



# PENTAIR INDUSTRIAL PRODUCTS OFFERING

We Have a Pump for That

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Industrial Engineered Sales  
Manager West

# Objectives

- Pentair History / Facilities
- Markets We Serve
- Sump Pumps
- Submersible Pumps
- Grinder Pumps
- Centrifugal Pumps
- Reciprocating Pumps
- Split Case
- Stainless Steel Split Case
- Vortex Series
- End Suction
- Regenerative Turbine
- ANSI 3500 Series
- Vertical Turbines
- Horizontal Turbine
- In-Lines and PVM
- Heat Exchangers
- Booster Systems
- Edwards Foam
- Southern Cross “Guzzla”
- PSG Group

**We Have a Pump for That**

# Company Overview

In 1966, five men intent on manufacturing high-altitude balloons founded a company in suburban St. Paul, Minnesota, that they called Pentair, the Greek “penta” for the five founders and “air” for the products they planned to produce.

## Facts & Stats

- \$2.8B 2017 Revenue
- 130 Number of Locations
- 10,000 Number of Employees
- 41 Consecutive Years of Increased Dividend
- 34 Number of Countries
- 6 Number of Continents
- 1,212 Active International Patents
- 422 Active U.S. Patents

## Pentair Foundation Facts

- 1998 Year Founded
- \$59 MM Philanthropic Dollars
- Given 3 MILLION Number of people in the developing world that now have access to clean, safe water (through Pentair’s Safe Water programs)

**We Have a Pump for That**

# Pentair History

- 1966 Pentair Founded 1968 Paper entry with acquisition of Peavey Paper Mills
- 1981 Tools entry with purchase of Porter-Cable brand of electric power tools
- 1988 Enclosures entry with acquisition of Hoffman Engineering Company
- 1989 Sales cross \$1 Billion milestone
- 1994 Enters European markets with the acquisition of Schroff
- 1998 Pentair Foundation created
- 2004 Exits Tools business and dives into the water industry with the purchase of Wicor Industries
- 2005 PIMS expands beyond LEAN to include both Growth and Talent Management
- 2007 Pentair and Water Mission partner on a unique program in Honduras, the impetus for Pentair's flagship sustainable Safe Water initiatives in the developing world
- 2013 Pentair receives EPA's Energy Star Partner of the Year Award for its high efficiency pool pumps
- 2015 ERICO acquisition
- 2017 Completes sale of Valves & Controls business
- 2018 Company separates Water and Electrical businesses into two industry-leading public companies; Water business retains the Pentair name and ticker symbol (PNR)

**Over 50 Years of Growth**

# Facilities



**Ashland, Ohio**  
**410,000 Square Feet**



**Kansas City, Kansas**  
**421,000 Square Feet**



**Aurora, Illinois**  
**250,000 Square Feet**

## 42 Manufacturing Facilities Worldwide

# Markets We Serve

## MARKETS

- Bentonite Pumping
- Beverage
- Extrusion Manufacturing
- Fire Control
- Glass & Ceramic Industry
- Hydraulic Power
- Mining
- Oil & Gas
- Polymer Processing
- Portable Sanitation
- Power Generation
- Reverse Osmosis/Desalination
- Septic Tank & Sewer Cleaning
- Ship Building
- Steel Mills
- Well Fracturing

## APPLICATIONS

- Gas sweetening and drying
- Crude oil gathering, pipelining and transfer
- Power oil/power water hydraulic services
- Water blasting and cutting
- Steel mill de-scaling
- Mine de-watering
- Toxic & hazardous waste disposal
- Sewer cleaning
- Hydrostatic testing
- Reverse osmosis (desalination)
- NGL transfer
- Bentonite slurry pumping
- Water well fracing
- Food processing
- Chemical processing
- Car and truck wash

**Many More**



# PUMP PRODUCTS



# Single Stage Sump Pumps

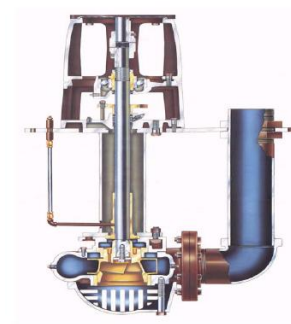


- Vertical Extended Single Shaft Centrifugal Pumps
- Transfers Liquid from Below Ground Reservoirs or Enclosed Tanks
- Bronze-fitted Construction Standard; Iron, All Bronze or Stainless Steel Optional

