

# Elgin Separation Apex™ Decanter Centrifuge Solutions



# Trusted OEM Provider



Elgin Separation ("Elgin") has evolved into a world-wide leader in design, manufacture and service of specialized liquid/solids separation, dewatering, material sizing, and waste management solutions.



Astec has invested in high-quality, full-service, product support centers in Houston, TX; Princeton, WV; Raleigh, IL; and Poca, WV; and Baroda, India to manage your equipment repair needs.



Astec's in-house team of engineers and technicians can custom design complete turn-key systems designed to meet customer needs in finding the ideal solution suitable for any project requirement.

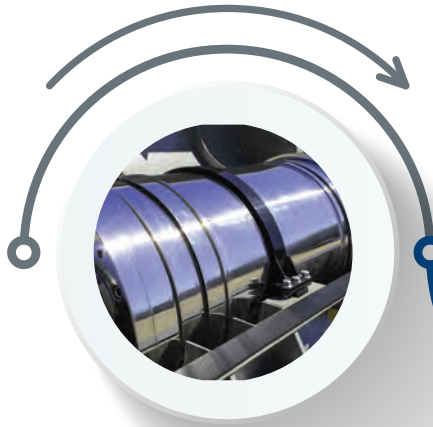
**Looking for spare parts? Astec's OEM parts are designed to outperform aftermarket parts.**

Aggregates • Asphalt • Coal • Concrete • Recycle and Waste Management  
Forestry • Minerals • Mining • Material Handling • Road Building • Water Intake

# Key Equipment Components

Astec's line of Elgin Separation™ Apex™ decanter centrifuge's are manufactured with high-quality materials of construction. In addition, premium designed gearboxes, epicentric liquid-end discharge

ports, wide-mouth tungsten carbide solids discharge ports and plows, precision machined heavy-duty pillow blocks, and continuous duty poly-chain driven motors ensure durable, high-performance operation.



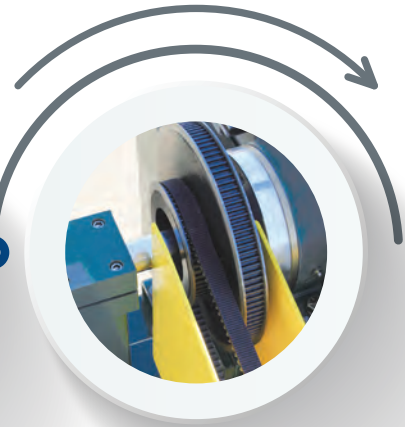
## Rotating Assembly

By using a length over a diameter ratio of 3.5, Elgin achieves an extremely stable centrifuge.



## Premium Gearbox

Planetary gearbox generates an industry-leading speed differential when managing the cut-point and moisture content of discharged solids.



## Poly-Chain Drive

Carbon fiber poly-chains are length-stable and can withstand shock loads that frequently lead to belt failure.



## Pillow Blocks

Premium bearings installed in precision-machined pillow blocks.



## Premium Motors

NEMA premium, continuous-duty explosion proof drive motors.



## Hydraulic/Electric Configurations

Elgin can customize centrifuges for electric or hydraulic operations.

# Turn-Key Centrifuge Solutions

Astec specializes in turn-key centrifuge solutions. Whether you are looking for a single unit with telescoping stand, trailer mounted system with dedicated power source and polymer injection system, or a fully containerized dewatering system with dedicated control room for harsh environments, Astec's team can customize the ideal solution.

Have existing assets? Astec can incorporate your equipment into a skid, trailer, or containerized platform. Astec's in-house control panel engineers can design fully integrated controls paired with customers assets to include operational interface, safety interlocks, automation systems, and maintenance protocols.

