Warm climate and Medium temperature

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 406 +			
Air-to-water heat pump:	Yes	Energy efficiency class:		-
Water-to-water heat pump:	No	Controller class:	VII	-
Brine-to-water heat pump:	No	Controller contribution:	3,5	%
Low-temperature heat pump:	No	Package efficiency:	144	%
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	5	kW	Seasonal space heating energy efficiency	$\eta_s$	140	%
Declared capacity for heating for and outdoor temperature T j	or part load at i	ndoor temperat	cure 20 °C	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	4,3	kW	T j = +2 °C	COPd	2,43	1 -
T j = + 7 °C	Pdh	5,7	kW	T j = +7 °C	COPd	3,39	-
T j = + 12 °C	Pdh	7,5	kW	T j = +12 °C	COPd	4,80	-
T j = bivalent temperature	Pdh	4,5	kW	T j = bivalent temperature	COPd	2,69	-
T j = operation limit temperature	Pdh	4,3	kW	T j = operation limit temperature	COPd	2,50	-
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 <sub>biv</sub>	4	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P <sub>cych</sub>	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 o	ther than activ	e mode		Supplementary heater			_
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	0,9	kW
Thermostat-off mode	P <sub>TO</sub>	0,006	kW				
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items				] [			
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	1947	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination hea	ater:						
Declared load profile/ Energy efficiency class		XL / A		Water heating energy efficiency	$\eta_{\sf wh}$	112	%
Daily electricity consumption	Qelec	6,835	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	1504	kWh	Annual fuel consumption	AFC	na	GJ
		•				170810	

Warm climate and Low temperature

**Enertech AB** 341 26 Ljungby



s: VII	-	
VIII		
VII	-	
n: <b>3,5</b>	%	
192	%	
ss:	-	
	ass:	

parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5	kW	Seasonal space heating energy efficiency	$\eta_{s}$	188	%
Declared capacity for heating for and outdoor temperature T j	or part load at in	ndoor tempera	ture 20 °C	Declared coefficient of performal part load at indoor temperature			
T j = - 7 °C	Pdh	na	kW	T j = -7 °C	COPd	na	] -
T j = + 2 °C	Pdh	4,7	kW	T j = +2 °C	COPd	3,66	] -
T j = + 7 °C	Pdh	6,3	kW	T j = +7 °C	COPd	4,96	-
T j = + 12 °C	Pdh	7,9	kW	T j = +12 °C	COPd	6,45	-
T j = bivalent temperature	Pdh	4,8	kW	T j = bivalent temperature	COPd	3,79	-
T j = operation limit temperature	Pdh	4,7	kW	T j = operation limit temperature	COPd	3,87	-
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 <sub>biv</sub>	3	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P <sub>cych</sub>	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient (**)	Cdh	0,97	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes of	ther than activ	e mode		Supplementary heater			_
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	0,5	kW
Thermostat-off mode	$P_{TO}$	0,019	kW				,
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items							
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	1451	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination hea	ater:			-			
Declared load profile/ Energy efficiency class		XL / A		Water heating energy efficiency	$\eta_{\sf wh}$	111,6	%
Daily electricity consumption	Qelec	6,835	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	1504	kWh	Annual fuel consumption	AFC	na	GJ
		•	•			170810	

Average climate and Medium temperature

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 406 + CTC EcoZenith i350/ i350F							
Air-to-water heat pump:	Yes	Energy efficiency class:	A+	-				
Water-to-water heat pump:	No	Controller class:	VII	-				
Brine-to-water heat pump:	No	Controller contribution:	3,5	%				
Low-temperature heat pump:	No	Package efficiency:	119	%				
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	5	kW	Seasonal space heating energy efficiency	$\eta_{s}$	115	%
Declared capacity for heating for and outdoor temperature T j	or part load at in	ndoor temperat	ture 20 °C	Declared coefficient of performal part load at indoor temperature 2	•		
T j = - 7 °C	Pdh	3,5	kW	T j = - 7 °C	COPd	2,13	-
T j = + 2 °C	Pdh	4,4	kW	T j = +2 °C	COPd	2,93	-
T j = + 7 °C	Pdh	6,0	kW	T j = +7 °C	COPd	3,99	-
T j = + 12 °C	Pdh	7,6	kW	T j = +12 °C	COPd	5,21	-
T j = bivalent temperature	Pdh	3,8	kW	T j = bivalent temperature	COPd	2,44	-
T j = operation limit temperature	Pdh	3,1	kW	T j = operation limit temperature	COPd	1,82	-
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 <sub>biv</sub>	-5	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P <sub>cych</sub>	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 active	e mode		Supplementary heater			
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	1,9	kW
Thermostat-off mode	$P_{TO}$	0,006	kW			•	,
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items		•		] [			_
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	3470	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination hea	ater:						
Declared load profile/ Energy efficiency class		XL / A		Water heating energy efficiency	$\eta_{\sf wh}$	98	%
Daily electricity consumption	Qelec	7,752	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	1705	kWh	Annual fuel consumption	AFC	na	GJ
		•				170810	

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

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 406 + CTC EcoZenith i350/ i350F							
Air-to-water heat pump:	Yes	Energy efficiency class:	A++	-				
Water-to-water heat pump:	No	Controller class:	VII	-				
Brine-to-water heat pump:	No	Controller contribution:	3,5	%				
Low-temperature heat pump:	No	Package efficiency:	155	%				
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	5	kW	Seasonal space heating energy efficiency	$\eta_{s}$	151	%
Declared capacity for heating for	or part load at in	ndoor temperat	ture 20 °C	Declared coefficient of performar	nce or prima	ry energy rat	io for
and outdoor temperature T j				part load at indoor temperature 2	20 °C and ou	tdoor tempe	rature T
T j = - 7 °C	Pdh	3,9	kW	T j = - 7 °C	COPd	3,16	-
T j = + 2 °C	Pdh	4,8	kW	T j = +2 °C	COPd	3,92	_
T j = + 7 °C	Pdh	6,4	kW	T j = +7 °C	COPd	5,25	] -
T j = + 12 °C	Pdh	7,9	kW	T j = +12 °C	COPd	6,66	-
T j = bivalent temperature	Pdh	4,1	kW	T j = bivalent temperature	COPd	3,35	-
T j = operation limit	Pdh	3,5	kW	T j = operation limit temperature	COPd	2,85	-
temperature				temperature			
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	-
1) 15 0 (11 102 1 20 0)							
	_	_		For air-to-water heat pumps:			
Bivalent temperature	T <sub>biv</sub>	-5	°C	Operation limit temperature	TOL	-10	°C
Cycling interval capacity for neating	P <sub>cych</sub>	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient (**)	Cdh	0,97	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes c	ther than activ	e mode		Supplementary heater			
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	1,6	kW
Thermostat-off mode	P <sub>TO</sub>	0,019	kW	Γ	-		•
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items							
Canacity control		Fixed		For air-to-water heat pumps:		4100	m3/l
Capacity control		TIACU		Rated air flow rate, outdoors	-	4100	1113/1
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	2722	kWh	flow rate, outdoor heat exchanger	-	na	m3/l
For heat pump combination hea	ater:	-		· · · · · · · · · · · · · · · · · · ·		-	-
Declared load profile/		XL / A		Water heating energy	n	98	%
Energy efficiency class		AL / A		efficiency	$\eta_{\sf wh}$	30	70
Daily electricity consumption	Qelec	7,752	kWh	Daily fuel consumption	Qfuel	na	kWl
Annual electricity consumption	AEC	1705	kWh	Annual fuel consumption	AFC	na	GJ
consumption						170810	Ь—

**Cold climate and Medium temperature** 

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 406 + CTC EcoZenith i350/ i350F							
Air-to-water heat pump:	Yes	Energy efficiency class:		-				
Water-to-water heat pump:	No	Controller class:	VII	-				
Brine-to-water heat pump:	No	Controller contribution:	3,5	%				
Low-temperature heat pump:	No	Package efficiency:	107	%				
Equipped with a supplementary heater:	Yes	Package efficiency class:		-				
Heat pump combination heater:	Yes							
Parameters shall be declared for medium-te	mperature application	on, except for low-temperature heat pump	s. For low- te	emperature heat pur	mps,			
parameters shall be declared for low-temper	rature application.							

