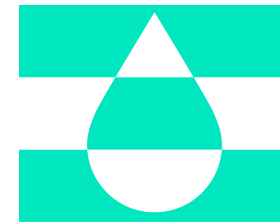




**Johnson
Screens**

Passive Intake Screens



**Johnson
Screens**

Will Rivard – Sales Engineer

Will.Rivard@JohnsonScreens.com

History – Johnson Screens



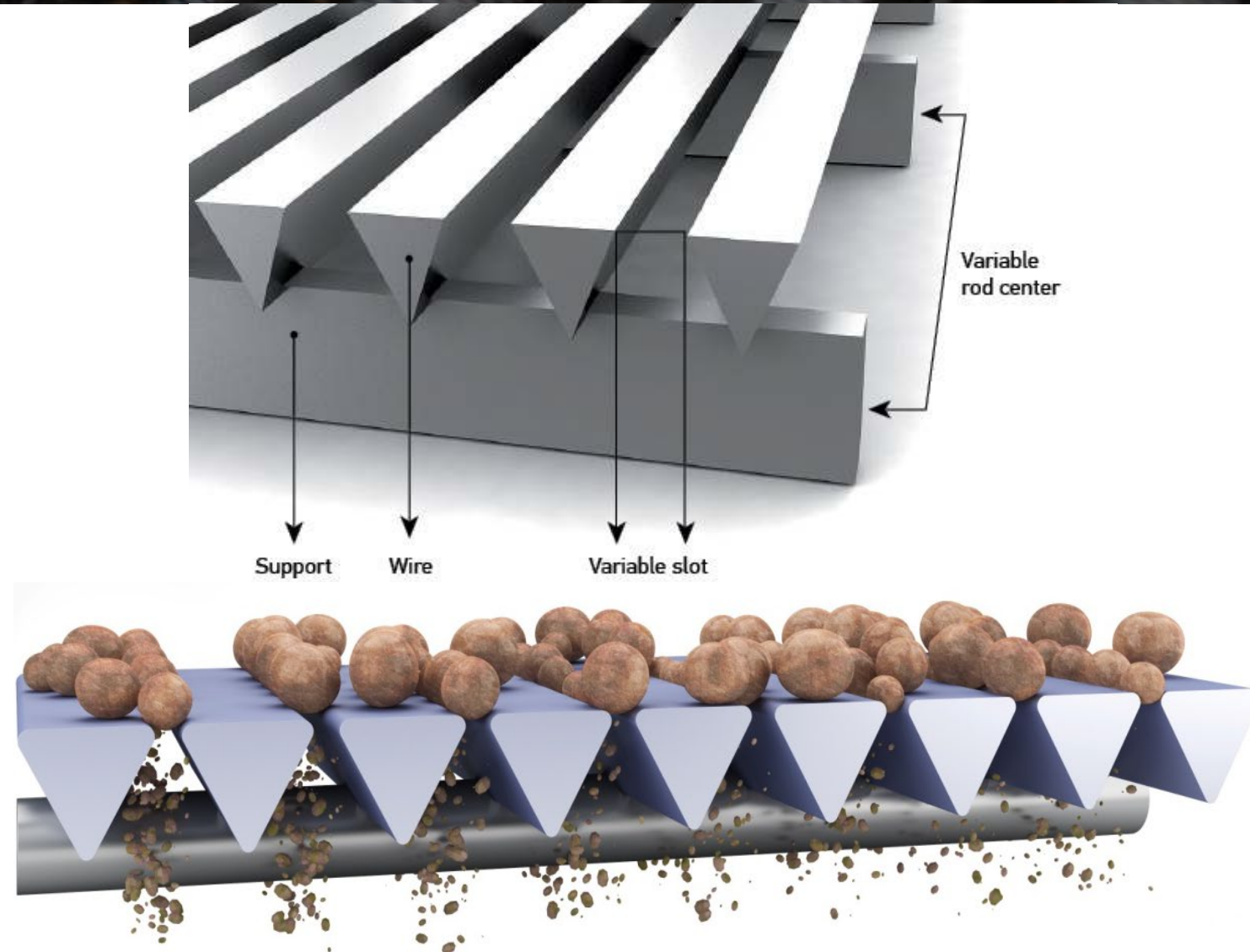
- **We Build Responsibility**

- In 1904, Edward E. Johnson founded Johnson Screens after developing the world's first continuous slot wire wrapped screen to be used in a water well.
- Johnson Screens is the leading global manufacturer of Vee-Wire screens for filtration, water well, architectural elements and the oil and gas market.
- Headquarters in New Brighton, MN
- Manufacturing plants in France, Japan, Australia, India, China, Brazil and Chile.



