

Comacchio

News from the CH Line



There is an increased anticipation for new rigs from Comacchio that will be displayed at Geofluid 2021 and in particular for the novelties of the CH line that will be presented at Piacenza. One of them, the CH 320, was introduced into the global market at the end of 2020, but has never been displayed at an in-presence event so far due to the pandemic. The second one, the CH 150, is a new rig model that will make its debut during the fair

by Stefano Vitali

The CH 150 was created to meet the growing demand for compact piling machines, installed on excavator base carriers, covering a wide range of needs in foundation construction and beyond. The major advantage of this type of machines is the compact lightweight design, offering an unbeatable ease of transport and set-up, and the great versatility, based on the use of a wide choice of pile construction methodologies. In a market that increasingly requires the ability to operate in small and limited access spaces, on jobsites that cannot accommodate “conventional” piling machines, the CH 150 offers the

possibility to perform a wide range of tasks achieving performances that are in line with those offered by larger machines.

The concept

The concept is based on the use of an excavator base carrier (in the 8-10 tons weight class), equipped with a modular drilling mast and a multipurpose rotary head. To reduce size, the ballast of the excavator is kept within the footprint of the tracks. The undercarriage is expandable to facilitate transport and allow access to restricted areas.

With 2320 mm in width and 3075 mm in length, the CH 150 has an operating and transport weight of 15000 kg and is



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currently the smallest model in the CH series of Comacchio piling machines. The CH 150 can be used for the construction of cased and uncased bored piles with Kelly system, reaching up to 1000 mm pile diameter. Thanks to a simple conversion kit, the machine can be transformed to execute CFA piles. However, the field of use of the CH 150 includes innovative applications that go beyond foundation and ground improvement projects, such as water well construction, thus opening new development scenarios for this product line.

The mast of the CH 150 is equipped with a cylinder crowd system offering 60 kN pull down/up force. The machine accommodates a main winch providing 65 kN line pull and an auxiliary winch with 27 kN line pull. The mast is mounted on a boom on the side of the cab, designed following the concept used for large excavators to give the machine greater strength and higher rigidity. The long reach of the boom, combined with the mast rotation capabilities, ensure that the CH 150 can reach a wide variety of positions, covering a large work area and reaching over obstacles. The stability of the machine even with maximum boom reach (3600 mm), is guaranteed by the possibility to extend the undercarriage to reach 2920 mm in width. This allows to safely operate the CH 150 even on construction sites that have difficult uneven terrain. The CH 150 can be also supplied in "low headroom" configuration, designed to be used inside buildings and in low overhead clearance situations.

The modular length of the mast allows the use of kelly bars of up to 9 elements and 3.5 m in length, with a diameter of up to 419 mm and the possibility of installing different diameters on request, with minimal modifications on the machine. The rotary head equipping the machine has a compact and lightweight design and can transmit up to 43 kNm nominal torque. In kelly configuration, the CH 150 can be used for bored piles construction using dry excavation method and reaching a maximum depth of 27 m. In CFA configuration, the machine offers 170 kN extraction force and can be used to construct piles

up to 750 mm in diameter. Thanks to the use of a special extension, the maximum CFA pile depth can reach over 11 m. In addition to the construction of large diameter piles with kelly and CFA systems, the machine can be set up for micropiles installation.

The use of excavator base carriers

The CH 150 is equipped with the CCS software (Comacchio Control System), allowing for real-time monitoring of operating parameters and the production process via a convenient touch screen display



The concept of the new Comacchio CH 150 is based on the use of an excavator base carrier (in the 8-10 tons weight class) equipped with a modular drilling mast and a multipurpose rotary head

that have been optimized to operate in confined spaces guarantees great ease of use and manoeuvrability in any construction site. The highly ergonomic cabin design, featuring a fully adjustable workstation equipped with proportional electro-hydraulic servo-assisted controls, has been upgraded by Comacchio with state-of-the-art control systems based on the use of sensor technology. The use of these advanced electrohydraulic controls, supported by CAN-BUS technology, offers wide customization possibilities of the controls and the diagnostics, which significantly simplifies operations. The advanced in-cab controls integrated in the joysticks allow the operator to manage all tramming, set-up and drilling functions in an extremely simple and precise way. Like all machines of the CH series, the CH 150 is equipped with the CCS software (Comacchio Control System), allowing for real-time monitoring of operating parameters and the production process via a convenient touch screen display.

Comacchio has also brought the most modern technologies into the excavator's hydraulic system, optimizing it for this type of use in order to ensure maximum productivity with greater energy efficiency. The electronic control of the diesel engine by the CCS system allows the hydraulic system to obtain the maximum available power at any time, thus maximizing productivity. The cooling of the hydraulic system has been enhanced to cope with the intensive use that is typical of a drilling machine, even in the most demanding environmental conditions.

ITALIAN ABSTRACT

NOVITÀ DALLA SERIE "CH" DI COMACCHIO

La nuova CH 150 è stata creata per soddisfare la crescente domanda di macchine di palificazione compatte, installate su supporti per escavatori, che coprono un'ampia gamma di esigenze nella costruzione di fondazioni (ma non solo). Il principale vantaggio di questa tipologia di macchine è il design compatto e leggero, che offre un'elevata facilità di trasporto e installazione, nonché la versatilità, basata sull'uso di un'ampia scelta di metodologie di costruzione dei pali. In un mercato che richiede sempre più la capacità di operare in spazi ristretti e ad accesso limitato, la CH 150 offre la possibilità di svolgere un'ampia gamma di interventi ottenendo prestazioni in linea con quelle offerte da macchine più grandi.