

Immersion Tanks



WesDyne AMDATA utilizes a modular design that makes it easy to fabricate a system to meet a customer's specific needs. Multiple configurations are available allowing easy customization to meet a customer's specific requirements, for example – 6 axis systems may include X, Y, Z, Gimbal, Swivel axes, and turntable. A 10 axis system may include an additional Y and Z mechanism (including Gimbal and Swivel axes for through transmission inspection). This modularity also lends itself for economical tank upgrades for specific components and/or closed loop motion control. For imaging system details, please see the specific IntraSpect bulletin.

Tank

The standard tank is a formed stainless steel weldment for corrosion resistance. The tank bottom is reinforced to support higher payloads. To help maintain water clarity, there is a full length skimmer functioning for multiple water levels, circulating pump and filter system, and an ozone generator for chemical-free water purification, which are controlled by a programmable timer allowing flexibility.

- Viewing window
- Bottom drain for cleaning purposes
- Optional shelf for shallow work
- Dimensions specified by Customer

Electrical

The electrical components that control the tank may be packaged in a rack-mount cabinet or an optional desk configured workstation.

- The motion control is integrated with the IntraSpect software for pulse-on position inspection.
- Joystick allowing remote operation of all axes
- Extra shielded motor/encoder wire and noise suppression circuitry to enhance signal-to-noise ratio.
- Motion control is an open architecture
- All axes include non-contact limit and home sensors.

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Gantry

The frame structure is constructed from a rugged anodized aluminum extrusion that is mounted directly to the tank, allowing easier access to the tank.

- The "machine-tool quality" linear bearing rails and cassettes are Armoloyed for corrosion resistance.
- Zero backlash motion is achieved with harmonic drive gear reducers and engineered zero backlash pulleys driving a steel reinforced polyurethane belt having an engineered tooth profile specifically made for linear drives, making them long lasting, quiet operation, and easy to maintain.
- Z mechanism manipulator
- All wetted components are made of stainless steel for corrosion resistance. All motors are above the water line.
- Zero backlash drive components used for gimbal and swivel axes.
- Adjustable hard stop on swivel axis allows for flexible job setup and prevents wrap of signal wire.
- UT potted connection and tri-axial cable for noise suppression.
- Optional Gimbal – Gimbal drive is available

System Accessories

Horizontal Tube Rotator

- All wetted components are stainless steel or Armoloyed for corrosion resistance
- R8 self centering chuck and adjustable tailstock with live center
- Servo driven and motor is located above water line
- Drop in design to any tank

Turntable

- All wetted components are stainless steel or Armoloyed for corrosion resistance
- Self centering 3 jaw chuck
- Servo driven and motor is located above water line
- Drop in design to any tank

Squirter System

- Squirter head technology is available for inspection of large parts where part immersion is not practical. The UT signal is carried by a laminar flowing column of water absent of bubbles.