



# Filtering Thru

News and updates from Filtration Technology Ltd

September 2010

Duperon® FlexRake® mechanically cleaned bar screens – **NEW AGENCY**

## The simpler, more reliable way of removing rubbish before it enters treatment plants



When physical debris or rubbish is removed from preliminary liquids/solids separation processes, everything downstream runs easier. What the innovative Duperon FlexRake offers is an automatic, continuous-cleaning device that is cost effective, flexible, simple and requires little or no maintenance and no operators.

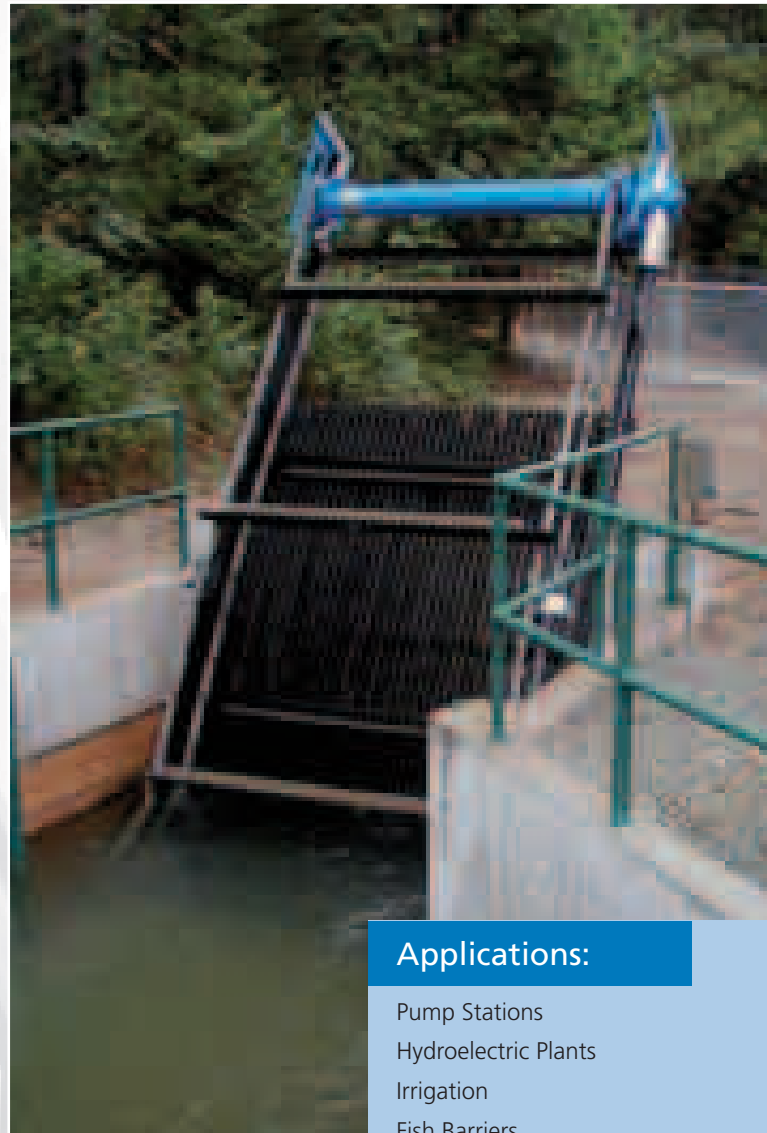
Large and/or irregular shaped objects are easily removed as the whole unit is free to move up or down and the FlexLink™ conveyor link system lifts or pivots around debris.

The Duperon FlexRake is simple, consisting of three basic components: a powerful drive head, a durable raking device, and a rugged barscreen. This simplicity is possible through the multi-functioning action of the FlexLink. This clever patented design allows the link to function as a frame, lower sprocket, and connection point for scrapers. This also allows the entire unit to be driven by a single sprocket.

