OVERVIEW

CHARACTERISTICS

<table>
<thead>
<tr>
<th></th>
<th>BELL 150</th>
<th>BELL 200</th>
<th>BELL 250</th>
<th>BELL 300</th>
<th>BELL 350</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixture capacity max</td>
<td>500 m³/h</td>
<td>800 m³/h</td>
<td>1250 m³/h</td>
<td>1800 m³/h</td>
<td>2400 m³/h</td>
</tr>
<tr>
<td>Pump speed approx.</td>
<td>1200 rpm</td>
<td>1200 rpm</td>
<td>900 rpm</td>
<td>700 rpm</td>
<td>630 rpm</td>
</tr>
<tr>
<td>Max power at shaft</td>
<td>65 kW</td>
<td>110 kW</td>
<td>190 kW</td>
<td>250 kW</td>
<td>250 kW</td>
</tr>
<tr>
<td>Suction bore</td>
<td>150 mm</td>
<td>200 mm</td>
<td>250 mm</td>
<td>300 mm</td>
<td>350 mm</td>
</tr>
<tr>
<td>Discharge piping</td>
<td>180 mm</td>
<td>200 mm</td>
<td>250 mm</td>
<td>300 mm</td>
<td>350 mm</td>
</tr>
<tr>
<td>Spherical passage</td>
<td>75 mm</td>
<td>125 mm</td>
<td>130 mm</td>
<td>155 mm</td>
<td>200 mm</td>
</tr>
<tr>
<td>Weight (hydraulic)</td>
<td>1075 kg</td>
<td>1500 kg</td>
<td>2600 kg</td>
<td>4100 kg</td>
<td>4300 kg</td>
</tr>
<tr>
<td>Weight (electric)</td>
<td>1600 kg</td>
<td>2200 kg</td>
<td>3500 kg</td>
<td>5300 kg</td>
<td>5900 kg</td>
</tr>
<tr>
<td>Hydraulic Pressure</td>
<td>250 bar</td>
<td>250 bar</td>
<td>250 bar</td>
<td>250 bar</td>
<td>250 bar</td>
</tr>
<tr>
<td>Hydraulic Flow</td>
<td>180 Ltr.</td>
<td>270 Ltr.</td>
<td>425 Ltr.</td>
<td>680 Ltr.</td>
<td>690 Ltr.</td>
</tr>
<tr>
<td>Hydraulic Cutterflow</td>
<td>32 Ltr.</td>
<td>45 Ltr.</td>
<td>72 Ltr.</td>
<td>100 Ltr.</td>
<td>105 Ltr.</td>
</tr>
</tbody>
</table>
APPLICATIONS/ AREAS OF OPERATION

Typical applications

- Maintenance
- Sand / gravel mining
- Mobile booster station
- Mounted on ladder or crane
- Suspension from A-frame

Typical areas of operation:

- Harbours
- Rivers
- Canals
- Restricted areas
- Hopper barges
BASIC DESIGN

- Delivery from stock
- Heavy duty design
- Low maintenance
- Proven design
- Compact
- Multifunctional
- Low cost
- Large spherical passing
- Various suction heads available
- Changeable wearing parts
SPARES AND SERVICES

After sales department:

- Components with short delivery time
- Complete package of spare parts
- Registration of components
- Advice and support
- Dedicated team involved from order to shipment

Bell Field Service:

- Post delivery support
- Warrantee and after sales services
- Training courses (in house and on site)
- Technical check-ups
- Service in remote areas

• ADJUSTABLE WEAR PLATES NIHARD
• HARDENED IMPELLER NIHARD
**SAND PRODUCTION HEAD**

- Jet-water pipe and nozzles
- Suspension from crane or A-frame
- High production capacities
FLAT BARGE HEAD
- Jet-water pipe and ring around head
- Suspension from crane or A-frame
- Discharge barges

CUTTER UNIT
- Separate hydraulic powered cutter
- Fixed suspension on crane or ladder
- Designed for removal of packed sand
PRODUCTION INSTRUMENTATION
- Booster
- Jet pump

PROCESS INSTRUMENTATION
- Discharge pressure
- Pump speed
- Depth measurement

POWERPACK
- Diesel driven hydraulic powerpack
- Generator set

PIPES AND HOSES
- Discharge hoses including floats
- Discharge over land (Steel / HDPE)
- Self floating hoses
- Hydraulic hoses
- Jet-water hoses
- Geotubes
BA80H Diesel Driven
Applications for Bell Pump 150 and 200

BA-C100H1 Diesel Driven
Applications for Bell Pump 200 en 250

BA-C150H7 Diesel Driven
Applications for Bell Pump 250 en 300
BELLPusher 40

A push/workboat having a diesel driven hydraulic power pack of 40HP.

