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Shower Heads
Toilet Room Fixture Supports
Toilet Seats
Valves - Flush Including Automatic Flushing System
Valves - Shower Control Valves
Valves - Thermostatic Mixing for Handwashing
Water Coolers
Water Filters - Inline Type
Cuno Filtrine Honeywell Culligan Dollinger Bruner

WATER SOFTENERS AND TREATMENT

Deionized Water and Reverse Osmosis Water Suppliers
Water Treatment Equipment - Softeners
Bruner

MULTIMEDIA FILTRATION SYSTEM

Acceptable Manufacturers
Crown Equipment Systems, PEP Filters, Everfilt

COMPRESSED AIR SYSTEMS

Air Compressors - Screw Type (1800 RPM)
Air Compressors - Reciprocating
Air Dryers and Related Filters
Air Pressure Reducing Stations

NATURAL GAS SYSTEMS

Master Gas Valve Boxes

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INTRODUCTION:
Manufacturers on this list fall into three categories:

Preferred Manufacturer: Listed manufacturer’s product may be used on BGSU projects. However, manufacturer’s product must be listed as approved in the project’s contract documents or specifications. Listing in the PML does not guarantee a product will automatically be listed in a project’s documents or specifications.

Conditional Approval: Listed manufacturer’s product may be used on select BGSU projects, however approval from the respective A & E Technical Committee, Design and Construction department, and Campus Operations must first be obtained. If approved, it may be listed as approved in the project’s contract documents or specifications. Manufacturers in the Conditional Approval category have gone through successful preliminary review, but Technical Committee requires additional in-service input prior to final category listing.

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MECHANICAL AND PLUMBING TRADES
PREFERRED MANUFACTURER'S LIST

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Under Consideration: Listed manufacturer’s product is being evaluated. The product should not be included in BGSU projects.

**MECHANICAL GENERAL REQUIREMENTS**

**Fasteners**
Refer to BGSU Design Standards

**Fire Stopping**
3M, Hilti, Tremco, Manville

**Roof Curbs**
Pate
Creative Metals
Roof Curbs Engineered and Manufactured by the Manufacturer of the Equipment to be supported

**BASIC PIPING MATERIALS AND METHODS**

**Grooved Joints for Copper and Steel Piping (except tunnels)**
Victaulic, Anvil International, Tyco Grinnell.

Grooved Joints for Copper Piping In Tunnels
Victaulic

**Dielectric Fittings**
Refer to UM Master Specification

**Flexible Metal Hose Connectors (Stainless)**
Flex Hose Co., Flexonics, Mason, Metraflex, Propress
Under Consideration: Twin City Hose

**Flexible Metal Hose Connectors (Copper)**
Anaconda, Flex Hose Co., Flexonics, Mason, Metraflex

**Flexible Connectors (Rubber)**
Flex Hose Co., Flexonics, Garlock, Mason, Mercer Rubber Co., Metraflex

**Hangers - Pipe**
B-Line
Carpenter & Paterson
Michigan Hanger
Anvil
Shaw
Unistrut, Powerstrut, Superstrut

**Piping - Lab Waste and Vent (Polypropylene)**
Enfield, Orion, Zurn, Nibco, Iplex
Strainers - Steam & Water
Keckley
Yarway Mueller
Spirex-Sarco
Metraflex Watts
Armstrong
Victaulic (grooved water piping only)
Anvil Gruvlok (grooved water piping only)

Valves - Safety Relief
Spirax-Sarco Watts
Leslie
Anderson-Greenwood
Conbraco
Keckley

UNDERGROUND PIPING IN CONDUIT SYSTEM

Piping Systems - Underground
Perma-Pipe, Rovanco, Under Consideration: Urecon, others? Will advise…

UNDERGROUND CHILLED WATER PIPING SYSTEM

VALVES

PSE Inc.
ITT Bell & Gossett Circuit Setter
Taco
Ellison Annubar
Accuset Armstrong
T & A (part of Victaulic) Flow Design Inc

Valves - Automatic Hydronic Regulating/Balancing
Auto-Flow (press. indep.)
Griswold (press. indep.)
B & G (press. indep.)
Nibco

