Example

Find net gear shaft power output, net generator power, fuel consumption, exhaust mass flow and recoverable exhaust heat at 25°C , base rating. Assume 50 mm H_2O intake loss, 75 mm H_2O exhaust loss, a generator efficiency of 95% and site location 500 meters above sea level.

From Figure 1:	Gear shaft power output at 25°C, Fuel Consumption,	P = 1430 kW Qf = 8.97 MJ/s
From Figure 2:	Exhaust mass flow rate,	Mex = 12.3 kg/s
From Figure 3:	Recoverable exhaust heat,	Qex = 5650 kW
From Figure 4:	Correction for inlet loss of 50mm H_2O,	DPin = 18 kW
From Figure 5:	Correction for exhaust loss of 75 mm H_2O,	DPex = 15 kW
From Figure 6:	Correction for site altitude of 500 m,	δ = 0.938

1)	Net gear shaft power output	=	1430 x 0.938 - 18 - 15	=	1310 kW
2)	Net generator power	=	1310 x 0.95	=	1240 kWe
3)	Fuel consumption	=	8.97 x 0.938	=	8.41 MJ/s
4)	Exhaust mass flow	=	12.3 x 0.938	=	11.5 kg/s
5)	Recoverable exhaust heat	=	5650 x 0.938	=	5300 kW

If the stack temperature, T_{stack} = 170°C:

Recoverable exhaust heat = [5650 + (160 - 170) x 1.048** x 12.3] x 0.938

= 5180 kW

** Cp - mean for the range of 160°C to 170°C stack temperature

Conversion factors:

1 kg	=	2.205 lbs
1 MJ	=	947.9 BTU
1 kW	=	1.341 SHP
1 mm	=	0.03937 in