

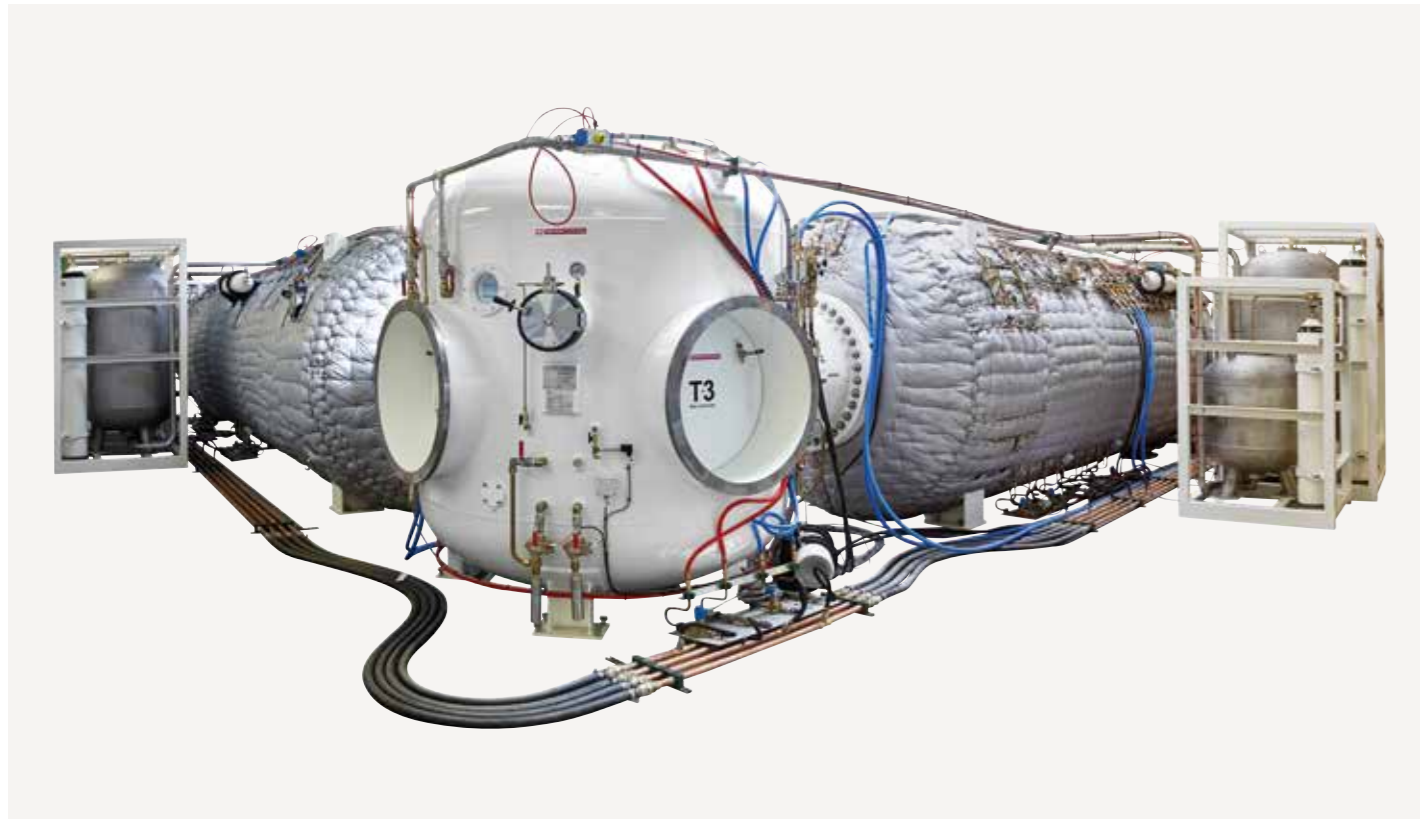
ROYAL IHC TUNNELLING COMPETENCES



Royal 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. IHC provides services over the life cycle of our products, with a 24/7 global support.

ROYALIHC.COM/TUNNELLING



REFERENCES

- Westerschelde Tunnel
- The Hague City Tram and Lightrail Tunnel
- Hallandsås Ridge Tunnel
- Lake Mead Tunnel
- Nanjing Weisan Road River Crossing Tunnel
- Port Mann Tunnel
- EurAsia Istanbul Strait Road Tube Crossing Tunnel
- Tuen Mun – Chek Lap Kok Link Tunnel
- Suez Canal Road Tunnels Ismailia
- IJmuiden Sea Lock
- North – South Line Metro Amsterdam
- Heat Transfer Pipeline Rotterdam



ROYAL IHC TUNNELLING



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HYPERBARIC TUNNELLING EQUIPMENT

IHC Hytech, part of IHC, has delivered over 35 hyperbaric systems for maintenance and intervention works on tunnel boring machines worldwide. We have designed and built a vast range of hyperbaric shuttle and chamber systems, setting a firm baseline for this industry. Testimony of this is our proprietary clamping system which can now be considered to be the industry standard connection flange system. Besides a range of standard products IHC Hytech is also able to deliver bespoke one-off designs with your choice of technical assistance and services.

PRODUCTS

- special decompression chambers (SDC)
- saturation living chamber habitats
- main transfer shuttles (MTS)
- control and machinery containers
- rescue shuttles
- vertical shaft entry locks
- air locks / material locks
- diving equipment and breathing hose systems
- breathing gas helium reclaim systems
- trunking and clamping systems
- gas management panels.



SERVICES

- technical assistance on site
- maintenance and service
- spare part management
- refurbishment of existing systems
- upgrading of existing systems.



MICRO TUNNELLING SYSTEMS



Courtesy Visser & Smit Hanab



IHC provides microtunnelling systems ranging from 500-3,000mm in diameter – both new and refurbished. Our systems are designed for all soil and rock types. They can also be used to replace old pipelines. 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. A slurry system is used as the main transport method for excavated materials.

Our microtunnelling system consists of

- tunnel boring machine
- jacking station
- control container
- guidance system for precise tunnelling.

Additional equipment such as power packs, intermediate jacking stations, and bentonite plants can be provided on request.

Our systems are also available for rental operations with a full service package.

SHAFT BORING EQUIPMENT

Royal IHC has developed a special vertical drilling system, HC Vertical Mole, which is suitable for operation in confined spaces and soft- and mixed ground conditions.

The IHC Vertical Mole was designed and built in close cooperation with one of our customers. The system can drill 2,000mm diameter piles down to 65m in depth, in an area with just over 3m headspace.



IHC's shaft boring systems can be customised for larger diameters and varying ground conditions.

- Our integrated shaft boring system consists of
- vertical mole
 - vertical guidance and jacking frame
 - special portal crane
 - automation and control.