

HYBRID PNEUMATIC REGENERATIVE SYSTEM FOR RAILWAY VEHICLES

ABSTRACT

A pneumatic regenerative system for a railway vehicle equipped with a plurality of axles includes a plurality of pneumatic drive mechanisms coupled to each of the plurality of axles. Each pneumatic drive mechanism includes an accumulator and a pneumatic device. The pneumatic device may in some examples be a reversible air motor device. The accumulator is operable to receive and store pressurized air. The reversible air motor device is coupled to the accumulator and one of the plurality of axles of the vehicle. The reversible air motor device is operable in a first configuration and a second configuration. During a braking operation of the railway vehicle, the reversible air motor device in the first configuration is driven by rotation of the one of the plurality of axles to generate and store pressurized air in the accumulator. During an acceleration operation, of the railway vehicle the reversible air motor device receives pressurized air from the accumulator to drive rotation of the one of the plurality of axles.

[Figure 1]