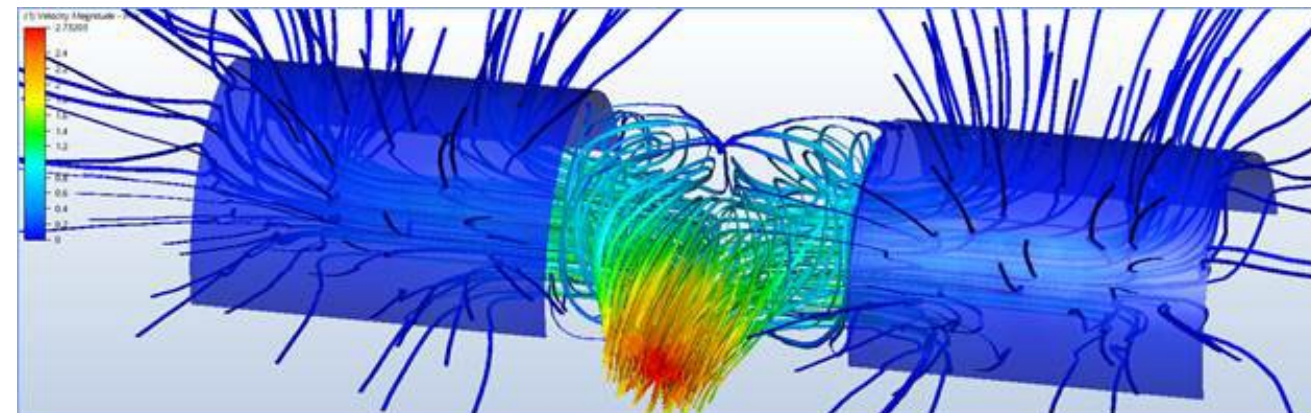
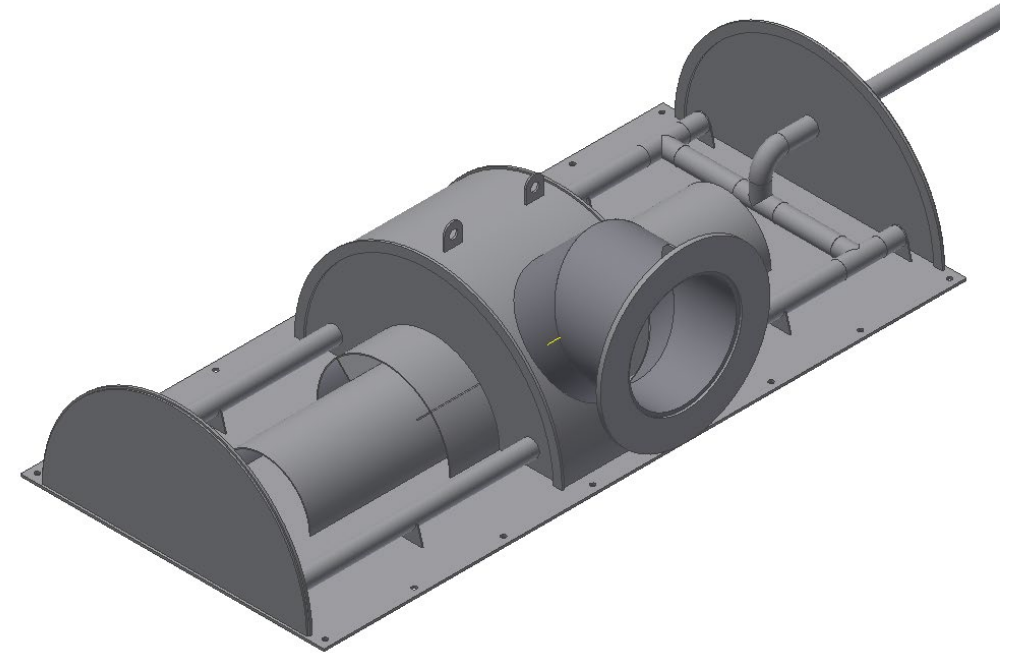
How it works

- Wire is “V” shaped
- Non-plugging
- All welded construction
- Several material choices
- Continuous slot



The World's Intake Technical Experts: Engineering and R&D

- Global Engineering Team
- Advanced 3D modeling
- In-house Finite Element Analysis - FEA capabilities
- In-house Computational Fluid Dynamics – CFD capabilities
- In house 3D printing capabilities



Passive Intakes - History

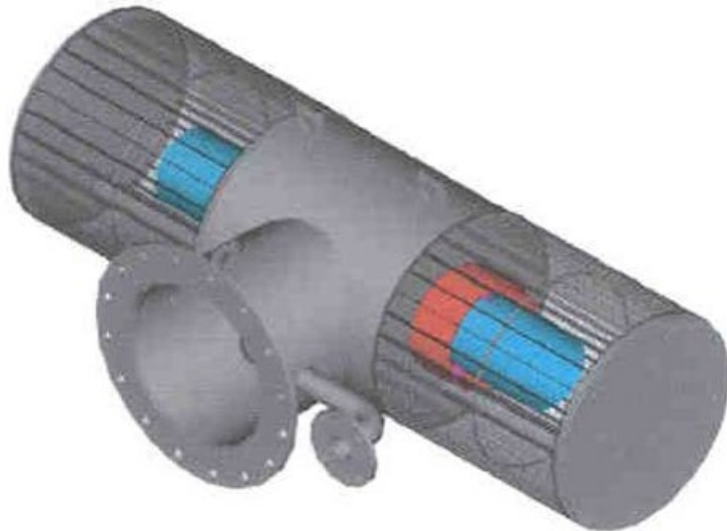
History

- In 1968 Johnson Screens developed the very first Passive Intake Screens using its Vee-Wire screen.
- Meets EPA 316b Clean Act.
- More than 4,000 references worldwide.
- All Intakes are NSF61 Certified



