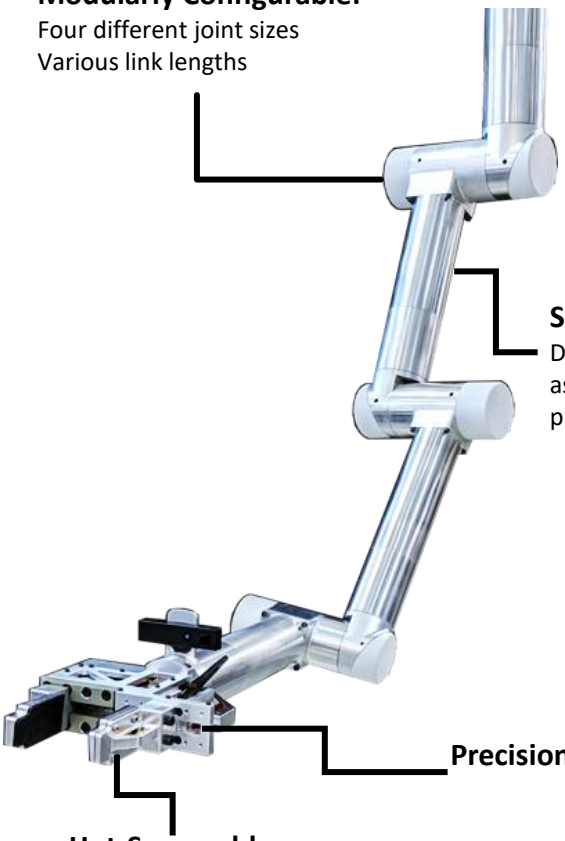
KRAKEN™

Force-Controlled Compliant Manipulator for Space Applications

Description

TUI has developed the KRAKEN robotic arm to provide the space industry with a compact, high-performance, and cost-effective manipulator to enable small spacecraft to perform in-space assembly, manufacturing, and servicing missions. KRAKEN's advanced control architecture enables a low-SWaP arm to safely manipulate large objects. The EtherCAT backbone gives KRAKEN the speed to support rapid sensing and control to close the loop.



Why KRAKEN™?

Modular Design
Scaled to your mission needs

Adaptive Tooling
Change end-connectors with ease

Plug-N-Play
Easily integrate with spacecraft, landers, and rovers

Active Compliance
Originally designed to interface with humans

Specifications

Hardware Capability	Specification
Joint Rotation	± 330°
Reach	1.5m radius workspace
Payload Capacity	500kg*
Terrestrial Payload Capacity	500g in 1G
Joint Control	EtherCAT Protocol
Protocols	ROS, DDS
Radiation	Custom to mission needs (LEO, GEO, Lunar Surface, etc.)

SWaP	Specification
Stowed Dimensions	Variable
Mass	7kg
Power	Custom to mission needs (GEO, Lunar Surface, etc…)

Joint Size	Continuous Torque (Nm)	Repeated Peak Torque (Nm)	Diameter (mm)	Minimum Length (mm)
Micro	2	4.8	50	145
Small	4.4	11	60	155
Medium	6.7	36	70	175
Large	10.2	70	80	185
XL	34.4	120	90	200
2XL	68.6	229	105	220
3XL	93.3	484	130	240

*limited by tip force torques of the selected configuration and required operation speed

CONNECT YOUR UNIVERSE

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