Benefits of the FlexRake include:

- Can be retrofitted to existing screens.
- The rake can be purchased fully assembled on a barscreen.
- The FlexRake has minimal maintenance with annual lubrication requirements and no underwater maintenance required.
- No underwater sprockets, bearings or guides.
- All non-corrosive components under water.
- Easily adapted to the site. Scrapers can be designed to handle specific types of debris and screens.
- The unit is easily modified to handle changing debris conditions.
- The rake can handle fine to coarse screen openings.
- There are multiple rakes on the screen.

For more information on FlexRake, contact Graeme Thacker on 09 274 4223



### Applications:

Pump Stations  
Hydroelectric Plants  
Irrigation  
Fish Barriers  
Combined-Sewer Overflow  
Pulp & Paper Mills  
Food Processing Plants  
Wineries  
Sanitary Sewers  
Any Industrial Intakes or  
Outlet Filtering Canals



# Optimum performance and long-life operation

Proven by decades of dependable performance in a wide variety of applications, Coplastix® sluice gates, stop gates and logs, and flap valves offer significant benefits above and beyond similar cast iron and stainless steel products.



**Ashbrook  
Simon-Hartley®**



Coplastix offers numerous advantages:

- Coplastix is lighter, weighing as little as 20% of similar cast iron products. The friction coefficient of
- Coplastix is only 10% of that of conventional metal-to-metal faces. These two factors combine to make Coplastix products significantly easier to operate manually or they require smaller, less expensive actuators
- All Coplastix products are much easier to install than cast iron
- Coplastix products are exceptionally water tight and exceed AWWA requirements
- Coplastix products are corrosion free and resistant to chemicals and petroleum products
- Coplastix products feature smooth surfaces that resist marine growth and are easily cleaned
- Coplastix is extremely durable
- Coplastix products do not experience problems related to thermal expansion
- Coplastix products may be confidently used for ambient temperatures ranging from -45°C to +80°C
- Coplastix is totally unlike plastic or fibreglass, in fact, it is rated as Class I fire resistant
- Coplastix products are backed by decades of dependable performance

Coplastix, in reality, is a “system” for product fabrication. In a Coplastix design, a special milled carbon steel matrix is utilized to serve as a skeleton giving the product structural strength equal to that of cast iron. The structure is then encapsulated by specially formulated synthetic composite Coplastix materials.

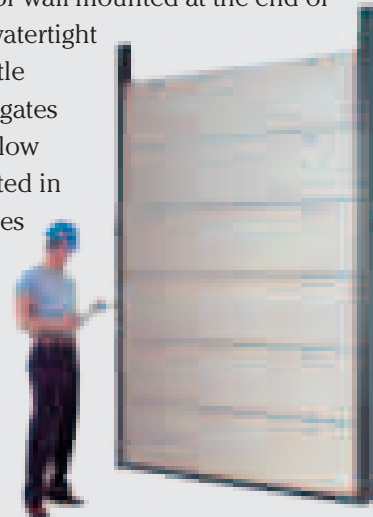
## Sluice Gates

Coplastix Sluice Gates are available in wall-mounted, flush, invert, channel mounted, and downward opening weir versions. The channel and wall mount gates are equipped for square, rectangular, or circular openings, while the weir gates are offered in square or rectangular openings.

## Watertight Stoplogs and Stopgates

Coplastix Stoplogs are particularly suitable in situations where temporary or infrequent isolation of a channel is necessary.

Whether located in the channel or wall-mounted at the end of the channel, stoplogs provide a watertight means to vary weir depth with little effort in handling. Watertight stopgates are designed for hand operated flow control channels. Whether mounted in channels or wall-mounted, all gates feature the lower frame member positioned level with the invert for straight through flow with no turbulence created or grit deposits formed.

