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Air handling with focus on LCC

Product fiche EcoHeater

Parameter	Unit	EcoHeater 060-2	EcoHeater 100-2	EcoHeater 150-2	EcoHeater 190-2	EcoHeater 240-2	EcoHeater 300-2
Seasonal space heating energy efficiency class, average climate	-	**A++**	**A++**	**A++**	**A++**	**A++**	**A++**
Rated heat output, P_{rated} average climate	kW	14	19	24	47	48	63
Seasonal space heating energy efficiency, η_s average climate	%	137	152	165	156	163	161
Annual energy consumption for space heating, Q_{HE} average climate	kWh	8 196	9 673	11 530	23 677	22 881	30 876
Sound power level L_{WA} indoors	dB	42	44	52	53	52	55
Rated heat output, P_{rated} colder climate	kW	15	19	24	48	48	64
Rated heat output, P_{rated} warmer climate	kW	15	19	24	47	48	64
Seasonal space heating energy efficiency, η_s colder climate	%	142	158	172	161	169	166
Seasonal space heating energy efficiency, η_s warmer climate	%	131	146	158	152	159	157
Annual energy consumption for space heating, Q_{HE} colder climate	kWh	9 588	11 207	13 268	27 970	26 775	36 227
Annual energy consumption for space heating, Q_{HE} warmer climate	kWh	5 638	6 523	7 773	15 798	15 355	20 658
Sound power level L_{WA} outdoors	dB	66	69	70	78	73	77
With temperature control							
Supplier		Siemens	Siemens	Siemens	Siemens	Siemens	Siemens
Model		Climatix	Climatix	Climatix	Climatix	Climatix	Climatix
Class		II	II	II	II	II	II
Contribution to the seasonal space heating energy efficiency, η_s	%	2	2	2	2	2	2
Seasonal space heating energy efficiency, η_s average climate	%	139	154	167	158	165	163
Seasonal space heating energy efficiency class, average climate	-	A++	A+++	A+++	A+++	A+++	A+++

Calculations in accordance with 811/2013, 813/2013, EN 14511:2011 and EN 14825:2013.