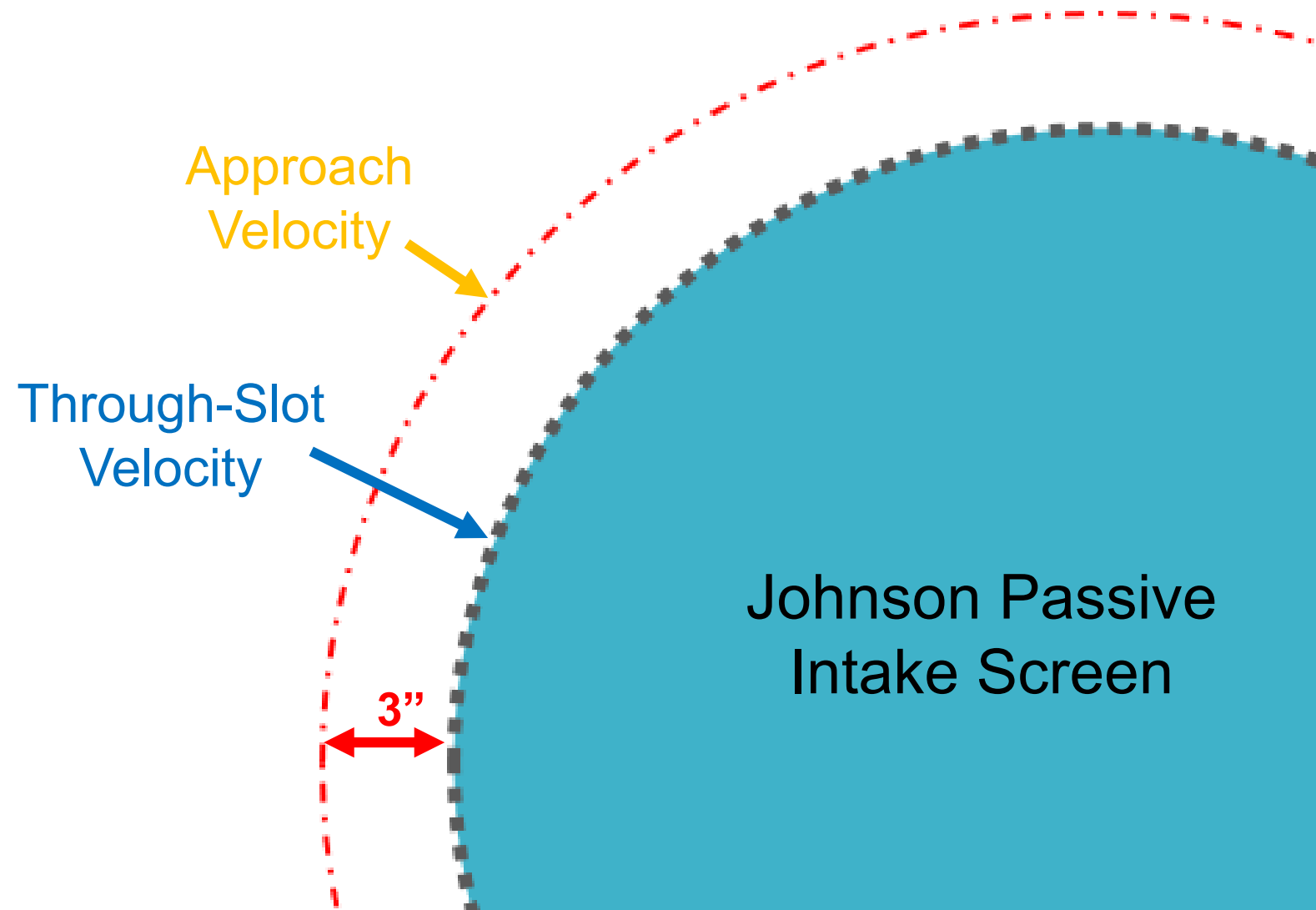
Flow Modifiers

- Reduce Through Slot Velocity
 - Protect aquatic life
 - Prevent debris build-up
- Achieved using **Internal Flow Modifiers**
 - Self Supporting Flange Connection
 - Achieved using **Internal Flow Modifiers**



