Industrial Water and Wastewater Treatment

- Screening
- Biological Treatment
- Aeration Systems
- Clarification
- Filtration
- Thickening/Biosolids Management
- Oil-Water Separation
- Dewatering
There’s value in recycling, reusing and minimizing waste

Water is a critical input for many industrial processors, so having the appropriate water treatment technology in the manufacturing process makes a meaningful difference in both operating efficiency and profitability. The residual water produced during or after the manufacturing process requires proper treatment to avoid costly surcharges or provide for efficient recovery and reuse. At Parkson, our technologies have been delivering value to a wide range of industries for over 55 years. With more than 25,000 installations worldwide, clients can confidently partner with Parkson knowing we have experience and extensive knowledge in their specific applications. Whether incorporating a Rotoshear® screen for brewery keg washing, a DynaSand® filter for dairy process water influent, or EquaReact® biological system for poultry plant effluent, Parkson equipment and custom systems are designed and built to withstand the demands of an industrial environment. Heavy solids loadings, flow surges, and 24/7 production schedules are considerations used in selecting, sizing and integrating specific components and systems to meet customer requirements.

Parkson’s application specific experience, wide-range of equipment and systems offerings, and absolute dedication to quality make us an ideal partner for your next industrial water/wastewater treatment project.

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Parkson is committed to protecting the environment and helping all industries remain compliant with ever changing environmental regulations. Our industrial team of water/wastewater professionals and network of local representatives will work closely with you - combining technology, knowledge and experience to select the most appropriate, efficient and cost-effective technology.

System Solution
At Parkson, we understand our scope must go beyond just supplying equipment. Our customers need a partner with solutions so they can focus on the business they do best. We commit to thoroughly understanding our customer so we can recommend a wastewater treatment solution that best fits their needs. This often includes lifecycle costs, sustainability goals, capacity constraints and of course, effluent requirements, without sacrificing product quality. We take the solution approach seriously when working with our customers, whether we are offering a single unit of equipment or a full, turnkey wastewater treatment facility.

Leasing
Parkson can provide tax-exempt leasing options and can fund 100% of wastewater treatment plant equipment, equipment engineering and equipment installation purchases through financial partners. The leasing option allows you to take advantage of balance sheet benefits and avoid capital expenses with low monthly fees.

Laboratory Testing
Parkson's Water Research Facility uses laboratory testing to help determine design criteria and sizing for Parkson products and facilitate performance guarantees. Some of the tests we perform include filtration tests, jar tests (settling and dewatering), screen selection bench testing, treatability tests, and analyses such as total solids, total suspended solids, volatile solids, turbidity, alkalinity and pH, and material composition. Laboratory tests help our services group with start-up pilots and chemical pre-treatment optimization.

Pilot Testing
Parkson owns a pilot fleet of equipment available for demonstration. On-site pilot testing allows you to become better acquainted with the product technology and its operation and verify how efficiently the plant's requirements will be met. Pilot units also allow for the comparison of different technologies for water and wastewater treatment within your plant.

Services
Parkson's Services Group combines in-depth product knowledge with engineering expertise to keep your products running efficiently year after year. Parkson offers turnkey installations to provide efficient and complete system responsibility. Start-up services include classroom and hands-on operation and maintenance training. Once in operation, the services group supports you with OEM parts, troubleshooting assistance, on-site retraining, operation/process reviews, robust preventative maintenance programs, product retrofit and rebuilds, and repair supervision.

