



The Keestrack K5e processing coal in Hazira, Gujarat, India at AM/NS India

IMAGE SOURCE: KEESTRACK N.V.

Sustainable screening of coal

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Keestrack K5e screening Coal in India

AM/NS India, in full ArcelorMittal Nippon Steel India, is a joint venture of ArcelorMittal and Nippon Steel, two of the world's leading steel manufacturers, with a crude steel capacity of 9 million tons per year. The **Keestrack** K5e screen, is one of many machines in the Material Handling department in Hazira, Gujarat, India. It extracts the 6-60 mm coke by screening 0-80 mm Coke which is used in the Corex plant.

Corex, is the unique smelting-reduction process which allows a cost-effective and environmentally friendly production of hot metal from iron ore and coal. *"The Keestrack K5e scalper is producing up to 50 tons an hour, which is 20 tons an hour more than its predecessor, a competitive brand"*, says Suraj Mehta section in charge of

the Material Handling.

The goal of AM/NS India is to create smarter and more sustainable steel for India and the world by placing safety, innovation and technology at the heart of the manufacturing operations and product development. “*The Keestrack K5e, which can be driven by electric-plug in or via its own diesel/gen set fits perfectly in this vision as it saves a lot of fuel cost and runs very efficiently. The plug in electric and hybrid drive system and the total cost of ownership of the Keestrack scalper were taken in consideration when deciding on the replacement of the previous equipment*” Suraj Mehta continues. “*Also the technical expertise and service and support of the Keestrack Dealer “CSB Solutions Pvt Ltd.” showed us clearly the advantages of the K5e like the ease to transport the K5e, the capacity and screening accuracy due to its long screen deck and, very important, the accessibility and ease of maintenance*”.



The start-up of the Keestrack K5e received a lot of attention.

IMAGE SOURCE: KEESTRACK N.V.

The K5 in detail

With a weight of around 30 to 33 tons, the K5 is available in hydraulic, e-version (full electric plug-in backed up with onboard diesel/gen set) and in ZERO drive, meaning there is no combustion engine on board but only electric motors and only functions when powered electric either by mains connection or external diesel alternator.

The K5 is in the "mid-range" of the Keestrack's scalper programme. An extensive choice of screen media for the 5000 x 1500 mm double-deck screen box (effective screen area 7.5 / 6.75 m²) and the adjustable screen angle, guarantee a wide range of applications: from highly efficient rock scalping to soil processing with a capacity up to 450 tph, from screening construction waste to the production of marketable end products in three fractions. Like all Keestrack equipment, the K5 series is optimized for transport: all conveyors and other components can be folded for low-bed transport (transport width 2,600 mm) – on site, the unit without support legs is quickly operational.

At the heart of the K5e is the onboard 105 kVA generator, which is connected to the diesel engine and directly supplies all electrical consumers (drum motors, ancillaries, lighting, etc.). All hydraulic components (plate apron feeder, screen drive, lifting cylinders and track drive) are powered by a central 45 kW unit consisting of electric motor and load-sensing hydraulics.

The diesel-electric drive concept reduces peak loads, which are typically encountered by diesel-hydraulic systems, and contributes largely to low fuel consumption in diesel operation (Ø: 7 – 9 l/h). This efficiency can be further increased by connecting downstream equipment via the external "plug-out" connection of the K5e – for example an electric driven stacker.

Connecting the Keestrack K5e to existing electric mains, a stand-alone generator or the sufficiently strong plug-out connection of an upstream crusher (connection values: 125 A, 400 V, 50 Hz) is very simple: once the plant has been roughly positioned, the on-board Diesel can be switched off. After attaching the 3-phase plug connection, the Keestrack control system handles the entire energy management. Even without starting the diesel engine, it is still possible to reposition the screener via the track drive or use the hydraulic driven systems.

Source: KEESTRACK N.V.