



DREDGING EQUIPMENT





| | |
|---|-----------|
| BELL® PUMPS | 4 |
| • Overview | |
| • Characteristics | |
| • Production | |
| • Applications & Areas of Operation | |
| STRONG POINTS | 7 |
| • Basic Design | |
| • Development | |
| • Spares & Services | |
| BELL® HEADS | 10 |
| • Sand Production Head | |
| • Flat Barge Head | |
| • Cutter Head | |
| • Auger Head | |
| • Double Cutter Head | |
| AVAILABLE OPTIONS | 16 |
| • Process Instrumentation | |
| • Production Instrumentation | |
| • Pipes, Hoses & Floats | |
| BELL® POWER PACKS | 17 |
| BELL® WATER JET PUMPS | 18 |
| BELL® BOOSTER STATIONS | 19 |
| BELL® DREDGE COMPUTER + SOUNDER SYSTEM | 20 |
| BELL® DREDGING PUMPS APP | 21 |
| BELL® A-FRAME DREDGER 250 | 21 |
| BELL® CUTTER DREDGERS | 22 |
| • BCD 250-M | |
| • BCD 300/400 | |



OVERVIEW

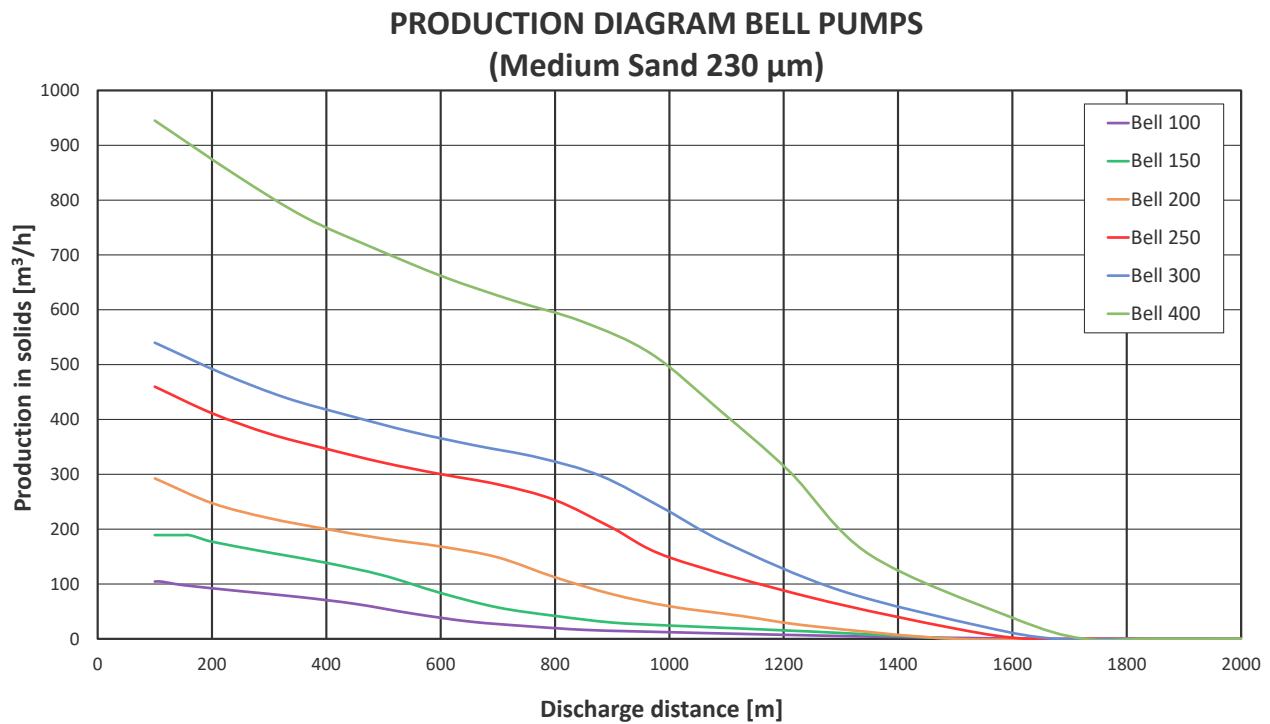


CHARACTERISTICS

| | Units | BELL 100 | BELL 150 | BELL 200 | BELL 250 | BELL 300 | BELL 400 |
|----------------------------------|-------------------|----------|----------|----------|----------|----------|----------|
| Mixture capacity max | m ³ /h | 300 | 500 | 800 | 1250 | 1800 | 3500 |
| Pump speed max. | rpm | 1350 | 1300 | 1200 | 900 | 750 | 550 |
| Max power at shaft | kW | 30 | 75 | 110 | 190 | 300 | 500 |
| Pump head | m | 40 | 55 | 65 | 65 | 65 | 65 |
| Suction bore | Ø mm | 100 | 150 | 200 | 250 | 300 | 400 |
| Discharge piping | Ø mm | 100 | 150 | 200 | 250 | 300 | 400 |
| Spherical passage | mm | 50 | 75 | 125 | 130 | 155 | 210 |
| Weight (hydraulic, without head) | kg | 550 | 950 | 1200 | 2000 | 3500 | 7750 |
| Weight (electric, without head) | kg | 1000 | 1375 | 1900 | 2900 | 4600 | 9150 |
| Hydraulic Pressure | bar | 250 | 250 | 250 | 250 | 300 | 300 |
| Hydraulic Flow | L/min | 85 | 195 | 290 | 475 | 600 | 1000 |
| Hydraulic Cutter flow | L/min | 15-20 | 15-20 | 35-50 | 35-50 | 70-110 | 140-210 |
| Cutter power | kW | 8.3 | 8.3 | 21 | 21 | 46 | 105 |



PRODUCTION



APPLICATIONS & AREAS OF OPERATION

Fields of application

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

Typical areas of operation:

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

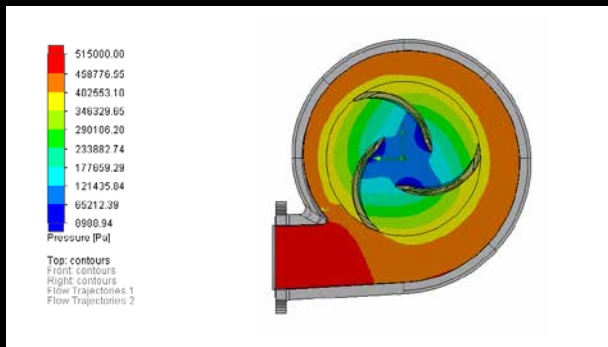




BASIC DESIGN

- 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





SAND PRODUCTION HEAD

FLAT BARGE HEAD

CUTTER HEAD

AUGER HEAD

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



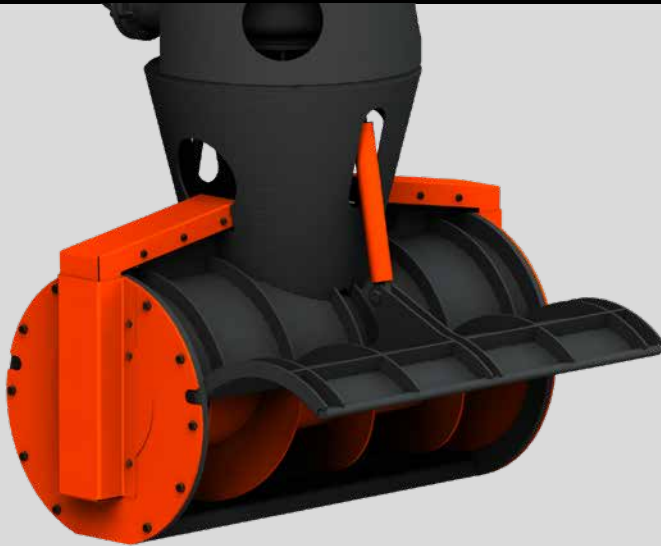
CUTTER HEAD

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



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







DOUBLE CUTTER HEAD

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

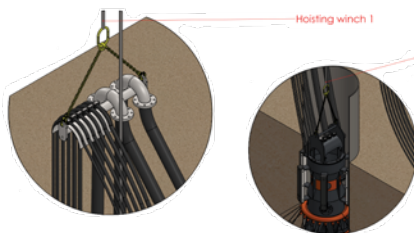
This set-up is the only free-hanging tool on the market that can both cut and pump simultaneously. In addition, the double cutter is also equipped with water jet nozzles in and around the rotating heads to keep them free of clay.



15



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



- BELL Hose Guide 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





PROCESS INSTRUMENTATION

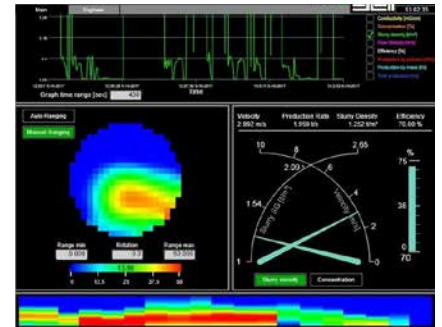
BELL SENSORS

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



PRODUCTION INSTRUMENTATION

- Non-nuclear density meter
- Flow meter



PIPES, HOSES AND FLOATS

