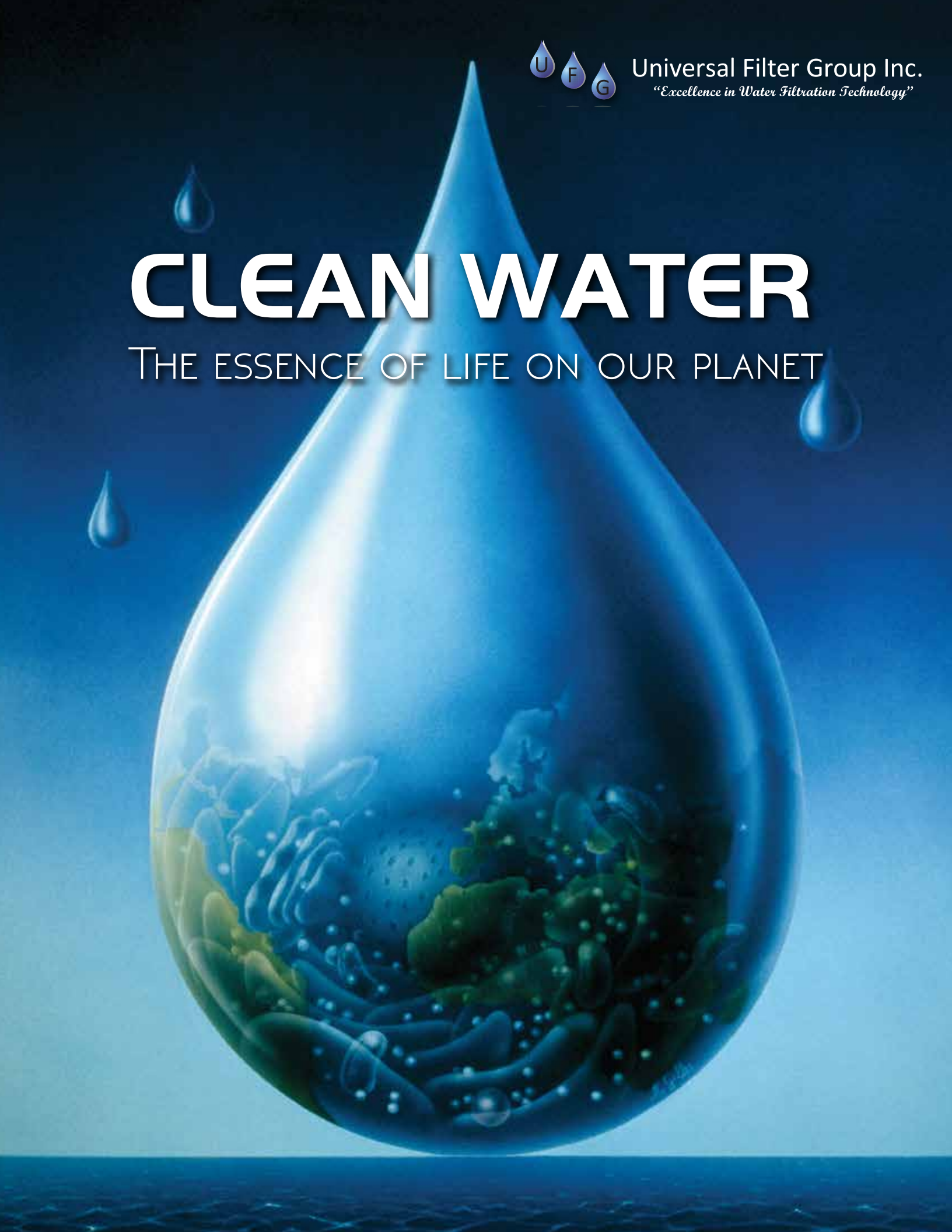
Universal Filter Group Inc.

"Excellence in Water Filtration Technology"

CLEAN WATER

THE ESSENCE OF LIFE ON OUR PLANET



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"Excellence in Water Filtration Technology"

Clean water is one of our most precious resources and UFG has been committed to the production of clean drinking water since our beginning over 25 years ago. It is estimated that by the year 2025, almost two-thirds of the global population will not have access to clean water. We need to do everything possible to preserve this valuable resource and to develop technology to improve the production of clean water for mankind.

Universal Filter group Inc. has been building water and wastewater filtration equipment for more than twenty years, providing high quality engineered products for municipalities, federal, provincial and municipal governments, industry, private land owners, resorts, remote work sites, and First Nations communities.

