IHC is a technology provider for the tunnelling and shaftboring industry. IHC delivers components and integrated equipment for the construction of tunnels, shafts and other underground structures.

Our experience is built on a long track record in dredging, offshore and mining operations. IHC’s competences in the field of excavation and slurry handling technology, hydraulics, drives, instrumentation and automation systems are well suited to be applied in tunnelling. Our references show IHC’s capabilities to provide practical solutions in complex projects.

TUNNELLING AND SHAFTBORING EQUIPMENT
- tunnelboring machines (TBM) - e.g. for utilities, water related infrastructure, hydropower projects
- shaftboring machines for ventilation shafts and water inlets (blind shaft boring)
- vertical pipejacking systems for shafts and large diameter piles
- vertical drilling equipment for on- and offshore foundation piles
- slurry handling systems including dredge pumps
- non-radioactive density meters
- hydraulic cylinders.

HYPERBARIC EQUIPMENT
- man locks / material locks
- saturation living chamber habitats
- main transfer shuttles
- rescue shuttles.

IHC provides services over the life cycle of our products, with a 24/7 global support. Our systems are also available for rental operations with a full service package.
MICROTUNNELLING
Royal IHC provides microtunnelling systems ranging from 1,000 - 4,290mm in excavation diameter – both new and refurbished. Our systems are designed for all soil and rock types. They can also be used to replace old pipelines. A slurry system is used as the main transport method for excavated materials.

Our microtunnelling system consists of:
- tunnel boring machine
- jacking stations
- control container
- guidance system for precise tunnelling
- slurry handling systems.

INNOVATIVE ELECTRIC DRIVE
The cutterhead is driven by a highly efficient frequency controlled synchronous motor drive train. This compact configuration significantly reduces the weight and length of the machines.

- flexible motor torque and voltage control by regulated frequency converters
- intelligent power management optimises use of cable capabilities
- easy spare parts management due to modular design of drive system.

ADVANTAGES
- high efficiency compared to state-of-the-art cutter head drive trains
- decrease of machine weight and overall length
- minimising the use of hydraulic fluids
- no separate cabling for additional slurry booster pump needed
- overall positive benefit on environmental footprint due to lower energy consumption.

<table>
<thead>
<tr>
<th>Machine type</th>
<th>H0800</th>
<th>H1000</th>
<th>H1200</th>
<th>H1400</th>
<th>H1500</th>
<th>H1600</th>
<th>H1800</th>
<th>H2000</th>
<th>H2200</th>
<th>H2400</th>
<th>H2500</th>
<th>H2600</th>
<th>H2800</th>
<th>H3000</th>
<th>H3200</th>
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<tbody>
<tr>
<td>Power kW</td>
<td>60</td>
<td>80</td>
<td>100</td>
<td>150</td>
<td>200</td>
<td>200</td>
<td>250</td>
<td>300</td>
<td>360</td>
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<td>Speed rpm</td>
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<td>0 - 12.4</td>
<td>0 - 10.8</td>
<td>0 - 9.6</td>
<td>0 - 8.7</td>
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<td>0 - 7.1</td>
<td>0 - 6.3</td>
<td>0 - 5.6</td>
<td>0 - 4.9</td>
<td>0 - 4.5</td>
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<td>0 - 3.6</td>
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<tr>
<td>Torque kNm</td>
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<td>0 - 118</td>
<td>0 - 148</td>
<td>0 - 300</td>
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<td>0 - 425</td>
<td>0 - 620</td>
<td>0 - 720</td>
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<td>Break-out torque kNm</td>
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<td>Steering cylinder</td>
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<td>Force per cylinder kN</td>
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<td>Slurry feed / discharge line diameter tr</td>
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<tr>
<td>Main jacking station force tr</td>
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<tr>
<td>Drive length up to - and incl max. m</td>
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<td>Additional equipment such as intermediate jacking stations, slurry separation plant, bentonite lubrication system for jacking pipes, high pressure water pump with tank, bentonite mixing plant for slurry suspension, slurry pipes, power cable, data cable, water pipes, bentonite pipes, water hoses, pressurised air hoses, and hydraulic hoses are provided on request.</td>
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