Shuttle Car Traction Motors

10520 - 22 kW

TVE has been manufacturing shuttle car motors for more than 30 years. The type 10520 is a 22 kW (30 HP) flameproof DC traction motor first designed in the late 1980’s and used extensively in the coal mining industry in South Africa. It is a reliable and durable motor which has been gradually upgraded and improved over its lengthy lifespan so the modern version is vastly different from the original. As a specialised motor manufacturer TVE is able to continually upgrade its products by applying the latest technological changes to not only its new products, but also to its existing ones. These flameproof traction motors face some tough working conditions and are often pushed to their mechanical and thermal limits. The quality and reliability of these motors is critical in ensuring the continued successful and cost effective operation of a shuttle car.

18300 - 30 kW

Over the last 30 years shuttle cars have gradually grown larger and their payloads have increased. Consequently there is a requirement for larger and more mechanically robust traction motors. The type 18300 is essentially the big brother of the type 10520 and was designed in 2005 with an increased power rating of 30 kW (40 HP) and a strengthened mechanical drive arrangement, but with the same mounting and a very similar overall envelope to the type 10520. It is thus better able to cope with the stresses on larger machines and offers increased efficiency and reliability, boosts production and reduces breakdowns. The type 18300 has proved to be a great success in both South Africa and Australia.

Continuous Miner Traction Motors

14490 – 37 kW

The 14490 is a flameproof, water cooled 37 kW (50 HP) DC traction motor used on continuous miners. Originally designed for use in South Africa this motor has also found a market in the USA
where it has been used successfully for almost ten years. Designed and manufactured to handle the stresses associated with the large machines and hard coal common in South Africa this motor is built to be tough and reliable.

16560 – 50 kW

The 50 kW continuous miner motor, was designed to cater for the exceptionally large ‘mega head’ continuous miners that operate on the unusually high, hard coal seams found in South Africa. These machines require a motor which can provide additional power and torque. TVE’s solution was to introduce the more powerful 50 kW (67 HP) continuous miner motor, the type 16560. The more powerful motor was able to reduce downtime and increase production and has been used successfully for the past six years.

Battery Hauler
14800 – 30 kW Traction Motor

The 14800 is the flameproof traction motor for the battery hauler system. Used to transport coal from the line to the processing plant, the battery hauler encounters all sorts of terrain, and varying gradient. As a result of the varying gradient mainly sharp declines many of the traction motors on battery haulers are no strangers to over-speeding problems. To combat this problem all TVE’s motors are specially designed with Nelco’s high speed commutators. These high speed commutators are rated for speeds well over 9000 RPM and ensure that many of the over-speed problems that could be encountered are not encountered with our motors.

14900 – 7.8 kW Pump Motor.

Designed to be used in conjunction with the 14800 traction motor the 14900 7.8 kW pump motor is used to control the hydraulics as well as the bucket on the battery hauler. As the pump is required to work the hydraulics of the vehicle it needs to be continuously rated, a difficult problem in small flameproof motors due to overheating issues. Our technical design knowledge coupled with our reputation for high quality products ensured that even under these high temperatures and difficult working conditions the motor still performs as required.
16360 – 10.5 kW Pump Motor

As mentioned in the 14900 write up the battery hauler pump motor is required for rigorous duty on the battery hauler continuously being pushed right to the limit. As mining techniques improved so the battery hauler was required to do more and more work. Mines couldn’t afford costly breakdowns on the battery haulers due to motor failures. TVE solution was to offer the slightly more powerful 16360 pump motor. By offering the mines the slight increase in power the motors where no longer required to run right on the limit of their design. The slight increase in the cost of the motor immediately paid for itself, with mines experiencing increased production, reliability and reduced downtime.

Battery Scoop

Battery scoop traction motor – 36 kW

Similar to the battery hauler, the smaller battery scoop vehicle only needs one slightly more powerful traction motor to get the job done. Using our knowledge of the problems faced by the battery hauler vehicle, and applying what we had learnt we were able to develop a very reliable traction motor for the battery scoop. First build in 1997 these motors are still on order today 14 years later, a powerful testament to the quality and design of the motor.

Battery scoop pump motor – 7.5 kW

The pump motor on the battery scoop is only used to operate the bucket on the front end of the motor and requires a lot less rigorous duty than the battery hauler pump motor. Rated for 60% intermittent duty the TVE motor sees a long time in the field, and when they do come in only requires very minor repairs. Like the traction motor the reliability and performance of the pump motor means that these motors are still on order today.