

Special Foundations

Two machines, many construction sites

Over the last 12 months Enteco E6050s (also with the LM kit) and E9080s (including the DR version) have been operating in Italy and around the world

2017 was an important year for Enteco. Over the last 12 months, the Veneto-based company completed contracts on a national and international scale, leading it to gain further experience in design as well as realisation, obtaining significant responses in the field. Among the most interesting projects we would like to mention Soil Displacement (Enteco SP - Lateral displacement of the soil), with a diameter of 800 mm and a depth of 24 m, with E6050 SP240 for reconstruction work in earthquake-devastated areas of central Italy; Enteco Soil Mixing (SM) with a diameter of 2,000 mm and a maximum depth of 25 m with E6050 LM in Bangladesh; Soil Displacement (with a diameter of 360mm and a depth of 37 m) with E9080 in France; inclined piles with DTH technology (down-the-hole hammer), with a diameter of 1,500 mm, with E9090 DTHR180 in Finland; also DTH, but with a diameter of 1,000 mm, an E9100 DTH400 provided a considerable contribution to the construction of a major dam in Tajikistan; cased continuous flight auger drilling (Cased CFA), with a diameter of 800 mm and a depth of 15 m, with E9080 DR and the innovative conveyor belt to unload debris, in Italy. 2017 was also the year that the kit for HG diaphragm walls was developed (Enteco Hydraulic Grab) applied to the SP kit, for E6050 LM SP-HG in Australia. Please see the dedicated box for more detailed information. Many jobs also employed these two machines: Enteco E6050 and Enteco

The new SP-HG kit (Hydraulic Grab)

The SP-HG kit creates diaphragm walls with an E6050, or with any other Enteco drilling rig equipped with the SP kit (Soil Displacement Enteco), without purchasing a new machine exclusively for diaphragm walls. Indeed, the diaphragm wall bucket is assembled on the drilling rod of the SP kit instead of the standard tool. There are multiple advantages, including: a low initial investment; excellent digging verticality thanks to the Enteco-patented rods and joints comprised of a very rigid single piece rod; considerable penetration capacity also in very

hard soil, through the thrust sent by the SP rods to the bucket (pull-down winch); excellent productivity thanks to the high winch speed. Among the technical characteristics, we would like to recall the $\pm 45^\circ$ bucket rotation (there is also a kit to turn the bucket by 180° with every digging cycle); the 26 m digging depth with E6050 and 32 m with E6050 LM; the diaphragm wall dimensions from a minimum of 320x2,000 mm (or 2,500 mm) to a maximum of 1,200x2,000 mm (or 2,500 mm and 3,000 mm). The equipment is self-assembling, therefore no cranes are required.

E9080. E6050 is a multi-purpose drilling rig that can be set up with the innovative LM (Long Mast) kit to offer high performance while retaining a compact size, lightness and being easy to transport. With the LM kit, the machine's rotary stroke can vary between 14.5 m (E6050 standard) and 20.5 m (E6050 LM), thanks to the 6 m extension of the mast and the support of two hydraulic struts which, during transport activities, fold automatically without having to take down any parts. The LM kit, with the exclusive Enteco patent, offers the combined advantages of the pantograph system and the rear struts. The pantograph provides excellent

most movement for quick positioning on the drilling axis and facilitates lowering from the work to the transport position. The two rear hydraulic struts, connected directly to the machine base on the level of the counter-weight, provide the mast with rigidity, thereby supporting much greater extensions and strokes of the rotary head. Enteco E9080 DR, on the other hand, is a double rotary head model for cased continuous flight auger drilling. Indeed, this allows for continuous flight auger drilling with the case attached, thanks to the presence of the two rotary heads that work simultaneously, but in opposite directions. E9080 DR is equipped with a device that carries the debris on a conveyor belt and unloads it next to the drilling rig. This innovative system, with an Enteco patent, keeps the drilling area clean, reducing operating times and increasing safety on site. It also increases the quality of the top part of the concrete casting (on the head of the pile), as it prevents the concrete from being polluted with excavation debris.

