

## BASE BLEED UNIT FOR USE IN 105MM CALIBER



The gas-generator propellant (used in a grain as a main propellant) is the modern thermoplastic composite propellant made in accordance with the original technology. In order to make the ignition process of the main propellant easier and to prevent extinguishment of the propellant after the projectile exits the barrel, the grain is made of two different types of propellant. In that way the range is increased and the dispersion of the projectile at the target is decreased. The purpose of the secondary propellant is to ensure fast and reliable re-ignition of the main propellant (literally without extinguishment). The secondary propellant is placed on inner cylindrical surface of the grain.

Manufacturing process enables high production rate and reliable manufacturing of even very complex shapes with one or more propellant types in the same grain.

Strong cohesive bonding between the propellant and inhibitor is guaranteed because they use the same binder.

We are also capable of and interested in further mutual research, development and production of propellant grains for base bleed units, as well as complete base bleed units.

We have qualified and experienced personnel able to perform all the necessary calculations using various types of software (CFD, aerodynamics, structural and internal ballistics) to determine the best possible configuration. We are also able to produce and perform all the necessary test for those base bleed units in static conditions and in flight conditions as well.

## BASIC CHARACTERISTICS

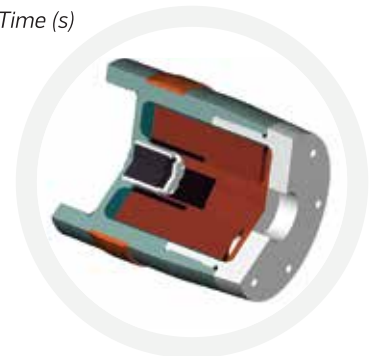
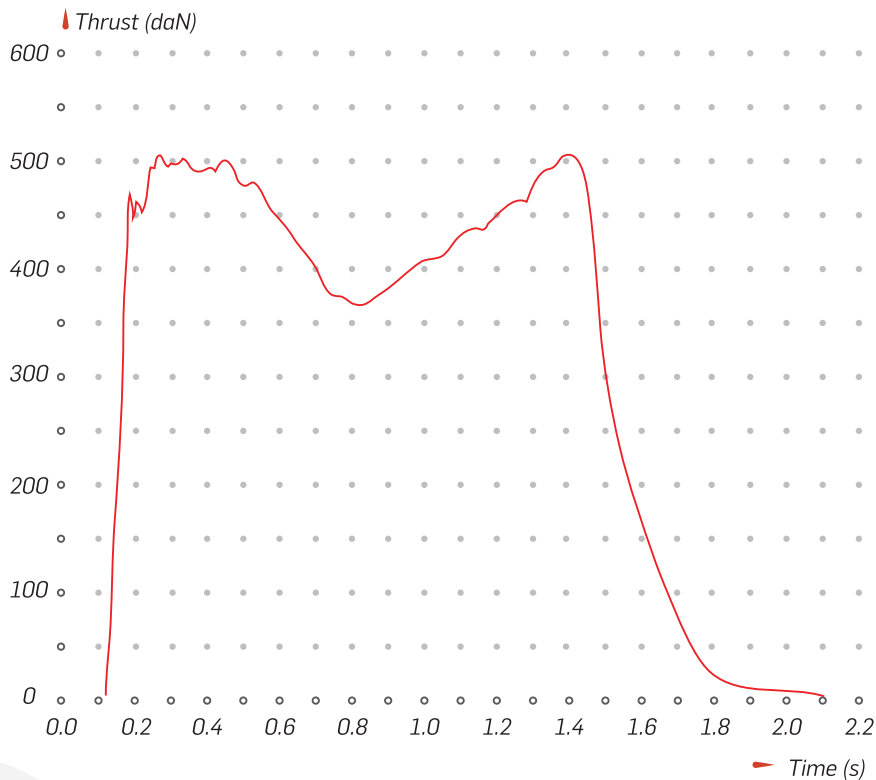
Propellant grain has the most advanced characteristics for use in base bleed units of 105mm that gives projectiles an increase in range above 25%.

Burning time in static and nominal atmospheric conditions is  $\approx 19$  s.

Propellant grain can stand all loads in real dynamic conditions in temperature interval from  $-40$  up to  $+60$  OC.

*For 105mm HE-ER/BB rounds, fired at the optimal angle,  $V_0=670$ m/s average maximal range was obtained over 18.4 km (gun-howitzer 33 caliber).*

### Static test of 105 mm BASE BLEED UNIT



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