DREDGING PUMPS

2016

DREDGING PUMPS

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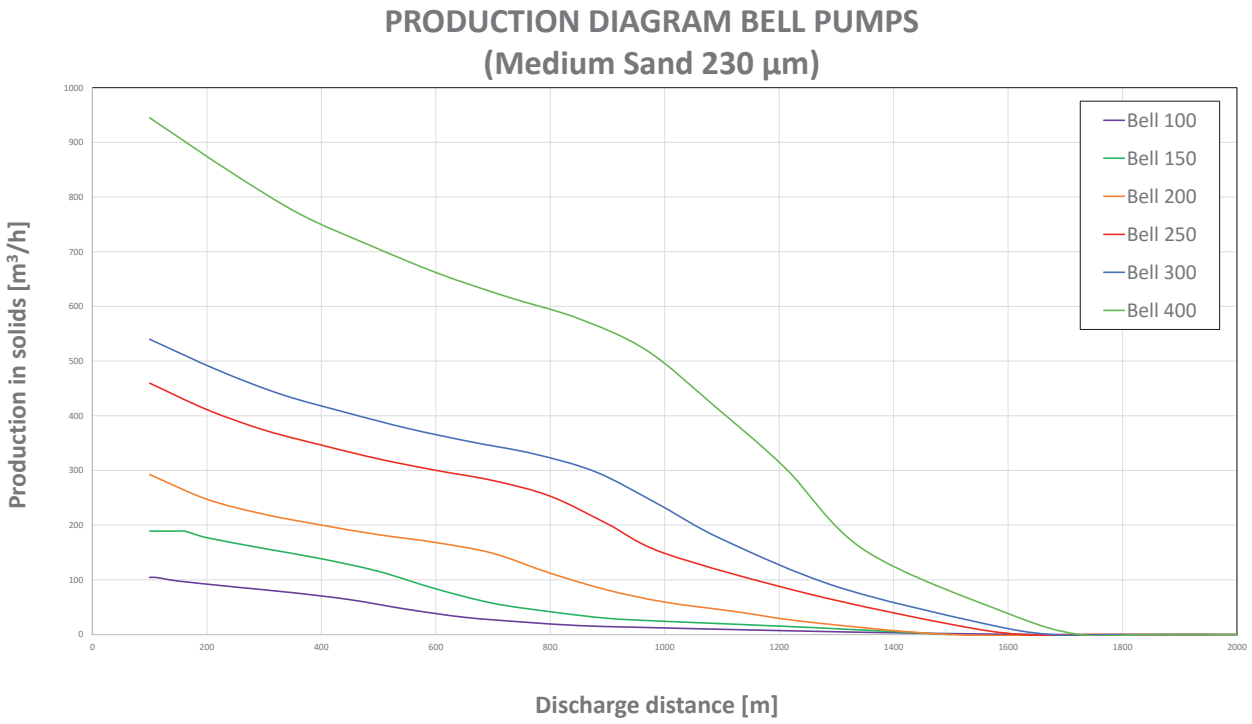
OVERVIEW

CHARACTERISTICS

	Bell 100	*Bell 150*	*Bell 200*	*Bell 250*	*Bell 300*	*Bell 400*
Mixture capacity max	300 m³/h	500 m³/h	800 m³/h	1250 m³/h	1800 m³/h	3150 m³/h
Pump speed approx.	1350 rpm	1200 rpm	1200 rpm	900 rpm	750 rpm	600 rpm
Max power at shaft	30 kW	65 kW	110 kW	190 kW	300 kW	500 kW
Suction bore	100 mm	150 mm	200 mm	250 mm	300 mm	400 mm
Discharge piping	100 mm	150 mm	200 mm	250 mm	300 mm	400 mm
Spherical passage	50 mm	75 mm	125 mm	130 mm	155 mm	210 mm
Weight (hydraulic)	850 kg	1075 kg	1500 kg	2600 kg	4100 kg	5000 kg
Weight (electric)	1300 kg	1600 kg	2200 kg	3500 kg	5300 kg	6400 kg
Hydraulic Pressure	250 bar	250 bar	250 bar	250 bar	250 bar	250 bar
Hydraulic Flow	90 L/min	180 L/min	270 L/min	425 L/min	680 L/min	1200 L/min
Hydraulic Cutterflow	35-50 L/min.	35-50 L/min	35-50 L/min	35-50 L/min	35-50 L/min	35-50 L/min

