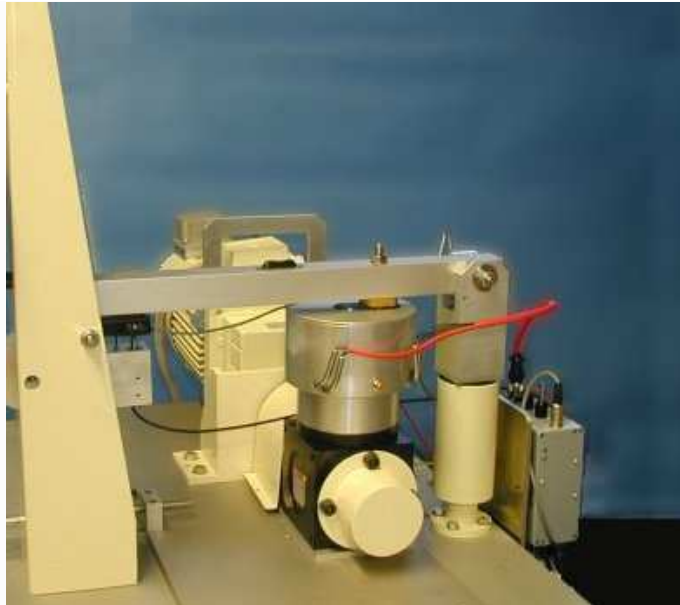


TE 88P THREE STATION PIN ON DISC MACHINE



Description

TE 88P Three Station Pin on Disc Machine is designed for wear testing of materials under high contact pressures in pin on disc configuration, in accordance with ASTM G99.

The machine is bench-mounted and includes a 2.2 kW variable speed a.c. vector motor and three pin on disc test stations.

A heated non-rotating fluid enclosure is provided with each test station allowing tests to be performed in fluid environments with a temperature limit of 200°C. A lid is provided to minimise fluid splashing. A thermocouple is fitted to the lower part of the enclosure to monitor and control the temperature.

Each test station has a load/friction/wear assembly. A loading beam is pivoted at one end and a pneumatic bellows is used to apply a load at the other end. A force transducer mounted on the bellows allows the applied load to be measured. Load is adjusted by means of a manually set precision regulator.

The load beam pivot is trunnion mounted and restrained from movement, when in the horizontal position, by pads mounted on the load application bracket. A strain gauge force transducer mounts on the load beam and fits between these pads when the arm is horizontal thus allowing the friction signal to be sensed.

An LVDT is mounted in contact with the underside of the load beam. As the pin wears, the vertical movement of the load beam is detected by the transducer. Wear of up to 1.5 mm at the contact can be measured.

Control and Data Acquisition

Control and data acquisition are implemented via host PC running COMPEND 2020 Windows compatible software, in conjunction with a Phoenix Tribology USB micro-controller interface.

Automatic control is implemented via user programmable test sequences. Manual control is implemented using on screen toggles. Data is stored to hard disc in either .csv or .tsv file formats.

TE 88P THREE STATION PIN ON DISC MACHINE

Technical Specifications

Contact Configurations:

Number of Stations:

Disc Diameter:

Track Radius:

Fluid Temperature:

Heating Power:

Temperature sensor:

Rotation Speed:

Sliding Velocity:

Normal Load:

Signal Conditioning:

Friction Force Range:

Signal Conditioning:

Wear:

Range:

Resolution:

Specimen Holder:

Motor:

Software:

Pin on Disc

Ball on Disc

Three

75 mm

0 to 35 mm

Ambient to 200°C

800 W

k-type thermocouple

30 to 1,000 rpm

0.12 to 4 m/s

10 to 1,000N

Strain Gauge Amplifier Module

500 N

Strain Gauge Amplifier Module

LVDT

1.5 mm

1 µm

8 mm and 5.5 mm diameter pins

10 mm and 6 mm diameter balls

2.2 kW ac

COMPEND 2000

Rotational Speed x 1

Temperature x 3

Test Duration x 1

Load x 3

Track Radius x 3

Automatically Controlled Parameters

Manually Controlled Parameters

Measured Parameters

Rotational Speed x 1
Friction x 3
Load x 3
Temperature x 3
Wear x 3
Number of Revolutions x 1
Test Duration x 1

Derived Parameters

Sliding Speed x 3
Friction Coefficient x 3
Sliding Distance x 3

Services

Electricity:

220/240V, single phase, 50 Hz, 3 kW
110/120 V, single phase, 60 Hz, 3 kW
4 cfm at 8 bar (120 psi)

Clean, dry air:

Installation

Bench-mounting machine:

1,300 x 720 x 850 mm high, 250 kg

Bench-mounting cabinet:

530 x 530 x 350 mm high, 40 kg

Packing Specifications:

1.25 m³, GW 271 kg, NW 193 kg