OverWatch™

Direct In-Line Pump System

INDUSTRIAL FLOW SOLUTIONS™

Industrial Flow Solutions Overview

Industrial Flow Solutions (IFS) designs, manufactures and sells pumping and fluid management solutions for harsh environments

Overview

- IFS designs and manufactures pumps, pump controls and pumping systems to address custom needs across multiple end use industries
- Specializes in pumps and controls for harsh, rugged and challenging wastewater operating environments
- Provides excellent, high-touch customer service combined with industry-leading lead-times and availability
- Headquartered in New Haven, CT USA with over 85 employees

End Markets Served


Industrial Wastewater


Food & Beverage Processing


Building Trades


Municipal Wastewater


Mining


Process Industries

Representative Products

Specialty Submersible Pumps


Explosion Proof


Sand, Sludge & Slurry


Mining Approved

BJM Pumps

STANCOR Pump & Control Solutions

Spill Prevention, Control & Countermeasure (SPCC)

OILMinder

Direct In-Line Systems

OverWatch

Controls & Systems

ClearwaterControls

Industrial Flow Solutions Vision

We are building a world-class pump solutions business that:

Is focused on solving our customer's most demanding flow management problems to **lower their costs, increase their efficiency, and minimize their impact on the environment**

Is viewed by our customers as a valued partner that provides **application knowledge** and product **solution expertise** to their operations

Provides a **human touch** to customer interactions while being **highly responsive** to our customers from initial enquiry though product delivery to post-installation support

Is seen as a **great place to work** by our employees and attracts top performers by providing professional development opportunities for all

Personal customer service & support coupled with best-in-class products & solutions

IMAGINE IF YOU COULD ELIMINATE…

FOG and Wipe Issues

Environmental & Safety Risks

Exposure To Odors & Dangerous Gases

Wet Well Maintenance

IMAGINE A CLEAN, DRY ROOM <u>SAFE</u> FOR PERSONNEL

OverWatch™
Direct In-Line Pump System

The Setting:

The SkyHouse Austin's sewage ejector station

- Austin, Texas
- High End Residence building
- 23 Stories
- 320 units
- Restaurant and grocery store on campus

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The Problem:

- 6 emergency pump clogs faults in 2 months
    - Wipes, diapers, condoms
- Restaurant and grocery store on campus causing FOG build up in wet well
- Quarterly visits from Vac-Truck
- Odor on hot Texas summer days
- Valves/ valve vault needed cleaning
- Fault Light on outside of building
- Maintenance crew on 24-hour “walk-a-round” watch.

…The building management team needed to find a better way.

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The Smart, Direct In-Line Pumping System

- Lifts influent directly from the point of entry
- Simplified maintenance, **eliminates the "root cause" of wet well issue**.
- Constant flow matching and smart machine operation to eliminate blockages/backups

OverWatch™
Direct In-Line Pump System

Provides…

Lower Maintenance

- No downtime from clogged pumps
- No regular cleaning
- 304L Stainless steel standard construction
- Optional remote monitoring

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Direct In-Line Pump System

Provides…

Safer working conditions:

- No build up of odors
- No exposure to Hydrogen Sulfide
- No effluent stored within confined space
- No possible danger of explosion when gases combine with source of ignition

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Direct In-Line Pump System

Provides…

Environmental Improvements

- No Corrosion
- No Odor Pollution
- No Grit/Trash Removal
- Less Detention Time
- Smaller footprint
- No Fat/Sand/Wipes Accumulation