PRODUCTION



APPLICATIONS & AREAS OF OPERATION

Typical applications

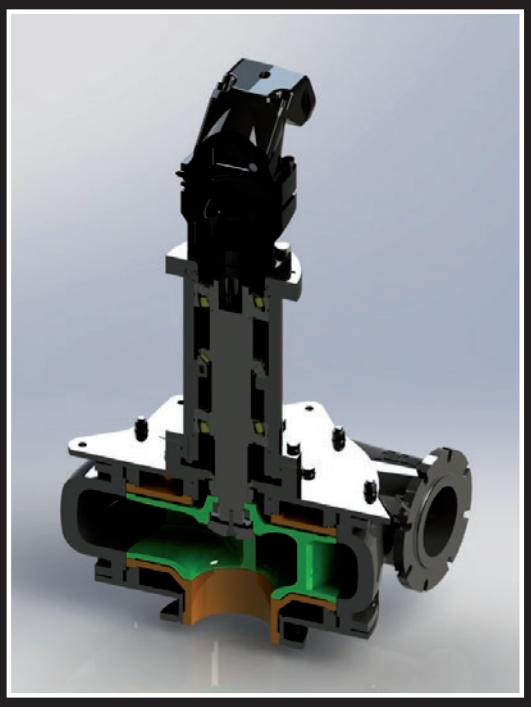
- Dredging
- Dredging maintenance
- Sand / gravel mining
- Mobile booster station
- Mounted on ladder or crane
- Suspension from A-frame

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



- ADJUSTABLE WEAR PLATES NIHARD
- HARDENED IMPELLER NIHARD

SPARES AND SERVICES

After sales department:

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

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

SAND PRODUCTION HEAD

FLAT BARGE HEAD

CUTTER HEAD

AUGER HEAD

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 HEAD

- Separate hydraulic powered cutter
- Fixed suspension on crane or ladder
- Designed for removal of packed sand

AUGER HEAD

- Dredging with less turbidity
- Used in polluted areas
- Less water is taken from the area
- Used for levelling soil under water

PRODUCTION INSTRUMENTATION

- Booster stations
- Jet pumps

PROCESS INSTRUMENTATION

- Discharge pressure
- Pump speed
- Depth measurement

POWERPACKS

- Diesel driven hydraulic power packs
- Generator sets

PIPES AND HOSES

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

BELL STAND-ALONE POWER PACKS AVAILABLE FOR ALL BELL DREDGING PUMPS

BELL 150 STAND-ALONE POWER PACK

- Power: 126 kW
- Flow pump 1: 180 L/min.
- Flow pump 2: 32 L/min.

BELL 200 STAND-ALONE POWER PACK

- Power 194 kW
- Flow pump 1: 270 L/min.
- Flow pump 2: 45 L/min.

BELL 250 STAND-ALONE POWER PACK

- Power: 253 kW
- Flow pump 1: 450 L/min.
- Flow pump 2: 80 L/min.

BELL 300 STAND-ALONE POWER PACK

- Power: 338 kW
- Flow pump 1: 700 L/min.
- Flow pump 2: 110 L/min.

BELL 150 AUXILIARY POWER PACK

- Power: 110 kW
- Flow pump 1: 180 L/min.
- Flow pump 2: 32 L/min.

BELL 200 AUXILIARY POWER PACK

- Power: 129 kW
- Flow pump 1: 252 L/min.
- Flow pump 2: 15 L/min.

BELL 250 AUXILIARY POWER PACK

- Power: 194 kW
- Flow pump 1: 425 L/min.
- Flow pump 2: 60 L/min.

BELL JET PUMPS

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

BELL® BOOSTER STATIONS 150, 200 & 250

Bell booster pumps can be used when pumping beyond the maximum discharge distance of the dredging pump is required. With multiple booster pumps in the discharge pipeline the material can be dredged miles away!

The Bell booster pump is placed in a frame with a built-in diesel tank at the bottom. In the upper part of the frame multiple ventilation grids are installed as well as doors for easy maintenance on the diesel engine. The pump itself is located outside of the canopy for easy coupling of the hoses.

