

**A450** is a high performance nozzle to be operated with a pulsed atmospheric arc (PAA®) plasma generator (PG31) and a pulsed power supply (PS2000).

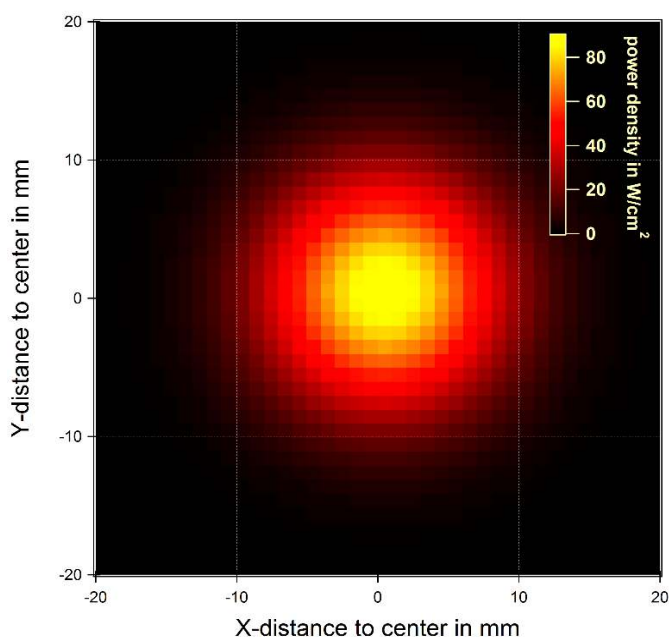
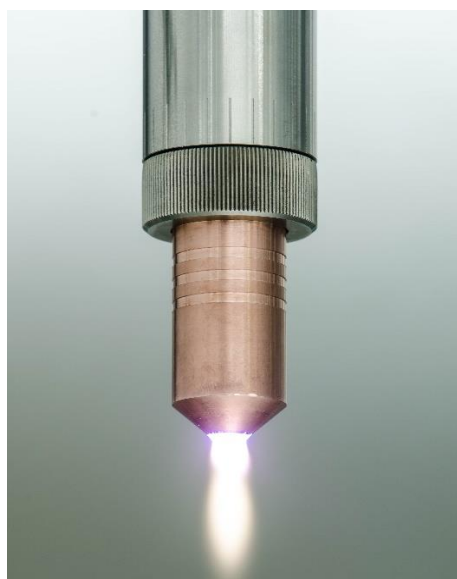
The nozzle achieves the following functions:

- focussing of the plasma flame
- acting as a grounded cathode to confine the high power electric arc
- forming of the cavity to excite the process gas

**A450** is used for:

surface cleaning, surface activation, thermal treatment and reactive coating.

Special features: optimized for high process speeds.