## Applications Include:

- Sump Drainage in Building Basements, Tunnels, Pits
- Handling Wash Water
- Boiler Pit Service
- Condensate Service
- Light Duty Sump Service
- Dirty Liquid Service

- Flows to 1200 GPM
- Heads to 180 Feet
- Motors are Shipped Direct
- Float Switches are Mounted, Float is not
- Impeller Adjustments are done Via the Adjusting Nut
- Vented



**Aurora Facility**



# Grinder Products



**WG20 and  
WGX20 Standard  
and Hazardous  
Location Grinders**



**V-Series  
Grinders with  
Axial Cutters**



**MGPD Positive  
Displacement  
Grinder**

**Ashland Facility**

# Centrifugal Products



**I2C Series**  
**2-Stage Centrifugal Pumps**  
**Built Continuous Duty**  
**Up to 400' Head**  
**Up to 140 GPM**  
**5HP to 10HP**



**2C Series**  
**2-Stage Centrifugal Pumps**  
**NEMA 56C Motor**

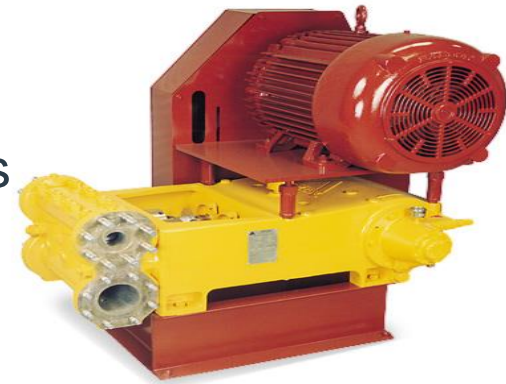


**Centri-Thrift Series**  
**2HP – 7 1/2HP**  
**Up to 240GPM**  
**Up to 140' head**

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# Reciprocating Pumps

- Each pump is engineered to your specifications
- Flows to 650 G.P.M.
- Pressures up to 6,500 P.S.I.
- Reliable, trouble-free performance
- Built for field serviceability
- Various different valve types are available
- Pumps can be assembled with either a horizontal or vertical motor mount
- Rokide® coated stainless steel plungers or TX plungers for more abrasive applications
- Numerous types of packing to meet all your pumping needs
- Total quality control over the manufacturing process. From the casting, to the assembly of complete factory-built pump skid packages



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# Reciprocating Pumps



- SC Series
- Flows up to 585 GPM
- Pressure ratings up to 6,500 PSI
- Horsepower ratings to 500
- Temperatures to 400° F
- Metallurgy's available are ductile iron, aluminum bronze, carbon steel, or stainless steel



- MA Series
- Flows up to 650 GPM
- Pressure ratings up to 5,000 PSI
- Horsepower ratings to 425
- Temperatures to 400° F
- Metallurgy's equal to SC



- Series BXM6-15 Up to 8 GPM up to 1500 PSI
- Series CX Up to 20 GPM Up to 1500 PSI
- Series CXP Up to 30 GPM up to 3500 PSI
- Series CPM Up to 18 GPM UP to 4000 PSI
- Series C Up to 40 GPM UP to 4000 PSI
- Series D Up to 65 GPM Up to 2000 PSI
- Series DP UP to 120 GPM Up to 5500PSI
- Series E UP to 110 GPM UP to 3000PSI

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# Split Case Pumps

## 410 Series

- Horizontal or Vertical Units
- Full Range - 39 Sizes
- 18" Discharge
- Heads to 663 Feet
- Flows to 15,000 GPM
- Interchangeable Stuffing Box
- Field Changeable Rotation
- Integral Cast Bearing Arms
- Flanges True 250# - Drilled for 125#
- Double Row Thrust Bearings
- Internal Stuffing Box Flush



## 420 Series

- Flows up to 1800 GPM
- Heads up to 600 Feet
- Further divided into three different Model Lines: 421, 422 and 423.
- Models 421 is horizontal, base mounted, flex coupled configuration.
- Model 422 is vertical configuration shaft driven from remote mounted motor.
- Model 423 is vertical direct coupled configuration with motor mounted directly to pump assembly.