BELL BOOSTER STATION 150

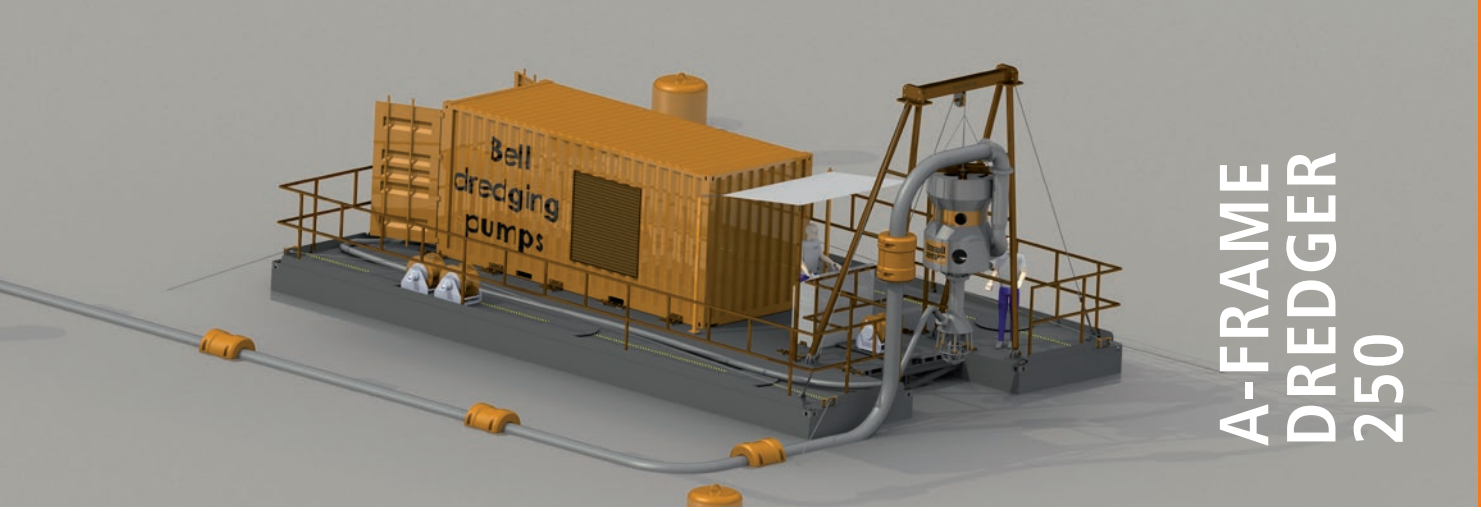
- **Power: 96 kW**
- **Equipped with BELL 150 Pump**

BELL BOOSTER STATION 200

- **Power: 143 kW**
- **Equipped with BELL 200 Pump**

BELL BOOSTER STATION 250

- **Power: 237 kW**
- **Equipped with BELL 250 Pump**



A-FRAME DREDGER 250

Main specifications

Length	12.192 mm
Width	7.376 mm
Height	6.090 mm
Design draught	607,2 mm
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
Suction bore	250 mm
Discharge piping	250 mm
Spherical passage	130 mm
Weight (hydraulic)	2600 kg
Hydraulic pressure	295 bar
Hydraulic flow	425 L/min
Max dredging depth	± 45 m