The Parkson Guarantee
We realize that water treatment equipment is a substantial investment for industrial plants. Parkson can provide process guarantees that give customers the ultimate peace of mind that the equipment provided performs as specified.
**Hycor® Rotoshear® EZ-Care™**
*Internally-Fed Rotating Drum Screen*

Self-cleaning rotary drum screen • Internally-fed medlow headbox design for handling heavy solids loadings • Heavy duty stainless construction • EZ-Care™ lube-free drive system, trunnion wheels and stabilizer pads available • Excellent at handling stringy fibers and greasy solids • Automatic spray system with quick disconnect nozzles • Shipped fully assembled • Low maintenance • Multiple sizes and designs

**Applications:** Flume water recirculation • Food processing wastewater • Hot oil • Kill floor • Log vat water • Mill/plant effluent • Peeler water • Primary feather and offal • Rejects thickening • Secondary poultry • Silt water • Stock thickening • Tripe washer effluent • Wash water • Wood room effluent

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**Hycor® Rotoshear® PF**
*Fine Perforated Plate Rotary Drum Screen*

Self-cleaning rotary drum screen • Fine stainless steel perforated screen media • Internally-fed medlow headbox • Rugged construction • Proven trunnion wheel design • Water spray system for automatic screen cleaning • Sturdy, long life • Low maintenance • Easy to change screen media • Fully enclosed • EZ-Care™ features available as an upgrade

**Applications:** Food processing • Membrane pre-treatment • Mill/plant effluent • Product recovery • Scubber water screening

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**Hycor® Rotostrainer®**
*Externally-Fed Rotary Wedgewire Screen*

Self-cleaning rotary drum screen • Doctor blade keeps screen surface clean • Heavy-duty stainless steel construction • Ideal for a wide range of flows and solids loading • Handles sticky, greasy material without blinding • Multiple sizes and designs • Optional automatic doctor blade cleaner

**Applications:** Blood screening • Chiller water • Cook and wash water • Flume water • Food processing wastewater • Plant effluent • Rinse water • Scalder water • Secondary poultry

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**Hycor® Helisieve® M**
*Screening, Conveying, Dewatering System*

Self-cleaning, perforated media channel screen • Shaftless spiral conveyor • Available in 35 and 45 degree installation angles • Segmented brush • Back-pressure dewatering zone • Heavy-duty brush cleans screening surface • Stainless steel outer housing • Pivot feature • Alloy steel shaftless spiral • No submerged bearings • Ideal for gravity flows • Available as in-tank units

**Applications:** Mill/plant effluent • Pen waste • Plastics removal • Pressure screen rejects • U-drain screening • Suitable for applications with no channel
**Hydroguard® Hydroscreen**

*Static Screen*

- Unique bi-wave, wedgewire screen panel
- All stainless steel construction
- Exclusive drip lip to discharge drier solids
- Handles fibrous and non-greasy solids
- Easily handles widely varying feed conditions
- Available in multiple sizes with screen openings from 0.010" to 0.100"

**Applications:**
- Broken thickening
- Flume water
- Peeler water
- Mill effluent
- Rejects thickening
- Stock thickening
- Wash water
- Wood room effluent

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**Aqua Caiman™**

*In-Channel Articulating Rake Screen*

- Rugged bar rack screen for fine screening down to 1/4"
- Self-supporting chain eliminates rotating parts in the channel
- Low headloss
- Low maintenance
- Multiple rakes for removal of solids from the channel
- Full covers available for odor control
- Designed to fit your application

**Applications:**
- Flume water
- Intake water
- Mill/plant effluent
- Plastics removal
- Wash water
- Zoo applications
- Farm applications
- Aquatic applications

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**Aqua Rhino™**

*In-Channel Escalating Screen*

- Designed and built for low maintenance
- Simple, circular motion moves solids from channel
- Direct drive
- Thickest combined lifting blades and side frames on the market
- Capable of filter mat development
- Durable construction
- Minimal toe space with optional washout bar for reduced grit buildup
- Available in 45, 50 and 53 degree installation angles

**Applications:**
- Flume water
- Intake water
- Mill/plant effluent
- Plastics removal
- Wash water
- Zoo applications
- Farm applications
- Aquatic applications

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**Aqua Guard®**

*Element Filter Screen*

- Self-cleaning, filter element screen
- UltraClean™ upgrade increases solids capture and reduces maintenance
- Independent brush drive
- Extended belt path
- Elements made of precision-injected, high strength, flexible resin
- Fine screening
- Medium to deep channels

