

# SUGAR PROCESSING SCREENS AND EQUIPMENT



**Johnson** screens®

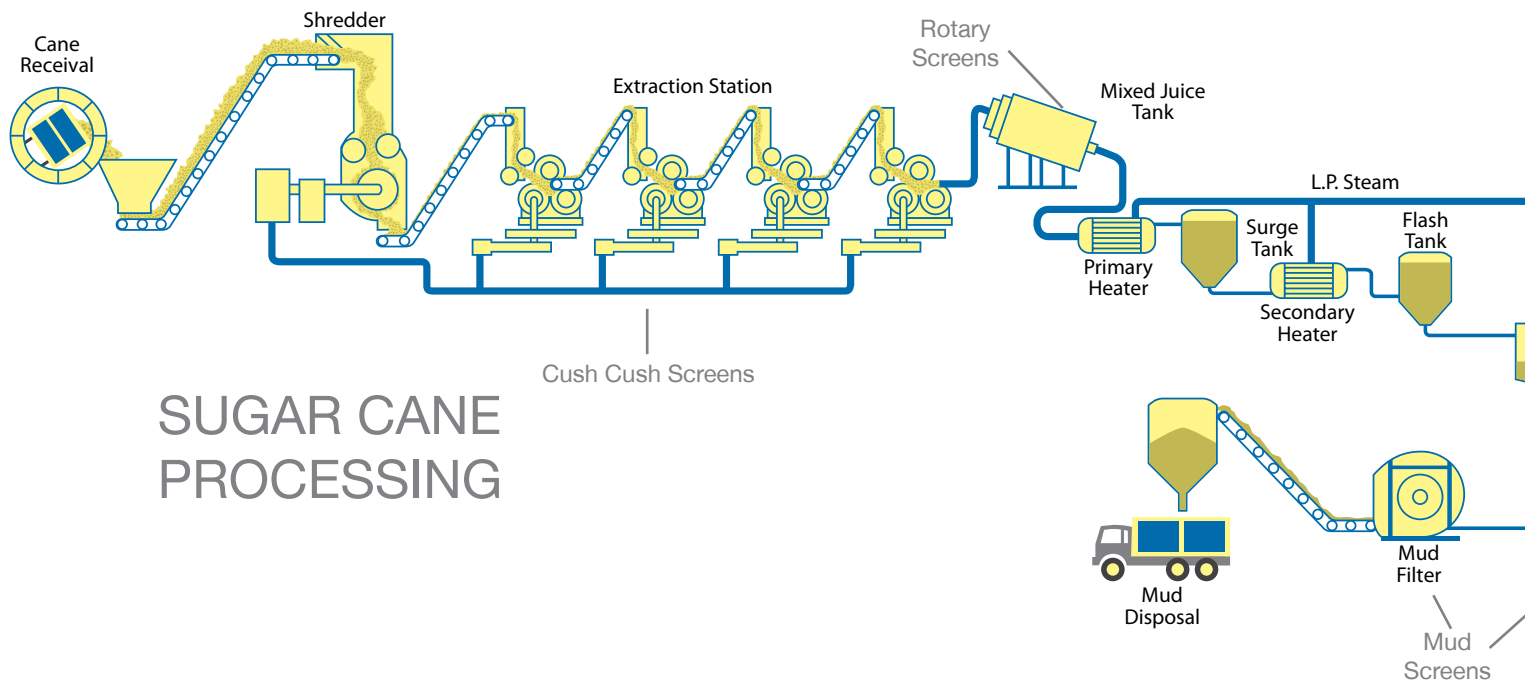
**REPRESENTED BY:**



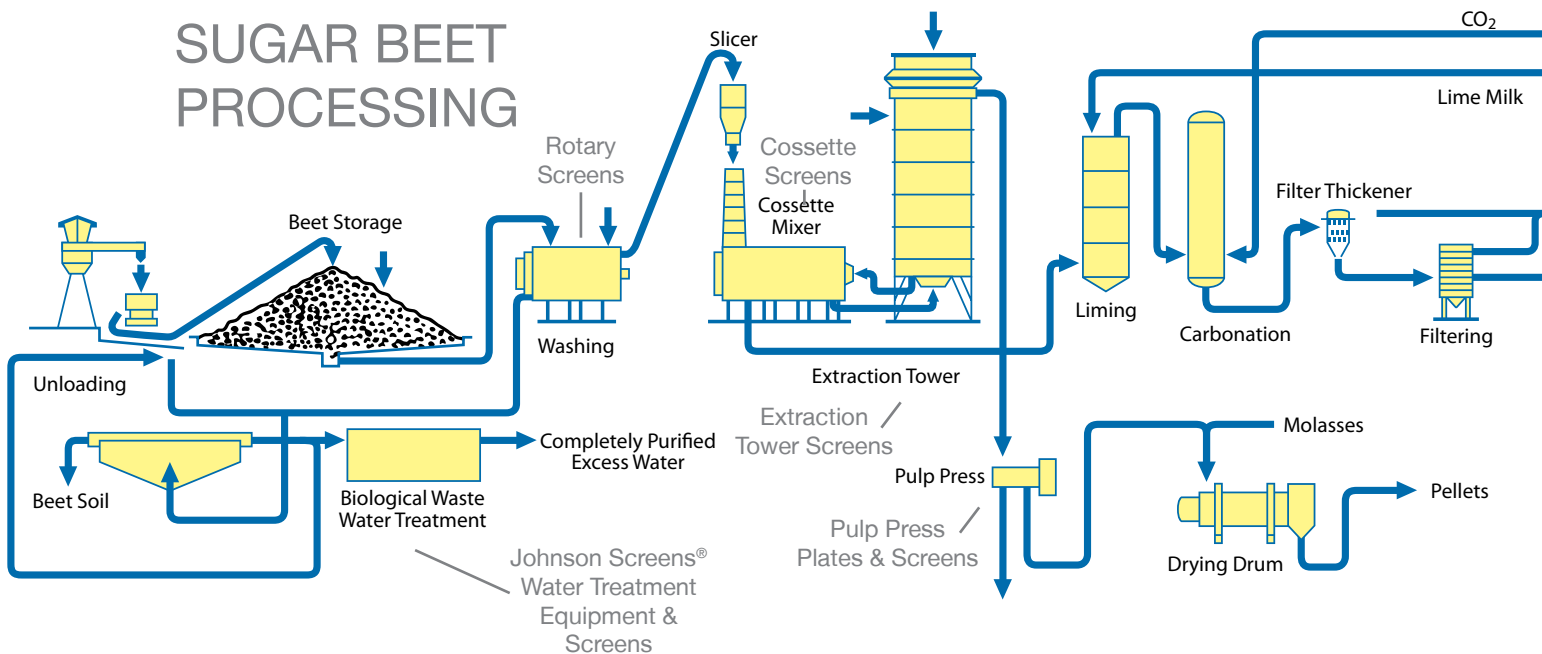
Head Office: Sattar Villa "B".32/1-C-1, Block 6,  
P.E.C.H.S Karachi, 75400 Pakistan.  
Phone: (92-21)34532131-33 Fax: (92-21)34532858  
E-mail: [interscan@interscan.org](mailto:interscan@interscan.org)

Lahore Office: 5th Floor Classic Complex, 35-M,  
Model Town (Ext), Lahore 54700, Pakistan.  
Phone: (92-42)35163570-72, Fax: (92-42)35203918