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





BELL® STAND-ALONE & AUXILIARY POWER PACKS AVAILABLE FOR ALL BELL DREDGING PUMPS & HEADS

| | STAND-ALONE | | |
|----------------------------|-------------|-------------|------------|
| | AUXILIARY | 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 | 338 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

BELL 150 AUXILIARY POWER PACK

- Power: 110 kW
- Flow: 195 L/min.

BELL 200 AUXILIARY POWER PACK

- Power: 129 kW
- Flow: 290 L/min.

BELL 250 AUXILIARY POWER PACK

- Power: 194 kW
- Flow: 475 L/min.

BELL® WATER JET PUMPS

BELL 100-200 WATER JET PUMP

- 120 m³/h
- 6-16 bar

BELL 250-300 WATER JET PUMP

- 270 m³/h
- 6-16 bar

BELL 400 WATER JET PUMP

- 480 m³/h
- 6-16 bar

- Diesel or hydraulic driven
- Fast dry priming
- On open skid or in closed sound-attenuated canopy
- Available for all Bell sand production heads and flat barge heads



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 | 338 kW |
| 400 | 560 kW |



BELL® DREDGE COMPUTER + SOUNDER SYSTEM

BELL® DREDGE COMPUTER

TYPICAL APPLICATIONS

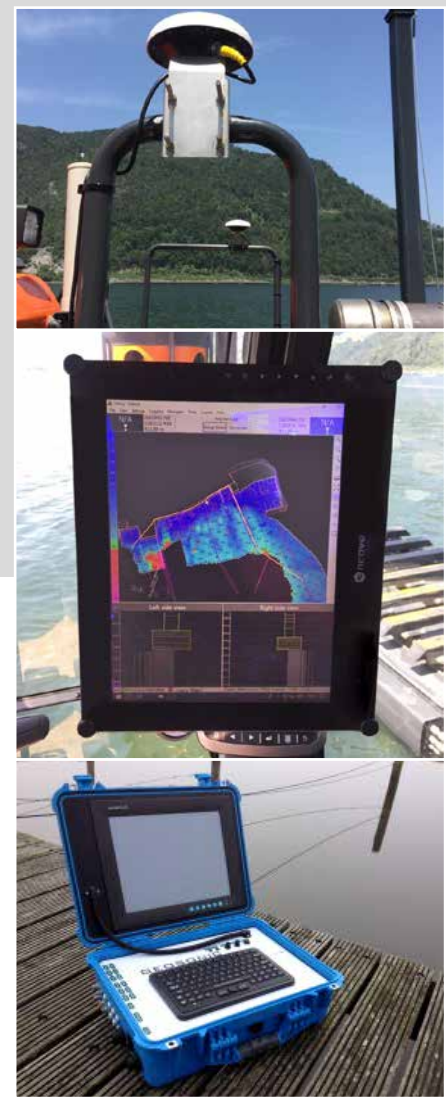
- Cutter suction dredgers
- Grab dredgers
- (Amphibious) Excavators