**Applications:**
- Flume water
- Intake water
- Mill/plant effluent
- Plastics removal
- Wash water
- Zoo applications
- Farm applications
- Aquatic applications
**Biological Treatment**

**Biolac®**

**Extended Aeration Treatment System**

Low-loaded, activated sludge process with extended retention time • High oxygen transfer efficiency delivery system • Exceptional controlled mixing energy • Low energy consumption • Simple system construction • Installed in concrete tanks or earthen basins, either lined or unlined • Internal or external clarifiers • Efficient sludge removal

**Applications:** Aircraft de-icing fluid run-off • Beverage bottling • Chemical processing • Food processing • Meat processing • Pulp and paper

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**Biolac® Wave-Ox™**

**Wave Oxidation Nutrient Removal Process**

Enhanced biological phosphorus removal • Nitrifies and denitrifies wastewater without recycle pumping • Alkalinity recovery • Single basin operation • Multiple treatment zones • Low energy consumption • Minimal operator attention

**Applications:** Includes all the applications and benefits of Biolac®

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**Aqua Guard® PF**

**Perforated Plate Media Screen**

No submerged bearings • Improved capture rates • Robust Aqua Guard® chassis • Low power consumption • Self-cleaning • Intermittent operation • 2mm, 3mm and 6mm openings

**Applications:** Flume water • Intake water • Mill/plant effluent • Plastics removal • Wash water • Zoo applications • Farm applications • Aquatic applications
Biological Treatment

**Bioclear EZ Clear™**
**Advanced Gravity Separation**
EZ Clear™ clarifier design builds on innovation of Bioclear • Low effluent TSS • Rapid sludge removal • Simple maintenance of all equipment from surface • Gravity RAS flow option • Low hydraulic profile • Increases surface area of previous Bioclear clarifier by over 50% per clarifier, providing higher flow capacity and lower total cost

**Applications:** Includes all the applications and benefits of Bioclear®

**EcoCycle SBR™**
**Sequencing Batch Reactor**
Batch activated sludge process for pre-treatment or direct discharge • Ideal for highly varying flows and loads • BNR capabilities • Robust design with reduced electromechanical components • Deep tanks with no separate clarifiers reduce footprint • Easily expandable • Fits in any tank configuration

**Applications:** Food and beverage • Landfill leachate • Chemical / refinery • Manufacturing

**DynaCanter™**
**Decanter**
Decanter for removal of effluent or supernatant • Floating design allows for wide operating ranges • No electromechanical components inside the tanks • Robust FRP and stainless steel construction • Ideal for secondary effluent • Digester thickening, filler backwash thickening

**Applications:** SBR systems • Aerobic digesters • Filter backwash basins

**EquaReact®**
**Combined Equalization and Biological Treatment System**
Continuous flow activated sludge system combining hydraulic flow equalization and multi-stage activated sludge treatment • Biological treatment with 24/7 equalization • Reduced footprint, capital cost and energy • Enhanced nutrient removal • Eliminates EQ basin odors • Maximizes biological nutrient removal

**Applications:** Direct discharge • Nutrient removal for dairy, meat and poultry processing facilities
**EquaCel®**
Soluble BOD and Ammonia Removal Pretreatment System

Combines DAF, biological treatment and hydraulic equalization for consistent BOD and nitrogen reduction • Smaller footprint • Reduction in pumping and mixing equipment • Reduces energy consumption • Increases return on capital investment by eliminating ongoing municipal surcharges • Ideal for pre-treatment applications

**Applications:** Pre-treatment for BOD and Nitrogen reduction applications at dairy, meat and poultry processing facilities

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**EquaJet®**
High-Efficiency Nitrogen Removal via Jet System

Aeration, mixing and nitrte recycle in one system • High nitrate recycle rate up to 8Q+ of the ADF without additional power • Increases biological nitrogen removal efficiency • Nitrate and anoxic recycle systems • Reduces energy consumption and capital costs

