

# POWERSCREEN® CHIEFTAIN 1700X

3 DECK INCLINE SCREEN



TECHNICAL SPECIFICATION - REV 4 01/04/2024





## CHIEFTAIN 1700X 3 DECK



# OVERVIEW

### SPECIFICATION

		<b>14ft Hopper (with grid)</b>
<b>Total weight:</b>		30,516kg (67,276lbs)
<b>Transport</b>	<b>Length</b>	16.6m (54' 6")
	<b>Width</b>	3m (9' 10")
	<b>Height</b>	3.5m (11' 7")
<b>Working</b>	<b>Length</b>	17.2m (56' 5")
	<b>Width</b>	17.3m (56' 8")
	<b>Height</b>	5.89m (19' 4")
<b>Screenbox:</b>		4.8m x 1.5m (16' x 5')
<b>Power unit:</b>		Diesel / Hydraulic
<b>Plant Colour:</b>		RAL 5021, RAL 7024 & RAL 9005

(Weight & dimensions are approximate base unit values)

### FEATURES & BENEFITS

- High capacity up to 500 tph / 551 US tph (depending on media sizes & material type)
- Maximum feed size 150mm (6")
- Ability to easily change between 2 and 4 bearings using patent pending drive system
- Engine protection shutdown system
- Power unit featuring a transverse engine arrangement to aid access & serviceability
- Heavy duty single shaft incline screenbox with adjustable stroke, angle & speed
- Hydraulic screen tensioning
- Screen mesh access system for quicker mesh changes
- Maximum mobility with heavy duty, low ground pressure tracks
- Removable heavy duty pendant remote control system
- Quick set up time
- High performance hydraulic system - cast iron pumps & motors complete with hydraulic cooler
- Low profile double deck vibrating grid option with radio remote control tipping grid, angle adjustable & fully riveted construction
- Hydraulically folding conveyors for transport
- Fines conveyor drop down facility to aid bottom deck mesh access
- Hydraulic raise / lower of head section for mesh access
- Powerscreen Pulse telemetry as standard.

### APPLICATIONS



#### Aggregate

Sand & gravel  
Blasted rock  
River rock



#### Recycling

Top soil  
C&D waste  
Composted materials  
Wood by-products  
Overburden  
Foundry waste



#### Mining

Processed ores  
Processed minerals



## CHIEFTAIN 1700X 3 DECK



## HOPPER & GRID

**Target area:** 4.75m (15' 7") long x 1.99m (6' 5") wide

**Grid aperture:** 108mm (4.3")

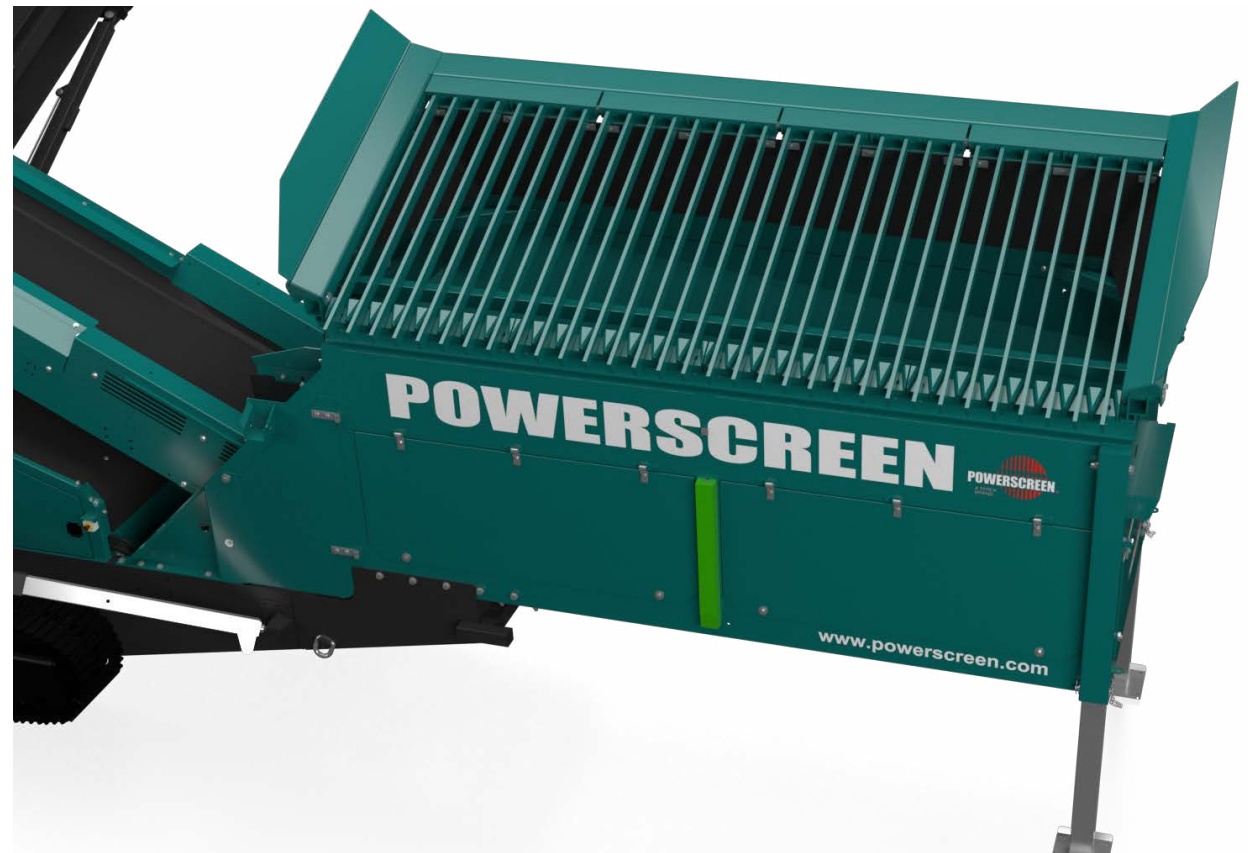
**Hopper capacity with grid:** 6.7m<sup>3</sup> (8.75 cu. yd.)

