Information for heat pump s		and heat pump	combinatio	on heaters	CTC AB		
Warm climate and Medium	temperature				Ljungby		
Model(s):		CTC CombiAir	16M + CTC E	coLogic			
Air-to-water heat pump:		Yes		Energy efficiency class:		-	
Water-to-water heat pump:		No		Controller class:	VI	-	
Brine-to-water heat pump:		No		Controller contribution:	4	%	
Low-temperature heat pump:		No		Package efficiency:	192	%	
Equipped with a supplementary	y heater:	No		Package efficiency class:		-	
Heat pump combination heater	r:	No					
				for low-temperature heat pumps. F	or low- tempe	rature heat p	umps,
parameters shall be declared fo	•						
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	15	kW	Seasonal space heating energy efficiency	$\eta_{\mathcal{S}}$	188	%
Declared capacity for heating fo	or part load at ii	ndoor temperat	ure 20 °C and	•	•		
outdoor temperature T j				part load at indoor temperatur	e 20 Cand ou	taoor tempe	rature i
T j = - 7 °C	Pdh	na	kW	T j = - 7 °C	COPd	na	-
T j = + 2 °C	Pdh	12,6	kW	T j = +2 °C	COPd	2,53	-
T j = + 7 °C	Pdh	9,7	kW	T j = +7 °C	COPd	3,84	-
T j = + 12 °C	Pdh	6,9	kW	T j = +12 °C	COPd	6,79	-
Γ j = bivalent temperature	Pdh	13,6	kW	T j = bivalent temperature	COPd	2,82	-
T j = operation limit temperature	Pdh	12,6	kW	T j = operation limit temperature	COPd	2,53	-
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 _{biv}	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	0,98	-	Heating water operating limit temperature	WTOL	58	°C
Power consumption in modes o	other than activ	e mode	•	Supplementary heater			-
Off mode	P OFF	0,002	kW	Rated heat output (*)	Psup	2,4	kW
Thermostat-off mode	P_{TO}	0,025	kW				
Standby mode	P _{SB}	0,012	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,035	kW				
Other items		•			■		
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6000	m3/h
L Sound power level, indoors/ outdoors	L _{WA}	-/61	dB	For water-/brine-to-water heat pumps: Rated brine or water	:	na	m3/h
Annual energy consumption	Q _{HE}	4186	kWh	flow rate, outdoor heat exchanger		IId	1113/11
For heat pump combination he	ater:						
Declared load profile	na	Efficiency	na	Water heating energy	$\eta_{\sf wh}$	na	%

Tot ficat partip combination fic	ater.						
Declared load profile	na	Efficiency class	na	Water heating energy efficiency	$\eta_{\scriptscriptstyle \sf wh}$	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

Specific precautions and end of life information:

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

Warm climate and Low temperature

CTC AB Liungby



Warm climate and Low tem	perature				Ljungby			
Model(s):		CTC CombiAir	16M + CTC Ec	oLogic				
Air-to-water heat pump:		Yes		Energy efficiency class:		-		
Water-to-water heat pump:		No		Controller class:	VI	-		
Brine-to-water heat pump:		No		Controller contribution:	4	%		
Low-temperature heat pump:		No		Package efficiency:	241	%		
Equipped with a supplementar	y heater:	No		Package efficiency class:		-		
Heat pump combination heater		No						
				or low-temperature heat pumps. Fo	or low- tempe	rature heat _l	oumps,	
parameters shall be declared for								
Item	Symbol	Value	Unit	Second ones besting angular	Symbol	Value	Unit	
Rated heat output (*)	Prated	15	kW	Seasonal space heating energy efficiency	η_{s}	237	%	
Declared capacity for heating for outdoor temperature T j	or part load at ii	ndoor temperati	ure 20 °C and	Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature				
T j = - 7 °C	Pdh	na	kW	T j = -7 °C	COPd	na	-	
T j = + 2 °C	Pdh	12,4	kW	T j = +2 °C	COPd	3,83		
T j = + 7 °C	Pdh	9,7	kW	T j = +7 °C	COPd	5,24	- ↓	
T j = + 12 °C	Pdh	6,5	kW	T j = +12 °C	COPd	7,58	- ↓	
T j = bivalent temperature	Pdh	13,5	kW	T j = bivalent temperature	COPd	4,16	-	
T j = operation limit temperature	Pdh	12,4	kW	T j = operation limit temperature	COPd	3,83		
For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	na	-	
Bivalent temperature	T _{biv}	3	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C	
Cycling interval capacity for heating	P cych	na	kW	Cycling interval efficiency	СОРсус	na	_	
Degradation co-efficient	Cdh	0,98	-	Heating water operating limit temperature	WTOL	58	°C	
Power consumption in modes of	other than activ	e mode		Supplementary heater			_	
Off mode	P OFF	0,002	kW	Rated heat output (*)	Psup	2,6	kW	
Thermostat-off mode	P _{TO}	0,025	kW					
Standby mode	P_{SB}	0,015	kW	Type of energy input		Electric		
Crankcase heater mode	P _{CK}	0,035	kW					
Other items								
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6000	m3/h	
Sound power level, indoors/ outdoors	L _{WA}	-/61	dB	For water-/brine-to-water heat pumps: Rated brine or water	_	na	m3/h	
Annual energy consumption	Q _{HE}	3334	kWh	flow rate, outdoor heat exchanger				
For heat pump combination he	ater:							
Declared load profile	na	Efficiency class	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	
Specific precautions and end of life information:		end of the produc importance that the	t's life cycle, it mu ne product's refrig	a recycling station or with the installation en st be sent correctly to a waste station or rese erant, compressor oil and electrical/electroni old waste is not permitted.	eller offering a serv	vice of that type	. It is of gre	

