

<b>Heat pump model</b>	<b>Master Therm</b>	<b>AQ22IC-1, AQ22IC-0</b>
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Heat pump type	Brine/Water
Supplementary heater	No
Heat pump combination heater	Yes

Reference heating season		<b>Average</b>		
Reference water temperature		<b>LOW, 35°C</b>		
Full load heating		<b>Prated [kW]</b>	<b>6,73</b>	
Seasonal efficiency		<b><math>\eta_s</math> [%]</b>	<b>181</b>	<b>A+++</b>
Annual electricity consumption		<b>Q<sub>HE</sub> [kWh]</b>	<b>2944</b>	
<b>Average 35°C</b>	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Outdoor air			
	T <sub>j</sub> [°C]	P <sub>dh</sub> [kW]	COP <sub>d</sub> (-)	C <sub>dh</sub> (-)
A	-7	5,92	4,29	0,900
B	2	3,62	4,65	0,900
C	7	2,38	5,28	0,900
D	12	1,19	5,28	0,947
TOL (E)	-10	6,73	4,22	0,900
Tbivalent (F)	-10	6,73	4,22	0,900

Reference heating season		<b>Average</b>		
Reference water temperature		<b>High, 55°C</b>		
Full load heating		<b>Prated [kW]</b>	<b>6,40</b>	
Seasonal efficiency		<b><math>\eta_s</math> [%]</b>	<b>135</b>	<b>A++</b>
Annual electricity consumption		<b>Q<sub>HE</sub> [kWh]</b>	<b>3690</b>	
<b>Average 55°C</b>	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Outdoor air			
	T <sub>j</sub> [°C]	P <sub>dh</sub> [kW]	COP <sub>d</sub> (-)	C <sub>dh</sub> (-)
A	-7	5,52	2,96	0,900
B	2	3,40	3,56	0,900
C	7	2,32	4,10	0,900
D	12	1,10	4,22	0,954
TOL (E)	-10	6,40	2,83	0,900
Tbivalent (F)	-10	6,40	2,83	0,900

Reference heating season		<b>Warmer</b>		
Reference water temperature		<b>Low, 35°C</b>		
Full load heating		<b>Prated [kW]</b>	<b>6,73</b>	
Seasonal efficiency		<b><math>\eta_s</math> [%]</b>	<b>183</b>	
Annual electricity consumption		<b>Q<sub>HE</sub> [kWh]</b>	<b>1883</b>	
<b>Warmer 35°C</b>	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Outdoor air			
	T <sub>j</sub> [°C]	P <sub>dh</sub> [kW]	COP <sub>d</sub> (-)	C <sub>dh</sub> (-)
B	2	6,73	4,22	0,900
C	7	4,27	4,51	0,900
D	12	2,00	5,43	0,900
TOL (E)	2	6,73	4,22	0,900
Tbivalent (F)	2	6,73	4,22	0,900

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Reference heating season		Warmer		
Reference water temperature		High, 55°C		
Full load heating	Prated [kW]		6,40	
Seasonal efficiency	$\eta_s$ [%]		132	
Annual electricity consumption	$Q_{HE}$ [kWh]		2436	
Warmer 55°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Outdoor air			
	Tj [°C]	Pdh [kW]	COPd (-)	Cdh (-)
B	2	6,40	2,83	0,900
C	7	4,07	3,21	0,900
D	12	1,82	4,11	0,900
TOL (E)	2	6,40	2,83	0,900
Tbivalent (F)	2	6,40	2,83	0,900

Reference heating season		Colder		
Reference water temperature		Low, 35°C		
Full load heating	Prated [kW]		6,78	
Seasonal efficiency	$\eta_s$ [%]		188	
Annual electricity consumption	$Q_{HE}$ [kWh]		3413	
Colder 35°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Outdoor air			
	Tj [°C]	Pdh [kW]	COPd (-)	Cdh (-)
A	-7	4,01	4,62	0,900
B	2	2,63	5,19	0,900
C	7	1,76	5,43	0,900
D	12	1,58	5,28	0,960
TOL (E)	-22	6,78	4,40	0,900
Tbivalent (F)	-22	6,78	4,40	0,900
G	-15	5,54	4,46	0,900

Reference heating season		Colder		
Reference water temperature		High, 55°C		
Full load heating	Prated [kW]		Climate	
Seasonal efficiency	$\eta_s$ [%]		0	
Annual electricity consumption	$Q_{HE}$ [kWh]		16	
Colder 55°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Outdoor air			
	Tj [°C]	Pdh [kW]	COPd (-)	Cdh (-)
A	-7	3,85	3,42	0,900
B	2	2,44	3,99	0,900
C	7	1,64	4,46	0,900
D	12	1,49	4,46	0,964
TOL (E)	-22	6,48	3,03	0,900
Tbivalent (F)	-22	6,48	3,03	0,900
G	-15	5,37	3,13	0,900

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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]	3-4 (4,5-6)
Supplementary heater type	[-]	electricity

Capacity control		Variable
Sound power level Indoor	$L_{WA}$ [dBA]	48
Sound power level Outdoor	$L_{WA}$ [dBA]	-
Rated brine flow	[m <sup>3</sup> /h]	0,99

Declared load profile / Tapping cycle		L
Daily electricity consumption	$Q_{elec}$ [kWh]	3,332
Water heating energy efficiency	$\eta_{wh}$ [%]	86

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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<b>Information sheet</b>			
Temperature application		<b>Low, 35°C</b>	<b>High, 55°C</b>
Space heating energy efficiency class, Average climate	-	A+++	A++
Nominal heating capacity Pdesign, Average climate	kW	7	6
Space heating seasonal efficiency, Average climate	%	181	135
Space heating annual electricity consumption, Average cl.	kWh	2944	3690

Nominal heating capacity Pdesign, Colder climate	kW	7	Climate
Space heating seasonal efficiency, Colder climate	%	188	0
Space heating annual electricity consumption, Colder cl.	kWh	3413	16

Nominal heating capacity Pdesign, Warmer climate	kW	7	6
Space heating seasonal efficiency, Warmer climate	%	183	132
Space heating annual electricity consumption, Warmer cl.	kWh	1883	2436

Sound power level Lwa	dBA	48
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<b>Information sheet for energy efficiency Set with Temperature controller</b>			
Temperature application		<b>Low, 35°C</b>	<b>High, 55°C</b>
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	%	183	137
Set Space heating energy efficiency class, Average climate	-	A+++	A++
Set Space heating seasonal efficiency, Colder climate	%	190	2
Set Space heating seasonal efficiency, Warmer climate	%	185	134

<b>Information sheet for energy efficiency Set with Temperature controller + Room Terminal</b>			
Temperature application		<b>Low, 35°C</b>	<b>High, 55°C</b>
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	%	185	139
Set Space heating energy efficiency class, Average climate	-	A+++	A++
Set Space heating seasonal efficiency, Colder climate	%	192	4
Set Space heating seasonal efficiency, Warmer climate	%	187	136