



Industrial Water and Wastewater Treatment

- Screening
- Biological Treatment
- Aeration Systems
- Clarification
- Filtration
- Thickening
- Dewatering
- Oil-Water Separation



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.



Water Pre-Treatment	In-Process	Wastewater Treatment
Intake water treatment	Product recovery	Physical-chemical treatment
Surface water treatment	By-product recovery	Pre-treatment
Contact filtration	Process water recovery	Primary treatment
Iron/manganese removal	Process improvement	Tertiary treatment
Membrane pre-treatment	Reduced water usage	Effluent/greywater recycle
	Filter backwash	Secondary treatment

Parkson is a full-service partner

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

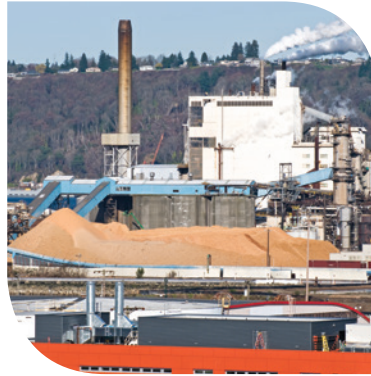
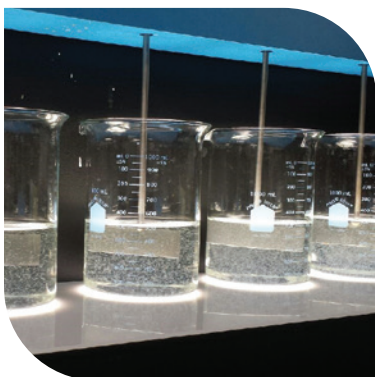
At Parkson, we understand our scope must go beyond just supplying equipment. Our customers need a partner with solutions so they can focus on the business they do best. We commit to thoroughly understanding our customer so we can recommend a wastewater treatment solution that best fits their needs. This 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 turn-key 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.

Screening



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 steel 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



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



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 • Scalding water • Secondary poultry



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

Screening



Hycor® 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 • Plant effluent • Rejects thickening • Stock thickening • Wash water • Wood room effluent



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



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

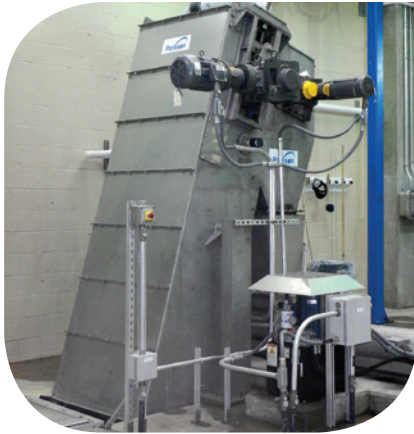


Aqua Guard® **Element Filter Screen**

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

Screening



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



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



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®

Biological Treatment



Biolac® EZ Clear™ **Advanced Gravity Separation**

EZ Clear™ clarifier design builds on innovation of Biolac • 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 Biolac clarifier by over 50% per clarifier, providing higher flow capacity and lower total cost

Applications: Includes all the applications and benefits of Biolac®



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



DynaCenter™ **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, filter backwash thickening

Applications: SBR systems • Aerobic digesters • Filter backwash basins

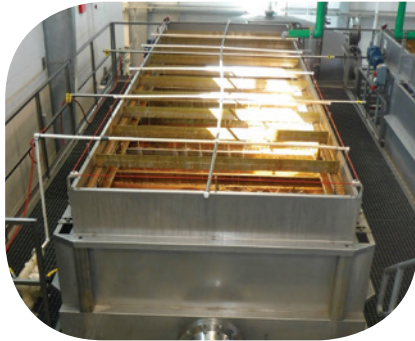


EquaReact® **Combined Equalization and Biological Treatment System**

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

Biological Treatment



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



EquaJet®

High-Efficiency Nitrogen Removal via Jet System

Aeration, mixing and nitrate 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

Aeration Systems



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



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

Only 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



ThickTech™ Rotary Drum Thickener

Self-cleaning, wire mesh sludge thickening system • Patented tangential low shear flocc 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

Dewatering



Hycor® Helixpress® Shaftless Spiral Dewatering Press

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

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



Aqua WashPress® Dewatering Screw Press

Washing and compacting in single unit • Available in 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

Oil/Water Separation



SRC and SRM Slant-Rib Oil-Water Separators

Coalescing plate pack design • Gravity separation • Removes free, non-emulsified oil • Settles 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



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 ofal, 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

Bottling, Cans and Soft Drinks

Total plant effluent

Packaging / Processing

Wash water

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



Fort Lauderdale
Chicago
Kansas City
Denver

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