

TECHNETICS

# K-PORT SEALS

The Only Metal Port Seal  
Technology Approved by NASA  
for Human Spaceflight



**Technetics**  
GROUP

## FLIGHT TESTED AND PROVEN

Technetics K-Port Seals have an extensive pedigree with launch vehicle and spacecraft manufacturers all over the world.

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# ENGINEERED FOR SAFETY

Technetics K-Port seals were designed to provide high performance sealing for AS5202 Port applications. Technetics' unique K-Port seal design was optimized in-house by our expert engineering staff and validated by dozens of global spaceflight customers over hundreds of successful missions. With our K-Port Seal, you don't just get a highly engineered seal, you get peace of mind.

## Sealing Technology

Technetics K-Port seals offer redundant sealing surfaces to improve sealing performance and increase default tolerance.



## Mission Critical Dependability

Reliability is of the utmost importance when it comes to sealing. Backed by our quality management system and decades of space pedigree, Technetics K-Port seals are trusted by expensive payloads and more importantly, human flight.

### SPACE FLIGHT

Technetics K-Port seals have been qualified for manned and cargo missions in both cryogenic and high-temperature applications. The Technetics K-Port seal can be specified for application in gaseous and liquid applications, support installations of AN fittings, sensors, instrumentation and valves.



### SATELLITE

Technetics K-Port seals are also found on today's micro-propulsion systems onboard SmallSat and CubeSats.



### CRITICAL FLIGHT SYSTEMS

Technetics K-Port seals can be supplied to meet fracture critical requirements and are equipped with certified cleanliness documentation per IEST level 100R1 making them suitable for critical applications.

# TECHNICAL INFORMATION

We match fast response with personal service. When you request a quote, a highly knowledgeable member of our engineering team will get back to you quickly, and work with you to determine the most appropriate specifications based on your system requirements. Your technical contact will then be involved in every step of the process to make sure the Technetics K-Port seal meets or exceeds your expectations. Custom designs are available upon request.



Part Number Prefix	Base Material	Plating/Coating	Temperature Limit	Surface Finish
F-400455-Size Code	SS 304	PTFE	450°F	32 rms or better
F-400617-Size Code	SS 304	Silver	700°F	16 rms or better
F-400521-Size Code	SS 304	Gold	700°F	16 rms or better
F-400623-Size Code	17-4 PH	PTFE	450°F	32 rms or better
F-400456-Size Code	17-4 PH	Gold	900°F	16 rms or better
F-400458-Size Code	A286	PTFE	450°F	32 rms or better
F-400421-Size Code	A286	Gold	1300°F	16 rms or better
F-400616-Size Code	A286	Silver	900°F	16 rms or better
F-400413-Size Code	Alloy X-750	PTFE	450°F	32 rms or better
F-400440-Size Code	Alloy X-750	Silver	1400°F	16 rms or better
F-400422-Size Code	Alloy X-750	Gold	1800°F	16 rms or better

Size code is outer diameter in sixteenths of an inch

Size Code	Seal Dimension Outer Diameter	Seal Dimension Inner Diameter
-02	0.562	0.325
-03	0.625	0.387
-04	0.688	0.451
-05	0.750	0.514
-06	0.812	0.577
-07	0.875	0.640
-08	1.000	0.766
-09	1.062	0.829
-10	1.125	0.893

Size Code	Seal Dimension Outer Diameter	Seal Dimension Inner Diameter
-11	1.325	1.020
-12	1.403	1.083
-14	1.531	1.208
-16	1.656	1.333
-18	1.844	1.521
-20	1.970	1.645
-24	2.245	1.895
-28	2.656	2.270
-32	2.938	2.521

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**In addition to the K-[Port]seals, other external gaskets were tested, but none could match the high-pressure capability and reliability of the K-[Port]seals. The highest pressure tested with the K-[Port]seals was 12,000 psi. No leakage was seen with any of the K-[Port]seals.**

Summary RePort: NASA-High-Pressure Hydrostatic Testing of Spark Igniters for Rocket Engine Applications

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### FLUID CONTAINMENT

The Technetics K-Port seal is designed to prevent fluid leakage and/or pressure loss between a fitting (AS4395, AS930, and AS4320) and a connection Port (per AS-5202).



### FRACTURE CRITICAL

The Technetics K-Port seal exceeds any Fracture Critical standard including the NASA requirements for Fracture Criticality for manned spaceflight.



### PRESSURE STABILIZATION

The Technetics K-Port seal can compensate for a wide range of unforeseen pressure upsets (e.g. launch vibration).