Average climate and Medium temperature

CTC AB Ljungby



		-			Ljuligby		
Model(s):		CTC CombiAir	· 16M + CTC Ec	oLogic			
Air-to-water heat pump:		Yes		Energy efficiency class:	A++	-	
Water-to-water heat pump:		No		Controller class:	VI	-	
Brine-to-water heat pump:		No		Controller contribution:	4	%	
Low-temperature heat pump:		No		Package efficiency:	138	%	
Equipped with a supplementar	y heater:	No		Package efficiency class:	A++	-	
Heat pump combination heate	r:	No					
				or low-temperature heat pumps. Fo	r low- tempe	rature heat p	umps,
parameters shall be declared for	•	• • • • • • • • • • • • • • • • • • • •					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	14	kW	Seasonal space heating energy efficiency	η_s	134	%
Declared capacity for heating for outdoor temperature T j	or part load at ir	ndoor temperat	ure 20 °C and	Declared coefficient of performa part load at indoor temperature	-		
T j = - 7 °C	Pdh	12,5	kW	T j = -7 °C	COPd	2,01] -
T j = + 2 °C	Pdh	7,6	kW	T j = +2 °C	COPd	3,29] -
T j = + 7 °C	Pdh	4,9	kW	T j = +7 °C	COPd	4,68	-
T j = + 12 °C	Pdh	6,8	kW	T j = +12 °C	COPd	6,51	-
T j = bivalent temperature	Pdh	12,7	kW	T j = bivalent temperature	COPd	1,95	-
T j = operation limit temperature	Pdh	11,0	kW	T j = operation limit temperature	COPd	1,95	-
For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	na	-
Bivalent temperature	T _{biv}	-7,6	°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	58	°C
Power consumption in modes of	other than active	e mode		Supplementary heater			7
Off mode	P _{OFF}	0,002	kW	Rated heat output (*)	Psup	3,0	kW
Thermostat-off mode	P _{TO}	0,016	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,035	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6000	m3/h
Sound power level, indoors/ outdoors	L _{WA}	-/61	dВ	For water-/brine-to-water heat pumps: Rated brine or water	_	na	m3/h
Annual energy consumption	Q _{HE}	8428	kWh	flow rate, outdoor heat exchanger		na	,,,,,,,,,
For heat pump combination he	ater:					_	
Declared load profile	na	Efficiency class	na	Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the productimportance that t	ct's life cycle, it mu he product's refrig	a recycling station or with the installation en st be sent correctly to a waste station or rese erant, compressor oil and electrical/electroni old waste is not permitted.	ller offering a ser	vice of that type.	It is of grea

