DREDGING EQUIPMENT

bell

DREDGING EQUIPMENT

INDEX

BELL®
PUMPS

APPLICATIONS & AREAS OF OPERATION

Typical applications

- Environmental dredging
- Maintenance dredging
- Sand / gravel mining
- Offshore installation / decomissioning
- Mobile booster station
- Mounted on ladder of cutter suction dredger
- Suspension from A-frame
- Beach nourishment / reclamation dredging
- Free hanging on crawler crane

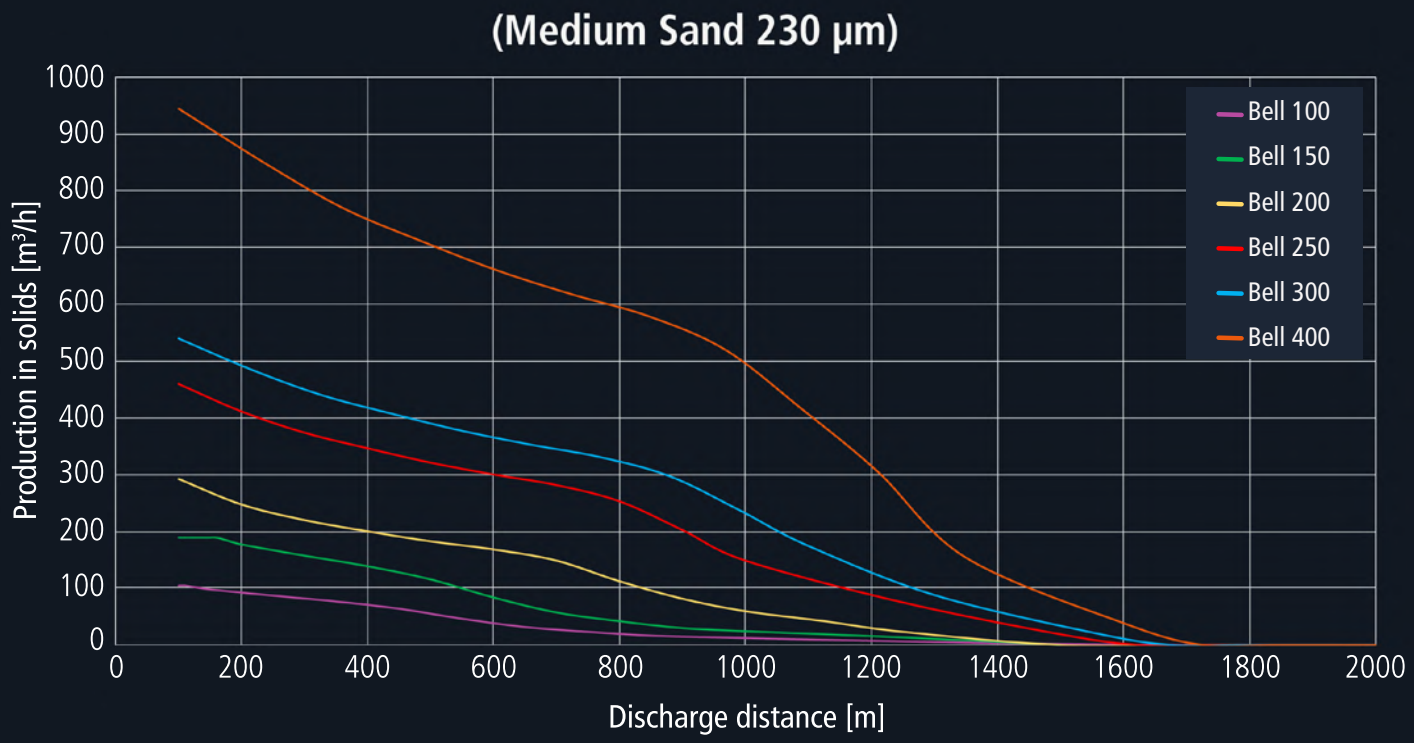
Typical areas of operation:

- Harbours
- Offshore
- Rivers
- Canals
- Restricted areas
- Hopper barges
- Sewage / power plants
- Emptying foundation piles