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5	kW	Seasonal space heating energy efficiency	$\eta_{s}$	103	%
Declared capacity for heating fo and outdoor temperature T j	r part load at i	ndoor temperat	cure 20 °C	Declared coefficient of performal part load at indoor temperature 2			
T j = - 7 °C	Pdh	3,6	kW	T j = - 7 °C	COPd	2,49	] -
T j = + 2 °C	Pdh	4,5	kW	T j = +2 °C	COPd	3,22	] -
T j = + 7 °C	Pdh	6,1	kW	T j = +7 °C	COPd	4,34	] -
T j = + 12 °C	Pdh	7,6	kW	T j = +12 °C	COPd	5,44	-
T j = bivalent temperature	Pdh	3,4	kW	T j = bivalent temperature	COPd	2,37	-
T j = operation limit temperature	Pdh	1,7	kW	T j = operation limit temperature	COPd	1,67	-
For air-to-water heat pumps: T j = - 15 °C (if TOL < - 20 °C)	Pdh	2,6	kW	For air-to-water heat pumps: T j = - 15 °C (if TOL < - 20 °C)	COPd	1,76	-
Bivalent temperature	T <sub>biv</sub>	-9	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P <sub>cych</sub>	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	0,018	kW	Rated heat output (*)	Psup	3,5	kW
Thermostat-off mode	P <sub>TO</sub>	0,006	kW			,	
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items		•		]			
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	4785	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination hea	iter:			-			
Declared load profile/ Energy efficiency class		XL / A		Water heating energy efficiency	$\eta_{wh}$	89	%
Daily electricity consumption	Qelec	8,552	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	1881	kWh	Annual fuel consumption	AFC	na	GJ
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Enertech AB



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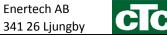
Cold climate and Low tem	perature				341 26 Ljur	ngby	
Model(s):		CTC EcoAir 40	06 + CTC Eco2	Zenith i350/ i350F			
Air-to-water heat pump:		Yes		Energy efficiency class:		-	
Water-to-water heat pump:		No		Controller class:	VII	-	
Brine-to-water heat pump:		No		Controller contribution:	3,5	%	
Low-temperature heat pump	:	No		Package efficiency:	135	%	
Equipped with a supplementa	ary heater:	Yes Package efficiency class: -					
Heat pump combination heat Parameters shall be declared parameters shall be declared	for medium-temp	• • • • • • • • • • • • • • • • • • • •		for low-temperature heat pumps. F	or low- tempe	erature heat	pumps,
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4	kW	Seasonal space heating energy efficiency	n <sub>s</sub>	131	%
Declared capacity for heating and outdoor temperature T j	for part load at in	door tempera	ture 20 °C	Declared coefficient of perform part load at indoor temperature	•	, ,,	
T j = -7 °C	Pdh	4,0	kW	T j = -7 °C	COPd	3,34	7 -
T j = + 2 °C	Pdh	4,9	kW	T j = +2 °C	COPd	4,07	] -
			1	I I			

				efficiency	'3		
Declared capacity for heating and outdoor temperature T j	for part load at ii	ndoor tempera	ture 20 °C	Declared coefficient of performa part load at indoor temperature			
T j = -7 °C	Pdh	4,0	kW	T j = - 7 °C	COPd	3,34	] -
T j = + 2 °C	Pdh	4,9	kW	T j = +2 °C	COPd	4,07	1 -
T j = + 7 °C	Pdh	6,4	kW	T j = +7 °C	COPd	5,40	-
T j = + 12 °C	Pdh	7,9	kW	T j = +12 °C	COPd	6,62	-
T j = bivalent temperature	Pdh	3,2	kW	T j = bivalent temperature	COPd	2,92	-
T j = operation limit temperature	Pdh	1,9	kW	T j = operation limit temperature	COPd	1,83	-
For air-to-water heat pumps: T j = $-15$ °C (if TOL < $-20$ °C)	Pdh	2,9	kW	For air-to-water heat pumps: T j = $-15$ °C (if TOL < $-20$ °C)	COPd	2,58	-
Bivalent temperature	T <sub>biv</sub>	-13	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P <sub>cych</sub>	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient (**)	Cdh	0,97	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes	other than activ	e <u>mode</u>	-	Supplementary heater			-
Off mode	P <sub>OFF</sub>	0,018	kW	Rated heat output (*)	Psup	2,2	kW
Thermostat-off mode	P <sub>TO</sub>	0,019	kW				
Standby mode	$P_{SB}$	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items		•					
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	3045	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	eater:		•				
Declared load profile/		XL / A		Water heating energy	$\eta_{\scriptscriptstyle \sf wh}$	89	%
Energy efficiency class		T T	I	efficiency	' Iwh		/0
Daily electricity consumption	Qelec	8,552	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	1881	kWh	Annual fuel consumption	AFC	na	GJ
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<sup>(\*)</sup> For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Warm climate and Medium temperature





Model(s):	CTC EcoAir 406 +	CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:		-
Water-to-water heat pump:	No	Controller class:	VII	-
Brine-to-water heat pump:	No	Controller contribution:	3,5	%
Low-temperature heat pump:	No	Package efficiency:	144	%
Equipped with a supplementary heater:	No	Package efficiency class:		-
Heat pump combination heater:	No			
Parameters shall be declared for medium-te	emperature applicatio	n, except for low-temperature heat pump	s. For low- te	emperature heat pumps,

parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5	kW	Seasonal space heating energy efficiency	n <sub>s</sub>	140	%
Declared capacity for heating f and outdoor temperature T j	or part load at in	door tempera	ture 20 °C	Declared coefficient of performal part load at indoor temperature			
T j = -7 °C	Pdh	na	kW	T j = - 7 °C	COPd	na	] -
T j = + 2 °C	Pdh	4,3	kW	T j = +2 °C	COPd	2,43	-
T j = + 7 °C	Pdh	5,7	kW	T j = +7 °C	COPd	3,39	-
T j = + 12 °C	Pdh	7,5	kW	T j = +12 °C	COPd	4,80	-
T j = bivalent temperature	Pdh	4,5	kW	T j = bivalent temperature	COPd	2,69	-
T j = operation limit temperature	Pdh	4,3	kW	T j = operation limit temperature	COPd	2,50	-
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 <sub>biv</sub>	4	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P <sub>cych</sub>	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	other than active	mode	_	Supplementary heater			
Off mode	P <sub>OFF</sub>	0,018	kW	Rated heat output (*)	Psup	0,9	kW
Thermostat-off mode	P <sub>TO</sub>	0,006	kW				
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items		•	•				
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	1947	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	eater:	<u> </u>					
Declared load profile		na		Water heating energy efficiency	$\eta_{wh}$	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ

Contact details

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<sup>(\*)</sup> For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

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CTC EcoAir 406 +	CTC EcoLogic		
Yes	Energy efficiency class:		-
No	Controller class:	VII	-
No	Controller contribution:	3,5	%
No	Package efficiency:	192	%
No	Package efficiency class:		-
No			
nperature applicatio	n, except for low-temperature heat pump	s. For low- te	emperature heat pumps,
	Yes No No No No No No	No Controller class:  No Controller contribution:  No Package efficiency:  No Package efficiency class:  No Package efficiency class:	Yes Energy efficiency class:  No Controller class: VII  No Controller contribution: 3,5  No Package efficiency: 192  No Package efficiency class:  No Package efficiency class:

parameters shall be declared for low-temperature application.

