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## ANNULAR COMBUSTION CHAMBER WITH VAPORIZATION AND FRONTAL SWIRL

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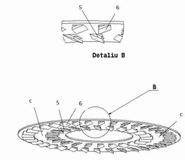
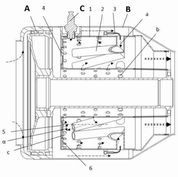
The presented combustion chamber is part of a 40 daN micro gas turbine, destined to equip a small-scale multifunctional airplane. The proposed constructive solutions lead to superior operating characteristics, as the frontal swirl ensures lower pressure loss. The L – shape vaporizers through which the pre-vaporized fuel is introduced in the combustion chamber have an inclination, with respect to the axial direction, counter to the air flow direction, with an angle corresponding to the air pre-rotation due to the compressor stator. The pre-vaporized fuel is introduced in the combustion chamber primary zone directly under the frontal swirl slots thus ensuring and optimal mixture of the air and fuel.




**Frontal swirl slots 3D CAD view**



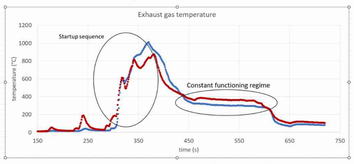
**Combustion chamber- cross section**

**Combustion chamber 3D CAD view**

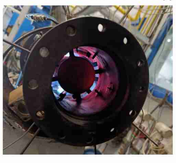
**Combustion chamber`s 12 vaporizers**

**Frontal swirl slots**

**Combustion chamber and the fuel supply line**




**Exhaust gas temperature during flame stability test**



**Flame stability test**

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