CHARACTERISTICS

	BELL 100	BELL 150	BELL 200	BELL 250	BELL 300	BELL 400	UNIT
Max mixture capacity	300	500	800	1250	2000	3500	m^3/h
Max impeller speed	1350	1300	1200	900	750	550	rpm
Max power at shaft	30	75	110	190	300	500	kW
Suction bore	ø100	ø150	ø200	ø250	ø300	ø400	mm
Discharge bore	ø100	ø150	ø200	ø250	ø300	ø400	mm
Spherical passage	50	75	125	130	155	210	mm
Weight hydraulic (without head)	550	950	1200	2000	3500	7750	kg
Weight electric (without head)	1000	1375	1900	2900	4600	9150	kg
Max hydraulic pressure*	250	250	250	250	300	300	bar
Max hydraulic pump flow*	85	195	290	475	600	1000	L/min
Hydraulic cutter head flow	15-20	15-20	35-50	35-50	70-110	140-210	L/min
Hydraulic double cutter head /auger head flow	30-40	30-40	70-100	70-100	140-220	280-420	L/min

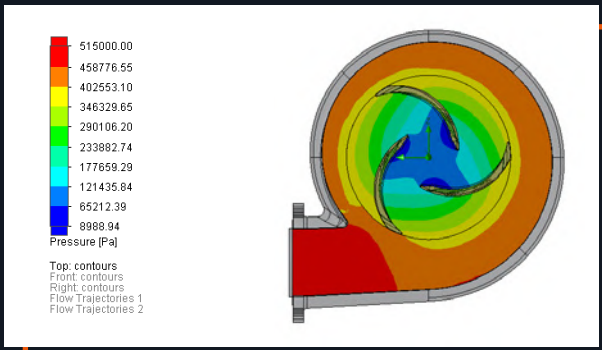
PRODUCTION

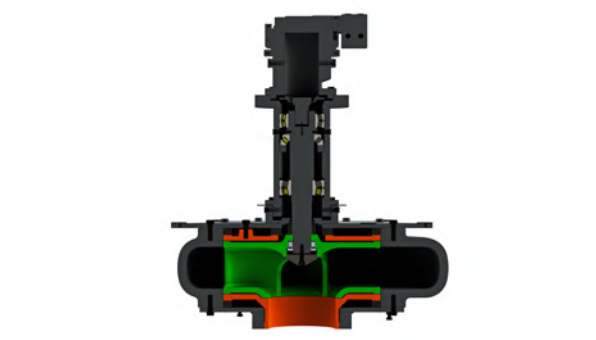


STRONG POINTS

BASIC DESIGN

- Delivery from stock
- Heavy duty design
- Low maintenance
- Proven design
- Compact
- Multifunctional
- Low cost
- Large spherical passage
- Various suction heads available
- Changeable wear parts





ADJUSTABLE NIHARD WEAR PLATES

ADJUSTABLE NIHARD IMPELLER

OPTIONAL SENSORS

DEVELOPMENT

- Continuous improvement of pump design
- Flow simulations for higher efficiency
- Development of new suction heads and tools

SPARES AND SERVICES

After Sales Department:

- Components with short delivery time
- Complete package of spare parts
- Advice and support
- Experienced and dedicated team

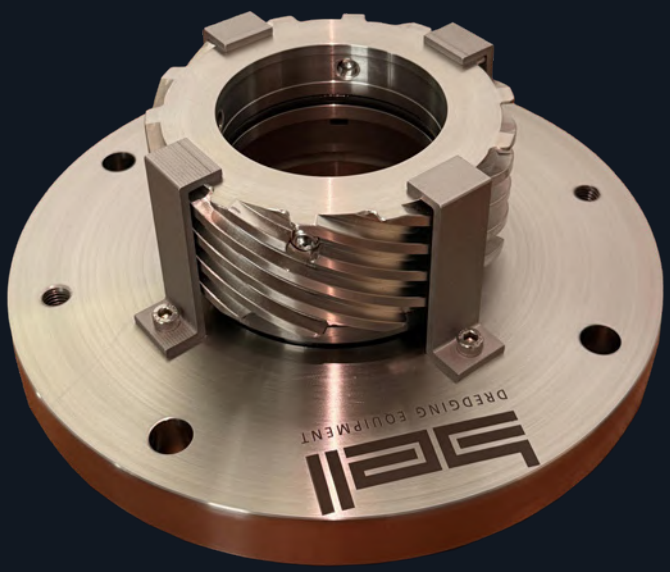
Bell Field Service:

- Warranty and after sales services
- Training courses (in house and on site)
- Technical check-ups
- Service in remote areas
- Experienced operators

MECHANICAL SEAL

After two years of intensive collaboration with one of the world's leading mechanical seal manufacturers, we are proud to introduce our new Bell mechanical seal.

