



<i>Test Report No.:</i>	NTRE20160346		
<i>Applicant Name:</i>	AS Wilfa, Industriveien 25, Postboks 146, Hagan 1481 Hagan, Norge/Norway		
<i>Test item:</i>	Split Air Conditioner		
<i>Identification:</i>	Lillehammer 12	<i>Serial No.:</i>	Engineering sample
<i>Receipt No.:</i>	RZ00332535	<i>Date of receipt:</i>	2016.6.30
<i>Test specification:</i>	NO 206/2012 NO 626/2011 EN 14825:2013 EN 14511-1,2,3,4:2013		
<i>Test Result:</i>	<i>The test items passed the test specification(s).</i>		
Abbreviations:	<i>P(ass) = passed</i> <i>F(ail) = failed</i> <i>N/A = not applicable</i> <i>N/T =not tested</i>		
<i>This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.</i>			



Summary of testing

1. The appliance was tested according to EN 14511.
2. The SEER and SCOP were calculated according to EN14825.
3. All the models are indeticial with each other except the panels.All the tests were performedon the model Lillehammer 12 as representative.
4. The samples are engineering samples without serial numbers.

Test item particulars :			
Class of temperature		T1	
Type		Split Air Conditioner	
Degree of protection		Indoor unit:IPX0 Outdoor unit:IPX4	
Supply Connection..... :		Type Y attachment	
Possible test case verdicts:			
- test case does not apply to the test object..... :		N/A	
- test object does meet the requirement		P(Pass)	
- test object does not meet the requirement		F(Fail)	
Testing :			
Date of receipt of test item..... :		2016.6.30	
Date (s) of performance of tests..... :		2016.7.03-2016.7.20	
General remarks			
<ul style="list-style-type: none"> ➤This appliance is split type air conditioner, which consist of one outdoor unit and one indoor unit. ➤The indoor unit is a wall mounted type air conditioner, which is usually not accessible (only for maintenance purpose). It will be mounted 2 meters above the floor. ➤Cooling and heating modes are applied by reverse cycle method. In the heating mode, defrost operation may be applied. ➤The indoor unit is equipped with an infrared wireless battery powered remote control unit. 			
Critical components:			
Model	Compressor model	Indoor fan motor	Outdoor fan motor
Lillehammer 12	QXA-A086zC190	FN20N-PG	FW30J-ZL



NO 626/2011 &EN 14511 and NO 206/2012 & EN 14825: 2013			
Clause	Requirement - Test	Result - Remark	Verdict

Test result of part load according to EN 14825:

Calculation of SEER in cooling mode:

Full load (Pdesignc):3500 W; Tdesignc: 35°C					
Test item	Indoor DB/WB(°C)	Outdoor DB/WB(°C)	Ptest (W)	Ttested EER	Cd
A	27/19	35/-	3531	3.24	0,25
B		30/-	2498	4.89	0,25
C		25/-	1690	8.02	0,25
D		20/-	1543	9.71	0,25
Psb= Poff =0.49W; Pck= 0W; Pto=5.71W					
Test SEER				6.42	
Declared SEER				6.1	
Test SEER≥Declared SEER				Pass	
The calculation method of SEER according to the clause 6 of EN14825:2013					
According table 1 of NO 626/2011, the result efficiency classes: A++					

Calculation of SCOP in heating mode:

Full load (Pdesignh):3000W ;Tdesignh: -10°C; Climate: Average ; Tbivalent: -7°C; TOL: -25°C					
Test item	Indoor DB(°C)	Outdoor DB/WB(°C)	Ptest(W)	Ttested COP	Cd
A	20/-	-7/-8	2673	2.65	0,25
B		2/1	1695	4.20	0,25
C		7/6	1098	4.90	0,25
D		12/11	1238	6.09	0,25
E		TOL	2100	2.41	0,25
F		Tbivalent	2673	2.65	0,25
Psb= Poff=0.49W; Pck= 0W; Pto=9.8W					
SCOP				4.04	
Declared SCOP				4.0	
SCOP≥Declared SCOP				Pass	
The calculation method of SEER according to the clause 7 of EN14825:2013					
According table 1 of NO 626/2011, the result efficiency classes: A+					