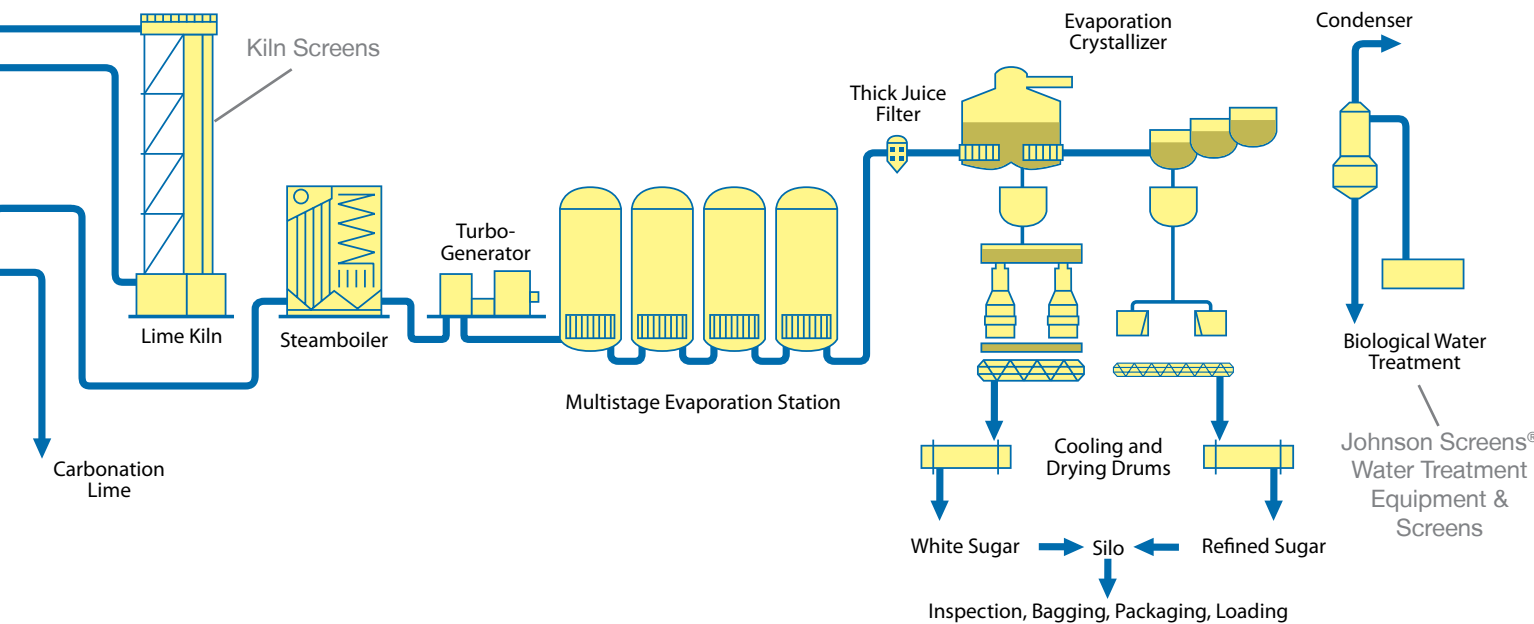
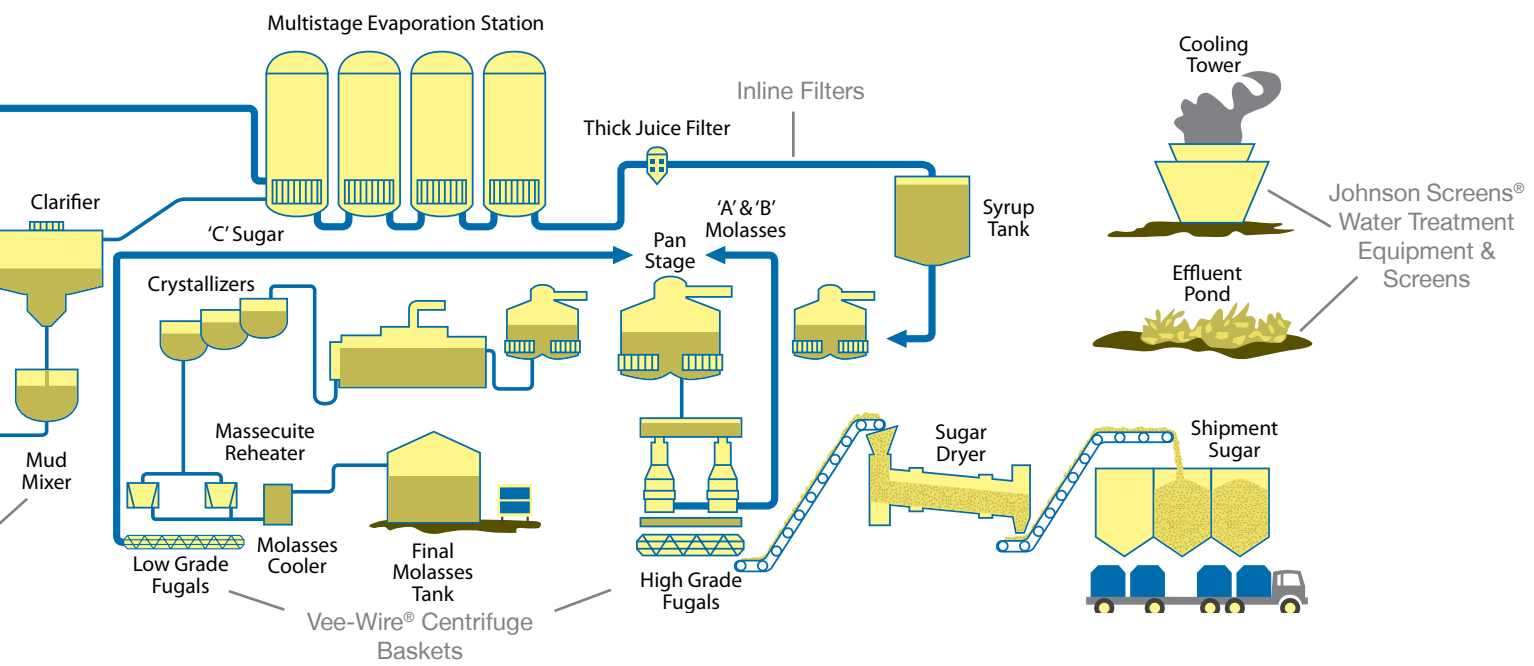
# PROVIDING FILTRATION, SEPARATION AND WATER TREATMENT SOLUTIONS FOR BOTH SUGAR CANE AND SUGAR BEET PROCESSING



