

**HAYER & BOECKER**



NIAGARA

# NIAGARA F-CLASS PORTABLE PLANT



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**Niagara F-Class Portable Plants offer the ideal solution for challenging screening applications requiring consistent performance, load independence and minimal vibration transmission into the chassis.**

## WHY USE AN INCLINED MACHINE ON A PORTABLE PLANT?

A circular motion inclined vibrating screen uses gravity to help move material down the screen deck, reducing pegging as well as energy and horsepower requirements. There are differences in the rate of material travel between an inclined and horizontal machine. At 45 to 50 feet per minute (and at a specific tonnage) a horizontal screen will experience diminished capacity due to a greater bed depth. Alternatively, on a 20-degree incline and at 70 to 75 feet per minute travel rate, an inclined screen will deliver up to 25% more capacity than a linear-stroke horizontal machine.

## FEATURES

- Hydraulic system allows for set-up in 30 minutes, positioning the screen at an optimal angle of 20 degrees.
- The vibrating screen can be lowered in less than five minutes for easy screen media change-outs.
- Dynamically balanced design eliminates dynamic loads into the chassis to improve safety.
- Double eccentric shaft assembly maintains constant g-force during start-up, shut-down, and extreme operating conditions including overloading and surging.
- Optional end-tension bottom deck available for easier maintenance, increased throughput and reduced pegging.



# NIAGARA F-CLASS PORTABLE PLANT TESTIMONIAL

## INTER-CITÉ CONSTRUCTION LTÉE

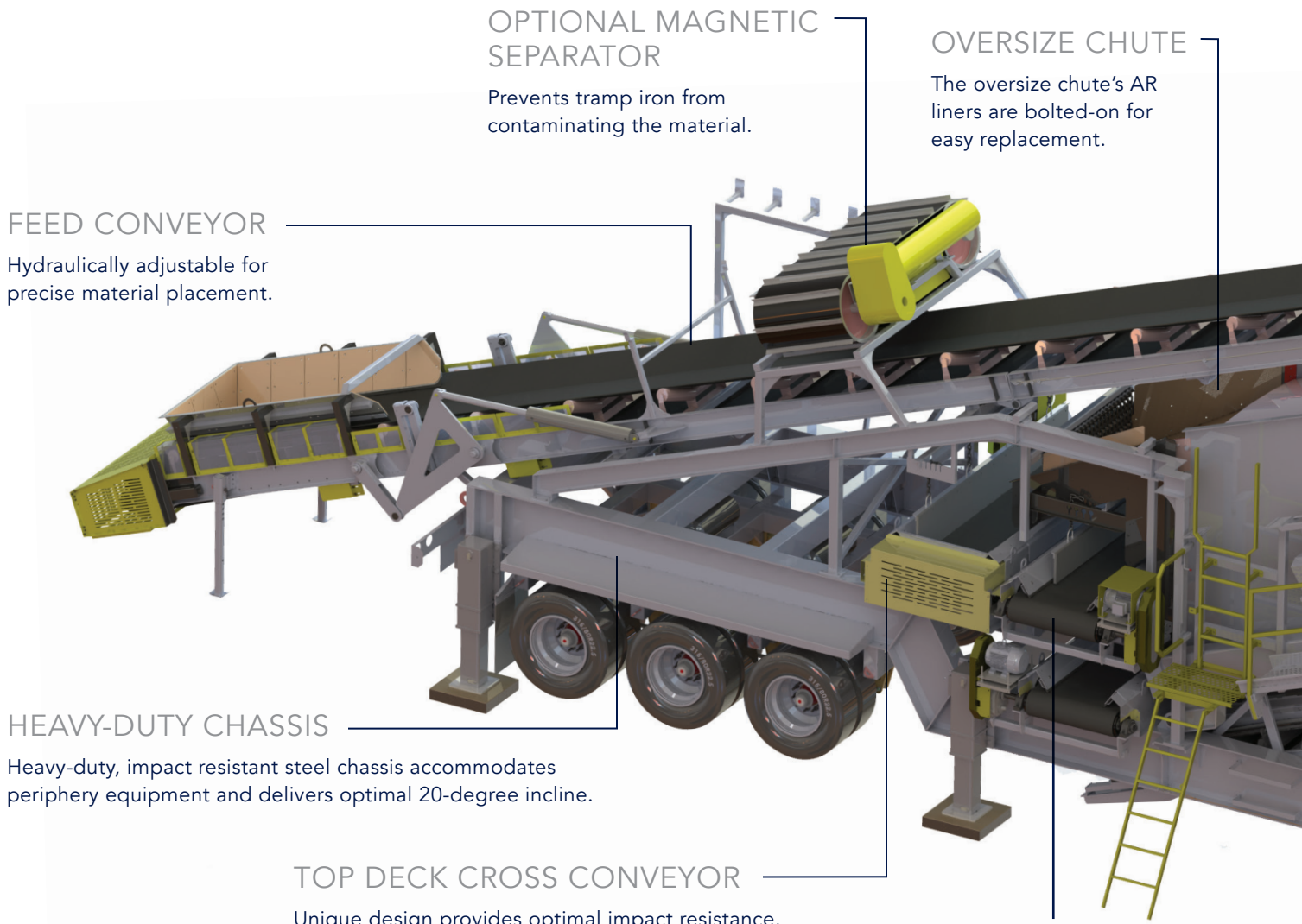
“ We didn't have an efficient and effective way to process all material sizes without contaminating our smallest aggregates, which made them unsellable. With the F-Class Portable Plant we are able to stay at our ideal production rates while significantly increasing output of clean, sellable material as small as 6.4 millimeters. And the Ty-Rail system is a huge bonus that has boosted our profits even more thanks to impressively fast screen change-outs.

