

POWERSCREEN® GLADIATOR TP550

PORTABLE ELECTRIC IMPACT CRUSHING PLANT



TECHNICAL SPECIFICATION - REV 0 01/01/2024





GLADIATOR TP550



OVERVIEW

SPECIFICATION

Transport	Length	54' 7" (16.63m)
	Height	11' 6" (4.12m)
	Width	11' 3" (3.44m)
Working	Length	54' 7" (16.63m)
	Height	15' 2" (4.61m) - Standard
	Width	11' 8" (3.56m)

Plant Colour RAL 5021, RAL 7024

Total Weight: 106,786lbs (48,437kg)

Axle Load: 67,945lbs (30,819kg)

King Pin Load: 38,841lbs (17,617kg)

Weights and measurements dependent on options

FEATURES & BENEFITS

- Output potential of up to 550 US tph / 500 tph - depending on material type and crusher settings.
- The electrically driven power system provides significant cost savings.
- Superior performance in dusty applications and in high altitude environments.
- The high powered electric drive ensures precise chamber control.
- Access platforms around 3 sides of the chamber.
- E-Stops on both sides of the unit.
- Optional twin pole magnet with discharge chute.

APPLICATIONS



Aggregate

Sand & gravel
Blasted rock
River rock



Recycling

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



Mining

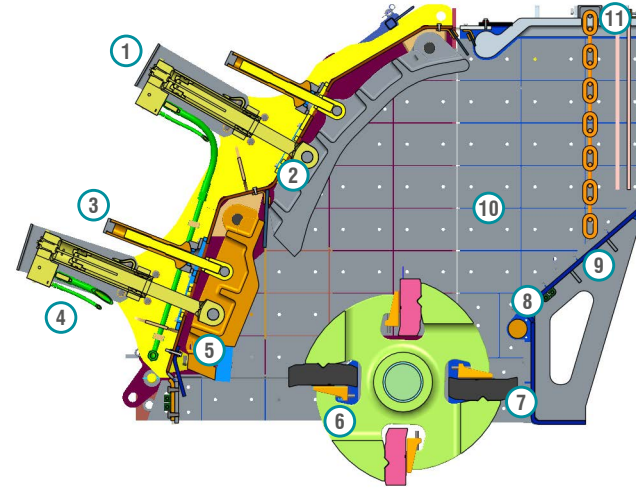
Processed ores
Processed minerals



GLADIATOR TP550



CRUSHER



PRINCIPAL COMPONENTS

- | | |
|---|---------------------------------|
| 1: Control Cylinder | 7: Full Blow Bar |
| 2: Top Impact Apron | 8: Inlet Wear Beam |
| 3: Apron Adjustment Spindle | 9: Inlet Plate |
| 4: Control Cylinder (Auto Adjust Apron Setting Control) | 10: Wear Liners |
| 5: Bottom Impact Apron | 11: Crusher Hydraulic Inlet lid |
| 6: Rotor | |

PRINCIPLES OF OPERATION

Material enters via crusher opening & slides down the inlet chute where it is struck by the blowbars fixed within the rotor. This initial impact breaks the material which is then accelerated towards the top apron where more reduction takes place on impact. This material then falls back onto the blowbars & the cycle is repeated until the material is small enough to pass between the top apron & blowbar. Further reduction occurs on the bottom apron until the material can again pass

through the gap & discharge from the underside of the crusher.

Should an un-crushable object enter the chamber, the overload cylinders will relieve & allow the object to pass. The cylinders will then return to the pre-set crushing position. The pre-set gap is adjusted by turning the adjustment spindle whilst the weight of the apron is held on the cylinder (hydraulic assist).

The hydraulic cylinders are pre-loaded to minimise apron bounce & wear on the cylinders. This arrangement also greatly reduces the oversize produced & is Patented: GB2455203



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CRUSHER FEATURES

Crusher body:

Fabricated from steel plate & fully lined with replaceable abrasion resistant liner plates. Hinged side door allows access to apron tips & rotor for gap measurements & inspection. Complete hinged section opens hydraulically to allow blow bar removal & replacement, apron & liner replacement or major maintenance

Rotor:

Cast steel & fitted with 4 reversible & replaceable blow bars

Bearings:

Double row self aligning spherical roller bearing fitted each end of rotor

Aprons:

Cast steel aprons with replaceable abrasion resistant wear plate on tip of bottom apron

Drive:

Direct through wedge belts with tensioning system on the power unit

Lubrication:

Rotor bearings are greased & fitted with inner & outer labyrinth seals

Blow bars:

Standard blow bar is martensitic steel and toughened chrome. other options are available from spares

Applications

This plant is designed for both demolition & quarrying applications. When fitted with martensitic or ceramic blow bars the crusher will tolerate small quantities of steel reinforcing bar in the feed. However, the machine is not designed to accept large pieces (maximum 20mm diameter, 500mm long) of steel or other uncrushable objects, & the feed material should be assessed / inspected for suitability prior to crushing. It is vitally important that large pieces of steel or similar uncrushable objects are not allowed to enter the crushing chamber as severe damage & injury may occur.

When high chrome bars are fitted, all steel should be removed from the feed material & the machine should only be used on quarry applications, or clean materials such as asphalt.

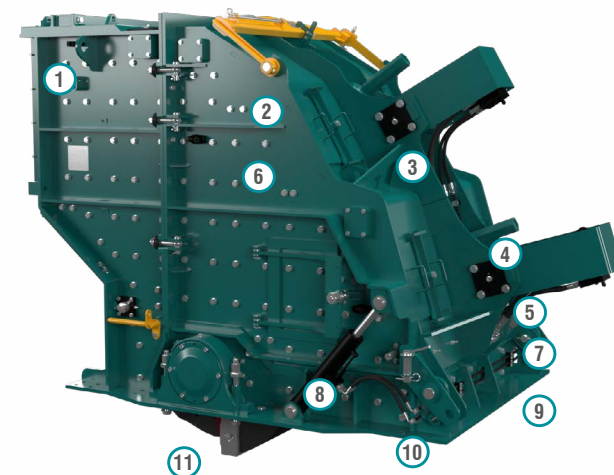


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CRUSHER SPECIFICATION

Feed opening:	1370mm x 911mm (54" x 36")
Max lump size*:	500mm ³ (20in ³) / 860mm (34") diagonally /1000 x 1000 x 200mm (39 x 39 x 8") slab (blasted rock (limestone type): 600 x 600 x 600mm *depending on material & blow bar specification
Rotor width:	1330mm (52")
Rotor diameter:	1210mm (47")
Number of aprons:	2
Max clearance:	Top apron: 265mm (10.5") Bottom apron: 305mm (12")
Max OSS setting:	200mm (7.9") upper apron, 200mm (7.9") lower apron
Min CSS setting:	35mm (1.4") upper apron, 20mm (0.8") lower apron
Blow bars:	Total of 4 blow bars
Blow bar removal:	Vertically
Blow bar configuration:	2 full & 2 half (optional 4 full)
Setting adjustment:	Auto adjust / hydraulic assist
Overload protection:	Hydraulic
Rotor speeds:	537 - 694rpm (34 - 44m/s) (111 - 144ft/s)
Applications:	Demolition / recycling / quarry
Crusher weight:	14540kg (32,055lbs)
Full blow bar weight:	410kg (904lbs)
Side liners:	20mm (thick abrasion resistant steel)



PRINCIPAL COMPONENTS

- 1: Inlet lid
- 2: Main welded body
- 3: Impactor hinged section
- 4: Inspector covers
- 5: Hydraulic overload & adjustment cylinders
- 6: Toggle bolts
- 7: Inspection covers
- 8: Side door
- 9: Trunions
- 10: Hinged section opening cylinder
- 11: Bearings



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VGF & HOPPER

Length:	20' (6.096m)
Width:	52" (1.32m)
Capacity:	8.7yd ³ (6.65m ³)
Feed in Height Side:	15' 3" (4.64m)
Feed in Height Rear:	15' 3" (4.64m)
Motor:	40hp (30kW) @ 1200rpm
Hopper Fabricated:	3/4" (20mm) AR400 steel
Available Grizzlies:	2" (51mm) nominal opening with 9 grizzly bars 2 1/2" (64mm) nominal opening with 8 grizzly bars 3 1/2" (89mm) nominal opening with 7 grizzly bars 4" (100mm) nominal opening with 6 grizzly bars - Standard 5 1/2" (125mm) nominal opening with 5 grizzly bars
Bottom deck Pre-screen:	Length: 3' (915mm)





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UNDER CRUSHER HOPPER & BYPASS CHUTE

UNDER CRUSHER HOPPER

Manufactured from 6mm (1/4") mild steel.
Rock ledge with AR400 10mm (3/8") liners.
Rubber flashing.