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# Split Case Pumps

## 430 Series

- Flows up to 400 GPM
- Heads up to 1000 Feet
- Obliquely Split Case, suction and discharge on same side
- Available in horizontal 431 configuration only.
- 430 series pumps use standard NEMA horizontal T-frame motors.
- 430 series pumps are available in bronze fitted construction only.



## 2800/5800 Series

- Flows to 60,000 GPM
- Heads to 400 Feet
- Liquids w/o Solids
- Double Suction
- Double Volute
- Cast Iron/Bronze Fitted



**Aurora and KC Facilities**

# Stainless Steel Split Case



- **ABS Certification Available**
- **Compact Foot Print**
- **High Efficiency**
- **Custom Packages**
- **Available In:**
  - **316 Stainless Steel**
  - **Duplex 2205 Stainless Steel**
  - **CD4MCu Super Duplex Stainless Steel**
  - **Nickel Aluminum Bronze**
  - **Cast Iron Bronze-Fitted**

**Aurora Facility**



# Vortex Series

- Series 4500C, 4600CE & 4700E vortex hard metal pumps use a fully recessed impeller ideally suited for grit applications with higher concentrations of solids and sludge.
- 2" thru 8" Discharge (8" 4500 Series Only)
- Three Impeller Types
  - Cupped
  - Semi-Cupped
  - Radial
- Flows to 2000 GPM
- Heads to 225 Ft
- Dimensionally interchangeable with WEMCO pumps
- Hard Metal Construction
- Protective Nose Cone – available only on FM
- Optional hard metal Shaft Sleeves



**Kansas Facility**

# End Suctions

## 340/360 Series

- Frame Mounted, Close-coupled
- Heavy Duty Cast Iron—BF / CIBF / CISS
- Case Wear Rings-Std.
- Full Range - 34 Sizes
- Close / Flexible Coupled
- Heads to 370 Feet
- Flows to 4000 Gallons
- 8" Discharge
- Up to 200 Horsepower
- Alternate Discharge Position
- Back Pull Out
- Bronze or SS Shaft Sleeve
- 175# Case Working Pressure
- Seal Sleeve



**Aurora Facility**

# End Suctions

## 3800 Series



- Frame Mounted, Close-coupled
- CI / SS
- Case Wear Rings-Std.
- Full Range - 34 Sizes
- Close/ Flexible Coupled
- Heads to 520 Feet
- Flows to 4200 Gallons
- 8" Discharge
- Up to 200 Horsepower
- Alternate Discharge Position
- Back Pull Out
- Bronze or SS Shaft Sleeve
- 175# Case Working Pressure

**Aurora Facility**

# ANSI 3550 Series



- Flows up to 4200 GPM
- Heads up to 725 Ft
- Temperatures up to 650 F
- Pressures up to 375 PSIG
- Heavy-Duty Casing Increases Reliability, Reduces Maintenance and Allows for Maximum Life
- Heavy Duty Bearings Designed for Maximum Hydraulic Loads
- Over-sized Shaft to Reduce Vibrations
- Labyrinth Oil Seals to Prevent External Contaminants
- Large Capacity Oil Sump for Cooler Oil Temperatures and Better Heat Transfer
- Magnetic Drain Plug to Remove Particles

**\*\*Kansas Facility\*\***

# Vertical Turbines

**Markets served: Urban and rural municipal water, irrigation, chemical processing, primary metals, petroleum, power plants, mines, food processing, offshore platforms and more**