Valves - Manual Hydronic Regulating
B & G T & A
Armstrong
Taco
Flow Design
Nibco

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Valves - Ball With Lever Handle

Pegler
Crane Grinnell
Jamesbury
Watts Jomar
Milwaukee
American Valve
Nibco Apollo
Hammond

Valves - Butterfly

Keystone
Dezurik Grinnell
Stockham Fisher
Watts
Bray Milwaukee
Crane Nibco
Victaulic (for grooved piping)
Hammond
Under Consideration: Apollo

Valves - High Performance Butterfly

Bray
Crane Flowseal
Dezurik,
Fisher Not specified in MS15100
Grinnell-GHP,
Jamesbury
Keystone
Milwaukee
Tri-Seal-Valve-Contromatics (formerly Watts/KF Contromatics)
Xomox.

Valves - Lubricated Plug

Honestead,Homestead, Milliken, Resun

Valves - Gas (UL Approved)

Pegler
Jomar Watts
Grinnell
Crane
Milwaukee "Butter Ball" MS 15100 "Butter Ball" not specified. Nibco
Hammond
Jamesbury
Apollo
American Valve
**Valves - Swing Check Milwaukee Crane**
- Grinnell
- Nibco

**Valves - Silent Check**
(GroupBox) except tunnels) Milwaukee, APCO, Mueller, Metraflex
Utility tunnels:
  a. 2” and under: Check All
  b. over 2” - Durabula, stainless body

**Valves - City Water Main (City of Bowling Green)**
- Butterfly Valves - Mueller Lineseal III or approved equal
- Gate Valves – Mueller A-2360 or approved equal
- Tapping Valves
  - Clow F-4114
  - Mueller T-2360
  - American Flow Control RW-500 or approved equal

**PIPE EXPANSION JOINTS**

**Expansion Joints - Bellow Type**
- Flexonics, Metraflex, Microflex, Twin City Hose

**Expansion Joints - Externally Pressurized**
- Hyspan, Microflex

**Expansion Joints - Slip Type (Packed) For Steam Piping – no longer used**

**ELECTRICAL HEAT TRACING OF PIPES**

**Heat Tracing**
- Raychem, Thermon

**THERMOMETERS AND GAUGES**

**Pressure Gauges**
- Dwyer, H.O. Treice, Weksler, Marsh, Ashcroft, Weiss

**Pressure & Temperature Plugs**
- Pete's Plug, Schrader, Sisco

**Thermometers**

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**PUMPS**

**Pumps - Condensate Waste**
Little Giant, Hartell, Marsh, Bekette

**Pumps - Double Suction - Base Mounted**
Bell & Gossett (ITT), Weinman, Armstrong, Paco

**Pumps - End Suction, Close Coupled - Base Mounted**
Bell & Gossett (ITT), Weinman, Armstrong, Taco, Aurora

**Pumps - End Suction, Flexibly Coupled - Base Mounted**
Bell & Gossett (ITT), Weinman, Armstrong, Taco, Aurora

**Pumps - In-Line Circulators**
Bell & Gossett (ITT), Armstrong, Weinman, Taco, Aurora

**Pumps - In-Line Close Coupled - Hanger Supported**
Bell & Gossett (ITT) Series 60, Armstrong, Weinman, Taco, Aurora

**Pumps - In-Line Split Coupled - Base Mounted**
Bell & Gossett (ITT) Series 80-SC, Armstrong, Weinman, Taco
Split Coupled, Aurora

**Pumps - Sump Pumps**
Vertiflo (B&G), Allis Chalmers, Weinman, Armstrong, Zoller, Weil

**Pumps - Vacuum**
Nash
Domestic
Sehi Shipco

**MOTORS**

**Motors - General, Premium Efficiency Type Only - 1/2 HP and above**
Reliance, Baldor, Dayton, GE, U.S. Motors, WEG

**STEAM BOILER CHEMICAL WATER TREATMENT**

**HVAC WATER TREATMENT**

**Chemical Suppliers**
Ques Industries, Schaefer Technologies, Crown Solutions (Currently contracted with BGSU)
Chemical Shot Feeders
Bruner, Crown Solutions, Neptune,

Corrosion Coupon Rack
Pulsafeeder

MECHANICAL IDENTIFICATIONS

Pipe Markers
Brady Co. (Signmark Div.), Brimer, Craftmark, Kolbi, MSI (Marking Services Inc.), Seton
(Stick on pipe markers only)

VIBRATION CONTROL

Vibration Isolators
Amber Booth, Korfund, Mason, Vibration Eliminator, Vibration Isolation Co.

