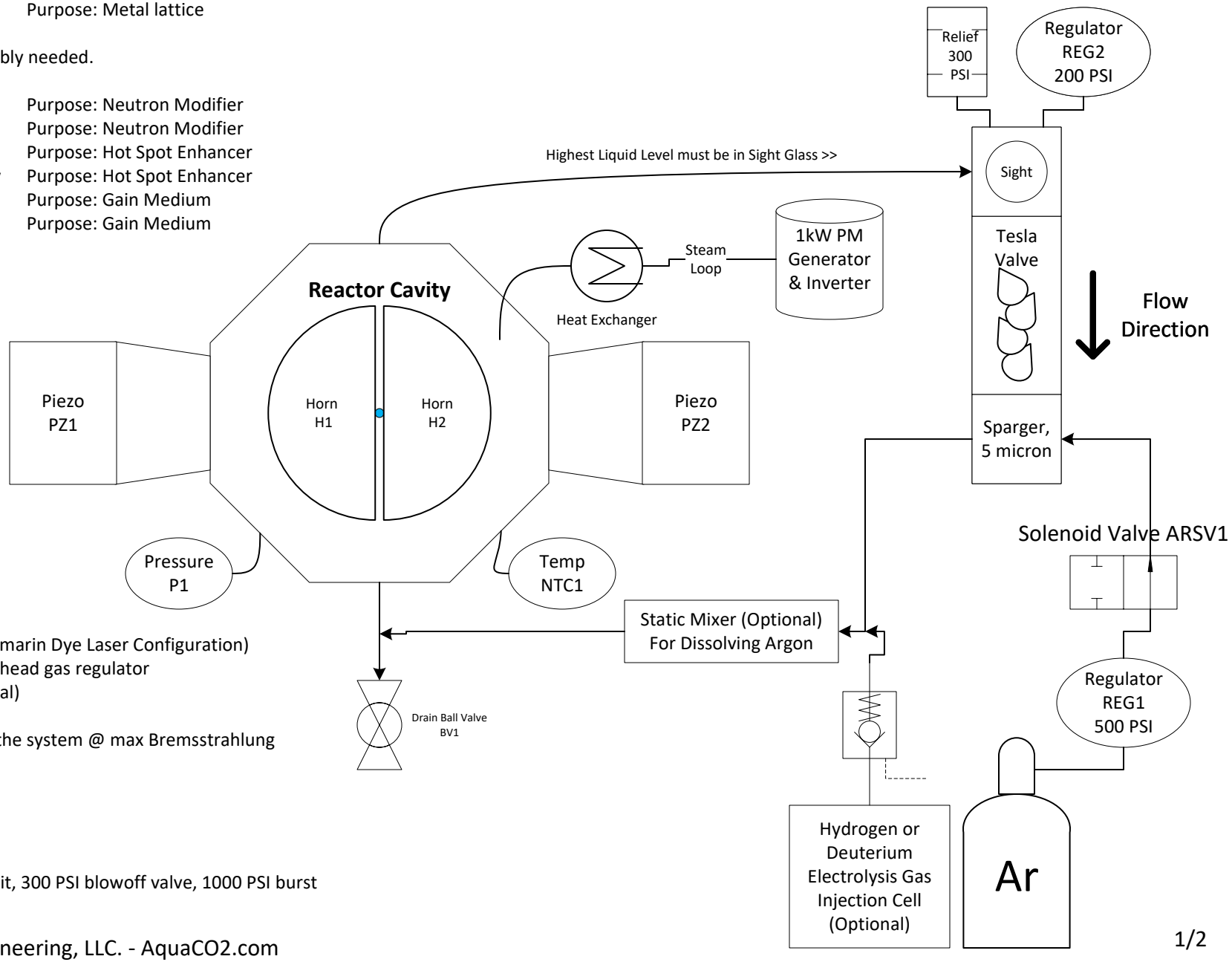
Sonoluminescence Reactor v0.1.0

PRELIMINARY

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	Purpose: Neutron Modifier
Gadolinium III Oxide, 1% w/v	Purpose: Neutron Modifier
Lithium Chloride, 0.1% w/v	Purpose: Hot Spot Enhancer
(opt.) Beryllium Oxide, 0.1% w/v	Purpose: Hot Spot Enhancer
(opt.) Neodymium, 1um	Purpose: Gain Medium
(opt.) Coumarin 102, 5% w/v	Purpose: Gain Medium



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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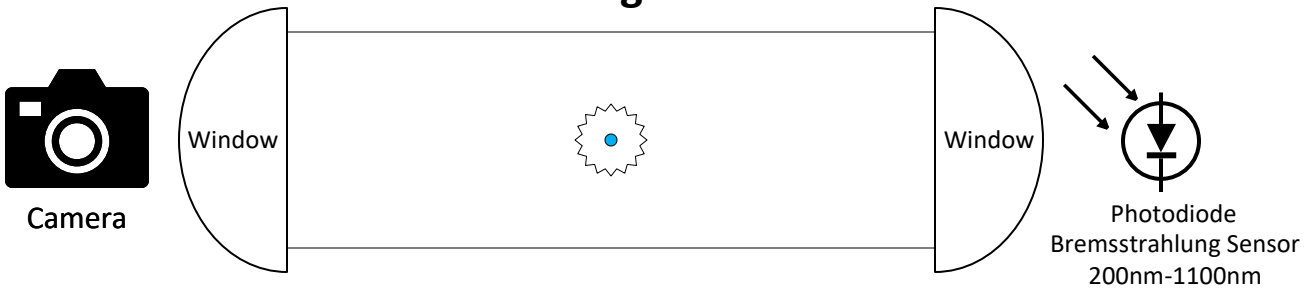
PRELIMINARY

Viewing Port

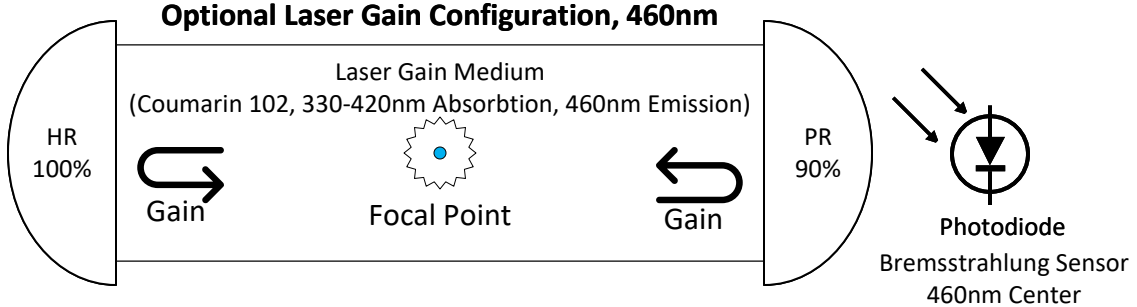


Laser Cavity Additions and Notes:

1. 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

Optional Laser Gain Configuration, 460nm



Optional Laser Gain Configuration, 1064nm