



Critical Environments
Case Study Library

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Project: Saint Francis Hospital

Location: Hartford, CT

Project Cost: Estimated \$184 million

Square Footage: 318,000 ft²

Engineer/Architect: TRO Jung | Brannen

Price Representative: Buckley Associates, Inc.

The Challenge: TRO Jung|Brannen (TRO J|B) was awarded the role of engineer and architect on this project by Saint Francis and challenged to select air distribution solutions that would meet or surpass industry standards and reduce risk of airborne infection.

Beyond the functional requirements of the space, TRO J|B was also challenged to design an architecturally appealing environment for healing that would demonstrate Saint Francis' vision for premium patient care. TRO J|B, in turn, partnered with Price to supply system solutions for every floor of this new facility.

The Solution: Of the 19 new operating rooms at Saint Francis, the vast majority were constructed to function as flexible OR spaces. For these ORs, TRO J|B selected the Price Unitee ceiling system for maximum mechanical flexibility through easy ceiling access, and Price laminar flow diffusers to ensure a clean supply of HEPA filtered air.

Paul Kondrat, Senior Associate & Director of HVAC Engineering at TRO J|B, visited Price Technical Center in Suwanee, GA to witness the laminar flow diffuser in action. This in-person demonstration validated the performance of the LFD and provided TRO J|B with the confidence that the system would meet or exceed the necessary air flow standards within the space.

The remaining two operating rooms were designed as hybrid cath lab/cardiac ORs, requiring a different solution to meet the air change requirements in a much larger space and with more variable equipment than the standard ORs.

For these spaces, TRO J|B selected the Price HORD air curtain system and Unitee ceiling with Unistrut™ integration, and worked closely with Price's applications engineering group to develop an extensive Unistrut™ framing and track system on which to mount all of the medical equipment. Price's HORD system has been independently tested to American College of Surgeons requirements by a third party multiple times in past years, and in every case, the HORD performs better than the highest classification level (Class 1) within the perimeter of the air curtain.



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Patient Areas: Ensuring Safety & Comfort

Price louvered high-induction directional diffusers were selected for each of the 144 patient rooms and all other occupied areas of the facility, minimizing drafts through rapid mixing to ensure patient comfort. The aluminum option was selected for the high-moisture decontamination area of the Central Sterile Processing Department.

In some patient areas, safety concerns extend beyond that of maintaining asepsis. Price security grilles were selected to maintain a safe environment for patients in minimum- and medium-security psychiatric treatment areas.

Public Spaces: Architectural Integration & Long-Term Functionality

A facility's reception areas make up the first public face presented to its visitors, and as such, the first impression they deliver must portray the vision and values of that organization. In a medical center such as Saint Francis, a clean and modern design aesthetic directly reflects that facility's commitment to evolving technologies and meticulous patient care.

This principle led TRO JJB to select the Price Adjusta Slot for air flow control over the main reception desk and approximately 200 feet of Price Jet Slot diffusers throughout the main and departmental waiting areas.

Easily integrated into the architecture of the space, these diffusers (and accompanying return grilles) were installed with the ceiling suspension system and meet the varying throw requirements of these public areas.

Square Plaque Diffusers were designed into the hallways of every floor, selected both for reliable long-term performance and unobtrusive design.

The Results: The incredible breadth of Price's product lines, from standard grilles to complex operating room systems, allowed Price

to optimize the environment of this facility by providing complementary high- performance air distribution solutions in every critical space.

This also allowed the various stakeholders the benefits of working with the same supplier across multiple functions, including access to an applications support team with knowledge of the full system and significant cost savings.



Photos courtesy of Bruce T. Martin © 2011

Project: Tampa General Hospital

Location: Tampa, FL

Architect: Gresham Smith and Partners

Engineer: Smith Seckman Reid, Inc.

Contractor: SKANSKA

Mechanical: BCH Mechanical

Tampa General Hospital demonstrates what it means to be a world-class healthcare facility, showcasing one of the most comprehensive medical facilities in Florida, while servicing a population in excess of four million.

The first operating room focused project at Tampa General Hospital required a substantial amount of product customization due to the limited space above the ceiling and under the joist, in correlation with the layout of ceiling mounted operating room equipment. This meant customization was essential, from creating a plenum with side access, to actually reducing the height of the laminar flow diffuser and adjusting the side connections in order to accommodate what little space the facility had to bring the supply duct to. Knowing the vast customization capabilities of Price's offerings, the project team's foundation formed rapidly.

Inviting the project's contractor and engineers to visit the Price Technical Center in Suwanee, GA allowed the team to view dynamic demonstrations of the operating room ceiling system Price offered as a solution. The design flexibility of Price's operating room ceiling systems appealed to the project team of Tampa General Hospital.

Price's unique solution was a Heavy Duty Cleanroom Ceiling System that integrated matching Unistrut, laminar flow diffuser array, and supply air plenum and to produce an installation compliant to FGI2010. To ensure a quality outcome, Price technicians were on-site during the construction phase, lending a certain level of confidence to the installing contractor on how to proceed further through the rest of the project.

Price's early involvement with Tom Barrow Company and the design team at Tampa General Hospital helped establish a long term relationship, creating several opportunities in future phases of the hospital's expansion.



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