– Stéphane Julien, Inter-Cité Construction ltée

”



# NIAGARA F-CLASS PORTABLE PLANT ANATOMY



**FEED CONVEYOR**  
Hydraulically adjustable for precise material placement.

**OPTIONAL MAGNETIC SEPARATOR**  
Prevents tramp iron from contaminating the material.

**OVERSIZE CHUTE**  
The oversize chute's AR liners are bolted-on for easy replacement.

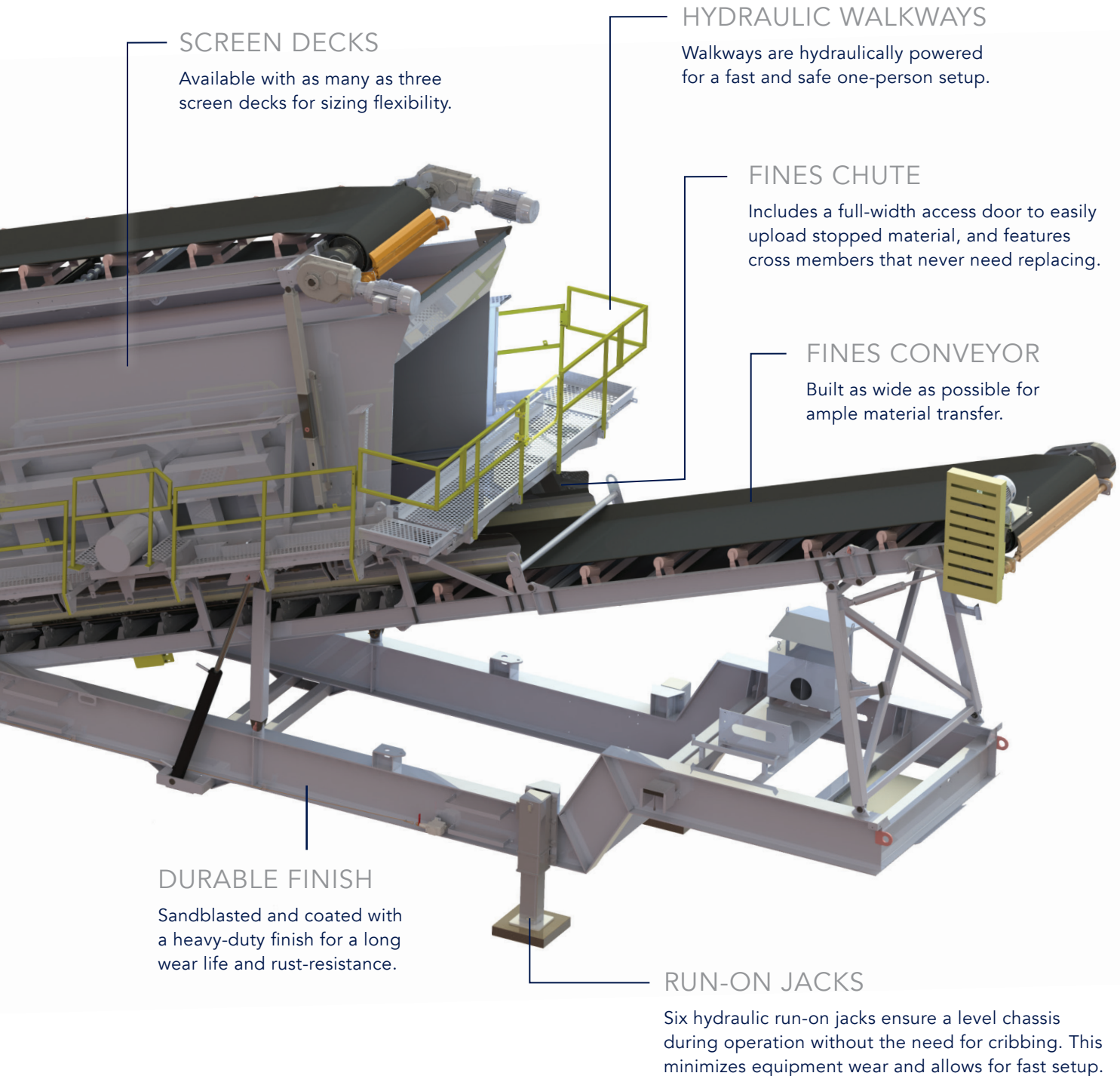
**HEAVY-DUTY CHASSIS**  
Heavy-duty, impact resistant steel chassis accommodates periphery equipment and delivers optimal 20-degree incline.

**TOP DECK CROSS CONVEYOR**  
Unique design provides optimal impact resistance.

**MIDDLE AND BOTTOM DECK CROSS CONVEYORS**  
Removable top sections simplify skirting and belt replacements.



**REMOVABLE SUSPENSION**  
Bolted-on suspension can easily be removed as a complete cartridge to eliminate risk of damage during operation.



### SCREEN DECKS

Available with as many as three screen decks for sizing flexibility.

### HYDRAULIC WALKWAYS

Walkways are hydraulically powered for a fast and safe one-person setup.

### FINES CHUTE

Includes a full-width access door to easily upload stopped material, and features cross members that never need replacing.

### FINES CONVEYOR

Built as wide as possible for ample material transfer.

### DURABLE FINISH

Sandblasted and coated with a heavy-duty finish for a long wear life and rust-resistance.

### RUN-ON JACKS

Six hydraulic run-on jacks ensure a level chassis during operation without the need for cribbing. This minimizes equipment wear and allows for fast setup.

**Portable Plants can be customized for other Niagara processing equipment.**

# NIAGARA F-CLASS VIBRATING SCREEN ANATOMY

## LOCKBOLT SECURED

Proven more effective in the demanding, load-bearing, high-vibration operation of vibrating screens to ensure structural integrity.

## REINFORCING PLATES

Reinforcing plates are sandwiched together with the side plate, shaft housing and cross beams behind the bearing housing to add strength to the side plate without welding.

## SPLIT-BUCKET DESIGN

Split-bucket mounting system reduces bearing replacement time with easy access to critical components.