Rated heat output (*)   Protect      Seasonal space heating energy   $n_{ S }$   Seasonal space heating energy	Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
and outdoor temperature $T_j$ $T_j = -7^*C \qquad Pdh \qquad na \\ T_j = +2^*C \qquad Pdh \qquad 4,7 \\ T_j = +7^*C \qquad Pdh \qquad 4,7 \\ T_j = +7^*C \qquad Pdh \qquad 4,7 \\ T_j = +7^*C \qquad Pdh \qquad 4,8 \\ T_j = +7^*C \qquad COPd \qquad 3,66 \\ T_j = +12^*C \qquad COPd \qquad 4,96 \\ T_j = +7^*C \qquad COPd \qquad 4,96 \\ T_j = +12^*C \qquad COPd \qquad 4,96 \\ T_j = -15^*C \qquad COPd \qquad 4,96 \\ T_j = -15^*C \qquad COPd \qquad 4,96 \\ T_j = -15^*C \qquad COPd \qquad 3,79 \\ T_j = 0$ $T_j = 0$	Rated heat output (*)	Prated	5	kW		$\eta_{s}$	188	%
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		for part load at in	door tempera	ture 20 °C				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	T j = - 7 °C	Pdh	na	kW	T j = - 7 °C	COPd	na	-
T j = +12 °C	-	Pdh	4,7	kW	T j = +2 °C	COPd	3,66	-
T j = bivalent temperature  Pdh 4,8 kW T j = operation limit temperature  Pdh 4,7 kW T j = operation limit temperature  For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C) Pdh na kW T j = operation limit temperature  For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)  Rivalent temperature  T biv T j = -15 °C (if TOL < -20 °C)  Cycling interval capacity for heating interval capacity for heating P oych Na kW Cycling interval efficiency P oych Na kW Cycling interval efficiency Cycling in	T j = + 7 °C	Pdh	6,3	kW	T j = +7 °C	COPd	4,96	-
T j = operation limit temperature  Podh 4,7 kW  T j = operation limit temperature  COPd 3,87  For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)  Podh  Ra kW  T j = -15 °C (if TOL < -20 °C)  Podh  Ra kW  Evaluating interval capacity for heating interval capacity for heating  Degradation co-efficient (**)  Codh  O,97  Power consumption in modes other than active mode  Off mode  Off mode  Porr  O,018  Rated heat output (*)  Posup  For air-to-water heat pumps: Operation limit temperature  TOL  Coperation limit temperature  ToL  P	T j = + 12 °C	Pdh	7,9	kW	T j = +12 °C	COPd	6,45	-
temperature  For air-to-water heat pumps: $T_j = -15  ^{\circ}C  (\text{if TOL} < -20  ^{\circ}C)$ Por air-to-water heat pumps: $T_j = -15  ^{\circ}C  (\text{if TOL} < -20  ^{\circ}C)$ Por air-to-water heat pumps: $T_j = -15  ^{\circ}C  (\text{if TOL} < -20  ^{\circ}C)$ Por air-to-water heat pumps: $T_j = -15  ^{\circ}C  (\text{if TOL} < -20  ^{\circ}C)$ Por air-to-water heat pumps:  Operation limit temperature  Tol.  2 $^{\circ}C$ Cycling interval capacity for heating  Peych  Na  RW  Cycling interval efficiency  CoPcyc  Na	T j = bivalent temperature	Pdh	4,8	kW	T j = bivalent temperature	COPd	3,79	-
T j = -15 °C (if TOL < -20 °C)  Bivalent temperature  T $_{biv}$ 3  °C  For air-to-water heat pumps: Operation limit temperature  T $_{biv}$ T j = -15 °C (if TOL < -20 °C)  For air-to-water heat pumps: Operation limit temperature  T $_{biv}$ T j = -15 °C (if TOL < -20 °C)  For air-to-water heat pumps: Operation limit temperature  T $_{biv}$ T j = -15 °C (if TOL < -20 °C)  For air-to-water heat pumps: Operation limit temperature  T $_{biv}$ T j = -15 °C (if TOL < -20 °C)  For air-to-water heat pumps: Operation limit temperature  T $_{biv}$ T j = -15 °C (if TOL < -20 °C)  T $_{biv}$ T j = -15 °C (if TOL < -20 °C)  T $_{biv}$ T j = -15 °C (if TOL < -20 °C)  T $_{biv}$ T $_{biv}$ T j = -15 °C (if TOL < -20 °C)  T $_{biv}$		Pdh	4,7	kW		COPd	3,87	-
Cycling interval capacity for heating  Degradation co-efficient (**)  Degradation co-efficient (**)  Cycling interval capacity for heating  Degradation co-efficient (**)  Cycling interval efficiency  Cycling interval ef		Pdh	na	kW		COPd	na	-
heating  Degradation co-efficient (**)  Cdh  O,97   Power consumption in modes other than active mode  Off mode  Off mode  Poff  O,018  KW  Thermostat-off mode  Standby mode  Crankcase heater mode  Other items  Capacity control  Fixed  Fixed  For air-to-water heat pumps: Rated air flow rate, outdoors  Annual energy consumption  QHE  To heat pump combination heater:  Declared load profile  Na  Rec.  Na  Rec.  Na  Rec.  Na  Rev.  Loveling interval efficiency  Heating water operating limit temperature  Supplementary heater  Supplementary heater  Supplementary heater  Rated heat output (*)  Psup  O,5  kW  Type of energy input  Electric  For air-to-water heat pumps: Rated air flow rate, outdoors  For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger  For heat pump combination heater:  Water heating energy  efficiency  Daily fuel consumption  Qfuel  Na  Appual fuel consumption  AFC  Na  AGC  ARC  Annual fuel consumption  AFC  Na  AFC  ARC  ARC  Annual fuel consumption  AFC  Na  AFC  ARC  ARC  ARC  ARC  ARC  ARC  ARC	Bivalent temperature	T <sub>biv</sub>	3	°C		TOL	2	°C
Power consumption in modes other than active mode  Off mode  Off mode  Off mode  Off mode  Off mode  Poff  O,018  NW  Thermostat-off mode  Poff  O,019  NW  Standby mode  Crankcase heater mode  Other items  Capacity control  Fixed  For air-to-water heat pumps: Rated air flow rate, outdoors  Annual energy consumption  OHE  OHE  OHE  OMBO  OHE  ONO  OHE  ONO  OHE  OHE  OHE  OH		P cych	na	kW	Cycling interval efficiency	СОРсус	na	-
Off mode	Degradation co-efficient (**)	Cdh	0,97	-	11	WTOL	55	°C
Thermostat-off mode $P_{TO}$ 0,019 $kW$ Standby mode $P_{SB}$ 0,018 $kW$ Crankcase heater mode $P_{CK}$ 0,000 $kW$ Other items  Capacity control Fixed For air-to-water heat pumps: Rated air flow rate, outdoors $P_{CK}$ 14100 $P$	Power consumption in modes	other than active	mode	_	Supplementary heater			
Standby mode  Crankcase heater mode  P SB  O,018  kW  Other items  Capacity control  Fixed  For air-to-water heat pumps: Rated air flow rate, outdoors  For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger  For heat pump combination heater:  Declared load profile  Daily electricity  AFC  Daily electricity  Type of energy input  Electric  For air-to-water heat pumps: Rated air flow rate, outdoors For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger  Type of energy input  Electric  Water heat pumps: AFC  Daily fuel consumption	Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	0,5	kW
Crankcase heater mode  P CK  O,000  kW  Other items  Capacity control  Fixed  For air-to-water heat pumps: Rated air flow rate, outdoors  For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger  For heat pump combination heater:  Declared load profile  na  Water heating energy efficiency  P CK  O,000  kW  For air-to-water heat pumps: Rated air flow rate, outdoors  For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger  P CK  ABC  Daily electricity consumption  ABC  Daily fuel consumption	Thermostat-off mode	P <sub>TO</sub>	0,019	kW				
Other items  Capacity control  Fixed  For air-to-water heat pumps: Rated air flow rate, outdoors  For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger  For heat pump combination heater:  Declared load profile  Daily electricity consumption  Qelec  Daily electricity  AFC  Daily	Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Capacity control  Fixed  For air-to-water heat pumps: Rated air flow rate, outdoors  For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat pumps: Rated brine or water flow rate, outdoor heat pumps: Rated brine or water flow rate, outdoor heat exchanger  For heat pump combination heater:  Declared load profile  na  Water heating energy efficiency  Daily electricity consumption  Qelec  na  kWh Annual electricity  AFC  na	Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Sound power level, indoors/ outdoors  Annual energy consumption  Declared load profile  Daily electricity consumption  Annual electricity  AFC  Rated air flow rate, outdoors  For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger  For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger  For heat pump combination heater:  Water heating energy efficiency  Daily fuel consumption  AFC  Daily electricity  AFC  Da	Other items				]			
outdoors  Annual energy consumption  QHE  1451  ANNUAL energy energy efficiency  Daily fuel consumption  AFC  Daily electricity  AFC  Daily electricity  AFC  Daily energy efficiency  AFC  Daily fuel consumption	Capacity control		Fixed			-	4100	m3/h
For heat pump combination heater:    Declared load profile		L <sub>WA</sub>	na/56	dB	pumps: Rated brine or water			
Declared load profile  na  Water heating energy efficiency  Daily electricity consumption  Qelec  na  kWh  Annual electricity  AFC  na  kWh  Annual fuel consumption  AFC  na  GI	Annual energy consumption	Q <sub>HE</sub>	1451	kWh		-	na	m3/h
Daily electricity  Annual electricity  AFC  Daily efficiency  AFC  Daily electricity  AFC  Daily electricity  AFC  Daily fuel consumption  AFC	For heat pump combination he	eater:						
Annual electricity  AFC  na  kWh  Annual fuel consumption  AFC  na  GI	Declared load profile		na			$\eta_{wh}$	na	%
AFC I na I kWh IAnnual fuel consumption AFC I na I GI	Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	na	kWh
	•	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ

Contact details

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<sup>(\*)</sup> For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Average climate and Medium temperature

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 406 + CTC EcoLogic						
Air-to-water heat pump:	Yes	Energy efficiency class:	A+	-			
Water-to-water heat pump:	No	Controller class:	VII	-			
Brine-to-water heat pump:	No	Controller contribution:	3,5	%			
Low-temperature heat pump:	No	Package efficiency:	119	%			
Equipped with a supplementary heater:	No	Package efficiency class:	A+	-			
Heat pump combination heater:	No						

