AIRTHO SOLUTIONS

Creating the Environment for Success

About Us

- Founded in 2018
- Specialize in modular, pre-engineered kits for controlled environments
- Offer full turnkey solutions utilizing a mixture of our proprietary, market specific products and “off the shelf” components
- Co-located with the University of New Hampshire at the John Olson Advanced Manufacturing Center

Our Mission

Design and supply controlled environment components and complete solutions that CREATE THE ENVIRONMENT FOR SUCCESS.

Create and use pre-engineered products and kits for the fastest, most efficient, high-quality project execution.

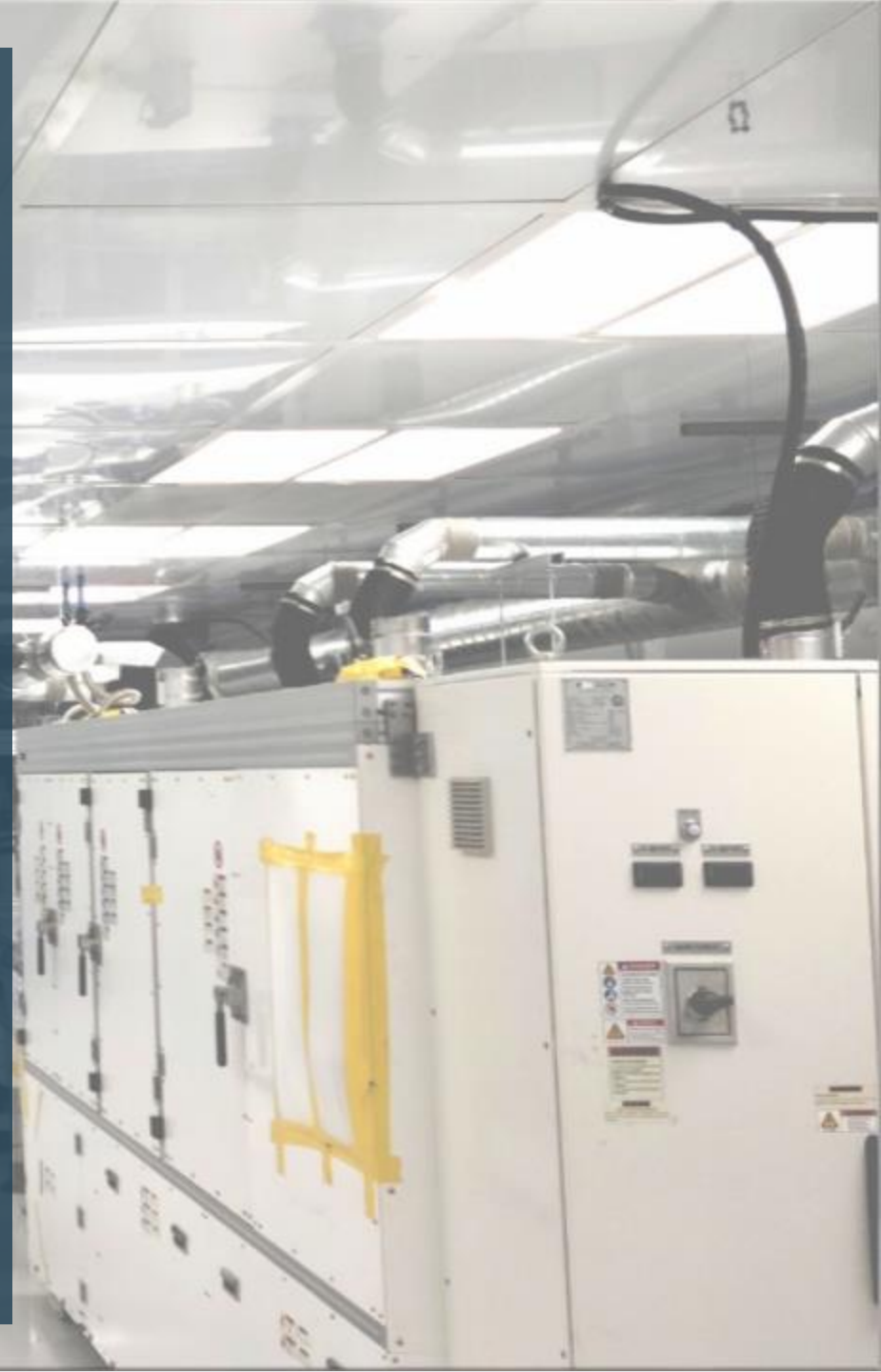
Our Specialty

Engineering clean and controlled spaces with our modular, trademarked components.