**Applications:** Activated sludge wastewater treatment systems for food processing facilities

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**HiOx® Messner®**
Aeration Panel

Aeration efficiency 2-4 times greater than conventional systems • Ultra-fine bubble technology • Individual air feed piping to each panel • Highest clean and dirty water oxygen transfer efficiency • Lowest operation and maintenance costs • Lowest lifetime cost

**Applications:** Chemical processing • Food processing • Meat processing • Pulp and paper

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**VariOx™**
Jet Aeration

Constant oxygen transfer efficiency over time • Functionality of mixer and aerator • Custom designed for any tank geometry • Ideal for deep tanks • FRP construction for long operating life

**Applications:** Aeration basins • Anaerobic mixing • Aerobic digesters • Flow equalization tanks • Blending tanks
**Clarification**

**Lamella EcoFlow®**  
Gravity Settler/Thickener

The original inclined plate clarifier • Thousands of units installed since 1971 • Performance proven • Compact design minimizes hydraulic disturbances • Factory assembled • Proprietary flow distribution system • Few moving parts • Low maintenance requirements • Ideal for surface water or wastewater

Applications: Blowdown treatment • Chemical processing • Filter backwash • Food processing • Industrial wastewater • Metal finishing • Mill scale • Mining • Plant effluent • Scrubber waste • Water treatment

**Filter Press**  
Versatile Sludge Dewatering

Available as an add on to Lamella® • Processed chamber design • Gasketed, non-gasketed, membrane plates • Manual, semi-automatic, automatic plate shifters • No moving parts during filtration • Wetted parts are stable, polymeric materials • Minimal operator attention required • Long life with low maintenance • Wide variety of unit sizes and chamber depths

Applications: Chemical separation processes • Filter backwash • Filtering of fruit juices, wine, vegetable oils, and flavor extracts • Industrial laundries • Metal finishing • Paint sludge • Petrochemical • Tanneries • Textile waste • Mining/minerals

**Filtration**

**DynaSand®**  
Continuous, Upflow Granular Media Filter

The original continuous upflow sand filter • Performance proven • Thousands of installations worldwide • Self-cleaning • Small footprint • Low operating costs • No moving parts • Simple and easy maintenance • Continuous contact filtration • Packaged and concrete units available

Applications: Chemical processing • Cooling tower blowdown • Denitrification • Effluent polishing • Ground water • Metal finishing • Membrane pre-treatment • Mill scale • Phosphorus removal • Process effluent • Seal water • Surface water • Water reuse • Algae removal • Boiler feed water treatment • Combined N and P removal • Membrane pre-treatment • Phosphorus removal • T.O.C. removal • Desalination • RO pretreatment

**DynaSand® EcoWash® and D2®**  
Continuous or Intermittent Backwash Filter/Advanced Filtration System

Superior effluent quality • Low operating and maintenance costs • Extremely low power consumption • Increases net water production • Reduces treatment chemicals

Applications: Includes all the applications of DynaSand® with enhanced benefits
Thickening/Biosolids Management

**THERMO-SYSTEM®**

*Active Solar Sludge Dryer*

Up to 95% of drying energy provided by the sun • Green technology • Significant reduction in carbon footprint • Low operational cost • Minimal movable parts in direct contact with sludge • Safe and easy to operate • Proven on large and small scale operation • Fully automated • Works in most climates • Produces Class A biosolids

Applications: Biogas process effluent • Petrochemical wastewater • Greywater • Medical wastewater • Packaging and paper wastewater • Slick • Winery wastewater

**ThickTech™**

*Rotary Drum Thickener*

Self-cleaning, wire mesh sludge thickening system • Patented tangential low shear floc tank • Screen cylinder with four distinct dewatering zones • High pressure, self-cleaning spray assembly • Low polymer usage • 98% capture rate • Compact footprint

Applications: Alum sludge thickening • Biological sludge thickening • Digester sludge thickening • Primary sludge thickening • Food process solids

