Warm climate and Medium temperature

Enertech AB 341 26 Ljungby



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

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

12 indoor temperate na 10,9 11,3 11,7 11,0 10,9 na 3	kW kW kW kW kW kW	Seasonal space heating energy efficiency Declared coefficient of performa part load at indoor temperature T j = -7 °C T j = +2 °C T j = +7 °C T j = +12 °C T j = bivalent temperature T j = operation limit temperature For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C) For air-to-water heat pumps:	•		
na 10,9 11,3 11,7 11,0 10,9	kW kW kW kW kW	part load at indoor temperature T j = -7 °C T j = +2 °C T j = +7 °C T j = +12 °C T j = bivalent temperature T j = operation limit temperature For air-to-water heat pumps: T j = - 15 °C (if TOL < - 20 °C)	20 °C and our COPd COPd COPd COPd COPd COPd	na 2,81 3,14 3,72 2,90 2,81	
10,9 11,3 11,7 11,0 10,9	kW kW kW kW kW	Tj = +2 °C Tj = +7 °C Tj = +12 °C Tj = bivalent temperature Tj = operation limit temperature For air-to-water heat pumps: Tj = -15 °C (if $TOL < -20 °C$)	COPd COPd COPd COPd	2,81 3,14 3,72 2,90 2,81	-
11,3 11,7 11,0 10,9 na	kW kW kW kW	T j = +7 °C T j = +12 °C T j = bivalent temperature T j = operation limit temperature For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd COPd COPd COPd	3,14 3,72 2,90 2,81	-
11,7 11,0 10,9 na	kW kW kW	T j = +12 °C T j = bivalent temperature T j = operation limit temperature For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd COPd COPd	3,72 2,90 2,81	-
11,0 10,9 na	kW kW kW	T j = bivalent temperature T j = operation limit temperature For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd COPd	2,90	-
10,9 na	kW kW	T j = operation limit temperature For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	2,81	-
na 3	kW	temperature For air-to-water heat pumps: $T j = -15 ^{\circ}\text{C}$ (if $TOL < -20 ^{\circ}\text{C}$)			-
3	-	T j = -15 °C (if TOL < -20 °C)	COPd	na	
	°C	For air-to-water heat numps:			-
na		Operation limit temperature	TOL	na	°C
	kW	Cycling interval efficiency	СОРсус	na	-
0,99	-	Heating water operating limit temperature	WTOL	65	°C
ive mode	_	Supplementary heater			
0,018	kW	Rated heat output	Psup	1,3	kW
0,034	kW				
0,018	kW	Type of energy input		Electric	
0,000	kW				
· · · · · · · · · · · · · · · · · · ·					
Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
50/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
4905	kWh	flow rate, outdoor heat exchanger	-	2,1	m3/h
L/A		Water heating energy efficiency	η_{wh}	86	%
5,434	kWh	Daily fuel consumption	Qfuel	na	kWh
1195	kWh	Annual fuel consumption	AFC	na	GJ
	50/na 4905 L / A 5,434 1195 The packaging mu:	50/na	Fixed Rated air flow rate, outdoors For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger L/A Water heating energy efficiency Daily fuel consumption The packaging must be deposited at a recycling station or with the installation enginend of the product's life cycle, it must be sent correctly to a waste station or reseller	Fixed Rated air flow rate, outdoors For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger L/A Water heating energy efficiency 5,434 kWh Daily fuel consumption Qfuel 1195 kWh Annual fuel consumption AFC The packaging must be deposited at a recycling station or with the installation engineer for correct water flow rate, outdoors For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoors Powhater heating energy efficiency Afc	Fixed Rated air flow rate, outdoors For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger L / A Water heating energy efficiency Daily fuel consumption Qfuel na

of the product as household waste is not permitted.

Warm climate and Low temperature

Enertech AB 341 26 Ljungby



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

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

parameters shall be declared for Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13	kW	Seasonal space heating energy efficiency	η_{s}	150	%
Declared capacity for heating foutdoor temperature T j	or part load at in	door temperatu	re 20 °C and	Declared coefficient of performal part load at indoor temperature 2			
T j = - 7 °C	Pdh	na	kW	T j = - 7 °C	COPd	na] -
T j = + 2 °C	Pdh	11,9	kW	T j = +2 °C	COPd	4,11	-
T j = + 7 °C	Pdh	12,0	kW	T j = +7 °C	COPd	4,30	-
T j = + 12 °C	Pdh	12,1	kW	T j = +12 °C	COPd	4,54	-
T j = bivalent temperature	Pdh	11,9	kW	T j = bivalent temperature	COPd	4,17	-
T j = operation limit temperature	Pdh	11,9	kW	T j = operation limit temperature	COPd	4,11	-
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}	3	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	P cych	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient	Cdh	0,95	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes	other than active	mode	_	Supplementary heater			_
Off mode	P OFF	0,018	kW	Rated heat output	Psup	0,9	kW
Thermostat-off mode	P _{TO}	0,110	kW				
Standby mode	P _{SB}	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,000	kW				
Other items							
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	L _{WA}	50/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	4331	kWh	flow rate, outdoor heat exchanger	-	2,6	m3/h
For heat pump combination he	eater:	•	-	· · · · · · · · · · · · · · · · · · ·		-	-
Declared load profile /		L/A		Water heating energy	$\eta_{\sf wh}$	86	%
Energy efficiency class		-/ ^	1	efficiency	· iwn	30	
Daily electricity consumption	Qelec	5,434	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	1195	kWh	Annual fuel consumption	AFC	na	GJ
Specific precautions and end of life information:		end of the product	's life cycle, it mus e product's refrige	a recycling station or with the installation engine t be sent correctly to a waste station or reseller rant, compressor oil and electrical/electronic ed not permitted.	offering a servi	ce of that type. t	is of great

