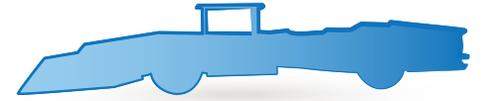


## Scoop Traction and Pump Systems



### VF Series Battery VFD Systems

The VF Series Drive Systems are for large or medium sized motors used in scoops that utilize a lead acid battery system. Two options are available:

- VF1 Series is for 128V DC systems.
- VF2 Series is for 240V DC systems.

#### Features

- Easily retrofitted into current equipment
- Failsafe - motor rotation will stop if drive fails
- Low maintenance with AC motor
- Uses lead-acid batteries

#### Turbo Torque™ Traction Drive

- Better stall torque and higher top speed than the equivalent 36kW (50HP) DC drive
- Speed governor
- Effective regenerative braking: minimizes the use of mechanical brakes

#### Whisper Pump™ On-Demand Hydraulic Pump Drive

- Reduced noise in pump idle mode, from 80 to 70 decibels
- Significant battery energy reduction during idle
- Smoother steering at pump idle

Available parts for system may include pre-charge/tram drive, pre-charge/pump drive, master control module, light supply, diagnostic display, foot switch, handheld programmer (for diagnostics and changing drive parameters), battery fuel gauge, radio remote control, motors with encoders for traction and pumps, and all cables. See your Saminco representative for a system designed to your vehicle specifications.



Mounted in explosion proof box with VF-1200 tram drive.

### Battery Management System

Able to monitor battery levels from display  
 "Low Battery warning allows for:

- Automatic slow down of some functions
- Torque retained, speed reduced to conserve energy
- Enables vehicles limited time to return to power center for recharging.

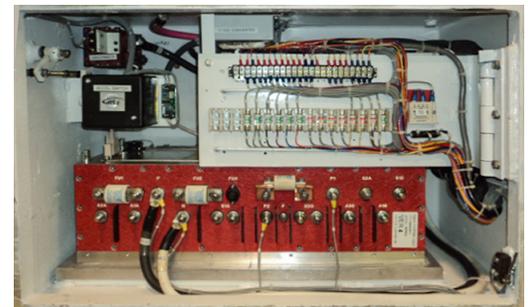
### Q750 DC/DC System

The Q750 is a compact, digital DC/DC traction drive available for single motor or dual motor operation.

#### Features

- Microprocessor based drive system
- Automatic motor speed-limiting
- Compact enclosure houses all power control devices, capacitor bank and soft start devices.
- Torque control mode provides superb traction and acceleration.
- Rugged, short circuit proof power circuit provides excellent long term reliability.
- Comprehensive display housed in explosion proof headlight enclosure.
- Uses the same handheld programmer and user interface as our JD400, Q800 and VFD drive systems.
- Regenerative braking provides smooth, powerful braking down to almost standstill. This feature greatly prolongs life of mechanical brakes.
- Over-current protection: Magnetic circuit breaker in DC supply (customer supplied) instantaneous cut-out if motor current exceeds 2500A for 100HP.

Available parts for system may include single or dual motor controller, interface box, light supply, diagnostic display, foot switch, handheld programmer (for diagnostics and changing drive parameters), and all cables. See your Saminco representative for a system designed to your vehicle specifications.



Q750 system mounted in explosion proof box with swinging panel closed.