**Hopper capacity without grid:** 4.67m<sup>3</sup> (6.1 cu. yd.)

**Feed in height rear with grid:** 3.7m (12' 2")

**Feed in height rear without grid:** 2.62m (8' 7")

Adjustable angle tipping grid with integral loading and wing plates





## CHIEFTAIN 1700X 3 DECK



### SCREENBOX

4.8m x 1.5m (16' x 5') 3 deck incline screen

Highly aggressive screen drive

Grease filled 2 or 4 bearing screenbox (leaves the factory as 4 bearing)

4.8m x 1.5m (16' x 5') top & middle deck

4.12m x 1.52m (14' x 5') bottom deck

4 of media sections (side tension) top/middle deck

2 of media sections (end tension) bottom deck

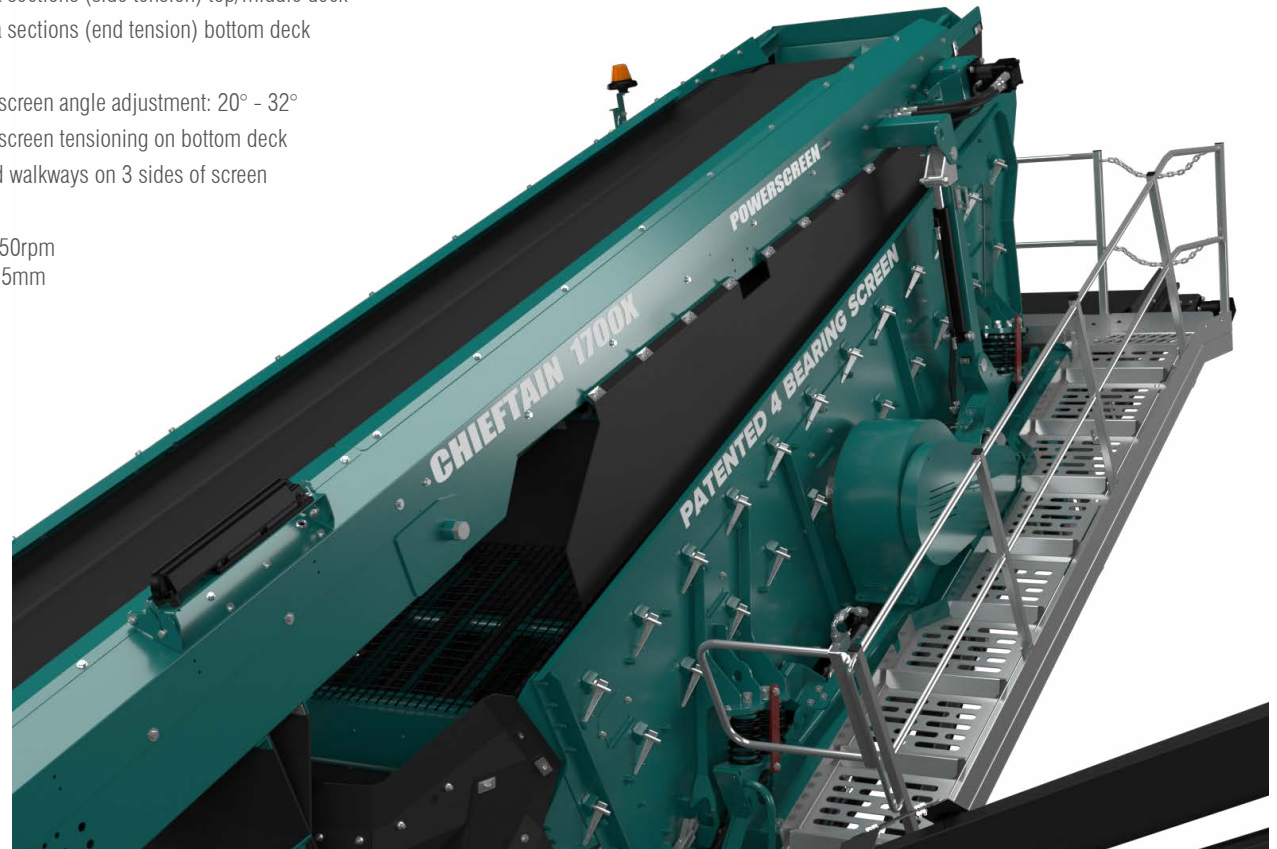
Hydraulic screen angle adjustment: 20° - 32°

Hydraulic screen tensioning on bottom deck

Galvanised walkways on 3 sides of screen

Speed: 1150rpm

Throw: 6.25mm





## CHIEFTAIN 1700X 3 DECK



# CONVEYORS

### FEED CONVEYOR

1050mm (42") wide feed conveyor with direct drive system & hydraulic variable speed control

4.11m (13' 6") drum centres

350mm (13.7") drum diameter (drive)

320mm (12.6") drum diameter (tail)