Slot Velocity: Through-Slot vs Approach

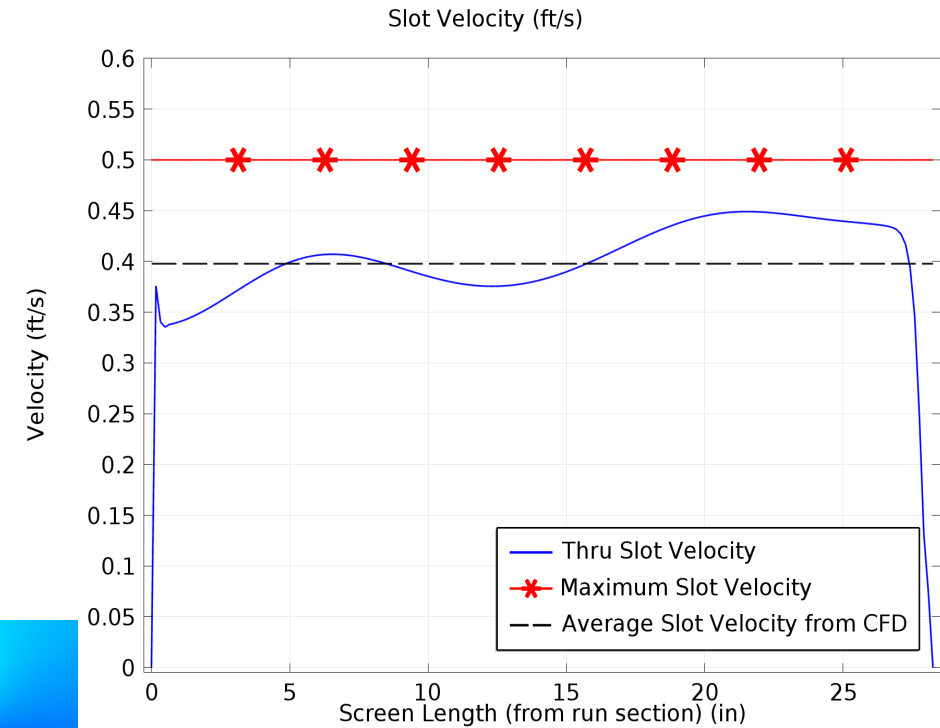
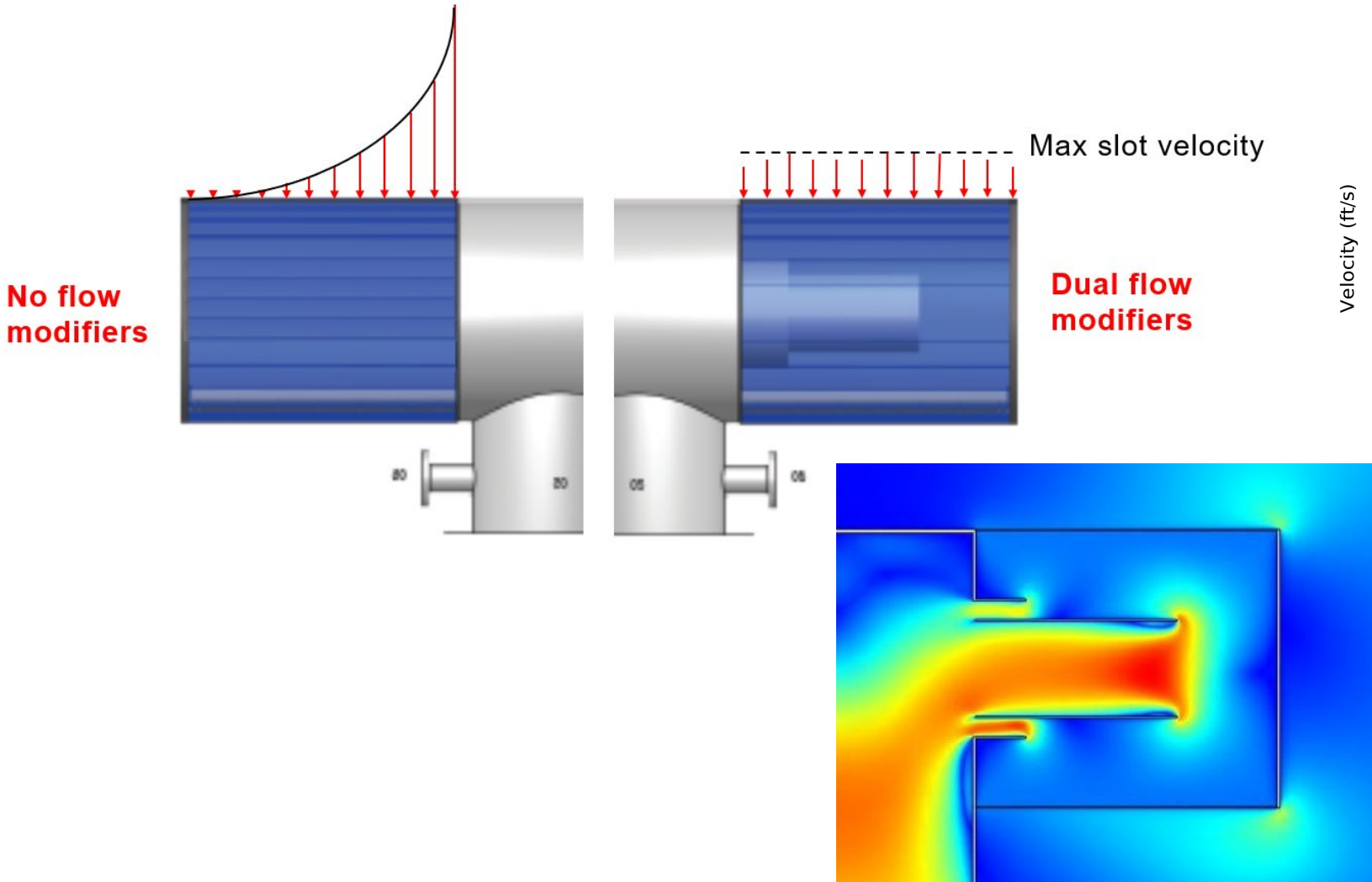
- Through-Slot Velocity
 - Velocity measured directly at the surface of the screen
- Approach Velocity
 - Velocity measured 3 inches from the surface of the screen
 - Slower than TSV
- Decided by your local regulatory body