Giving our clients a complete turnkey solution for a range of use cases including battery development, R&D, composite testing, glass printing, and many more.

Core Values

- **Quality**
- **Energy Efficiency**
- **Proven Performance**
- **Safety**



The Airtho Advantage

- **Faster Project Completion**
- **Reduced Cost**
- **Pre-Engineered Products & Total Solutions**
- **Highly Configurable & Scalable**

Airtho Solutions Primary Markets

- **Battery Development & Production**
- **Glass & Advanced Optics**
- **Manufacturing**
- **Technology Research & Development**
- **Tool Enclosures**

Integrated Modular Solutions

- Pre-Engineered Modular Components and Systems speed design development
  - Provide initial models and engineering calculations in **DAYS, NOT MONTHS!**
  - Flexible during design development process
- Designed as a system for **QUALITY ASSURANCE AND PERFORMANCE**
- Integrated Features:
  - Hanging channels for MEP support
  - Wall-Ceiling integration
  - Low wall returns

Battery Dry Room Kits

- Modular, pre-engineered components & assemblies provide **QUALITY, SPEED & FLEXIBILITY**
- Optimized HVAC designs and products for **PEAK ENERGY EFFICIENCY**
- Superior Products for aesthetic designs create **A GREAT ENVIRONMENT TO WORK IN**
- -10 to -70°C Dewpoint
- Pre-Engineered solutions for -40°C
- Proprietary building materials and methods for near 0 leakage rooms up to 1" WG
- Highly configurable and scalable

Turnkey Solution for Battery Dry Rooms

<u>Turnkey Solution Includes:</u>

- Initial Design Development
- Engineering
  - *Structural*
  - *Architectural*
  - *Mechanical*
  - *Electrical*
  - *Plumbing*
- Material Procurement & Delivery
- Installation
- Start-Up & Commissioning

The Benefit of a Turnkey Solution:

Utilizing one source increases efficiency in both project development/ management and actual solution!

