

Input Parameters	Values
Original Pressure	1 atm
Original Temperature	300 K
Mass Fraction of H2	2.852 %
Mass Fraction of O2	22.635 %
Mass Fraction of N2	74.512 %
Mass Fraction of H2O	0.000%

Input Parameters	Values
Original Pressure	30 atm
Original Temperature	2500 K
Mass Fraction of H2	0.000 %
Mass Fraction of O2	0.000 %
Mass Fraction of N2	73.42 %
Mass Fraction of H2O	25.238 %

The dimension of the PDE tube	
Inner Dia.	68mm
Length	2000mm
Wall thickness	4mm
Vortex Generator	
Cross-Sectional Area	340mm ²
Numbers of Vortex generator used	12 (evenly spaced at an angle of 60 degrees)
Blockage ratio	0.549
The length of Chambers	
Mixing Length	250mm
Ignition	250mm
Detonation	1200mm

Nozzle	300mm
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Distance [m]	Flow Time [s]	Velocity [m/s]
0.1	0.000045	2020
0.2	0.00007	2190
0.3	0.00015	2100
0.4	0.00018	2410
0.6	0.00030	2510
Average		2246 m/s