Model 22
EFA Scientific Comparator System
Dimensions: 36" H x 36" W x 55" D
914mm H x 914mm W x 1397mm D

GAS TURBINE AND JET ENGINE COMPONENTS

Effective Flow Area Measurement

PRODUCT REQUIREMENTS

Accurately analyzing airflow through jet engine and gas turbine components has been critical in the success of the aerospace industry. CCDI has satisfied manufacturers for over 30 years by offering quality airflow test equipment and part testing to GE, Garrett, Pratt and Whitney, Solar Turbine, and more.

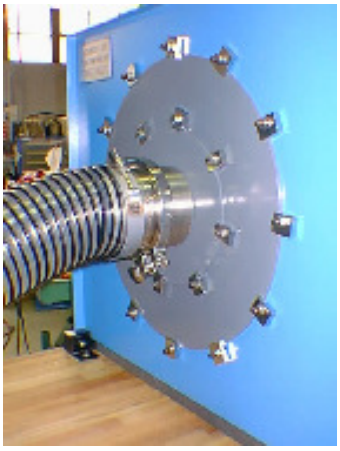
SOLUTION: TIME PROVEN DESIGN

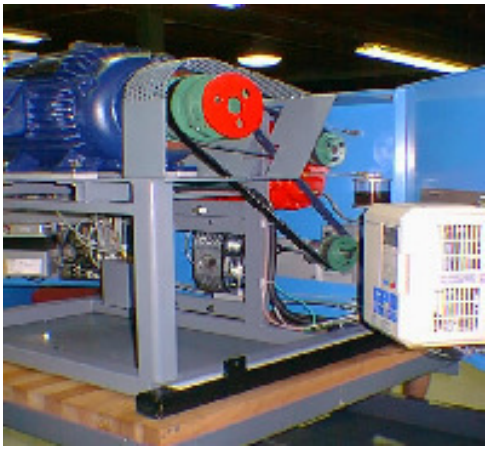
The Model 22 takes measurements of Barometric Pressure, Air Temperature and Humidity to reliably measure Effective Flow Area (EFA). The scientific comparator was originally designed as a reduced version of the Model 88 Effective Flow Area test stand. As a result, continuous improvement has been made on the technology for over 15 years, refining the design to optimize performance.

FEATURES

- Repeatability: +/- 0.1% or better
- Simple WYSIWYG Windows Based Software
- 0.25 to 14 sq. in. Measurement (1.6 to 90.3 cm^2)
- Measures up to 25 sq. in. (63.5 cm^2) at 5" H_2O (Water Column), 1.012 pressure ratio
- Pressure Range: 0 to 20" H_2O (Water Column), 1 to 1.049 pressure ratio
- Great for Segment Testing and Small Vane Rings
- Nacelle Leakage Measurement Attachments (Optional)

Cincinnati Control Dynamics, Inc
4924 Para Drive, Cincinnati, OH 45237
Ph: (513) 242-7300
Fax: (513) 242-5691
http://airflowmachines.com





The unit is equipped with two blowers, low range and high range.
During high range, both blowers are activated. The clutch is manually operated.

SYSTEM SPECIFICATIONS

NIST traceable EFA
All air density parameters are measured
Room and Plenum Temperatures
Barometric and Plenum Pressures (Both measured by same gauge)
Humidity (Using Dew Point Sensor)
Vector Motor Controller with 1.0 to 4,999.9 RPM
Two blowers, Low Range 0.25 to 4.5 sq. in. (0.6 to 11.4 cm^2), High Range 2.0 to 15 sq. in. (5.1 to 38.1 cm^2)
Manual Clutch Operation, pneumatically controlled High Range shut off valve
SI or English Units
Less than one minute per EFA measurement
NIST Traceable calibration orifice plates and ASME subsonic area masters
Customer correlation table for each part
Four QC reports and data acquisition file
IBM Pentium computer
Automatic data acquisition
GE, Garrett, P&W and Solar Turbine part testing and more
Can be assembled as a nacelle leakage tester
Free operator training, testing and certification
One-year warranty on parts and labor

