AC Mining Motors

AC Motors for the Continuous Miner

CUTTERHEAD Motor - 175 kW 50 Hz S1
340 HP 60 Hz S1
New motor for Mega-head application.

Application:
This motor drives the cutter head on the Joy 12HM31 continuous miner.
The motor is constructed as follows:
- All steel frame
- Heavy duty end-brackets for double flange mounting
- Water cooling by means of wrap around water-jacket
- Cable entry by flameproof gland or socket connector
- Flameproof to SABS IEC – 79-0 / 79-1 and SABS 314-1971

Technical Information:

| kW Rating | 175 kW, 50 Hz |
| HP Rating | 340 HP, 60 Hz |
| Duty Class | Class H |
| Supply Voltage | Up to 3300 V |
| RPM | 186 lb.ft to 137 lb.ft |
| Insulation System | Class H Formed Coil |
| VPI | Epoxy resin |

General Information:
VPI = Vacuum Pressure Impregnated

CUTTERHEAD Motor - 150 kW Class H Rise
This motor drives the cutter head drums on a Continuous Miner.

The motor is constructed as follows:
- All steel frame
- Heavy duty end-brackets for double flange mounting
- Water cooling by means of wrap around water-jacket
- Cable entry by flameproof gland or socket connector
- Flameproof to SABS IEC – 79-0 / 79-1 and SABS 314-1971
**Technical Information:**

**kW Rating:** 150 kW Class H Rise  
**Duty Class:** Special  
**Supply Voltage:** Standard Voltage up to 1100 V  
**RPM:** 1480 RPM  
**Insulation System:** Class H Formed Coil  
**VPI:** epoxy resin

**General Information:**

The motor was developed for Sasol Coal to provide increased power on the cutter head assembly and reduce breakdown stoppages by eliminating overload related failures.  

**VPI** = Vacuum Pressure Impregnated

---

**CUTTERHEAD Motor** - 140 kW Class H Rise  
This motor drives the cutter head drums on a Continuous Miner.  
The motor is constructed as follows:  
- All steel frame  
- Heavy duty end-brackets for double flange mounting  
- Water cooling by means of wrap around water jacket  
- Cable entry by flameproof gland or socket connector  
- Flameproof to SABS IEC – 79-0 / 79-1 and SABS 314-1971

---

**Technical Information:**

**kW Rating:** 140 kW Class H Rise  
**Duty Class:** Special  
**Supply Voltage:** Standard Voltage up to 1100 V  
**RPM:** 1480 RPM  
**Insulation System:** Class H Formed Coil  
**VPI:** epoxy resin

**General Information:**

The motor was developed for Sasol Coal to provide increased power on the cutter head assembly and reduce breakdown stoppages by eliminating overload related failures.  

**VPI** = Vacuum Pressure Impregnated

---

Type – 11430.  
**Application:**

This motor has been designed to drive a scrubber fan for coal dust suppression on Continuous Miner Machines.  
- All steel frame  
- S.G. Iron end-brackets and connection box  
- Heavy duty bearings
- The motor is water-cooled and pad mounted
- Cable connection box is positioned remotely from the motor
- Flameproofing to SABS 314 – 1971 and IEC 79
- Protection IP-65 to IEC 34-5
- Dynamic balancing to IEC 34-14® levels

### Technical Information:

<table>
<thead>
<tr>
<th>kW Rating:</th>
<th>35 kW, 40 kW and 45 kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duty Class:</td>
<td>S1 (continuous running)</td>
</tr>
<tr>
<td>Supply Voltage:</td>
<td>Standard Voltages up to 1000 V 3ph. 50Hz</td>
</tr>
<tr>
<td>RPM:</td>
<td>2920</td>
</tr>
<tr>
<td>Insulation System:</td>
<td>Class H formed coil Stator windings VPI</td>
</tr>
</tbody>
</table>

### General Information:

The motor was designed by Trans Vaal Electric, development was carried out with a major customer and a fan supplier.

