

## 8 ERP performance values

### 8.1 ERP definition

"ERP" includes two European directives that are part of the programme for the global reduction of greenhouse gas emissions:

- The eco-design directive sets efficiency thresholds and prohibits the sale of any product with an efficiency lower than the set thresholds.
- According to the labelling directive, energetic efficiency shall be displayed to encourage end users to purchase energy-efficient products.

### 8.2 ERP Specifications

Trade name / Product name:	atlantic / ...		Loria 6004		Loria 6006		Loria 6008		Loria 6010	
Reference			522911		522912		522913		522914	
Heating ranges			35°C	55°C	35°C	55°C	35°C	55°C	35°C	55°C
Air/water heat pump			Yes							
Equipped with a supplementary heater			Yes							
Average climate - Space heating characteristics										
Energy class <sup>(6)</sup>	-	-	A++	A+	A++	A++	A++	A+	A++	A++
Rated heat output <sup>(2)</sup>	$P_{rated}$	kW	4	4	6	5	7	6	9	7
Seasonal heating energy efficiency	$\eta_s$	%	181	127	186	128	166	125	154	116
Seasonal efficiency for package with outdoor temperature sensor <sup>(1)</sup>	$\eta_s$	%	183	129	188	130	168	127	156	118
Seasonal efficiency with room unit <sup>(1)</sup>	$\eta_s$	%	185	131	190	132	170	129	158	120
Annual energy consumption	$Q_{he}$	kWh	1884	2708	2588	2933	3226	4197	4481	5256
Colder climate - Space heating characteristics										
Rated heat output <sup>(2)</sup>	$P_{rated}$	kW	NA							
Seasonal heating energy efficiency	$\eta_s$	%								
Annual energy consumption	$Q_{he}$	kWh								
Warmer climate - Space heating characteristics										
Rated heat output <sup>(2)</sup>	$P_{rated}$	kW	5	5	6	6	7	7	12	8
Seasonal heating energy efficiency	$\eta_s$	%	221	160	242	153	211	154	201	130
Annual energy consumption	$Q_{he}$	kWh	1270	1793	1201	1936	1866	2349	3040	2990
Acoustic values										
Sound power level of hydraulic unit	$L_{WA}$	dBa	44		44		44		44	
Sound power level of outdoor unit	$L_{WA}$	dBa	62		62		69		68	
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj										
Tj = -7°C	Pdh	kW	3,7	3,8	5,2	4,1	5,8	5,7	7,5	6,6
Tj = +2°C	Pdh	kW	2,4	2,5	3,5	2,7	3,4	3,4	4,6	4,0
Tj = +7°C	Pdh	kW	2,0	1,4	1,9	1,8	2,5	2,3	3,2	3,2
Tj = +12°C	Pdh	kW	2,3	2,1	2,4	2,1	2,2	2,0	3,8	3,5
Tj = bivalent temperature	Pdh	kW	3,7	3,8	5,2	4,1	5,8	6,3	7,5	6,6
Tj = operation limit temperature	Pdh	kW	3,4	3,2	4,8	3,9	6,0	4,7	6,9	6,1
Bivalent temperature	$T_{biv}$	°C	-7	-7	-7	-7	-7	-7	-7	-7
Degradation coefficient (3) <sup>(3)</sup>	Cdh	-	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9
Declared coefficients of performance for part load at indoor temperature 20°C and outdoor temperature Tj										
Tj = -7°C	$COP_d$	-	3,0	2,0	3,0	1,9	2,6	1,8	2,4	1,8
Tj = +2°C	$COP_d$	-	4,5	3,2	4,6	3,2	4,1	3,2	3,9	2,8
Tj = +7°C	$COP_d$	-	6,4	4,4	6,1	4,4	5,7	4,3	5,3	4,4
Tj = +12°C	$COP_d$	-	8,7	6,5	9,3	6,5	7,8	5,8	7,3	4,9
Tj = bivalent temperature	$COP_d$	-	3,0	1,9	2,8	1,9	2,6	1,8	2,4	1,8
Tj = operation limit temperature	$COP_d$	-	2,6	1,6	2,8	1,8	2,4	1,5	2,2	1,6
For air-to-water heat pumps: temperature operating limit	TOL	°C	-10	-10	-10	-10	-10	-10	-10	-10
Water temperature operating limit	WTOL	°C	55	55	55	55	55	55	55	55

