Powerscreen® 1000SR

Cone Crusher

SPECIFICATION - Rev 5. 01-01-2013

POWERSCREEN®
A TEREX BRAND

Specification		1000SR
Total weight		38,500kg (84,900lbs)
Transport	Length	16.9m (55’ 5”)
	Width	3.1m (10’ 2”)
	Height	3.45m (11’ 4”)
Working	Length	16.9m (55’ 5”)
	Width	3.1m (10’ 2”)
	Height	4.85m (15’ 11”)

Crusher type:	1000 Automax Crusher
Powerunit:	Caterpillar C-9 ACERT 261kW (350hp) or Scania DC9 083A 257kW (350hp)
Paint colour:	RAL 5021

Features & Benefits

The Powerscreen® 1000SR is a highly compact crushing & screening plant that combines the benefits of the 1000 Maxtrak & Powerscreen Chieftain 1400 on one chassis to form a highly manoeuvrable self contained, closed loop plant that can be easily setup. The 1000SR has been designed for direct feed applications without pre-screening on clean rock. At the heart of the Maxtrak is the Automax® cone crusher with hydraulic setting, tramp release & unblocking system.

The Powerscreen® 1000SR is suitable for secondary & tertiary applications, it features a re-circulating conveyor & a double deck screen to provide the complete crushing & screening process on a single chassis. The Powerscreen 1000SR can produce up to three end products when oversized material doesn't require re-circulation to the crusher.

- Output potential up to 230 tph (253 US tph)
- Combines crushing & screening capabilities on a single plant
- Suitable for re-circulating oversized material
- Renowned Automax® crusher technology
- Accepts clean all in feed
- High reduction ratio, excellent product shape, rock on rock attrition crushing
- Cone feed box level control to maintain choke feeding
- Hydraulic crusher setting
- Cone overload protection
- Metal detector
- Dust suppression system
- Economical to operate with a highly fuel efficient direct drive system
- Latest generation power units that meet EU Stage IIIB / US Tier 4i & EU Stage IIIA / US Tier 3 Emissions Legislation
- Produce three products sizes using optional stockpile conveyor
- Heavy duty chassis & track frame
- Remote control via umbilical

Applications

Aggregate

- Sand & gravel
- Blasted rock
- River rock

Recycling

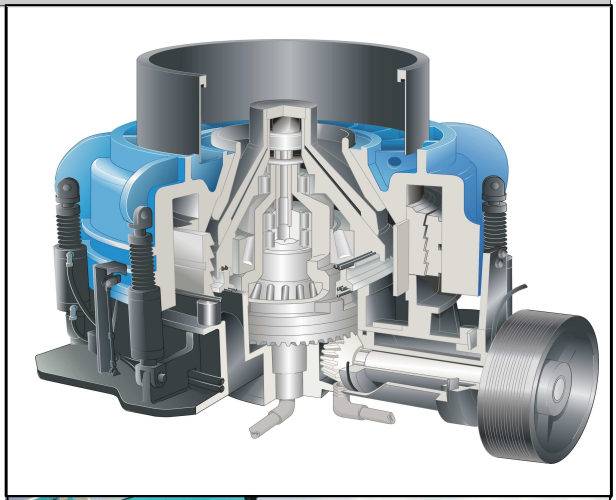
- C&D waste
- Foundry waste

Mining

- Processed ores
- Processed minerals

Cone Crusher

Crusher type:	**1000 Automax crusher fitted as standard with long throw eccentric**
Liners:	**Manganese steel alloy mantle & concave**
Standard concave:	**Medium Coarse (MC)**
Lubrication:	**Pumped system having a chassis mounted lube tank with airblast cooler**
Adjustment:	**Hydraulic setting adjustment, automatic over load release & hydraulic unblocking**
Control:	**2 Operating modes available: - Autoset Mode: fixed parameters - Maxset Mode: load sensing, parameters auto adjust & maximise performance**
Concave options:	**Extra coarse (XC) Coarse (C) Autosand (AS)**
Eccentric option:	**Short throw**
Drive:	**Wedge belt drive from engine via clutch**



Crusher Options

CONCAVE	MAXIMUM FEED SIZE	MAXIMUM RECOMMENDED CSS
Medium Coarse	160mm (6.3”)	36mm (1.4”)
Coarse	175mm (6.9”)	36mm (1.4”)
Extra Coarse	195mm (7.7”)	36mm (1.4”)
Autosand	63mm (2.5”)	32mm (1.25”)
Each of the above available with choice of long & short throw eccentrics		