Average climate and Low temperature

CTC AB



Average climate and Low te	mperature				Ljungby		
Model(s):		CTC CombiAir	16M + CTC Ec	oLogic			
Air-to-water heat pump:		Yes		Energy efficiency class:	A+++	-	
Water-to-water heat pump:		No		Controller class:	VI	-	
Brine-to-water heat pump:		No		Controller contribution:	4	%	
Low-temperature heat pump:		No		Package efficiency:	180	%	
Equipped with a supplementary	y heater:	No		Package efficiency class:	A+++	-	
Heat pump combination heater	r:	No					
Parameters shall be declared fo	or medium-temp	erature applica	tion, except fo	or low-temperature heat pumps. Fo	r low- tempe	rature heat p	umps,
parameters shall be declared fo	or low-temperat	ure application.					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	15	kW	Seasonal space heating energy efficiency	η_{s}	176	%
Declared capacity for heating fo outdoor temperature T j	or part load at ir	idoor temperati	ure 20 °C and	Declared coefficient of performation part load at indoor temperature			
Ti=-7°C	Pdh	12,9	kW	T j = - 7 °C	COPd	2,96	٦.
T j = + 2 °C	Pdh	7,9	kW	T j = +2 °C	COPd	4,37	1 -
T j = + 7 °C	Pdh	5,1	kW	T j = +7 °C	COPd	5,59] -
T j = + 12 °C	Pdh	6,4	kW	T j = +12 °C	COPd	7,70] -
T j = bivalent temperature	Pdh	13,4	kW	T j = bivalent temperature	COPd	2,86	-
T j = operation limit temperature	Pdh	12,5	kW	T j = operation limit temperature	COPd	2,71	-
For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	na	-
Bivalent temperature	T _{biv}	-8	°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	58	°C
Power consumption in modes o	other than active	e mode		Supplementary heater			
Off mode	P OFF	0,002	kW	Rated heat output (*)	Psup	2,0	kW
Thermostat-off mode	P _{TO}	0,025	kW				
Standby mode	P_{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,035	kW				
Other items					•		
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6000	m3/l
Sound power level, indoors/ outdoors	L _{WA}	-/61	dB	For water-/brine-to-water heat pumps: Rated brine or water	_	na	m3/l
Annual energy consumption	Q _{HE}	6691	kWh	flow rate, outdoor heat exchanger		Hd	1113/1
For heat pump combination he	ater:						
Declared load profile	na	Efficiency class	na	Water heating energy efficiency	$\eta_{\sf wh}$	na	%
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	NA	kWł
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the produc importance that the	t's life cycle, it mu he product's refrig	a recycling station or with the installation en st be sent correctly to a waste station or rese erant, compressor oil and electrical/electroni old waste is not permitted.	ller offering a ser	vice of that type	It is of gre

Cold climate and Medium temperature

CTC AB Ljungby



	• • • • • • •				Ljungby			
Model(s):		CTC CombiAir	16M + CTC Ec	oLogic				
Air-to-water heat pump:		Yes		Energy efficiency class:		-		
Water-to-water heat pump:		No		Controller class:	VI	-		
Brine-to-water heat pump:		No		Controller contribution:	4	%		
Low-temperature heat pump:		No		Package efficiency:	112	%		
Equipped with a supplementary	/ heater:	No		Package efficiency class:		-		
Heat pump combination heater	:	No						
				or low-temperature heat pumps. Fo	or low- tempe	rature heat p	umps,	
parameters shall be declared for	•							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit	
Rated heat output (*)	Prated	16	kW	Seasonal space heating energy efficiency	$\eta_{\mathcal{S}}$	108	%	
Declared capacity for heating for outdoor temperature T j	or part load at ii	ndoor temperati	ure 20 °C and	Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature				
T j = - 7 °C	Pdh	9,8	kW	T j = - 7 °C	COPd	2,40] -	
T j = + 2 °C	Pdh	6,0	kW	T j = +2 °C	COPd	3,45] -	
T j = + 7 °C	Pdh	4,8	kW	T j = +7 °C	COPd	4,98	. .	
T j = + 12 °C	Pdh	6,7	kW	T j = +12 °C	COPd	7,21	-	
T j = bivalent temperature	Pdh	11,5	kW	T j = bivalent temperature	COPd	2,01	-	
T j = operation limit temperature	Pdh	6,7	kW	T j = operation limit temperature	COPd	1,64	_	
For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	Pdh	1,7	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	3,01	-	
Bivalent temperature	T _{biv}	-11	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-20	°C	
Cycling interval capacity for heating	P _{cych}	-/61	kW	Cycling interval efficiency	СОРсус	na	_	
Degradation co-efficient	Cdh	0,97	-	Heating water operating limit temperature	WTOL	58	°C	
Power consumption in modes of	ther than activ	e mode		Supplementary heater				
Off mode	P OFF	0,002	kW	Rated heat output (*)	Psup	16,0	kW	
Thermostat-off mode	P_{TO}	0,025	kW					
Standby mode	P_{SB}	0,015	kW	Type of energy input		Electric		
Crankcase heater mode	P _{CK}	0,035	kW					
Other items								
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6000	m3/h	
Sound power level, indoors/ outdoors	L _{WA}	35/61	dВ	For water-/brine-to-water heat pumps: Rated brine or water		na	m2/h	
Annual energy consumption	Q _{HE}	13629	kWh	flow rate, outdoor heat exchanger	-	na	m3/h	
For heat pump combination he	ater:							
Declared load profile	na	Efficiency class	na	Water heating energy efficiency	η_{wh}	na	%	
Daily electricity consumption	Qelec	na	kWh	Daily fuel consumption	Qfuel	NA	kWh	
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	NA	GJ	
Specific precautions and end of life information:		end of the produc importance that the	t's life cycle, it mu he product's refrig	a recycling station or with the installation en st be sent correctly to a waste station or rese grant, compressor oil and electrical/electroni old waste is not permitted.	ller offering a ser	vice of that type.	It is of gre	

