

**Appendix I Test results**

Table 2.	Heating mode(Medium temperature application):						P	
Model	AH17DCR-XXX							
Product type	Air to Water	Heating season	<input checked="" type="checkbox"/>	Average	<input type="checkbox"/>	Warmer	<input type="checkbox"/>	Colder
<b>1. Test conditions:</b>								
Condition	Part Load Ratio in %				Outdoor heat exchanger	Indoor heat exchanger		
	Formula	A	W	C	Inlet dry (wet) bulb temperature °C	Inlet/outlet water temperatures (°C)		
A	$(-7-16)/(T_{designh-16})$	88	N/A	N/A	-7(-8)	a / 52		
B	$(+2-16)/(T_{designh-16})$	54	N/A	N/A	2(1)	a / 42		
C	$(+7-16)/(T_{designh-16})$	35	N/A	N/A	7(6)	a / 36		
D	$(+12-16)/(T_{designh-16})$	15	N/A	N/A	12(11)	a / 30		
E	$(TOL-16)/(T_{designh-16})$				TOL	a / 55.3		
F	$(T_{bivalent-16})/(T_{designh-16})$				Tbiv	a / 52		
G	$(-15-16)/(T_{designh-16})$	N/A	N/A	N/A	-15	N/A		
Remark: a) With the water flow rate as determined at the standard rating conditions given in EN14511-2 at 47/55 conditions.								
<b>2. Tested data/correction data(Average):</b>								
General test conditions/ Part-Load	Unit	A(-7)/W52 (88%)	A2/W42 (54%)	A7/W36 (35%)	A12/W30 (15%)	A(-10)/W55.3 (100%)	A(-7)/W52 (88%)	
	--	A	B	C	D	E	F	
Data collection period	hh: min:sec	2:00:00	2:00:00	1:00:00	1:00:00	3:00:00	2:00:00	
The heat pump defrosts	--	No	No	No	No	No	No	
Complete Cycles	--	0	0	0	0	0	0	
Barometric pressure	kPa	101.02	101.02	101.02	101.02	101.02	101.02	
Voltage	V	400.0	400.6	400.7	400.7	400.1	400.0	
Current input of the unit	A	7.35	3.81	3.01	2.17	7.47	7.35	
Power input of the unit	kW	4.819	2.408	1.827	1.262	4.912	4.819	
Test conditions <b>indoor</b> unit								
Inlet Water temperature, DB	°C	46.60	37.50	31.00	25.03	50.60	46.60	
Outlet Water temperature, DB	°C	52.05	42.03	36.07	30.21	54.99*	52.05	

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Test conditions outdoor unit							
Air inlet temperature, DB	°C	-6.96	2.20	7.09	12.23	-9.80	-6.96
Air inlet temperature, WB	°C	-7.96	1.09	5.97	11.09	-11.06	-7.96
Summary of the results							
Total heating capacity	kW	10.315	8.552	9.489	9.720	8.389	10.315
Effective power input	kW	4.851	2.439	1.859	1.293	4.944	4.851
Coefficient of performance (COP)	--	2.13	3.51	5.10	7.52	1.70	2.13
Compressor frequency	Hz	65	40	35	30	65	65
Water flow	m <sup>3</sup> /h	1.62	1.62	1.62	1.62	1.62	1.62
Remark: 1. * In part condition, outlet temperature data is recorded by a full average complete cycle's data. 2. At the standard rating conditions given in EN 14511-2 at ambient temp dry bulb 7°C/wet bulb 6°C and inlet outlet water temp 47°C/55°C conditions: heating capacity is 14750.1W, COP is 3.04W/W.							
3.Calculation/conclusion for SCOP(Average):							
Tdesignh(°C)	-10	Tbiv(°C)		-7			
Pdesignh(kW)	11.660	TOL(°C)		-10			
Test result A, B, C, D, E, F conditions:							
Condition	Part load	Measured capacity	COP at measured capacity	Cdh	CR	COP at part load	
E	11.660	8.389	1.70	0.00	1.00	1.70	
F	10.315	10.315	2.13	0.00	1.00	2.13	
A	10.315	10.315	2.13	0.00	1.00	2.13	
B	6.279	8.552	3.51	0.99	0.73	3.49	
C	4.036	9.489	5.10	0.99	0.43	5.04	
D	1.794	9.720	7.52	0.99	0.18	7.20	
CR: part load divided by capacity;							

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