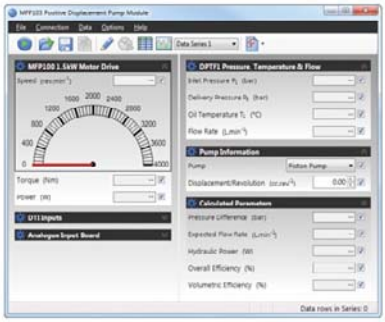
VDAS® MFP100

UNIVERSAL DYNAMOMETER

Provides motive power with speed, torque and power measurements for TecQuipment's Modular Fluid Power range



TYPICAL SCREENSHOT OF THE OPTIONAL VDAS® SOFTWARE

SHOWN FITTED TO ONE OF TECQUIPMENT'S MODULAR FLUID POWER RANGE

- Robust electric motor with external speed and torque sensors, mounted onto a transportable base plate with handles
- Cost-effective – only one Universal Dynamometer is needed for use with many of TecQuipment's Fluid Power modules
- Includes motor drive and display unit with digital displays of speed, torque and calculated mechanical (shaft) power
- Has multiple outlets to provide electrical power for other instruments supplied with the Fluid Power modules, for a neater and safer arrangement
- Quick and easy disconnection and reconnection from one module to another
- Direct drive – no belts or pulleys to adjust
- Variable-speed electric motor with industry-standard electronic drive control
- Can connect to TecQuipment's Versatile Data Acquisition System (VDAS®)

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TECQUIPMENT

VDAS® MFP100

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DESCRIPTION

For use with all of TecQuipment's Modular Fluid Power range, the Universal Dynamometer (MFP100) gives motive power and instrumentation for the machines fitted to each module.

It has two parts: the electric dynamometer, and a motor drive and display unit. The dynamometer is an induction motor, trunnion-mounted to allow it to move freely against a strain gauge load cell. An inductive sensor measures the shaft speed. The load cell measures the shaft torque.

A precision-machined base plate holds the motor and its sensors. The base plate has location points to give accurate and repeatable alignment onto each Fluid Power module. The coupling between the Universal Dynamometer and all Fluid Power machines is a jaw-type coupling with a rubber element. The Universal Dynamometer directly drives the Fluid Power machines. This means that the user has no need to fit or adjust the tension of belts and pulleys.

The motor drive and display unit contains a variable-speed a.c. inverter drive and includes signal conditioning. It digitally displays speed, torque and shaft power. The unit fits on the instrument frame fitted to all the Fluid Power modules. The front of the motor drive and display unit has motor stop, start and speed controls. Outlets on the back of the unit give power for instruments supplied with the Fluid Power modules. This reduces the need for multiple mains connections and gives a neater and safer equipment arrangement.

The control and instrumentation unit includes a socket to link it to TecQuipment's optional Versatile Data Acquisition System (VDAS®). When used with a suitable computer (computer not included), it gives accurate real-time data capture, monitoring and display, calculation and charting of all the important readings. VDAS® makes tests quick and reliable.

STANDARD FEATURES

- Supplied with comprehensive user guide
- Five-year warranty
- Made in accordance with the latest European Union directives

AVAILABLE EXPERIMENT MODULES

- Centrifugal Pump Module (MFP101)
- Axial Flow Pump Module (MFP102)
- Positive Displacement Pump Module (MFP103)
- Reciprocating Compressor Module (MFP104)
- Centrifugal Compressor Module (MFP105)
- Centrifugal Fan Module (MFP106)
- Axial Fan Module (MFP107)

ESSENTIAL SERVICES

ELECTRICAL SUPPLY:

Single-phase 230 VAC, 50 Hz at 20 A

Two-phase 220 VAC, 60 Hz at 20 A

OPERATING CONDITIONS

OPERATING ENVIRONMENT:

Laboratory

STORAGE TEMPERATURE RANGE:

–25°C to +55°C (when packed for transport)

OPERATING TEMPERATURE RANGE:

+5°C to +40°C

OPERATING RELATIVE HUMIDITY RANGE:

80% at temperatures < 31°C decreasing linearly to 50% at 40°C

SPECIFICATION

NETT DIMENSIONS:

Motor drive and display unit: 450 mm x 350 mm x 340 mm

Electric dynamometer: 410 mm x 350 mm x 280 mm

TOTAL PACKED DIMENSIONS (BOTH PARTS TOGETHER):

0.196 m^2

NETT WEIGHTS:

Motor drive and display unit: 12 kg

Electric dynamometer: 32 kg

Total packed weight (both parts together): 72 kg

MOTOR POWER:

1.5 kW

TORQUE MEASUREMENT (IN N.M):

Load cell and digital display

SPEED MEASUREMENT (IN REV.MIN^{-1}):

Inductive sensor and digital display

SHAFT POWER MEASUREMENT (IN WATTS):

Fundamental calculation from the speed and torque readings

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