## Turn-Key Solutions Options

- Integrated proprietary HMI touch-screen VFD control system with safety interlocks and alarm notifications.
- Mobile polishing systems built with integrated piping manifold and static inline mixers to achieve maximum residence time when adding polymers.
- Optional onboard sound-attenuated Tier-4 generators ranging from 20KW up to 300KW.
- Dedicated progressive cavity or self-priming feed pump packages.
- Onboard solids discharge screw conveyors or belt conveyor configurations.
- Heavy-duty dual and triple-axle trailer configurations with hydraulic leveling jacks.
- Fully containerized dewatering systems with dedicated control room/mud lab with HVAC system.
- Dedicated fluid tanks with high/low level sensors for operational monitoring.
- Fully designed facilities with detailed layout, electrical schematics, and project planning.
- Complete in-house engineering, 2D & 3D designs with detailing, general assembly drawings, and process flow descriptions.



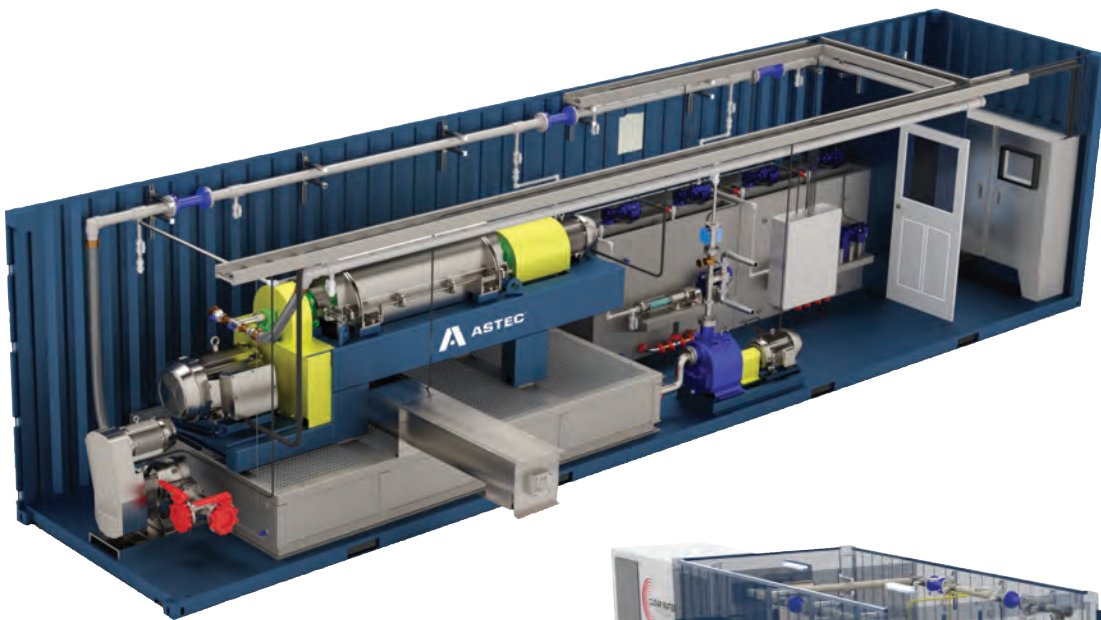
Assembled as a “field skid” configuration, Astec’s centrifuge systems include onboard control panel and can be easily installed on top of a telescoping stand.



Slim-line unit designs are ideal for placement in small spaces with stand-alone control panel to meet operational needs.



**Mobile Polishing Solutions:** Built on a heavy-duty dual or triple-axle trailer or 56' dual-axle rock-over trailer, mobile polishing systems include high capacity tanks with level sensors, solids discharge screw conveyor, dedicated progressive cavity feed pump, self-priming transfer pump, onboard sound-attenuated generator and NEMA 7 or NEMA 4X stainless-steel HMI touch-screen VFD control panel.



### Containerized Solutions

Astec can fully integrate a number of processes into a single 20' or 40' standard shipping container. Units include dedicated control room or mud lab, chemical additive injection pumps and tanks, decanter centrifuge, centrate collection tank, dedicated feed/transfer pumps, and solids discharge conveyor.

### Custom Engineered Solutions

Astec's in-house team of engineers and technicians can incorporate customer's existing assets to build a custom trailer mounted or containerized system for operational needs.

