DATA SHEET - A-TSP2H
Titanium sublimation pump controller

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INTRODUCTION

The Titanium Sublimation Pump Controller regulates the quantity of material sublimated from the filaments, compensating for changing conditions and eliminating the need for operator attendance or adjustment.

KEY FEATURES

- 2U (88mm) high full-width instrument for easy rack mounting.
- Low cost. Simple, robust and reliable design, which is easy to service. All output switching is by semiconductor devices.
- Low-noise. Complies with EC EMC and LV directives. Power factor >0.97.
- Sublimation current settable over the range 30-55A in increments of 0.1A. Suits 85% Ti, 15% Mo filaments from 1.8 to 2.1mm diameter.
- Filaments are warmed and cooled gently to avoid thermal shocks. The sublimation current contains minimal harmonics to reduce the risk of early filament failure due to magnetostrictive stress or mechanical resonance.
- Pump current is accurately regulated in order to automatically compensate for mains variations and pump cables warming.
- No in-service adjustment is required.
- Self-timed delay between getter renewal adjustable from 1 minute to 99 hours.
- Filaments may be run for degassing at currents between 5 and 25A to prevent overloading the ion pump. Filaments can be kept warm at the end of a system bake.
- Sublimation inhibit/trigger function by external switch or relay.
- Suitable for a wide range of cartridges with up to four filaments.
- Indicates open-circuit filament, shorted cable/filament, inhibit, overtemperature. Thermal overload protection.

DIMENSIONS

Width	483mm
Depth	365.2mm
Height	88mm
Weight	11kg net. (Shipping weight 13kg)

SPECIFICATIONS

Operating Temperature	10 to 40°C for rated performance. Operation up to 50°C is possible at longer sublimation intervals, i.e. below 10^{-6} mbar.
Supply Voltage	220/230V RMS (100/110V RMS for A-TSP2L) 50 or 60 Hz, to order.
Power Consumption	Less than 20W when idling, less than 700W when sublimating at 55A with a maximum length cable.
Power Factor	> 0.97 at maximum output power.
Output Current	Regulated at 30 to 55A RMS x 0.1A in sublimation, 5 to 25A RMS in degas.
Output Voltage	The output voltage is determined by the lead and cartridge resistance. Maximum output voltage is ≥ 9.5V RMS at 45A.
Timing	Sublimation period 0.1 to 3 minutes x 0.1 min. Delay interval 1 to 59 minutes, 1 to 9.9 hours. Degas time 1 to 99 minutes. All timing is derived from the mains supply frequency.
Output Duty Cycle	100% at 300W output power and less than 30°C ambient temperature.

Unless otherwise stated all specifications are typical and at 25°C. E&OE.

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