Turnkey Solution – Design Development/ Engineering & Procurement

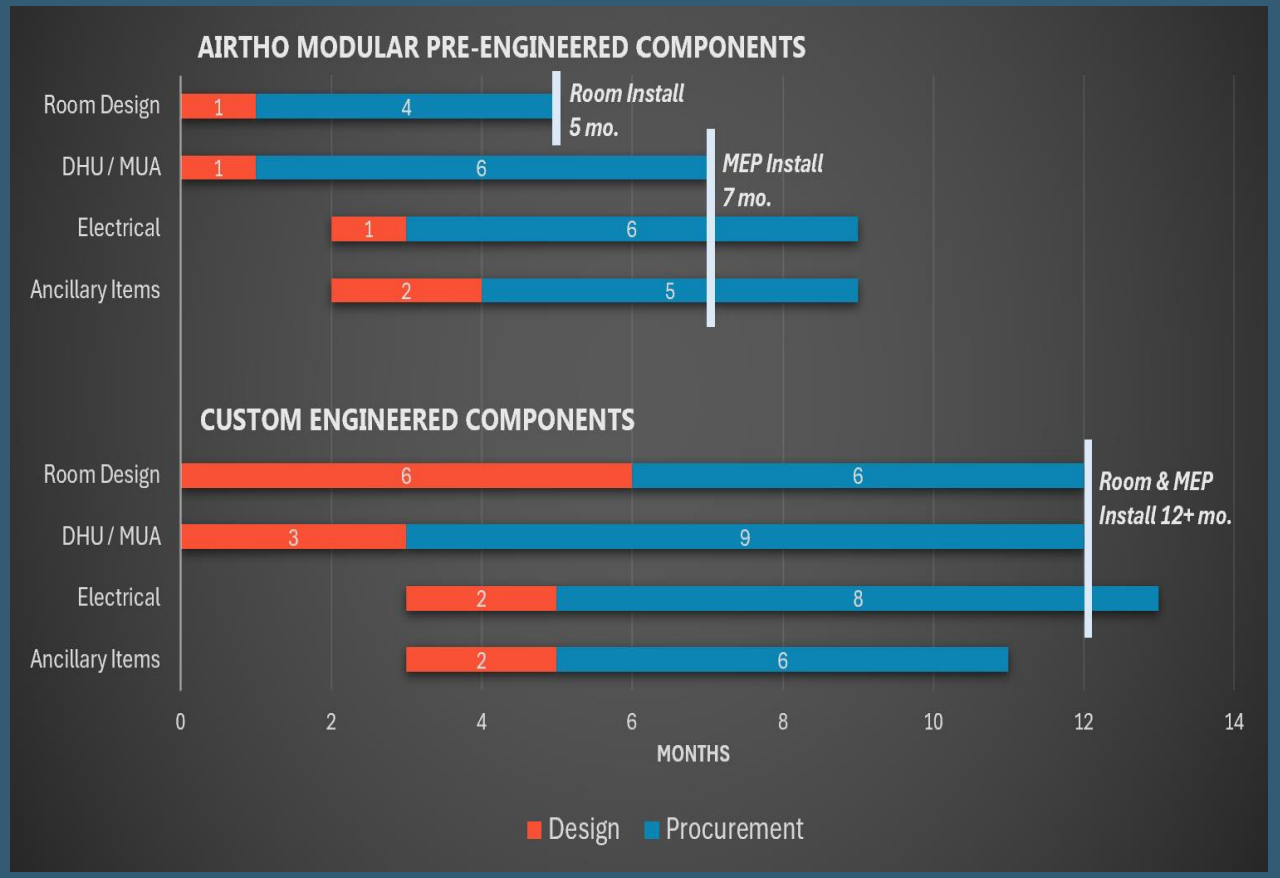
Provide Critical Answers Quickly

- Building/Builder Requirements
  - Structural
  - Spaces for relevant equipment
  - Utilities

Modular Components Maintain Flexibility

- More parameters during design development
  - Room size and layout
  - Cleanliness ACH