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5	kW	Seasonal space heating energy efficiency	$\eta_{s}$	115	%
Declared capacity for heating f and outdoor temperature T j	or part load at in	door temperat	ture 20 °C	Declared coefficient of performa part load at indoor temperature			
T j = -7 °C	Pdh	3,5	kW	T j = - 7 °C	COPd	2,13	-
T j = + 2 °C	Pdh	4,4	kW	T j = +2 °C	COPd	2,93	-
T j = + 7 °C	Pdh	6,0	kW	T j = +7 °C	COPd	3,99	-
T j = + 12 °C	Pdh	7,6	kW	T j = +12 °C	COPd	5,21	-
T j = bivalent temperature	Pdh	3,8	kW	T j = bivalent temperature	COPd	2,44	-
T j = operation limit temperature	Pdh	3,1	kW	T j = operation limit temperature	COPd	1,82	-
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 <sub>biv</sub>	-5	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P <sub>cych</sub>	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	other than active	mode	-	Supplementary heater			-
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	1,9	kW
Thermostat-off mode	$P_{TO}$	0,006	kW				
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items				] [			_
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	3470	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	ater:						
Declared load profile		na		Water heating energy efficiency	$\eta_{wh}$	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	<b>Q</b> fuel	na	kWh
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ

Contact details

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<sup>(\*)</sup> For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Average climate and Low temperature

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 406 + CTC EcoLogic							
Air-to-water heat pump:	Yes	Energy efficiency class:	A++	-				
Water-to-water heat pump:	No	Controller class:	VII	-				
Brine-to-water heat pump:	No	Controller contribution:	3,5	%				
Low-temperature heat pump:	No	Package efficiency:	155	%				
Equipped with a supplementary heater:	No	Package efficiency class:	A++	-				
Heat pump combination heater:	No							
Parameters shall be declared for medium-te	mperature applicatio	n, except for low-temperature heat pump	s. For low- te	mperature heat pumps,				

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	5	kW	Seasonal space heating energy efficiency	$\eta_s$	151	%
Declared capacity for heating for and outdoor temperature T j	or part load at in	door temperat	ture 20 °C	Declared coefficient of performal part load at indoor temperature			
Tj=-7°C	Pdh	3,9	kW	T j = - 7 °C	COPd	3,16	] -
T j = + 2 °C	Pdh	4,8	kW	T j = +2 °C	COPd	3,92	-
T j = + 7 °C	Pdh	6,4	kW	T j = +7 °C	COPd	5,25	-
T j = + 12 °C	Pdh	7,9	kW	T j = +12 °C	COPd	6,66	-
T j = bivalent temperature	Pdh	4,1	kW	T j = bivalent temperature	COPd	3,35	-
T j = operation limit temperature	Pdh	3,5	kW	T j = operation limit temperature	COPd	2,85	-
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 <sub>biv</sub>	-5	°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	0,97	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes of	other than active	mode		Supplementary heater			_
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	1,6	kW
Thermostat-off mode	$P_{TO}$	0,019	kW				
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items							
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	=	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	2722	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	ater:	•		· · · · · ·		•	
Declared load profile		na		Water heating energy efficiency	$\eta_{\sf wh}$	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
	Enertech AB, Box					160406	

**Enertech AB Cold climate and Medium temperature** 341 26 Ljungby



Model(s):	CTC EcoAir 406 +	CTC EcoLogic		
Air-to-water heat pump:	Yes	Energy efficiency class:		-
Water-to-water heat pump:	No	Controller class:	VII	-
Brine-to-water heat pump:	No	Controller contribution:	3,5	%
Low-temperature heat pump:	No	Package efficiency:	107	%
Equipped with a supplementary heater:	No	Package efficiency class:		-
Heat pump combination heater:	No			

parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5	kW	Seasonal space heating energy efficiency	$\eta_s$	103	%
Declared capacity for heating f and outdoor temperature T j	for part load at in	door tempera	ture 20 °C	Declared coefficient of performal part load at indoor temperature			
T j = -7 °C	Pdh	3,6	kW	T j = - 7 °C	COPd	2,49	] -
T j = + 2 °C	Pdh	4,5	kW	T j = +2 °C	COPd	3,22	-
T j = + 7 °C	Pdh	6,1	kW	T j = +7 °C	COPd	4,34	-
T j = + 12 °C	Pdh	7,6	kW	T j = +12 °C	COPd	5,44	-
T j = bivalent temperature	Pdh	3,4	kW	T j = bivalent temperature	COPd	2,37	-
T j = operation limit temperature	Pdh	1,7	kW	T j = operation limit temperature	COPd	1,67	-
For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	Pdh	2,6	kW	For air-to-water heat pumps: T j = $-15$ °C (if TOL < $-20$ °C)	COPd	1,76	-
Bivalent temperature	T <sub>biv</sub>	-9	°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	other than active	mode		Supplementary heater			
Off mode	P <sub>OFF</sub>	0,018	kW	Rated heat output (*)	Psup	3,5	kW
Thermostat-off mode	P <sub>TO</sub>	0,006	kW			,	
Standby mode	$P_{SB}$	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items		•	•				
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	4785	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	eater:						
Declared load profile		na		Water heating energy efficiency	$\eta_{wh}$	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ

Contact details

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**Cold climate and Low temperature** 

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 406 + CTC EcoLogic						
Air-to-water heat pump:	Yes	Energy efficiency class:		-			
Water-to-water heat pump:	No	Controller class:	VII	-			
Brine-to-water heat pump:	No	Controller contribution:	3,5	%			
Low-temperature heat pump:	No	Package efficiency:	135	%			
Equipped with a supplementary heater:	No	Package efficiency class:		-			
Heat pump combination heater:	No						

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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4	kW	Seasonal space heating energy efficiency	$\eta_{s}$	131	%
Declared capacity for heating f and outdoor temperature T j	for part load at in	door tempera	ture 20 °C	Declared coefficient of performal part load at indoor temperature			
T j = -7 °C	Pdh	4,0	kW	T j = - 7 °C	COPd	3,34	-
T j = + 2 °C	Pdh	4,9	kW	T j = +2 °C	COPd	4,07	-
T j = + 7 °C	Pdh	6,4	kW	T j = +7 °C	COPd	5,40	-
T j = + 12 °C	Pdh	7,9	kW	T j = +12 °C	COPd	6,62	-
T j = bivalent temperature	Pdh	3,2	kW	T j = bivalent temperature	COPd	2,92	-
T j = operation limit temperature	Pdh	1,9	kW	T j = operation limit temperature	COPd	1,83	-
For air-to-water heat pumps: T j = $-15$ °C (if TOL < $-20$ °C)	Pdh	2,9	kW	For air-to-water heat pumps: T j = $-15$ °C (if TOL < $-20$ °C)	COPd	2,58	-
Bivalent temperature	T <sub>biv</sub>	-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	0,97	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes	other than active	mode		Supplementary heater			
Off mode	P <sub>OFF</sub>	0,018	kW	Rated heat output (*)	Psup	2,2	kW
Thermostat-off mode	P <sub>TO</sub>	0,019	kW			,	
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items		•	•				
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	3045	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	eater:						
Declared load profile		na		Water heating energy efficiency	$\eta_{wh}$	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ

Contact details

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<sup>(\*)</sup> For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Warm climate and Medium temperature

**Enertech AB** 341 26 Ljungby



Model(s):	CTC EcoAir 406 + CTC EcoZenith 250					
Air-to-water heat pump:	Yes	Energy efficiency class:		-		
Water-to-water heat pump:	No	Controller class:	VII	-		
Brine-to-water heat pump:	No	Controller contribution:	3,5	%		
Low-temperature heat pump:	No	Package efficiency:	135	%		
Equipped with a supplementary heater:	Yes	Package efficiency class:		-		
Heat pump combination heater:	Yes					

parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5	kW	Seasonal space heating energy efficiency	$\eta_{s}$	131	%
Declared capacity for heating for and outdoor temperature T j	or part load at i	ndoor temperat	cure 20 °C	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	4,3	kW	T j = +2 °C	COPd	2,24	-
T j = + 7 °C	Pdh	5,7	kW	T j = +7 °C	COPd	3,16	-
T j = + 12 °C	Pdh	7,5	kW	T j = +12 °C	COPd	4,54	-
T j = bivalent temperature	Pdh	4,4	kW	T j = bivalent temperature	COPd	2,37	-
T j = operation limit temperature	Pdh	4,3	kW	T j = operation limit temperature	COPd	2,31	-
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 <sub>biv</sub>	3	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P <sub>cych</sub>	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	re mode		Supplementary heater			
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	0,4	kW
Thermostat-off mode	$P_{TO}$	0,010	kW			•	,
Standby mode	$P_{SB}$	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items							_
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	1866	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination hea	ater:						
Declared load profile	L	Efficiency class	na	Water heating energy efficiency	$\eta_{wh}$	71	%
Daily electricity consumption	Qelec	6,566	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	1445	kWh	Annual fuel consumption	AFC	na	GJ
consumption		ļ				160204	

