

Choose the Most Advanced Gear Testing Technology.

The Test—Pro 2017 I & II Technical Spec.:

Gear Tester Main Parameters:

Configuration: Parallel or right angle unit

Rating: 670 Watt

Design Life: 20,000 hrs.

Class: IV S-type

Test Shaft Diameter: between 1- 10 mm

Center distance: between 30- 70 +/- 0.04 mm worm

Center distance: 0- 100 +/- 0.04 mm spur/helical gear

Unit H x W x L: 280 x 380 x 910 mm

Max. size test gearbox: 100 x 100 x 60 mm

Tester Noise: 90 dB

Optional Oven: Temperature 84°C (183°F)/360 W

Operating Temperature: 0 to 50 °C

Survival Temperature: -10 to 60 °C

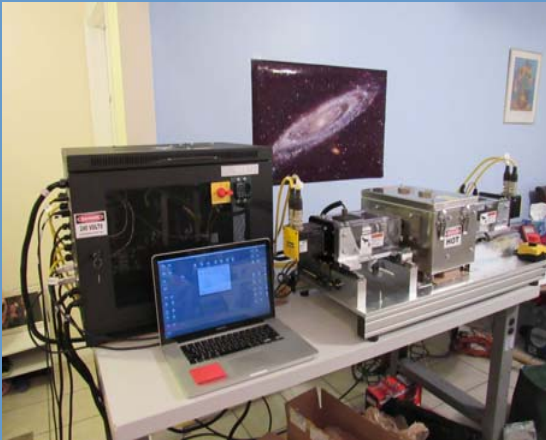
Ingress: IP 56

Humidity: 5 to 95%

Electrical Input: 240VAC 1 phase 60 Hz or 110VAC 1 phase 60 Hz and 24V DC

EMC: EN 61000-6-2, EN 61000-6-4

CE Certification: upon request



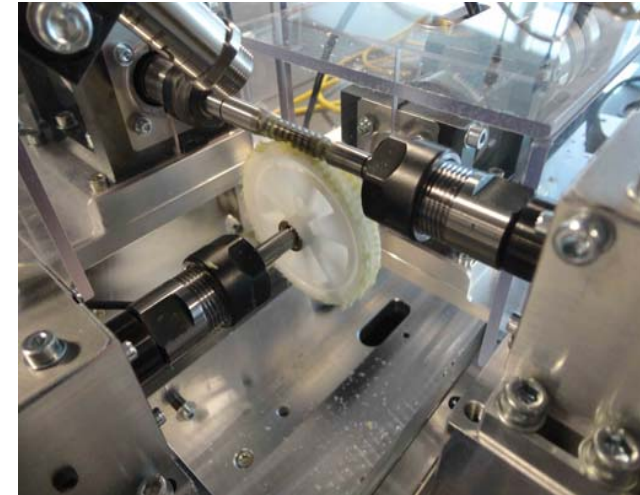
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Video Reference on YouTube:
Automated gear tester rig

TEST-PRO 2017

AUTOMATED GEAR TESTER RIG

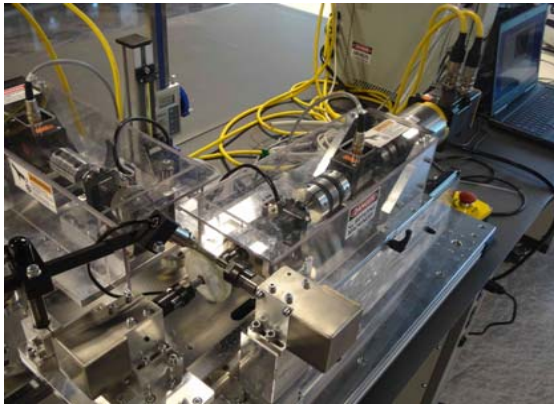


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TEST-PRO-2017

Automated Gear Tester Rig



The **TEST-PRO Automated Gear Tester Rig**, Test-Pro -2017 I & II automated gear testers, distributed by MoldedGear LLC are the most reliable and most advanced plastic/metal gear tester system in the market. These computer controlled equipment supports any scientific development, material selection, design optimization, cost saving, or productivity activities. The purpose of the automated worm gear tester is to perform subcomponent, gear pair, gearbox and gear-motor testing. The gear tester should be able to test and measure gear components and gearbox torque, speed, efficiency, gear mesh coefficient of friction, wear of gear components and life expectancy of product on any specified load cases and temperature.

