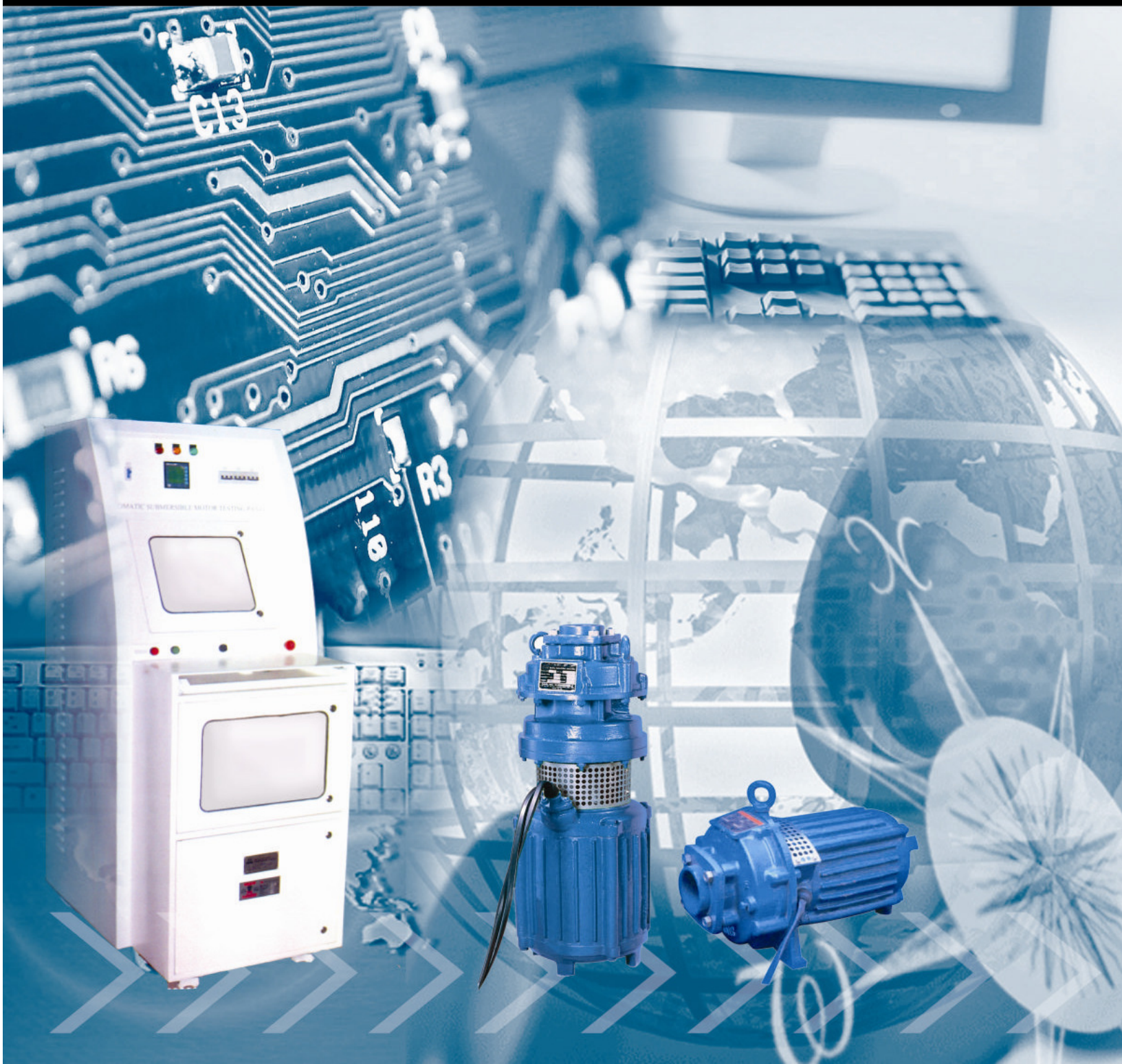
