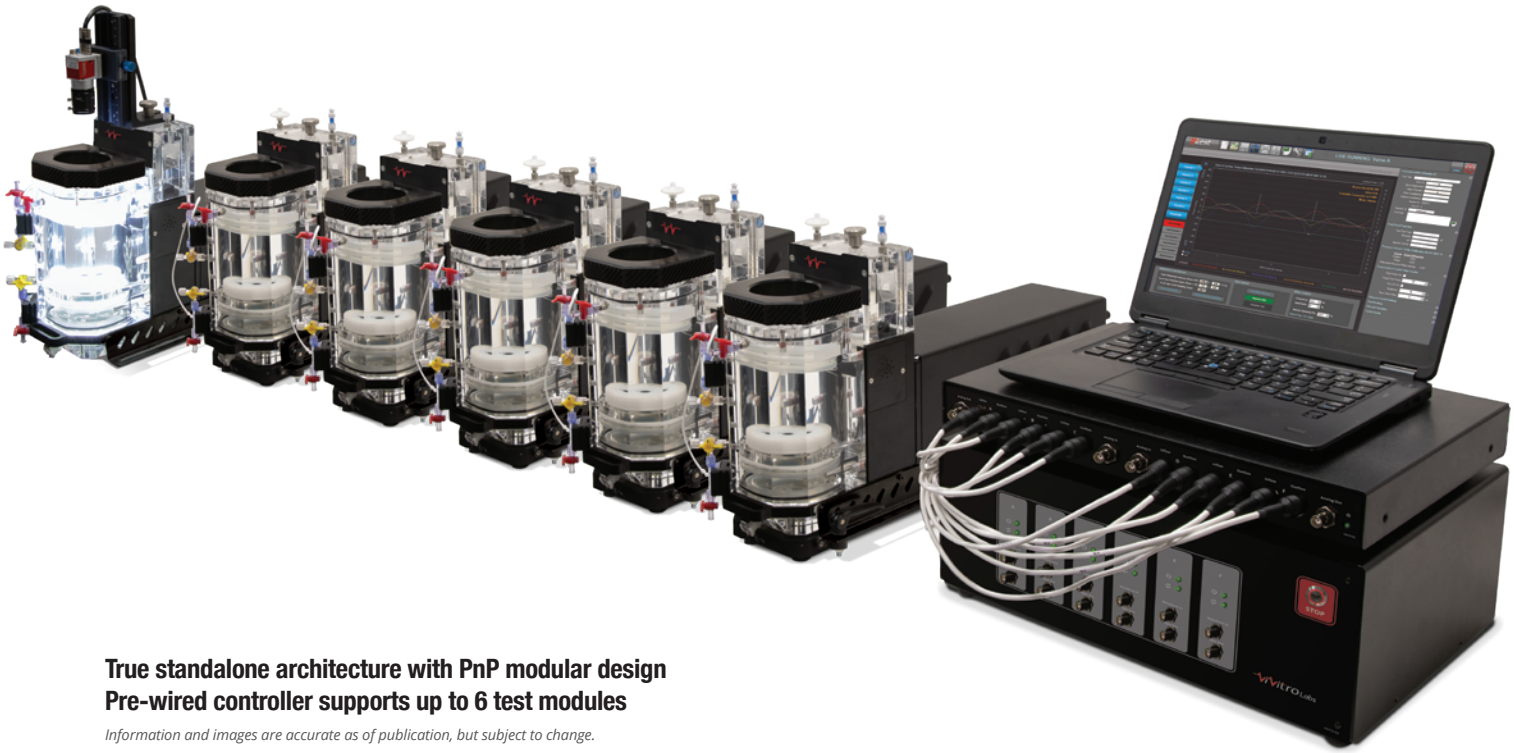
ViVitro AWT System with Dual Control Technology (DCT)™



True standalone architecture with PnP modular design
Pre-wired controller supports up to 6 test modules

Information and images are accurate as of publication, but subject to change.

Reduce costly false negative leaflet wear results by reliably regulating test conditions during heart valve prosthesis Accelerated Wear Testing (AWT).

The ViVitro AWT System with DCT™ uses two separate position feedback sensors and algorithms to maintain constant leaflet closing velocities across the entire AWT cycling period. Piston displacement and bypass valve are controlled independently to meet differential pressure requirements while preserving initial leaflet closing velocities.

