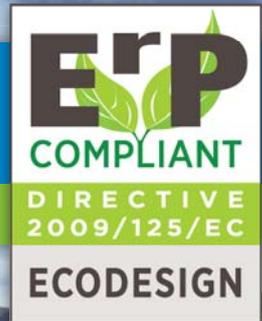


## Ecodesign directive 2009/125/EC and particularly EU 2015/1095 rule (Refrigeration)

**TIER 2** : 1<sup>st</sup> July 2018



July 2018

### Ecodesign: origins & perspectives

- **KYOTO** (1997), **COP21** (Paris 2015) and **COP22** (Marrakech 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 : **TIER 1** : 1<sup>st</sup> July 2016 / **TIER 2** : 1<sup>st</sup> July 2018

### 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:**  
1<sup>st</sup> tier: 2011      motors IE2  
2<sup>nd</sup> tier: 2015      motors IE3 si P > 7.5 kW  
3<sup>rd</sup> tier: 2017      motors IE3
- **Fans EU 327/2011 :**  
1<sup>st</sup> tier: 1<sup>st</sup> january 2013  
2<sup>nd</sup> tier: 1<sup>st</sup> january 2015
- **Chillers and condensing units EU 2015/1095:**  
1st tier: 1st July 2016  
2nd tier: 1st january 2018
- **Other examples :** EU 813/2013, EU 1253/2014, EU 206/2012...

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

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



# Rule EU 2015/1095

**TIER 1 :** 1<sup>st</sup> July 2016 / **TIER 2 :** 1<sup>st</sup> July 2018

## Which refrigeration products are concerned by regulation EU 2015/1095 ?

Are concerned since 1<sup>st</sup> July 2016 and also for 1<sup>st</sup> July 2018:

- Low or medium temperature industrial chillers,
- Air cooled condensing units.

Are not concerned:

- Condensing units whose condenser part does not use air as heat transfer medium,
- Split units (one condensing unit associated with one or more evaporators, packaged or split),
- Compressor racks without condensers.

## It means

Minimum performances to achieve, according to operating temperature and nominal capacity of the unit. Minimum performances to achieve are defined by the text and not according to the customer operating conditions.

### Minimum threshold applied

Type of requirement	Middle temperature (T evap = -10°C)			Low temperature (T evap = -35°C)		
	Capacities	Tier 1 July 2016	Tier 2 July 2018	Capacities	Tier 1 July 2016	Tier 2 July 2018
None	P < 0.2 kW	Non concerned		P < 0.1 kW	Non concerned	
Mini. COP	0,2 kW ≤ P ≤ 1 kW	1.20	→ 1.40	0,1 kW ≤ P ≤ 0.4 kW	0.75	→ 0.80
	1 kW < P ≤ 5 kW	1.40	→ 1.60	0,4 kW ≤ P ≤ 2 kW	0.85	→ 0.95
Mini SEPR COP according to season	5 kW < P ≤ 20 kW	2.25	→ 2.55	2 kW < P ≤ 8 kW	1.50	→ 1.60
	20 kW < P ≤ 50 kW	2.35	→ 2.65	8 kW < P ≤ 20 kW	1.60	→ 1.70
None	P > 50 kW	Non concerned		P > 20 kW	Non concerned	

P : Nominal capacity defined to A point : outdoor air 32°C

SEPR : Seasonal efficiency (Annula cooling capacity/Annual electrical consumption)

## A new document

Ecodesign data sheet are given with the unit or are available on request to our customer service.

FICHE ECODESIGN for condensing units			
Model(s):	MAXI Sc P66A		
Refrigerant fluid(s):	R404A		
Item	Symbol	Value	Unit
Evaporating temperature	t	-10°C	°C
Annual electricity consumption	Q	21623	kWh/a
Seasonal energy performance ratio	SEPR	2,91	
Parameters at full load and ambient temperature 32°C (Point A)			
Rated cooling capacity	P <sub>A</sub>	10,253	kW
Rated power input	D <sub>A</sub>	5,695	kW
Rated COP	COP <sub>A</sub>	1,8	
Parameters at full load and ambient temperature 25°C (Point B)			
Cooling capacity	P <sub>B</sub>	11,557	kW
Power input	D <sub>B</sub>	5,026	kW
COP	COP <sub>B</sub>	2,299	
Parameters at full load and ambient temperature 15°C (Point C)			
Cooling capacity	P <sub>C</sub>	13,348	kW
Power input	D <sub>C</sub>	4,209	kW
COP	COP <sub>C</sub>	3,171	
Parameters at full load and ambient temperature 5°C (Point D)			
Cooling capacity	P <sub>D</sub>	14,87	kW
Power input	D <sub>D</sub>	3,605	kW
COP	COP <sub>D</sub>	4,125	
Parameters at full load and ambient temperature 43°C (where applicable)			
Cooling capacity	P <sub>E</sub>	0	kW
Power input	D <sub>E</sub>	0	kW
COP	COP <sub>E</sub>	0	
Other items			
Capacity control		Fixed Capacity	
Degradation coefficient for fixed and staged capacity units	C <sub>dc</sub>	0,25	
Contact Details	LGL France 42, Rue Roger Salengro - BP205 69 741 GENAS Cedex		
* For condensing units intended to operate at only one evaporating temperature, one of the two columns related to "value" can be deleted.			

## Ranges concerned



**FRIGA-BOHN**

**HK** REFRIGERATION