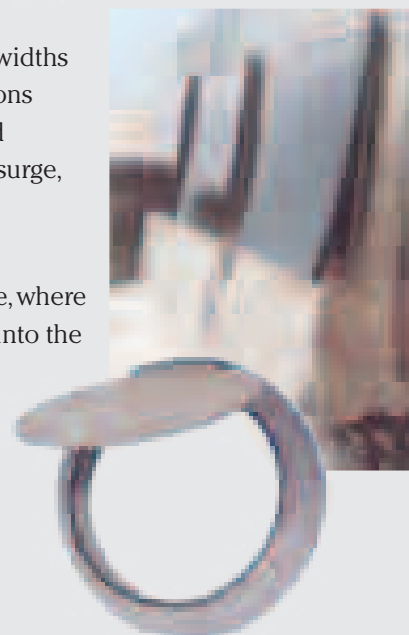


## Flap Valves

Coplastix Flap Valves are available for sizes 100 - 600mm in diameter and rectangular for widths 500mm and larger. For applications where standard flap valves could experience a strong surf or backsurge, flexible flap valves are available.

All flap valves can be used in applications calling for discharge, where prevention of reverse flow back into the line is necessary...water works, sewage and industrial effluent treatment discharge areas are but a few of the many possible applications for these valves.

**For more information on Coplastix Flow Control Products, contact Graeme Thacker on 09 274 4223**



**“Retrofit your troublesome Cast-iron, Aluminum, Stainless steel or Fiberglass gates with trouble-free Coplastix® technology”**

# Trojan UVSwiftSC Ideal for Municipal Disinfection

TROJAN UV

Matamata - Piako DC have recently installed three Trojan UVSwiftSC B08 UV units at their Matamata Tills Road Water Treatment Plant.

The WTP plant is a direct filtration plant with a maximum flow rate of 68m<sup>3</sup>/hr through each filter and a total flow of 204m<sup>3</sup>/hr.

The Trojan UV disinfection units were installed on each filter vertically in the existing filter modules. This provided for filter duty/standby and partial redundancy options in case of any potential lamp or unit problems, plus general maintenance requirements. With this arrangement there was also no additional pumping capacity required.

Having one UV unit on each filter allowed for minimum disruption to the plant operation while the installation was being undertaken and it also ensured the town water demand was still met.

The units are DVGW certified and were selected to help make the plant compliant for Protozoa under the 2005 NZDWS. With organics being an issue at certain times of the year, the UVT can drop down at times to 90%, so the installed Trojan Swift SC units were rated for these situations.

They also have automatic timed wiping to keep the sleeves clean and the light intensity to specification. This ensures *Giardia* and *Cryptosporidium* are inactivated and the water safe to drink.

**For more information on UV Disinfection, contact Dave Hillyard on 09 274 4223**



## The Benefits of UV:

Broad-spectrum, cost-effective protection that offers unparalleled safety

- UV light is an environmentally-friendly, chemical-free way to safeguard water against harmful pathogens
- Proven in thousands of installations, UV is widely accepted and endorsed worldwide for disinfection of drinking water
- UV offers broad-spectrum protection against a wide range of pathogens, including bacteria, viruses, and chlorine-resistant protozoa
- UV treatment provides Cryptosporidium and Giardia inactivation of up to 4-log at low doses
- UV is a reliable, cost-effective part of a multidisinfectant treatment strategy often used in conjunction with chlorine to provide a dual barrier
- UV does not create disinfection by-products (DBPs) and does not affect taste
- Approximately 1/5 the cost of ozone disinfection and 1/10 the cost of membrane filtration

## Westport WTP Filter Refurbishment

In March 2010 Buller District Council asked Filtec to advise on two failing sand filters at the Westport Water Treatment Plant. Filter media was passing through the filter into the storage reservoir, resulting in obvious poor performance and contamination.

Upon investigation, Filtec recommended the existing filter nozzles be removed, the under drain system cleaned out and new nozzles and media be installed.

The Buller DC subsequently issued an order for the work to be carried out as recommended.

After preparatory work, including a temporary chlorination system, the filters were bypassed and remediation work proceeded.

The refreshment of both filters was completed in 2 weeks.

