INSPECTION TECHNOLOGIES INC.

111 E. 10 Mile Road • Madison Heights, MI 48071
(248) 546-5868 • FAX (248) 546-4320
www.itiglobal.com

COF4X-2000

Belt Friction Test Machine

Complies with SAE J2432 – Surface Vehicle Standard

The Belt Friction Test Stand was developed in conjunction with automotive OEM's and Belt Manufacturers to characterize accessory drive belts for coefficient of friction. This Stand tests both ribbed side and flat side accessory belts under dynamic conditions. Older generation stands tested small sections of belts in a static state.

The Belt Friction Test Stand is universally configurable for:

- Frontside or Backside Tests
- Wet or Dry Tests
- Belt lengths of 800 – 3000mm
- Belt widths of 3K – 8K

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Test Parameters

Tested Pulley Speed	0–1800 rpm
Torque Load	195 Nm (fixed or variable)
Belt Wrap Angle	0 – 200° (fixed or variable)
Belt Tension	180 Nm (static)

Outputs

Reaction Torque	Via in-line torque transducer
Drive Pulley Speed	Via speed sensor
Tested Pulley Speed	Via speed sensor
Idler Pulley Speed	Via speed sensor
Belt Wrap Angle	Via servo motor encoder
Belt Temperature	Via IR Sensor
Coefficient of Friction	Calculated
Slip	Calculated
Power	Calculated

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Pulley/Deadweight System for Belt Tension

Environmental Enclosure

Rigid Base with Isolation Pads

Computer Console

Front View

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1. Belt Tensioner Slide
2. Tested Pulley
3. Belt Wrap Pulley
4. Driver Pulley on Integrated Swing Arm
5. IR Temperature Sensor

Detailed View

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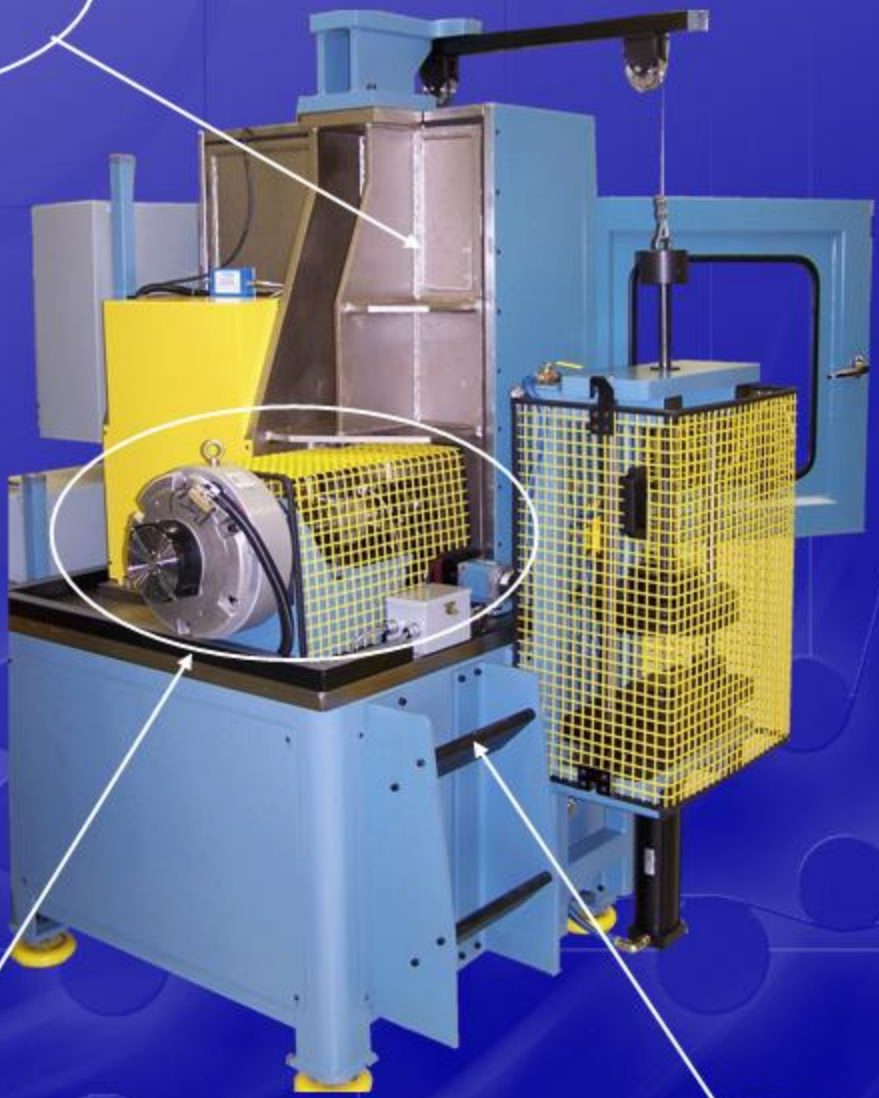
Rigid Weldment Construction



Torque Brake with in-line Torque Transducer

Weight Storage

Rear View

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Software Controls

The software controls for the Friction Test Stand are developed using Labview from National Instruments. The software is customized to provide a "dashboard" look and feel allowing the operator to view inputs and outputs at a glance. Virtual gages reflect the status of all commands and devices for various tests.