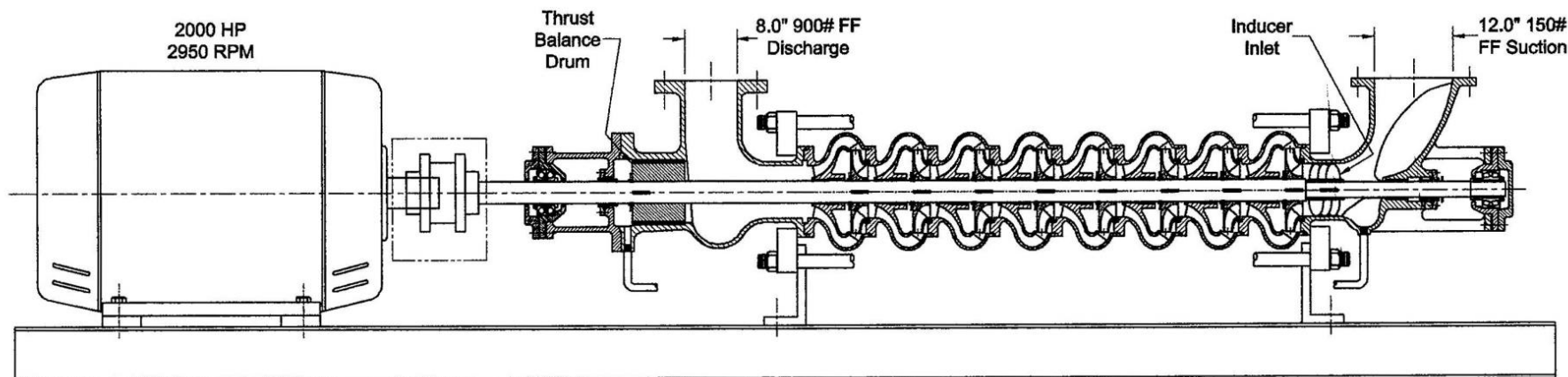
**Handles raw water intake, liquid transfer, cooling water circulation, booster service, storm water, flood control, marine, process services, volatile fluids, condensate, fuel pumps and mine dewatering**



- Flows to 50,000 GPM
- Heads to 2000 Feet
- 4" thru 57" Bowls
- Enclosed Impellers
- Cast Iron or Fabricated Steel Discharge Head
- Wet Pit or Can Mounted
- Various Material Options
- Sealed Lower Bearing
- Collet or Key Drive
- Full Testing
- Optimum Design
- Enclosed Impeller
- Wear Rings
- 416 SS Shaft
- Sand Collar
- Sealed Lower Bearing
- Collet or Key Drive

