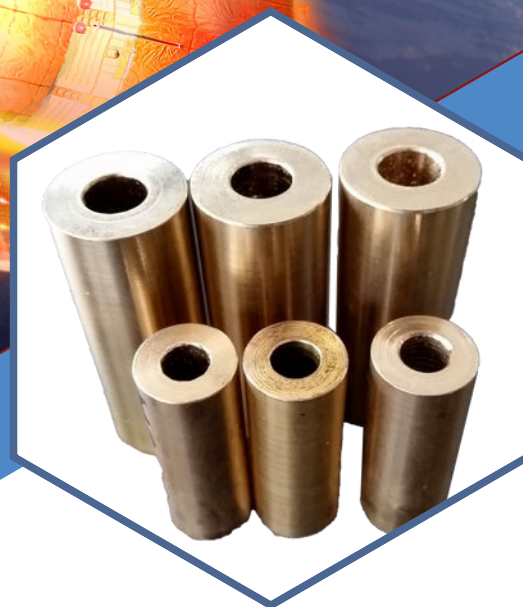




TRL 6

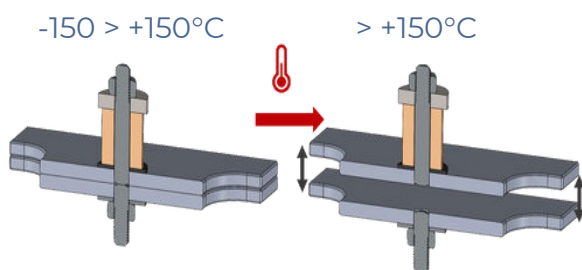
SMART HRA FOR SEPARATING STRUCTURAL ELEMENTS DURING ATMOSPHERIC RE-ENTRY

HIGH-PERFORMANCE SMART ACTUATOR FOR SPACE APPLICATIONS

- | | | | |
|--------------------------|-------------------|---------------|------------|
| ✓ Ultra High Temperature | ✓ Compact | ✓ Lightweight | |
| ✓ Robust | ✓ Miniaturization | ✓ Itar Free | ✓ Reliable |



Compatible with all kind of satellite,
launcher and other space vehicle



OVERVIEW

- Heater free - No energy consumption
- Activation during re-entry
- Passive actuator
- Limiting in-orbit space junk
- Resettable w/o disassembly

FEATURES

- Forpreload from 500 to 50 000N
- Adjustable triggering temperature up to 400°C
- High lifetime
- Temperature sensor in option

TECHNICAL DATA

APPLICATIONS

- Debris mitigation
- Fuel tank passivation
- Thermal safety

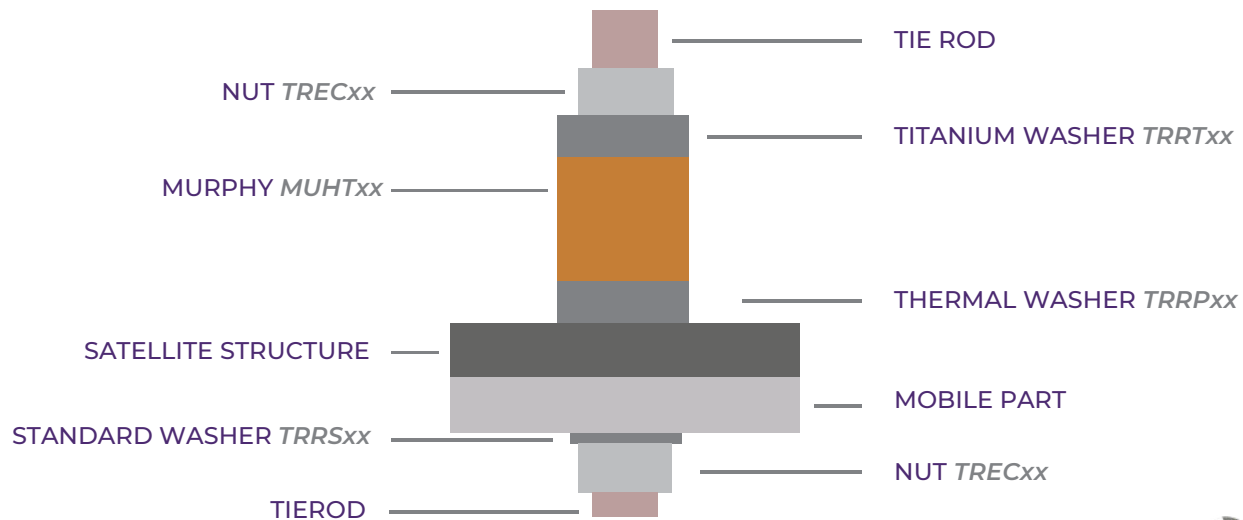
	MUHT02	MUHT03	MUHT04	MUHT05	MUHT06	MUHT08	MUHT10	MUHT 12
TRL level	TRL 6	TRL 6	TRL 6	TRL 6	TRL 6	TRL 6	TRL 6	TRL 6
Material	CN-400X	CN-400X	CN-400X	CN-400X	CN-400X	CN-400X	CN-400X	CN-400X
Screw size	M2	M3	M4	M5	M6	M8	M10	M12
Max. axial preload (N)*	1265	3165	5482	8973	12659	23237	37002	53954
Fracture load (N)	1800	4600	8100	13200	1870	3440	54800	79900
Outer diameter (mm)	5,4	8,2	10,8	13,7	0 16,3	0 21,9	27,6	33,5
Elongation (mm)	0,82	0,90	1,13	1,39	1,71	2,20	2,74	3,33
Armed length (mm)	9,22	10,10	12,67	15,51	19,14	24,65	30,66	37,27
Fired length	10,04	11,00	13,80	16,90	20,85	26,85	33,40	40,60
Weight (g)	4	8	14	22	37	80	164	271

