

Test



# Model 205

## Screw friction testing machine

### Special features:

- Force measurement
- Overall torque
- Head friction torque
- Thread friction torque
- Angular measurement
- Real time measurement value registration
- Expedites quality control efforts
- With safe, reliable technology
- Patented measurement process
- Online evaluation as per international standards

### Application:

Long years of experience form the foundation for the newly engineered TesT 205 screw testing machines. They comprise four fundamental components:

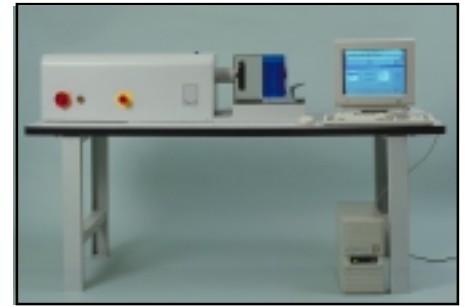
- Force/torque transducer
- Machine frame with regulated drive, angle sensing, test bench and power pack
- PC with integrated set of boards for measurement value registration and machine control
- Software package

Evaluation is effected online, in real time, during the test runs.

Application for patenting the force/torque transducers has been applied for. Their shape makes it possible to measure and calculate the five parameters:

Overall torque, head friction torque, thread friction torque, force and angle without any measurement value influencing any other value. The macro commands included in the software allow the user to program phased testing. Optional additional software packages which take international or automobile manufacturing standards into account can be customized at any time to meet the user's individual requirements.

Using this configuration makes it possible to sense and register all the major parameters in threaded connectors as required by international standards and by the in-house standards formulated by the major automobile manufacturers; evaluation is also in accordance with those standards. Determining the over-tightening torque for self-locking nuts is a further application area.



Model 205

Testing to the following standards is possible:

- DIN
- ASTM
- AIRBUS-Industry
- FIAT
- FORD
- GENERAL MOTORS
- MERCEDES
- PEUGEOT / CITROEN
- RENAULT
- SAAB-SCANIA
- VW
- VOLVO

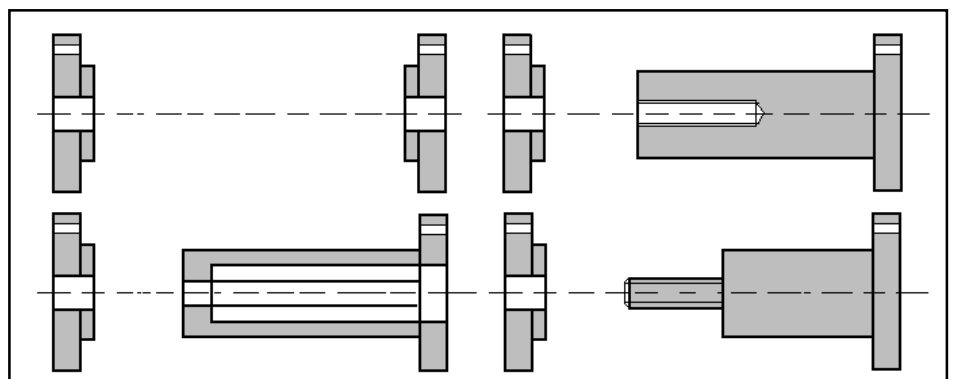
The testing sequences described here differ only in regard to a few details. The results are output as coefficient of friction, logs and, where desired, charts and tables.

Screws	Measurement ranges				Model 205 kN/Nm		
Quality	Force	Overall-torque	Head friction-torque	Thread friction-torque	Force and torque transducer	Drive unit	r.p.m.
M4.....M6	0...20 kN	0...35 Nm	0...35 Nm	0...35 Nm	201.1.20 kN	205.120 Nm	0...20
M6.....M10	0...60 kN	0...120 Nm	0...120 Nm	0...120 Nm	201.2.60 kN	205.120 Nm	0...20
M8.....M12	0...100 kN	0...200 Nm	0...200 Nm	0...200 Nm	201.3.100 kN	205.500 Nm	0...20
M12...M16	0...200 kN	0...500 Nm	0...500 Nm	0...500 Nm	201.3.200 kN	205.500 Nm	0...20
M16...M24	0...400 kN	0...1800Nm	0...1800Nm	0...1800Nm	201.4.400 kN	205.1800 Nm	0...20
M24...M30	0...600 kN	0...3200Nm	0...3200Nm	0...3200Nm	201.4.400 kN	205.1800 Nm	0...20
M32.....>	on request	on request	on request	on request	201.4.600 kN	205.3200 Nm	0...20

Other measurement ranges, dimensions and speed ranges available on request

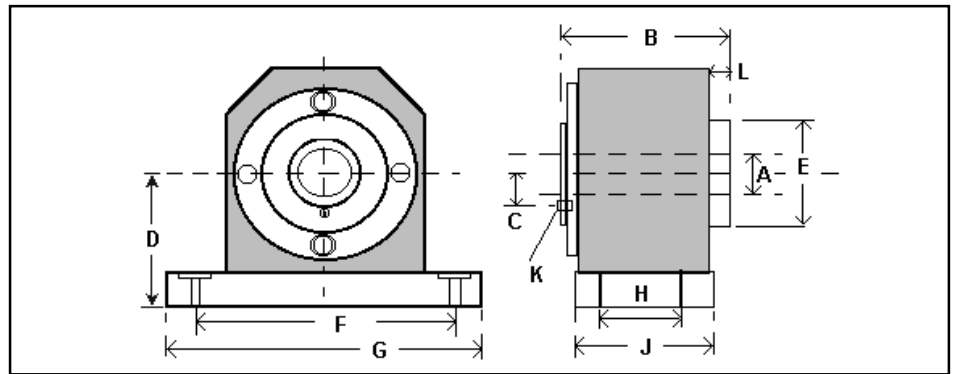
### Suggestions for adapters:

Adapters are also wearing parts. Thus we would be glad to provide drawings at no charge when we deliver your order. We can, of course, also supply these parts on request.