Feeder stop / start comes as standard

### MAIN CONVEYOR

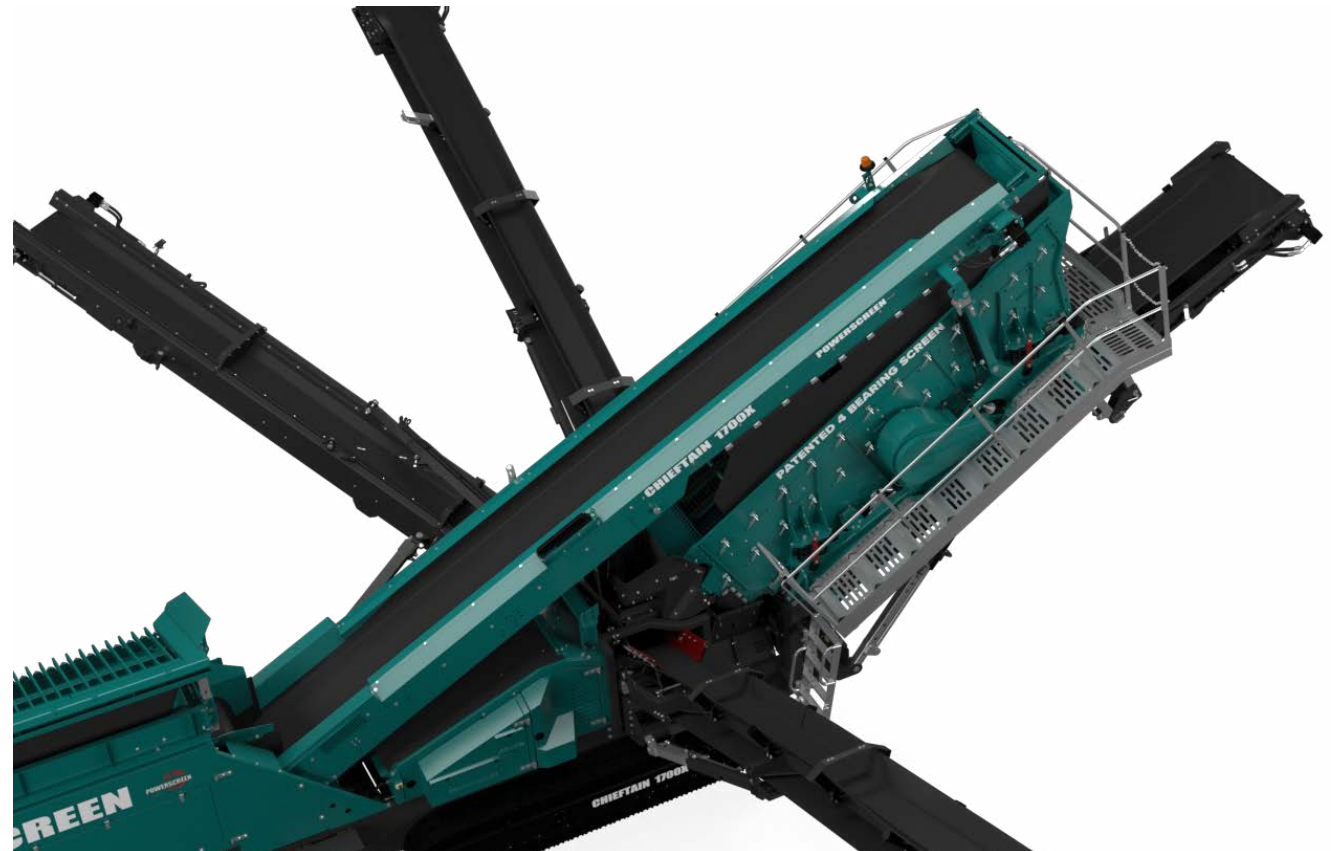
1050mm (42") 3 ply plain belt

9.89m (32' 5") drum centres

286mm (11.3") drum diameter (drive)

270mm (10.6") drum diameter (tail)

Hydraulically adjustable conveyor, fully skirted & sealed





## CHIEFTAIN 1700X 3 DECK



# CONVEYORS

### FINESIZE - TAIL CONVEYOR

1200mm (48") wide 3 ply plain belt

6.88m (22' 7") drum centres

286mm (11.3") drum diameter (drive)

270mm (10.6") drum diameter (tail)

4.23m (13' 10") stockpile height

112m<sup>3</sup> (147 cu. yd.) stockpile volume

Fixed speed

Hydraulically folding

Chevron belt as option

Angle adjustment: 8° - 27°





## CHIEFTAIN 1700X 3 DECK



## CONVEYORS

### MID-FINESIZE & MID-OVERSIZE - SIDE CONVEYORS

650mm (26") wide 3 ply chevron belt  
9.67m (31' 9") drum centres  
286mm (11.3") drum diameter (drive)  
270mm (10.6") drum diameter (tail)

4.72m (15'6") stockpile height  
154m<sup>3</sup> (201 cu. yd.) stockpile volume

Variable speed control on each conveyor  
Hydraulically folding  
Fixed angle: 24°





## CHIEFTAIN 1700X 3 DECK



# CONVEYORS

### OVERSIZE - HYDRAULIC AUXILIARY CONVEYOR (STANDARD)

650mm (26") wide 3 ply chevron belt  
 7.25m (23' 9") drum centres (standard length)  
 286mm (11.3") drum diameter (drive)  
 270mm (10.6") drum diameter (tail)

3.93m (12' 11") stockpile height  
 90m³ (118 cu. yd.) stockpile volume

Variable speed control  
 Hydraulically folding  
 Fixed angle: 25°

### OVERSIZE - HYDRAULIC AUXILIARY CONVEYOR (EXTENDED)

500mm (20") wide 3 ply chevron belt  
 10.34m (33' 10") drum centres (extended length)  
 289mm (11.3") drum diameter (drive)  
 273mm (10.6") drum diameter (tail)

5.6m (18' 4") stockpile height  
 261m³ (341 cu. yd.) stockpile volume

Variable speed control  
 Hydraulic folding  
 Working angle (slew): 0 - 70°  
 Working angle (rake): 8 - 24°





## CHIEFTAIN 1700X 3 DECK



# POWER UNIT & HYDRAULICS

### Engine Tier 3:

CAT C4.4

### Performance:

77 kW (104hp) @ 1800rpm

### Engine Tier 4F / Stage IV:

CAT C3.6

### Performance:

82 kW (110hp) @ 1800rpm

### Engine Stage V:

CAT C3.6

### Performance:

82kW (110hp) @ 1800rpm

### Tank Capacities:

Fuel: 336L (88 US Gal)

Hydraulic oil Tier 3: 564L (149 US Gal)

Hydraulic oil Tier 4/Stage V: 450L (118 US Gal)