BYPASS CHUTE

Manufactured from 1/4" AR400 and 1/4" Mild Steel
Access hatches both sides for chute access.





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DISCHARGE CONVEYOR

Belt Width:	54" (1372mm)
Drum Centres:	30' 2" (9195mm)
Belt Type:	Plain
Belt Spec:	3 Ply 330 PIW
Max Speed:	300 ft/min (91 m/min)
Discharge Height:	9' 4" (2.86m)
Stockpile Capacity:	56.4 yd ³ (43.1m ³) @ 37° angle of repose
Motor:	20hp (18.65kW)
Fixed angle	
Flexco scraper	





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BOGIE

Type:	Heavy duty sprung quad axle
Size:	16 of 295/75 R22.5 radial tyres
No of Axles:	4
No of Studs:	10
Brakes:	Air





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OTHER

EXTERNAL POWER REQUIREMENTS

460V (575V Option if required)
3 Phase
60 Hz

	Power
Chamber	250hp (200kW)
Discharge Conveyor	20hp (18kW)
VGf	40hp (30kW)
Optional Byass Conveyor	5hp (3.7kW)
Optional Magnet	2hp (1.5kW)
Optional Vibrating Underpan	2 x 3hp (2.3kW)
Total Power Required	323hp (257.8kW)

TOOLBOX

48" (1200mm) long
Lockable lid
RHS of plant

JACKING LEGS

Hand crank jacks.

PLATFORMS

Fabricated folding access ladder x 2
Self closing gates x 2
Diamond deck platform on both sides of the impactor
Access to 3 sides of the impact chamber.

GAS POWER UNIT

Crusher Hood Open/Close
Optional Run On Jacks
Optional Levelling Jacks





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↓ OPTIONS

- Manual push button switchgear panel
- 100ft lead cord - to connect panel to power source
- 4 no of 6" x 16" levelling hydraulic jacks powered by standard 13hp Honda powerunit
- 6 no of 6" x 24" run on hydraulic jacks powered by standard 13hp Honda power unit
- TP20/100 SC2A Twin pole magnet
- Various grizzly bar spacings
- 24" bypass conveyor complete with bypass chute
- Removable side and under guarding
- Underpan option to replace Under crusher conveyor
- Manual folding hopper extensions with ground level locking supports - 14.4m³ (18.8yd³)
- Multiple axle configurations to meet a variety of road regulations



