

# MODERN QUARRYING

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# Powerscreen World Dealer Conference – a resounding success

Powerscreen, one of the world's leading providers of mobile crushing, screening and washing equipment, recently hosted a World Dealer Conference at the Portland Quarry in Durbanville, Cape Town. *Dale Kelly* reports:

Over 300 dealers and customers travelled from across the world to attend the conference, which included a site visit and the opportunity to enjoy some of Cape Town's finest entertainment.

"Cape Town is one of the most exciting venues in the world and was an easy choice as our host city," says Damian Power, Powerscreen's Global Product Line director. "South Africa is a growing market and as the country's construction and roadbuilding segments continue to grow in conjunction with a thriving mining industry, it is a key strategic market for the complete Powerscreen product range. We have a long history in South Africa with ELB Equipment, who have consistently delivered an excellent record of customer service. The conference enabled us to strengthen the relationship with our dealer network from across the world, to gain significant insight into market trends and learn how we can better serve our loyal customer base in the year ahead," he adds.

The versatility of the Powerscreen product portfolio was highlighted at the end of the week, during the site visit at Portland Quarry, where ten machines in total were operational, with four different machine configurations on display.

## Plant 1

The first plant featured the large processing capacities of the XA750S jaw crusher with the Warrior 2400 screen. The XA750S is the largest jaw in the Powerscreen jaw crusher range and



*Powerscreen showcased the versatility of its product portfolio at Portland Quarry in Durbanville.*

is made user friendly by a multitude of features to increase crushing productivity, maximising uptime while keeping running costs as low as possible.

For the purposes of the demonstration, the jaw was fed with a blasted Cape shale rock. The chamber was set up with



*The first plant on demo featured the large processing capacities of the XA750S jaw crusher with the Warrior 2400 screen.*



a 150 mm close side setting, and the screen was blank mat fitted, with the crushed product passing onto the Warrior 2400. The 2400 was configured with a 150 mm punch plate on the top deck and a 75 mm mesh on the bottom deck, giving a 150 mm+ oversize product, a 75 mm to 150 mm mid-size

product and a 0-75 mm fines product. The throughput for the set-up was in the region of 600 t/hour.

The XA750S has been designed to meet the challenges of large quarries, mining, in-pit operations and construction and recycling sites. It can operate either as a stand-alone crusher or as a primary crusher feeding secondary and tertiary units.

The Warrior 2400 is a multi-purpose heavy-duty incline unit, capable of handling larger feed sizes and throughputs while still remaining convenient to move and transport. It features a heavy-duty incline screen with a high amplitude triple-shaft drive mechanism. It lends itself to screening, scalping, two or three-way separation and stockpiling of materials such as aggregate, topsoil, coal, construction, demolition waste and iron ore.

The screen will accept a wide variety of screen media, making it versatile and suited to many different applications. The Warrior 2400 has been designed to handle up to 800 t/hour capacity, depending on the application.

### Plant 2

The second plant consisted of an XA400S jaw crusher, 1300 Maxtrak cone, an H6203 horizontal screen, a 1000SR recirculating cone and a Chieftain 2100X 3-deck incline screen.

Fed with the blasted Cape shale rock, the XA400S was fitted with a 300 mm pre-screen mesh with the chamber set at 125 mm, allowing a sufficient feed to the 1300 Maxtrak. The chamber on the Maxtrak was set at 34 mm, supplying a crushed feed to the H6203.

The H6203 was configured with a 25 mm top deck, a 15 mm middle deck, with nothing on the bottom deck. This produces a 0-15 mm and a 15-25 mm product with a blended 25 mm+ oversize, which is passed onto the 1000SR Maxtrak. The 1000SR chamber was set at 19 mm, which allows the crushed material to be passed onto the post screen of the 1000SR. The post screen had 25 mm mesh fitted on the top deck allowing a crushed product to be passed onto the Chieftain 2100X 3 deck.

The Chieftain 2100X 3 deck has a 14 mm top deck, an 8,0 mm middle deck and a 6,0 mm bottom deck allowing it



For the first time ever at a Powerscreen event, a working washing plant was on display. This included a chieftain 1700 Rinser screen and a Bucketwheel dewatering plant.



The second plant consisted of an XA400S jaw crusher, 1300 Maxtrak cone crusher, H6203 screen, 1000SR circulating cone crusher and a Chieftain 2100X3-deck screen.

to produce a 0-6,0 mm, 8,0-11 mm and 11-15 mm of finished aggregate for asphalt production. The throughput for the set-up was approximately 320 t/hour.

The Powerscreen XA400S is a high-performance primary jaw crushing plant, designed for medium-scale operators in quarrying, demolition, recycling and mining applications. Customer user benefits include track mobility for a quick set-up time, hydraulic crusher setting adjustment for total control or product size, and crusher overload protection to prevent damage by uncrushable objects.

