



Recommended Generator Power and general information for electrofusion control units made by PF Schweißtechnologie GmbH



General information!

The particular required output power of a generator for electrofusion of thermoplastic pipes and fittings welding cannot be specified generally because the parameters involved are heavily depending on the used fittings. The information in the following table below is to be used only as a guide as it can differ from your actual requirements.

For generators with a poor control response or for generators with a bad tension stability, the guaranteed output power must be 3 to 3.5 times of the load to ensure a trouble free operation. The suitability of electronically controlled generators must be tested before usage due to the fact that the rotational speed of some generators tend to fluctuate, which results in extreme voltage peaks. Furthermore unexpected shutdown of the generator may occur.

The usable generator power will decrease by 10 % per 1000 m of height above sea level.

Before processing fittings in this dimension range, you have to check that the welding current demand of the fitting does not continuously exceed the output current of the device and that the maximum output current is not exceeded.

The statements refer to an outside temperature of 20 °C.



Special instructions when using generators!

- **The generator must be grounded!**
- The outlet which the electrofusion control unit is used together with must have a protective earthing conductor!
- It is very important that there is a Protective Earthing (PE) conductor which is continuous (i.e. <0.5 Ohms) from the earth terminal of the generator to the earth terminal of the plug on the flexible supply cord of the electrofusion control unit. If the protective earthing conductor is interrupted or becomes higher in resistance, there is a risk of electric shock.
- For this reason, always ensure that only extension cords of the approved type are used. Observe the specific notes on the cross-section and cable length in the device specification.
- Ensure that the electrofusion control unit, all accessories and extension cords are regularly inspected, tested and tagged by a licensed electrician or other competent person.
- First start the generator, then plug in the electrofusion control unit.
- **If you operate an electrofusion control unit on the generator, no other additional device may be operated at the same time.**
- **Switch off the electrofusion control unit and disconnect the mains plug before switching off the generator.**
- **Check the fuel level of the generator before starting the welding process.**
- **The operating instructions of the electrofusion control unit as well as the operating instructions of the generator must always be observed!**



Special information for Australia

Ensure that the generator is regularly inspected, tested and tagged by a licensed electrician or other competent person in accordance with workplace health and safety legislation and national standards.

The electrofusion control units made by PF Schweißtechnologie GmbH provide the following features to increase the generator suitability:

- High tolerance for the input voltage
 - 190 V to 300 V at 230 V nominal
 - 90 V to 150 V at 110 V nominal
- High tolerance for the input frequency
 - 40 Hz to 70 Hz
- Display of current input voltage and frequency.
- Soft-Start for limitation of the generator load.

Despite these characteristics, the used generators must meet the following requirements and recommendations, in order to avoid damage to the electrofusion control unit. This ensures that the internal monitoring functions of the control unit do not interrupt the welding process:

- Suitable for phase-angle control
- 230 V
 - No-load voltage adjustable between 240 V and 260 V
 - Output current of 18 A on one phase
 - For PolyControl: Better 21 A on one phase
- 110 V
 - No-load voltage adjustable to 120 V – 130 V
 - Output current of 36 A on one phase
- Stable output voltage and engine RPM even with rapidly changing load
- Synchronous generators with mechanical RPM control preferred
- Voltage peaks must not exceed 800 V



Extension lines

When using extension cables, it is essential that you also observe the information on the required conductor cross-sections and the maximum length. If you use cable drums, you must unwind them completely.

Polymatic

Variants: All

Usage for dimensions **from 20 to 630 mm** without limitation.

When working with dimensions from **630 mm** on, longer cool-down times must be provided for because otherwise the device might show the "Device too hot" error message. In this case, it is necessary to let the electrofusion control unit cool down before putting it to use again.

Dimension range of fittings	Recommended generator output power
20 to 160 mm	3.2 kW
180 to 500 mm	4.5 kW (mechanically controlled)
	5.0 kW (electronically controlled)
>500 mm	6.5 kW (mechanically controlled)
	7.5 kW (electronically controlled)
Extension cord	Conductor cross-section
Up to 30 m	3×1.5 mm ²
Up to 50 m	3×2.5 mm ² (over the entire length)

PolyControl Plus V2.0

Variants: All

Suitable without restriction for all fitting dimensions resp. PKS-systems that have a maximum continuous current consumption of **up to 85 A**.

**Fan failure!**

If the fan on the back of the unit fails, the dimension range in which the unit can be used is changed to: 20-250 mm without restriction; 280-400 mm with occasional breaks.

In order to avoid damaging the controller, you must not use it without a properly working fan on coupler dimensions larger than 400 mm.

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	5.0 kW (electronically controlled)
>500 mm	6.5 kW (mechanically controlled)
	7.5 kW (electronically controlled)
Extension cord	Conductor cross-section
Up to 30 m	3×2.5 mm ²
Up to 50 m	3×4.0 mm ² (over the entire length)