MECHANICAL SYSTEMS INSULATION

Insulation - Duct/Pipe/Equipment - Fiberglass
Owens Corning
Knauf
Schullers (Johns Manville)
Armstrong
Pittsburg-Corning
Certainteed

Insulation - Flexible/Elastomeric/Polyolefin
AP Armaflex, IMCOA, Nomaco K-Flex, Rubatex

Insulation - PVC Covering, Elbows and Fittings
Proto Zeston
Ceelco

Insulation - Removable Jackets
Q-Master by ESI
Insulation Tech. Inc.

FIRE PROTECTION SYSTEMS SECTION

Preaction Systems
Siemens (Pyrotronics), Notifier, Viking

Piping - Grooved
Anvil Gruvlok, Victaulic

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Sprinkler Heads
   Reliable
   Grinnell-Gem
   Viking
   Victaulic

Tamper Switches
   Grinnell, System Sensor, Victaulic

Valves - Fire Protection, Detector Check
   Grinnell Reliable
   Viking Victaulic
   Hersey-Anvil
   Ames

Valves - Fire Protection, Zone Control
   Grinnell
   Victaulic
   Milwaukee
   Nibco
   Stockham

FIRE PUMPS

Pumps - Fire
   Allis-Chalmers
   Aurora
   Peerless

WATER DISTRIBUTION PIPING

Backflow Preventers
   Ames Conbraco
   Febco
   Watts
   Zurn-Wilkins

Hydrants - Wall Type
   Woodford Zurn
   Chicago J.R.
   Smith

Vacuum Breakers - Backflow Prevention
   Kewaunee
   Chicago Water Saver
   Bell & Gossett
   Watts Conbraco
Valves - Water Pressure Regulating
   Bell & Gossett, Conbraco, Hoffman, Keckley, Leslie, Spirax Sarco, Watts

Water Hammer Arrestors
   Zurn Watts
   Josam
   J.R. Smith
   Sioux Chief
   Wade

DRAINAGE AND VENT SYSTEMS

Drains - Roof, Floor and Trench, Grease Interceptors
   Josam
   J.R. Smith
   Zurn
   Wade
   Sioux Chief
Under Consideration: MIFAB (V.E. Sales Co.)

PLUMBING FIXTURES

Domestic Water Heaters - Gas Fired Or Electric
   Lochinvar A.O.
   Smith State
   Rheem Raypak

Emergency Shower And Eyewash
   Bradley, Haws, Speakman, Guardian Equipment

Faucets - Automatic, Battery and Electric Type
   American Standard, Sloan, Zurn

Faucets - Manual
   American Standard, Chicago Faucet, Moen

Plumbing Fixtures - Water Closets, Lavatories, Urinals And Sinks
   Lavatories:
      American Standard, Crane, Kohler, Zurn
   Urinals:
      American Standard, Kohler, Zurn
   Water Closets:
      American Standard, Kohler, Crane

Shower Heads
   American Standard, Chicago Faucet, Kohler, Speakman, Symmons
Toilet Room Fixture Supports
Josam, J.R. Smith, Wade, Zurn

Toilet Seats
Bemis, Centoco, Church

Valves - Flush Including Automatic Flushing System
Sloan, Kohler, Zurn

Valves - Shower Control Valves
American Standard, Chicago Faucet, Kohler, Powers, Speakman, Symmons

Valves - Thermostatic Mixing for Handwashing
Powers, Symmons, Wilkins

Water Coolers
Halsey Taylor, Haws, Oasis International

Water Filters - Inline Type
Cuno Filtrine Honeywell Culligan Dollinger Bruner

WATER SOFTENERS AND TREATMENT

Deionized Water and Reverse Osmosis Water Suppliers
Crown Equipment Co. (Preferred)
Siemens/U.S. Filter
Crane
Ionpure
Millipore