NO 626/2011 & EN 14511 and NO 206/2012 & EN 14825: 2013			
Clause	Requirement - Test	Result - Remark	Verdict

Calculation of SCOP in heating mode:

Full load (Pdesignh):3000W ;Tdesignh: -22°C; Climate: Colder ; Tbivalent: -15°C; TOL: -25°C					
Test item	Indoor DB(°C)	Outdoor DB/WB(°C)	Ptest(w)	Tested COP	Cd
A	20/-	-7/-8	1996	2.53	0,25
B		2/1	1207	4.01	0,25
C		7/6	780	4.32	0,25
D		12/11	1165	5.44	0,25
E		TOL	2053	2.12	0,25
F		Tbivalent	2451	2.20	0.25
G		-15/-	/	/	/
Psb= Poff=0.49W; Pck= 0W; Pto= 9.80W					
SCOP				3.20	
Declared SCOP				3.2	
SCOP≥Declared SCOP				Pass	
The calculation method of SEER according to the clause 7 of EN14825:2013					
According table 1 of NO 626/2011, the result efficiency classes: B					

Calculation of SCOP in heating mode:

Full load (Pdesignh):3800W ;Tdesignh: 2°C; Climate: Warmer ; Tbivalent: 2°C; TOL: -25°C					
Test item	Indoor DB(°C)	Outdoor DB/WB(°C)	Ptest(w)	Tested COP	Cd
A	20/-	/	/	/	0,25
B		2/1	3811	2.96	0,25
C		7/6	2467	4.65	0,25
D		12/11	1188	6.09	0,25
E		TOL	3811	2.96	0,25
F		Tbivalent	3811	2.96	0.25
Psb= Poff= 0.49W; Pck= 0W; Pto= 9.80W					
SCOP				5.10	
Declared SCOP				5.1	
SCOP≥Declared SCOP				Pass	
The calculation method of SEER according to the clause 7 of EN14825:2013					
According table 1 of NO 626/2011, the result efficiency classes: A+++					



NO 626/2011 &EN 14511 and NO 206/2012 & EN 14825: 2013			
Clause	Requirement - Test	Result - Remark	Verdict

Appendix I: information according to clause 3 of NO 206/2012 ANNEX I , for air conditioners, except single duct and double duct air conditioners

Function (indicate if present)				Only for heating mode, if applicable			
Cooling	Y			Average(mandatory)	Y		
Heating	Y			Warmer(if designed)	Y		
				Colder(if designed)	Y		
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Design load				Seasonal efficiency			
Cooling	Pdesignc	3.5	kW	Cooling	SEER	6.1	—
Heating/average	Pdesignh	3.0	kW	Heating/average	SCOP/A	4.0	—
Heating/warmer	Pdesignh	3.8	kW	Heating/warmer	SCOP/W	5.1	—
Heating/colder	Pdesignh	3.0	kW	Heating/colder	SCOP/C	3.2	—
Declared capacity (*) for cooling, at indoor temperature 27(19) °C and outdoor temperature Tj				Declared energy efficiency ratio (*), at indoor temperature 27(19) °C and outdoor temperature Tj			
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Tj=35°C	Pdc	3.53	kW	Tj=35°C	EERd	3.24	—
Tj=30°C	Pdc	2.50	kW	Tj=30°C	EERd	4.89	—
Tj=25°C	Pdc	1.69	kW	Tj=25°C	EERd	8.02	—
Tj=20°C	Pdc	1.54	kW	Tj=20°C	EERd	9.71	—
Declared capacity (*) for heating/Average season, at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance(*)/Average season, at indoor temperature 20 °C and outdoor temperature Tj			
Tj=-7°C	Pdh	2.67	kW	Tj=-7°C	COPd	2.65	—
Tj=2°C	Pdh	1.70	kW	Tj=2°C	COPd	4.20	—
Tj=7°C	Pdh	1.10	kW	Tj=7°C	COPd	4.90	—
Tj=12°C	Pdh	1.24	kW	Tj=12°C	COPd	6.09	—
Tj=operating limit	Pdh	2.10	kW	Tj=operating limit	COPd	2.41	—
Tj=bivalent temperature	Pdh	2.67	kW	Tj=bivalent temperature	COPd	2.65	—