### Pumps:

Flywheel pump: Cast iron triple 63/41/41cc/rev

PTO pump: Cast iron triple 23/23/14cc/rev

### Motors:

Belt feeder: Cast iron 160cc/rev

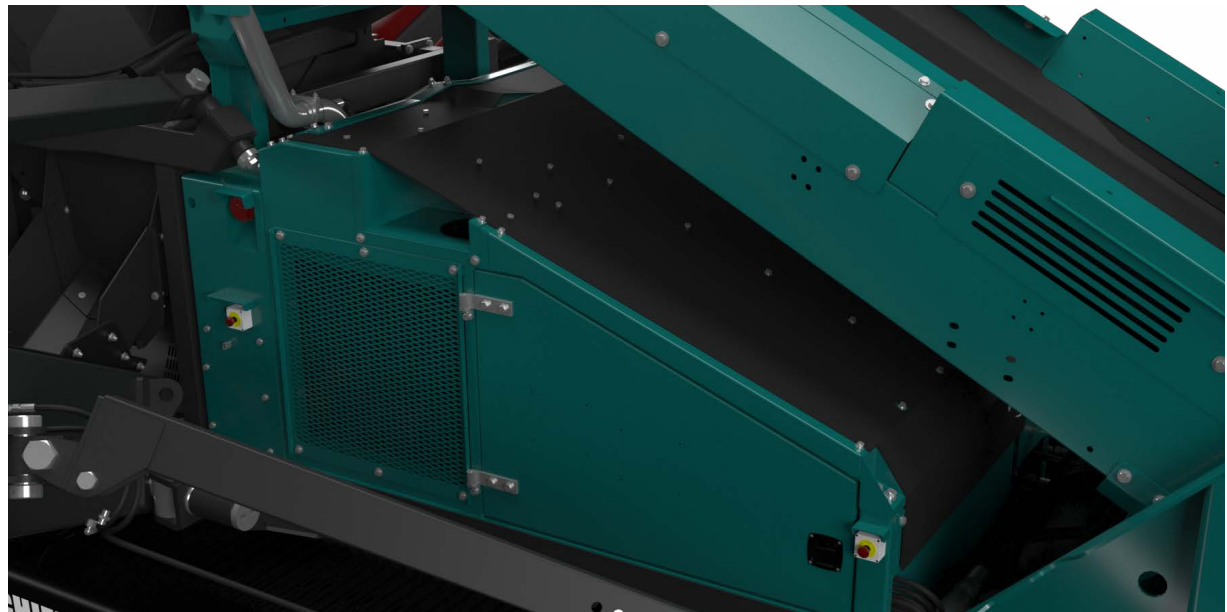
Main conveyor: Cast iron 630cc/rev

Tail conveyor: Cast iron 500cc/rev

Side conveyors: Cast iron 315cc/rev

Auxiliary conveyor: Cast iron 400cc/rev / 500cc/rev extended conveyor

Screen motor: Cast iron 80cc/rev





## CHIEFTAIN 1700X 3 DECK



## TRACKS

**Track width:** 400mm (1' 4")

**Sprocket centres:** 3285mm (10' 9")

**Gradability degrees:** 23.4°

**Gearbox ratio:** 1:154

**Hydraulic motor:** 50.9cc/rev

**Approximate speed:** 0.9kph (0.56mph)

**Total flow per track:** 69 Lpm (approx.)





## CHIEFTAIN 1700X 3 DECK



## ↓ OPTIONS



### DOUBLE DECK VIBRATING GRID

**Target area:**

3.91m (12' 10") long x 2.42m (7' 11") wide

**Bottom deck screen size:**

2 of 1.9m (6' 3") x 1.5m (4' 11")

**Working angle:** 10° - 20° (hydraulically adjustable)

**Tip angle:** 45° max

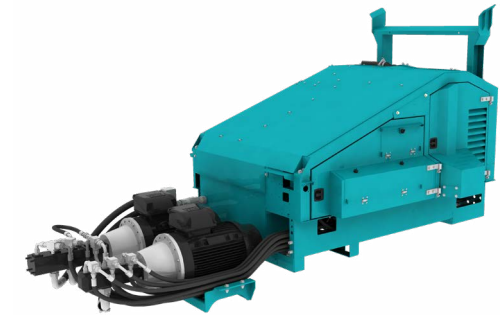
**Motor:** 56cc/rev

**Circuit:** Coupled to main conveyor circuit

**Minimum feed in height with grid (rear):** 3.8m (12' 6")

**Increase in transport height:** +75mm (3")

**Increase in machine weight:** +3750kg (8,267lbs)



### DUAL POWER

**Dual Power System:**

2 of electric motors; 37 kW (50hp) & 30 kW (40hp) Diesel engine  
Integrated control system

This controls either diesel-hydraulic or electric-hydraulic functions

Note: This option may alter transport dimensions and feed access.  
For further details please contact engineering for detailed drawings and dimensions.



## CHIEFTAIN 1700X 3 DECK



## ↓ OPTIONS

### OTHER OPTIONS

- Custom colour machine
- Auto lubrication system
- Quick release wedge tensioning for top & middle deck
- Anti rollback on main conveyor
- Radio controlled tracking
- Hydraulic jacking legs
- Grid aperture: 152mm (6")
- Hydraulic extended auxiliary conveyor
- Vibrating grid discharge chute
- Crusher feed chute (when double deck vibrating grid is selected)
- Adjustable hopper door
- Extra coupling facility
- Screenbox reverse
- Fuel save option
- Bottom deck self cleaning flexi mesh
- Hopper wear plates
- Wear resistant lined spreader plate
- Hydraulic oil grade 68
- Hydraulic folding walkway





## CHIEFTAIN 1700X 3 DECK



# POWERSCREEN PULSE

## RECORD, DISPLAY AND ANALYSE DATA:

HIGH EFFICIENCY THROUGH PRECISE INFORMATION

Available online anywhere and at any time: comprehensive information on the GPS location, start and stop times, fuel consumption, tonnages, cone settings, wear ratings, operating hours, maintenance status, and much more.



