



Dual Motor Wet Clutch Test Stand

Model 3650

The Link Model 3650 Dual Motor Wet Clutch Test Stand is designed to perform wet clutch friction characterization and durability testing. The test chamber is designed to support an entire clutch assembly and may be adapted with fixturing to run single, multiple plate, torque converter or other torque transferring component testing. The dual motor configuration provides a simulation of driveline power and torque transfer from one AC motor through the clutch pack to the output mechanism, absorbed by a second AC motor. The system can also be utilized to simulate a grounded component for inertia based lock-up degradation testing.

The Model 3650 is designed with two standard 100 kw, variable speed, continuous duty AC motors that are capable of accurately controlling torque transfer profiles throughout the operating speed range. System torque is monitored through dual inline rotating torque sensors with angle measurement capabilities. The system is designed without mountable inertia but may be upgraded to have inertia mounted to the input shaft of the motor for SAE No. 2 style of testing. Additionally, the motor input shaft may be coupled with a low speed

and high torque output gearbox for low speed drag or break-away style testing.

The Model 3650 controls are designed to provide flexible test programmability, which enables research and development testing for torque transfer, slip, and shudder/squawk studies. Advanced features of ProLink controls offer operator dependent control or may be fully interlocked for automated, unattended operation. All primary operating machine functions are performed at the console, including selection of test parameters, control modes, display of pertinent data, and monitoring of all test functions.

Several special features are built into the Model 3650 drives, motors, and controls. These features support highly dynamic functions, which simulate customer vehicle duty cycles and theoretical dynamic modeling. The pneumatic actuation system provides programmability by the customer to replicate application-based clutch engagements.

For more information on the Model 3650 and how it can be configured to meet your requirements contact Link at sales@linkeng.com.

Standard Features

- Steel containment test chamber
- Dual torque, speed, angle measurement sensors
- 6,000 rpm peak rotation speed via 100 kW motors
- Pneumatic actuation system for clutch engagement
- Oil conditioning unit (heating, cooling, flow control)
- Programmable actuation system enables replication of vehicle duty cycles

Optional Enhancements

- Custom test head for motorcycle clutch basket, single and multiple plate, torque converter testing
- Inertia hub with disc and/or low speed drive unit
- Tunable system stiffness coupling or shaft
- Custom drive motor configurations
- Hydraulic clutch apply system
- Center feed oil flow system, increased oil flow

Disclaimer:

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Equipment pictured in this brochure may be shown with safety equipment removed or disabled for purposes of illustration. Equipment must never be operated with safety equipment removed or disabled.

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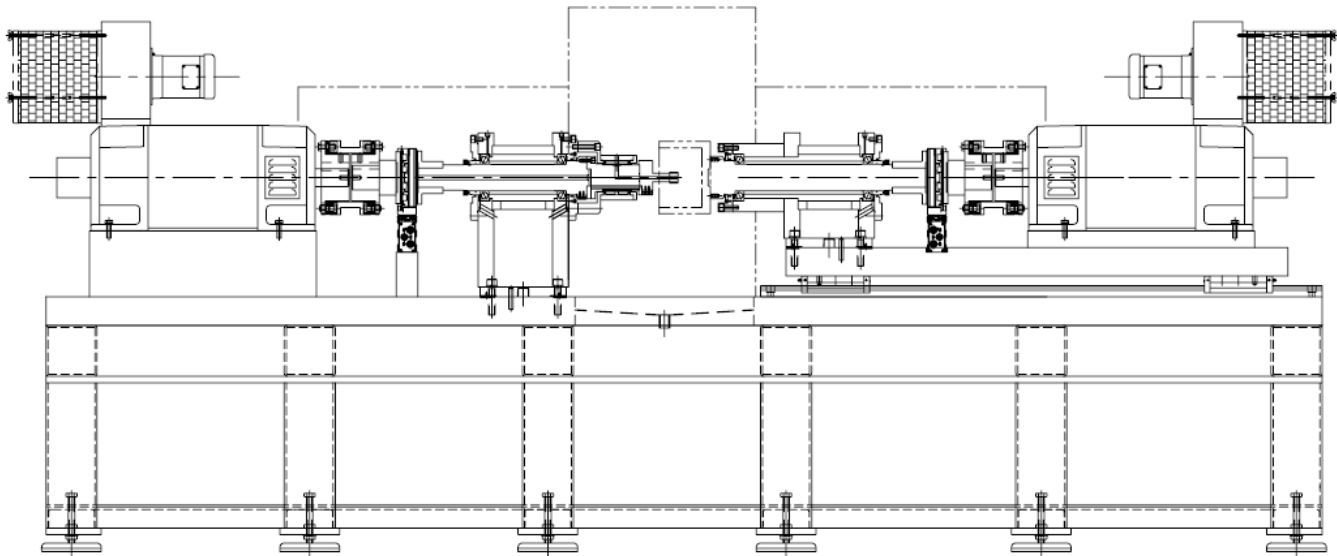
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Typical Specifications

Drive Motor	Power	100 kW continuous duty AC, drive controlled (dual motors)
	Drive Speed	3000/6000 rpm (base/maximum), variable speed, bi-directional
	Speed Control	10-6000 rpm \pm 1 rpm at full scale
	Output Torque (10-3000 rpm)	0-318 Nm nominal 100%, 0-477 Nm maximum 150%
	(3001-6000 rpm)	Constant power 100/150 % (150% limited to 60 second increments) Descending torque curve approaching 6000 rpm (159/239 Nm at 6000 rpm)
Speed Measurement	Method	1024 ppr A,B,Z, encoder with angle measurement, (dual encoders)
Torque Measurement	Method	Rotating telemetry torque cell (dual torque cells)
	Range	0-1000 Nm \pm 0.1% FS
Test Fluid System	Capacity	2-10 Liters
	Temperature Control	30°C - 150°C with tank cartridge heaters
	Flow Rate	0.1 - 2.0 L/minute \pm 1.0% FS
Pneumatic Actuation	Clutch Force	+/- 100 kg (compression or tensile forces) \pm 0.5% FS
	Force Ramp Rate	500 kg/sec \pm 1.0% FS
Test Chamber	Safety Enclosure	Adjustable steel plate enclosure with safety window, sealed and vented
	Temperature Measurement	Rotating thermocouple: K-type, 4 channels, -100 - 1000°C \pm 0.5% FS
Control/Operating System		ProLink Software Suite; Windows XP Pro; E-Console Control



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