

The Bi-directional Compressor

As far as practical, macroscopic Engineering is concerned, any flow taking place in one direction is always accompanied by a corresponding flow moving in the other direction, in other words, in the relatively opposite direction.

Furthermore, it is well-known that like and differing charges moving in magnetic and/or electric fields can and often do exemplify various forms of contra-directionality.

It is also well-known that organic processes of breathing, in the very broadest sense, involve a rhythmic exchange of liquids and/or fluids in opposing directions, as do the various sorts of blood flow in plants, animals, fungi, and other living creatures. These flows can take place alternately or simultaneously, and can occur in the same vessel or in separate but interconnected vessels. Typically, the more primeval the form, the more said form will tend to embody single vessel, simultaneous flow processes.

Regardless of what form such processes take, they allow for organisms to refine and build up substances and energies essential to the advancement of life, while excreting substances and energies, such as acids and low-oxygen fluids, that must be expelled in order to maintain a healthy, energetic state of life.

Most technologists regard these processes as something to be controlled and minimized. But if these limited methods are successfully inverted, then any resistance can be converted into additional power.

The present disclosure relates to an invention designed to apply these processes in the realm of fluid flows as a means to the end of enhancing or facilitating various advantageous outcomes such as the refinement of charges, the removal of neutrals, and the resistanceless, multi-directional motion of inflowing and outflowing medial structures.

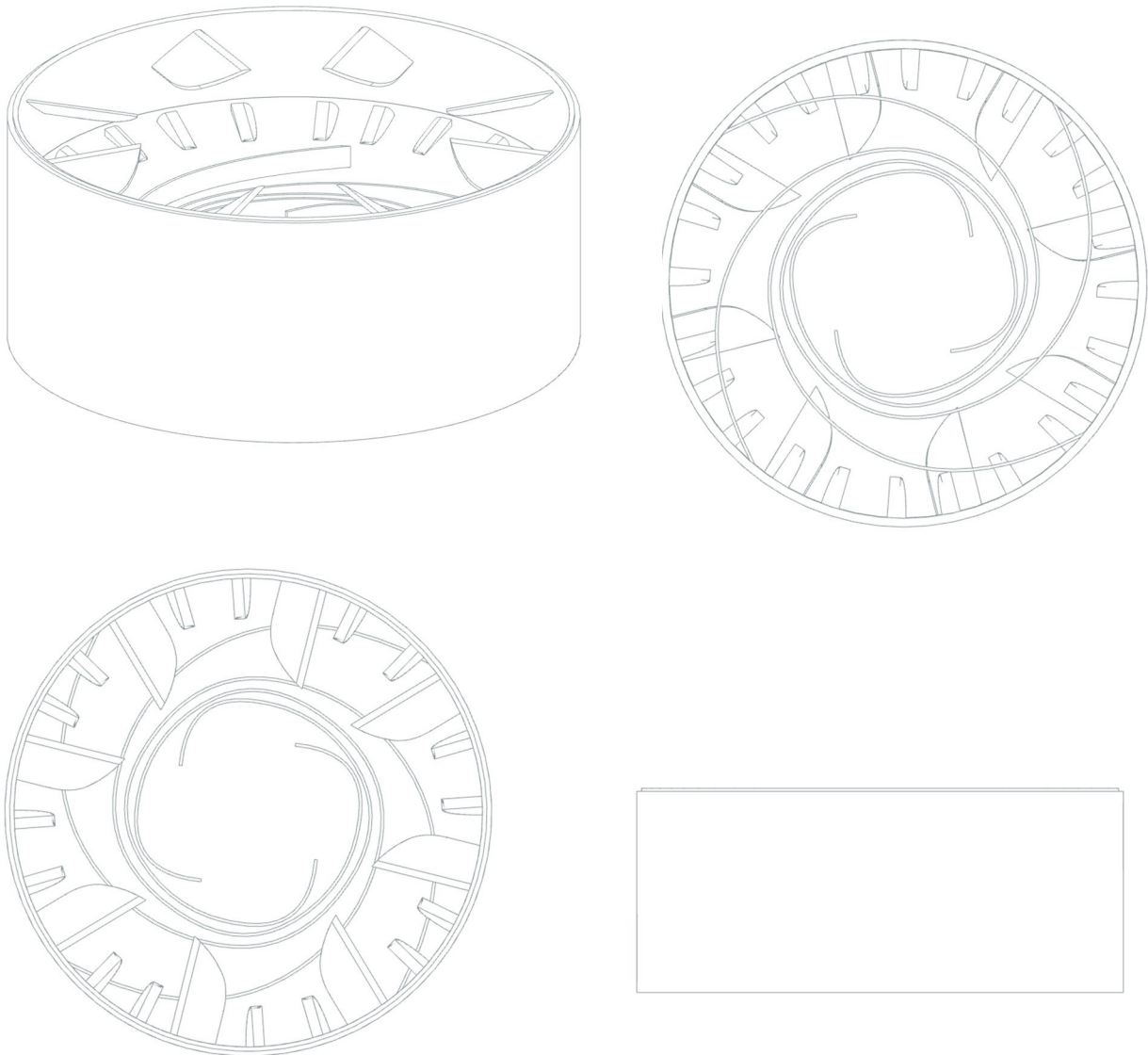
The invention is a class of 'wrong,' or 'backwards' compressors, designed to create and enhance circulatory and inverted flow. In totality, flow takes a form roughly corresponding to a magnetic field, with toroidal structures surrounding a central, more or less axially (with respect to rotation) aligned structure, which tends to have the form of one or more vortices.

The invention can have numerous embodiments, such as mirrored or conflicting turbine/impeller/propeller blades, meaning constructions where blades at 180° , or π rad, have either opposite or conflicting angles of attack, depending on what elements of flow are to be enhanced. Similarly, the various embodiments can include spiral-shaped impellers or inverted impellers, especially multiple interconnected and opposing ones, and combinations of these with the aforementioned blade arrangements. Likewise, the invention's embodiments also encompass various spiraling surfaces, guide-vanes, blades incorporating perforations, spiral-like structures, or varied and/or conflicting attack along the blades length, combinations of any of these and/or previously mentioned embodiments, and especially contra-rotational blades and surfaces, including rim driven systems with or without blades and/or guide-vanes, or designs incorporating otherwise similar or identical arrangements based on the interactions of one or more moving bodies with one or more static bodies or bodies moving at lower speeds, as opposed to contra-directional rotation. What all embodiments have in common is that they are all designed to create the aforementioned flow (akin to magnetic field geometry).

The particular function of a given embodiment can be enhanced or facilitated by the use of magnets, sources of electrical fields, materials with advantageous magnetic and/or electric or other properties, and designs that bring about the Venturi effect.

The present invention may be of any size and designed and used to facilitate any advantageous application, e.g., power production, propulsion, fluid conveyance, desalination, chemical syntheses (including in the realms of food and beverage chemistry), and the production or refinement of fertilizers or other agricultural amendments.

Here is a depiction of one possible embodiment of the invention:



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