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

- low cost per cubic metre
- a diesel 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.

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: 18.0m (larger depth optional)
- Discharge diameter: 650mm (larger diameters optional)
- Total power: 2,819kW
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 2,819kW

Swing width with 35° swinging 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
Engine type Caterpillar 3516C SCAC
Continuous engine power 1,825kW @ 1,600rpm
Specific fuel consumption 206.9g/kWhr

 AUXILIARY power (cutter, winches and spuds)
Engine type C32 DITTA Acert
Prime power 994kW
Specific fuel consumption 207.2g/kWhr

Electrical installation
Voltage 24V DC
Battery capacity 800Ah
Voltage (50Hz) 230/400V AC
Power (50Hz) 26kW

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
Stoke of cylinder 4.50m

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
• durable heavy-duty marine engines compliant with IMO Tier II
• efficient fuel consumption
• fresh-water engine 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
• dismountable and transportable by road, rail or sea
• 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 and diesel engine
• 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:

<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 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 Royal IHC for dredging conditions outside these curves.