

Elevation Derating

Elevation affects power output by changing the density of the air.

Figure 7-2 provides expected maximum power output for several elevations versus ambient temperature. Values shown assume nominal engine output, and are based on the 1976 US Standard Atmosphere model to correlate air density to elevation. Electrical efficiency is not strongly dependent on elevation, so the nominal efficiency values listed in Table 7-2 can be used to estimate fuel consumption at any elevation for a given ambient temperature. A method to estimate exhaust characteristics is provided below.

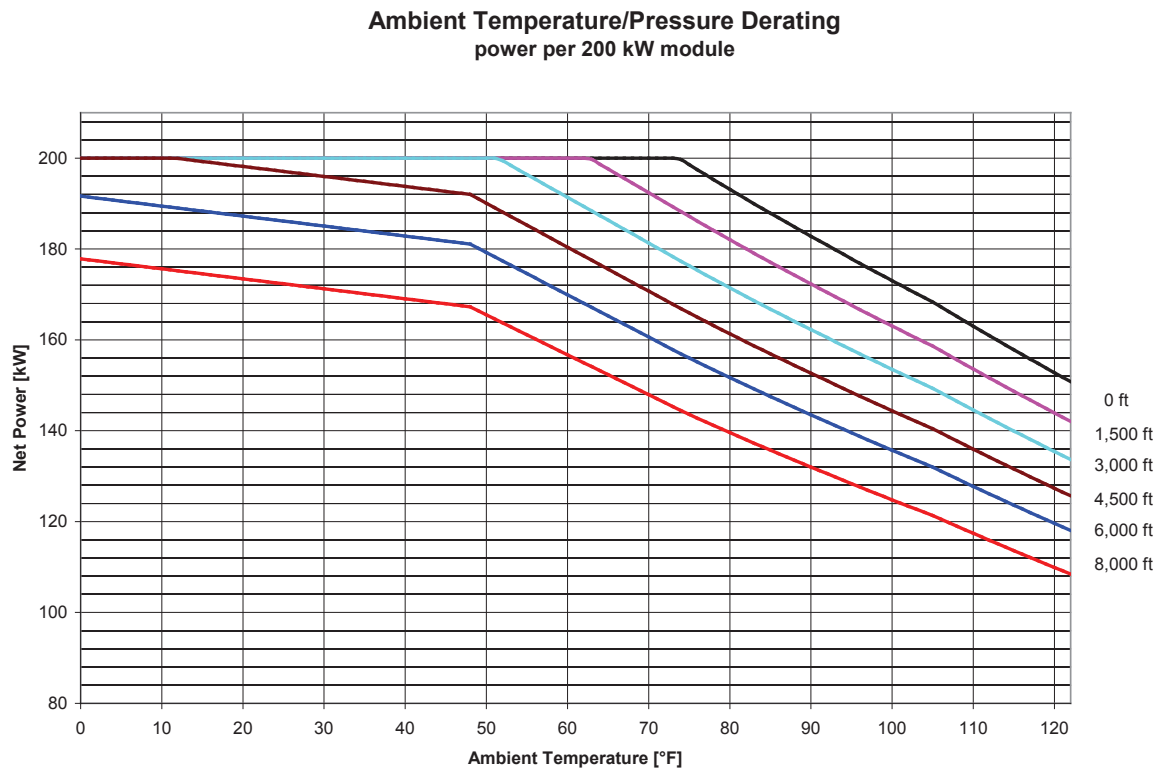


Figure 7-2. Elevation vs. Ambient Temperature Derating

Inlet Pressure Loss Correction Factors

Air inlet design can affect engine performance. The amount of air inlet filter debris can also affect engine performance for all engine applications. The maximum allowable inlet pressure loss is 10 inches of water.

Table 7-3 presents the nominal fraction of ISO zero inlet pressure loss power and efficiency versus inlet pressure loss at ISO ambient conditions for each Capstone 200 kW turbine power module. These values are estimated from nominal performance curves. Interpolate, if needed, for inlet pressure losses between those listed in Table 7-3.