



Beaver[®] 65E cutter suction dredger

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The Beaver[®] 65E is a fully electrically powered version of the standard Beaver[®]. With zero emissions and limited noise disturbance, the Beaver[®] E fully complies with the latest environmental regulations and is therefore also suitable to work in the most sensitive environments.

In comparison to conventional diesel powered dredgers, the electrically powered dredger is more energy efficient. The dredger is ready to go instantly, because the electrical dredge pump drive delivers its full power immediately and doesn't require pre-heating. The electrical dredge pump drive also requires less maintenance.

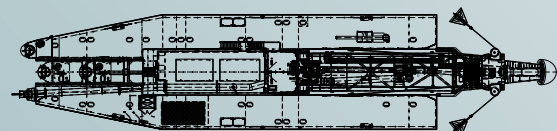
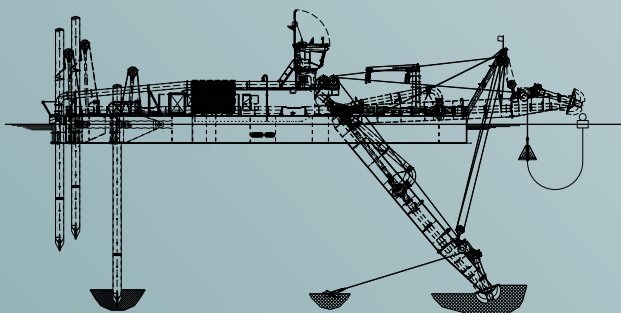
Sticking to the heart of the Beaver[®]: a highly efficient and straightforward dredger, technical changes have been kept to a minimum. The Beaver[®] E is suitable for all common dredging projects, such as land reclamation, maintenance dredging and aggregates dredging. All current standard Beavers[®] types are available in an electrical version.

The Beaver[®] 65E is reliable, efficient, has low maintenance costs and is extremely productive at all dredging depths. It has a robust construction and is equipped with state-of-the-art technology, including the following key features:

- low cost per cubic metre
- a directly driven submerged pump (DDSP) that makes it possible to dredge at high-mixture densities
- the Curve[®] impeller that combines high efficiency with excellent suction performance and low-energy consumption
- first class ergonomics and diagnostics
- wear-resistant parts for the dredge pump
- class certification (BV Coastal area)
- integrated spud carriage installation
- dismantlable for transport via road, rail or sea.

Uncover the potential

Whatever the challenge, at IHC Dredging we support you to find the optimal solution. Offering a wide range of dedicated vessels, equipment and services, we improve efficiency across your entire operation and work together towards a more sustainable performance.



Main parameters

Dredging depth	18.0m (larger depth optional)
Discharge diameter	650mm (larger diameters optional)
Total power	3,750kVA

Dimensions

Length overall (ladder raised), approx.	58.0m
Length over pontoons	43.50m
Breadth	12.44m
Depth	2.97m
Side pontoons	43.50 x 4.67 x 2.97m
Average draught (50% consumables)	1.9m (approx.)
Maximum design draught	2.02m
Maximum standard dredging depth	18.0m
Suction/discharge pipe diameter	650mm
Total installed power	3,053kW

Swing width with 35° swing each side

At maximum dredging depth	48.5m
At minimum dredging depth	59.5m

Dredge pump

Type	IHC HR/MD 121-26-60, with Curve® impeller inside
E-Motor power	1,800kW

Electrical installation

Power supply	3x 6/7.2/10/11/13/15 kVac
Power	3,750kVA
Voltage	690Vac / 400Vac / 230Vac / 24V DC
Battery capacity	220Ah

Cutter

Type	IHC 20-CB-ACR-2220-550
Power at shaft	700kW in order to absorb load peaks
Diameter	2,220mm
Maximum speed, approx.	30rpm

Ladder and swing winches

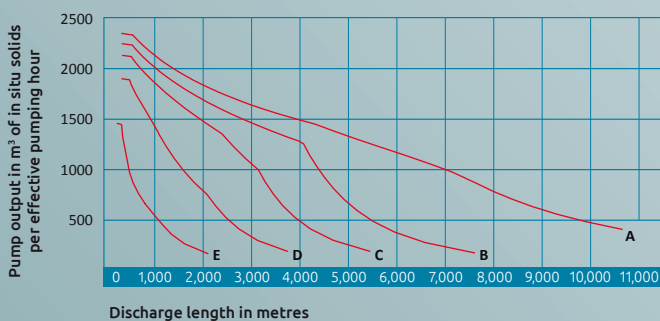
Line pull, first layer	240kN
Maximum line speed	23m/min
Wire diameter	36mm
Drum diameter	762mm
Swing wires length	150m
Anchor weight	1,500kg

Spuds

Length	23.4m
Diameter	900mm
Weight	15,500kg

Pump output

Discharge pipe diameter = 650mm, dredging depth = 18.0m
Maximum volumetric concentration of in situ solids of 30%
Final elevation at end of discharge pipe = 4.0m



Spud hoisting cylinders

Force	798kN
Spud stroke (each time), approx.	3.75m

Spud carriage travelling cylinder

Stroke of cylinder	4.50m
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Deck crane

Lifting power	50kN
Outreach	5.10m

Classification

Bureau Veritas Class I, ✘ Hull • MACH Dredger - no propulsion
Coastal area

Other features

- standard design, allowing for short delivery times and competitive pricing
- spare parts available from stock
- fresh-water cooling system
- dredge pump driven through pivoting gearbox
- cutter drive accepts temporary overload, resulting in high maximum cutter power
- reliable hydraulic system
- completely assembled and fully tested afloat before delivery
- ready for operation on arrival at site
- one-man operation
- on-board toilet and wash basin
- special tools are supplied for connecting and disconnecting pontoons and the cutter ladder, and for maintenance of the dredge pump
- wide range of services and auxiliary equipment available (including work boats, boosters and pipelines)
- air conditioning
- access to operations monitoring module (3 years with option to extend).

Optional extras

- anchor booms
- IHC Spud Guard®
- swivel bend
- discharge valve and vacuum-relief valve
- Lancelot® cutterhead (special multi-blade)
- production measurement, automation and positioning system
- increased discharge pipeline diameter
- increased dredging depth
- life-cycle support packages (incl. training, technical support etc.)
- accommodation
- optional packages: comfort, HSE (health, safety and environment), nautical and inventory plus.

Output calculated for:

Soil type	Decisive grain size	Situ density
A Fine sand	100µm	1,900kg/m³
B Medium sand	235µm	1,950kg/m³
C Coarse sand	440µm	2,000kg/m³
D Coarse sand and gravel	1.3mm	2,100kg/m³
E Gravel	7mm	2,200kg/m³

Note

Calculated output curves indicate pumping capacity, based on the maximum available power on the pump shaft. When used for estimation actual outputs, the nature of the material to be dredged and local job conditions must be considered. Please consult IHC Dredging for dredging conditions outside these curves.