Feed Hopper

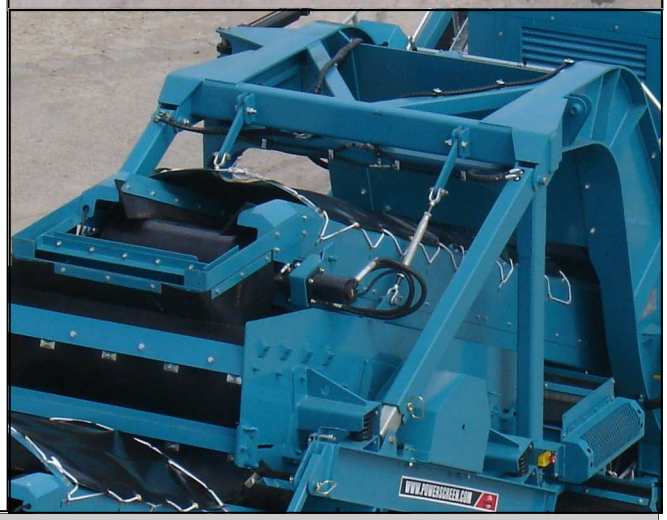
Hopper type:	**Fixed feed hopper**
Hopper length:	**3.38m (11')**
Hopper width:	**2.5m (8' 2")**
Hopper capacity:	**Up to 4.4m^3 (5.8 cu. yd.) gross depending on method of feed**
Hopper body:	**Fabricated in 10mm wear resistant steel plate, with internal crash bars to minimise impact load on the feed conveyor**

Feed Conveyor

Conveyor type:	**Shallow troughed belt variable speed**
Design:	**Raise & lower hydraulically for transport, operation & crusher maintenance**
Belt type:	**EP500/3 with 5mm top & 1.5mm bottom heavy-duty rubber covers, vulcanised joint**
Belt adjustment:	**Screw adjustment at the tail shaft**
Belt width:	**1000mm (39")**
Feed height:	**2.8m (9' 2")**
Drive:	**Hydraulic drive via flange mounted gearbox**
Impact rollers:	**Immediately below feed hopper**
Metal detector:	**Suitable for detecting steel & manganese, complete with audible warning device & connected to stop the feed conveyor**
Barge boards:	**Extend from the feed conveyor to the conveyor head**
Lubrication:	**Oil lubricated head drum gearbox. Grease nipples for lubrication of shaft bearings**
Level probe:	**Crusher feed ring fitted with level probe designed to regulate & constantly choke feed the crusher**

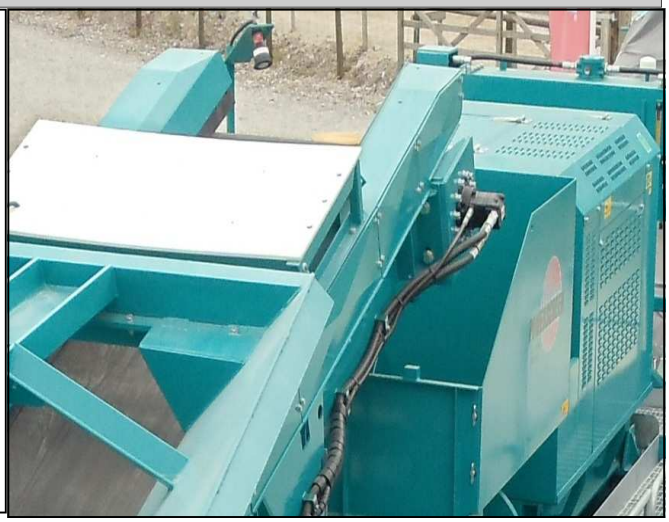
Product Conveyor

Conveyor type:	**Troughed belt, fixed speed conveyor with fixed tail end**
Belt type:	**EP400/3 with 4mm top & 2mm bottom heavy-duty rubber covers & vulcanised joint**
Belt width:	**800mm (32”)**
Impact rollers:	**Provided immediately below the crusher outlet under the conveyor feed point**
Skirting:	**Fully skirted rubber sealing along the conveyor length**
Drive:	**Direct drive hydraulic motor**
Belt covers:	**Canvas type removable dust covers are fitted over the exposed section of the conveyor**
Belt adjustment:	**Screw adjusters at head shaft**
Lubrication:	**Grease nipples for lubrication of shaft bearings**