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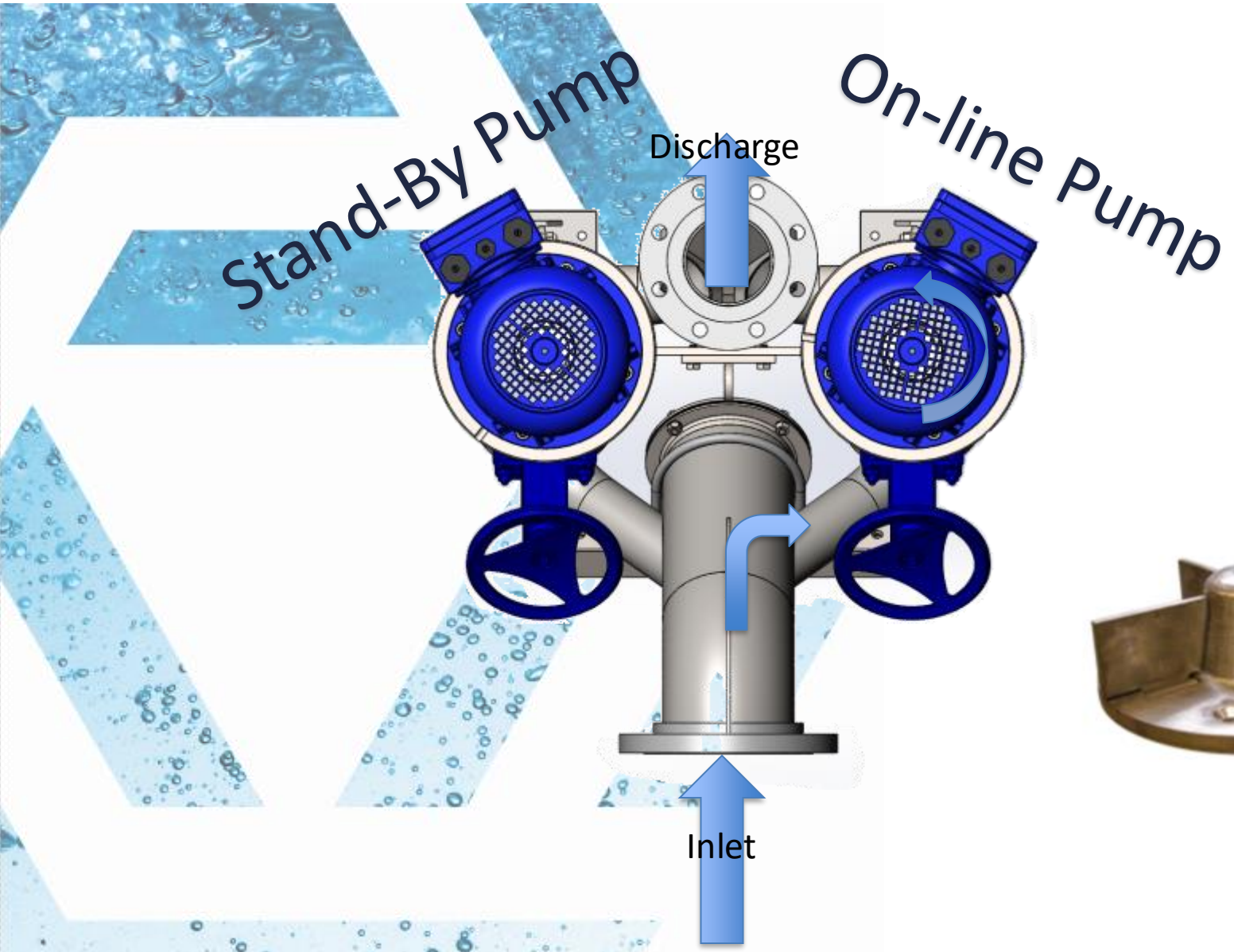
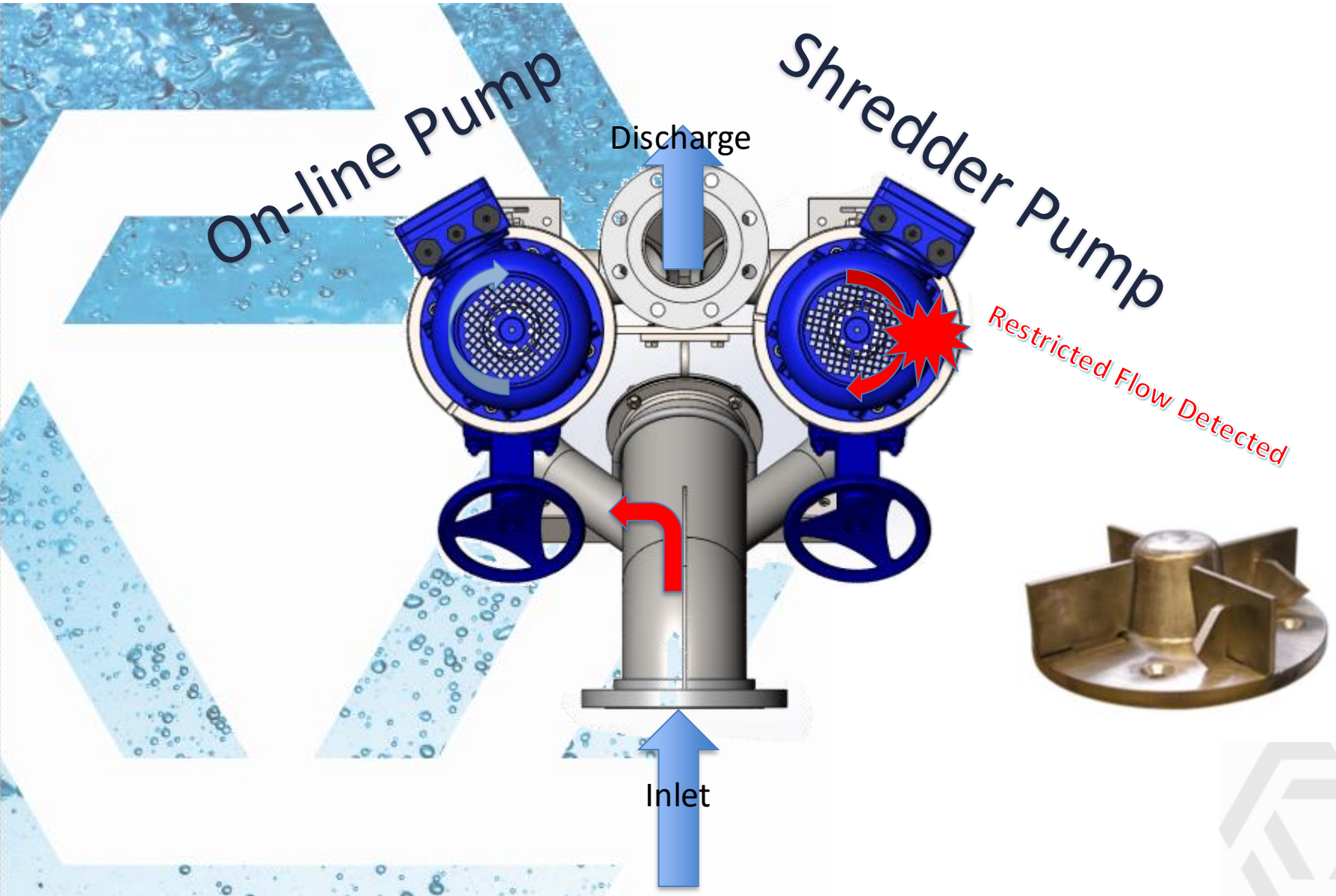
Direct In-Line Pump System