Deck equipment

Winches

4x mooring winch 25 kN, holding force is 37.5 kN

1x hoisting winch 45 kN, holding force is 105 kN

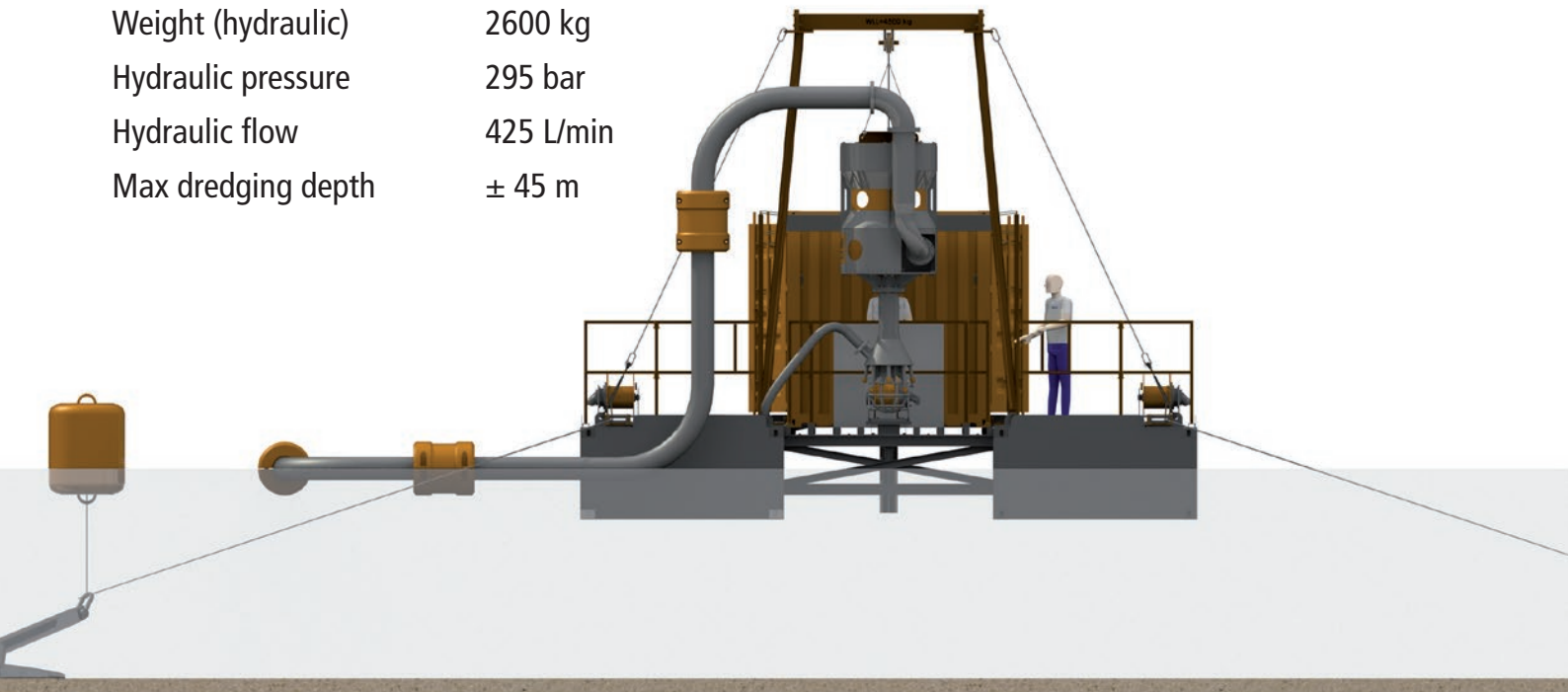
Electrical system

Battery voltage	12 V DC
Battery current	130 Ah
Amount of battery's	4
System voltage	24 V DC