Chutes

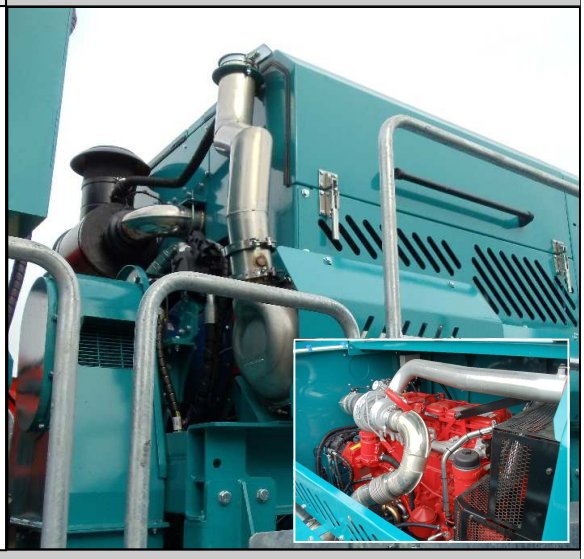
Feed box:	**Fabricated in 6mm mild steel plates. Hinge down back plate to lower feed conveyor head section for transportation**
Product conveyor:	**Fabricated in 10mm mild steel plate with 10mm wear resistant liners at impact points**
Recirc chute:	**Fabricated in 5mm thick mild steel with wear resistant liners. Hydraulically raises & lowers for transport**



Powerunit

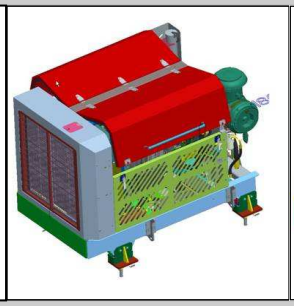
EU Stage IIIA / US Tier 3:	Caterpillar C-9 ACERT, 6 cylinder, 261 kW (350hp) at 1800rpm #
Operating Conditions:	Ambient temp. +40℃ & –12℃ (104ºF & 10ºF) altitudes up to 1000m (3281ft) above sea level.#
Operating rpm range:	1800rpm
Typical fuel consumption:	N/A
Plant drive:	High quality pumps driven via belt drive from engine & engine PTO
Fuel tank capacity:	522 L (137 US Gal)
Clutch type:	High efficiency, self-adjusting HFO clutch with electro-hydraulic operation.

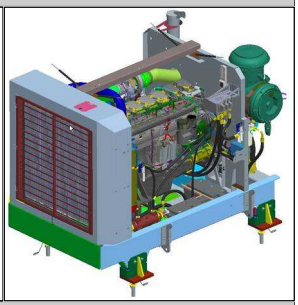
EU Stage IIIB / US Tier 4i :	**Scania DC09 083A** 5 cylinder turbo 257 kW (350hp) at 2100rpm,
Operating conditions:	Ambient temp.+40℃ & –12℃ (104ºF &10ºF) altitudes up to 1000m (3281ft) above sea level.#
Operating rpm range:	1800rpm
Typical fuel consumption:	N/A
Emission control technique:	Selective Catalytic Reduction (SCR)
Reductant tank size:	60 L (16 US Gal)
Plant drive:	High quality pumps driven via engine PTOs
Fuel tank capacity:	650 L (171 US Gal)
Clutch type:	Highly efficient, Self-adjusting HPTO 12 dry plate clutch with electro hydraulic operation



Hydraulic tank capacity:	365 L (96 US Gal)
Crusher drive:	Direct drive via wedge belts
Crusher drive tensioning:	Manually adjustable screw tensioners located under Powerunit

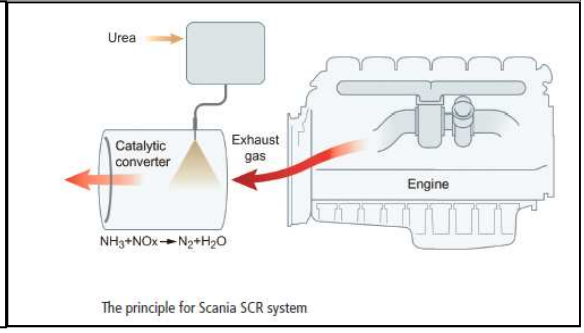
For applications outside this range please consult with Powerscreen as the plant performance / reliability may be affected.