This seal has been engineered and specifically built to be exceptionally sturdy, highly impact-resistant, chemically resistant, and robust, ensuring reliable performance even under the harshest conditions. Our Heavy-Duty (HD) mechanical seal is truly built to withstand any challenge the field presents. Due to the high-quality tungsten seal faces and the superior, robust construction, the seal offers a significantly extended service life. Furthermore, maintenance has gotten simpler because of its easily replaceable design, which minimizes operational downtime in the field.

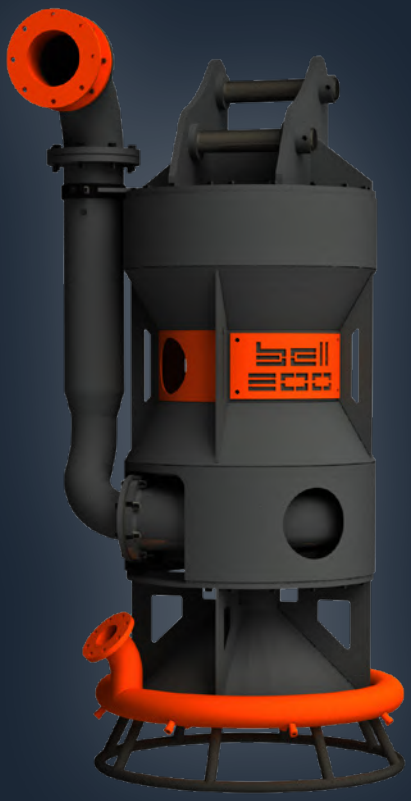


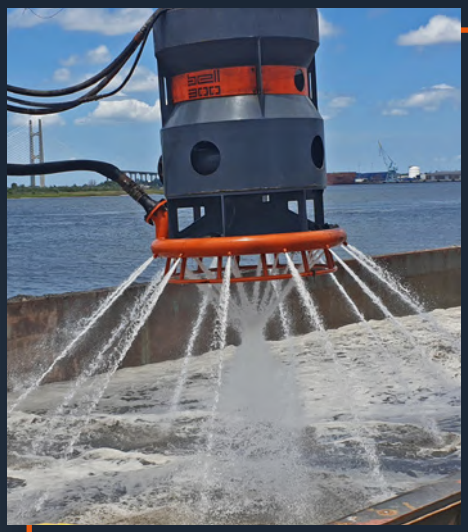
BELL®
HEADS

1. SAND PRODUCTION HEAD
2. FLAT BARGE HEAD
3. AUGER HEAD
4. CUTTER HEAD
5. DOUBLE CUTTER HEAD

SAND PRODUCTION HEAD

- Water jet nozzles for best mixture
- Suspension from crane or A-frame
- High production of solid material





FLAT BARGE HEAD

- Water jet ring around head
- Suspension from crane or A-frame
- Emptying barges

CUTTER HEAD

- Separate hydraulic powered cutter
- Fixed suspension on crane or ladder
- Designed for cutting consolidated sand or

AUGER HEAD

- Dredging with minimal turbidity
- Used in polluted areas
- Less water is taken from the area
- Used for levelling soil under water
- High solids percentage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DOUBLE CUTTER HEAD

Thanks to the double cutter configuration, the pump can be used free-hanging from a cable, which is impossible with a single cutter.

This set-up is the only free-hanging tool on the market that can both cut and pump simultaneously. In addition, the double cutter is also equipped with water jet nozzles in and around the rotating heads to keep them blockage free.