Oil/Water Separation

**SRC and SRM**

*Slant-Rib Oil-Water Separators*

Coalescing plate pack design • Gravity separation • Removes free, non-emulsified oil • Sets out tramp solids • Carbon steel tank construction • Available in smaller flow FPR design • High throughput • Efficient separation • Coalescing separation processes twice the flow in 20% less volume

Applications: Compressor condensate • Fueling facilities • Groundwater remediation • Industrial effluent treatment • Stormwater runoff • Tank farms • Wash or rinse water • Vehicle, rail maintenance
Dewatering

**Hycor® Helixpress®**
Shaftless Spiral Dewatering Press

Dewatering press and solids conveying unit • Dewaters against back pressure door • Shaftless spiral with no discharge end bearing • Varying lengths and multiple feed inlets available • Dewaters a variety of solids to Paint Filter Test specifications

**Applications:** Fruit and vegetable by-products • Paunch • Pen waste • Rejects
Dewatering • Rendering

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**Aqua WashPress®**
Dewatering Screw Press

Washing and compacting in single unit • Available in 6", 8", 10", 12", and 17" spirals • High water volumes • Water drainage directly to channel • Adjustable washing sequence

**Applications:** Fruit and vegetable by-products • Paunch • Pen waste • Rejects
dewatering

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Parkson Facts

- Over 55 years of process experience
- High-performance integrated solutions
- In-house engineering
- Single-source accountability
- Customer service, support and maintenance
## Parkson Product Applications

### CHEMICAL PROCESSING (CPI)
- Total plant effluent
- Membrane pre-treatment

### FOOD & BEVERAGE
- **Brewing, Wine and Spirit**
  - Process influent
  - Malthouse steepwater
  - Bottle/keg washing
  - Chip wash water
  - Grape stems and skins
  - Total plant effluent
- **Dairy**
  - Process influent
  - Total plant effluent
- **Fruit & Vegetable**
  - Screen peels from water
  - Screen pulp from juice
  - Starch recovery
  - Total plant effluent
- **Poultry**
  - Screening primary/secondary offal, feathers
  - Blood tunnel
  - Plucker
  - Evisceration
  - Total plant effluent
- **Red Meat**
  - Pen washing
  - Kill floor
  - Dehairing/hide removal/paunch manure/stomach contents
  - Rendering - hot tallow
  - Total plant effluent

### MANUFACTURING AND STEEL PROCESSING
- Scale pit/pickle rinse/continuous caster
- Total plant effluent

### METAL FINISHING
- Aluminum anodizing waste
- Ground water remediation
- Landfill leachate
- Plating wastes
- Sulfide precipitation

### MINING & MINERALS
- Acid mine drainage
- Coal wash water

### PHARMACEUTICALS
- Raw water
- Total plant effluent

### POWER GENERATION
- **Simple Cycle Turbine**
  - River water for demineralizer
  - Lake/reservoir for demineralizer
- **Combined Cycle Turbine**
  - River water for cooling tower makeup
  - River water for demineralizer system
  - Wastewater reuse for cooling tower makeup
  - Total plant effluent
  - Cooling tower side stream/blowdown
  - Plant drains/storm water runoff

### Coal Fired Power
- River water for cooling tower makeup
- River water for demineralizer system
- Wastewater reuse for cooling tower makeup
- Cooling tower side stream/blowdown
- Coal pile runoff
- Fly ash/bottom ash
- Plant drains/storm water runoff

### Nuclear Power
- River water for cooling tower makeup
- River water for demineralizer system
- Wastewater reuse for cooling tower makeup
- Total plant effluent
- Cooling tower side stream/blowdown
- Plant drains/storm water runoff

### PULP & PAPER
- Incoming water
- Broke/stock thickening
- Plastics removal
- Fiber recovery
- Total plant effluent

### OIL & GAS
- Oily wastewater
- Produced water

### ZOO / FARM / AQUATIC
- Bedding screening and recovery
- Life support systems
- Other