LIQUID PROPULSION AREA

VENG

PROPULSION SERVICES

50°
29'
00"
S

73°
03'
00"
O

1000
900
800
700

PROPULSION SERVICES

LAUNCHER VEHICLE PROPELLANTS

Since its early days, VENG has —as one of the main technological development areas— the liquid propulsion area which is mainly focused on both the development of propellants for launch vehicles and also of small propellants, for launch vehicles attitude control, along with the potential use in the satellite industry.

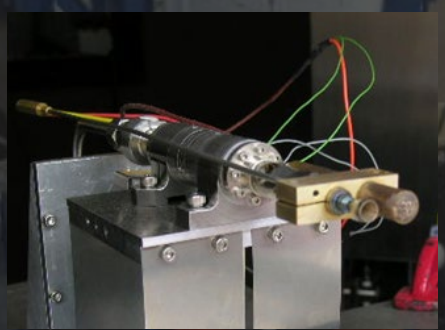
In the field of micropropellants , VENG, as a legacy, has been involved in the development of monopropellant 1.5N thrust force prototypes, at lab level (put images from below), having verified the development capacity of these type of propellants, which are able to adapt to the needs of satellite clients and the space industry in general.

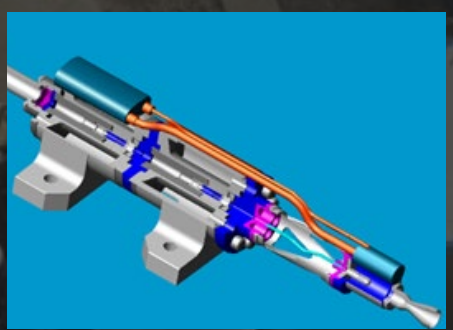
The features of the prototype developed in R+D+I mode are shown below.

1.5 N THRUST FORCE MONOPROPELLANT THRUSTER

The operation of monopropellant engines is based on fuel catalytic decomposition, which then produces heat and gasification. These gasses are later spread in a nozzle in order to generate thrust.

Thrust	1,5 N @ (400psia)
Propeller	Monopropellant (Hydrazine)
Valve type	Double solenoid, double seal
Catalyst	Shell 405
Specific impulse	220 sec @ 400psia
Maximum weight	0,5 kg
Dimensions	
Length	<195 mm.
Height	<55 mm.
Length	<45 mm.





LAUNCH VEHICLE ENGINES

Regarding liquid propellants (rockets) of greater thrust, VENG has an extensive over-a-decade experience in the development of Hydrazine/Nitric Acid and Lox/Kerosene (Kerolox) engines for launch vehicles prototypes, with the design, manufacture, test and integration in TI, T4000, Vex 1A, Vex1B and Vex5A launch vehicles prototypes as main milestones. Vex5A first stage engine, the largest propellant developed by VENG so far, is shown as a reference.

VENG is nowadays the leading main contractor in the design of propellants of the Tronador II launch vehicles series. It is in charge of the complete propulsion value cycle: from the requirements definition, to the design, simulation, manufacture, tests, qualification and integration in the final/deliverable vehicle .

Thanks to this experience, we are able to adapt to any propulsion solution that the clients require, such as launch vehicles, satellites and spacecrafts in general.

VEX5A 1ST STAGE MCA2 PROPELLANT

Name of the propellant	**MES3K**
Use	**S1 of the VEX5 (x1)**
Thrust to SL	**11600 Kgf**
Propellents	**LOX/RP-1**

TII-250, VEX 5 A AND VEX 1 2ND STAGE MES3K PROPELLANT

Name of the propellant	**MES3K**
Use	**S1 of the VEX1 (x1)** **S2 of the VEX5A (x1)** **S2 of the TII-250 (x1)**
Thrust in a vacuum	**2975 Kgf**
Propellents	**MMH/NTO**

TII-250 1ST STAGE MCA3 PROPELLANT

IN DEVELOPMENT

Name of the propellant	**MCA3**
Use	**S1 of the TII-250 (x3)**
Thrust to adapted nozzle	**35750 Kgf**
Propellents	**LOX/RP1**

Business contact

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