



# PJM Pipeline

NJ Plumbing Licence # 6694  
NJ Fire Protection License # P00713

## PROJECT PHOTOS



## PJM fan technology

In traditional air handling systems, a single fan or dual fans are used to move air. Fanwall® Technology, which replaces large fans with a modular array of smaller fans, is an innovative alternative that is gaining in popularity.

Huntair, Inc. introduced Fanwall Technology in 2003 to meet specialized airflow needs in mission-critical and cleanroom applications. Due to the various benefits of the technology, it has now expanded well beyond those areas. In a Fanwall system, multiple direct-drive centrifugal plenum fans housed in sound-dampening “cubes” are arranged in a rectangular array. An array can consist of four to over 300 fans. Each fan array is usually controlled by one variable frequency drive (VFD).

The up-front cost of a Fanwall is about equal to a traditional air handler system, but Fanwall offers numerous advantages. Fanwall air handling units reduce operating costs; they are more energy-efficient, and redundancy improves system reliability and maximizes uptime. If one fan fails, the VFD will compensate and the system continues to run at 100%. Because fans can be controlled individually, peak system efficiency can be attained by simply turning off some of the fans when conditions dictate. Noise and vibration are greatly reduced, increasing occupant comfort and eliminating the need for expensive sound attenuation devices. Less maintenance is required, and fan replacement can easily be done by one or two workers.

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Fanwall can be used in new construction or replace fans in existing systems. It offers far more layout flexibility and reduces the air handler footprint by as much as 33%. Retrofits, which can usually be done with minimal or no downtime, can yield energy savings of as much as 40%. If you would like to find out more, please call PJM at 609-921-1394.

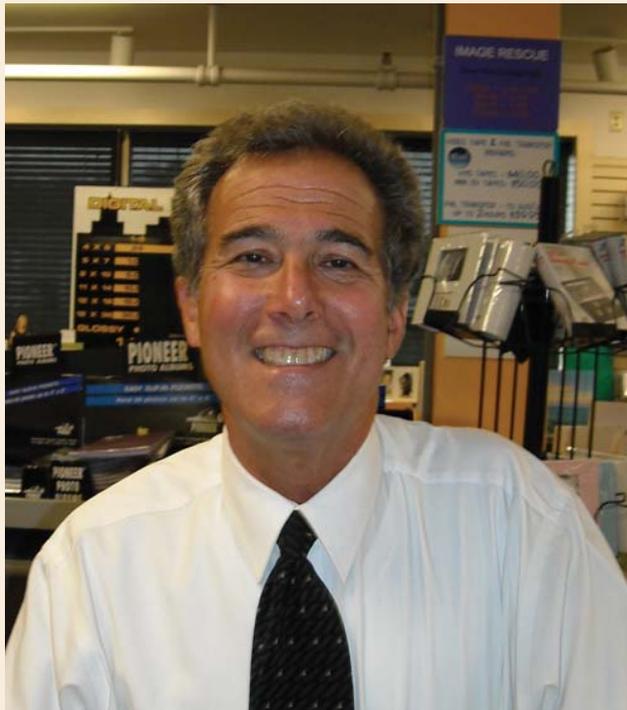
## PJM profiles

### Meet Michael Phillips

**PJM Mechanical is pleased to announce that Michael Phillips, CEM, ASHRAE, MSME, has accepted the position of Vice President of Project Management.**

Michael brings a wealth of experience, leadership, and technical expertise encompassing all areas of mechanical construction management to PJM. He earned his master's degree in Mechanical Engineering from Drexel University and has led a long and successful career with firms that include Tozour-Trane, Costa & Rihl, Worth Mechanical, and Fluidics. He has been involved with numerous landmark projects in New Jersey and Pennsylvania, recently serving as Project Executive during the construction of the 57-story Comcast Center in Philadelphia, and has directed many key energy reduction projects for clients such as Princeton University, Rutgers, and UMDNJ. Michael and his wife of 32 years, Paula, have two daughters and four grandchildren.