SUGAR CANE PROCESSING



SUGAR BEET PROCESSING

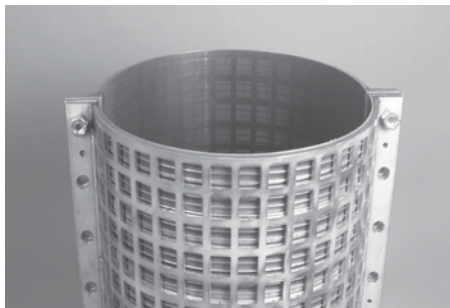


# PROCESS SCREENS



## PADDLE SCREENS

Used for fine-fiber removal, Johnson Screens® paddle screens are custom designed to fit in any Original Equipment Manufacturer's (OEM) equipment design.



## SCREW PRESSES & SCREW PRESS BASKETS

Johnson Screens' unique modular design drainer screw press offers a single-drive solution for conveying, washing, dewatering and pressing of solids for the removal of free water.

Johnson Screens also manufactures screw press baskets that are custom designed to fit into any make and model of screw press.

The variety of baskets includes high-strength, drilled hole and Vee-Wire® slotted designs, which provide increased open area, enhanced fiber retention and improved effluent clarity.



## ROTARY SCREENS

Johnson Screens rotary screens allow for large flows to be pumped over the Vee-Wire screen inside, which separates the liquids and solids as the system rotates.

The slurry is pumped into the rotary screen, and as the liquid and smaller solids pass through the slots in the Vee-Wire screen, the larger solids travel down to the discharge end.

The Vee-Wire screens inside are especially designed to fit the specifications of unit and are ideal for replacing worn-out screens in existing applications.



## MUD SCREENS

Mud screens are used to screen away the mud and dirt from the beets after washing. These externally-fed screens allow the liquid and solids to flow continuously into the unit where hydrostatic pressure is exerted over a portion of the rotating drum Vee-Wire screen. As the liquid drains through the slot openings, the solids rotate with the drum and are removed onto a hopper.



## CONTINUOUS CENTRIFUGE BASKETS

Johnson Screens® new patented fine Vee-Wire® continuous centrifuge basket is guaranteed to provide a high-mechanical strength, a precise slot opening and a larger percentage of open area, increasing the amount of sugar crystal recovery.

The self-supporting structure of the basket is designed and engineered to withstand the high stresses and load conditions of the sugar industry.

### LASTS LONGER

The heavier construction of *Johnson Screens Vee-Wire* centrifuge baskets is many times more abrasion resistant than thin, perforated sheet. Its strength makes it less susceptible to damage during start-up. This will eliminate the rise in massecuite as your etched screen wears out.

### RETAINS MORE SUGAR

The continuous, long screen slots produce less crystal degradation. As a result, *Johnson Screens* baskets help you produce more sugar per ton than any other centrifugal screen.

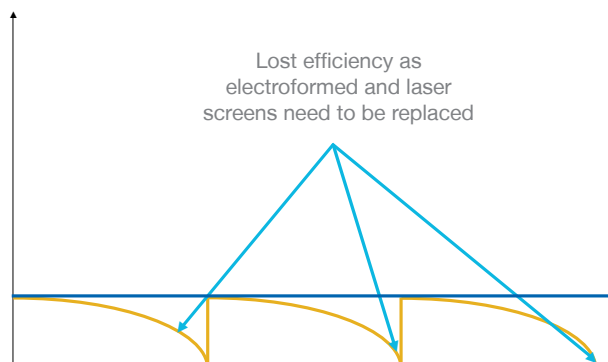
### INSTALLS MUCH EASIER

*Johnson Screens* centrifuge basket is one piece. No need for cutting, splicing, or additional support structures, making installation fast and easy.

