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**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dredging depth</td>
<td>10.0m (larger depth optional)</td>
</tr>
<tr>
<td>Discharge diameter</td>
<td>450mm (larger diameters optional)</td>
</tr>
<tr>
<td>Total power</td>
<td>895kW</td>
</tr>
</tbody>
</table>
### 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 HRC2 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 Lancelot 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
- Dismountable 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
- Spud carriage installation
- Anchor booms
- Swivel bend
- Non-return valve and vacuum-relieve valve
- Production measurement, automation and positioning system
- Increased discharge pipeline diameter
- Increased dredging depth
- Life-cycle support packages (incl. training, technical support etc.)
- Optional packages: comfort (incl. air conditioning), HSE (health, safety and environment), nautical and inventory plus.

### Output calculated for:

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

**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.

---

**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