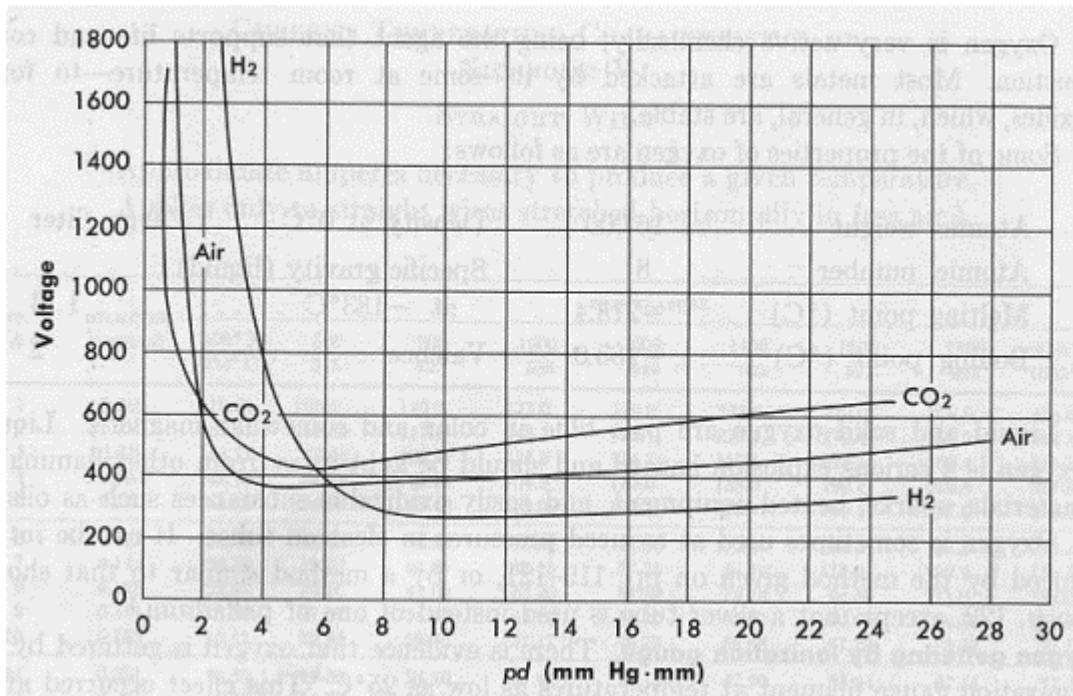


Connectors Derating

Connector assemblies are typically rated for maximum contact currents, dielectric breakdown voltage, ambient operating temperatures, and mating operations. Operation within these specified parameter limits is normally sufficient to meet the life expectancy of the connector in a legitimate application. However, some considerations will require the use of sound engineering practices.

The maximum current rating of the individual contacts is usually for a percentage of the available contacts, as the maximum total current rating for the connector will be less than that of all contacts together. In addition, when contacts are used in parallel for a common current path, the load is not necessarily evenly distributed because of normal variations of contact resistance. The connector manufacturer's specifications should be consulted, determining appropriate design rules.

The dielectric breakdown (spark) voltage ratings may need to be derated at reduced atmospheric pressures (high altitude applications) i.e., minimum ionization voltage of air at sea level is about 330 volts and is lowest at about 50,000 feet (87.5 torr, see Figure 1). Elevated temperatures and relative humidity can also effect the dielectric rating and leakage current between contacts.



Paschen's Curve

Figure 1. Spark Breakdown Voltage vs. Gas Pressure @ +20°C