

INDUSTRY WATER FILTRATION, INC.

Save Water Through Reuse



Industry Water Filtration, Inc.

Innovative Solutions for Water Conservation

Industry Water Filtration (IWF) introduces a truly innovative device facilitating the reclaim and recycling of large volumes of water as well as greatly reducing the cost of wastewater disposal.

Our Inspiration

- **Industry Water Filtration was founded by people who are passionate about solving the water crisis**
- **Saving water for water-intensive industries will allow us to have the largest possible effect in solving the problem**
- **Manufacturing equipment for large-scale industry use has a high potential return for IWF investors**

Competitive Advantage

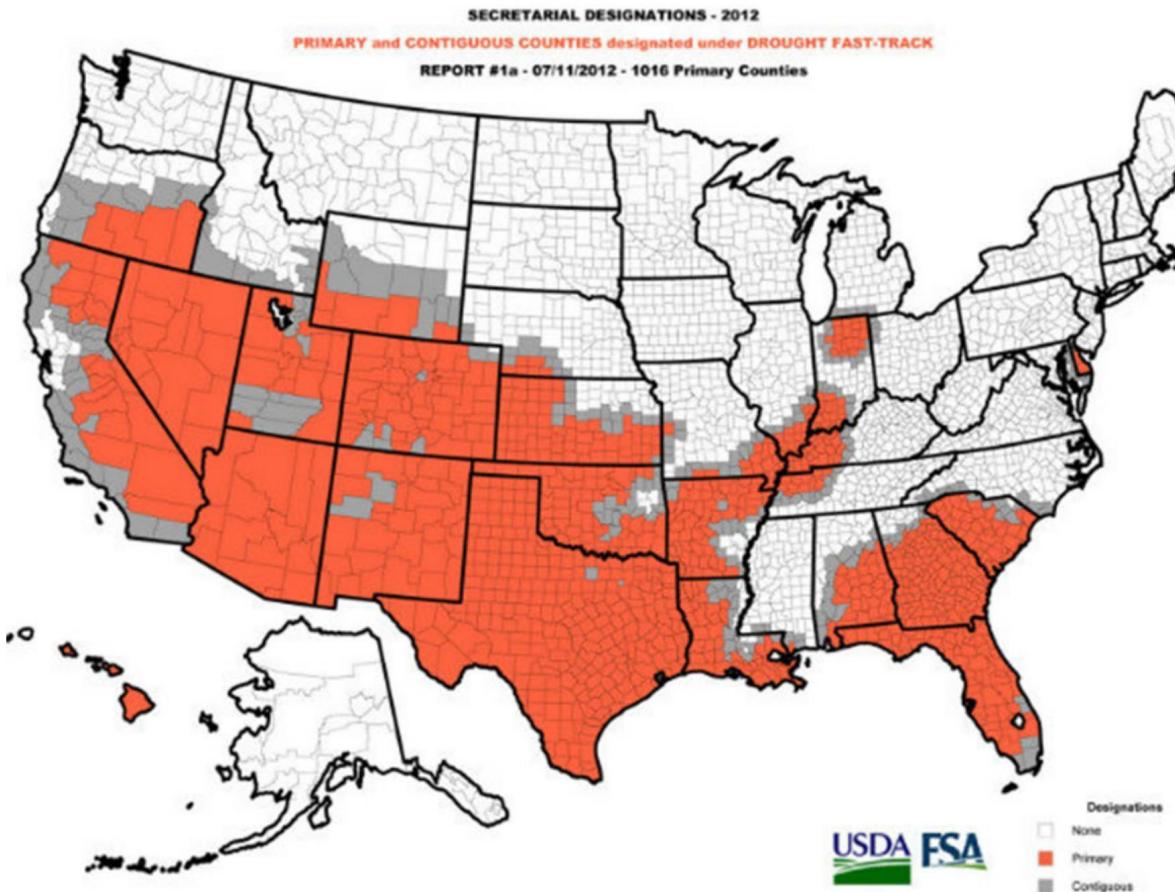
- IWF technology eliminates the complicated, costly and time consuming need to interrupt processing to clean filters. IWF filters never clog. The heart of the IWF patent is the proprietary continuous back-flush system.
- The cost-per-gallon to process water with IWF technology is the lowest in the industry because of our patented continuous processing innovation
- Typical customer pay-back: less than one year
- IWF technology utilizes the newest available filter screening material with microscopic pore openings in the screens. Stainless steel or polymeric screens are available.
- IWF is a chemical-free reducer of biological contaminants
- IWF machines are made entirely in the US except where components are only available from overseas manufacturers.