  - Supplemental cooling/heating

Construct/Deliver Components Earlier & Faster



*Based on 150,000 sqft. of total dry room

Turnkey Solution – Installation, Start-Up & Commissioning

Components Available "Off the Shelf"

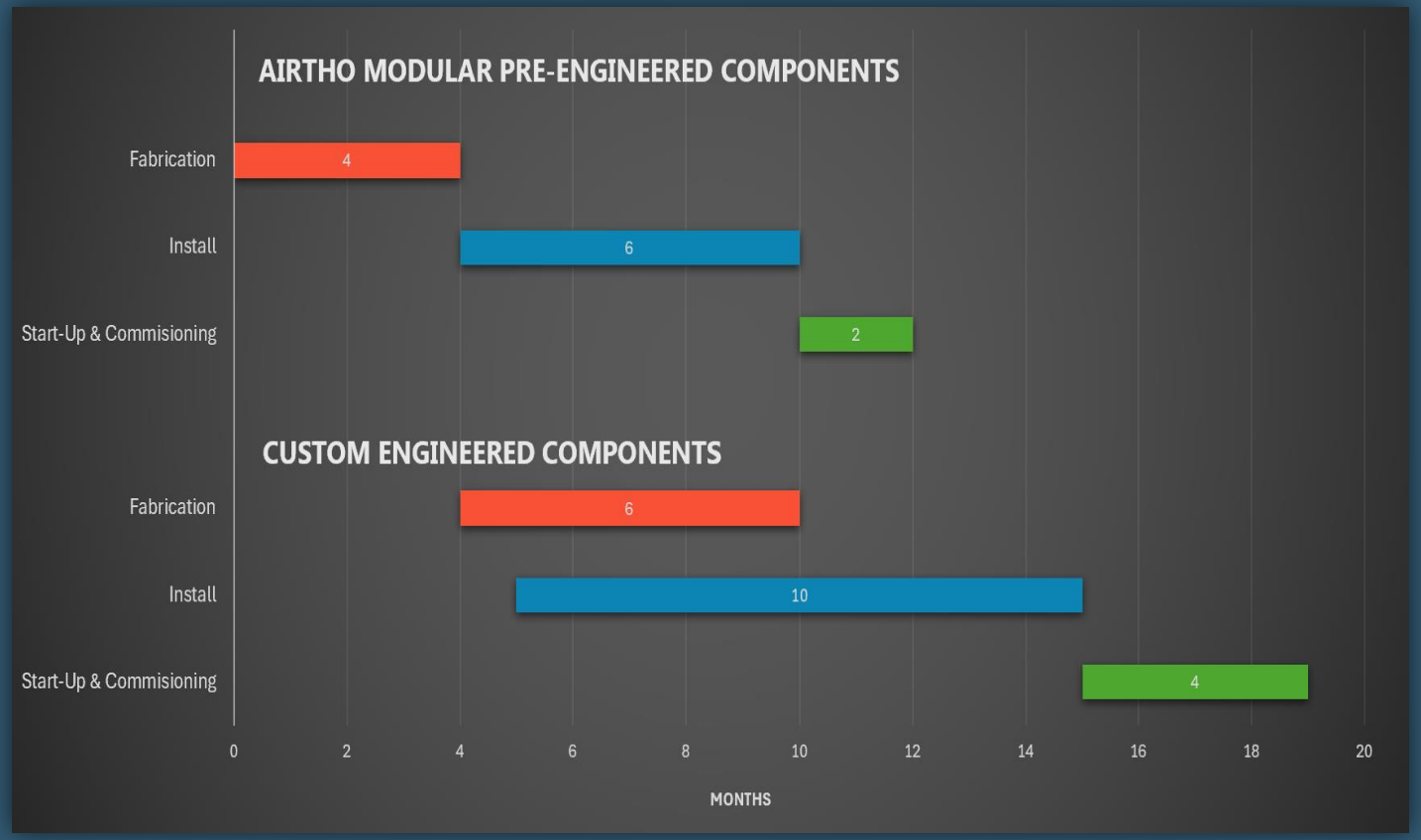
- Standard components and assemblies allows ordering from inventory
- Increases order efficiency

