:		-
Heat pump combination heater:	No			

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	7	kW	Seasonal space heating energy efficiency	n _s	124	%
Declared capacity for heating fo and outdoor temperature T j	er part load at i	ndoor temperati	ure 20 °C	Declared coefficient of performat part load at indoor temperature			
T j = – 7 °C	Pdh	4,0	kW	T j = – 7 °C	COPd	2,66	- 1
T j = + 2 °C	Pdh	2,3	kW	T j = +2 °C	COPd	4,11] -
T j = + 7 °C	Pdh	2,4	kW	T j = +7 °C	COPd	5,08	-
T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	6,08	-
۲ j = bivalent temperature	Pdh	5,0	kW	T j = bivalent temperature	COPd	1,75	-
T j = operation limit temperature	Pdh	3,6	kW	T j = operation limit temperature	COPd	1,25	-
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	4,7	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	1,75	-
Bivalent temperature	T _{biv}	-13	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient	Cdh	0,98	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes o	ther than activ	e mode		Supplementary heater			-
Off mode	P _{OFF}	0,014	kW	Rated heat output (*)	Psup	2,9	kW
Thermostat-off mode	Р _{то}	0,014	kW				
Standby mode	P _{SB}	0,014	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,000	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
L Sound power level, indoors/ outdoors	L _{WA}	na/53	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	5052	kWh	flow rate, outdoor heat exchanger			
For heat pump combination hea	ater:						
Declared load profile	na	Efficiency class	na	Water heating energy efficiency	η_{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:		end of the product great importance t	t's life cycle, it m hat the product	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel 's refrigerant, compressor oil and electrical/elec hold waste is not permitted.	ler offering a ser	vice of that type	. It is of
Contact details E	nertech AB Bo			+46 372 88000 www.ctc.se			180612

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

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 610N	/I 400V+ CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:		-
Water-to-water heat pump:	No	Controller class:	VI	-
Brine-to-water heat pump:	No	Controller contribution:	4	%
Low-temperature heat pump:	No	Package efficiency:	164	%
Equipped with a supplementary heater:	No	Package efficiency class:		-
Heat pump combination heater:	No			

				Item	Symbol	Value	Unit
Rated heat output (*)	Prated	7	kW	Seasonal space heating energy efficiency	η _s	160	%
Declared capacity for heating for and outdoor temperature T j	r part load at i	ndoor temperati	ure 20 °C	Declared coefficient of performan part load at indoor temperature 2			
T j = – 7 °C	Pdh	4,3	kW	T j = – 7 °C	COPd	3,61	- 1
T j = + 2 °C	Pdh	2,4	kW	T j = +2 °C	COPd	5,08	- 1
T j = + 7 °C	Pdh	2,5	kW	T j = +7 °C	COPd	6,00	-
T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	7,13	-
T j = bivalent temperature	Pdh	5,2	kW	T j = bivalent temperature	COPd	2,52	-
T j = operation limit temperature	Pdh	4,0	kW	T j = operation limit temperature	COPd	1,91	-
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	5,0	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	2,44	-
Bivalent temperature	T _{biv}	-14	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient	Cdh	0,98	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes ot	ther than activ	e mode		Supplementary heater			
Off mode	P _{OFF}	0,014	kW	Rated heat output (*)	Psup	2,6	kW
Thermostat-off mode	P _{TO}	0,014	kW				
Standby mode	P _{SB}	0,014	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,000	kW				
Other items	en			1			
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/53	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	3932	kWh	flow rate, outdoor heat exchanger			
For heat pump combination hea	ter:						
Declared load profile	na	Efficiency class	na	Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	Q_{elec}	na	kWh	Daily fuel consumption	\mathbf{Q}_{fuel}	NA	kWh
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the product great importance t	's life cycle, it m hat the product	at a recycling station or with the installation eng ust be sent correctly to a waste station or resell 's refrigerant, compressor oil and electrical/elec hold waste is not permitted.	ler offering a ser	vice of that type	e. It is of
Contact details Er			Liunghu Tol	+46 372 88000 www.ctc.se			180612

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

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 610N	1 400V + EcoZenith i250		
Air-to-water heat pump:	Yes	Energy efficiency class:		-
Water-to-water heat pump:	No	Controller class:	VI	-
Brine-to-water heat pump:	No	Controller contribution:	4	%
Low-temperature heat pump:	No	Package efficiency:	140	%
Equipped with a supplementary heater:	Yes	Package efficiency class:		-
Heat pump combination heater:	Yes			