Warm climate and Low temperature

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 406 +	EcoAir 406 + CTC EcoZenith 250  Energy efficiency class: - Controller class: VII - Controller contribution: 3,5 %				
Air-to-water heat pump:	Yes	Energy efficiency class:		-		
Water-to-water heat pump:	No	Controller class:	VII	-		
Brine-to-water heat pump:	No	Controller contribution:	3,5	%		
Low-temperature heat pump:	No	Package efficiency:	178	%		
Equipped with a supplementary heater:	Yes	Package efficiency class:		-		
Heat pump combination heater:	Yes					
Parameters shall be declared for medium-te	mperature application	n, except for low-temperature heat pump	s. For low- te	emperature heat pumps,		

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	5	kW	Seasonal space heating energy efficiency	$\eta_{s}$	174	%
Declared capacity for heating for and outdoor temperature T j	or part load at i	ndoor tempera	ture 20 °C	Declared coefficient of performal part load at indoor temperature			
T j = -7 °C	Pdh	na	kW	T j = - 7 °C	COPd	na	] -
T j = + 2 °C	Pdh	4,7	kW	T j = +2 °C	COPd	3,32	-
T j = + 7 °C	Pdh	6,3	kW	T j = +7 °C	COPd	4,60	_
T j = + 12 °C	Pdh	7,9	kW	T j = +12 °C	COPd	6,06	-
T j = bivalent temperature	Pdh	4,8	kW	T j = bivalent temperature	COPd	3,44	-
T j = operation limit temperature	Pdh	4,7	kW	T j = operation limit temperature	COPd	3,53	-
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 <sub>biv</sub>	3	°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	0,96	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes of	other than activ	e mode		Supplementary heater			
Off mode	P <sub>OFF</sub>	0,018	kW	Rated heat output (*)	Psup	0,5	kW
Thermostat-off mode	$P_{TO}$	0,027	kW		•	•	•
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items	- CA	7,222	I.	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	1568	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	ater:						
Declared load profile	L	Efficiency class	na	Water heating energy efficiency	$\eta_{wh}$	71	%
Daily electricity consumption	Qelec	6,566	kWh	Daily fuel consumption	<b>Q</b> fuel	NA	kWh
Annual electricity consumption	AEC	1445	kWh	Annual fuel consumption	AFC	NA	GJ
						160204	,

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(\*) For heat nums space heaters and heat nums combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignsh, and the rated heat output of a supplementary of the space of the space

Average climate and Medium temperature

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 406 +			
Air-to-water heat pump:	Yes	Energy efficiency class:	A+	-
Water-to-water heat pump:	No	Controller class:	VII	-
Brine-to-water heat pump:	No	Controller contribution:	3,5	%
Low-temperature heat pump:	No	Package efficiency:	125	%
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	Un
Rated heat output (*)	Prated	5	kW	Seasonal space heating energy efficiency	$\eta_s$	121	%
Declared capacity for heating for and outdoor temperature T j	or part load at	indoor temperat	cure 20 °C	Declared coefficient of performa part load at indoor temperature			
T j = -7 °C	Pdh	3,8	kW	T j = - 7 °C	COPd	2,23	] -
T j = + 2 °C	Pdh	4,9	kW	T j = +2 °C	COPd	3,20	-
T j = + 7 °C	Pdh	6,3	kW	T j = +7 °C	COPd	4,05	] -
T j = + 12 °C	Pdh	7,5	kW	T j = +12 °C	COPd	4,95	] -
T j = bivalent temperature	Pdh	4,2	kW	T j = bivalent temperature	COPd	2,64	-
T j = operation limit temperature	Pdh	3,3	kW	T j = operation limit temperature	COPd	1,90	_
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 <sub>biv</sub>	-4	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°(
Cycling interval capacity for heating	P <sub>cych</sub>	na	kW	Cycling interval efficiency	СОРсус	na	] -
Degradation co-efficient (**)	Cdh	0,98	-	Heating water operating limit temperature	WTOL	55	°(
Power consumption in modes of	other than activ	ve mode		Supplementary heater			-
Off mode	P <sub>OFF</sub>	0,018	kW	Rated heat output (*)	Psup	1,6	kV
Thermostat-off mode	$P_{TO}$	0,018	kW				
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3,
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	3288	kWh	flow rate, outdoor heat exchanger	-	na	m3,
For heat pump combination he	ater:						
Declared load profile	L	Efficiency class	В	Water heating energy efficiency	$\eta_{wh}$	59	%
Daily electricity consumption	Qelec	7,902	kWh	Daily fuel consumption	Qfuel	NA	kW
Annual electricity consumption	AEC	1738	kWh	Annual fuel consumption	AFC	NA	G.
•		-		-		171005	

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<sup>(\*)</sup> For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Average climate and Low temperature

Enertech AB 341 26 Ljungby



CTC EcoAir 406 +	- CTC EcoZenith 250			
Yes	Energy efficiency class:	A+	-	
No	Controller class:	VII	-	
No	Controller contribution:	3,5	%	
No	Package efficiency:	140	%	
Yes	Package efficiency class:	A+	-	
Yes				
	Yes No No No Yes	No Controller class:  No Controller contribution:  No Package efficiency:  Yes Package efficiency class:	Yes       Energy efficiency class:       A+         No       Controller class:       VII         No       Controller contribution:       3,5         No       Package efficiency:       140         Yes       Package efficiency class:       A+	Yes Energy efficiency class: A+ -  No Controller class: VII -  No Controller contribution: 3,5 %  No Package efficiency: 140 %  Yes Package efficiency class: A+ -

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	5	kW	Seasonal space heating energy efficiency	$\eta_{s}$	136	%
Declared capacity for heating for and outdoor temperature T j	or part load at i	ndoor temperat	ure 20 °C	Declared coefficient of performal part load at indoor temperature 2	•		
T j = - 7 °C	Pdh	3,9	kW	T j = -7 °C	COPd	2,81	] -
T j = + 2 °C	Pdh	4,8	kW	T j = +2 °C	COPd	3,54	-
T j = + 7 °C	Pdh	6,4	kW	T j = +7 °C	COPd	4,87	-
T j = + 12 °C	Pdh	7,9	kW	T j = +12 °C	COPd	6,25	-
T j = bivalent temperature	Pdh	4,2	kW	T j = bivalent temperature	COPd	3,07	-
T j = operation limit temperature	Pdh	3,5	kW	T j = operation limit temperature	COPd	2,51	-
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 <sub>biv</sub>	-4	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P <sub>cych</sub>	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient (**)	Cdh	0,96	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes of	ther than activ	re mode		Supplementary heater			
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	2,0	kW
Thermostat-off mode	P <sub>TO</sub>	0,027	kW				
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items		•					
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	3244	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination hea	ater:						
Declared load profile	L	Efficiency class	В	Water heating energy efficiency	$\eta_{wh}$	59	%
Daily electricity consumption	Qelec	7,902	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1738	kWh	Annual fuel consumption	AFC	NA	GJ
						160406	

**Cold climate and Medium temperature** 

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 406 +	CTC EcoAir 406 + CTC EcoZenith 250       Yes     Energy efficiency class:     -       No     Controller class:     VII     -       No     Controller contribution:     3,5     %				
Air-to-water heat pump:	Yes	Energy efficiency class:		-		
Water-to-water heat pump:	No	Controller class:	VII	-		
Brine-to-water heat pump:	No	Controller contribution:	3,5	%		
Low-temperature heat pump:	No	Package efficiency:	99	%		
Equipped with a supplementary heater:	Yes	Package efficiency class:		-		
Heat pump combination heater:	Yes					
Parameters shall be declared for medium-te	emperature application	n, except for low-temperature heat pump	s. For low- te	emperature heat pumps,		

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	U
Rated heat output (*)	Prated	6	kW	Seasonal space heating energy efficiency	$\eta_s$	95	
Declared capacity for heating for and outdoor temperature T j	or part load at	indoor temperat	cure 20 °C	Declared coefficient of performa part load at indoor temperature	•		
Tj=-7°C	Pdh	3,6	kW	T j = - 7 °C	COPd	2,29	1
T j = + 2 °C	Pdh	4,5	kW	T j = +2 °C	COPd	2,97	
T j = + 7 °C	Pdh	6,1	kW	T j = +7 °C	COPd	4,07	
T j = + 12 °C	Pdh	7,6	kW	T j = +12 °C	COPd	5,15	
T j = bivalent temperature	Pdh	3,5	kW	T j = bivalent temperature	COPd	2,23	
T j = operation limit temperature	Pdh	1,7	kW	T j = operation limit temperature	COPd	0,96	
For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	Pdh	2,6	kW	For air-to-water heat pumps: $T j = -15 ^{\circ}\text{C}$ (if TOL < $-20 ^{\circ}\text{C}$ )	COPd	1,55	
Bivalent temperature	T <sub>biv</sub>	-8	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	
Cycling interval capacity for heating	P <sub>cych</sub>	na	kW	Cycling interval efficiency	СОРсус	na	
Degradation co-efficient (**)	Cdh	0,98	-	Heating water operating limit temperature	WTOL	55	
Power consumption in modes of	other than activ	ve mode		Supplementary heater			_
Off mode	P <sub>OFF</sub>	0,018	kW	Rated heat output (*)	Psup	3,9	ŀ
Thermostat-off mode	$P_{TO}$	0,010	kW				
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items		•					
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	5625	kWh	flow rate, outdoor heat exchanger	-	na	m
For heat pump combination he	ater:						
Declared load profile	L	Efficiency class	na	Water heating energy efficiency	$\eta_{\sf wh}$	52	
Daily electricity consumption	Qelec	8,931	kWh	Daily fuel consumption	<b>Q</b> fuel	NA	k
Annual electricity consumption	AEC	1965	kWh	Annual fuel consumption	AFC	NA	
•		-				160204	•