Product fiche EcoHeater

Parameter	Unit	EcoHeater 060-2			EcoHeater 100-2			EcoHeater 150-2			EcoHeater 190-2			EcoHeater 240-2			EcoHeater 300-2		
Exhaust air-to-water heat pump	-	Yes			Yes			Yes			Yes			Yes			Yes		
Equipped with supplementary heater	-	No			No			No			No			No			No		
Heat pump combination heater	-	No			No			No			No			No			No		
Medium temperature application	°C	55			55			55			55			55			55		
		Colder	Average	Warmer	Colder	Average	Warmer	Colder	Average	Warmer	Colder	Average	Warmer	Colder	Average	Warmer	Colder	Average	Warmer
Rated heat output, P_{rated}	kW	14,6	14,3	14,5	18,9	18,7	18,8	24,4	24,2	24,3	48,1	47,1	47,4	48,4	47,6	48,2	64,2	63,3	63,9
$P_{dh}(T_j = -7\ °C)$	kW	8,8	12,6	-	11,4	16,5	-	14,7	21,3	-	29,1	41,5	-	29,3	42,0	-	38,8	55,8	-
$P_{dh}(T_j = 2\ °C)$	kW	5,4	7,7	14,5	7,0	10,1	18,8	9,0	13,0	24,2	17,7	25,4	47,4	17,8	25,7	48,2	23,6	34,1	63,9
$P_{dh}(T_j = 7\ °C)$	kW	3,5	5,0	9,3	5,7	6,5	12,1	7,3	8,4	15,6	17,2	17,0	30,5	17,4	17,1	31,0	23,2	22,8	41,1
$P_{dh}(T_j = 12\ °C)$	kW	3,4	3,4	4,2	5,7	5,7	6,1	7,4	7,4	7,8	17,5	17,4	17,1	17,7	17,5	17,2	23,6	23,4	23,0
$P_{dh}(T_j = T_{bivalent})$	kW	14,6	14,3	14,5	18,8	19,1	18,8	24,3	24,6	24,2	48,1	47,1	47,4	48,4	47,6	48,2	64,2	64,5	63,9
$P_{dh}(T_j = T_{OL})$	kW	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
$P_{dh}(T_j = -15\ °C)$, if $T_{OL} < -20\ °C$	kW	11,9	N/A	N/A	15,4	N/A	N/A	19,9	N/A	N/A	39,2	N/A	N/A	39,4	N/A	N/A	52,2	N/A	N/A
$T_{bivalent}$	°C	-22,0	-10,0	2,0	-22,0	-10,0	2,0	-22,0	-10,0	2,0	-22,0	-10,0	2,0	-22,0	-10,0	2,0	-22,0	-10,0	2,0
Cycling interval capacity, P_{cych}	kW	5,9	6,3	6,0	8,0	8,6	8,3	10,3	11,1	10,6	21,3	22,5	22,0	21,5	22,7	22,3	28,5	30,2	29,7
Degradation coefficient, C_{dh}	-	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9
Seasonal space heating energy efficiency, η_s	-	142%	137%	131%	158%	152%	146%	172%	165%	158%	161%	156%	152%	169%	163%	159%	166%	161%	157%
$COPd(T_j = -7\ °C)$	-	3,55	2,89	-	3,90	3,14	-	4,15	3,27	-	3,97	3,08	-	4,12	3,15	-	4,08	3,15	-
$COPd(T_j = 2\ °C)$	-	4,20	3,77	2,65	4,61	4,15	2,88	5,07	4,44	2,99	4,68	4,25	2,78	4,95	4,43	2,83	4,80	4,36	2,85
$COPd(T_j = 7\ °C)$	-	4,16	4,23	3,38	4,97	4,66	3,71	5,55	5,14	3,88	5,18	4,74	3,75	5,52	5,04	3,87	5,32	4,87	3,85
$COPd(T_j = 12\ °C)$	-	4,46	4,28	4,25	5,50	5,20	4,82	6,22	5,84	5,35	5,63	5,39	4,96	6,02	5,76	5,27	5,78	5,54	5,09
$COPdh(T_j = T_{bivalent})$	-	2,73	2,64	2,65	2,99	2,86	2,88	3,10	2,96	2,99	2,86	2,75	2,78	2,94	2,81	2,83	2,95	2,83	2,84
$COPdh(T_j = T_{OL})$	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
$COPdh(T_j = -15\ °C)$, if $T_{OL} < -20\ °C$	-	3,12	N/A	N/A	3,40	N/A	N/A	3,55	N/A	N/A	3,35	N/A	N/A	3,44	N/A	N/A	3,44	N/A	N/A
T_{OL}	°C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cycling interval efficieny, COP_{cych}	-	1,58	1,52	1,53	1,84	1,74	1,82	2,01	1,89	1,97	1,97	1,86	2,00	2,07	1,94	2,08	2,03	1,92	2,06
Heating water operating limit temperature, W_{TOL}	°C		60			60			60			60			60			60	
Off mode, P_{OFF}	kW		0,000			0,000			0,000			0,000			0,000			0,000	
Thermostat-off mode, P_{TO}	kW		0,055			0,055			0,055			0,055			0,055			0,055	
Standby mode, P_{SB}	kW		0,055			0,055			0,055			0,055			0,055			0,055	
Crankcase heater mode, P_{CK}	kW		0,065			0,065			0,065			0,065			0,065			0,065	
Supplementary heater	-		No			No			No			No			No			No	
Capacity control	-		variable			variable			variable			variable			variable			variable	
Sound power level, L_{WA} (indoors/outdoors)	dB		42 / 66			44 / 69			52 / 70			53 / 78			52 / 73			55 / 77	
Annual energy consumption, Q_{HE}	kWh	9 588	8 196	5 638	11 207	9 673	6 523	13 268	11 530	7 773	27 970	23 677	15 798	26 775	22 881	15 355	36 227	30 876	20 658
Rated airflow outdoors	m³/h	1 476	1 476	1 476	2 124	2 124	2 124	2 772	2 772	2 772	5 328	5 328	5 328	5 400	5 400	5 400	7 272	7 272	7 272

Calculations in accordance with 811/2013, 813/2013, EN 14511:2011 and EN 14825:2013.