Water Treatment Equipment - Softeners
Crown Engineering (Preferred)
Burmah / Venture (H.V. Burton)
Bruner (K.L. McCoy)

Water Treatment Equipment
Crown Engineering Burmah
Bruner

MULTIMEDIA FILTRATION SYSTEM

Acceptable Manufacturers
Crown Equipment Systems, PEP Filters, Everfilt

COMPRESSED AIR SYSTEMS

October 18, 2013 MECHANICAL AND PLUMBING TRADES PREFERRED MANUFACTURER'S LIST
Page 17 of 26
Air Compressors - Screw Type (1800 RPM)
    Atlas - Copco
    Quincy QSI Series

Air Compressors - Reciprocating
    Quincy
    Gast
    Devilbliss

Air Dryers and Related Filters
    Wilkinson
    Zeks
    Van-Aire
    Hankison

Air Pressure Reducing Stations
    Van-Aire
    Zeks
    Parker-Hannifin
    Fisher Siemens
    Wilkerson

NATURAL GAS SYSTEMS

Master Gas Valve Boxes
    Ohmeda
    Mueller

HYDRONIC PIPING SYSTEMS AND SPECIALTIES

Automatic & Manual Air Vents
    Armstrong, B & G, Hoffman, Wheatley, Taco

Suction Diffusers
    Armstrong, B & G, Grinnell, Taco, Victaulic, Wheatley

Triple Duty Valves
    Armstrong, B & G, Taco, Wheatley

Water Pressure Relief Valve
    ITT B & G, ITT McDonnell Miller, Consolidated, Watts

Water Pressure Regulating/Reducing Valve
    B & G, Hoffman, Watts

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Air Separators
    Amtrol, Armstrong, B & G, Spirotherm, Wheatley

Coalescing Separator
    Spirotherm (Spirovent Dirt HV)

Expansion Tank
    Amtrol, Armstrong, Bell and Gossett, Wessels, Taco CA

Centrifugal Separator
    Griswold Controls, Lakos

In-Line Filters
    Bruner, Culligan, Cumo Dollinger, Honeywell

Glycol Feed Packages
    Chemical Pump Co., Wessel Co.

Inhibited Ethylene Glycol
    Dowtherm SR-1

STEAM AND CONDENSATE PIPING SYSTEMS AND SPECIALTIES

Steam Pressure Reducing Stations
    Armstrong, Jordan, Leslie, Spence, Spirax-Sarco, Watts Anderson-Greenwood

Steam Traps - All Types
    Armstrong, Spirax Sarco, Hoffman (ITT),

Flash Tank, Vacuum Breaker, Drip Pan Elbow, Pressure Reducing Valve
    See Master Specification for these items.

REFRIGERANT PIPING SYSTEMS AND SPECIALTIES

Valves - Refrigeration
    Asco, Hansen, Henry Valve, Parker, Sporlan

CAST IRON BOILERS

Boilers
    Burnham, Peerless, Weil McLain

FIRE TUBE BOILERS
Boilers
   Easco, Johnston, Superior , Conditional Approval: Hurst Boilers

Burners
   Webster
   Under Consideration: Viessmann

WATER TUBE BOILERS

Boilers
   Bryan, Unilux

BREECHINGS, CHIMNEYS, AND STACKS

Boiler Stack
   Metalbestos, Metal-Fab, Van Packer, Schebler, AMP Co

STEAM CONDENSATE RETURN UNITS

Condensate Meters - Gravity Type - no longer used

Condensate Receiver
   ITT Domestic, Skidmore, Shipco, Spirax-Sarco

Condensate Meters - Magnetic Induction
   EMCO, Under Consideration: Krohne

Pumps - Boiler Feed
   Skidmore, Spirax-Sarco, Shipco, Weinman

Pumps - Condensate (Condensate Receiver Must Be Cast Iron)
   ITT Domestic (Hoffman), Skidmore, Spirax-Sarco, Shipco, Weinman

Pumps - Condensate, Steam Or Air Pressure Powered
   Sarco, Armstrong

REFRIGERANT MONITORING SYSTEM

Acceptable Manufacturers
   MSA Corporation

AIR COOLED CONDENSING UNITS

Air Cooled Condensers
   Bohn,McQuay, Trane

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Refrigeration Compressors
   Copeland, Tecumseh

WATER COOLED PACKAGED CHILLERS

Chillers - Centrifugal
   McQuay, Carrier

Chillers - Screw or Scroll
   McQuay
   Trane
   Under Consideration: Carrier.