**Kansas Facility**

# Horizontal Turbine

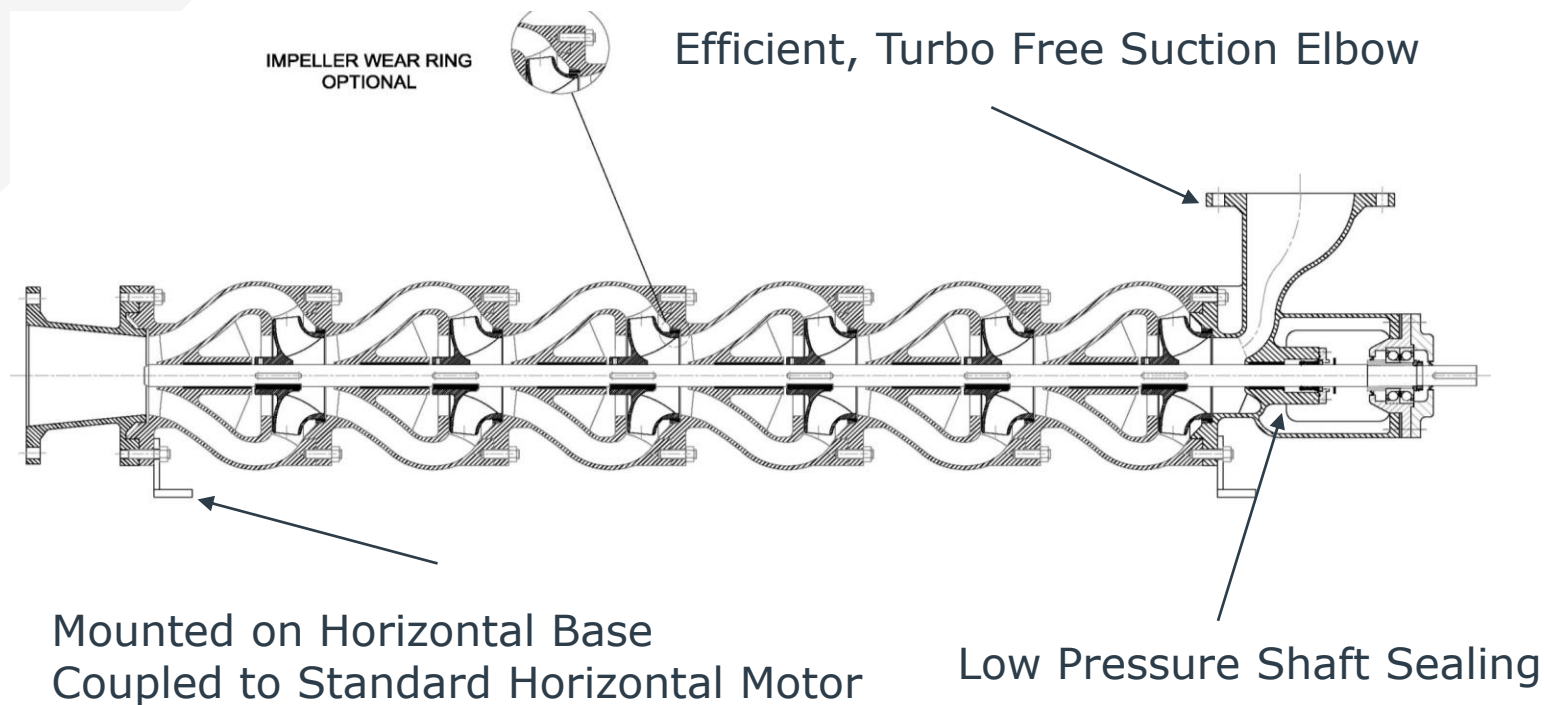


- Split ring type design
- Pressures to 2500 PSI
- TurboFree Suction Elbow – creates better flow patterns to the impeller
- Suction Inducer – helps reduce NPSH required and allows the use of higher speeds = fewer stages = lower costs
- Standard NEMA Motor to reduce costs
- Thrust Balance Drum to promote long bearing life
- Low pressure sealing of shaft