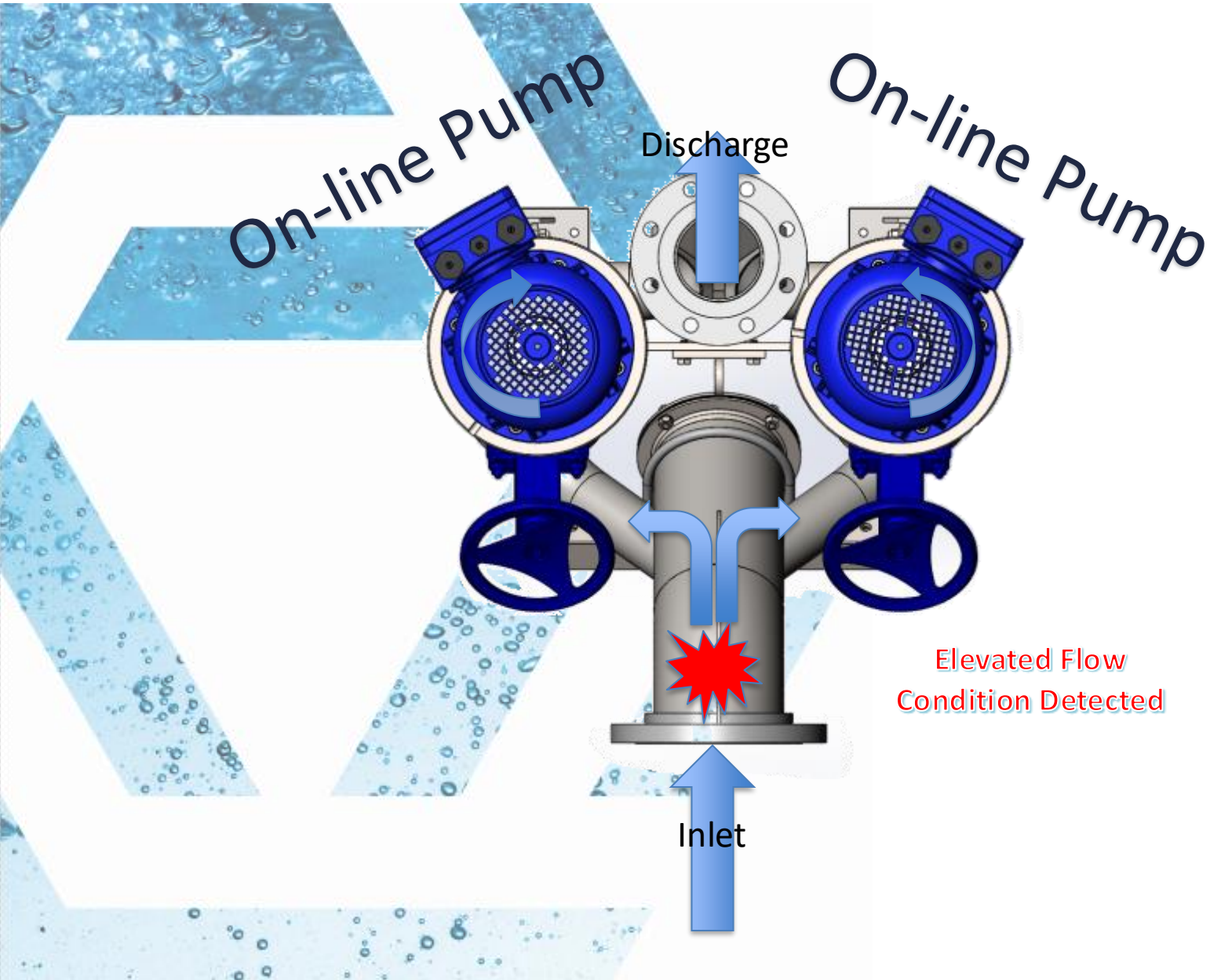
Operating Condition - Normal



Operating Condition – Restriction Detected



Operating Condition – Peak Flow



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Direct In-Line Pump System

The Rehab:

- Installation started at 9am
- Removal of existing pumps, rails and basin cleaned
- OverWatch was placed into the basin by 10:30am
- Suction and Discharge connections were made, Controls connected
- Pump was operational by 6:30pm

In house UL508A Panel shop for Custom Controls

- FUNCTIONALITY
  - VFD (2) Controlled
  - Emergency stop, Automatic backup, Manual control override, Automatic cascade, Automatic rotation direction reversal for cleaning