AIR COOLED PACKAGED CHILLERS

Chillers - Reciprocating, Air-Cooled
   Trane
   Under Consideration: Carrier.

Chillers - Process Cooling
   Filtrine, Liebert, Trane, Neslab

Refrigeration Compressors
   Tecumseh, Copeland, Trane, McQuay

DUCTLESS SPLIT ROOM AIR CONDITIONERS- AIR COOL

Air Conditioning Units - Ductless, Spot Coolers
   Daikin, Friedrich, Liebert, Mitsubishi, Sanyo, Trane

PACKAGED TERMINAL AIR CONDITIONERS, AIR-COOLED

Air Conditioning Units - Package Type (thru the wall self-contained DX)
   IslandAire, McQuay, Trane, York

COOLING TOWERS

Cooling Towers
   Baltimore Air Coil, Marley

HEAT EXCHANGERS & CONVERTERS

Convertors (Shell & Tube) - Steam To Hot Water
Bell & Gossett, Taco, Armstrong, Mueller

Heat Exchanger - Plate & Frame
  Alpha-Laval, Armstrong, Bell & Gossett, Mueller

**FLOOR MOUNTED FAN COIL UNITS (UN-DUCTED)**

McQuay, Trane

**PACKAGED COMPUTER ROOM AIR CONDITIONING SYSTEM**

Air Conditioning Units - Computer Room
  APC, Liebert, Stulz

**HUMIDIFIERS**

Armstrong, Dri-Steem, Nortec,

**COILS AND DRAIN PANS**

Aerofin, Heatcraft, Marlo, McQuay, Trane, USA Coil, York, Coil Replacement Co

**ENERGY RECOVERY WHEEL (to be used with OEM equipment)**

Semco, Desicant Rotors International, Air Exchange

**TERMINAL UNITS**

Baseboard Radiation, Finned Tube Radiation
  Dunham-Bush, Rittling, Slantfin, Sterling Radiator, Trane, Vulcan Radiator

Panel Radiators
  Jaga, Runtal Radiator, Airtex

Convectors
  Dunham-Bush, Rittling, Sterling, Trane

Unit Heaters
  Dunham-Bush, McQuay, Modine, Reznor, Rittling, Trane, Wing

Cabinet Heaters
  Dunham-Bush, McQuay, Modine, Rittling, Sterling, Trane

Unit Ventilators
  American Air Filter, Trane

Electric Cabinet Heaters
  Berko, Qmark, Trane

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Electric Heating Coils
   Brasch, Chromalux, Indeeco, Trane

Gas Fired Duct Furnaces
   Modine, Reznor, Sterling, Trane

Radiant Ceiling Panel - Hot Water
   Aero-Tech, Air-Tex, Sun-El

**BLOWER COIL UNITS**

**CUSTOM AIR HANDLING UNITS**

Air Handlers

Air Blenders
   Blender Products Inc., R.M. Products

Gas Fired Make-Up Air Units (direct and indirect)
   Rapid, Reznor, Sterling, Trane
   Under Consideration: Modine (Air Design), Greenheck

**SEMI-CUSTOM AIR HANDLING UNITS**

Air Handlers
   Air Flow Equipment, Buffalo Air Handling, Governair LLC, Mafna Air Conditioning, Inc., McQuay, Thermal Corporation, TMI Custom Air Systems, Trane, Ventrol

Air Blenders
   Blender Products Inc., R.M. Products

**FANS**

Fans: All types except Vane and Tube Axial, FRP, High-Plume Induction Lab Type
   Loren Cook
   Buffalo Twin
   City Aerovent
   Greenheck
   Barry Blower
   Penn

