

Your solution provider

diaphragm walls with Hydromills



Diaphragm walls are rectangular-section concrete wall cast in situ, built in a deep trench excavation with a complete removal of ground.

DW are typically constructed in **reinforced concrete** to provide the required structural capacity.

DW may also be used as a **cutoff wall** to avoid the seepage of water.

● **Digs**
up to 120 m and even more

● **Suitable**
for all soils and rocks

● **Verticality**
error less than 0,2 %



Technology and fields of application

Foundation elements
Barrettes



Reinforced DW
Permanent foundation walls



Retention system
in open excavations and shafts



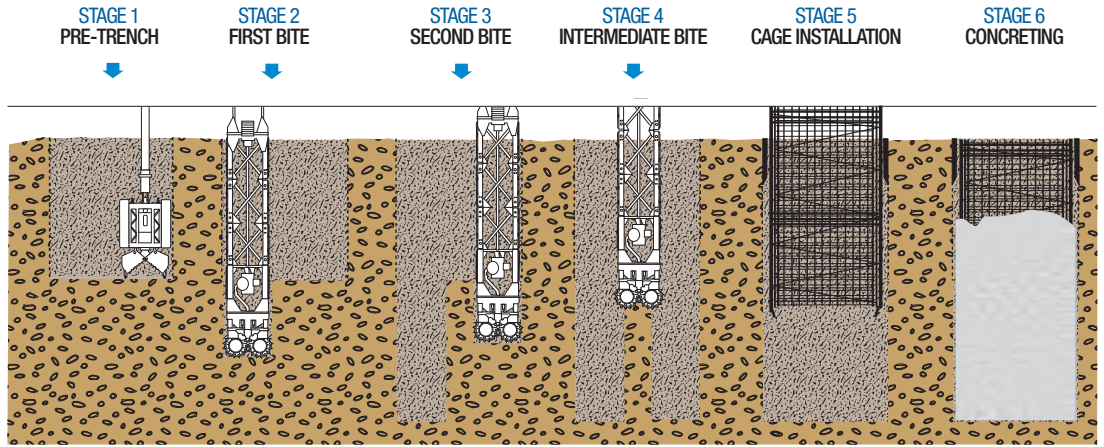
Underground waterproofing walls



DW are suitable for most subsoils and can be used in a wide range of applications: **deep basements**, car parks and **underground stations** or ventilation shaft, **dams sealing**, open cut and cut & cover rail tunnels, **cut-off walls** for **contaminated areas** etc..