		· ·	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	7	kW	Seasonal space heating energy efficiency	η _s	136	%
Declared capacity for heating fo and outdoor temperature T j	r part load at i	ndoor temperati	ure 20 °C	Declared coefficient of performat part load at indoor temperature 2			
T j = – 7 °C	Pdh	na	kW	T j = – 7 °C	COPd	na] -
T j = + 2 °C	Pdh	6,6	kW	T j = +2 °C	COPd	1,71	- [
T j = + 7 °C	Pdh	4,3	kW	T j = +7 °C	COPd	3,10	
T j = + 12 °C	Pdh	2,8	kW	T j = +12 °C	COPd	4,58	-
T j = bivalent temperature	Pdh	6,6	kW	T j = bivalent temperature	COPd	1,71	-
T j = operation limit temperature	Pdh	6,6	kW	T j = operation limit temperature	COPd	1,71	-
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	na	-
Bivalent temperature	T _{biv}	2	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient	Cdh	0,99	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes of	ther than activ	e mode		Supplementary heater			_
Off mode	P _{OFF}	0,014	kW	Rated heat output (*)	Psup	0,0	kW
Thermostat-off mode	P _{TO}	0,014	kW			-	
Standby mode	P _{SB}	0,014	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,000	kW				
Other items	CA	0,000					
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/53	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	2701	kWh	flow rate, outdoor heat exchanger			-,
For heat pump combination hea	iter:						
Declared load profile	L	Efficiency class	NA	Water heating energy efficiency	η_{wh}	67	%
Daily electricity consumption	Qelec	6,958	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1531	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the product great importance t	t's life cycle, it m that the product	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel s'r refrigerant, compressor oil and electrical/elec hold waste is not permitted.	er offering a ser	vice of that type	e. It is of
Contact details E			11 Sec 1	+46 372 88000 www.ctc.se			180705

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

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 610N	1 400V + EcoZenith i250		
Air-to-water heat pump:	Yes	Energy efficiency class:		-
Water-to-water heat pump:	No	Controller class:	VI	-
Brine-to-water heat pump:	No	Controller contribution:	4	%
Low-temperature heat pump:	No	Package efficiency:	193	%
Equipped with a supplementary heater:	Yes	Package efficiency class:		-
Heat pump combination heater:	Yes			

ltem	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	7	kW	Seasonal space heating energy efficiency	η _s	189	%
Declared capacity for heating for and outdoor temperature T j	or part load at ir	ndoor temperat	ure 20 °C	Declared coefficient of performa part load at indoor temperature			
T j = – 7 °C	Pdh	na	kW	T j = – 7 °C	COPd	na	- 1
T j = + 2 °C	Pdh	6,3	kW	T j = +2 °C	COPd	2,76	-
T j = + 7 °C	Pdh	4,3	kW	T j = +7 °C	COPd	4,82	- 1
T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	5,73	-
T j = bivalent temperature	Pdh	6,3	kW	T j = bivalent temperature	COPd	2,76	-
T j = operation limit temperature	Pdh	6,3	kW	T j = operation limit temperature	COPd	2,76	-
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	na	-
Bivalent temperature	T _{biv}	2	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient	Cdh	0,98	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes o	other than active	e mode		Supplementary heater			-
Off mode	P _{OFF}	0,014	kW	Rated heat output (*)	Psup	0,0	kW
Thermostat-off mode	P _{TO}	0,014	kW				
Standby mode	P _{SB}	0,014	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,000	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/53	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	1814	kWh	flow rate, outdoor heat exchanger			,
For heat pump combination hea	ater:						
Declared load profile	L	Efficiency class	NA	Water heating energy efficiency	η_{wh}	67	%
Daily electricity consumption	Qelec	6,958	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1531	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the product great importance f	t's life cycle, it m that the product	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel t's refrigerant, compressor oil and electrical/elec hold waste is not permitted.	ler offering a ser	vice of that type	e. It is of
Contact details E	Enertech AB, Bo	x 309, SE-341 26		•			180705

Information for heat pump space heaters and heat pump combination heaters Average climate and Medium temperature

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 610N	1 400V + EcoZenith i250		
Air-to-water heat pump:	Yes	Energy efficiency class:	A+	-
Water-to-water heat pump:	No	Controller class:	VI	-
Brine-to-water heat pump:	No	Controller contribution:	4	%
Low-temperature heat pump:	No	Package efficiency:	123	%
Equipped with a supplementary heater:	Yes	Package efficiency class:	A+	-
Heat pump combination heater:	Yes			