  
**AVAILABLE  
ANYWHERE  
AND AT ANY TIME**

  
**DASHBOARD  
DISPLAY**

  
**FLEET  
OVERVIEW**

  
**WEEKLY REPORT  
DIRECT TO YOUR  
INBOX**

  
**GPS: MACHINE  
TRACKING**

  
**REPORTING  
UTILISATION, PERFORMANCE  
& PART SPECIFIC**





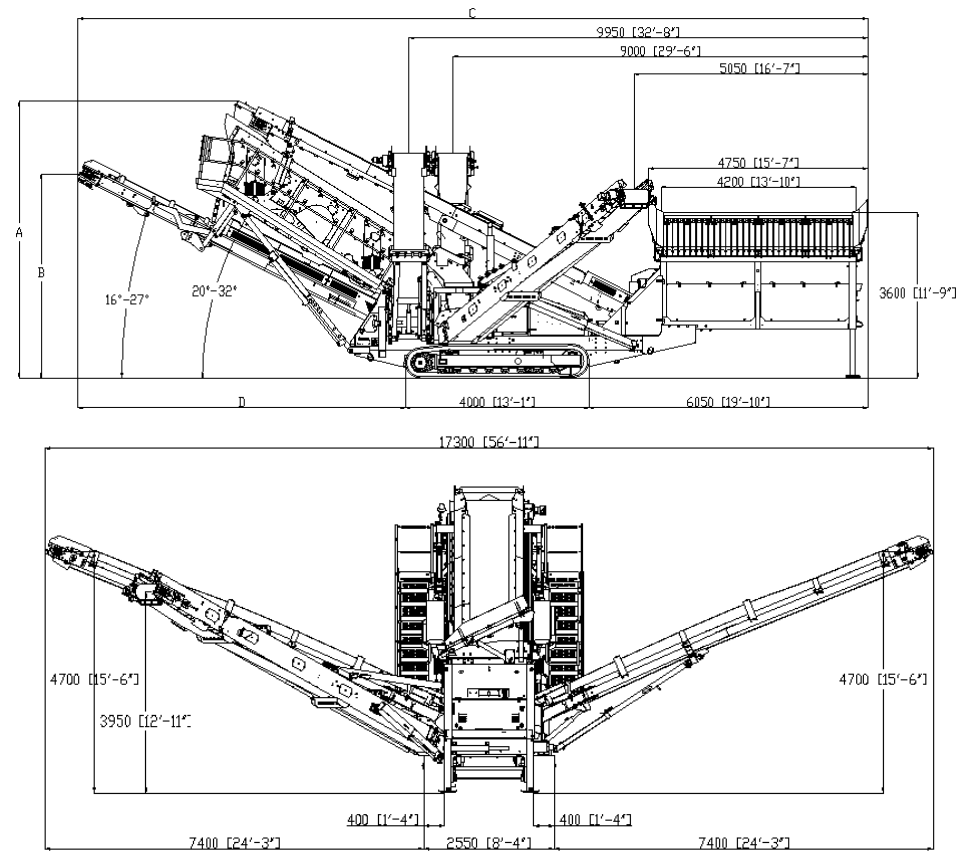
## CHIEFTAIN 1700X 3 DECK



## DIMENSIONS

DIMENSION (MM)	SCREENBOX WORKING ANGLES (DEGREES)				
	20 DEG	24 DEG	28 DEG	30 DEG	32 DEG
A	5403	5611	5809	5886	5993
B	3157	3587	4009	4216	4417
C	17592	17461	17302	17212	17114
D	7358	7215	7045	6950	6850

Figure 1: Chieftain 1700X 3 Deck  
Standard Auxiliary Conveyor  
Working Position



MORE DIMENSIONS OVERLEAF

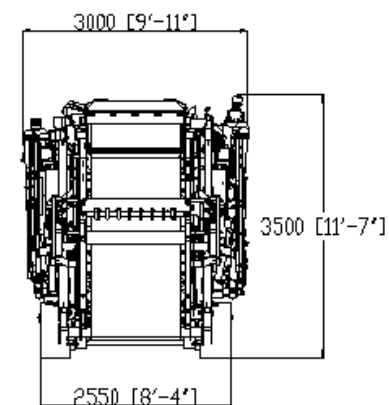
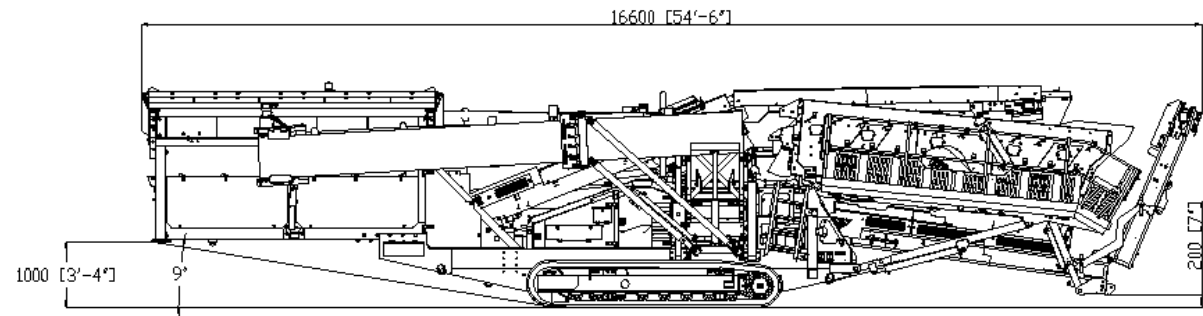


## CHIEFTAIN 1700X 3 DECK



## DIMENSIONS

Figure 2: Chieftain 1700X 3 Deck  
Standard Auxiliary Conveyor  
Transport Position



