

casagrande group

IN DEPTH *NEWS*

The news letter for customers, agents, staff and friends

March 2007

The C900 NG: casagrande's new flagship

With this model the upper range of the Casagrande is completed, now we can offer differentiated products to suit all needs, reliable equipment and user's friendly.

We have chosen the Bauma 2007 to present and launch our most recent development. There is no other show in the world where we can take the opportunity to display such equipment masterpiece. The C900 NG represents together with the new Hydromill FD 60 the state of the art technology developed in the Casagrande group. It incorporates new electronic controls, upgraded winches, new engine, new boom design and for the first time in Casagrande the application of our Hydromill to a mast.

The C900 is a truly multipurpose carrier allowing different types

of utilizations, it can be used as a 100 T lifting crane, as an hydraulic rotary, continuous flight auger, double head use, diaphragm wall unit either with grab or Hydromill. The long and well-built Hydromill now represents a perfect combination of reliability and performance. The FD60 together with the FD 90 are suited for different types of soils and depths. The contractor has a choice depending on such factors, to determinate wich hydromill he wishes to use. Casagrande today is able to apply the hydromills on to the C800 and C900 carriers.

NG
NEXT GENERATION

NEWS



Engine power: 440 kW
Winches: 2 x 32 T
Weight: 100 T

Suitable for:
· Hydromill · Bored Piles
· Diaphragm · Crane use

Main Features

COMPANY'S NEWS

Casagrande USA



We want to be close to the needs of the North American customers and in this respect we have decided to invest in proper facilities in New Jersey. Mike Stein-

hardt the managing director of Casagrande USA has long been in our business field and has proven to be a qualified technician as well as a businessman very well tuned in for the contractor's needs. He has always focused on customer service and care and his passion has been passed on to us, which we all support. Casagrande Italy will provide the USA branch with all the necessary means to be able to service the equipment, deliver spares and have qualified technicians for after sales. The team in New Jersey is perfectly trained and highly committed to service in order to give always the best service for the customers.

COMPANY'S NEWS

Hütte Bohrtechnik

The brand name is well established in highly developed and sophisticated markets. Specifically the German market has always been very demanding and as of today this brand is considered and brought into the highlights of very important clients. The Company based in Olpe in the centre of Germany at 130 km west of Frankfurt provides the necessary services for the clients such as spare parts, technical assistance and technical design. Furthermore the rigs are customized to the contractor's requirements and are further thoroughly tested before final delivery in our German factory. The branch also gives way to and leads to the lat-

est technology, applications and trends. Hütte can also supply drilling rods and accessories complementing the product offering. The brand Hütte also is beneficial to the whole Casagrande group in terms of technical know how and innovation.



Casagrande new FD90 Hydromill

Owned by Arabian Forasol Foundation LLC has been used in Dubai for the installation of the diaphragm wall on the Sheik Issa Bin Zayed Tower site under the growing shadow of the Burj Dubai tower.

The approximate 5.500 m² structural wall was installed in record time using the Hydromill to excavate, to desand and to create the joints between the primary and secondary panels. A desanding plant was kept



under the pressure of desanding and recycling at the maximum production rate capacity of 450 m³/hr the spoil and the slurry delivered from the excavated trench by the FD90 Hydromill powerful pumping unit. Production with picks rising up to 50 m²/hr was achieved while the average excavation rate was estimated to be around the 22 m²/hour. The actual excavation depth of the wall was only approximately 20 m and a higher than average time was lost in moving and setting-up the Hydromill on each panel position. Arabian Forasol Foundations's center of operations has been based in Dubai since 2004 and it has become one of the major specialist foundation contractors working in all the United Arab Emirates territories. Together with a large number of drill shaft projects underway, a new hydromill diaphragm wall project has already been set up for the FD90 Hydromill at the N1 tower located in Jumeirah lake towers site. Here the soil strata's are even



harder (mixes of cemented sand, sandstone & conglomerates), and the production is estimated to begin by February 2007. The geology of the Sheik Issa Bin Zayed Tower site consists of approximately 5 m to 6 m dense silty sand followed by harder strata of weak to moderately weak sandstone. The large amount of sand in the ground was well han-

dled during the desanding operation due to the use of proper bentonite products thus reducing the waste to a minimum.

As previously mentioned, the joints between panels were constructed using the Hydromill capacity to "grind" the concrete of the primary panels while excavating the secondary panels. The system eliminates the requirement of using stops-ends element and the need of inserting any water-stop between the panel joints. With a weight of approx 50 tons and two powerful motors each of 90 kNm torque, the FD90 has been designed to handle the excavation of deep structural and cut-off walls in cemented conglomerate and hard rock with compression strength of 1400 kg/cm² and above. For this reason, no delay was recorded to "grind" the portion of concrete of the primary panels while excavating the secondary, closing panels.

JOB SITE

B180 HD soil mixing

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Casagrande has provided a B180HD duly modified for a soil mixing contract in the province of Naples in southern Italy. The contract was for the Italian Railway to consolidate an embankment. The job requested the treatment of 21 m of soil in depth with a diameter of 1000 mm. The total number requested was 500 columns and the B180HD was able to perform 7 full treated columns a day.

Soil mixing is becoming increasingly popular and Casagrande has already designed and prepared different kits to increase the speeds of the rotary heads up to 60 rpm. Some tips on the soil mixing method: as a general rule the injection pressure is 6 bar max 10 bar at the nozzle and normally the nozzle is 20-24 mm in diameter. Volume: between 40% to 70% has to be pumped as a total of the theoretical volume. The water cement ratio should be 1/1 and 60% of the mix should be pumped during

the drilling phase and the remaining during extraction.

Treatment of a column 800 mm diameter for a depth of 10 m can be completed in approx. 25 min. The concrete plant should have a production of about 20 m³/h.

To obtain a proper mix the auger should rotate at about 50-55 rpm with a torque of approx 4.000 kNm and have a travel speed between 0.7 to 1 m/min.

The rotary head of the B180HD has



been modified as well as the system to control the lifting speed.

The unit can easily be converted back to ordinary Kelly bar mode or CFA application.

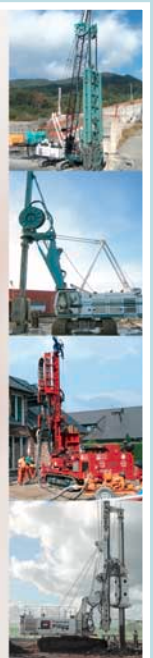
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Advertising

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