

May 2022

Pump Fundamentals and Overview

4 Contact Hours

8 AM—NOON

Date: May 5, 2022

Place: IUOE LOCAL 95 Hall

Instructor: Mike Hirsh

Tuition:

Education Fund Members – \$0.00

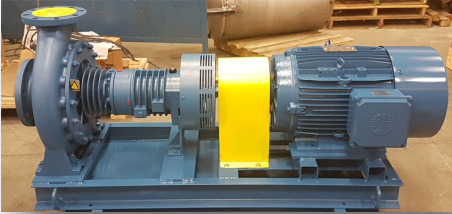
Local 95 Members - \$160.00

Non-Members - \$205.00

Active Retirees - \$0.00

Pump Maintenance Fundamentals Overview

Approved for Stationary Engineer License



INTRODUCTION TO TESTING, ADJUSTING AND BALANCING FOR THE TRADES

4 Contact Hours

8 AM—NOON

or

5 PM—9PM

Date: May 9, 2022

Place: IUOE LOCAL 95 Hall

Instructor: Scott Fielder

Tuition:

Education Fund Members – \$0.00

Local 95 Members - \$160.00

Non-Members - \$205.00

Active Retirees - \$0.00

**Approved for
Stationary Engineer
and
HVAC License**

**EVERGREEN
TELEMETRY**

Recommended Practice for Electrical Equipment

Maintenance (NFPA 70B)

4 Contact Hours

8 AM—NOON

Date: May 12, 2022

Place: IUOE LOCAL 95 Hall

Instructor: FTBA

Tuition:

Education Fund Members – \$0.00

Local 95 Members - \$160.00

Non-Members - \$205.00

Active Retirees - \$0.00



**Approved for
Stationary Engineer and Electric License**

NIULPE Prep for Class 4 and 3 License

8 Contact Hours

5PM—9 PM

Date: May 12 and 16, 2022

Place: IUOE LOCAL 95 Hall

Instructor: Allen Gray

Tuition:

Education Fund Members – \$0.00

Local 95 Members - \$320.00

Non-Members - \$410.00

Active Retirees - \$0.00

Approved for Stationary Engineer License

**MUST ATTEND BOTH CLASSES
FOR CREDIT**

NO PARTIAL CREDIT



N.I.U.L.P.E.

May 2022

SHERWIN WILLIAMS Presents:
Technical Painting Techniques and Products

4 Contact Hours

5PM—9 PM

Date: May 18, 2022

Place: IUOE LOCAL 95 Hall

Instructor: Sherwin Williams

Tuition:

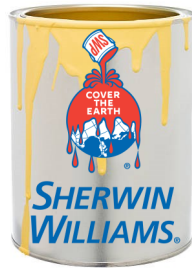
Education Fund Members – \$0.00

Local 95 Members - \$160.00

Non-Members - \$205.00

Active Retirees - \$0.00

Approved for:
Stationary Engineer License



Pittsburgh Air Systems Presents:

Johnson Controls Overview

4 Contact Hours

8 AM—NOON

Date: May 19, 2022

Place: IUOE LOCAL 95 Hall

Instructor: Jason Konley/Pittsburgh Air Systems

Tuition:

Education Fund Members – \$0.00

Local 95 Members - \$160.00

Non-Members - \$205.00

Active Retirees - \$0.00

Approved for:
Stationary Engineer License

Pittsburgh AIR Systems, Inc.
INDUSTRIAL INC.
An Employee Owned Company



HVAC filtration, leveraging filter technology and life cycle costing

4 Contact Hours

8AM—NOON

Date: May 24, 2022

Place: IUOE Local 95 Hall

Instructor: FILTECH

Tuition:

Education Fund Members – \$0.00

Local 95 Members - \$160.00

Non-Members - \$205.00

Active Retirees - \$0.00

Approved for
Stationary Engineer and HVAC License



FLUKE:

PREDICTIVE MAINTENANCE TECHNOLOGIES

Overview Infrared, Power Quality, Vibration Analysis

4 Contact Hours

8AM—NOON

Date: May 25, 2022

Place: IUOE Local 95 Hall

Instructor: Scott Electric and Fluke

Tuition:

Education Fund Members – \$0.00

Local 95 Members - \$160.00

Non-Members - \$205.00

Active Retirees - \$0.00

Approved for
Stationary Engineer and Electric License



May 2022

APR SUPPLY Presents:
Alternative Refrigerants
8AM—NOON

Date: May 26, 2022

Place: [IUOE Local 95 Hall](#)