In addition to the design and manufacturing of our West Coast Filters large diameter, epoxy-lined, carbon steel filter vessels, we design and build skid-mounted, packaged filter systems for First Nation facilities and other remote sites. Our skid-mounted packaged filter systems are tested and shipped in suitable shipping crates with flanged terminal points for quick and easy connection on site.

Our automated filter systems are equipped with PLC based Filter Control Panels (FCP) which allow for SCADA control and are operator friendly with HMI interface. Various analytical and instrumentation systems can be incorporated depending on the level of automation required by the owner.

Every system is designed with ease of maintenance in mind to ensure many years of service to the end user. UFG provides on-site commissioning services with every filter system complete with operator training and simplified operating instructions.

STAINLESS STEEL UNDER DRAIN ASSEMBLES

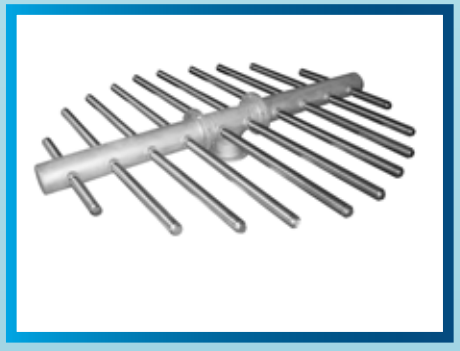
LATERAL ASSEMBLIES

Universal Filter Group utilizes stainless steel wedge wire screen in the design and manufacture of our filter vessel under-drains. Typical configurations include Header & Lateral assemblies in the larger diameter vessels and the Hub & Radial assemblies in the smaller diameter filters. Both designs are built to ensure maximum life expectancy of the filter.

Universal Filter Group recognizes the specific needs of every application; therefore, we utilize a 3D AutoCAD system to design the under-drain system to fit precisely in the filter vessel. With the onsite ability to form wire, we can control all variables in the wedge wire screen process. Standard sized wires are available to complete a full range of screen diameters and lengths.

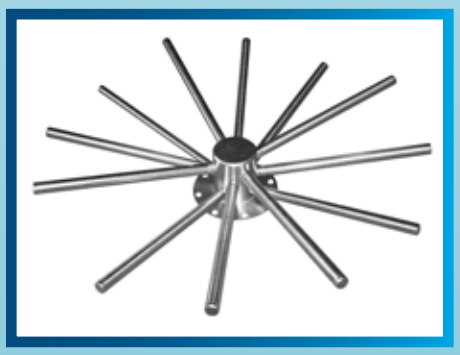
HEADER ASSEMBLIES

In larger diameter filters, a main header is typically bolted into the lower head or side-shell of the filter vessel. The header is supplied with welded couplings to accept either screen laterals or pipe-based laterals.
The pipe-based laterals are equipped with water-jetted orifices to ensure optimum distribution of air and water in the backwash mode.



HUB ASSEMBLIES

With smaller diameter filters, the Hub & Radial system is more suited for the filter design. This is achieved using a central hub with radials set at precise elevations. Again, couplings are welded to the hub to accept either wedge wire screen laterals or pipe-based laterals.



SCREEN LATERAL

As an efficient collector, the screen lateral is available in several sizes, with various slot and end fittings. Most commonly, the screen lateral is provided with a solid cap on one end with threaded pipe connection the other end.

PIPE BASED LATERAL

Screen laterals are supplied with an internal distributor pipe with drilled or water jetted orifices set at precise locations to provide optimum distribution of air and backwash water.

MEMBRANE TECHNOLOGY

With experience developed over three decades, Membrane Specialists offers innovative, customized process solutions for a wide variety of filtration and separation applications using microfiltration, ultrafiltration, nanofiltration and reverse osmosis technologies. Our capabilities range from feasibility studies to piloting to plant design, build and installation and technical support

150 Cubic Meter / Day Fyne Process System in Atlantic Canada

The Fyne Process is a simple, environmentally friendly system that employs advanced membrane filtration technology to treat poor-quality surface water.

It is particularly well suited to treating water containing carbonaceous organic color and pathogens like Cryptosporidium, typically found along the rocky Canadian Shield, in Alaska, and in the northern U.S.

Fyne filtration systems have been running successfully at numerous locations in North America since February 2000. Systems have been installed in Nova Scotia, Newfoundland, Quebec, Ontario, the North West Territories and British Columbia in Canada, and multiple sites in Alaska.

