



Plasma Quest HiTUS S400

High Target Utilisation

Sputter from thick Ferromagnetics

High and Low Deposition Rates

Reactively Sputter Dielectrics



Flexible to meet budgets

Control of film Characteristics

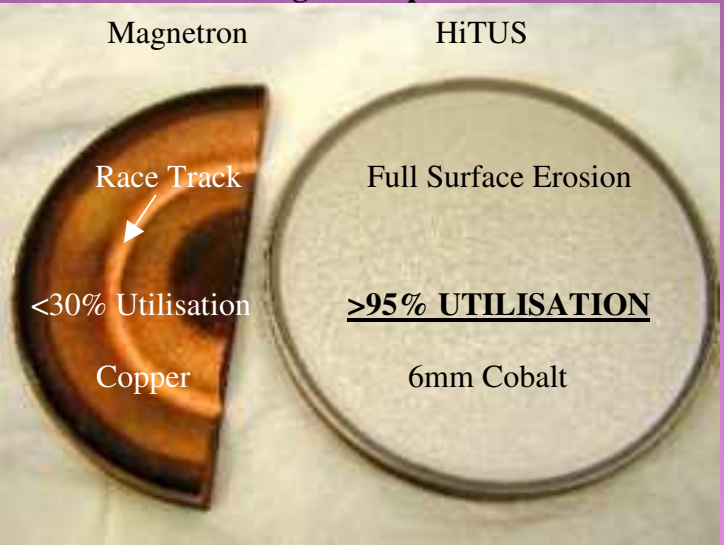
Highly Collimated

No target Poisoning

Extensive Applications

Budget Version S400

Target Comparisons



Magnetron

HiTUS

Race Track

Full Surface Erosion

<30% Utilisation

>95% UTILISATION

Copper

6mm Cobalt

HIGH TARGET UTILISATION SPUTTERING

The **Plasma Quest** HiTUS S400 Development Plant brings the exceptional benefits of this highly versatile and sophisticated system to research and development operations, including easy conversion to magnetron sputtering capability if desired

Versatility

Up to six targets
Up to six substrates
Multi layer capability

Low stress film

No target poisoning
Sputter from thick ferromagnetics
Deposition rate dynamic control to 3 orders
Refractive index approaching bulk
Reactively sputter dielectrics
Highly collimated film

Some Applications

Magnetic Media
Photonics
Photovoltaics

READILY CONVERTIBLE TO MAGNETRON SPUTTERING IF DESIRED

Plasma Quest Limited Unit 1B Rose Estate, Osborn Way, Hook, Hampshire UK RG27 9UT

E-Mail: info@plasma-quest.com

<http://www.plasma-quest.com>



Plasma Quest HiTUS S400

Indicative Design Specification

Two connected units consisting of the process chamber/pumping units and a 19" rack mount

Main chamber pumped by 900l/s turbo pump and dry pump unit

Side arm comprises a differentially pumped quartz tube with quartz liner local to RF input

RF power to side arm supplied by 2kW 13.56MHz RF supply and matching unit

Separate launch and steering magnets separately powered by DC current supplies for plasma tuning

Main process chamber is 800dia x 800h and water cooled s/steel with full section front opening door

Standard ISO ports fitted to chamber and additional viewports as required

Chamber rear plate fitted with main pump port and has 5 additional NW40 ports

Functional/Engineering Specification

Liquid nitrogen cryogenic trap between chamber and high vacuum pump

Control of Plasma direction facility for for substrate cleaning and/or preparation

Shuttering for substrate protection

Two off high current feedthroughs rated at 90A and air cooled – 400A water cooled version optional extra

Substrate holder capable of being heated to 300°C

Target power from 500W DC power supply – RF supply optional extra

Standard commercial film thickness monitor

3 off 100 sccm MFC's for use with Ar and O₂ with gas feed points above and below substrate

Side arm gas feed - optional

Service Requirements

| | |
|--|---------------------|
| Electricity | 3 phase, 415V, 64A |
| Compressed Air | 5 bar minimum |
| Cooling Water | 20°C maximum, 3 bar |
| Extraction for pump exhaust | |
| Dry nitrogen for system vent and purge | (1 bar minimum) |

Customer Supplies

Process gases as required
Targets as required
Substrates as required

Plasma Quest Limited Unit1B Rose Estate, Osborn Way, Hook, Hampshire UK RG27 9UT

☎-mail: info@plasma-quest.com

<http://www.plasma-quest.com>