

Heat pump model	Master Therm	AQ17ICP
------------------------	---------------------	----------------

Heat pump type	Brine/Water
Supplementary heater	No
Heat pump combination heater	Yes

Reference heating season		Average		SCOP 4,59
Reference water temperature		LOW, 35°C		
Full load heating		Prated [kW]	4,94	
Seasonal efficiency		η_s [%]	176	A+++
Annual electricity consumption		Q_{HE} [kWh]	2223	
Average 35°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Brine			
	T_j [°C]	P_{dh} [kW]	COP_d (-)	C_{dh} (-)
A	0	4,60	4,12	0,900
B	0	2,80	4,74	0,900
C	0	1,76	5,03	0,900
D	0	1,78	5,11	0,959
TOL (E)	0	4,94	3,86	0,900
Tbivalent (F)	0	4,94	3,86	0,900

Reference heating season		Average		SCOP 3,59
Reference water temperature		High, 55°C		
Full load heating		Prated [kW]	4,64	
Seasonal efficiency		η_s [%]	136	A++
Annual electricity consumption		Q_{HE} [kWh]	2671	
Average 55°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Brine			
	T_j [°C]	P_{dh} [kW]	COP_d (-)	C_{dh} (-)
A	0	4,36	2,93	0,900
B	0	2,66	3,62	0,900
C	0	1,72	4,20	0,900
D	0	1,73	4,36	0,964
TOL (E)	0	4,64	2,67	0,900
Tbivalent (F)	0	4,64	2,67	0,900

Reference heating season		Warmer		
Reference water temperature		Low, 35°C		
Full load heating		Prated [kW]	4,94	
Seasonal efficiency		η_s [%]	172	
Annual electricity consumption		Q_{HE} [kWh]	1466	
Warmer 35°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Brine			
	T_j [°C]	P_{dh} [kW]	COP_d (-)	C_{dh} (-)
B	0	4,94	3,86	0,900
C	0	3,42	4,37	0,900
D	0	1,80	5,28	0,958
TOL (E)	0	4,94	3,86	0,900
Tbivalent (F)	0	4,94	3,86	0,900

Heat pump model	Master Therm	AQ17ICP
------------------------	---------------------	----------------

Reference heating season			Warmer	
Reference water temperature			High, 55°C	
Full load heating		Prated [kW]	4,64	
Seasonal efficiency		η_s [%]	126	
Annual electricity consumption		Q_{HE} [kWh]	1856	
Warmer 55°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Brine			
	Tj [°C]	Pdh [kW]	COPd (-)	Cdh (-)
B	0	4,64	2,67	0,900
C	0	3,22	3,11	0,900
D	0	1,70	4,01	0,967
TOL (E)	0	4,64	2,67	0,900
Tbivalent (F)	0	4,64	2,67	0,900

Reference heating season			Colder	
Reference water temperature			Low, 35°C	
Full load heating		Prated [kW]	4,94	
Seasonal efficiency		η_s [%]	182	
Annual electricity consumption		Q_{HE} [kWh]	2560	
Colder 35°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Brine			
	Tj [°C]	Pdh [kW]	COPd (-)	Cdh (-)
A	0	3,19	4,53	0,900
B	0	1,87	5,11	0,900
C	0	1,80	5,28	0,958
D	0	1,79	5,14	0,959
TOL (E)	0	4,94	3,86	0,900
Tbivalent (F)	0	4,94	3,86	0,900
G	0	5,54	4,46	0,989

Reference heating season			Colder	
Reference water temperature			High, 55°C	
Full load heating		Prated [kW]	Climate	
Seasonal efficiency		η_s [%]	136	
Annual electricity consumption		Q_{HE} [kWh]	3175	
Colder 55°C	Outdoor heat exchanger	Declared capacity	COP at part load	Degradation Coefficient
	Brine			
	Tj [°C]	Pdh [kW]	COPd (-)	Cdh (-)
A	0	2,94	3,32	0,900
B	0	1,86	3,91	0,900
C	0	1,72	4,31	0,964
D	0	1,72	4,31	0,964
TOL (E)	0	4,64	2,67	0,900
Tbivalent (F)	0	4,64	2,67	0,900
G	0	5,37	3,13	0,992

Heat pump model	Master Therm	AQ17ICP
-----------------	--------------	---------

Power consumption in modes other than "active mode"		
Off mode	P_{OFF} [kW]	0,014
Thermostat off mode	P_{TO} [kW]	0,014
Standby mode	P_{SB} [kW]	0,014
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]	37
Sound power level Outdoor	L_{WA} [dBA]	-
Rated brine flow	[m ³ /h]	0,64

Declared load profile / Tapping cycle		L
Daily electricity consumption	Q_{elec} [kWh]	1076
Water heating energy efficiency	η_{wh} [%]	95

Temperature controller		
Type	Carel pCO5+, Master Therm custom SW	
Class	II	
Contribution	%	2,0

Temperature controller + Room Terminal		
Type	Carel pCO5+/pCO5OEM+ +pGDx, Master Therm custom SW	
Class	VI	
Contribution	%	4,0

Heat pump model	Master Therm	AQ17ICP
------------------------	---------------------	----------------

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	5
Space heating seasonal efficiency, Average climate	%	176	136
Space heating annual electricity consumption, Average cl.	kWh	2223	2671

Nominal heating capacity Pdesign, Colder climate	kW	5	Climate
Space heating seasonal efficiency, Colder climate	%	182	136
Space heating annual electricity consumption, Colder cl.	kWh	2560	3175

Nominal heating capacity Pdesign, Warmer climate	kW	5	5
Space heating seasonal efficiency, Warmer climate	%	172	126
Space heating annual electricity consumption, Warmer cl.	kWh	1466	1856

Sound power level Lwa	dBA	37
-----------------------	-----	----

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	%	178	138
Set Space heating energy efficiency class, Average climate	-	A+++	A++
Set Space heating seasonal efficiency, Colder climate	%	184	138
Set Space heating seasonal efficiency, Warmer climate	%	174	128

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	%	180	140
Set Space heating energy efficiency class, Average climate	-	A+++	A++
Set Space heating seasonal efficiency, Colder climate	%	186	140
Set Space heating seasonal efficiency, Warmer climate	%	176	130