- Patent Pending Dual Control Technology to maintain constant leaflet closing velocities during Accelerated Wear Testing (AWT) and Dynamic Failure Mode (DFM)
- Maximum versatility with pre-wired controller unit and data acquisition system for easy PnP upgrade of up to 6 test modules
- True standalone architecture with independent test modules to avoid disruptions to adjacent on-going test
- Transparent test chambers with inflow, outflow, and lateral visibility for optimum test samples visualization during testing
- Patent pending flow loop system to operate system under low hydrostatic pressure conditions and avoid the need for an external pressure source

ViVitro AWT System with Dual Control Technology (DCT)™ meets ISO 5840 Accelerated Wear Testing (AWT) and Dynamic Failure Mode (DFM) requirements for all valve types and designs including transcatheter and surgical valve technologies; aortic, mitral, pulmonary, tricuspid and biological tissue valves; rigid metallic or polymeric and soft polymeric valve technologies and beyond.

The ViVitro AWT System with DCT™ can be used to assess cardiac valve repair devices, transcatheter cardiac occluders, and many other cardiac implant devices.

More great features to improve AWT

- Fully software-controlled system with active bypass valve control to meet ISO 5840 5% rule while avoiding excessive pressure and overloading of valves
- Test modules standalone architecture with dedicated electronics, linear electromagnetic motors, automated by-pass control, and temperature measurement
- Test system standalone architecture to eliminate neighboring test module disruptions during testing
- Modular system to optimize parts and components interchangeability
- True independent test modules with no fluid connections
- Independent heaters and temperature sensors for each test module and corresponding test sample
- Large test chamber design to fit a wide variety of valve sizes, geometry and supporting structures
- No external pressure source or compressor required
- Low hydrostatic load system design to increase lifespan of seals and bellows
- Valve holder design for optimum chamber seal integrity
- Integrated anti-vibration systems to minimize pressure signal disruptions and improve high speed video quality
- Patent pending Inflow and outflow chamber annular compliance rings to optimize differential pressure waveforms
- Vertical test sample configuration to minimize gravity asymmetric wear of valve leaflets
- Adjustable intensity annular LED light for maximum high-speed imaging luminosity with minimal reflection impact
- Customizable valve annulus ring to fit all valve geometries
- Adjustable outflow pressure sensor height to accommodate different valve designs and conduits
- Camera holder for repeatable high-speed camera positioning, increased image stability and reliability between inspection cycles
- Embedded safety systems for fluid level, temperature change and pressure drop monitoring
- Sliding test module mechanism for test sample inflow visualization, ease of setup and servicing

ViVitro AWT System with DCT™ - 2 test modules configuration

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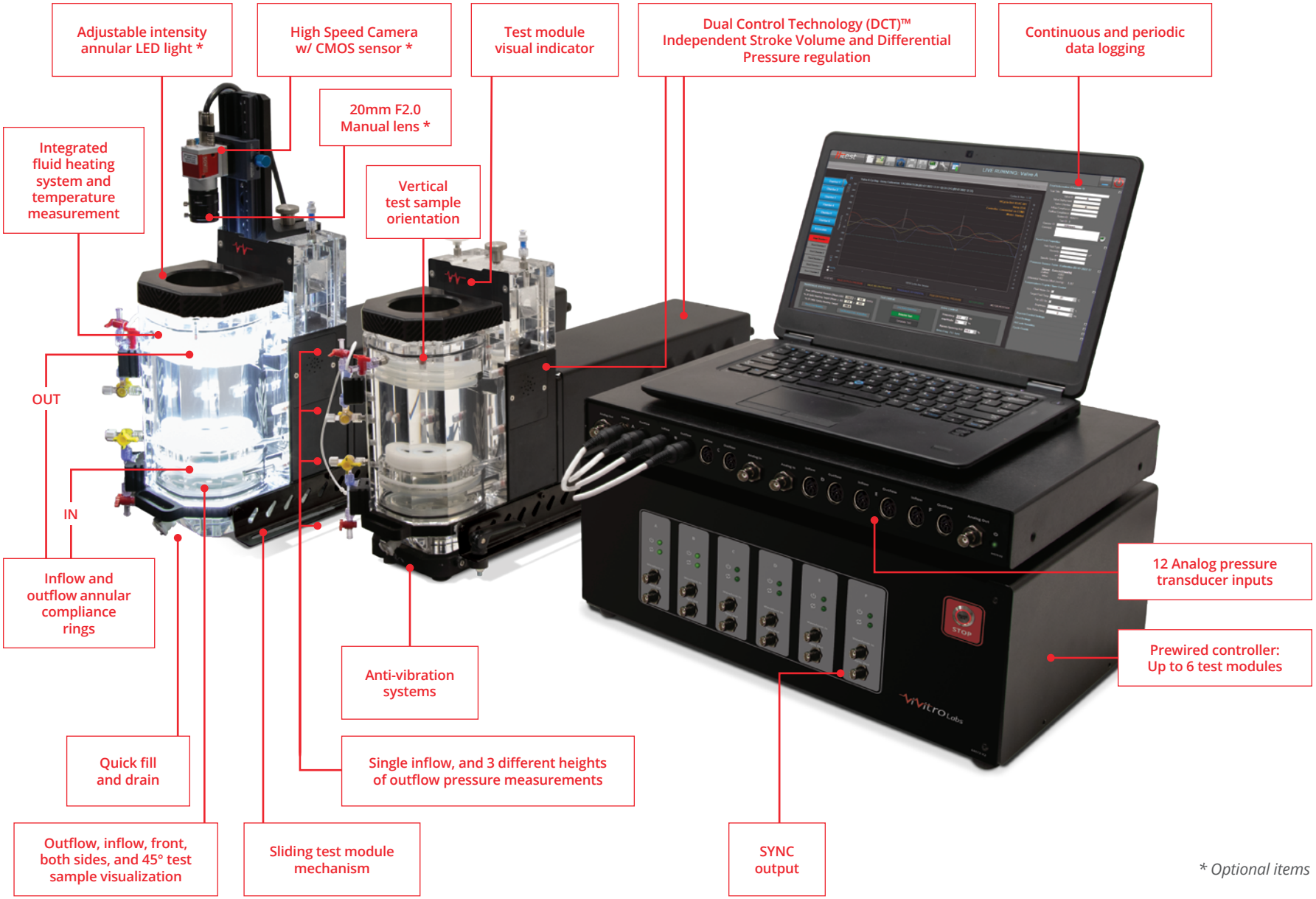