Engineered for Ease of Installation

- Consistency allows site crews to move faster
- Standard, pre-configured connection details enhances trade compatibility

Increases Efficiency in Start-Up & Commissioning

- Factory Acceptance Test (FAT) of turnkey components reduces start-up time
- Known components reduce commissioning time



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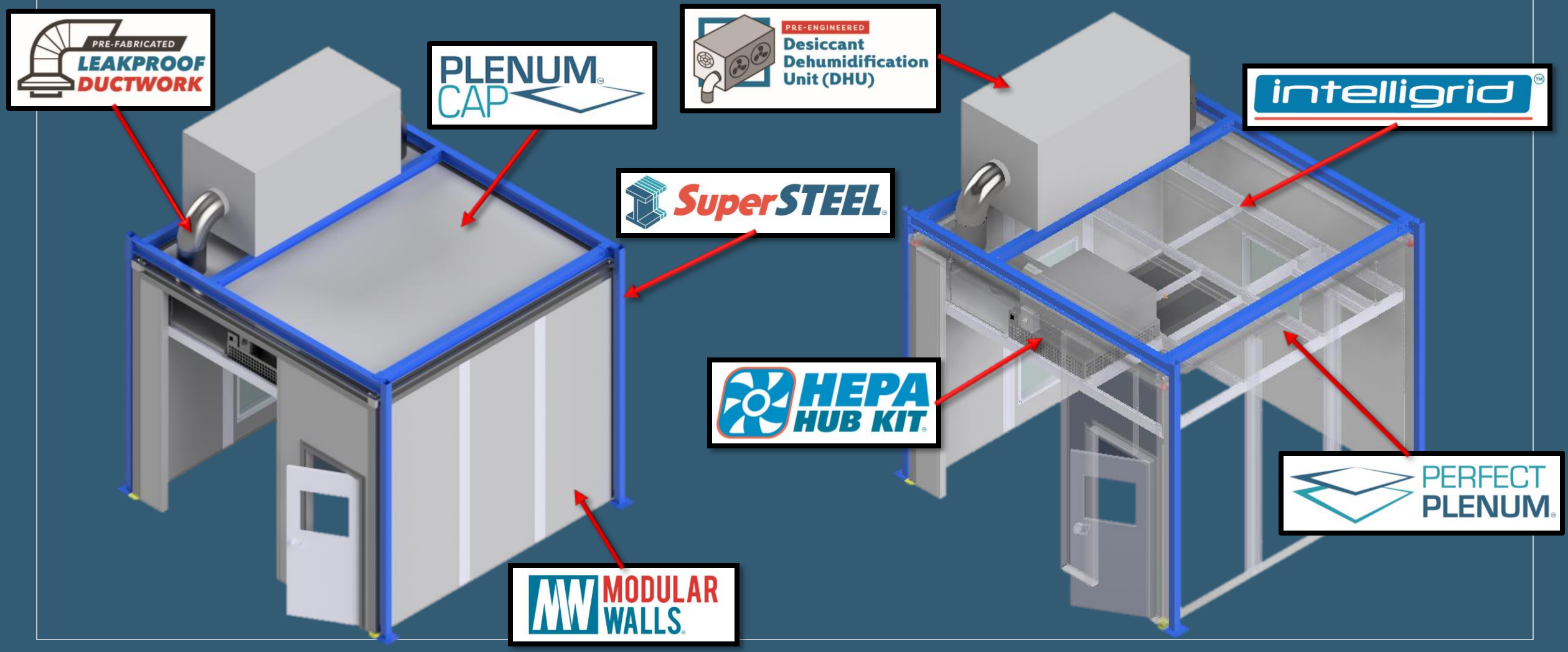
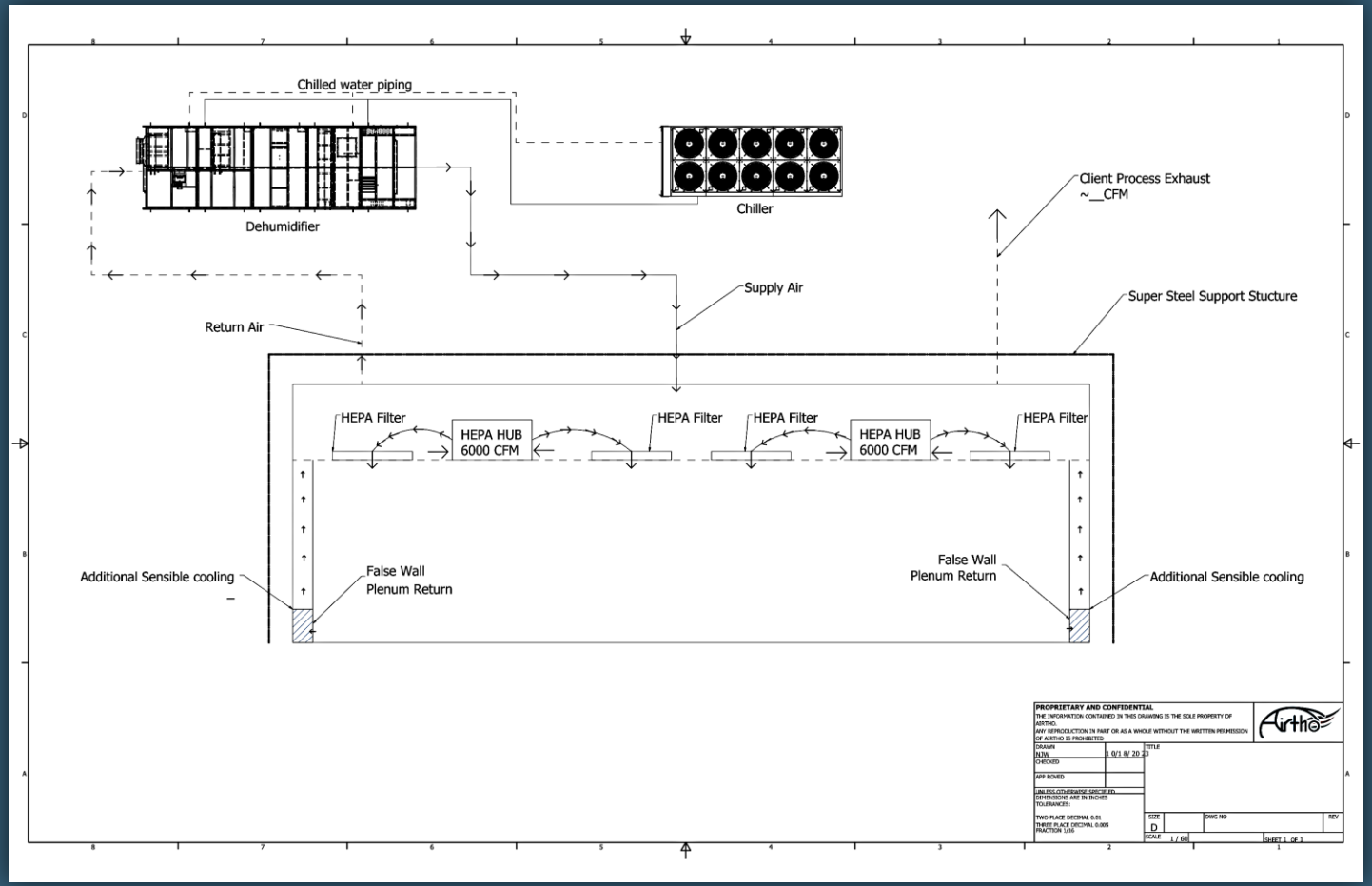
Airtho's Turnkey Solution Includes