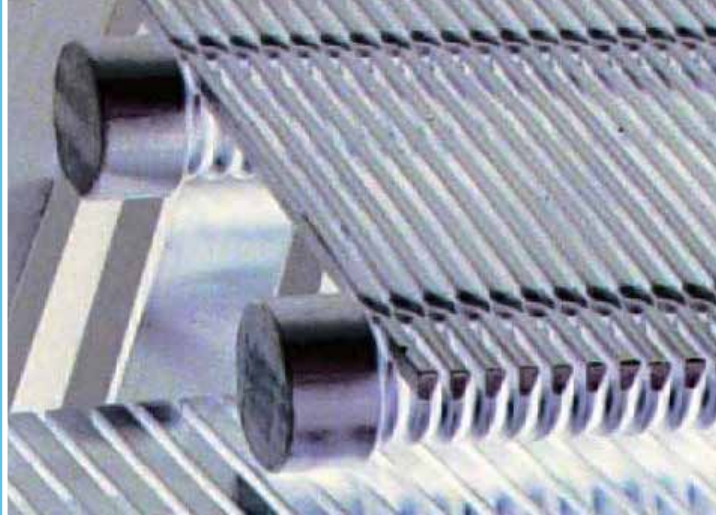
### RESISTS BLINDING BETTER

The continuous slot screen design is far more resistant to blinding than etched screens. The slot size can be varied by as little as 25 µm to meet any sizing requirement you may have.

Increase sugar production with Johnson Screens® new patented fine Vee-Wire® continuous centrifuge basket!



# PROCESS SCREENS



## SIEVE BENDS AND BOXES



A sieve bend has a greater screening capacity than a flat screen due to forces exerted as material flows against the curved surface. This curved profile wire screen is mounted in a frame with the screen openings perpendicular to the flow.

In a typical feed situation, the leading edge of the wedge wire removes the water and fine particles through the

screen up to the cut point size, as the oversized particles move across the top of the screen.

Separation size is considerably smaller than screen openings, usually about one-half the opening size.

Sieve bend screens are ideal for sizing and dewatering applications in liquid/solid separation situations.

## PULP PRESSES, PLATES & SCREENS

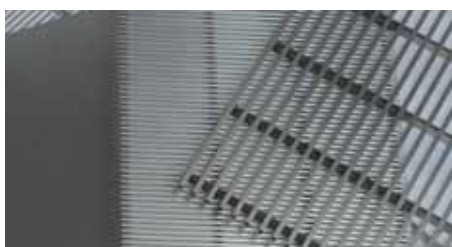
Johnson Screens offers complete pulp presses fitted with either drilled plates or Vee-Wire® screens. We are also able to provide replacement plates, or screens, to fit existing equipment.

## CUSH CUSH SCREENS

In the sugar industry cush cush screens are widely used for the separation of sugar juice from cane fiber. Cush cush screens are custom made to suit your specific requirements, depending on flow rate and materials being separated.



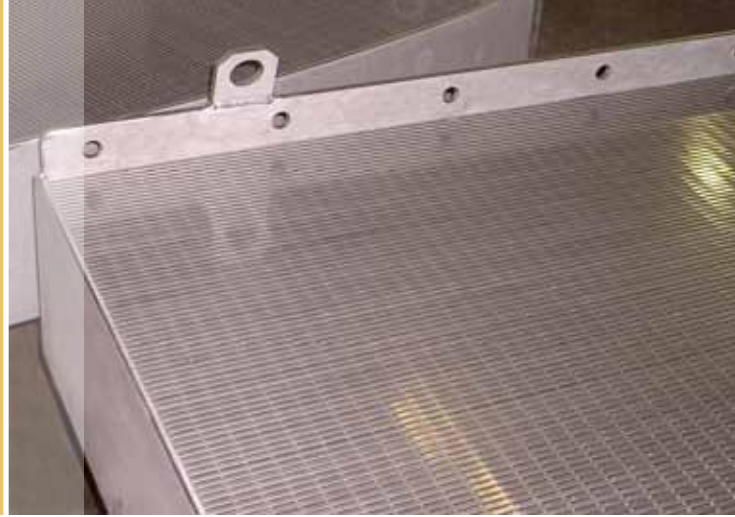
## COSSETTE & EXTRACTION TOWER SCREENS



Johnson Screens provides dewatering screens for cossette mixers and extraction towers in sugar beet processing. As the sugar beet travels through the cossette mixers and extraction towers, the juice is screened through our looped or welded Vee-Wire screens.