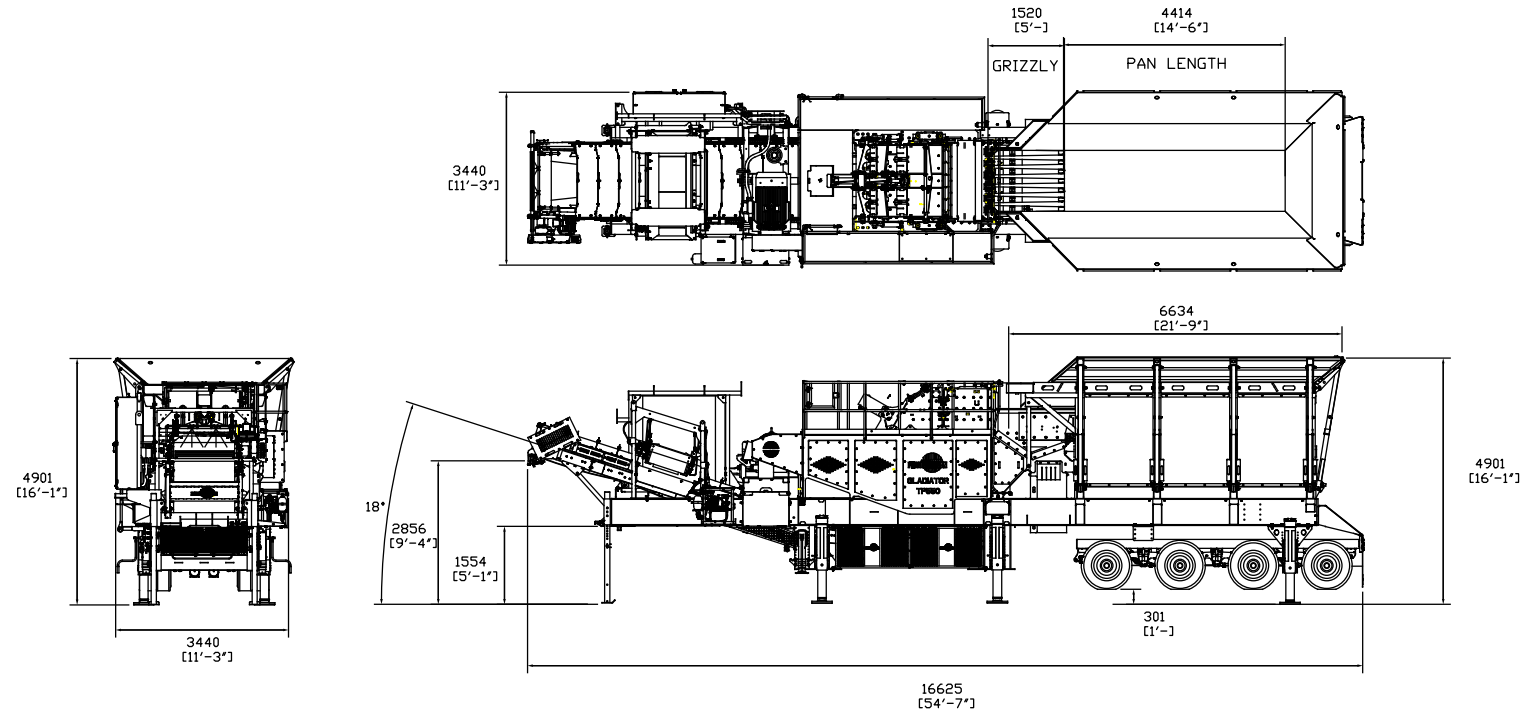


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DIMENSIONS

Figure 1: Gladiator TP550
Working Position Showing Quad Axle



MORE DIMENSIONS OVERLEAF

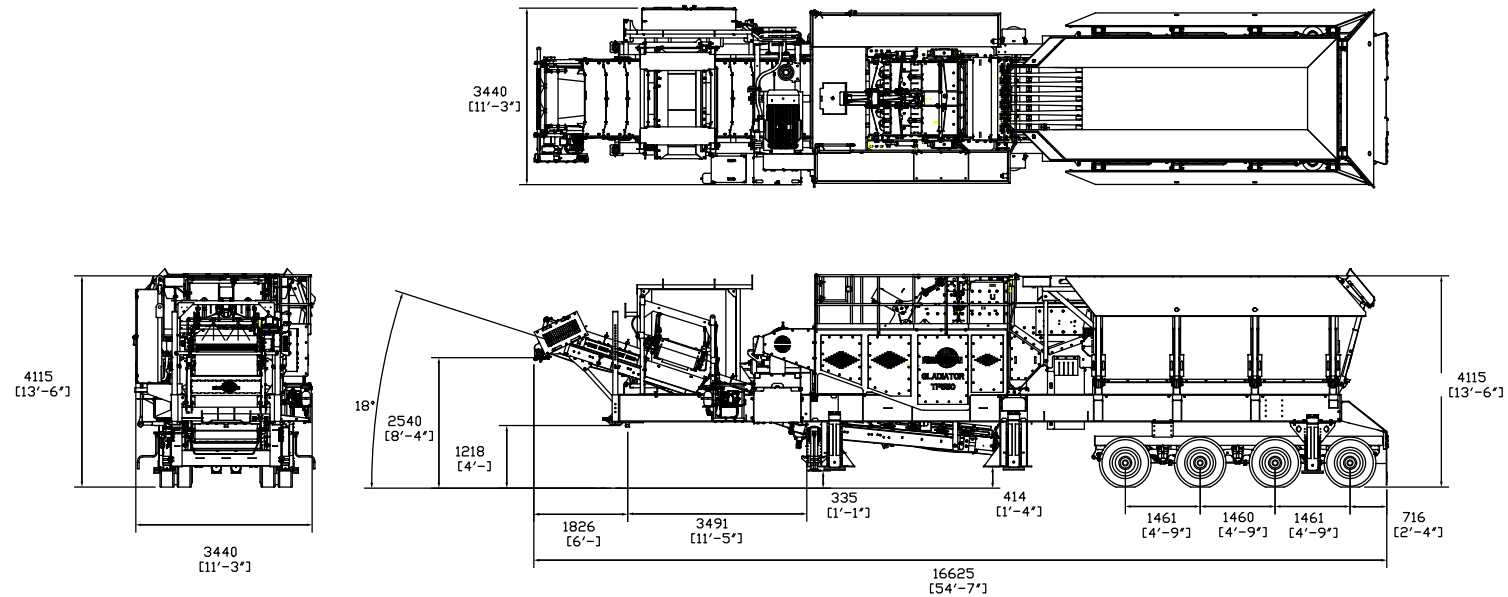


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DIMENSIONS

Figure 2: Gladiator TP550
Transport Position Showing Quad Axle



