

CASING

SIP&T

To work safe and fast!



As a result of a constant innovation, the robust and universal Automatic Casing Driver Adapter designed and patented by SIP&T can be easily fitted to all drill-rigs and no further adjustments are necessary. It does not only ensure safe work, but leads to enormous timesaving when drilling cased boreholes

by Stefano Vitali

The Automatic Casing Drive Adaptor made by the SIP&T represents an interesting locking system for casings that can be used on all piling rigs and can increase the safety and productivity in the execution of cased piles, by avoiding any damages and loss of time caused by the manual locking phase. It is easy to use because its functioning is completely mechanic; the automatic driver will be locked to the casing column whenever the casings are going to be moved in/outside the borehole. In that way the imperative “safety first” is respected, and also damages on the casings are excluded avoiding downtime and saving repair costs. Its affordability, customization, immediate deployment, easy maintainability and emergency system, guarantee a very high return on investment.

Why use the Auto CDA

During cased drilling operations (using casings) it is often necessary that some workers on site operate in high positions. Before starting the drilling operation, the casing elements must be fixed into the ground; for this purpose, the elements are connected by threaded bolts in a safe manner, in order to create the whole column.

The same column must be bolted to the rig rotary head through a casing drive adaptor. When the drilling hole is completed, casings must be removed from the ground and then dismantled element after element. Generally, to connect the casing column to the driver, the locking pins are manually fixed, as result the worker is forced to use some stratagems such as a ladder, a wheel loader - used as a “work platform” - or a harness. These solutions, even widespread, are not safe. The ladder could slide or slip on the muddy ground (during drilling there are no neat and clean ground surface); the worker could fall down from the ladder (because of their dirty boots); from an unstable position on the ladder, the operator must carry out their work with great physical effort; even the wheel loader operator could do an unintentional wrong movement, so as to endanger the life of the worker; the harnesses could

fail and therefore cause the worker to fall down. The use of these devices are not only risky for the personnel safety but highly unproductive, since the whole workers team - and the piling rig operator - can't work until the casing column is completely connected to casing drive adaptor (in turn connected to the rotary head) or vice versa until the column is completely disassembled.

To overcome all these problems SIP&T decided to go to the origin of the problem and develop a device that would represent the definitive solution: the automatic casing drive adaptor (called Auto CDA).

What it is and how it works

The system has been designed and built internally and entirely by the company located in Baronissi. It is applied to the casing pipes that SIP&T itself manufactures and is compatible

with all the casings produced by other companies. It is an automatic casing connector system that can be used with any type of piling rig and its greatest advantage is the ability to increase both safety and productivity in foundation works, eliminating both the related dangers and the huge amount of time necessary for the jointing of the casing pipes that until now was often performed manually. The casings are made of high quality steel and are proposed for the construction of foundation works in soils that require the covering of the hole, intended to be drilled, which otherwise could collapse. The Auto CDA performs by a mechanical locking/unlocking system of the two male/female joints generally positioned at the extreme of two casing pipes, which must be coupled or used, as said earlier, on any model of drilling machine, also of large torque.



➤ The Auto CDA D.880 mm in top down position attached to a rotary with 240 kNm max torque



► The operator is able to dis/connect the casing column to the Auto CDA without any other personnel help, so they can directly manage the work from the piling rig cabin

The system is directly controllable from the rig cabin and all the manual operations carried out so far by the site personnel can become a distant memory, with undisputed advantages both for the safety and for the casing arrangements and the piling rig itself.

A Must-Have

The connection system described represents an innovation in the cased piling construction. It is widely used in job sites all over the world, its feedback is extremely positive and we can state that nowadays it is recognized as a must-have tool. The application can make a significant contribution to improving safety in special deep foundations and, above all, in drilled piles. This particular locking system increases productivity as the various elements of the casing column can be assembled and disassembled faster than mechanic standard operations. Furthermore, in presence of very long casings sections, the automatic driver is the main faster solution (the connection of long elements is not possible with the use of a simple ladder, a wheel loader or a harness). Lastly, the cost savings are evident, the personnel that can be used elsewhere on the site. The remote and management control is a great example of technical innovation that increases safety and productivity in special foundations. ■

ITALIAN ABSTRACT

LAVORARE IN RAPIDITÀ E SICUREZZA!

Come risultato di una costante innovazione, il robusto e universale trascinatore automatico per tubi rivestimenti progettato e brevettato da SIP&T può essere facilmente montato su tutte le perforatrici e non necessita di ulteriori regolazioni. Lo strumento non solo garantisce una condizione di lavoro sicura, ma garantisce un enorme risparmio di tempo durante la perforazione di pali rivestiti. È facile da usare perché il funzionamento è completamente meccanico; il trascinatore automatico verrà bloccato alla colonna rivestimento ogni volta che i tubi verranno collocati all'interno o all'esterno del palo trivellato. In tal modo viene rispettato l'imperativo "sicurezza prima di tutto". Inoltre, si escludono danni ai tubi evitando tempi di fermo e risparmiando sui costi di riparazione. La sua convenienza di prezzo, personalizzazione, uso agevole e intuitivo, facilità di manutenzione, unitamente a un sistema di emergenza, garantiscono un ritorno sull'investimento molto elevato.