Cold climate and Low temperature

CTC AB Ljungby



N4=d=l/a).		CTC C 1111	1004 - 070 7	al asia	Ljungby		
Model(s):			16M + CTC Ec				
Air-to-water heat pump:		Yes		Energy efficiency class:		-	
Water-to-water heat pump:		No		Controller class:	VI	-	
Brine-to-water heat pump:		No		Controller contribution:	4	%	
Low-temperature heat pump:		No		Package efficiency:	140	%	
Equipped with a supplementary		No		Package efficiency class:		-	
Heat pump combination heater Parameters shall be declared for parameters shall be declared for	r medium-tem			or low-temperature heat pumps. Fo	or low- tempe	rature heat p	umps,
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	15	kW	Seasonal space heating energy efficiency	η _s	136	%
Declared capacity for heating for outdoor temperature T j	or part load at ii	ndoor temperati	ure 20 °C and	Declared coefficient of performa			
T j = - 7 °C	Pdh	9,2	kW	T j = − 7 °C	COPd	3,20] -
T j = + 2 °C	Pdh	5,6	kW	T j = +2 °C	COPd	4,31	
T j = + 7 °C	Pdh	4,7	kW	T j = +7 °C	COPd	5,67	- ↓
T j = + 12 °C	Pdh	6,5	kW	T j = +12 °C	COPd	7,67	-
T j = bivalent temperature	Pdh	11,2	kW	T j = bivalent temperature	COPd	2,72	_
T j = operation limit temperature	Pdh	8,1	kW	T j = operation limit temperature	COPd	2,14	-
For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	Pdh	1,7	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	4,02	-
Bivalent temperature	T _{biv}	-13	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-20	°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	58	°C
Power consumption in modes of	ther than activ	e mode		Supplementary heater			
Off mode	P OFF	0,002	kW	Rated heat output (*)	Psup	15,0	kW
Thermostat-off mode	P _{TO}	0,025	kW				
Standby mode	P SB	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,035	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6000	m3/ł
Sound power level, indoors/ outdoors	L _{WA}	-/61	dB	For water-/brine-to-water heat pumps: Rated brine or water	_	na	m3/l
Annual energy consumption	Q _{HE}	10628	kWh	flow rate, outdoor heat exchanger		.10	5/1
For heat pump combination hea	ater:						
Declared load profile	na	Efficiency class	na	Water heating energy efficiency	η_{wh}	na	%
Daily electricity consumption	Q_{elec}	na	kWh	Daily fuel consumption	Q_{fuel}	NA	kWh
Annual electricity consumption	AEC	na	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the produc importance that the	t's life cycle, it mu he product's refrig	a recycling station or with the installation en st be sent correctly to a waste station or rese gerant, compressor oil and electrical/electroni old waste is not permitted.	ller offering a ser	vice of that type	It is of gre

