

Heat pump model	Master Therm	BA30I-1, BA30I-0
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Heat pump type	Air/Water	
Supplementary heater	Yes	
Heat pump combination heater	No	

Reference heating season	Average	SCOP		
Reference water temperature	LOW, 35°C	4.75		
Full load heating	Prated [kW]	7.64		
Seasonal efficiency	η_s [%]	187		
Annual electricity consumption	Q_{HE} [kWh]	3326		
Average 35°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Outdoor air			
	Tj [°C]	Pdh [kW]	COPd (-)	Cdh (-)
A	-7	6.76	2.80	0.900
B	2	4.35	4.52	0.900
C	7	2.82	6.91	0.900
D	12	3.46	8.54	0.958
TOL (E)	-10	6.23	2.64	0.900
Tbivalent (F)	-7	6.76	2.80	0.900

Reference heating season	Average	SCOP		
Reference water temperature	High, 55°C	3.61		
Full load heating	Prated [kW]	7.14		
Seasonal efficiency	η_s [%]	141		
Annual electricity consumption	Q_{HE} [kWh]	4088		
Average 55°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Outdoor air			
	Tj [°C]	Pdh [kW]	COPd (-)	Cdh (-)
A	-7	6.31	2.02	0.900
B	2	4.15	3.46	0.900
C	7	2.69	5.33	0.900
D	12	3.31	6.53	0.966
TOL (E)	-10	5.61	1.79	0.900
Tbivalent (F)	-7	6.31	2.02	0.900

Reference heating season	Warmer			
Reference water temperature	Low, 35°C			
Full load heating	Prated [kW]			
Seasonal efficiency	η_s [%]			
Annual electricity consumption	Q_{HE} [kWh]			
Warmer 35°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Outdoor air			
	Tj [°C]	Pdh [kW]	COPd (-)	Cdh (-)
B	2	9.04	3.49	0.900
C	7	5.83	5.83	0.900
D	12	2.61	8.85	0.900
TOL (E)	2	9.04	3.49	0.900
Tbivalent (F)	2	9.04	3.49	0.900

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Reference heating season		Warmer		
Reference water temperature		High, 55°C		
Full load heating	Prated [kW]		8.41	
Seasonal efficiency	η_s [%]		185	
Annual electricity consumption	Q_{HE} [kWh]		2386	
Warmer 55°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Outdoor air			
	Tj [°C]	Pdh [kW]	COPd (-)	Cdh (-)
B	2	8.41	2.34	0.900
C	7	5.36	3.89	0.900
D	12	2.47	6.32	0.900
TOL (E)	2	8.41	2.34	0.900
Tbivalent (F)	2	8.41	2.34	0.900

Reference heating season		Colder		
Reference water temperature		Low, 35°C		
Full load heating	Prated [kW]		11.14	
Seasonal efficiency	η_s [%]		139.07	
Annual electricity consumption	Q_{HE} [kWh]		6587	
Colder 35°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Outdoor air			
	Tj [°C]	Pdh [kW]	COPd (-)	Cdh (-)
A	-7	6.74	1.00	2.943
B	2	4.10	1.00	4.831
C	7	2.64	1.00	7.116
D	12	1.17	0.45	8.536
TOL (E)	-22	11.14	1.00	2.128
Tbivalent (F)	-7	6.74	1.00	2.943
G	-15	9.09	1.00	2.430

Reference heating season		Colder		
Reference water temperature		High, 55°C		
Full load heating	Prated [kW]		10.94	
Seasonal efficiency	η_s [%]		114.12	
Annual electricity consumption	Q_{HE} [kWh]		7845	
Colder 55°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Outdoor air			
	Tj [°C]	Pdh [kW]	COPd (-)	Cdh (-)
A	-7	6.62	1.00	2.376
B	2	4.03	1.00	3.864
C	7	2.59	1.00	5.798
D	12	1.15	0.46	6.963
TOL (E)	-22	10.94	1.00	1.510
Tbivalent (F)	-7	6.62	1.00	2.376
G	-15	8.92	1.00	1.840

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Power consumption in modes other than "active mode"		
Off mode	P _{OFF} [kW]	0.018
Thermostat off mode	P _{TO} [kW]	0.017
Standby mode	P _{SB} [kW]	0.018
Crankcaseheater mode	P _{CK} [kW]	-
Supplementary heater capacity	P _{sup} [kW]	6(+6)
Supplementary heater type	[-]	electricity
Capacity control		Variable
Sound power level Indoor	L _{WA} [dBA]	-
Sound power level Outdoor	L _{WA} [dBA]	58
Rated airflow	[m ³ /h]	max.6000
Temperature controller		
Type	Carel pCO5/pCO5+/uPC, Master Therm custom SW	
Class	II	
Contribution	%	2.0
Temperature controller + Room Terminal		
Type	Carel pCO5/pCO5+/uPC + pAD, Master Therm custom SW	
Class	VI	
Contribution	%	4.0

Heat pump model**Master Therm****BA30I-1, BA30I-0****Information sheet**

Temperature application		Low, 35°C	High, 55°C
Space heating energy efficiency class, Average climate	-	A+++	A++
Nominal heating capacity Pdesign, Average climate	kW	8	7
Space heating seasonal efficiency, Average climate	%	187	141
Space heating annual electricity consumption, Average cl.	kWh	3326	4088
Nominal heating capacity Pdesign, Colder climate	kW	11	11
Space heating seasonal efficiency, Colder climate	%	139	114
Space heating annual electricity consumption, Colder cl.	kWh	6587	7845
Nominal heating capacity Pdesign, Warmer climate	kW	9	8
Space heating seasonal efficiency, Warmer climate	%	270	185
Space heating annual electricity consumption, Warmer cl.	kWh	1771	2386
Sound power level Lwa Outdoor	dBA	58	

Information sheet for energy efficiency Set with Temperature controller

Temperature application		Low, 35°C	High, 55°C
Controller Carel pCO5/pCO5+/uPC, Class	-	II	II
Controller Carel pCO5/pCO5+/uPC, Contribution	%	2.0	2.0
Set Space heating seasonal efficiency, Average climate	%	189	143
Set Space heating energy efficiency class, Average climate	-	A+++	A++
Set Space heating seasonal efficiency, Colder climate	%	141	116
Set Space heating seasonal efficiency, Warmer climate	%	272	187

Information sheet for energy efficiency Set with Temperature controller + Room Terminal

Temperature application		Low, 35°C	High, 55°C
Controller Carel pCO5/pCO5+/uPC + pAD, Class	-	VI	VI
Controller Carel pCO5/pCO5+/uPC, +pAD, Contribution	%	4.0	4.0
Set Space heating seasonal efficiency, Average climate	%	191	145
Set Space heating energy efficiency class, Average climate	-	A+++	A++
Set Space heating seasonal efficiency, Colder climate	%	143	118
Set Space heating seasonal efficiency, Warmer climate	%	274	189