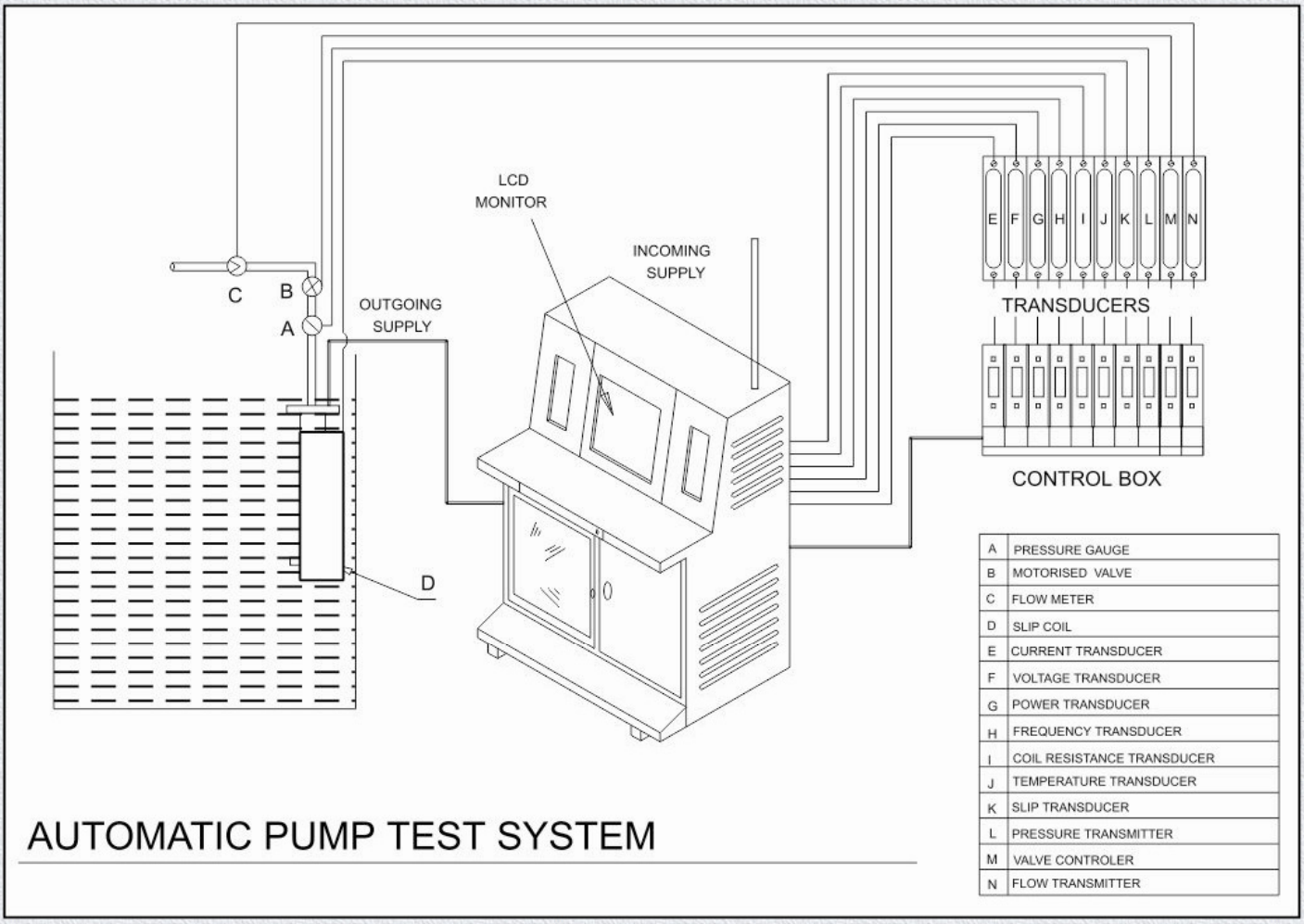
TURBO COMPUTER PROFESSIONALS PVT. LTD.