## Specifications - VF Series Battery VFD System

| Electrical Specifications     | VF-1200 Tram Drive<br>For large motors              |   | VF-700 Tram Drive<br>For medium motors |  | VF-400 Pump Drive<br>For pump motor |   |
|-------------------------------|---|---|--|--|-------------------------------------|---|
|                               | Input   | Output  | Input                                  | Output   | Input                               | Output  |
| For 128V Systems              | VF1-1200 (A800682)                                  |   | VF1-700 (A801018)                      |  | VF1-400 (A800679)                   |   |
| Rated Power @ Rated Volts     | 62kW @ 128V DC                                      | 58kW @ 80V AC   | 30kW @ 128V DC                         | 39kVA @ 80V AC   | 23kW @ 128V DC                      | 21kW @ 70V AC   |
| Frequency Range               | DC  | 0 - 125 Hz  | DC                                     | 0 - 120 Hz   | DC                                  | 0 - 125 Hz  |
| Voltage Range                 | 100 -150V DC  | 0 - 100V AC   | 80 - 150V DC                           | 0 to V in x 0.7  | 100 -150V DC                        | 1 - 100V AC   |
| Amps @ Rated Power            | 485A  | 495A (1200A peak)   | 235A                                   | 285A (700A peak)   | 180A                                | 200A (400A peak)  |
| For 240V Systems              | VF2-1200 (A800782)                                  |   | VF2-700 (A801019)                      |  | VF2-400 (A800781)                   |   |
| Rated Power @ Rated Volts     | 105kW @ 240V  | 100kW @ 138V  | 56kW @ 240V AC                         | 78kVA @ 160V   | 43kW @ 240V                         | 41kW @ 138V   |
| Frequency Range               | DC  | 0 - 125 Hz  | DC                                     | 0 - 120 Hz   | DC                                  | 0 - 125 Hz  |
| Voltage Range                 | 160 - 300V  | 0 - 170V AC   | 160 - 300V                             | 0 to V in x 0.7  | 160 - 300V                          | 0 - 170V  |
| Amps @ Rated Power            | 440A  | 500A (1200A peak)   | 235A                                   | 285A   | 180A                                | 200A (400A peak)  |
| Dimensions                    | VF-1200 Tram Drive                                  |   | VF-700 Tram Drive                      |  | VF-400 Pump Drive                   |   |
| Height                        | 230mm (9")  |  | 249mm (9.8")                           |  | 230mm (9")                          |  |
| Width                         | 604mm (23.8")                                       |   | 330mm (13")                            |  | 199mm (7.8")                        |   |
| Depth                         | 363mm (14.3")                                       |   | 347mm (13.7")                          |  | 354mm (13.9")                       |   |
| Weight                        | 45 kg (99 lbs)                                      |   | 26.8 kg (59 lbs)                       |  | 14.5 kg (32 lbs)                    |   |
| Environmental                 | VF-Series Systems                                   |   |  |  |                                     |   |
| Ambient Operating Temperature | -10°C (no frost) to +50°C (14°F to 122°F)           |   |  |  |                                     |   |
| Storage Temperature           | -40°C to +60°C (-40°F to 140°F)                     |   |  |  |                                     |   |
| Relative Humidity             | <90% no condensation                                |   |  |  |                                     |   |
| Altitude                      | 1000 meters (3300 feet) - de-rate above 3000 meters |   |  |  |                                     |   |

## Specifications - Q750 System

| Electrical Specifications | Q750 (A800355-3)<br>Single Drive |                          | Q750 (A800357-3)*<br>Dual Drive |                |
|---------------------------|----------------------------------|--------------------------|---------------------------------|----------------|
|                           | Input                            | Output                   | Input                           | Output         |
| Rated Power @ Rated Volts | 44kW @120V                       | 42kW @ 120V              | 87kW @ 120V                     | 84kW @ 120V    |
| Frequency Range           | DC                               | DC                       | DC                              | DC             |
| Voltage Range             | 80 - 160VDC                      | 0 - 98% V in             | 80 - 160VDC                     | 0 - 98% V in   |
| Amps @ Rated Power        | 370A @ 44kW                      | 350A @ 42kW (2000A peak) | 725A @ 87kW                     | 2 x 350A @84kW |

\*NOTE: With J9002-201 address plug on MCM CN2 connector, Q750 parameter will automatically change to dual motor mode.

### Dimensions

|        |                   |
|--------|-------------------|
| Height | 230mm (9.1")      |
| Width  | 705mm (27.8")     |
| Depth  | 290mm (11.5")     |
| Weight | 54.4 kg (120 lbs) |



### Environmental

|                               |  |
|-------------------------------|--|
| Ambient Operating Temperature | -10°C (no frost) to +50°C (14°F to 122°F)            |
| Storage Temperature           | -40°C to +60°C (-40°F to 140°F)                      |
| Relative Humidity             | <90% (No Condensation)                               |
| Altitude                      | 3300 Feet (1000 meters) - De-Rate above 3000 meters. |

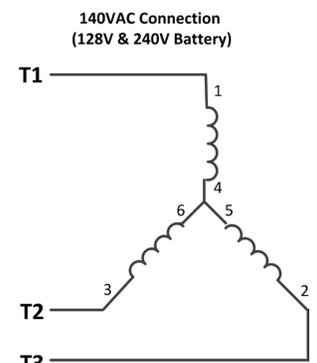
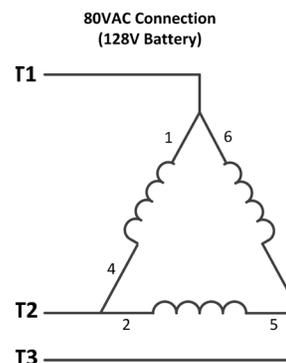
## Saminco Cool-Torque Motors (for the VFD Systems)

Saminco Cool-Torque Motors are available:

- AC input
- Air-cooled
- 80V AC or 140V AC available
- All motors are dual voltage based on wiring configuration
- Internal encoders give Closed Loop Control down to zero speed
- Low current draw of motor (Low AMPS) will extend life of motor
- Torque and speed-sharing between motors with greater starting torque.



Dual Voltage Traction Motors for Battery Vehicles (Delta or Wye connections)



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