- Emptying foundation piles
- Suspension from cable/free hanging
- High hydraulic torque
- Cleaning pile wall with jet ring

Hoisting winch 1

Hoisting winch 2

BELL Hoisting beam

Crawler crane

BELL Booster station 100

BELL Water jet pump 300

BELL Hose guide

BELL Dredging pump 100

BELL Water jet ring

BELL Double cutter head 100

BELL Hydraulic power pack stand-alone 100

SPLITTERBOX

- Manometer on the dredging pump pressure line
- Manometer on the double cutter head pressure line
- Flow control valve and manual lever, all built into one box
- Hydraulic blockage protection & reverse system

AVAILABLE OPTIONS

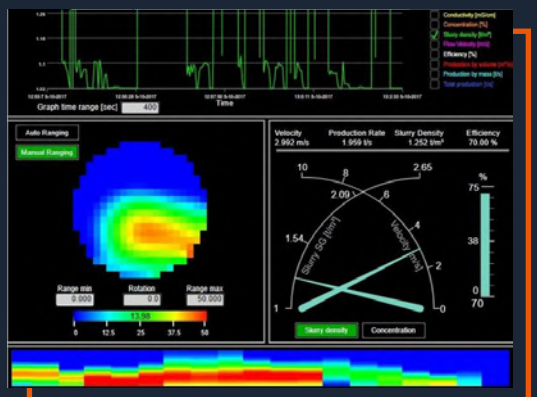
PROCESS INSTRUMENTATION

BELL SENSORS

- Water ingress sensor
- Discharge pressure
- Pump speed
- Depth measurement
- Suction pressure

PRODUCTION INSTRUMENTATION

- Non-nuclear density meter
- Flow meter
- Real time production monitoring and logging



PIPES, HOSES AND FLOATS

- Discharge hoses including floats
- Discharge over land (Steel / HDPE)
- Self floating hoses
- Hydraulic hoses
- Jet-water hoses
- Geotubes

BELL®
POWER PACKS

BELL® STAND-ALONE & AUXILIARY POWER PACKS

Available for all Bell Dredging pumps and heads

	STAND-ALONE	AUXILIARY	
	POWER	FLOW 1	FLOW 2
BELL 100 POWER PACK	60 kW	85 L/min.	20 L/min.
BELL 150 POWER PACK	126 kW	195 L/min.	20 L/min.
BELL 200 POWER PACK	194 kW	290 L/min.	50 L/min.
BELL 250 POWER PACK	253 kW	475 L/min.	50 L/min.
BELL 300 POWER PACK	395 kW	600 L/min.	110 L/min.
BELL 400 POWER PACK	653 kW	1000 L/min.	110 L/min.

Auxiliary Power Packs have just one function to power the dredge pump. Stand-alone powerpacks have two functions to power both pump + pump head. Custom power packs with additional functions are also possible.

BELL® AUXILIARY POWER PACKS

Available for all Bell Dredging pumps

For BELL 150

- Power: 100 kW
- Flow: 195 L/min.

For BELL 200

- Power: 135 kW
- Flow: 290 L/min.

For BELL 250

- Power: 210 kW
- Flow: 475 L/min.

BELL®
WATER JET PUMPS

For BELL 100-200

- 120 m³/h
- 6-16 bar

For BELL 250-300

- 270 m³/h
- 6-16 bar

For BELL 400

- 480 m³/h
- 6-16 bar

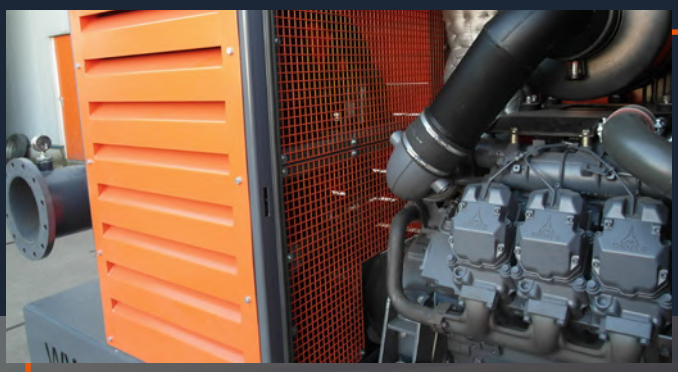
- Diesel, electric or hydraulic driven
- Fast dry priming
- On open skid or in closed sound-attenuated canopy
- Available for all Bell dredge heads