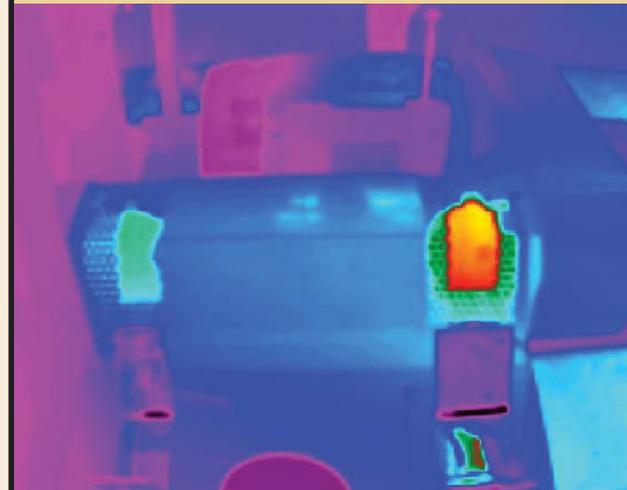
As a superlative industry professional, Michael Phillips' addition to PJM furthers our commitment toward continual growth and improvement while enhancing our ability to provide clients with excellent quality service. Please join PJM in extending Mike a warm welcome as a highly valued member of our team.



### SERVICE PHOTO ALBUM



**Frozen Evaporator** - A frozen evaporator coil spells trouble and can occur due to a number of reasons. In this photo, a critical walk-in freezer has a frozen evaporator coil. This condition can be caused by low airflow, problems with the evaporator defrost cycle or over-charge of refrigerant, to name a few.



**Over Heated Bearings** - Keeping bearings lubricated and shafts aligned is very important. Bearings will increase in temperature if there is a problem. Critical applications use a bearing wear indicator to detect a rise in temperature and report an alarm. A thermal inspection camera can be used to detect a problem as well.



## WHAT IS PASSIVATION?

**Passivation is a chemical process in which a material becomes less affected by corrosive environmental factors, or “passive”.** In stainless steel, passivation occurs naturally; when a clean surface is exposed to oxygen in air or aerated water, a protective surface spontaneously forms. This passive layer will increase in thickness over time and repair itself if surface damage occurs. It is sometimes necessary to accelerate the process in new fabrications with a professional passivation treatment, particularly where there are mechanical joints, tight corners, intricate shapes, or welded areas. Clean water and steam systems should be passivated to ensure corrosion resistance from the start.



In a typical passivation treatment, a specialist circulates a treatment solution, usually containing nitric or citric acid, through the system, followed by a water rinse. This allows oxygen to react with surface chromium, and a protective passive film immediately develops. It is often necessary to precede passivation with pickling, a chemical process in which heavy oxide layers caused by heat are removed from the stainless steel surface.

## PJM repetitive strain injury

**Repetitive strain injuries, or RSIs, are activity-related injuries to the musculoskeletal system.** Work-related RSIs occur more frequently in construction than in any other industry, especially among plumbers, painters, and carpenters. RSIs, also known as cumulative trauma disorders, repetitive motion disorders, and overuse syndrome, are the leading cause of occupational disease in the United States. These disorders cost employers billions of dollars each year in workers’ compensation.

Work-related RSIs result when the body is subjected to stresses caused by repetitive tasks, forceful exertions, vibrations, mechanical compression, or sustained awkward positions. For example, painters frequently suffer from tennis elbow caused by the repetitive motion of the pain roller, and plumbers often develop rotator cuff tendonitis from working with their arms above shoulder level. Other common RSIs are carpal tunnel syndrome, thoracic outlet syndrome, Raynaud’s syndrome, and trigger finger, among many others.

### Preventing RSIs

**To prevent RSI, identify hazards in the workplace and take steps to correct them.** Be aware of early symptoms such as pain or tingling in neck, shoulders, arms or hands. Break up prolonged repetitive movement with rest periods, or by rotating tasks. Stretch or move around if you experience any task-related discomfort. Ergonomics are important; only use tools specifically designed for the task at hand. Longer handles with smooth, rounded edges are usually preferable to short handles and hard edges. Arrange layout of tools and equipment to minimize excessive stretching and bending, and practice proper lifting techniques. Because cold can increase RSIs, especially those related to vibration, wear gloves or use hand warmers when possible. Use ergonomic PPEs such as back supports, wrist and arm supports, and elbow and knee pads, and boots with good ankle support should be worn.

## ANNOUNCEMENTS

**ISN**

- ◆ PJM has received an A rating from ISNetworld. This ensures our customers and future customers that safety at PJM is Job 1. ISNetworld is the global resource for connecting corporations with safe, reliable contractors in capital-intensive industries.