**If you would like an expert evaluation of your filtration plant, contact Graeme Thacker on 09 274 4223**



# Macrolite®

## Step Up to the Ultimate in Filter Media Performance: Macrolite® Engineered Ceramic Media

For filtration applications that demand high flow rates and increased effluent quality, Macrolite® Engineered Ceramic Media delivers more performance on a smaller equipment footprint. Available in common filtration sizes, Macrolite media spheres optimise filtration performance with two key features: remarkably uniform physical properties and greater surface area allowing filtration to 3 microns. Macrolite is tough and durable. It's a chemically inert medium that provides excellent resistance to acids, caustics, oxidants, and ferric salts.

### Particle Uniformity Boosts Flow, Reduces System Footprint

Compared to aggregates, Macrolite filtration spheres are engineered with extraordinarily uniform composition, shape, size, sphericity, and density. This typically allows you to boost flow rates to 25 m/hr and can allow surprising improvements in filtration performance and operating efficiency. Compared to traditional filtration media, Macrolite's improved effluent quality along with its enhanced ability to dampen influent changes produce a higher quality effluent, time after time.

Macrolite operates at significantly higher flux compared to traditional media. In new bed installations versus conventional media, Macrolite allows you to minimize bed

size, reduce the equipment footprint and lower your capital costs. Backwash energy requirements are lower, too. And because of Macrolite's structure and surface properties, it requires less chemistry. These features lower a plant's operating costs.

### Enhanced Surface Area Traps More Solids Down to 3 Microns

Macrolite maximizes total filtering surface area for a given bed size. Macrolite spheres also have a surface composition that promotes colloidal attachment. The remarkable uniformity of Macrolite spheres plays an important role, by enhancing transport mechanisms within the filter bed to increase the probability of colloid-to-granule contact. Together, these effects can allow a bed of Macrolite media to filter down to the 3 micron level, compared to 10 microns for a conventional aggregate bed.

Macrolite also forms a critical barrier to cyst contaminants like *Giardia* and *Cryptosporidium*. It can remove significantly more cyst-based contaminants than other conventional aggregate media.

### Filter Upgrades and Retrofits

In cases where finer particulate filtration and/or greater capacity are required, Macrolite Engineered Ceramic Media is an excellent replacement media. Macrolite has superior filtration efficiency and can handle 245 to 400 L/min/m<sup>2</sup> flux.

Even with weather-induced influent disturbances, Macrolite can consistently maintain turbidity readings under 0.1 NTU.

Retrofitting your gravity system is often easy. Macrolite can be used with many of the current underdrains and porous plates used today. Its backwash rate is equal to its service flow rate, reducing plumbing and energy requirements. And since Macrolite media does not abrade like anthracite, it can continue to perform for more than 20 years with virtually no losses.

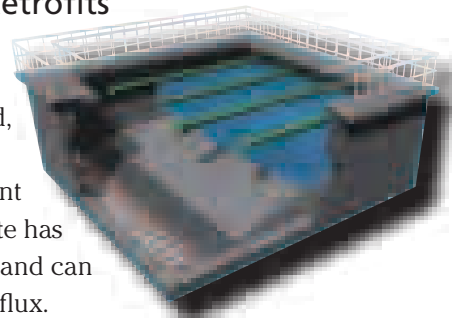
**For more information on Macrolite Filter Media, contact Craig Freeman on 03 232 2402**



**FAIRMOUNT**  
WATER SOLUTIONS

## Recent Significant Design & Build Treatment Plants by Filtec

- 2010 Lion Breweries Auckland. Brewery Wastewater Detention and Treatment Plant. [Value \$334,000.00]
- 2010 Watercare Services. Upgrade Chlorine Plant Ardmore WTP. [Value \$267,496.00]
- 2010 Marlborough District Council. Supply Trojan UV units. Blenheim and Picton. [Value \$295,650.00]
- 2010 Dunedin City Council. Supply, install and commission Trojan UV3000Plus UV System. Tahuna WWTP. [Value \$2,300,00.00]
- 2010 Buller District Council. Filter refurbishment, Westport. [Value \$143,310.00]
- 2010 Ruapehu District Council. Ohakune WTP Stage 3 Upgrade. [Value \$120,000.00]
- 2010 Watercare Services, Chlorine system upgrade, Huia WTP. [Value \$281,800.00]



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