Instructor: APR Supply/ Rob Chiocchi

Tuition:

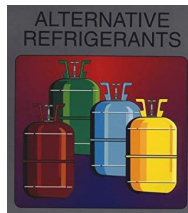
Education Fund Members – \$0.00

Local 95 Members - \$160.00

Non-Members - \$205.00

Active Retirees - \$0.00

Approved for
Stationary Engineer and HVAC license



Per the City of Pittsburgh

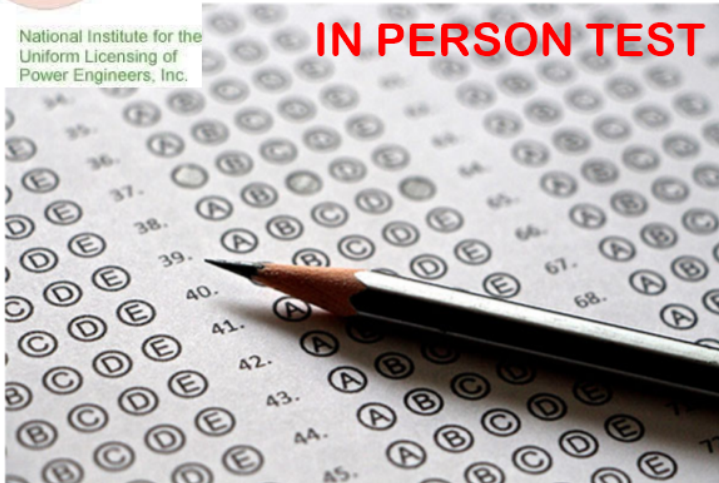
Licensing Department:

**You are not permitted to take
the same course more than
once**



National Institute for the
Uniform Licensing of
Power Engineers, Inc.

IN PERSON TEST



June 14, 2022

PUMP FUNDAMENTALS.

Overview of pumps and pumping theory. The course is designed to review the basic pump designs, classifications and many of their applications where they are used.

Also covered are the properties of fluids and the influence of pump choice and performance, the concepts of flow and pressure, viscosity, pump construction, and cavitation.



LOCAL 95 TRAINING FUND



EVERGREEN TELEMETRY

Introduction to Testing, Adjusting and Balancing for the trades

Testing, Adjusting, and Balancing (TAB) involves measuring and adjusting air and water flows to meet design requirements. The TAB process is comprised of using test instruments, sensors and monitors to verify appropriate temperatures, airflow and other characteristics within the HVAC system. Testing, Adjusting, and Balancing is a vital step for complex air and hydronic systems within buildings and throughout campuses to ensure HVAC systems are optimized for occupant comfort, energy efficiency, indoor air quality, and manufacturing processes.



Recommended Practice for Electrical Equipment Maintenance (NFPA 70B)



FTBA is a LOCAL 95 EMPLOYER!!!



Instructor

Brenda Henwood

David Wood, PE

Phone

724-991-7469

Email

Brenda@FTBAteam.com

Davew@FTBAteam.com

Course Overview

The 4-hour training class will discuss NFPA 70B, Recommended Practice for Electrical Equipment Maintenance, and explain guidelines for creating an effective electrical preventive maintenance (EPM) program. NFPA 70B details what an effective EPM program consists of, why it is necessary, and how to develop a program that implements viable safety measures and maintenance methods. When properly implemented, an effective EPM program can help increase workplace safety; maintain or, in some cases, extend the life of equipment; and help to prevent losses in production which, in turn, result in lost revenue.

Learning Objectives

- *What is the purpose of NFPA 70B?
- *How does NFPA 70B work with other codes and standards?
- *What does NFPA 70B include?
- *Is NFPA 70B required?
- *How do I use NFPA 70B with my electrical safety program based on NFPA 70E?
- *The Value of an Effective Electrical Preventative Maintenance Program

Sponsored by:

FTBA Electrical



FTBA is proud to be a supporting service provider to the Allegheny County Emergency Services (ACES) center. ACES is a 24/7 operation, managing police, fire, and emergency medical services serving a population of 1,229,605 people in an area of 730 square miles. The county utilizes the 67,390ft² center to operate four divisions: 911 Operations and Communications, Fire Marshal's Office, Fire Training Academy, and Emergency Management (EMA).