Modular systems can be fully equipped with collection tanks, solids discharge conveyors, polymer injection systems, dedicated power pack, and centralized control system.



# Customizable Control Panels

Depending on your budget and performance needs, Astec's centrifuges can be fitted with a host of custom VFD, FHVD, MVD control options in both explosion proof and non-explosion proof configurations.

Variable Frequency Controlled centrifuges allow the operator to change the centrifuge cut point with the flip of a switch.

Elgin centrifuges  
can be fitted with  
a host of custom  
VFD, FHVD,  
MVD controls



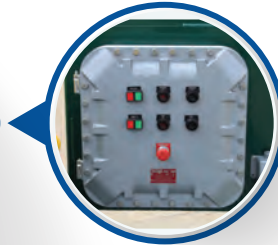
## NEMA 4X Stainless-Steel VFD Cabinet Enclosure with HMI Interface

Class I - Division II Non-Explosion Proof or Class I - Division I Explosion Proof HMI Touch-Screen.



## NEMA 7 VFD Enclosure

Class I - Division I Explosion Proof with Active Air Cooling Technology.



## NEMA 7X Aluminum Enclosure

Class I - Division I Explosion Proof (ATEX Zone I Panel Available).



## VFD Pump Integrated Panel

Onboard control panel with built-in VFD controls for efficient feed pump performance.



## NEMA 4X Stainless-Steel VFD with HMI, Air Conditioning, and Purged Air

Monitors the system for extreme temperature with protective interlocks that alerts the operator. Class I - Division I Explosion Proof configuration.

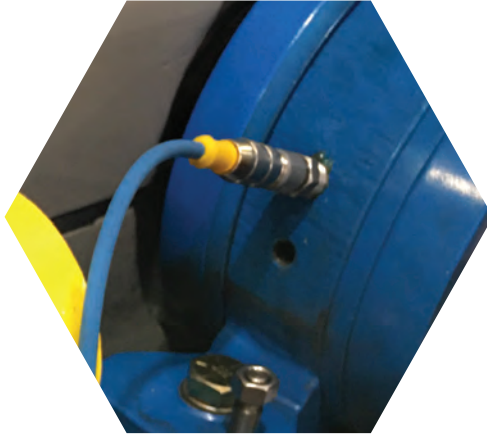
# Safety Interlocks

When it comes to optimal operation performance, it is key to integrate safety interlocks to prevent equipment malfunction during operation. Astec Elgin Separation™ centrifuges are equipped with a host of premium industry-standard safety interlocks.



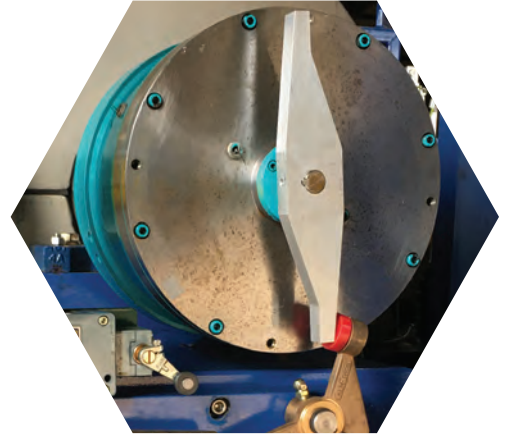
## Vibration Switch

Designed to protect the centrifuge, if excessive vibration occurs during operation.



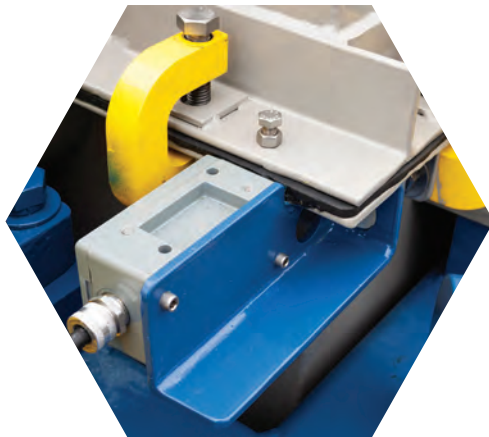
## Thermal Sensors

Onboard thermal sensor monitors pillow block and protects from high temperature damage.