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<sup>(\*)</sup> For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

**Cold climate and Low temperature** 

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 406 + CTC EcoZenith 250					
Air-to-water heat pump:	Yes	Energy efficiency class:		-		
Water-to-water heat pump:	No	Controller class:	VII	-		
Brine-to-water heat pump:	No	Controller contribution:	3,5	%		
Low-temperature heat pump:	No	Package efficiency:	120	%		
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	Uni
Rated heat output (*)	Prated	5	kW	Seasonal space heating energy efficiency	$\eta_s$	116	%
Declared capacity for heating for and outdoor temperature T j	or part load at	indoor temperat	cure 20 °C	Declared coefficient of performa part load at indoor temperature	•		
Tj=-7°C	Pdh	4,0	kW	T j = - 7 °C	COPd	3,32	] -
T j = + 2 °C	Pdh	4,9	kW	T j = +2 °C	COPd	4,05	1 -
T j = + 7 °C	Pdh	6,4	kW	T j = +7 °C	COPd	5,38	] -
T j = + 12 °C	Pdh	7,9	kW	T j = +12 °C	COPd	6,61	-
T j = bivalent temperature	Pdh	3,6	kW	T j = bivalent temperature	COPd	2,64	-
T j = operation limit temperature	Pdh	1,9	kW	T j = operation limit temperature	COPd	1,83	-
For air-to-water heat pumps: T j = - 15 °C (if TOL < - 20 °C)	Pdh	2,9	kW	For air-to-water heat pumps: T j = $-15$ °C (if TOL < $-20$ °C)	COPd	2,53	-
Bivalent temperature	T <sub>biv</sub>	-10	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°(
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	55	°(
Power consumption in modes of	other than activ	ve mode		Supplementary heater			_
Off mode	P <sub>OFF</sub>	0,018	kW	Rated heat output (*)	Psup	3,3	kV
Thermostat-off mode	$P_{TO}$	0,027	kW			,	
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items		•					
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	4331	kWh	flow rate, outdoor heat exchanger	-	na	m3,
For heat pump combination he	eater:						
Declared load profile	L	Efficiency class	na	Water heating energy efficiency	$\eta_{\sf wh}$	52	%
Daily electricity consumption	Qelec	8,931	kWh	Daily fuel consumption	Qfuel	NA	kW
Annual electricity consumption	AEC	1965	kWh	Annual fuel consumption	AFC	NA	G
<b>,</b>		· ·				160204	

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<sup>(\*)</sup> For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

#### 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 406 + CTC EcoZenith 550				
Air-to-water heat pump:	Yes	Energy efficiency class:		-	
Water-to-water heat pump:	No	Controller class:	VII	-	
Brine-to-water heat pump:	No	Controller contribution:	3,5	%	
Low-temperature heat pump:	No	Package efficiency:	137	%	
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	5	kW	Seasonal space heating energy efficiency	$\eta_{\mathcal{S}}$	133	%
Declared capacity for heating foutdoor temperature T j	for 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	4,3	kW	T j = +2 °C	COPd	2,24	-
T j = + 7 °C	Pdh	5,7	kW	T j = +7 °C	COPd	3,19	-
T j = + 12 °C	Pdh	7,5	kW	T j = +12 °C	COPd	4,56	-
T j = bivalent temperature	Pdh	4,5	kW	T j = bivalent temperature	COPd	2,50	-
T j = operation limit temperature	Pdh	4,3	kW	T j = operation limit temperature	COPd	2,31	-
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 <sub>biv</sub>	4	°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	other than active	mode		Supplementary heater		•	
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	0,9	kW
Thermostat-off mode	P <sub>TO</sub>	0,006	kW				
Standby mode	$P_{SB}$	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items							
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	2051	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	eater:						
Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	$\eta_{wh}$	85	%
Daily electricity consumption	Qelec	8,943	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1967	kWh	Annual fuel consumption	AFC	NA	GJ
				•		160204	
Contact details	Enertech AB, Box	309, SE-341 26	Ljungby Tel +4	16 372 88000 www.ctc.se			

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Warm climate and Low temperature

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Model(s):	CTC EcoAir 406 + CTC EcoZenith 550				
Air-to-water heat pump:	Yes	Energy efficiency class:		-	
Water-to-water heat pump:	No	Controller class:	VII	-	
Brine-to-water heat pump:	No	Controller contribution:	3,5	%	
Low-temperature heat pump:	No	Package efficiency:	179	%	
Equipped with a supplementary heater:	Yes	Package efficiency class:		-	
Heat pump combination heater:	Yes				

parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5	kW	Seasonal space heating energy efficiency	$\eta_{s}$	175	%
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	4,7	kW	T j = +2 °C	COPd	3,32	-
T j = + 7 °C	Pdh	6,3	kW	T j = +7 °C	COPd	4,60	-
T j = + 12 °C	Pdh	7,9	kW	T j = +12 °C	COPd	6,06	-
T j = bivalent temperature	Pdh	4,8	kW	T j = bivalent temperature	COPd	3,44	-
T j = operation limit temperature	Pdh	4,7	kW	T j = operation limit temperature	COPd	3,53	-
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 <sub>biv</sub>	3	°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	0,96	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes	other than active	mode		Supplementary heater			
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	0,5	kW
Thermostat-off mode	P <sub>TO</sub>	0,023	kW				
Standby mode	$P_{SB}$	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items							
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	1555	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	eater:						
Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	$\eta_{wh}$	85	%
Daily electricity consumption	Qelec	8,943	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1967	kWh	Annual fuel consumption	AFC	NA	Gl
						160204	
Contact details	Enertech AB, Box	309, SE-341 26	Ljungby Tel +4	16 372 88000 www.ctc.se			

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

## 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 406 + 0			
Air-to-water heat pump:	Yes	Energy efficiency class:	A+	-
Water-to-water heat pump:	No	Controller class:	VII	-
Brine-to-water heat pump:	No	Controller contribution:	3,5	%
Low-temperature heat pump:	No	Package efficiency:	116	%
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	5	kW	Seasonal space heating energy efficiency	$\eta_{s}$	112	%
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	3,5	kW	T j = - 7 °C	COPd	2,01	] -
T j = + 2 °C	Pdh	4,7	kW	T j = +2 °C	COPd	3,01	-
T j = + 7 °C	Pdh	5,9	kW	T j = +7 °C	COPd	3,75	-
T j = + 12 °C	Pdh	7,2	kW	T j = +12 °C	COPd	4,69	-
T j = bivalent temperature	Pdh	3,8	kW	T j = bivalent temperature	COPd	2,35	-
T j = operation limit temperature	Pdh	2,9	kW	T j = operation limit temperature	COPd	1,66	-
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 <sub>biv</sub>	-4	°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	other than active	mode	•	Supplementary heater			
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	2,0	kW
Thermostat-off mode	P <sub>TO</sub>	0,006	kW				
Standby mode	$P_{SB}$	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items						_	
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	3550	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	eater:						
Declared load profile	XL	Efficiency class	В	Water heating energy efficiency	$\eta_{\sf wh}$	73	%
Daily electricity consumption	Qelec	10,407	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	2289	kWh	Annual fuel consumption	AFC	NA	GJ
		•		•		171005	
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(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