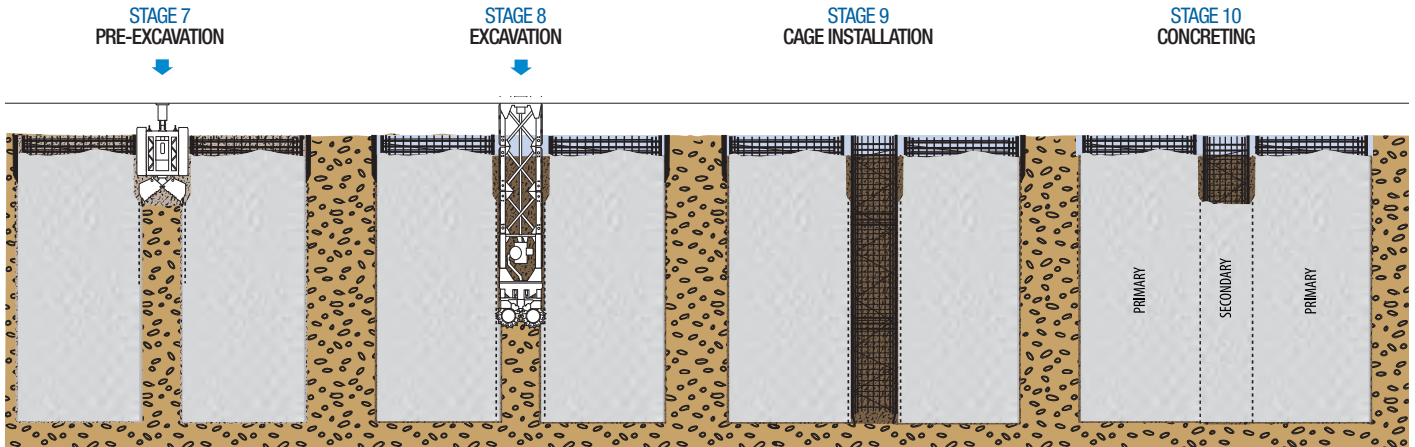


Primary panels



Hydromill operation sequence

Secondary panels



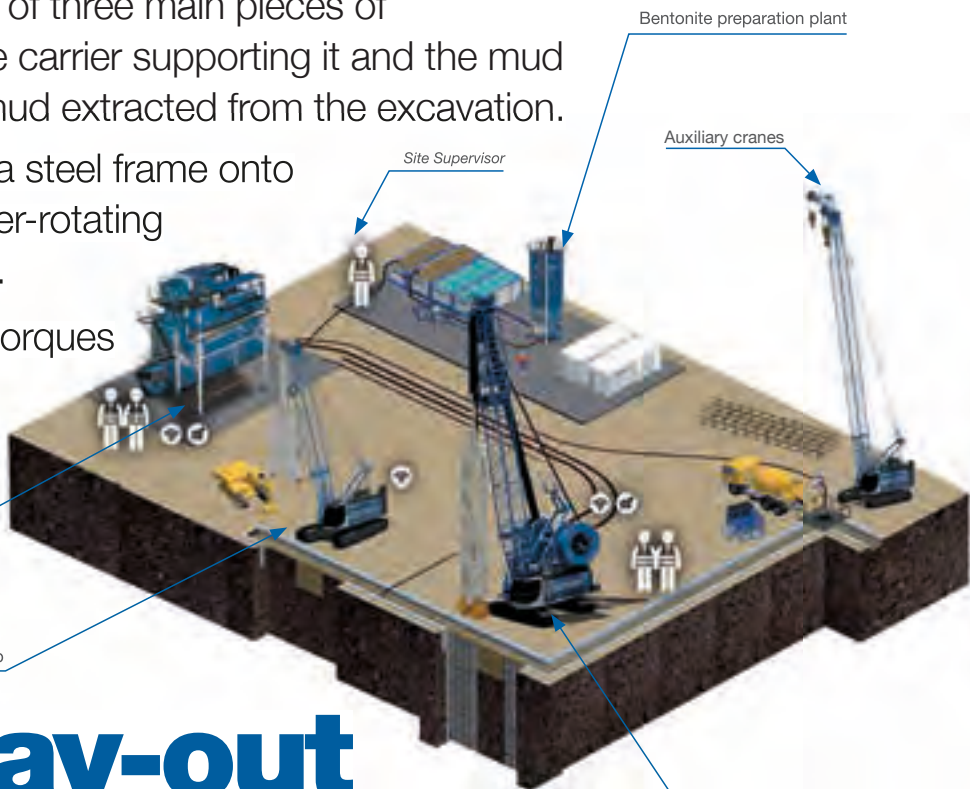
The hydromill system consists of three main pieces of equipment: the milling unit, the carrier supporting it and the mud processing plant to treat the mud extracted from the excavation.

The milling unit is made up of a steel frame onto which two independent counter-rotating cutting motors are assembled.

Cutting wheels with different torques and dimensions can be used to better suit the geometrical requirements.

Mud treatment system
Operator + Technician

Auxiliary cranes with Grab



Bentonite preparation plant

Auxiliary cranes

Site Supervisor

Crane with Hydromill
Operator + Technician

job site lay-out

performance



Hydromill performance



SC-130 Cougar

STD 52 m

EXT 70 m



SC-130 Tiger

STD 80 m

EXT 120 m



SC-135 Tiger Compact

STD 85 m

-



SC-135 Tiger

STD 120 m

-



563 kW

563 kW

708 kW

708 kW

Cutting module performance



SH-30

700 -1200 mm

90 -130 kNm



SH-35 new

650 -1500 mm

90 -130 kNm



SH-40

800 -1800 mm

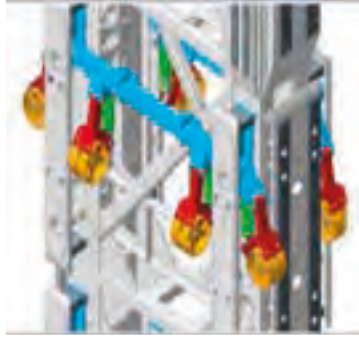
90 -130 kNm





2016
SM117- Hose-chain
with internal ring-chain.

The shape of the internal ring-chain allows the flexibility of the chains and prevents the rotation / misalignment of the spacers.



2017
SM120 - Trench-profiler
and I.M.U. for deep excavation.

The profile measuring apparatus when lowered into the trench, following the profile of the walls, is able to calculate the 3D shape of the excavation.



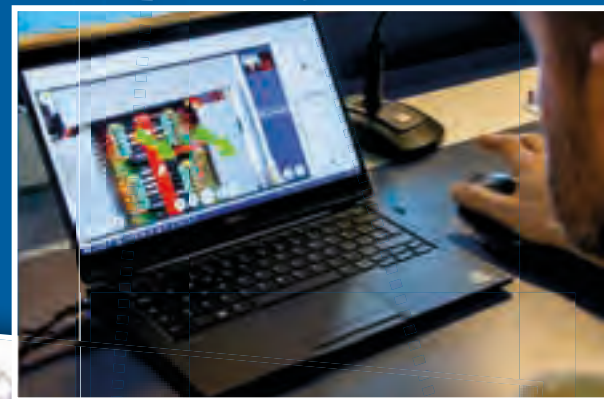
2011
Double winches
and one rope motion.

A single rope that winds/unwinds on two winches to obtain a much finer adjustment of the speed of the cutter and floating in the trench.

patent controls

DMS suite for hydromills

- Improved digging efficiency with controlled accuracy
- Drilling assistance systems for operator support
- Job planning and progress tracking in real time
- Reporting, data analytics and quality assessment
- Condition monitoring and maintenance management software
- Worldwide remote assistance



Hydromills in action



297 working days
Excavation time 70%

Istanbul Turkey
Galataport Project



2012 October
World Record -250 m

Gualdo Italy
Super Deep Cut-Off

Clay, marls,
sandstone and gypsum

DW dimension
1500 x 3200 mm



30 m of Gypsum followed
by clays with layers of
limestone

DW dimension
1500 x 2800 mm

DW depth
62 m



Production range
16/24 m³/h

Paris France
Grand Paris Express
(Chelles)





Granite UCS
 Average **100 MPa** (max160)
 4 cm/min

18 ÷ 20 m
 of sound Granite

DW
 40,000 m³

Guangzhou China
 Panyu Square Station
 Guangzhou Metro Line

Hydromills in **action**



1,7 million m²
 of cut-off wall

DW depth
 22 m

SHS
 Self Hardening Slurry

Florida United States
 Herbert Hoover Dike
 Rehabilitation Project



Silty Clay UCS
 Average
15 MPa (max30)
 12 cm/min

Port Said Egypt
 Port Said - Sea Port



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