Johnson Low Velocity Performance

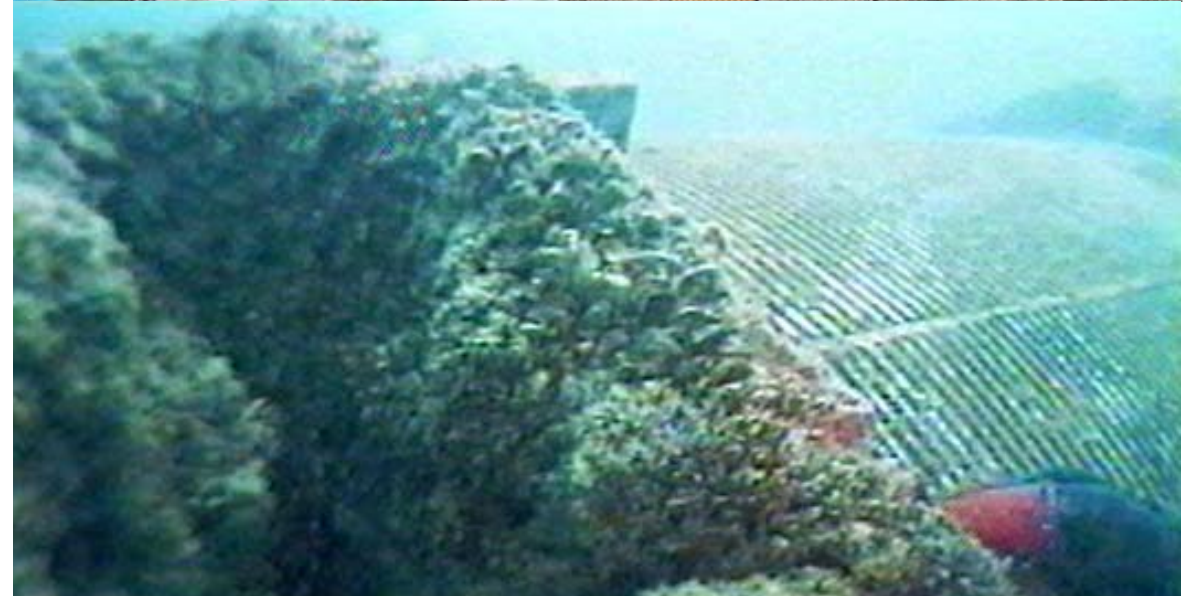


Effect of flow modifiers on velocity



Various Materials: Z-Alloy

- Several material options. Stainless, Duplex, and 90/10 CuNi Z-Alloy
- Z-Alloy is NSF61 approved.
- Constructed of solid material
 - Coatings affect the open area, and can wear away
- Sample coupons compared to Stainless Steel.
- Z-Alloy intake retrofitted to Stainless Steel structure.



