



Actual products may differ
from images shown

The 450E is designed for testing automatic and power shift transmissions used in commercial applications built by most popular OEM transmission manufacturers. This quiet, compact machine has been progressively engineered to facilitate quick transmission coupling and alignment. The 450E will perform the diagnostic tests to evaluate performance and troubleshoot faults.

Features

- Ease of transmission connectivity. Splined input allows for quick positioning and takes the guesswork out of alignment
- Driveshaft output connection eliminates the need for precise alignment and also eliminates vibration
- Extremely quiet design aids in troubleshooting the transmission
- Capable of applying measurable output load to the transmission to confirm integrity, monitor noise issues and simulate actual operational conditions
- Dynamic Load Sensing (DLS) reduces input torque as needed to eliminate shift stacking
- Indexing allows the transmission to be rotated/indexed for ease of access to the valve body
- Can test in-line, remote and mid-ship transmissions as well as drop-box output configurations (maximum 14.9606 in (38 cm) vertical offset)
- Integral oil flow measurement, cooling and filtration
- Integral drain sump with pump and filter to reuse oil
- Conveniently placed filters and ten taps for pressure monitoring
- Transmissions with SAE #1 flange mount directly to the 450E. Adapter rings are available for other SAE sizes
- Requires minimal floor space. Input power of 380-460 VAC 3 PH 50-60 Hz
- Adapter kits available for all Allison transmissions as well as other major makes and models
- Provides printed reports (customized with your company logo) of the test results including shift patterns

Testing Capabilities

- Check shift points (automatic)
- Set shift points (automatic)
- Full and closed throttle upshift and downshift test (loaded or unloaded)
- Downshift inhibitor test
- Measure output torque dynamically and stalled
- Locate shaft seal leaks
- Identify clutch leakage
- Check noise/vibration
- Detect mechanical binding
- Check main, clutch and converter pressure
- Monitor converter flow and temperature
- Determine converter inlet and outlet pressure



PowerNet TD Data Acquisition & Control System

PowerNet TD is designed to provide a comprehensive, easy to use data acquisition and control system. PowerNet TD utilizes a Windows-based computerized data acquisition system to monitor and record speeds, torque, pressures, temperatures, flow rates and shift events.

In addition to advanced monitoring and recording, PowerNet TD enables users to run an automated test procedure for electronically controlled transmissions. This not only ensures consistent repeatability of test procedures, but provides a record of performance parameters exhibited during a test.

Designed for ease of use, PowerNet TD allows for easy configuration of instrumentation, operator designated warnings for high/low limit and operator customized full-feature data reports. All reports are generated in a standardized Portable Document Format (PDF).

Optional Electronic Shift Consoles

The optional consoles are designed for either factory authorized service centers with the ability to flash Transmission Control Units (TCUs) or non-dealer service centers that require the ability to exercise multiple brands and models of transmissions. Both provide a convenient storage and work surface for PowerNet TD data acquisition system.

- **ASC Shift Cart**
 - » Primarily used by non-dealer service centers.
 - » Easily switches between different shift profiles using the touchscreen computer.
 - » Eliminates the expense and need for multiple TCUs. Does not require an OEM TCU for reprogramming.
- **ESC Shift Cart**
 - » Primarily used by factory authorized service centers with ability to flash TCUs.
 - » OEM software, such as Allison DOC (not included), can connect directly to the console to perform diagnostics, read and reset trouble codes and reflash the TCU.
 - » Oversized enclosure can house multiple TCUs

Additional Optional Equipment

- Gauge Panel Package
- Oil-to-Air Transmission Cooler
- Input Torque Measurement System
- Power Rotation/Indexing
- Large Eddy Load Unit
- Air Brake Stall Kit
- Motorized Vertical Load Unit Adjustment
- Oil Preheat and Supply Cart
- Short / Long / Offset Worktables

Specifications

Electric Motor:

- 450E-150
 - » 150 hp (112 kW): 460 VAC / 60 Hz - 225 amps
 - » 125 hp (93 kW): 380 VAC / 50 Hz - 225 amps
- 450E-200:
 - » 200 hp (147 kW) 460 VAC / 60 Hz - 300 amps
 - » 165 hp (125 kW) 380 VAC / 50 Hz - 300 amps
- 450E-300:
 - » 300 hp (224 kW) 460 VAC / 60 Hz - 400 amps
 - » 250 hp (185 kW) 380 VAC / 50 Hz - 400 ampsInverter Duty: 460V/60 Hz, 380 VAC / 50 Hz 3-Phase

Max. Transmission Input Torque (continuous):

- 450E-150: 442 lb-ft (610 Nm) up to 1,785 rpm
- 450E-200: 588 lb-ft (811 Nm) up to 1,785 rpm
- 450E-300: 883 lb-ft.(1,216 Nm) up to 1,785 rpm

Max. Transmission Input Speed

- 4,000 rpm (bi-directional)

Converter Flow Monitoring Circuit:

- (1) One - 50 gpm (189 lpm) flow meter w/digital display
- Flow circuit includes 22 Micron filter
- Manual control for differential pressure adjust (backpressure)
- Heat exchanger with digital temperature controller

Eddy Current Absorber:

- Continuous braking torque: 525 lb-ft (712 Nm)
- Intermittent braking torque: 1,474 lb-ft (1,998 Nm)
- Max. stall torque (with stall bar): 2,000 lb-ft (2,712 Nm)
- Maximum rpm: 3,000 Rotation (bi-directional)

Worktable Sump:

- Capacity: 60 gal (227 l)
- Fill Pump w/filter standard

Adapters available for the following transmissions (*additional OEMs available*):

- Allison:
 - 1000/2000 Series (RWD Only)
 - 3000/4000 WTEC Series
 - 3000/4000 GEN 4/5 Series
 - 3070PT/3700SP Military
 - AT500/MT600/HT700 Series
 - V730/731
 - 5000/6000 Series
 - DP8000/9000 Series
- GM:
 - 3L80
 - 4L80E
- Voith:
 - DIWA.3/3E
 - DIWA.5/.55
- ZF:
 - ECOMAT 2,4

Pressure Taps:

- (12) Twelve - pressure taps to monitor pressures of component under test:
 - » (10) Ten - 1000 psi (6,895 kPa)
 - » (2) Two - 300 psi (2,068 kPa)

Weight and Dimensions (with worktable):

- Approximately 6,000 lb (3175 kg)
- (W x H x D): 178 x 67 x 48 in (452 x 160 x 122 cm)



 **Power Test**

Power Test, LLC. is an industry leader in the design, manufacture and sale of dynamometers, heavy equipment testing systems and related data acquisition and control systems. Since 1976, Power Test has provided specialized test equipment to manufacturers, rebuild facilities and distributors in the mining, oil & gas, power generation, marine, trucking, construction, rail and military markets in over 90 countries on six continents. Our headquarters and manufacturing operations are located in Sussex, WI with sales representatives worldwide.