The Problem

The Problem

- Vulnerable Water Supply
 - Droughts are a regular occurrence in California and all across the Southern US
 - Aquifers are being pumped dry
- The problem in California:
 - Natural forces that have reduced the size of our water supply
 - Demand for residential use has dramatically increased
 - The population has grown from almost 23 million in 1980 to approximately 40 million in 2015 while the water supply has remained the same
- Outside of California there are the similar drought problems in about half the country (see next slide)
- Many parts of the world have even worse water supply problems, such as Australia, with a drought from 2003 to 2012

The Drought through 2016



A California Orchard 2016 Desolate Due to Drought





Groundwater & Land Subsidence in California

In an average year, groundwater provides about **40%** of California's water supply.

In the current drought, groundwater may account for **65%** or more of the state's groundwater supply.

Subsidence in Santa Clara Valley has required various infrastructure construction & repairs, totaling more than **\$756 million**



Subsidence from groundwater pumping in the San Joaquin Valley has been called the **greatest human alteration** of the Earth's surface.

Today, land subsidence is occurring at almost **1 ft/yr**

By 1970, subsidence of more than 1 foot had affected more than half of the San Joaquin Valley – in some areas as much as **28 feet**

Facts from <http://californiawaterfoundation.org/uploads/1398291778-Subsidencesummaryreport-FINAL.pdf>

Sustainable Conservation
<http://www.suscon.org>

Droughts are Serious - We Can Help

- **Every water treatment process begins with FILTRATION**
- **IWF technology is the first truly revolutionary innovation in high volume water filtration**
- **IWF technology allows for recovery of water for reuse in many applications, water that is now wasted in huge volumes**
- **For many customers, IWF technology removes contaminants from wastewater that saves significant disposal costs**
- **Our patented, continuous operation technology utilizes the most advanced filter screen materials with a continuous back flush so that processing never has to stop for filter cleaning**

The Industry Water Filtration Solution

Prototype #5



Prototype #5 Testing at Customer Site



Reclaim, Recycle, Reuse

- Many water-intensive commercial processes can reuse the water after proper filtration. Utilizing stainless steel or polymer filter screens with pore sizes as small as 2.5 microns, IWF creates reuse water for many applications.
- Reclaiming 90% of pre-wash water saves over 50% of a customer's water purchase and disposal costs.
- One of the most note-worthy costs of growing or processing foods in California is the cost of compliance with water regulations. IWF technology helps drastically reduce the cost of staying "in-spec" with the government regulations.

Food Processing: Water Reuse Target Market

- Tomato, fruit and vegetable processing all use water to wash produce coming in from the field. Without fine filtration this water must be scrapped. IWF filters particulates well into the microfiltration range. Turbidity (cloudiness) in the water is reduced through the use of the IWF Filtration System to meet government requirements so the water can be used again for pre-wash.
- In California alone there are 49 food processors using from 1 to 10 million gallons of water per day for this pre-cleaning wash during the processing season. If one-half of these processors are customers who consume 5 million gpd, ITS could sell 250 machines for a water savings of 125 million gallons per day. This market represents a potential for \$23 million in sales.
- **Typical customer pay-back: 10 months**

Industry Water Filtration

Goal: Replace the Settling Tank

Which is expensive & not an effective filtering method



Don't Lose Water to Evaporation: Process It

- A significant water loss due to evaporation comes from huge, open sand filters used by municipal drinking water plants. Large municipal drinking water sand filters will lose as much as 4500 gallons each per day.
- Large municipal wastewater disposal settling tanks lose up to 14,000 gallons per day per tank.
- The municipal drinking water market would save up to 18.8 million gallons per day of evaporative loss. IWF can sell 47,000 machines worth \$4 billion for this processing.
- There are 16,000 municipal wastewater treatment plants in the US. They would save up to 256 million gallons per day currently lost to evaporation. IWF could sell 400,000 machines for a dollar market size of \$36 billion.

