

VARIABLE BOOSTER FOR HYBRID PNEUMATIC REGENERATIVE SYSTEM

ABSTRACT

A variable booster device of a pneumatic regenerative system of a motorized vehicle is in fluid communication with a pneumatic device of the system. The variable booster device includes a main body and a plate slidingly coupled to the main body. The main body includes an inlet, an outlet, and an interior cavity. The plate is reconfigurable between a first configuration, where the outlet is a first size, and a second configuration, where the outlet is a second size. The variable booster device pressurizes the air a first amount when the plate is in the first configuration and pressurizes the air a second amount when the plate is in the second configuration, where the second amount is greater than the first amount. Disposed within the interior cavity is a first helical screw rotor and a second helical screw rotor. The two helical screw rotors are intermeshed with one another. The pressurized air is fed from the outlet of the variable booster device to the pneumatic device of the pneumatic regenerative system to be further pressurized by the pneumatic device and then stored for later use in the system.

[Figure 1]