

Air Master Systems

Titan Work Bench

Product Specifications

Version 1.0
August 22, 2025

Revision History

Revision - Date	Version	Revised By:	Description of / Reason for Revision:
8-22-25	1.0	MK	Initial Draft of Specification
10-9-25	1.1	DC	Release Review

SECTION 12 35 56 – TITAN WORK BENCH AND ACCESSORIES

PART 1 - DESCRIPTION OF WORK

1.01 SUMMARY AND SCOPE

A. Section Includes:

1. Titan Work Benches
2. Bench Accessories
 - a. Shelving
 - b. Counter Mounted Cabinets (Hanging Cabinets)
 - c. Electrical, data, and plumbing integration
 - d. Epoxy and phenolic worksurfaces
 - e. Standard casters and slides
 - f. Leveling casters

B. Related sections:

1. Division 15/22: Plumbing and Exhaust Ducting
2. Division 16: Electrical Fittings and Connections
3. Division 12: Casework

1.01 BASIS OF WORK

A. Basis of design is Air Master Systems, Norton Shores, MI, as the standard of construction for Titan TWB Table Systems. The construction standards of the Air Master Systems Titan Workbench product line shall provide the basis for quality and functional installation.

B. Supply all equipment under this specification. Offering a product that differs in materials and construction from this specification requires written approval. This approval must be obtained at least seven (7) days prior to the proposal deadline

C. General Contractors should obtain a list of approved table system manufacturers from the architect to prevent non-conformance with these specifications.

D. The owner/architect reserves the right to reject qualified or alternate proposals and to award based on product value, where such action assures the owner of the greater integrity of the product.

1.02 QUALITY ASSURANCE

A. All electrical components and systems integrated into the laboratory tables have been rigorously tested and certified in compliance with applicable Underwriters Laboratories (UL962) standards.

B. Source Limitations: Obtain table systems, including worktops, shelving, fittings, and accessories, from a single manufacturer through a single source.

C. Product Standard: Comply with SEFA 8 Standards, "Laboratory Furniture-Casework, Shelving, and Tables-Recommended Practices.

D. Manufacturer must have a 5-year warranty as listed on their website.

E. Product must meet the Build America Buy American Act

1.03 REFERENCE STANDARDS

A. All casework, work surface and service fixture construction and performance characteristics shall be in full compliance with SEFA (Scientific Equipment and Furniture Association) standards. At the owner's request, independent third-party testing must be submitted validating compliance and adherence to the architectural specifications.

1. SEFA 2 – Installation of Scientific Laboratory Furniture and Equipment.
2. SEFA 3 – Work Surfaces
3. SEFA 7 – Laboratory and Hospital Fixtures
4. SEFA 8 – Laboratory Furniture
5. SEFA 10 – Adaptable Systems

PART 2: PRODUCTS

2.00 MATERIALS

- A. Bench Frame Structure: 16ga tubing
 - 1. 2"x2": Bench frame and legs
 - 2. 2"x3": Bench Uprights
 - 3. 1.75"x1.75": Telescoping legs
- B. Frame Rails: 12ga
- C. Raceways:
 - 1. Upper: 14ga
 - 2. Central: 16ga
 - 3. Lower: 16ga
- D. Shelving: 16ga
- E. Work Surfaces: Phenolic resin, epoxy resin, or stainless steel.

2.01 FABRICATION

A. General: Complete assembly and finish work at the point of manufacture. Perform assembly on precision jigs to provide square units fully reinforced with angles, gussets, and channels, and integrally framed and welded to form a durable, structurally sound table.

B. Titan Work Bench (TWB): Welded, assembled, and plumbed upright assembly, with welded and assembled table frames.

1. Single and Double Workbench Configurations:
 - a. Single-Sided TWB's: Designed for wall or modular configurations, these tables support shelving, suspended cabinets, and integrated service panels.
 - b. Double-Sided TWB's: Designed for island installations, these tables support shelving and services for collaborative laboratory environments on both sides.
2. Bench leg configurations:
 - a. Adjustable height legs: designed to allow for bench height adjustment
 - b. Stationary height legs: designed for a fixed bench height
 - c. Casters: standard and/or heavy-duty casters designed to fit a variety of mobile bench applications
 - d. Glides: standard option for non-mobile benches. Designed to work on even and uneven surfaces through leveling capability
3. Bench Size Configurations:
 - a. Bench Width: configurable from 30" to 72" in 6" increments