Warm climate and Medium temperature

CTC AB Liungby



Warm climate and Medium	temperature				Ljungby		
Model(s):		CTC CombiAir	16M + CTC Ec	oZenith i360/EcoVent i360F			
Air-to-water heat pump:		Yes		Energy efficiency class:		-	
Water-to-water heat pump:		No		Controller class:	VI	-	
Brine-to-water heat pump:		No		Controller contribution:	4	%	
Low-temperature heat pump:		No		Package efficiency:	192	%	
Equipped with a supplementary	/ heater:	Yes		Package efficiency class:		-	
Heat pump combination heater	:	Yes					
		• • •	•	or low-temperature heat pumps. Fo	r low- tempe	rature heat p	umps,
parameters shall be declared fo	•	• • •					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	15	kW	Seasonal space heating energy efficiency	η_{s}	188	%
Declared capacity for heating for outdoor temperature T j	or part load at ii	ndoor temperat	ure 20 °C and	Declared coefficient of performation part load at indoor temperature	-		
T j = -7 °C	Pdh	na	kW	T j = − 7 °C	COPd	na] -
T j = + 2 °C	Pdh	12,6	kW	T j = +2 °C	COPd	2,53	-
T j = + 7 °C	Pdh	9,7	kW	T j = +7 °C	COPd	3,84	-
T j = + 12 °C	Pdh	6,9	kW	T j = +12 °C	COPd	6,79	- ↓
T j = bivalent temperature	Pdh	13,6	kW	T j = bivalent temperature	COPd	2,82	-
T j = operation limit temperature	Pdh	12,6	kW	T j = operation limit temperature	COPd	2,53	_
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 _{biv}	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	0,98	-	Heating water operating limit temperature	WTOL	58	°C
Power consumption in modes of	ther than activ	e mode		Supplementary heater			
Off mode	P OFF	0,002	kW	Rated heat output (*)	Psup	2,4	kW
Thermostat-off mode	P_{TO}	0,025	kW				
Standby mode	P_{SB}	0,012	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,035	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6000	m3/h
Sound power level, indoors/ outdoors	L _{WA}	-/61	dB	For water-/brine-to-water heat pumps: Rated brine or water	_	na	m3/h
Annual energy consumption	Q _{HE}	4186	kWh	flow rate, outdoor heat exchanger		iid	1113/11
For heat pump combination hea	ater:						
Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	η_{wh}	101	%
Daily electricity consumption	Qelec	8,050	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	1662	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the produc importance that t	t's life cycle, it mu he product's refrig	a recycling station or with the installation en st be sent correctly to a waste station or rese erant, compressor oil and electrical/electroni old waste is not permitted.	ller offering a ser	vice of that type	. It is of grea

CTC AB



Warm climate and Low tem	•	and near pamp	Combination	Theaters	Ljungby			
Model(s):	perature	CTC CombiAir	r 16M + CTC Fc	coZenith i360/EcoVent i360F	Ljungby			
Air-to-water heat pump:		Yes	1000 - 616 26	Energy efficiency class:		_		
Water-to-water heat pump:		No		Controller class:	VI	_		
Brine-to-water heat pump:		No		Controller contribution:	4	%		
Low-temperature heat pump:		No		Package efficiency:	241	%		
Equipped with a supplementary	/ heater:	Yes		Package efficiency class:		-		
Heat pump combination heater	'	Yes						
			ation, except fo	or low-temperature heat pumps. Fo	or low- tempe	rature heat p	umps,	
parameters shall be declared for	or low-tempera	ture application						
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit	
Rated heat output (*)	Prated	15	kW	Seasonal space heating energy efficiency	η_s	237	%	
Declared capacity for heating for outdoor temperature T j	or part load at i	ndoor temperat	ure 20 °C and	Declared coefficient of performance or primary energy ratio f part load at indoor temperature 20 °C and outdoor temperature				
T j = - 7 °C	Pdh	na	kW	T j = − 7 °C	COPd	na] -	
T j = + 2 °C	Pdh	12,4	kW	T j = +2 °C	COPd	3,83	-	
T j = + 7 °C	Pdh	9,7	kW	T j = +7 °C	COPd	5,24	- ∤	
T j = + 12 °C	Pdh	6,5	kW	T j = +12 °C	COPd	7,58	-	
T j = bivalent temperature	Pdh	13,5	kW	T j = bivalent temperature	COPd	4,16	-	
T j = operation limit temperature	Pdh	12,4	kW	T j = operation limit temperature	COPd	3,83	_	
For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	Pdh	na	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	na	-	
Bivalent temperature	T _{biv}	3	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C	
Cycling interval capacity for heating	P _{cych}	na	kW	Cycling interval efficiency	СОРсус	na	_	
Degradation co-efficient	Cdh	0,98	-	Heating water operating limit temperature	WTOL	58	°C	
Power consumption in modes of	ther than activ	e mode	1	Supplementary heater			-	
Off mode	P _{OFF}	0,002	kW	Rated heat output (*)	Psup	2,6	kW	
Thermostat-off mode	P _{TO}	0,025	kW					
Standby mode	P_{SB}	0,015	kW	Type of energy input		Electric		
Crankcase heater mode	P _{CK}	0,035	kW					
Other items								
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6000	m3/h	
Sound power level, indoors/ outdoors	L _{WA}	-/61	dB	For water-/brine-to-water heat pumps: Rated brine or water		na	m3/h	
Annual energy consumption	Q _{HE}	3334	kWh	flow rate, outdoor heat exchanger		IIa	1113/11	
For heat pump combination he	ater:							
Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	η_{wh}	101	%	
Daily electricity consumption	Qelec	8,050	kWh	Daily fuel consumption	Qfuel	NA	kWh	
Annual electricity consumption	AEC	1662	kWh	Annual fuel consumption	AFC	NA	GJ	
Specific precautions and end of life information:		end of the productimportance that t	ct's life cycle, it mu he product's refrig	t a recycling station or with the installation en ist be sent correctly to a waste station or rese gerant, compressor oil and electrical/electroni old waste is not permitted.	ller offering a ser	vice of that type.	It is of great	

