

14 ERP performance values

14.1 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.

14.2 ERP Specifications

Trade name / Product name:	atlantic / ...		Loria duo 6004		Loria duo 6006		Loria duo 6008		Loria duo 6010	
Reference			522 963		522 964		522 965		522 966	
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							
Heat pump combination heater			Yes							
Average climate - Space heating characteristics										
Energy class Product ^(a)	-	-	A++	A++	A++	A++	A++	A++	A++	A++
Energy class Package	-	-	A+++	A++	A+++	A++	A++	A++	A++	A++
Rated heat output ⁽²⁾	P_{rated}	kW	4	4	6	5	7	6	9	7
Seasonal heating energy efficiency	η_s	%	181	127	186	128	166	124	154	116
Seasonal efficiency for package with outdoor temperature sensor ⁽¹⁾	η_s	%	183	129	188	130	168	126	156	118
Seasonal efficiency with room unit ⁽¹⁾	η_s	%	185	131	190	132	170	128	158	120
Annual energy consumption	Q_{he}	kWh	1884	2708	2588	2933	3226	4197	4481	5256
Average climate - domestic hot water production										
Declared load profile	-	-	L		L		L		L	
Energy class	-	-	A+		A+		A+		A+	
Energy efficiency	η_{wh}	%	130		130		130		130	
Annual energy consumption	AEC	kWh	966		966		966		966	
Daily electricity consumption	Q_{elec}	kWh	4		4		4		4	
Colder climate - Space heating characteristics										
Rated heat output ⁽²⁾	P_{rated}	kW	NA							
Seasonal heating energy efficiency	η_s	%								
Annual energy consumption	Q_{he}	kWh								
Colder climate - domestic hot water production										
Declared load profile	-	-	NA							
Energy efficiency	η_{wh}	%								
Annual energy consumption	AEC	kWh								
Daily electricity consumption	Q_{elec}	kWh								
Warmer climate - Space heating characteristics										
Rated heat output ⁽²⁾	P_{rated}	kW	5	5	6	6	7	7	12	8
Seasonal heating energy efficiency	η_s	%	221	160	242	153	211	154	201	130
Annual energy consumption	Q_{he}	kWh	1270	1793	1201	1936	1866	2349	3040	2990
Warmer climate - domestic hot water production										
Declared load profile	-	-	L		L		L		L	
Energy efficiency	η_{wh}	%	130		130		130		130	
Annual energy consumption	AEC	kWh	966		966		966		966	
Daily electricity consumption	Q_{elec}	kWh	4		4		4		4	
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	

Trade name / Product name:		atlantic / ...		Loria duo 6004		Loria duo 6006		Loria duo 6008		Loria duo 6010	
Reference		522 963		522 964		522 965		522 966			
Heating ranges				35°C	55°C	35°C	55°C	35°C	55°C	35°C	55°C
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature T _j											
T _j = -7°C	P _{dh}	kW	3.7	3.8	5.2	4.1	5.8	5.6	7.5	6.6	
T _j = +2°C	P _{dh}	kW	2.4	2.5	3.5	2.7	3.7	3.4	4.6	4.0	
T _j = +7°C	P _{dh}	kW	2.0	1.4	1.9	1.8	2.5	2.0	3.2	3.2	
T _j = +12°C	P _{dh}	kW	2.3	2.1	2.4	2.1	2.1	2.0	3.8	3.5	
T _j = bivalent temperature	P _{dh}	kW	3.7	3.8	5.2	4.1	5.8	5.6	7.5	6.6	
T _j = operation limit temperature	P _{dh}	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) ⁽³⁾	C _{dh}	-	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 T _j											
T _j = -7°C	COP _d	-	2.96	1.95	2.90	1.94	2.56	1.78	2.40	1.80	
T _j = +2°C	COP _d	-	4.48	3.21	4.64	3.23	4.20	3.22	3.90	2.80	
T _j = +7°C	COP _d	-	6.37	4.41	6.13	4.40	5.69	4.20	5.30	4.40	
T _j = +12°C	COP _d	-	8.69	6.50	9.26	6.46	7.20	5.90	7.30	4.90	
T _j = bivalent temperature	COP _d	-	2.96	2.00	2.81	1.94	2.56	1.83	2.40	1.80	
T _j = operation limit temperature	COP _d	-	2.65	1.62	2.90	1.78	2.37	1.54	2.20	1.60	
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	
Supplementary heater											
Rated heat output ⁽²⁾	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 ³ /h	2070		2340		3600		6200		

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

(1) 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.

(2) 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).

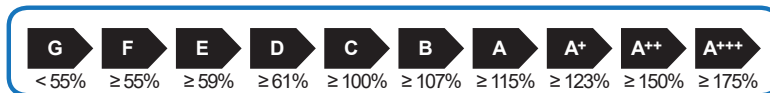
(3) If the C_{dh} is not determined by measurements, the default degradation coefficient is C_{dh} = 0.9.

14.3 Package sheet

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

Modulating room thermostat references (outdoor sensor included in the package)	076310 (Room thermostat UA55)
Controller class	VI
Contribution to seasonal efficiency	4%

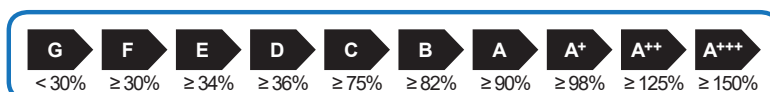
⇒ Range 35°C



Product name	Loria duo 6004		Loria duo 6006		Loria duo 6008		Loria duo 6010	
Reference	522 963		522 964		522 965		522 966	
Seasonal space heating energy efficiency of heat pump	181%		186%		166%		154%	
Type of temperature control :								
- Outdoor sensor (included in the package)	class II	-	class II	-	class II	-	class II	-
- Modulating room thermostat (outdoor sensor included in the package)	-	class VI	-	class VI	-	class VI	-	class VI
Bonus	2%	4%	2%	4%	2%	4%	2%	4%
Seasonal space heating energy efficiency of package under average climates	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 under warmer climates	238%	240%	236%	238%	234%	236%	203%	205%
Seasonal space heating energy efficiency of package under colder climates	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 duo 6004		Loria duo 6006		Loria duo 6008		Loria duo 6010	
Reference	522 963		522 964		522 965		522 966	
Seasonal space heating energy efficiency of heat pump	127%		128%		124%		114%	
Type of temperature control :								
- Outdoor sensor (included in the package)	class II	-	class II	-	class II	-	class II	-
- Modulating room thermostat (outdoor sensor included in the package)	-	class VI	-	class VI	-	class VI	-	class VI
Bonus	2%	4%	2%	4%	2%	4%	2%	4%
Seasonal space heating energy efficiency of package under average climates	129%	131%	130%	132%	126%	128%	116%	118%
Package energy class	A++	A++	A++	A++	A++	A++	A+	A+
Seasonal space heating energy efficiency of package under warmer climates	157%	159%	155%	157%	163%	165%	132%	134%
Seasonal space heating energy efficiency of package under colder climates	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.