BELL®
BOOSTER STATIONS

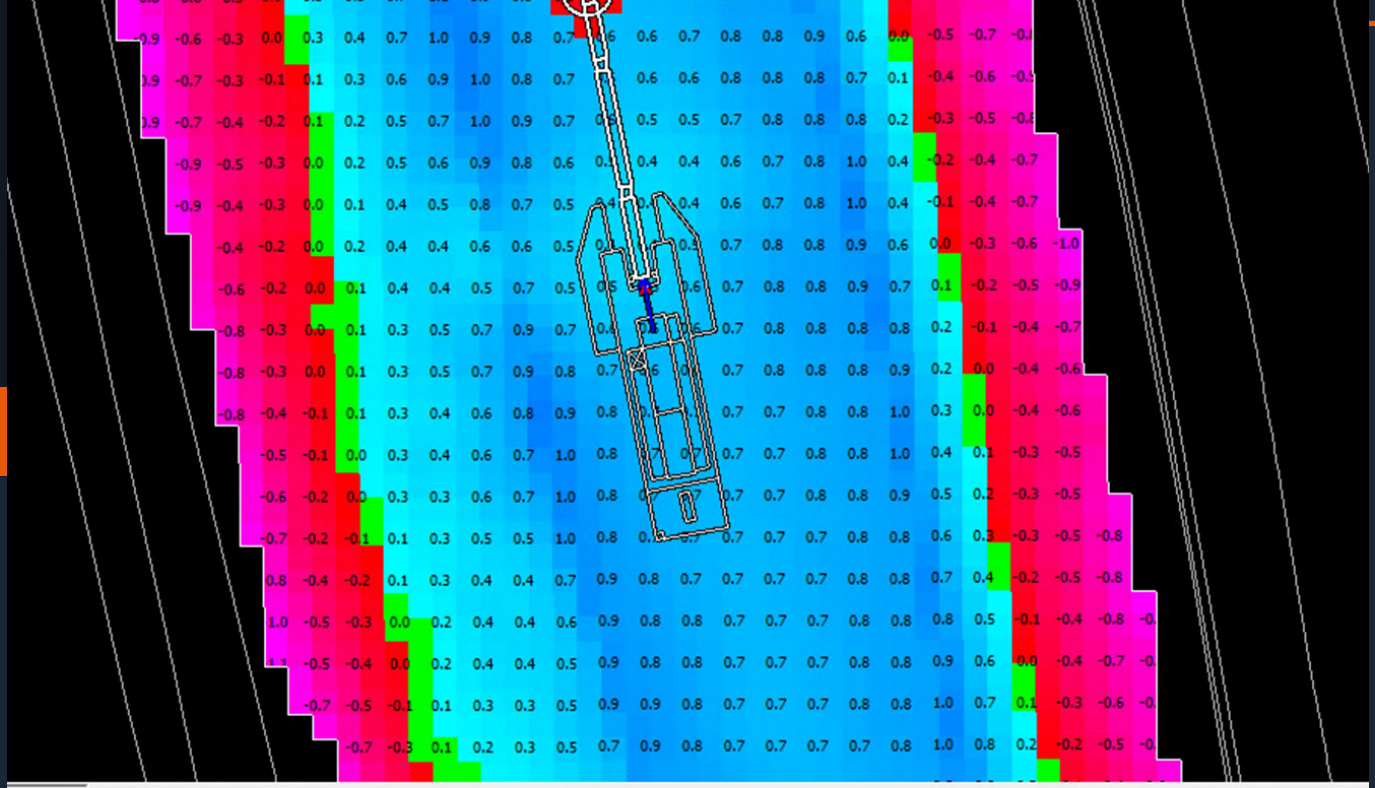
BELL® BOOSTER STATIONS RANGE

When the discharge length needs to be increased, a Bell stand alone booster station can be added in the discharge line. This will ensure te productivity over the total required discharge length.

The Bell booster station can be either diesel-powered or electrically driven. For the diesel driven version, the pump is positioned on a frame with integrated diesel tank at the bottom. In the upper part of the frame multiple ventilation grids are installed as well as doors for access to the diesel engine. The pump itself is located outside of the canopy for easy access and connection of the discharge hoses.