Average climate and Medium temperature

CTC AB Ljungby



Average climate and Mediu	m temperatur	е			Ljungby		
Model(s):		CTC CombiAir	16M + CTC Ec	oZenith i360/EcoVent i360F			
Air-to-water heat pump:		Yes		Energy efficiency class:	A++	-	
Water-to-water heat pump:		No		Controller class:	VI	-	
Brine-to-water heat pump:		No		Controller contribution:	4	%	
Low-temperature heat pump:		No		Package efficiency:	138	%	
Equipped with a supplementary	y heater:	Yes		Package efficiency class:	A++	-	
Heat pump combination heater Parameters shall be declared fo parameters shall be declared fo	or medium-tem			or low-temperature heat pumps. Fo	or low- tempe	rature heat p	oumps,
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	14	kW	Seasonal space heating energy efficiency	$\eta_{\mathcal{S}}$	134	%
Declared capacity for heating fo	or part load at i	ndoor temperat	ure 20 °C and	Declared coefficient of performation part load at indoor temperature			
Г j = – 7 °C	Pdh	12,5	kW	T j = - 7 °C	COPd	2,01] -
Г j = + 2 °С	Pdh	7,6	kW	T j = +2 °C	COPd	3,29	
T j = + 7 °C	Pdh	4,9	kW	T j = +7 °C	COPd	4,68	- ↓
Γ j = + 12 °C	Pdh	6,8	kW	T j = +12 °C	COPd	6,51	┧ -
T j = bivalent temperature	Pdh	12,7	kW	T j = bivalent temperature	COPd	1,95	-
T j = operation limit temperature	Pdh	11,0	kW	T j = operation limit temperature	COPd	1,95] -
For air-to-water heat pumps: $\Gamma j = -15 ^{\circ}C \text{ (if TOL } < -20 ^{\circ}C \text{)}$	Pdh	na	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	na	-
Bivalent temperature	T _{biv}	-7,6	°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	58	°C
Power consumption in modes o	other than activ	e mode		Supplementary heater			_
Off mode	P _{OFF}	0,002	kW	Rated heat output (*)	Psup	3,0	kW
Thermostat-off mode	P _{TO}	0,016	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,035	kW				
Other items						_	_
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6000	m3/
Sound power level, indoors/ outdoors	L _{WA}	-/61	dB	For water-/brine-to-water heat pumps: Rated brine or water	-	na	m3/
Annual energy consumption	Q _{HE}	8428	kWh	flow rate, outdoor heat exchanger		110	5/
or heat pump combination he	ater:						1
Declared load profile	XL	Efficiency class	A	Water heating energy efficiency	η_{wh}	88	%
Daily electricity consumption	Qelec	9,170	kWh	Daily fuel consumption	Qfuel	NA	kW
Annual electricity consumption	AEC	1900	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the produc importance that t	t's life cycle, it mu he product's refrig	a recycling station or with the installation er st be sent correctly to a waste station or rese erant, compressor oil and electrical/electroni old waste is not permitted.	eller offering a ser	vice of that type	. It is of g