- High open area lends resistance to clogging
- Strong resistance against abrasion
- Customized slot sizes
- Fine-wires available for fine sand removal

# VESSEL INTERNALS



## ION EXCHANGE / SCREEN LATERAL SYSTEMS

These assemblies consist of a series of screen laterals connected to either a central-header pipe or a hub. They are designed for effective media retention in a wide range of applications.



Features include:

- Uniform collection or distribution flow
- Designed to accommodate flow in any direction
- Slot sizes from 0.002 in. (0.05 mm) and up
- Diameters from 0.787 in. (20 mm) and up
- Typically made from 300 series stainless steel
- Connections of the laterals can be threaded fittings, couplings or flanges



*Header lateral design can be either side-mounted or have a center outlet.*

## NOZZLES

Johnson Screens® nozzles enable a more effective use of the treatment media. Features include:

- Economical and non-plugging design
- High open area
- Increased strength and corrosion resistance
- Available in stainless steel, ABS and Kynar®
- Standard diameter of 1.97 in. (50 mm); standard slot opening of 0.007 in. (0.18 mm) for stainless steel
- Standard slot opening of 0.008 in. (0.2 mm) for ABS and Kynar nozzles
- Threaded end fittings or holddown bolts



## SUPPORT GRIDS

The *Johnson Screens* support grid system is available in an assortment of framing options and designs, as one-piece construction or in multiple sections for on-site assembly.



Features include:

- Self-supporting structure
- Engineered to meet design load requirements
- Larger open area, compared to wire mesh and perforated plate
- Smooth surface, reducing abrasion of media
- Slot size variable depending on media retention needs
- Grids can be supplied with support beams, rope packing, bolting and all necessary accessories
- Holddown bolts

\* Kynar is a registered trademark of Atochem.

# WATER TREATMENT & PROCESSING



## WATER TREATMENT CAPABILITIES

Johnson Screens has extensive experience in the treatment of water and wastewater. Our line of water treatment equipment and processes is available to suit most any need that can arise at a sugar factory:

- Water intake systems
- Ion exchange
- Clarification
- Water processing
- Water re-use/recycling
- Wastewater



## PASSIVE INTAKE SCREENS



Johnson Screens® passive intake screens are carefully designed to protect the natural surroundings and aquatic life near the intake.

Equipped with our primary filtration Hydroburst® system, the passive intake screen is designed to reduce slot entrance velocity to 0.5 ft/s (0.135 m/s). This lower velocity helps to prevent debris clogging.

## TRITON® UNDERDRAIN SYSTEM

Johnson Screens Triton underdrains utilize our Vee-Wire® technology, creating a low profile underdrain with direct media retention while maintaining a high open area with non-plugging characteristics.

Available in stainless steel and PVC, Triton underdrains are easily adapted to existing filters, increasing the efficiency of older systems.





# EXCEPTIONAL PRODUCTS, EXCEPTIONAL SERVICE

## FIELD SERVICE



Johnson Screens offers complete field service with a team of specialized and experienced supervisors available for various interventions like:

- Full installation
- On-site repairs
- Technical assistance or expertise
- Work supervision
- Inspection

Flexibility and expertise allow us to propose this extended scope of services under tailor-made contract conditions in order to better serve our clients' requirements.

Our experienced welder/fabricators team is available for on-site installation, repairs and screen replacement, and can be available within 24 hours for emergency situations or scheduled as needed.

Able to evaluate the condition of screens and make recommendations as to the best course of action, our field service team will be there to ensure the screens operate at maximum capacity.

Whether cleaning, making minor or major repairs, or a complete replacement of screens, our technicians are equipped with all the tools, equipment and experience needed to provide the best field service available.

Our experienced technicians are also available for supervision of installations and on-site repairs.