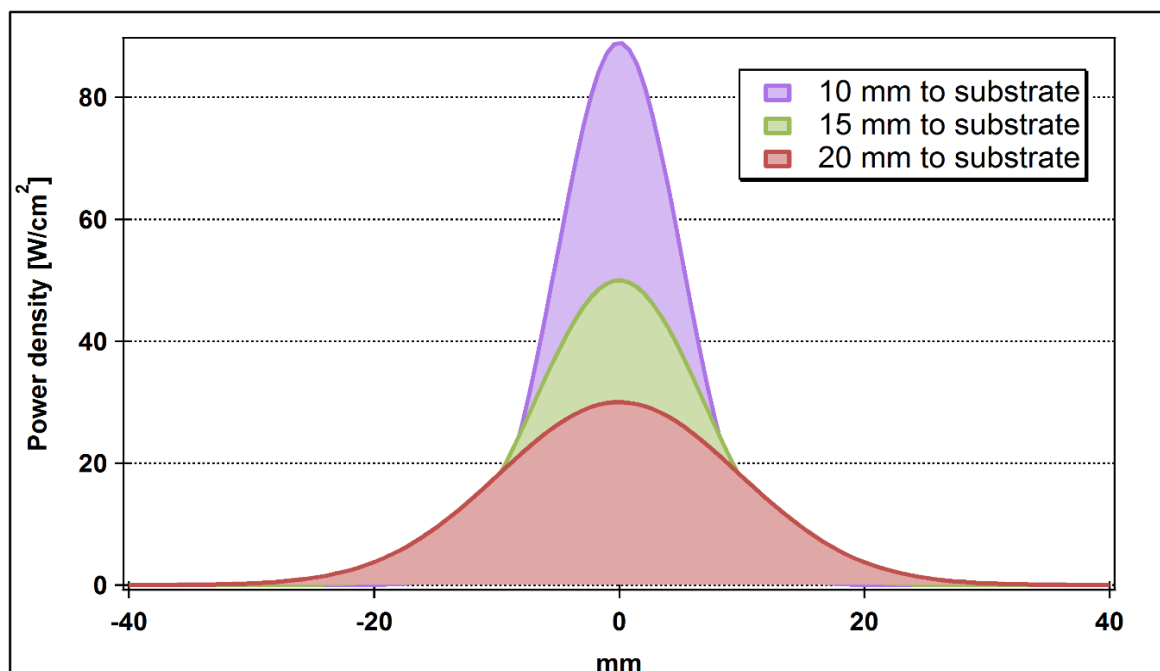
## Description

Nozzle name	A450
Nozzle length	50 mm
Orifice diameter	4 mm
Outer diameter	21 mm
Mass	90 g

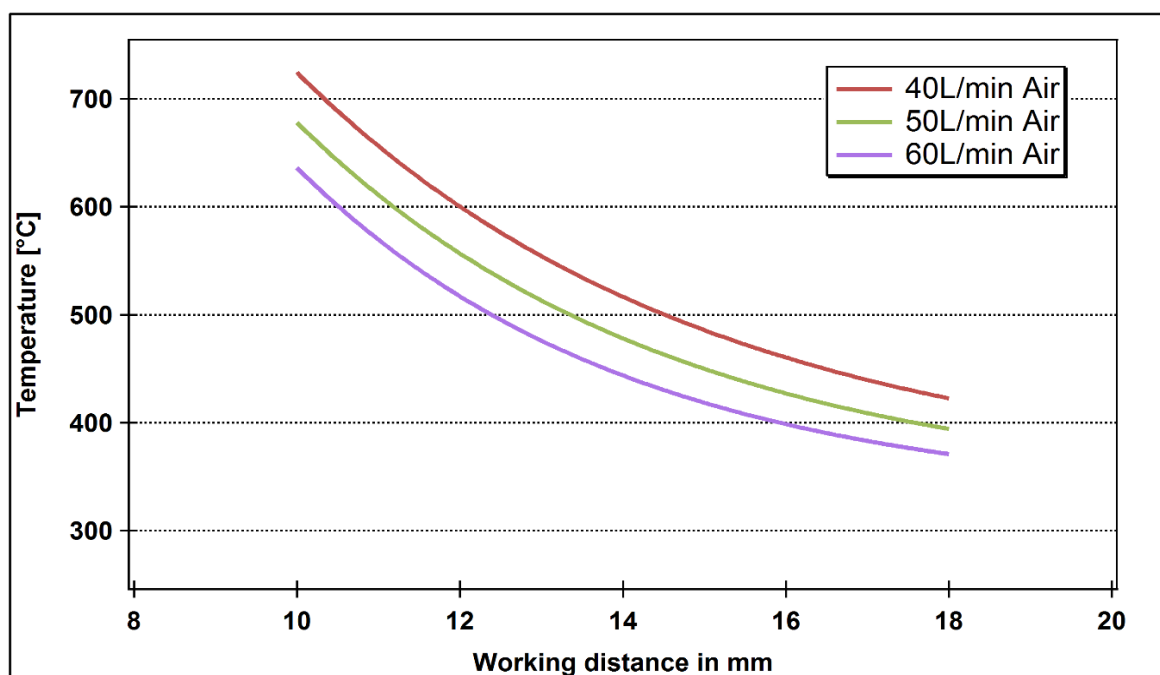
## Process parameters

Gas types	Air; Nitrogen; Forming gas 95/5
Gasflow	35 - 80 L/min
Working distance	5 - 30 mm
Activation width	10 - 25 mm
Lifetime (diffuse beam mode)	>500 h (Air) >1000h (Nitrogen)
Lifetime (focussed beam mode)	>2000h (Air)