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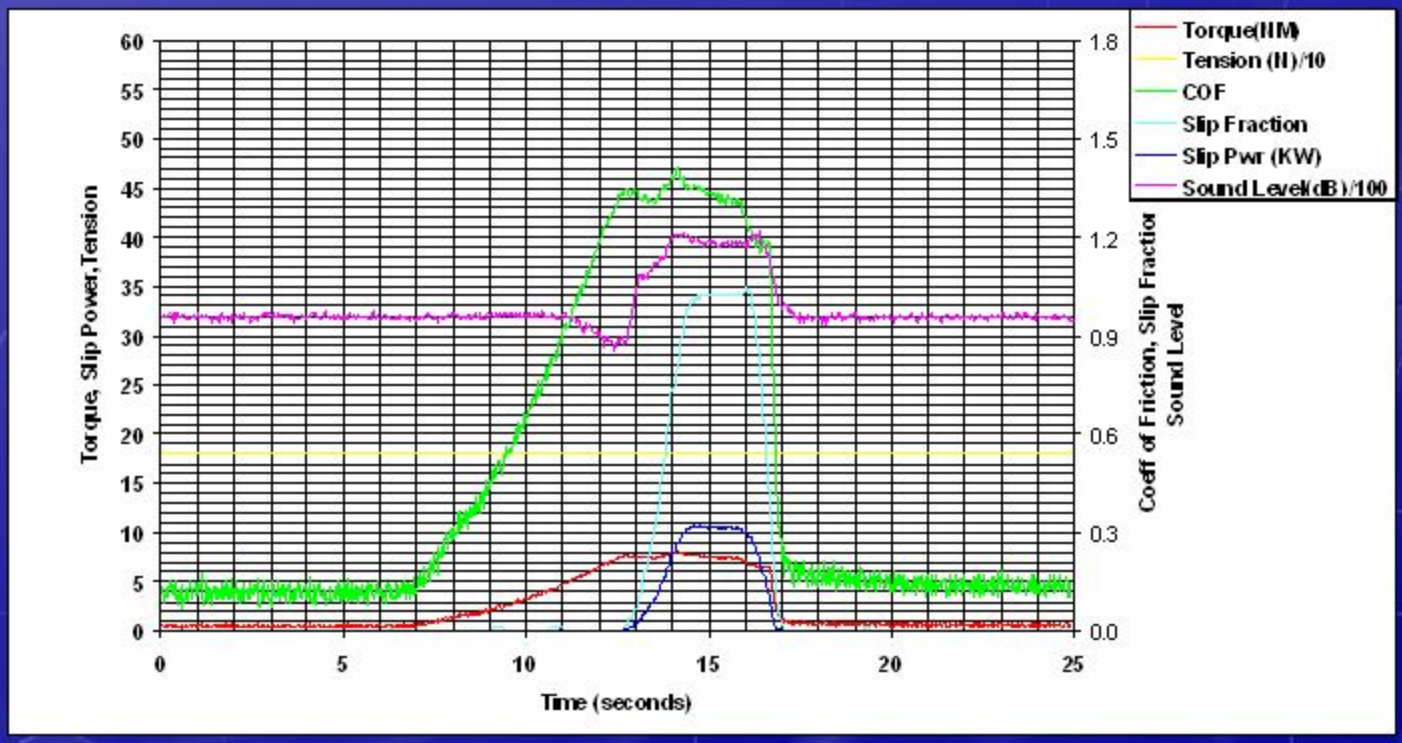
SYSTEM TEST INFO: TORQUE RAMP	
Engineer:	
Program:	
Operator:	
Test Date:	3/29/2006 17:56
Revision:	(See Below)
Filename:	(See Above)
Run #	1
Daily Log #	1
Wet or dry	Dry
Comments:	
Microphone	2236
Distance (mm)	80
Range (dB)	80
Belt Temp (deg. C)	
Ambient temp:	25
Humidity (%):	25

BELT INFO:	
Belt Part Number:	
Inventory Number:	Default
Material / # Ribs:	6 K
Backing/#RIBS:	
Manufacturer:	
Belt Condition:	
Release Agent:	

PULLEY INFO:	FRONT SIDE TEST
Pulley Part	F55E-6A733-CA
Inventory Number:	#001
Pitch Diameter:	141.5
Material/#ribs:	STEEL
Grooved or Bill:	GROOVED
Supplier	TESMA
Surface Finish:	UNCOATED

TEST INFO:	
Belt Wrap (Degrees)	20.00
Test Pulley Speed: (RPM)	406
Set Speed: (RPM)	400
Set Tension (N)	180.00
Actual Start Tension	180
Torque @ 320 Watts (Nm)	7.7
Drive Pulley Pitch Dia: (mm)	141.50
Idler Pulley Pitch Dia: (mm)	78.50
MAX TENSION (N)	180.000
Coefficient of Friction @ 10% Slip	1.315
Coefficient of Friction @ 30% Slip	1.301
Slip @ 320 Watts (percent)	56.0
Coefficient of Friction @ 320 Watts	1.36
Peak coefficient of Friction	1.41
Max Torque (Nm)	8.13
Max Power (KW)	0.32



Sample Output

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