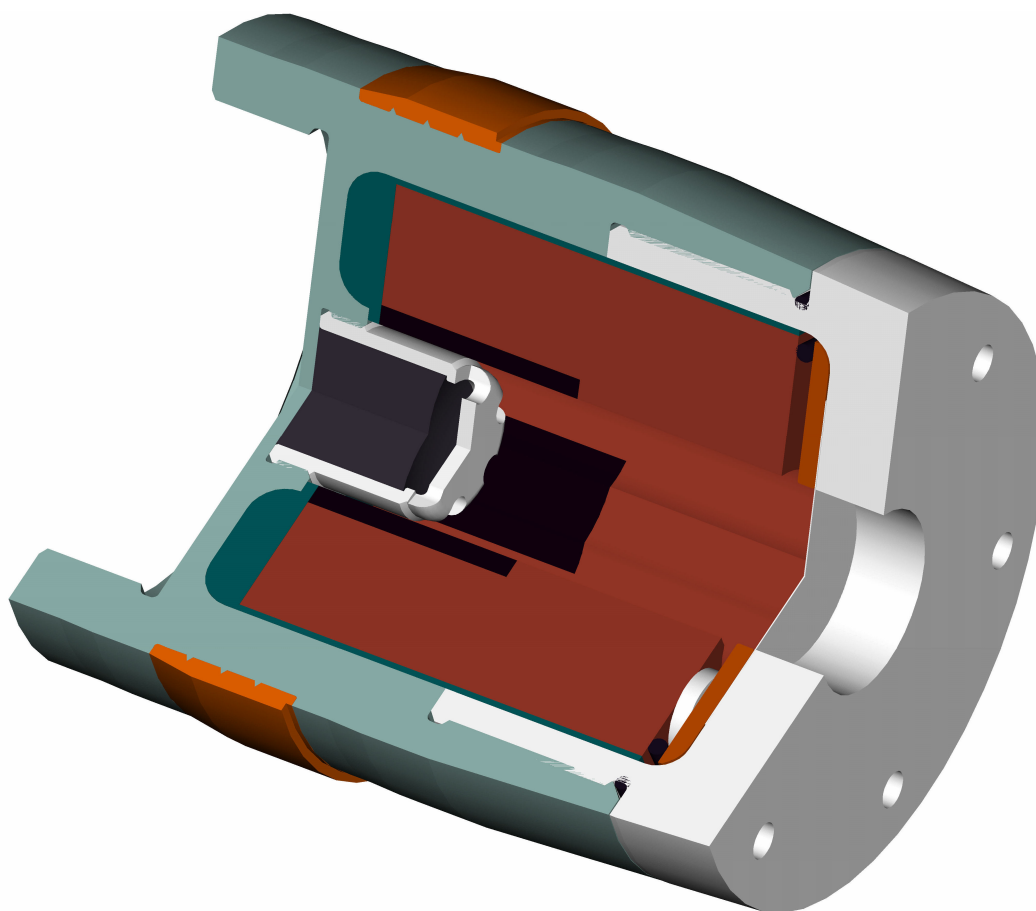


# ***BASE BLEED UNIT FOR USE IN 105mm CALIBER***



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**Basic characteristics:**

- ◆ Propellant grain has most advanced characteristics for use in base bleed unit 105mm that gives projectile increasing 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  $+60$  °C.

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

The gas-generator propellant (used in a grain as a main propellant) F-70/30-Al/1-R/0.5 is the modern thermoplastic composite propellant made according to the original technology. In order to make ignition process of the main propellant easier and even prevent extinction of the propellant after exit of the projectile from the barrel, the grain is made of two different types of the propellant. In that way the range is increased and dispersion of projectile at the target is decreased. Second propellant is F-80/30-Al/27-R/1. The purpose of the second propellant is to ensure fast and reliable re-ignition of the main propellant (literally without extinction). It is placed on inner cylindrical surface of the grain. Process enables high production rate and reliable manufacturing of even very complex shapes with one of 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 and interested in further mutual research, development and production of propellant grains for base bleed unit, as well as complete base bleed unit.

