

Step-Driven Transport Device

CSK BACKSTOPPING CLUTCH

PROBLEM

Me-Mover, an entrepreneurial company located in Denmark, needed a compact clutch solution for their revolutionary new step-driven transport device. The Me-Mover vehicle provides users with a fun, active and energizing way to get to their destination. Ideal for use in urban settings, the device can be easily folded and brought on a bus, train or car.

Riders use stepping motion, an oscillating movement of the pedal (up/down), instead of a rotating movement. The force is transferred from the pedals to another oscillating mechanism that, in turn, is connected to a rotating drive wheel. The drive wheel rotates in one direction only, so a freewheel is needed to connect the transmission and the drive wheel – just as on a bicycle. The difference between the freewheel on the Me-Mover and the freewheel on a bike is that the freewheel on a bike is overrunning only occasionally, whereas on the Me-Mover it is constantly shifting from overrunning to fixed (sometimes up to 100 cycles per minute). This puts extremely high demand on the freewheel.

SOLUTION

The Me-Mover team initially started using relatively inexpensive imported clutches however they soon realized that these units had a very short lifetime combined with a high level of internal resistance.

Ultimately, the compact Stieber Model CSK30 PP overrunning clutch was selected due to its long service life and exceptional resistance to wear and tear in all weather/ environmental conditions. The CSK30 PP provides instant locking/engagement when the clutch shifts from overrunning to engagement. All CSK clutches feature ultra-hard Formchrome® sprags which provide extra-long life, maximum wear resistance and lower maintenance costs. A special low temperature grease was specified for this application.



HIGHLIGHTS

- 133 lb.ft. (180 Nm) torque capacity
- Sprag-type backstopping clutch
- Keyway on both the inner and outer race
- 4,200 RPM maximum overrunning speed
- Formchrome® sprags for long life

Regal Rexnord

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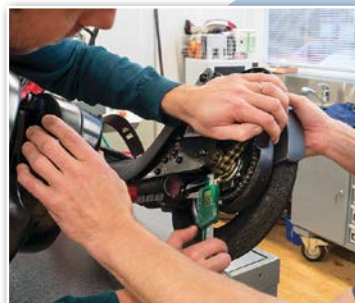
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