SPECIFICATIONS

- Industrial Intel Computer
- Internal (G)PS/GLONASS (RTK) receiver
- Industrial GSM/GPRS/UMTS Modem
- CAN Sensor Interface
- IP67 9-30 VDC Power Input
- IP67 USB & Serial Connections
- IP67 Ethernet Connection
- Optional Internal UHF Transceiver
- Optional Internal GNSS Compass
- Wide range of accessories and sensors
- Dimensions: 40 x 23 x 11 cm

HARDWARE

- Internal industrial Intel PC with windows 7 Pro, SSD
- Internal Trimble RTK GPS/GLONASS 50 Hz with Heading
- Internal GSM/GPRS/UMTS/LTE Modem + Marine antenna
- AG Neovo X15 LCD + LCD Arm
- Mini keyboard/Trackball combo



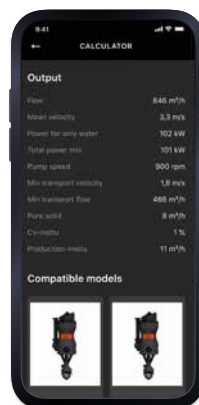
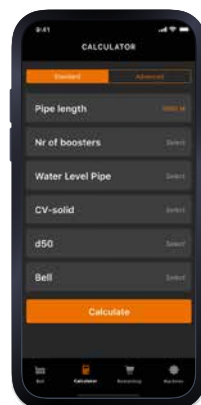
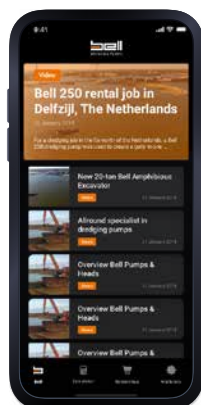
BELL® SOUNDER SYSTEM

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 Hemisphere 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 environment.



BELL® DREDGING PUMPS APP

Thanks to our newly developed application, 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

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 |

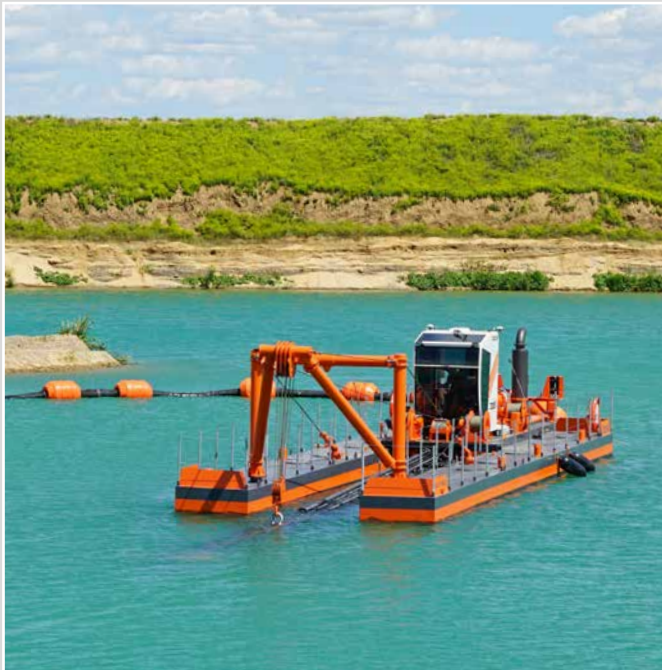
DREDGING PUMP SPECIFICATIONS

| | |
|----------------------|-----------|
| Dredging pump | BELL 250 |
| Max mixture capacity | 1250 m³/h |
| Pump speed | 900 rpm |
| Max power at shaft | 190 kW |