FTBA staffs two full-time local 95 Engineers providing the data center with facility management support services as well as maintenance and repairs. FTBA also provides 24/7 emergency response. Infrastructure that is most critical, such as the electrical distribution equipment, plumbing, air handling equipment, lighting, chilled water system, and HVAC is inspected and maintained routinely. FTBA also proudly assists ACES by consulting on capital improvement projects.



National Institute for the
Uniform Licensing of
Power Engineers, Inc.



Our Training
Moves The
World

I.U.O.E Local 95
Training Fund



IUOE Local 95 Training Fund

is pleased to announce the return of the
NIULPE class 4 and 3 prep course.

Don't miss the return of this course!!

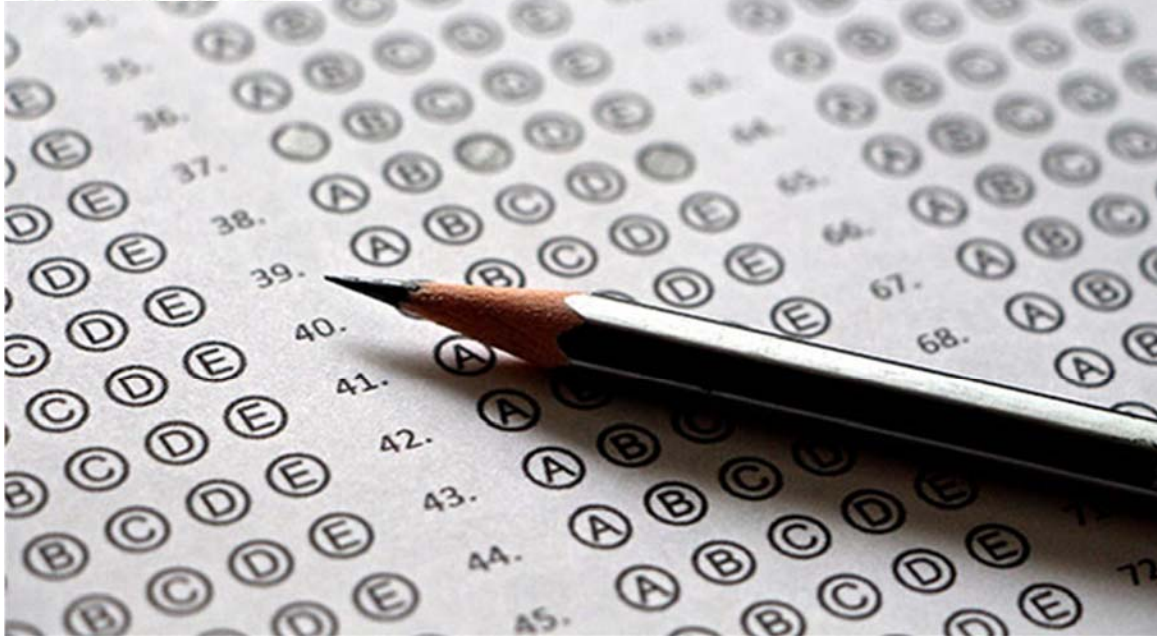
Class size may be limited.

May 12 and 16, 2022



National Institute for the
Uniform Licensing of
Power Engineers, Inc.

IN PERSON TEST



June 14, 2022 at IUOE Local 95
4:00PM Sign In
5:00PM Testing Begins

**An application must be filled out and
returned TO NIULPE before testing.**

An exam application can be downloaded from:

**NIULPE.org
or
www.iuoelocal95.org/niulpe**



**SHERWIN
WILLIAMS®**



PAINTER TRAINING COURSE

Register at:
www.iuolocal95.org

**May 18, 2022
5 PM - 9 PM**

The Local 95 Training Fund

In Conjunction with

Sherwin-Williams



Is pleased to announce

**Technical Painting
Techniques and Products**



**SHERWIN
WILLIAMS®**



I.U.O.E. Local 95 Training

Caulks & Sealants

- a. Thermal Expansion & Contraction and how it relates to painting
- b. Silicone Sealants (Neutral Cure vs. Acid Cure)
- c. New Products/New Technology

Applicators

- a. Basics of Filaments in a Brush
 - a. Nylon
 - b. Polyester
 - c. Chinex
- b. Pros vs. Cons of Nylon
- c. Pros vs. Cons of Polyester
- d. Pros vs. Cons of Chinex
- e. How each filament relates to today's paint
- f. Roller Covers
 - a. Finish Covers vs. Production Covers
- g. New Products

Increasing Productivity

- a. Regular Brush vs. High Capacity Brush
- b. 9" Cover vs. 14" & 18" Cover
- c. Production Sleeves vs. Microfiber Sleeves
- d. Regular caulking vs. quick dry caulking

Hands on Application

During the Hands-on portion, we will compare regular products versus high productivity products so attendees can see, first hand, the benefits of using brushes and covers that are going to hold more paint.