BELL BOOSTER STATIONS	POWER
100	55 kW
150	96 kW
200	143 kW
250	237 kW
300	365 kW
400	560 kW



BELL® DREDGE COMPUTER + SOUNDER SYSTEM

TYPICAL APPLICATIONS

- Cutter suction dredgers
- Grab dredgers
- (Amphibious) Excavators

SPECIFICATIONS

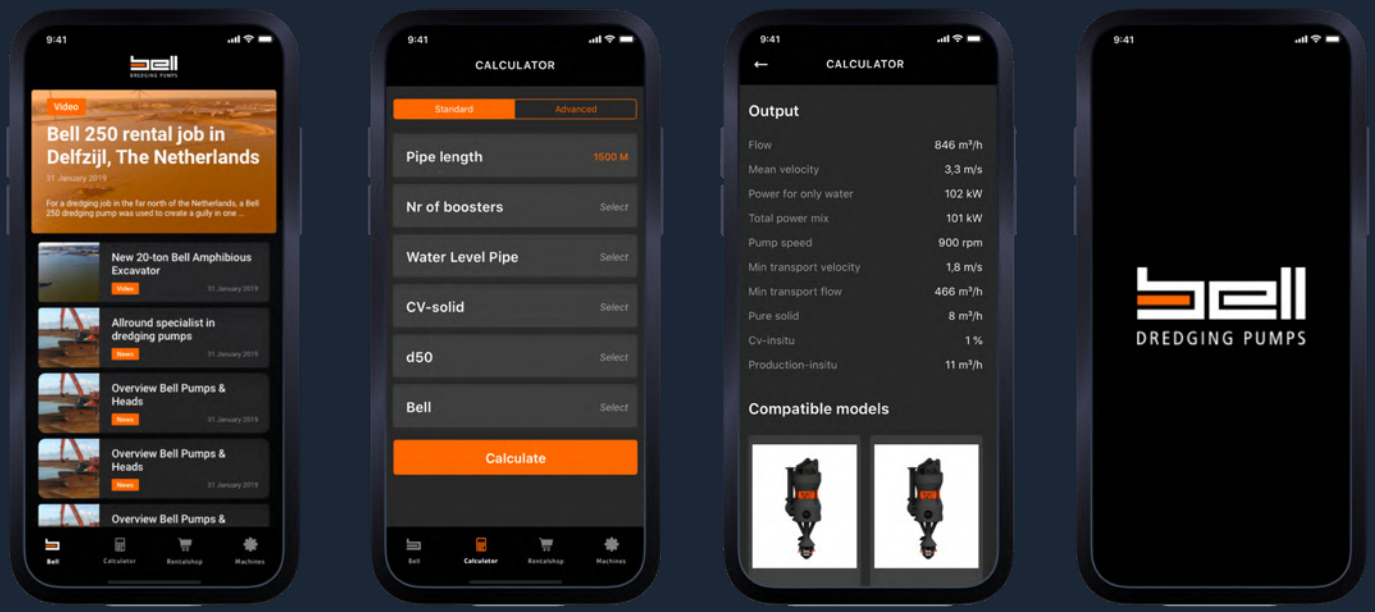
- Industrial Intel Computer
- Internal (G)PS/GLONASS (RTK) receiver
- Industrial GSM/GPRS/UMTS Modem
- CAN Sensor Interface
- Wide range of accessories and sensors

BELL® SOUNDER SYSTEM

BELLSounder is designed to be a simple and rugged hydrographical survey solution with the basic functions of an echo sounder. Depending on the connected sensors, BELLSounder will function as a dual or a single frequency echo sounder. Powered by either an internal Trimble or a Hemipshere GNSS receiver, it provides the perfect solution for a hydrographic survey solution. The BELLSounder consists of a rugged Peli Case that provides a protected housing for every enviroment.

BELL®
DREDGING PUMPS APP

Thanks to our newly developed applicaton, it is now possible to remotely control your booster station, power pack or water jet pump. Imagine you have 3 kilometer long discharge pipe line with multiple booster stations in between. With the Bell app on your phone or tablet you can now start up, monitor and control all the booster stations without leaving the cabin of your excavator or dredger. Any notifications like fuel level or oil pressure will be shown on the screen, so you can take action much sooner when one gets critical.



BELL®
A-FRAME DREDGER 250

Bell A-frame dredgers are diesel or electric driven floating platforms that maneuver on 4 point mooring. A Bell pump with interchangeable heads for loose or compact soils is suspended from an A-frame at the front, allowing virtually unlimited dredging depth.