Selective Catalytic Reduction (SCR)
SCR technology is used for Stage IIIB & Tier 4i to reduce the NOX content in the exhaust gases. A chemical process is started by injecting reductant, a urea & water mixture, into the exhaust gas stream. During injection the water evapo-rates & the urea breaks down to form ammonia. The ammonia then reacts with the nitrogen gases in the catalytic converter & forms harmless products such as nitrogen gas & water.

Through the use of SCR the exhaust gases are purged of poisonous levels of NOX in the best possible way. The Reductant tank holds 60 litres & is heated by the engine's cooling system in order to avoid freezing of the urea solution, urea freezes at -11℃.



The principle for Scania SCR system

Chassis

Heavy Duty I-Section welded construction, provides maximum strength & accessibility.

Crawler Tracks

Type:	**Heavy-duty tracks fitted as standard**
Longitudinal centres:	**3800mm (12' 5")**
Track pad width:	**400mm (16")**
Climbing grade:	**30° maximum**
Speed:	**1.0kph (0.6mph)**
Drive:	**Hydraulic**
Track tensioning:	**Hydraulic adjuster, grease tensioned**

Guards

Wire mesh or sheet metal guards are provided for all drives, pulleys & couplings.

The guards provided are designed & manufactured to CE & ANSI standards.

Platforms

Platforms are provided for inspection & maintenance, allowing access to each side of the engine, and one side of the crusher and feed conveyor.

All platforms are galvanised as standard & are made from steel flooring with steel toe boards, double row handrails & access ladders.

Controls - EU Stage IIIA / US Tier 3

Plant: control panel to operate the following items:

- Crusher (start/stop)
- Oil lubrication pump (start/stop)
- All on plant conveyors (start/stop)
- Screen
- Crusher level controls

Crusher: The hydraulic system control panel enables crusher-setting changes to be made & to calibrate & monitor manganese wear

EU Stage IIIA / US Tier 3:

Controls - EU Stage IIIB / US Tier 4i

On EU Stage IIIB / US Tier 4i equipped machines both crusher & plant controls have been simplified into one panel. All functionality remains as before, with improved diagnostics capabilities

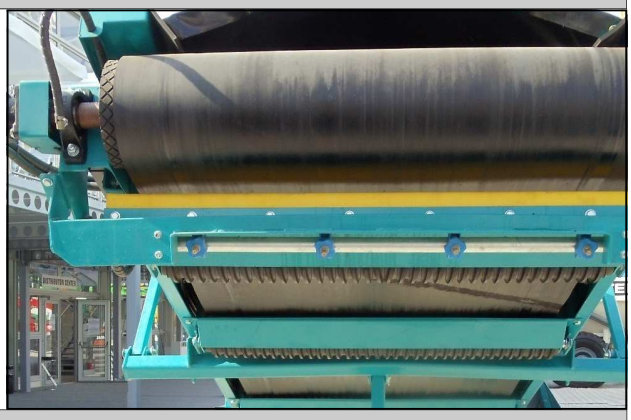
- Crusher (start/stop)
- Oil lubrication pump (start/stop)
- Crusher level controls
- Crusher setting changes
- All plant conveyors (start/stop)
- Screen (start/stop)
- Calibrate & monitor manganese wear

EU Stage IIIB / US Tier 4i :

Dust Suppression System

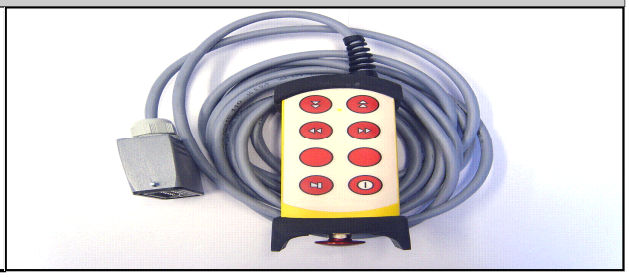
Sprays bars with atomiser nozzles mounted over the crusher mouth, product conveyor feed & discharge points. Piped to an inlet manifold.