PAINT

- A. PREP is the KEY to Success for ANY Project.
 - a. Clean, Dry & Dull
 - b. Tools such as Joint Compound for Patch & Repairs
 - c. BENEFITS of Prep
- B. Different Types & Qualities (Expectations of the Applicator and/or Customer)
 - a. Good, Better & Best Quality Levels
 - b. Flat, Eggshell, Satin, Semi-Gloss & Gloss Sheens
- C. Wall Paint vs Trim, Door & Cabinet Paints
 - a. Pros, Cons & Benefits of Different Types & Qualities to Expectations
- D. Demonstration
 - a. How to Cut-In the Trim Areas & Roller the Wall Areas
 - b. Tips & Tricks to the Trade from our Professional Painter/Contractor

ADDITIONAL VENDORS PROVIDING INSTRUCTION AND SUPPORT



TITAN PAINT SPRAYERS



MI-T-M PRESSURE EQUIPMENT



GRACO PAINT SPRAYERS AND STRIPERS



PAUL ADAMS PAINTING
RYAN CATELLO PAINTING

Johnson Controls System Overview Class:

This course will provide an overview of the various Johnson Controls Direct Digital Control Systems that are currently **controlling building HVAC systems**. The course will cover the original N2 Metasys and Facilitator systems, move to the FX Classic system, and cover the current Metasys and Facility Explorer BACnet MS/TP and BACnet IP systems. Topics will include controller hardware overview, different software packages that are used, network topologies for the different systems, and multiple supervisory controllers that are currently operating in the market for these systems.

Course Syllabus:

1. Johnson Controls product strategy – How they go to market and how that affects the brand of Johnson Controls DDC that you have installed in your building
 - a. Open -vs- Proprietary
 - b. Facilitator / Facility Explorer / Tridium / Metasys
2. The original Johnson Controls Metasys System
 - a. Hardware overview
 - i. UNT, VAV, VMA, TC, AHU, DX-9100 controllers
 - ii. Companion Supervisor Panel
 - iii. Graphic User Interface Software
 - b. HVAC Pro software
 - i. Operation and connection options for today's laptops
 - c. Wiring details
 - d. N2 Bus Communication protocol
 - i. Network wiring and bus guidelines
 - ii. Features and limitations
 - iii. Modem communication
3. Johnson Controls Facilitator
 - a. Compare and contrast vs Metasys
 - b. Facilitator Supervisor Panel
4. Metasys Upgraded Supervisor – NCM Panels
5. Facilitator Upgraded Supervisor – N30
6. Facility Explorer Brand and FX Classic Hardware
 - a. FX07, FX14, FX15, FX16, FX-VAV
 - b. New bus Options:
 - i. BACnet communication
 - ii. Lon Communication
 - c. New supervisor – FX40 Front End (Powered by Tridium Niagara AX)
7. New Metasys and Facility Explorer BACnet system
 - a. FEC, FAC, VMA controllers
 - b. PCG, PCA, PCV controllers
 - c. Expansion Modules
 - d. Bluetooth laptop connection
 - e. Supervisor Controllers
 - i. NAE (Metasys)
 - ii. FX80 (Facility Explorer – Powered by Tridium Niagara N4)
 - f. Wireless Zigbee communication
 - g. BACnet IP Controllers
8. Ancillary Devices that operate with Johnson Controls DDC
 - a. Sensors: wired, wireless, communicating
 - b. Valves and actuators
9. Smart Equipment Controls from Johnson Controls and how it ties to current DDC

We specialize in providing our customers with a complete line of filtration equipment and replacement filters. Filtration applications include air, compressed air, dust collection, gas, hydraulic and liquid filtration.



FILTERS FOR AIR, GAS & LIQUIDS • CLEAN ROOM & FILTER TESTING

Course Agenda, 4 Hour Training

Course Title: Leveraging New Technology and Life Cycle Costing to Save Money and Resources with Air Filters

Speaker: Andy Komar, C.A.F.S.