- b. Bench Depth: configurable to either 30" or 36"
- c. Bench Frame Height: Fixed to 35" with stationary legs. Adjustable from 29" to 37" in 1" increments with adjustable legs
- 4. Bench Raceway Configurations:
 - a. Raceway: optional configuration for additional service locations above the worksurface of the bench between the uprights.
 - b. Center upright: optional configuration for additional upright up from the center of the raceway for use in shelf mounting.
- C. Shelving: Welded shelf body and hat channel with a variety of bracket options
 - 1. Shelf Bracket Configurations
 - a. Bookend Shelf Brackets: bracket support above shelf surface to enclose the ends of the shelf
 - b. Inverted Shelf Brackets: bracket support below shelf surface for open ended shelf surfaces
 - c. Seismic Rod Shelf Brackets: Bookend brackets with a seismic rod running the length of the shelf 0.5" up from the front of the shelf.
 - 2. Shelf Size Configurations
 - a. Shelf Width: Configurable to 1" increments
 - b. Shelf Bracket Depth: Configurable to 12", 14", and 16"
 - c. Shelf Depth: Configurable to Flush, Mid, Rear
 - i.Flush: Shelf sits flush to the front face of the bench uprights.
 - ii.Mid: Shelf extends to the middle of the of the bench uprights.
 - iii.Rear: Shelf extends to the rear of the bench upright.
- D. Counter Mounted Cabinets (Hanging Cabinets): See Section 12

2.02 PERFORMANCE REQUIREMENTS

A. Structural requirements for Titan Work Benches and accessories: Provide TWB's and accessories capable of withstanding the following loads without permanent deformation, excessive deflection, or binding of drawers and doors as per SEFA 10.

- 1. Shelves: 200 lbs.
- 2. Bench Frame: 1000 lbs. evenly distributed static load.
 - a. With standard casters: 750lb dynamic load
 - b. With leveling casters: 1000lb dynamic load

B. Service Requirements for Titan Work Benches: provide only fixtures meeting SEFA 7

- 1. Upright service capability
 - a. Up to 4 total services per upright (3 upper, 1 lower)
 - b. Up to 4 GFI's per upright
 - c. Up to 3 pre-plumbed plumbing fixtures per post
 - d. Up to 12 CAT6 data ports per post
 - i. One upright service location can hold up to 4 data ports
- 2. Upright service limitations
 - a. Only GFI's can occupy the lower upright service location
 - b. Upper services cannot contain GFI(s) and Plumbing fixture(s) in the same post
- 3. Raceway services
 - a. Total services allowed per raceway depends on bench width
 - i. 30"-36": 3 service maximum per side
 - ii. 42"-48": 4 service maximum per side

- iii. 54"-60": 5 service maximum per side
- iv. 66"-72": 6 service maximum per side
- b. In double-sided bench configurations identical services are provided on each side
- c. Only GFI's and data ports can be placed in the raceway
 - i. One raceway service location can hold up to 4 data ports
- C. Structural requirements for Counter Mounted Cabinets (Hanging Cabinets): See Section 12
- D. Work Surfaces and Paint: Provide surfaces meeting SEFA 3 Testing standards outlined in Section 12

PART 3 – EXECUTION

3.00 INSTALLATION

- A. Install, plumb, level, and true shims as required, using concealed shims. Where Titan TWB Tables abut other finished work, apply filler strips and scribes for an accurate fit, with fasteners concealed where practical.
- B. Secure mobile tables with locking casters in designated locations as outlined in the floor plan.
- C. Ensure all services (electrical, plumbing, and data) are correctly connected and tested before final acceptance.

3.01 CLEANING AND PROTECTING

- A. Repair or remove and replace defective work as directed on completion of installation.
- B. Clean finished surfaces, touch up as required, and remove or refinish damaged or soiled areas to match the original factory finish.
- C. Protection: Cover work surfaces with 6-mil plastic or other suitable water-resistant covering. Tape to the underside of the work surface at a minimum of 48 inches in the center.
- D. Install, plumb, level, and true shims as required, using concealed shims. Where Titan TWB Tables abut other finished work, apply filler strips and scribes for an accurate fit, with fasteners concealed where practical.