CLAIMS

1. A modular kinetic machine (M) for producing electricity from fluid flows, floating, type "open center", with a swept area fully immersed and perpendicular to the flow direction, consisting of:

- two coaxial turbines counter rotating, one with external blades (T1) and the other with internal blades (T2), with built in generators,
- a floating/positioning control device (F) consisting of a floater (11), a positioning wing (12) that is located outside the turbines, and a fixture (13) connecting the turbines to the floater (11),

whereby each turbine is structurally, mechanically and electrically independent, and consisting of a rotor with blades, a stator and a built in generator.

2. The modular kinetic machine (M), according to claim 1, **characterized by the fact that** each rotor and the related stator consist of more parts centered on the rotational machine axis itself, involving a low radial runout and out of bound among the rotational parts.

3. The modular kinetic machine (M), according to any one of claims 1 and 2, **characterized by the fact that** the number of blades is the maximum compatible with the overall machine dimensions and performances in order to reduce the load for each blade, thus allowing to use materials characterized by a lower structural strength and lowering the whole machine weight and costs.

4. The modular kinetic machine (M), according to any one of claims 1, 2 and 3, **characterized by the fact that,** each turbine is configured so that the rotor circular movement, related to the stator, is allowed by rotating elements of spherical, cylindrical or any other shape, sliding through circular races machined on the rotor close to blades root.

5. The modular kinetic machine (M), according to any one of claims 1, 2, 3, and 4, **characterized by the fact that** the center hole of the turbines is designed, using a Di/De ratio, for allowing the maximum available energy production, whereby Di is the central hole diameter and De is the external diameter of the turbine.

6. The modular kinetic machine (M), according to any one of claims 1, 2, 3, 4, and 5, **characterized by the fact that** the floater (11) is suitably designed in order to allow the machine positioning in terms of optimal depth and stable transient mood; and the cited positioning wing (12) is installed out of the turbine, close to the floater (11) and it is linked to the turbine module by one or more beams or other frame (13), thus allowing the machine to reach the right distance from the shore or to the anchoring point.

7. The modular kinetic machine (M) according to any one of the previous claims, **characterized by the fact that** comprises a connection system between the machine and shore.

8. The modular kinetic machine (M) according to any one of the previous claims, **characterized by the fact that** the generator (G1, G2) of each turbine consists of a metal support ring (14, 18).

9. The modular kinetic machine (M) according to any one of the previous claims, **characterized by the fact that**:

- the rotor (R1) of the first turbine (T1) rotates inside the stator (S1) housing the blades (5) over the external perimeter, and
- the rotor (R2) of the other turbine (T2) rotates inside the stator (S2) housing the blades (10) over its internal perimeter.