Average climate and Medium temperature

Enertech AB 341 26 Ljungby



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

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13	kW	Seasonal space heating energy efficiency	η_s	123	%
Declared capacity for heating fo outdoor temperature T j	or part load at in	door temperatu	ire 20 °C and	Declared coefficient of performar part load at indoor temperature 2			
T j = - 7 °C	Pdh	11,1	kW	T j = - 7 °C	COPd	2,97] -
T j = + 2 °C	Pdh	11,5	kW	T j = +2 °C	COPd	3,32] -
T j = + 7 °C	Pdh	11,6	kW	T j = +7 °C	COPd	3,63	-
T j = + 12 °C	Pdh	11,8	kW	T j = +12 °C	COPd	3,94	-
T j = bivalent temperature	Pdh	11,2	kW	T j = bivalent temperature	COPd	3,02	-
T j = operation limit temperature	Pdh	10,9	kW	T j = operation limit temperature	COPd	2,81	-
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}	-6	°c	For air-to-water heat pumps: Operation limit temperature	TOL	na	°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	65	°C
Power consumption in modes o	other than active	mode	_	Supplementary heater			=
Off mode	P OFF	0,018	kW	Rated heat output	Psup	2,2	kW
Thermostat-off mode	P _{TO}	0,034	kW				
Standby mode	P_{SB}	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,000	kW				
Other items		•	•				
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	L _{WA}	50/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	8476	kWh	flow rate, outdoor heat exchanger	-	2,1	m3/h
For heat pump combination he	ater:			-			
Declared load profile / Energy efficiency class		L/A		Water heating energy efficiency	$\eta_{\sf wh}$	86	%
Daily electricity consumption	Qelec	5,434	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	1195	kWh	Annual fuel consumption	AFC	na	GJ
Specific precautions and end		end of the product	's life cycle, it mus	e recycling station or with the installation engine t be sent correctly to a waste station or reseller	offering a servi	ice of that type. t	is of great

of life information:

of the product as household waste is not permitted.

 $importance\ that\ the\ product's\ refrigerant,\ compressor\ oil\ and\ electrical/electronic\ equipment\ are\ properly\ disposed\ of.\ Disposing\ properly\ disposed\ properly\ disposed\ of.\ Disposing\ properly\ disposed\ of.\ Disposing\ properly\ disposed\ properly\ prope$

Average climate and Low temperature

Enertech AB 341 26 Ljungby



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

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	14	kW	Seasonal space heating energy efficiency	η_{s}	155	%
Declared capacity for heating for outdoor temperature T j	or part load at ir	idoor temperatu	ıre 20 °C and	Declared coefficient of performar part load at indoor temperature 2			
T j = -7 °C	Pdh	11,9	kW	T j = - 7 °C	COPd	4,19] -
T j = + 2 °C	Pdh	12,0	kW	T j = +2 °C	COPd	4,36] -
T j = + 7 °C	Pdh	12,1	kW	T j = +7 °C	COPd	4,50	-
T j = + 12 °C	Pdh	12,2	kW	T j = +12 °C	COPd	4,64	-
T j = bivalent temperature	Pdh	11,9	kW	T j = bivalent temperature	COPd	4,21	-
T j = operation limit temperature	Pdh	11,9	kW	T j = operation limit temperature	COPd	4,11	-
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}	-6	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient	Cdh	0,95	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes of	ther than active	mode	ļ	Supplementary heater			•
Off mode	P OFF	0,018	kW	Rated heat output	Psup	2,2	kW
Thermostat-off mode	P _{TO}	0,110	kW				
Standby mode	P _{SB}	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,000	kW				
Other items							
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	L _{WA}	50/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	7153	kWh	flow rate, outdoor heat exchanger	-	2,6	m3/h
For heat pump combination hea	ater:						
Declared load profile /		L/A		Water heating energy	$\eta_{\sf wh}$	86	%
Energy efficiency class		-/ -	1	efficiency	' Iwh	30	
Daily electricity consumption	Qelec	5,434	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	1195	kWh	Annual fuel consumption	AFC	na	GJ
Specific precautions and end of life information:		end of the product	s's life cycle, it mus ne product's refrige	a recycling station or with the installation engine t be sent correctly to a waste station or reseller rant, compressor oil and electrical/electronic ec	offering a servic	e of that type. t	is of great

of the product as household waste is not permitted.