## MOTOR SUPPORT

Motor support attached to the base frame eliminates need for additional structure.

## SHEAR RUBBER MOUNTING SYSTEM

Shear rubber mounting system minimizes lateral movement to reduce noise, maintain smoother operation and extend the life of your vibrating screen.

## STATIONARY TUBULAR BASE FRAME

Niagara-engineered tubular base frame offers greater strength than a traditional I-beam to provide solid support and simplify installation.



## POLYURETHANE LINERS

We recommend polyurethane feed box, discharge lip, side plate, tension rail and bar rail liners to extend the wear life of both your F-Class vibrating screen and screen media.

## DROP GUARD

Our signature polyurethane liners protect the cross beams of your F-Class without any tools or installation hardware.

## SIDE PLATES

180-degree bends at the top edge and 45-degree bends at the bottom edge add rigidity throughout the length of the side plates without welding.

## CAMBERED OR FLAT DECKS

The F-Class can be customized with cambered or flat decks to accommodate virtually any combination of tensioned or modular screen media.

# NIAGARA F-CLASS SPECIFICATIONS AND INDUSTRIES

WIDTH	LENGTH	DECKS	CUT RANGE	TOP SIZE	CAPACITY (TPH)	INCLINATION	BEARINGS	LUBRICATION	ACCELERATION
6'	12'	1 - 3	1/8" - 6"	16" minus	Up to 800	20°	4	Grease	3.8 - 4.2g
	16'								
	20'								
7'	16'				Up to 1,000				
	20'								
8'	16'								
	20'								
	24'								
10' Tandem	24'	4 + 4							
	28'								
	32'								



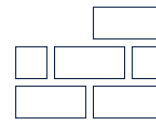
**MINING**



**FERTILIZER & SALT**



**AGGREGATES & MINERALS**



**CEMENT & BUILDING PRODUCTS**

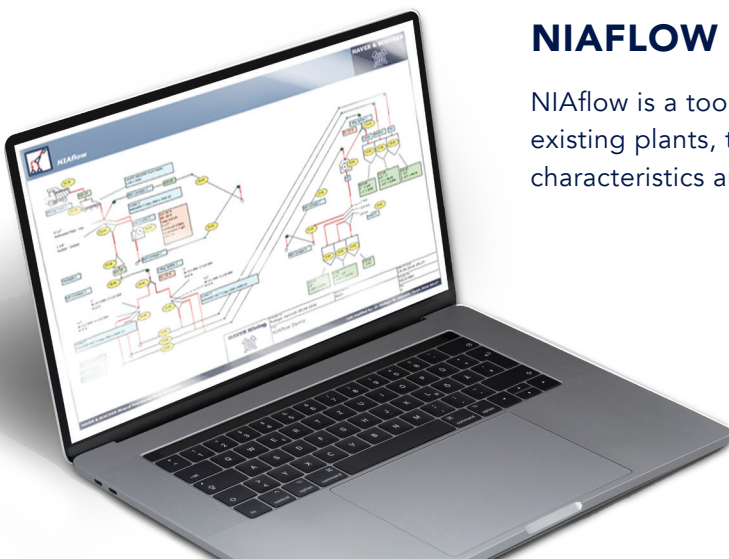


**RECYCLING**

The Niagara F-Class has successfully optimized screening in numerous industries and applications, and is ideal for scalping, dedusting and wet or dry classifying. Our engineering team works with our signature NIAflow plant simulation software to size the Niagara F-Class according to your specifications.