## Model 205 Screw friction testing machine

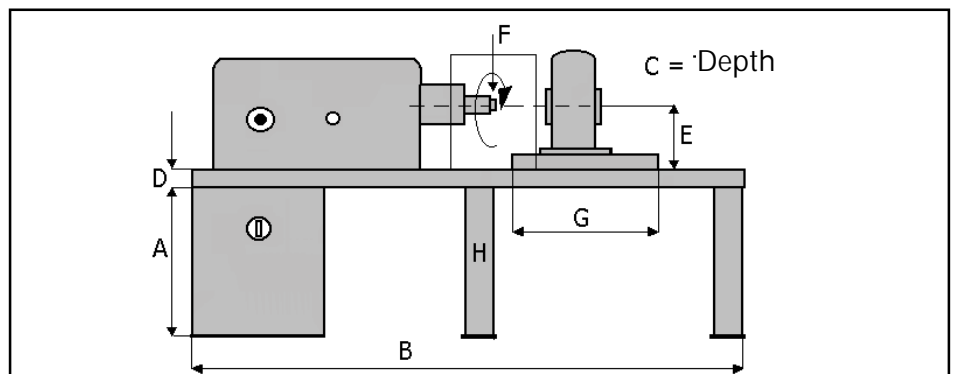
Multi-component transducer  
Model 201 (patent applied for)



Size	A Ø	B	C	D	E Ø	F	G	H	J	K Ø	L
1	15	80	14	79,5	50	155	180	50	70	13	7
2	30	125	19	115	100	235	270	70	100	14	10
3	40	125	24	115	120	235	270	70	100	14	10
4	76	185	44	165	200	320	380	100	150	16	18

## Screw testing machine Model 205 with power electronics and bench

Drives with other speed ranges and nominal torques are available on request. The concepts for the drives comply with the latest safety standards. All screw testing machines are normally fitted with a safety cage made of Makrolon, equipped with a safety interlock switch. The power electronics are installed in protected areas which are secured with a safety interlock circuit.



Size	A	B	C	D	E	F	G	H
120 Nm	710	1500	720	40	210	3/4"	300	2
500 Nm	710	1500	720	40	210	3/4"	300	2
1800 Nm	710	2000	720	50	320	1"	500	3
3200 Nm	710	2000	720	50	320	1"	500	3

## PC board system - Model 840 for WINDOWS 95, 98 or NT 4.0

TesT supplies PC cards which can be installed correctly at the ISA bus in the PC. Every Pentium (IBM-compatible) PC is equipped with an ISA slot for one long board can be used. The TesT ScrewWinner software makes possible real-time testing and online calculations during the run of the test. Macro commands allow easy user programming of sequences and calculations. A Basic program is also included with the standard version. TesT programs in compliance with international or company standards are available on request.



### Software:

Simple operation  
WINDOWS version (programmed with DELPHI)  
High operating frequency  
Macro commands for user programming  
TesT ScrewWinner with a universal testing program, can be utilized with various standards  
All necessary calculations  
Friction values and curves  
Statistics program and SPC included  
ASCII or \*.txt files for export to other programs (e.g. Excel)  
MS DOS, WINDOWS, EXCEL are registered trademarks of the Microsoft Corporation.  
(Subject to change)

### Hardware configuration

PC card with  
32-bit control on board  
4 A/D converter inputs, 16 bit  $\pm 32,000$  digits  
1 D/A converter output, 16 bit  $\pm 32,000$  digits  
Sampling rate up to 10 kHz  
Control frequency in full control loop up to 1 kHz

### Minimum system requirements:

Pentium PC, 200 MHz, IBM-compatible  
4 GB hard disk  
64 MB RAM  
WINDOWS 95, 98 or NT 4.0  
2 serial ports  
1 parallel port  
SVGA monitor  
Desktop or tower housing  
with one long ISA slot.



**Test GmbH**  
**Helena-Rubinstein-Str. 4**  
**D 40699 Erkrath**

**Tel.: +49(0)211-20 99 03-0**  
**Fax: +49(0)211-25 54 11**

**e-mail: [sales@test-gmbh.de](mailto:sales@test-gmbh.de)**  
**Internet: <http://www.test-gmbh.com>**

**Test KG**  
**Bösch 63**  
**CH 6331 Hünenberg**

**Tel.: +41-(0)41-785 60 10**  
**Fax: +41-(0)41-785 60 15**

**e-mail: [test@test-ag.ch](mailto:test@test-ag.ch)**  
**Internet: <http://www.test-ag.ch>**