ATESTEO

Excellence in drivetrain testing

Innovative Testing Equipment
LMC3 Linear Motion Control

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ATESTEO is the leading specialist for drivetrain testing along with automotive product validation and drivetrain testing-related engineering and equipment. Internationally, we rank first among the partners of the automotive industry and automotive suppliers. Our employees' great technical proficiency during customer-specific tests reliably ensures the operation and the quality of gear transmissions and their components. We are everywhere where transmission development in the automotive industry takes place. More than 150 test benches in Germany and China, along with representations in the USA and Japan make possible smoothly solving a range of measurement, test engineering, and analytical challenges at all times.

The LMC3 Linear Motion Control from ATESTEO is a test bench actuator to operate the clutch, accelerator pedal, and selector lever. The system consists of a controller with a highly dynamic servo amplifier with microcontroller control, a synchronised servomotor with absolute value transmitter, and linear guides with specific mechanical components. The controller features a high-resolution colour touch display, the intuitively operable menu interface of which enables entering all parameters. Independently of the actuator, the various operating modes are a component of the LMC3 software, which offers a uniform user interface for all applications. For communicating with the higher-level automation, in addition to digital and analogue I/O channels, the system also supports a CAN interface.

Actuators take on a diverse range of functions in automating test benches. Examples include controlling the clutch pedal, regulating the speed ranges of an automatic transmission, or simulating an electric accelerator pedal. Are you looking for actuators that can do it all?

KBE – Clutch Actuator

To operate the clutch pedal, the KBE actuator is equipped with a pressure roller mounted on ball bearings. Adaptation to different installation conditions is achieved through adjusting the angle of the torsion-resistant foot. The capture of pedal force takes place via an optionally available load cell. With the additional motor brake, the KBE can hold the pedal securely disengaged in position even in a de-energized state.

TPC – Throttle Actuator

As with the clutch actuator, the accelerator pedal is operated directly through a pressure roller supported by ball bearings. Because of the lower pedal forces, the TPC foot is lighter and constructed more slenderly than that of the KBE. To activate an electronic accelerator pedal, the LMC3 controller has two additional analogue and digital outputs.

AGS – Automatic Transmission Actuator

The mechanical coupling of the AGS to the automatic transmission takes place via the original cable control. To enable this, the actuator is equipped with a universal cable support that can be adjusted using the supplied adapters. During the setup procedure, the gear selector lever positions are programmed into the LMC3 controller and can be automatically travelled to through entering the position number. Selector lever positions that lie outside of the actuation axis can be directly travelled to using additional electronic outputs (e. g. manual mode/sport mode).

KBE by the numbers:

- Actuating force static/dynamic: 700/1,700 N
- Force measuring range: 2,000 N
- Speed: 1,300 mm/s
- Position precision: ±0.1 mm
- Mechanical travel range: 200 mm
- Weight: 25 kg

TPC by the numbers:

- Actuating force static/dynamic: 300/500 N
- Speed: 1,300 mm/s
- Position precision: ±0.1 mm
- Mechanical travel range: 200 mm
- Weight: 15 kg

AGS by the numbers:

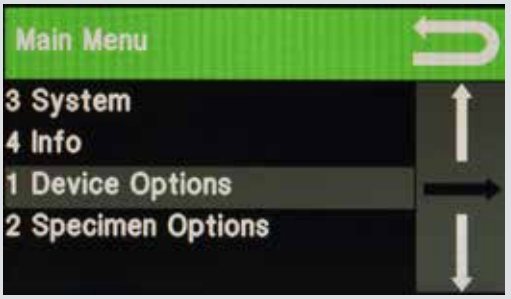
- Actuating force static/dynamic: 300/500 N
- Speed: 1,300 mm/s
- Position precision: ±0.1 mm
- Mechanical travel range: 200 mm
- Storage positions: 20
- Weight: 15 kg

Characteristics

- Highly dynamic brushless servomotor
- Durable industrial linear guides with microcontroller-controlled servo amplifiers
- Highly accurate travel measuring device; resolution < 0.05 mm
- High control speeds
- Pivotable drive unit and stable installation plate enable easy adjustment at the test bench
- Pressure roller with ball bearings permits connection to any pedal geometry (KBE/TPC)
- Adaptable to all standard shift cables (AGS)

Software

The control software is the operating system of the Linear Motion Controller LMC3. The user operates an easy-to-use interface to enter and check all parameters. All necessary functions and input dialogues of the LMC3 can be executed using the touchscreen.



The main screen offers the possibility, depending on the type of operation, of setting the nominal values or moving to the desired position.

LMC3 Remote

The remote control is handy, serving mobile operation of the system. It is equipped with a touchscreen and ensures that all functions of the LMC3 are made available through the remote control.

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Would you like to learn more about our products, solutions, and services in the areas of measurement systems, vehicle applications, and actuators? Just call us at +49 2404 9870-570 or send us an email to equipment@atesteo.com. Your personal ATESTEO contact will be pleased to assist you.

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