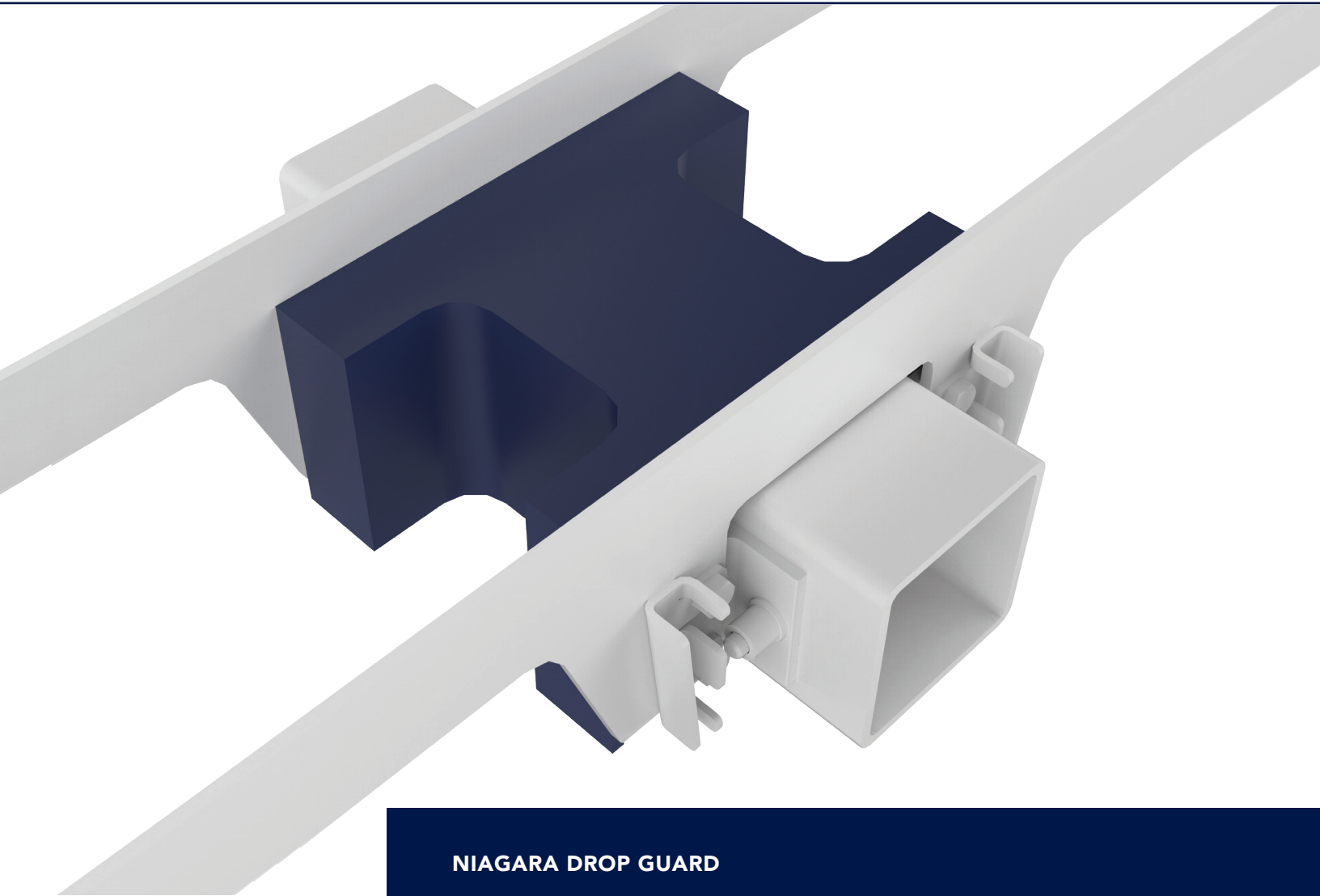
## NIAFLOW PLANT SIMULATION SOFTWARE

NIAflow is a tool used to design new mineral processing plants, or optimize existing plants, to predict production based on input tonnage, material characteristics and equipment set up.





# NIAGARA F-CLASS UPGRADES



## NIAGARA DROP GUARD

The revolutionary Niagara Drop Guard polyurethane liner will protect the cross beams of your F-Class to reduce wear and extend the life of your machine. Best of all, the liners require no tools or hardware for installation or removal.