Products



Max Flow Tee Screen



Low Profile Half Screen

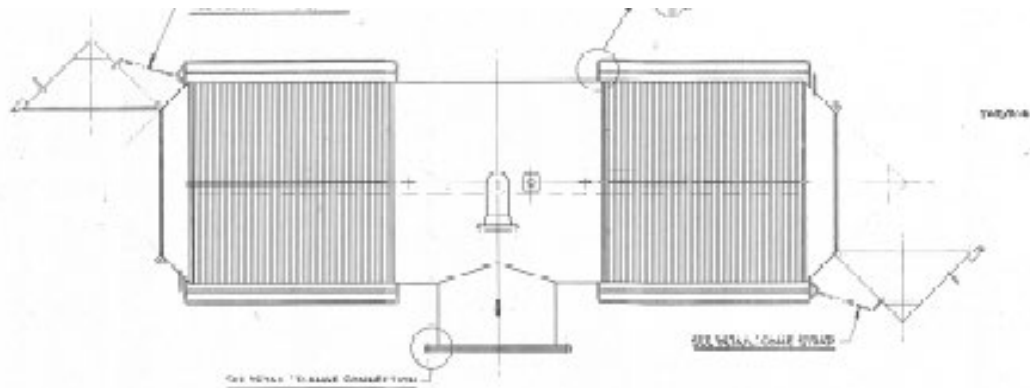


Single Drum Screen



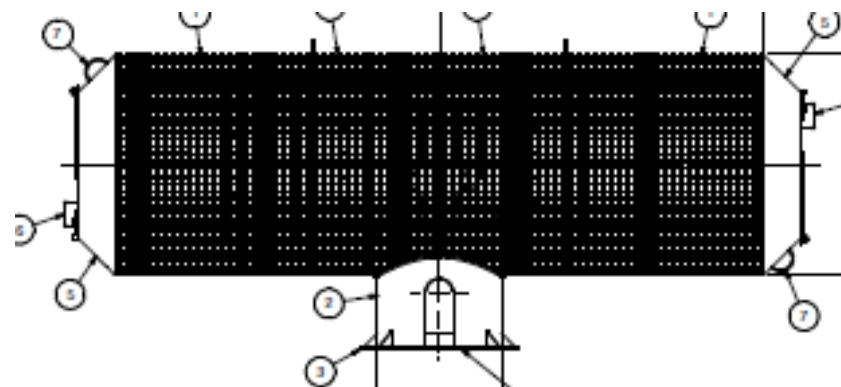
Fish Diversion Flat Panel

Existing - 1982



- 15 MGD/Screen
- 2 mm slot (50.9% Open)
- 216 inches OAL

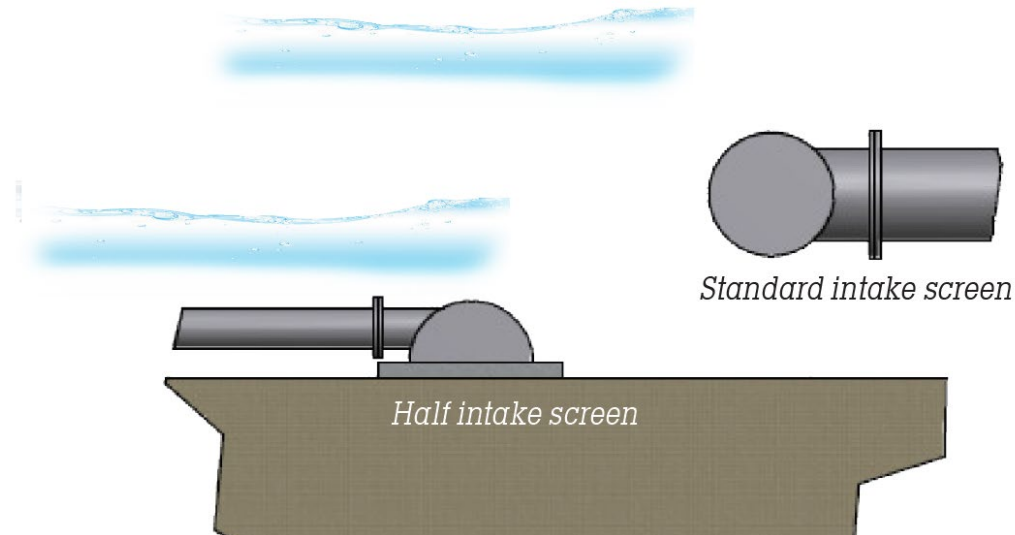