This power pack delivers power to the mud screw on the stern of the boat. This mud screw has a hydraulic tilt for shallow water. The mud screw has a hydraulic motor and can be steered by a steering wheel how is connected by chains and an axle. This simple heavy duty equipment is reliable and functional.

The boat shape is like a zodiac how is very stable on water and is separated by several water tight compartments how make this vessel unsinkable. Because of the steel hull it is possible to weld bollards hooks or winches on it. Outside the work boat is a rubber outskirt to avoid damages.

Diesel – hydraulic driven work boat with mud screw made from steel in a Zodiac shape for extra stability. The steer wheel is on starboard side, the power pack is at port side - stern and on the prow are 2 push bars and 1 winch.
COMPONENTS/PRINCIPLES

- Hydraulic Power Pack: 40,0 HP
- Diesel fuel tank: 30 Liter
- Steering system: Chain-axle-chain
- Water tight compartments: 5 Pcs
- Depth (without load): ± 350 mm
- Speed (max.): 4 Knots
- Steel sheet thickness: 5 mm
- Coating: for sea water purpose
- Bollards: 4 Pieces
- Winch (manual): 500 kg
- Outskirt boat: Rubber
- Deck profile: steel tear plate
- Dimensions (LxWxH): 4000x2000x1000 mm
- Weight: 1180 kg
AIR LIFT DREDGER

Floating bodies, compressor, sib screen, pump reservoir, conveyor belt, control cabin and generator are the main elements onboard of the ALD. Completed by railing, maintenance crane for hoisting heavy parts and other small equipment, gives big effort and efficiency.

Dimensions (LxWxH): 12.1 x 6.2 x 6.0 m.
Dredge depth (max.): 18 m.
Dredge depth (min.): 10 m.
Dredge capacity (depending on material and layers): 800 m³/hr
Air compressor power (Diesel): 150,0 kW
Air compressor flow: 11,1 m³/min @ 7 bar
Hydraulic Power Pack (HPP) power: 187 kW
Valves on HPP for units: 3x Winches or 2 spuds

This complete dredger fits in shippable sea freight containers for transport.

For sand production of high polluted areas we recommend the next dredge configuration. This way all material, sand and garbage will get transferred to the surface and separated into the water and sand pump reservoir or dirt container. From this sand and water reservoir this product will be flushed to shore by floating discharge pipe.

One of the advantages of this system is, that big, small, light weight and heavy particles will be flushed to the surface without pumps how get stuck. On the surface you can see what happens en act easily and quick, when needed. By selecting the garbage of dirt, you avoid the suck it up for a second or third time. By pumping the sand and water to shore, the most needed material will be transported over water to the next pick up point or classification installation. The garbage can be dumped in a vessel, big bag, etcetera.

Full proof, simple and less parts to move and select sand production.
BELL CUTTER DREDGERS

BELL CUTTER DREDGER 250
- Dredge pump: BELL 250
- Dredge capacity (water & solids): 1250 m³/hr
- Dredged solids in volume dry (max.): 135 m³/hr
- Stone size diameter (max.): 130 mm
- Installed power on the dredge pump: 190 kW
- Power source dredger: Diesel
- Positioning entities: 2x mooring winches & 2x spud poles

BELL CUTTER DREDGER 300
- Dredge pump: BELL 300
- Dredge capacity (water & solids): 1500 m³/hr
- Dredged solids in volume dry (max.): 135 m³/hr
- Stone size diameter (max.): 150 mm
- Installed power on the dredge pump: 350 kW
- Power source dredger: Diesel
- Positioning entities: 2x mooring winches & 2x spud poles
AMPHIBIOUS DREDGER 400

The Dredger Amphibious is part of Bell Dredging Pumps equipment. Main business is designing and manufacturing amphibious undercarriage for Hydraulic Excavator. We are also specialized in manufacturing dredging pumps and cuttersuction dredgers, etc.

Bell Dredging Pumps is a true specialist in delivering high level of workmanship in all our products and great after sales service & support to our customers. We have small and large amphibious excavator and therefore we have many projects around the world where we perform. As contractor and worldwide sales.