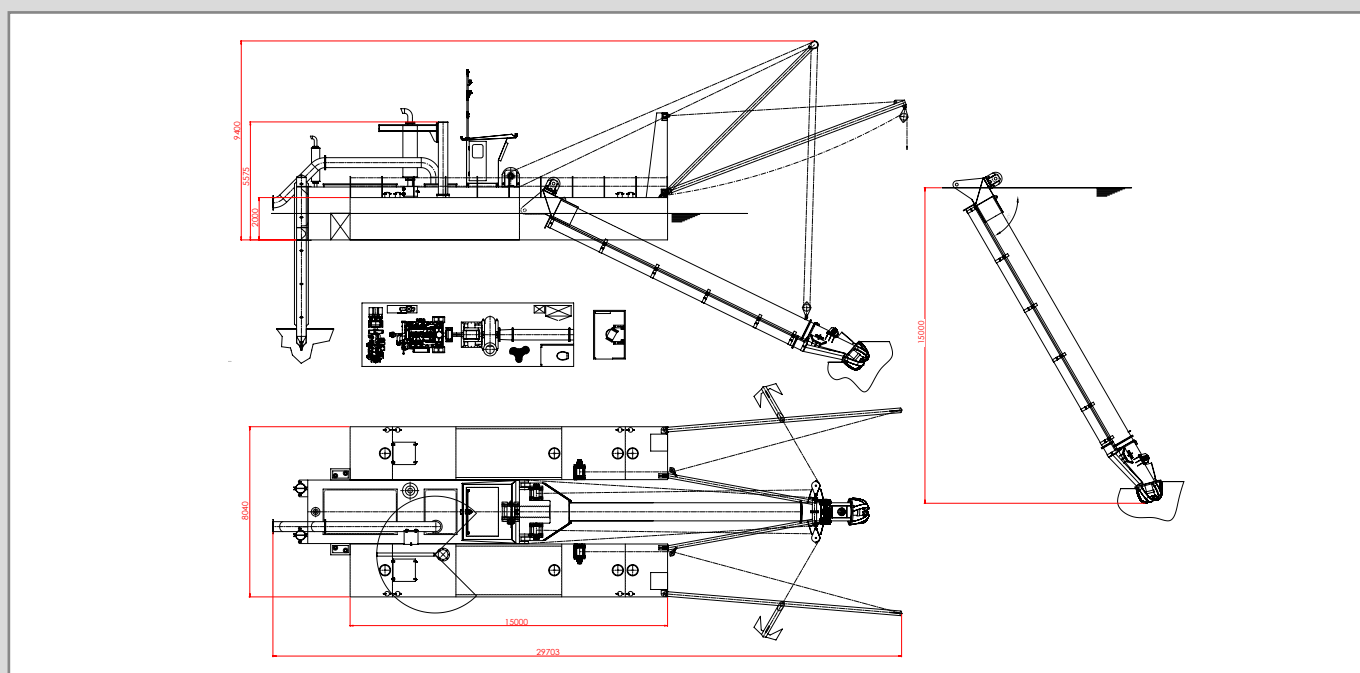
BELL CUTTER DREDGER 250-M (MULTIFUNCTIONAL)



BELL CUTTER DREDGER 250-M

- 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 300/400



BELL CUTTER DREDGER 300/400

- Dredge pump: BELL 400
- Dredge capacity (water & solids): 3150 m³/hr
- Dredge capacity in dry volume (max.): 630 m³/hr
- Stone size diameter (max.): 210 mm
- Installed power on the dredge pump: 500 kW
- Power source dredger: Diesel engine
- Positioning entities:
2x mooring winches & 2x spud poles



member of **DIESEKO GROUP**

MORE INFORMATION:
BELLDREDGING.COM

Bell Dredging Pumps B.V. | Winkelerzand 1a | 1731 LR Winkel, the Netherlands | Telephone: +31(0)224-855 340
www.BellDredging.com | info@BellDredging.com | VAT: NL8522.96.964 | COC: 56 77 52 45

Dealer: