

Your Retrofit Solution

TRUMPF Hüttinger Plug and Play Kits

Retrofit Solution

You are tired of high failure rates and high repair costs of your aged process power supplies? You want to improve technical performance and uptime? You are looking for a power supply with higher reliability and unbeatable efficiency?

Then it is time to update your tools with TRUMPF Hüttinger's Retrofit program which aims to replace aged legacy RF generator equipment for a broad spectrum of semiconductor processing tools. Investing in the next generation of our TruPlasma RF series pays off: compared to legacy equipment you save energy and cooling water costs featuring the highest reliability in the market. Plus, you can reduce the total cost of ownership and extend the lifetime of your tool with TRUMPF Hüttinger's pre-configured Plug & Play kits.



Features and Benefits

Repeatability	<ul style="list-style-type: none"> Planar RF system design High-tech system control Best in class calibration process 	<ul style="list-style-type: none"> Better run-to-run repeatability Decreased aging process Better layer homogeneity
Accuracy	<ul style="list-style-type: none"> Calibration of the generator to an absolute accuracy of up to $\pm 1.0\%$ into $50\ \Omega$ Temperature compensating measurement loop 	<ul style="list-style-type: none"> More precise and accurate plasma process Seamless replacement of RF Generator Temperature fluctuations have no influence
CombineLine Technology	<ul style="list-style-type: none"> High self-protection level provided by design Cable length independent Extremely reliable even under rough conditions 	<ul style="list-style-type: none"> Immunity to Pr spikes Easy installation, no cable length adaptation High up-time of >99%
Efficiency	<ul style="list-style-type: none"> Best in class line-to-load efficiency (> 80%) Optimized class D amplifier topology Completely water cooled 	<ul style="list-style-type: none"> Lowest energy costs Lowest overall cooling effort Supports green energy initiatives



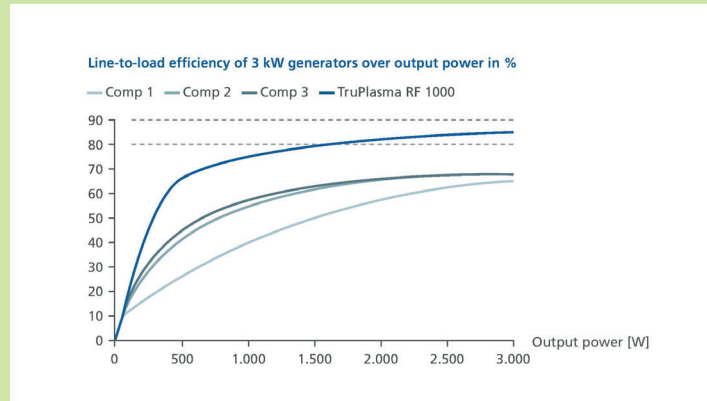
TRUMPF Hüttinger
generating confidence

ROI - Return of Investment

Maximize your productivity

- Save repair and maintenance costs
- Low efficiency costs
- Benefit from our high efficiency
- Fast return of investment

Usually, an upgrade to our TruPlasma RF 1000 generator amortizes within two years due to the low failure rate and high energy efficiency.



Technical Data

RF output	TruPlasma RF 1000-3/13	TruPlasma RF 3000-6/13	TruPlasma RF 1000-1/13 Air
Output power	3 kW	6 kW	1 kW
Nominal load impedance	50 Ω	50 Ω	50 Ω
Output frequency	13.56 MHz*	13.56 MHz*	13.56 MHz
Networking connection data			
Line voltage	3 x 208 - 480 VAC	3 x 208 - 480 VAC	190 – 240 V
Line frequency	50 – 60 Hz	50 – 60 Hz	50 – 60 Hz
Line input power			1.6 kVA
Power factor	> 0.9	> 0.9	> 0.9
Communication interfaces			
Sync interfaces	yes	yes	yes
Analog / digital	yes	yes	yes
RS 232 / RS 485	yes	yes	yes
Profibus	yes	yes	no
EtherCAT	yes	yes	yes
DeviceNet	yes	yes	yes
Housing			
Weight	18 kg	38 kg	< 15 kg
IP protection class	30	30	20
Cooling requirements			
Maximum water pressure	3 - 7 bar	3 - 7 bar	Air
Minimum pressure difference			Air
Minimum flow rate	4l/min*	8l/min*	Air
Coolant temperature	5 - 55 °C	5 - 5 °C	Air
General			
Overall efficiency	> 80 %	> 80 %	> 70 %
Certificates / standards	Semi S2, SEMI F47, UL, CE, RoHS	Semi S2, SEMI F47, UL, CE, RoHS	Semi S2, SEMI F47, UL, CE, RoHS

*Frequency offset available

**Temperature dependent

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