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

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# BASE BLEED UNIT 105 mm

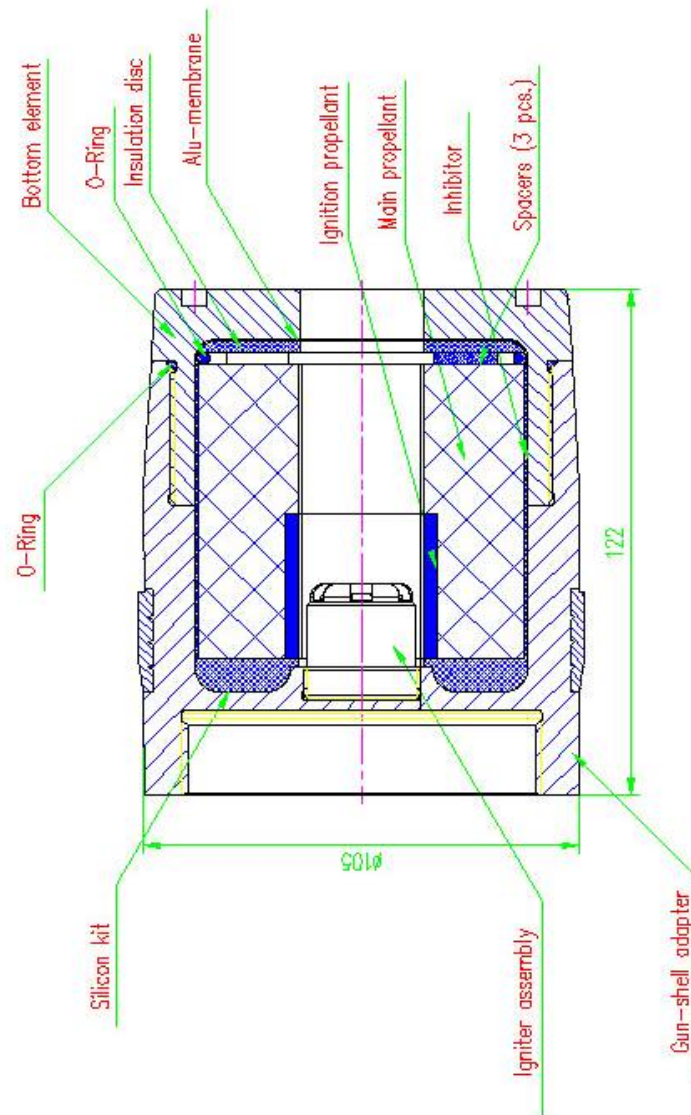


Figure 1.

# STATIC TEST OF 105 mm BASE BLEED UNIT

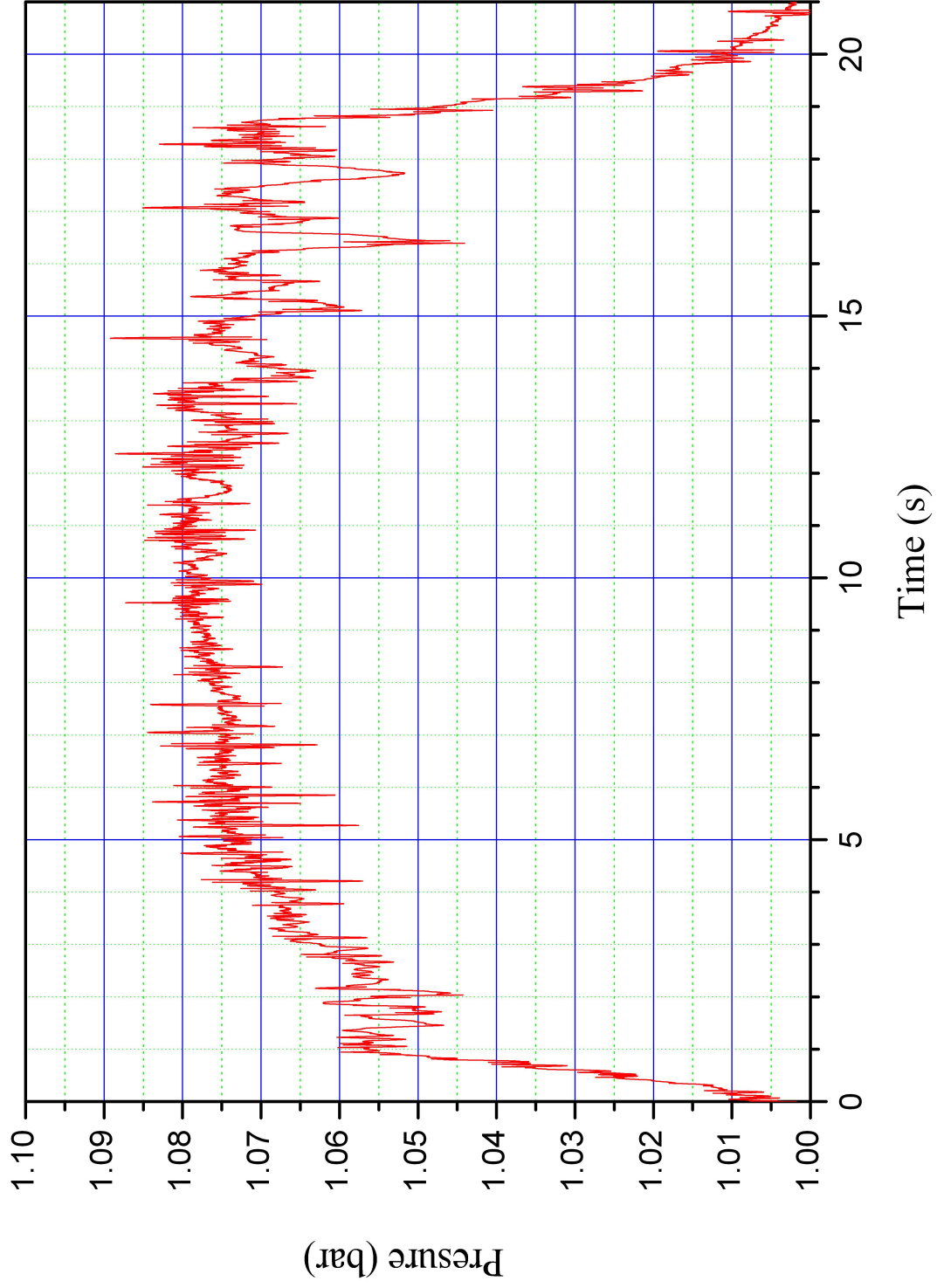


Diagram D-1.



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## BASE BLEED UNIT

### 105mm HE-ER/BB M02