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	7	kW	Seasonal space heating energy efficiency	η _s	119	%
Declared capacity for heating for and outdoor temperature T j	or part load at in	door temperat	ure 20 °C	Declared coefficient of performa part load at indoor temperature			
T j = – 7 °C	Pdh	4,9	kW	T j = – 7 °C	COPd	1,66	-
T j = + 2 °C	Pdh	3,2	kW	T j = +2 °C	COPd	3,35	-
T j = + 7 °C	Pdh	2,3	kW	T j = +7 °C	COPd	4,49	-
T j = + 12 °C	Pdh	2,8	kW	T j = +12 °C	COPd	5,77	-
T j = bivalent temperature	Pdh	4,9	kW	T j = bivalent temperature	COPd	1,66	-
T j = operation limit temperature	Pdh	4,3	kW	T j = operation limit temperature	COPd	1,42] -
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	na	-
Bivalent temperature	T _{biv}	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient	Cdh	0,98	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes of	other than active	mode		Supplementary heater			_
Off mode	P _{OFF}	0,014	kW	Rated heat output (*)	Psup	2,3	kW
Thermostat-off mode	Р _{то}	0,014	kW				
Standby mode	P _{SB}	0,014	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{ск}	0,000	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors	L _{WA}	na/53	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	4483	kWh	flow rate, outdoor heat exchanger			-,
For heat pump combination hea	ater:						
Declared load profile	L	Efficiency class	В	Water heating energy efficiency	η_{wh}	53	%
Daily electricity consumption	Qelec	8,570	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1885	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the produc great importance	t's life cycle, it m that the product	at a recycling station or with the installation en ust be sent correctly to a waste station or resel 's refrigerant, compressor oil and electrical/elec nold waste is not permitted.	ler offering a ser	vice of that type	e. It is of
Contact details E	Enertech AB, Box	309, SE-341 20	6 Ljungby Tel	+46 372 88000 www.ctc.se			180705

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





Model(s):	CTC EcoAir 610N	1 400V + EcoZenith i250		
Air-to-water heat pump:	Yes	Energy efficiency class:	A++	-
Water-to-water heat pump:	No	Controller class:	VI	-
Brine-to-water heat pump:	No	Controller contribution:	4	%
Low-temperature heat pump:	No	Package efficiency:	165	%
Equipped with a supplementary heater:	Yes	Package efficiency class:	A++	-
Heat pump combination heater:	Yes			

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	6	kW	Seasonal space heating energy efficiency	η _s	161	%
Declared capacity for heating fo and outdoor temperature T j	or part load at i	ndoor temperati	ure 20 °C	Declared coefficient of performat part load at indoor temperature 2			
T j = – 7 °C	Pdh	5,4	kW	T j = – 7 °C	COPd	2,53] -
T j = + 2 °C	Pdh	3,4	kW	T j = +2 °C	COPd	4,38	-
T j = + 7 °C	Pdh	2,4	kW	T j = +7 °C	COPd	5,00	-
T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	6,27	- 1
T j = bivalent temperature	Pdh	5,6	kW	T j = bivalent temperature	COPd	2,21	-
T j = operation limit temperature	Pdh	5,4	kW	T j = operation limit temperature	COPd	2,14	-
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	na	-
Bivalent temperature	T _{biv}	-9	°C	For air-to-water heat pumps: Operation limit temperature	TOL	0	°C
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	- [
Degradation co-efficient	Cdh	0,98	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes of	ther than activ	e mode		Supplementary heater			
Off mode	P _{OFF}	0,014	kW	Rated heat output (*)	Psup	0,6	kW
Thermostat-off mode	Р _{то}	0,014	kW				
Standby mode	P _{SB}	0,014	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{СК}	0,000	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/53	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	3022	kWh	flow rate, outdoor heat exchanger			-,
For heat pump combination hea	ater:						
Declared load profile	L	Efficiency class	В	Water heating energy efficiency	η_{wh}	53	%
Daily electricity consumption	Qelec	8,570	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1885	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the product great importance t	's life cycle, it m hat the product	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel 's refrigerant, compressor oil and electrical/elec hold waste is not permitted.	ler offering a ser	vice of that type	e. It is of
Contact details E	nertech AB. Bo			+46 372 88000 www.ctc.se			180705

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





Model(s):	CTC EcoAir 610N	1 400V + EcoZenith i250			
Air-to-water heat pump:	Yes	Energy efficiency class:		-	
Water-to-water heat pump:	No	Controller class:	VI	-	
Brine-to-water heat pump:	No	Controller contribution:	4	%	
Low-temperature heat pump:	No	Package efficiency:	93	%	
Equipped with a supplementary heater:	Yes	Package efficiency class:		-	
Heat pump combination heater:	Yes				

