



Rev A 110569931

Beaver[®] 45 cutter suction dredger

The Beaver[®] 45 is reliable, fuel efficient and has low maintenance costs. This robust and highly productive dredger is equipped with state-of-the-art technology, including the following key features:

- low cost per cubic metre
- an exceptional rate of pumping power
- first class ergonomics and diagnostics
- Cutter Special[®] pump that combines high efficiency and a large ball passage to provide a high level of availability
- class certification (BV Coastal area)
- low maintenance and efficient power distribution with a single diesel engine
- environmentally friendly solutions, such as LED lighting
- enhanced safety features.

Reliable and efficient

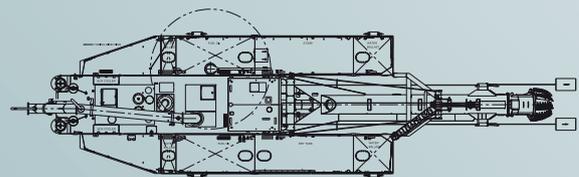
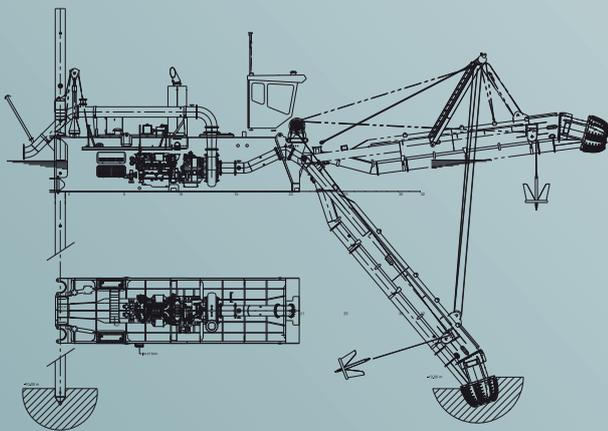
The Beaver[®] is well known for its robust construction, reliable operation and excellent performance. To date, Royal IHC has supplied more than 800 of these standard cutter suction dredgers worldwide.

Transportable and deliverable from stock

Beaver[®] dredgers can be dismantled for transport via road, rail or sea. A wide range of optional equipment is available, as well as complementary auxiliary equipment, such as work boats and discharge pipelines. These vessels are mostly delivered from stock.

Service and support

Royal IHC can provide a complete package of spare parts, maintenance support, equipment training programmes, dredging advisory services and dredge operators for hands-on instruction and commissioning.



Main parameters

Dredging depth	10.0m
Discharge diameter	450mm
Total power	895kW

Dimensions

Length overall (ladder raised), approx.	26.60m
Length over pontoons	16.96m
Breadth	6.99m
Depth	2.01m
Mean draught with full bunkers	1.40m
Maximum standard dredging depth	10.0m
Suction pipe diameter	450mm
Discharge pipe diameter	450mm
Total installed power	895kW

Swing width with 35° swing each side

At maximum dredging depth	23.5m
At minimum dredging depth	29.0m

Dredge pump

Type	IHC HRCS2 108-23-45, single-walled
Engine type	Caterpillar C32 TTA Acert
Heavy duty power	895kW @ 1,800rpm
Specific fuel consumption	205.9g/kWh
Ball passage	225mm

Electrical installation

Voltage	24V DC
Battery capacity	400Ah

Cutter

Type	IHC Multi purpose 1330-120-10CB
Power at shaft	110kW
Diameter	1,330mm
Maximum speed, approx.	34rpm

Ladder and Swing winches

Line pull, first layer	57kN
Maximum line speed	25m/min
Wire diameter	18mm
Drum diameter	390mm
Swing wires length	100m
Anchor weight	360kg

Spuds

Length	13.85m
Diameter	457mm
Weight	2,260kg

Spud hoisting cylinders

Force	100kN
Spud stroke (each time), approx.	3.5m

Deck crane

Lifting power	20kN
Outreach	2.80m

Other features

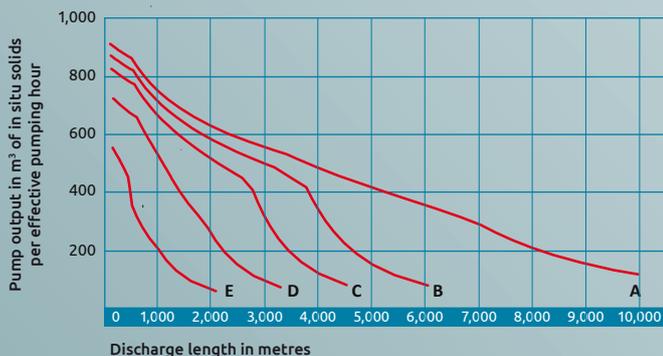
- standard design, allowing for short delivery times and competitive pricing
- spare parts available from stock
- durable heavy-duty marine engine compliant with IMO Tier II
- efficient fuel consumption
- fresh-water engine cooling system
- dredge pump driven through integrated bearing block, clutch and reduction gearbox
- white iron-wear parts for the dredge pump
- cutter drive accepts temporary overload, resulting in high maximum cutter power
- reliable hydraulic system
- completely assembled and fully tested afloat before delivery
- dismantlable and transportable by road, rail or sea
- ready for operation on arrival at site
- one-man operation
- wide range of services and auxiliary equipment available (including work boats, boosters and pipelines)
- access to operations monitoring module (3 years with option to extend).

Optional extras

- beaverkit
- spud-carriage installation
- anchor booms
- increased dredging depth
- swivel bend
- discharge valve and vacuum-relief valve
- life-cycle support packages (incl. training, technical support etc.)
- production measurement, automation and positioning system
- optional packages: comfort, HSE (health, safety and environment), nautical and inventory plus
- air conditioning
- harbor generator set.

Pump output

Discharge pipe diameter = 450mm
Dredging depth = 10.0m
Maximum volumetric concentration of in situ solids of 25%
Final elevation at end of discharge pipe = 4.0m



Output calculated for:

Soil type	Decisive grain size	Situ density
A Fine sand	100µm	1,900kg/m ³
B Medium sand	235µm	1,950kg/m ³
C Coarse sand	440µm	2,000kg/m ³
D Coarse sand and gravel	1.3mm	2,100kg/m ³
E Gravel	7mm	2,200kg/m ³

Note

Calculated output curves only indicate pumping capacity, based on the maximum available power on the pump shaft and free-flowing material. In actual practice, properties may vary from free-flowing, easily excavated to compacted, hard-to-excavate material. When used for estimation actual outputs, the nature of the material to be dredged and local job conditions must be considered. Please consult Royal IHC for dredging conditions outside these curves.