Trade name / Product name:	atlantic / ...		Loria 6004		Loria 6006		Loria 6008		Loria 6010	
Reference			522911		522912		522913		522914	
Heating ranges			35°C	55°C	35°C	55°C	35°C	55°C	35°C	55°C
Supplementary heater										
Rated heat output <sup>(2)</sup>	$P_{sup}$	kW	0,8	1,1	1,1	0,7	0,6	1,8	1,6	1,3
Type of energy input	-	-	Electricity							
Power consumption in modes other than active mode										
Off mode	$P_{OFF}$	kW	0,009		0,009		0,009		0,007	
Thermostat-off mode	$P_{TO}$	kW	0,014		0,014		0,015		0,054	
Standby mode	$P_{SB}$	kW	0,009		0,009		0,009		0,007	
Crankcase heater mode	$P_{CK}$	kW	0		0		0		0	
Other properties										
Capacity control	-	-	Inverter							
For air-to-water heat pumps, rated air flow rate, outdoors	-	m <sup>3</sup> /h	2070		2340		3600		6200	

<sup>(a)</sup> The energy class is that of the product. The energy class scale for products is limited to class A++ until 2019.

<sup>(1)</sup> The detailed calculations are available on the package sheet. The room appliance refers to: the sensors, room thermostats and offset controllers included or not included in the kits.

<sup>(2)</sup> For room heating devices implementing heat pumps and combined heating devices implementing heat pumps, the rated heat output  $P_{rated}$  is equal to the nominal heating load  $P_{designh}$  and the rated heat output of a supplementary heater  $P_{sup}$  is equal to the supplementary heating capacity  $sup(T_j)$ .

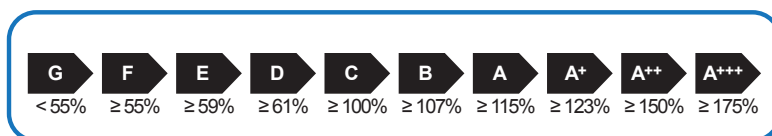
<sup>(3)</sup> If the  $C_{dh}$  is not determined by measurements, the default degradation coefficient is  $C_{dh} = 0.9$ .

### 8.3 Package sheet

Outdoor sensor included in the combined package	
Controller class	II
Contribution to seasonal efficiency	2%

Room appliance references	076310
Controller class	VI
Contribution to seasonal efficiency	4%

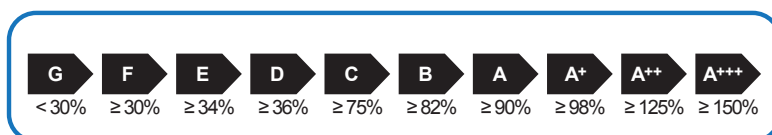
☞ range 35°C



Product name	Loria 6004		Loria 6006		Loria 6008		Loria 6010	
Reference	522911		522912		522913		522914	
Seasonal space heating energy efficiency of heat pump	181%		177%		173%		154%	
Type of control ( * = outdoor sensor; ** = Room appliance)	* Class II	** Class VI	* Class II	** Class VI	* Class II	** Class VI	* Class II	** Class VI
Bonus	2%	4%	2%	4%	2%	4%	2%	4%
Seasonal space heating energy efficiency of package <b>under average climates</b>	183%	185%	188%	190%	168%	170%	156%	158%
Package energy class	A+++	A+++	A+++	A+++	A+++	A+++	A++	A++
Seasonal space heating energy efficiency of package <b>under warmer climates</b>	238%	240%	236%	238%	234%	236%	203%	205%
Seasonal space heating energy efficiency of package <b>under colder climates</b>	NA							

The energy efficiency of the combined product described herein may not correspond to its actual energy efficiency once installed in a building, as this efficiency is influenced by other factors such as heat loss in the distribution system and the dimensioning of the products in relation to the size and characteristics of the building.

☞ range 55°C



Product name	Loria 6004		Loria 6006		Loria 6008		Loria 6010	
Reference	522911		522912		522913		522914	
Seasonal space heating energy efficiency of heat pump	124%		128%		123%		114%	
Type of control ( * = outdoor sensor; ** = Room appliance)	* Class II	** Class VI	* Class II	** Class VI	* Class II	** Class VI	* Class II	** Class VI
Bonus	2%	4%	2%	4%	2%	4%	2%	4%
Seasonal space heating energy efficiency of package <b>under average climates</b>	129%	131%	130%	132%	127%	129%	116%	118%
Package energy class	A++	A++	A++	A++	A++	A++	A+	A+
Seasonal space heating energy efficiency of package <b>under warmer climates</b>	157%	159%	155%	157%	163%	165%	132%	134%
Seasonal space heating energy efficiency of package <b>under colder climates</b>	NA							

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