Information for heat pump sp Average climate and Low ter		and heat pump	combinatio	n heaters	CTC AB Ljungby		
Model(s):		CTC CombiAir	16M + CTC F	coZenith i360/EcoVent i360F	Ljungby		
Air-to-water heat pump:		Yes	TOWN : CTC EX	Energy efficiency class:	A+++	_	
Water-to-water heat pump:		No		Controller class:	VI	_	
Brine-to-water heat pump:		No		Controller contribution:	4	%	
Low-temperature heat pump:		No		Package efficiency:	180	%	
Equipped with a supplementary	hoator:	Yes		Package efficiency class:	A+++	-	
		Yes		rackage efficiency class.	Аттт		
Heat pump combination heater: Parameters shall be declared for			tion, except fo	or low-temperature heat pumps. Fo	r low- tempe	rature heat p	umps.
parameters shall be declared fo			· · · · · · · · · · · · · · · · · · ·				
Item	Symbol	Value	Unit	Item	Symbol	Value	Uni
Rated heat output (*)	Prated	15	kW	Seasonal space heating energy efficiency	η_{s}	176	%
Declared capacity for heating fo outdoor temperature T j	r part load at i	ndoor temperat	ure 20 °C and	Declared coefficient of performation			
T j = - 7 °C	Pdh	12,9	kW	T j = - 7 °C	COPd	2,96] -
T j = + 2 °C	Pdh	7,9	kW	T j = +2 °C	COPd	4,37] -
T j = + 7 °C	Pdh	5,1	kW	T j = +7 °C	COPd	5,59	-
T j = + 12 °C	Pdh	6,4	kW	T j = +12 °C	COPd	7,70	-
T j = bivalent temperature	Pdh	13,4	kW	T j = bivalent temperature	COPd	2,86	-
T j = operation limit	Pdh	12,5	kW	T j = operation limit	COPd	2,71] .
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	-
Bivalent temperature	T _{biv}	-8	°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	58	°C
Power consumption in modes of	ther than activ	e mode	•	Supplementary heater			_
Off mode	P OFF	0,002	kW	Rated heat output (*)	Psup	2,0	kW
Thermostat-off mode	P _{TO}	0,025	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,035	kW				
Other items		•			<u> </u>		
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6000	m3/
Sound power level, indoors/ outdoors	L _{WA}	-/61	dB	For water-/brine-to-water heat pumps: Rated brine or water			
Annual energy consumption	Q _{HE}	6691	kWh	flow rate, outdoor heat exchanger	-	na	m3/
For heat pump combination hea	iter:						
Declared load profile	XL	Efficiency class	Α	Water heating energy efficiency	$\eta_{\sf wh}$	88	%
Daily electricity consumption	Qelec	9,170	kWh	Daily fuel consumption	Qfuel	NA	kW
Annual electricity consumption	AEC	1900	kWh	Annual fuel consumption	AFC	NA	GJ

Specific precautions and end of life information:

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

Cold climate and Medium temperature

CTC AB



Cold climate and Medium to	emperature				Ljungby		
Model(s):		CTC CombiAir	16M + CTC Ec	oZenith i360/EcoVent i360F			
Air-to-water heat pump:		Yes		Energy efficiency class:		-	
Water-to-water heat pump:		No		Controller class:	VI	-	
Brine-to-water heat pump:		No		Controller contribution:	4	%	
Low-temperature heat pump:		No		Package efficiency:	112	%	
Equipped with a supplementar	y heater:	Yes		Package efficiency class:		-	
Heat pump combination heater		Yes					
				or low-temperature heat pumps. Fo	or low- tempe	rature heat	pumps,
parameters shall be declared fo	•	• • • • • • • • • • • • • • • • • • • •		H	C. mala al	Malara	Hait
Item	Symbol	Value	Unit	Item Seasonal space heating energy	Symbol	Value	Unit
Rated heat output (*)	Prated	16	kW	efficiency	$\eta_{\mathcal{S}}$	108	%
Declared capacity for heating for outdoor temperature T j	or part load at i	ndoor temperati	ure 20 °C and	Declared coefficient of performation part load at indoor temperature	-		
T j = - 7 °C	Pdh	9,8	kW	T j = - 7 °C	COPd	2,40	_
T j = + 2 °C	Pdh	6,0	kW	T j = +2 °C	COPd	3,45] -
T j = + 7 °C	Pdh	4,8	kW	T j = +7 °C	COPd	4,98	-
T j = + 12 °C	Pdh	6,7	kW	T j = +12 °C	COPd	7,21	
T j = bivalent temperature	Pdh	11,5	kW	T j = bivalent temperature	COPd	2,01	_
T j = operation limit temperature	Pdh	6,7	kW	T j = operation limit temperature	COPd	1,64	
For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	Pdh	1,7	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	3,01	-
Bivalent temperature	T _{biv}	-11	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-20	°c
Cycling interval capacity for heating	P cych	-/61	kW	Cycling interval efficiency	СОРсус	na	
Degradation co-efficient	Cdh	0,97	-	Heating water operating limit temperature	WTOL	58	°C
Power consumption in modes of	other than activ	e mode		Supplementary heater			
Off mode	P OFF	0,002	kW	Rated heat output (*)	Psup	16,0	kW
Thermostat-off mode	P _{TO}	0,025	kW				
Standby mode	P_{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,035	kW				
Other items							
Capacity control		Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6000	m3/l
Sound power level, indoors/ outdoors	L _{WA}	35/61	dB	For water-/brine-to-water heat pumps: Rated brine or water	_	na	m3/l
Annual energy consumption	Q _{HE}	13629	kWh	flow rate, outdoor heat exchanger	-	IIa	1113/1
For heat pump combination he	ater:						
Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	$\eta_{\sf wh}$	78	%
Daily electricity consumption	Qelec	10,390	kWh	Daily fuel consumption	Qfuel	NA	kWh
Annual electricity consumption	AEC	2154	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the produc	t's life cycle, it mu he product's refrig	a recycling station or with the installation en st be sent correctly to a waste station or rese erant, compressor oil and electrical/electroni old waste is not permitted.	ller offering a serv	vice of that type	e. It is of gre
Contact details	CTC AB Box 309	9. SF-341 26 Liun	ghy Tel +46 37	72 88000 www.ctc.se			23121

