

Air Master Systems

Solution Series Bench

Product Specifications

Version 2.0
October 10, 2025

Revision History

Revision - Date	Version	Revised By:	Description of / Reason for Revision:
	0.0	CS	Initial Draft of Specification
10/10/2025	2.0	DC	See highlighted. added a few changes in quality.

SECTION 12 35 56 – SOLUTION SERIES BENCH AND ACCESSORIES

PART 1 - DESCRIPTION OF WORK

1.01 SUMMARY AND SCOPE

- A. Section Includes:
 - 1. Solution Series 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 slides
- 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 Solution Gemini Table Systems. The construction standards of the Air Master Systems Solution 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. Non-Standard Option for Mobile tables 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. Bench Frame Structure:

1. 14Ga CRS: Bench frame
2. (2x) 2" round 12ga tubes, welded: Bench Uprights
3. 2" round 12ga x 1.75" round 10ga: Telescoping legs

B. Frame Rails: 12ga

C. Raceways: 14ga

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

E. Shelving: 16ga

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. Solution Series Bench (Gemini): Welded, assembled, and plumbed upright assembly, with welded and assembled table frames.

1. Single and Double Workbench Configurations:
 - a. Single-Sided Gemini: Designed for wall or modular configurations, these tables support shelving, suspended cabinets.
 - b. Double-Sided Gemini: Designed for island installations, these tables support shelving and services for collaborative laboratory environments on both sides.
2. Bench leg configuration:
 - a. Adjustable height legs: designed to allow for bench height adjustment
 - b. Glides: Designed to work on even and uneven surfaces though leveling capability
3. Bench Size Configurations:
 - a. Bench Width: configurable from 30" to 96" in 6" increments (excluding 78" & 90")
 - b. Bench Depth: configurable to either 30" or 36"
 - c. Bench Frame Height: Adjustable from 29" to 37" in 1" increments with adjustable legs.
4. Bench Raceway Configurations:

- a. Raceway: for additional service locations above the worksurface of the bench between the uprights.
- b. Center upright: standard on benches over 60" wide, can be used to use to hang split shelving.
- 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. Rod material: Stainless steel. Rod diameter: $\frac{1}{2}$ ".
 - 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.
 - Flush: Shelf sits flush to the front face of the bench uprights.
 - Mid: Shelf extends to the middle of the of the bench uprights.
 - Rear: Shelf extends to the rear of the bench uprights.
- D. Counter Mounted Cabinets (SuspendedCabinets): See Division 12

2.02 PERFORMANCE REQUIREMENTS

A. Structural requirements for Solution Series Benches and accessories: Provide Gemini's and accessories capable of withstanding the following loads without permanent deformation, excessive deflection as per SEFA 10.

- 1. Shelves: 200 lbs.
- 2. Bench Frame: 1000 lbs. evenly distributed static load.

B. Service Requirements for Solution Series Benches: provide only fixtures meeting SEFA 7

- 1. Bench electrical capability
 - a. Up to 4 circuits.
 - b. Up to 2 plugs.
- 2. Upright service limitations
 - a. Only GFI's can be installed under the countertop.
- 3. Raceway services
 - a. Total services allowed per raceway on bench
 - 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
 - v. 84"-96": 7 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 Solution Gemini 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 Solution Gemini Tables abut other finished work, apply filler strips and scribes for an accurate fit, with fasteners concealed where practical.