  - Customizable operational limits
- FLOW REGULATION
  - Automatically adapts to incoming flow
  - Provides constant and regular flow – avoiding fluid arriving in “batches”
- INDOOR OR OUTDOOR INSTALLATIONS
  - 3R standard enclosures
- Human Machine Interface
  - VFD Mounted Keypads
  - OverWatch Machine Interface touch screen 7” or 10”
- REMOTE MONTIORING AVAILABLE
  - Configurable to SCADA, BACnet, etc
  - Trend performance, identify anomalies
  - Warning, Fault outputs/ Overrides

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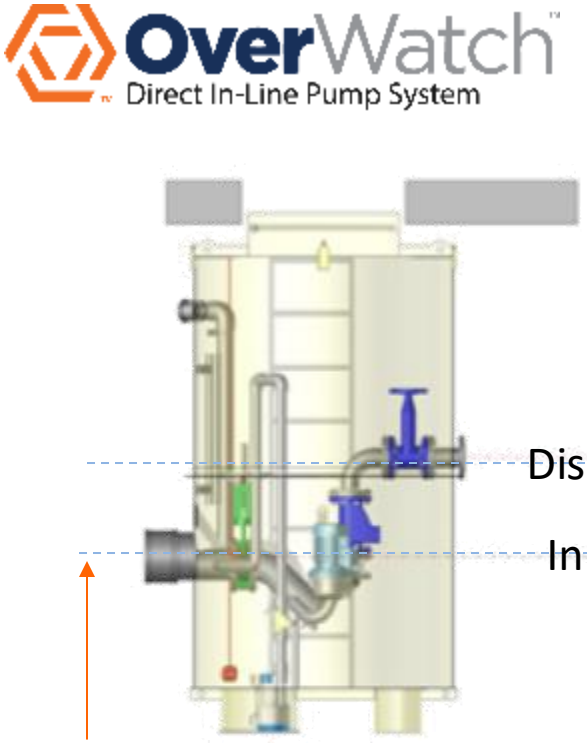
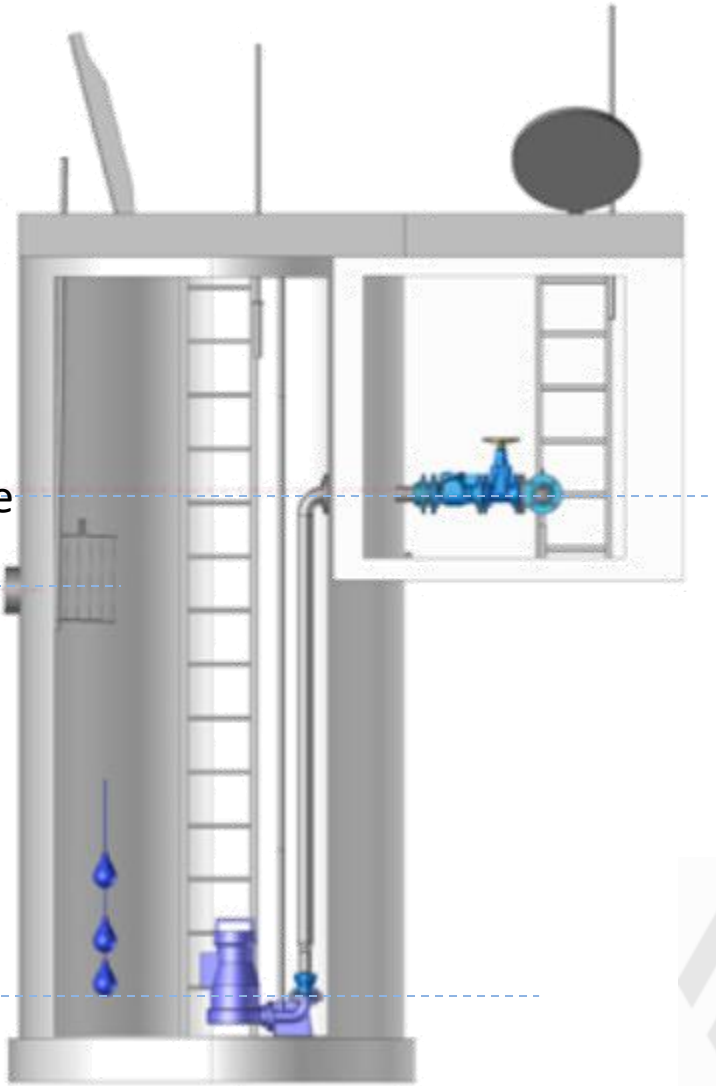
Direct In-Line Pump System

