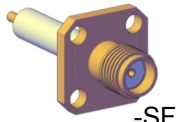


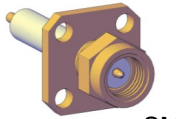
Space Machine & Engineering CORP.

Appendix E Connector Options

Space Machine offers a wide variety of connector options. Our standard options are listed and described below. Other options such as 3.5mm, 7/16 DIN, E.I.A. varieties and HN are available upon request. All of the connectors we offer are manufactured IAW Mil-PRF-39012 where applicable. Graphs illustrating the maximum power capacity are on the following pages.



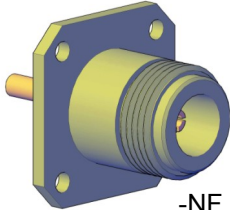
-SF



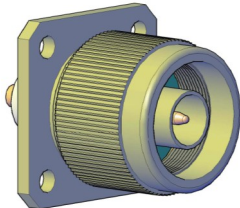
-SM

SMA

This is one of the most popular and least expensive types of microwave connectors. It has an upper frequency limit of 26.5 GHz making it usable on waveguides down to WR42, WRD650 and 750. Due to its small size, it's generally not recommended on waveguide sizes larger than WR650. Straight configurations as shown are standard, other options such as right angle and with a two hole pattern flange are available upon request. Generally, SMA connectors will hold pressures of approximately 20 PSIG with only a slight amount of leakage around the center pin and dielectric. However, Space Machine does offer a hermetic version where absolute pressurization is a necessity. SMA connectors are compatible with the K (2.92mm) and 3.5mm connectors.



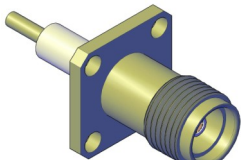
-NF



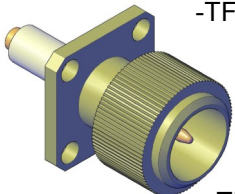
-NM

TYPE N

This is another one of the most popular and least expensive types of microwave connectors. Space Machine utilizes two types, a standard version which has an upper frequency limit of 10 GHz and a high frequency model that is usable up to 18 GHz. The standard model we use on waveguide sizes down to WR112 and WRD350 while the high frequency model is used on waveguide sizes WR90, WR75, WR62, WRD475, WRD500, WRD580, WRD650 and WRD750. Straight configurations as shown are standard, other options such as right angle and a thread on configuration are available upon request. Generally, Type N connectors will hold pressures of approximately 20 PSIG with only a slight amount of leakage around the center pin and dielectric. However, Space Machine does offer a hermetic version where absolute pressurization is a necessity.



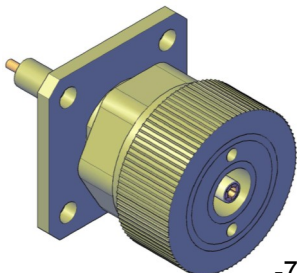
-TF



-TM

TNC

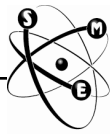
The TNC is considered a ruggedized connector. Space Machine utilizes two types, a standard version which has an upper frequency limit of 14 GHz and a high frequency model that is usable up to 18 GHz. The standard model we use on waveguide sizes down to WR112, WR90, WRD350 and WRD475 while the high frequency model is used on waveguide sizes WR75, WR62, WRD500, WRD580, WRD650 and WRD750. Straight configurations as shown are standard, other options such as right angle and a thread on configuration are available upon request. Generally, TNC connectors will hold pressures of approximately 20 PSIG with only a slight amount of leakage around the center pin and dielectric however, Space Machine does offer a hermetic version where absolute pressurization is a necessity.



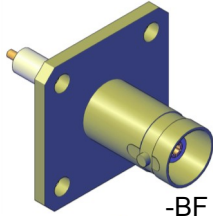
-7

7mm

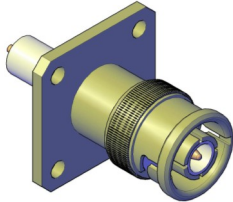
7mm are precision sexless connectors that are durable and can tolerate many repeatable connections. They also offer a low VSWR and are usable up to 18 GHz. The 7mm is most commonly used in precision applications such as waveguide to coax adapters that are used in calibration kits. The 7mm is an air dielectric connector and is not suitable for use in a pressurized system.



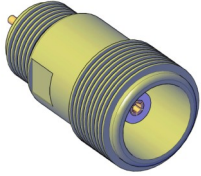
Appendix E Connector Options



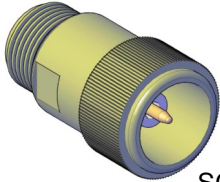
-BF



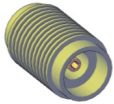
-BM



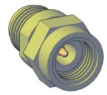
-SCF



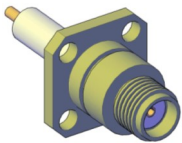
-SCM



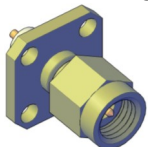
-KF



-KM



-OSF



-OSM

BNC

The BNC is a ruggedized all purpose connector for low frequency applications. The upper frequency limit is 4 GHz which restricts it's use down to waveguide size WR284 and larger.

Straight configurations as shown are standard, other options such as right angle and a thread on configurations are available upon request. Generally, BNC connectors will hold pressures of approximately 20 PSIG with only a slight amount of leakage around the center pin and dielectric.

SC

The SC is a specialized connector for medium frequency applications. The upper frequency limit is 10 GHz which makes its uses similar to that of the standard Type N. SC connectors will not generally hold pressure and should be avoided in pressurized applications.

K* Type (2.92mm)

K connectors are precision connectors that are the most commonly used connector for high frequency applications. They have an upper frequency limit of 46 GHz, making them usable for waveguide sizes down to WR28 and WRD180. Due to it's small size, it's generally not recommended using on waveguide sizes larger than WR51 or WRD110. The K connector is an air dielectric connector and is not suitable for use in a pressurized or vacuum system. K connectors are compatible with the SMA and 3.5mm connectors.

**K is a trademark of the Anritsu Company.*

2.4mm (OS-50)

The 2.4mm is another option for high frequency uses. It has an upper frequency limit of 50 GHz making it usable on waveguide sizes down to WR22 and WRD180. Due to its small size, it's generally not recommended using on waveguide sizes larger than WR51 or WRD110. Generally, 2.4mm connectors will hold pressure of approximately 20 PSIG with only a slight amount of leakage around the center pin and dielectric however, Space Machine does offer a hermetic version where absolute pressurization is a necessity.



Appendix E Connector Options