Flow Capabilities

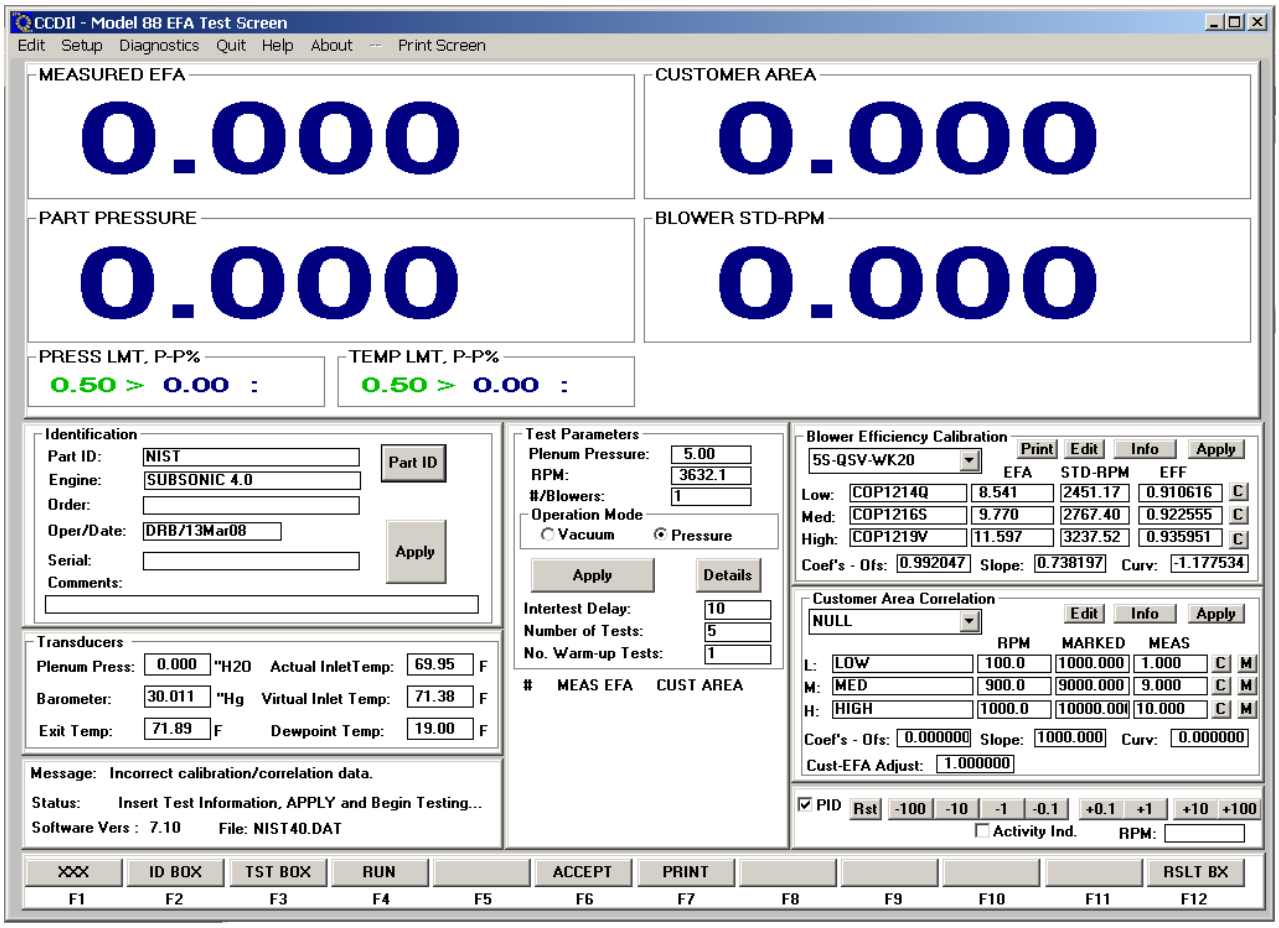
Area: 0.25 to 14 sq. in. (1.6 to 90.3 cm^2)
Pressure: 0 to 20" Water Column Gauge, 1 to 1.049 pressure ratio