Reduced Depth and Footprint

Direct In-Line Installation



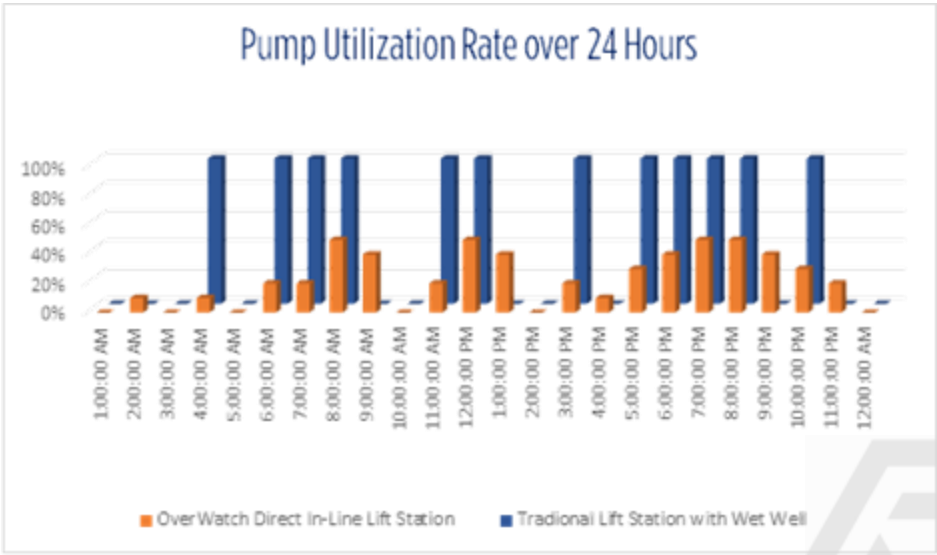
Traditional Installation



OverWatch™
Direct In-Line Pump System

Value Creation

- **Reduced** excavation depth. System only needs 23” of space below inlet centerline
- **No** Additional valve or meter vault. Eliminates differential settlement between vaults
- **ENERGY Saving :** Less Static Lift, VFD controlled, Efficient motors
- **Less space required:** Recovering green space or additional revenue.
- **No** additional grinder or ODOR control systems
- Assembly of single valve/gate block assembled in same location



OverWatch™
Direct In-Line Pump System

The Happy Ending:

- No Downtime from clogged pumps since installation; 9/29/21
- No issues with Odor
- No visits from the Vac-truck
- Communication of performance to maintenance team in real time
- Valve and Valve vaults could be removed for future simplification.

OverWatch™
Direct In-Line Pump System

…And more Happy Endings

A cleaner, safer environment free from hazards associated with traditional wet wells and contamination to existing structure.