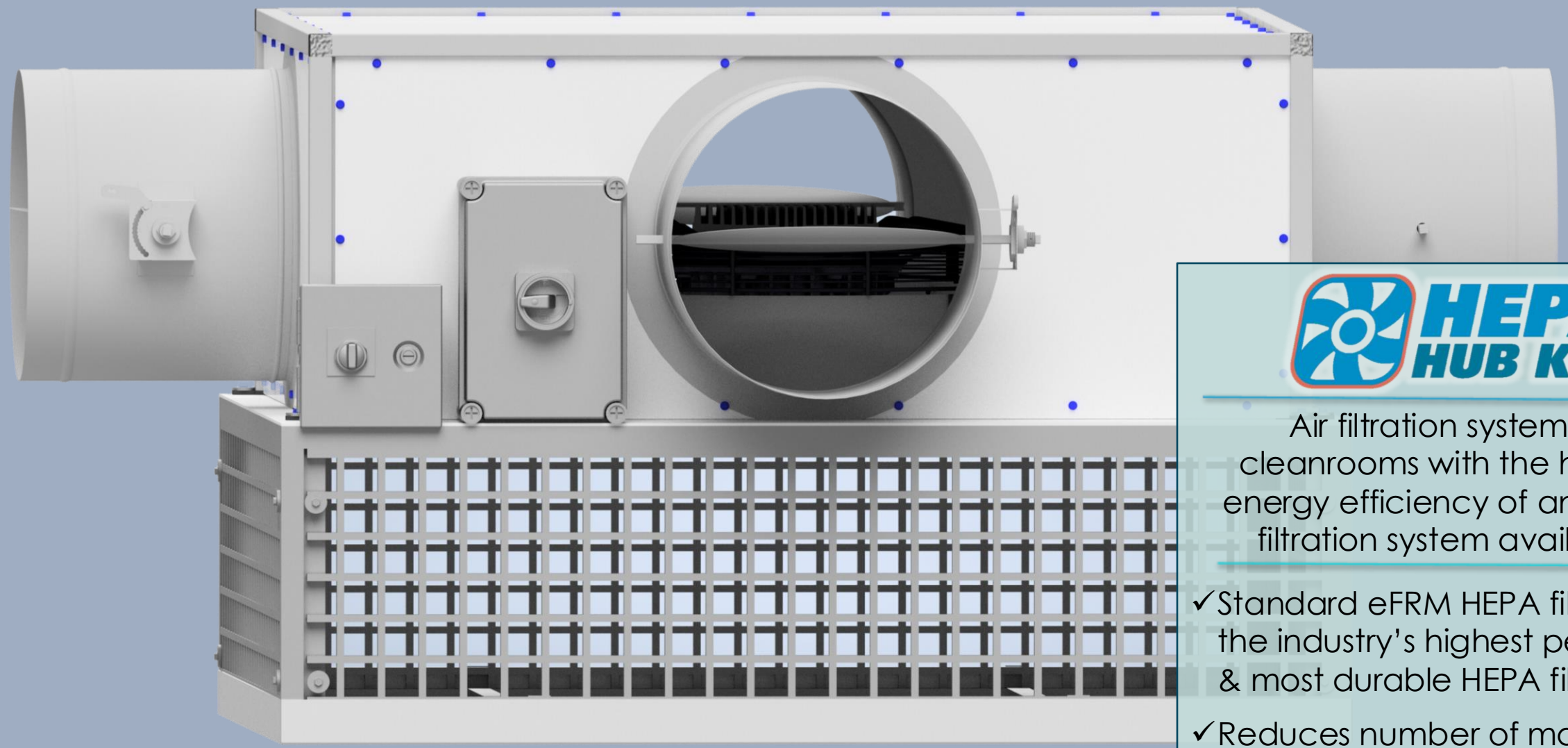


AIRTHO SOLUTIONS HVAC COMPONENTS

Optimized Air Flow Systems

- Ceiling mounted HEPA filters
- Low wall returns
  - Sensible cooling
- Open plenum
  - Add/subtract/move HEPA supply locations
  - Supply/return location for MUA/Dehumidifier
- Highly scalable





HEPA HUB KIT

Air filtration system for cleanrooms with the highest energy efficiency of any HEPA filtration system available.

- ✓Standard eFRM HEPA filters are the industry's highest performing & most durable HEPA filter
- ✓Reduces number of motors to be wired & serviced by 87.5%
- ✓Engineered for long life & easy maintenance

PRE-ENGINEERED

Desiccant Dehumidification Unit (DHU)

