

Air Master Systems

Heavy-Duty Mobile Cart

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 |
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SECTION 12 35 56 – HEAVY-DUTY MOBILE CART

PART 1: DESCRIPTION OF WORK

1.00 SUMMARY AND SCOPE

A. Section Includes:

1. Heavy-Duty Mobile Cart
2. Cart Accessories
 - a. Shelving
 - b. Counter Mounted Cabinets (Hanging Cabinets)
 - c. Epoxy and phenolic worksurfaces
 - d. Heavy-duty casters and glides
 - e. Heavy-duty 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. The basis of design is Air Master Systems, Norton Shores, MI, as the standard of construction for Heavy-Duty Mobile Carts. The construction standards of the Air Master Systems Heavy-Duty 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. 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. Cart Base Structure:

1. 16ga Tubing
 - a. Supports: 2"x2"
 - b. Framing: 2"x3"

2. Gussets:10ga

B. Cart Uprights:

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

C. Table Frame Rails: 12ga

D. Work Surfaces: Phenolic resin, epoxy resin, or stainless steel.

E. Shelf Frames: 16ga tubing

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. Heavy Duty Mobile Cart (HDMC): Welded and assembled base frame, with welded and assembled table frame, Shelves, and uprights.

1. Full and Half Height Cart Configurations:

- a. Full Height HDMC's: Designed with capability for adjustable heavy-duty shelving above worksurface
- b. Half Height HDMC's: Designed for applications where shelving above worksurface is not required

2. Cart Foot Configurations:

- a. Casters: heavy-duty casters designed to accommodate the high load rating of the HDMC
- b. Leveling Casters: heavy-duty leveling casters designed to accommodate the high load rating of the HDMC
- c. 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 30" 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
- 4. Additional Cart Configuration:
 - a. Cable Management: optional configuration to include gromets in the cart uprights allowing for cables to run directly up through cart uprights
- C. Shelving: Welded and assembled shelf frame with standard worksurface options for use as shelf platform.
 - 1. Shelf Size Configurations
 - a. Shelf Width: Configurable to HDMC widths
 - i. Applies to both upper and lower shelving
 - b. Shelf Depth: 18"
 - i. Applies to both upper and lower shelving
- D. Counter Mounted Cabinets (Hanging Cabinets): See Section 12

2.02 PERFORMANCE REQUIREMENTS

- A. Structural requirements for Heavy-Duty Mobile Carts (HDMC) and accessories: Provide HDMC'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. Upper Shelves: 500 lbs.
 - 2. Lower Shelves: 600 lbs.
 - 3. Table Frame: 1000 lbs. evenly distributed load.
 - 4. Total Cart Assembly: 2600lbs static load
 - a. With heavy-duty casters: 2100lb dynamic load
 - b. With heavy-duty leveling casters: 2600lb 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 Heavy-Duty 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.