Total Weight - 101,618lbs (46,093kg)
Load on kingpin - 38,915lbs (17,649kg)
Load on Axles - 62,703lbs (28,437kg)

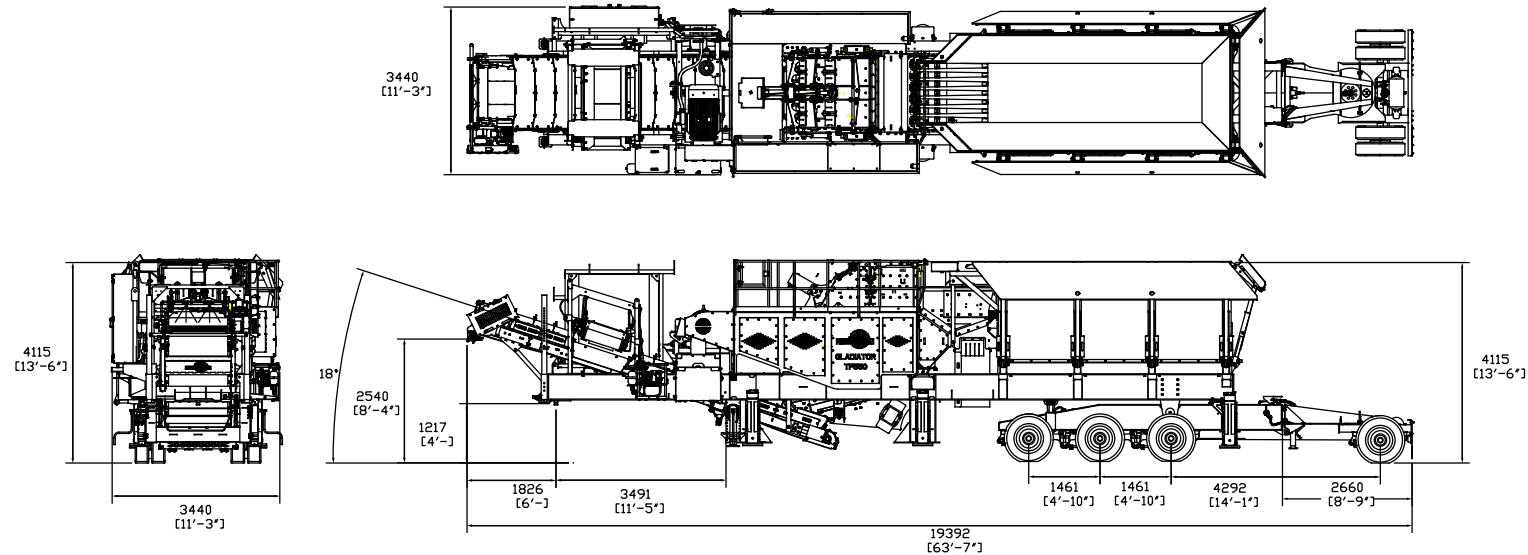


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DIMENSIONS

Figure 5: Gladiator PT550
Transport Position 3+1 Axle



Total Weight - 102,249lbs (46,379kg)
Load on kingpin - 41,281lbs (18,722kg)
Load on Axles - 60,968lbs (27,650kg)