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Average climate and Low temperature					CIC	
Model(s):	CTC EcoAir 406 +	CTC EcoZenith 550				
Air-to-water heat pump:	Yes	Energy efficiency class:	A+	-		
Water-to-water heat pump:	No	Controller class:	VII	-		
Brine-to-water heat pump:	No	Controller contribution:	3,5	%		
Low-temperature heat pump:	No	Package efficiency:	141	%		
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	5	kW	Seasonal space heating energy efficiency	$\eta_{s}$	137	%
Declared capacity for heating foutdoor temperature T j	for 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	3,9	kW	T j = - 7 °C	COPd	2,81	-
T j = + 2 °C	Pdh	4,8	kW	T j = +2 °C	COPd	3,53	-
T j = + 7 °C	Pdh	6,4	kW	T j = +7 °C	COPd	4,86	-
T j = + 12 °C	Pdh	7,9	kW	T j = +12 °C	COPd	6,25	-
T j = bivalent temperature	Pdh	4,1	kW	T j = bivalent temperature	COPd	2,99	-
T j = operation limit temperature	Pdh	3,5	kW	T j = operation limit temperature	COPd	2,51	-
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 <sub>biv</sub>	-5	°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	0,96	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes	other than active	mode	_	Supplementary heater			
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	1,6	kW
Thermostat-off mode	P <sub>TO</sub>	0,023	kW				
Standby mode	$P_{SB}$	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items							
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	2998	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	eater:						
Declared load profile	XL	Efficiency class	В	Water heating energy efficiency	$\eta_{\sf wh}$	73	%
Daily electricity consumption	Qelec	10,407	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	2289	kWh	Annual fuel consumption	AFC	NA	Gl
		•		•		160406	
Contact details	Enertech AB, Box	309, SE-341 26	Ljungby Tel +4	16 372 88000 www.ctc.se			

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

## 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 406 + CTC EcoZenith 550				
Air-to-water heat pump:	Yes	Energy efficiency class:		-	
Water-to-water heat pump:	No	Controller class:	VII	-	
Brine-to-water heat pump:	No	Controller contribution:	3,5	%	
Low-temperature heat pump:	No	Package efficiency:	99	%	
Equipped with a supplementary heater:	Yes	Package efficiency class:		-	
Heat pump combination heater:	Yes				

parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	6	kW	Seasonal space heating energy efficiency	$\eta_{s}$	95	%
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	3,6	kW	T j = - 7 °C	COPd	2,29	-
T j = + 2 °C	Pdh	4,5	kW	T j = +2 °C	COPd	2,97	-
T j = + 7 °C	Pdh	6,1	kW	T j = +7 °C	COPd	4,07	-
T j = + 12 °C	Pdh	7,6	kW	T j = +12 °C	COPd	5,15	-
T j = bivalent temperature	Pdh	3,5	kW	T j = bivalent temperature	COPd	2,23	-
T j = operation limit temperature	Pdh	1,7	kW	T j = operation limit temperature	COPd	0,96	-
For air-to-water heat pumps: T j = $-15$ °C (if TOL < $-20$ °C)	Pdh	2,589	kW	For air-to-water heat pumps: T j = $-15$ °C (if TOL < $-20$ °C)	COPd	1,554	-
Bivalent temperature	T <sub>biv</sub>	-8	°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	other than active	mode		Supplementary heater		•	
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	3,9	kW
Thermostat-off mode	P <sub>TO</sub>	0,006	kW				
Standby mode	$P_{SB}$	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items							
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	5609	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	eater:						
Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	$\eta_{wh}$	66	%
Daily electricity consumption	Qelec	11,646	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	2562	kWh	Annual fuel consumption	AFC	NA	GΊ
						160204	
Contact details	Enertech AB, Box	( 309, SE-341 26	Ljungby Tel +4	16 372 88000 www.ctc.se			

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

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	-	
VII	-	
3,5	%	
120	%	
	-	
	120	-,-

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	5	kW	Seasonal space heating energy efficiency	$\eta_s$	116	%
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	•		
T j = - 7 °C	Pdh	4,0	kW	T j = - 7 °C	COPd	2,97	-
T j = + 2 °C	Pdh	4,9	kW	T j = +2 °C	COPd	3,67	-
T j = + 7 °C	Pdh	6,4	kW	T j = +7 °C	COPd	5,00	-
T j = + 12 °C	Pdh	7,9	kW	T j = +12 °C	COPd	6,22	-
T j = bivalent temperature	Pdh	3,4	kW	T j = bivalent temperature	COPd	1,49	-
T j = operation limit temperature	Pdh	1,9	kW	T j = operation limit temperature	COPd	2,69	-
For air-to-water heat pumps: T j = $-15$ °C (if TOL < $-20$ °C)	Pdh	2,197	kW	For air-to-water heat pumps: T j = $-15$ °C (if TOL < $-20$ °C)	COPd	2,197	-
Bivalent temperature	T <sub>biv</sub>	-11	°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	0,96	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes	other than active	mode	-	Supplementary heater			
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	2,9	kW
Thermostat-off mode	P <sub>TO</sub>	0,023	kW				
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items		,					
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	3993	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	eater:						
Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	$\eta_{\sf wh}$	66	%
Daily electricity consumption	Qelec	11,646	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	2562	kWh	Annual fuel consumption	AFC	NA	GJ
		•		•		160204	

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

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Contact details

Warm climate and Medium temperature

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 406 + CTC Basicstyrning					
Air-to-water heat pump:	Yes	Energy efficiency class:		-		
Water-to-water heat pump:	No	Controller class:	1	-		
Brine-to-water heat pump:	No	Controller contribution:	1	%		
Low-temperature heat pump:	No	Package efficiency:	141	%		
Equipped with a supplementary heater:	No	Package efficiency class:		-		
Heat pump combination heater:	No					

tem	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5	kW	Seasonal space heating energy efficiency	$\eta_{s}$	140	%
Declared capacity for heating for and outdoor temperature T j	or part load at i	ndoor temperat	cure 20 °C	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	4,3	kW	T j = +2 °C	COPd	2,43	-
T j = + 7 °C	Pdh	5,7	kW	T j = +7 °C	COPd	3,39	-
T j = + 12 °C	Pdh	7,5	kW	T j = +12 °C	COPd	4,80	-
T j = bivalent temperature	Pdh	4,5	kW	T j = bivalent temperature	COPd	2,69	-
T j = operation limit temperature	Pdh	4,3	kW	T j = operation limit temperature	COPd	2,50	-
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 <sub>biv</sub>	4	°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 o	other than activ	e mode		Supplementary heater			
Off mode	P <sub>OFF</sub>	0,018	kW	Rated heat output (*)	Psup	0,9	kW
Thermostat-off mode	P <sub>TO</sub>	0,006	kW				
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items		•		]			
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	1947	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination hea	ater:						
Declared load profile		na		Water heating energy efficiency	$\eta_{wh}$	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ

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Warm climate and Low temp		and near pain	p combinati	onneaters	341 26 Ljur	ngby	CIC
Model(s):		CTC EcoAir 4	06 + CTC Basi	icstyrning			
Air-to-water heat pump:		Yes		Energy efficiency class:		-	
Water-to-water heat pump:		No		Controller class:	1	-	
Brine-to-water heat pump:		No		Controller contribution:	1	%	
Low-temperature heat pump:		No		Package efficiency:	189	%	
Equipped with a supplementary	heater:	No		Package efficiency class:		-	
Heat pump combination heater:	:	No					
Parameters shall be declared fo parameters shall be declared fo				t for low-temperature heat pumps.	For low- temp	erature heat	pumps,
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5	kW	Seasonal space heating energy efficiency	$\eta_{s}$	188	%
Declared capacity for heating fo and outdoor temperature T j T j = -7  °C	Pdh	na	kW	Declared coefficient of perform part load at indoor temperatur  T j = -7 °C			
T j = + 2 °C	Pdh	4,7	kW	T j = +2 °C	COPd	3,66	] -
T j = + 7 °C	Pdh	6,3	kW	T j = +7 °C	COPd	4,96	] -
T j = + 12 °C	Pdh	7,9	kW	T j = +12 °C	COPd	6,45	
T j = bivalent temperature	Pdh	4,8	kW	T j = bivalent temperature	COPd	3,79	-
T j = operation limit temperature	Pdh	4,7	kW	T j = operation limit temperature	COPd	3,87	_
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 <sub>biv</sub>	3	°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	0,97	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes of	ther than activ	e mode	-	Supplementary heater			_
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	0,5	kW
Thermostat-off mode	P <sub>TO</sub>	0,019	kW	11			
		-	†	1.1	I		

Other items			
Capacity control		Fixed	
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB
Annual energy consumption	Q <sub>HE</sub>	1451	kWh

 $P_{SB}$ 

0,018

0,000

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
For water-/brine-to-water heat pumps: Rated brine or water			
flow rate, outdoor heat	-	na	m3/h

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**Electric** 

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#### For heat pump combination heater:

Standby mode

Contact details

Crankcase heater mode

Declared load profile		na		Water heating energy efficiency	$\eta_{\sf wh}$	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

kW

kW

Type of energy input

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

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Average climate and Medium temperature