Rated heat output (*)		1					1
	Prated	7	kW	Seasonal space heating energy efficiency	n _s	89	%
Declared capacity for heating for and outdoor temperature T j	r part load at i	ndoor temperatu	ure 20 °C	Declared coefficient of performan part load at indoor temperature 2			
T j = − 7 °C	Pdh	3,4	kW	T j = – 7 °C	COPd	2,17	7 -
T j = + 2 °C	Pdh	2,1	kW	T j = +2 °C	COPd	3,61	- 1
T j = + 7 °C	Pdh	2,3	kW	T j = +7 °C	COPd	4,70	-
T j = + 12 °C	Pdh	2,8	kW	T j = +12 °C	COPd	5,94	-
T j = bivalent temperature	Pdh	4,0	kW	T j = bivalent temperature	COPd	1,50	-
T j = operation limit temperature	Pdh	2,8	kW	T j = operation limit temperature	COPd	0,95	-
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	3,7	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	1,36	-
Bivalent temperature	T _{biv}	-13	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient	Cdh	0,98	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes ot	her than activ	re mode		Supplementary heater			
Off mode	P _{OFF}	0,014	kW	Rated heat output (*)	Psup	3,7	kW
Thermostat-off mode	Р _{то}	0,014	kW				
Standby mode	P _{SB}	0,014	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{ск}	0,000	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
Sound power level, indoors/ outdoors	L _{WA}	na/53	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	6980	kWh	flow rate, outdoor heat exchanger			-,
For heat pump combination heat	ter:						
Declared load profile	L	Efficiency class	NA	Water heating energy efficiency	η_{wh}	47	%
Daily electricity consumption	Qelec	9,856	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	2168	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the product great importance t	's life cycle, it n hat the product	at a recycling station or with the installation eng nust be sent correctly to a waste station or resell t's refrigerant, compressor oil and electrical/elec hold waste is not permitted.	er offering a ser	vice of that type	e. It is of
Contact details Er	nertech AB, Bo	ox 309, SE-341 26		•			180705

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

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 610N	1 400V + EcoZenith i250		
Air-to-water heat pump:	Yes	Energy efficiency class:		-
Water-to-water heat pump:	No	Controller class:	VI	-
Brine-to-water heat pump:	No	Controller contribution:	4	%
Low-temperature heat pump:	No	Package efficiency:	138	%
Equipped with a supplementary heater:	Yes	Package efficiency class:		-
Heat pump combination heater:	Yes			

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	7	kW	Seasonal space heating energy efficiency	η _s	134	%
Declared capacity for heating fo and outdoor temperature T j	or part load at i	ndoor temperat	ure 20 °C	Declared coefficient of performa part load at indoor temperature			
T j = – 7 °C	Pdh	4,1	kW	T j = – 7 °C	COPd	3,01	- 1
T j = + 2 °C	Pdh	2,3	kW	T j = +2 °C	COPd	4,33	-
T j = + 7 °C	Pdh	2,4	kW	T j = +7 °C	COPd	5,15	- 1
T j = + 12 °C	Pdh	2,9	kW	T j = +12 °C	COPd	6,15	-
T j = bivalent temperature	Pdh	4,8	kW	T j = bivalent temperature	COPd	2,06	-
T j = operation limit temperature	Pdh	3,6	kW	T j = operation limit temperature	COPd	1,51	-
For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	Pdh	4,7	kW	For air-to-water heat pumps: T j = – 15 °C (if TOL < – 20 °C)	COPd	1,99	-
Bivalent temperature	T _{biv}	-14	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na] -
Degradation co-efficient	Cdh	0,98	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes o	other than activ	e mode		Supplementary heater			-
Off mode	P _{OFF}	0,014	kW	Rated heat output (*)	Psup	2,9	kW
Thermostat-off mode	Р _{то}	0,014	kW				
Standby mode	P _{SB}	0,014	kW	Type of energy input		Electric	
Crankcase heater mode	Р _{ск}	0,000	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6200	m3/h
L Sound power level, indoors/ outdoors	L _{WA}	na/5	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/h
Annual energy consumption	Q _{HE}	4759	kWh	flow rate, outdoor heat exchanger			,
For heat pump combination hea	ater:						
Declared load profile	L	Efficiency class	NA	Water heating energy efficiency	η_{wh}	47	%
Daily electricity consumption	Q_{elec}	9,856	kWh	Daily fuel consumption	\mathbf{Q}_{fuel}	NA	kWh
Annual electricity consumption	AEC	2168	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the product great importance t	t's life cycle, it m that the product	at a recycling station or with the installation eng nust be sent correctly to a waste station or resel 's refrigerant, compressor oil and electrical/elec hold waste is not permitted.	ler offering a ser	vice of that type	e. It is of
Contact details	Enertech AB, Bo	x 309, SE-341 26					180705