Recycling Market: Aquaculture (Fish Farming)

Headline: *Aquaculture North America, July/August 2016*

“US five-year plan: boost marine aquaculture production by 50 percent”

- The National Atmospheric and Oceanic Administration (NOAA) is running a program to boost US fish farming.
- It's not surprising since 90% of the fish consumed in the US are imported. Over 80% of our farmed fish are grown in tanks that require sophisticated water processing equipment.
- Water purity is critical to fish farming and causes much water waste.
- The current market in the US for IWF technology is 1,000 machines of the Model 300 portable size, or about \$60 million. But this market will open up a chance for a hybrid filter/purifier application. Any food producing market that is slated for such giant growth cannot be ignored.

More Markets for Additional Uses of IWF Technology

Post-Processing Wastewater Treatment

Filtered waste from a food processing plant



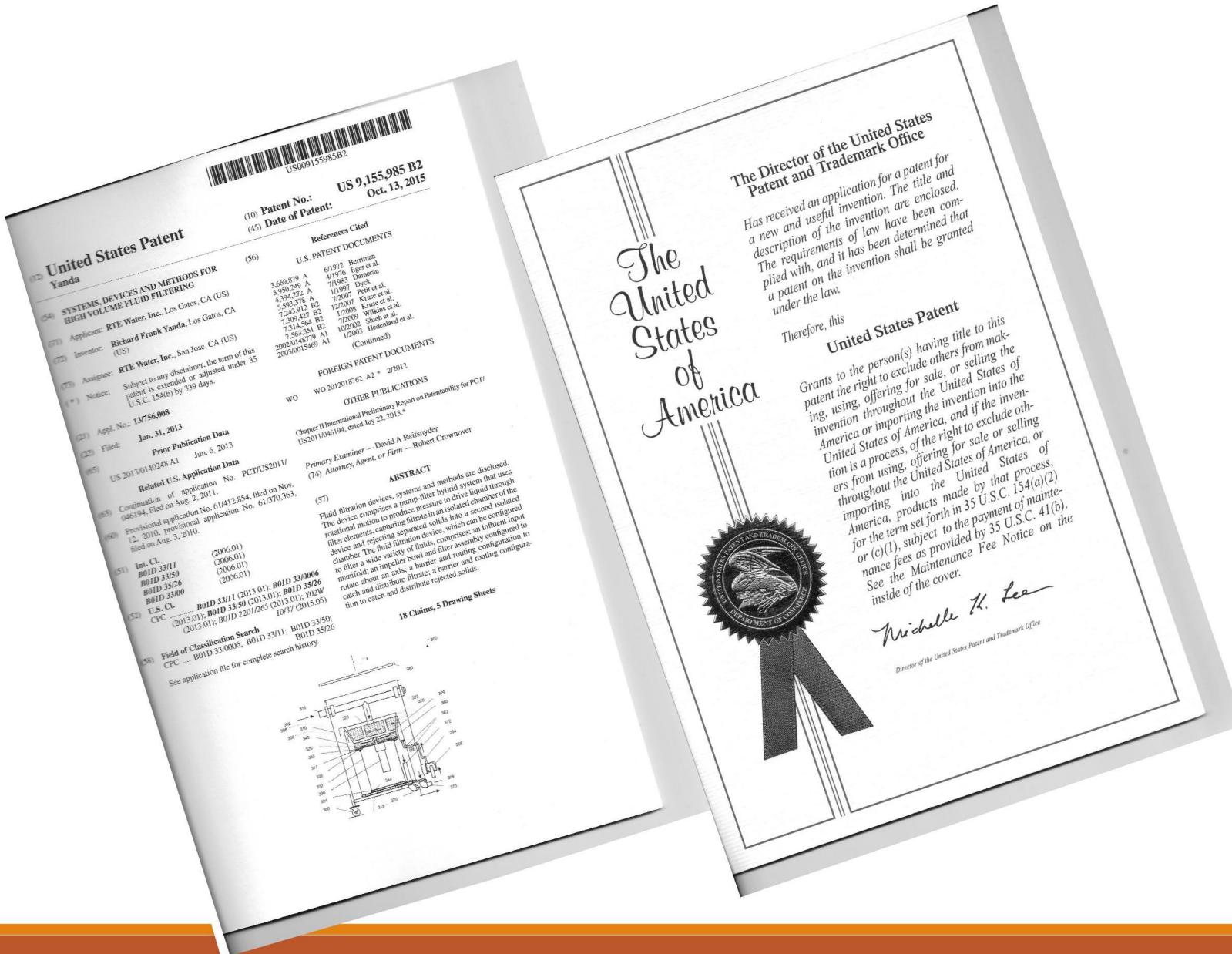
Breweries Need IWF

- Disposal of wastewater is a problem for breweries. One microbrewery in San Francisco spends \$75,000 per month in fines from the local wastewater processing plant because the water they dump has such high particle and bacterial counts.