The Fyne Process has repeatedly been proven to provide the lowest capital and operating costs (lowest life cycle cost), especially in small- to medium-sized systems. Thus, it offers an ideal solution for remotely located communities, campgrounds and mining and oil services camps.

Mini Fyne Pilot Unit in Trailer

Variable Pure Micro Filter

Perfect Backwashable Micro Filter

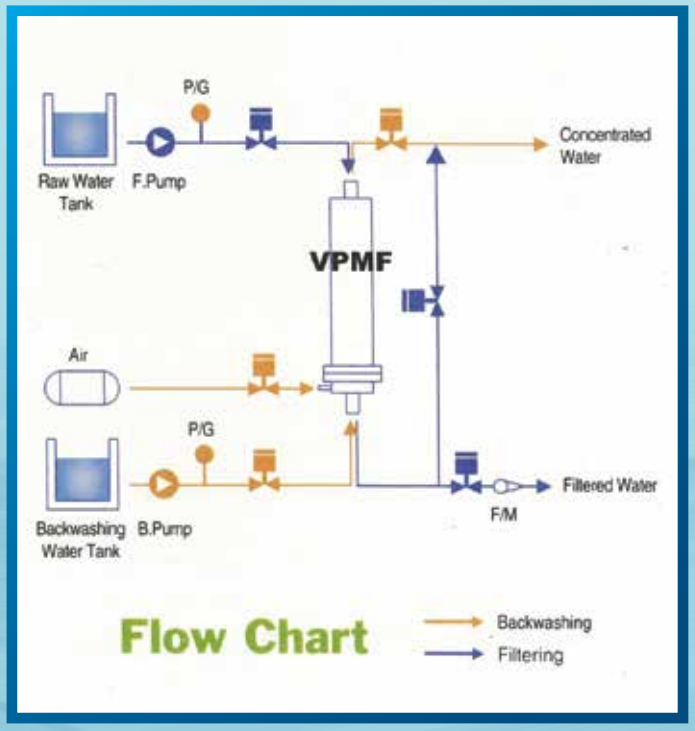
Principles of Operation

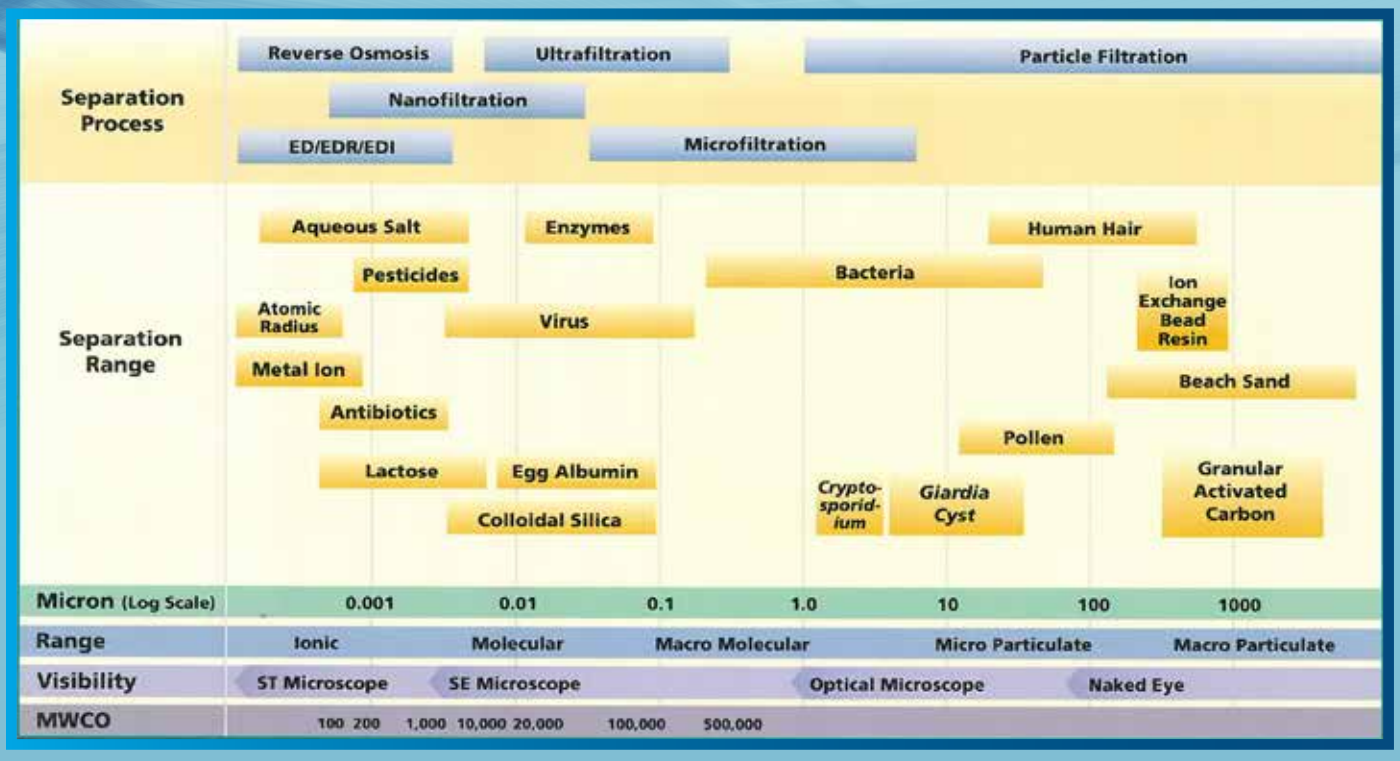
Filtration Cycle

In the filtration mode, the micro fibre element is compressed by the raw water in a down-flow filtration pattern. The inflow of raw water gradually compresses the micro fibre element until optimum compression is reached. Suspended solids and sediment are trapped in the folds of the micro fibre element.

Backwash Cycle

In the opposite manner, backwashing is completed by expanding and dividing the pore structure into strands, which are easily cleaned with finely diffused air and water. Vibration of the cylindrical element in the air wash cycle results in a synergism which enhances release of sediment from the fibres. Backwash takes only 3-5 minutes depending on the raw water makeup.





Particle Size Filtration Chart

COMMERCIAL & LIGHT INDUSTRIAL EQUIPMENT

Oxbow ACTIVATED CARBON

EXCALIBUR

WATTS Watts Water Technologies, Inc.

Inversand Company
ORIGINAL DEVELOPERS OF MANGANESE GREENSAND & GREENSANDPLUS

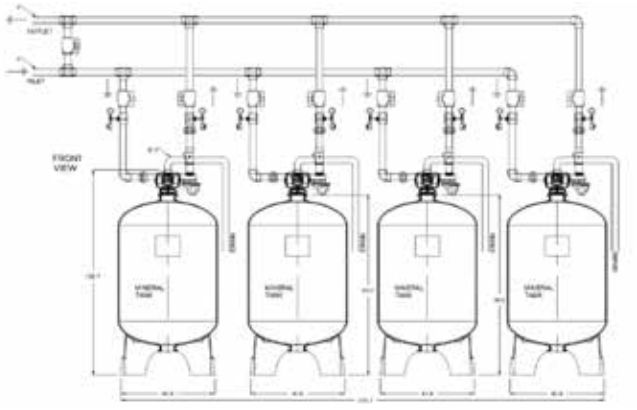
