

DESCRIPTION

The Hollow Parallel Pre-stressed Actuator HPPA is a Direct Piezo Actuator with a 8 mm diameter internal hole available for an optical function. The pre-stress is applied through a monolithic pre-stressing body avoiding stick slip effects.

APPLICATIONS

- Optical delay line
- Refocussing
- Tuning of external laser cavity

SPACE EVALUATION PROGRAM

- Thermal vacuum (-40 / 45 °C)
- Lifetime test (1e11 cycle for 2 2 μm of stroke)

SPACE HERITAGE

The HPPA-8 is on board on the LIDAR laser source of ADM-AEO-LIUS/ALADIN.

The flight hardware has been delivered.

The HPPA-20 is used on the EM magnetometre, proposed for the SWARM mission.



HPPA-8 actuator



HPPA-20 actuator

REFERENCES	UNIT	HPPA-8	HPPA-20
Stroke	μm	8	22
Voltage	V	-20 -150	-20 -150
Resonance frequency	kHz	25	20
Blocked force	N	2500	2500
Inner hollow diametre	mm	7	7
Outer diametre	mm	30	30
Height	mm	25	37
Mass	g	21	32
Electrical interface		1 pair of twited cable	
Mechanical interface		3× M3 on diameter 24 mm	