## Torque Arm

A trip assembly that prevents over torquing of the gearbox during operation.



## Lid Sensor

Safety interlock that shuts down the system in the event the lid is opened during operation.



## Emergency Stop

Centrally located E-Stop button to stop operation to prevent system failure.



## Active Lubrication System

Onboard active lubrication system provides for continuous lubrication of pillow blocks preventing bearing damage.



# Proprietary System Automation

Astec's proprietary user interface provides complete control of all systems, as well as, a sophisticated set of diagnostic tools, information libraries and fault logs. Control systems include a variety of enhanced features including, internal lighting, ventilation and heating, Ethernet porting for diagnostics and programming updates, and

a custom designed user interface that allows for maximum operating flexibility and control.

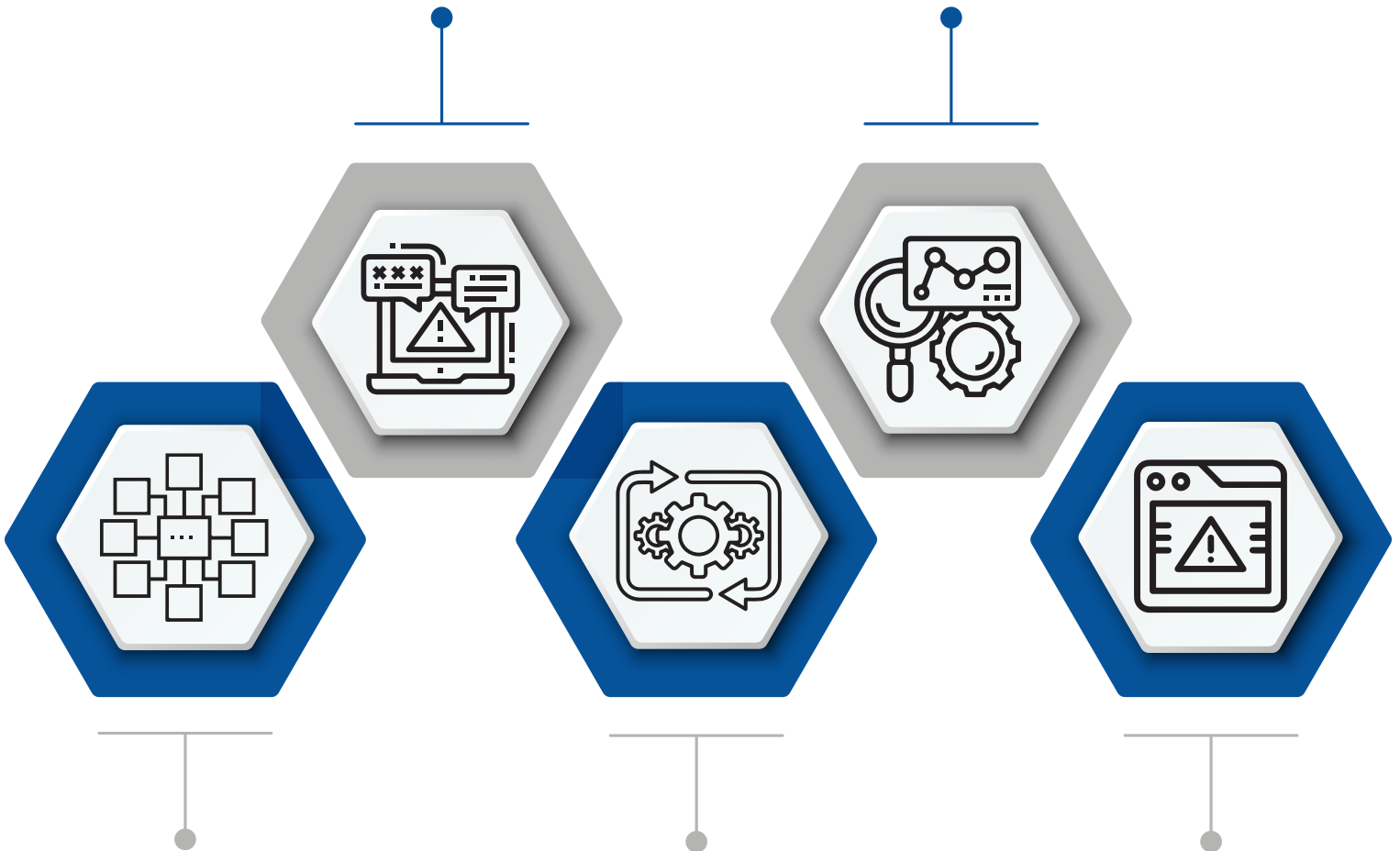
Panel upgrades can include onboard Wi-Fi network module allowing for remote operation/monitoring via laptop, tablet or smart phone.

