



TRANSVAAL ELECTRIC MOTORS (PTY) LTD  
ELECTRIC MOTOR MANUFACTURE AND REPAIR

# Transvaal Electric Motors (Pty) Ltd

Transvaal Electric Motors (TVE) is an South African electro mechanical engineering company founded in 1939, which is engaged in the design, development, manufacture and repair of rotating electrical machines.

TVE manufactures and repairs both AC and DC electric motors for varied local and international mining, traction and industrial applications.



The company has five factories with approximately 5500m<sup>2</sup> of factory space situated in Johannesburg, and employs approximately 200 personnel including engineers, draughtsmen and skilled artisans.

# Organisational Structure

- TVE is a privately owned, family run business
  - the owners play an active role in ensuring that the company achieves its sales, quality, and service objectives.



- TVE is made up of various departments namely:
  - Technical Design
    - 6 Mechanical Designers
    - 3 Electrical Engineers
    - 3D Autodesk Inventor Design Software,
    - In House Design Software, AutoCAD



# Organisational Structure Continued

- Manufacturing
  - Punching
    - Blanking Machines
    - Guillotining Machines
    - Notching Machines
  - Winding
    - AC and DC winding shops
    - VPI Processing Equipment
    - Baking Ovens,
  - Machine Shop
    - Boring Mills
    - Lathes
    - Drilling
    - Band Saws
- Fabrication Department
  - Welding



# Organisational Structure

- Repair
  - Specialised welding equipment
  - Burn-Out Ovens
- Quality Control
  - Specialised inspection equipment
  - ISO9001
- Stores
  - Modern set up.
- Assembly
  - Purpose built assembly work stations
  - Certified personnel
  - 1000 kW test Bay on 60 ton base
  - Spray Booth
  - Lifting capacity of 20 metric tons
- Accounts
- Sales & Services
  - 24 Hour on call
- Human resources

Each department has its own manager who is in charge of ensuring that

- Manufacturing processes are adhered to
- Safety standards meet with legislation
- Quality is ISO 9001 compliant



# The Customer

- Our motors are not only used locally but all over the world by OEM's here is a sample of some of the companies that we supply to locally and internationally
- Locally we supply motors to:
  - SASOL Coal, Joy Mining SA Sandvik
  - BHP Billiton, JA Engineering Gauley Robertson
  - Anglo Coal, Kopex Africa
  - Exarro, Balindi Mining.
  - Phillips Machine Services SA
- Internationally we supply motors to:
  - Joy Mining USA Phillips Machine Services USA
  - Saminco Sandvik
  - Kopex Waratah PWG Kings
  - Siemens Wirth
  - PWG Kings Androck

# Accreditation

TVE is an accredited ISO 9001 company and is approved to manufacture Explosion Proof Ex d electric motors to the following International Standards:

- IEC 60079-0 & 1
- SABS 60079-0 & 1
- MSHA (30 CFR)
- ANZEx
- AUSEx
- FM Global
- ATEX



TVE is an approved supplier to several large coal mining companies such as Sasol and Exxaro and TVE has been manufacturing and repairing explosion proof electric motors for these companies for more than 30 years.

TVE is the Siemens authorised repair centre in sub Saharan Africa for the repair of their large mining truck traction motors as well as the alternators.

TVE is also authorised to repair the mining truck traction motors and alternators for Hitachi.

TVE is a level 5 BEE contributor company.

# TVE's Constant Improvement Strategy

- The Objective:
  - To improve motor reliability, life cycle and quality
  - To reduced total cost of ownership
- Method:
  - Best practise philosophy used when approaching motor design.
  - Working in consultation with customers to optimise design.
  - Sourcing best local and international suppliers to reduce cost and improve quality
  - Investing in the latest technologies.



# Quality Control

All processing is controlled by a proven quality control system – the company is ISO 9001 accredited for the design, manufacture and repair of electric motors.

Our products are renowned for their robust fabricated steel frame construction and are well suited for operation in harsh environments and rigorous duty cycles where standard motors are likely to fail prematurely.

A testament to the quality and durability of our motor designs, as well as our ability to solve unique problems is the diversity of our market with TVE supplying motors as far afield as USA, China, Germany, Australia, Canada, Indonesia and South America.

All manufacture and repair motors are tested thoroughly to ensure there are no faults. TVE is currently in the process of commissioning a brand new state of the art testing bay with load test capability up to 1000 kW.

# Satisfied Customers

- *“Phillips has a significant fleet of shuttle cars operating in the USA, South Africa, China, Mexico and Canada and all our cars use TVE traction motors (DC and AC). The motors have proved to be very reliable and average DC motor life is in excess of 4 years. In almost all cases the motors have lasted until the cars have been removed from service for overhaul.”*
  - C.R Allen (General Sales Manager), Phillips Machine Services
- *“Saminco first purchased 35 HP shuttle car DC traction motors manufactured by TVE in 2006. All TVE’s motors have proved to be reliable and we have had very few issues, with average motor life exceeding 4 years. TVE is our preferred traction motor supplier.”*
  - Jon Anderson (Vice President), Saminco
- *“TVE’s motors have proved to be reliable, the motors usually run until the car is overhauled. All our shuttle cars operate in Australia and use TVE DC traction motors.”*
  - “Mark Chapman (Shop Manager), PWG Kings
- *“We have purchased almost 200 TVE DC traction motors for our shuttle cars since 2003. Generally the motors have run from car manufacture to overhaul so they have given very few problems. All our cars operate in Australia and we exclusively use TVE DC traction motors.”*
  - David Edwards (General Manager of Operations & RnD), Kopex Waratah