MORE DIMENSIONS OVERLEAF



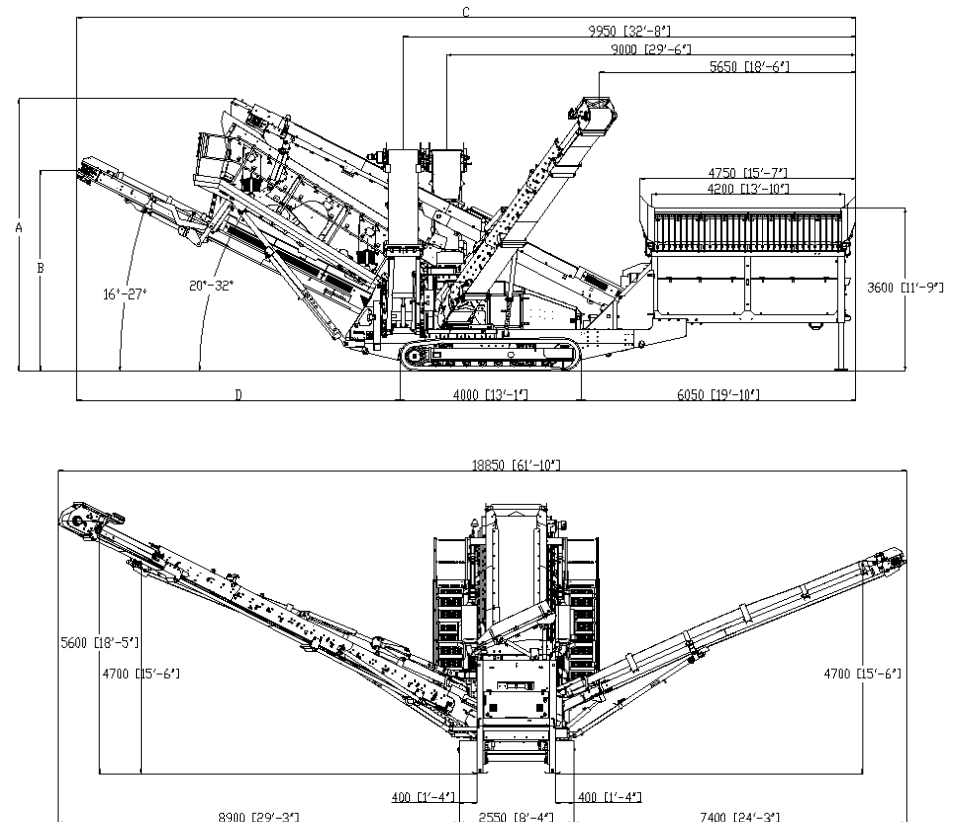
## CHIEFTAIN 1700X 3 DECK



## DIMENSIONS

DIMENSION (MM)	SCREENBOX WORKING ANGLES (DEGREES)				
	20 DEG	24 DEG	28 DEG	30 DEG	32 DEG
A	5403	5611	5809	5886	5993
B	3157	3587	4009	4216	4417
C	17592	17461	17302	17212	17114
D	7358	7215	7045	6950	6850

**Figure 3: Chieftain 1700X 3 Deck  
Hydraulic Extended Auxiliary Conveyor  
Working Position**



**MORE DIMENSIONS OVERLEAF**

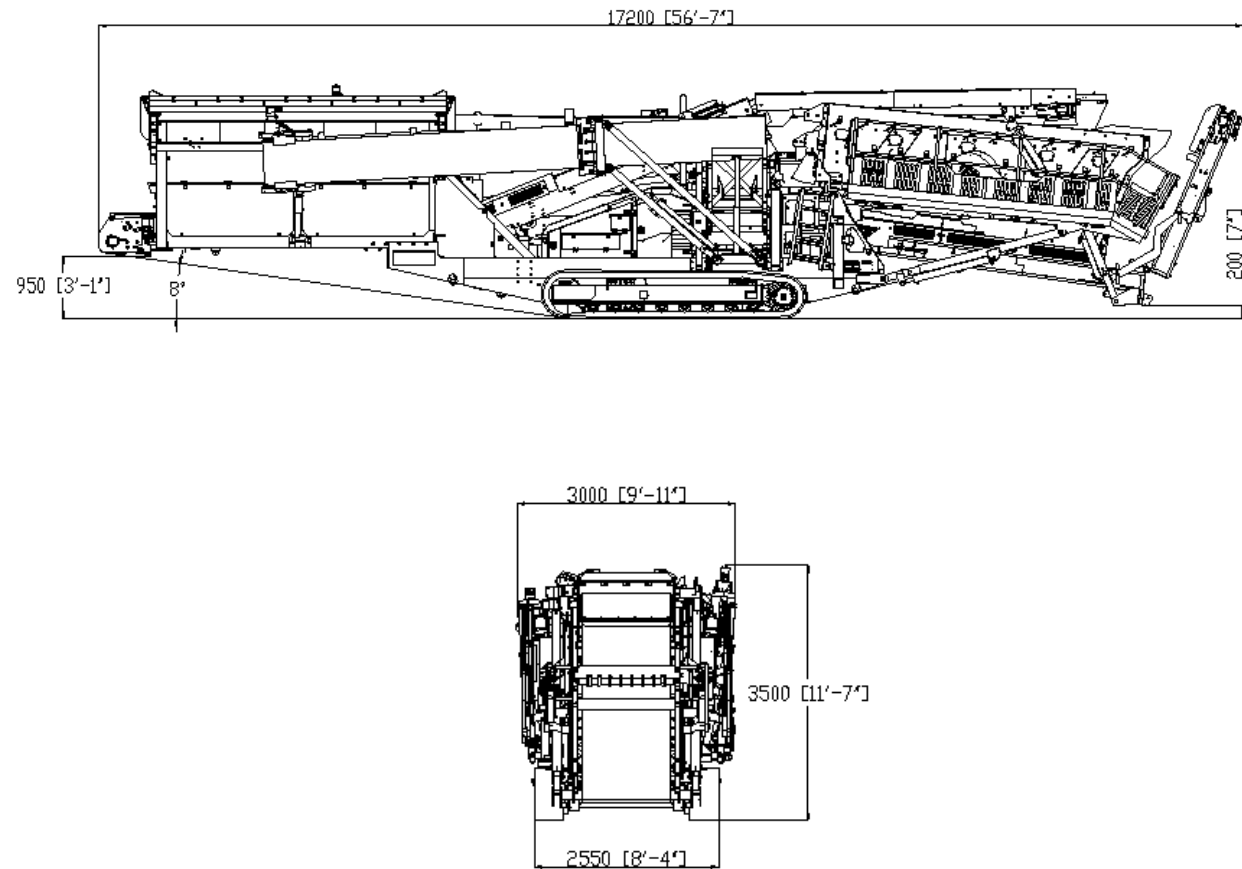


## CHIEFTAIN 1700X 3 DECK



## DIMENSIONS

Figure 4: Chieftain 1700X 3 Deck  
Hydraulic Extended Auxiliary Conveyor  
Transport Position



