

1st June 2017

Ecodesign: origins & perspectives

- KYOTO (1997), COP21 (Paris 2015) and COP 22 (Marrackech 2016) define the targets to restrict the global warming to 1,5°C.
- Ecodesign directive 2009/125/EC define a framework for all energy-consuming equipments. It is mandatory for all products sold and used in European Union.
- The regulations resulting from Ecodesign define, for each product family, minimum efficiencies to achieve in 2 steps.

Rules

The regulation ensue from Ecodesign are mandatory to apply, even if the local governments don't implement them into national regulations or decrees:

- **Electric motors EC 640/2009:**
1st tier: 16th june 2011 motors IE2
2nd tier: 1st january 2015 . . motors IE3 if P>7.5 kW
3rd tier: 1st january 2017 . . moteurs IE3
- **Fans EU 327/2011:**
1st tier: 1st january 2013
2nd tier: 1st january 2015
- **Air conditioners (P<12kW) and comfort fans EU 206/2012:**
1st tier: 1st january 2013
2nd tier: 1st january 2014
- **Ventilation units EU 1253/2014:**
1st tier: 1st january 2016
2nd tier: 1st january 2018
- **Space heaters and combination heaters EU 813/2013:**
1st tier: 26th september 2015
2nd tier: 26th september 2017
- **Low temperature process chillers and condensing units EU 2015/1095 (dedicated to industrial application and/or refrigeration):**
1st tier: 1st July 2016
2nd tier: 1st january 2018
- **Air heating products, cooling products, high temperature process chillers and fan coil units EU 2016/2281:**
1st tier: 1st July 2018
2nd tier: 1st january 2021

The following directive are not connected to Ecodesign, but they are also directives and European regulations:

- F gaz (517/2014/EU) Fluorinated greenhouse gases used,
- DESP (2014/68/EU) for pressure equipment,
- DEEE (2012/19/EU) for waste electrical and electronic equipment,
- Machinery directive (2006/42/EC),
- Low voltage directive (2014/35/EU),
- Electromagnetic compatibility (2014/30/EU)...



Which CHILLERS range products are concerned by regulations EU 2016/2281 & 813/2013 ?

Will be concerned from 1st January 2018:

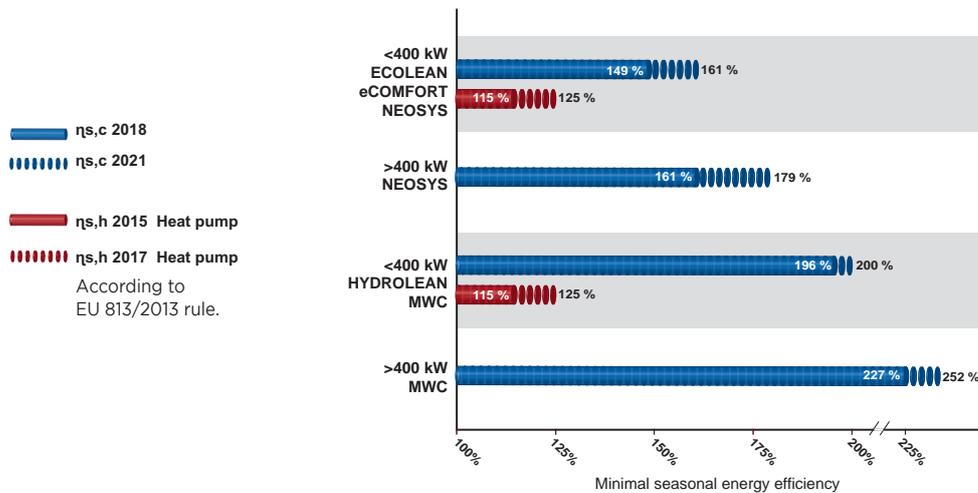
- Air cooled liquid chillers,
- Water cooled liquid chillers.

Are concerned since 26th September 2015:

- Air cooled heat pumps,
- Water cooled heat pumps.

It means that:

The minimum performances to achieve are summed up in the following graph:



A new document

From the 1st of January 2018, each unit will be delivered with a datasheet as defined in EU 2281/2016.

Ranges concerned

ECOLEAN



ECOMFORT



AQUA4



NEOSYS



HYDROLEAN



MWC



1st January 2017
Rev 02/2018

Nominal capacity		Seasonal efficiency	
Model(s):			
Outdoor side heat exchanger of heat pump:			
Indoor side heat exchanger of heat pump:			
Indication if the heater is equipped with a supplementary heater			
If applicable: driver of compressor			
Item	Symbol	Item	Symbol
Rated heating capacity (*)	$P_{rated,h}$	Seasonal space heating energy efficiency	η_s
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature T_j		Declared coefficient of performance of gas utilisation efficiency/auxiliary energy factor temperature T_j	
$T_j = -7^\circ\text{C}$	$P_{partial,h}$	$T_j = -7^\circ\text{C}$	COPE
$T_j = +2^\circ\text{C}$	$P_{partial,h}$	$T_j = +2^\circ\text{C}$	COPE
$T_j = +7^\circ\text{C}$	$P_{partial,h}$	$T_j = +7^\circ\text{C}$	COPE
$T_j = +12^\circ\text{C}$	$P_{partial,h}$	$T_j = +12^\circ\text{C}$	COPE
T_{biv} = bivalent temperature °C	$P_{partial,h}$	T_{biv} = bivalent temperature °C	COPE
T_{OL} = operation limit °C	$P_{partial,h}$	T_{OL} = operation limit °C	COPE
For air-to-water heat pumps: $T_j = -15^\circ\text{C}$ (si TOL < -20°C)	$P_{partial,h}$	For air-to-water heat pumps: $T_j = -15^\circ\text{C}$ (si TOL < -20°C)	COPE
Bivalent temperature	T_{biv}	For water-to-air heat pumps: Operation limit temperature	T_{OL}
Degradation coefficient heat pumps (**)	G_{dh}		
Power consumption in modes other than "active"		Supplementary heater	
Off mode	P_{off}	Back up heating capacity (*)	P_{biv}
Thermostat-off mode	P_{to}	Type of energy input	
Crankcase heater mode	P_{ch}	Standby mode	P_{sb}
Other items			
Capacity control		For air-to-air heat pumps: air flow rate, outdoor measured	
Sound power level indoor/outdoor measured	L_{WA}	For water/brine-to-air heat pumps: Rated brine or water flow rate, outdoor side heat exchanger	
Emission of nitrogen oxides (if applicable)	NOx(***) input GCV		
GWP of the refrigerant	GWP		
Contact details			

Sound power level
Outdoor/Indoor