**Kansas Facility**



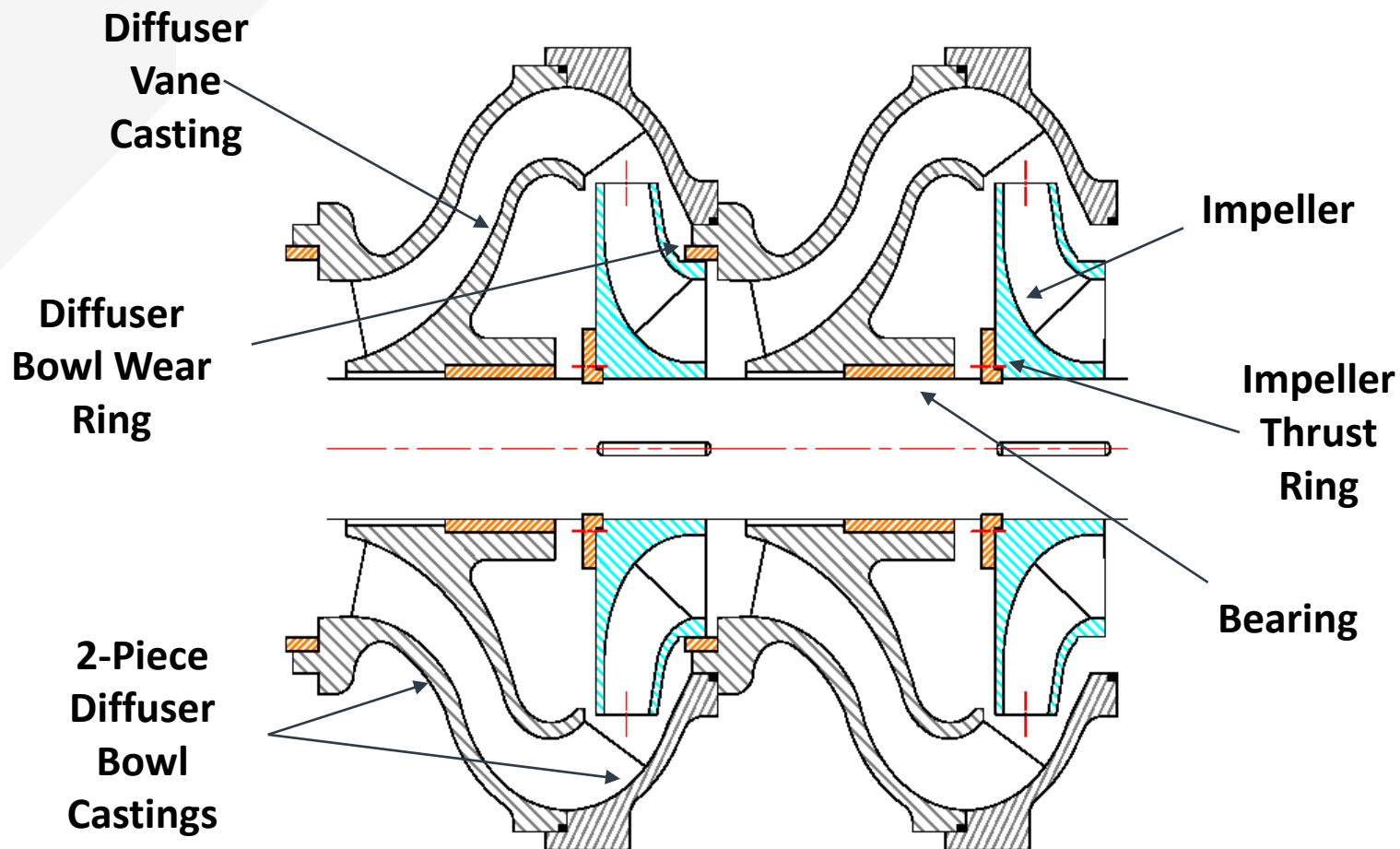
# Horizontal Turbine



**Kansas Facility**



# Horizontal Turbine



**Kansas Facility**

# Horizontal Turbine



**Split Casing – 92% Efficiency**

# Inlines and PVM's

## 380 Series

- Frame Mounted, Close-coupled
- CIBF/CICI
- Case Wear Rings-Std.
- Full Range - 26 Sizes
- Close/ Flexible Coupled
- Heads to 370 Feet
- Flows to 4500 GPM
- 14" Discharge
- Up to 400 Horsepower
- BRZ. or SS Shaft Sleeve
- 175# Case Working Pressure



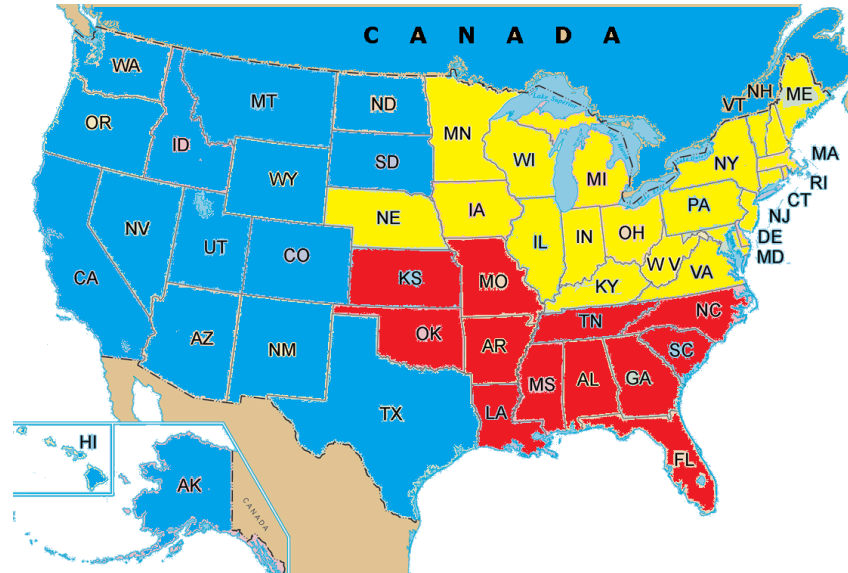
## PVM's

- Vertical Inline multistage
- CIBF/CISS
- Case Wear Rings-Std.
- Full Range -12 Series
- C-Face motor
- Heads to 960 Feet
- Flows to 800 Gallons
- Up to 5" 250# Discharge
- Up to 100 Horse Power
- Cartridge Seal SiC/SiC EPDM or Viton



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# PSG



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# THANK YOU

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[www.pentair.com](http://www.pentair.com)