MORE DIMENSIONS OVERLEAF



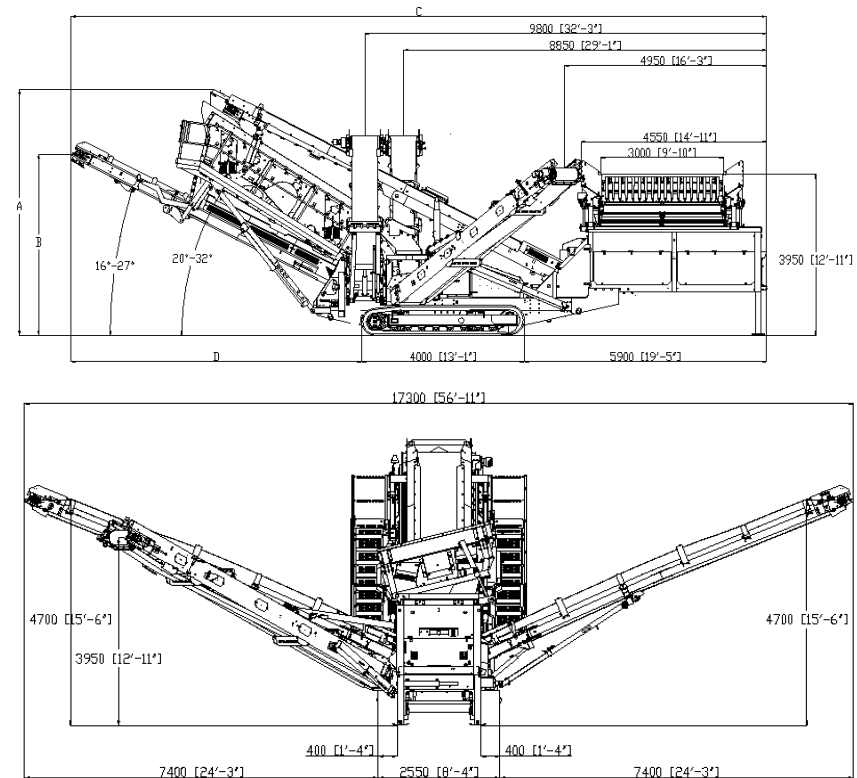
## CHIEFTAIN 1700X 3 DECK



## DIMENSIONS

DIMENSION (MM)	SCREENBOX WORKING ANGLES (DEGREES)				
	20 DEG	24 DEG	28 DEG	30 DEG	32 DEG
A	5403	5611	5809	5886	5993
B	3157	3587	4009	4216	4417
C	17471	17340	17181	17091	16996
D	7358	7215	7045	6950	6850

Figure 5: Chieftain 1700X 3 Deck  
Double Deck Vibrating Grid  
Standard Auxiliary Conveyor  
Working Position



MORE DIMENSIONS OVERLEAF

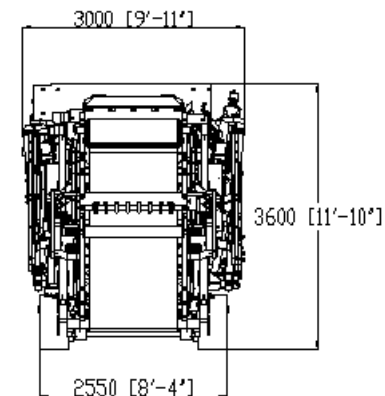
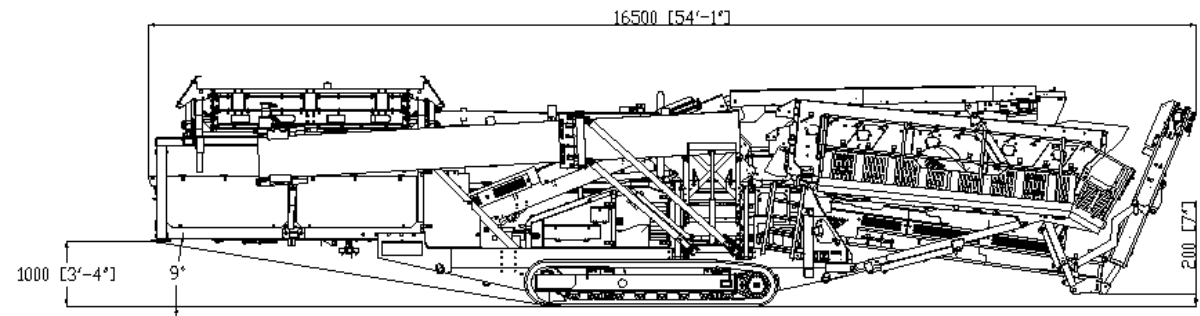


## CHIEFTAIN 1700X 3 DECK



## DIMENSIONS

Figure 6: Chieftain 1700X 3 Deck  
Double Deck Vibrating Grid  
Standard Auxiliary Conveyor  
Transport Position