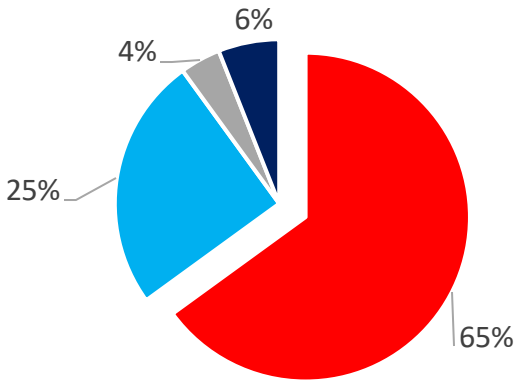





OverWatch™
Direct In-Line Pump System

Reduced Cost of Ownership

Remove 65% of the **TCO**



- Regular Well Cleaning
  = $3,680/yr
- Clearing Clogged Pumps
  = $2,880/yr
- Preventative Maintenance
  = $1,920/yr

- No need for regular personnel visits
- Optional remote-controlled intervention/ Complete remote monitoring
  - Globally accessible 24/365


OverWatch
Direct In-Line Pump System
Annual Total Cost Savings
$8,480
Cost Savings Document:
Sherman, NY Wastewater Treatment
PROBLEM


OverWatch
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Annual Total Cost Savings
$25,000
Cost Savings Document: Baltimore Inner Harbor Residence Building
PROBLEM

OverWatch™
Direct In-Line Pump System

A Proven Solution

- 2000 units operating in different countries and savings every day, since 2003
- 56 models from 20gpm to 10,000gpm, up to 400ft head. Up to 200HP

Ronald McDonald House Charities
Disneyland Resort
Suez Environnement
United Water
Paris
MERCK
VEOLIA WATER
ArcelorMittal
GESPRO PACKAGING
70th Anniversary D-Day Normandy Land of Liberty
SEPTA
saur
tru
Hilton
empirical
The Ritz-Carlton
ARTELIA International
Madlyn and Leonard Abramson Center for Jewish Life
Caring for Generations
Walter Reed National Military Medical Center
Six Flags
Fondation Louis Vuitton

OverWatch™
Direct In-Line Pump System

There is already a success

Final for Construction 02/20/2019

Installer

CORE & MAIN

Justin Dean- Allentown, PA

TRU Hotel - Home2Suites Easton
3882 Eastgate Boulevard
Easton, PA 18045

Engineer

LIBERTY ENGINEERING, INC.
CIVIL • STRUCTURAL • MECHANICAL • ELECTRICAL • PLUMBING

Contractor

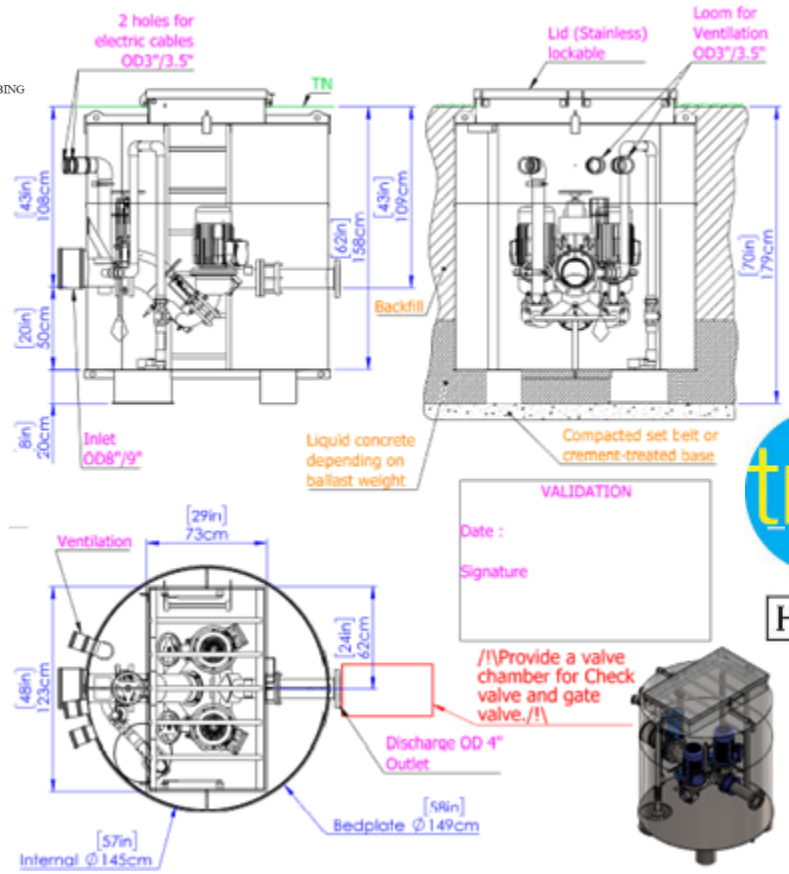
WOHLSEN CONSTRUCTION

Construction

JC SONS

Pump Supplier

ROBERT BROWN ASSOCIATES INC.