* Obtaining maximum preload on Triggly :
 100% max preload: tensioner tool (PURE)
 75% of max. preload: tie-rod with hexagonal nozzle
 50% of max preload: torque tightening on nut

** Only the actuator, without cables

MURPHY ACCESSORIES

TYPICAL INTEGRATION



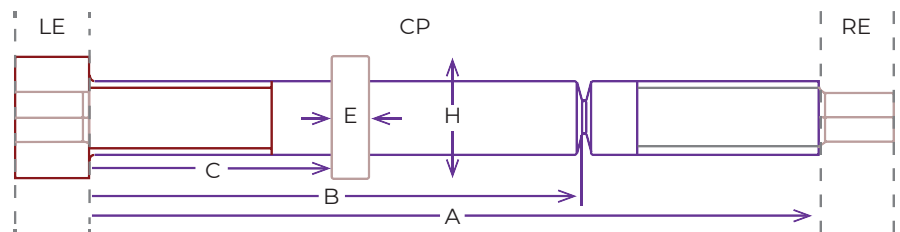
FASTENER / TIE ROD

Configure your own fastener/tie rod
 Maximum length: 20 times the tie rod's diameter
 Ex: for a M2 fastener, max length is 40mm

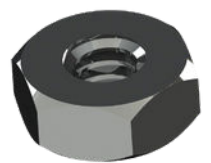


Stainless Steel 15-5 PH

- High preload
- E: 196 GPa
- Re: 1300 Mpa
- CTE: 11.10-6k-1



NUT



REF	MATERIAL	SIZE	THICKNESS (mm)	WIDTH (mm)	MASS (g)	COMPATIBLE WITH
TREC02	SS 15-5PH	M2	1,6	4	0,15	HT02
TREC03	SS 15-5PH	M3	2,4	5,5	0,40	HT03
TREC04	SS 15-5PH	M4	3,2	7	0,85	HT04
TREC05	SS 15-5PH	M5	4,7	8	1,39	HT05
TREC06	SS 15-5PH	M6	5,2	10	2,63	HT06
TREC08	SS 15-5PH	M8	6,8	13	5,80	HT08
TREC10	SS 15-5PH	M10	8,4	16	10,83	HT10
TREC12	SS 15-5PH	M12	10,8	18	15,82	HT12

according to ISO4032
 more references available on demand



THERMAL WASHER

REF	MATERIAL	THICKNESS (mm)	OD (mm)	ID (mm)	MASS (g)	COMPATIBLE WITH
TRRP02	PI TECASINT 4011	1	6,3	2,2	0,04	HT02
TRRP03	PI TECASINT 4011	1	9,6	3,2	0,08	HT03
TRRP04	PI TECASINT 4011	1	12,7	4,3	0,15	HT04
TRRP05	PI TECASINT 4011	1	16,3	5,3	0,24	HT05
TRRP06	PI TECASINT 4011	3	19	6,4	0,98	HT06
TRRP08	PI TECASINT 4011	3	25,4	8,4	1,76	HT08
TRRP10	PI TECASINT 4011	3	32,7	10,5	2,94	HT10
TRRP12	PI TECASINT 4011	3	39,7	13	4,31	HT12

more references available on demand

TITANIUM WASHER

REF	MATERIAL	THICKNESS (mm)	OD (mm)	ID (mm)	MASS (g)	COMPATIBLE WITH
TRRT02	Ta6V Grade 5	2	6,3	2,2	0,24	HT02
TRRT03	Ta6V Grade 5	2	9,6	3,2	0,57	HT03
TRRT04	Ta6V Grade 5	3	12,7	4,3	1,49	HT04
TRRT05	Ta6V Grade 5	4	16,3	5,3	3,30	HT05
TRRT06	Ta6V Grade 5	4	19,0	6,4	4,44	HT06
TRRT08	Ta6V Grade 5	4	22,0	8,4	5,74	HT08
TRRT10	Ta6V Grade 5	5	32,7	10,5	16,65	HT10
TRRT12	Ta6V Grade 5	5	39,7	13	24,42	HT12

more references available on demand

STANDARD WASHER

REF	MATERIAL	THICKNESS (mm)	OD (mm)	ID (mm)	MASS (g)	COMPATIBLE WITH
TRRS02	Stainless Steel 15-5PH	0,5	7	2,2	0,08	HT02
TRRS03	Stainless Steel 15-5PH	0,8	12	3,2	0,37	HT03
TRRS04	Stainless Steel 15-5PH	0,8	14	4,3	0,49	HT04
TRRS05	Stainless Steel 15-5PH	1	16	5,3	0,79	HT05
TRRS06	Stainless Steel 15-5PH	1,2	18	6,4	1,18	HT06
TRRS08	Stainless Steel 15-5PH	1,5	22	8,4	2,15	HT08
TRRS10	Stainless Steel 15-5PH	2	27	10,5	4,30	HT10
TRRS12	Stainless Steel 15-5PH	2,5	31.75	13	7,28	HT12

more references available on demand