# TECHNICAL DATA

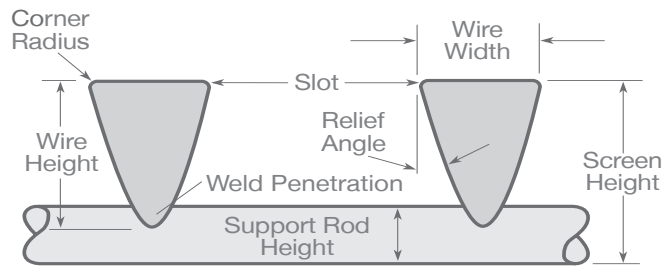
## STANDARD WELDED CONSTRUCTION



Johnson Screens® standard welded construction uses resistance-welding in a continuous rolled motion to join the wire and rods. The resistance welds the continuous length of wire to the rods as it circulates.

Screens can be made in various formations, including cylindrical, flat, or curved.

Any variation of wire and rod sizes as well as slot opening can be chosen to develop the exact screen of your choice. Screens are available in slot opening from 0.001 in. (25 µm) up to 1 in. (25 mm). Most common materials used are 300 series stainless steel, but many exotic alloys are available to suit specific applications.



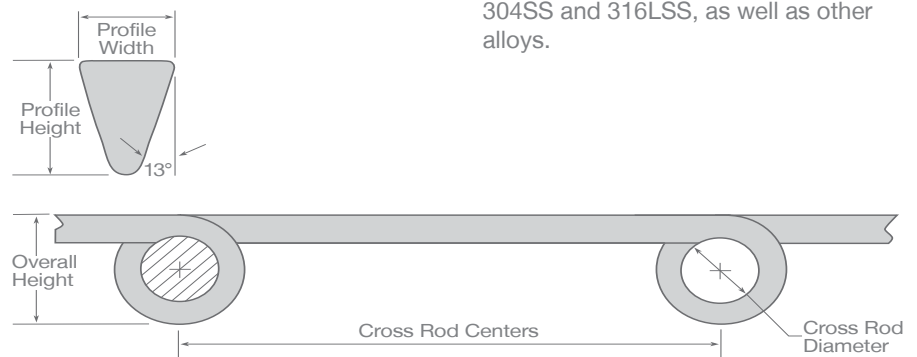
## LOOPED WIRE CONSTRUCTION



Looped wire profile screens are used in a variety of applications. Loop construction eliminates a welding requirement to join the rod and wire, as well as greatly increasing the durability of the screen in many applications.

Our loop wire manufacturing process allows for a great degree of flexibility in producing various profile shapes, openings and support-member configurations.

Flexible manufacturing gives us the capability to manufacture screens using 304SS and 316LSS, as well as other alloys.

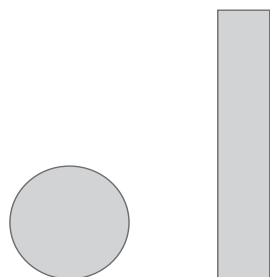




## WIRE AND ROD INFORMATION

A wide range of wire and rod shapes make it possible to achieve the optimum balance of strength, open area, abrasion resistance and dewatering/separation efficiency.

### JOHNSON SCREENS® ROUND AND STRIP SUPPORT RODS



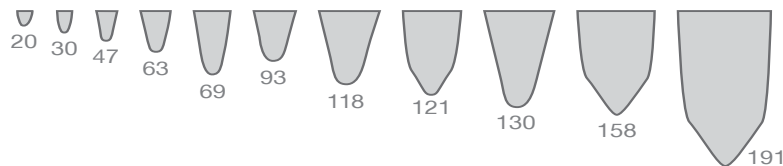
Johnson Screens round rods are available in diameters ranging from 0.125 in. (3.175 mm) to 0.500 in. (12.7 mm). Strip rods are available in widths from 0.070 in. (1.778 mm) to 0.188 in. (4.775 mm) and heights ranging from 0.375 in. (9.525 mm) to 2.0 in. (50.8 mm).