## System Alarm Notifications

Safety interlocks built into each system alert the operator when potential system shutdown/damage has or may occur.

## Remote Control and Diagnostics

Each user interface comes with the capability of remote control offering the ability to control a centrifuge from great distances.



## Data Logging

System performance and operation data tracking storage logs for improving job performance.

## 'Cruise Control' Automation

Each centrifuge offers automated controls for efficient operation and lower operator oversight.

## Maintenance Alerts

Operational alerts notify operator of routine equipment maintenance schedules.

# Feed Systems

Having the right pump to feed material to the centrifuge is key to efficient operations. Astec offers a wide range of pumps perfectly paired with the decanter centrifuge.



## Progressive Cavity Pump

PC pumps improve centrifuge performance, extend the life of a centrifuge, and reduce overall operations and maintenance costs when properly operated.



## Self-Priming Pumps

Elgin's line of self-priming solids-handling pumps offer a trouble-free, non-clogging design. The large volute automatically reprimed in a fully open system, without the need for complicated suction or discharge plumbing.

# Solids Discharge Equipment

Astec's turn-key solutions are outfitted with sophisticated solids conveyance systems available. This allows the solids separated to be stack-piled or directly deposited into a roll-off waste containment bin.



## Screw Conveyors

Available in various length configurations, screw conveyors offer high-performance in moving discharged solids over great lengths.







## Belt Conveyors

Belt conveyors efficiently convey material in large volumes. Mounted with optional swivel base and belt wiper for cleaning material off the conveyor.



# Centrifuge Product Line

Depending on your operational needs, Astec has a complete line of high-speed and low-speed decanter centrifuges ranging from 40 gallons per minute up to 550 gallons per minute.

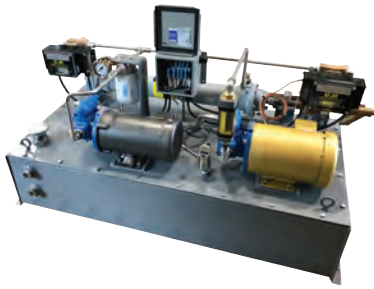
Model Number	Apex 9FVFD™	Apex 14FVFD™	Apex 14MVD-SL™	Apex 16FVFD™	Apex 16FHD™
Equipment Image					
Maximum G-Force	2,600 G's	2,100 G's	2,100 G's	2,300 G's	2,300 G's
Maximum Speed	4,500 rpm	3,250 rpm	3,250 rpm.	3,400 rpm	3,400 rpm
Hydraulic Capacity	75 gpm (4.7 lps)	200 gpm (12.6 lps)	200 gpm (1,893 lps)	300 gpm (18.9 lps)	300 gpm (18.9 lps)
Bowl Construction	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Bowl Diameter	9" (229 mm)	14" (356 mm)	14" (356 mm)	16" (406 mm)	16" (406 mm)
Bowl Length	36" (914 mm)	49.5" (1,257 mm)	49.5" (1,257 mm)	55" (1,397 mm)	55" (1,397 mm)
Weight	2,050 lbs (930 kgs)	8,800 lbs (3,992 kgs)	4,000 lbs (1,814 kgs)	5,800 lbs (2,631 kgs)	10,000 lbs (4,536 kgs)
Dimension	87" (2,210 mm) L x 28" (711 mm) W x 35" (889 mm) H	126" (3,200 mm) L x 74" (1,876 mm) W x 61" (1,549 mm) H	111" (2,819 mm) L x 33" (838 mm) W x 51" (1,295 mm) H	145" (3,683 mm) L x 36" (914 mm) W x 57" (1,447 mm) H	120" (3,048 mm) L x 80" (2,032 mm) W x 61" (1,549 mm) H
Gearbox Ratio	40:1	52:1 or 125:1	52:1 or 125:1	56:1	56:1