FACILITY REQUIREMENTS

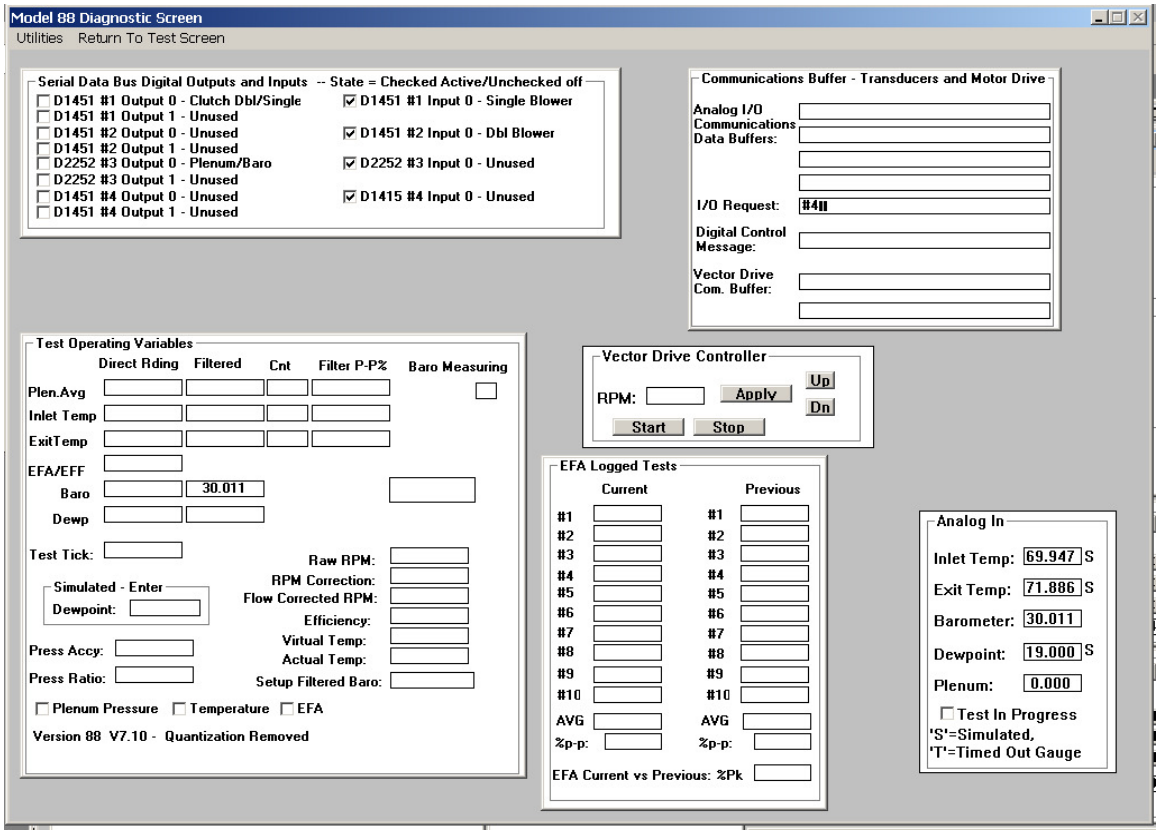
Electrical Power	380 - 480 VAC 3-phase 21 Amps OR 240 VAC 3-phase 41 Amps, depending on power requirements for testing
Inlet Air Connection Pressure Range	30 to 100 PSIG (207 to 690 kpa) Pressurized Air Supply (filtered, compressed air at ambient temperature)

Temperature Range	50 - 100°F (10 - 38°C)

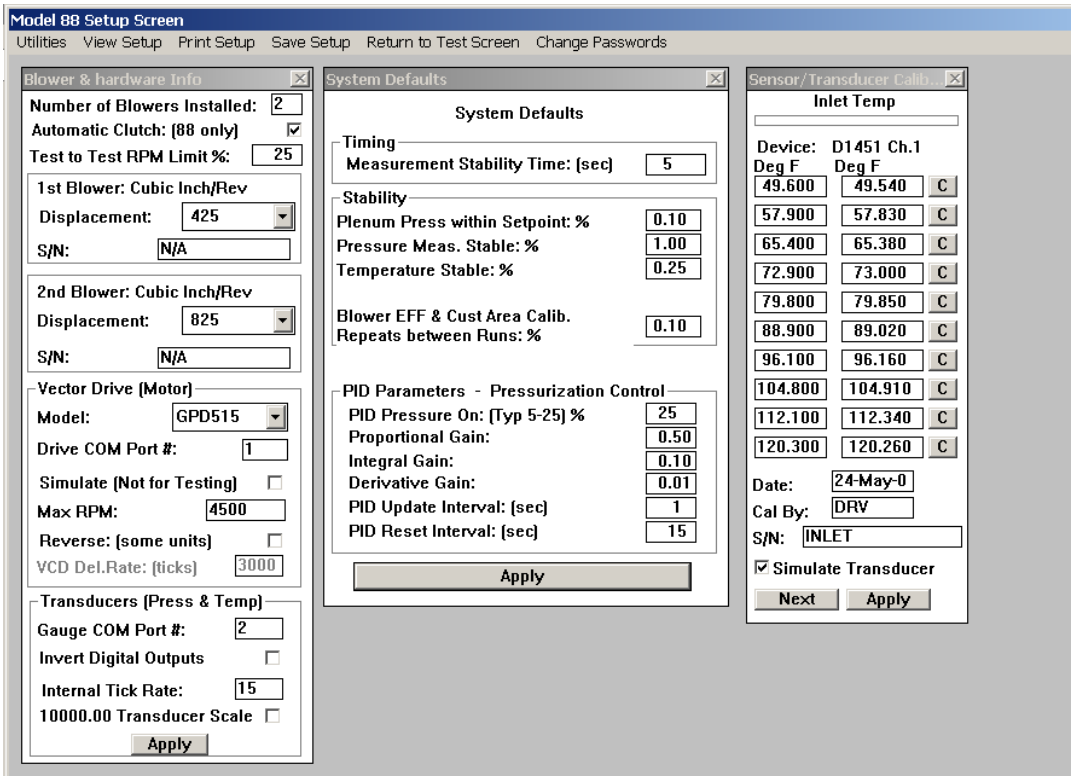
SOFTWARE



Test Screen: Shows the Part Test, Orifice Plate Data, and Master Data in Interactive Dialog Boxes.



Diagnostic Screen: Interaction with Instrumentation and Internal Software Signal Processing Information



Setup Screen: Contains Transducer Calibration, Defaults, and Machine Specific Settings