

Heat pump model	Master Therm	AQ171-1, AQ171-0
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Heat pump type	Brine/Water
Supplementary heater	No
Heat pump combination heater	No

Reference heating season			Average	
Reference water temperature			LOW, 35°C	
Full load heating	Prated [kW]	4,73		
Seasonal efficiency	η_s [%]	175		
Annual electricity consumption	Q_{HE} [kWh]	2134		
Average 35°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Outdoor air			
	T_j [°C]	P_{dh} [kW]	COP_d (-)	C_{dh} (-)
A	-7	4,36	4,03	0,900
B	2	2,77	4,58	0,900
C	7	1,71	5,24	0,900
D	12	1,11	5,24	0,944
TOL (E)	-10	4,73	3,97	0,900
Tbivalent (F)	-10	4,73	3,97	0,900

Reference heating season			Average	
Reference water temperature			High, 55°C	
Full load heating	Prated [kW]	4,02		
Seasonal efficiency	η_s [%]	130		
Annual electricity consumption	Q_{HE} [kWh]	2402		
Average 55°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Outdoor air			
	T_j [°C]	P_{dh} [kW]	COP_d (-)	C_{dh} (-)
A	-7	3,71	2,79	0,900
B	2	2,28	3,46	0,900
C	7	1,43	4,08	0,900
D	12	1,03	4,19	0,952
TOL (E)	-10	4,02	2,64	0,900
Tbivalent (F)	-10	4,02	2,64	0,900

Reference heating season			Warmer	
Reference water temperature			Low, 35°C	
Full load heating	Prated [kW]	4,73		
Seasonal efficiency	η_s [%]	177		
Annual electricity consumption	Q_{HE} [kWh]	1368		
Warmer 35°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Outdoor air			
	T_j [°C]	P_{dh} [kW]	COP_d (-)	C_{dh} (-)
B	2	4,73	3,97	0,900
C	7	3,06	4,40	0,900
D	12	1,42	5,39	0,900
TOL (E)	2	4,73	3,97	0,900
Tbivalent (F)	2	4,73	3,97	0,900

Heat pump model	Master Therm	AQ17I-1, AQ17I-0
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Reference heating season		Warmer		
Reference water temperature		High, 55°C		
Full load heating		Prated [kW]	4,02	
Seasonal efficiency		η_s [%]	127	
Annual electricity consumption		Q_{HE} [kWh]	1597	
Warmer 55°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Outdoor air			
	Tj [°C]			
		Pdh [kW]	COPd (-)	Cdh (-)
B	2	4,02	2,64	0,900
C	7	2,66	3,07	0,900
D	12	1,23	4,08	0,900
TOL (E)	2	4,02	2,64	0,900
Tbivalent (F)	2	4,02	2,64	0,900

Reference heating season		Colder		
Reference water temperature		Low, 35°C		
Full load heating		Prated [kW]	4,73	
Seasonal efficiency		η_s [%]	185	
Annual electricity consumption		Q_{HE} [kWh]	2418	
Colder 35°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Outdoor air			
	Tj [°C]			
		Pdh [kW]	COPd (-)	Cdh (-)
A	-7	2,89	4,54	0,900
B	2	1,85	5,24	0,900
C	7	1,20	5,39	0,900
D	12	1,11	5,24	0,944
TOL (E)	-22	4,73	3,97	0,900
Tbivalent (F)	-22	4,73	3,97	0,900
G	-15	3,98	4,17	0,900

Reference heating season		Colder		
Reference water temperature		High, 55°C		
Full load heating		Prated [kW]	4,02	
Seasonal efficiency		η_s [%]	137	
Annual electricity consumption		Q_{HE} [kWh]	2742	
Colder 55°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Outdoor air			
	Tj [°C]			
		Pdh [kW]	COPd (-)	Cdh (-)
A	-7	2,57	3,29	0,900
B	2	1,56	3,97	0,900
C	7	1,05	4,43	0,950
D	12	1,05	4,43	0,950
TOL (E)	-22	4,02	2,64	0,900
Tbivalent (F)	-22	4,02	2,64	0,900
G	-15	4,14	2,95	0,992

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Power consumption in modes other than "active mode"		
Off mode	P _{OFF} [kW]	0,012
Thermostat off mode	P _{TO} [kW]	0,012
Standby mode	P _{SB} [kW]	0,012
Crankcaseheater mode	P _{CK} [kW]	-

Supplementary heater capacity	P _{sup} [kW]	-
Supplementary heater type	[-]	electricity

Capacity control		Variable
Sound power level Indoor	L _{WA} [dBA]	49
Sound power level Outdoor	L _{WA} [dBA]	-
Rated brine flow	[m ³ /h]	0,67

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

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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	5	4
Space heating seasonal efficiency, Average climate	%	175	130
Space heating annual electricity consumption, Average cl.	kWh	2134	2402
Nominal heating capacity Pdesign, Colder climate	kW	5	4
Space heating seasonal efficiency, Colder climate	%	185	137
Space heating annual electricity consumption, Colder cl.	kWh	2418	2742
Nominal heating capacity Pdesign, Warmer climate	kW	5	4
Space heating seasonal efficiency, Warmer climate	%	177	127
Space heating annual electricity consumption, Warmer cl.	kWh	1368	1597
Sound power level Lwa	dBA	49	

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	%	177	132
Set Space heating energy efficiency class, Average climate	-	A+++	A++
Set Space heating seasonal efficiency, Colder climate	%	187	139
Set Space heating seasonal efficiency, Warmer climate	%	179	129

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	%	179	134
Set Space heating energy efficiency class, Average climate	-	A+++	A++
Set Space heating seasonal efficiency, Colder climate	%	189	141
Set Space heating seasonal efficiency, Warmer climate	%	181	131