Aquous™ Biological Fixed Film Technology

- MBBR, IFAS and Next Generation CFIC® configurations
- Compact, small footprint
- Proven robust, reliable performance
- Simple operation
- Low biosolids production
The Parkson Aquous™ System uses proven, attached growth biological process technology and unique, moving fixed film carriers to provide a compact, easy to operate biological treatment plant for municipal and industrial wastewater applications.

The heart of our biofilm technology is the polyethylene carriers. They are suspended and moving in the biological reactors and provide a protected surface area for the biofilm to grow. Biofilms are extremely robust and can handle extreme loadings and loading variations without process upset.

Aquous™ can be designed to reliably provide high quality effluent for direct discharge (including nutrient removal), or roughing treatment for pretreatment and discharge to other treatment systems.

Partnering with Biowater Technology AS (Norway) allows Parkson to couple more than 30 years of combined attached growth process experience with Parkson's 50 years in the wastewater treatment market. This allows Parkson to offer complete, guaranteed solutions.

---

**Features**
- Proven by 20 years experience
- Flexible process design
- Plastic carriers increases process biomass
- Robust, fixed film biology
- Can easily be retrofitted to existing plants
- Low biosolids production

**Benefits**
- Guaranteed performance
- Can meet many different treatment needs
- Compact, small footprint process
- Handles shock loads well, simple operation
- More treatment without building tanks
- Reduced biosolids handling costs
Process Options

CMFF® - Complete Mix Fixed Film (MBBR)
- Compact
- Simple operation
- Flexible
- Stable process

[Diagram of CMFF process]

CFAS® - Combined Fixed Film Activated Sludge (IFAS)
- Compact
- Suspended and attached biomass
- Stable process

[Diagram of CFAS process]

Next Generation CFIC® - Continuous Flow Intermittent Cleaning
- Reduced energy consumption vs. MBBR
- Reduced footprint
- Flexible
- Reduced capital costs

[Diagram of Next Generation CFIC process]
What does this mean to the end user?

Most important to plant operations, The DynaSand® EcoWash™ Filter provides superior performance –

- Reduces operator and maintenance personnel attention
- No need to check sand movement during each shift
- The filter signals when a check is required
- Reduces the amount of reject (backwash) generated by 60-90%
- Significantly reduces capacity loss and the costs associated with reprocessing backwash water
- Energy requirement is 60-90% less than any continuous backwashing sand filter

Applications

- Municipal, commercial or industrial wastewater
- Retrofits or new plant construction
- Upgrade existing plants to improve effluent quality (including nutrient removal) or increase treatment capacity with no new tank construction
- Nutrient removal (TN< 3 mg/l; TP< 0.3 mg/l)
- Water reuse – CA Title 22 (coupled with Parkson DynaSand® Filter)
- Final treatment or roughing pretreatment

Aquous™ Package Plants

Designed for installations up to 100,000 gal/d, Aquous™ Package Plants provide all the benefits of larger Aquous™ systems in a space saving and mobile design. Some typical applications include: military bases, manufacturing facilities, work camps, hotels, resorts, residential complexes and small municipalities.

The Aquous™ package plant can be configured using any of the process options, and all include:

- Influent screen
- Equalization
- Biological fixed film treatment
- Secondary clarification
- Tertiary filtration
- Disinfection
- Sludge holding tank
- All process equipment
- Instrumentation and controls

Benefits

- Compact: skid mounted configuration
- Mobile: can be shipped on a flat bed truck
- Can be installed above or below ground
- Easy delivery and installation
- Cost-effective
- Odorless
- Low maintenance: "plug and play"
- Highly stable process: shock resistant
- Suitable to discharge directly to the environment
- Pre-assembled and factory tested

Available Configurations

- Biological nutrient removal
- Organic removal (BOD)
- Nitrification