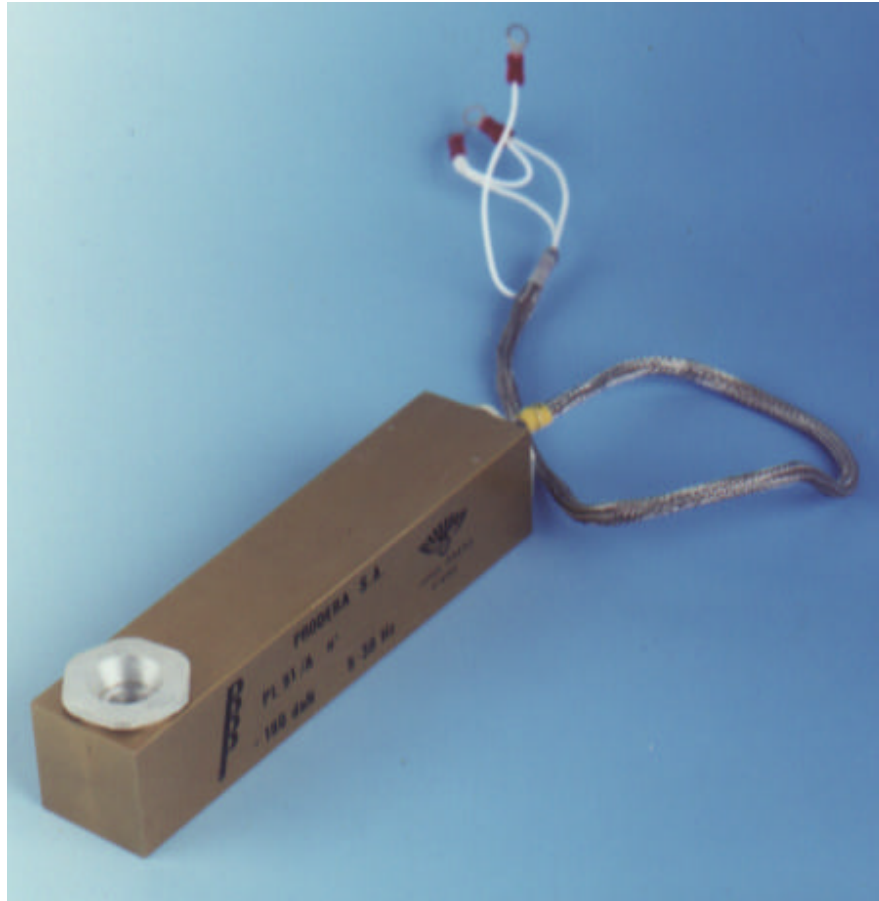

PYROTECHNICAL THRUSTER PL 91



In-flight vibratory analysis of aircraft structures, carried out by means of impulse excitation applied through thrusters, offers positive advantages compared with other processes :

- Reduced testing time
- Small size
- Simple application

The PL 91 thruster is a new model of simple design and of reliable and reproducible operation, allowing the synchronisation of several thrusters controlled simultaneously.

It is composed of a rectangular bar made of a block of hollowed-out aluminium, equipped at one end with the firing relay (black powder plus firing tube), and at the other end with the ejection nozzle for the gases, mounted perpendicular to the top face, including its security device.

The principal charge consists of propergol strips whose length and thickness are calculated to suit the desired force and combustion time.

The thrust time curve is similar to a "square wave" impulse.

The PL 91 thruster meets the standard operating specifications and the particular ambient conditions for in-flight tests -(temperature, vibration, shock, pressure, etc...).

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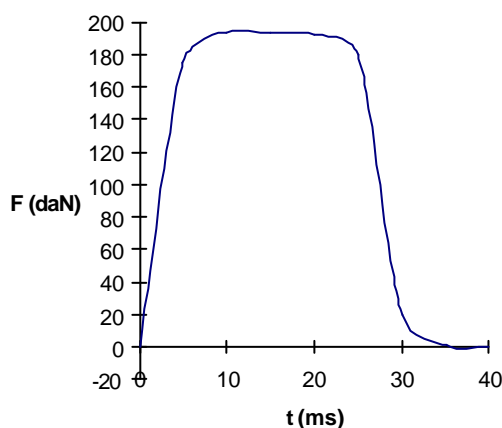
The manufacturer reserves the right to change technical or mechanical specifications of its products at any time.

Data sheet N° 94/PL2002

TECHNICAL CHARACTERISTICS

Conventional thrust	180 daN
Charge, delivered with cable 50 cm	1,6 g black powder 20 g propergol for e = 0.67 mm
Conventional combustion time, depending on the thickness of the propergol strips	12 ms 18 ms 22 ms 26 ms
Dispersion over firing period	± 4 ms
Frequency range depending on the thickness of the propergol strips	30-70 Hz 20-50 Hz 10-40 Hz 5-30 Hz
Ohmic resistance	$2 \pm 0,4$ Ohm
Minimum operating intensity	0.35 A
Recommended ignition intensity	> 2.5 A
Safety and measurement intensity	< 0.05 A
Weight	500 g
Overall dimensions (mm)	172 x 35 x 35
Fixing points	4 holes M 4 diameter, spacings 140 x 28
Operating and storage temperature	- 40°C + 70°C
Flash point	140°C

**Thrust curve at 20°C of a thruster model
PL 91 B**



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