Looking for hydraulically driven centrifuges? Elgin can configure any centrifuge for hydraulic operation.



Apex 16FHD™  
Hydraulic Centrifuge

Aggregates • Asphalt • Coal • Concrete • Recycle and Waste Management  
Forestry • Minerals • Mining • Material Handling • Road Building • Water Intake



### Modular Lubrication System

Astec has developed a modular centrifuge lube system that provides improved system performance and optimizes centrifuge up-time. Astec's lube system monitors both flow and temperature and can provide a signal that can be routed back to a central control room. In addition, Astec's centrifuge lube system provides for an enhanced heat exchanger and expanded 50-gallon capacity lube oil reservoir.

Model Number	Apex 1842BD™	Apex 1850BD™	Apex 19FVFD™	Apex 2460BD™	Apex 25FVFD™
Equipment Image					
Maximum G-Force	1,130 G's	1,130 G's	2,500 G's	1,130 G's	2,750 G's
Maximum Speed	2,100 rpm	2,100 rpm	3,100 rpm	2,100 rpm	3,000 rpm
Hydraulic Capacity	40 gpm (2.5 lps)	40 gpm (2.5 Lps)	500 gpm (1,893 lpm)	150 gpm (9.5 Lps)	650 gpm (41 lps)
Bowl Construction	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Bowl Diameter	18" (475 mm)	18" (475 mm)	18.5" (469.9 mm)	24" (610 mm)	25" (635 mm)
Bowl Length	42" (1,066 mm)	50" (1,270 mm)	67" (1,702 mm)	60" (1,524 mm)	80" (2,032 mm)
Weight	4,547 lbs (2,062 mm)	5,000 lbs (2,268 kgs)	9,732 lbs (4,414 kgs)	8,300 lbs (3,764 kgs)	22,500 lbs (10,206 kgs)
Dimension	97" (2,463 mm) L x 72" (1,828 mm) W x 34" (863 mm) H	107" (2,718 mm) L x 78" (1,981 mm) W x 35" (889 mm) H	187"(4,750 mm) L x 45" (1,143 mm) W x 49" (1,245 mm) H	124" (3,149 mm) L x 82" (2,082 mm) W x 38" (965 mm) H	246" (6,248 mm) L x 52" (1,320 mm) W x 65" (1,651 mm) H
Gearbox Ratio	80:1 or 140:1	80:1 or 140:1	80:1	80:1 or 140:1	90:1

### Core Exchange Program

Relative to our commitment to the product life cycle and asset management, Elgin Separation Solutions offers a core exchange program<sup>1</sup>.

<sup>1</sup>Elgin's Core Exchange Program is restricted to the centrifuge core (rotating assembly). The Customer core submitted in exchange for the Elgin refurbished core shall be submitted to Elgin with full title. The new Elgin core will be provided with a full title. Both Elgin and the Customer shall release all legal ownership of the cores exchanged. Customer cores that have undergone catastrophic damage are not eligible for Elgin's Core Exchange Program. Complete details relative to defining catastrophic damage are available for review. The Elgin refurbished cores shall be provided with standard warranty on parts and workmanship. Additional terms and conditions apply. Contact an Elgin representative for more details.