### ■ POLYURETHANE LINERS

Polyurethane feed box, side-plate, discharge lip, tension rail and bar rail liners extend the wear life of your F-Class and screen media.

### ■ SPRAY SYSTEM

The F-Class can effectively be used for wet screening applications with the addition of a spray system.

### ■ STATIONARY DUST ENCLOSURE

Reduces dust emissions.

### ■ AUTO LUBRICATION SYSTEM

Automated system supplies lubricant at required intervals to eliminate manual greasing.

### ■ FINES HOPPER

Fits beneath the vibrating screen to collect under-size material.

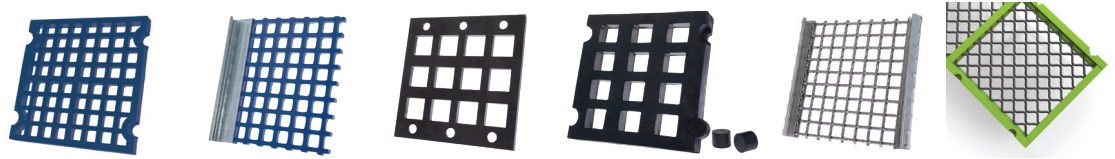
### ■ BALL TRAYS

Reduce blinding and pegging and ensure sharp cuts; best for classification of fine material; available for wire cloth screen media applications only.

# NIAGARA F-CLASS DECK FRAME TECHNOLOGY

## SCREEN MEDIA OPTIONS

All F-Class vibrating screens can be engineered with flat decks for modular screen media panels, including pin & sleeve, snap-in, groove or bolt-down fastening systems; cambered decks for side-tensioned screen media, with a single or double crown; end-tensioned screen media; or a combination of all three.



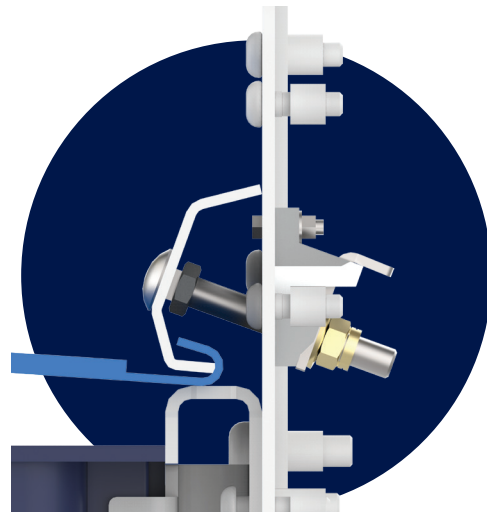
	POLYURETHANE	HYBRID	PERFORATED PLATE	RUBBER	WOVEN WIRE	SELF-CLEANING
MODULAR/FLAT-DECK	●	●	●	●	●	●
SIDE-TENSIONED/CAMBERED DECK	●	●	●	●	●	●
END-TENSIONED BOTTOM DECK					●	●

## TY-RAIL™ FOR SIDE-TENSIONED MEDIA ON CAMBERED DECKS

Every side-tensioned deck on an F-Class is engineered with Ty-Rail. Each rail, and all of the hardware, work together as a single, removable assembly. The patented, quick-tensioning system cuts screen change-out time in half, drastically reducing costly downtime, and improving productivity and profit.