Type:	**Clean water atomising nozzles**
Inlet:	**Single point on chassis**
Pressure required:	**2.8 bar (42 psi)**
Frost protection:	**Via system drain valves**
Pump:	**Optional extra**
Frost protection:	**Via system drain valves**



Umbilical Control

An umbilical control unit is also supplied with the plant. This is used to control the tracking function & is also fitted with a stop button for the plant.



After Screen

Type:	**2 deck vibrating screen, 4 bearing**
Size:	**3350mm x 1525mm (11' x 5')**
Location:	**After product conveyor**
Drive:	**Hydraulic drive, fixed speed**
Top deck:	**45mm aperture fitted as standard**
Bottom deck:	**Optional mesh**
Lubrication:	**4 grease nipples**
Access:	**Screen & fines conveyor lowers for maintenance**

Top Deck - Transfer Conveyor

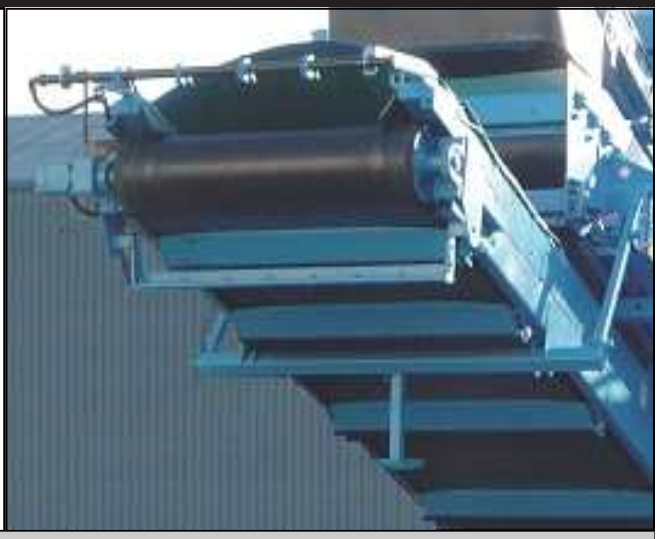
Function:	**Transfers material from top deck of screen to re-circulating conveyor.**
Belt type:	**Plain Belt, EP400/3 with 4mm top & 2mm bottom rubber covers & vulcanised joint**
Belt width:	**500mm (20")**
Drive:	**Direct drive hydraulic motor**

Oversize - Recirculation Conveyor

Function:	**Returns oversize material from after screen to crusher for re-crushing. Can also be repositioned for oversize material stockpiling**
Conveyor type:	**Chevron type troughed belt**
Belt type:	**Chevron belt, EP 315/3 with 3mm top & 1.5mm bottom rubber covers, 15mm cleat, vulcanised joint**
Width:	**500mm (19.6")**
Drive:	**Direct drive hydraulic motor**
Lubrication:	**Remote grease nipples**
Transport:	**Needs to be lowered for tracking on uneven ground, changing gradients & for transportation**

Fine Size - Product Conveyor

Function:	**Stockpiles fines from afterscreen**
Conveyor type:	**Plain troughed belt**
Belt type:	**Plain EP400/3 with 4mm top 2mm bottom covers, vulcanised joint**
Width:	**1400mm (4'5")**
Discharge height:	**3.0m (9' 10")**
Stockpile volume:	**37m^3 (48 cu. yd.)**
Drive:	**Direct drive hydraulic motor**



Bottom Deck - Transfer Conveyor

Function:	**Transfers material from bottom deck to plant mounted stockpiling conveyor or re-circulating conveyor**
Belt type:	**Plain EP400/3 with 4mm top & 2mm bottom covers, vulcanised joint**
Width:	**500mm (20")**
Drive:	**Direct drive hydraulic motor**
Lubrication:	**Grease nipples on bearing housings**

Set Up Controls

A control panel is fitted onto the plant to operate the following items:

- **Feed conveyor (raise/lower)**
- **Screen (raise/lower)**
- **Recirculating conveyor (raise/lower)**
- **Recirculating chute (raise/lower)**

Optional Extras

- **Additional level sensor over feed hopper**
- **Automax Extra Coarse (XC) concave**
- **Automax Coarse (C) concave**
- **Autosand (AS) concave**
- **Short throw eccentric**
- **Feed hopper extension plates (remove for transport)**
- **Additional stockpilling conveyor**
- **Bottom Deck Aperture Mesh**
- **Electric re-fuelling pump**
- **Urea re-fuelling pump**
- **Hydraulic water pump**
- **Radio remote control**