Sidinox S150/150 (59"/59")
Under Green Space
DIP 21 LC 6VV 3HP
PR TRU Home 2

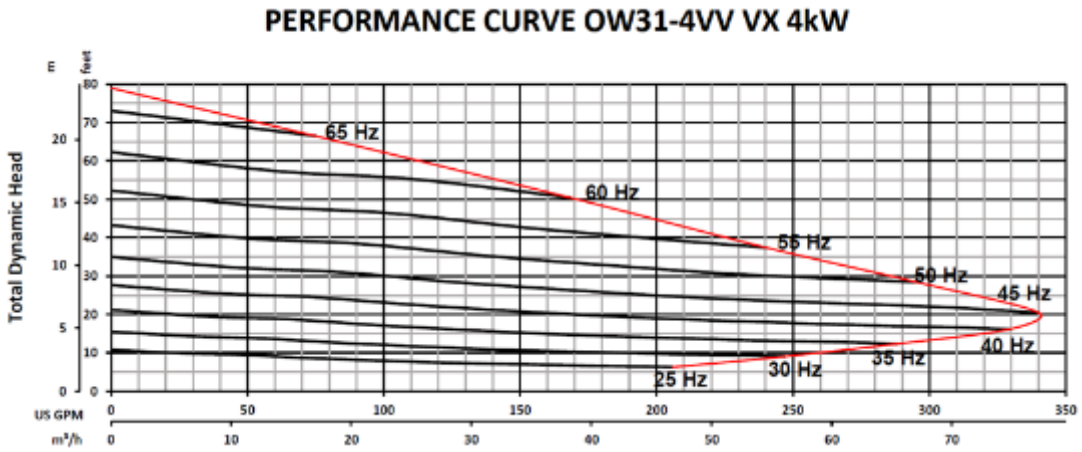
tru

Hilton


Q&A

Typical objections

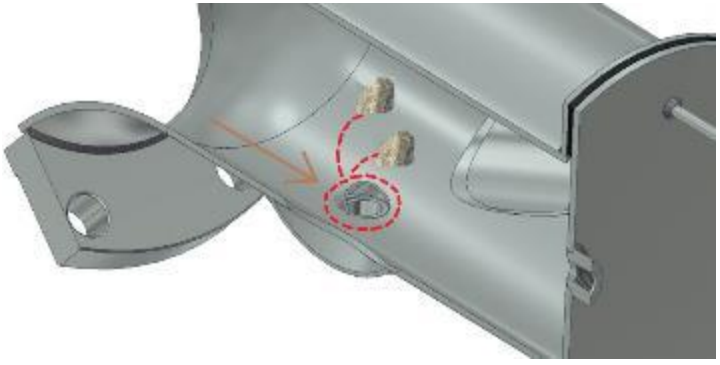
1. A minimum flushing **velocity** of 0.75 m/s (2.5 ft/sec) is needed to **scour** material from inside the **pipe.**
   - Variable frequency controllers allow the pumps to operate at the flow requirement needed to move fluid. As head increases due to restriction, frequency of the motor increase to overcome the backup. To prevent solids build up, the unit has the ability to be fine-tuned to the operating range that matches the flow while eliminating accumulations.



2. How does the system protect against level sensor failure?
   - The controller ensures constant pumping by automatically switching the lead pump to a pre-programmed fixed speed when a level fault is detected. An alarm will be displayed, and a warning can be sent to the host via the communication network.