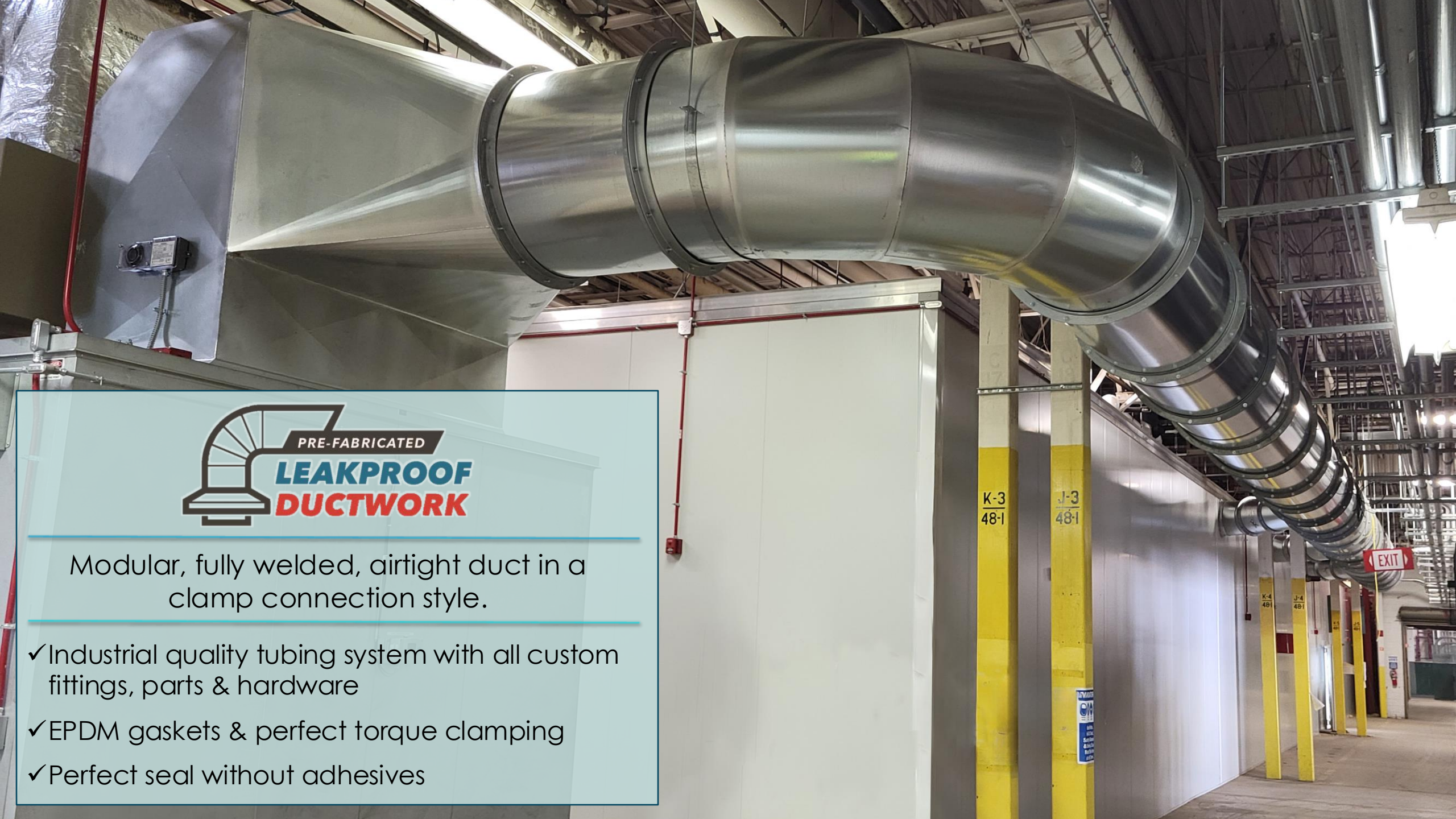
High efficiency desiccant rotor system with Airtho specific selections.

- ✓Pre-Engineered packages with cooling & all components included
- ✓Peak energy efficiency
- ✓Controls system configured for dry room integration
- ✓Fire & pressure safety system capabilities included

CHILLER

High efficiency chilled water system with Airtho specific selections.

✓Significant energy savings to “standard” designs
✓Stable operation for precise control of DHU operation
✓Integrated communication with DHU
✓Integrated pump package



PRE-FABRICATED
LEAKPROOF DUCTWORK

Modular, fully welded, airtight duct in a clamp connection style.

- ✓Industrial quality tubing system with all custom fittings, parts & hardware
- ✓EPDM gaskets & perfect torque clamping
- ✓Perfect seal without adhesives

AIRTHO SOLUTIONS ARCHITECTURAL COMPONENTS

Clean & Bright for Appealing Work Environment

- Smooth bright white walls
- LED flat panel lighting
- Large windows and available glass viewing walls
- Cleanroom drop ceiling system with smooth metal panels for finish appearance - hides MEP in room

SuperSTEEL

Fully engineered structural support system that directly incorporates room, HVAC and other loads.