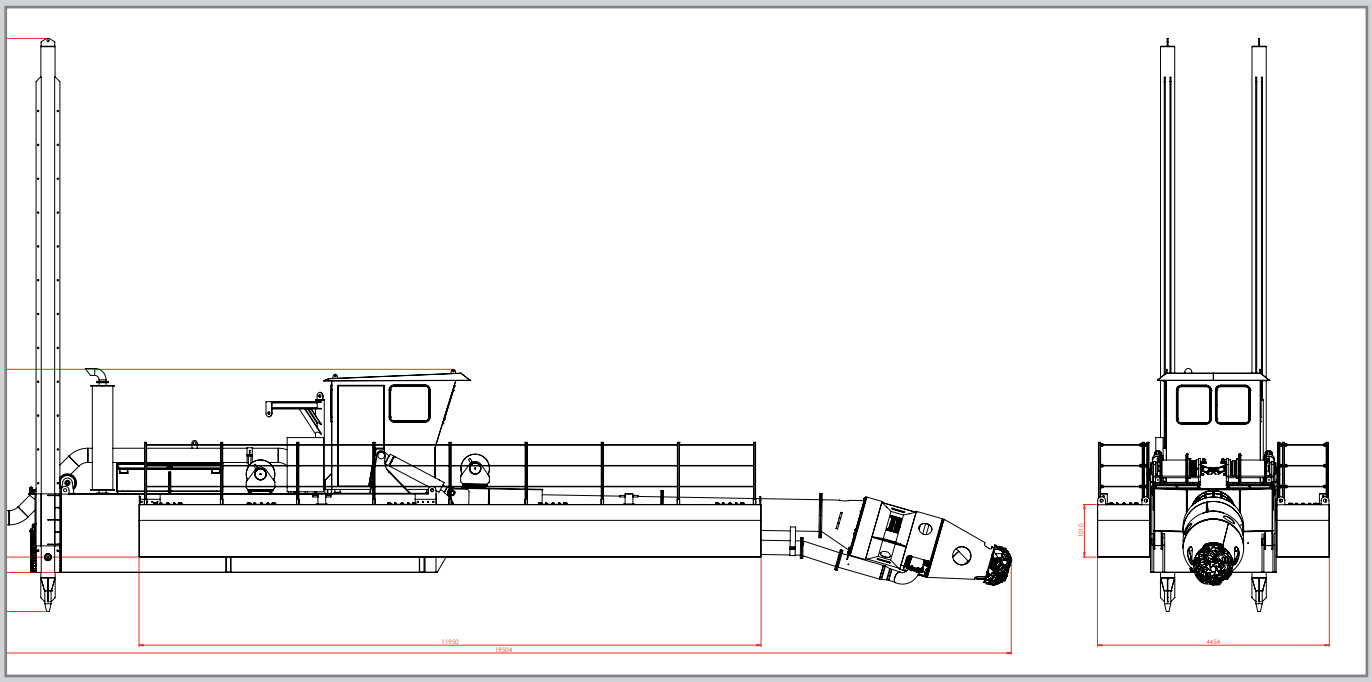
Main Drives

Diesel engines

Hydraulic power engine	373 kW @ 2100 rpm
Water jet engine	143 kW @ 1800 rpm



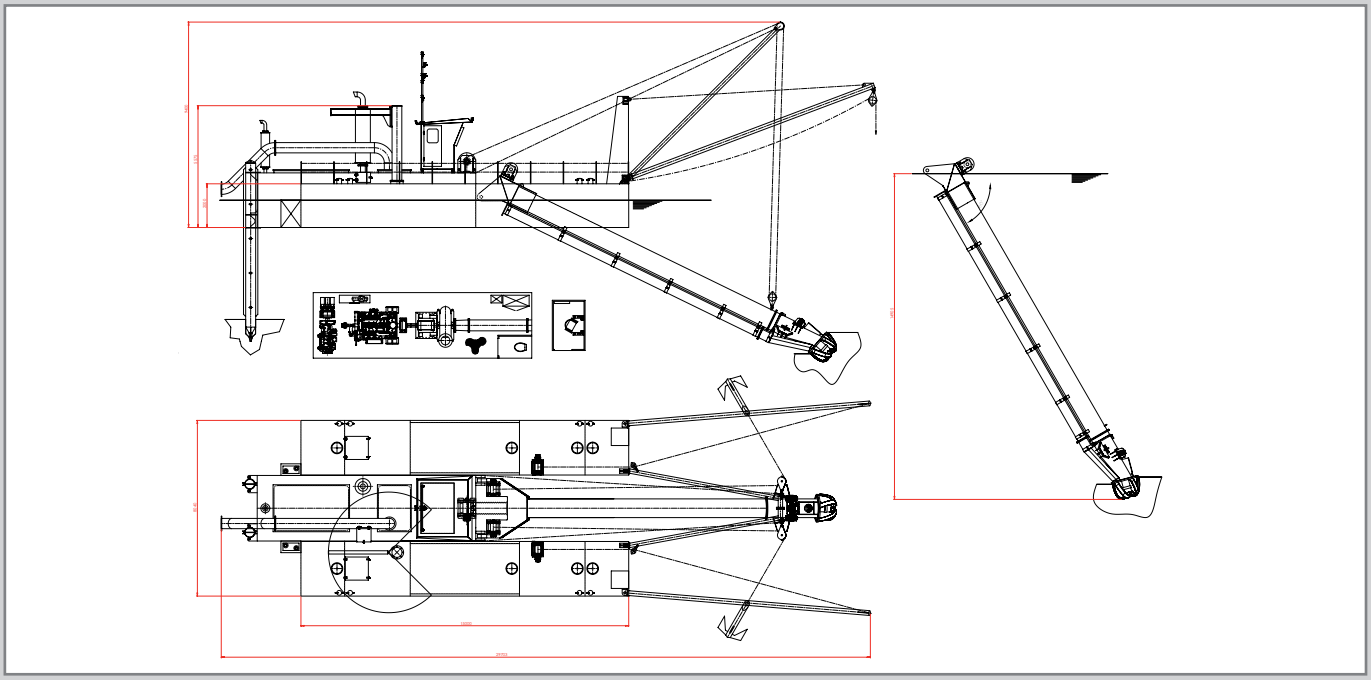
BELL CUTTER DREDGERS 250 & 300



BELL CUTTER DREDGER 250

- 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 DREDGERS 400 & 500



BELL CUTTER DREDGER 500

- Dredge pump: BELL 500
- Dredge capacity (water & solids): 3000 m³/hr
- Dredge capacity in dry volume (max.): 600 m³/hr
- Stone size diameter (max.): 220 mm
- Installed power on the dredge pump: 400 kW
- Power source dredger: Diesel engine
- Positioning entities: 2x mooring winches & 2x spud poles

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Dealer:

ISO 9001 VCA** VGM Checklist Aannemers