PULSAR FUSION

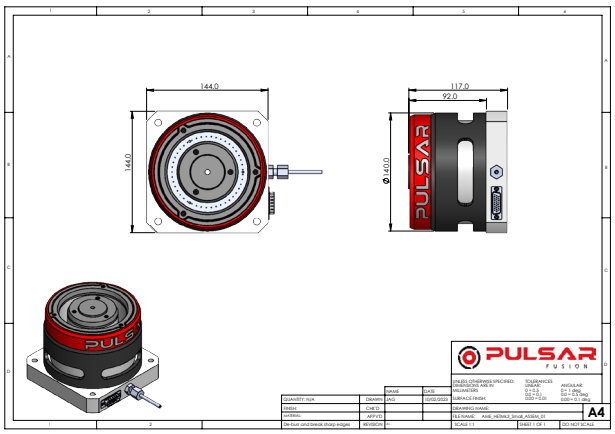
PLASMA THRUSTERS

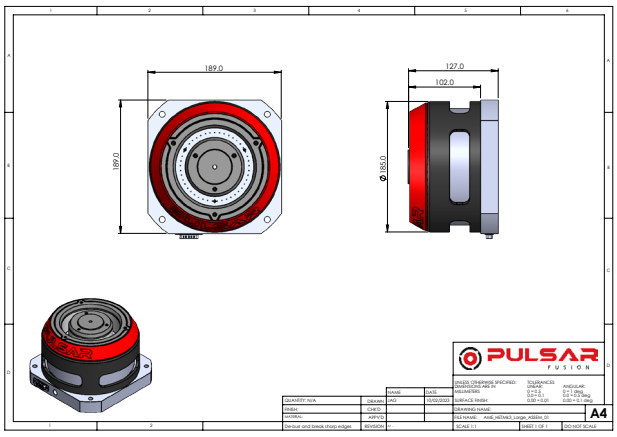
ORBITAL PLASMA THRUSTERS

5kW and 20kW

PULSAR ORBITAL PLASMA THRUSTERS

DATA SHEET





PRODUCT DESCRIPTION

Pulsar Fusion have been developing Hall-effect thrusters (HET) technology since 2016. This is a type of ion thruster in which the propellant is accelerated by an electric field for 'In space propulsion. Hall Effect thrusters use a magnetic field to limit the electrons' axial motion and then use them to ionize propellant, efficiently accelerate the ions to produce thrust, and neutralize the ions in the plume. Pulsars new range of centre mounted cathodes provide higher performances and in-space mission durability.

TESTING

Pulsar offer extensive bespoke testing programmes to match our clients in-space propulsion EP requirements, to provide performance and durability data from world-class testing facilities in the UK. Pulsar has tested its HET's for structural launch integrity on a vibration table at Harwell, UK in 2021. The thrusters successfully experienced 20 GMRS which simulates the conditions of a most extreme launch.

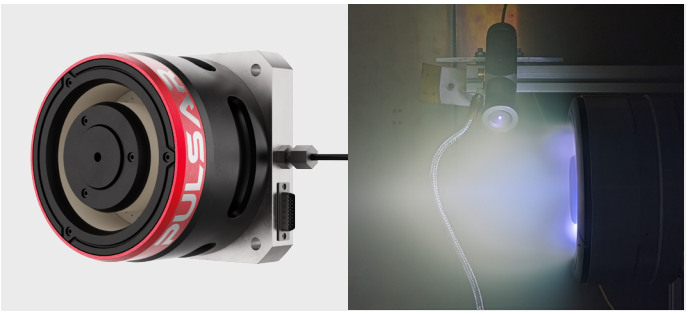
DEVELOPMENT

Pulsar has been awarded two supporting grants for its HET's, in 2021 the Sprint Grant which was delivered and completed and in 2022 a from the UK Space Agency to develop Integrated Fission-Based Power Systems for Electric Propulsion.

APPLICATION

Pulsar's EP products offer superior propulsion reliability and performance for a wide range of in-space flight missions such as multiple satellite deployment, space transportation, planetary missions, In Orbit Servicing & Manufacturing (IOSM), lunar & cislunar missions and In Situ Resource Utilisation (ISRU).

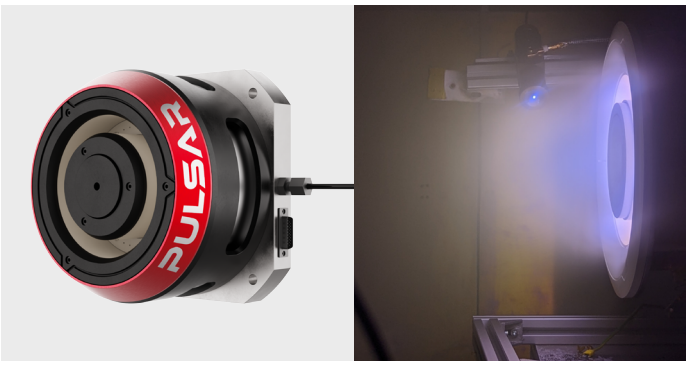
PULSAR 5kW



Product Description

Propellants	Ar, Kr, Xe	
Assembly Mass	12.4kg	
Dimensions	144 x 144 x 117mm	
Voltage	300V	600V
Current	6A	16A
Power	5000W	6000W
Thrust	295mN	325mN
Specific Impulse	2025s	2710s

PULSAR 20kW



Product Description

Propellants	Ar, Kr, Xe	
Assembly Mass	43kg	
Dimensions	189 x 189 x 127mm	
Voltage	450V	500V
Current	33A	40A
Power*	15000W	20000W
Nominal Thrust	1010mN	
Nominal Specific Impulse	2000s	2600s

* Clustering configurations available to 100kW