Fans - High-Plume Induction-Type Lab Exhaust
   Greenheck - Vektor, Strobic, Cook
Fans -FRP Construction  
M.K. Plastics  
Under Consideration: Harrington

Fans -Vaneaxial, TubeAxial  
Buffalo, Cook, Greenheck, Joy, Trane, Woods

AIR FILTERS

Primary Filters, Secondary Filters and Filter Housing Rack  
American Air Filter, Camfarr, Eaton, Flanders, Purolator, Tri-Dim

HEPA Filters  
Camfarr, Eaton, Flanders

Gas Adsorption Filters  
American Air Filter, Camfarr, Charcoal Service Corp., Flanders, Purolator

Filter Gauges  
Bacharach Instrument Co., Deiterich Standard Corp., Dwyer, Moeller Instrument Co.

SHEET METAL

Exhaust Ductwork - PVC Coated  
United McGill, Tangent, Foremost

Exhaust Ductwork - Teflon Coated Stainless Steel  
Fab-Tech (PermaShield Pipe)

Exhaust Ductwork - FRP  
Perry, Spunstrand, Tangent

Flexible Non-Metallic Duct  
Atco (Flex-Aire), Flexmaster, Hart & Cooley (Genflex)

Double-Walled Panels, Plenums, and Duct at Outside Air Intake Plenums  
McGill Airflow LLC., Semco Mfg Co., VAW Systems, Vibro-Acoustics

Clothes Dryer Vent Ductwork  
Intended for heavy use clothes dryer applications such as resident hall laundry rooms with multiple dryers where access to disassemble duct for periodic cleaning may be challenging. For simple dryer applications, specifying conventional duct may be more appropriate.  
Nordfab Quick-Fit/ACS, Fenton, MO

Duct Sealants  
Hardcast  
McGill Airflow LLC.

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Polymer Adhesives.
Ductmate

**SHEET METAL ACCESSORIES**

**Duct Flexible Connectors**
Ductmate, Duro-Dyne, Fanair, Pathway, United McGill, Ventglas

**Dampers - Fire, Smoke, Combination Fire/Smoke**
Air Balance, American Warming & Vent, Greenheck, Nailor, Ruskin, Vent Products

**Dampers - Balance (manual volume control)**
American Warming & Vent, Arrow, Flexmaster (for round ducts, single branch takeoff only), Ruskin, Greenheck, Krueger, Vent Products, Young Regulator

**Dampers - Iris**
Continental Fan Manufacturing Inc.

**Dampers - Backdraft**
Young Regulator Company. American Warming & Ventilating Co.
Vent Products Co., Inc.
Arrow United Industries.

**Sound Attenuators**
IAC, Semco, Ruskin, United McGill, VAW Systems, Vibro-Acoustics, Price

**Registers, Grilles and Diffusers**
Carnes, E.H. Price, Krueger, MetalAire, Nailor, Titus, Tuttle & Bailey

**Louvers**
American W. & V., Ruskin, Vent Products

**TERMINAL AIRFLOW UNITS**

**VAV, CAV, Dual Duct, and Retrofit Terminal Air Flow Units**
Titus
Krueger
MetalAire
Nailor Industries, Inc.
Price Industries

**LABORATORY FUME HOODS**

**Fume Hood Units**
Air Master, Kewaunee, Hamilton Scientific, Lab Crafters
LABORATORY AND FUME HOOD AIR FLOW CONTROLS

Fume Hood Monitors
Phoenix, TEL

Laboratory Terminal Airflow Units (LTAUs)
Phoenix, Tek-Air, Siemens

VARIABLE FREQUENCY DRIVES

Variable Frequency Drives (and variable speed controllers)
Danfoss-Graham, Toshiba, ABB

MECHANICAL SYSTEMS CONTROLS

Because of the extensive amount of control components, approved manufacturers are only listed in the controls spec. itself.

TESTING, ADJUSTING AND BALANCING

TAB Sub-Contractors
Enviro-Air – Total Balance, Absolut, Air Flow Testing