Automated Gear Tester Specification

The test rig is able to measure parallel axis spur/helical, worm or bevel gear pair or gearboxes, and is able to test plastic, powder metal, metal gear pairs or these gear materials' combinations.

Computer controlled and monitored (LabVIEW test specific written software supplied).

Driver motor provides speeds up to 5,000 rpm, tester runs in either direction. Power up to minimum 1 HP (750 Watt). Brake minimum 1HP, max. Constant 40 Nm torque.

Handles parallel or right angle 90 degree shaft gear pairs with a center-to-center distance.

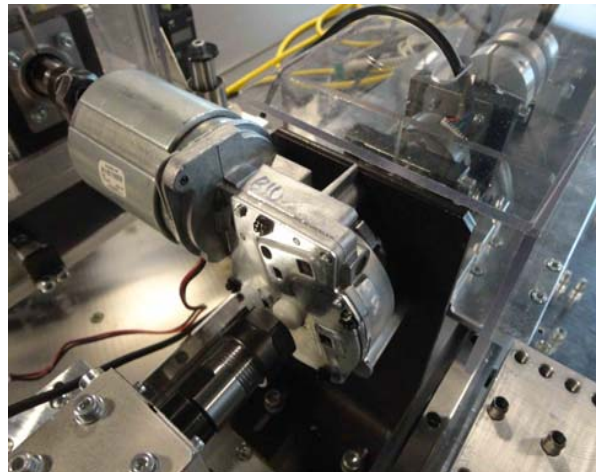
Driver and break motor with transmission table is able to perform directional adjustment fine adjustment in X-Y horizontal plane, Y direction.

Control system programmable to setup motor speed and break torque in repeated or programmable load cycles. Control system capable of setting up reverse back drive system and testing, when the break side would be driver.

Automated gear tribology tester monitors and records cycles, temperature, backlash, gear flank wear, torque and speeds. It is able to determine coefficient of friction between gear mesh.

All data stored in easy-to-use commercial presentation packages (excel file preferred). Automated Gear Tester is able to stop testing and record number of cycles. Center distance setup has digital visual recording.

Gear Tester is equipped with emergency shut down bottoms and meets standard safety requirements.



Automated Gear Tester Software

Written in LabVIEW 2011, the "Automated Gear Tester" program is the control- and data collection software accompanying gear tester apparatus. It fulfills several functions:

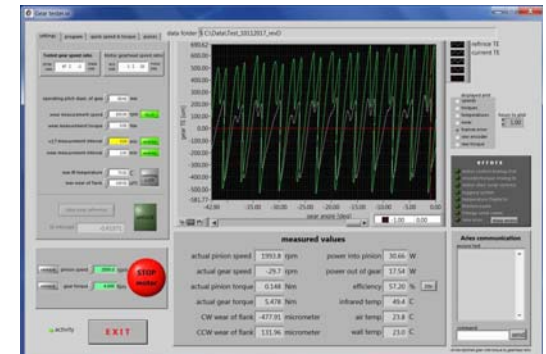
Controls the speed and the torque at which the gear testing happens. It also allows unattended testing involving complex speed-and torque profiles using the built-in microprogramming feature.

It handles all of the data acquisition tasks: it gathers data from the motor drives (speed), rotary encoders (angular position of axes), torque sensors (torque), temperature controller and auxiliary temperature sensor (temperature). Displays the acquired quantities as a function of time so that the operator knows how the testing advances.

Saves the acquired data in a proprietary file format which, besides all types of measured data, contains any error messages the program might have produced.

A second program, will rearrange the data in multiple files, each containing only one kind of data (for example: torque) and convert them in a "comma separated values" file format that can be accessed with many commercial software products.

The software provides different type of plot vs. time charts. It is possible to plot; input, output speed, torque, efficiency, or of tooth and single flank test of gear or T.E. Transmission error, which can be used for gear noise related analysis, too.



Print screen Labview Software

Microprogramming: The Gear Tester can be micro-programmed using the "program" tab of the controls group in the upper left region of the user interface.

There is a simple and an advanced programming feature. It is possible to program any load case with input power, torque, speed, and time related open or closed loop cycles.

It acts as a software watchdog that will automatically stop the motors if a gear breakage is sensed, and will stop if the temperature sensors indicate overheated flank condition.