CTC AB



Cold climate and Low tempe	rature				Ljungby		
Model(s): CTC CombiAir 1			16M + CTC Ec	oZenith i360/EcoVent i360F			
Air-to-water heat pump:		Yes		Energy efficiency class:		-	
Water-to-water heat pump:		No		Controller class:	VI	-	
Brine-to-water heat pump:		No		Controller contribution:	4	%	
Low-temperature heat pump:		No		Package efficiency:	140	%	
Equipped with a supplementary heater:		Yes		Package efficiency class:		-	
Heat pump combination heater	:	Yes					
				or low-temperature heat pumps. Fo	or low- tempe	rature heat p	oumps,
parameters shall be declared fo 	·				Cl.	Malara	
Item	Symbol	Value	Unit	Item	Symbol	Value	Uni
Rated heat output (*)	Prated	15	kW	Seasonal space heating energy efficiency	η_s	136	%
Declared capacity for heating for part load at indoor temperature 20 $^{\circ}\text{C}$ and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T			
T j = - 7 °C	Pdh	9,2	kW	T j = - 7 °C	COPd	3,20] -
T j = + 2 °C	Pdh	5,6	kW	T j = +2 °C	COPd	4,31	-
T j = + 7 °C	Pdh	4,7	kW	T j = +7 °C	COPd	5,67	-
T j = + 12 °C	Pdh	6,5	kW	T j = +12 °C	COPd	7,67	
T j = bivalent temperature	Pdh	11,2	kW	T j = bivalent temperature	COPd	2,72	_
T j = operation limit temperature	Pdh	8,1	kW	T j = operation limit temperature	COPd	2,14	-
For air-to-water heat pumps: $\Gamma j = -15 ^{\circ}\text{C}$ (if TOL < $-20 ^{\circ}\text{C}$)	Pdh	1,7	kW	For air-to-water heat pumps: T j = -15 °C (if TOL < -20 °C)	COPd	4,02	-
Bivalent temperature	T _{biv}	-13	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-20	°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	58	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P OFF	0,002	kW	Rated heat output (*)	Psup	15,0	kW
Thermostat-off mode	P_{TO}	0,025	kW				
Standby mode	P _{SB}	0,015	kW	Type of energy input		Electric	
Crankcase heater mode	P _{CK}	0,035	kW				
Other items							
Capacity control	Variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	6000	m3/	
Sound power level, indoors/ outdoors	L _{WA}	-/61	dB	For water-/brine-to-water heat pumps: Rated brine or water		na	m2
Annual energy consumption	Q _{HE}	10628	kWh	flow rate, outdoor heat exchanger	-	na	m3,
For heat pump combination hea	ater:						
Declared load profile	XL	Efficiency class	na	Water heating energy efficiency	η_{wh}	78	%
Daily electricity consumption	Q_{elec}	10,390	kWh	Daily fuel consumption	\mathbf{Q}_{fuel}	NA	kW
Annual electricity consumption	AEC	2154	kWh	Annual fuel consumption	AFC	NA	GJ
Specific precautions and end of life information:		end of the production importance that t	ct's life cycle, it mu he product's refrig	a recycling station or with the installation er st be sent correctly to a waste station or rese gerant, compressor oil and electrical/electroni old waste is not permitted.	ller offering a ser	vice of that type	. It is of g