** Optional items*

Specifications

Test module weight:	Empty = 20.6 kg/module Full = 22.1 kg/module
Controller and Data Acquisition unit weight:	13.5 kg
Footprint - 6 modules configuration:	Min Bench Length = 1650 mm* Min Bench Depth = 600 mm Height = 362 mm (without Camera) Height = 400 mm (with Camera)
Footprint - 2 modules configuration:	Min Bench Length = 850 mm* Min Bench Depth = 600 mm Height = 362 mm (without Camera) Height = 400 mm (with Camera)
Controller power supply requirements fully loaded:	1200 W w/ 6 modules, 1 light ring, heaters on, at 100 mmHg
System operating frequencies:	5 Hz to 30 Hz
Test chamber diameter:	Max support OD: 95 mm
Test chamber height & clearance:	Total height/clearance up to 113.5 mm
Piston max stroke volume:	38 ml/stroke
Test chamber transparency:	Inflow, outflow, left and right, 1 angle at right 45°
Average hydrostatic pressure head:	10 mmHg

** Minimal distance between units: 30 mm*

ViVitro AWT System with DCT™ - 1 test module configuration

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Software

The ViVitro AWT System with DCT™ uses a proprietary software platform with a user-friendly interface to control each test module. The software complies with ISO 5840 requirements. The automatic pressure control algorithm adjusts the bypass valve to optimally achieve the 5% rule.

Features

- Independent settings and controls for each test module, including stroke amplitude, fluid bypass control for differential pressure adjustment, test frequency, temperature, and more
- Fully software-controlled for user-friendly, easy system handling
- Continuous and/or periodic data monitoring and records in compliance with ISO 5840 Accelerated Wear Testing (AWT) and Dynamic Failure Mode (DFM) requirements
- Easy control and settings navigation between test modules
- Integrated pressure calibration wizard
- Waveforms display inflow outflow pressure, differential pressure
- Individual test module parameter displays for passing cycles count, operating frequency, fluid temperature, peak to peak differential pressure, % cycle pass, % pressure pass, and total number of passing cycles
- Test sample identification data embedded in test log with calibration values

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Continuous data log mode

- Cycle to cycle information (peak differential, % of cycle meeting target pressure) collected for a predefined periods of time and saved over multiple .CSV files
- Data recorded in engineering units
- Max 10 Mb per file

Period data log mode

- Periodically save entire waveform with user predefined output data
- User predefined parameters for number of cycles and capture frequency
- Total 9 parameters: 3 defaults and 6 User predefined
- User-friendly field selector for output data
- Periodic data reporting

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Visit the product page for additional information

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