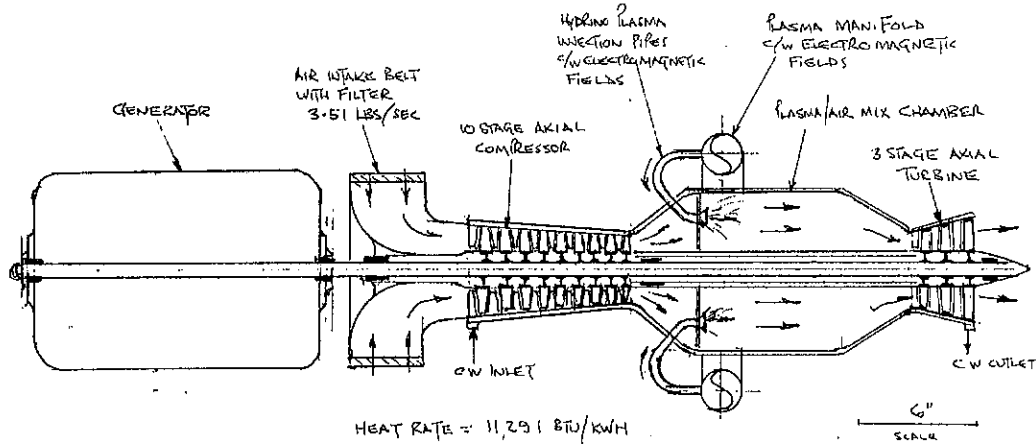


THE SMALL PLASMA GAS TURBINE
[for electric propulsion of small to medium sized ships]

Designed by J Varney – August 9th. 2011



ARRANGEMENT OF THE 250 KW PLASMA GAS TURBINE
28800 R P M

RANGE OF UNITS

Power generated MW	0.25	0.5	1.0	2.5	5.0	10	20
Machine r.p.m.	28,800	28,800	14,400	14,400	14,400	7,200	7,200
Air intake rate lbs/sec	3.51	7.02	14.04	20.475	40.95	81.9	163.8
Axial comp. stages/PR	10/10	10/10	10/10	12/15	12/15	12/15	12/15
Axial turb. stages	3	3	3	4	4	4	4
Turb. inlet temp. deg. R	1960	1960	1960	2460	2460	2460	2460
Exhaust temp. deg. R	1118	1118	1118	1296	1296	1296	1296
Plasma rate lbs/hour	0.2808	0.5616	1.1232	2.664	5.328	10.656	21.312
Engine Heat Rate btu/kwh	11,291	11,291	11,291	10,706	10,706	10,706	10,706

Isentropic eff. for compressor and turbine is assumed at 90%. – Generator eff. assumed at 90%.

Compressor, plasma/air mix chamber and turbine will have water cooled casings.

Hydrino plasma [fuel] is assumed to have a calorific value of ten million btu/lb.

Air axial vel. [mach#] for Compressor Inlet/outlet = 0.6/0.15 - for Turbine inlet/outlet = 0.15/ 0.6