### HOW IT WORKS

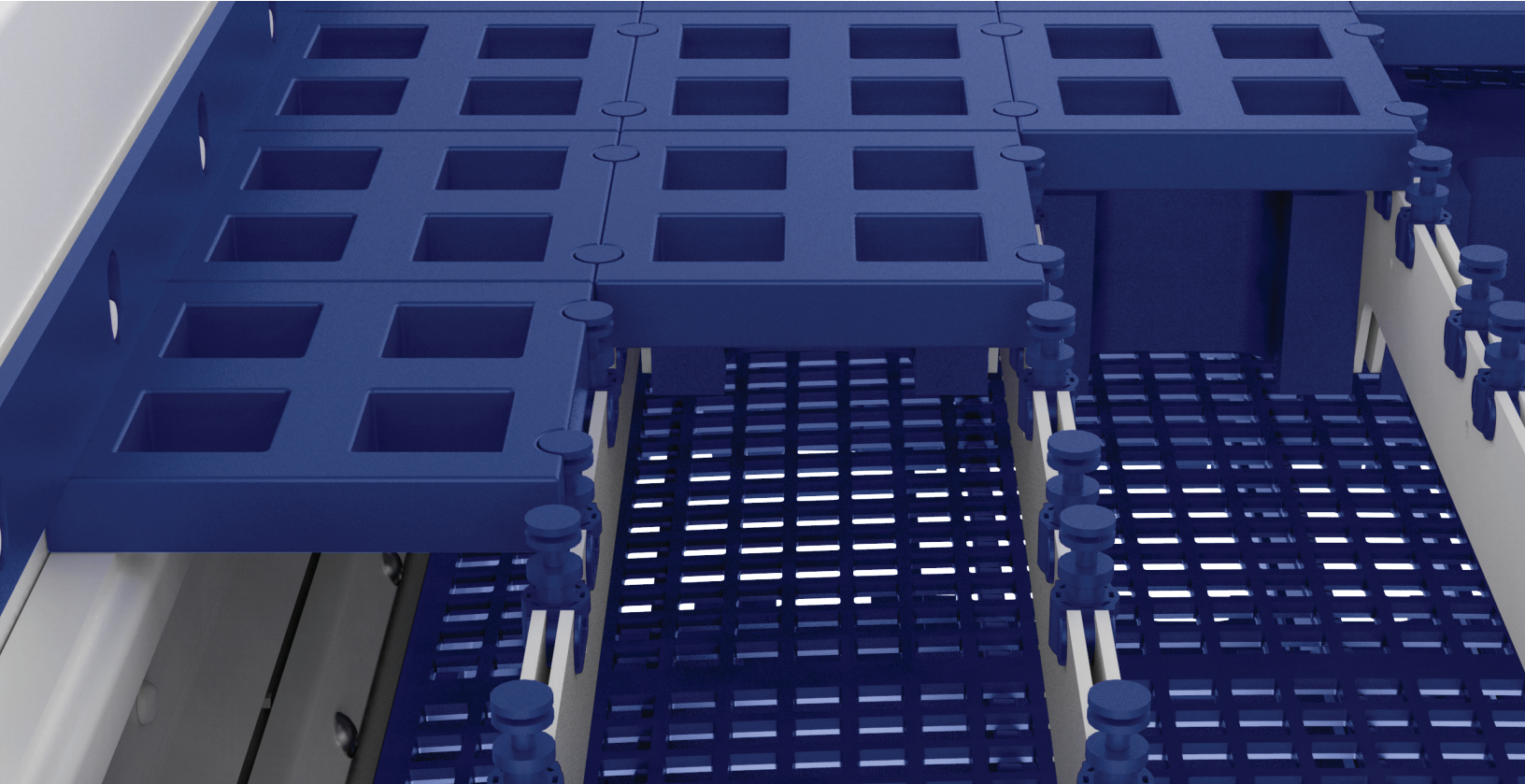
1. Loosen tension bolts and shift locking plates up.
2. Lift the tension rail out.
3. Change the screen media section.
4. Move tension rail back into place.
5. Shift the locking plates down and tighten tension bolts.



