Sonoluminescence Reactor v0.1.0

Highest Liquid Level must be in Sight Glass >>

Steam

Loop

Piezo

PZ2

Heat Exchanger

Temp NTC1

Drain Ball Valve

BV1

1kW PM

Generator

& Inverter

PRELIMINARY

Regulator

REG2

200 PSI

Flow

Direction

Relief

300

PSI-

Sight

Tesla

Valve

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Initial Bulk Medium for LENR:

Primary Colloid:

Nickel Suspension, 1% w/v Purpose: Metal lattice

Solvents: 90% H20, 10% D20

Surfactant: None in Rev A, possibly needed.

Solutes & Secondary Colloids:

Boric Acid, 2% w/v Gadolinium III Oxide, 1% w/v Lithium Chloride, 0.1% w/v

(opt.) Beryllium Oxide, 0.1% w/v

(opt.) Neodymium, 1um (opt.) Coumarin 102, 5% w/v Purpose: Neutron Modifier Purpose: Neutron Modifier

Purpose: Hot Spot Enhancer Purpose: Hot Spot Enhancer

Purpose: Gain Medium Purpose: Gain Medium

Piezo Horn Horn

Reactor Cavity

Н1 H2 PZ1

Pressure

Nominal Operating Points:

Temperature: 160C (140C if Coumarin Dye Laser Configuration) Pressure: 200 PSI, controlled by head gas regulator

Input Power: 60W x2 (120W Total) Total Output Power: 1,120W

Piezo Frequency: Resonance of the system @ max Bremsstrahlung

Absolute Maximum Ratings:

Temperature: 300C

Pressure: 250 PSI transducer limit, 300 PSI blowoff valve, 1000 PSI burst

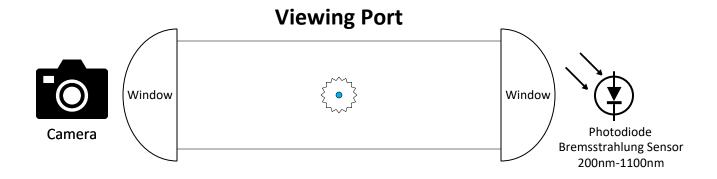
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Sparger, 5 micron Solenoid Valve ARSV1 Static Mixer (Optional) For Dissolving Argon Regulator REG1 500 PSI Hydrogen or Deuterium Ar **Electrolysis Gas** Injection Cell (Optional) 1/2

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Laser Cavity Additions and Notes:

- Consider Q-switcher for cavity dumping
- 2. 3rd or 4th external laser port for bubble initialization or stabilization
- 3. Target boosting through coherent light interactions at predetermined resonances

Optional Target Booster using Laser Arrangement