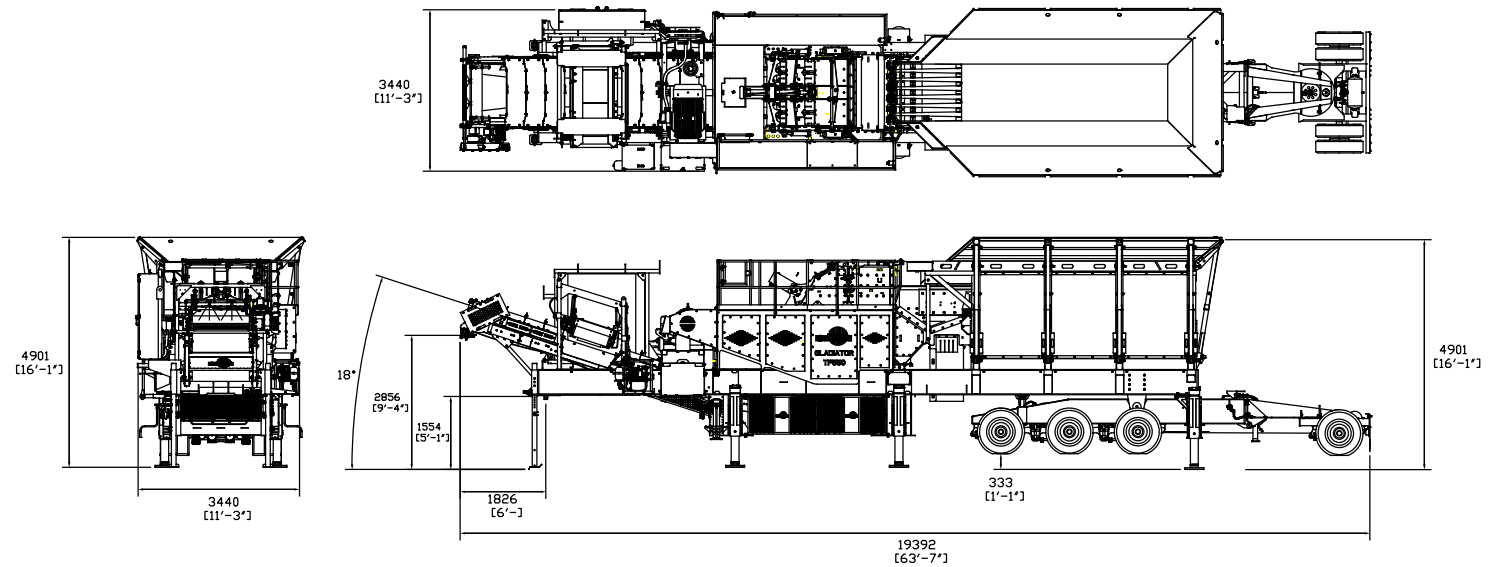


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DIMENSIONS

Figure 6: Gladiator TP550
Working Position 3+1 Axle



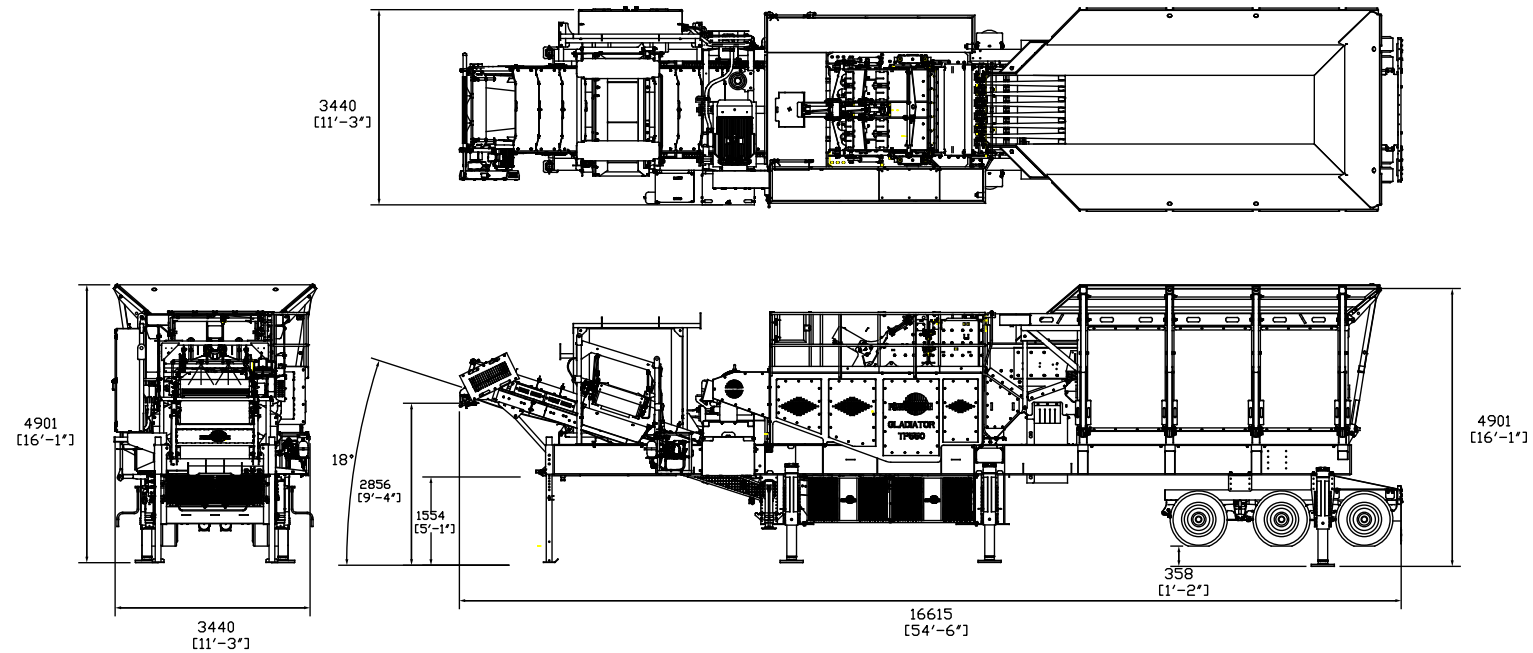


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DIMENSIONS

Figure 7: Gladiator TP550
Working Position Triple Axle



