

MICROTUNNELLING: GHT DECANter CENTRIFUGE IN MTBM EXCAVATION

Gennaretti® decanter centrifuge allows the separation of MTBM slurries and reduces disposal costs as well as clean water consumption.

I.CO.P. is carrying on microtunnelling works with MTBM for San Salvo - Biccari gas pipeline, which goes through three regions, Abruzzo - Molise - Apulia, and guarantees a connection between south and north Italy for 88 km. During the excavation works, I.CO.P. has chosen Gennaretti® technology in order to face some problems related to the presence of clay in the ground and to manage it.

I.CO.P. S.p.A.

Born in Basiliano, Italy, I.CO.P. have been working in construction industry for over 100 years. The company is specialised in microtunnelling, foundations and special ground works, such as: diaphragms, drilled piles, deep mixing, secant piles, micropiles, grouting injections, viaducts and tunnels. From 2007, I.CO.P. approached the world with its construction sites and today it operates in 25 countries.

GHT 403VF-75 decanter centrifuge



THE CHALLENGE

In Costa Francara Microtunnel construction site, in Larino, Campobasso, Italy, I.CO.P. has to face a double challenge: the first one is the ground incline, since the building site is in a depression zone with unstable ground, while the second one is subsoil geology. Gas pipeline excavation involves geological studies before the beginning of works and from preparatory studies, the geology appears to be complex, since there are clays in the subsoil.

This clay-rich material would affect density and viscosity, since their values would not be adequate and so, I.CO.P. has chosen Gennaretti® as the proper solution to separate it, considering that they also need a closed circuit of water.

S.P.A.C.I. 22, dry solid discharge



THE SOLUTION

After studying and analysing the material to treat, Gennaretti® has supplied a S.P.A.C.I. 22 plant, provided with GHT 403VF-75 decanter centrifuge, with all the electronic, hydraulic and mechanical components and an automatic polymeric station, as the right solution to I.CO.P. difficulties.

Why Gennaretti®?

One of the main advantage of Gennaretti® centrifugal systems is speed: it is supplied turnkey, so it is possible to activate it as soon as it arrives in building site, by connecting slurry, water and electromotive force. Moreover, it can treat high flow rates (from 1 to 180 m³/h) and it can reach high-speed rotations (from 500 to 2000 RPM). This allows a rapid process and guarantees the works keep going constantly.

Gennaretti® solution is ideal for clayish slurry treatment: it can separate clay's fine particles from 0 to 63 μ with the support of a proper cycle of organic-based additives' dosage.

Separating slurries involves also an economic advantage (lower costs of disposal), logistical advantage (no ponds) and environmental advantage (recycle of dry solid and raw materials, such as water).

GHT 403VF-75 decanter centrifuge



THE PROJECT DEVELOPMENT

The need to treat the fine particles of clayish slurries and to keep a closed circuit of water inside the construction site finds a matching and innovative response with Gennaretti® centrifugal systems.

The separation of the finest particles allows the company to dispose of a stackable dry solid and to have adequate density and viscosity for an optimal MTBM advance, during the excavation.

Furthermore, the generated water is so much clean that I.CO.P. can reuse it in excavation works and can avoid external procurement, by limiting clean water consumption. The immediate availability of water guarantees a continuous and constant progress of works.

WHAT THEY SAY ABOUT US

Thanks to the experience in I.CO.P. building site, we had the opportunity to collect an important proof about the plant. "The experience with Gennaretti is absolutely positive" says Ing. Marco Dusso, construction manager of Costa Francara Microtunnel, "from different points of view: for the system, really efficient and safe, for the people that work in this company, for the continuous assistance both in electronic and mechanical components, and for the process".

GHT decanter control panel

