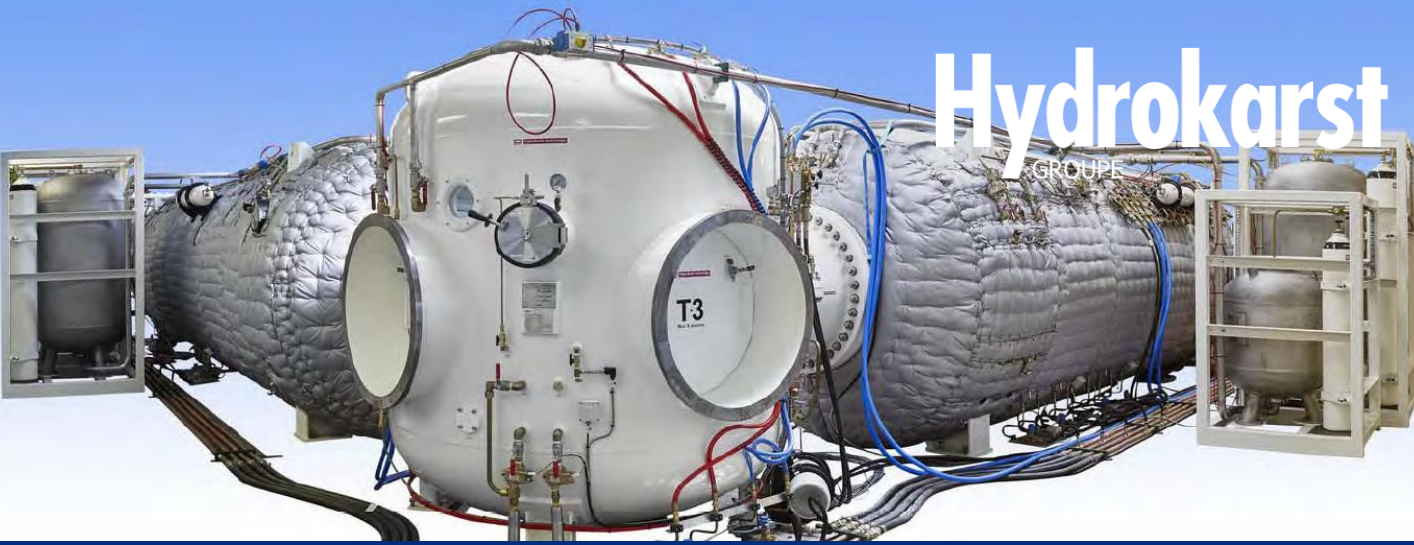


HYPERBARIC SATURATION SYSTEM FOR TBM

ASK FOR INFORMATION

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*Tunnel Boring Machine (TBM) interventions up to 20bars.
Inspection, cleaning, maintenance and replacement of disc cutters.*



HYPERBARIC SATURATION SYSTEM FOR TBM

UTILITY

Our saturation system is a special unit used for high pressure **interventions in tunnel up to 20bars**. Saturated workers can stay within unit **up to 28 consecutive days** thanks to living habitat chambers fully equipped, and the decompression only takes part at the end of the works. This saturation system can **be mobilized by road transportation and shipment**.

SPECIFICATIONS



Wet Pot Chamber (diam. 2000 x 2500) - rated 20 bars -

Wet Pot is fitted **with all equipment for 8 saturated workers** with communication, CCTV, fire extinguishers, sanitary, hyperbaric water Fire Fighting System (FiFi) and one food/medical lock. It owns 4 hatches to connect 4 chambers (generally 2 living chambers and 2 Shuttles).

Hyperbaric and decompression - Chamber A (diam. 2200 x 9000) - rated 20 bars -

This living chamber is fitted with all equipment for 8 saturated workers with communications, CCTV, fire extinguishers, hyperbaric water Fire Fighting System (FiFi) and bedding & catering area and one food/medical lock. It is connected to the Wet Pot.



Hyperbaric and decompression / Therapeutic chamber for emergency - Chamber B (diam. 2200 x 7000) - rated 20 bars -

This living chamber consists of 2 compartments (main chamber and entry lock). It is fitted with all equipment for 4 saturated workers with communications, CCTV, fire extinguishers, hyperbaric water Fire Fighting System (FiFi), sanitary and bedding & catering area and two food/medical locks. This chamber could be dedicated in case of emergency and equipped with a dedicated medical table as well as safety kit and equipment for personal transfer and personal care.

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Hyperbaric and decompression - Chamber C (diam. 2200 x 7000) - rated 20 bars -

This living chamber consists of 2 compartments (main chamber and entry lock). It is fitted all equipment for 4 saturated workers with communications, CCTV, fire extinguishers, hyperbaric water Fire Fighting System (FiFi), sanitary and bedding & catering area and two food/medical locks.

Shuttle

Our saturation system has one shuttle, which is compact and a self-contained transfer chamber used to transfer the saturated workers between living habitat and TBM's man lock.

The shuttle consists of 2 compartments (main chamber and entry lock). It is fitted with all equipment for 4 saturated workers with communications, CCTV & recorder DVR, fire extinguisher, hyperbaric water Fire Fighting System (FiFi) and one food/medical lock.

Outfitted with a back-up battery and on-board gas system (emergency supply), its autonomy is up to 24 hours. In parking position or during transfer, it is also possible to connect the shuttle to heating and cooling system, electric generator and gas supply cylinders (primary / secondary).

- Shuttle (diam. 1500) - rated 10 bars

This shuttle is equipped with mechanic clamp for connexions and transfer under pressure.





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SPECIFICATIONS

Saturation control panels

- Atmosphere analysis panels,
- Gas panels supplies (primary, secondary and emergency) for the living chambers,
- CCTV, communications and recording DVR,
- Touch Screen monitoring,
- Heating / cooling monitoring (t° & humidity),
- Hot / cold water monitoring,
- Electrical box switch.

Environmental control units

- Machinery containers A & B (principal and spare)

- Heating and cooling system,
- Hot / cold water machine for chambers.

- Machinery for shuttle

Shuttle can be connected to :

- Heating and cooling system,
- Electric generator.

Workshop and Spare parts storage

- Workshop for full set of tools,
- Spare parts storage.



REFERENCES

Tuen Mun Check Lap Kok Link - Northern connection Subsea Tunnel section (Hong-Kong).

- ✓ Maximal Pressure : **6.0 bars**
- ✓ Design code : **PVHO / ASME code VIII**
- ✓ Inspection : **Lloyds Register**