Shipped in April - 2021



- 15 MGD/Screen
- 0.75 mm Slot (29.4% Open)
- 182 inch OAL

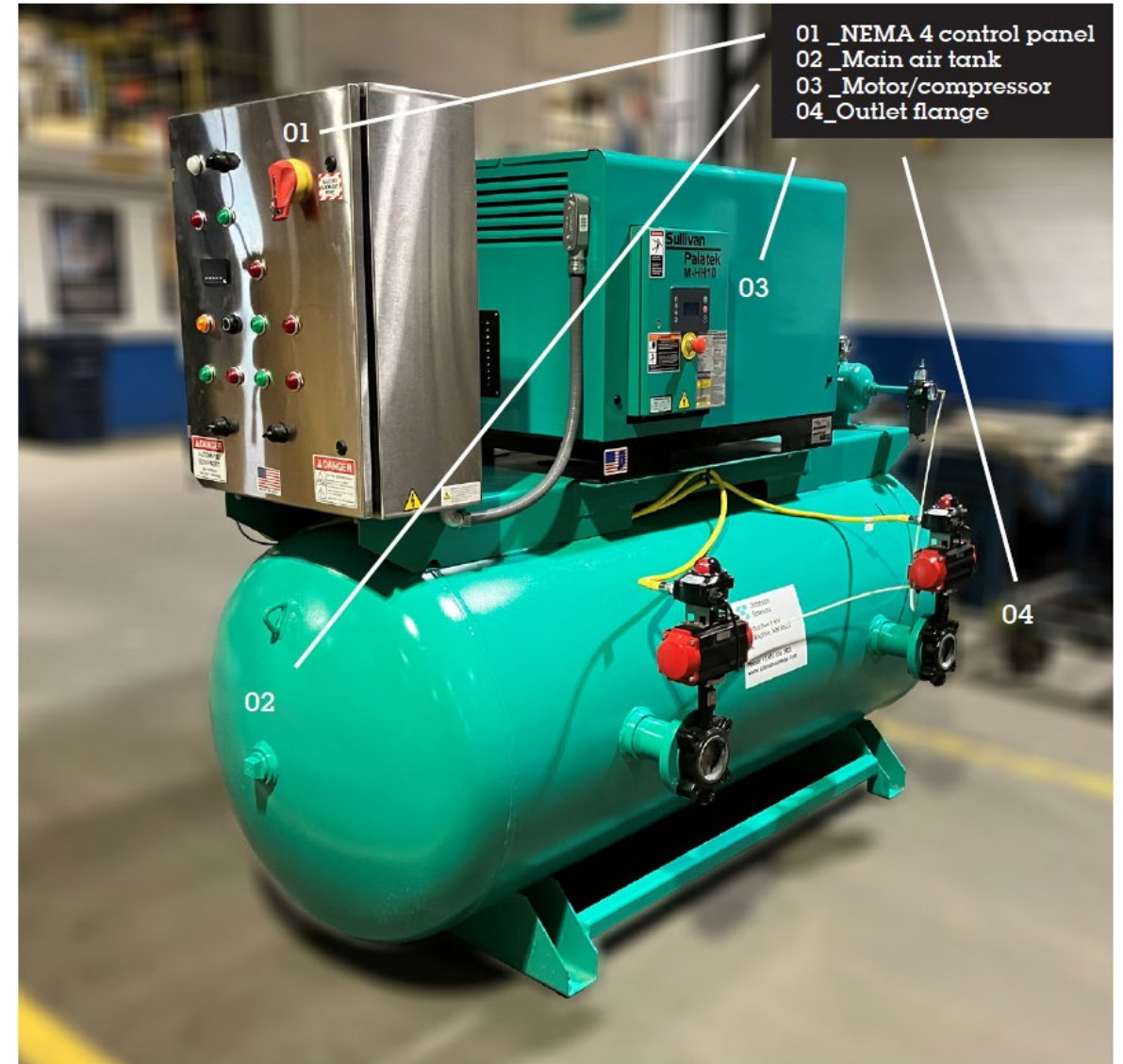
Shallow Water - Half Screen

- Able to operate at shallow water depth
- Clearance only needed above the screens
- Patented Half Screen design
- Site on concrete slab on bottom of water source