Powerscreen® 1000SR Options

Midsize - Stockpiling Conveyor

Conveyor:	**Stockpiles material from bottom deck side transfer conveyor**
Conveyor type:	**Chevron type troughed belt**
Belt type:	**Chevron EP315/2 with 3mm top & 1mm bottom covers, 15mm cleat, vulcanised joint**
Width:	**500mm (20”)**
Discharge height:	**3.98m (13’ 1”)**
Stockpile volume:	**93m^3 (122 cu. yd.)**
Drive:	**Direct drive hydraulic motor**
Transport:	**Remove for transport or when tracking on uneven ground changing gradients**

Electric Refuelling Pump

A 24 volt refuelling pump, allows fuel to be drawn from a remote source. Fuel transfer rate is 50 L/min.

Hydraulic Water Pump

A hydraulically powered water pump is available to power the dust suppression system.

Radio Remote Control

Complete with integrated tracking functions & plant stop button. NB - Only available in certain countries where type approval has been obtained

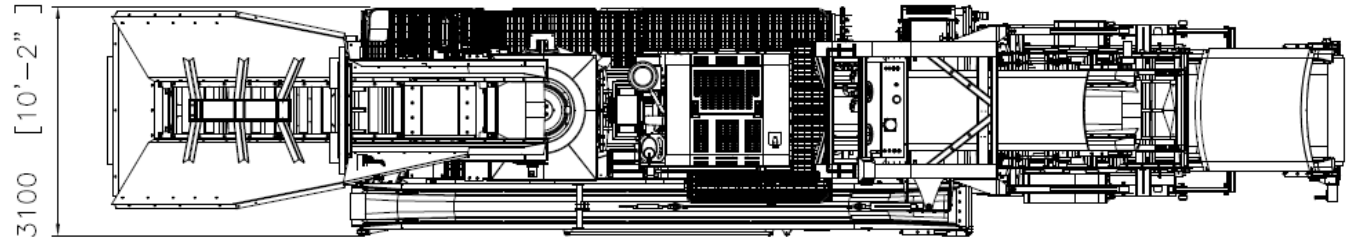
Remote can also be used to:

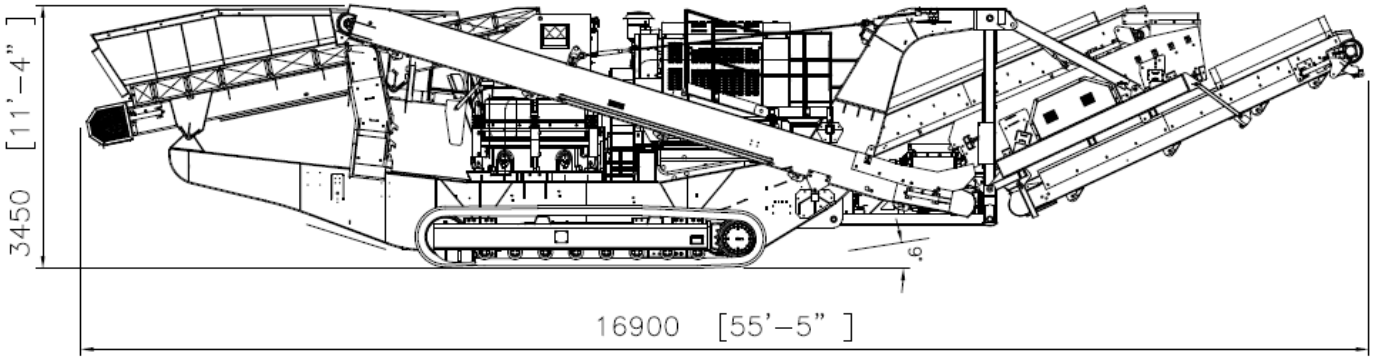
- **Start/Stop feeder**

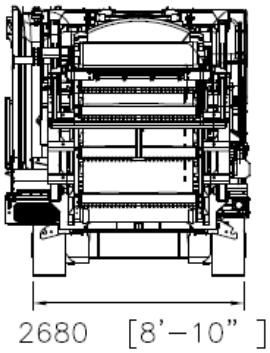
Approximate Plant Weights & Dimensions

Transport length:	**16.9m (55' 5")**
Transport width:	**3.1m (10' 2")**
Transport height:	**3.45m (11' 4")**
Total plant weight:	**38,500kgs (84,900lbs)**
Paint colour:	**RAL 5021**