**MORE DIMENSIONS OVERLEAF**



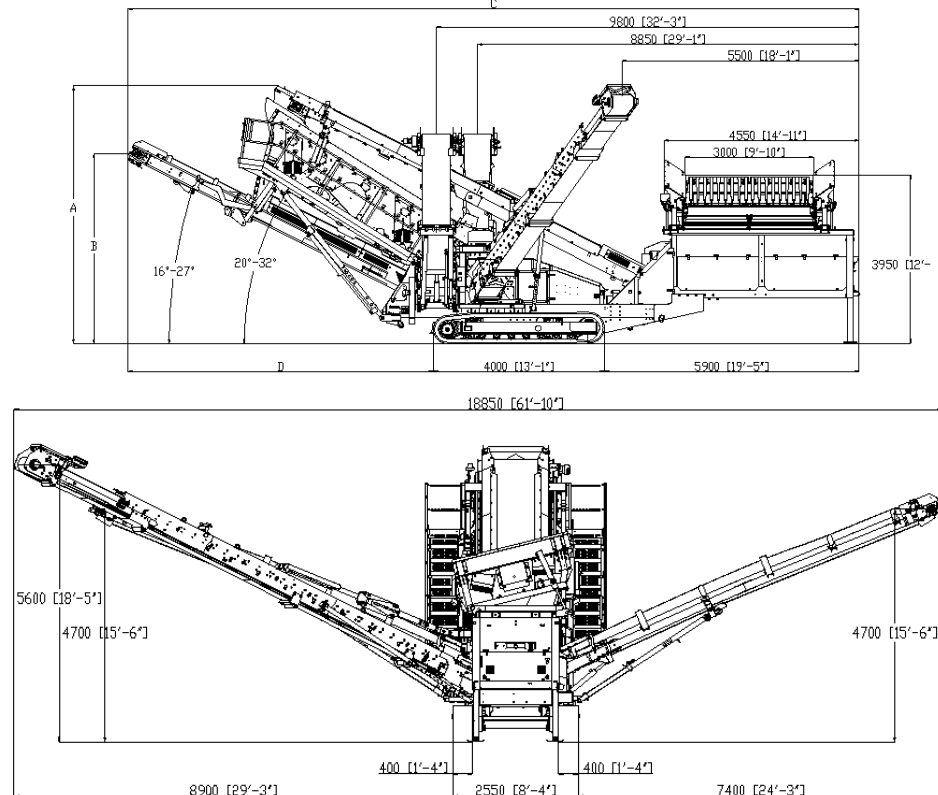
## CHIEFTAIN 1700X 3 DECK



## DIMENSIONS

DIMENSION (MM)	SCREENBOX WORKING ANGLES (DEGREES)				
	20 DEG	24 DEG	28 DEG	30 DEG	32 DEG
A	5403	5611	5809	5886	5993
B	3157	3587	4009	4216	4417
C	17471	17340	17181	17091	16996
D	7358	7215	7045	6950	6850

Figure 7: Chieftain 1700X 3 Deck  
Double Deck Vibrating Grid  
Hydraulic Extended Auxiliary Conveyor  
Working Position



MORE DIMENSIONS OVERLEAF

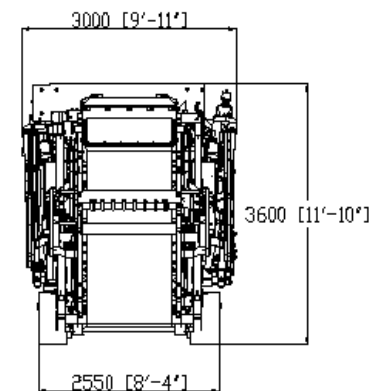
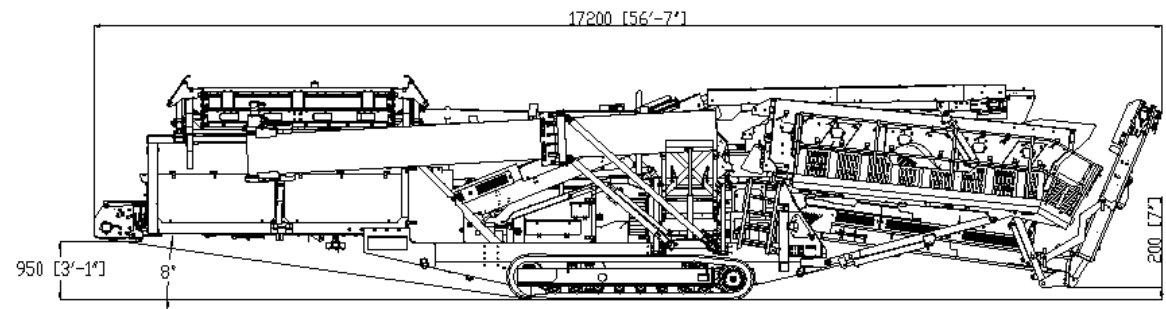


## CHIEFTAIN 1700X 3 DECK



## DIMENSIONS

Figure 8: Chieftain 1700X 3 Deck  
Double Deck Vibrating Grid  
Hydraulic Extended Auxiliary Conveyor  
Transport Position





### **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.

## **GET IN TOUCH**

### **Dungannon**

200 Coalisland Road, Dungannon,  
Co Tyrone, BT71 4DR, Northern Ireland  
Tel: +44 (0) 28 87 718 500  
Fax: +44 (0) 28 87 747 231

### **Louisville**

11001 Electron Drive,  
Louisville, Kentucky, 40299 USA  
Tel: +1 502 736 5200  
Fax: +1 502 736 5202



# APPENDIX 1 - ENGINE OPTIONS – Powerunit options that may be fitted in place of technical specification offering subject to availability

## Screens – Tier 4 Final

**CAT C4.4 82kW (110hp) @ 2200rpm as per Chieftain 1400, Chieftain 1500, Chieftain 2100X 2 deck, Chieftain 2200 2 deck and Warrior 1800**

Option 1.) CAT C3.6 82kW (110hp) @ 2200rpm

Option 2.) CAT C4.4 102kW (137hp) @ 2200rpm

**CAT C4.4 98kW (131hp) @ 2200rpm as per Chieftain 2100X 3 deck and Chieftain 2200 3 deck**

Option 1.) CAT C4.4 102kW (137hp) @ 2200rpm

**CAT C4.4 82kW (110hp) @ 1800rpm as per Chieftain 1700X and Warrior 1400X**

Option 1.) CAT C3.6 82kW (110hp) @ 1800rpm

Option 2.) CAT C4.4 98kW (131hp) @ 1800rpm

## Screens – Stage V

**CAT C4.4 102kW (137hp) @ 2200rpm as per Chieftain 1400, Chieftain 1500, Chieftain 2100X, Chieftain 2200 and Warrior 1800**

Option 1.) CAT C3.6 82kW (110hp) @ 2200rpm

Option 2.) JCB 4.8 81kW (109hp) @ 2200rpm

Option 3.) JCB 4.8 97kW (130hp) @ 2200rpm

Option 4.) Deutz TD3.6 100kW (134hp) @ 2200rpm

**CAT C4.4 98kW (131hp) @ 1800rpm as per Chieftain 1700X, Warrior 1400X and Warrior 2100**

Option 1.) CAT C3.6 82kW (110hp) @ 1800rpm

Option 2.) CAT C4.4 98kW (131hp) @ 1800rpm

Option 3.) JCB 4.8 80kW (108hp) @ 1800rpm

Option 4.) Deutz TD3.6 92kW (123hp) @ 1800rpm

