



Servo Controlled Compression Testing Machine

New

AIM 302-SERV, AIM 305-SERV, AIM 308-SERV, AIM 311-SERV, AIM 314-SERV,
AIM 317-SERV & AIM 320-SERV



Aimil Series of Servo Controlled Compression Testing Machines are the finest of their types available. The rugged construction and extreme simplicity makes it possible for personnel with minimum Training to operate them with ease and complete dependability

Aimil Servo Controlled Compression Testing Machine is a fully automated version of the manual/semi-automatic Compression testing Machine having provision for stress & strain controlled loading. The Machine is available in 50kN to 3000kN ranges. It has provision for automatically turning the pump on and off, controlling the set pace rate/displacement rate and switching the machine off under predetermined conditions.

The Control releases the pressure at the end of every run and reinitializes the machine at the beginning of every test. Data acquisition, storage, management and analysis are all fully automated.

The system has essentially three parts.

- Loading Unit
- Hydraulic Power Pack
- Control Unit & Display

Loading Unit

The Loading unit is of fully welded construction having a cross head, base and solid side plates. A hydraulic jack is fixed to the base. The platens of the machine are hardened, ground and polished.

The upper platen is provided with self-aligning action. To facilitate testing of various size specimens, suitable size spacers are provided.

Hydraulic Power Pack

- Max. working pressure: 300bar
- Max. oil delivery: 10 lpm
- Oil tank capacity : 150 ltrs.
- Hydraulic ports for connection of test frames
- Oil flow control via servo-controlled proportional valve
- Oil water cooling system with forced ventilation
- Operating temperature range for servo valve : -29°C to 135°C.
- Burst pressure : 250% max supply pressure
- External Leakage : zero.
- Vibration : 30g, 3 axes



Concrete Testing

- Fluid cleanliness level per ISO 4406:1999: min. 16/14/12 & recommended 14/12/10
- Hysteresis should not be more than 3.0%
- Threshold should not be less than 0.5%.
- Supply pressure : constant

Hardware and Controlling Unit

- Robust, Stand alone, low power data logger with USB memory stick support.
- Analog Resolution: 24bit
- Inbuilt RTC for the real time in standalone mode
- Easy Configurable Windows Based Software to configure the DAQ through PC
- Stand Alone & Real Time Data Acquisition, Keypad should have capability to configure the system
- LCD display with 4 line 20 characters with back light
- Working range of load control 0.1 to 1% of full scale
- Working range of displacement control 1 micron to 100 micron per sec
- Operating Temperature range : -45 Deg C to 70 Deg C
- Display functions – channel data
- Power supply – 230V, 50.Hz or 12V DC on customer requirement.
- Inbuilt battery for Real time clock.
- Accepts input as analog voltage in the range of $\pm 2.5V$.
- Log interval should be configurable from 1 sec to HH:MM:SS
- System should have the capability to interface the counter to interface the encoder for future expansion

Analog Inputs:

- Maximum 8 number of analog channels
- Maximum Input Voltage : 0-2.5V $\pm 2.5V$
- Accuracy 0.1%
- Over Protection Voltage: 10V

Memory & Communication:

- Internal Storage minimum capacity should be 8MB, should have provision for interfacing pendrive.
- Can store on to PC which is configurable
- Should be able to unload the stored data in USB pen drive

Communication Interfaces:

- USB & Ethernet

Recommended Computer Hardware

- 1.9 GHz, Pentium i5
- 8 GB RAM
 - Using multiple testing machines may require additional memory and/or a faster processor
 - 32 bit system are limited to a maximum of 4GB of which only 3.25GB is available due to system overheads
- 512 MB DirectX 10.0 capable video card or better

- 500 GB HD Drive
- RS232 Serial Port
 - 1 integrated serial port (not USB) where possible per testing machine
 - If RS232 serial port unavailable, then 1 USB serial port with RS232/USB adapter is required (per machine)
- USB Port
 - 1 USB Port for use with the machine
 - 1 USB Port for printer
 - Additional ports for required measuring devices, barcode scanners, etc.
- Ethernet Port (To run the machine)
- DVD-ROM Drive (to run installation DVD)
- Mouse or pointing device and keyboard supported by Windows
- Monitor
 - 32-bit color
 - 1600 x 900 (Widescreen) or higher
 - If a touchscreen is used, Windows 8 is best
- Windows compatible printer (for reporting capabilities)
- Windows compatible sound card and speakers (for audio playback)
- An active Internet connection (for team viewer use and help desk support)

Software Requirements

- Aimil Servo Software is designed for 32-bit & 64-bit operating systems running **Windows 7**. It does Not support Windows XP and below.

Note: A 64-bit operating system is preferred for best Performance.

Aimil Scope of Supply of Software include :

- Desktop Computer or Laptop with licensed Windows7 - 64 bit
 - Aimil Servo Software
 - MS-Office
- Note :** Any Third Party software required has to be purchased by the Customer directly.

Aimil Servo Software:

- Control Parameter - Load/Displacement
- Has facility to monitor the data of channels
- Labels of channels are configurable
- Plots Graph - Displacement vs Time, Load vs Time, Load vs Displacement, Stress vs Strain etc.
- Report in excel & PDF for storing the data.
- Generates graphs in effective mode.

Physical Specification:

- Power Rating of motor: 5 HP
- Voltage: 440 V, 3-phase AC supply.

Ordering Information :

AIM 302-SERV	Servo Controlled Compression Testing Machine, Capacity 50 kN
AIM 305-SERV	Servo Controlled Compression Testing Machine, Capacity 100 kN
AIM 308-SERV	Servo Controlled Compression Testing Machine, Capacity 250 kN
AIM 311-SERV	Servo Controlled Compression Testing Machine, Capacity 500 kN
AIM 314-SERV	Servo Controlled Compression Testing Machine, Capacity 1000 kN
AIM 317-SERV	Servo Controlled Compression Testing Machine, Capacity 2000 kN
AIM 320-SERV	Servo Controlled Compression Testing Machine, Capacity 3000 kN

Note: 1. Flexure Testing with servo control also available as an attachment or in stand alone operation, as per relevant standards.

2. Split tensile attachment for testing cylinders and cubes can be provided on request, at an additional cost.