Our commercial water treatment products extend from standard applications like boiler protection (water softeners, water conditioning and reverse osmosis equipment) through high-volume Reverse Osmosis systems for use in commercial car and truck washes. Our engineering investments provide off-the-shelf systems with high flow rates, enhanced system reliability and channeling avoidance by combining up to six vessels with a smart valve controller so no custom design or engineering is required.

We build single-vessel (Simplex) systems for applications that do not require high flow rates, 24/7 operation or resilience in case of a vessel failure. In addition to the maximum flow rate the system can provide, buyers also must take care to avoid channeling (systems, especially water softeners do not operate properly when water flow rates are very low), which can cause untreated water to pass through the system.

To handle larger requirements, we build Duplex systems (two vessels in parallel) with additional capacity with the ability to operate 24/7. Correctly provisioned Duplex Alternating systems provide the same maximum capacity as a Simplex system, with 24/7 operation with one unit in service at all times. Duplex systems can also be provisioned with smart control valves to operate as progressive flow units, where the control valve turns the second unit on only when required to achieve user-specified flow rates.

Clack **System Controller**

- No plug-in AC Adapters are required on individual valves, all connected valves will be powered by the System Controller
- System Controller may operate 2 - 6 units
- System diagnostic and programming information for spreadsheet presentation may be uploaded to a standard USB drive



Beyond two-vessel systems, we also build triplex (3), quadplex (4), five plex (5) and six plex (6) progressive flow systems to handle high flow rates, 24/7 operation, and maximum dependability.