# NIAGARA F-CLASS DECK FRAME TECHNOLOGY

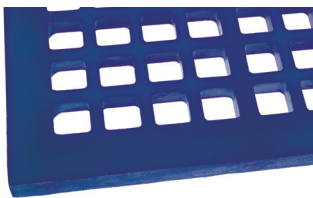
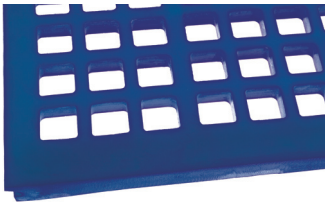
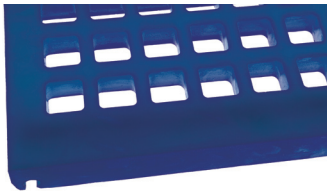
## PIN & ANCHOR DECK FRAME FOR MODULAR PIN STYLE PANELS

Every pin style flat deck on an F-Class is engineered with our high open area deck frame. The modular system offers more open area than other flat decks and is adaptable to virtually any pin style modular screen media. The high open area design prevents material build-up in the bar rails. The polyurethane anchors are easy to replace and prevent premature wear on the deck frame.



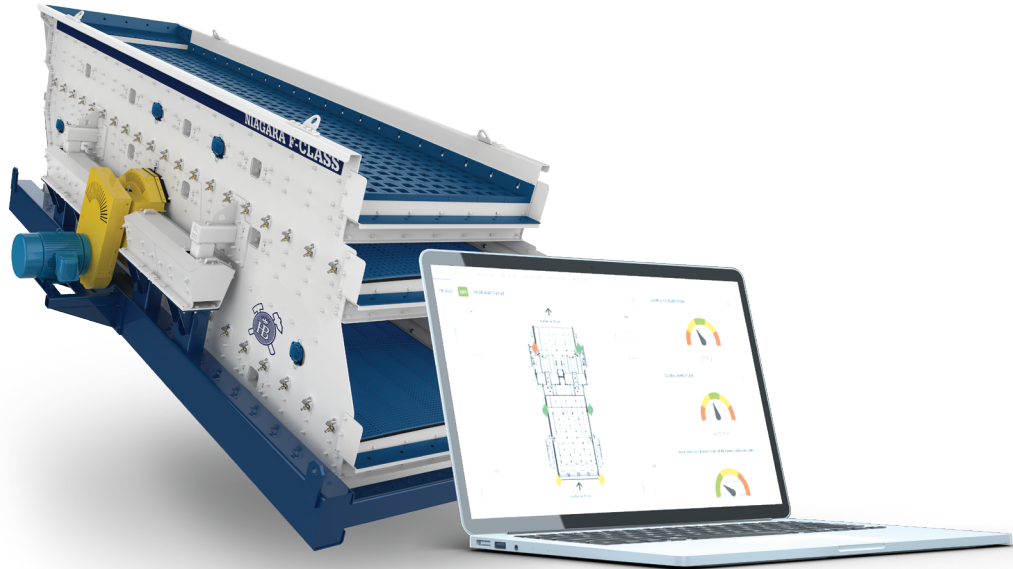
## ADDITIONAL MODULAR PANEL HOLD DOWN SYSTEMS AVAILABLE

- SNAP SYSTEM
- GROOVE SYSTEM
- BOLT-DOWN SYSTEM



## THE POWER TO PREDICT. THE STRENGTH TO PERFORM.

Avoid unnecessary slowdowns and unexpected repairs with Haver & Boecker Niagara's Pulse Diagnostics suite. These industry-leading tools monitor the health of vibrating screens and identify issues before they become critical, improving operations' productivity and maximizing uptime.



### PULSE IMPACT TEST

The Pulse Impact Test ensures each machine is properly calibrated to avoid operating in resonance for efficient operation. Operating in resonance can diminish productivity, incur damage to vibrating screens and pose safety risks.

### PULSE VIBRATION ANALYSIS SERVICE

Pulse Vibration Analysis (Pulse VA) is designed to examine the health of any vibrating screen by detecting irregularities that could translate into diminished performance, decreased efficiency, increased operating costs and imminent breakdowns.

### PULSE CONDITION MONITORING

Pulse Condition Monitoring (Pulse CM) is the next level in the Pulse portfolio. Similar to Pulse VA, the condition monitoring software analyzes data to help users get the most out of their equipment. Unlike vibration analysis, Pulse CM is installed permanently on each vibrating screen for 24/7 equipment monitoring.

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