Cold climate and Medium temperature

Enertech AB 341 26 Ljungby



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

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13	kW	Seasonal space heating energy efficiency	η_{s}	125	%
Declared capacity for heating fo	r part load at in	door temperatu	re 20 °C and	Declared coefficient of performan			
outdoor temperature T j				part load at indoor temperature 2	20 °C and out	tdoor tempe	rature T
T j = -7 °C	Pdh	11,4	kW	T j = - 7 °C	COPd	3,24] -
T j = + 2 °C	Pdh	11,6	kW	T j = +2 °C	COPd	3,56	1 -
T j = + 7 °C	Pdh	11,8	kW	T j = +7 °C	COPd	3,85	1 -
T j = + 12 °C	Pdh	11,9	kW	T j = +12 °C	COPd	4,06] -
T j = bivalent temperature	Pdh	11,1	kW	T j = bivalent temperature	COPd	3,00	-
T j = operation limit	Ddh	10.0	kW	T j = operation limit	CODA	2.01	1
temperature	Pdh	10,9	KVV	temperature	COPd	2,81	↓ ⁻
For air-to-water heat pumps:	Pdh	-	kW	For air-to-water heat pumps:	COPd	20	
T j = -15 °C (if TOL < -20 °C)	Pull	na	KVV	T j = - 15 °C (if TOL < - 20 °C)	COPu	na	_
			1	For air-to-water heat pumps:			1
Bivalent temperature	T _{biv}	-17	°C	Operation limit temperature	TOL	na	°C
Cycling interval capacity for			134/	Cualina internal officiones	CODeve		1
heating	P _{cych}	na	kW	Cycling interval efficiency	COPcyc	na	<u> </u>
Degradation co-efficient	Cdh	0,98	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes o	ther than active	mode		Supplementary heater			•
Off mode	P OFF	0,018	kW	Rated heat output	Psup	1,9	kW
Thermostat-off mode	P _{TO}	0,034	kW				
Standby mode	P _{SB}	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,000	kW				
Other items							_
Compaitures		Fived		For air-to-water heat pumps:			
Capacity control		Fixed		Rated air flow rate, outdoors	-	na	m3/
Sound power level, indoors/	1	50/na	dB	For water-/brine-to-water heat			1
outdoors	L _{WA}	30/11d	l ub	pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	9526	kWh	flow rate, outdoor heat exchanger	-	2,1	m3/
For heat pump combination hea	ater:	•	•	· •			
Declared load profile /		L/A		Water heating energy	$\eta_{\sf wh}$	86	%
Energy efficiency class		- / A	ī	efficiency	' Iwn		. ~
Daily electricity consumption	Qelec	5,434	kWh	Daily fuel consumption	Qfuel	na	kW
Annual electricity	AEC	1195	kWh	Annual fuel consumption	AFC	na	GJ
consumption	,,,,,	1100	I. AAII	, imidai raci consumption	~ı C	iia	1

of the product as household waste is not permitted.

Cold climate and Low temperature 34



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

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13	kW	Seasonal space heating energy efficiency	η_{s}	156	%
Declared capacity for heating for outdoor temperature T j	or part load at in	idoor temperati	ure 20 °C and	Declared coefficient of performal part load at indoor temperature 2			
T j = - 7 °C	Pdh	12,0	kW	T j = - 7 °C	COPd	4,37] -
T j = + 2 °C	Pdh	12,1	kW	T j = +2 °C	COPd	4,50	1 -
T j = + 7 °C	Pdh	12,1	kW	T j = +7 °C	COPd	4,60	1 -
T j = + 12 °C	Pdh	12,2	kW	T j = +12 °C	COPd	4,62] -
T j = bivalent temperature	Pdh	11,9	kW	T j = bivalent temperature	COPd	4,21	-
T j = operation limit temperature	Pdh	11,9	kW	T j = operation limit temperature	COPd	4,11] -
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}	-18	°C	For air-to-water heat pumps: Operation limit temperature	TOL	na	°C
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient	Cdh	0,95	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes of	ther than active	mode	•	Supplementary heater		•	•
Off mode	P OFF	0,018	kW	Rated heat output	Psup	1,5	kW
Thermostat-off mode	P _{TO}	0,110	kW				
Standby mode	P _{SB}	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,000	kW				
Other items		1					
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	na	m3/h
Sound power level, indoors/ outdoors	L _{WA}	50/na	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	8028	kWh	flow rate, outdoor heat exchanger	-	2,6	m3/h
For heat pump combination he	ater:						
Declared load profile / Energy efficiency class		L/A		Water heating energy efficiency	$\eta_{\sf wh}$	86	%
Daily electricity consumption	Qelec	5,434	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	1195	kWh	Annual fuel consumption	AFC	na	Gì
Specific precautions and end			•	a recycling station or with the installation engine t be sent correctly to a waste station or reseller		J	

Specific precautions and end of life information:

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