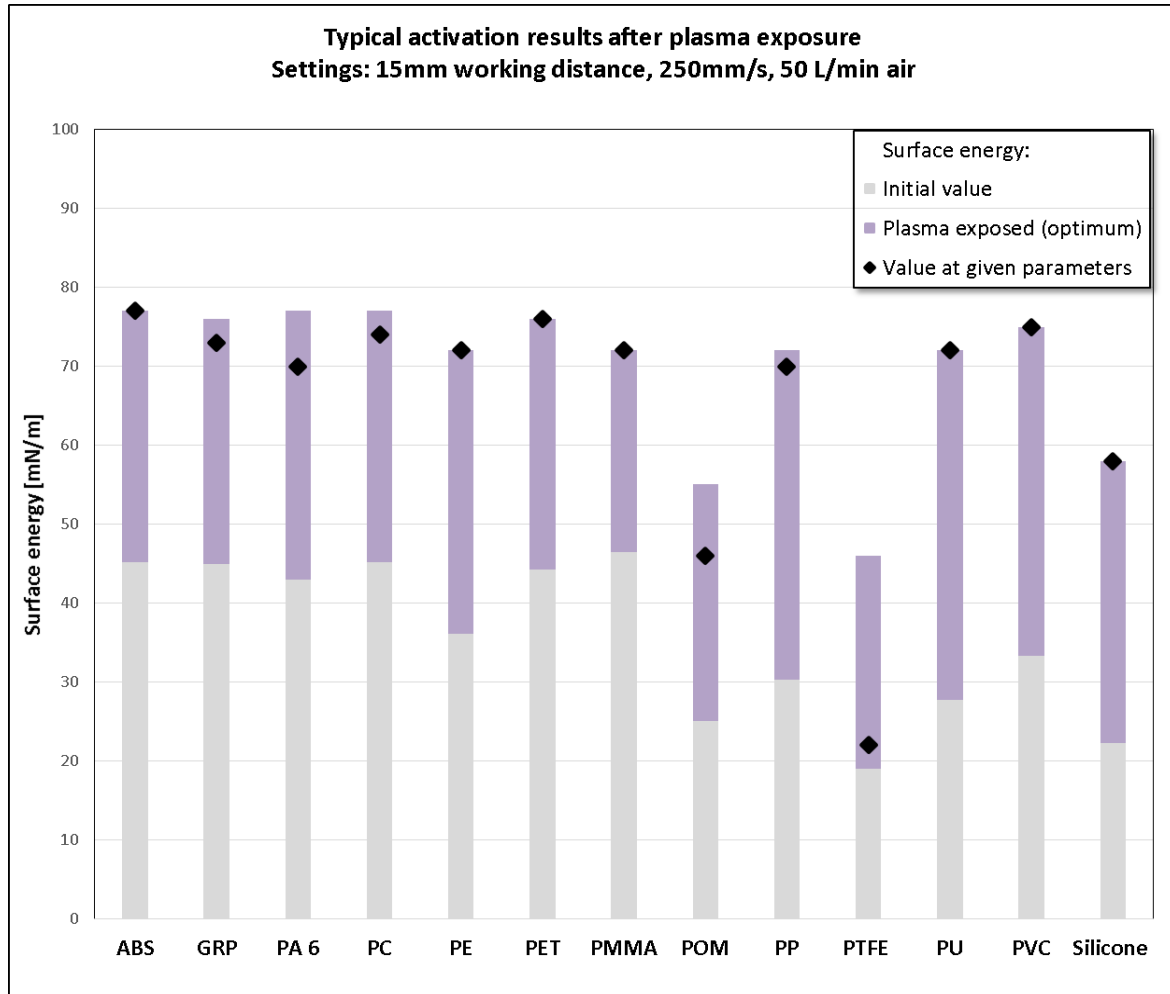
## Power density



## Static temperature characteristics



## Typical activation results



**A450** typical activation results for the given parameter set of speed and working distance operating with air. Higher surface energies through process parameter adjustment can be achieved.

Surface temperature rise at given parameters for bulk material <100°C.