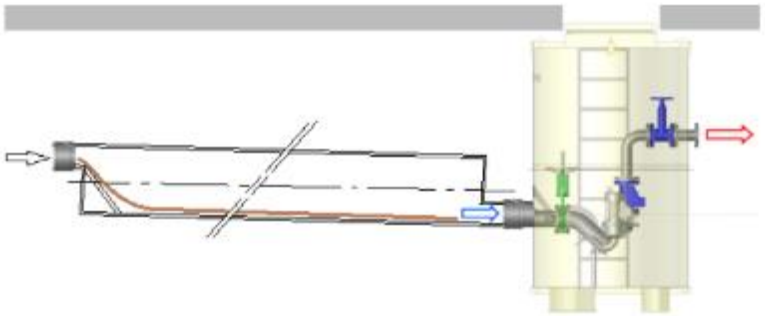
Typical objections

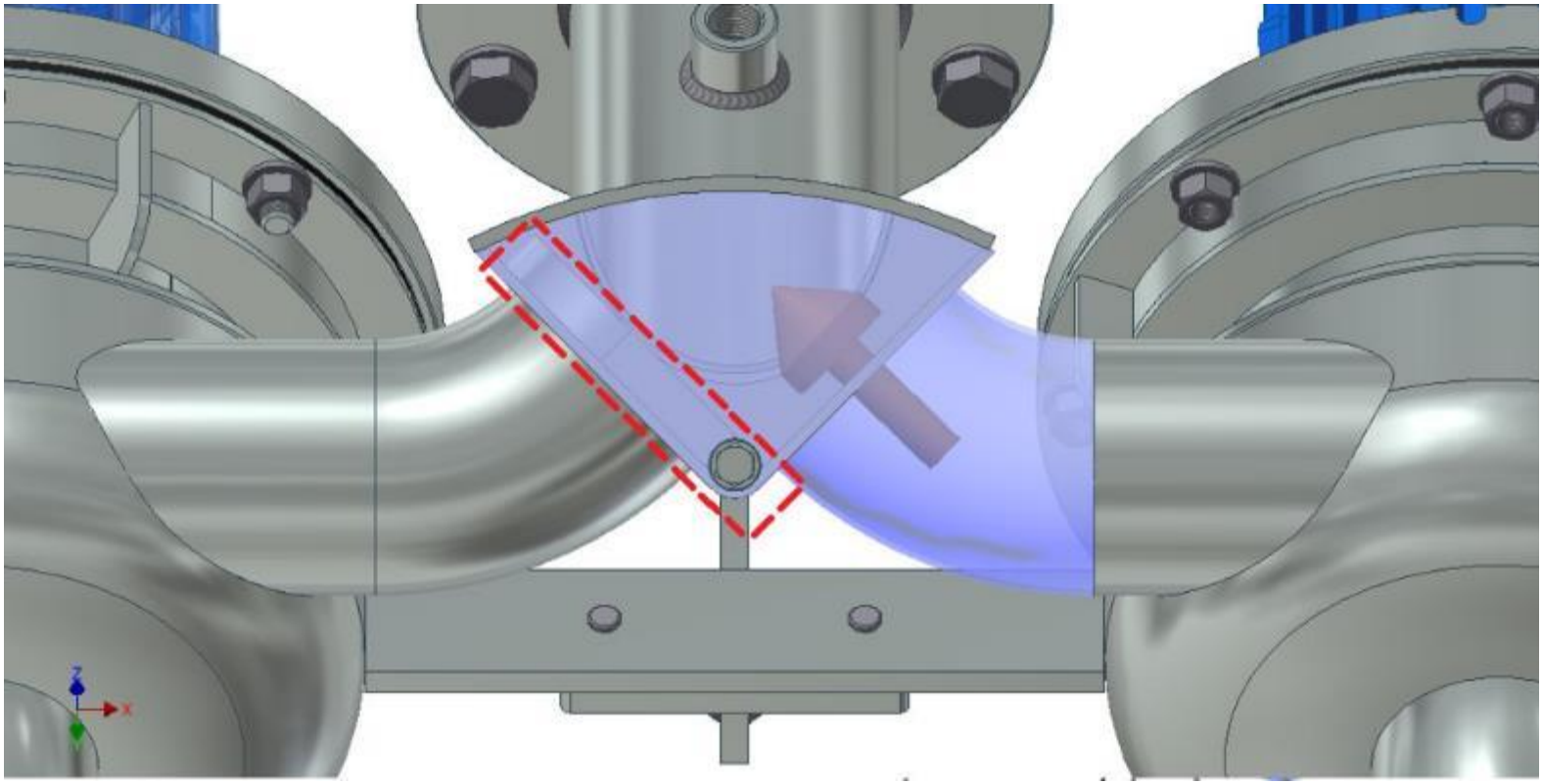
3. What action occurs if one motor were to fail?
   - If a fault is detected and not resolved by the automatic fault management system, the control system automatically diverts flow to the other pump. Removal of the failed motor can be achieved without any downtime by closing the branch isolation values (c-housing version). Replacing the motor can be achieved in minutes. A cover plate is supplied with each system to seal the motor seat during replacement to allow for a completely safe and clean environment to perform the repairs.
4. What happens to large solids that can come from a gravity network?
   - Larger pieces of material are caught in the stone trap at the rear of the housing. Designed for heavier solids to fall out of stream, they can be manually removed via the service hatch. If the network has a known issue with stone and gravel, it might be useful to fit a trap in the upstream inspection chamber



Typical objections

5. What happens when the system loses power?
   - When the system loses power, the same as with the other system – pumping stops! For critical networks, an automatic start-up generator is recommended.
6. With no water retention, how do you mitigate back-ups?
   - The system has an alarm system for high level, motor or sensor loss, so the host will be notified immediately of an issue. The primary source of back-up is from power loss which is mitigated with a generator. A pump around could also be considered on the suction and discharge to divert water on a short-term temporary basis. If long term retention is required, a retention vessel upstream of the system should be considered





Let’s Shred!!