- There are 2,822 breweries in the US. Of those, 2,768 are craft breweries producing 22 million barrels of beer per year or 693 million gallons. That creates a wastewater volume of about 2 billion gallons. The breweries are already spending \$277 million a year to dispose of their wastewater.
- For such a large potential market, IWF is designing a hybrid system to reduce the biological contaminants in the wastewater in addition to the particulates. Phase Two of our growth plan is to produce hybrid tools that incorporate our filters with off-the-shelf water purification products specific to each application.

Swimming Pools

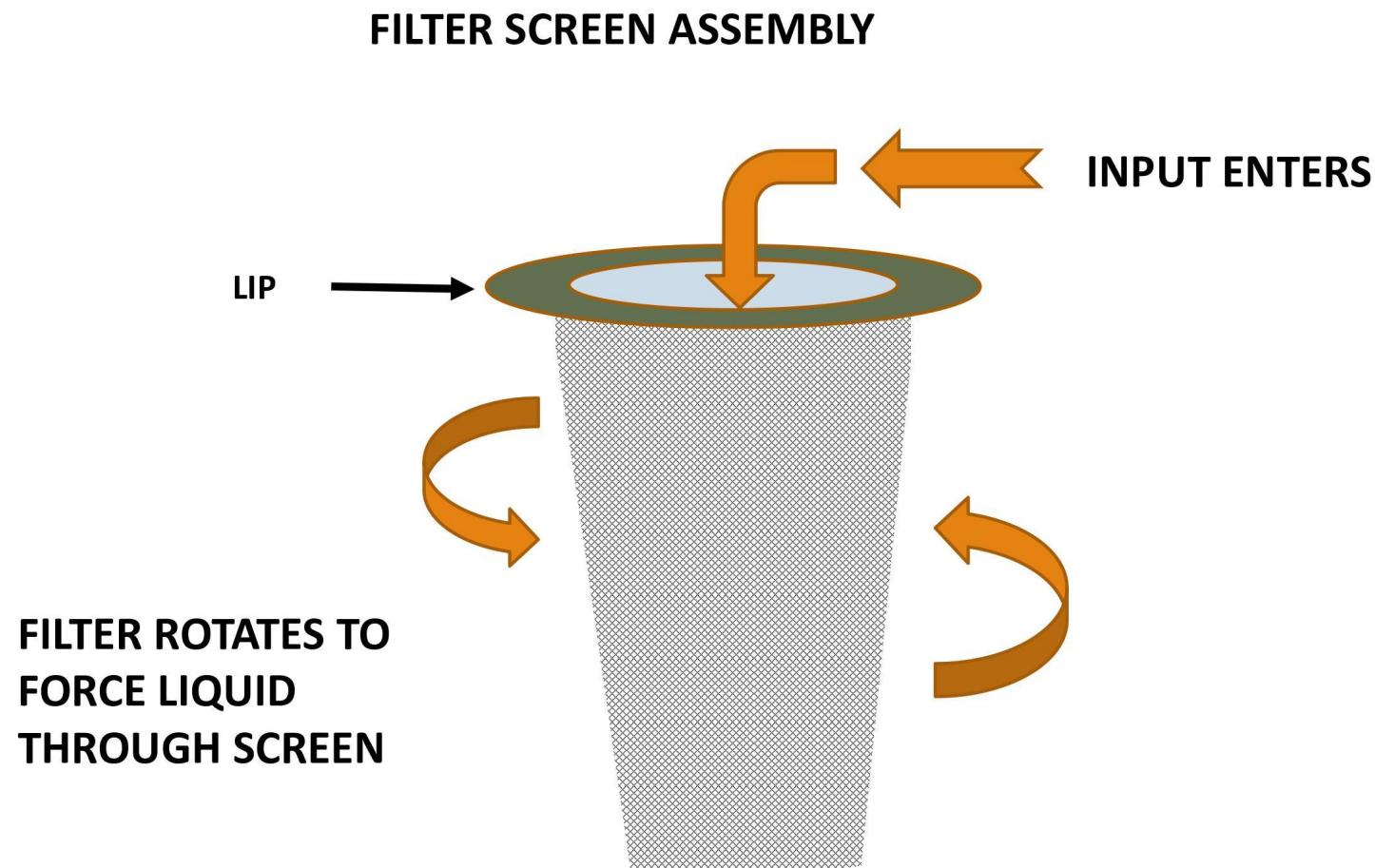
- There are 14.4 million swimming pools in the US. The potential for water savings in this market is huge.
- Twice a month the pool's sand filter must be back flushed. It takes 100 gallons of water for each cleaning. That 200 gallons of water is put down the drain. Every year the swimming pool market wastes 2400 gallons times 14.4 million pools which equals 34.6 billion gallons of water. That's enough water to supply the city of San Jose, CA, the tenth largest city in the US, for over six years.
- IWF can save over 90% of that water and put it right back into the swimming pool. Utilizing our Model 300 portable unit that can service 10 pools per week, servicing half the available pools, the market size is about \$21.6 billion. This is an ideal case where one tool can service 20 pools.