Perfect Pump Testing Solution



AUTOMATIC PUMP TESTING SYSTEM

The Automatic Pump Testing System is a complete solution for pump testing process in pump industry. The aim of Automatic Pump Testing System is to remove the human errors associated with testing of



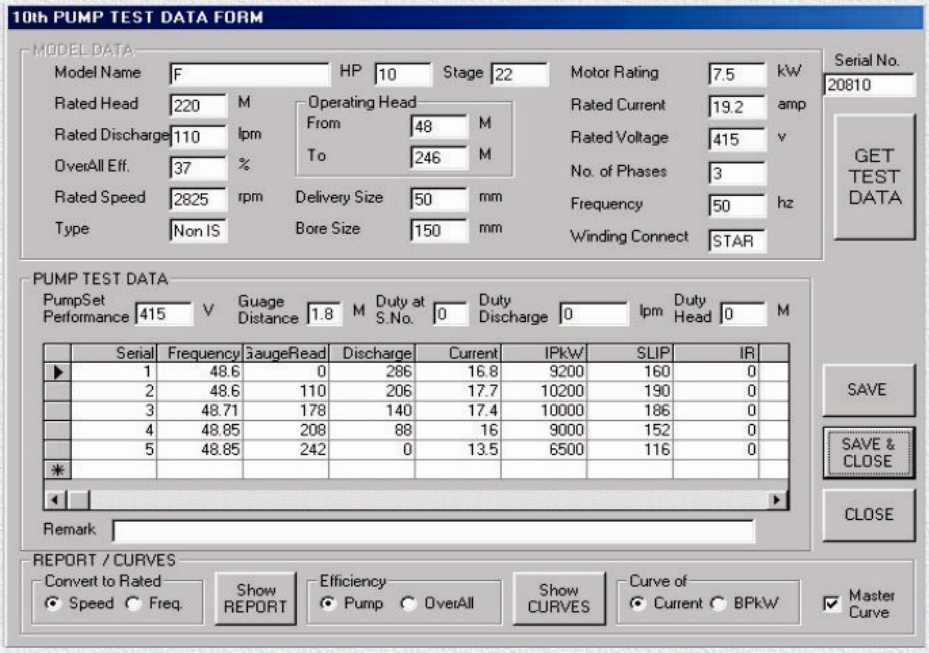
A	PRESSURE GAUGE
B	MOTORISED VALVE
C	FLOW METER
D	SLIP COIL
E	CURRENT TRANSDUCER
F	VOLTAGE TRANSDUCER
G	POWER TRANSDUCER
H	FREQUENCY TRANSDUCER
I	COIL RESISTANCE TRANSDUCER
J	TEMPERATURE TRANSDUCER
K	SLIP TRANSDUCER
L	PRESSURE TRANSMITTER
M	VALVE CONTROLER
N	FLOW TRANSMITTER

equipment, measurement, and recording of data. Use of computer provide a quick and reliable method of performing repeated tests that yield consistent data. The system not only improves quality but dramatically increases efficiency of pump testing section.

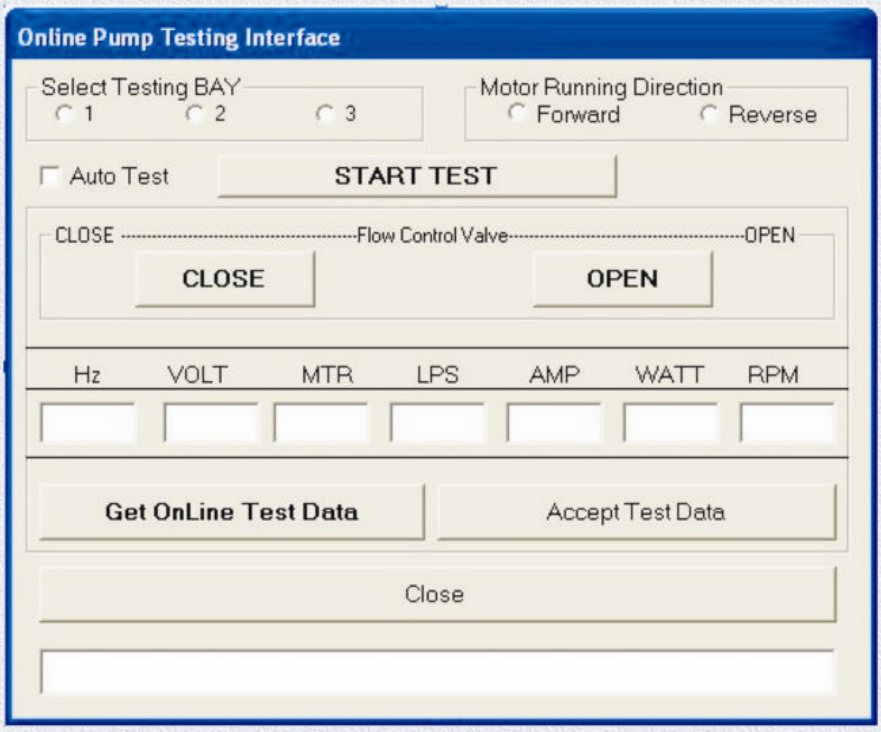
The automatic pump testing system is integration of digital measuring instruments and computer. Computer is used for controlling the test and collecting the test data. Communication between computer and transducers take place via control box. Output of current, voltage, power, frequency, slip, flow, and pressure is fed into control box. Control box multiplex all signals and output is transferred to microprocessor. Microprocessor process the signal and direct them to serial interface. Serial interface communicate with serial port of computer. The pump testing software reads the serial port and converts the data received from control box, into actual field data. The flow is controlled by actuating valve and readings are stored in database for further processing. Readings can also be fed manually and/or edited whenever needed.

