

Hydraulic Test Bench HA100-120

Servo-driven Hydraulic Pumps & Valves Testing

A computer-controlled hydraulic test bench engineered to measure hydraulic pumps and components performance under real working pressure, with live parameter monitoring and Performance Report generation. Also diagnoses its own faults.

Powered by a 75 kW AC servo motor delivering up to 350 Nm torque @ 1500 - 3000 rpm, the bench can test hydraulic pumps up-to 200 bar and 120 LPM through a 3/4" flow line, with dual 2" suction lines and a 100-litre oil tank capacity.

Test Controls and measurement run on National Instruments hardware: an NI-9184 cDAQ chassis with NI-9208, NI-9375, NI-9474 and NI-9265 modules, operated through a LabVIEW-based graphical interface. Pressure sensors measure test pressure and also monitor the health of the bench's own solenoid directional control valves, proportional pressure relief valve and NRVs, while an automatic cooling system holds working oil at 40 °C.

Used to test the hydraulic pumps and accessories of TATRA T-815 and TMSC 2030 bridge vehicles, Cranes, JCB, Backhoe loaders and Tractors.



Rated Performance

Model HA100-120

200 Bar

Rated Test Pressure
(approx. 2,900 psi)

120 LPM

Test Flow Rate
(3/4" flow line)

75 kW

AC Servo Motor,
350 Nm max. torque

3000 RPM

Rated Motor Speed
(controlled by servo driver)

Smart Fault Diagnosis

Health-Monitoring Sensors

Pressure sensors also check the bench's own DCVs, Proportional PRV and NRVs.

LED Fault Indicators

Front-panel LEDs show which part of the machine is at fault.

40 °C Auto Cooling

Holds working oil at a stable temperature for repeatable results.

Key Features

High-capacity Hydraulics

- **200 bar rated test pressure** for pumps, hoses, valves and hydraulic accessories.
- **120 LPM test flow** through a 3/4" flow line for full-load testing.
- **Dual 2" suction lines** and a 100-litre oil tank keep large pumps fully supplied.

Self-Diagnostic System

- **Health-monitoring pressure sensors** check solenoid DCVs, the proportional PRV and NRVs for their proper functionality.
- **Front-panel LED indicators** pinpoint the faulty part of the machine for fast repair.
- **Automatic cooling system** maintains oil working temperature at 40 °C.

Servo Drive System

- **75 kW AC servo motor** provides precise, controllable drive for the pump under test.
- **350 Nm maximum torque** to drive high-displacement pumps at high pressure.
- **3000 rpm rated speed** to run high speed pumps at their working speed, can also run on lower speed as per pump requirement

NI Data Acquisition and Control

- **NI-9184 cDAQ chassis** with four NI C-Series I/O modules or cards.
- **LabVIEW-based GUI** for test control and live data monitoring.
- **Front-panel test ports** for quick connection of pumps, hoses, DCVs and PRVs.

Technical Specifications

Rated Test Pressure	200 bar (approx. 2,900 psi)
Test Flow Rate	120 LPM
Flow / Suction Lines	3/4" flow line; dual 2" suction lines
Oil Tank Capacity	100 litres
Oil Temperature	40 °C, automatic cooling system
Power Source	AC servo motor, 75 kW
Torque / Speed	350 Nm max. torque; 3000 rpm rated
DAQ System	NI-9184 cDAQ chassis; NI-9208, NI-9375, NI-9474 and NI-9265 modules
Software GUI	NI LabVIEW based
Testing Capability	Hydraulic pumps; hydraulic hoses, electronic DCVs, PRVs and hydraulic accessories

Typical Applications

Hydraulic pumps and accessories of TATRA T-815 vehicles

TMSC 2030 bridge vehicle hydraulic systems

Loading cranes, JCB machines and backhoe loaders and other Construction Machinery

Tractor hydraulic pumps and accessories

Post-repair verification in maintenance and overhaul workshops

Why choose this test bench

Prove repairs before refitting

Test rebuilt pumps and valves before installation, preventing repeat failures and rework in the field.

Minimal bench downtime

Self-monitoring sensors and LED fault indicators lead engineers straight to the faulty component.

Faster, surer diagnosis

Measured pressure and flow take the guesswork out of troubleshooting and shorten repair turnaround.

Consistent, repeatable results

Stable 40 °C oil and NI data acquisition give readings you can compare from one test to the next.

Measures real pump wear

Flow at pressure reveals volumetric efficiency, the recognised indicator of internal leakage and wear.

Lower maintenance costs

Repair only what is actually worn and plan maintenance instead of reacting to breakdowns.

Specifications are subject to change without prior notice as part of continuous product development. Always operate in accordance with the operating manual and applicable hydraulic-equipment safety regulations.

HAMBURG MASCHINEN