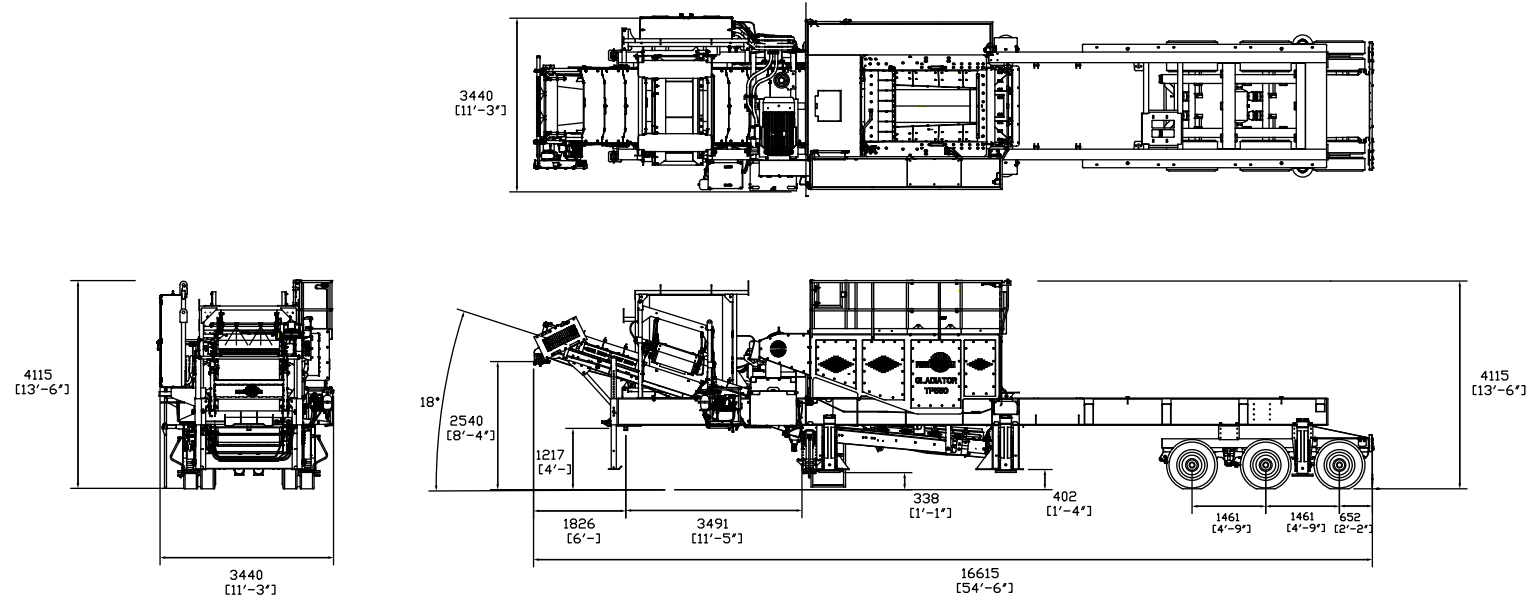


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DIMENSIONS

Figure 8: Gladiator TP550
Transport Position Triple Axle



Total Weight - 78,636lbs (35,669kg)
Load on kingpin - 40,524lbs (18,378kg)
Load on Axles - 38,112lbs (17,288kg)



