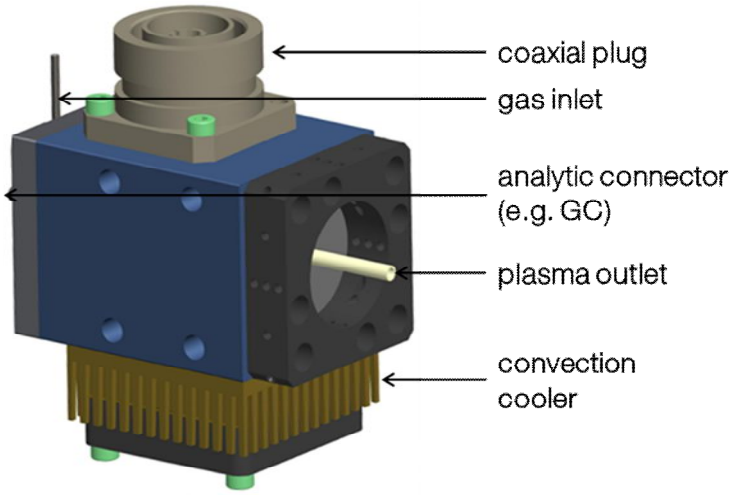
neoplas control
solutions for your operations in gases and plasmas

MiniMIP

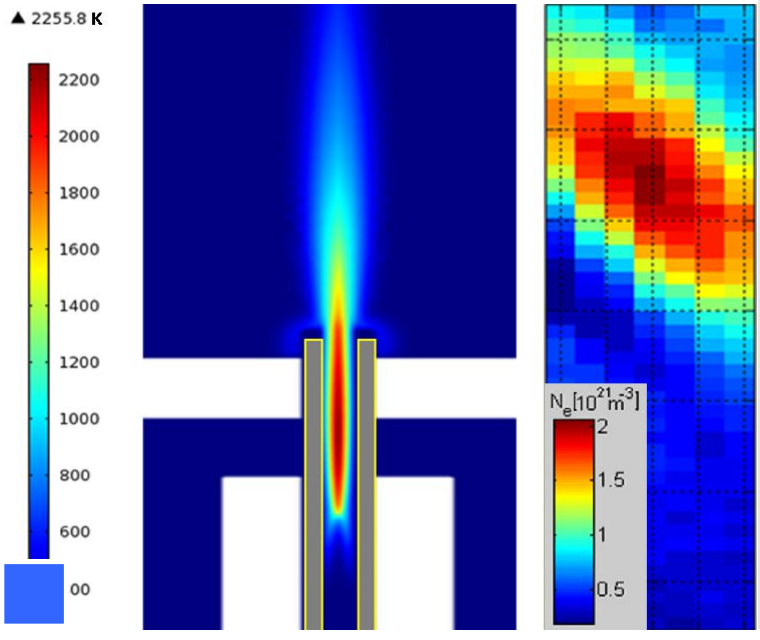
atmospheric pressure discharge

layout and connectors of MiniMIP source



MiniMIP microwave generator

typical temperature profile (left graph, simulated) and electron density (right graph, measured) within MiniMIP source



technical specification

Plasma as a cross-sectional technology in many industry branches, but also in research laboratories, is an indispensable tool in surface treatment. Plasma technology is used everywhere where quality, productivity, environmental sustainability, precision and flexibility is important.
By its high degree of flexibility the microwave plasma source MiniMIP allows the efficient use in various sophisticated applications and experiments.
The alternative use of pure Argon, Helium optionally complemented by admixture of molecular gases ensures the ability of matching the process chemistry to the requirements of the specific application. Moreover, the wide operating range with regards to gas flow and microwave power along with the inherent high plasma temperature are essential prerequisites for various applications in decontamination, ultra-fine cleaning and activation of surfaces as well as real-time sample preparation speciation analysis approaches. These properties make the MiniMIP plasma source a powerful tool in production and analytic application fields of industry and research.

MiniMIP features

- compact and mobile
- high flexibility
- wide application spectrum
  - activation
  - fine cleaning
  - decontamination
  - speciation analysis (e.g. organic Hg-, Pb-, Sn-compounds)
  - „chemical reactor“
- treatment of
  - technical and biological materials
  - sophisticated geometric shapes
  - hard-to-get-at locations
- precise and point-by-point operation
- powered by noble and molecular gases
- versatile process integration

general

description	compact atmospheric pressure plasma source for surface treatment
dimensions handheld	80 x 65 x 50 mm (1.50 m connector cable)
weight handheld	0.5 kg
dimensions base unit	110 x 230 x 375 mm (H x W x D)
weight base unit	6.5 kg
power supply	110 - 230 VAC, 50/60 Hz
power consumption	<200 W at 230 V, 50 Hz

transport and storage conditions

temperature	-40 °C - 70 °C
rel. humidity	10 % - 100 %

working conditions

temperature	15 °C - 40 °C
rel. humidity	15 % - 75 %
air pressure	800 hPa - 1060 hPa

source

process gas	Argon* * other gases and mixtures on request
Microwave frequency	2.45 GHz
forward power	10 W to 60 W (selectable)
gas flow	0.6 - 6 litre per minute
plasma volume	approx. 10 mm³
electron density	up to 2 x 10^{21} m^{-3}
gas temperature	up to 1700 °C* * depending on process gas and power

scope of delivery

	plasma source
	microwave generator
	microwave connector cable
	line cord