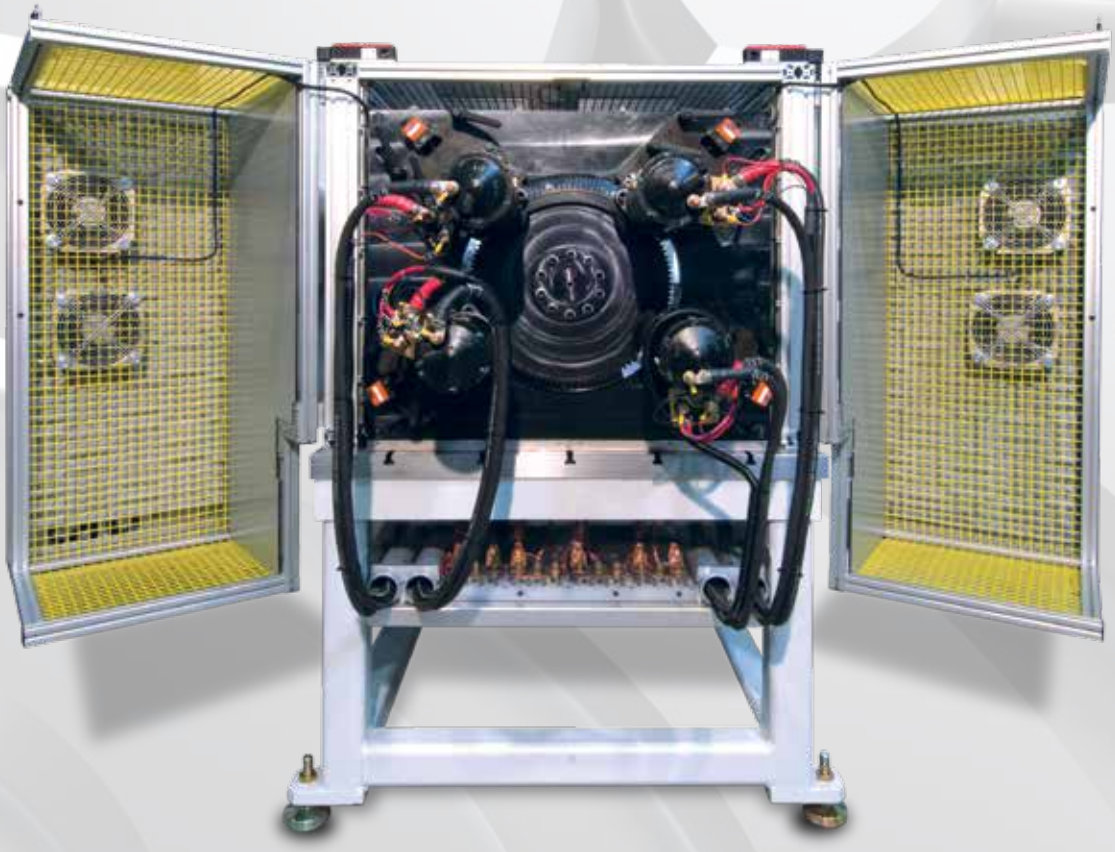
DAV ELECTRONICS LTD.

ST-66G2 / ST-69G2

STARTER TESTER WITH ENGINE SIMULATION

ENDURANCE AND PROTOTYPE TESTING

- **Tests four starters with separate and unique crank profiles**
- **Ability to test Start/Stop and Change-of-Mind (CoM) Starters**
- **An actual engine flywheel can be used to better simulate live engine cranking**
- **Programmable power supply provides an accurate simulation of battery internal resistance**
- **Automated testing with programmable scripting**
- **Provides simulation of engine firing sequence**



TESTING THE FUTURE®

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ENDURANCE AND PROTOTYPE TESTING

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D&V Electronics' ST-66G2 and ST-69G2 Engine Simulators are designed for accelerated starter durability testing. The simulators replicate the speed pulsations that the starter will experience from the engine's piston strokes during cranking and engine starting. The testers provide a repeatable and consistent testing platform that is used for component design validation and premature failure investigation.

Features

- Cranking Profile Generator Software for creating speed profiles, or users can import profiles from recorded engine speeds for precise engine simulation
- Eliminates the issues and costs of live engine testing: fuel cost, handling, maintenance, safety, exhaust emissions and environmental issues
- Execute cranking profiles while monitoring starter speed, torque, current and voltage
- Capability of mixing cranking simulation tests with multi-point performance evaluation
- Integrated engine flywheel emulates the mechanical engagement conditions with axial and radial starter position adjustment systems
- Capable of testing Start-Stop and Change-of-Mind (CoM) starter motors with programmable cadence, and ability to engage moving flywheel
- Simulates engine Cranking Profiles from two to sixteen cylinders
- Computer controlled test bench with programmable power supplies that provide an accurate simulated internal battery resistance
- Can accommodate single solenoid, dual solenoid, tandem solenoid, magnetic and locomotive switch connection starters
- Programmable power supply voltage with high-speed switch 1 and switch 2 timing for precise energizing control of the solenoid
- Durability and stress testing of starter components including gear systems, starter drive clutches, and pinion shift levers
- Each starter can have multiple unique profiles loaded that can be run in a customizable order for testing over a wide range of test conditions
- Over speed (over-run) testing function for the simulation of the engine running with the starter engaged
- Starter and solenoid temperature monitoring via thermocouples or RTD with automated cooling fan control
- Advanced reporting and statistical capabilities records cranking and performance reports at programmable intervals
- Provides a consistent and repeatable test environment to emulate application problems such as extended cranking, user abuse, leakage or hydraulic lockup in cylinders.
- Scripting of test procedures provides customization of testing process
- Engine wear simulation capability by dynamic modification of the cranking profile
- Optional programmable flywheel's stop position with Gaussian distribution for replication of flywheel gear and pinion wear characteristics

Options

- Real time profile calculation/execution based on SimuLink engine model
- Pinion travel distance measuring for capturing data at retract and extended positions
- Missing/broken flywheel tooth detection option can alert user to replace the flywheel when damaged.

TECHNICAL DATA

Parameters	ST-66G2	ST-69G2
Starter Output	Up to 3 kW	3* to 12 kW
Starter Input Power	Up to 12 kW	Up to 24 kW
Heavy Duty Option	N/A	Up to 48 kW
Flywheel Shaft Torque	Up to 1,000 Nm	Up to 5,000 Nm
Flywheel Speed	Up to 4,000 RPM	Up to 2,500 RPM
Pinion Speed	30,000** RPM	30,000** RPM

* May vary due to starter mass. ** Dependent on flywheel to pinion gear ratio

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