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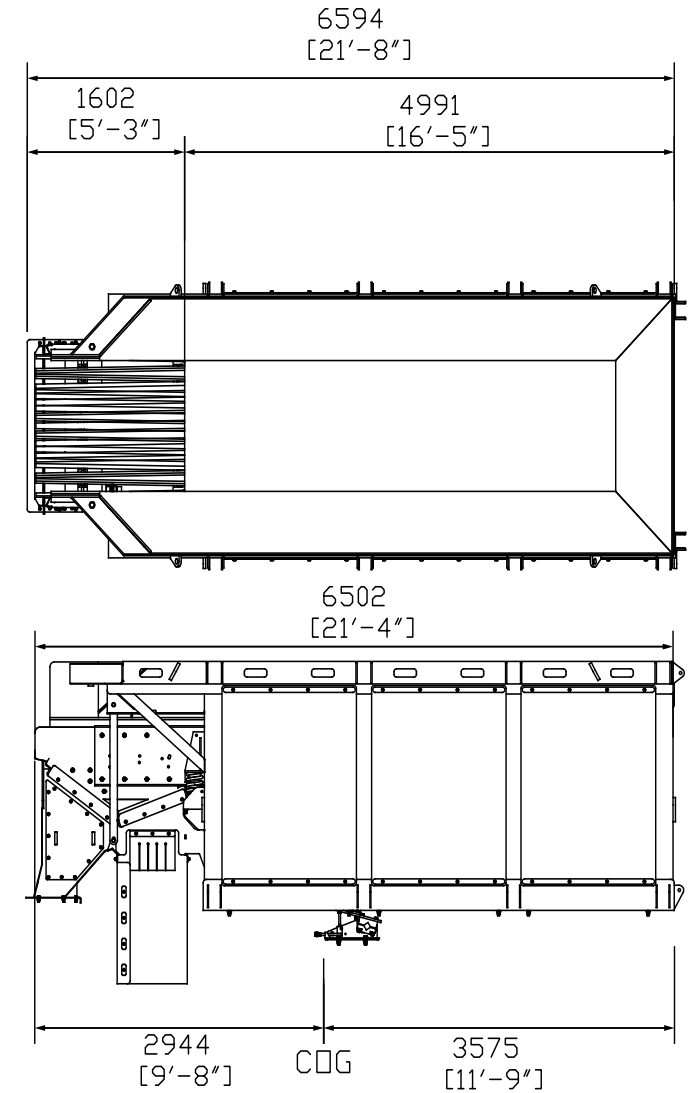
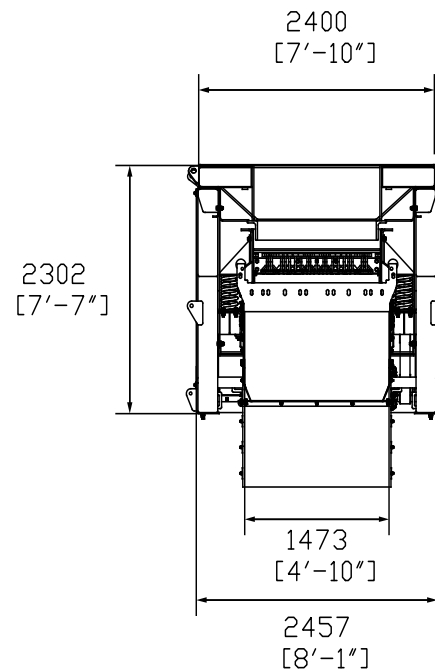


DIMENSIONS

Figure 8: Gladiator TP550

Feeder unit

APPROX. FEEDER MODULE WEIGHT: 34,500LBS APPROX





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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