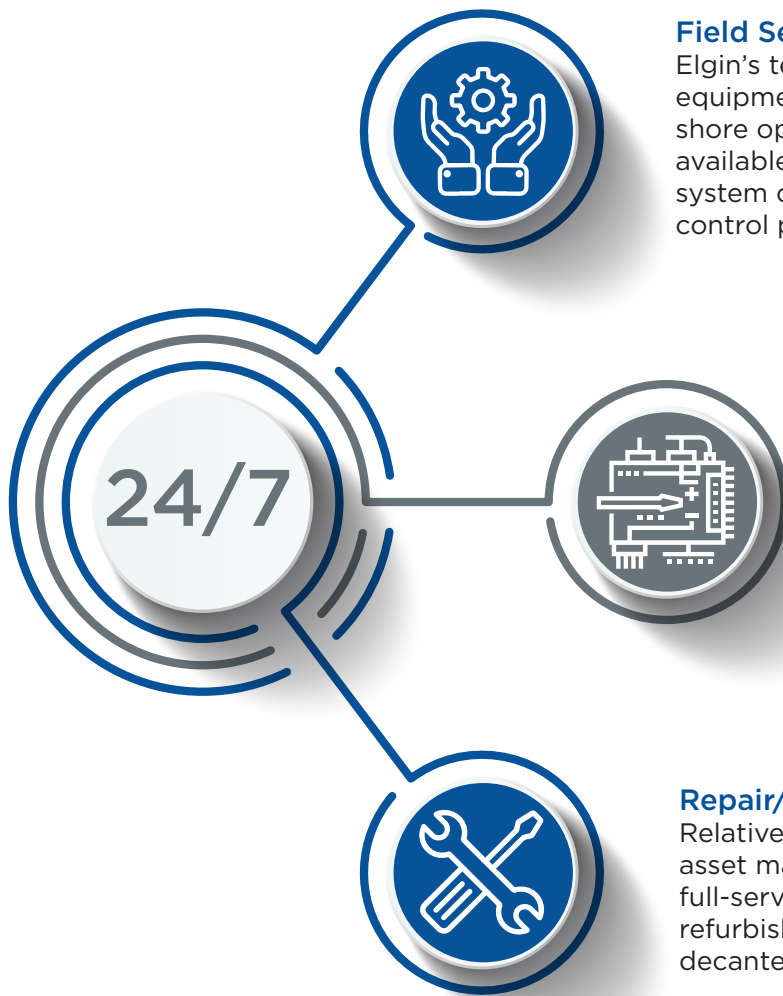




## Global Support

Elgin provides full installation and technical support for all its equipment. With technical support offices in Edmonton, Canada; Houston, Texas; Raleigh, Illinois; Poca, West Virginia; Moscow, Russia; Dubai, United Arab Emirates; and Baroda, India, Elgin can mobilize field technicians

within 24 hours to almost any location in the world. With over 30 year's of experience in centrifuge repair and refurbishment of the industry's most popular decanter centrifuges, Elgin has the largest one-stop-shop service footprint for maintaining your entire centrifuge fleet.



### Field Service Technicians

Elgin's technicians specialize in field installation and equipment commissioning for both on-shore and off-shore operations. In addition, technical support is available 24/7 via phone or video chat. Depending on system configuration, our technicians can remote access control panels for troubleshooting and software upgrades.

### OEM Spare Parts

Elgin maintains a complete inventory of spare parts and consumables available to ship world-wide ensuring minimal equipment downtime. Additionally, Elgin offers replacement parts for most competitor centrifuges.

### Repair/Refurbish Services

Relative to our commitment to the product life cycle and asset management, Elgin has invested in high-quality, full-service, centrifuge repair centers to provide repair, refurbishment and remanufacturing services for your decanter centrifuge fleet.