---

**AC Traction Motor** - 36/8 kW Dual Speed


**Application:**

This motor provides two-speed drive on a Continuous Miner. The motor is constructed as follows:

- All steel frame
- Heavy duty end bracket for rigid mounting
- Water cooling by means of wrap around water-jacket
- Cable entry by flameproof gland
- Flameproof to SABS IEC: – 79-0 / 79-1 and SABS 314-1971

### Technical Information:

<table>
<thead>
<tr>
<th>kW Rating:</th>
<th>50 HP. Class F Rise. One Hour Traction Duty</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP Rating:</td>
<td>110 V to 128 V</td>
</tr>
<tr>
<td>Duty Class:</td>
<td>385 A to 330 A</td>
</tr>
<tr>
<td>Supply Voltage:</td>
<td>1400 RPM to 1900 RPM</td>
</tr>
<tr>
<td>RPM:</td>
<td>186 lb.ft to 137 lb.ft</td>
</tr>
<tr>
<td>Insulation System:</td>
<td>1300 lb.ft @ 1300 A</td>
</tr>
</tbody>
</table>

### General Information:

This dual speed motor was developed for Matla Coal for traction duty on a Continuous Miner. The four pole (high speed) winding is used for tramming between sites while the twelve pole (low speed) winding is used during the sumping or cutting cycle.
Gathering ARM Motor - 50 kW
Special "Mine Duty" Flameproof Squirrel Cage induction motor. Type - 13500.

Application:
This motor has been designed to drive the gathering arms on the spade of a Continuous Miner through a reduction gearbox. The motor is constructed as follows:
- All steel frame
- Heavy duty end-brackets for double flange mounting
- Water cooling by means of wrap around water-jacket
- Cable entry by flameproof gland or socket connector
- Flameproof to SABS IEC – 79-0 / 79-1 and SABS 314-1971

Technical Information:
| kW Rating: | 50 kW |
| HP Rating: | S1 |
| Supply Voltage: | Standard Voltages up to 1100 V |
| RPM: | 1431 |
| Insulation System: | Class H |

General Information:
This motor was developed for Matla Coal to replace its ageing fleet of 46 kW gathering arm motors. The new motor requires no mechanical or electrical modification of the machine for fitting and has now been adopted as the standard component for the gathering arm drive on the Continuous Miner. Since the introduction of this motor the number of failures on the gathering arm system has decreased significantly, improving the availability of the Continuous Miner.

Pump Motor - 50 kW
This motor has been designed to drive the hydraulic pump on the Continuous Miner.

Application:
The motor has been designed as the main drive unit on Continuous Miner Machines. The motor is constructed as follows:
- All steel frame
- Heavy duty endshields for rigid flange mounting
- Water cooled by means of a "wrap around" water-jacket
- Cable entry by means of an approved flameproof gland or socket connector
- Flameproof to SABS IEC : 79-0 / 79-1 & SABS 314-1971

Technical Information:  General Information:
This motor was designed by TVE for a coal mining company to replace its ageing fleet of 46kW hydraulic pump motors. The new motor requires no mechanical or electrical modification of the machine for fitting and has now been adopted as the standard component for the hydraulic pump drive on the continuous miner. Since the introduction of this motor the number of failures of the hydraulic system relating to motor fault have decreased significantly, improving the availability of the continuous miner and consequently the production levels.

<table>
<thead>
<tr>
<th>kW Rating</th>
<th>50 kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP Rating:</td>
<td></td>
</tr>
<tr>
<td>Duty Class</td>
<td>S1</td>
</tr>
<tr>
<td>Supply Voltage</td>
<td>Standard Voltages up to 1100 V</td>
</tr>
<tr>
<td>RPM</td>
<td>1480 RPM</td>
</tr>
<tr>
<td>Insulation System</td>
<td>Class H</td>
</tr>
</tbody>
</table>