MAIN SPECIFICATIONS

Length	11,5 m
Width	7,8 m
Height	9,1 m
Design draught	0,65 m
Total weight	± 35.000 kg
Total installed power	516 kW
Max river flow rate	3 m/s

DREDGING PUMP SPECIFICATIONS

Dredging pump	BELL 250
Max mixture capacity	1250 m^3/h
Pump speed	900 rpm
Max power at shaft	190 kW

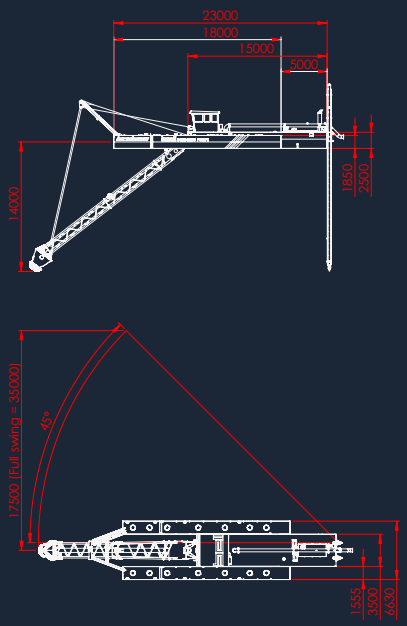
See more in our Bell cutter dredgers brochure

BELL® CUTTER DREDGER 250M (multifunctional)

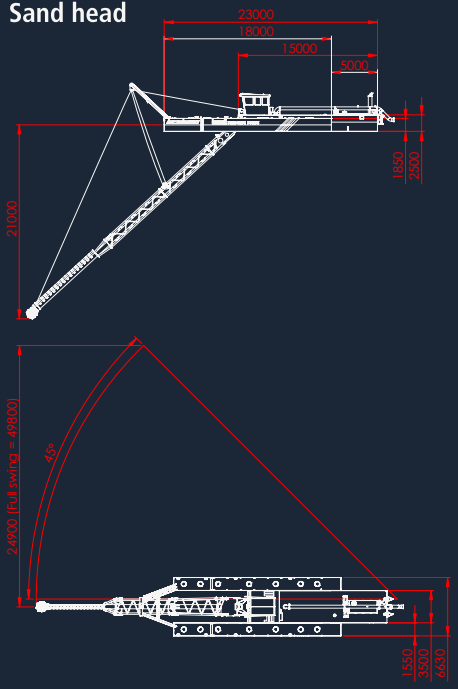
- Dredge pump: BELL 250
- Dredge capacity (water & solids): 1250 m³/hr
- Dredge capacity in dry volume (max.): 250 m³/hr
- Stone size diameter (max.): 130 mm
- Installed power on the dredge pump: 190 kW
- Power source dredger: Diesel engine
- Positioning entities:
  2x mooring winches & 2x spud poles

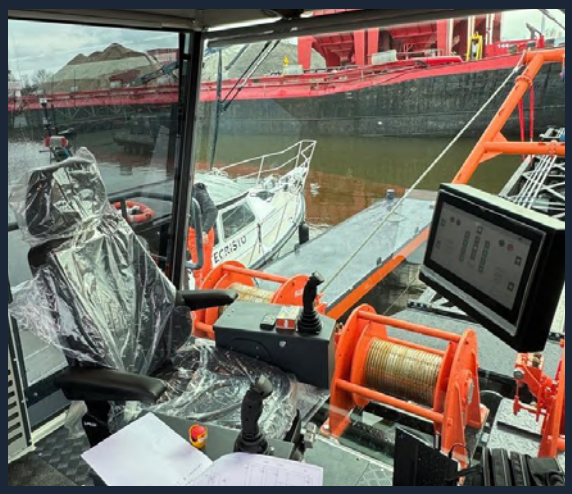
BELL® CUTTER DREDGER 300-350 L^{M} / 300-350 HD^{M} & 400

Cutter head



Sand head





- Dredge pump: BELL 400
- Dredge capacity (water & solids): 3500 m³/hr
- Stone size diameter (max.): 210 mm
- Installed power on the dredge pump: 500 kW
- Power source dredger: Diesel engine
- Power source dredger: Diesel engines or electric motors

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DREDGING EQUIPMENT

Bell Dredging Pumps B.V.
Winkelerzand 1A
1731 LR Winkel
THE NETHERLANDS

T +31 (0) 224 85 53 40
E info@belldredging.com
CoC number 56.77.52.45
VAT number NL8522.96.964.B.01

More information? Take a look at our other brochures.
Or visit our website:

BELLDREDGING.COM