

Air Master Systems
Titan Mobile Cart
Product Specifications

Version 1.0
September 16, 2025

Revision History

Revision - Date	Version	Revised By:	Description of / Reason for Revision:
9-16-25	1.0	CS	Initial Draft of Specification

SECTION 12 35 56 – TITAN MOBILE CART

PART 1: DESCRIPTION OF WORK

1.00 SUMMARY AND SCOPE

A. Section Includes:

1. Titan Mobile Cart
2. Cart Accessories
 - a. Shelving
 - b. Counter Mounted Cabinets (Hanging Cabinets)
 - c. Epoxy and phenolic worksurfaces
 - d. Heavy-duty casters
 - e. Standard-duty casters and glides

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. This specification intends to use Air Master Systems, Norton Shores, MI, as the standard of construction for Titan Mobile Carts. The construction standards of the Air Master Systems Titan Mobile Cart 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. Standard Option for Titan Mobile Carts shall be equipped with heavy-duty casters (standard 3") with a minimum load rating of 550 lbs. per caster and locking mechanisms for stationary stability.

E. Must meet the Build America Buy American Act of 2024.

F. Product to have a minimum of a 5 year warranty as shown on manufacturer's website.

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. Cart Base Structure:

1. Framing & Rear Support: 14ga Tubing: 2"x3"
2. Front Support: 16ga Tubing: 2"x2"
3. Gussets: 10ga
4. Leveler Tubes: 16ga Tubing: 2"x2"

B. Cart Uprights:

1. 2"x3" 16ga tubing: Uprights
2. 18ga: Panels

C. Table Frame Rails: 12ga

D. 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 Mobile Cart (TMC): Welded and assembled base frame, with welded and assembled table frame, Shelves, and uprights.

1. Full and Half Height Cart Configurations:
 - a. Full Height TMC's: Designed with capability for adjustable shelving above worksurface
 - b. Half Height TMC's: Designed for applications where shelving above worksurface is not required
2. Cart Foot Configurations:
 - a. Casters: heavy-duty casters designed to accommodate the load rating of the TMC
 - b. Glides: Designed to work on even and uneven surfaces through leveling capability
 - i. Also available as secondary foot option
3. Cart Size Configurations:
 - a. Cart Width: configurable from 36" to 72" in 12" increments
 - b. Cart Work Surface Depth: 30"
 - c. Cart Height: 78" for full height carts 36" for half height carts

i. Worksurface height adjustable in 1" increments

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

2. 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.

3. 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 uprights.

D. Counter Mounted Cabinets (Suspended Cabinets): See Section 12

2.02 PERFORMANCE REQUIREMENTS

A. Structural requirements for Titan Mobile Carts (TMC) and accessories: Provide TMC'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 each (400 lbs max)

2. Bottom Shelves: 400 lbs.

3. Table Frame: 800 lbs. evenly distributed load.

4. Total Cart Assembly: 1600lbs static load

a. With heavy-duty casters: 1600lb dynamic load

b. With heavy-duty leveling casters: 1600lb dynamic load

B. Structural requirements for Counter Mounted Cabinets (Suspended Cabinets): See Section 12

C. 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 Mobile Carts 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.