

THE CH 850 MULTIPURPOSE PILING RIG

Engineered to tackle the most demanding foundation projects

By Deb Draper

Comacchio, a drilling equipment manufacturer, has launched its latest and largest high-performance multipurpose unit in the CH line of piling machines – the CH 850.

Respected and well known throughout the drilling market worldwide, Comacchio was founded in 1986 in the northeastern part of Italy by three brothers who used their passion for mechanics and experience in the engineering sector to start their own business manufacturing mechanical parts and high-precision units. Determined to transform ideas into reality, within three

years they developed the first Comacchio drill rig, and by 1992, they had opened a factory in Castello di Godego, Italy, specializing in machines for the construction and mining industries.

Today, Comacchio is still a family-run company, led by Renzo (president), Pasqualino and Patrizio Comacchio (managing directors), along with several other family members actively involved in the design and manufacturing of more than 100 models of equipment for ground engineering, geotechnics, mining, water wells and geothermal.



The CH 850 incorporates the latest advancements in technology

PRODUCT SPOTLIGHT

Since 1986, Comacchio has focused on versatility, innovation and customized solutions such as the new CH 850, engineered to meet the demand for high-performance, versatile and efficient piling rigs in foundation construction.

High productivity

"The CH 850 is equipped with a powerful high-torque rotary head and advanced hydraulic systems to ensure superior drilling performance," said Emanuele Comacchio, sales and technical manager at Comacchio. "Advanced electronic controls integrated into the optimized hydraulic system go beyond traditional hydraulic systems – they ensure that power loss is reduced to a minimum, delivering precise pressure and flow exactly where and when it's needed. This means maximum efficiency of the hydraulic system, saving fuel and reducing emissions. The CH 850 is the first rig worldwide that features this type of hydraulic system, and we are planning to extend its use in our entire range of piling rigs."

"Also, the CH 850 features a Comacchio rotary head that offers a wide range of torques and speeds, thus adapting to various drilling tasks. It can be operated both in manual mode and in the so-called 'constant power' mode (this means that the rotary slows down automatically in terms of RPM when the torque required by the tool increases, while maintaining a constant flow rate), thus optimizing performance. Thanks to the performance

of the rotary head in terms of torque and speed range, the CH 850 is a multipurpose unit; it can easily switch between different piling methods, reducing downtime."

Lightweight

The CH 850 has an operating weight ranging from 89 to 92 tonnes depending on the configuration. The rig has extra-long crawlers, which means improved stability and reduced bearing pressure; however, the weight can be brought down to 51.5 tonnes in transport mode, thus making it easier to move the rig from one site to another.

"The main thing that contractors will notice is that the CH 850 is unique in terms of torque/weight ratio," said Emanuele. "There are other models on the market that can provide more torque but have a significantly heavier design. On the other hand, there are more lightweight machines, but they cannot offer the same torque performance. The rig is currently operating on a jobsite with other machines that are much heavier than the CH 850 and it's tackling the same job with less fuel consumption, less ground bearing pressure, less cost and fuss connected to the logistics, as it requires less time for assembly/disassembly on site."

Versatility

The CH 850 is a multipurpose unit, capable of multiple drilling methods, including Kelly piles, CFA piles, displacement piles and soil mixing treatments, minimizing the need for multiple machines.

Key Technical Specifications of the CH 850

- Machine weight: 90 tonnes
- Engine Options: Volvo diesel engine (345 kilowatts (kW) or 405 kW – two power ratings available)
- Rotary torque: Maximum 360 kilonewton metres
- Rotary Speed: Up to 60 revolutions per minute
- Drilling Depth:
 - Kelly piles: Up to 90 metres (with mast extension)
 - CFA piles: Up to 28 metres (with 8-metres auger extension)
- Drilling Diameter:
 - Kelly piles: Up to 3,000 millimetres
 - CFA piles: Up to 1,200 millimetres



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PRODUCT SPOTLIGHT

Ease of transport and setup

The modular counterweight system and variable gauge tracks allow for easy disassembly and transport. The CH 850 can be disassembled into modules up to a minimum transport weight of 51.5 tonnes and a transport width that does not exceed three metres, while the hydraulic system for counterweight lifting ensures safer and faster rigging and de-rigging operations.

Environmental compliance

"We are proud to say that the CH 850 incorporates the latest advancements in technology aimed at reducing the environmental impact of drilling operations," said Emanuele. "The Volvo diesel engine is [European] Stage V and U.S. EPA Tier 4F-compliant, resulting in reduced emissions and fuel consumption to guarantee a low environmental impact."

"Most of all, the innovative hydraulic system and the optimized cooling system that uses an extraction fan instead of air suction were designed with a view to increased fuel efficiency and reduced noise and carbon emissions. Also, we have invested a lot in the reduction of noise emissions coming from the engine and the rotary head, which translates into a safer and more comfortable working environment for everybody on site."

Operator safety and comfort

The soundproof, air-conditioned cabin of the CH 850 holds TOPS and FOPS-1 safety certification, and a protective grate on the front and top gives added safety.

"The controls in the cabin have been upgraded to offer maximum operator comfort," said Emanuele. "The 12-inch touchscreen is connected to AI-powered cameras, providing a better perimeter view of the machine."

Comacchio has also improved the hydraulic controls of the winches, ensuring they always deliver maximum productivity allowed by the load. The CH 850 is supplied with radio control that can be used not only for tracking during the loading/unloading phase, but also for machine setup and counterweight installation.

Maintenance and support

"If you open the bonnets of the CH 850 you'll be impressed by the uncomplicated layout of the components," said Emanuele. "We put a lot of effort into making all the hydraulic and electric components more accessible for maintenance purposes. Like all piling rigs in our CH range, the CH 850 operates thanks to the [Comacchio Control System (CCS)] that is based on CANBUS technology that offers advanced diagnostics for real-time monitoring and troubleshooting."

The CCS can be integrated with the ComNect system – a remote monitoring tool used by Comacchio's service technicians to run a machine diagnostic. Comacchio currently has three dealers in Canada, all fully equipped to offer excellent customer support, spare parts and training.



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– Emanuele Comacchio, Comacchio

The CH 850 in Canada

"The CH 850 will help Canadian contractors complete their projects faster, with fewer costs, less environmental impact and increased benefits from enhanced transportability," said Emanuele. "Its multi-purpose nature makes it ideal for the diverse drilling tasks and geotechnical conditions in Canada."

The CH 850 will soon be available in Canada. 🇨🇦

PHOTOS: COMACCHIO