Patent Awarded October 13, 2015

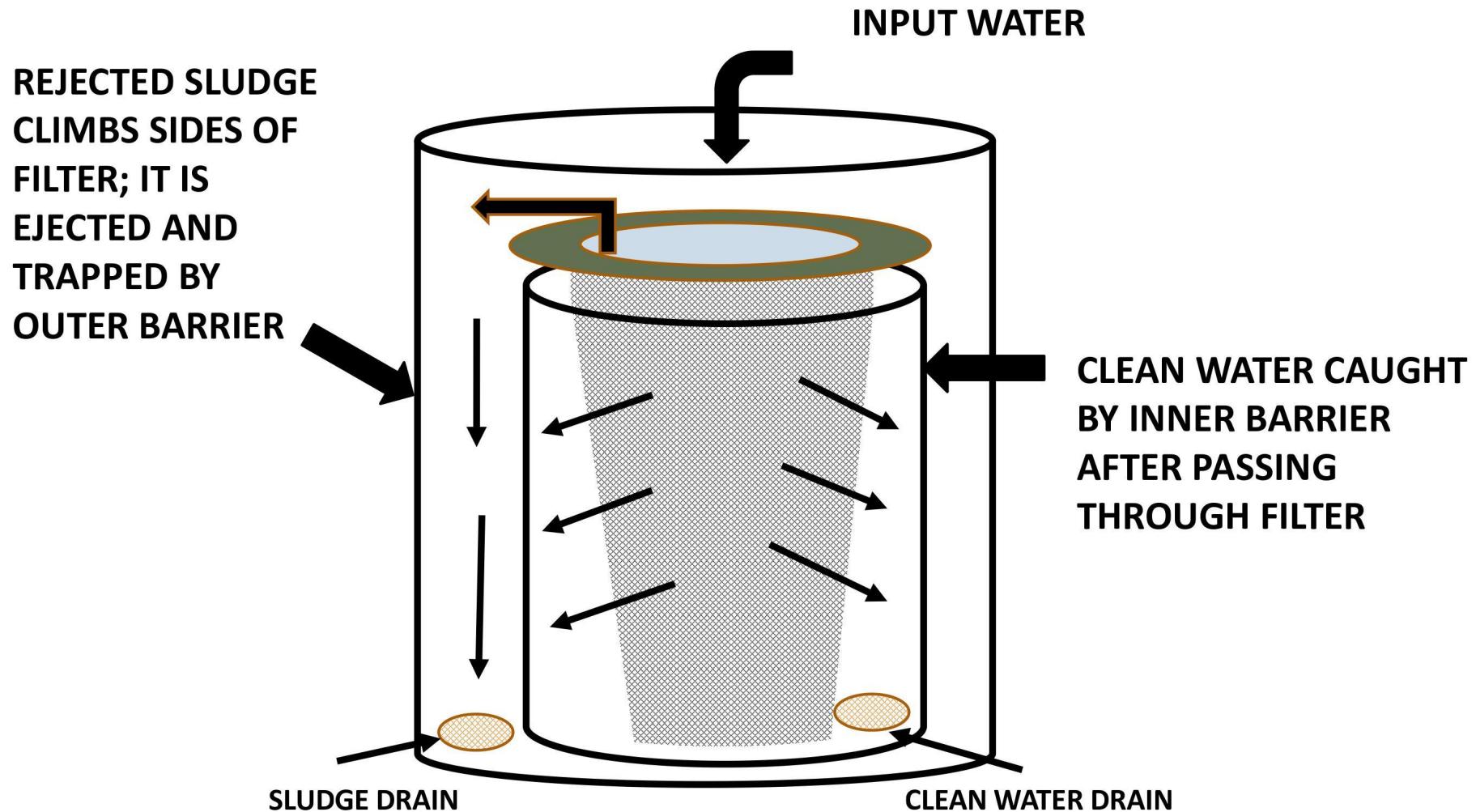


IWF Technology

Schematic Diagram of IWF Technology

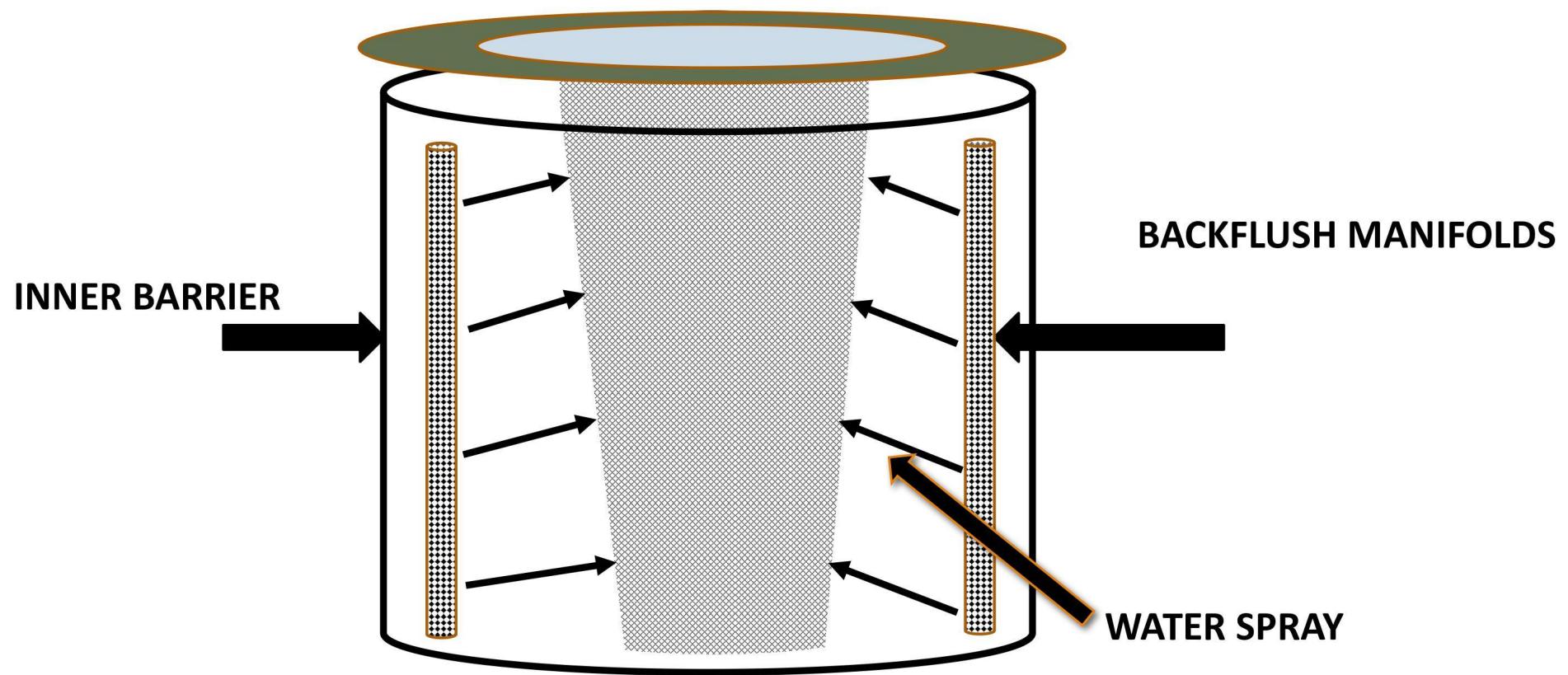


Schematic Diagram of IWF Technology (Cont'd)



Schematic Diagram of IWF Technology (Cont'd)

PROPRIETARY CONTINUOUS BACKFLUSH KEEPS FILTER SCREENS CLEAR



Business Opportunity

What's in it for Me as an Investor in IWF?

- The bottom line is your return on investment. Our projected growth shows revenue of \$5.8M by the end of year 2 (see ProForma). We have many markets and have experienced a very enthusiastic acceptance of our filtration system from potential customers.
- It is exciting to think that this unique invention can help so many people by saving water. Many of us think it is as important as creating a successful, long-lasting business.
- New investors will benefit from the new patents currently being written that will extend the reach of the technology and outpace the competition

Why IWF Needs Funding

- The final design is completed. IWF has been building and testing prototypes since 2008. There have been five major steps in the design process. Product development was difficult and time consuming.
- Family and friends make up the investors that have allowed us to come this far. Our funding was used to develop the technology and to test it at potential customer sites.