- ✓Eliminates hanging loads from building
- ✓Saves rigging & MEP costs
- ✓Better utilizes valuable building space

MODULAR WALLS

Integrated modular components for non load bearing applications.

- ✓IMP with smooth, bright white finish
- ✓Flush dual pane windows
- ✓Removable sections, power posts and more

PLENUM CAP + DROP CEILILNG

Plenum Cap:

- ✓ IMP with patented Airtho Perfect Plenum™ grid
- ✓ Integrated uni-strut channels for MEP connections

Drop Ceiling:

- ✓ Airtho Intelligrid™ or other rod hung system

intelligrid™

Ceiling system with Airtho's standard 4'x4' grid layout that reduces the number of parts by 50%.

- ✓Strength to support cleanroom equipment & MEP
- ✓Metal blanks & LED lighting for superior cleanliness & working environment

CASE STUDIES

R&D Facility Dry Room in Montreal, Canada

Project Highlights: **Size:** 1,875 sqft. **Timeline:** 6 months

June 2021 — *Order Confirmed*

Dec. 2021 — *Room Constructed*

Jan. 2022 — *Final Handover*

Rapid Design

- Full submittal package in 2 weeks.
- Delivery of room components within 3 months from PO.

Superior Infrastructure

- Super Steel™ supported the critical loads of Airtho's dry room package without any required upgrades to the building.
- Located in a mixed-use facility, Airtho aligned access to the walkable plenum cap directly from the existing second floor offices for ease of access.

Energy Efficiency

- Locating the DHU directly on top of the room created an efficient ductwork design.
- Paired with high-efficiency terminal HEPA filters, the design created a system with 2.5" total external static pressure.

Giga Factory Dry Room in NY

Project Highlights: **Size:** 55,000 sqft. **Timeline:** 12 months

Conversion Capability

- Plant was converted from an IBM manufacturing facility.

Comprehensive Infrastructure

- Integrated existing structural steel and chilled water system for efficient in-room sensible cooling.

Precise Customization

- Created a hybrid of pre-engineered components and custom spaces that enabled precise design submittals in just 6 weeks.

Rapid Adaptability

- Airtho's flexible project management was able to adapt and execute on a tight schedule with rapid updates to technical needs and a tight budget of a fast-growing start-up company.

May 2021	Jan. 2021	May 2022
Order Confirmed	*Rooms Constructed*	*Final Handover*

Energy Storage Systems Dry Room in Detroit, MI

Project Highlights: **Size:** 20,000 sqft. **Timeline:** 11 months

Project Overview

- Low dew point facility with multiple control zones, each with different setpoints. The space produced variable heat, exhaust and humidity loads. Airtho coordinated across multi-disciplinary teams to ensure functionality, fitment and finish of all the components. This project included an aggressive and accelerated construction schedule.

Rapid Customization & Flexible Construction

- Airtho consistently accommodated room changes including layout redesigns, door adds and changes, interior wall shifts, increase in room square footage, etc. all while construction was taking place. Airtho was able to accommodate all these changes while maintaining timeline. Airtho then worked with the process tool vendor to coordinate installation and integration of process tooling into the controlled space. Airtho remained flexible during the design, construction, and commissioning phases to ensure the customer received an environment that allowed them to succeed.

Energy Efficiency

- This project required ~186,000 CFM of recirculation air. Airtho's standard Plenum FFU design, while utilizing Airtho proprietary HEPA Hub, reduced the number of FFU's from 248 standard FFU's to 31 HEPA Hubs. 248 standard FFU's consume 104 kW of power, and 31 HEPA Hubs only consume 60 kW of power. Airtho's standard design methodologies and proprietary components saved an average of 385,440 kWh per year.

Jan. 2023	Oct. 2023	Dec. 2023
Order Confirmed	*Rooms Constructed*	*Final Handover*

Battery R&D Facility Dry Room in Billerica, MA

Project Highlights: **Size:** 2,000 sqft. **Timeline:** 5 months

Building Accommodations

- Fit pre-engineered room and mechanical package in existing building (commercial office space) with minor modifications to accommodate existing building items and installation challenges.

DHU Location

- Indoor DHU location for energy efficiency, performance and serviceability.

Room Performance

- Mechanical start-up and commissioning was accomplished in one week with room out-performing design specifications.

Cleanliness & Appearance

- Worked with client to include more integrated power posts and limited wall mounted utilities for cleanliness, appearance, and project flexibility.

Aug. 2023 — *Order Confirmed*

Dec. 2023 — *Rooms Constructed*

Jan. 2024 — *Final Handover*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