### OPEN AREA CALCULATIONS

To calculate the open area of a certain screen, use the simple formula provided:

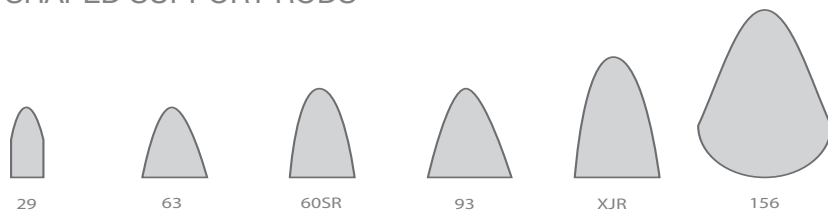
$$\text{Open Area (\%)} = \frac{\text{Slot size} \times 100}{\text{Slot size} + \text{Wire width}}$$

### JOHNSON SCREENS VEE-WIRE® PROFILES

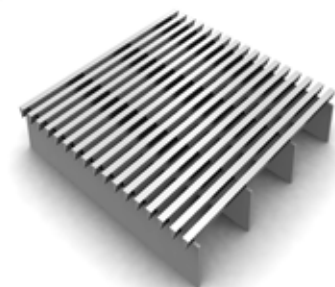


Johnson Screens Vee-Wire profile wires range in widths from 0.020 in. (0.508 mm) to 0.195 in. (4.953 mm) and heights ranging from 0.040 in. (1.016 mm) to 0.363 in. (9.220 mm). Other wire shapes (Tri-Wire, Iso-Wire, Iso-Grizzly Wire, Grizzly-Wire, and more) also available.

### COMMON JOHNSON SCREENS SHAPED SUPPORT RODS



Johnson Screens shaped support rods range in widths from 0.029 in. (0.737 mm) to 0.151 in. (3.835 mm) and heights ranging from 0.102 in. (2.591 mm) to 0.120 in. (3.048 mm).



Providing over 100 years of experience,  
innovation and customer satisfaction.  
Contact us today.



## OUR WIDE RANGE OF PRECISION ENGINEERED EQUIPMENT IS SUITABLE FOR MORE APPLICATIONS THAN EVER.

Turn to Johnson Screens® to help maximize your operational efficiency and find long-term, trouble-free solutions. Discover our ever-expanding range of products, designed with your needs in mind:

### ARCHITECTURE AND CONSTRUCTION

- Column covers
- Urban furniture
- Frontages
- Floor grating
- Furniture
- Ventilation grids
- Sun-control screens
- Custom lighting
- Wall partitions

### GENERAL INDUSTRIAL

- Flat panels
- Sieve bends
- Cylindrical screens
- Centrifugal baskets
- 120° pressure fed screens
- Trommels
- Vibrator screens
- Diffuser screens
- Pressure screens

### MINERAL AND AGGREGATE PROCESSING

- Centrifuge baskets
- Pipo® modular screening systems
- Koko® screening systems
- Specialty wire & polyurethane combination screens
- Woven wire
- Sieve bends
- Trommel mats
- Frames
- Spray Nozzles
- HDPE Pipes
- Ceramics
- Rubber screening systems
- Mill liners & Rubber ceramic wear liners
- Urethane lined pipe

### FIELD SERVICES

- Installation
- Inspection
- Repair
- Assistance
- Supervisor

### PETROCHEMICAL AND REFINING

- Centerpipes
- Outer baskets
- Scallops
- Support grids and beams
- Outlet collectors
- Laterals
- Distributor trays
- Nozzle systems
- Scale traps

### WATER PROCESS

- CoMag® & BioMag®
- Passive Intake screens
- In-line self-cleaning filters
- Nozzles
- Triton® underdrain systems
- Fish diversion screens
- Collectors/distributors
- Resin traps
- Precoat filters
- Milliscreen®
- Suboscreen®
- Stepscreen
- Centre-Flo Screen

### WATER WELL

- Well screens (stainless steel and PVC)
- Riser pipes
- Sand spears
- Environmental monitoring screens
- Drilling fluid
- Nu-Well® rehabilitation chemicals

**Johnson**screens®

A Weatherford Company

#### AUSTRALIA - ASIA PACIFIC

Johnson Screens Australia  
TEL.: +61 7 3867 5555  
FAX: +61 7 3265 2768  
EMAIL: salesasiapacific@johnsonscreens.com

#### EUROPE - MIDDLE EAST - AFRICA

Johnson Screens France  
TEL.: +33 (0)5 4902 1600  
FAX: +33 (0)5 4902 1616  
EMAIL: saleseurope@johnsonscreens.com

#### NORTH, SOUTH & CENTRAL AMERICA

Johnson Screens USA  
TEL.: +1 651 636 3900  
FAX: +1 651 638 3177  
EMAIL: salesamerica@johnsonscreens.com