Dredger Amphibious is used for:

- Dredging projects
- Landscaping
- Erosion control and prevention
- Deepening of waterway and river delta
- Cleaning and Maintenance of rivers, lakes, shorelines etc.
This catamaran ship is built from a 40ft container (engine room) in the middle and has 2 floating bodies on both sides (Length 24 meter). On top of the engine room, is a steer cabin positioned. You can enter the steer cabin by stairs next to the engine room and the platform on top.

Inside the engine room the dredge pump ø 410 mm, belt transmission, diesel engine (for the dredge pump) and diesel engine (for hydraulics), the hydraulic system (for winches, cutter wheel and spuds), diesel generator 10kVA and gland pumps are installed. The dredge pump is mounted in the pontoon which positions the dredge pump 60% under the water line. This way the pump starts very easy because there is already water inside the pump.

The 2 floaters on both sides, every floater is hollow has 3 watertight sections and 2 ballast tanks. One of the sections contains a separate diesel tank to provide the diesel engines. On top of the floaters is a platform with a railing. The floaters are connected to each other by beams under the container, ladder portal, the winch frame and ladder hinge.

The steer cabin is mounted on top of the engine room and gives a clear view over the dredger. The instruments are mounted in a desk and are easy to connect with the engine room switch board. Optional on top of this cabin is a sun roof installed and optional is inside the cabin an AC.
## COMPONENTS/PRINCIPLES

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dredge capacity (mixture)</td>
<td>up to 2900 m³/hr</td>
</tr>
<tr>
<td>Dredge capacity of solid material</td>
<td>350 to 700 tons/hr</td>
</tr>
<tr>
<td>Cutter depth (max.)</td>
<td>12 meter</td>
</tr>
<tr>
<td>Dredge pump suction diameter</td>
<td>ø 410 mm</td>
</tr>
<tr>
<td>Dredge pump discharge diameter</td>
<td>ø 380 mm</td>
</tr>
<tr>
<td>Dredge pump impeller diameter</td>
<td>ø 918 mm</td>
</tr>
<tr>
<td>Dredge pump weight</td>
<td>± 5800 kg</td>
</tr>
<tr>
<td>Dredge pump max stone diameter</td>
<td>ø 300 mm</td>
</tr>
<tr>
<td>Discharge distance (max.)</td>
<td>1000 m¹</td>
</tr>
<tr>
<td>Total dredger length (ladder up)</td>
<td>27.0 meter</td>
</tr>
<tr>
<td>Total dredger width</td>
<td>7.0 meter</td>
</tr>
<tr>
<td>Hull dredger depth</td>
<td>1.80 meter</td>
</tr>
<tr>
<td>Draft (Hull under water)</td>
<td>1.45 meter</td>
</tr>
<tr>
<td>Dredge pump diesel engine max.</td>
<td>± 550 kW</td>
</tr>
<tr>
<td>Power take off Gearbox for hydraulics</td>
<td></td>
</tr>
<tr>
<td>Winch for position (mooring)</td>
<td>2 Pieces</td>
</tr>
<tr>
<td>Winch pull power</td>
<td>4.000 kg</td>
</tr>
<tr>
<td>Winch hold power</td>
<td>6.000 kg</td>
</tr>
<tr>
<td>Winch cable diameter</td>
<td>20 mm</td>
</tr>
<tr>
<td>Winch drum capacity</td>
<td>50 meter</td>
</tr>
<tr>
<td>Spud poles (Hydraulic)</td>
<td>2 Pieces</td>
</tr>
<tr>
<td>Spud length</td>
<td>15 meter</td>
</tr>
<tr>
<td>Spud diameter</td>
<td>500 mm</td>
</tr>
<tr>
<td>Spud stroke</td>
<td>winch mm</td>
</tr>
<tr>
<td>Spud move</td>
<td>up/down</td>
</tr>
<tr>
<td>Cutter head diameter</td>
<td>ø 1300 mm</td>
</tr>
<tr>
<td>Suction pipe diameter</td>
<td>ø 450 mm</td>
</tr>
<tr>
<td>Cutter head power</td>
<td>± 150 kW</td>
</tr>
<tr>
<td>Cutter head drive</td>
<td>Hydraulic</td>
</tr>
<tr>
<td>Cutter ladder length</td>
<td>±12.5 m</td>
</tr>
<tr>
<td>Cutterhead/auxengine</td>
<td>178 HP</td>
</tr>
<tr>
<td>Fuel tank</td>
<td>2x 5000 liter</td>
</tr>
<tr>
<td>Diesel electric generator</td>
<td>10 kVA (for lights, electric sockets, etc..)</td>
</tr>
<tr>
<td>Power belt for dredge pump</td>
<td></td>
</tr>
</tbody>
</table>