NO 626/2011 &EN 14511 and NO 206/2012 & EN 14825: 2013							
Clause	Requirement - Test			Result - Remark			Verdict
Function (indicate if present)				Only for heating mode, if applicable			
Cooling	Y			Average(mandatory)	Y		
Heating	Y			Warmer(if designed)	Y		
				Colder(if designed)	Y		
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Declared capacity (*) for heating/Warmer season, at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance(*)/Warmer season, at indoor temperature 20 °C and outdoor temperature Tj			
Tj=2°C	Pdh	3.81	kW	Tj=2°C	COPd	2.96	—
Tj=7°C	Pdh	2.47	kW	Tj=7°C	COPd	4.65	—
Tj=12°C	Pdh	1.19	kW	Tj=12°C	COPd	6.09	—
Tj=operating limit	Pdh	3.81	kW	Tj=operating limit	COPd	2.96	—
Tj=bivalent temperature	Pdh	3.81	kW	Tj=bivalent temperature	COPd	2.96	—
Declared capacity (*) for heating/Colder season, at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance(*)/Colder season, at indoor temperature 20 °C and outdoor temperature Tj			
Tj=-7°C	Pdh	2.00	kW	Tj=-7°C	COPd	2.53	—
Tj=2°C	Pdh	1.21	kW	Tj=2°C	COPd	4.01	—
Tj=7°C	Pdh	0.78	kW	Tj=7°C	COPd	4.32	—
Tj=12°C	Pdh	1.17	kW	Tj=12°C	COPd	5.44	—
Tj=operating limit	Pdh	2.05	kW	Tj=operating limit	COPd	2.12	—
Tj=bivalent temperature	Pdh	2.45	kW	Tj=bivalent temperature	COPd	2.20	—
Tj=-15°C	Pdh	--	kW	Tj=-15°C	COPd	--	—
Bivalent temperature				Operating limit temperature			
Heating/Average	Tbiv	-7	°C	Heating/Average	Tol	-25	°C
Heating/Warmer	Tbiv	2	°C	Heating/Warmer	Tol	-25	°C
Heating/Colder	Tbiv	-15	°C	Heating/Colder	Tol	-25	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcycc	x,x	kW	for cooling	EERcyc	x,x	—
for heating	Pcyh	x,x	kW	for heating	COPcyc	x,x	—
Degradation co-efficient cooling (**)	Cdc	x,x	—	Degradation co-efficient heating (**)	Cdh	x,x	—



NO 626/2011 &EN 14511 and NO 206/2012 & EN 14825: 2013			
Clause	Requirement - Test	Result - Remark	Verdict

Function (indicate if present)				Only for heating mode, if applicable			
Cooling	Y			Average(mandatory)	Y		
Heating	Y			Warmer(if designed)	Y		
				Colder(if designed)	Y		
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Electric power input in power modes other than „active mode“				Annual electricity consumption			
Off mode	P _{OFF}	0.00049	kW	Cooling	Q _{CE}	201	kWh/a
Standby mode	P _{SB}	0.00049	kW	Heating/Average	Q _{HE}	1050	kWh/a
Thermostat-off mode	P _{TO}	0.0057/0.0098	kW	Heating/Warmer	Q _{HE}	1043	kWh/a
Crankcase heater mode	P _{CK}	0	kW	Heating/Colder	Q _{HE}	1969	kWh/a
Capacity control (indicate one of three options)				Other items			
fixed	N			Sound power level (indoor/outdoor)	L _{WA}	57/62	dB(A)
staged	N			Global warming potential	GWP	2087.5	kgCO ₂ eq.
variable	Y			Rated air flow (indoor/outdoor)	—	660/1600	m ³ /h
Contact details for obtaining more information			AS Wilfa, Industriveien 25, Postboks 146, Hagan 1481 Hagan, Norge/Norway				

(*) For staged capacity units, two values divided by a slash („/“) will be declared in each box in the section „Declared capacity of the unit“ and „declared EER/COP“ of the unit.

(**) If default Cd = 0,25 is chosen then (results from) cycling tests are not required. Otherwise either the heating or cooling cycling test value is required.

For units with capacity control marked „staged“, two values for the highest and lowest, noted „hi/lo“ divided by a slash („/“) will be declared in each box under „Declared capacity“.

--End of report--