- I. What's in the Air?
 - a. Understanding Particle Sizes
 - b. Difference Between Particulate and Molecular Contaminants
 - c. Particle Settling Velocities
 - d. IAQ- health effects

- II. Performance Factors of Air Filters
 - a. Resistance
 - i. Proper Change-out Points based on ΔP
 - ii. Energy Implications
 - iii. Case Study Review
 - b. Dust Holding Capacity (Filter Life)
 - i. Various Filter Medias
 - ii. Product Configuration
 - iii. Case Study Review
 - c. Efficiency
 - i. Understanding MERV (ASHRAE 52.2-2017)
 - ii. Explanation of ISO 16890

- III. Life Cycle Costing
 - a. Filter Cost + Energy Costs
 - b. Account for Labor, Disposal
 - c. Case Study

- IV. Molecular Filtration
 - a. Why use Molecular Filters (Gas Phase)
 - i. Four classes of applications
 - ii. Activated Carbon
 - iii. Filter Types

- V. Ultraviolet Lights: UV-C for Coil Irradiation
 - a. How it works
 - b. Benefits

Predictive Maintenance Technologies -Thermal Imaging, Power Quality and Vibration Analysis.

1, Vibration & Maintenance Practices

1a: Run to failure

1b: Preventative Maintenance

1c: Predictive Maintenance

1d: World Class

2, Overview of Infrared Technology

3, Ease of Use

4, Applications:

A: Electrical

B: Mechanical

C: Building Envelope

D: Other

5, Conducting an Infrared Survey

6, Discussion of Example thermograms

Power Quality Vs Power & Energy

1, Overview Of What is Power Quality

1a: What is Power & Energy

1b: What are the differences

1c: Loggers Vs Troubleshooters

2, Poor PQ the Effects on Electrical System Health

2a: Over Heating

Motors

Transformers

2b: Poor Performance

Shortened Equipment life

Control System Problems

2c: Nuisance Tripping of Breakers

2d: Flickering Lights

2e: Harmonics & Electronics

2f: Transients

Predictive Maintenance Technologies -Thermal Imaging, Power Quality and Vibration Analysis.



3, Other benefits of PQ

A: Power Factor

B: Energy Loss

C: Motor Efficiency

Vibration:

1, Overview of what is Vibration

1a: Simple Meters

1b: Testers

1c: Analyzers

1d: Outside Contractors

2, Typical Costs for:

Meters, Testers, & Analyzers

3, Symptoms Of Excessive Vibration

3a: Excessive Noise

3b: Over Heating

3c: Shortened Equipment life

3d: Cracked Mountings

4, Typical Causes of Excessive Vibration

4a: Misalignment

4b: Unbalance

4c: Looseness

4d: Failing bearings

4e: *Electrical Noise*

4f: *Resonance*

Predictive Maintenance Technologies -Thermal Imaging, Power Quality and Vibration Analysis.



Infrared

Theory and Practical Session:

Safety

PPE Requirements

How to conduct a proper Thermal Inspection

Work area safety

Arc Flash Mitigation

Theory

Science behind Infrared

Emissivity

Reflectivity

Spectral ranges

Harmonic effects

Typical Electrical applications

How Infrared applies to:

Transformers

Switch gear

Breakers

Motors

Control Panels

Hands On

Camera adjustments

Thermogram Capture

Thermogram interpretation

Predictive Maintenance Technologies -Thermal Imaging, Power Quality and Vibration Analysis.



Power Quality

Theory and Practical Session:

Safety

PPE Requirements

How to conduct a proper Power Quality Inspection

Work area safety

Arc Flash Mitigation

Theory

Differences between Analyzers & Loggers

Exactly What is Power Quality

A discussion of the Types Of Power Quality issues

Harmonics

Dips & Swells

Power Factor

Power & Energy Studies

Motor Efficiency

Transients & Spikes

Mains Signaling

Flicker

Unbalance

VFD Drive Issues

Oscilloscope meter applications

Hands On

Proper Connections

Scope

Phasor Diagrams

Flicker

Voltage Dips & Swells

Harmonics

Power & Energy

Transients

Unbalance

Predictive Maintenance Technologies -Thermal Imaging, Power Quality and Vibration Analysis.



