

New Soilmec Hydromill for the world's most beautiful metro station

An iconic metro station in the heart of Rome is destined to become the world’s most beautiful “archaeo-station”.



Soilmec describes its SC-130 Tiger Hydromill as “a true technological jewel, a giant that combines technology and design to speed up work times and operate with greater precision and in smaller spaces, reducing noise and vibrations on the surface. The machine is imposing but also compact at the same time.”

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The new Piazza Venezia station on Rome’s metro line C has been commissioned by Roma Metropolitana and will be built by the consortium company **Metro C**, led by **Webuild** and **Vianini Lavori**.

Accessing the eight underground levels, the citizens and the millions of tourists passing through it will have the sensation of entering a real museum. At a depth of 45m, with perimeter walls retaining the excavation reaching 85m, the new Piazza Venezia station will be a museum among museums, just a few steps away from the Colosseum and the Imperial

This major work, a challenge that will bring into play the best Italian engineering skills, will be carried out in phases and will see the construction of perimeter diaphragms 85m deep from street level, guaranteeing excavation in “archaeological mode” through the so-called top-down method.

One of the great complexities when dealing with construction sites in an urban setting is the limited surface area available, even more so in a city like Rome. To allow the construction of the future Piazza Venezia Station of Metro C, “colossal” special foundations are needed, which require very large and powerful machinery to be built. The newest Hydromill from **Soilmec**, the engineering division of the Trevi Group, is the 24.5m high and 185t SC-130 Tiger was designed with a compact design that guarantees high performance while maintaining a small footprint that makes it the ideal choice for those who have to carry out deep excavations in the centres of large metropolises such as the Piazza Venezia Station.

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Andrea Di Eugenio, Soilme head of Global Product Management & Service, explained that: “This large innovative and sustainable machine, which is the tangible example of where engineering and construction science can go,” has been commissioned by Metro C to Soilme and will excavate the perimeter walls of the new museum station to the challenging depth of 85m.

“Hydromill machines are generally used for excavations with a depth that varies between 40 and 70m, in this case, it reaches up to 85m,

a record for Roman metro stations and a real engineering challenge, also considering the context in which it will have to operate,” Di Eugenio added.

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He described the SC-130 Tiger hydromill as “a true technological jewel, a giant that combines technology and design to speed up work times and operate with greater precision and in smaller spaces, reducing noise and vibrations on the surface. The machine is imposing but also compact at the same time.”

The SC-130 Tiger is equipped with an HDD system, a platform with hydraulic and mud winders positioned above the machine body. This system allows for reaching high excavation depths; for the SC-130 Tiger up to 120m.

Considerable attention was also paid to safety. The SC-130 Tiger is equipped with walkways with handrails and ladders for easy access to the various machine levels, an eight-camera system for perfect perimeter control around the machine, a spacious cab with a touch-screen monitor for the DMS system (Drilling Mate System, the software that, among other things, manages the verticality of the excavation) and radio controls for safe operations such as cutting tool changes and other operations.

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