Pump Testing Software is useful for record keeping of testing of pumps. The software

works on the basis of a model database, which contains the master information of all types of models, manufactured by the company. The master information contains specifications like model name, rated head, rated discharge, rated current, rated voltage, overall efficiency, speed, power (HP), number of stage, operating head range, delivery size, bore size, motor rating, number of phase, frequency etc. Along with this data master performance curves for each model can also be stored, which can be further used for comparing with the performance curves of the pump under test.



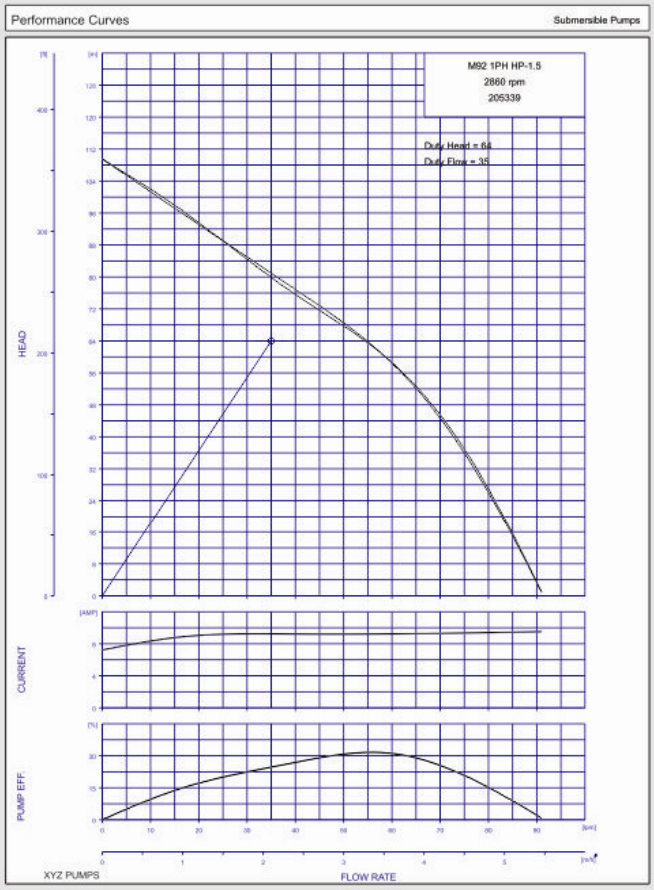
The testing data for all tests performed every day can be stored, like date of test, test serial number, model type etc. The software keeps track of every 10th and every 20th pump of each model, for which a complete testing report for pump and motor is to be generated. For every 10th pump, complete test like discharge, head, current, input power, voltage, slip, frequency etc is collected from control box. This data can be used to generate report as per rated speed or as per rated frequency. There is a provision for calculating either pump efficiency or overall efficiency. The test data can also be used to generate performance curves of the pump. The curves of efficiency, head, current or power against discharge are drawn. The master curves for the model under test can also be drawn along with actual curves for instant comparison of performance of the pump.



For every 20th pump the software prompts for feeding all data for motor test report. After feeding all required input for test, motor test report can be generated which computes no load copper losses, constant losses, primary copper losses, total stator loss, rotor loss, output, starting torque, breakaway torque, efficiency etc. The motor test data can also be used to generate motor performance curves. The curves for efficiency, rpm, input power and current are drawn against output power.

Different types of reports like

production register, pumpset performance register, motor performance register, etc. can be generated to have an overall view of the production for a particular period of time. The production register contains model name, model type, model specification, model serial number, pump serial number, motor serial number etc, for all pumps tested in a particular period of time, and can be generated model wise, HP wise, stage wise etc. The pump performance register and motor performance register can be used to see the overall performance values of the models tested during a period of time and can be compared with the master performance data.



Thus the Automatic pump test system takes care of all aspect of record keeping for pump testing. It automates the pump testing process, It makes report and curve generation very simple and easy and frees one from tedious calculations, repetitive tasks and human errors. It provides ways for comparing the test data/curve with master data/curve. Further, the system can be customized to suit the specific needs of particular pump manufacturing Industry.

TURBO COMPUTER PROFESSIONALS PVT. LTD.

131, Electronic Complex, Pardeshipura,
INDORE - 452010 (M.P.) - INDIA
Ph.: 91-731-4216075 Website : www.turbo.co.in
Email: info@turbo.co.in, tcpplindia@gmail.com, tcppl@bsnl.in