We use high-quality resins and filter media with programmable valves to build reliable, resilient, high-capacity systems with very high flow capacity (up to 2000 gpm), supplied off the shelf - no design engineering required

INSTRUMENTATION & CONTROLS

UFG, working with Kontrol Automation, has the capability to supply cutting edge technology for our filtration systems at very competitive costs. Our control panels boast a feature-rich system with simplistic operational and maintenance philosophy. We are able to produce automated control systems with maximum value at minimum cost to the end user.

We work with our customers to create a system that offers stand-alone control or alternatively, one that can be easily integrated into an existing control system.

Some of the features we supply are:

- Ethernet connection to facility LAN systems for integration to supervisory controls
- Local operator interface with easy to understand representative screens
- Web-based, security access is built in to most applications
- Data logging of KPI (Key Process Indicators) for future records and reports
- Modbus or CIP database access
- Ability to connect to larger SCADA systems
- Standard programming techniques for easy knowledge transfer to facilty maintenance and IT personnel

Over 35 years of automation experience combined with hands-on technical field personnel create a control system that will provide many years of worry free operation.

Universal Filter Group Inc.

"Excellence in Water Filtration Technology"

Design, Manufacture & Distribution of Water Purification Equipment

We have over 200 Municipal & Industrial Filtration Systems which have been operating throughout Western Canada and the USA for over twenty years.

Partial List of Completed Projects

Project	Location	System	Consultant
Town of Dewberry	Dewberry, AB	Manganese / Iron	BAR Engineering
City of Atka	Atka, AK	Multi-media Units	C E 2 Engineering Inc.
Carry the Kettle F.N.	Sintaluta, SK	CL2 Reaction Vessels	Catterall & Wright Ltd.
City of Gambell WTP	Gambell, AK	Direct Filtration Systems	C R W Engineering Group
Pinnacle Pellet	Burns Lake, BC	VPMF Micro-Filtration Systems	Muddy River Technologies Inc.
Johnson Canyon Park	BANFF, AB	Chlorine Contact Systems	MMM Group
Crooked Lake Park	Qu'Appelle Valley	Direct Filtration Systems	Catterall & Wright Ltd.
Sugar Cane Project	Williams Lake F.N.	Manganese Removal Skids	Novatec Consulting
Sugar Cane Project	Williams Lake F.N.	Arsenic Removal Skids	Novatec Consulting
Unalakleet WTP	Unalakleet, AK	Pressure Filters	CRW Engineering Group
Nazko First Nations	Nazko, BC	Arsenic & Manganese Removal	Kerr Wood Leidal Ltd.
EPCOR French Creek	Parksville, BC	Manganese & Iron Removal	EPCOR (West)
Mekoryuk WTP	Mekoryuk, AK	SS Under-drains	C R W Engineering Group
Potash Corporation	Rocanville, SK	Filox Skids c/w PLC Panels	AECOM
Upper Nicola FN	Merritt, BC	Filox Skids c/w PLC Panels	McElhanney
Pike Lake WTP	Pike Lake, SK	Contact Vessel	Catterall & Wright Ltd.
Trident Seafoods	Sand Point, AK	Direct Filtration Systems	GV Jones Associates
Alkali Lake F.N.	Williams Lake, BC	Filox Filtration / Anti-Scalant	McElhanney
Toosey Indian Band	Fraser Valley, BC	Filox Filtration System	Golder Associates
T.N. Ramnauth Co. Ltd.	Trinidad & Tobago	VPMF Micro-filtration System	Client
Toquaht First Nation	Ucluelet, BC	Tertiary Filtration of Sewage Lagoon	Stantec Consulting Ltd.
Seldovia WTP	Seldovia, AK	Construction of Three 96" Diameter Pressure Filters	CRW Engineering Group.
Prelate WTP	Prelate, SK	Greensand Plus Filtration System	KGS Group
CFB WTP	Esquimalt, BC	Granular Activated Carbon Filters	Stantec Consulting Ltd.
Chauvin WTP	Chauvin, AB	Greensand Plus Filters & GAC Absorbption System	In-House
Alida WTP	Alida, SK	Multi-Media Filter System	KGS Group

Projects Currently Under Construction

Sask Parks	Moosomin, SK	Multi-Media Filter System	KGS Group
Mission Hill Winery	Westbank, BC	Fully Automated Progressive Flow GAC System	In House
CFB Esquimalt	Victoria, BC	Multi-Media Filter System c/w PVC Manifold Piping	Stantec Consulting Ltd.

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