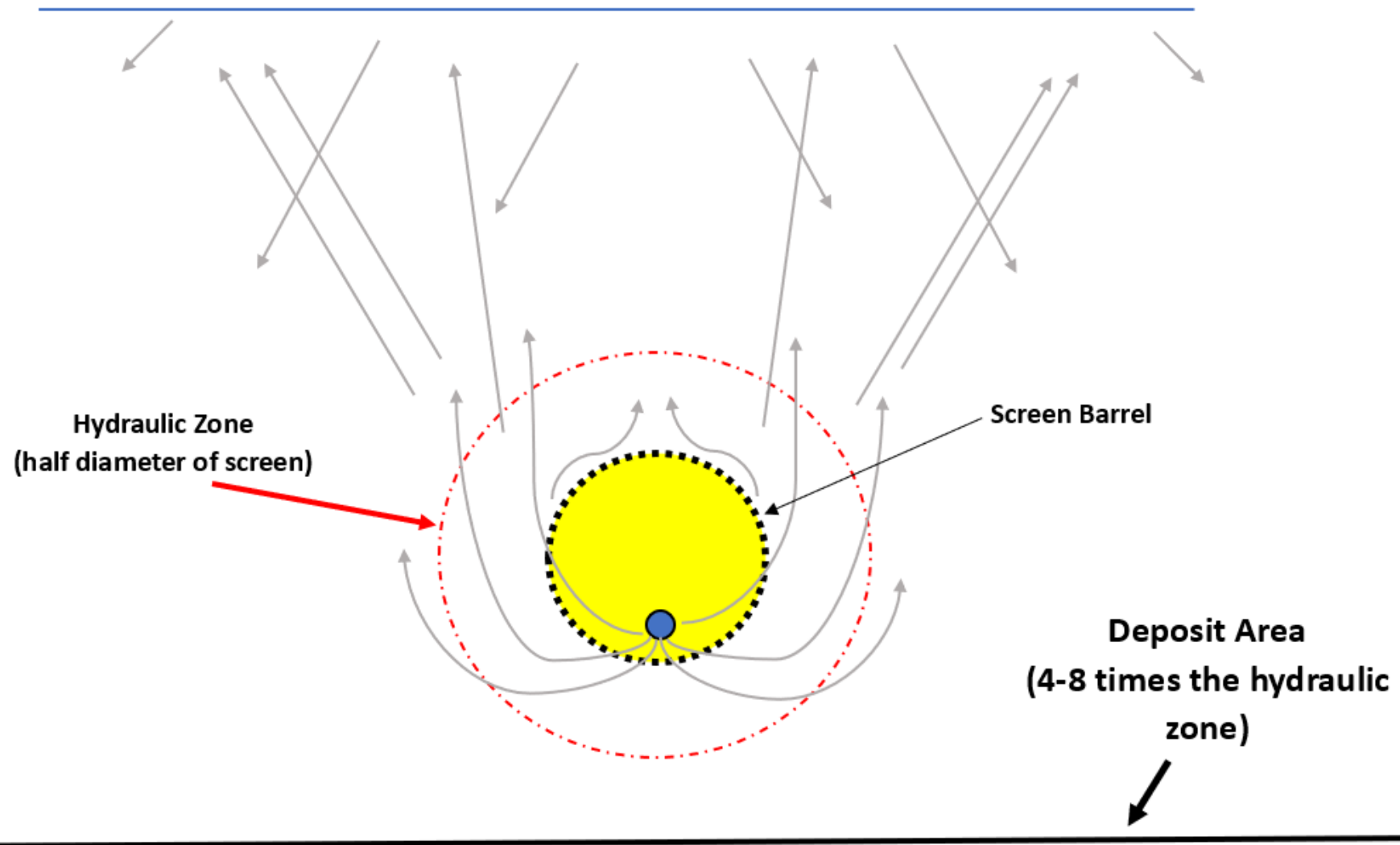


Hydroburst – Designed for Optimal Air

- Johnson Hydroburst System – Optimized Cleaning
 - Air Backwash without turning off intake pump
 - 24/7 Timer and can have remote activation
 - Designed to burst up to every 15 minutes
 - Size depends on Screen Size, Screen Depth, and Length of Airline Pipe
 - Potentially help mitigate ice and sediment buildup

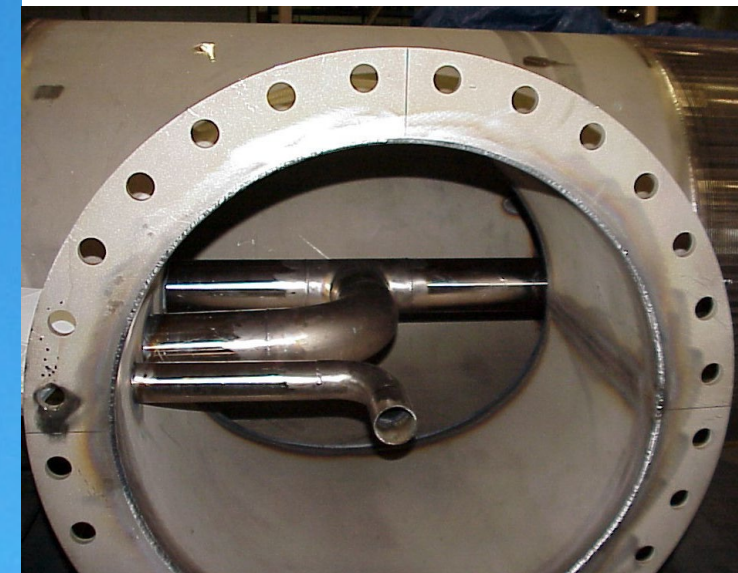
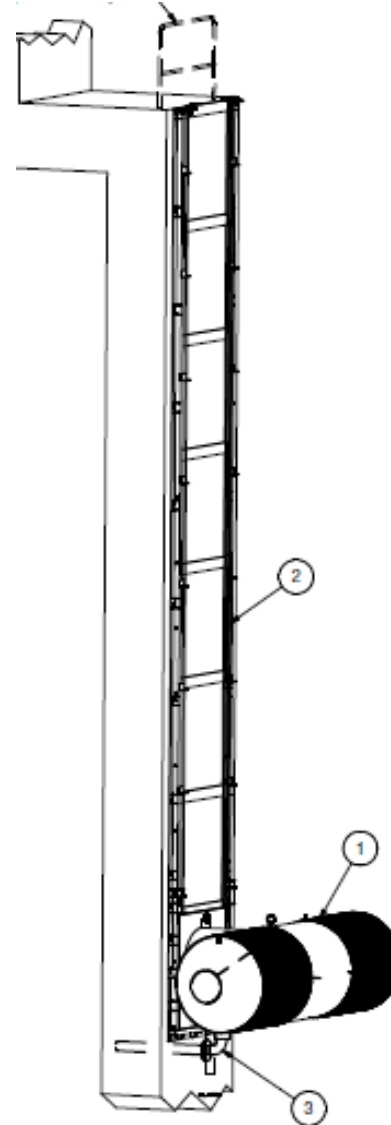


Hydroburst



Additional Features

- Guide Rails
 - Easy removal and installation of intake screens
- Manways
 - Hinged or bolted hatches for additional cleaning
- Chemical Flanges
 - Can be used while Intake is in operations without leeching into environment

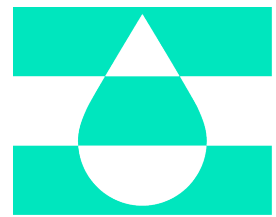


What the sales team can provide you

- Quotes
 - Specifications, Price, Details
- Additional In-depth information on key features
- Case Studies
- Reference Lists
- Written Specifications
- 3D .stp files for Intake Screens
- 2D Block Drawings for Hydroburst Systems



THANK YOU!



**Johnson
Screens**

