The LCM is a very compact and precise mechanism. A redundant wound voice coil actuator, supported by a flex spring, moves a flap to close the diaphragm with a frequency of 100 Hz.

A highly compact sensor system – specially designed for the LCM – gives feedback on the flap position. Upon command, the LCM can stay closed, e.g. for calibration operations.

The LCDE is a standard FPGA-based electronics for driving the LCM. It transforms the electronic commands to the inputs required by the LCM.

RUAG Space designed the LCA for use on Aladin for the ADM-Aeolus programme. It consists of the mechanism itself (LCM) and its drive electronics (LCDE). ADM-Aeolus will be launched 2014 and its operational life is 3 years.

**Performances**

**100 Hz closing frequency**

- 2 ms full closure of light path (depending on command)
- 1 ms to full closure or opening
- 0.1 mm diaphragm diameter
- Fully open when unpowered
- Redundant electronic and windings

**Laser Chopper Mechanism (LCM)**

- Quasi-Isostatic design

**Laser Chopper Drive Electronics**

- Open loop control system
- FPGA based design

**Mass**

- 0.21 kg
- < 2 kg

**Power consumption**

- < 0.13 W average
- max. 13.4 W