1000SR
Transport Dimensions



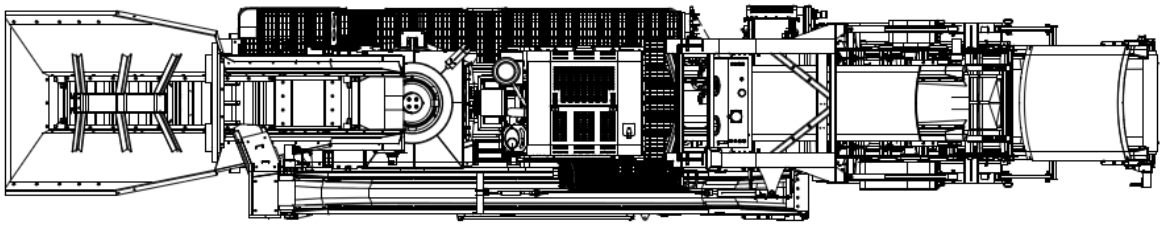


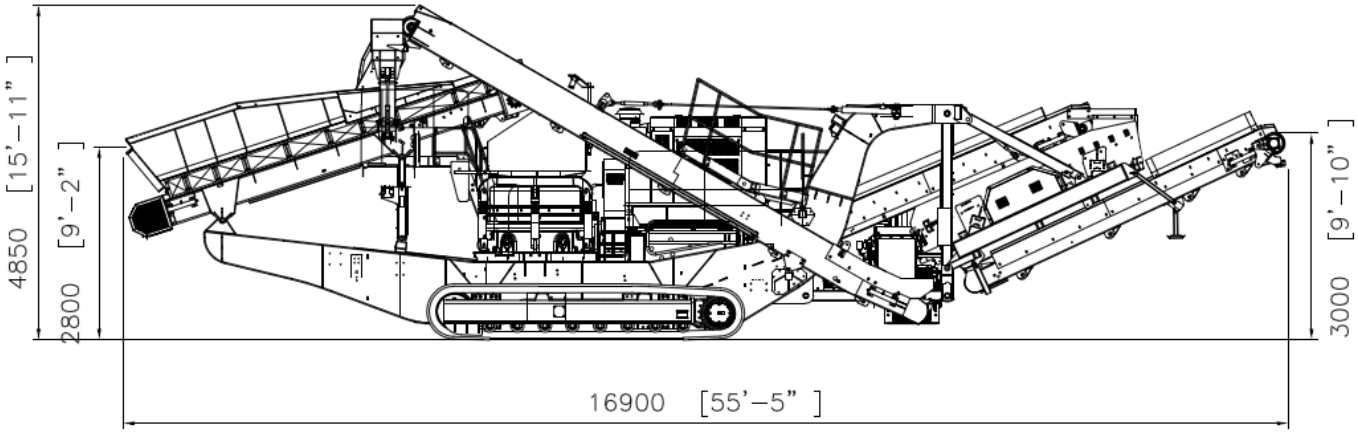


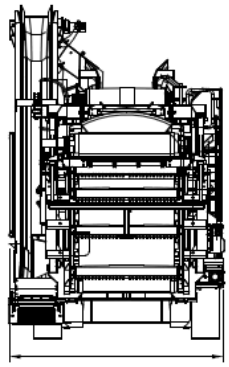
Approximate Plant Weights & Dimensions

Working length:	**16.9m**	**(55’ 5”)**
Working height:	**4.85m**	**(15’ 11”)**
Working width:	**3.1m**	**(10’ 2”)**

1000SR
Working Dimensions







Powerscreen equipment complies with CE requirements.

Please consult Powerscreen if you have any other specific requirements in respect of guarding, noise or vibration levels, dust emissions, or any other factors relevant to health and safety measures or environmental protection needs. On receipt of specific requests, we will endeavour to ascertain the need for additional equipment and, if appropriate, quote extra to contract prices.

All reasonable steps have been taken to ensure the accuracy of this publication, however due to a policy of continual product development we reserve the right to change specifications without notice.

It is the importers' responsibility to check that all equipment supplied complies with local legislation regulatory requirements.

Plant performance figures given in this brochure are for illustration purposes only and will vary depending upon various factors, including feed material gradings and characteristics. Information relating to capacity or performance contained within this publication is not intended to be, nor will be, legally binding.

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