- In order to return to those companies that are interested in our technology, we need to have the funding to produce the final manufactured product, create production units for demonstrations at a number of potential customer plants and offer a rental plan so customers can verify performance prior to purchase if they so desire.

Exit Strategy

- The possibility of a merger or buyout offer from one of the large organizations that dominate wastewater processing such as Siemens, GE, Veolia, Dow and others is quite high. It would enhance the company's growth.
- IWF intends to establish international business relationships to guarantee the longevity of the company. This technology is needed all over the world.

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Competitive Edge

The number of applications for ITS technology is unlimited. Here are some examples that we have on the list of future development:

- Pre-filter for Reverse Osmosis and Microfiber Filtration
- Mining
- Fracking Water Recovery
- Excavation
- Oil Drilling
- Storm Water Runoff Trapping
- Poultry Processing
- Animal Feedlot Waste Processing
- Paper Manufacturing/Recycling
- Crude Oil Spill Recovery
- Desalination of Groundwater and ocean water

Competition

- IWF filters high volumes of water through much smaller filter pores than most competitors
- Competitors claim continuous processing but ignore the frequent interruption of processing to clean filters used by all competitors
- IWF cost per gallon of water processed is the lowest in the industry for comparable applications
 - Tekleen, Los Angeles, CA
 - Spencer Machine Tool, Indiana
 - Morrill Industries, CA
 - Blue Water Technology, Idaho
- Legacy technology (settling tanks) is entrenched and traditional: the toughest competition
 - Inferior performance of settling tanks in cost per gallon and land use
 - Consistently can recover only 5% of filtered water for reuse

The Team

The Team



Richard F. Yanda, Ph.D. - President

Richard is the inventor of the IWF technology and the original patent holder. He is a former physics researcher, semiconductor industry engineer, author of “Demystifying Chipmaking” and an experienced lecturer on science and engineering topics for high tech industry.



Ray Medeiros – Executive VP

Ray has a forty-plus year career starting new businesses. He currently working with Freedom Leaf as well as Industry Water Filtration.

The Team (cont'd)



Paul Rygaard – VP Engineering

Paul is an electrical engineer and software team manager. He retired from Hewlett Packard at the Director level after thirty-five years of service.



Mark Stevenson – Advisor

Mark is a professional startup executive. He was considered the "water guru" for a number of years at Palo Alto Research Center, formerly Xerox PARC. He is active in assisting high tech startups.