

CYRANNUS® I

plasma source



R&D100 Award 2003



Young Female
Entrepreneur Award
2000

„Aus den praktischen
Erfahrungen mit den
Hidden Champions lernte
ich mehr über
Management als in zwei
Jahrzehnten
wissenschaftlicher
Forschung“

Prof. Simon (founder of
Simon, Kucher & Partners)

CYRANNUS®
cylindrical
resonator with
annular slots

int. patents approved or
pending, e.g.

EP 97906173

EP 98928283

EP 0872164

US 6204603 B1

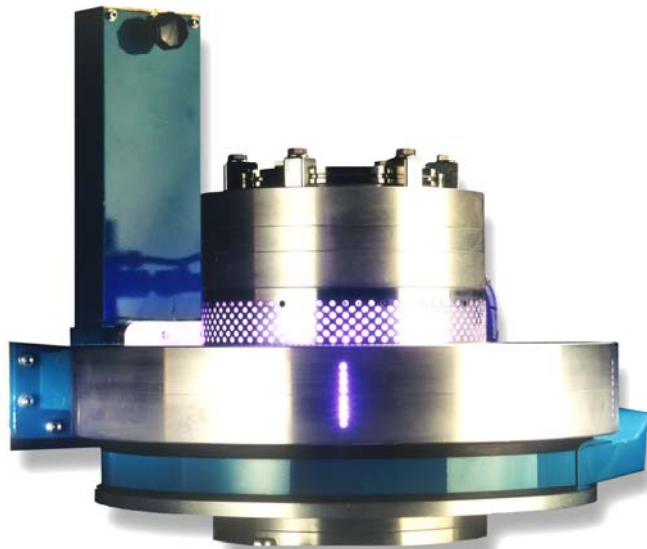
US 6198224

US 6543380

JP 531466

JP 524812

The reliable tool for plasma
generation from vacuum to
atmospheric pressure



CYRANNUS® technology

Plasma easy to apply!

technical details

CYRANNUS®1 -6" plasma source

- plasma chamber, quartz tube Ø 5.5" height 5.5" (2.7; 10.5"; 16" are also available)
- excitation frequency 2.45 GHz (915MHz, 9.55GHz are also available)
- top flange, water cooled, concentric gas shower, connector 6mm
- bottom flange ISO 250K, water cooled
- perforated chamber wall for visual / optical plasma control
- air cooling for plasma source (blower) ca. 200m³/h
- microwave leakage detector for control of emitted microwave
- scale-up of plasma source with more coupling structures (increased diameter) or other excitation frequency (increased volume) can be designed individually on request
- dimension 390 x 520 x 220 mm (LWH); 19kg

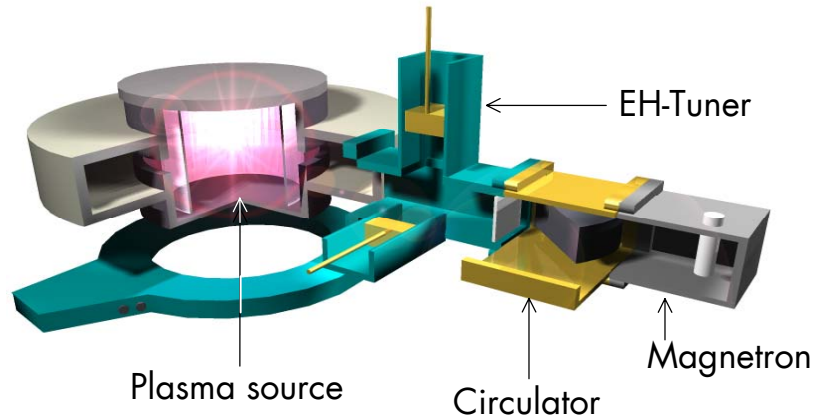
control unit SC102s

- ready for installation into 19" rack
- mains 380V – 3 phase / N / PE, 50 Hz; cable connection of sensors (3 m)
- easy control of additionally connected components as microwave generator, blower for air cooling, pump for water cooling (parts are not included in the "component" version of plasma source)
- control of plasma source in process; system shut down if plasma collapses, ignition fails or temperature limits are exceeded
- manual or automatic mode, automatic mode allows external control of all functions
- additional interlock can be included
- Profibus version for connection to PLC available

E-H-tuner

- minimized loss of microwave power while tuning also for high power application
- coarse and fine tuning with separate plungers for E and H and indication of plunger position (for adjustment of impedance in wave guide)
- arc window for protection of magnetron
- fully automated tuner with PLC control is available on request

principle



microwave generator (not part of "component" version)

- A microwave generator is not part of a "component bundle". The best configuration for a system depends on specific application and process requirements. iplas offers separately various microwave generators which are specially designed for *CYRANNUS®* I - 6" plasma sources.

technical requirements

- electrical current depends on size of microwave power supply
220V, 8A + 380V, 32A
- water cooling for microwave equipment and plasma source
approx. 5 l/min
- air cooling for plasma source (blower)
ca. 200m³/h

manual (English or German)

- description of all supplied parts, mounting and technical specifications
- detailed safety instructions
- declaration of conformity

support from iplas

- for selection of a most appropriate configuration of equipment the iplas team will be happy to support you with know-how and experience
- feasibility studies or test runs can be done at our development lab in Troisdorf

more about iplas...

technology

iplas has **proprietary rights** of the unique **CYRANNUS®** equipment for producing uniform, homogeneous, microwave excited plasma from vacuum to ambient pressure with arbitrary gas.

Reliability and speed are two of the greatest advantages which have been gained from **CYRANNUS®** technology. These are the key factors for successful plasma technology in production.

products

- **CYRANNUS®** plasma sources with different size
- fully automated plasma systems for production
- manually operated plasma systems for R&D
- tailored process development with iplas' engineers and equipment

business

iplas covers several fields of plasma technology. Synergy effects from developments in various applications of medium to ambient pressure plasma lead to a **world leading know-how in medium pressure plasma processes**.

target

It is our intention to supply plasma technology as easy as possible. Our customers do not need to care about the plasma. **iplas will take on all plasma problems for you with innovative solutions for production!**

For further questions please contact:

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