

Low Loss Transformers



Meeting the 2021 Tier 2, EU directive 548/2014

The 2021 EU Ecodesign regulation coming into place on **July 1st, 2021** made amendments to the Regulation 548/2014. The new regulations tighten the requirements for load-losses on energy-related products. It is in place to improve energy efficiency, environmental compatibility and reduce CO2 emissions.

The European Commission estimates that 2.9% of all energy generated across EU26 and the UK is wasted through transformer losses. In a survey led by the EU, they found that the EU26 transformer industry produces losses up to 93.4TWh annually. The strict design regulation aims to reduce energy losses of distribution transformers to save on average 16TWh annually which equate to 3.7MtCO2 from being emitted into the atmosphere.

All transformers placed into service in the UK and EU with a minimum power rating of 1kVA used in 50 Hz electricity transmission and distribution networks or for industrial applications will be affected.

However, you can still purchase Tier 1 transformers if they have been placed on the market before July 1st, 2021. So, this means that you can still buy them from our existing stock (limited numbers apply). However, there should be no further work done to them.

*This directive means you help save the equivalent to the electricity consumed in a country the size of Belgium!**

*2.9% of the energy generated across EU26 and the UK equals 93Twh which is enough to power Belgium for a year (based on 2019 figures of 90.3 Twh from <https://ourworldindata.org/energy/country/belgium>)

If you are still unsure about how the EcoDesign regulations will affect you, or would like advice on what products could be most financially and environmentally beneficial for your business, get in touch.

Low Loss Transformers

Bowers Low Loss comparison chart.

Bowers NEW Tier 2 Transformers offer significant reductions on no-load losses against pre 2015 CRGO units and are fully compliant with all current UK and EU directives including the 2021 Tier 2 EU directive 548/2014.

KVA	PRE 2015 STANDARD LOSS CRGO TRANSFORMER		OLD BOWERS STANDARD 2015 CRGO TRANSFORMER - TIER 1		NEW BOWERS STANDARD 2021 CRGO TRANSFORMER - TIER 2	
	Core Losses NLL	Load Losses LL	Core Losses NLL	Load Losses LL	Core Losses NLL	Load Losses LL
315	650 w	5350 w	360 w	3900 w	324 w	2800 w
500	900 w	7400 w	510 w	5500 w	459 w	3900 w
800	1150 w	11000 w	650 w	8400 w	585 w	6000 w
1000	1350 w	12500 w	770 w	10500 w	693 w	7600 w
1250	1575 w	16000 w	950 w	11000 w	855 w	9500 w
1500	1700 w	21000 w	1129 w	13143 w	1015 w	11286 w
1600	1800 w	21700 w	1200 w	14000 w	1080 w	12000 w
2000	2300 w	24000 w	1450 w	18000 w	1305 w	15000 w
2500	3000 w	28000 w	1750 w	22000 w	1575 w	18500 w
3150	3150 w	40000 w	2200 w	27500 w	1980 w	23000 w

All values are in Watts (W) and refer to operation at full load.

Save money by reducing Transformer losses.

Transformer Loss Chart

TYPE OF TRANSFORMER	CORE LOSSES APPROX	LOAD LOSSES APPROX	kWh SAVINGS v TIER 2 STD	£'S SAVINGS v TIER 2 STD
PRE 2015 STANDARD CRGO	1700 w	21000 w	10399 w	£12,753
OLD BOWERS 2015 STANDARD CRGO - TIER 1	1129 w	13143 w	1971 w	£2,417
NEW BOWERS 2021 STANDARD CRGO - TIER 2	1015 w	11286 w	—	—

Based on electricity costs of £0.14 / kWh (average unit rate for electricity in the UK) and 1500 kVA rating at full load.

Bowers Electrical NEW 2021 Tier 2 transformers significantly reduce both carbon emissions and energy waste, over the course of a units typical 25 year life-span.

Savings can total up to £12,753 per annum, when comparing the running costs of Tier 2 Standard Transformer to a pre 2015 standard CRGO Transformer.

Bowers 1500kVA Transformer Total Losses and Money savings.

Upgrading older existing supply equipment to a new Bowers transformer will provide significant reductions in combined losses and save you money in running costs.

When comparing information, the age, condition and construction should always be taken into account. Generally speaking, the older the date of manufacture the greater the potential savings you can expect, when comparing to the latest energy efficient transformers. Real energy and cost savings can be achieved by upgrading older less efficient transformers.

