

Why use Electronic Power Supplies (EPS) ?

Advantages for the user:

- Step less adjustability of lamp power and through this optimal adaptation to the curing process e. g. at variable machine speeds. Results are **lower heat load** of the irradiated object and the surrounding machines as well as **energy saving**.
- Possibility of "balancing out" lamp ageing.
- The requested and adjusted lamp power is consistently controlled and therefore independent of mains voltage variations or other influences.
- Quick controlling of lamp power to 10-15% for gaps in the product flow. This means, depending from application a clearly **energy saving**.

Advantages for the machine producer (OEM):

- ONE power supply for many different lamps and lamp powers:
For lamp power from 400 to 34,000 watts there are only seven different EPS-types which are necessary. Without changing the power supply, different lamps in the respective power range can be problem-free connected to EPS, merely the minimum and maximum values of the lamp and the respective EPS limits are set, in only few cases the arc length.
- EPS are in very many cases smaller and lighter than conventional power supplies.
- There is less time for installation and wiring.
- Optimal for export, since it can be used worldwide on 376 to 509 V at 50 and 60Hz. without changing the power supply (3 phase units).
- Possibilities of installing the power supply directly into the machine, so that the switch cabinet becomes unnecessary or it becomes clearly smaller.
- Balanced load of the 3 phases (for 3-phase units).
- High warm up current for short warm up phase, but NO higher current to the mains.
- No Neutral line necessary (3-phase units)
- No additional ignition necessary (except TEP 20)
- Distance between power supply and lamp up to 15 m and more (FSU).

Possibility of very rapid pulsation of lamp power

- Especially for discontinuous processes, e.g. curing of prints on single objects such as synthetic bottles, check cards, CD's and so on, the fast pulsation of lamp power is a solution.
When an object is located under the lamp, the lamp can be operated at full power. During the short break before the curing of the next object the power will be decreased to a minimum. The average power consumption for a lamp and EPS is the mean of minimum and maximum peaks with

respect to the pulse duration. The overall heat generation and energy consumption correspond to this mean, but the UV-power during the "curing moment" will be at its maximum or peak power level.

The rise time from minimum to maximum power is approx. 2 - 3 ms (ALP/BLP) respectively approx. 20 ms (TEP/FSU).

Operation with rectangular current:

- Operation of a uv-lamp with a rectangular current avoids the short dark breaks which occur in the arc using standard power supplies at 50 or 60Hz. So running at very high speed there is no loss of

curing, e.g. for high speed printing, lacquering or printing of fibre optics etc.

- When objects are monitored by cameras, interference is avoided.

Reliability:

- EPS's have been in use world-wide since 1996. The experiences and the suggestions for improvement from our customers have influenced the current series.

All types of EPS are short circuit proof, earth fault-proof as well as no-load safe and have proved themselves as very reliable during practical use.

Regulations:

- All electronic power supplies have the CE sign.
 - EMC according to EN 55011, group I, class A (industrial areas).
- The EPS's correspond to EN 50178 and other European and worldwide standards (IEC)