Vibration

Theory and Practical Session:

Safety

PPE Requirements

Work area safety

Best Practices

Synergy with Other Work Disciplines

Motor Insulation Testing

Infrared Camera

Bearing Lubrication

Oil Analysis

Theory

Exactly What is Vibration Analysis

A discussion of the Types Of Vibration Collection Methods

Fundamentals of Vibration

How to Collect Vibration Information

Discussion of Spectrum Analysis

Major causes of Excessive Vibration

Looseness

Misalignment

Unbalance

Bearing condition

Other causes

Stiffness of the System

Rotor bar issues

Electrical Issues

Alternative Refrigerants: Efficiencies and Updates

LINE CARD HVAC/HYDRONICS



AIR DISTRIBUTION

Aprilaire
Centrotherm
Elgen Manufacturing
Fantech
Flanders
General Filters
Hardcast
Hart & Cooley
Johns Manville
Lambro
M&G DuraVent
Majestic Steel USA
McDaniel Metals
Multivent
National Chimney
Nidec/US Motors
Quietflex
Reflectix
Seal Tite
Skuttle
Soler & Palau Fans
Southwark Metal
Thermo Manufacturing
Tjernlund

BOILERS

Axeman-Anderson
Bosch
Bradford White
Buderus
Navien
New Yorker
NTI
Pennco
Weil-McLain
Utica

HVAC EQUIPMENT

Airease
Armstrong Air
Bosch
Concord
Friedrich
Fujitsu Airstage VRF*

Fujitsu Halcyon
Gibson
GeoStar
Heil
Heil Commercial*
Honeywell Generator
MagicPak*
Miller
Olsen
Reznor
Ventacity*

REFRIGERANT & RECOVERY TANKS

Arkema
Dynatemp
ProCharge

SUPPLIES & ACCESSORIES

3M
Allanson
Amtrol
Argo Baseboard
Baseray
Beckett
Bell & Gossett
BoilerMag
Cambridge-Lee
Camco
Carlin Combustion
CDI Adapter Curbs*
CPS Products
Delavan
DiversiTech
EasyHeat
Field Controls
FreshAire UV
Granby
Grundfos
Hercules
Hydrolevel
IMCOA
JMF Linesets
Lucas Milhaupt
Lynn Manufacturing

Nu-Calgon
RectorSeal
SSC Strainers
SlimDuct
Smart Electric
Southwire
SpeedClean
Suntec
Taco
TracPipe
Unifilter
Viega Radiant
Watts
Westwood

TOOLS & TEST INSTRUMENTS

Diablo Tools
Fieldpiece Instruments
Irwin
Lenox
Malco
MaxiPro
Milwaukee
Ridgid
UEi Test Instruments
Wal-Rich
Yellow Jacket

UNIT & KICKSPACE HEATERS

Beacon-Morris
Embassy
Vanguard*

ZONING & CONTROLS

Arzel Zoning
Honeywell
ICM Controls
iWorx*
Pro1
Resideo
Supco
White Rodgers



LINE CARD PLUMBING



DRAINAGE PRODUCTS

IPEX
IPS
Jay R. Smith Mfg
Sioux Chief
Watts Drains

FIXTURES

American Standard
Artisan
Basco
Brizo
Broan-NuTone
Central Brass
Chicago Faucet
Dayton
Delta
DXV
E.L. Mustee
Elkay
Fantech
Fleurco
Florestone
Gerber
Grohe
Hansgrohe
Jaclo
Maax/Aker
Moen
Saniflo
Sloan
Sterling
Swan
Toto
Woodford

PIPE, VALVES, & FITTINGS

A.Y. McDonald
ADS
Anvil International

Apollo Conbraco
BrassCraft
Cambridge Lee
Cresline
DiversiTech
Fernco
IPS - STUDOR
IPS - WaterTite
Legend Valve
Keeney
Matco-Norca
McGuire's
MegaPress
MegaPress G
Merit Brass
NIBCO
Oatey
Pipeconx
ProPress
Riifo
Sharkbite
Spears
United Pipe
Watts Water
Webstone

PUMPS, TANKS, & WATER TREATMENT

3M Aqua-Pure
American Plumber
Amtrol
ATS
Bell & Gossett
Campbell
Grundfos
Jackel
Lancaster Water Group
Little Giant
Master Water Conditioning
SJE-Phombus
Stancor

Sta-Rite
Taco
Zoeller

TOOLS, SUPPLIES, & ACCESSORIES

Bemis
Camco
Cherne
Diablo
Fluidmaster
General Pipe Cleaners
Hercules
IMCOA
Insinkerator
IPS - Weld-On
LA-CO
Lenox
Malco
Mill Rose
RectorSeal
Ridgid
SILA-SEAL
TurboTorch
Viega
Wal-Rich
Waste King
Worthington
Zurn

WATER HEATING

American Standard
Bosch
Bradford White
Buderus
Navien
New Yorker
NTI
Vaughn
Weil-McLain