

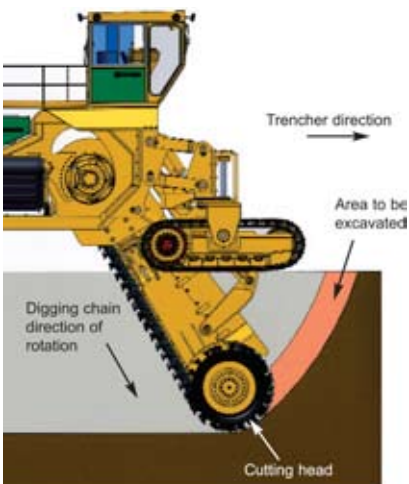


Compact

is “Cutting it”

» UK BASED COMPANY MASTENBROEK CHOSE HÄGGLUNDS COMPACT MOTORS FOR THEIR **NEW CONCEPT** IN TRENCHING MACHINES, THE HRT SERIES (HARD-ROCK TRENCHER) .

FACTS ABOUT



HOW THE NEW trenching machine concept works

MASTENBROEK HAS LAUNCHED a new concept in trenching machines designated the HRT (Hard-Rock Trencher) series recently promoted as the Hard Rock Revolution because of the unique way in which the machine operates with the trenching done at the front rather than trailing behind the machine. The geometry of this new arrangement means that the weight of machine is no longer so important in relation to the size of trench and therefore trenching will become more efficient with smaller more economical machines and less fuel consumed.

Häggglunds Compact motor type CA140 was chosen to replace the crankshaft type hydraulic motors to drive the trenchers cutter. The cutting head, which is designed within a dynamic boom arrangement, consists of the front drive sprocket of an endless chain, fitted with picks, sand-

wiched between two side cutters also having picks. The boom, once the initial cut is made, cuts from bottom to the top with spoil carried like a conveyor by the endless chain up through the centre of the machine and deposited at the side of the trench.

Improving basic cutting performance

During the original discussions with Mastenbroek, one of the main requirements identified was to have the ability to operate in extremes of climate both hot and cold. Häggglunds spent some time validating this in our large laboratory in Sweden. We also compared our results with tests on the competition which were the traditional crank case type motors often used in these applications on mobile equipment.



THE COMPACT MOTOR fits neatly into the machine design. They are also insensitive to the thermal shocks you can get when operating in extreme climates because there is no need of a pintle valve in the Compact design which has a very efficient flat plate distributor arrangement. With such a space saving design and with versatile mounting options they are very easy to apply and install.



THE HRT-25 Hard Rock Trencher first of a series of new breakthrough machines using Haggglunds Compact motors. The Compact motors are ideal for tough drive applications like these due to the design of the piston roller assemblies and the cam ring profile. The whole motor being insensitive to shock loads and vibration too.

We found that the Compact motors were very suitable for use in these applications, in extreme climates and also offered a number of other benefits. The size and weight of the Compact motors was far lower than the competition and this is always an important issue on mobile equipment. But even more satisfying was when the first machines

with Haggglunds Compact motors were trialled, we found that due to the very high overall efficiency of the Compact motor there was much less heat build up in the hydraulic system. Less heat build up means lower system operating temperature resulting in higher fluid viscosity and therefore improved performance and life to the entire system. The 98% torque efficiency of the Compact also improves the actual force available at the picks so improving basic cutting performance and bringing savings in fuel consumption of the machine.

Mastenbroek intend to develop larger versions of the HRT machines. The

HRT-25 will produce trench depths up to 2.5m and 0.65m wide. The next models will be HRT-45, HRT-55 & HRT-85 with digging depths to 5m and width up to 2m. ■



THE RATHER LARGE crankshaft type motor weighing 790 kg next to the replacement Haggglunds Compact motor weighing 232 kg, both with same displacement of 4.4 litre/rev but with a big difference in size and performance.