Enertech AB 341 26 Ljungby



CTC EcoAir 406 + CTC Basicstyrning						
Yes	Energy efficiency class:	A+	-			
No	Controller class:	1	-			
No	Controller contribution:	1	%			
No	Package efficiency:	116	%			
No	Package efficiency class:	A+	-			
No						
	Yes No No No No	Yes Energy efficiency class:  No Controller class:  No Controller contribution:  No Package efficiency:  No Package efficiency class:	Yes Energy efficiency class: A+  No Controller class: I  No Controller contribution: 1  No Package efficiency: 116  No Package efficiency class: A+			

parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5	kW	Seasonal space heating energy efficiency	$\eta_{s}$	115	%
Declared capacity for heating for and outdoor temperature T j	or part load at ii	ndoor temperat	cure 20 °C	Declared coefficient of performal part load at indoor temperature 2			
T j = - 7 °C	Pdh	3,5	kW	T j = - 7 °C	COPd	2,13	] -
T j = + 2 °C	Pdh	4,4	kW	T j = +2 °C	COPd	2,93	-
T j = + 7 °C	Pdh	6,0	kW	T j = +7 °C	COPd	3,99	-
T j = + 12 °C	Pdh	7,6	kW	T j = +12 °C	COPd	5,21	-
T j = bivalent temperature	Pdh	3,8	kW	T j = bivalent temperature	COPd	2,44	-
T j = operation limit temperature	Pdh	3,1	kW	T j = operation limit temperature	COPd	1,82	-
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 <sub>biv</sub>	-5	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P <sub>cych</sub>	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 <sub>OFF</sub>	0,018	kW	Rated heat output (*)	Psup	1,9	kW
Thermostat-off mode	P TO	0,006	kW				
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items							
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	3470	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination hea	ater:			· · · · · · · · · · · · · · · · · · ·		•	
Declared load profile		na		Water heating energy efficiency	$\eta_{\sf wh}$	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

Average climate and Low temperature

Enertech AB 341 26 Ljungby



Model(s):	CTC EcoAir 406 + CTC Basicstyrning						
Air-to-water heat pump:	Yes	Energy efficiency class:	A++	-			
Water-to-water heat pump:	No	Controller class:	1	-			
Brine-to-water heat pump:	No	Controller contribution:	1	%			
Low-temperature heat pump:	No	Package efficiency:	152	%			
Equipped with a supplementary heater:	No	Package efficiency class:	A++	-			
Heat pump combination heater:	No						
Parameters shall be declared for medium-te	emperature application	on, except for low-temperature heat pump	s. For low- te	emperature heat pumps,			

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	5	kW	Seasonal space heating energy efficiency	$\eta_{s}$	151	%
Declared capacity for heating f and outdoor temperature T j	for part load at in	door temperat	ture 20 °C	Declared coefficient of performal part load at indoor temperature 2			
Tj=-7°C	Pdh	3,9	kW	T j = - 7 °C	COPd	3,16	] -
T j = + 2 °C	Pdh	4,8	kW	T j = +2 °C	COPd	3,92	-
T j = + 7 °C	Pdh	6,4	kW	T j = +7 °C	COPd	5,25	-
T j = + 12 °C	Pdh	7,9	kW	T j = +12 °C	COPd	6,66	-
T j = bivalent temperature	Pdh	4,1	kW	T j = bivalent temperature	COPd	3,35	-
T j = operation limit temperature	Pdh	3,5	kW	T j = operation limit temperature	COPd	2,85	-
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 <sub>biv</sub>	-5	°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	0,97	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes	other than active	mode		Supplementary heater			
Off mode	P <sub>OFF</sub>	0,018	kW	Rated heat output (*)	Psup	1,6	kW
Thermostat-off mode	P <sub>TO</sub>	0,019	kW				
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items		•					
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	2722	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination he	eater:	-		· · · · · · · · · · · · · · · · · · ·		-	•
Declared load profile		na		Water heating energy efficiency	$\eta_{\sf wh}$	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
		•		,		160406	
Contact details	Enertech AB, Box	309, SE-341 2	6 Ljungby Tel	+46 372 88000 www.ctc.se	1704	10	

Cold climate and Medium temperature

Enertech AB 341 26 Liungby



m3/h

Cold climate and Medium to	mperature				341 26 Ljur	ngby	
Model(s):		CTC EcoAir 40	06 + CTC Basi	cstyrning			
Air-to-water heat pump:		Yes		Energy efficiency class:		-	
Water-to-water heat pump:		No		Controller class:	1	-	
Brine-to-water heat pump:		No		Controller contribution:	1	%	
Low-temperature heat pump:		No		Package efficiency:	104	%	
Equipped with a supplementary	/ heater:	No		Package efficiency class:		-	
Heat pump combination heater	:	No					
				for low-temperature heat pumps. F	or low- temp	erature heat	pumps,
parameters shall be declared for							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5	kW	Seasonal space heating energy efficiency	$\eta_{s}$	103	%
Declared capacity for heating for and outdoor temperature T j	or part load at i	ndoor tempera	ture 20 °C	Declared coefficient of performation part load at indoor temperature			
T j = -7 °C	Pdh	3,6	kW	T j = -7 °C	COPd	2,49	T -
T j = + 2 °C	Pdh	4,5	kW	T j = +2 °C	COPd	3,22	] -
T j = + 7 °C	Pdh	6,1	kW	T j = +7 °C	COPd	4,34	-
T j = + 12 °C	Pdh	7,6	kW	T j = +12 °C	COPd	5,44	-
T j = bivalent temperature	Pdh	3,4	kW	T j = bivalent temperature	COPd	2,37	-
T j = operation limit temperature	Pdh	1,7	kW	T j = operation limit temperature	COPd	1,67	-
For air-to-water heat pumps: T j = $-15$ °C (if TOL < $-20$ °C)	Pdh	2,6	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	1,76	-
Bivalent temperature	T <sub>biv</sub>	-9	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P <sub>cych</sub>	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 <u>mode</u>	-	Supplementary heater			_
Off mode	P <sub>OFF</sub>	0,018	kW	Rated heat output (*)	Psup	3,5	kW
Thermostat-off mode	$P_{TO}$	0,006	kW				
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input		Electric	
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items		-, -			-		
Capacity control		Fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			

For heat pump combination heater:

Annual energy consumption

Q<sub>HE</sub>

4785

Declared load profile		na		Water heating energy efficiency	$\eta_{\sf wh}$	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

pumps: Rated brine or water flow rate, outdoor heat

exchanger

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kWh

<sup>(\*)</sup> For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj). (\*\*) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

**Cold climate and Low temperature** 

**Enertech AB** 341 26 Ljungby



Model(s):	CTC EcoAir 406 + CTC Basicstyrning					
Air-to-water heat pump:	Yes	Energy efficiency class:		-		
Water-to-water heat pump:	No	Controller class:	1	-		
Brine-to-water heat pump:	No	Controller contribution:	1	%		
Low-temperature heat pump:	No	Package efficiency:	132	%		
Equipped with a supplementary heater:	No	Package efficiency class:		-		
Heat pump combination heater:	No					

parameters shall be declared for low-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4	kW	Seasonal space heating energy efficiency	$\eta_{s}$	131	%
Declared capacity for heating for and outdoor temperature T j	or part load at ii	ndoor temperat	ture 20 °C	Declared coefficient of performal part load at indoor temperature	•		
T j = - 7 °C	Pdh	4,0	kW	T j = - 7 °C	COPd	3,34	-
T j = + 2 °C	Pdh	4,9	kW	T j = +2 °C	COPd	4,07	-
T j = + 7 °C	Pdh	6,4	kW	T j = +7 °C	COPd	5,40	-
T j = + 12 °C	Pdh	7,9	kW	T j = +12 °C	COPd	6,62	-
T j = bivalent temperature	Pdh	3,2	kW	T j = bivalent temperature	COPd	2,92	-
T j = operation limit temperature	Pdh	1,9	kW	T j = operation limit temperature	COPd	1,83	-
For air-to-water heat pumps: T j = $-15$ °C (if TOL < $-20$ °C)	Pdh	2,9	kW	For air-to-water heat pumps: T j = $-15$ °C (if TOL < $-20$ °C)	COPd	2,58	-
Bivalent temperature	T <sub>biv</sub>	-13	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P <sub>cych</sub>	na	kW	Cycling interval efficiency	СОРсус	na	-
Degradation co-efficient (**)	Cdh	0,97	-	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes o	ther than activ	e mode		Supplementary heater			
Off mode	P OFF	0,018	kW	Rated heat output (*)	Psup	2,2	kW
Thermostat-off mode	$P_{TO}$	0,019	kW			,	
Standby mode	P <sub>SB</sub>	0,018	kW	Type of energy input	Electric		
Crankcase heater mode	P <sub>CK</sub>	0,000	kW				
Other items		•					
Capacity control	Fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4100	m3/h
Sound power level, indoors/ outdoors	L <sub>WA</sub>	na/56	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q <sub>HE</sub>	3045	kWh	flow rate, outdoor heat exchanger	-	na	m3/h
For heat pump combination hea	ater:			-			
Declared load profile	na			Water heating energy efficiency	$\eta_{wh}$	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	na	kWh
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	na	GJ