The Powerscreen 1300 Maxtrak is a medium-sized track mobile cone crusher, ideally suited to secondary applications such as taking an all-in feed from a primary crusher. Based around the 1300 Automax cone crusher, the plant excels in the production of sub-base or aggregates, providing excellent cubicity, throughput and reduction ratios.

The H6203 features a 20' x 5,0' horizontal triple-deck screen that is ideal for handling high volumes of sticky material and for the precise, fine sizing demanded in many construction contracts. The adjustable elliptical throw combines linear and circular amplitude producing an aggressive screening action. Powerscreen H Range products are especially effective

for scalping after a primary impact or jaw crusher and have outstanding performance when screening out specific small sizes; ideally suited to applications such as natural and crushed aggregate, coal, iron ore, recycled concrete and asphalt.

The high-performance Powerscreen 1000SR is a small to medium-sized cone crusher designed for direct feed applications, without prescreening on clean rock. At its heart is the industry-renowned Automax cone crusher, which provides excellent reduction and product cubicity for the production of high-quality aggregate and sub-base material. Hydraulic release capabilities are designed so that any uncrushable material entering the chamber is safely discharged. The 1000SR features a recirculating conveyor and a double-deck 11' x 5,0' screen to provide the complete crushing and screening process on a single chassis. Suitable for secondary and tertiary applications, the cone crusher can produce up to three products when oversized material doesn't require recirculation to the crusher.

The Powerscreen Chieftain 2100X is designed for medium to large-scale operators, who require large volumes of high-specification products. It is the largest model to feature a high-capacity hopper, belt feeder and radio controlled tipping grid. Key features include a patented hydraulically-folding recirculating conveyor on the 3-deck version, eliminating the need for a crane on site and a 2-bearing screen with 20' x 5,0' top and middle deck and an 18' x 5,0' bottom deck with adjustable screen and amplitude to maximise the screen open area and vibration.

### Plant 3

Working alone was the XH320SR impact crusher. This horizontal shaft impactor is a highly-compact, tracked crusher designed to offer both excellent reduction and high consistency of finished product. It has hydraulic overload protection, 4-bar rotor and twin apron design with fully independent under-crusher vibrating pan feeder. A modular conveyor with raise/lower facility, aids clearance of rebar and makes the machine suitable for a variety of feed materials to give optimum performance in quarry, demolition, recycle and mining applications.

In the demonstration, the XH320 was fed with a recycled



The H6203 is configured with a 25 mm top deck, a 15 mm middle deck, nothing on the bottom deck. The post screen has 25 mm mesh fitted on deck, allowing a crusher product to be passed onto the Chieftain 2100X

concrete mixed product. the chamber had been set at 80 mm on the upper apron and 40 mm on the lower apron. It had also been fitted with two full and two half martensitic blow bars to allow sufficient product to be fed onto an 11' x 5,0' double-deck, 4-bearing screen box.

An overband magnet removes steel from the product. The end product is 0-40 mm of recycled aggregate for concrete production. The 40 mm+ product was recrushed via the on-board recirculation conveyor, allowing the oversized product from the post screen to pass back to the crushing chamber.

**Plant 4**

The final machine set up was a Chieftain and Finesmaster washplant, washing quarry dust. This Powerscreen Chieftain 1700 Rinser 3 deck had an 11 mm top deck, an 8,0 mm middle deck with the bottom deck split with 3,0 mm on the first section, and 6,0 mm on the second section.

The plant washed some 180 t/hour, creating a washed 11-15 mm, 8,0-11 mm and 6,0-8,0 mm with the two sand slurries (0-3,0 mm and 0-6,0 mm) being fed into the Finesmaster 120 bucketwheel. The Finesmaster removed silts and slurries to produce a 0-3,0 mm building sand and a 0-6,0 mm concrete sand.

The Finesmaster sand classification system is a high-efficient sand dewatering machine and consists of four key elements: bucket wheels, a sump and rubber-lined pump, rubber-lined hydro cyclones, and a high-frequency dewatering screen. The key advantages of this unit is its ability to dewater sand, with maximum removal of water, while at the same time retaining the maximum amount of fine saleable products.

The Finesmaster 120 bucketwheel incorporated two bucket-



The Warrior 2400 is a multi-purpose, heavy-duty incline unit, capable of handling larger feed sizes and throughputs, while still remaining convenient to move and transport.

wheels and two cyclones, providing an extremely efficient method of producing two washed sands simultaneously. By utilising the bucketwheels prior to the final cut by the cyclones, the rubber-lined centrifugal pump and cyclone wear is greatly reduced.

According to Dealer Principal for Blue Machinery Scotland, Austin Carey, Powerscreen delivered a fantastic and informative World Dealer Conference in the Cape. "The venues, entertainment and working site were superb. The Blue Group really enjoyed catching up with likeminded dealers facing the same challenges. We look forward to now visiting a number of these dealers worldwide to discuss in more detail best practice and learn from one another."

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Report and photos by Dale Kelly



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